BIG DAISHOWA

TOTAL TOOLING SYSTEM

General Catalog

Vol.10-1

BIG DAISHOWA SEIKI CO LTD

Tooling System of the Highest Quality

With our superior technologies and state-of-the-art production facilities, we guarantee to offer "High Precision" and "High Quality" tools to your satisfaction.

Through our activities as a specialized manufacturer of tooling since 1967,
BIG Daishowa has the distinction of having the highest market share in Japan and we continue to increase the number of our customers in the world-wide market and gain their trust.
We devote ourselves to the development of new products and continuously improve quality “to comply with the latest trends”.
We are confident that BIG Daishowa's quality and tooling variety will lead you to the best results.

Awaji Factory No.2

MEGA TECHNICAL CENTER

Awaji Factory No. 1

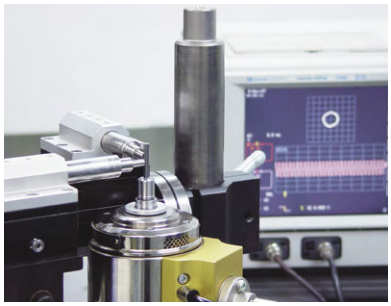
Awaji Factory No. 3

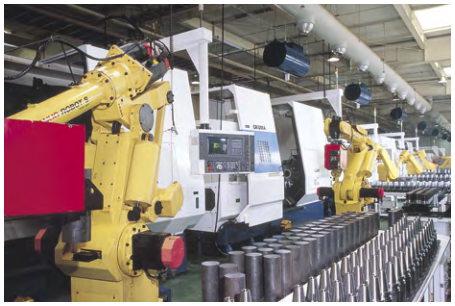
Awaji Factory No. 4

Awaji Factory No. 5

Osaka Factory

Accurate inspection under strictly controlled quality standards.





Total Tooling System

Dual Contact System

Features P1

BIG-PLUS
Spindle System

BIG-PLUS SPINDLE SYSTEM
Dual contact spindle system

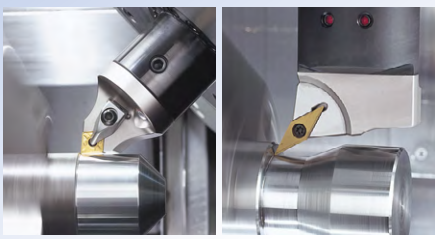
BBT SHANK A1
BDV SHANK B2

Dual Contact System

HSK TOOLING SYSTEM Features P3

HSK-A Type C1
HSK-E Type C51
HSK-F Type C58

Dual Contact System



MILLTURN TOOLING Features E1

BBT SHANK E11
HSK-T Type E17
BIG CAPTO SHANK E23
Cartridge E7

For High Speeds

Clamping diameter:
ø0.45 - ø8.05

MEGA MICRO CHUCK Features P4/P5

BBT SHANK A1
DV SHANK B1
HSK SHANK C1/C51/C58
ST SHANK D1
BIG CAPTO SHANK E31
For **N/C** Lathes F1

For High Speeds

Clamping diameter:
ø0.25 - ø25.4

MEGA
NEW BABY CHUCK Features P4/P6

BBT SHANK A3
BDV/DV SHANK B2
HSK SHANK C3/C53/C59
ST SHANK D2
BIG CAPTO SHANK E32

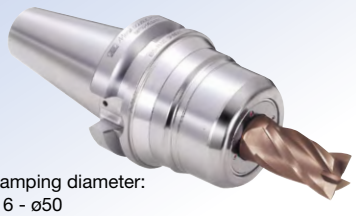
For High Speeds

Clamping diameter:
ø3 - ø12

MEGA E CHUCK Features P4/P7

BBT SHANK A7
BDV SHANK B4
HSK SHANK C7/C60
BIG CAPTO SHANK E35

For High Speeds



Clamping diameter:
ø16 - ø50

MEGA DOUBLE
POWER CHUCK Features P4/P8

BBT SHANK A9
BDV SHANK B5
HSK SHANK C9/C61
BIG CAPTO SHANK E37

Hydraulic Chuck

Clamping diameter:
ø3 - ø42

HYDRAULIC CHUCK Features P9

BBT SHANK ..... A13·A66
BDV SHANK B7
HSK SHANK C12/C55/C62
ST SHANK D5
BIG CAPTO SHANK E40

Collet Chuck

Clamping diameter:
ø0.25 - ø20

NEW BABY CHUCK Features P11

BT SHANK A23
DV SHANK B8
HSK SHANK C16
ST SHANK D3
BIG CAPTO SHANK E39
For **N/C** Lathes F1

Runout Adjustable Chuck

Runout Adjustable RA Holder
NEW Hi- POWER MILLING CHUCK

BBT SHANK A32
HSK SHANK C20

Runout Adjustable Chuck

Runout Adjustable RA Holder
NEW BABY CHUCK

BBT SHANK A28
HSK SHANK C18

Milling Chuck

Clamping diameter:
ø12 - ø50.8

NEW Hi- POWER
MILLING CHUCK Features P13

BBT/BT SHANK A29
DV SHANK B6
HSK SHANK C19
ST SHANK D5
BIG CAPTO SHANK E41

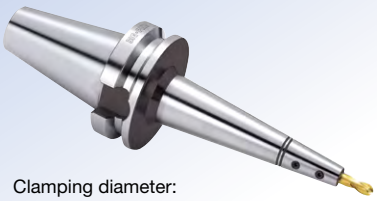
Milling Chuck

Clamping diameter:
ø16 - ø32

MEGA PERFECT GRIP

Features P14

Side Lock Holder for Mold Making



Clamping diameter:
ø3 - ø20

MOLD CHUCK

Features P15

Shrink Fit Holder

Clamping diameter:
ø4 - ø20

SHRINK CHUCK

Boring Tool

CK BORING SYSTEM

Features P16

Holder with Built-In Damper

SMART DAMPER CK BORING SYSTEM

Features P19

Holder with Built-In Damper

SMART DAMPER FACE MILL ARBOR TYPE FMH

Features P19

General Tools

General Tools

Tapper

TAPPER SERIES

Features P20

Tapper

MEGA SYNCHRO TAPPING HOLDER

Features P21

Angle Head

ANGLE HEAD

Features P23

Coolant Feed

Hi-JET HOLDER

Features P24

Speed Increaser

HIGH SPINDLE

Features P24

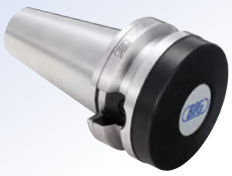
Air Spindle

Fine Machine Tooling

AIR TURBINE SPINDLE Features P25

BBT SHANK·····A165
BDV SHANK·····B18
HSK SHANK·····C49

Other Tools



FLANGE FACE CLEANER

BT SHANK·····A171
DV SHANK·····B21

Pullstud Bolt

PULLSTUD BOLT
·····G27

Caution
Only use PULLSTUD BOLTS made by BIG. Accuracy is not guaranteed if poor-quality PULLSTUD BOLTS are used.

N/C Lathe Tooling

N/C LATHE TOOLING·····F1

Peripherals

TOOLING MATE UNIVERSAL
·····H2

TOOLING MATE
·····H1

Peripherals

HOLDER LOCK
·····H3

ST LOCK
·····H3

HSK/BIG CAPTO
Tool Clamp Stand
KOMBI GRIP·····H3

Peripherals

TK CLEANER
·····H4

α WIPER CLEANER
·····H4

α TAPER CLEANER
·····H5

Peripherals

α TOOLING CLEANER
·····H5

SPINDLE CLEANER
·····H5

Peripherals

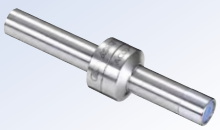
TOOLING WAGON
·····H7

T-SLOT CLEAN·····H6

Touch Probe & Edge Finder

POINT MASTER SERIES Features P27
·····I1

Touch Probe & Edge Finder



ACCU CENTER Features P27
·····I5

3D MASTER RED Features P27
·····I5

Tool Offset Sensor

BASE MASTER SERIES Features P28
·····I6

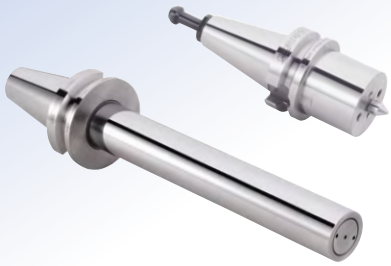
Tool Offset Sensor

TOOL MASTER Features P28 ·····I8

Tool Presetter

TOOL PRESETTER TPS ·····I9

Measuring Instrument



High-Precision Test Bar
DYNA TEST Features P29 ·····I11

Measuring Instrument

Measuring Device for Pulling Force
DYNA FORCE Features P29 ·····I14

Measuring Instrument

ATC Arm Positioning Tool
ATC ALIGNMENT TOOL ·····I15

Measuring Instrument

Precision Electron Level
LEVEL MASTER ·····I16

Measuring Instrument

ACCU STAND ····· I17

Measuring Instrument

Laser Light Workpiece Positioning Tool
LASER MULTI LINE MC ····· I21

Indexable Insert Endmill

FULLCUT MILL Features P30

BBT SHANK ····· J1/J7
BDV SHANK ····· J2/J9
HSK SHANK ····· J3/J11
ST SHANK ····· J2/J10

Modular Tool with Taper & Face Contact

CONTACT GRIP

BBT SHANK ····· J19
HSK SHANK ····· J20
BIG CAPTO SHANK ····· J20
HEAD ····· J17

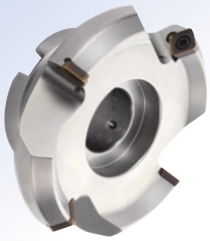
Indexable Insert Endmill

FULLCUT MILL
FCM ARBOR Type Features P32 ····· J21

Aluminum/Cast Iron High-Speed Machining Cutter

SPEED FINISHER Features P31 ····· J23

Face Mill Cutter



SURFACE MILL Features P32 ····· J25

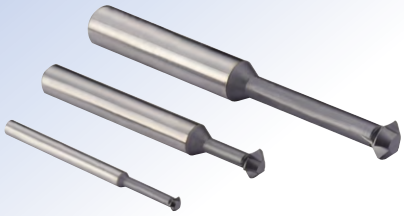
Ultra High Feed Chamfer Mill

C-CUTTER MINI Features P33 ····· J26

Chamfering Tool

C-CUTTER Features P34 ····· J33

Chamfering Tool



C-CUTTER MICRO ····· J36

Chamfering Tool

R-CUTTER Features P35 ····· J37

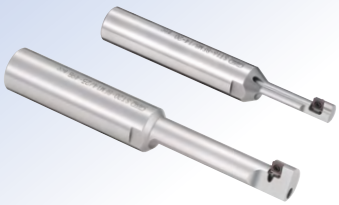
Chamfering Tool for Drilling Machine

C-CUTTER BOY Features P36 ····· J39

Centering + Chamfering Tool

CENTER BOY Features P35 ····· J40

Back Spot Facing Tool



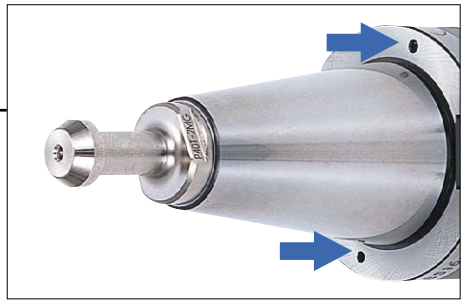
BF-CUTTER Features P36 ····· J41

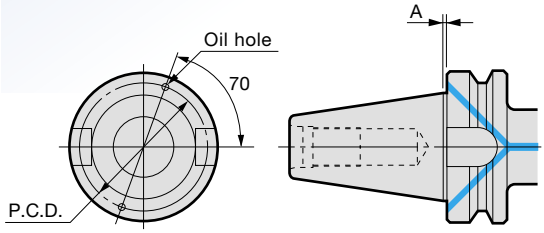
Back Spot Facing Tool

AUTOMATIC BACK SPOT FACER Features P37 ····· J43

Flange Through Tooling DIN69871/B

We also offer German DIN69871/B Flange Through Tooling specification with coolant supplied to the cutting edge from the machine spindle flange face.





Size	P.C.D.	A
BBT40	54	1
BBT50	84	1.5
BT40	54	2
BT50	84	3

BBT and BT holders have different lengths between the gauge line and flange face. Use of the correct holder for each machine spindle is required.

Please contact us for details.

BIG DAISHOWA

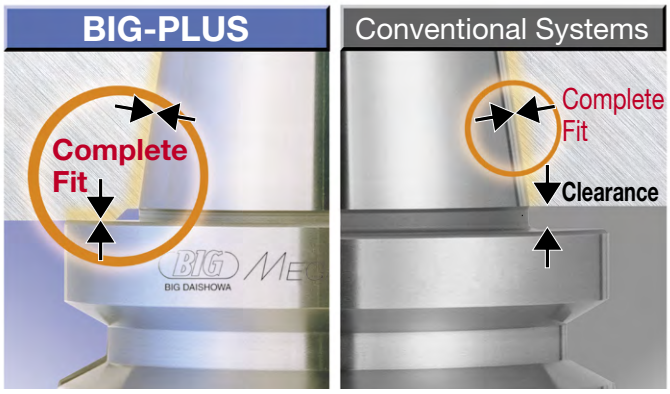
BBT SHANK A1

BDV SHANK B2

Dual contact system

BIG-PLUS Spindle System

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT



- **This system creates simultaneous dual contact between the taper and flange face by establishing a complete gauging system.**
- **Manufacturers in use: 66 in Japan, 90 overseas**

DUAL CONTACT

23rd Invention Grand Prize/Ikemoto Award for Distinguished Invention

The many advantages of using BIG-PLUS

- **Improved** surface finish and dimensional accuracy
- **Extended** tool life
- **Prevention** of fretting corrosion caused by heavy cutting
- **Improvement** of ATC repeatability
- **Elimination** of Z-axial movement at high speeds
- **Improved** roundness of boring operations

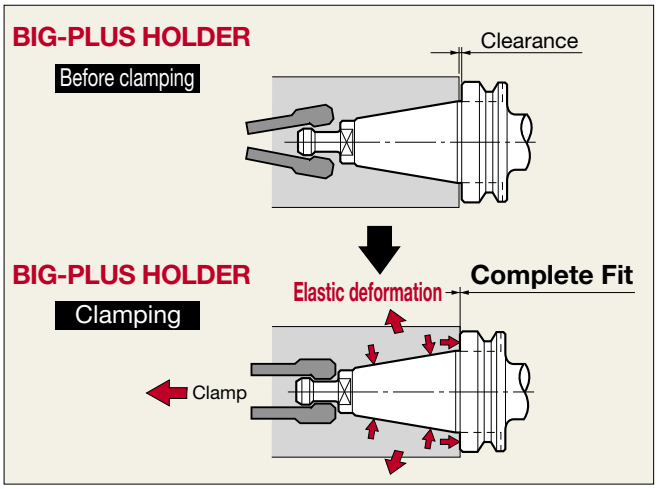
Draw-in amount of the holder is the key to perfect face contact!

Before the holder is clamped, there is a slight clearance at the flange face. Axial movement of the clamping equipment causes the main spindle to expand due to elastic deformation, achieving perfect face contact. In this way, axial movement is essential to guarantee perfect face contact.

<Reference values>

Spindle size	Clamping force	Axial movement
#40	800kg	20 μm
#50	2,000kg	20 μm

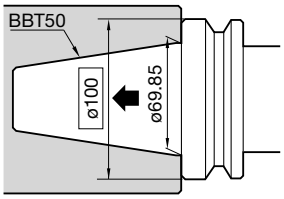
※ Reference figures. Axial movement may differ depending on spindle design, clamping mechanism, etc.



Increased contact diameter provides more rigidity

A conventional BT toolholder is supported on a reference diameter called the gauge face. On the contrary, a BIG-PLUS toolholder is supported on the flange face, which brings remarkable improvement to rigidity.

For BT30	ø31.75 → ø46
For BT40	ø44.45 → ø63
For BT50	ø69.85 → ø100



Strict gauge control through the established gauge system

BIG-PLUS spindles produced by licensed machine or spindle builders are strictly controlled in dimensions by the BIG original MASTER GAUGE. Only the trademarked BIG-PLUS HOLDERS can achieve the optimal performance of these spindles fully and safely.

(BIG-PLUS Spindle exclusive gauge)

- MASTER GAUGE
- MEASURING TOOL
- MASTER ARBOR

It is highly recommended to consult with the machine tool manufacturer in order to specify the BIG-PLUS spindle before introducing a new machining center in your facility.

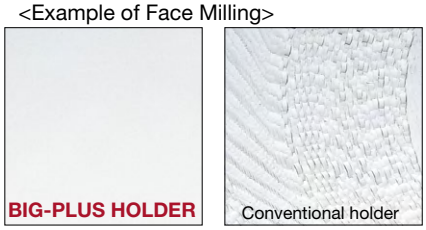
7/24 taper dual contact system, the simplest available with excellent results

The ultimate combination of “BIG-PLUS Spindle” and “BIG-PLUS HOLDER”

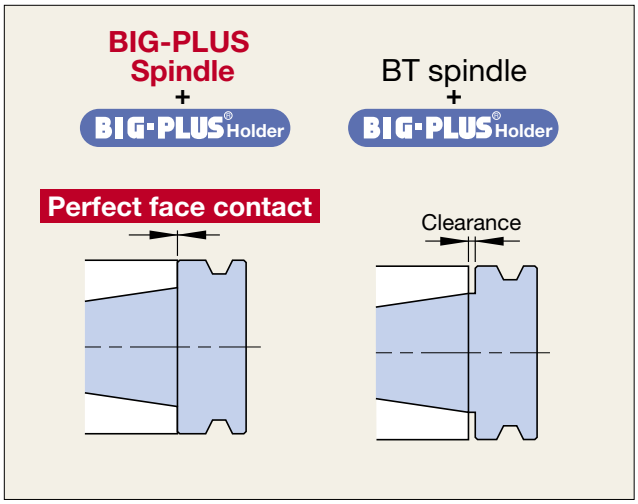
The BIG-PLUS Spindle System achieves maximum dual contact performance by combining the BIG-PLUS HOLDER and BIG-PLUS Spindle. The BIG-PLUS HOLDER can also be used with existing BT spindles with standard specs. However, this will not achieve dual contact. To realize superior dual contact performance, use a BIG-PLUS HOLDER with a BIG-PLUS Spindle. Please be aware that dual contact holders other than BIG-PLUS holders may damage BIG-PLUS spindles.

We recommend the BIG-PLUS HOLDER for the BIG-PLUS Spindle.
Avoid using both the BIG-PLUS HOLDER and BT Holder together with the BIG-PLUS Spindle.

<Example of Face Milling>



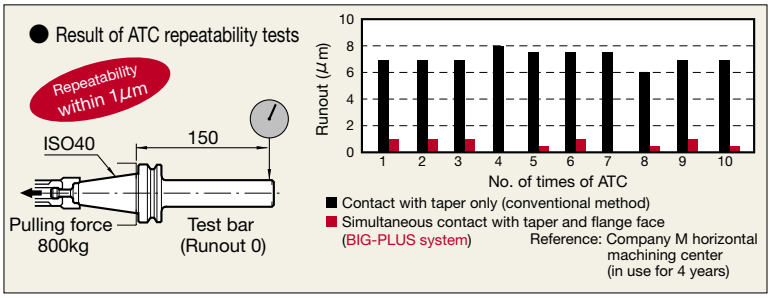
Machine: #40
Tool: Face Mill (ø125)
Workpiece: A2017
Cutting Depth: 2.4mm



With the exception of the flange face position dimensions, the BIG-PLUS HOLDER is in accordance with the MAS-BT standard.

Improvement of ATC repeatability

The taper and flange face are securely retained when the holder is attached to the machine spindle, improving ATC repeatability.
As a result, this achieves significant effects including improved chuck runout accuracy and dimensional accuracy for boring.



Advice

BIG-PLUS spindles have been adopted by licensed machine or spindle builders around the world under strictly controlled dimensions using BIG's Master Gauge. In order to protect the spindle or prevent possible accident, only use toolholders with the BIG-PLUS trademark.

BIG DAISHOWA

HSK TOOLING SYSTEM

A Type **C1**

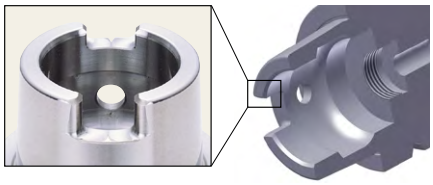
E Type **C51**

F Type **C58**

●A hollow dual contact system series with superior accuracy.

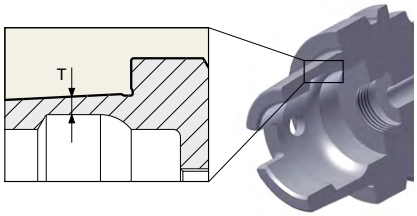
Drive key is important for torque transmission

The torque transmission of HSK-A type is commenced via the drive key grooves located at the smaller end of the taper. The curved surfaces on the outer drive key groove are important. This curved surface is designed to take the required torque. To achieve precise dimensions of the curves and drive key groove width, BIG provides finish machining of all tools after heat treatment.



Premium material selection

Since HSK is a hollow taper shank, the material has a critical role for optimum performance.
For this purpose, BIG uses carefully selected materials with optimal hardness and strength to prevent product failure.



HSK size	T
25	1.09
32	1.25
40	1.92
50	2.60
63	3.47
100	5.17

New series of each HSK type

ISO12164 & DIN69893-1
A Type A40, A50, A63, A100

DIN69893-5
E Type E25, E32, E40, E50

DIN69893-6
F Type F63

Other HSK sizes are also available.
Please contact us for details.

HSK turning tools for millturn machines

HSK-T Type
ISO12164-3

The abundant Cartridge range and revolutionary modular systems improve turning efficiency on millturn machines.

Advice

The torque transmission of HSK-A type is commenced via the drive key grooves located at smaller end of the taper. The round surface within the grooves is especially designed to make contact for rotation. Thus it is possible to determine a tool's quality by the finish of this curved surface.

BIG DAISHOWA

- BBT SHANK A1
- BDV/DV SHANK B1
- HSK SHANK C1
- ST SHANK D1
- BIG CAPTO SHANK E31
- For N/C Lathes F1

For High Speeds

MEGA CHUCK SERIES PAT.

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

DUAL CONTACT

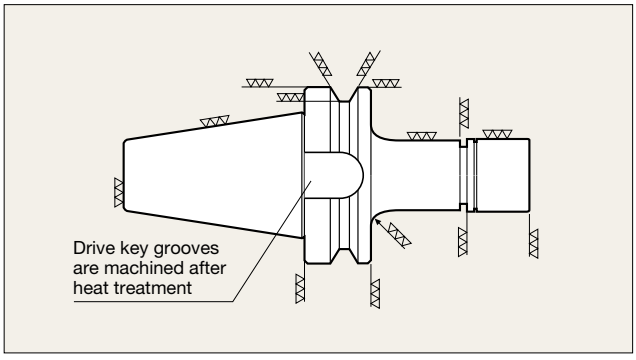
World's Original

●Optimal nut shape, ideal for high-speed rotation, can be securely locked using the Mega Wrench.

Ultimate tool balance

Tool balance has been pursued throughout all stages from design to manufacturing processes. The max. spindle speed required by each series has been achieved.

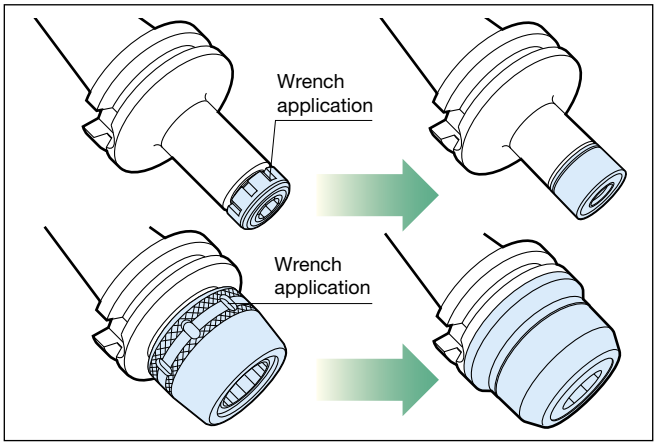
Highly balanced design
+
Thoroughly polished periphery
+
Balance inspection using a high-precision dynamic balancer



Notch-free design MEGA NUT (Pat.) prevents vibration and reduces noise

World's Original

In 1996, as a pioneer of the high speed era, BIG announced a new type of clamping nut that does not require wrench application. These nuts offer superior balance, and eliminate vibration during high speed rotation. This ideal nut design not only reduces whistling noise and splattering coolant, but also assures increased strength of the nut itself.

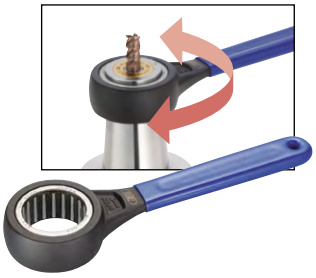


Strict quality control from manufacturing to shipping

Serial number is laser-marked on each Mega Chuck. Production history is stored for use under strict quality control.

Mega Wrench makes nut fastening work easier

The unique Mega Wrench has a one way clutch system which is capable of evenly applying force to the entire nut periphery for safe and secure tightening. Furthermore, the ratchet function offers outstanding workability and reduces the burden of nut tightening work.



Advice

The MEGA CHUCK series are adapted to diversifying spindle interfaces and high spindle speeds. BIG exports this brand to the world with uncompromising quality control from material selection, precision to inspection.

BIG DAISHOWA

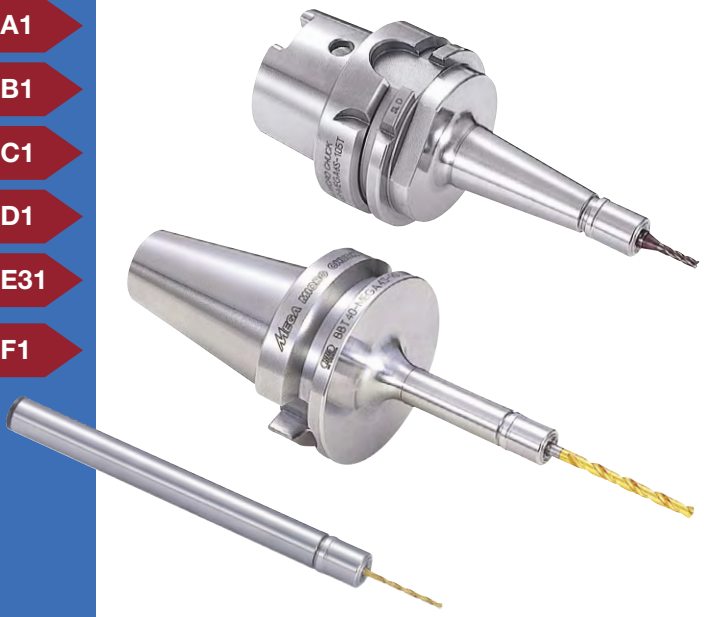
- BBT SHANK A1
- DV SHANK B1
- HSK SHANK C1
- ST SHANK D1
- BIG CAPTO SHANK E31
- For N/C Lathes F1

For Micro Drills and Ultra-Fine Endmills

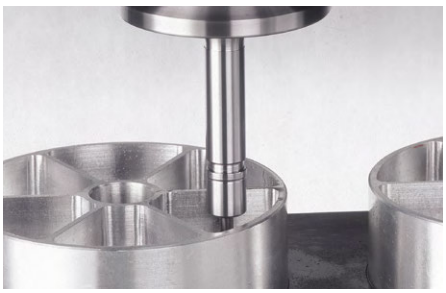
MEGA MICRO CHUCK® PAT.

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

MAX. 60,000 min⁻¹

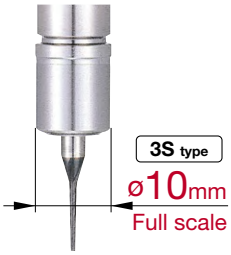


●Ultra-slim design of ø10mm nut diameter minimizes interference with the jig and workpiece.



Extremely slim design with ø10mm nut diameter (3S type)

Slim design avoids interference.
Ideal for small mold making combining high speed and high precision.



Collet accuracy: Within 1μm at nose

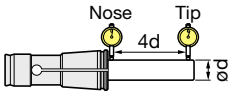
Unique and compact design of taper and cylindrical guide achieves stable accuracy within 1μm at nose.

Ultra-high precision

Micro Collet

Abundant 0.1mm step series!!

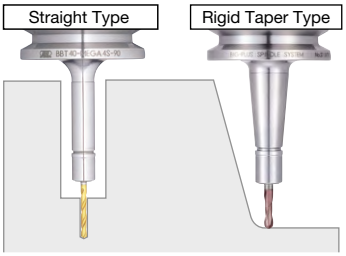
● Collet accuracy



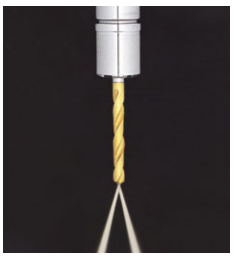
Collet class	Runout accuracy	
	Nose	4D
AA	Within 1μm	Within 3μm

Slim design to reduce workpiece interference

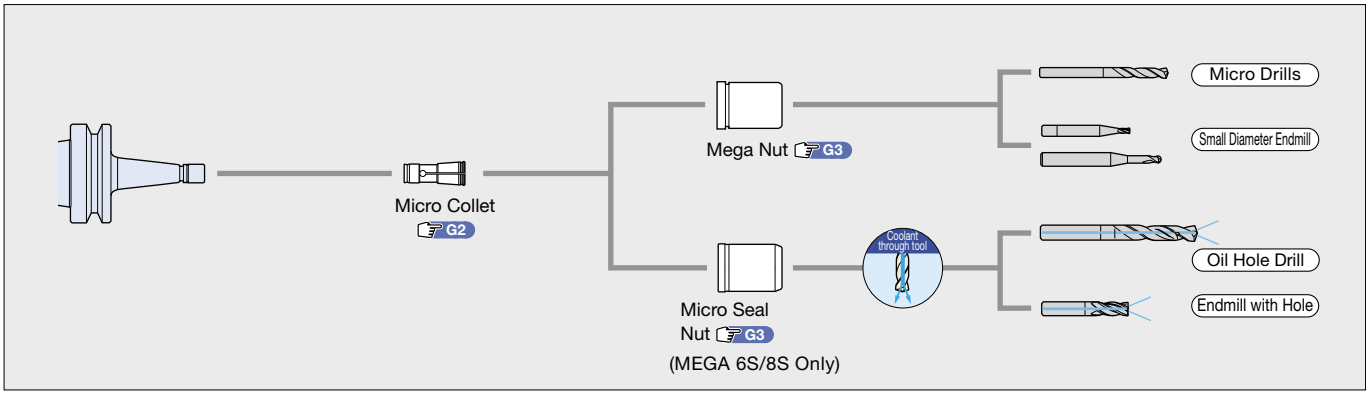
"Straight Type" for minimal interference and "Rigid Taper Type" for increased rigidity are available.



Coolant compatible sealing nut



A sealing nut that allows coolant to be supplied from the tool tip with a standard collet. 6S/8S compatible



BIG DAISHOWA

BBT SHANK A3
BDV/DV SHANK B2
HSK SHANK C3
ST SHANK D2
BIG CAPTO SHANK E32

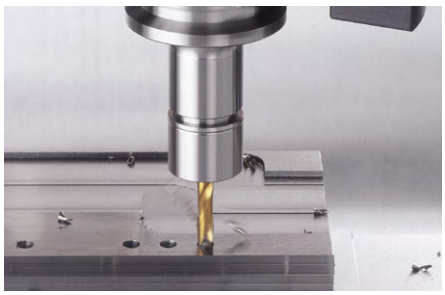
For Carbide Drills, Reamers and Finishing Endmills

MEGA NEW BABY CHUCK® PAT.

BIG-PLUS® SPINDLE SYSTEM DUAL CONTACT

MAX. 50,000 min⁻¹

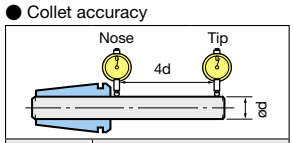
- High speed version of NEW BABY CHUCK with proven results.
- Makes high speed machining possible in addition to its high accuracy and versatility.



1μm high precision collet

Materials, production methods, heat treatment... everything is selected for precision. All collets undergo an accuracy inspection twice for strict quality control.

● Collet accuracy



Collet class	Runout accuracy	
	Nose	4D
AA	Within 1μm	Within 3μm

New collet with collapsibility 0.1 - 0.2/ø!!

Reduced projection length has enabled unprecedentedly stable machining accuracy.

2 way coolant supply

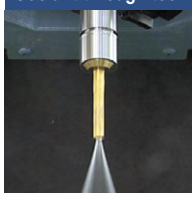
A coolant nut with oil sealing functionality. Removing the internal PS Ring allows jet-through coolant supply.

Coolant pressure 7MPa

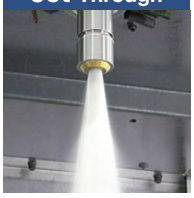
Standard collet compatible

MEGA PERFECT SEAL PAT.

Coolant through tool



Jet Through



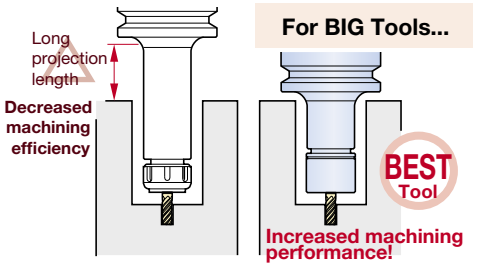
☞ G11

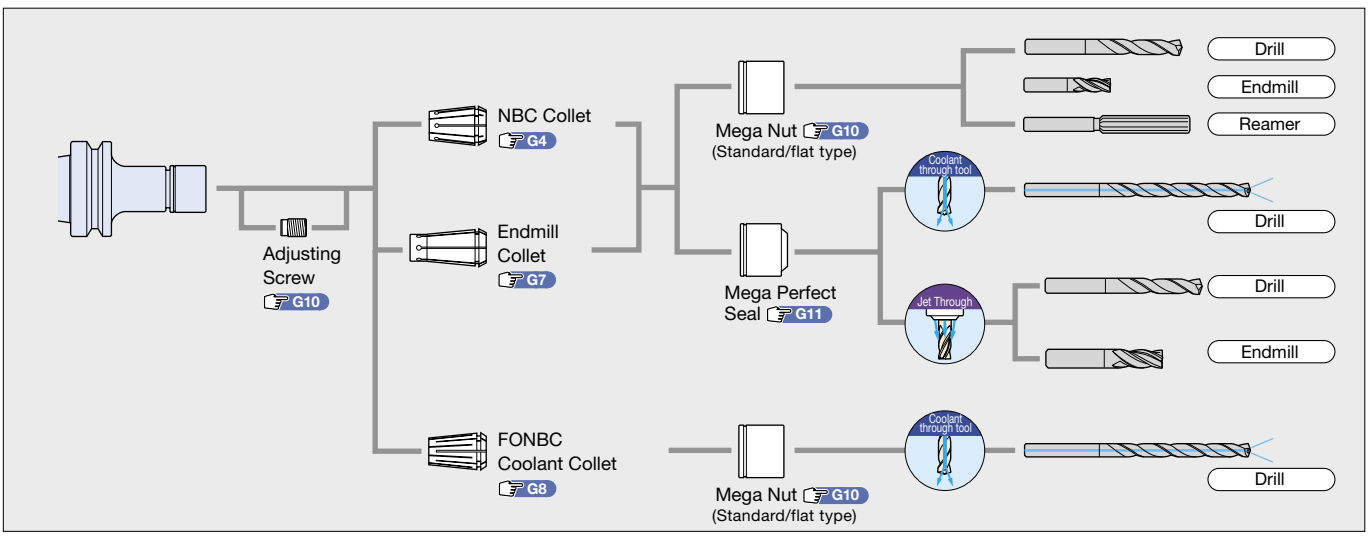
An abundant variety of bodies

Ideal length and diameter of holder is the key to precision machining. Select the optimum from the wide range available.

If selection is limited;

Increased tool extension reduces performance





BIG DAISHOWA

BBT SHANK A7
BDV SHANK B4
HSK SHANK C7
BIG CAPTO SHANK E35

For Roughing and Finishing Endmills

MEGA E CHUCK® PAT.

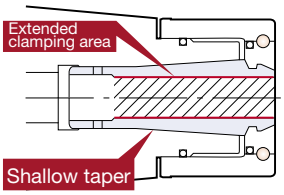
BIG-PLUS® SPINDLE SYSTEM DUAL CONTACT

MAX. 45,000 min^{-1}

●A collet chuck holder for endmilling that makes both high speed and powerful endmilling possible.

Collet designed for heavy duty gripping force

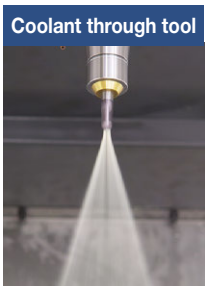
The shallower taper and long tool shank clamping length of the MEGA E Collet improve concentricity and gripping force in order to achieve better surface finishes and stable clamping performance.

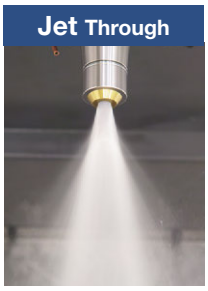


2 way coolant supply

A coolant nut with an oil sealing function. Removing the internal PS Ring allows jet-through coolant supply.

MEGA E PERFECT SEAL PAT.

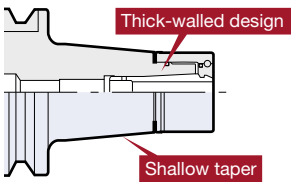


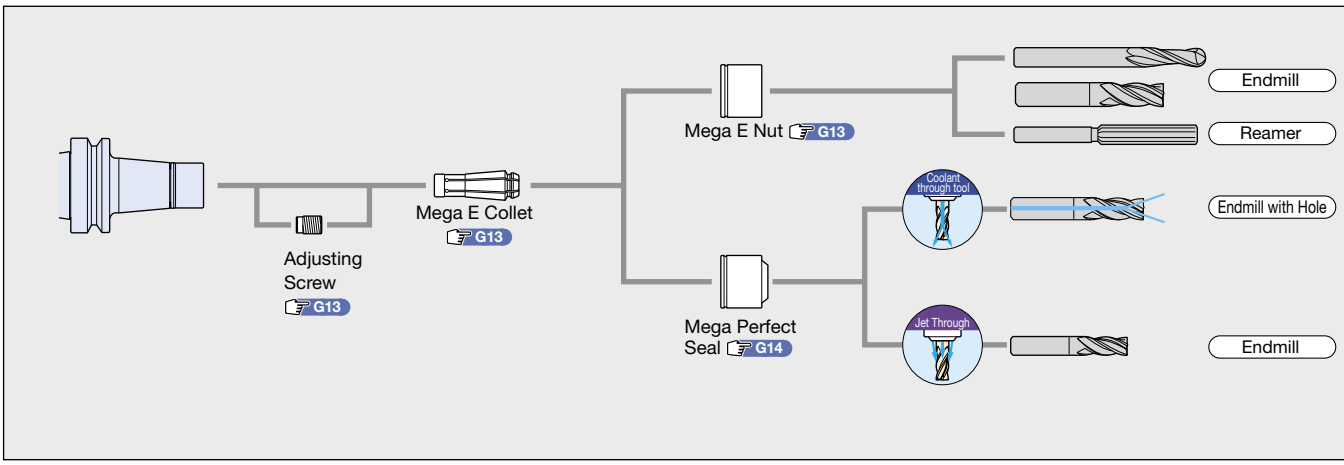


☞G14

Substantial body eliminates chatter

The chuck body is designed to be thicker in order to prevent chatter and deflection of the work surface during endmilling. Tapered body enhances damping effect by varying vibration frequency.





BIG DAISHOWA

BBT SHANK A9
BDV SHANK B5
HSK SHANK C9
BIG CAPTO SHANK E37

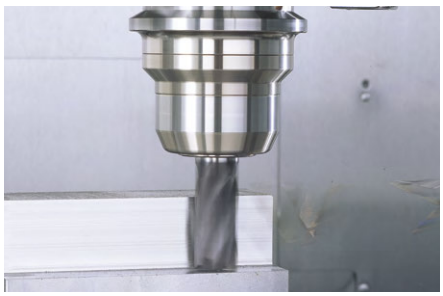
For Heavy Cutting and Endmills

MEGA DOUBLE POWER CHUCK® PAT.

BIG-PLUS® SPINDLE SYSTEM DUAL CONTACT

MAX. 30,000 min⁻¹

●The evolved Milling Chuck, equal to integration with machine spindle.



Complete fit of nut and body

Tightening the nut achieves dual contact between the body and end surface of the nut.
This superior rigidity assures heavier duty machining without chatter.

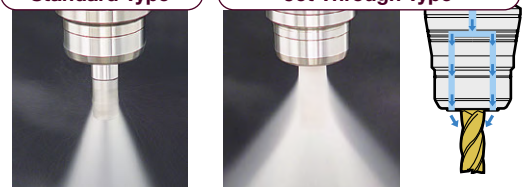
Before tightening　　After tightening

Secure coolant supply

Two types are individually designed for the most effective coolant supply.

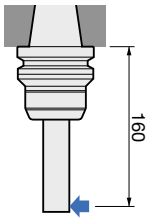
Coolant through tool　　Tool periphery

Standard Type　　**Jet Through Type**

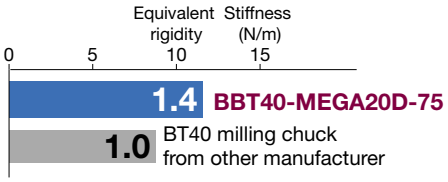


Coolant is ejected from the chuck nose.
Reliable coolant supply to cutting edge periphery.

Rigidity increased by 1.4 times combined with dual contact.



1.4 times higher total rigidity is achieved compared to a competitor's milling chuck.



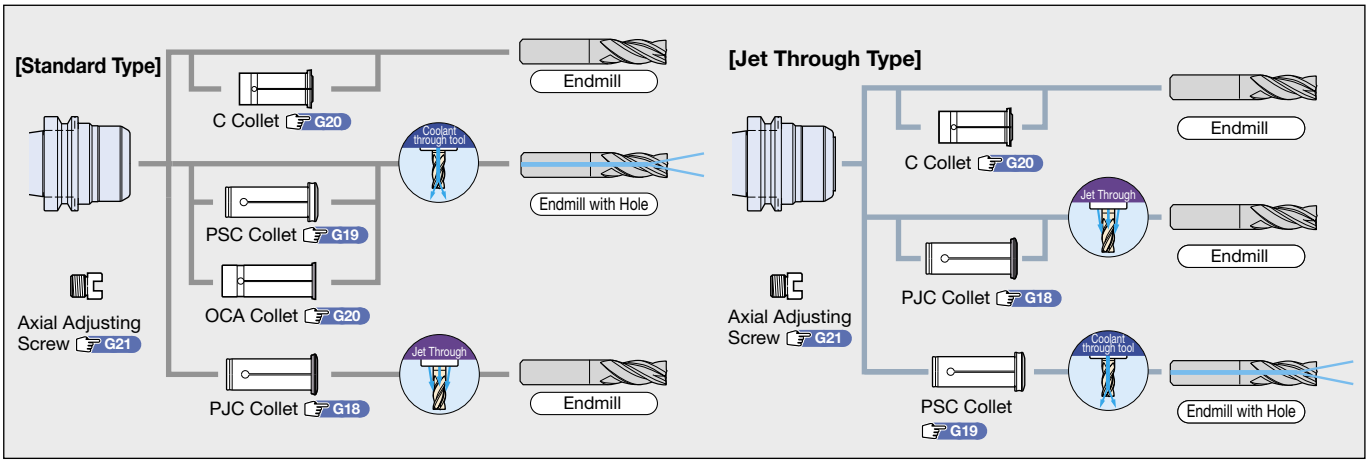
■ High Accuracy Straight Collet G18

High accuracy straight collet with runout suppressed to a minimum. Select in accordance with the coolant usage.

For Coolant Through Tool **PSC Collet** PAT.

Jet Through Type **PJC Collet** PAT.

For Coolant Through Tool **OCA Collet**



BIG DAISHOWA

HYDRAULIC CHUCK

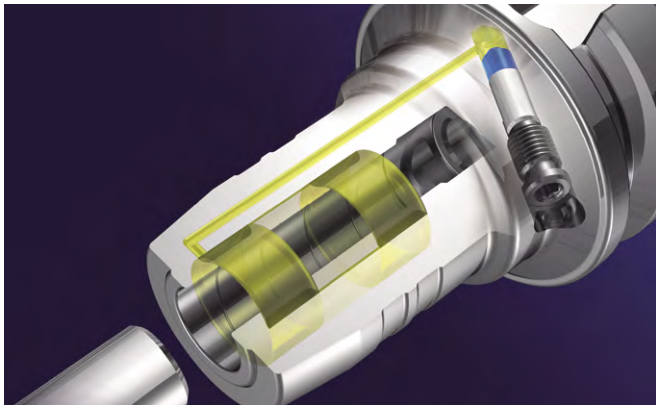
BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

- BBT SHANK A13
- BDV SHANK B7
- HSK SHANK C12
- ST SHANK D5
- BIG CAPTO SHANK E40

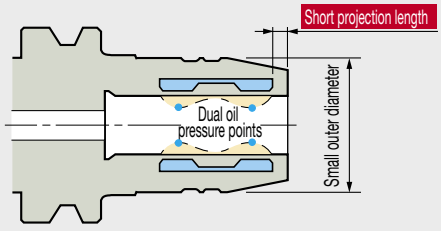
Runout accuracy within 3 microns

- **Supports high runout accuracy for machining with endmills, carbide drills and burnishing reamers.**
- **Enhanced lineup of a range of clamping diameters and length variations.**

Internal structure with increased accuracy and rigidity



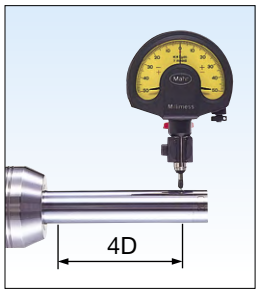
The integrated structure of the body and clamp sleeve gives greater rigidity and achieves better accuracy compared to the traditional two-part construction sealed with O-rings. 2-point tightening with dual hydraulic chambers and a short overhang area where the tool is not clamped give improved runout accuracy.



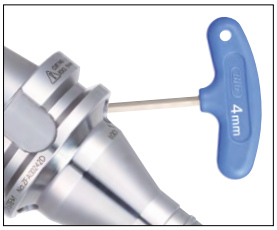
Runout accuracy within 3μm

High precision runout accuracy within 3μm at 4D. High runout accuracy improves the workpiece surface finish and extends tool life.

High precision runout accuracy within **3μm**
(center alignment repeatability within 1.5μm)



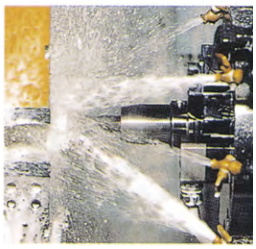
Easy to attach and remove with one wrench



The cutting tool can be clamped or unclamped easily and securely with just one wrench.

Complete sealing mechanism prevents oil-leaks

Specially selected material and shape of the hydraulic plunger seal prevents leakage of oil and decrease in gripping force. The complete seal design avoids minute cutting particles of graphite or ceramics from entering into the toolholder. This enables usage on tool grinding machines.



Advice

No matter how high precision the holder is, if oil or dust is adhered to the inside of the holder then it is impossible to utilize its full capacity. Ensure to clean the inner periphery of the Hydraulic Chuck before clamping tools.

Abundant lineup in length and clamping diameter. Meets diverse machining applications.

Super Slim Type

Slim design eliminates interference.
Ideal for high precision 5 axis machining.

Tip diameter min. ø14mm
max. 60,000min^{-1} (HSK-E25)

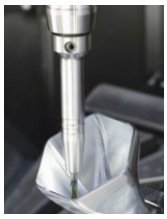
HSK-E25/E32/E40/F63 Series

Ultra-compact and high precision.
Hydraulic chuck suitable for small machining centers.

Prebalancing
0.5g·mm or less (HSK-E25)

Cylindrical Shank Series

High precision cylindrical shank hydraulic chuck suitable for solving interference problems.

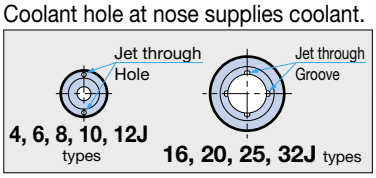


Jet Through Type

Securely supplies coolant or oil mist to the tool periphery.
Delivers outstanding results with high accuracy finishing in 5-axis machines.

Tip diameter min. ø20mm
max. 35,000min^{-1}

Coolant hole at nose supplies coolant.



BIG DAISHOWA

BT SHANK A23
DV SHANK B8
HSK SHANK C16
ST SHANK D3
BIG CAPTO SHANK E39
For N/C Lathes F1

Collet Chuck System

NEW BABY CHUCK PAT.

MAX. 25,000 min^{-1}

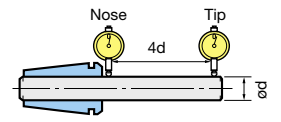
- **High-precision collet chuck system with an accuracy of 1 micron at nose.**
- **The perfect tool to use in drilling, endmilling, reaming and tapping.**
  (Clamping diameter ø0.25 - ø20)

High-precision collet equal to the sub-micron level

(Clamping diameter ø0.25 - ø20)

The BIG New Baby Collet uses know-how cultivated through years of experience to produce a world top-class high-precision collet subjected to two complete strict quality management inspections, covering everything from material and machining methods to heat treatment.

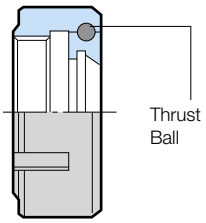
● Collet accuracy



Collet class	Runout accuracy	
	Nose	4D
AA	Within 1μm	Within 3μm

New Baby Nut ensures high accuracy

The double effect of precision threads finished after heat treatment and the smooth tightening of the thrust balls without torsion on the collet achieves stable high-precision collet tightening. Furthermore, the mechanism acts to prevent the thrust ball from jumping out due to centrifugal force generated by high speed rotation, promising stable machining.



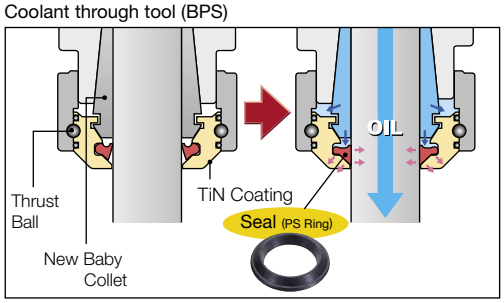
Coolant method to suit the application

The sealing functionality of the PERFECT SEAL means that the higher the coolant pressure is, the tighter the PS Ring adheres to the tool shank, increasing the sealing effect. The secure sealing function allows coolant to be securely supplied to the tip for high-pressure machining in high-speed applications. A sealing nut is used with a standard collet.

Coolant pressure 7MPa

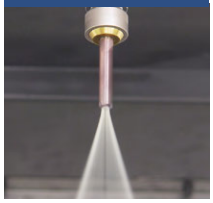
BABY PERFECT SEAL PAT.

Coolant through tool (BPS)

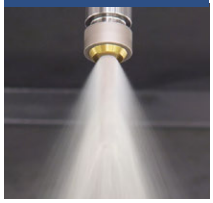


A coolant nut with oil sealing functionality. Removing the internal PS Ring allows jet-through coolant supply.

Coolant through tool



Jet Through

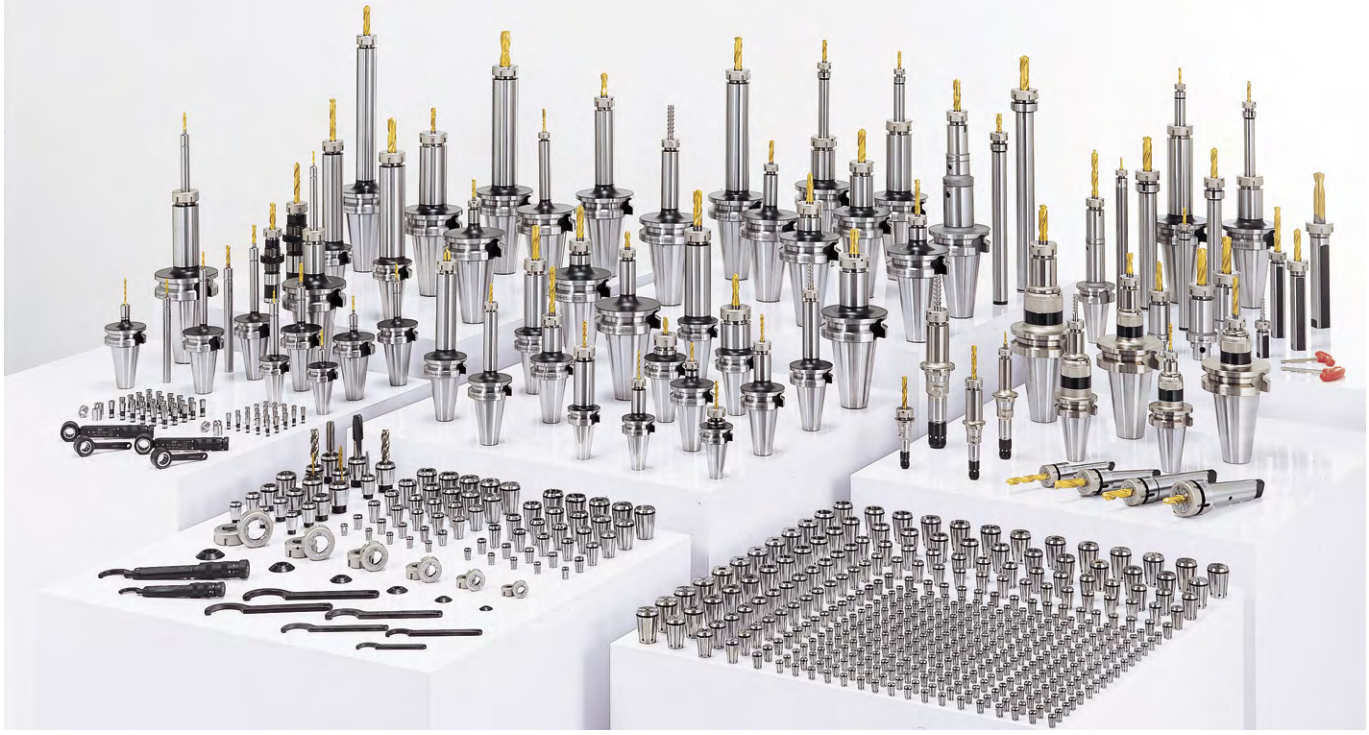


G24

Advice

The runout accuracy heavily affects finish quality and tool life.
For the endmill, we recommend the use of an E Collet or a high accuracy collet with ø0.1mm collapsibility for high precision micro machining, depending on the application and the tool used.

A basic holder ideal for drilling, reaming and endmilling.



Runout Adjustable RA Holder

NEW

A28·C18

Simple structure allows for easy adjustment of runout accuracy!

Uniform hole diameter | Improved surface roughness | Increased tool life

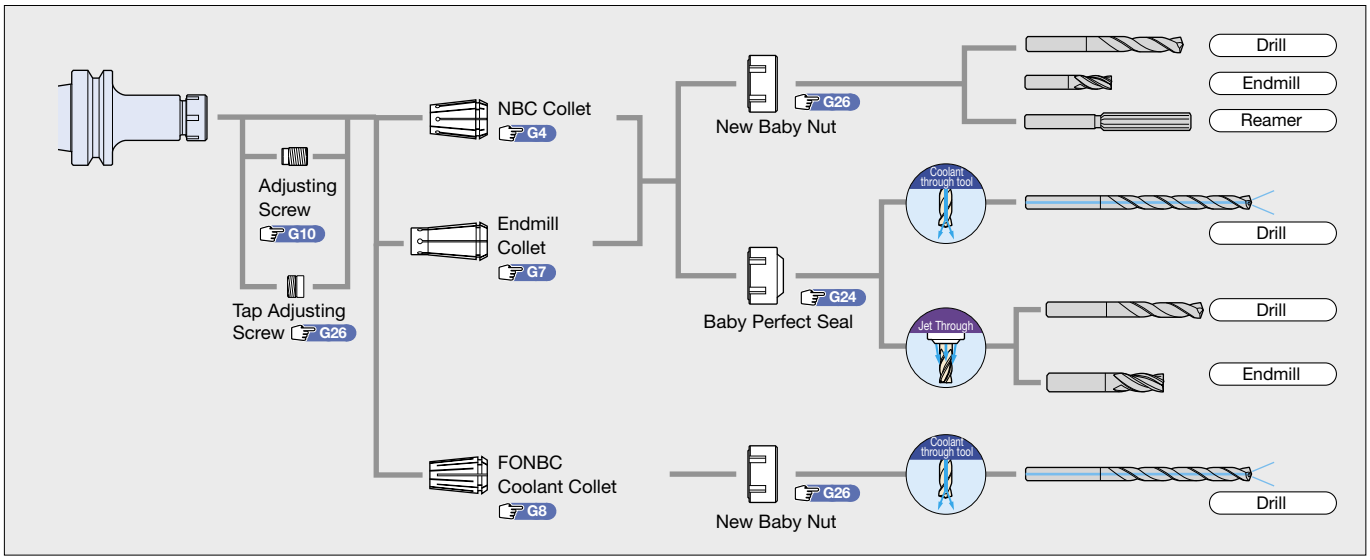
Tool edge runout **2μm** or less

Compensates for increased runout of machine tool spindles caused by extended use. Simple structure allows for easy adjustment in the machine.

Tension inclusive Tap Collet

M2 - M12

A New Baby Collet with a tapper integrated. Existing New Baby Chuck functions as tapper combined with this tap collet.



Advice

It is essential to regularly clean the chuck, collet and nut to maintain accuracy and durability.
We recommend the cleaner series for convenient cleaning.

BIG DAISHOWA

BBT/BT SHANK A29
DV SHANK B6
HSK SHANK C19
ST SHANK D5
BIG CAPTO SHANK E41

MILLING CHUCK

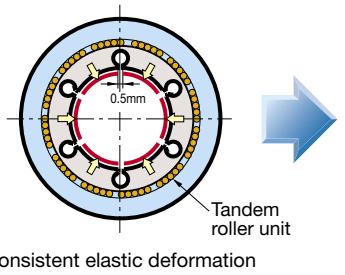
NEW Hi-POWER MILLING CHUCK

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

- Highly rigid chuck for resistance against chatter.
- Supports endmilling with its heavy duty gripping force and high runout accuracy.

Reliable slit design ensures high accuracy

BIG NEW Hi- POWER MILLING CHUCK



Stable runout accuracy
Heavy duty gripping force

(Slits drain oil, preventing slip)

A unique BIG slit shape is adopted to achieve both the essential runout accuracy and gripping force which are the key elements of a milling chuck. Stable clamping is possible due to sufficient elastic deformation and the ability to remove oil film from the tool shank.

HMC12J Type NEW Clamping diameter: ø12

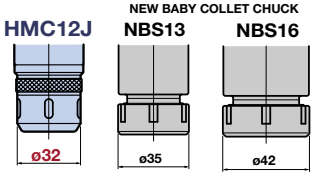
Slimmer nut diameter of ø32 reduces interference

A nut shape slimmer than collet chucks

A30

Peripheral coolant supply to cutting edge.

NEW BABY COLLET CHUCK

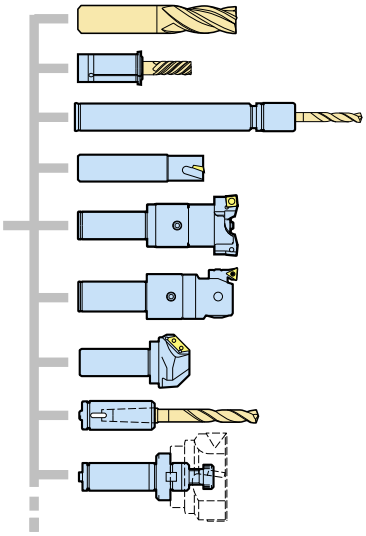


The Milling Chuck is also ideal as a basic holder

Allows the reliable use of straight collets as well as boring bars, arbors such as face milling cutters. Also optimal as a basic holder.

Supports various machining

Enhanced Shank Series
BBT/BT SHANK
DV SHANK
HSK SHANK
BIG CAPTO SHANK



Runout Adjustable RA Holder

A32

Simple structure allows for easy adjustment of runout accuracy!

Consistent hole diameter
Improved surface roughness
Increased tool life

Tool edge runout 2μm or less

Compensates for increased runout of machine tool spindles caused by extended use. Simple structure allows for easy adjustment in the machine.

Advice

Since the Milling Chuck is a base-holder able to clamp various cylindrical shank tools, it is no exaggeration to say that a single choice will determine the performance of the machine tool. Versatile usability for various machining applications from heavy cuts to fine-cuts with superior gripping force, collapsibility, accuracy, rigidity and durability.

BIG DAISHOWA

BBT SHANK A33

HSK SHANK C21

Tool Non-Pullout mechanism built-in

MEGA Perfect GRIP®

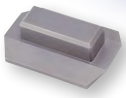
BIG-PLUS® SPINDLE SYSTEM DUAL CONTACT

- **No slip, no pullout. The absolutely reliable milling chuck.**
- **For machining difficult-to-cut materials such as titanium or Inconel.**
- **Accepts industry standard Weldon flat cutters.**
  (Can be used with additional machining for tools without a flat section.)

The unique Key Grip locking mechanism prevents the tool from slipping or pulling out during heavy machining

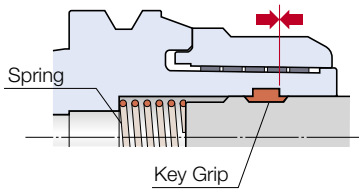
Simple and easy handling with secure clamping

(1) Place the Key Grip onto the flat part of the endmill.
(2) Set the spring into the bore of chuck, then insert the endmill in alignment with the groove.
(3) Rotate the endmill and set the stopper pin.
(4) Clamp the tool until the nut contacts to the chuck body completely.


Key Grip

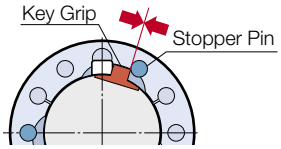
Non-Pullout mechanism

The Key Grip engages in the groove of the chuck body to ensure no tool pullout.



Non-Slip Mechanism

The Key Grip maintains contact with the Stopper Pin to prevent any slip.



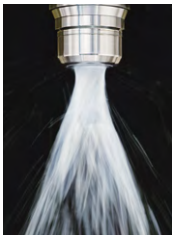
Complete fit of nut and body

Tightening the nut achieves dual contact between the nut and body for rigidity close to that of an integral cutter.

Before Tightening　After Tightening

Flood jet through coolant

A sufficient volume of jet-through coolant is ejected from vents in three locations.



Advice

Various tools with cylindrical shanks with flats in accordance with different standards are usable on the MEGA Perfect Grip, including JIS B 4005, ISO3338-2, DIN1835-1 or others.

BIG DAISHOWA

BBT SHANK A34

HSK SHANK C22

Hi-PERFORMANCE SIDE LOCK HOLDER

MOLD CHUCK

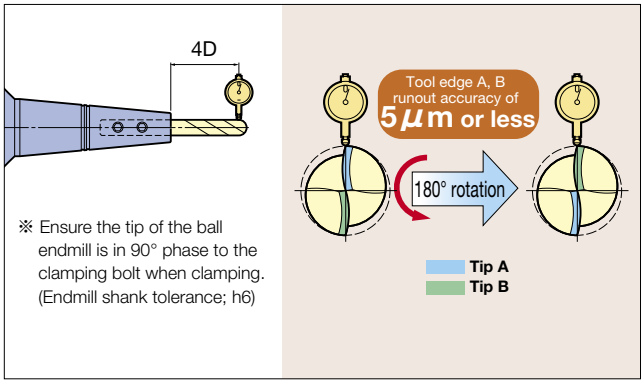
BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

MAX. 15,000 min^{-1}

- **Interference-free tool layout is available without special equipment with just one wrench.**
- **A side lock holder in a class above the rest with superior balance and BIG-PLUS effect.**

Runout accuracy within 5μm

2-flute ball endmills achieve a runout accuracy within 5μm. Both easy handling of side lock holder and high accuracy are realized.

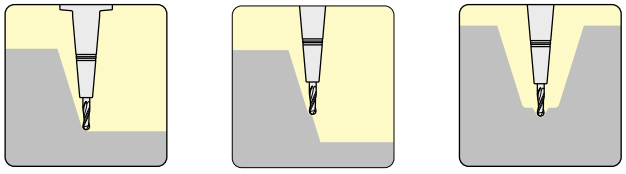


Balanced design realizes high speeds

With the entire outer diameter precision ground, stable machining is realized at high speeds.

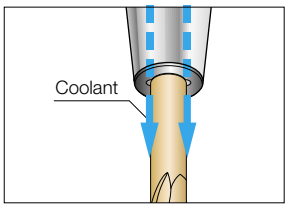
Slim and tapered design minimizes interference

Interference is minimized with mold making. Also useful in machining draft angles of molds.



Secure coolant supply to tool periphery

Center through coolant or oil mist can be ejected through the two coolant slits, allowing for a secure supply of coolant to the cutting edges. This helps in machining hard materials.



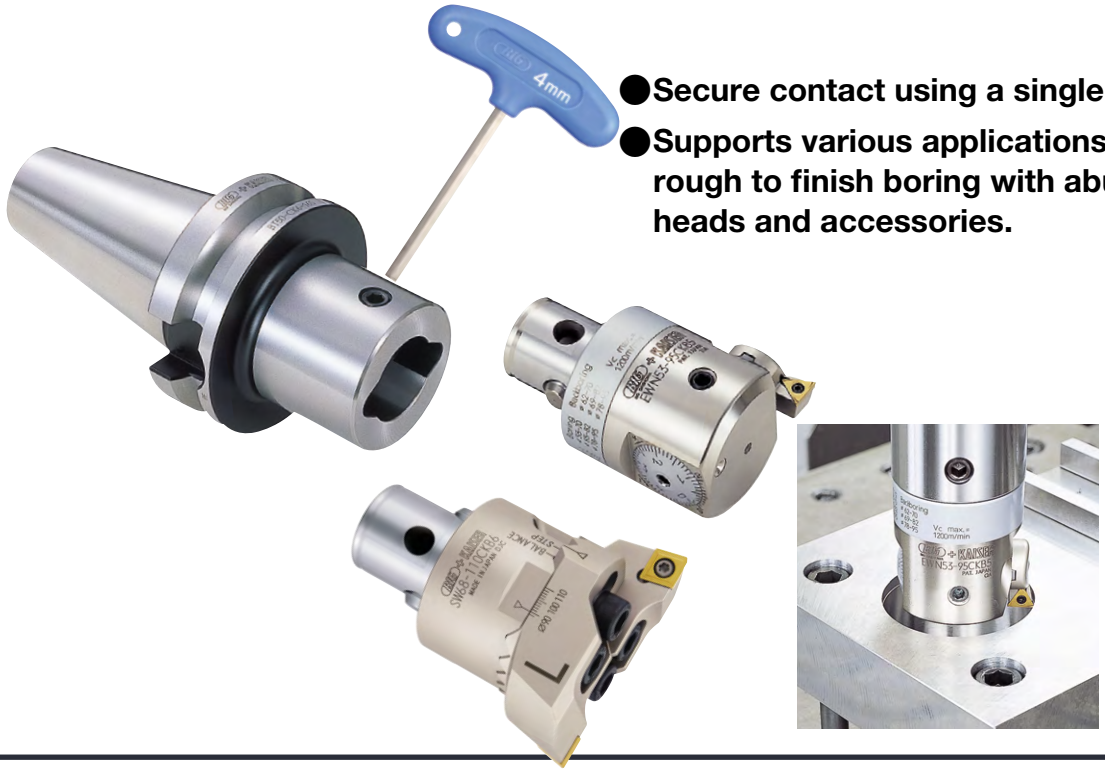
Advice

When machining molds, it could be difficult to supply coolant to tool tip externally depending on the shape of workpiece. Center through specification Mold Chucks supply coolant to the tool periphery, allowing high pressure coolant to be supplied to tool tips even for ball endmills without coolant holes.

BORING SYSTEM BIG DAISHOWA + KAISER

CK BORING SYSTEM

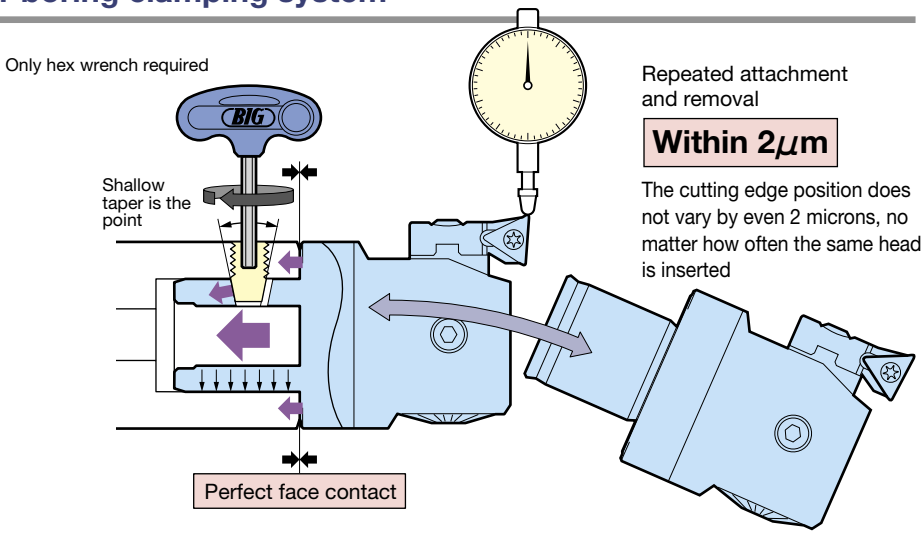
BIG-PLUS SPINDLE SYSTEM DUAL CONTACT



- **Secure contact using a single wrench.**
- **Supports various applications from rough to finish boring with abundant heads and accessories.**

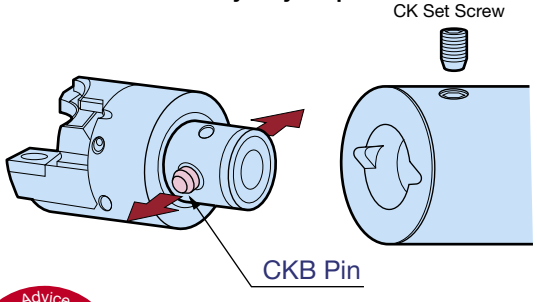
Secure contact using a single wrench! The simplest modular boring clamping system

The CK is a simple method for securely and powerfully clamping flange faces with a single wrench.
Moreover, even if the same boring head is repeatedly attached and removed, the cutting edge position does not vary by 2 microns. This accurate clamping allows boring diameter setup to be done with a boring head only, increasing the machine utilization and drastically reducing labor.



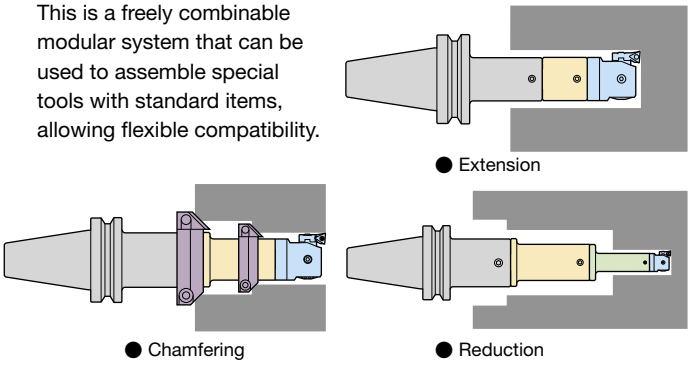
Safe structure at high torque

Adopts a proprietary CKB pin for rough boring at high cutting torque. **The CKB pin is of floating type which gives it good horizontal balance, dampening cutting torque and making it possible to withstand heavy duty torque.**



Rapid adaptation to special tools

This is a freely combinable modular system that can be used to assemble special tools with standard items, allowing flexible compatibility.



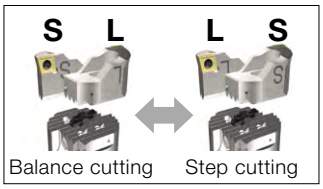
Advice

Micron order adjustment is possible while installed in a machine. This decreases machine down time drastically especially in large item small scale production. The modular system allows for flexible tool layout in boring depth and diameter appropriate for each workpiece.

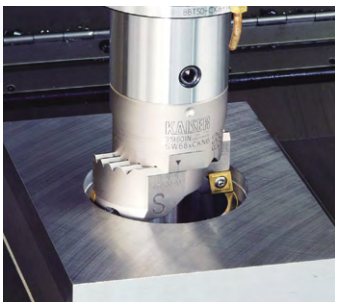
CK BORING SYSTEM

ROUGH BORING HEAD Pursuit of rigidity

High rigidity
SW BORING HEAD PAT. A39
- ø20 - 203
- Serrated for high connection rigidity



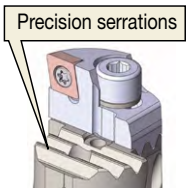
Adapted for both balance and step cutting by simply changing positions of standard Cartridges.
(for blind holes)



High rigidity
TW BORING HEAD PAT. A41
- ø20 - 203
- 1 head accepts 2 size cartridges

100% completely balanced cutting
RW BORING HEAD A43
- ø25 - 150
- Abundant Cartridges
- Fine axial adjustment

Boring tool for small-diameter 2-flute roughing
MW BORING HEAD A46
NEW
- ø16 - ø21
- Versatile ø20 shank
- Spiral groove for improved chip evacuation



FINISH BORING HEAD Insert Holder Type Quick micron-level adjustment

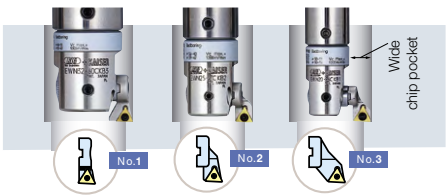
Prebalanced design/Multifunction head
EWN BORING HEAD PAT. A49
- ø20 - 203
- Prebalanced design supports high-speed boring
- Abundance of insert holders

Back boring available as standard
Supports back boring by simply reversing the insert holder.

Digital boring head
EWD BORING HEAD PAT. A51
- ø41 - 203
- Digital display allows the adjustment amount to be read at a glance
- Fully waterproof and dustproof structure (IP69K equivalent)

Emphasis on chip evacuation properties

Replacing the insert holder makes it possible to secure sufficient clearance for chips.



High speed
EWB BORING HEAD PAT. A53
- ø32 - 105/ø100 - 203 (Aluminum)
- 0.01mm/ø scale
- Built-in automatic precision balancing unit

Lightweight special aluminum head 600/800g

Vc max. 2,000m/min

Built-in damper
SMART DAMPER A50
EWN BORING HEAD PAT.

NEW

- Integrated EWN BORING HEAD and SMART DAMPER.
- Closely adjacent vibrating point and damper achieve a high damping effect.

FINISH BORING HEAD Cylindrical Tool Type Abundant toolholder series

High precision
EWN BORING HEAD PAT.
A57

- ø1 - 54
- 0.01mm/ø scale plus 1 micron vernier
- Combine with carbide shank for stable deep-hole boring

World's smallest precision boring head
EWN04-7/04-15
A55

- ø1 - 7/ø1 - 15 (EWN04-7)
- O.D. ø18.5 ultra-compact design
- Max. 30,000min^{-1}

Digital boring head
EWD BORING HEAD PAT.
A58

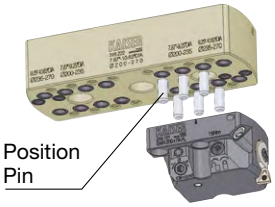
- ø1 - 54
- Digital display means the adjustment amount can be read at a glance
- Waterproof and dustproof structure (IP69K equivalent)

High speed
EWB BORING HEAD PAT.
A59

- ø1 - 50
- 5μm/ø precision diameter adjustment
- Built-in manual precision balancing function

CK7 LARGE DIAMETER BORING SERIES

New, safer mechanism



Using the position pin fastens the head or clamp base to the slide. Prevents the head from flying off due to high-speed rotation caused by programming errors.

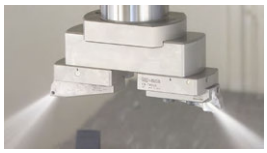
Aluminum high speed type
Lighter weight for greater speed

Vc max. 2,000m/min

Uses hardened aluminum components, tough yet lightweight. (Slide/Clamp Base)

Center through supported

Reliable coolant supply to finishing and roughing cutting tool peripheries.



(For Roughing)
TW200 BORING HEAD
- ø200 - 830

A47

(For Finishing)
EWN200 BORING HEAD
- ø200 - 880

Precision head with outstanding operability. Back boring available.

A67

PIN TURNING HEAD

- ø0.5 - 686
- Realizes finishing accuracy not possible with contouring.

A69

ACCESSORIES

Various shanks/ accessories A71

Combine with a CK Shank for a wide range of applications not limited to boring.

Built-In Damper
SMART DAMPER
A74·C26

- Unique dynamic damper eliminates chatter.

BIG DAISHOWA

CK BORING SYSTEM

BBT SHANK A74

HSK SHANK C26

FACE MILL ARBOR TYPE FMH

BBT SHANK A110

HSK SHANK C29

Built-In Damper

SMART DAMPER PAT.

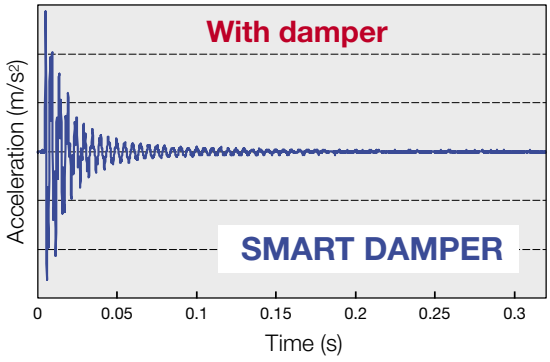
BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

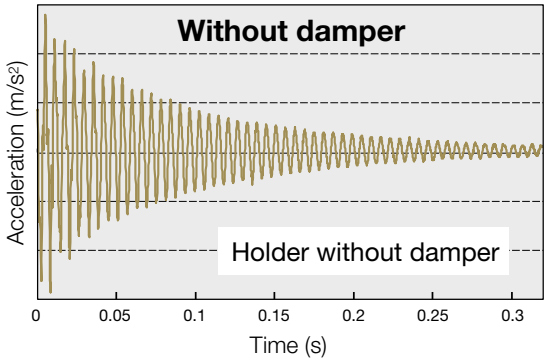
- **Unique dynamic damper eliminates chatter!**
- **Achieves high speed and high efficiency machining for work requiring a long projection length.**

WSD smart damper

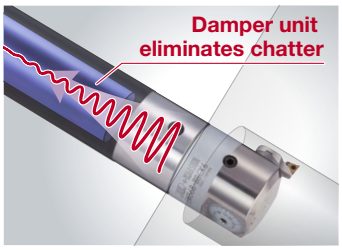
Comparison of oscillatory waveforms with and without dampers

The Smart Damper incorporates a damping mechanism and reduces chatter instantly. The Smart Damper solves various problems caused by chatter due to long projection, such as inadequate surface roughness, defective dimensions of machined workpiece and shortened tool life.





Chatter suppressing mechanism



An incorporated unique damper that functions as both a counter damper and friction damper.
Patent-pending counter weight maximizes effect of the friction damper. Chatter is absorbed effectively and higher machining accuracy is achieved.

Finish Boring of Ductile Cast Iron (FCD500)

Boring holder	Cutting speed (m/min) 25	50	100	150
Holder without damper	○	×	×	×
Built-in Damper SMART DAMPER BBT50-CK6DP-451	○	○	○	◎

× = Chattering
○ = Good
◎ Excellent surface finish

Cutting Conditions

Machine	Horizontal MC BIG-PLUS BBT50
Boring diameter	ø68mm
Depth	408mm (L/D=6)
Insert radius	R0.4
Feed	0.2mm/rev
Depth of cut	0.3mm/ø

Results: 6 times greater productivity.
Superior surface finish and better tool life due to increased cutting speed.

Abundant series for various requirements

CK BORING SYSTEM

CK Extension Type A74

EWN BORING HEAD (Integrated Type) NEW A50

CK Holder (BBT50/HSK-A100) A74·C26

FACE MILL ARBOR TYPE FMH
(BBT50/HSK-A100)

A110·C29

Advice

Chatter caused by long tools could be solved by reducing the bending force.
Using an insert with smaller nose radius is effective in boring operation, and using a cutter with large peripheral cutting edge angle helps for face milling.

BIG DAISHOWA

AUTO TAPPER SERIES

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

BBT/BT SHANK A130
HSK SHANK C34
BIG CAPTO SHANK E45
For N/C Lathes F5

- Abundant series with various functions, from tap depth control to torque limiter.
- BIG's precision technology supports secure and accurate tapping.

BIG Tapper Series products are available to suit various tapping requirements

AUTO TAPPER A PAT.
Eliminates time loss of reversing rotations

Self-reversing function allows consistent forward rotation of spindle and minimizes cycle time.

M3 - M20
Reversible
Depth control

A131

High speed tapping

AUTO TAPPER B/R
Slim and high spec + low cost

The slimmest tapper with depth control within ±0.15mm.

M3 - M30
Depth control
Radial float mechanism (R Type)

AUTO TAPPER B A133/C34/F6
AUTO TAPPER R A134

AUTO TAPPER E
Smoother floating function

First choice for machining centers, with smooth axial float and torque adjustable tap collet.

M3 - M36
Torque limiter

A137/E45/F6

DRILL TAPPER
Ideal for large diameter tapping

A tapper equipped with properties ideal for large diameter tapping with large machining centers.

M30 - M52
Torque limiter

A139

SYNCHRONIZED TAP HOLDER
Quick change TC type tap collet

Flexible tool layout for synchronized tapping is available in combination with BIG + KAISER CK long shanks.

M2 - M30 (M52)

A130·C35

Advice

Accidents such as tap breakage could ruin the entire workpiece.
The cause of the breakage, wear of the tap or collision of the tap with the bottom of the hole, is a factor to determine the appropriate function of the tapper, torque limiter or automatic depth control

BIG DAISHOWA

BBT SHANK A121
DV SHANK B10
HSK SHANK C33
ST SHANK D9
BIG CAPTO SHANK E44
For N/C Lathes F5

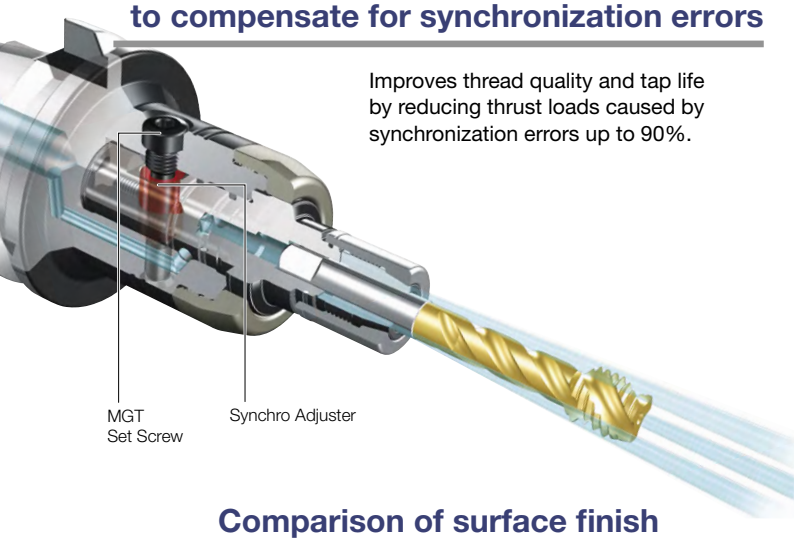
Synchronized Tap Holder with Compensation Mechanism License EMUGE

MEGA SYNCHRO® Tapping Holder PAT.

BIG-PLUS® SPINDLE SYSTEM DUAL CONTACT

- **Compensates for synchronization errors during synchronized tapping**
- **Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.**

Unique new mechanism built in to compensate for synchronization errors

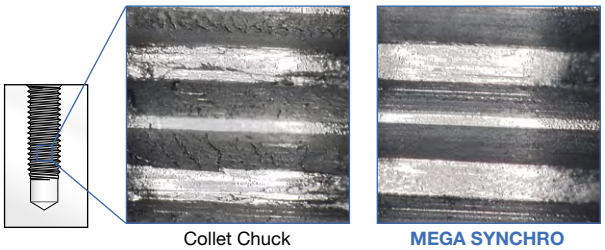


Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.

Comparison of surface finish

Tapping of difficult-to-cut materials with collet chuck tends to cause a compressed burr on the thread surface. BIG MEGA SYNCHRO compensates for synchronization errors and minimizes cutting load. Fine surface finish of threads is achieved.

Spiral tap M5 P0.8 Material: SNCM420



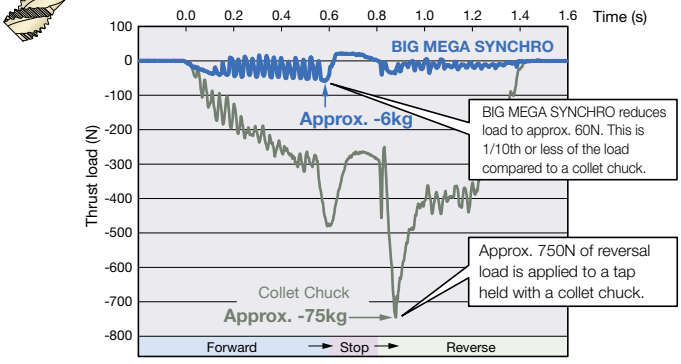
Collet Chuck

MEGA SYNCHRO Machining Surface

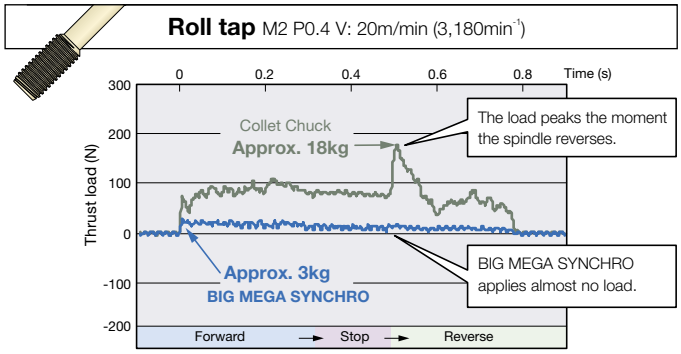
Reduces thrust load on both the tap and workpiece.

Due to feed misalignment occurring when the rotation is changed from forward to reverse, or tolerance to the tap pitch, 100% synchronization is hardly ever achieved. BIG MEGA SYNCHRO minimizes the thrust load to both the tap and workpiece to improve thread quality and tap life.

Spiral tap M6 P1 V: 20m/min (1,060min^{-1})



Roll tap M2 P0.4 V: 20m/min (3,180min^{-1})



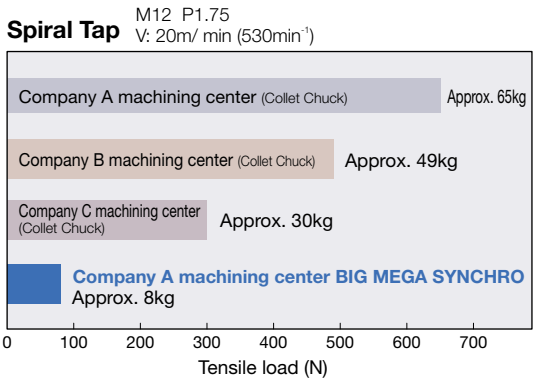
Advice

There are many cases where the tapping process comes last in parts-processing. Thus it is vital to choose the appropriate tapper for secure tapping. This applies to synchronized tappers as well. Please be careful if taps break or compressed burrs are caused frequently.

Abundant lineup from small to large diameter tapping.

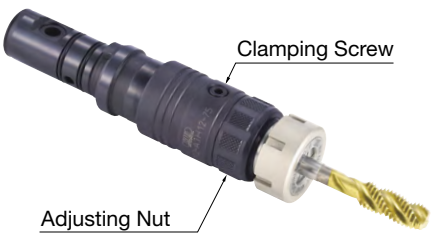
Difference in loads depending on machining centers

The movement of the machine differs even at the same rpm, creating a completely different load. Even with maximum load Company A machining centers, the use of BIG MEGA SYNCHRO drastically reduces the load.



Projection length adjustable tap holder

New Length Adjustable Tap Holder with an adjustable tap projection length. Quick presetting and adjustments can be made by placing the tip of the tap against a height gauge.



One revolution of the adjusting nut will move the tap projection by 1mm.

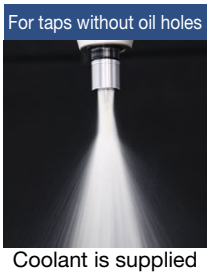
For MGT12

Tapping range
M6 - M12

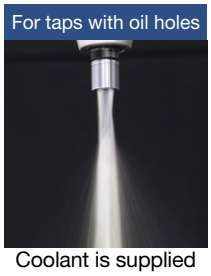
Adjustment amount: 12mm

Center through cooling available as standard

Coolant is supplied both through the tool and to the tool periphery simultaneously, even for taps with oil holes.



Coolant is supplied through slits



Coolant is supplied through both the tap hole and slits

Lineup of types from small to large diameters

<For small diameters>

Compensation mechanism eliminates synchronization errors and controls dynamic runout accuracy at high speed, providing stable thread quality and extended tap life.

Tapping range
M1 - M3

BBT/HSK/Cylindrical Shank Type

<For large diameters>

Compensation for synchronization error eliminates heavy thrust loads of large diameter tapping.

Tapping range
M20 - M36

BBT/DV/HSK/CK Shank Type

BIG DAISHOWA

ANGLE HEAD

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

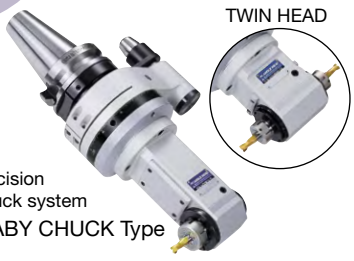
BBT SHANK A141
BDV SHANK B12
HSK SHANK C36

- An abundant series of high rigidity Angle Heads for systematic machining of multiple surfaces.
- Entire series is a dual contact specification as standard.
  Further increased rigidity.
- New HSK SHANK Series!!

A Stop Block is required for use.

4 types available to suit the application
(select from our abundant lineup to suit the shape of the workpiece.)

AG90 Series



TWIN HEAD

- High-precision collet chuck system
  NEW BABY CHUCK Type

Long type

- For drilling/tapping
  Compact type

- Weight under 2kg
  Clears ATC weight restrictions
  BBT30 lightweight type

- Replaceable adapter type
  BUILD-UP type

- Powerful ø32 specification
  HMC32 Type

- For Face Milling
  Face Milling type

- Built-In tap depth control
  Tapper type

- Coolant through tool
  Oil Hole type

AG45 Series

- 45° spindle angle
  NEW BABY CHUCK Type

AGU Series

- 1° increment flexible angle
  Universal type

- Adjustable within 30°
  AGU30 Type

Inner boring Type

- Bore ø30 - Tool clamping diameter ø3 - ø6

SPECIAL DESIGNS We are able to design and manufacture special Angle Heads such as special angle or long type models to meet various machining requirements.

BIG DAISHOWA

BBT SHANK A159

DV SHANK B20

Coolant Feed
Hi-JET HOLDER

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

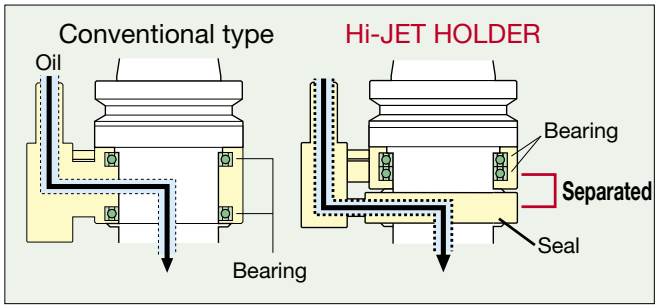
MAX. 10,000 min^{-1}

- **Unique separated housing keeps coolant out of bearings. (for water-soluble coolant only)**

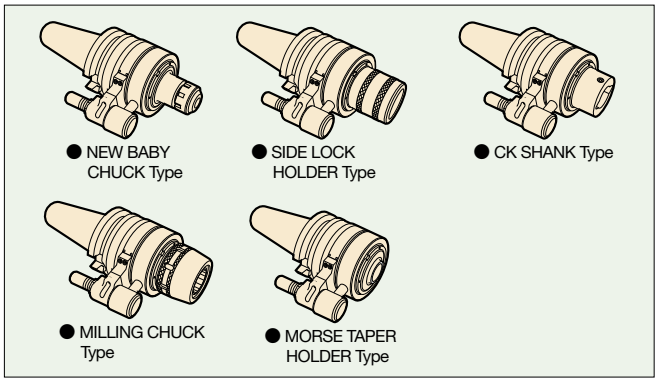
A Stop Block is required for use.

Unique separable structure improves the holder life PAT.

Ingress of the coolant to the bearings is eliminated by separating the bearing housing from the coolant channel, which elongates toolholder life drastically.



Abundant series lineup to support various machining



BIG DAISHOWA

BBT SHANK A169

BDV SHANK B19

Speed Increaser
HIGH SPINDLE

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

MAX. 24,000 min^{-1}

GTX Type

GTX

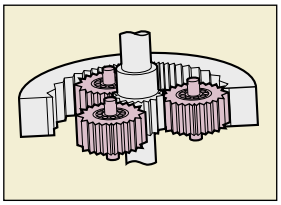
- **Increased speed for small diameter endmilling and drilling.**
- **Multiplies the spindle speed 4, 5, or 6 times.**

GTG

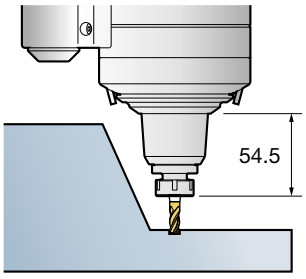
A Stop Block is required depending on the type.

High performance, low vibration drive mechanism

A planetary gear system that has been constantly refined and upgraded over the years since BIG first announced the Speed Increaser in 1970. Ground gears are used to achieve low-vibration rotation.



Long nose type for mold machining (GTX)



Low heat generation design drastically reduces spindle expansion. Ideal for long small diameter machining such as molds. Long nose is ideal as an interference countermeasure.

Advice

Although high-speed machines are becoming more popular, rigidity is still a concern when heavy-duty machining is the main process. Using the High Spindle only in sections where high speeds are strictly required in a pinpoint manner will reduce equipment costs.

BIG DAISHOWA

BBT SHANK A165

BDV SHANK B18

HSK SHANK C49

Ultra-High Speed Air Spindle

AIR TURBINE SPINDLE

MAX. 120,000 min^{-1}

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

For small diameter drilling/endmilling

RBX

Ceramic ball bearing type

Max. spindle speed 120,000min^{-1}

●High-speed micro-machining can be performed on a normal machining center, eliminating the need of an expensive high-speed machine!

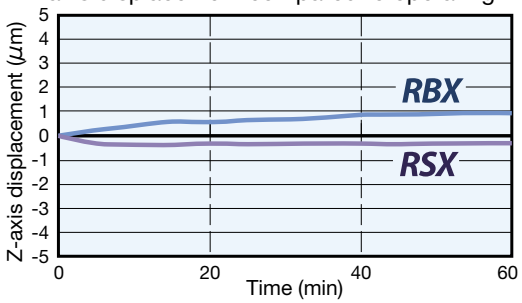
A Stop Block is required depending on the type.

ATC compatible

Extended tool life with minimal thermal displacement

High speed rotation of the machine spindle generates heat, causing spindle expansion and Z-axial displacement. This displacement results in dimension defects of precision molds or tool breakage in micro machining.
The Air Turbine Spindle utilizes air for both driving and cooling the spindle simultaneously, thus the Z-axis displacement is eliminated.

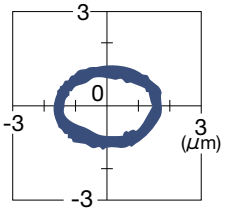
Z-axis displacement compared to operating time



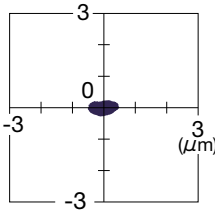
Outstanding dynamic runout accuracy

Most problems associated with micro-machining are caused by poor dynamic runout of a machine spindle.
We have established a runout measuring system that can detect spindle movement during rotation at high speed and achieved the best dynamic runout accuracy.

<Measuring Example>
Plotted position of test bar (16 mm) at max. spindle speed



RBX12
(120,000min^{-1})

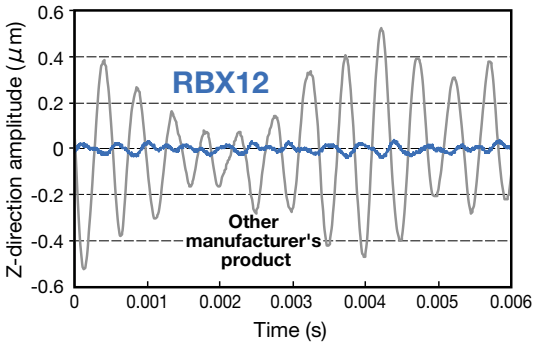


RSX
(60,000min^{-1})

Improved machining accuracy

Improved tool life

Vibration in Z-axis direction at 120,000rpm (reference value)



RBX12

Automatic tool change (RBX ATC Type)

ATC is made possible by supplying air via Stop Block.
Unmanned operation results in increased machining efficiency.

ATC compatible

Advice

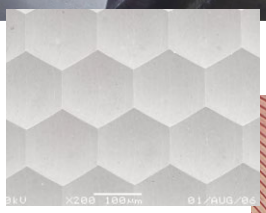
Choosing a toolholder with high runout accuracy is one of the most important factors when micro-machining.
Accuracy of the nut and collet is also essential, not to mention elimination of machine spindle rotation.

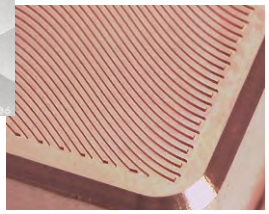
For ultra-small diameter drilling

RSX

Highest runout accuracy
Hydrostatic air bearing type
Max. spindle speed 60,000min^{-1}

Ultra-high precision type





●Ideal for micro-drilling and mold machining of optical components!!
The hydrostatic air bearings achieve dynamic runout accuracy of world leading standards.

Ultra-high speed 120,000rpm RBX12

120,000rpm high-speed machining possible.
World's most compact design.

Ultra-high speed type
RBX12 NEW
Max. 120,000min^{-1}

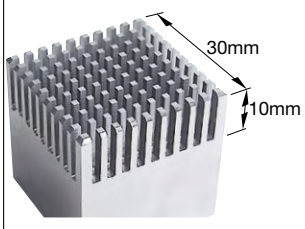
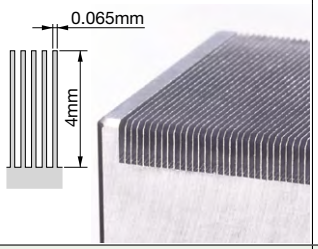
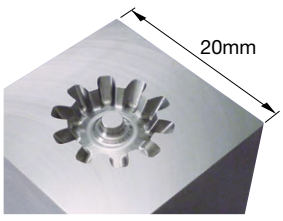
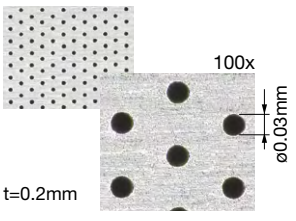
Ultra-high speeds of 120,000rpm realized, pursuing superior dynamic rotational accuracy.
World's smallest spindle, capable of chucking a ø4mm tool.
Can also be used with HSK-E32 machines.

Types usable with lathes, polishers or other special machines are also available.

[Application range examples]

Machining range		RBX5	RBX7	RBX12	RSX
Drill	ø0.1mm or less	△	△	○	◎
	ø0.1 - 0.3mm	○	○	◎	
	ø0.3 - 0.5mm	○	◎	○	
	ø0.5 - 1.0mm	◎	○	△	○
	ø1.0 - 1.5mm	△	x	x	△
Endmill	ø0.5mm or less	○	◎	◎	◎
	ø0.5 - 1.0mm	◎	◎	△	△
	ø1.0 - 1.5mm	◎	△	x	x
Jig grinding		◎	◎	○	◎
Practical max. spindle speed (min^{-1})		50,000	80,000	120,000	60,000
Bearing type		Ceramic ball			Hydrostatic air

The table is just for reference. Machining range may change according to material, cutting conditions and cutting tools.

Application example	Pre-hardened steel	Aluminum	Machining time: 23min SKD	Aluminum
				
Holder used	**RBX5**	**RBX7**	**RBX12**	**RSX**
Tool	ø1.5mm tapered rib endmill	ø0.5mm deep rib endmill	R0.3x3mm ball endmill CBN	ø0.03mm drill
Workpiece	Pre-hardened steel HRC40 (NAK55)	Aluminum (A2017)	SKD61	Aluminum (A2017)
Spindle speed	40,000min^{-1}	70,000min^{-1}	120,000min^{-1}	60,000min^{-1}
Feed	1,000mm/min	1,500mm/min	2,400mm/min	20mm/min
Effect	Stable machining can be achieved even with a high-resistance tapered endmill.	Outstanding runout accuracy permits super thin wall cutting.	The 120,000min^{-1} high-speed machining drastically reduces machining time.	Step amount 0.005mm Drills 60 holes or more.

BIG DAISHOWA

COMPACT SENSOR SERIES

Touch Probe & Edge Finder

Details I1

- **Measuring is the decisive factor for the following process.**
  Sensor series minimizes machine down time.
- **Quick detection of reference position.**

The 3-dimensional touch sensor series that detect touch-position instantaneously.

3-D touch probe

POINT MASTER PRO

For all cutting tools, workpieces and machine tools

I1

For conductive materials

POINT MASTER

For use with conductive cutting tools, workpieces, and machine tools. I3

Detection with LED and beep

The all-rounder dial-read 3-D measuring instrument

3D MASTER RED

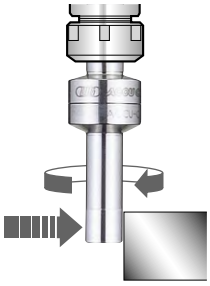
I5

NEW

Battery-less slide type simple edge finder

ACCU CENTER

I5



The **Automatic Touch Sensor Series** is also available for various measuring needs, such as for unmanned operation.

NEW ZERO SENSOR

OPT2500

Advice

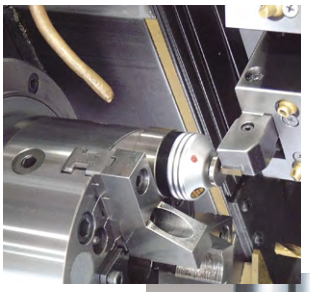
Make sure to check the coating material on the cutting tool before using conductive compact sensors. TiN coatings are conductive, but some multi-layer coatings do not conduct electricity. High speed machine tool spindles often use non-conductive ceramic bearings. Select sensors available for any material for use under nonconductive environments.

BIG DAISHOWA

COMPACT SENSOR SERIES

Tool Offset Sensor

Details I6



- **Quick detection of workpiece offset and tip position.**
- **Abundant series available for various tool materials and diameters.**

Repeatability within 1μm (2σ). LED illuminates when the cutting edge touches the sensor plate.

Measures 50mm from cutting edge and workpiece top surface

BASE MASTER I6

For use with conductive cutting tools, workpieces, and machine tools.

Electronic detection of cutting edge position

BASE MASTER GOLD I6

For all cutting tools, workpieces and machine tools

Cutting edge position detection of 100mm from workpiece top surface

BASE MASTER GOLD

BM-100G

Cutting edge position detection for ø0.05mm tool diameters

BASE MASTER MICRO

For all cutting tools, workpieces and machine tools I7

Separable body and measuring unit

BASE MASTER RED I7

For all cutting tools, workpieces and machine tools

NEW

Easy maintenance by replacing measurement part!!

World's smallest tool offset sensor with diameter of ø20

BASE MASTER MINI I8

For all cutting tools, workpieces and machine tools

With loupe
(5x magnification)

Detects tool position for all materials including non-conductive tools and workpieces.

TOOL MASTER I8

Advice

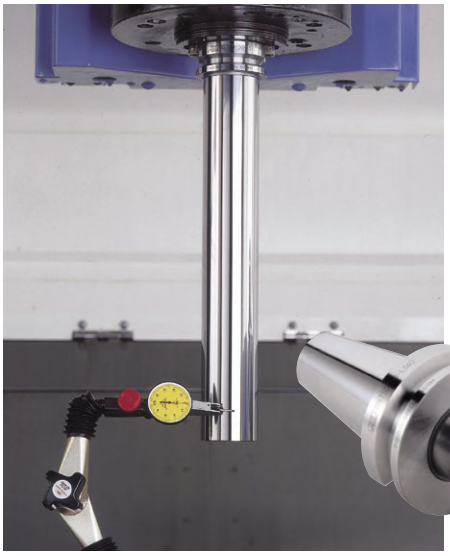
The accuracy of measurement is greatly affected by the environment. The specifications and height accuracy of the Base Master are applied at 20°C ±0.5°C temperature and 55% ±5% humidity.
If precision measuring is required in conditions other than stated above, please compensate the height by comparing with a gauge block.

BIG DAISHOWA

Details I11

MAINTENANCE TOOL

DYNA TEST/DYNA FORCE



- For maintenance and inspection of machine tool spindle
- A machine maintenance tool of the highest quality for use as a precision measurement instrument.
- Calibration certificate and traceability diagram available upon request. (with charge)

Tool clamp measuring device for pulling force
DYNA FORCE

Static/dynamic precision test bar
DYNA TEST

DYNA TEST

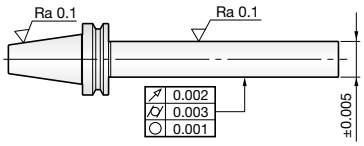
Static

Test bar with a focus on superb quality and accuracy. Prevents trouble through the periodic inspection of machine runout accuracy.

- A high-precision test bar developed by BIG's precise machining technology.
- Periodic accuracy evaluation eliminates machining defects.
- Abundant variation to suit the standards of each holder.

Precision standard of BIG Daishowa Test Bars

BIG Daishowa provides high quality test bars, produced under a strict quality control system.



Runout accuracy	0.002mm
Roundness	0.001mm
Cylindricity	0.003mm
Surface roughness	Ra: 0.1μm
O.D. tolerance	±0.005mm

Dynamic

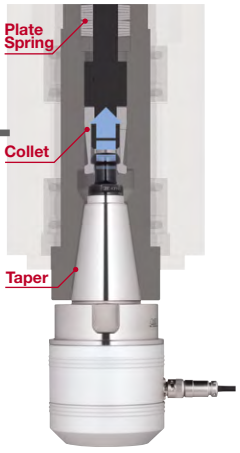
Evaluates the dynamic runout accuracy of the machine spindle by measuring the runout while rotating at practical speeds.

Knowing the dynamic accuracy of the machine tool spindle affected by centrifugal forces, vibrations and heat will aid in finding the appropriate cutting parameters for actual machining.

DYNA FORCE

Measures pulling force of machine tool spindle, a vital factor of machine tool performance.

The pulling force produced by the clamping device of machine tools could deteriorate due to degradation of disc springs or wear of the components of the booster. Pulling force is especially vital when it comes to dual face contact spindle interface, thus regular inspection is recommended.



A calibration certificate and traceability diagram is offered upon request with charge for reliable use of these measuring instruments, or for the customers certified with ISO9000. Please contact us for details.

※ Traceability is defined under JIS Z8103 as “the establishment of a pathway related to national and international standards in which standard instruments or measuring instruments are continually calibrated according to higher-level measurement standards.”

Advice

The spindle is the most essential part of a machine tool. Maintaining the accuracy of the spindle is almost equal to extending the life of the machine tool itself. Even periodical inspection of the runout accuracy makes a large difference.

BIG DAISHOWA

Indexable Insert Endmill

FULLCUT MILL PAT. FCR / FCM Type

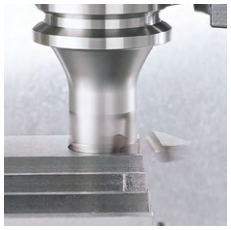
Details J1

FCM Type

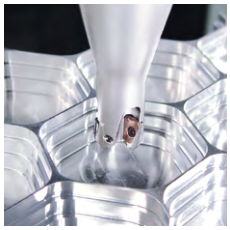
Multifunction
Ramping Cutter FCR Type

- **Indexable insert endmills with both excellent sharpness and toughness, achieving the performance of solid endmills.**
- **Integrated dual contact shank for increased power even with compact machines!**

BIG-PLUS® SPINDLE SYSTEM DUAL CONTACT

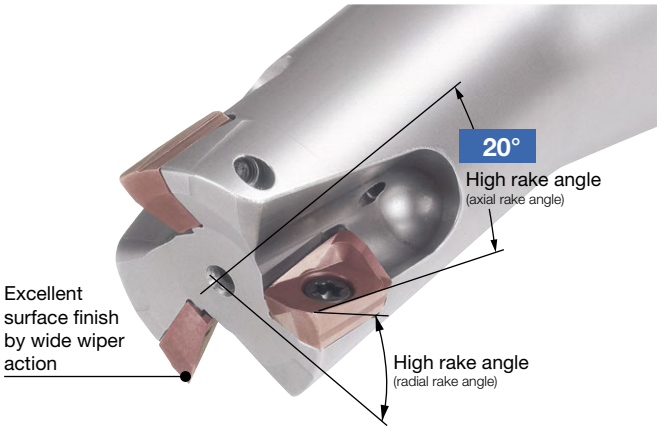


FCM Type



FCR Type

Sharp cutting edge with large radial and axial rake angles



Positive high rake cutting edge for both radial and axial directions achieves smooth and quiet endmilling.

FCR Type Cutter diameter: ø16 - ø33

Multifunction 3D cutter that realizes both heavy and stable ramping.

Ramping · Helical milling · Peck-drilling · Grooving · Shoulder milling

FCM Type Cutter diameter: ø12 - ø80

Low resistance, high efficiency cutter especially for cross-feed machining.

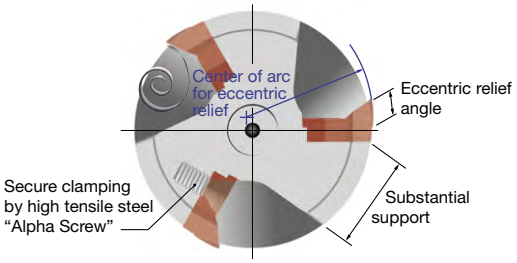
Grooving · Shoulder milling

Advice

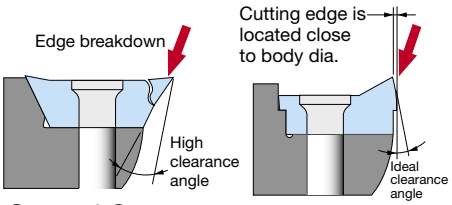
Indexable endmills are usually perceived as for rough milling. However, BIG FULLCUT MILL is designed to have a similar cutting edge shape to solid endmills to realize sharp cutting and low cutting resistance. This makes it very effective to use on small machine tools or machines with linear slides.

The first indexable endmill with an eccentric relief angle

The eccentric relief angle originating from solid endmills is adopted. Tough and sharp cutting edges are realized.



- Strong cutting edge reduces edge chipping



General Cutter — FULLCUT MILL

Eccentric relief angle
An eccentric relief angle improves the cutting edge toughness and stays sharp, using the traditional solid endmill cutting edge shape technology.

Replaceable head types are also available. J17

Threaded coupling with taper & face contact

CONTACT GRIP

- Resistant to chatter due to the dual contact connection.
- FCM or FCR heads can be installed on the same base holder

ø16 - ø32

BIG DAISHOWA

Details J23

High Speed Cutter for Aluminum and Cast Iron

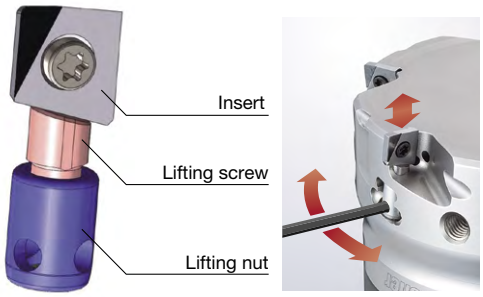
SPEED Finisher

Cutter diameter: ø50, ø63, ø80, ø100, ø125, ø160

- **Greatly improves the surface finish in ultra-high-speed machining!**
- **Achieves Rz = 0.55μm for die-cast aluminum ADC12 and Rz = 0.67μm for gray cast iron FC250.**

Speedily adjusts the cutting edge height

It has a simple and highly operable mechanism in which the cutting edge height is adjusted after clamping the insert by turning the lifting nut from the side, then directly pushing up the insert with the lifting screw. Since the lifting screw has a fine pitch (0.25mm), accurate adjustment is possible.



Direct coolant supply to the cutting edge

Use in combination with the Face Mill Arbor Type FMH allows coolant to be supplied directly to the cutting edge. This prevents welding and biting of chips in aluminum cutting.

Adjustable in μm increments. Exclusive presetter

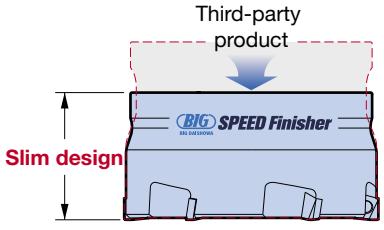
Presetter that allows adjustment in true micron increments

With dial gauge stabilizing function

Presetter that allows cutting edge adjustment in micron increments.
With a soft contact function that prevents damage to delicate cutting edges. While it is simple, it allows all cutting edges to be perfectly aligned in a short time, which even non-contact presetters could not accomplish. Purchase together with the SPEED FINISHER body.

Combines light weight and high rigidity

The slim body allows increased rigidity and reduced vibration and deflection. Therefore, height difference of the machined surface is minimized.
Also, as it is lighter than other cutters, it can be safely used with a small #30 taper machining center.



Advice

Not only has the finishing surface roughness been improved, but by correctly aligning the cutting edge height, feed per tooth can also be increased for the same surface roughness, allowing high-efficiency machining. As the insert uniformly touches the workpiece, the life can also be extended.

BIG DAISHOWA

Details J21

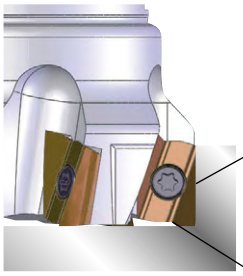
Indexable Insert Endmill

FULLCUT MILL *PAT.* ARBOR TYPE

Cutter diameter: ø50, ø63, ø80, ø100

- **Sharp and powerful cutting. Exhibits incredible cutting capacity even with #40 machining centers or millturn machines.**
- **Compatible with new-standard Face Mill Arbor type FMH.**

Perpendicularity and beautiful surface finish unmatched in indexable insert cutters



Machined with holder **BBT40-FMH22-47-45** and Fullcut Mill **FMH22-FCM63116-40**

● Perpendicularity

Cutting speed Vc (m/min)	150
Feed rate fz (mm/blade)	0.1
Axial DOC ap (mm)	5
Radial DOC ae (mm)	0.1

BIG DAISHOWA	10μm
General Cutter	40μm

● Wiper flat

Cutting speed Vc (m/min)	250
Feed rate fz (mm/t)	0.2
Axial DOC ap (mm)	0.1
Radial DOC ae (mm)	50

	Ra	Rz
BIG DAISHOWA	0.51	2.89
General Cutter	1.56	7.77

※ The perpendicularity and surface roughness will vary depending on the cutting conditions, material, machine tool and workpiece rigidity.

Advice

In 90° corner milling, the insert with a positive shape and large rake angle reliably curls the cutting chips, increasing the evacuation performance. The high rake insert used in the Fullcut Mill will be helpful.

BIG DAISHOWA

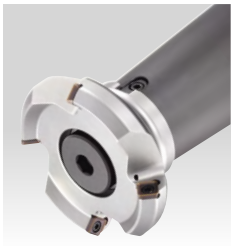
Details J25

Face Mill Cutter

SURFACE MILL NEW

Cutter diameter: ø80

- **Exhibits difference in the top surface finish of the workpiece!**

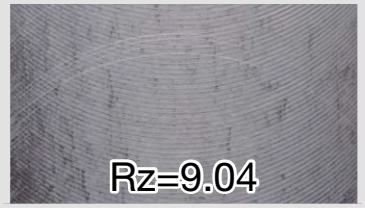


Surface finish comparison with a general cutter

Workpiece material	S50C
Cutting speed Vc (m/min)	200
Feed rate fz (mm/blade)	0.2
Axial DOC ap (mm)	3
Radial DOC ae (mm)	75
Cutting method	Dry

BIG DAISHOWA SURFACE MILL (FM25.4-SFM804-40)

General Cutter



Advice

Glossiness of the machined surface with a face cutter is affected by the sharpness of the insert. By using different cutters between roughing and finishing operations, not only can a beautiful surface finish be achieved, but the life of the insert can also be easily managed to obtain stable quality.

BIG DAISHOWA

Ultra-High Feed Chamfering Tool

C-CUTTER mini

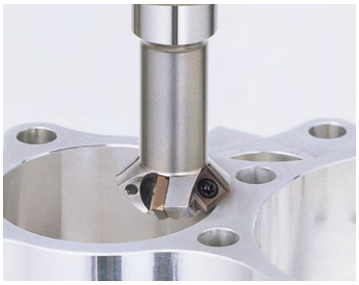
Details J26

Full scale

●Ultra-high feed! The 4 insert design and compact tool diameter improve the feed drastically.

- Front & back chamfering
- Starting hole and bolt hole chamfering
- Face milling

(ST20-C2232
ST32-C3242
CKB Type)



4 inserts, ultra small diameter and new coating achieve triple effect

Effect 1 Superb design Ultra high feed by 4 inserts

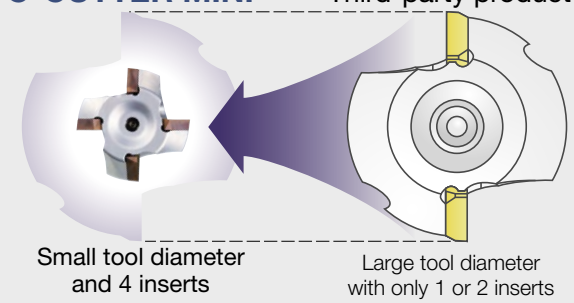
Compared to 1 or 2 insert cutter, feed rate is multiplied with 4 inserts.

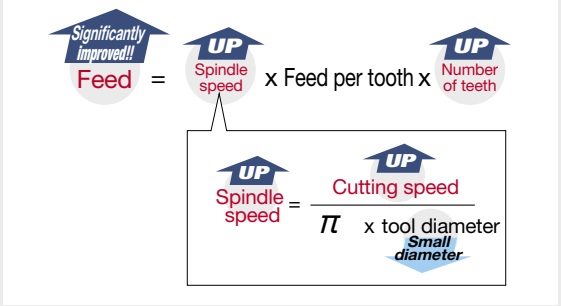
Effect 2 Increased spindle speed by ultra compact diameter

At the same cutting speed, smaller tool diameter means faster spindle speeds.

Effect 3 Cutting speed is increased by the latest “ACP200” coating

Ultra multi layer PVD coating increases the cutting speed drastically.





Hexagonal insert with the world's smallest inscribed circle of ø3.97

Back chamfering with minimum starting hole diameter of ø6 allows high-efficiency machining. Also economical with 3-corner inserts.

Machining efficiency is significantly improved

Workpiece: S55C
Chamfering amount: C1
Feed per tooth fz: 0.1mm/t

	General product	C-CUTTER MINI (ST12-C1116-45B-25)	
Chamfering diameter	ø29	ø13.5	Small diameter
Number of inserts	2	4	UP
Cutting speed Vc (m/min)	150	300	UP
Spindle speed n (min⁻¹)	1,646	7,040	UP
Feed Vf (mm/min)	329	2,820	Much higher!

Advice

As machining centers now use high-speed rotation and high feed, quick machining with a small cutter is something of a current trend.
This is especially effective in machining with a small stock allowance, such as chamfering.

BIG DAISHOWA

Details J33

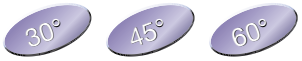
CHAMFERING TOOL

C-CUTTER

Hole diameter: ø5 - ø100

CK SHANK

ST SHANK

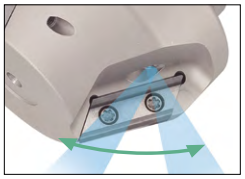


●Wide chamfering range reduces number of tools and ATC.

Universal type

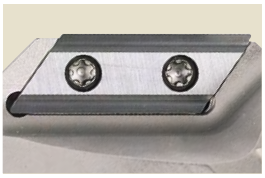
Center through specification (30°, 45°, 60° types)

Coolant nozzles can be adjusted towards the machining point to achieve reliable coolant supply. Sharp cutting edge and reliable coolant supply achieve beautiful surface finish like never before. Securely chamfers difficult-to-cut or easy-to-weld materials.



Stable machining with double screw

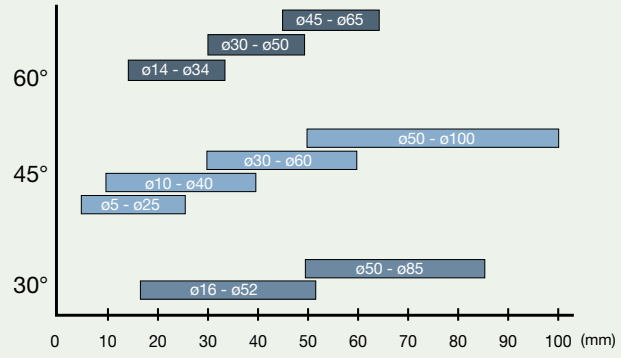
Parallelogram long insert ideal for chamfering. Two screws are used for secure fixing, allowing stable machining.



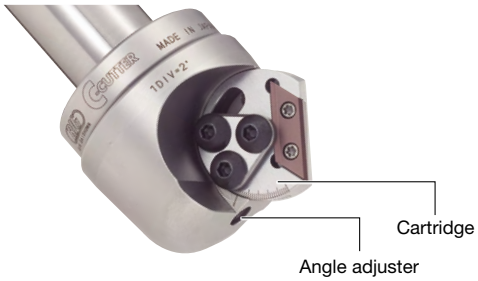
Reduces the number of tools and machining time

The extensive chamfering range reduces the number of tools and tool changes. Effective use of the magazine pots and shorter machining time are achieved.

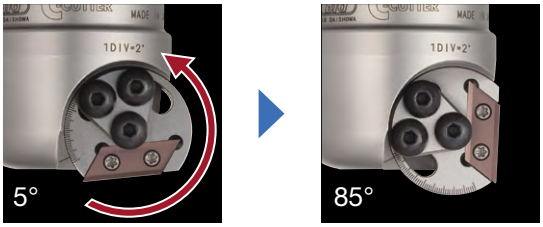
<Comparison of cutter diameter range>



Chamfering angle can be easily adjusted by 5° to 85° (universal type)



The cartridge swings when the angle adjuster is turned using a wrench; the chamfer angle can be adjusted by 5° to 85° by aligning the scale line of the cartridge with the mark on the body.



Advice

In hole chamfering, there are two machining methods: contouring using a small cutter, or simply thrusting with a large cutter such as the C-Cutter.
In single item production, the thrusting method allows easier programming and reduces the set-up time.

BIG DAISHOWA

R-CUTTER

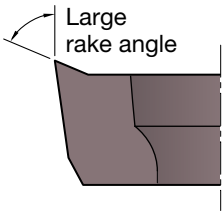
R-CUTTER PAT.

Details J37

● Automates rounded chamfering for both the front and back.

Excellent sharpness with new insert shape!

R-Cutter is the first in the industry to use an insert with a large rake angle that's capable of producing clean surfaces with no vertical streaking.



Four corners can be used for better economic efficiency

A throw-away insert that allows all four corners to be used, making cost reduction possible.

Advice

It is well known that changing the chamfer of the workpiece from the C-plane to the R-plane will considerably change the texture of the workpiece. This can be considered an added value.

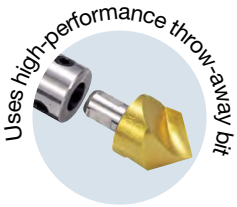
BIG DAISHOWA

Centering + chamfering tool

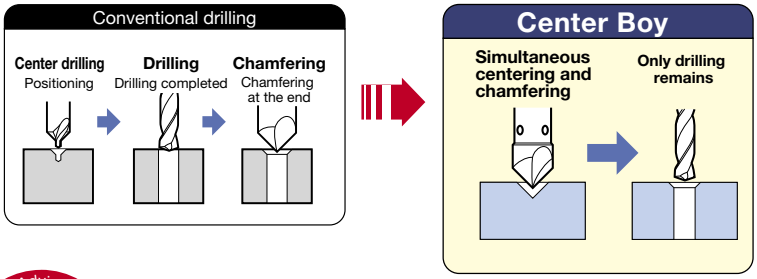
CENTER BOY

Details J40

● Accurate positioning in drilling and chamfering can be performed simultaneously.

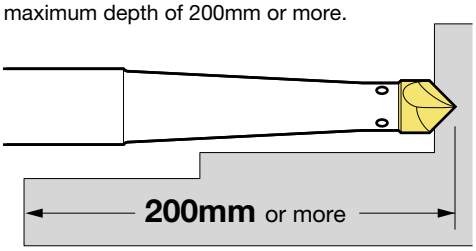


Reduced processes shorten machining time remarkably



Long shank with less interference

The long type covers workpieces with maximum depth of 200mm or more.



Advice

Centering before drilling can be considered the most important process in determining the center of the compass. Correct centering has a great effect in extending tool life.

BIG DAISHOWA

CHAMFERING TOOL

C-CUTTER BOY

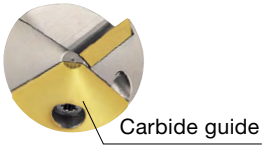
Hole diameter: ø5 - ø25

Details J39

- **The carbide guide prevents chatter on bench drilling machines.**
- **Economical three-corner insert.**

Carbide guide allows stable cutting

Carbide guide allows stable cutting and prevents triangular chamfering. It does not damage the body, extending the life.



Insert that does not need to be reground

Inserts do not require regrinding.
Moreover, the carbide coating insert with 3 usable corners offers lower cost and extended tool life.

Advice

Although the C-Cutter Boy has been developed for chamfering using a bench drill, it is also capable of stable chamfering without chattering even in low-rigidity conditions such as horizontal machining with long projection, thanks to the carbide guide.

BIG DAISHOWA

Back spot facing tool for cap bolt

BF-CUTTER

Cap bolt size: M6 - M30

Details J41

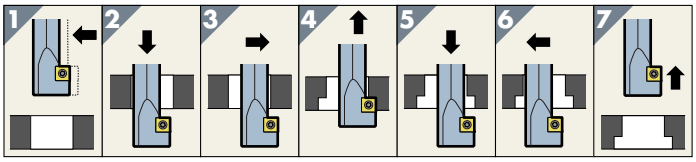
- **Economical insert type.**
- **Optimal design that matches the cap bolt size.**

Reliable cooling through oil hole

Coolant can be supplied to cutting edges (all models).
It securely supplies coolant even in places that are hard to reach such as when machining a rear surface, contributing to the extension of tool life.

Easy NC programming

Simple programming: Offset the machine spindle and starting hole centers before inserting the BF-Cutter into the hole.



Advice

There is no official standard spot facing diameter for the cap bolt.
Unifying the cap bolt spot facing diameter is one of the ways to reduce costs. In doing so, consider the spot facing diameter of the BF-Cutter.

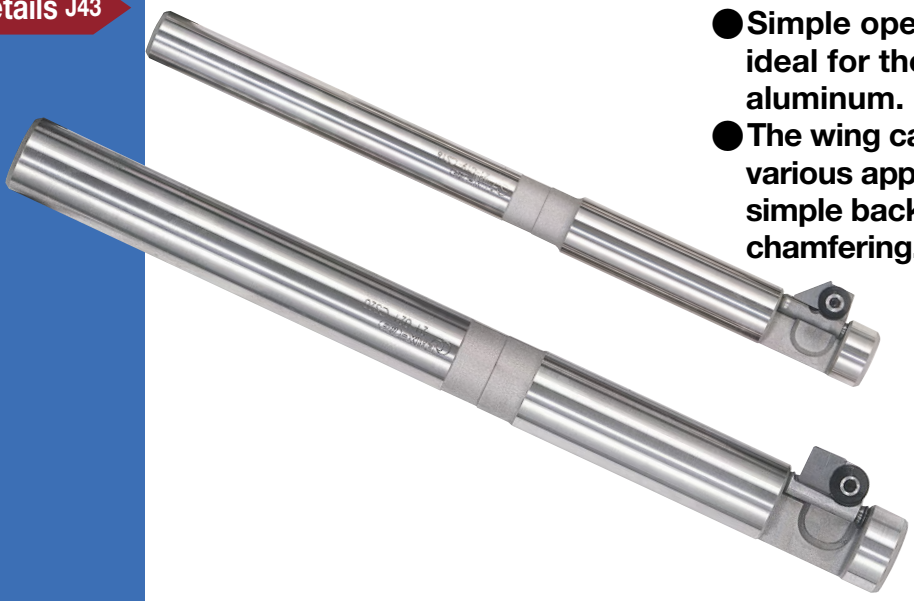
BIG DAISHOWA

Back spot facing tool

AUTOMATIC BACK SPOT FACER

Hole diameter: ø4.5 or larger ERIX

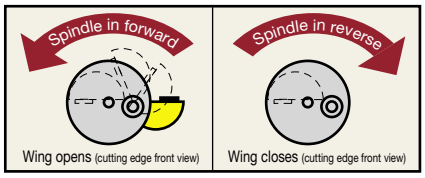
Details J43



- **Simple opening and closing system ideal for the machining of cast iron and aluminum.**
- **The wing can be exchanged to meet various application requirements including simple back spot facing and front & back chamfering.**

Automatic opening and closing system

When inserting into a starting hole, the machine spindle is rotated in the reverse direction while closing the wing by touching the starting hole of the workpiece. Once the wing passes through the hole, the spindle is rotated in the forward direction in order to open the wing and perform back spot facing.



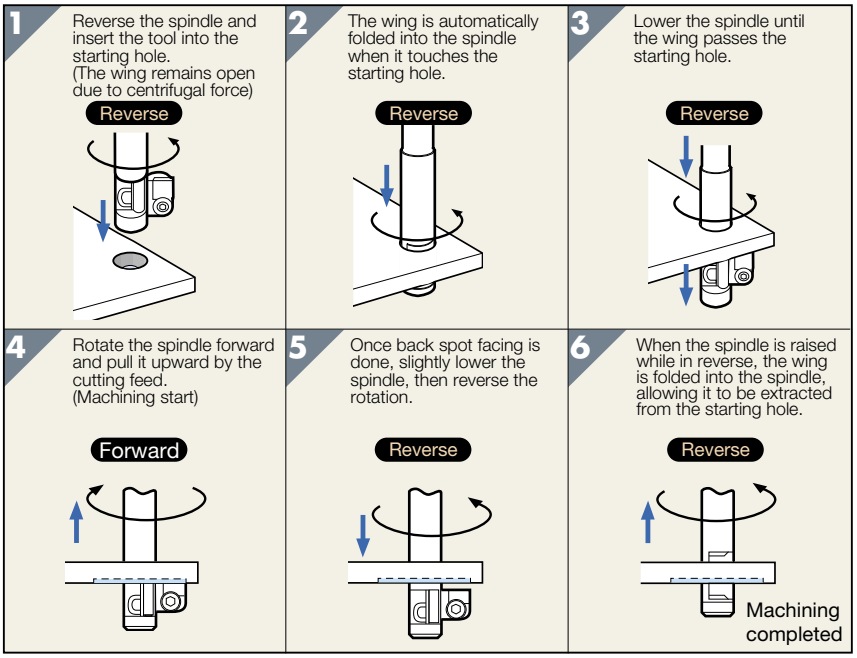
Reliable cooling through oil hole

Spindles of ø10 or larger have an oil hole. Reduces the problems caused by remaining chips and extends tool life.

ø10 or larger

Easy NC programming

The machining center can be programmed easily with the following procedure.



Advice

There may be occasions when the spot facing diameter is compatible, but the bore and spindle diameter don't match!
In such case, an extra process can be added as follows: Starting hole drilling according to the spindle diameter → Back spot facing → Drilling according to the diameter on the drawing.

DUAL CONTACT
BIG-PLUS

BBT/BT SHANK

BIG-PLUS® SPINDLE SYSTEM DUAL CONTACT

BBT/BT Shank

For High Speeds

MEGA MICRO CHUCK PAT.

Clamping diameter: ø0.45 - ø8.05

Ultra-slim design with world's smallest ø10 nut outer diameter.
Slim and high speed holder for less interference with the workpiece or jig.

DUAL CONTACT
BIG-PLUS®

Max. 50,000min^{-1}

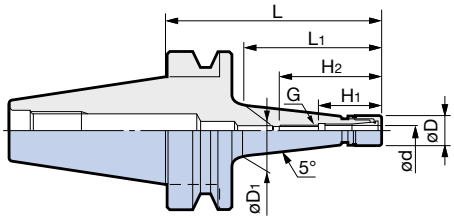
● Models for ultra-small endmilling are newly added!

World's Original

● Model Description

BBT30 - MEGA 3 S - 45 T

- T: Taper type
- 45: L dimension
- S: MICRO CHUCK
- MEGA: MEGA CHUCK
- 3: BIG-PLUS BT No.



Through hole type.

[High Rigidity Taper Type]

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	øD1	L	L1	H1	H2	G	Collet Model	Weight (kg)
BBT30-MEGA3S- 45T	0.45 - 3.25	10	11.5	45	20	22	38	M4 P0.7	NBC3S-□	0.42
- 75T			16	75	48					0.45
- 90T			18.5	90	63					0.48
-105T			21	105	78					0.52
-MEGA4S- 60T	0.45 - 4.05	12	15	60	33	26.5	47	M5 P0.8	NBC4S-□	0.45
- 75T			17.5	75	48					0.47
- 90T			20	90	63					0.50
-105T			23	105	78					0.54
-120T			25.5	120	93					0.60
-MEGA6S- 60T	0.45 - 6.05	14	16.5	60	33	28.5	49	M7 P0.75	NBC6S-□	0.45
- 75T			19	75	48					0.47
- 90T			22	90	63					0.51
-105T			24.5	105	78					0.56
-120T			27	120	93					0.62
-MEGA8S- 75T	2.95 - 8.05	18	23	75	48	31	50.5	M9 P0.75	NBC8S-□	0.51
-105T			28	105	78					0.62
BBT40-MEGA3S- 60T	0.45 - 3.25	10	12.5	60	28	22	38	M4 P0.7	NBC3S-□	1.0
- 90T			17.5	90	58					1.1
-120T			23	120	88					1.2
-MEGA4S- 60T	0.45 - 4.05	12	14	60	28	26.5	47	M5 P0.8	NBC4S-□	1.0
- 75T			16.5	75	43					1.1
- 90T			19.5	90	58					1.1
-105T			22	105	73					1.1
-120T			24.5	120	88					1.2
-135T			27	135	103					1.2
-MEGA6S- 60T	0.45 - 6.05	14	15.5	60	28	28.5	49	M7 P0.75	NBC6S-□	1.1
- 75T			18	75	43					1.1
- 90T			21	90	58					1.1
-105T			23.5	105	73					1.1
-120T			26	120	88					1.2
-135T			29	135	103					1.3
-MEGA8S- 90T	2.95 - 8.05	18	24.5	90	58	31	50.5	M9 P0.75	NBC8S-□	1.2
-120T			30	120	88					1.2

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.

World's Original

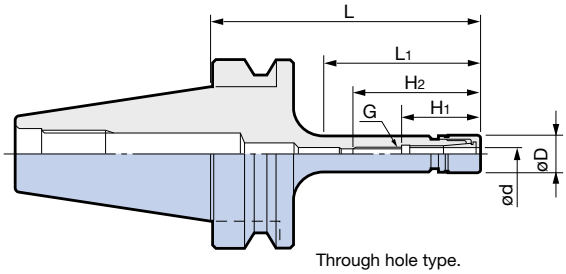
DUAL CONTACT
BIG-PLUS®

Max. 50,000min-1

● Model Description

BBT30 - MEGA 4 S - 90

- 90 : L dimension
- S : MICRO CHUCK
- 4 : MEGA CHUCK
- MEGA : MEGA CHUCK
- BBT30 : BIG-PLUS BT No.



Through hole type.

[Straight Type]

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	L	L1	H1	H2	G	Collet Model	Weight (kg)
BBT30-MEGA4S- 90	0.45 - 4.05	12	90	62	26.5	47	M5 P0.8	NBC4S-□	0.46
-MEGA6S- 60	0.45 - 6.05	14	60	32	28.5	49	M7 P0.75	NBC6S-□	0.45
- 90			90	62					0.47
-105			105	73					0.49
-MEGA8S- 90	2.95 - 8.05	18	90	60	31	50.5	M9 P0.75	NBC8S-□	0.51
BBT40-MEGA4S- 90	0.45 - 4.05	12	90	53	26.5	47	M5 P0.8	NBC4S-□	1.0
-MEGA6S- 90	0.45 - 6.05	14	90	53	28.5	49	M7 P0.75	NBC6S-□	1.0
-MEGA8S- 90	2.95 - 8.05	18	90	55	31	50.5	M9 P0.75	NBC8S-□	1.1

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.

Standard Accessory	Optional Accessories				
MEGA NUT	Mega Wrench	Micro Collet	Micro Seal Nut (For 6S and 8S)	Collet Case	α Taper Cleaner
					
For Spares ☞ G3	☞ G22	☞ G2	☞ G3	☞ G3	☞ G3

For High Speeds

MEGA NEW BABY CHUCK PAT.

Clamping diameter: ø0.25 - ø25.4

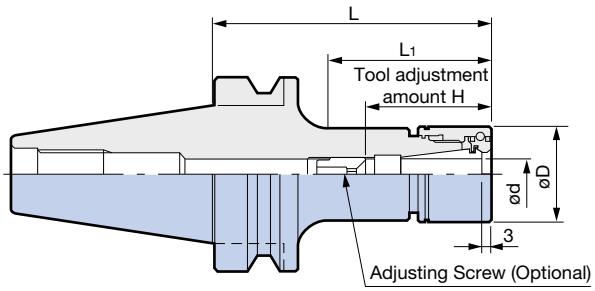
High speed version of NEW BABY CHUCK boasting a history of results.
Makes high speed machining possible in addition to its high accuracy and versatility.

World's Original

DUAL CONTACT
BIG-PLUS®

Center through

Max. 50,000min^{-1}



● Model Description

BBT30 - MEGA 6 N - 60

- BBT30: BIG-PLUS BT No.
- MEGA: MEGA CHUCK
- 6: Maximum clamping diameter
- N: NEW BABY CHUCK
- 60: L dimension

BBT30

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

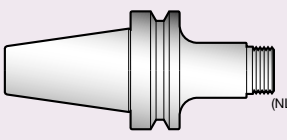
BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	L	L1	Tool adjustment amount H	Collet Model	Nut Model	Weight (kg)
BBT30-MEGA 6N- 60	0.25 - 6	20	60	32	23 - 43	NBC 6-□	MGN 6	0.47
- 75			75	47				0.50
- 90			90	62				0.53
-105			105	77				0.56
-120			120	90				0.59
-MEGA 8N- 60	0.5 - 8	25	60	34	26 - 45	NBC 8-□	MGN 8	0.51
- 75			75	49				0.56
- 90			90	64				0.61
-105			105	79				0.67
-120			120	92				0.72
-MEGA10N- 60	1.5 - 10	30	60	34	38 - 48	NBC10-□	MGN10	0.54
- 75			75	49				0.61
- 90			90	64				0.68
-105			105	79				0.75
-120			120	94				0.82
-MEGA13N- 60	2.5 - 13	35	60	34	44 - 63	NBC13-□	MGN13	0.57
- 75			75	49				0.67
- 90			90	64				0.77
-105			105	79				0.87
-120			120	94				0.97
-MEGA16N- 60	2.5 - 16	42	60	37	48 - 63	NBC16-□	MGN16	0.61
- 75			75	52	48 - 68			0.75
- 90			90	67				0.89
-105			105	82				1.04
-MEGA20N- 60 ※	2.5 - 20	46	60	—	70	NBC20-□	MGN20	0.64
- 75			75	—	51 - 68			0.78
- 90			90	—				0.93
-105			105	—				1.08
-MEGA25N- 85 ※	15.5 - 25.4	60	85	—	80	NBC25-□	MGN25	1.13

1. Nut is included. Collet, wrench, and adjusting screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
5. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

※ marked models cannot be used with Adjusting Screws.
H dimension is the max. tool shank length that can be inserted into the holder.

When ordering a MEGA PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/MEGA PERFECT SEAL separately.



MEGA NEW BABY CHUCK Model + NL
BBT30-MEGA6N-60/NL
(NL at the end of the model number means nut not attached)

+  NBC Collet **NBC6-3AA**

+  MEGA PERFECT SEAL Model **MPS6-03035**

 MEGA NUT Flat Type Model **MGN6F**

BBT40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	L	L_1	Tool adjustment amount H	Collet Model	Nut Model	Weight (kg)
BBT40-MEGA 6N- 60	0.25 - 6	20	60	27	23 - 43	NBC 6-□	MGN 6	1.0
- 75			75	38				1.1
- 90			90	53				1.1
-105			105	68				1.2
-120			120	83				1.2
-135			135	98				1.2
-165			165	128				1.2
-200			200	163				1.3
-MEGA 8N- 60	0.5 - 8	25	60	27	26 - 45	NBC 8-□	MGN 8	1.0
- 75			75	38				1.1
- 90			90	53				1.1
-105			105	68				1.2
-120			120	83				1.2
-135			135	98				1.3
-165			165	128				1.3
-200			200	163				1.4
-MEGA10N- 60	1.5 - 10	30	60	27	38 - 48	NBC10-□	MGN10	1.1
- 75			75	38				1.2
- 90			90	53				1.2
-105			105	68				1.3
-120			120	83				1.4
-135			135	98				1.4
-165			165	128				1.5
-200			200	163				1.7
-MEGA13N- 60	2.5 - 13	35	60	31	44 - 63	NBC13-□	MGN13	1.1
- 75			75	40				1.2
- 90			90	55				1.3
-105			105	70				1.4
-120			120	85				1.5
-135			135	100				1.6
-165			165	130				1.8
-200			200	165				2.0
-MEGA16N- 60	2.5 - 16	42	60	31	48 - 68	NBC16-□	MGN16	1.2
- 75			75	40				1.3
- 90			90	55				1.4
-105			105	70				1.6
-120			120	85				1.7
-135			135	100				1.8
-165			165	130				2.0
-200			200	165				2.3
-MEGA20N- 60	2.5 - 20	46	60	31	51 - 68	NBC20-□	MGN20	1.1
- 75			75	42				1.3
- 90			90	57				1.4
-105			105	72				1.6
-120			120	87				1.8
-135			135	102				1.9
-165			165	132				2.1
-200			200	167				2.5
-MEGA25N- 75	15.5 - 25.4	60	75	47	64 - 74	NBC25-□	MGN25	1.6
- 90			90	62				1.9
-105			105	77				2.2
-120			120	92				2.5

Standard Accessory

MEGA NUT

For Spares G10

Optional Accessories

MEGA NUT Flat Type

G10

Mega Wrench

G22

Collet

G4

MEGA PERFECT SEAL

G11

Adjusting Screw

G10

For High Speeds

MEGA NEW BABY CHUCK PAT.

Clamping diameter: ø0.25 - ø25.4

The DUAL CONTACT BIG-PLUS system has been standardized.
The abundant variety is also ideal as reliable general-purpose holders.

World's Original

DUAL CONTACT BIG-PLUS®

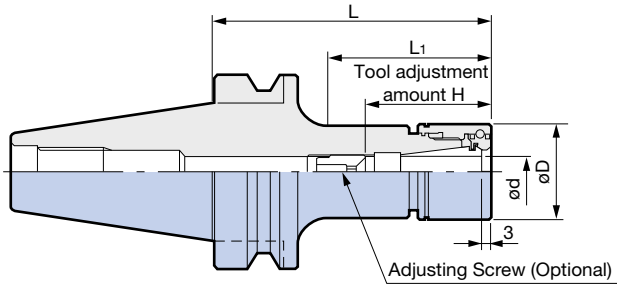
Center through

Max. 20,000min^{-1}

● Model Description

BBT50 - MEGA 6 N - 90

- 90: L dimension
- N: NEW BABY CHUCK
- 6: Maximum clamping diameter
- MEGA: MEGA CHUCK
- BBT50: BIG-PLUS BT No.



BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	L	L_1	Tool adjustment amount H	Collet Model	Nut Model	Weight (kg)
BBT50-MEGA 6N- 90	0.25 - 6	20	90	37	23 - 43	NBC 6-□	MGN 6	3.7
-120			120	67				3.8
-165			165	112				3.9
-200			200	147				4.0
-MEGA 8N- 90	0.5 - 8	25	90	42	26 - 45	NBC 8-□	MGN 8	3.8
-120			120	67				3.9
-165			165	112				4.1
-200			200	147				4.2
-MEGA10N- 90	1.5 - 10	30	90	42	38 - 48	NBC10-□	MGN10	3.9
-120			120	67				4.0
-165			165	112				4.3
-200			200	147				4.7
-250			250	197				4.7
-300			300	247				4.9
-MEGA13N- 90	2.5 - 13	35	90	42	44 - 63	NBC13-□	MGN13	4.0
-120			120	67				4.2
-165			165	112				4.5
-200			200	147				4.7
-250			250	197				5.0
-300			300	247				5.3

1. Nut is included. Collet, wrench, and adjusting screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
5. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles.**

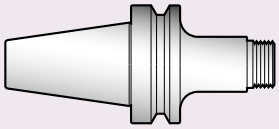
BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	L	L_1	Tool adjustment amount H	Collet Model	Nut Model	Weight (kg)
BBT50-MEGA16N- 75	2.5 - 16	42	75	31	48 - 68	NBC16-□	MGN16	4.0
- 90			90	42				4.2
-120			120	72				4.4
-165			165	117				4.8
-200			200	152				5.1
-250			250	202				5.5
-MEGA20N- 75	2.5 - 20	46	75	31	51 - 68	NBC20-□	MGN20	4.1
- 90			90	42				4.2
-120			120	72				4.5
-165			165	117				4.9
-200			200	152				5.3
-250			250	202				5.7
-MEGA25N- 90	15.5 - 25.4	60	90	46	64 - 74	NBC25-□	MGN25	4.3
-120			120	72				4.9
-165			165	117				5.8
-200			200	152				6.4

1. Nut is included. Collet, wrench, and adjusting screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
5. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

Standard Accessory	Optional Accessories				
MEGA NUT  For Spares G10	MEGA NUT Flat Type  G10	Mega Wrench  G22	Collet  G4	MEGA PERFECT SEAL  G11	Adjusting Screw  G10

When ordering a MEGA PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/MEGA PERFECT SEAL separately.



MEGA NEW BABY CHUCK Model + NL
BBT30-MEGA6N-60/NL
(NL at the end of the model number means nut not attached)

+

NBC Collet
NBC6-3AA

+

MEGA PERFECT SEAL Model
MPS6-03035

MEGA NUT Flat Type Model
MGN6F

A high-precision collet chuck designed especially for high speed and powerful end milling.

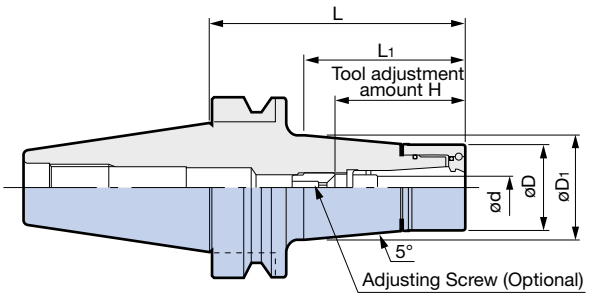
- Tapered body enhances damping effect by varying vibration frequency.
- Uses the MEGA E Collet designed for endmilling, delivering optimal clamping performance.

World's Original

DUAL CONTACT
BIG-PLUS®

Center through

Max. 45,000min-1



● Model Description

BBT30 - MEGA 6 E - 50

- BBT30 - BIG-PLUS BT No.
- MEGA - MEGA CHUCK
- 6 - Maximum clamping diameter
- E - E CHUCK
- 50 - L dimension

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

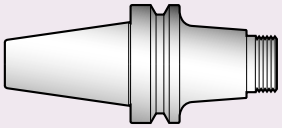
BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	øD1	L	L1	Tool adjustment amount H	Collet Model	Nut Model	Weight (kg)
BBT30-MEGA 6E- 50	3 - 6	25	26	50	25	37 - 45	MEC 6-□	MEN 6	0.51
- 75			30	75	50				0.62
- 90			32.5	90	65				0.71
-105			35.5	105	80				0.81
-MEGA 8E- 50	3 - 8	30	30.5	50	25	42 - 51	MEC 8-□	MEN 8	0.53
- 75			35	75	50				0.68
- 90			37.5	90	66				0.80
-105			40.5	105	81				0.93
-MEGA 10E- 50	3 - 10	35	35.5	50	25	48 - 58	MEC10-□	MEN10	0.57
- 75			40	75	51				0.77
- 90			41	90	66				0.90
-105			41.5	105	82				1.03
-MEGA 13E- 50	3 - 12	42	42.5	50	27	50 - 58	MEC13-□	MEN13	0.61
- 75			42	75	52	50 - 60			0.86
- 90			42	90	67				1.01
-105			42	105	82				1.17

1. The nut is included but the collet, wrench and adjusting screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
4. Center through coolant supply is available.
5. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

Standard Accessory	Optional Accessories			
MEGA E Nut	Mega Wrench	MEGA E Collet	MEGA E PERFECT SEAL	Adjusting Screw
				
For Spares G13	G22	G13	G14	G13

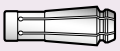
When ordering a MEGA E PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the MEC Collet/MEGA E PERFECT SEAL separately.



MEGA E CHUCK Model + /NL
(Nut not attached)
BBT30-MEGA6E-50/NL

+



MEC Collet
MEC6-3AA

+

MEGA E PERFECT SEAL Model
EPS6-03

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	øD1	L	L1	Tool adjustment amount H	Collet Model	Nut Model	Weight (kg)
BBT40-MEGA 6E- 60	3 - 6	25	26.5	60	28	37 - 45	MEC 6-□	MEN 6	1.1
- 75			29	75	43				1.2
- 90			31.5	90	58				1.3
-105			34	105	73				1.3
-120			36.5	120	88				1.5
-135			39	135	103				1.6
-165			44.5	165	133				1.9
-200			51	200	169				2.4
-MEGA 8E- 60	3 - 8	30	31	60	28	42 - 48	MEC 8-□	MEN 8	1.2
- 75			33.5	75	43	42 - 51			1.3
- 90			36	90	58				1.3
-105			39	105	73				1.5
-120			41.5	120	88				1.7
-135			44	135	103				1.8
-165			49.5	165	133				2.1
-200			56	200	171				2.6
-MEGA 10E- 60	3 - 10	35	36	60	29	48 - 58	MEC10-□	MEN10	1.3
- 75			38.5	75	43				1.4
- 90			41	90	58				1.5
-105			44	105	73				1.7
-120			46.5	120	88				1.8
-135			49	135	103				2.0
-165			54.5	165	135				2.4
-200			55.5	200	171				3.1
-MEGA 13E- 60	3 - 12	42	43	60	29	50 - 60	MEC13-□	MEN13	1.3
- 75			45	75	43				1.5
- 90			48	90	59				1.7
-105			51	105	75				1.9
-120			53.5	120	91				2.1
-135			56	135	106				2.4
-165			57.5	165	137				2.8
-200			62.5	200	173				3.7
BBT50-MEGA 6E- 90	3 - 6	25	30.5	90	47	37 - 45	MEC 6-□	MEN 6	3.8
-120			36	120	77				4.0
-165			43.5	165	122				4.4
-200			50	200	157				4.9
-MEGA 8E- 90	3 - 8	30	35.5	90	47	42 - 51	MEC 8-□	MEN 8	3.9
-120			40.5	120	77				4.1
-165			48.5	165	122				4.6
-200			54.5	200	157				5.2
-MEGA10E- 90	3 - 10	35	40	90	47	48 - 58	MEC10-□	MEN10	4.0
-120			45.5	120	77				4.2
-165			53	165	121				4.9
-200			59.5	200	156				5.5
-MEGA13E- 90	3 - 12	42	46.5	90	47	50 - 60	MEC13-□	MEN13	4.0
-120			52	120	77				4.4
-165			59	165	121				5.2
-200			65	200	156				6.0

1. The nut is included but the collet, wrench and adjusting screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
4. Center through coolant supply is available.
5. Tool adjustment amount “H” indicates the adjustment length with an Adjusting Screw.

For High Speeds

MEGA DOUBLE POWER CHUCK PAT.

Clamping diameter: ø16 - ø32

Complete contact with the nut and body in conjunction with the BIG-PLUS specifications for double effect.
High rigidity equal to integration with the machine spindle.

[Standard Type]

World's Original

DUAL CONTACT BIG-PLUS®

Center through

Max. 30,000min^{-1}

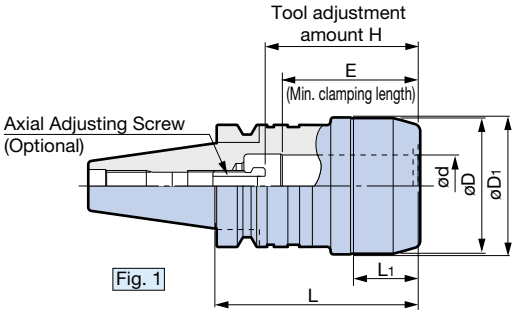


Fig. 1

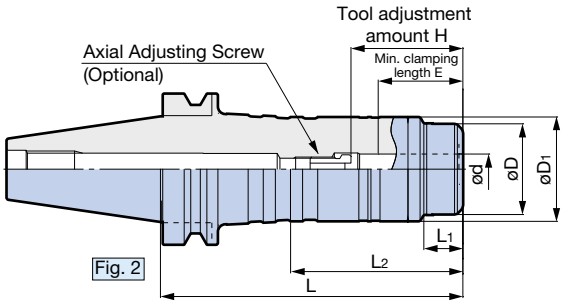


Fig. 2

● Model Description

BBT30 - MEGA 16 D - 60

- L dimension
- DOUBLE CHUCK Standard type
- Clamping diameter
- MEGA CHUCK
- BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	L2	H	E	Mega Wrench	Weight (kg)
BBT30-MEGA16D- 60	1	16	46	47	60	25	—	62	50	MGR46L	0.75
-MEGA20D- 65		20	50	51	65	30		60		MGR50L	0.82
BBT40-MEGA16D- 75A	2	16	42	53	75	25	38	71	55	MGR42L	1.5
-105A					105						2.1
-135A					135						2.7
-165A					165						3.3
-200A					200						4.1
-MEGA20D- 75A	2	20	50	55	75	34	44	69 - 79	56	MGR50L	1.6
-105A					105						2.0
-120A					120						2.3
-135A					135						2.6
-165A					165						3.2
-200A					200						4.1
-MEGA25D- 75A	1	25	62	63	75	39	—	73 - 83	57	MGR62L	2.0
-105A					105			71 - 81			2.3
-135A					135						3.0
-165A					165						3.7
-200A					200						4.7
-MEGA32D- 90A	1	32	70	71	90	33	—	71 - 81	64	MGR70L	2.1
-105A					105			79 - 89			2.4
-135A					135						3.1
-165A					165						3.7
-200A					200						4.5

1. Wrench is not included. Please order separately.
2. Please note that BBT40-MEGA32D-90A, ATC arm may interfere with the nut in some machines. (36mm from gauge line to nut.)
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

※ MEGA16D requires the hex socket head screw (M8) for axial adjustment.
However, please contact us if using for center through applications. H dimension is the max. tool shank length that can be inserted into the holder.
※ H dimension of BBT30-MEGA20D-65 is the max. tool shank length that can be inserted into the holder.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	L2	H	E	Mega Wrench	Weight (kg)
BBT50-MEGA16D-105	2	16	46	55	105	23	33	71	50	MGR46L	4.6
-135					135						5.2
-165					165						5.7
-200					200						6.6
-250					250						7.0
-MEGA20D-105	2	20	60	69	105	25	36	69 - 79	56	MGR60L	5.1
-135					135						6.0
-165					165						6.8
-200					200		114				7.7
-250					250		136				9.1
-MEGA25D-105	2	25	70	77	105	32	45	76 - 86	65	MGR70L	5.4
-135					135						6.5
-165					165						7.6
-200					200		119				8.9
-250					250		136				10.8
-MEGA32D- 90	2	32	80	86	90	39	54	78 - 95	71	MGR80L	4.8
-105					105						5.4
-135					135						7.0
-165					165						8.5
-200					200		129				9.9
-250					250		169				12.1
-300					300		181				14.3
-MEGA42D-105	1	42	99	100	105	40	—	88 - 105	71	MGR99L	6.0
-135					135						7.8
-165					165						9.6
-MEGA50D-120	1	50	105	117	120	47	—	94 - 110	75	MGR105L	7.3

1. Wrench is not included. Please order separately.
2. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

※ MEGA16D requires the hex socket head screw (M8) for axial adjustment.
However, please contact us if using for center through applications. H dimension is the max. tool shank length that can be inserted into the holder.

Optional Accessories

Straight Collet

☞ G18

Mega Wrench

☞ G22

Axial Adjusting Screw

☞ G21

For High Speeds

MEGA DOUBLE POWER CHUCK PAT.

Clamping diameter: ø16 - ø32

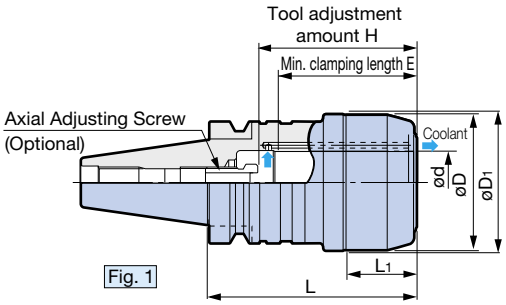
[Jet Through Type]

World's Original

DUAL CONTACT
BIG-PLUS®

Center through

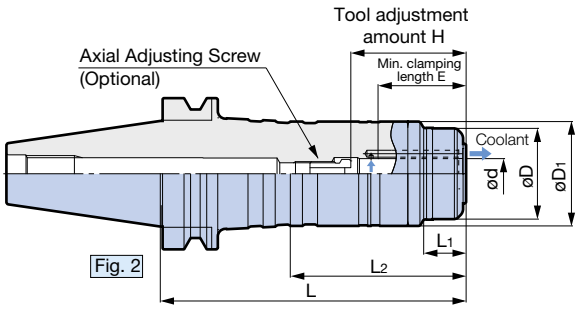
Max. 30,000min-1



● Model Description

BBT30 - MEGA 16 DS - 60

- 60: L dimension
- DS: DOUBLE CHUCK Jet Through Type
- 16: Clamping diameter
- MEGA: MEGA CHUCK
- BBT30: BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	L2	H	E	Mega Wrench	Weight (kg)
BBT30-MEGA16DS- 60	1	16	46	47	62.5	28	—	64	52	MGR46L	0.76
-MEGA20DS- 65		20	50	51	67.5	33		62		MGR50L	0.82
BBT40-MEGA16DS- 75A	2	16	42	53	77	27	40	73	57	MGR42L	1.5
-105A					107						2.1
-135A					137						2.7
-165A					167						3.3
-200A					202						4.1
-MEGA20DS- 75A	2	20	50	55	77	36	46	71 - 81	58	MGR50L	1.6
-105A					107						2.0
-120A					122						2.3
-135A					137						2.6
-165A					167						3.2
-200A					200						4.1
-MEGA25DS- 75A	1	25	62	63	77	41	—	75 - 85	59	MGR62L	2.0
-105A					107			73 - 83			2.3
-135A					137						3.0
-165A					167						3.7
-200A					202						4.7
-MEGA32DS- 90A	1	32	70	71	92	35	—	73 - 83	66	MGR70L	2.1
-105A					107			81 - 91			2.4
-135A					137						3.1
-165A					167						3.7
-200A					202						4.5

1. Wrench is not included. Please order separately.
2. Please note that BBT40-MEGA32DS-90A, ATC arm may interfere with the nut in some machines. (36mm from gauge line to nut.)
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

※ H dimension of BBT30-MEGA20DS-65 is the max. tool shank length that can be inserted into the holder.

※ MEGA16DS requires the hex socket head screw (M8) for axial adjustment.
However, please contact us if using for center through applications.
H dimension is the max. tool shank length that can be inserted into the holder.

※ DS types have jet-through coolant supply, thus tools with oil holes cannot be used.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	L2	H	E	Mega Wrench	Weight (kg)
BBT50-MEGA16DS-105	2	16	46	55	107.5	26	36	73	52	MGR46L	4.6
-135					137.5						5.2
-165					167.5						5.7
-200					202.5						6.6
-250					252.5						7.0
-MEGA20DS-105	2	20	60	69	107.5	28	38	71 - 81	58	MGR60L	5.1
-135					137.5						6.0
-165					167.5						6.8
-200					202.5		116				7.7
-250					252.5		138				9.1
-MEGA25DS-105	2	25	70	77	107.5	34	47	78 - 88	67	MGR70L	5.4
-135					137.5						6.5
-165					167.5						7.6
-200					202.5		121				8.9
-250					252.5		138				10.8
-MEGA32DS- 90	2	32	80	86	94.5	42	57	80 - 97	73	MGR80L	4.8
-105					107.5						5.4
-135					137.5						7.0
-165					167.5						8.5
-200					202.5		131				9.9
-250					252.5		171				12.1
-300					302.5		183				14.3
-MEGA42DS-105	1	42	99	100	107	42	—	90 - 107	73	MGR99L	6.0
-135					137						7.8
-165					167						9.6
-MEGA50DS-120	1	50	105	117	122	49	—	96 - 112	77	MGR105L	7.3

1. Wrench is not included. Please order separately.
2. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

※ MEGA16DS requires the hex socket head screw (M8) for axial adjustment. However, please contact us if using for center through applications. H dimension is the max. tool shank length that can be inserted into the holder.
※ DS types have jet-through coolant supply, thus tools with holes cannot be used.

Optional Accessories

Straight Collet	Mega Wrench	Axial Adjusting Screw
 G18	 G22	 G21

HYDRAULIC CHUCK

For versatile high-precision machining including molds and automotive components.

● Slim design minimizes workpiece interference, ideal for mold making.

DUAL CONTACT BIG-PLUS®

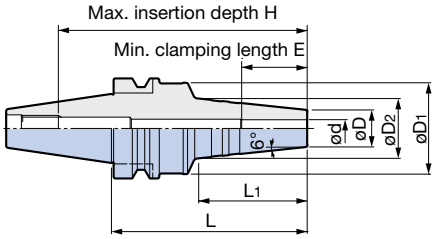
Center through

[SUPER SLIM Type Pat.P.] Clamping diameter: ø3 - ø12

● Model Description

BBT30 - HDC 3 S - 90

- 90: L dimension
- S: SUPER SLIM Type
- 3: Clamping diameter
- HDC: HYDRAULIC CHUCK
- BBT30: BIG-PLUS BT No.



BBT30

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	øD1	øD2	L	L1	H	E	Weight (kg)
BBT30-HDC 3S- 90	3	14	42	25	90	50	(113)	16	0.65
-HDC 4S- 60	4		46	20	60	28	(84)	19	0.51
- 90			42	25	90	50	(113)		0.65
-HDC 5S- 90	5							22	0.65
-HDC 6S- 90	6							25	0.65
-HDC 8S- 90	8	17		28				31	0.67
-HDC10S- 90	10	19	44	30				33	0.70
-HDC12S- 90	12	21	46	32			113	36	0.72

1. Adjusting Screw cannot be used.
2. H dimensions in ( ) are reference length up to the PULLSTUD BOLT.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Jet Through Type] Clamping diameter: ø4 - ø20

DUAL CONTACT BIG-PLUS®

● Model Description

BBT30 - HDC 4 J - 60

- 60: L dimension
- J: Jet Through Type
- 4: Clamping diameter
- HDC: HYDRAULIC CHUCK
- BBT30: BIG-PLUS BT No.

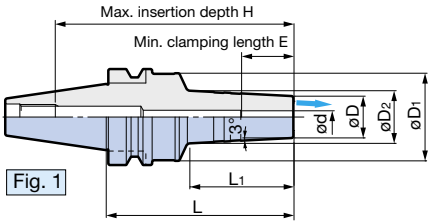


Fig. 1

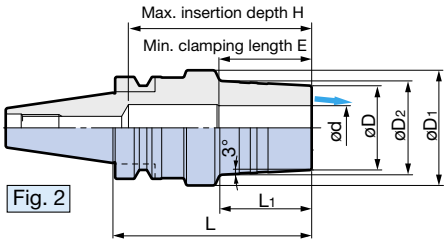


Fig. 2

BBT30

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	øD2	L	L1	H	E	Weight (kg)
BBT30-HDC 4J- 60	1	4	20	46	23	60	28	(84)	19	0.54
-HDC 6J- 90		6		42	26	90	50	(113)	25	0.69
-HDC 8J- 90		8	22		28				31	0.71
-HDC10J- 90		10	24	44	30				33	0.74
-HDC12J- 90		12	26	46	32			113	36	0.76
-HDC16J- 90		16	34		40		49	100	43	0.86
-HDC20J- 90	2	20	38	52	43		40	83		0.96

1. Adjusting Screw cannot be used.
2. H dimensions in ( ) are reference length up to the PULLSTUD BOLT.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Standard Type]

DUAL CONTACT

BIG-PLUS®

Center through

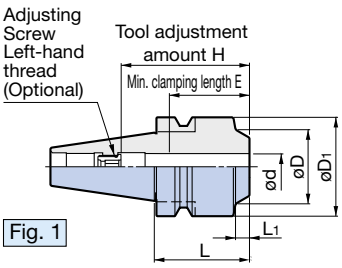


Fig. 1

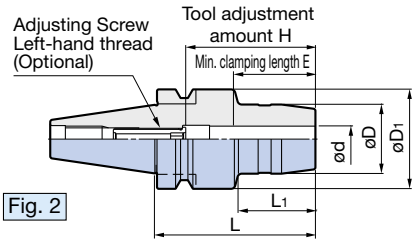


Fig. 2

● Model Description

BBT30 - HDC 6 - 45

- 45 : L dimension
- 6 : Clamping diameter
- HDC : HYDRAULIC CHUCK
- BBT30 : BIG-PLUS BT No.

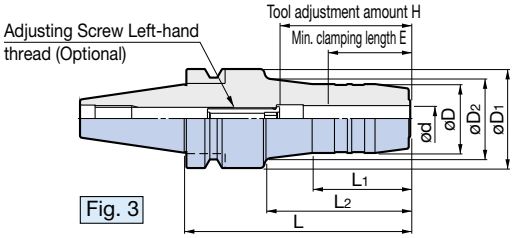


Fig. 3

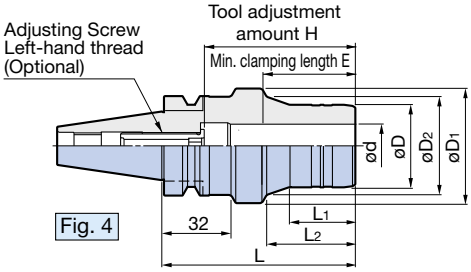


Fig. 4

BBT30

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	øD2	L	L1	L2	H	E	Adjusting Screw (Optional)	Weight (kg)
BBT30-HDC 6- 45	1	6	30	46	—	45	7	—	35 - 50	28	HDA 6-05020	0.61
- 75	2		26			75	40		28 - 50		HDA 6-05032	0.67
- 90	3				31	90	43	57				0.74
-105						105		72				0.82
-HDC 7- 75	2	7	27	46	—	75	41	—	28 - 50	28	HDA 6-05032	0.68
-HDC 8- 45	1	8	32	46	—	45	7	—	35 - 50	28	HDA 8-06020	0.61
- 75	2		28			75	41		28 - 50		HDA 8-06032	0.69
- 90	3				33	90	44	57				0.76
-105						105		72				0.84
-HDC 9- 75	2	9	29	46	—	75	41	—	28 - 50	28	HDA 8-06032	0.69
-HDC10- 45	1	10	34	46	—	45	7	—	45 - 55	33	HDA10-08015	0.60
- 75	2		30			75	36		33 - 55		HDA10-08032	0.74
- 90	3				33	90	45	51				0.82
-105					36	105		66				0.91
-HDC11- 90	3	11	31	46	34	90	51	45	33 - 55	33	HDA10-08032	0.83
-HDC12- 45	1	12	36	46	—	45	7	—	55 - 60	38	HDA12-10010 ●	0.58
- 75	2		32			75	36		38 - 60		HDA12-10032	0.75
- 90	3				35	90	45	51				0.83
-105					38	105		67				0.94
-HDC13- 90	3	13	33	46	36	90	45	51	38 - 60	38	HDA12-10032	0.84
-HDC14- 90	3	14	34	46	37	90	46	52	38 - 60	38	HDA12-10032	0.85
-HDC15- 90	2	15	37	46	—	90	47	—	43 - 70	43	HDA16-12037	0.89
-HDC16- 45▲	1	16	42	46	—	45	7	—	70	43	—	0.55
- 75	2		38			75	35		43 - 70		HDA16-12030	0.77
- 90	3					90	47				HDA16-12037	0.90
-105						105						1.06
-HDC18- 90	4	18	36	51	44	90	31	41	43 - 70	43	HDA16-12037	0.94
-HDC20- 60※	4	20	38	53	—	60	—	14	43 - 54	43	HDA16-12030	0.77
- 75					46	75	16	26	46 - 70			0.85
- 90						90	31	41	43 - 70		HDA16-12037	0.96
-105	3			46	—	105	40	—				1.02
-HDC25-105	4	25	55	63	—	105	44	—	52 - 80	52	HDA25-16039	1.60
-HDC32-105	4	32	60	75	—	105	39	—	56 - 80	56	HDA25-16039	1.77

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
2. Model with ▲ indication cannot use an Adjusting Screw.
   Model with ※ indication cannot use a Straight Collet.
3. Adjusting screw **with hexagon sockets on both sides** is also available, allowing adjustment from the shank side as well.
   Add the letter **"W"** at the end of the model number when ordering. (e.g. HDA6-05020W)
   The above type is not available for the HDA12-10010 marked with ●.

For Straight Collets, G18

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

HYDRAULIC CHUCK

For versatile high-precision machining including molds and automotive components.

● Slim design minimizes workpiece interference, ideal for mold making.

DUAL CONTACT
BIG-PLUS®

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[SUPER SLIM Type Pat.P.]

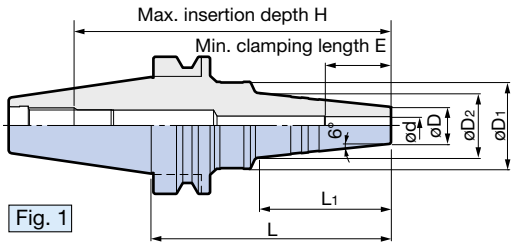

Fig. 1

● Model Description

BBT40 - HDC 3 S - 90

- 90 : L dimension
- S : SUPER SLIM Type
- 3 : Clamping diameter
- HDC : HYDRAULIC CHUCK
- BBT40 : BIG-PLUS BT No.

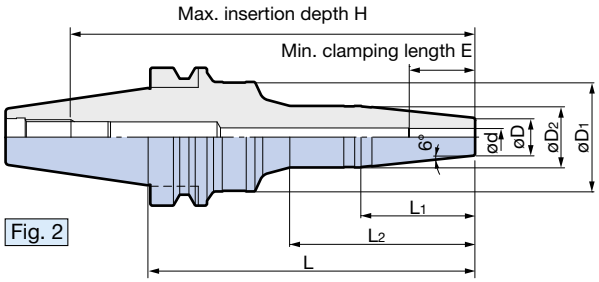

Fig. 2

BBT40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	øD2	L	L1	L2	H	E	Weight (kg)
BBT40-HDC 3S- 90	1	3	14	38	24	90	44	—	(125)	16	1.3
-HDC 4S- 60	1	4	14	38	19	60	22	—	(95)	19	1.2
- 90					24	90	45		(125)		1.3
-135	2			44	26	135	57	84	(170)		1.4
-HDC 6S-110	1	6	14	38	27	110	60	—	(145)	25	1.3
-150	2			48	26	150	57	85	(185)		1.6
-HDC 8S-110	1	8	17	40	30	110	60	—	(145)	31	1.4
-150	2			50	28	150	52	85	(185)		1.7
-HDC10S-110	1	10	19	42	32	110	60	—	(145)	33	1.4
-150	2			50	30	150	52	85	(185)		1.7
-HDC12S-110	1	12	21	44	34	110	60	—	(145)	36	1.4
-150	2			50	32	150	52	85	(185)		1.8

1. Adjusting Screw cannot be used.
2. H dimensions in ( ) are reference length up to the PULLSTUD BOLT.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Jet Through Type PAT.P]

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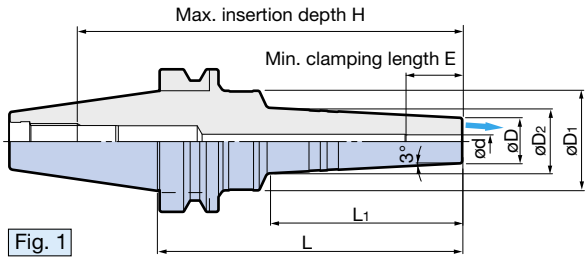


Fig. 1

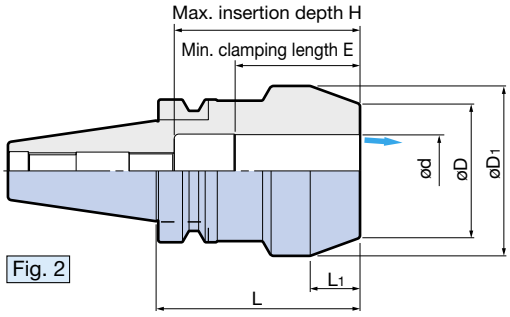


Fig. 2

● Model Description

BBT40 - HDC 4 J - 90
- 90: L dimension
- J: Jet Through Type
- 4: Clamping diameter
- HDC: HYDRAULIC CHUCK
- BBT40: BIG-PLUS BT No.

BBT40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	øD2	L	L1	H	E	Weight (kg)
BBT40-HDC 4J- 90	1	4	20	38	25	90	45	(125)	19	1.3
-135				44	30	135	85	(170)		1.5
-HDC 6J- 90		6	20	38	25	90	45	(125)	25	1.3
-135				44	29	135	85	(170)		1.5
-HDC 8J- 90		8	22	40	27	90	45	(125)	31	1.3
-135				46	31	135	85	(170)		1.6
-HDC10J- 90		10	24	42	29	90	45	(125)	33	1.3
-135				48	33	135	85	(170)		1.6
-HDC12J- 90		12	26	44	31	90	45	(125)	36	1.3
-135				50	35	135	85	(170)		1.7
-HDC16J- 90		16	34	46	40	90	46	125	43	1.4
-135				50	44	135	89	170		1.9
-HDC20J- 90		20	38	48	44	90	47	110	43	1.5
-135				53	48	135	90	155		2.0
-HDC25J- 90		25	51	63	56	90	41	105	49	1.9
-HDC32J- 90	2	32	59	75	—		20	82	56	2.3

1. Adjusting Screw cannot be used.
2. H dimensions in ( ) are reference length up to the PULLSTUD BOLT.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

HYDRAULIC CHUCK

Clamping diameter: ø6 - ø20

[Standard Type]

DUAL CONTACT
BIG-PLUS®

Center through

● Model Description

BBT40 - HDC 6 - 60

- 60 : L dimension
- 6 : Clamping diameter
- HDC : HYDRAULIC CHUCK
- BBT40 : BIG-PLUS BT No.

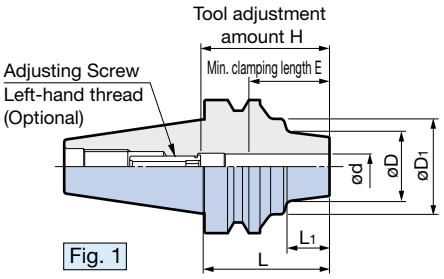


Fig. 1

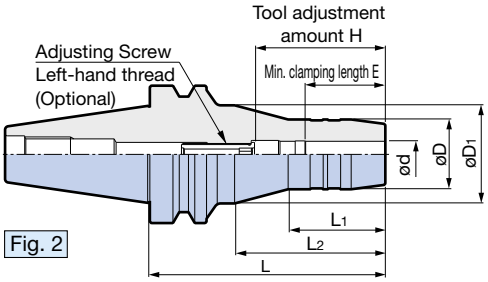


Fig. 2

BBT40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	L2	H	E	Adjusting Screw (Optional)	Weight (kg)
BBT40-HDC 6- 60	1	6	27	45	60	19	—	28 - 50	28	HDA 6-05032	1.2
- 90	2		26		90	44	50				1.4
-110					110		70				1.5
-135					135		95				1.7
-165					165		119				1.9
-HDC 7- 90	2	7	27	45	90	44	50	28 - 50	28	HDA 6-05032	1.3
-HDC 8- 60	1	8	29	45	60	19	—	28 - 50	28	HDA 8-06032	1.2
- 90	2		28		90	44	50				1.4
-110					110		70				1.5
-135					135		95				1.7
-165					165		119				2.0
-HDC 9- 90	2	9	29	45	90	45	50	28 - 50	28	HDA 8-06032	1.4
-HDC10- 60	1	10	31	45	60	20	—	33 - 55	33	HDA10-08032	1.2
- 90	2		30		90	45	50				1.4
-110					110		70				1.5
-135					135		95				1.7
-165					165		119				2.0
-HDC11- 90	2	11	31	45	90	45	50	33 - 55	33	HDA10-08032	1.4

1. Adjusting Screw **with hexagon sockets on both sides** is also available, allowing adjustment from the shank side as well. Add the letter **"W"** at the end of the model number when ordering. (Example: HDA6-05032W)

For ød = 19, 22, 24, 28, 31, A66

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

BBT40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	L2	H	E	Adjusting Screw (Optional)	Weight (kg)
BBT40-HDC12- 60	1	12	33	45	60	20	—	38 - 60	38	HDA12-10032	1.2
- 90	2		32		90	45	49				1.4
-110					110		69				1.6
-135					135		94				1.8
-165					165		119				2.0
-HDC13- 90	2	13	33	45	90	45	49	38 - 60	38	HDA12-10032	1.4
-HDC14- 90	2	14	34	45	90	46	49	38 - 60	38	HDA12-10032	1.4
-110					110		69				1.6
-135					135		94				1.8
-HDC15- 90	2	15	37	45	90	47	49	43 - 70	43	HDA16-12037	1.4
-HDC16- 75	2	16	38	45	75	35	36	43 - 70	43	HDA16-12037	1.3
- 90					90	47	49				1.4
-110					110		69				1.6
-135					135		94				1.9
-165				50	165		119				2.3
-HDC18- 90	2	18	40	45	90	48	49	43 - 70	43	HDA16-12037	1.5
-110					110		69				1.6
-135					135		94				1.9
-HDC20- 90	2	20	42	45	90	48	50	43 - 70	43	HDA16-12037	1.4
-110				50	110		70				1.7
-135					135		95				2.0
-165					165		119				2.4

1. Adjusting Screw **with hexagon sockets on both sides** is also available, allowing adjustment from the shank side as well. Add the letter **"W"** at the end of the model number when ordering. (Example: HDA6-05032W)

For ød = 19, 22, 24, 28, 31, A66

For Straight Collets, G18

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

HYDRAULIC CHUCK

Clamping diameter: ø20 - ø32

[High Rigidity Type]

● Substantial body design to allow high-feed endmilling, achieving highly reliable machining.

DUAL CONTACT
BIG-PLUS®

Center through

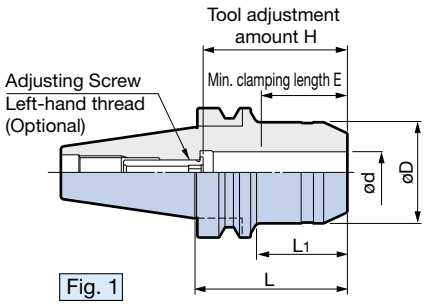


Fig. 1

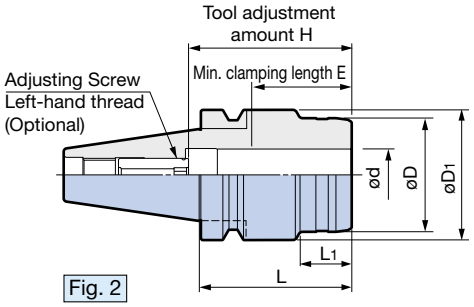


Fig. 2

● Model Description

BBT40 - HDC 20 E - 75

- 75: L dimension
- E: High Rigidity Type
- 20: Clamping diameter
- HDC: HYDRAULIC CHUCK
- BBT40: BIG-PLUS BT No.

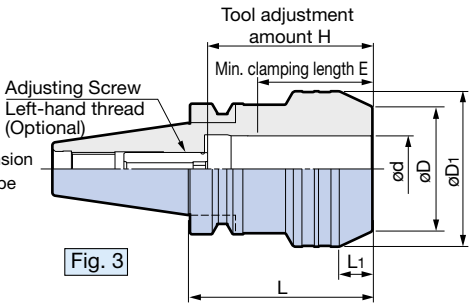


Fig. 3

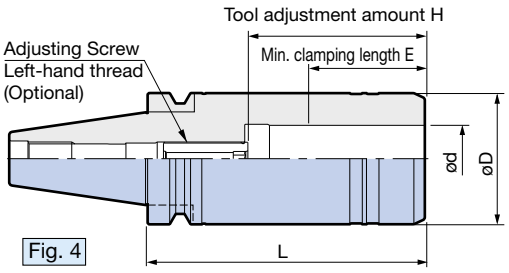


Fig. 4

BBT40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	H	E	Adjusting Screw (Optional)	Weight (kg)
BBT40-HDC20E- 75	1	20	49.2	—	75	45	43 - 70	43	HDA16-12037	1.4
-HDC25E- 75	2	25	55	63	75	25	52 - 80	52	HDA25-16033	1.8
-110					110				HDA25-16039	2.4
-135					135					3.0
-165					165					3.6
-HDC32E- 90	3	32	60	75	90	16	56 - 80.5	56	HDA25-16039	2.2
-110	2		63		110	34	56 - 85			2.6
-135	4		62.9	—	135	—				2.8
-165					165					3.4

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
2. Adjusting Screw **with hexagon sockets on both sides** is also available, allowing adjustment from the shank side as well. Add the letter **"W"** at the end of the model number when ordering. (Example: HDA16-12037W)

For Straight Collets, G18

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

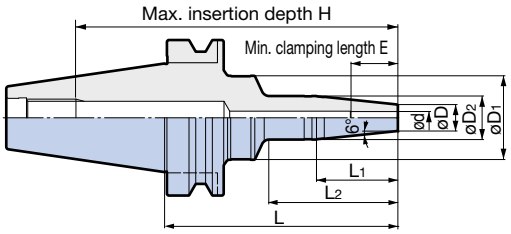
[SUPER SLIM Type PAT.P] Clamping diameter: ø6 - ø12

DUAL CONTACT
BIG-PLUS®

Center through

● Model Description

BBT50 - HDC 6 S - 150
- 150: L dimension
- S: SUPER SLIM Type
- 6: Clamping diameter
- HDC: HYDRAULIC CHUCK
- BBT50: BIG-PLUS BT No.



BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	øD1	øD2	L	L1	L2	H	E	Weight (kg)
BBT50-HDC 6S-150	6	14	52	26	150	57	83	(207)	25	4.2
-200			56		200		100	(257)		4.6
-HDC 8S-150	8	17	54	28	150	52	83	(207)	31	4.3
-200			58		200		100	(257)		4.7
-HDC10S-150	10	19	56	30	150		83	(207)	33	4.3
-200			60		200		100	(257)		4.8
-HDC12S-150	12	21	58	32	150		83	(207)	36	4.4
-200			62		200		100	(257)		4.8

1. Adjusting Screw cannot be used.
2. H dimensions in ( ) are reference length up to the PULLSTUD BOLT.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Jet Through Type PAT.P] Clamping diameter: ø6 - ø32

DUAL CONTACT
BIG-PLUS®

● Model Description

BBT50 - HDC 6 J - 120
- 120: L dimension
- J: Jet Through Type
- 6: Clamping diameter
- HDC: HYDRAULIC CHUCK
- BBT50: BIG-PLUS BT No.

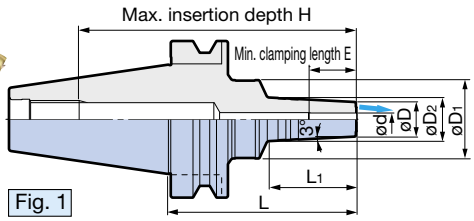


Fig. 1

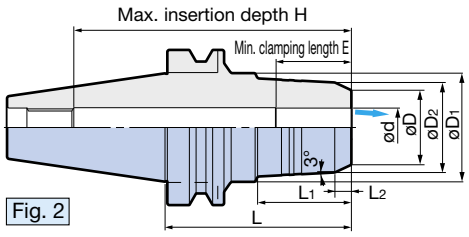


Fig. 2

BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	øD2	L	L1	L2	H	E	Weight (kg)
BBT50-HDC 6J-120	1	6	20	48	26	120	55	—	(177)	25	4.1
-HDC 8J-120		8	22	50	28					31	4.1
-HDC10J-120		10	24	52	30					33	4.2
-HDC12J-120		12	26	54	32					36	4.2
-HDC16J-120		16	34	58	41		56			43	4.4
-HDC20J-120		20	38	62	45						4.5
-HDC25J-120	2	25	48	70	58		59	10	177	49	5.2
-HDC32J-120		32	58	78	67		60	9		56	5.6

1. Adjusting Screw cannot be used.
2. H dimensions in ( ) are reference length up to the PULLSTUD BOLT.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Standard Type]

DUAL CONTACT
BIG-PLUS®

Center through

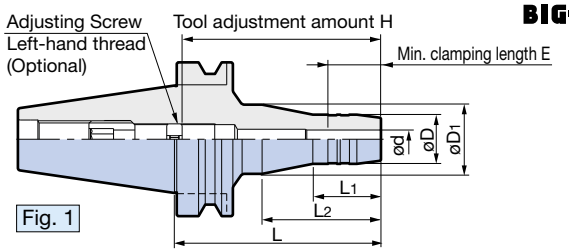


Fig. 1

● Model Description

BBT50 - HDC 6 L - 105

- 105: L dimension
- 6: Clamping diameter
- HDC: HYDRAULIC CHUCK
- BBT50: BIG-PLUS BT No.

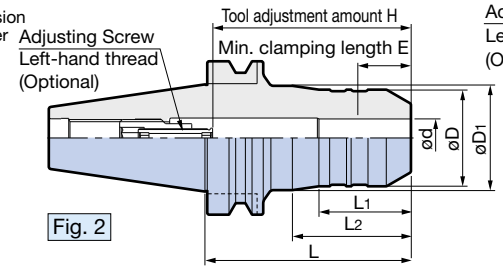


Fig. 2

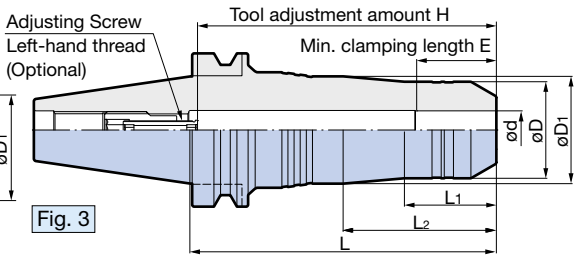


Fig. 3

BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	L2	H	E	Maximum insertion depth	Adjusting Screw (Optional)	Weight (kg)
BBT50-HDC 6L-105	1	6	26	45	105	44	48	80 - 120	28	165	HDA6-20010	4.2
-135					135		78	110 - 150		195		4.3
-150					150		93	125 - 165		210		4.4
-165					165		108	140 - 180		225		4.5
-HDC 8L-105	1	8	28	45	105	45	48	80 - 120	28	165	HDA6-20010	4.2
-135					135		78	110 - 150		195		4.4
-150					150		93	125 - 165		210		4.5
-165					165		108	140 - 180		225		4.6
-HDC10L-105	1	10	30	45	105	45	48	80 - 120	33	165	HDA6-20010	4.2
-135					135		78	110 - 150		195		4.4
-150					150		93	125 - 165		210		4.5
-165					165		108	140 - 180		225		4.7
-HDC12L-105	1	12	32	45	105	45	48	80 - 120	38	165	HDA6-20010	4.2
-135					135		78	110 - 150		195		4.4
-150					150		93	125 - 165		210		4.6
-165					165		108	140 - 180		225		4.7
-HDC16L- 90	1	16	38	47	90	40	43	56 - 96	43	150	HDA20-12047	4.1
-105					105	47	48	80 - 120		165	HDA6-20010	4.3
-135					135	48	78	110 - 150		195		4.6
-150					150		93	125 - 165		210		4.7

1. In the use of the Adjusting Screw in BBT50 series, please contact BIG agent because a guide screw needs to be set separately.
2. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
3. Maximum insertion depth is the depth when Adjusting Screw is not used.

For Straight Collets, G18
For ød = 19, 22, 24, 28, 31, A66

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	L2	H	E	Maximum insertion depth	Adjusting Screw (Optional)	Weight (kg)
BBT50-HDC20L- 90	2	20	42	50	90	45	—	56 - 96	43	150	HDA20-12047	4.2
-105					105	47	48	71 - 111		165		4.4
-135					135	48	78	101 - 141		195		4.7
-150					150		93	116 - 156		210		4.8
-200	3				200	48	102	166 - 206		260		5.5
-250					250			216 - 256		310		6.0
-HDC25L- 90	2	25	63	—	90	45	—	56 - 96	52	113	HDA20-12047	4.7
-105					105	60		71 - 111		128		5.0
-135				68	135		78	101 - 141		158		5.7
-150				70	150		92	116 - 156		173		6.1
-200	3				200	60	100	166 - 200		200		7.5
-250※					250			—			—	9.1
-HDC32L- 90	2	32	72	—	90	47	—	56 - 96	56	112	HDA20-12047	4.7
-105					105	62		71 - 111		127		5.1
-135				78	135	60	78	101 - 141		157		6.0
-165				80	165		108	131 - 171		187		6.9
-200	3				200	60	100	166 - 200		200		8.4
-250※					250			—			—	10.8
-HDC42L-110	2	42	96	—	110	72	—	76 - 116	65	132	HDA20-12047	6.1

1. In the use of the Adjusting Screw in BBT50 series, please contact BIG agent because a guide screw needs to be set separately.
   ※ marked models cannot be used with Adjusting Screws.
2. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
3. Maximum insertion depth is the depth when Adjusting Screw is not used.

For Straight Collets, G18
For ød = 19, 22, 24, 28, 31, A66

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (i.e.: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

Center through

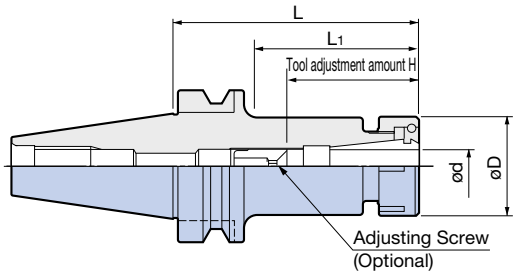
- Collet with an accuracy of 1 micron at nose enables increased productivity.
- A basic holder ideal for drilling, reaming and endmilling.

● Model Description

BT30 - NBS 6 - 45

- 45: L dimension
- 6: Maximum clamping diameter
- NBS: NEW BABY CHUCK System
- BT30: BT SHANK No.

Not BIG-PLUS (DUAL CONTACT) specification



BT30

BT SHANK Model	Clamping diameter ød	øD	L	L1	H	Collet Model	Weight (kg)
BT30-NBS 6- 45	0.25 - 6	20	45	20	20 - 40	NBC 6-□	0.41
- 60			60	32			0.44
- 75			75	47			0.47
- 90			90	62			0.51
-105			105	77			0.54
-120			120	90			0.57
-135			135	105			0.60
-NBS 8- 45	0.5 - 8	25	45	20	23 - 42	NBC 8-□	0.42
- 60			60	33			0.46
- 75			75	48			0.50
- 90			90	63			0.55
-105			105	78			0.61
-120			120	92			0.66
-135			135	107			0.70
-NBS10- 45	1.5 - 10	30	45	20	35 - 45	NBC10-□	0.44
- 60			60	34			0.51
- 75			75	49			0.58
- 90			90	64			0.66
-105			105	79			0.74
-120			120	94			0.81
-135			135	109			0.88
-NBS13- 45	2.5 - 13	35	45	21	41 - 53	NBC13-□	0.39
- 60			60	34	41 - 60		0.50
- 75			75	49			0.61
- 90			90	64			0.72
-105			105	79			0.83
-120			120	94			0.93
-135			135	109			1.02

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Center through coolant supply is available.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount “H” indicates the adjustment length with an Adjusting Screw (NBA).

BT30

BT SHANK Model	Clamping diameter ød	øD	L	L_1	H	Collet Model	Weight (kg)
BT30-NBS16- 45	2.5 - 16	42	45	21	45 - 53	NBC16-□	0.39
- 60			60	37	45 - 65		0.53
- 75			75	52			0.67
- 90			90	67			0.81
-105			105	82			0.95
-120			120	97			1.10
-135			135	112			1.25
-NBS20- 60	2.5 - 20	46	60	38	48 - 58	NBC20-□	0.55
- 75			75	53	48 - 65		0.73
- 90			90	68			0.90
-105			105	83			1.08
-120			120	98			1.26
-135			135	113			1.45

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Center through coolant supply is available.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).

Standard Accessory

New Baby Nut

For Spares G26

Optional Accessories

New Baby Wrench

G26

Collet

G4

BABY PERFECT SEAL

G24

Adjusting Screw

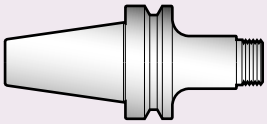
G10

Tap Adjusting Screw

G26

When ordering a BABY PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/BABY PERFECT SEAL separately.



NEW BABY CHUCK Model + NL
BT30-NBS6-45/NL
(NL at the end of the model number means nut not attached)

+

NBC Collet
NBC6-3AA

+

BABY PERFECT SEAL Model
BPS6-03035

A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

Center through

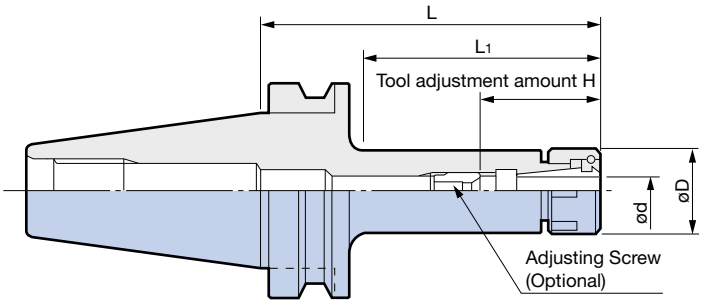
- Collet with an accuracy of 1 micron at nose enables increased productivity.
- A basic holder ideal for drilling, reaming and endmilling.

● Model Description

BT40 - NBS 6 - 60

- 60: L dimension
- 6: Maximum clamping diameter
- NBS: NEW BABY CHUCK System
- BT40: BT SHANK No.

Not BIG-PLUS (DUAL CONTACT) specification



BT40

BT SHANK Model	Clamping diameter ød	øD	L	L1	Tool adjustment amount H	Collet Model	Weight (kg)
BT40-NBS 6- 60	0.25 - 6	20	60	23	20 - 40	NBC 6-□	1.1
- 75			75	38			1.2
- 90			90	53			1.2
-105			105	68			1.3
-120			120	83			1.3
-135			135	98			1.3
-165			165	128			1.4
-200			200	158			1.5
-NBS 8- 60	0.5 - 8	25	60	23	23 - 42	NBC 8-□	1.1
- 75			75	38			1.2
- 90			90	53			1.2
-105			105	68			1.3
-120			120	83			1.3
-135			135	98			1.3
-165			165	128			1.4
-200			200	158			1.5
-NBS10- 60	1.5 - 10	30	60	23	35 - 45	NBC10-□	1.1
- 75			75	38			1.2
- 90			90	53			1.2
-105			105	68			1.3
-120			120	83			1.4
-135			135	98			1.5
-165			165	128			1.7
-200			200	163			1.9

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Center through coolant supply is available.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).

BT40

BT SHANK Model	Clamping diameter ød	øD	L	L_1	Tool adjustment amount H	Collet Model	Weight (kg)
BT40-NBS13- 60	2.5 - 13	35	60	28	41 - 60	NBC13-□	1.2
- 75			75	40			1.3
- 90			90	55			1.4
-105			105	70			1.5
-120			120	85			1.6
-135			135	100			1.7
-165			165	128			1.9
-200			200	163			2.2
-NBS16- 60	2.5 - 16	42	60	27	45 - 65	NBC16-□	1.2
- 75			75	40			1.4
- 90			90	55			1.5
-105			105	70			1.7
-120			120	85			1.8
-135			135	100			1.9
-165			165	130			2.2
-200			200	165			2.6
-NBS20- 60	2.5 - 20	46	60	28	48 - 65	NBC20-□	1.2
- 75			75	42			1.4
- 90			90	57			1.5
-105			105	72			1.7
-120			120	87			1.9
-135			135	102			2.1
-165			165	132			2.5
-200			200	167			3.0

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Center through coolant supply is available.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount “H” indicates the adjustment length with an Adjusting Screw (NBA).

Standard Accessory

New Baby Nut

For Spares G26

Optional Accessories

New Baby Wrench

G26

Collet

G4

BABY PERFECT SEAL

G24

Adjusting Screw

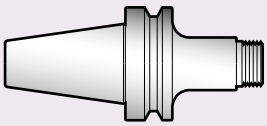
G10

Tap Adjusting Screw

G26

When ordering a BABY PERFECT SEAL, the “Nut-Less Body” without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/BABY PERFECT SEAL separately.



NEW BABY CHUCK Model + NL
BT40-NBS6-60/NL
(NL at the end of the model number means nut not attached)

+

NBC Collet
NBC6-3AA

+

BABY PERFECT SEAL Model
BPS6-03035

NEW BABY CHUCK PAT.

A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

Center through

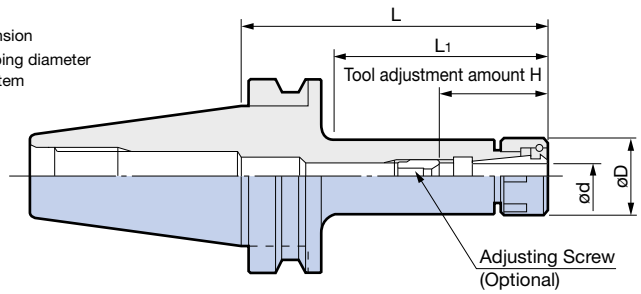
- Collet with an accuracy of 1 micron at nose enables increased productivity.
- A basic holder ideal for drilling, reaming and endmilling.

● Model Description

BT50 - NBS 6 - 90

- 90: L dimension
- 6: Maximum clamping diameter
- NBS: NEW BABY CHUCK System
- BT50: BT SHANK No.

Not BIG-PLUS (DUAL CONTACT) specification



BT50

BT SHANK Model	Clamping diameter ød	øD	L	L1	Tool adjustment amount H	Collet Model	Weight (kg)
BT50-NBS 6- 90	0.25 - 6	20	90	42	20 - 40	NBC 6-□	3.9
-120			120	67			4.0
-165			165	112			4.1
-200			200	147			4.2
-NBS 8- 90	0.5 - 8	25	90	42	23 - 42	NBC 8-□	4.0
-120			120	67			4.1
-165			165	112			4.2
-200			200	147			4.3
-NBS10- 90	1.5 - 10	30	90	42	35 - 45	NBC10-□	4.0
-120			120	67			4.1
-165			165	112			4.4
-200			200	147			4.6
-250※			250	197			4.9
-300※			300	247			5.2
-NBS13- 90	2.5 - 13	35	90	42	41 - 60	NBC13-□	4.2
-120			120	67			4.4
-165			165	112			4.7
-200			200	147			5.0
-250※			250	197			5.4
-300※			300	247			5.8
-NBS16- 75	2.5 - 16	42	75	29	45 - 65	NBC16-□	4.0
- 90			90	44			4.1
-120			120	72			4.4
-165			165	117			4.8
-200			200	152			5.2
-250※			250	202			5.7
-NBS20- 75	2.5 - 20	46	75	31	48 - 65	NBC20-□	4.0
- 90			90	42			4.2
-120			120	72			4.5
-165			165	117			4.9
-200			200	152			5.3
-250※			250	202			5.9

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Center through coolant supply is available. However, ※ marked products do not have a through hole.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).

When ordering a BABY PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available. For details, A26

Standard Accessory

New Baby Nut

For Spares G26

Optional Accessories

New Baby Wrench

G26

Collet

G4

BABY PERFECT SEAL

G24

Adjusting Screw

G10

Tap Adjusting Screw

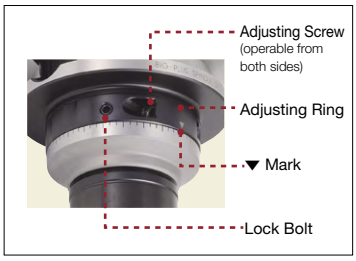
G26

※ Tap Adjusting Screws cannot be used with RA Holders.

Compensates for increased runout of machine tool spindles caused by extended use.

DUAL CONTACT BIG-PLUS®

Center through



Simple structure allows for easy adjustment of runout accuracy!

1. Turn the adjusting ring and line up the ▼ mark with peak runout position.
2. Adjust the lock bolts in 3 locations to fix the ring.
3. The runout amount is adjusted by tightening the adjusting screw.

● Model Description

BBT30 - NBS 8 - 75 NRA

- BBT30: BIG-PLUS BT No.
- NBS: NEW BABY CHUCK System
- 8: Maximum clamping diameter
- 75: L dimension
- NRA: Runout Adjustable Type

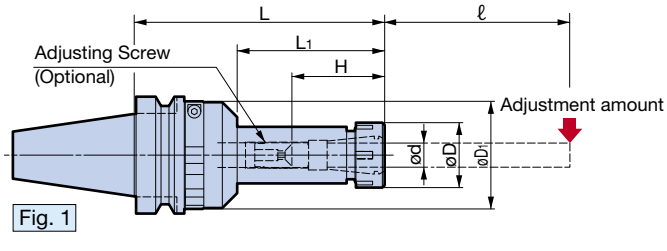


Fig. 1

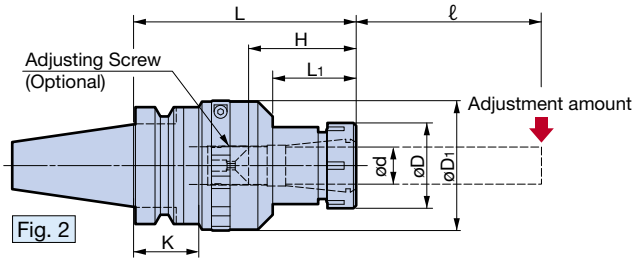


Fig. 2

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

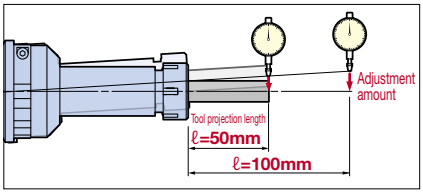
BIG-PLUS BBT SHANK Model	Fig.	ød	øD	øD1	L	L1	K	H	Collet Model	Adjustment amount ℓ=50mm	Adjustment amount ℓ=100mm	Weight (kg)
BBT30-NBS 8- 75NRA	1	0.5 - 8	25	45	75	28	—	23 - 42	NBC 8-□	20 μ m	31 μ m	0.7
-NBS13-110NRA	2	2.5 - 13	35	58	110	34	35	41 - 60	NBC13-□	18 μ m	27 μ m	1.4
BBT40-NBS 8- 90NRA	1	0.5 - 8	25	45	90	37	—	23 - 42	NBC 8-□	22 μ m	33 μ m	1.3
-NBS13- 90NRA	1	2.5 - 13	35	58	90	34	—	41 - 60	NBC13-□	18 μ m	27 μ m	1.6
-135NRA					135	79				25 μ m	34 μ m	1.9
-NBS20-120NRA	2	2.5 - 20	46	70	120	45	35	48 - 65	NBC20-□	17 μ m	25 μ m	2.5
-150NRA					150	65	45			21 μ m	29 μ m	2.7
BBT50-NBS13-105NRA	1	2.5 - 13	35	58	105	38	—	41 - 60	NBC13-□	19 μ m	28 μ m	4.2
-135NRA					135	68				24 μ m	33 μ m	4.4
-165NRA					165	98				30 μ m	39 μ m	4.5
-NBS20-120NRA	1	2.5 - 20	46	70	120	48	—	48 - 65	NBC20-□	17 μ m	25 μ m	4.7
-150NRA					150	78				22 μ m	30 μ m	5.0

1. The nut is included but the collet, wrench and Adjusting Screw are not included. Please order separately.
2. "H" indicates the adjustment length with an Adjusting Screw (NBA).

ℓ= Tool projection length

Runout adjustment amount

The adjustment amount depends on the length of the holder and the tool projection length. The maximum adjustment amount possible for 50mm and 100mm tool projection lengths is listed in the table. The maximum adjustment amount is a reference figure available when the Adjusting Screw is tightened with the listed allowable torque.



Adjusting Screw allowable torque

NEW BABY CHUCK Type	Wrench (Optional accessory)	Allowable torque (N·m)
NBS 8-NRA	CK-T2.5	3
NBS13-NRA	CK-T3	6
NBS20-NRA		

Standard Accessory

New Baby Nut

For Spares G26

Optional Accessories

New Baby Wrench

G26

Collet

G4

BABY PERFECT SEAL

G24

Adjusting Screw

G10

NEW Hi- POWER MILLING CHUCK

Clamping diameter: ø16 - ø42

The BIG original slit mechanism supports high power and high-precision endmilling from heavy cuts to fine cuts.

DUAL CONTACT
BIG-PLUS®

Center through

● Model Description

BBT30 - HMC 16 S - 70

- 70: L dimension
- S: S Type
- 16: Chuck bore
- HMC: NEW Hi- POWER MILLING CHUCK
- BBT30: BIG-PLUS BT No.

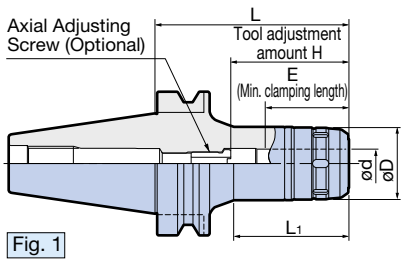


Fig. 1

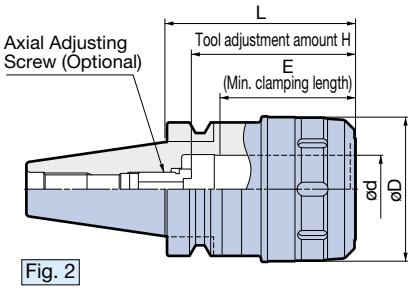


Fig. 2

[S Type] Slim nut to avoid interference

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	ød	øD	L	L1	Tool adjustment amount H	Min. clamping length E	Wrench	Weight (kg)
BBT30-HMC16S- 70※	BT30-HMC16S- 70※	1	16	43	70	47	71	55	FK45-50L	0.78
-HMC20S- 75	-HMC20S- 75	2	20	50	75	—	56 - 66	56		0.93
-HMC25S- 90	-HMC25S- 90		25	55	90	—	64 - 74	57	FK52-55	1.12
-HMC32S-105	-HMC32S-105		32	62	105	—	70 - 80	58	FK58-62L	1.41
BBT40-HMC16S- 75※	BT40-HMC16S- 75※	1	16	43	75	45	71	55	FK45-50L	1.3
-120※	-120※				120	90				1.8
-HMC20S- 75	-HMC20S- 75	1	20	50	75	46	69 - 79	56		1.4
-105	-105				105	75				1.9
-120	-120				120	90				2.1
-HMC25S- 75	-HMC25S- 75	1	25	59	75	47	73 - 83	57	FK58-62L	1.5
-105	-105				105	77				2.1
-135	-135				135	107				2.8
-HMC32S- 90	-HMC32S- 90	2	32	68	90	—	71 - 81	64	FK68-75L	2.0
-105	-105				105	—	79 - 89			2.3
-135	-135				135	—				3.0

1. Wrench and Axial Adjusting Screw are not included. Please order separately.
2. When using center through coolant;
   - Set screw with sealing compound applied (standard accessory) should be used to plug an air bleeding hole.
   - Oil hole type should be chosen when Straight Collet is required.
3. Please note that BBT(BT)40-HMC32S-90, ATC arm may interfere with the nut in some machines. (36mm from gauge line to nut.)
4. Tool adjustment amount "H" indicates the adjustment length with an Axial Adjusting Screw.

※ HMC16S requires the hex socket head screw (M8) for axial adjustment. However, please contact us if using for center through applications. H dimension is the max. tool shank length that can be inserted into the holder.

Optional Accessories

Straight Collet	Wrench	Mega Wrench	Axial Adjusting Screw
 G18	 G21	 G22	 G21

[S Type] Slim nut to avoid interference

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	ød	øD	L	L1	Tool adjustment amount H	Min. clamping length E	Wrench	Weight (kg)
BBT50-HMC16S-105※	—	1	16	43	105	57	71	55	FK45-50L	4.2
-135※					135	80				4.6
-165※					165	100				5.0
-200※					200	120				5.8
-HMC20S-105	—	1	20	50	105	57	69 - 79	56	FK45-50L	4.3
-135					135	80				4.8
-165					165	100				5.4
-200					200	125				6.0
-300					300	200				8.3
-HMC25S-105	—	1	25	59	105	57	76 - 86	57	FK58-62L	4.5
-135					135	87				5.2
-165					165	105				5.9
-200					200	125				7.5
-HMC32S-105	—	1	32	68	105	64	88 - 98	72	FK68-75L	4.6
-135					135	89				5.4
-165					165	105				6.4
-200					200	130				7.4
-300					300	200				11.5
-HMC42S-105	—	1	42	85	105	65	93 - 105	73	FK80-90L	5.2
-135					135	94				6.2
-165					165	123				7.4
-200					200	130				9.6
-300					300	200				14.1

BT shank models are not available. Please choose BBT shank models.

1. Wrench and Axial Adjusting Screw are not included. Please order separately.
2. When using center through coolant;
   - Set screw with sealing compound applied (standard accessory) should be used to plug an air bleeding hole.
   - Oil hole type should be chosen when Straight Collet is required.
3. Tool adjustment amount "H" indicates the adjustment length with an Axial Adjusting Screw.

※ HMC16S requires the hex socket head screw (M8) for axial adjustment. However, please contact us if using for center through applications. H dimension is the max. tool shank length that can be inserted into the holder.

[HMC12J Type] Clamping diameter: ø12

DUAL CONTACT BIG-PLUS®

Center through

● A slim yet highly rigid milling chuck with ø32 outer diameter nut for reduced interference.

■ Jet through coolant securely supplied from chuck nose to cutting edge.

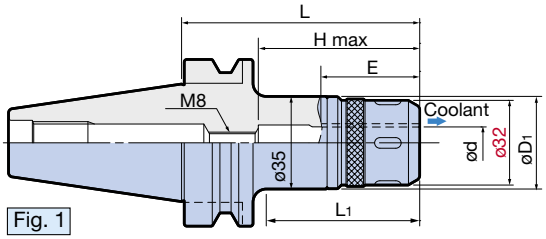


Fig. 1

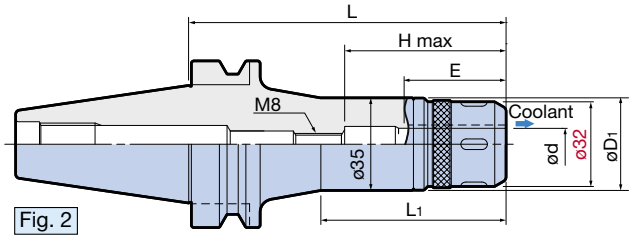


Fig. 2

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD1	L	L1	H max.	Min. clamping length E	Wrench	Weight (kg)
BBT30-HMC12J- 60	1	12	35	60	38	65	43	FK31-33	0.58
BBT40-HMC12J- 90				90	63				1.4
-120	2			120	70				1.6
BBT50-HMC12J-105	1			105	67				4.0
-135	2			135	70				4.3
-165				165	90				4.7

1. Wrench is not included. Please order separately.

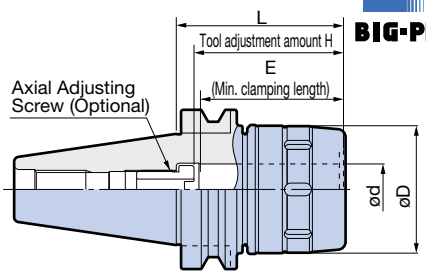
NEW Hi- POWER MILLING CHUCK

Clamping diameter: ø20 - ø42

DUAL CONTACT

BIG-PLUS®

Center through



[Standard Type]

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	ød	øD	L	Tool adjustment amount H	Min. clamping length E	Wrench	Weight (kg)
BBT50-HMC20 -105	**BT50-HMC20 -105**	20	60	105	69 - 79	56	FK58-62	4.7
-135	**-135**			135				5.4
—	**-165**			165				6.1
-HMC25 -105	**-HMC25 -105**	25	62	105	74 - 84	65		4.6
-135	**-135**			135				5.3
—	**-165**			165				5.9
-HMC32 -105▲	**-HMC32 -105**	32	80	105	78 - 95	71	FK80-90	5.2
-135▲	**-135**			135				6.3
—	**-165**			165				7.5
-HMC42 -105▲	**-HMC42 -105**	42	99	105	93 - 105	73	FK92-100	6.0
-135▲	**-135**			135				7.5
—	**-165**			165				8.8

1. Wrench and Axial Adjusting Screw are not included. Please order separately.
2. When using center through coolant;
   • Set screw with sealing compound applied (standard accessory) should be used to plug an air bleeding hole.
   • Oil hole type should be chosen when Straight Collet is required.
3. Tool adjustment amount "H" indicates the adjustment length with an Axial Adjusting Screw.

Models marked with ▲ in the table above include a vibration prevention screw.
This is effective for reducing chatter caused by heavy cutting or long tool projection.

Optional Accessories

Straight Collet	Wrench	Mega Wrench	Axial Adjusting Screw
 G18	 G21	 G22	 G21

Model with vibration prevention screw	Min. clamping length using vibration prevention screws
BBT50-HMC32-□□□▲	88
-HMC42-□□□▲	91

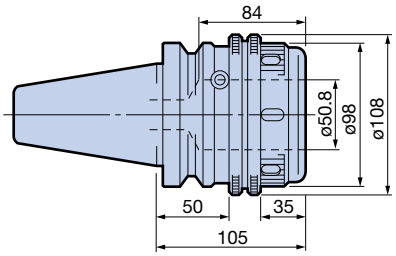
For large diameter (ϕ50.8) endmills

Pin locking type which prevents tool slip by adding a special pin.

DUAL CONTACT

BIG-PLUS®

- The double nut mechanism clamps the chuck flange solidly, increasing bending rigidity. Ideal for long and large diameter endmilling. A runout accuracy unrealizable with side lock holders is achieved.



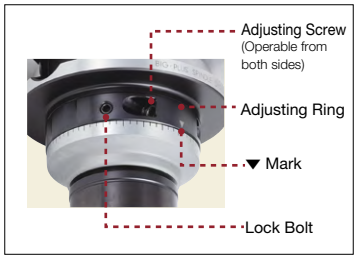
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Weight (kg)
BBT50-HMC50.8-105	**BT50-HMC50.8-105**	5.9

Compensates for increased runout of machine tool spindles caused by extended use.

DUAL CONTACT
BIG-PLUS®

Center through



Simple structure allows for easy adjustment of runout accuracy!

1. Turn the adjusting ring and line up the ▼ mark with peak runout position.
2. Adjust the lock bolts in 3 locations to fix the ring.
3. The runout amount is adjusted by tightening the adjusting screw.

● Model Description

BBT40 - HMC 20 S - 130 NRA

- BBT40: BIG-PLUS BT No.
- HMC: NEW Hi- POWER MILLING CHUCK
- 20: Chuck bore
- S: S Type
- 130: L dimension
- NRA: Runout Adjustable Type

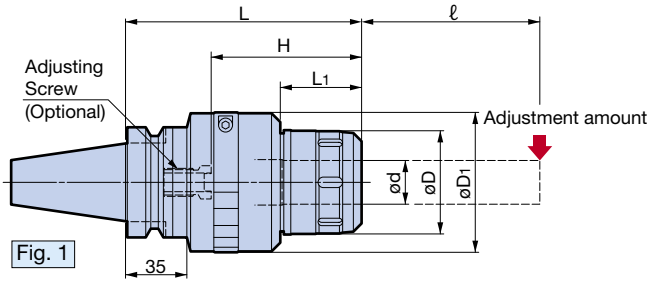


Fig. 1

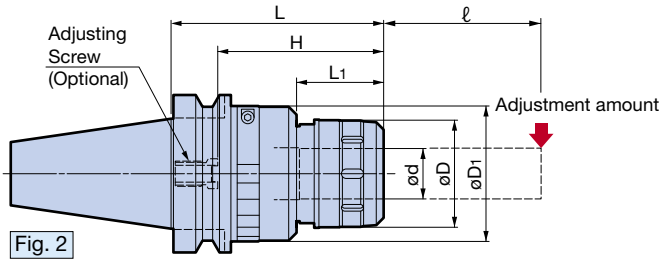


Fig. 2

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	ød	øD	øD1	L	L1	H	H max.	Min. clamping length	Adjustment amount ℓ=50mm	Adjustment amount ℓ=100mm	Wrench	Weight (kg)
BBT40-HMC20S-130NRA	1	20	50	72	130	46	69 - 79	85	45	23 μm	33 μm	FK45-50L	2.9
-HMC25S-135NRA		25	59	80	135	46	75 - 85	90	45	21 μm	30 μm	FK58-62L	3.5
-HMC32S-145NRA		32	68	86	145	55	85 - 95	105	55	20 μm	28 μm	FK68-75L	3.8
BBT50-HMC20S-125NRA	2	20	50	72	125	46	69 - 79	85	45	23 μm	33 μm	FK45-50L	5.2
-HMC25S-125NRA		25	59	80	125	46	75 - 85	90	45	21 μm	30 μm	FK58-62L	5.6
-HMC32S-135NRA		32	68	86	135	55	85 - 95	105	55	20 μm	28 μm	FK68-75L	6.0

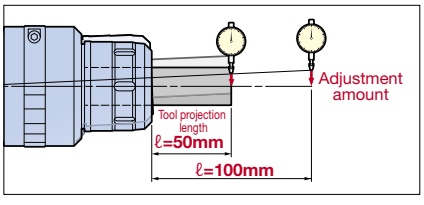
1. Wrench and Axial Adjusting Screw are not included. Please order separately.
2. Tool adjustment amount "H" indicates the adjustment length with an Axial Adjusting Screw (HMA).
3. H max. is the maximum tool insertion length when the Adjusting Screw is removed.

ℓ= Tool projection length

For Straight Collets, G18

Runout adjustment amount

The adjustment amount depends on the length of the holder and the tool projection length. The maximum adjustment amount possible for 50mm and 100mm tool projection lengths is listed in the table. The maximum adjustment amount is a reference figure available when the Adjusting Screw is tightened with the listed allowable torque.



Adjusting Screw allowable torque

NEW Hi- POWER MILLING CHUCK Type	Wrench (Optional accessory)	Allowable torque (N·m)
HMC20S-NRA	CK-T4	8
HMC25S-NRA		
HMC32S-NRA		

Optional Accessories

Straight Collet	Wrench	Mega Wrench	Axial Adjusting Screw
 G18	 G21	 G22	 G21

MEGA PERFECT GRIP PAT.P

Clamping diameter: ø16 - ø32

A holder equipped with tool Non-Pullout mechanism.
The unique Key Grip locking mechanism prevents the tool from slipping or pulling out during heavy machining.

DUAL CONTACT
BIG-PLUS®

Center through

Flood Jet-Through Coolant

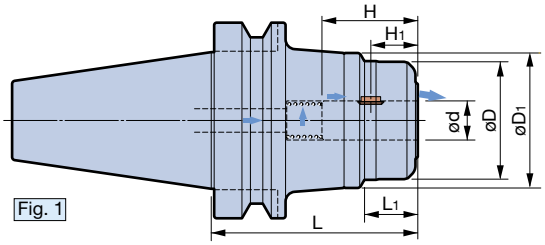


Fig. 1

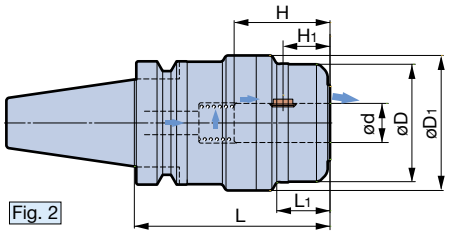


Fig. 2

● Model Description

BBT40 - MEGA 16 DPG - 75

- BBT40: BIG-PLUS BT No.
- MEGA
- 16: Chuck bore
- DPG: PERFECT GRIP
- 75: L dimension

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	ød	øD	øD1	L	L1	H	H1	Mega Wrench	Weight (kg)
BBT40-MEGA16DPG- 75	1	16	46	55	75	24	47	23	MGR46L	1.7
-MEGA20DPG-100	2	20	60	69	100	27	49	24	MGR60L	2.6
BBT50-MEGA16DPG-105	1	16	46	55	105	24	47	23	MGR46L	4.6
-165					165					5.8
-MEGA20DPG-105		20	60	69	105	27	49	24	MGR60L	5.1
-165					165					6.9
-MEGA25DPG-105		25	70	77	105	33	55	23	MGR70L	5.4
-165					165					7.7
-MEGA32DPG-105		32	80	86	105	41	59	23	MGR80L	5.6
-165					165					8.4

1. Key Grip and Spring are included.
2. Wrench is not included. Please order separately.
3. H1 is the dimension from the center of the Key Grip to the front end of the chuck.

● Key Grips are consumable products. Do not use a damaged Key Grip.

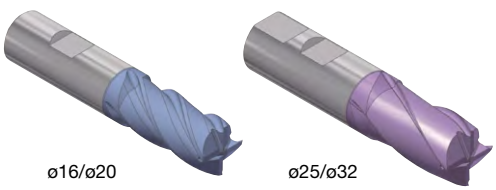
Standard Accessories

Chuck size	Key Grip (2 pcs)	Spring
ø16	**PKG16-2P**	**PSP1519**
ø20	**PKG20-2P**	**PSP1823**
ø25	**PKG25-2P**	**PSP2420**
ø32	**PKG32-2P**	**PSP3128**

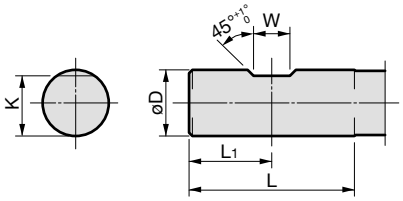
1. Key Grips are sold as 2-piece sets.

Cylindrical Shank with Flat Section JIS B 4005 (ISO3338-2)

The following standard shank is required for MEGA Perfect GRIP.



ø16/ø20 ø25/ø32



CAUTION

In case you are adding your own flat, the tool projection length in the MEGA Perfect GRIP will be decided by the flat position. Refer to H1 in the MEGA Perfect GRIP chart, decide the flat position to add, and then cut the cutter at L1 on cutter shank.

øD Nominal	øD Tolerance	L	L1	W Nominal	W Tolerance	K Nominal	K Tolerance
16	0 -0.011	48	24	10	+0.2 0	14.2	0 -0.4
20	0 -0.013	50	25	11		18.2	
25		56	32	12		23	
32	0 -0.016	60	36	14		30	

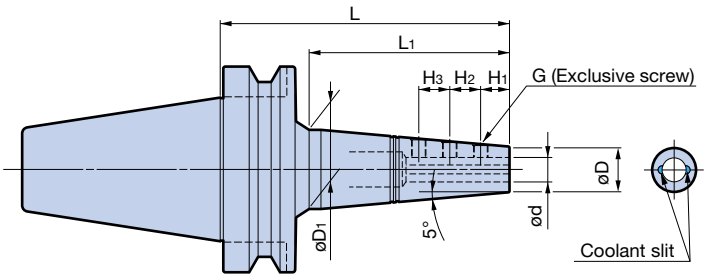
1. JIS Standards require sizes ø25 or higher to be double-flat types. The MEGA Perfect GRIP does not use a rear flat surface, but is capable of clamping double flat shanks.
2. JIS B4005 has the same dimensions as International Standard ISO3338-2 and German Standard DIN1835-1.

Slim design eliminates interference problems!

DUAL CONTACT
BIG-PLUS®

Center through

Max. 30,000min^{-1}



● Model Description

BBT40 - SSL 3 - 135

- 135: L dimension
- 3: Clamping diameter
- SSL: MOLD CHUCK
- BBT40: BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	øD	øD1	L	L1	H1	H2	H3	G	Weight (kg)
BBT40-SSL 3-135	3	10	27.5	135	100	6	6	—	M3	1.2
-SSL 4-135	4	11	28.5				7		M4	1.2
-SSL 6-135	6	13	30			12	13		M6	1.3
-SSL 8-135	8	15	32			13.5	18			1.3
-SSL10-150	10	17	36.5	150	115	15	20			1.5
-SSL12-150	12	22	41.5				16	16	M8	1.7
BBT50-SSL 6-150	6	13	31	150	104	12	13	—	M6	3.9
-200			39.5	200	154					4.4
-SSL 8-150	8	15	32.5	150	104	13.5	18			3.9
-200			41.5	200	154					4.4
-SSL10-150	10	17	34.5	150	104	15	20			4.0
-200			43.5	200	154					4.4
-SSL12-150	12	22	39.5	150	104		16	16	M8	4.2
-200			48	200	154					4.9
-SSL16-150	16	26	43	150	104		20	22		4.5
-200			52	200	154					5.0
-SSL20-150	20	30	47	150	104			25		4.6
-200			56	200	154					5.2

1. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
2. Ensure the tip of the ball endmill is in 90° phase to the clamping bolt when clamping.

● Longer size is available as a special order.
● BIG original side lock screws must be used as they are made to an exclusive design and different from other screws on the market.

MOLD CHUCK
Exclusive Side Lock Screw (Standard Accessory)

Model	Thread size	Screw length / quantity	Body Model
H0304FS	M3 P0.5	4mm x 2pcs	SSL3
H0404FS	M4 P0.5	4mm x 2pcs	SSL4
H06FSA	M6 P0.75	4.5, 5mm x 1pc each	SSL6
H06FSB		4.5, 6mm x 1pc each	SSL8, 10
H08FSA	M8 P0.75	6mm x 2pcs, 8mm x 1pc	SSL12
H08FSB		6, 8, 10mm x 1pc each	SSL16, 20

1. Each model consists of one set of screws required for each holder.

SHRINK CHUCK

Optimal operation with eliminated workpiece/jig interference is achieved in deep endmilling, wall machining and precision mold machining.

DUAL CONTACT
BIG-PLUS®

Center through

Clamping diameter ø6-

● Model Description

BBT30 - SRC 6 S - 105
- 105: L dimension
- S: Slim Type
- 6: Clamping diameter
- SRC: SHRINK CHUCK
- BBT30: BIG-PLUS BT No.

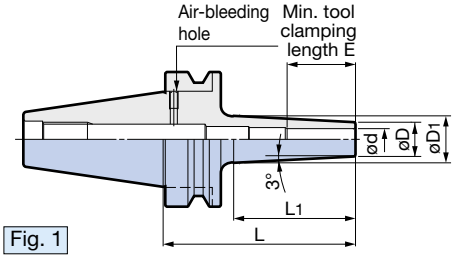


Fig. 1

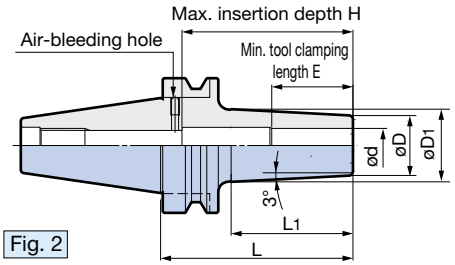


Fig. 2

[Slim Type]

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD[1]	L	L1	H	E	Weight (kg)
BBT30 -SRC 6S -105	1	6	10	18	105	77	(129)	26	0.48
-SRC 8S -105		8	13	21					0.51
-SRC10S -105	2	10	16	24			62	32	0.55
-SRC12S -105		12	19	27			72	36	0.60
BBT40 -SRC 6S -120	1	6	10	19	120	86	(155)	26	1.1
-165				23.5	165	127	(200)		1.3
-SRC 8S -120		8	13	22	120	86	(155)		1.2
-165				26.5	165	129	(200)		1.3
-SRC10S -120		10	16	25	120	86	(155)	32	1.2
-165				29.5	165	129	(200)		1.4
-SRC12S -120		12	19	28	120	87	(155)	36	1.3
-165				33	165	131	(200)		1.5

1. Use a carbide shank cutter within a tolerance of h6.
2. Center through coolant supply is available with tools with oil holes.
3. H dimensions in ( ) are reference length up to the PULLSTUD BOLT.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

DUAL CONTACT
BIG-PLUS®

Center through

Clamping diameter ø4-

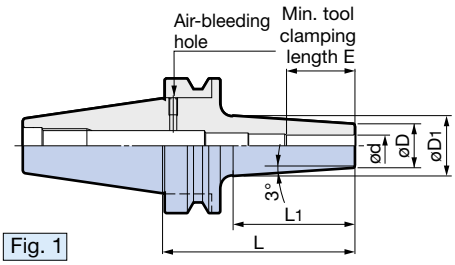


Fig. 1

● Model Description

BBT30 - SRC 4 - 75

- 75 : L dimension
- 4 : Clamping diameter
- SRC : SHRINK CHUCK
- BBT30 : BIG-PLUS BT No.

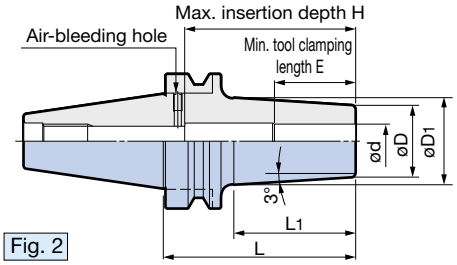


Fig. 2

[Standard type]

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	H	E	Weight (kg)
BBT30 -SRC 4 - 75※	1	4	10	15	75	44	—	16	0.45
-SRC 6 - 75		6	14	19		47		26	0.47
-SRC 8 - 75		8	18	23					0.51
-SRC10 - 75	2	10	22	27			62	32	0.56
-SRC12 - 75		12	24	29			72	36	0.58
-SRC16 - 75		16	28	33		48	80	38	0.62
BBT40 -SRC 4 - 90※	1	4	10	15.5	90	52	—	16	1.1
-SRC 6 - 90		6	14	20		57		26	1.1
-150				26	150	114			1.3
-SRC 8 - 90		8	18	24	90	57			1.2
-150				30	150	114			1.4
-SRC10 - 90		10	22	28	90	57		32	1.2
-150				34	150	116			1.5
-SRC12 - 90		12	24	30	90	57		36	1.2
-150				36	150	116			1.6
-SRC16 - 90	2	16	28	34	90	57	80	38	1.3
-165				42	165	132			1.9
-SRC20 - 90		20	34	40	90	57	100	42	1.4
-165				48	165	132			2.1
BBT50 -SRC 6 -105	1	6	14	20.5	105	61	—	26	3.7
-165				26	165	116			3.9
-SRC 8 -105		8	18	24.5	105	61			3.8
-165				30	165	116			4.0
-SRC10 -105		10	22	28.5	105	61		32	3.8
-165				34	165	116			4.2
-SRC12 -105		12	24	30.5	105	61		36	3.9
-165				36	165	116			4.2
-SRC16 -105		16	28	34.5	105	61		38	3.9
-165				40	165	116			4.3
-SRC20 -105		20	34	40.5	105	61		42	4.0
-165				46	165	116			4.6

1. Use a carbide shank cutter within a tolerance of h6.
   For ※ models, use a carbide shank with a tolerance within h5.
2. Center through coolant supply is available with tools with oil holes.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

SHRINK CHUCK

Clamping diameter: ø6 - ø12

● Coolant is securely supplied to cutting edge periphery from chuck nose.

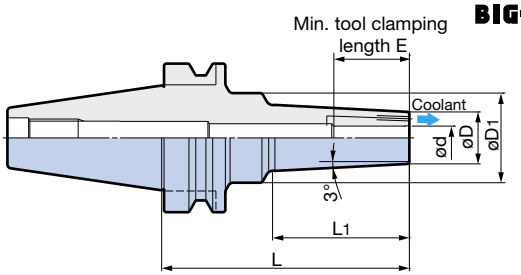
DUAL CONTACT
BIG-PLUS®

Center through

● Model Description

BBT40 - SRC 6 J - 105

- 105: L dimension
- J: Jet Through Type
- 6: Clamping diameter
- SRC: SHRINK CHUCK
- BBT40: BIG-PLUS BT No.



[Jet Through Type]

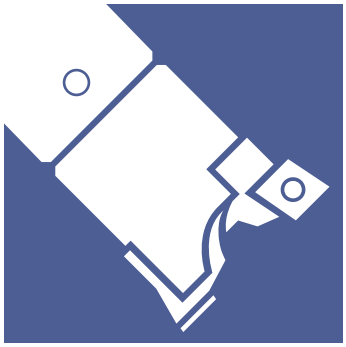
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	øD1	L	L1	E	Weight (kg)
BBT40-SRC 6J-105	6	16	32	105	55	26	1.3
-SRC 8J-105	8	19	35				1.3
-SRC10J-105	10	22	38		58	32	1.4
-SRC12J-105	12	24	40		63	36	1.4
BBT50-SRC 6J-165	6	16	42	165	93	26	4.1
-SRC 8J-165	8	19	45		99		4.2
-SRC10J-165	10	22	48		103	32	4.3
-SRC12J-165	12	24	50		108	36	4.3

1. Use a carbide shank cutter within a tolerance of h6.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

BORING SYSTEM



Modular boring system provides multiple and flexible tool layout.
Features easy assembly with 1 wrench and high expandability.

BIG DAISHOWA + KAISER CK BORING SYSTEM

(Technical cooperation with BIG KAISER Precision Tooling Ltd. in Switzerland.)

SW BORING HEAD
A39

For roughing

TW BORING HEAD RW BORING HEAD
A41·A43

For roughing

MW BORING HEAD
A46

For roughing

EWN BORING HEAD SMART DAMPER EWN BORING HEAD
A49

For finishing

EWB BORING HEAD
A53

For finishing

TW/EWN Boring Head for High-Speed Large-Diameter Boring
For roughing
A47

For finishing
A67

EWD DIGITAL BORING HEAD
For finishing
A51·A58


EWN BORING HEAD (Cylindrical Tool Type)
A55·A57

For finishing

EWB BORING HEAD (Cylindrical Tool Type)
A59

For finishing

EW MICRO HEAD
A65

For finishing

CK Carbide Cylindrical Shank
A66

For finishing

PIN TURNING
A69


BBT SHANK
A71
DV/IV SHANK
B9
HSK SHANK
C25·C62
ST SHANK
A72
BIG CAPTO SHANK
E43


SMART DAMPER
A74


Extension Reduction
A75·A76


Other accessories
A77

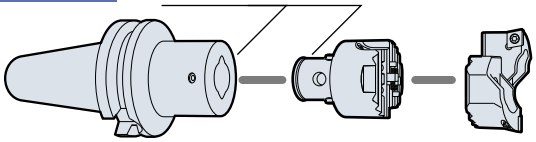

CK Presetter
A83


INSERT
A85


SW BORING HEAD (High Rigidity type for Roughing) PAT.

Center through

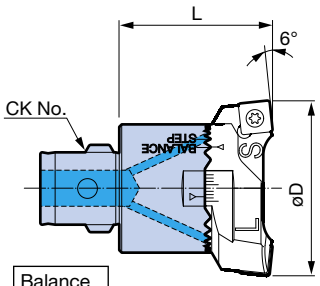
Set up example



CK SHANK (BBT BT IV DV ST HSK BIGCAPTO) — BBT40-CK3-85
SW HEAD — SW32-51 CKB3
SW CARTRIDGE — SW3242A

● Head Model Description

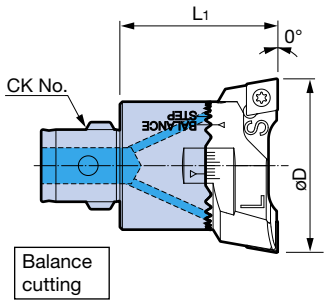
SW 20-31 CKB1
- CK No.
- Diameter range
- ROUGH BORING HEAD

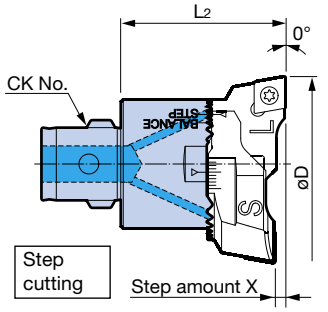


A Type for Through-Holes

● A Type for Through-Holes (4 corners of the insert can be used)

Diameter øD	Head Model	CK No.	Cartridge	L	Clamp Bolt Set (spare)	Belleville Spring Set (spare)	Weight (kg)
20 - 26	SW 20- 31CKB1	CK1	SW2026A	32.5	SW20SS	SW20BS	0.1
25 - 33	SW 25- 40CKB2	CK2	SW2533A	35.5	SW25SS	SW25BS	0.2
32 - 42	SW 32- 51CKB3	CK3	SW3242A	40	SW32SS	SW32BS	0.3
41 - 54	SW 41- 66CKB4	CK4	SW4154A	47	SW41SS	SW41BS	0.5
53 - 70	SW 53- 86CKB5	CK5	SW5370A	57	SW53SS	SW53BS	0.8
68 - 90	SW 68-110CKB6	CK6	SW6890A	71	SW68SS		1.6
88 - 110			SW88110A				1.8
98 - 126	SW 98-153CKB6	CK6	SW98126A	71	SW98SS	SW98BS	2.8
125 - 153			SW125153A				3.0
98 - 126	SW 98-153CKB7	CK7	SW98126A	87			3.8
125 - 153			SW125153A				4.1
148 - 176	SW148-203CKB6	CK6	SW148176A	71			3.6
175 - 203			SW175203A				3.8
148 - 176	SW148-203CKB7	CK7	SW148176A	117			6.4
175 - 203			SW175203A				6.6





E Type for Blind Holes

● E Type for Blind Holes (To shape flat surfaces)

Diameter øD	Head Model	CK No.	Cartridge	L1	L2	X	Clamp Bolt Set (spare)	Belleville Spring Set (spare)	Weight (kg)
20 - 26	SW 20- 31CKB1	CK1	SW2026E	32.5	32.6	0.2	SW20SS	SW20BS	0.1
25 - 31			SW2531E						0.1
25 - 33	SW 25- 40CKB2	CK2	SW2533E	35.5	35.6		SW25SS	SW25BS	0.2
32 - 40			SW3240E						0.2
32 - 42	SW 32- 51CKB3	CK3	SW3242E	40	40.1		SW32SS	SW32BS	0.3
41 - 51			SW4151E						0.3
41 - 54	SW 41- 66CKB4	CK4	SW4154E	47	47.2	0.4	SW41SS	SW41BS	0.5
53 - 66			SW5366E						0.5
53 - 70	SW 53- 86CKB5	CK5	SW5370E	57	57.2		SW53SS	SW53BS	0.8
69 - 86			SW6986E						0.9
68 - 90	SW 68-110CKB6	CK6	SW6890E※	71	71.2		SW68SS		1.6
88 - 110			SW88110E※						1.8
98 - 126	SW 98-153CKB6	CK6	SW98126E※	71	71.2		SW98SS	SW98BS	2.8
125 - 153			SW125153E※						3.0
98 - 126	SW 98-153CKB7	CK7	SW98126E※	87	87.2				3.8
125 - 153			SW125153E※						4.1
148 - 176	SW148-203CKB6	CK6	SW148176E※	71	71.2				3.6
175 - 203			SW175203E※						3.8
148 - 176	SW148-203CKB7	CK7	SW148176E※	117	117.2				6.4
175 - 203			SW175203E※						6.6

1. Clamping screws and belleville springs are included.
2. Cartridges must be ordered separately.
3. Inserts must be ordered separately.
4. Coolant through is standard for all the SW heads.
5. The diameter range is the value when nose radius 0.4 is used for insert SC06, and nose radius 0.8 for insert SC09 and SC12.
6. For screws and bolts, see A93

Cartridge models with ※ are also available for longer cutting edge inserts.
Change the end of the model number from E to EL when ordering. For details, A40

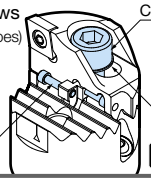
For holders, A71

SW CARTRIDGE

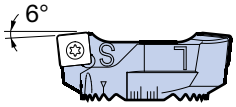
● Cartridge Model Description

SW 2026 A
- A: For Through Hole
- 2026: Diameter range ø20 - ø26
- SW: ROUGH BORING HEAD

■ Clamping screws (Common for A/E types)



For details, A93



● A Type for Through-Holes (4 corners of the insert can be used)

Diameter øD	Cartridge Model	Head Model	Insert	Insert Clamping Screw Set
20 - 26	**SW2026A**	SW 20- 31CKB1	SC06	S2.5S-7IP
25 - 33	**SW2533A**	SW 25- 40CKB2		
32 - 42	**SW3242A**	SW 32- 51CKB3	SC09	S4S-15IP
41 - 54	**SW4154A**	SW 41- 66CKB4		
53 - 70	**SW5370A**	SW 53- 86CKB5	SC12	S5S-20IP
68 - 90	**SW6890A**	SW 68-110CKB6		
88 - 110	**SW88110A**			
98 - 126	**SW98126A**	SW 98-153CKB6 SW 98-153CKB7		
125 - 153	**SW125153A**			
148 - 176	**SW148176A**	SW148-203CKB6 SW148-203CKB7		
175 - 203	**SW175203A**			

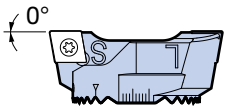
Each Cartridge model consists of a pair of cartridges and an insert clamping wrench.

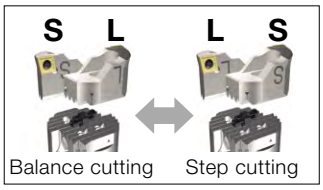
A86-A87 A91

1. Inserts must be ordered separately.
2. Step cutting is not available.
3. The diameter range is the value when nose radius 0.4 is used for insert SC06, and nose radius 0.8 for insert SC09 and SC12.
4. The insert clamping screw set (optional) comprises wrench and 10 pcs of screws.

● Cartridge Model Description

SW 2026 E
- E: For Blind Holes
- 2026: Diameter range ø20 - ø26
- SW: ROUGH BORING HEAD





Adapted for both balance and step cutting by simply changing positions of standard Cartridges. (for blind holes)

● E Type for Blind Holes (To shape flat surfaces)

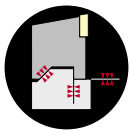
Diameter øD	Cartridge Model	Head Model	Insert	Insert Clamping Screw Set
20 - 26	**SW2026E**	SW 20- 31CKB1	CC06	S2.5S-7IP
25 - 31	**SW2531E**			
25 - 33	**SW2533E**	SW 25- 40CKB2		
32 - 40	**SW3240E**			
32 - 42	**SW3242E**	SW 32- 51CKB3	CC09	S4S-15IP
41 - 51	**SW4151E**			
41 - 54	**SW4154E**	SW 41- 66CKB4		
53 - 66	**SW5366E**			
53 - 70	**SW5370E**	SW 53- 86CKB5	CC12	S5S-20IP
69 - 86	**SW6986E**			
68 - 90	**SW6890E**	SW 68-110CKB6		
	SW6890EL		CC16	
88 - 110	**SW88110E**		CC12	
	SW88110EL		CC16	
98 - 126	**SW98126E**	SW 98-153CKB6 SW 98-153CKB7	CC12	
	SW98126EL		CC16	
125 - 153	**SW125153E**		CC12	
	SW125153EL		CC16	
148 - 176	**SW148176E**	SW148-203CKB6 SW148-203CKB7	CC12	
	SW148176EL		CC16	
175 - 203	**SW175203E**		CC12	
	SW175203EL		CC16	

Each Cartridge model consists of a pair of cartridges and an insert clamping wrench.

A87-A88 A91

1. Inserts must be ordered separately.
2. The diameter range is the value when nose radius 0.4 is used for insert CC06, and nose radius 0.8 for insert CC09 and CC12.
3. The insert clamping screw set (optional) comprises wrench and 10 pcs of screws.
4. EL type Cartridge with long cutting edge cannot be used with the #30 shank holder.

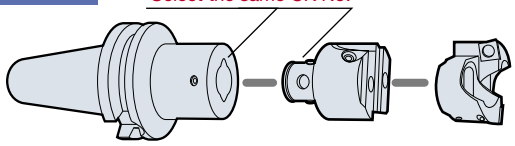
TW BORING HEAD (High Rigidity type for Roughing) PAT.



Triple face contact

Center through

Set up example



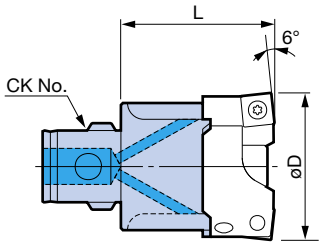
CK SHANK
(BBT BT IV DV ST HSK BIGCAPTO)
BBT40-CK3-85

TW HEAD
TWN32-51CKB3

TW CARTRIDGE
TW3242A

● Head Model Description

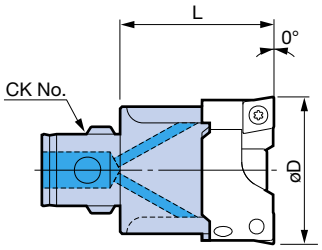
TWN 20-31 CKB1
- CK No.
- Diameter range
- ROUGH BORING HEAD



A Type for Through-Holes

● A Type for Through-Holes (4 corners of the insert can be used)

Diameter øD	Head Model	CK No.	Cartridge	L	Clamp Bolt Set (spare)	Belleville Spring Set (spare)	Weight (kg)
20 - 26	TWN 20- 31CKB1	CK1	TW2026A	32.5	TW20SS	TW20BS	0.06
25 - 31			TW2531A				
25 - 33	TWN 25- 40CKB2	CK2	TW2533A	35.5	TW25SS	TW25BS	0.11
32 - 40			TW3240A				0.12
32 - 42	TWN 32- 51CKB3	CK3	TW3242A	40	TW32SS	TW32BS	0.20
41 - 51			TW4151A				0.22
41 - 54	TWN 41- 66CKB4	CK4	TW4154A	47	TW41SS	TW41BS	0.40
53 - 66			TW5366A				0.43
53 - 70	TWN 53- 86CKB5	CK5	TW5370A	57	TW53SS	TW53BS	0.76
69 - 86			TW6986A				0.83
68 - 90	TWN 68-110CKB6	CK6	TW6890A	71	TW68SS	TW68BS	1.6
88 - 110			TW88110A				1.7
98 - 126	TWN 98-153CKB6	CK6	TW98126A	71	TW98SS	TW98BS	2.3
125 - 153			TW125153A				2.5
98 - 126	TWN 98-153CKB7	CK7	TW98126A	87			3.6
125 - 153			TW125153A				3.8
148 - 176	TWN148-203CKB6	CK6	TW98126A	71	TW98SS	TW98BS	3.0
175 - 203			TW125153A				3.2
148 - 176	TWN148-203CKB7	CK7	TW98126A	117			6.0
175 - 203			TW125153A				6.2



E Type for Blind Holes

● E Type for Blind Holes (To shape flat surfaces)

Diameter øD	Head Model	CK No.	Cartridge	L	Clamp Bolt Set (spare)	Belleville Spring Set (spare)	Weight (kg)
20 - 26	TWN 20- 31CKB1	CK1	TW2026E	32.5	TW20SS	TW20BS	0.06
25 - 31			TW2531E				
25 - 33	TWN 25- 40CKB2	CK2	TW2533E	35.5	TW25SS	TW25BS	0.11
32 - 40			TW3240E				0.12
32 - 42	TWN 32- 51CKB3	CK3	TW3242E	40	TW32SS	TW32BS	0.20
41 - 51			TW4151E				0.22
41 - 54	TWN 41- 66CKB4	CK4	TW4154E	47	TW41SS	TW41BS	0.40
53 - 66			TW5366E				0.43
53 - 70	TWN 53- 86CKB5	CK5	TW5370E	57	TW53SS	TW53BS	0.76
69 - 86			TW6986E				0.83
68 - 90	TWN 68-110CKB6	CK6	TW6890E ※	71	TW68SS	TW68BS	1.6
88 - 110			TW88110E ※				1.7
98 - 126	TWN 98-153CKB6	CK6	TW98126E ※	71	TW98SS	TW98BS	2.3
125 - 153			TW125153E※				2.5
98 - 126	TWN 98-153CKB7	CK7	TW98126E ※	87			3.6
125 - 153			TW125153E※				3.8
148 - 176	TWN148-203CKB6	CK6	TW98126E ※	71	TW98SS	TW98BS	3.0
175 - 203			TW125153E※				3.2
148 - 176	TWN148-203CKB7	CK7	TW98126E ※	117			6.0
175 - 203			TW125153E※				6.2

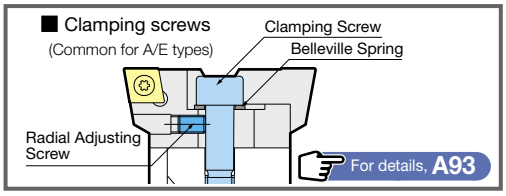
1. Clamping screws and belleville springs are included.
2. Cartridges must be ordered separately.
3. Inserts must be ordered separately.
4. Coolant through is standard for all the TW heads.
5. The diameter range is the value when nose radius 0.4 is used for insert SC06, and nose radius 0.8 for insert SC09 and SC12.

Cartridge models with ※ are also available for longer cutting edge inserts.
Change the end of the model number from E to EL when ordering.

For details, A42

For holders, A71

TW CARTRIDGE PAT.



● Cartridge Model Description

TW 2026 A
- A: For Through Hole
- 2026: Diameter range
- TW: ROUGH BORING HEAD

2-Piece Set
A Type for Through-Holes

2-Piece Set
E Type for Blind Holes

● A Type for Through-Holes (4 corners of the square insert can be used)

Cartridge Model (2-piece set)	Head Model	Insert	Insert Clamping Screw Set
TW2026A	TWN20- 31CKB1	SC06	S2.5S-T7
TW2531A			
TW2533A	TWN25- 40CKB2		
TW3240A			
TW3242A	TWN32- 51CKB3	SC09	S4S- T15
TW4151A			
TW4154A	TWN41- 66CKB4		
TW5366A			

Cartridge Model (2-piece set)	Head Model	Insert	Insert Clamping Screw Set
TW5370A	TWN 53- 86CKB5	SC12	S5S-T20
TW6986A			
TW6890A	TWN 68-110CKB6		
TW88110A			
TW98126A	TWN 98-153CKB6 TWN 98-153CKB7		
TW125153A	TWN148-203CKB6 TWN148-203CKB7		

● E Type for Blind Holes
(2 corners of the 80° CC insert can be used)

Cartridge Model (2-piece set)	Head Model	Insert	Insert Clamping Screw Set
TW2026E	TWN 20- 31CKB1	CC06	S2.5S-T7
TW2531E			
TW2533E	TWN 25- 40CKB2		
TW3240E			
TW3242E	TWN 32- 51CKB3	CC09	S4S -T15
TW4151E			
TW4154E	TWN 41- 66CKB4		
TW5366E			
TW5370E	TWN 53- 86CKB5	CC12	S5S-T20
TW6986E			

Cartridge Model (2-piece set)	Head Model	Insert	Insert Clamping Screw Set
TW6890E	TWN 68-110CKB6	CC12	S5S-T20
TW6890EL		CC16	
TW88110E		CC12	
TW88110EL		CC16	
TW98126E	TWN 98-153CKB6	CC12	
TW98126EL	TWN 98-153CKB7	CC16	
TW125153E	TWN148-203CKB6	CC12	
TW125153EL	TWN148-203CKB7	CC16	

A86-A88 A91

[Common Remarks]

1. Inserts must be ordered separately.
2. Cartridges are a 2-piece set.
3. The insert clamping screw set (optional) comprises wrench and 10 pcs of screws.
4. The diameter range of models TW98126 and TW125153 varies depending on the head size.
5. EL type Cartridge with long cutting edge cannot be used with the #30 shank holder.

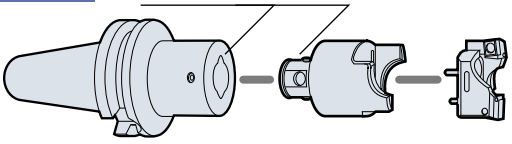
RW BORING HEAD (for roughing)

Center through

Balance cutting allows powerful boring.

- Axial adjustment mechanism achieves “perfect balance cutting”.
- The “step cutting method” can reduce the number of passes in the applications with large stock allowance.

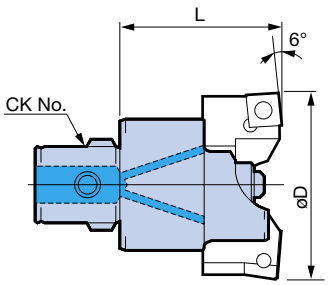
Set up example



CK SHANK (BBT BT IV DV ST HSK BIGCAPTO)	RW HEAD	RW CARTRIDGE
BBT30-CK2-85	RW25-33 CK2	RW2533A

● Head Model Description

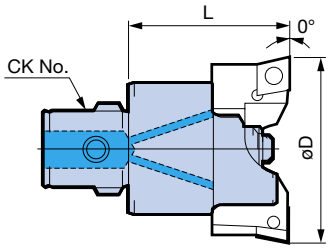
RW 25-33 CK2
- CK2 → CK No.
- 25-33 → Diameter range
- RW → ROUGH BORING HEAD



A Type for Through-Holes

● A Type for Through-Holes (4 corners of the insert can be used)

Diameter øD	Head Model	CK No.	Cartridge	L	Differential Screw (spare)	Weight (kg)
25 - 33	RW 25- 33CK2	CK2	RW2533A	35.5	DS25	0.1
32 - 42	RW 32- 42CK3	CK3	RW3242A	40	DS32	0.2
41 - 54	RW 41- 54CK4	CK4	RW4154A	47	DS41	0.4
53 - 70	RW 53- 70CK5	CK5	RW5370A	57	DS53	0.8
68 - 88	RW 68-100CK6	CK6	RW6888A	71	DS68	1.6
86 - 106			RW86106A			
100 - 125	RW100-150CK6		RW100125A			2.3
125 - 150			RW125150A			



E Type for Blind Holes

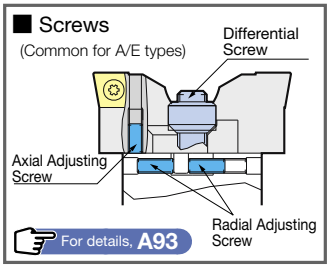
● E Type for Blind Holes (To shape flat surfaces)

Diameter øD	Head Model	CK No.	Cartridge	L	Differential Screw (spare)	Weight (kg)
25 - 33	RW 25- 33CK2	CK2	RW2533E	35.5	DS25	0.1
30 - 37			RW3037E			
32 - 42	RW 32- 42CK3	CK3	RW3242E	40	DS32	0.2
40 - 48			RW4048E			
41 - 54	RW 41- 54CK4	CK4	RW4154E	47	DS41	0.4
51 - 62			RW5162E			
53 - 70	RW 53- 70CK5	CK5	RW5370E	57	DS53	0.8
66 - 81			RW6681E			
68 - 88	RW 68-100CK6	CK6	RW6888E	71	DS68	1.6
			RW6888EL			
86 - 106			RW86106E			
			RW86106EL			
100 - 125	RW100-150CK6		RW100125E			2.3
			RW100125EL			
125 - 150			RW125150E			
			RW125150EL			

1. Differential screws are included.
2. Cartridges must be ordered separately.
3. Inserts must be ordered separately.
4. Coolant through is standard for all the RW heads.

For holders, A71

■ Screws
(Common for A/E types)



For details, A93

Caution

Ensure the Axial Adjusting Screws do not protrude from the Cartridges when assembled.

RW CARTRIDGE

A Type for Through-Holes

● Cartridge Model Description

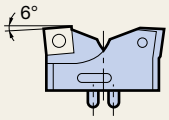
RW 2533 A
- A Type for Through-Holes
- Diameter range
- For RW BORING HEAD

E Type for Blind Holes

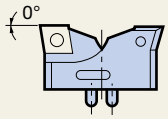
● Cartridge Model Description

RW 2533 E
- E Type for Blind Holes
- Diameter range
- For RW BORING HEAD

● A Type for Through-Holes (4 corners of the square insert can be used)

Cartridge Model	Figure	CK Boring Head Model	Insert	Insert Clamping Screw Set
RW2533A		RW 25- 33CK2	SC07	S3S
RW3242A		RW 32- 42CK3	SC09	S4S
RW4154A		RW 41- 54CK4		
RW5370A		RW 53- 70CK5	SC12	S5S
RW6888A		RW 68-100CK6		
RW86106A				
RW100125A		RW100-150CK6		
RW125150A				

● E Type for Blind Holes (2 corners of the 80° CC insert can be used)

Cartridge Model	Figure	CK Boring Head Model	Insert	Insert Clamping Screw Set
RW2533E		RW 25- 33CK2	CC07	S3S
RW3037E				
RW3242E		RW 32- 42CK3	CC09	S4S
RW4048E				
RW4154E		RW 41- 54CK4		
RW5162E				
RW5370E		RW 53- 70CK5	CC12	S5S
RW6681E				
RW6888E		RW 68-100CK6	CC12	
RW6888EL			CC16	
RW86106E			CC12	
RW86106EL			CC16	
RW100125E		RW100-150CK6	CC12	
RW100125EL			CC16	
RW125150E			CC12	
RW125150EL			CC16	

1. Inserts must be ordered separately.
2. Insert Clamping Screw Sets must be ordered separately.
3. Each Cartridge model consists of a pair of cartridges and an insert clamping wrench.
4. The insert clamping screw set (optional) comprises wrench and 10 pcs of screws.
5. EL type cartridge with long cutting edge cannot be used with the #30 shank holder.

A87-A88 A91

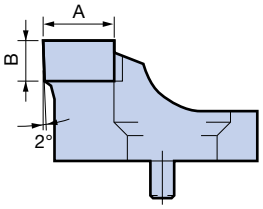
RW Brazed Blade

● Ideal for wider spot facing that inserts cannot cover.

● Model Description

RW 4154 B G10E

- RW: For RW BORING HEAD
- 4154: Diameter range
- B: Brazed blade
- G10E: Cutting edge material



Cartridge Model	CK Boring Head Model	A	B
RW4154B(G10E)	RW 41- 54CK4	13	8
RW5370B(G10E)	RW 53- 70CK5	17	10
RW6888B(G10E)	RW 68-100CK6	24	12
RW86106B(G10E)		32	
RW100125B(G10E)	RW100-150CK6	40	
RW125150B(G10E)			

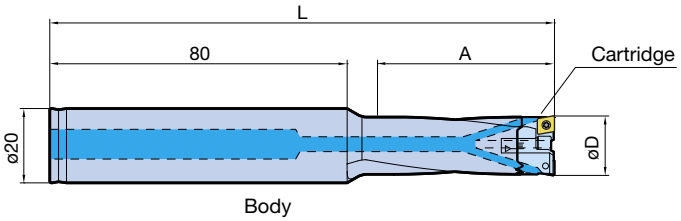
1. Blades have no chip breakers. Please grind and form them if necessary.
2. Compatible heads must be ordered.
3. Cartridges come as 2-piece sets.
4. The cutting edge is made of G10E (for aluminum and cast iron).

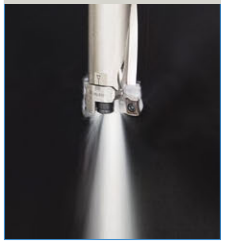
MW BORING HEAD (for roughing)

Center through

Achieves high efficiency small diameter rough boring with 2 inserts.

● Designed with versatile ø20 cylindrical shank.



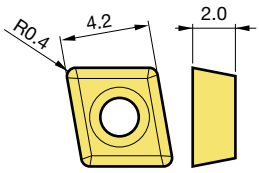


Threads for plug screws are prepared in the coolant holes to change the coolant directions.

Diameter øD	Model	Cartridge Model	L	Effective boring depth A
16 - 19	**ST20-MW1619-45**	**MW1619E**	136	45
	-60		151	60
18 - 21	**-MW1821-50**	**MW1821E**	141	50
	-65		156	65

1. Insert clamp screw and wrench are included.
2. Inserts must be ordered separately.

● Insert (optional)



Workpiece material	Insert Model	Materials
Steel/Stainless steel	**MW0404F Z30P**	P30 equivalent carbide substrate TiAlN + AlCrN coating
Cast iron/ Ductile	**MW0404S Z30K**	K20 equivalent carbide substrate TiAlN + AlCrN coating
Non-ferrous metal/ Aluminum	**MW0404E D15N**	K15 equivalent carbide substrate DLC coating

1. Inserts sold in packets of 10 pcs.

Example: MW0404F Z30P... 10 pcs

● Insert Clamping Screw Set (optional)

Set Model	Thread size	Wrench
S1.6S-T6	M1.6 x 4.2	FA-T6

1. The set contains ten screws and a wrench.

※ Wrenches are also sold individually.

TW BORING HEAD (for roughing/large diameter)

DUAL CONTACT BIG-PLUS®

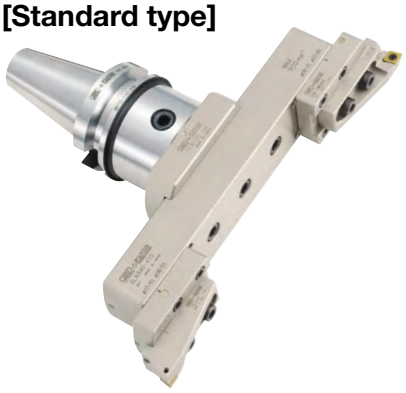
Center through

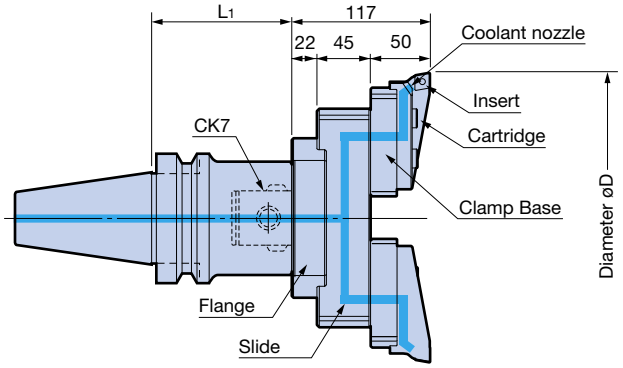
Vc max. 1,000 m/min

CK7 large-diameter boring series compatible with high-speed.

- Each component is securely fastened for safety.
- Coolant nozzles for secure coolant supply to the cutting edge.

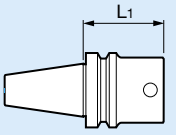
[Standard type]





BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

CK SHANK (BBT BT DV HSK BIGCAPTO) Model	Weight (kg)		Diameter øD	Flange CK7 Model	Weight (kg)	Slide Model	Weight (kg)	Clamp Base (2-piece set) Model	Weight (kg)	Cartridge (2-piece set) Model	Weight (kg)	Insert
BBT50-CK7-210	5.6	A Type for Through-Holes	200 - 270	**FLN135 (FLN135/90)**	2.76	**SLN200-270**	3.8	**CB-TW200**	1.80	**TW200A** 6°	0.72	SC12
-300	9.9		270 - 340			**SLN270-340**	5.5					
-360	12.7		340 - 410			**SLN340-410**	7.2					
			410 - 480			**SLN410-480**	8.9					
			480 - 550			**SLN480-550**	10.6					
			550 - 620	**FLN220 (FLN220/90)**	4.00	**SLN550-620※**	12.3					
			620 - 690			**SLN620-690※**	14.0					
			690 - 760			**SLN690-760※**	15.7					
			760 - 830			**SLN760-830※**	17.4					
		E/EL Type for Blind Holes	200 - 270	**FLN135 (FLN135/90)**	2.76	**SLN200-270**	3.8	**CB-TW200**	1.80	**TW200E** 0°	0.72	CC12
			270 - 340			**SLN270-340**	5.5					
			340 - 410			**SLN340-410**	7.2					
			410 - 480			**SLN410-480**	8.9					
			480 - 550			**SLN480-550**	10.6					
			550 - 620	**FLN220 (FLN220/90)**	4.00	**SLN550-620※**	12.3					
			620 - 690			**SLN620-690※**	14.0					
			690 - 760			**SLN690-760※**	15.7					
			760 - 830			**SLN760-830※**	17.4					
			200 - 270	**FLN135 (FLN135/90)**	2.76	**SLN200-270**	3.8	**CB-TW200**	1.80	**TW200EL** 0°	0.72	CC16
			270 - 340			**SLN270-340**	5.5					
			340 - 410			**SLN340-410**	7.2					
			410 - 480			**SLN410-480**	8.9					
			480 - 550			**SLN480-550**	10.6					
			550 - 620	**FLN220 (FLN220/90)**	4.00	**SLN550-620※**	12.3					
			620 - 690			**SLN620-690※**	14.0					
			690 - 760			**SLN690-760※**	15.7					
			760 - 830			**SLN760-830※**	17.4					



	L1
CK7-210	93
-300	183
-360	243

1. Clamp Bases and Cartridges are sold as a two-piece set. The weight in the table is that of 2 pieces.
2. Inserts must be ordered separately.
3. Center through coolant supply is available, except for ※ marked models.
4. Cutting edge and drive keys are aligned in the same direction.
   (It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used.)

A87-A88
A91
For holders, A71
Screws for each part A96

SQUARE TOOLHOLDER

□25 square tool for lathe is clamped.

Model	Diameter ø	Slide model	Square size	Weight (kg)
BFN95	250 - 830	SLN200-270(AL) or longer	□25	2.5

1. Square tools are not included.
2. The diameter varies according to the tool and slide used.
3. Use an SLN type slide. Cannot be mounted on the conventional SL type.
4. Slide models with AL at the end are made of aluminum for lighter weight.

[High speed type]

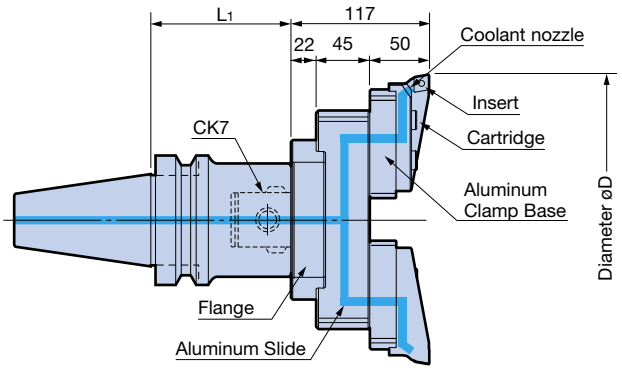
Lightweight

● Tool weight is reduced by combining an Aluminum Slide and Clamp Base.

DUAL CONTACT
BIG-PLUS®

Center through

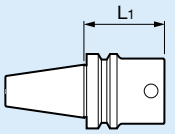
Vc max. 2,000 m/min



Models with AL at the end are made of aluminum.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

CK SHANK (BBT BT DV HSK BIGCAPTO) CK7			Diameter øD	Flange CK7		Aluminum Slide		Aluminum Clamp Base (2-piece set)		Cartridge (2-piece set)		Insert
Model	Weight (kg)			Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	
BBT50-CK7-210	5.6	A Type for Through-Holes	200 - 270	**FLN135 (FLN135/90)**	2.76	**SLN200-270AL**	1.44	**CB-TW200-AL**	0.80	**TW200A** 6°	0.72	SC12
			270 - 340			**SLN270-340AL**	2.04					
			340 - 410			**SLN340-410AL**	2.64					
			410 - 480			**SLN410-480AL**	3.24					
			480 - 550			**SLN480-550AL**	3.84					
			550 - 620	**FLN220 (FLN220/90)**	4.00	**SLN550-620AL** ※	4.44					
			620 - 690			**SLN620-690AL** ※	5.04					
			690 - 760			**SLN690-760AL** ※	5.64					
			760 - 830			**SLN760-830AL** ※	6.24					
-300	9.9	E/EL Type for Blind Holes	200 - 270	**FLN135 (FLN135/90)**	2.76	**SLN200-270AL**	1.44	**CB-TW200-AL**	0.80	**TW200E** 0°	0.72	CC12
			270 - 340			**SLN270-340AL**	2.04					
			340 - 410			**SLN340-410AL**	2.64					
			410 - 480			**SLN410-480AL**	3.24					
			480 - 550			**SLN480-550AL**	3.84					
			550 - 620	**FLN220 (FLN220/90)**	4.00	**SLN550-620AL** ※	4.44					
			620 - 690			**SLN620-690AL** ※	5.04					
			690 - 760			**SLN690-760AL** ※	5.64					
			760 - 830			**SLN760-830AL** ※	6.24					
-360	12.7	E/EL Type for Blind Holes	200 - 270	**FLN135 (FLN135/90)**	2.76	**SLN200-270AL**	1.44	**CB-TW200-AL**	0.80	**TW200EL** 0°	0.72	CC16
			270 - 340			**SLN270-340AL**	2.04					
			340 - 410			**SLN340-410AL**	2.64					
			410 - 480			**SLN410-480AL**	3.24					
			480 - 550			**SLN480-550AL**	3.84					
			550 - 620	**FLN220 (FLN220/90)**	4.00	**SLN550-620AL** ※	4.44					
			620 - 690			**SLN620-690AL** ※	5.04					
			690 - 760			**SLN690-760AL** ※	5.64					
			760 - 830			**SLN760-830AL** ※	6.24					

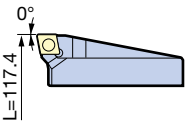


	L1
CK7-210	93
-300	183
-360	243

1. Clamp Bases and Cartridges are sold as a two-piece set. The weight in the table is that of 2 pieces.
2. Inserts must be ordered separately.
3. Center through coolant supply is available, except for ※ marked models.
4. Cutting edge and drive keys are aligned in the same direction.
   (It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used.)

A87-A88 A91
For holders, A71
Screws for each part A96

E Type Cartridge for Step Cutting



0.4mm higher cartridge enables larger depth of cut.

Model	TW200E-SC

Offered by 1 pce.

EWN BORING HEAD (for finishing) PAT.

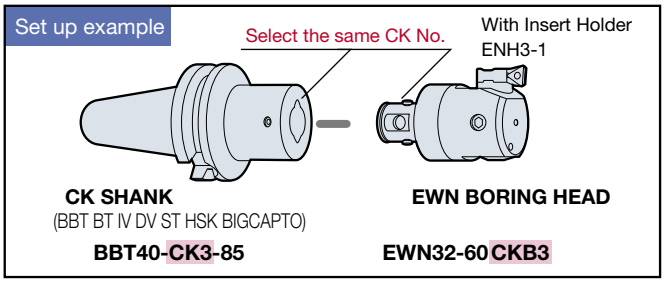
Center through

Vc max. 1,200 m/min

1 μm vernier is added to the easy-to-read scale of 0.01mm/ø increments.

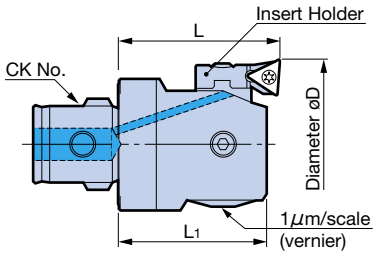
- The pre-balance design achieves stable machining accuracy.
- Back boring available as standard, expanding versatility.

Set up example

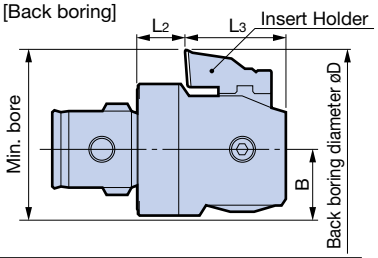


● Model Description

EWN 20-36 CKB1
- CK No.
- Diameter
- Finish Head



[Back boring]



Min. bore = B + (back boring diameter / 2)

Model	CK No.	Insert Holder	Boring			Back boring				Weight (kg)	Insert
			Diameter øD	L	L1	Diameter øD	L2	L3	B		
EWN 20- 36CKB1	CK1	ENH1-1	20 - 26	32.5	29.5	-	10.5	19	10	0.07	TP08
		ENH1-2	25 - 31			30 - 31					
		ENH1-3	30 - 36			30 - 36					
EWN 25- 47CKB2	CK2	ENH2-1	25 - 33	35.5	32.5	-	11.5	21	12.5	0.12	
		ENH2-2	32 - 40			36 - 40					
		ENH2-3	39 - 47			39 - 47					
EWN 32- 60CKB3	CK3	ENH3-1	32 - 42	40	35	-	10	25	16	0.21	
		ENH3-2	41 - 51			46 - 51					
		ENH3-3	50 - 60			50 - 60					
EWN 41- 74CKB4	CK4	ENH4-1	41 - 54	47	43	-	14	29	20	0.40	TC11
		ENH4-2	50 - 63			53 - 63					
		ENH4-3	61 - 74			61 - 74					
EWN 53- 95CKB5	CK5	ENH5-1	53 - 70	57	53	62 - 70	19	34	25.5	1.10	
		ENH5-2	65 - 82			65 - 82					
		ENH5-3	78 - 95			78 - 95					
EWN 68-150CKB6	CK6	ENH6-1	68 - 100	71	67.2	80 - 100	22	45.2	32.5	1.74	
		ENH6-2	94 - 126			94 - 126					
		ENH6-3	118 - 150			118 - 150					
EWN100-203CKB6	CK6	ENH6-1	100 - 153	71	67.2	112 - 153	22	45.2	45.5	2.46	
		ENH6-2	126 - 179			126 - 179					
		ENH6-3	150 - 203			150 - 203					
EWN100-203CKB7	CK7	ENH6-1	100 - 153	87	83.2	112 - 153	38	45.2	45.5	3.98	
		ENH6-2	126 - 179			126 - 179					
		ENH6-3	150 - 203			150 - 203					

1. Max. and min. diameters are the values when nose radius 0.2 is used for insert TP08, and nose radius 0.4 for insert TC11.
2. ENH○-1 insert holder is included. ENH○-2 and 3 must be ordered separately if required.
3. During back boring, the rotation direction will be reversed.
4. Inserts must be ordered separately.

Caution

Although the maximum allowable cutting speed Vc of the EWN BORING HEAD is 1,200 m/min, conditions differ according to the projection length of the holder and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached.

A85-A86 A91
For holders, A71 For insert holders, A52
For boring head screws, A94

Built-In Damper

SMART DAMPER EWN BORING HEAD (for finishing) PAT.

Center through

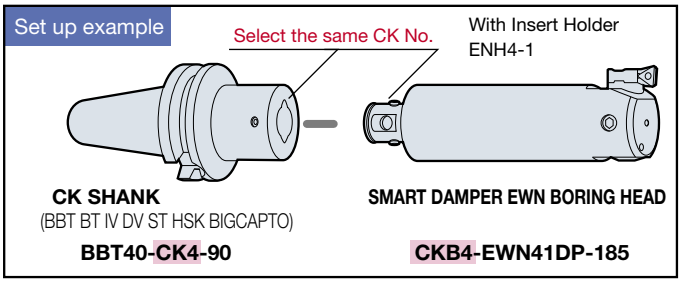
Combination of the popular EWN boring head with the Smart Damper.

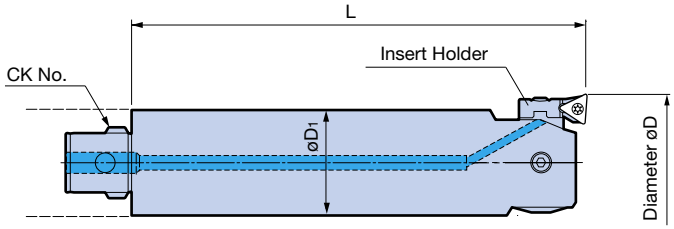
● Model Description

CKB4 - EWN 41 DP - 185

- 185: L dimension
- DP: Built-In Damper type
- 41: Min. diameter
- CKB4: CK No.

Set up example





Model	CK No.	Insert Holder	Diameter øD	øD1	L	Weight (kg)	Insert
CKB4-EWN41DP-185	CK4	ENH4-1	41 - 54	39	185	2.3	TC11
		ENH4-2	50 - 63				
		ENH4-3	61 - 74				
CKB5-EWN53DP-210	CK5	ENH5-1	53 - 70	50	210	4.4	
		ENH5-2	65 - 82				
		ENH5-3	78 - 95				
CKB6-EWN68DP-240	CK6	ENH6-1	68 - 100	64	240	8.3	
		ENH6-2	94 - 126				
		ENH6-3	118 - 150				

1. Max. and min. diameters are the values when an insert with nose radius 0.4 is used.
2. ENH○-1 insert holder is included. ENH○-2 and 3 must be ordered separately if required.
3. Inserts must be ordered separately.

●Wide variety of Insert Holders offers versatility.

Example: CKB4-EWN41DP-185

Standard Accessory	Optional Accessory	
ENH4-1	**ENH4-2**	**ENH4-3**
		
ø41 - ø54	ø50 - ø63	ø61 - ø74

In addition to the above, various insert holders for EWN BORING HEAD such as the "Insert Holder to Undercut Corners" can be used. A52

A86 A91
For holders, A71 For insert holders, A52
For boring head screws, A94

EWD DIGITAL BORING HEAD (for finishing) PAT. Diameter: ø41 - ø203

Center through

Vc max. 1,200 m/min

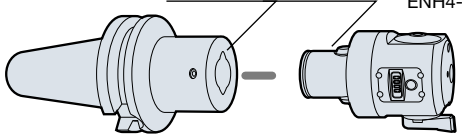
The advanced digital boring head born from ultra-precision technology.

- Digital display allows the adjustment amount to be read instantaneously.
- Fully waterproof and dustproof structure (IP69K equivalent).

Employs a system that directly measures the stroke of the adjustment quill. Accurately displays the actual movement amount.

Simple operation that allows ON and zero reset with a single button.

Set up example



CK SHANK (BBT BT IV DV ST HSK BIGCAPTO) **BBT40-CK4-90**

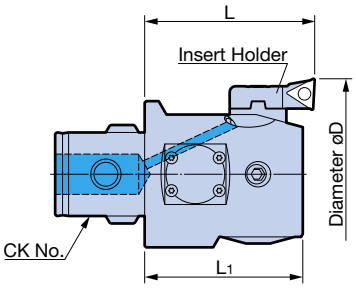
EWD DIGITAL HEAD **EWD41-74CKB4**

Display Resolution 0.001mm/ø

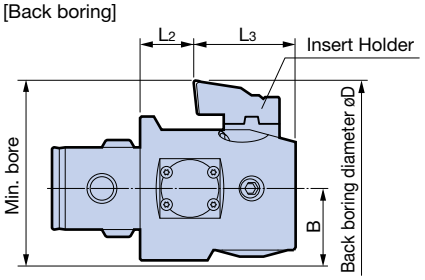
● Model Description

EWD | 41-74 | CKB4

- CKB4: CK No.
- 41-74: Diameter
- EWD: DIGITAL FINISH BORING HEAD



[Back boring]



Min. bore = B + (back boring diameter / 2)

Model	CK No.	Insert Holder	Boring			Back boring				Weight (kg)	Insert
			Diameter øD	L	L1	Diameter øD	L2	L3	B		
EWD 41- 74CKB4	CK4	ENH4-1	41 - 54	47	43	-	14	29	20	0.4	TC11
		ENH4-2	50 - 63			53 - 63					
		ENH4-3	61 - 74			61 - 74					
EWD 53- 95CKB5	CK5	ENH5-1	53 - 70	57	53	62 - 70	19	34	25.5	1.1	
		ENH5-2	65 - 82			65 - 82					
		ENH5-3	78 - 95			78 - 95					
EWD 68-150CKB6	CK6	ENH6-1	68 - 100	71	67.2	80 - 100	22	45.2	32.5	1.8	
		ENH6-2	94 - 126			94 - 126					
		ENH6-3	118 - 150			118 - 150					
EWD100-203CKB6	CK6	ENH6-1	100 - 153	71	67.2	112 - 153	22	45.2	45.5	2.5	
		ENH6-2	126 - 179			126 - 179					
		ENH6-3	150 - 203			150 - 203					
EWD100-203CKB7	CK7	ENH6-1	100 - 153	87	83.2	112 - 153	38	45.2	45.5	4.0	
		ENH6-2	126 - 179			126 - 179					
		ENH6-3	150 - 203			150 - 203					

Battery: BR1225 .... 1 pc

1. Max. and min. diameters are the values when an insert with nose radius 0.4 is used.
2. ENH○-1 insert holder is included. ENH○-2 and 3 must be ordered separately if required.
3. Inserts must be ordered separately.
4. Center through coolant pressure should not exceed 4MPa.

Caution

Although the maximum allowable cutting speed Vc of the EWD BORING HEAD is 1,200 m/min, conditions differ according to the projection length of the holder and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached.

● Wide variety of Insert Holders offers versatility.

Example: For EWD41-74CKB4

Standard Accessory	Optional Accessory	
ENH4-1	ENH4-2	ENH4-3
		
ø41 - ø54	ø50 - ø63	ø61 - ø74

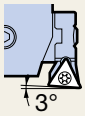
In addition to the above, various insert holders for EWN BORING HEAD such as the "Insert Holder to Undercut Corners" can be used. A52

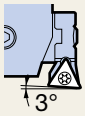
A86 A91

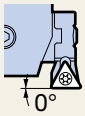
For holders, A71

CK BORING SYSTEM

Insert Holder PAT. (optional accessory)

Model	Figure	Head
ENH1-1	 3° Insert TP08	EWN20-36CKB1
ENH1-2		
ENH1-3		
ENH2-1		EWN25-47CKB2
ENH2-2		
ENH2-3		
ENH3-1		EWN32-60CKB3
ENH3-2		
ENH3-3		

Model	Figure	Head
ENH4-1	 3° Insert TC11	EWN41-74CKB4 EWD41-74CKB4
ENH4-2		
ENH4-3		
ENH5-1		EWN53-95CKB5 EWD53-95CKB5
ENH5-2		
ENH5-3		
ENH6-1		EWN 68-150CKB6 EWN100-203CKB6(7) EWD 68-150CKB6 EWD100-203CKB6(7)
ENH6-2		
ENH6-3		

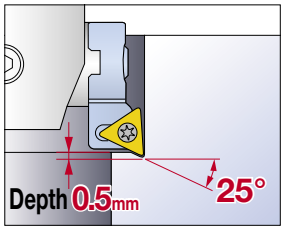
Model	Figure	Head
ENH4-1E	 0° Insert TC11	EWN41-74CKB4 EWD41-74CKB4
ENH4-2E		
ENH4-3E		
ENH5-1E		EWN53-95CKB5 EWD53-95CKB5
ENH5-2E		
ENH5-3E		
ENH6-1E		EWN 68-150CKB6 EWN100-203CKB6(7) EWD 68-150CKB6 EWD100-203CKB6(7)
ENH6-2E		
ENH6-3E		

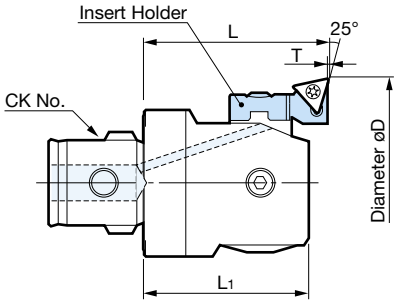
1. Inserts must be ordered separately.

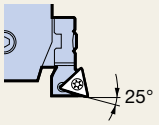
A91

Insert Holder to undercut corners PAT. (optional accessory)

● Insert Holder capable of boring and grooving (recessing)





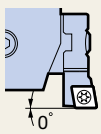
Diameter øD	Model	Figure	Head	CK No.	L	L1	Max. depth T.max	Insert
32 - 42	ENH3-1J	 25°	EWN 32- 60CKB3	3	40	35	0.6	TP08
41 - 54	ENH4-1J		EWN 41- 74CKB4 EWD 41- 74CKB4	4	47	43		
53 - 70	ENH5-1J		EWN 53- 95CKB5 EWD 53- 95CKB5	5	57	53		
68 - 100	ENH6-1J		EWN 68-150CKB6 EWD 68-150CKB6	6	71	67.2		TC11
100 - 153			EWN100-203CKB6 EWD100-203CKB6					
			EWN100-203CKB7 EWD100-203CKB7	7	87	83.2		
94 - 126	ENH6-2J		EWN 68-150CKB6 EWD 68-150CKB6	6	71	67.2		
126 - 179			EWN100-203CKB6 EWD100-203CKB6					
			EWN100-203CKB7 EWD100-203CKB7	7	87	83.2		
118 - 150	ENH6-3J		EWN 68-150CKB6 EWD 68-150CKB6	6	71	67.2		
150 - 203			EWN100-203CKB6 EWD100-203CKB6					
			EWN100-203CKB7 EWD100-203CKB7	7	87	83.2		

1. T.max and L are the values when nose radius 0.2 is used for insert TP08, and nose radius 0.4 for insert TC11.
2. Inserts must be ordered separately.

※ Cannot be used for back boring.

A91

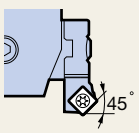
Insert Holder for CC Insert

Model	Figure	Head	Insert
ENH4-1F	 0°	EWN 41- 74CKB4 EWD 41- 74CKB4	CC06
ENH4-2F			
ENH4-3F			
ENH5-1F		EWN 53- 95CKB5 EWD 53- 95CKB5	
ENH5-2F			
ENH5-3F			
ENH6-1F		EWN 68-150CKB6 EWN100-203CKB6 (7) EWD 68-150CKB6 EWD100-203CKB6 (7)	CC07
ENH6-2F			
ENH6-3F			

1. Inserts must be ordered separately.

A91

Insert Holder for Square Insert

Model	Figure	Head	Insert
ENH4-1S	 45°	EWN 41- 74CKB4 EWD 41- 74CKB4	SC06
ENH4-2S			
ENH4-3S			
ENH5-1S		EWN 53- 95CKB5 EWD 53- 95CKB5	
ENH5-2S			
ENH5-3S			
ENH6-1S		EWN 68-150CKB6 EWN100-203CKB6 (7) EWD 68-150CKB6 EWD100-203CKB6 (7)	SC07
ENH6-2S			
ENH6-3S			

1. Inserts must be ordered separately.

A91

CK BORING SYSTEM

EWB BORING HEAD (For high-speed finishing/ Built-in automatic precision balancing) PAT. Diameter: ø32 - ø105

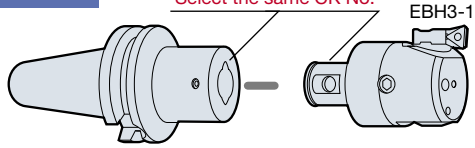
Automatic precision balancing.

- Excellent dynamic balance performance, achieves high-speed machining and stable accuracy.
- Ultra-precision boring head with ø0.01mm increment scale.

Center through

Vc max. 2,000 m/min

Set up example

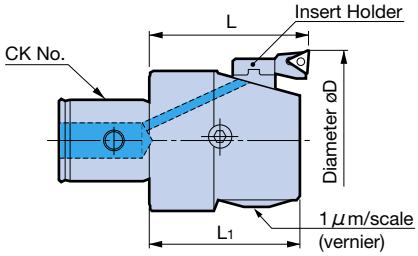


CK SHANK
(BBT BT IV DV ST HSK BIGCAPTO)
BBT40-CK3-85

EWB BORING HEAD
EWB32-42CK3

● Model Description

EWB 32-42 CK3
- CK3: CK No.
- 32-42: Diameter
- EWB: Finish Head



Diameter øD	Model	CK No.	L	L1	Weight (kg)	Insert Holder (Optional accessory)	Insert
32 - 42	**EWB32- 42CK3**	CK3	40	37	0.20	EBH3-1	TP08
41 - 54	**EWB41- 54CK4**	CK4	47	43	0.38	EBH4-1	TC11
53 - 70	**EWB53- 70CK5**	CK5	57	53	0.78	EBH5-1	
68 - 88	**EWB68- 88CK6**	CK6	71	67	1.65	EBH6-1	
85 - 105	**EWB85-105CK6**				1.69		

1. Max. and min. diameters are the values when nose radius 0.2 is used for insert TP08, and nose radius 0.4 for insert TC11.
2. Insert Holder is included, insert is not included.

A85-A86
A91

Caution Although the maximum allowable cutting speed Vc of the EWB BORING HEAD is 2,000 m/min, conditions differ according to the projection length of the holder and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached.

For holders, A71
For boring head screws, A95

Insert Holder PAT. (spare)

Model	Head	Insert	Insert Clamping Screw Set
EBH3-1	EWB 32- 42CK3	TP08	S2S-T6
EBH4-1	EWB 41- 54CK4	TC11	S2.5S-T7
EBH5-1	EWB 53- 70CK5		
EBH6-1	EWB 68- 88CK6 EWB 85-105CK6 EWB100-153CK□AL EWB150-203CK□AL		

· EWB Boring Heads are provided with an Insert Holder.
For replacement, order using the above model numbers.

EWB ALUMINUM BORING HEAD (for finishing) PAT. Diameter: ø100 - ø203

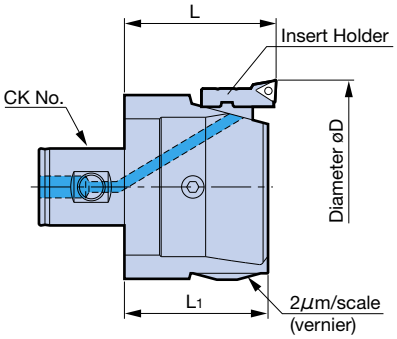
Automatic precision balancing. High-speed capability is ideal for aluminum machining.

Center through

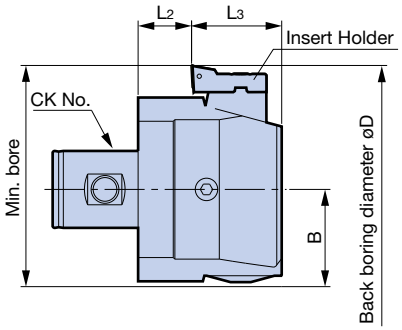
Vc max. 2,000 m/min

- Lightweight aluminum head made of high-tension aluminum with hard coating.
- Ideal for small machining centers with ATC weight limit.

Weight
600g -



<Boring>



<Back boring>

Min. bore = B + (back boring diameter / 2)

● Model Description

EWB | 100-153 | CK6 | AL
- AL: ALUMINUM BORING HEAD
- CK6: CK No.
- 100-153: Diameter
- EWB: Finish Head

Model	CK No.	L	L1	Boring Diameter øD	L2	L3	Back boring Diameter øD	Back boring B	Weight (kg)	Insert Holder (spare)	Insert
EWB100-153CK6AL	CK6	71	67	100 - 153	25	43	112 - 153	45.5	0.6	EBH6-1	TC11
EWB150-203CK6AL				150 - 203			150 - 203	63.5	0.8		
EWB100-153CK7AL	CK7	87	83	100 - 153	41	42	112 - 153	45.5	0.9		
EWB150-203CK7AL				150 - 203			150 - 203	63.5	1.2		

1. Max. and min. diameters are the values when an insert with nose radius 0.4 is used.
2. Insert Holder is included, insert is not included.
3. During back boring, the rotation direction will be reversed.

A86 A91

For holders, A71

Caution Although the maximum allowable cutting speed Vc of the EWB BORING HEAD is 2,000 m/min, conditions differ according to the projection length of the holder and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached.

EWN04-7CK1/EWN04-15CK3 BORING HEAD

- Micro-boring head with outer diameter of ø18.5mm (EWN04-7CK1).
- 0.01mm/scale/ø2μm ultra-precision vernier.

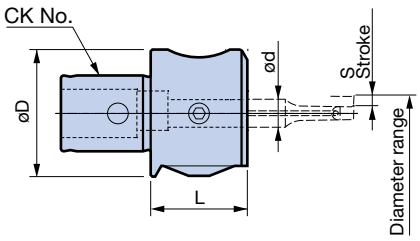
Center through

MAX. 30,000min^{-1}

World's smallest outer diameter of ø18.5

EWN04-7CK1

EWN04-15CK3



● Model Description

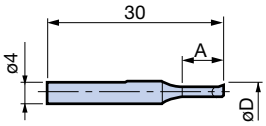
EWN 04 - 7 CK1
- CK No.
- Diameter
- FINISH BORING HEAD

Model	Diameter	CK No.	øD	ød	L	S	Max. speed	Weight (kg)
EWN04- 7CK1	1.0 - 7	CK1	18.5	4	14	-0.1 - +1.05	30,000	0.03
EWN04-15CK3	1.0 - 15	CK3	30	7	22	-0.2 - +2.0	20,000	0.12

1. Cylindrical tool must be ordered separately.

For holders, A71

EWN04-7 Cylindrical Tool



Diameter øD	Model	Engraved number	A	Insert
1.0 - 1.5	**ST4W-EB 1 - 3**	615.542	3	Integrated Carbide Shank
1.4 - 2.0	**-EB 1.5- 5**	615.543	5	
1.9 - 3.0	**-EB 2 - 6**	615.544	6	
2.9 - 4.0	**-EB 3 -10**	615.545	10	
3.9 - 5.0	**-EB 4 -13**	615.546	13	
4.9 - 7.0	**-EB 5 -16**	615.547	16	

EWN04-15 Cylindrical Tool

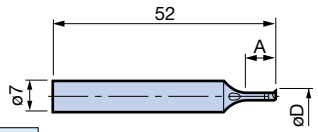


Fig. 1

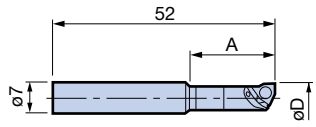


Fig. 2 (with coolant hole)

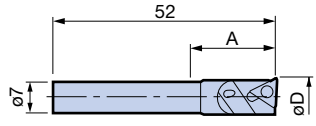


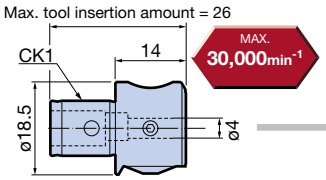
Fig. 3 (with coolant hole)

Diameter øD	Fig.	Model	Engraved number	A	Insert
1.0 - 1.5	1	**ST7W-EB 1 - 3**	615.524	3	Integrated Carbide Shank
1.4 - 2.0		**-EB 1.5- 5**	615.525	5	
1.9 - 3.0		**-EB 2 - 7**	615.501	6	
2.9 - 4.0		**-EB 3 - 10**	615.502	10	
3.9 - 5.0		**-EB 4 - 13**	615.503	13	
4.9 - 6.0		**-EB 5 - 16**	615.504	16	
5.8 - 7.0	2	**-EB 6 - 20**	615.505	20	WC02
6.8 - 8.0		**-EB 7 - 20**	615.506		
7.8 - 9.0	3	**-EB 8 - 20**	615.507	30	TP07
8.8 - 10.0		**-EB 9 - 20**	615.508		
9.8 - 12.0		**-EB10 - 20**	615.509		
11.8 - 15.0		**-EB12 - 30**	615.511		

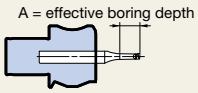
1. Inserts must be ordered separately.

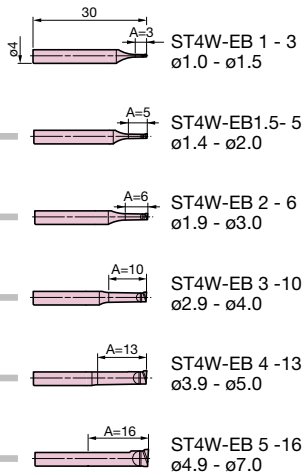
A85 A91

EWN04-7CK1 (cylindrical tool series for finishing)



Head **EWN04-7CK1**
Stroke -0.1 - +1.05mm





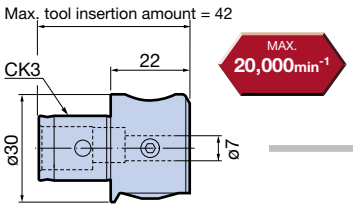
Center through

Ideal for small machines

※ Cylindrical Tools are made of carbide.

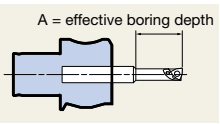
For holders, A71

EWN04-15CK3 (cylindrical tool series for finishing)

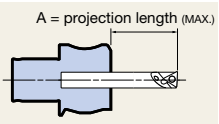


Head **EWN04-15CK3**
Stroke -0.2 - +2.0mm

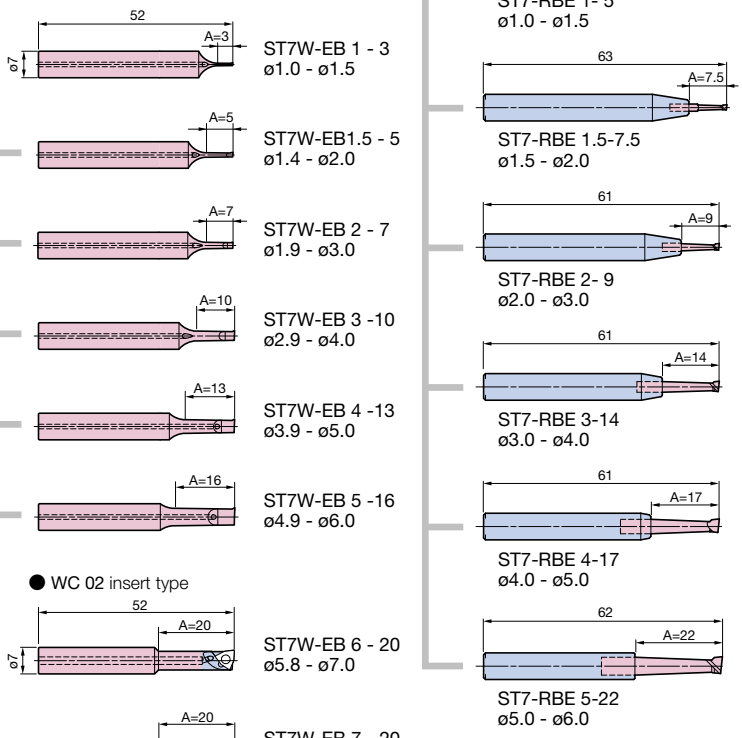
ST7W-EB 1 - EB 7
ST7-REB



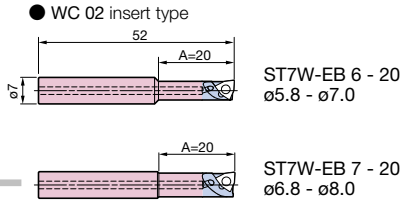
ST7W-EB 8 - EB12



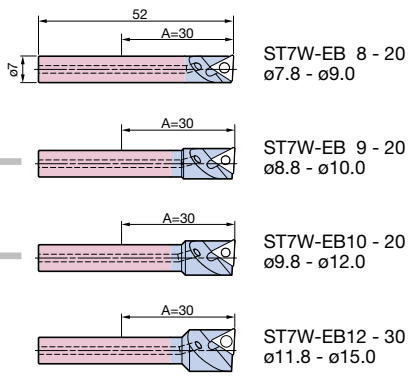
● Jig Boring Bit



● WC 02 insert type



● TP 07 insert type



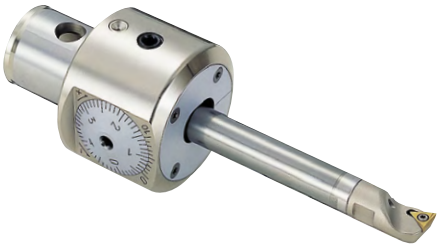
A85
A91

EWN BORING HEAD (cylindrical tool type for finishing)

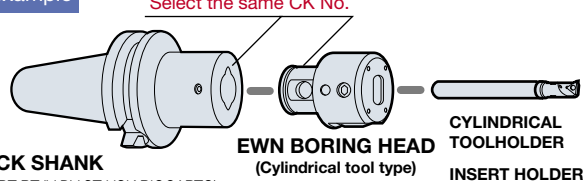
Center through

3 models available for the optimal selection to meet applications.

- Ultra precision head with micron adjustment enables small diameter boring tough to achieve.
- The enhanced carbide tool series immediately supports small-diameter deep-hole drilling.

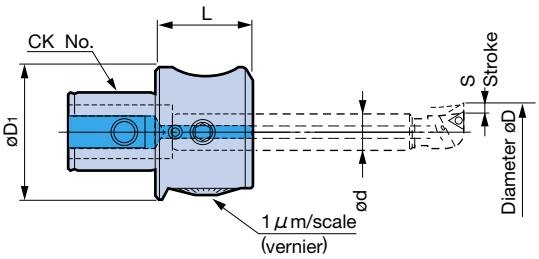


Set up example



● Model Description

EWN 2 - 22 CK4
- CK No.
- FINISH BORING HEAD



Refer to the following page for the tool system of each head.
EWN2-22CK4...A61
EWN2-32CK5...A62
EWN2-50CK6...A63

Diameter øD	Model	CK No.	ød	øD1	L	S	Weight (kg)
1 - 22	**EWN2-22CK4**	CK4	10	39	28.5	2.0	0.25
1 - 32	**EWN2-32CK5**	CK5	12	50	36	3.5	0.5
1 - 54	**EWN2-50CK6**	CK6	16	63.5	45	4.5	1.1

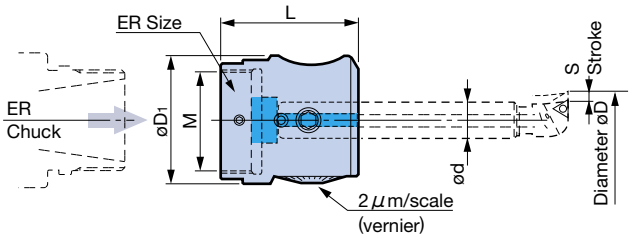
1. EWN BORING HEAD does not come with cylindrical tool.
2. Center through coolant supply is available.
3. Inserts must be ordered separately.

For tool systems, A61
For holders, A71
For boring head screws, A94

For turning center

[ER Chuck Type] Diameter: ø1 - ø32

To be mounted on the ER collet chuck live tooling for lathe in place of the clamping nut.



Center through

● Model Description

EWN 2 - 22 ER25
- ER No.
- Max. diameter
- FINISH BORING HEAD

Diameter øD	Model	ER size	ød	øD1	L	S	M	Weight (kg)
1 - 22	**EWN2-22ER25**	ER25	10	39	40.5	2.0	M32 x 1.5	0.25
1 - 32	**EWN2-32ER32**	ER32	12	50	51	3.5	M40 x 1.5	0.5

1. EWN BORING HEAD does not come with cylindrical tool.
2. Center through coolant supply is available.
3. Inserts must be ordered separately.

For tool systems, A61

EWD DIGITAL BORING HEAD (cylindrical tool type for finishing)

Advanced digital boring head created by ultra-precision technology.

- Digital display allows the adjustment amount to be read at a glance.
- Fully waterproof and dustproof structure (IP69K equivalent).

Center through

MAX. 16,000 min^{-1} (EWD2-32)

※ Center through coolant pressure should not exceed 4MPa.

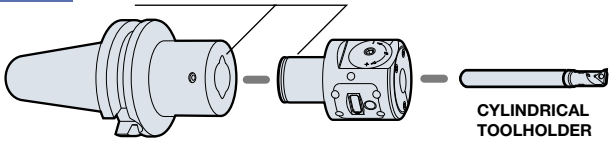
Display Resolution 0.001mm/ø

● Model Description

EWD | 2-32 | CK5

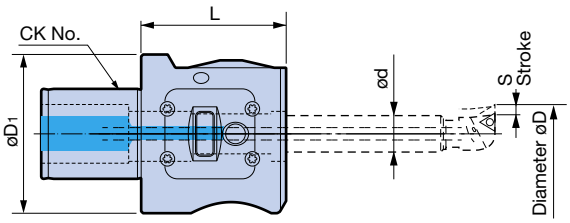
- CK No.
- DIGITAL BORING HEAD

Set up example



CK SHANK (BBT BT IV DV ST HSK BIGCAPTO) BBT40-CK5-105

EWD DIGITAL HEAD (Cylindrical tool type) EWD2-32CK5



Refer to the following page for the tool system of each head.
EWD2-32CK5...A62
EWD2-54CK6...A63

Diameter øD	Model	CK No.	ød	øD1	L	S	Weight (kg)
1 - 32	**EWD2-32CK5**	CK5	12	50	50	-0.5 - 2.5	0.68
1 - 54	**EWD2-54CK6**	CK6	16	63.5	58	-0.5 - 2.5	1.30

1. Cylindrical toolholder must be ordered separately.
2. Center through coolant supply is available.
3. Inserts must be ordered separately.

For tool systems, A62
For holders, A71

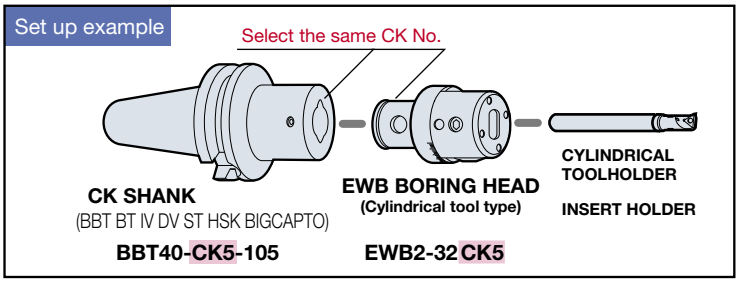
EWB BORING Head Cylindrical Toolholder Type (For high speed finishing/ Built-in manual balance adjustment function) PAT.

Manual balance adjustment mechanism.

- 5 μm/ø scale precision diameter adjustment mechanism. (EWB2-50 only)
- Turning the balance ring allows manual adjustment of internal weights.

Center through

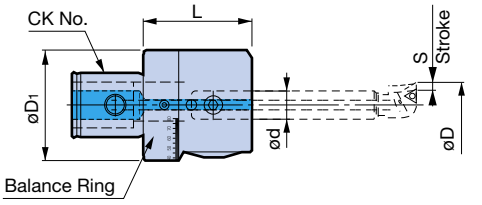
MAX. 16,000 min^{-1} (EWB2-32)



● Model Description

EWB | 2 - 32 | CK5

- CK No.
- Max. diameter
- FINISH BORING HEAD



Diameter øD	Model	CK No.	ød	øD1	L	S	Weight (kg)
1 - 32	**EWB2-32CK5**	CK5	12	50	49	3.5	0.65
1 - 50	**EWB2-50CK6**	CK6	16	63.5	62	4.5	1.32

1. Cylindrical toolholder must be ordered separately.
   ※ The setting value for the balance ring is listed in the operation manual.
   As incorrect settings may lead to serious imbalances,
   be sure to read the operation manual thoroughly before use.
2. Center through coolant supply is available.

For tool systems, A62
For holders, A71
For boring head screws, A95

Caution

- The max. spindle speed of the EWB BORING HEAD depends on the projection length of the tool and the rigidity of the machine. Set the spindle speed low and gradually increase until the optimum conditions are reached, upon reference to the operation manual.
- Use a head stroke within 1mm in order to achieve the best possible balance performance.
- This boring head should be used only with BIG + KAISER original cylindrical tool series.

Jig Boring Bit Diameter: ø1 - ø9

- The sharp cutting edge is ideal for ultra-small diameter boring.
- New ø1 and ø1.5 diameter models available for even smaller diameter boring.

From diameter ø1

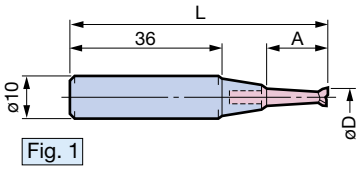


Fig. 1

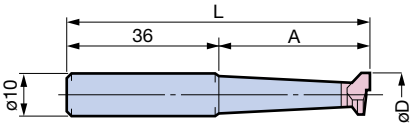


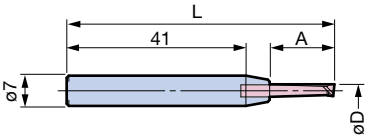
Fig. 2

is made of carbide.

● ø10 cylindrical shank type

Model	Fig.	øD	A	L
RBE 1	1	1	5	61
1.5		1.5	7.5	63
2		2	9	61
3		3	14	
4		4	17	
5		5	22	62
7	2	7	28	64
9		9	37	73

1. No oil holes. 2. Cutting edge is TiN coated carbide.



is made of carbide.

● ø7 cylindrical shank type

Model	øD	A	L
ST7-RBE 1 - 5	1	5	61
-RBE 1.5- 7.5	1.5	7.5	63
-RBE 2 - 9	2	9	61
-RBE 3 -14	3	14	
-RBE 4 -17	4	17	
-RBE 5 -22	5	22	62

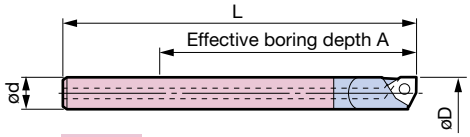
1. No oil holes. 2. Cutting edge is TiN coated carbide.

Carbide Cylindrical Insert Holder: ø6 - ø9

Stable ø6 ultra small boring is achieved with an insert type of solid carbide bar.

Carbide Center through

- Exclusive insert with a large rake angle to prevent chatter.



is made of carbide.

<Carbide Cylindrical Insert Holder>

Model	ød	øD	A	L	Insert
ST05W-EB6 -60	5	6.0 - 7.5	60	85	WC02
ST06W-EB7.5-65	6	7.5 - 9.0	65	95	

1. Inserts must be ordered separately.
2. An exclusive straight collet is required when used with a boring head. A61

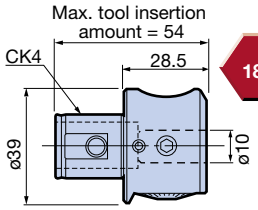
A85 A91

EWN2-22 (cylindrical tool series for finishing)

Compact head reduces interference.

Ideal for small machines

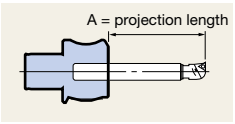
Center through



MAX. 18,000min-1

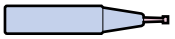
Head **EWN2-22CK4**
Stroke 0 - 2mm

※ EWN BORING HEAD for turning centers (ER type) is also available.
See A57 for details.

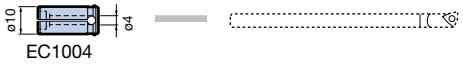


Always observe the projection length range and tool insertion limit. Use out of these ranges may result in damage to the boring head or slip of the bar shank.

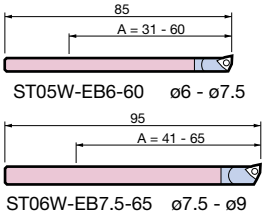
JIG BORING BIT, 8 models **(A60)**



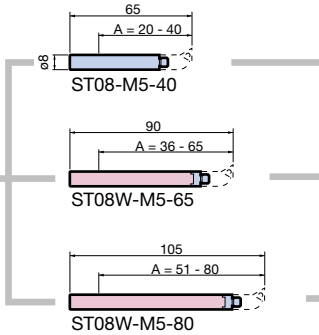
STRAIGHT COLLET



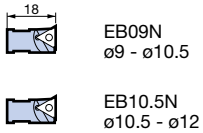
CARBIDE CYLINDRICAL INSERT HOLDER WC02

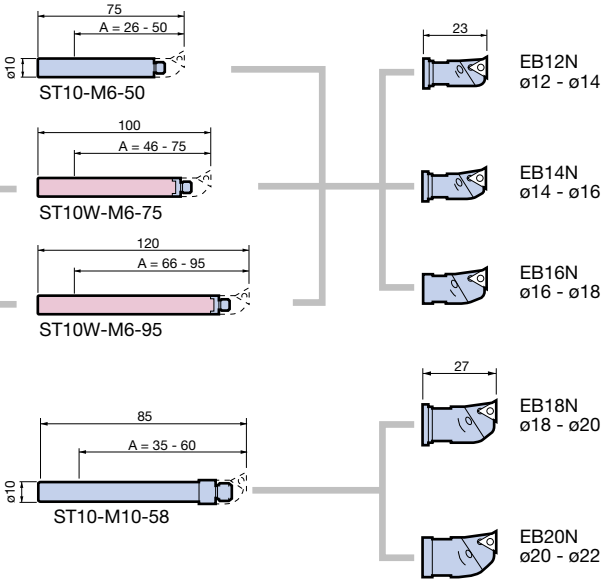


CYLINDRICAL TOOLHOLDER



INSERT HOLDER TP08





※ Carbide Cylindrical Insert Holders and Cylindrical Toolholders with "W" in the model number are made of carbide.
A is the projection length.

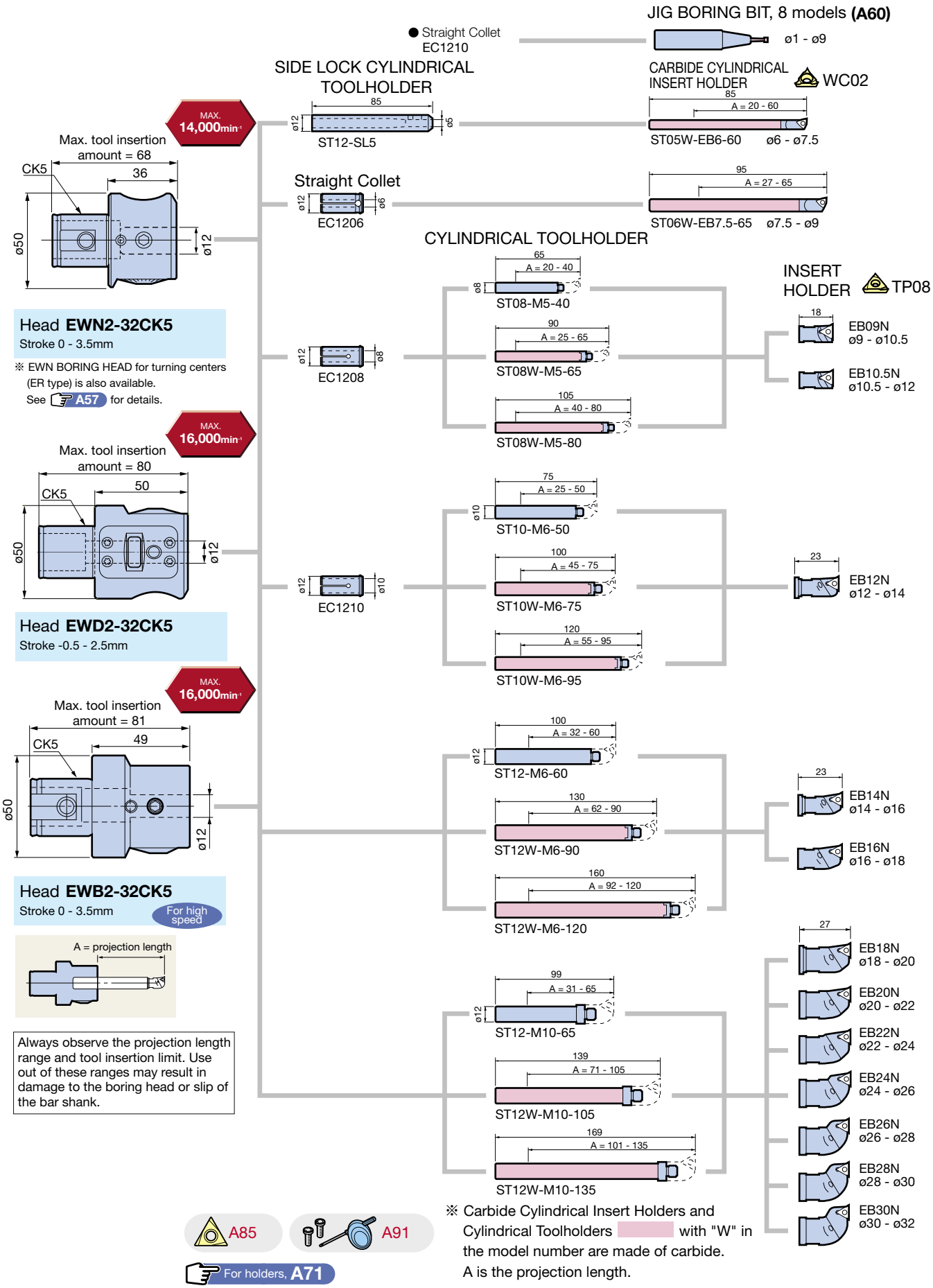
A85 A91

For holders, A71

EWN2-32/EWD2-32/EWB2-32 (cylindrical tool series for finishing)

Center through

Flexible tool layout with versatile CK5 type.



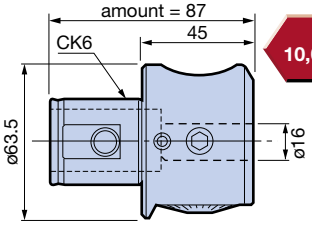
A85 A91
For holders, A71

EWN2-50/EWD2-54/EWB2-50 (cylindrical tool series for finishing)

Features abundant range of tools capable of small-diameter deep boring.

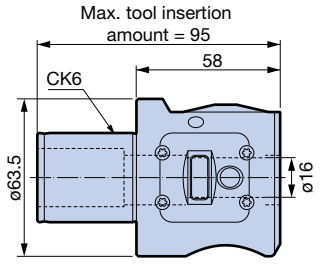
Center through

Max. tool insertion amount = 87
CK6
45
MAX. 10,000min-1
ø63.5
ø16



Head **EWN2-50CK6**
Stroke 0 - 4.5mm

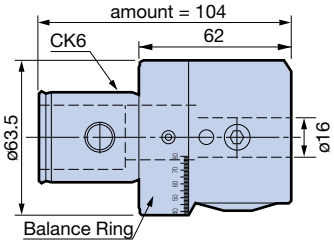
MAX. 12,000min-1
Max. tool insertion amount = 95
CK6
58
ø63.5
ø16



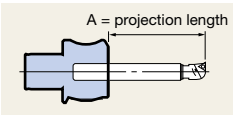
Head **EWD2-54CK6**
Stroke -0.5 - 2.5mm

※ Center through coolant pressure should not exceed 4MPa.

MAX. 12,000min-1
Max. tool insertion amount = 104
CK6
62
ø63.5
ø16
Balance Ring

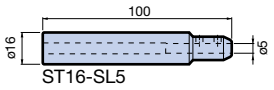


Head **EWB2-50CK6**
Stroke 0 - 4.5mm
For high speed

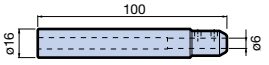


Always observe the projection length range and tool insertion limit. Use out of these ranges may result in damage to the boring head or slip of the bar shank.

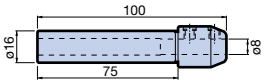
SIDE LOCK CYLINDRICAL TOOLHOLDER



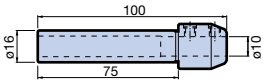
ST16-SL5



ST16-SL6

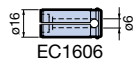


ST16-SL8



ST16-SL10

STRAIGHT COLLET



EC1606

EC1608

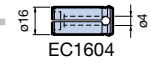
EC1610

※ Carbide Cylindrical Insert Holders and Cylindrical Toolholders with "W" in the model number are made of carbide.
A is the projection length.

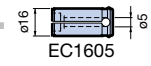
A85 A91

For holders, A71

STRAIGHT COLLET

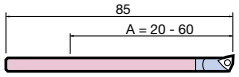


EC1604

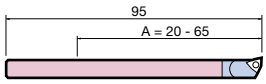


EC1605

CARBIDE CYLINDRICAL INSERT HOLDER WC02



ST05W-EB6-60 ø6 - ø7.5



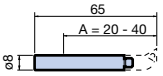
ST06W-EB7.5-65 ø7.5 - ø9

JIG BORING BIT, 8 models **(A60)**

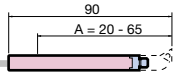
- With a Side Lock Cylindrical Toolholder
- With a Straight Collet

ø1 - ø9

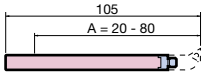
CYLINDRICAL TOOLHOLDER



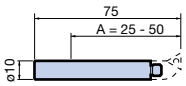
ST08-M5-40



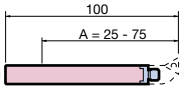
ST08W-M5-65



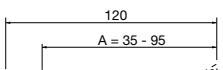
ST08W-M5-80



ST10-M6-50



ST10W-M6-75



ST10W-M6-95

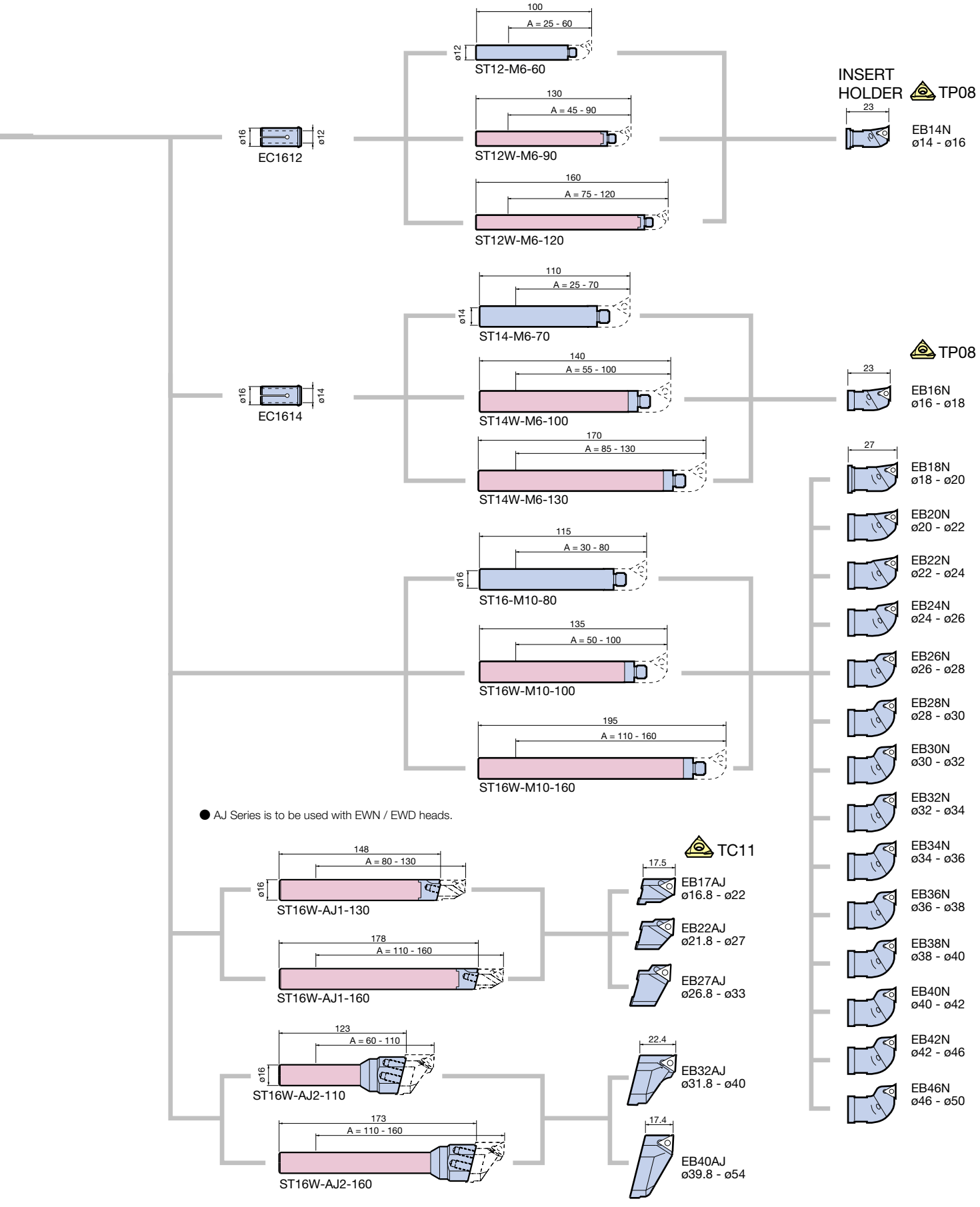
INSERT HOLDER TP08

EB09N ø9 - ø10.5


EB10.5N ø10.5 - ø12

EB12N ø12 - ø14

CK BORING SYSTEM



※ Carbide Cylindrical Insert Holders and Cylindrical Toolholders with "W" in the model number are made of carbide.

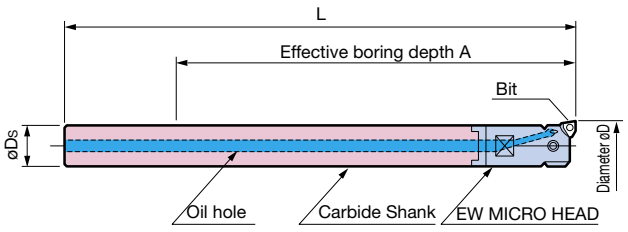
A85-A86
A91
For holders, A71

EW MICRO HEAD
With Carbide Shank

Smaller head while maintaining popular ø0.01mm/div. adjusting mechanism.

- Adjustment with only micro-quill eccentricity preserves high speed capability.
- The solid carbide cylindrical shank allows high-rigidity boring.

Carbide | Center through



is made of carbide.

● Model Description

ST14 | W | - | EW | 15 | - | 110

- 110: Effective boring depth
- 15: Min. diameter
- EW: FINISH HEAD
- W: Carbide
- ST14: Cylindrical shank diameter

Model	øDs	Diameter øD	L	A	Shank Model	Insert	Insert Clamping Screw Set	Weight (kg)
ST14W-EW15-110	14	15 - 18	151	110	**EN15**	**WC02**	**S2S-B**	0.10
-140			181	140				0.29
ST16W-EW18-100	16	18 - 22	144	100				0.28
-160			204	160				0.43

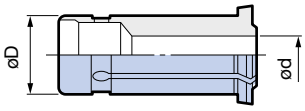
1. The carbide shank and micro head are integrated and cannot be sold separately.
2. Inserts must be ordered separately.

A85 A91

Caution

The maximum boring depth differs depending on the workpiece material.

For NEW Hi- POWER MILLING CHUCKS
Straight Collet



Model	ød	øD
C20-14	14	20
-16	16	
C32-14	14	32
-16	16	
-19	19	
-24	24	
C42-31	31	42

1. Use Straight Collet with BIG NEW Hi- POWER MILLING CHUCK.

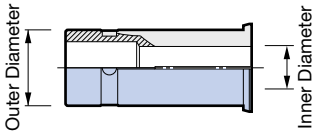
The Oil Hole Straight Collet (OCA) below is required for use with center through coolant.

For MICRO HEAD chucking, use a BIG NEW HI-POWER MILLING CHUCK, HYDRAULIC CHUCK or MEGA DOUBLE POWER CHUCK.

Oil Hole
Straight Collet

Center through

- For center through coolant.



Model	Body Model
OCA20-14, 16	HMC20
OCA25-16	HMC25
OCA32-14, 16, 19, 22, 24, 28	HMC32
OCA42-16, 19, 24, 31	HMC42

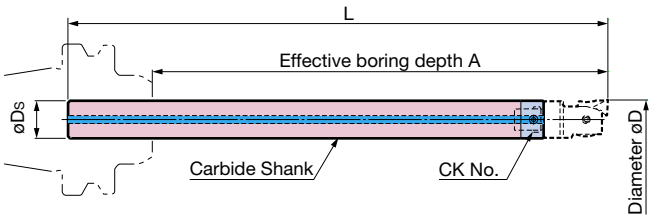
CK Carbide
Cylindrical Shank

Carbide | Center through

● The solid carbide bar realizes efficient deep hole boring which was conventionally impossible.

● Model Description

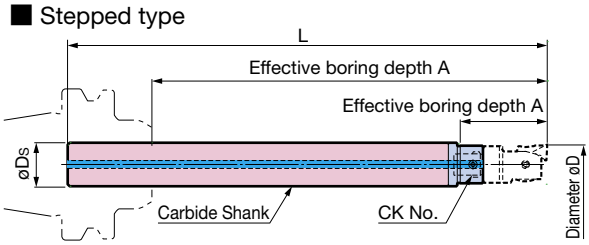
ST19 W - CKB1 - 130
- 130: Effective boring depth
- CKB1: CK No.
- W: Carbide
- ST19: Cylindrical shank diameter



Model	CK No.	øDs	Diameter øD	L	A
ST19W-CKB1-130	CK1	19	20 - 36	172.5	130
-180				222.5	180
-230				272.5	230
ST24W-CKB2-150	CK2	24	25 - 47	195.5	150
-210				255.5	210
-280				325.5	280
ST31W-CKB3-160	CK3	31	32 - 60	240	160
-240				320	240
-310				390	310

Refer to the remarks in the table below.

■ Stepped type



is made of carbide.

Model	CK No.	øDs	Diameter øD	L	A
ST22W-CKB1-45 / 200	CK1	22	20 - 22	242.5	45
			22 - 36		200
ST28W-CKB2-55 / 235	CK2	28	25 - 28	280.5	55
			28 - 47		235

1. The L and A dimensions in the table are the reference values when EWN BORING HEAD is attached.
2. Head and inserts must be ordered separately.

For boring heads, refer to the Roughing and Finishing pages.

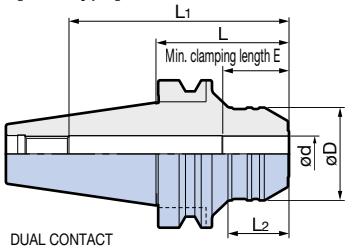
Caution
The maximum boring depth differs depending on the workpiece material.

For Carbide Cylindrical Shanks
HYDRAULIC CHUCK

Center through

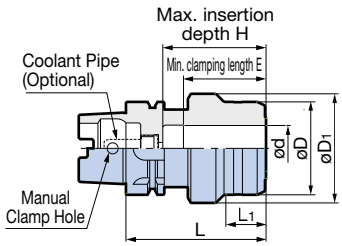
● Designed for short projection length and large insertion depth. Hydraulics increase the damping effect.

[BBT Type]



DUAL CONTACT
BIG-PLUS®

[HSK-A Type]



Caution
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

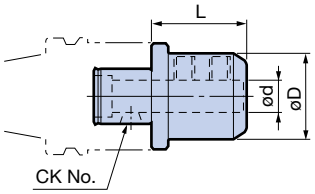
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

Model	ød	øD	L	L1	L2	E	Weight (kg)
BBT40-HDC19 -75	19	49.2	75	111	43	43	1.4
-HDC22 -75	22	52		110	44.5		1.5
-HDC24 -75	24	63		104	47	45	1.6
-HDC28 -75	28	71		93	-		1.8
-HDC31 -75	31	74		76	-	56	1.8
BBT50-HDC19L-90	19	49.2	90	149	45	43	4.2
-HDC22L-90	22	52		149	45		4.2
-HDC24L-90	24	63		149	41	45	4.5
-HDC28L-90	28	69		148	44		4.5
-HDC31L-90	31	72		147	45	56	4.5

Model	ød	øD	øD1	L	L1	H	E	Weight (kg)
HSK-A63-HDC31-95	31	63	74	95	27	70	56	1.7

CK Side Lock Adapter

● Mount on a CK Basic Holder for use.



Model	ød	L	øD	CK No.
CK6-SL24-40	24	40	50	CK6

(Diameters up to ø880 can be used when using Insert Holder **ENH7-3**.)

EWN200 BORING HEAD (for finishing and large diameters)

DUAL CONTACT
BIG-PLUS®

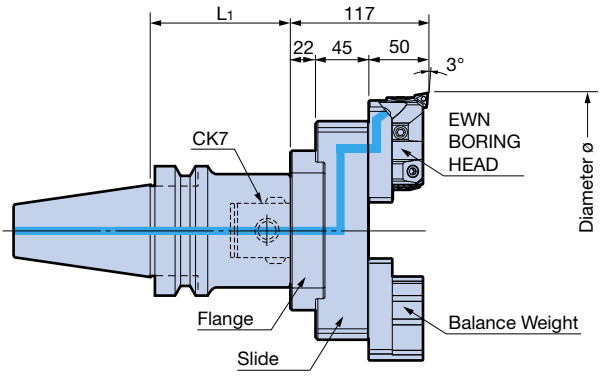
Center through

Vc max. 1,000m/min

CK7 large-diameter boring series compatible with high speeds.

- Each component is securely fastened for safety.
- Coolant nozzles for secure coolant supply to the cutting edge.

[Standard type]



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

CK SHANK (BBT BT DV HSK BIG CAPTO)			Diameter øD	Flange		Slide		EWN BORING HEAD		Balance Weight		Insert
Model	L1	Weight (kg)		Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	
BBT50-CK7-210	93	5.6	200 - 270	**FLN135 (FLN135/90)**	2.76	**SLN200-270**	3.8	**EWN200** With ENH7-1 Insert Holder	1.44	**BWN200FB**	1.44	TC11
-300	183	9.9	270 - 340			**SLN270-340**	5.5					
-360	243	12.7	340 - 410			**SLN340-410**	7.2					
			410 - 480			**SLN410-480**	8.9					
			480 - 550			**SLN480-550**	10.6					
			550 - 620	**FLN220 (FLN220/90)**	4.00	**SLN550-620** ※	12.3					
			620 - 690			**SLN620-690** ※	14.0					
			690 - 760			**SLN690-760** ※	15.7					
			760 - 830			**SLN760-830** ※	17.4					

1. ENH7-1 Insert Holder is included.
2. Inserts must be ordered separately.
3. Center through coolant supply is available, except for ※ marked models.
4. Cutting edge and drive keys are aligned in the same direction.
   (It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used.)

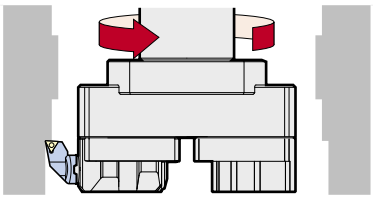
A86 A91
For holders, A71
Screws for each part A96

- Wide variety of Insert Holders offers versatility.

Standard Accessory	Optional Accessories				
ENH7-1	**ENH7-2**	**ENH7-3**	**ENH7-1J** (for recessing)	**ENH7-1F** (for diamond inserts)	**ENH7-1S** (for square inserts)
	+25/ø	+50/ø	25° Max. depth max.0.6	0°	45°
Insert TC11				Insert CC07	Insert SC07

Back boring available

Reverse



※ **ENH7-2, 7-3** only can be used.

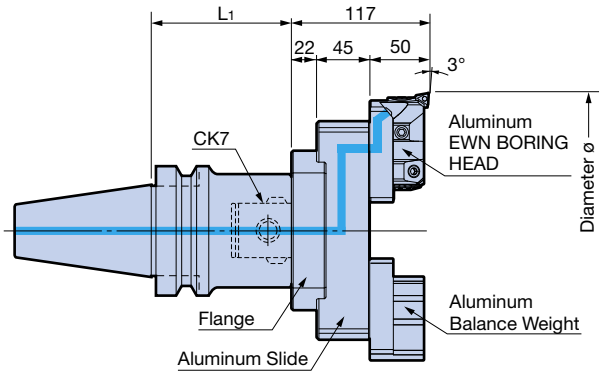
DUAL CONTACT
BIG-PLUS®

Center through

Vc max. 2,000m/min

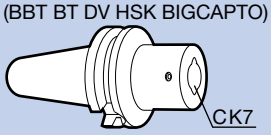
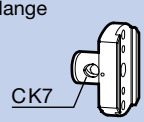
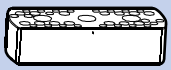
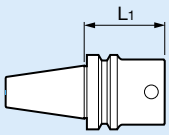
[High speed type] Lightweight

●Tool weight is reduced by combining an aluminum slide, EWN BORING HEAD, and balance weight.



Models with AL at the end are made of aluminum.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

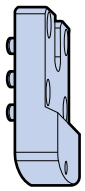
CK SHANK (BBT BT DV HSK BIGCAPTO) 			Diameter øD	Flange 		Aluminum Slide 		Aluminum EWN BORING HEAD 		Aluminum Balance Weight  Weights can be adjusted according to the diameter.		Insert
Model	L1	Weight (kg)		Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	Model	Weight (kg)	
BBT50-CK7-210	93	5.6	200 - 270	**FLN135 (FLN135/90)**	2.76	**SLN200-270AL**	1.44	**EWN200AL** With ENH7-1 Insert Holder	0.8	**BWN200FB-AL**	0.8	TC11
-300	183	9.9	340 - 410			**SLN340-410AL**	2.64					
-360	243	12.7	410 - 480			**SLN410-480AL**	3.24					
L1 			480 - 550			**SLN480-550AL**	3.84					
			550 - 620	**FLN220 (FLN220/90)**	4.00	**SLN550-620AL** ※	4.44					
			620 - 690			**SLN620-690AL** ※	5.04					
			690 - 760			**SLN690-760AL** ※	5.64					
			760 - 830			**SLN760-830AL** ※	6.24					

1. ENH7-1 Insert Holder is included
2. Inserts must be ordered separately.
3. Center through coolant supply is available, except for ※ marked models.
4. Cutting edge and drive keys are aligned in the same direction.
   (It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used.)

A86 A91
For holders, A71
Screws for each part A96

Simple Balance Weight

Low-cost balance weights are also available.
Use under V=800m/min.



Model	Weight (kg)	Head
BWN200PB	1.44	EWN200 (Standard type)
BWN200PB-AL	0.80	EWN200AL (High speed type)

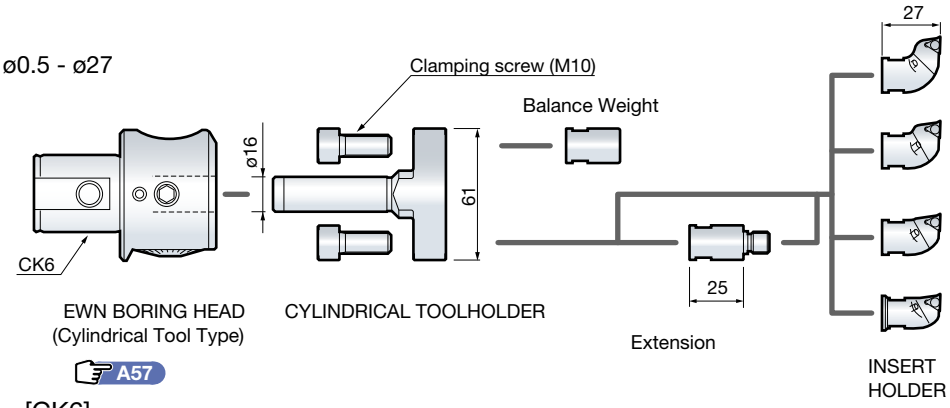
Weights cannot be adjusted.

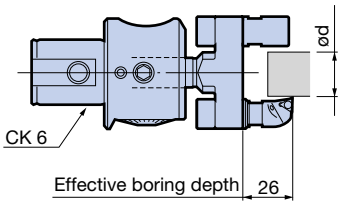
PIN TURNING SERIES

Pin turning series with modular construction.
Solves all the issues in contouring operations, such as roundness, surface roughness and dimensional accuracy.

S Type

Diameter: ø0.5 - ø27





[CK6]

Diameter ød	EWN BORING HEAD	CYLINDRICAL TOOLHOLDER	Balance Weight	Extension	INSERT HOLDER	Insert
0.5 - 9	EWN2-50CK6 (1.1kg)	ST16-SL27-55 (0.2kg)	BW-M10 (0.02kg)	M1010-25 (0.02kg)	EB36N	TP08
9 - 17					EB28N	
17 - 23					EB22N	
23 - 27					EB18N	

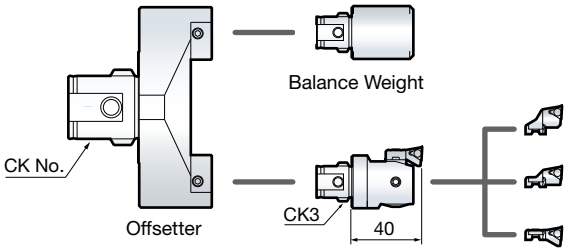
1. Max. and min. diameters are the values when an insert with nose radius 0.2 is used.
2. Inserts must be ordered separately.
3. **Rotation should be reverse.**
4. The min. access bore may differ depending on the offset amount.
5. Contact us regarding chamfering.

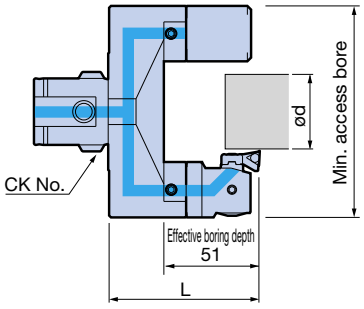
A85 A91
For holders, A71

M Type

Diameter: ø25 - ø152

Center through





Internal boring is enabled by changing the EWN BORING HEAD mounting direction.
(Diameter: ø117 - ø244)
※ Use **in forward** for internal boring.
Pay attention to the rotation direction.

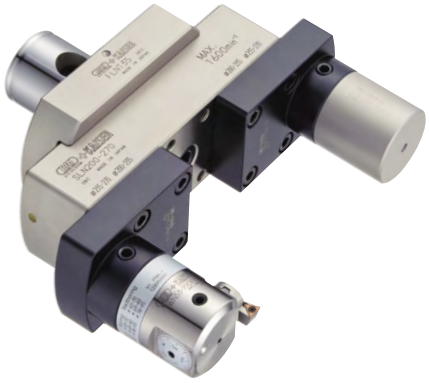
[CK6/CK7]

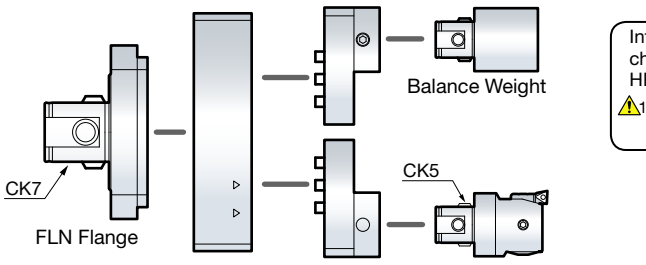
Diameter ød	Offsetter	CK No.	EWN BORING HEAD	Balance Weight	Insert Holder	Insert	L
25 - 34	CK63-SL 2552-42 (1.4kg) Min. access bore ø117	CK6	EWN32-60CKB3 (0.21kg)	BW-CK3-EWN (0.2kg)	ENH3-3	TP08	82
34 - 43					ENH3-2		
43 - 52					ENH3-1		
50 - 59	CK63-SL 5077-42 (1.6kg) Min. access bore ø142				ENH3-3		
59 - 68					ENH3-2		
68 - 77					ENH3-1		
75 - 84	CK63-SL 75102-42 (1.9kg) Min. access bore ø167				ENH3-3		
84 - 93					ENH3-2		
93 - 102					ENH3-1		
100 - 109	CK73-SL100127-47 (3.8kg) Min. access bore ø192	CK7			ENH3-3		87
109 - 118					ENH3-2		
118 - 127					ENH3-1		
125 - 134	CK73-SL125152-47 (4.2kg) Min. access bore ø217				ENH3-3		
134 - 143					ENH3-2		
143 - 152					ENH3-1		

1. Max. and min. diameters are the values when an insert with nose radius 0.2 is used.
2. Inserts must be ordered separately.
3. Insert Holder (**ENH3-1**) is included with the EWN Boring Head.
4. **Rotation should be reverse.**
5. Contact us regarding chamfering.

A85 A91
For holders, A71

L Type Diameter: ø49 - ø686

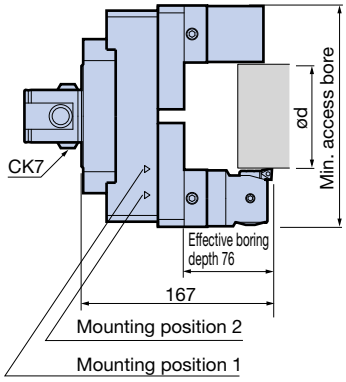




A49

Internal boring is enabled by changing the EWN BORING HEAD mounting direction.

⚠1. Use in **forward** for internal boring. Pay attention to the rotation direction.



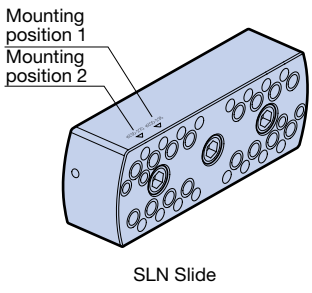
[CK7]

Diameter ød	FLN Flange ※	SLN Slide Model	SLN Slide Weight (kg)	Min. access bore Mounting position 1	Min. access bore Mounting position 2	Offsetter (2 pcs./set)	EWN BORING HEAD	Balance Weight
49 - 126	FLN135/ FLN135/90 (2.76kg)	SLN200-270	3.8	196	231	CBN91-CKB5-20 (1.2kg/1 pc)	EWN53-95CKB5 (1.1kg) Insert TC11	BW-CK5-EWN (0.9kg)
119 - 196		SLN270-340	5.5	266	301			
189 - 266		SLN340-410	7.2	336	371			
259 - 336		SLN410-480	8.9	406	441			
329 - 406		SLN480-550	10.6	476	511			
399 - 476	FLN220/ FLN220/90 (4.0kg)	SLN550-620	12.3	546	581			
469 - 546		SLN620-690	14.0	616	651			
539 - 616		SLN690-760	15.7	686	721			
609 - 686		SLN760-830	17.4	756	791			

1. Inserts must be ordered separately.
2. Insert Holder (ENH5-1) is included with EWN Boring Head. ENH5-2 or ENH5-3 may be required depending on the diameter. Order separately if required.
3. ※ Cutting edge and drive keys are aligned in the same direction. It becomes 90° offset when the FLN135/90 or FLN220/90 flange is used.
4. **Rotation should be reverse.**
5. Lightweight aluminum slides are also available as standard.
6. Center through coolant supply. (SLN550-620 and larger models are not supported.)

A86 A91
For holders, A71

■ Boring range



SLN Slide

Diameter ød	Slide Model	Mounting position	Insert Holder ENH5-3	Insert Holder ENH5-2	Insert Holder ENH5-1
49 - 126	SLN200-270	1	49 - 66	62 - 79	74 - 91
		2	84 - 101	97 - 114	109 - 126
119 - 196	SLN270-340	1	119 - 136	132 - 149	144 - 161
		2	154 - 171	167 - 184	179 - 196
189 - 266	SLN340-410	1	189 - 206	202 - 219	214 - 231
		2	224 - 241	237 - 254	249 - 266
259 - 336	SLN410-480	1	259 - 276	272 - 289	284 - 301
		2	294 - 311	307 - 324	319 - 336
329 - 406	SLN480-550	1	329 - 346	342 - 359	354 - 371
		2	364 - 381	377 - 394	389 - 406
399 - 476	SLN550-620	1	399 - 416	412 - 429	424 - 441
		2	434 - 451	447 - 464	459 - 476
469 - 546	SLN620-690	1	469 - 486	482 - 499	494 - 511
		2	504 - 521	517 - 534	529 - 546
539 - 616	SLN690-760	1	539 - 556	552 - 569	564 - 581
		2	574 - 591	587 - 604	599 - 616
609 - 686	SLN760-830	1	609 - 626	622 - 639	634 - 651
		2	644 - 661	657 - 674	669 - 686

CK SHANK

DUAL CONTACT
BIG-PLUS®

Center through

● Model Description

BBT30 - CK1 - 105

- 105: CK No.
- BBT30: BIG-PLUS BT No.

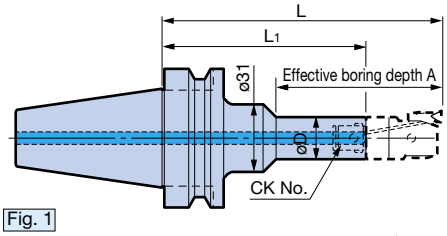


Fig. 1

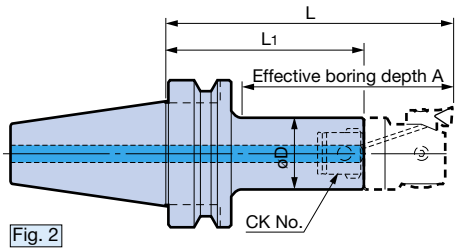


Fig. 2

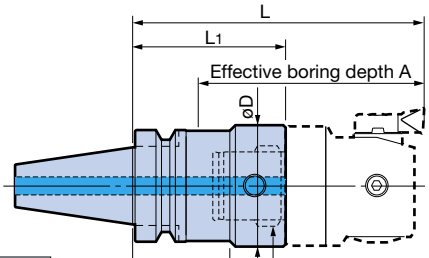


Fig. 3

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	CK No.	øD	L	L1	A	Weight (kg)
BBT30-CK1-105	**BT30-CK1-105**	1	CK1	19	104.5	72	73	0.51
-CK2- 75	**-CK2- 75**	2	CK2	24	73	37.5	48	0.44
-120	**-120**				118	82.5	93	0.57
-CK3- 80	**-CK3- 80**		CK3	31	79	39	53	0.45
-120	**-120**				119	79	93	0.67
-CK4- 85	**-CK4- 85**		CK4	39	85	38	58	0.46
-120	**-120**				120	73	93	0.78
-CK5-120	**-CK5-120**	3	CK5	50	120	63	93	0.80
-CK6-135	**-CK6-135**		CK6	64	135	64	108	0.93
BBT40-CK1-105	**BT40-CK1-105**	2	CK1	19	104.5	72	73	1.1
-CK2- 80	**-CK2- 80**		CK2	24	78	42.5	48	1.0
-120	**-120**				118	82.5	88	1.2
-CK3- 85	**-CK3- 85**		CK3	31	84	44	53	1.1
-135	**-135**				134	94	103	1.3
-165	-				164	124	113	1.5
-CK4- 90	**-CK4- 90**		CK4	39	90	43	58	1.2
-135	**-135**				135	88	103	1.5
-165	-				165	118	133	1.8
-195	-				195	148	163	2.1
-CK5-105	**-CK5-105**		CK5	50	105	48	73	1.2
-135	**-135**				135	78	103	1.6
-165	-				165	108	133	2.1
-195	-				195	138	163	2.5
-CK6-135	**-CK6-135**	3	CK6	64	135	64	103	1.6
-135/90 ※	-							
-165	-				165	94	133	2.3
-195	-				195	124	163	3.1

The "-" in the shank model indicates it is unavailable as standard and a BBT shank should be used.

For heads, A39

1. The L and A dimensions in the table are the reference values when EWN BORING HEAD is attached.
2. Cutting edges and drive keys are aligned with boring heads mounted.
3. Head and inserts must be ordered separately.
4. ※ marked models have cutting edge and drive key offset by 90°.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	CK No.	øD	L	L1	A	Weight (kg)
BBT50-CK1-135	**BT50-CK1-135**	1	CK1	19	134.5	102	73	4.0
-CK2- 90	**-CK2- 90**	2	CK2	24	88	52.5	47	3.8
-150	**-150**				148	112.5	107	4.0
-CK3- 95	**-CK3- 95**		CK3	31	94	54	52	3.9
-165	**-165**				164	124	122	4.3
-CK4-105	**-CK4-105**		CK4	39	105	58	62	4.3
-165	**-165**				165	118	122	4.5
-225	**-225**				225	178	182	4.9
-255	-				255	208	212	5.1
-CK5-120	**-CK5-120**		CK5	50	120	63	77	4.0
-165	**-165**				165	108	122	4.7
-240	**-240**				240	183	197	5.9
-285	**-285**				285	228	242	6.5
-320	-				320	263	277	7.0
-CK6-165	**-CK6-165**		CK6	64	165	94	122	4.8
-240	**-240**				240	169	197	6.7
-300	**-300**				300	229	257	8.2
-360	-				360	289	317	9.7
-CK7-210	**-CK7-210**		CK7	90	210 ※	93	172 ※	5.6
-300	**-300**				300 ※	183	262 ※	9.9
-360	**-360**				360 ※	243	322 ※	12.7

The "-" in the shank model indicates it is unavailable as standard and a BBT shank should be used.

For heads, A39

1. The L and A dimensions in the table are the reference values when EWN BORING HEAD is attached.
   (※ indicates the dimension when EWN200 (large diameter) is mounted; A dimension is from the cutting edge to the flange face.)
2. Cutting edges and drive keys are aligned with boring heads mounted.
3. Head and inserts must be ordered separately.

CK Cylindrical Shank

● Model Description

ST32 - CK1 - 73
- 73: Effective boring depth
- CK1: CK No.
- ST32: Cylindrical shank No.

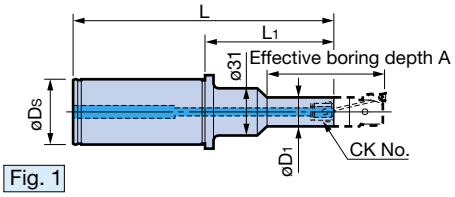


Fig. 1

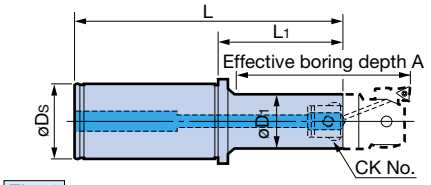


Fig. 2

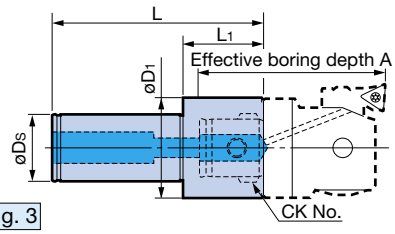


Fig. 3

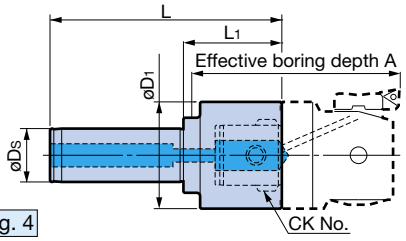


Fig. 4

Model	Fig.	CK No.	øD1	øDs	L	L1	A	Weight (kg)
ST32-CK1- 73	1	CK1	19	32	157	77	73	0.7
-CK2-100	2	CK2	24		152.5	72.5	100	0.7
-CK3-100		CK3	31		149	69		0.8
-CK4-100	3	CK4	39		138	58		0.9
-CK5-100	4	CK5	50		128	48		0.9
-CK6-125		CK6	64		139	59	125	1.5
ST42-CK1- 73	1	CK1	19	42	157	77	73	1.0
-CK2-100	2	CK2	24		152.5	72.5	100	1.0
-CK3-100		CK3	31		149	69		1.1
-CK4-100		CK4	39		143	63		1.2
-CK5-100	3	CK5	50		128	48		1.3
-CK6-125	4	CK6	64		139	59	125	1.8

1. Head and insert must be ordered separately.

For heads, A39

For chucking

When using a cylindrical shank tool, we recommend

BIG DAISHOWA **NEW Hi- POWER MILLING CHUCK** for its high accuracy and rigidity.

For details, A29

CK Long Shank (rigid type)

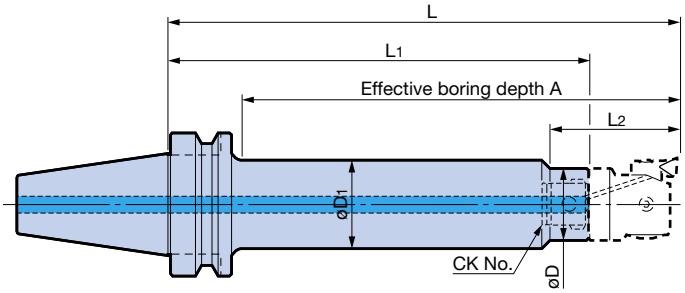
● Long shank type for deeper boring.
A highly rigid type with larger shank diameter to avoid deflection.

DUAL CONTACT
BIG-PLUS®

Center through

● Model Description

BBT50 - CK4 - 48 - 240
- BBT50 - BIG-PLUS BT No.
- CK4 - CK No.
- 48 - øD1 dimension
- 240 - L dimension



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	CK No.	Diameter	øD	øD1	L	L1	L2	A	Weight (kg)
BBT50-CK4-48-240	CK4	50 - 74	39	48	240	193	65	197	5.5
-285					285	238		242	6.1
-CK5-62-300	CK5	65 - 95	50	62	300	243	80	257	8.1
-360					360	303		317	9.5
-CK6-72-330	CK6	75 - 203	64	72	330	259	100	287	10.3
-385					385	314		342	12.0
-CK6-80-360		85 - 203		80	360	289		317	12.9
-420					420	349		377	15.2

1. The L and A dimensions in the table are the reference values when EWN BORING HEAD is attached.
2. Note that due to interference with øD1, the diameter range differs from the EWN range.
3. Cutting edges and drive keys are aligned with boring heads mounted.
4. Head and inserts must be ordered separately.

For heads, A39

Built-in Damper SMART DAMPER PAT.

● Built-in damper eliminates chatter in deep hole boring.

DUAL CONTACT
BIG-PLUS®

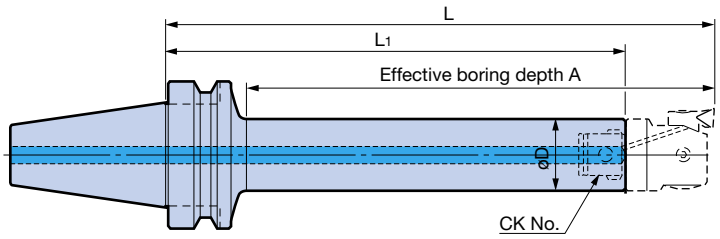
Center through

[BBT Shank Type]

● Model Description

BBT50 - CK4 DP - 299

- 299: L dimension
- DP: Built-in damper type
- CK4: CK No.
- BBT50: BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	CK No.	øD	L	L1	A	Weight (kg)
BBT50-CK4DP-299	CK4	39	299	252	246	5.7
-CK5DP-371	CK5	50	371	314	318	7.8
-CK6DP-451	CK6	64	451	380	408	12.3

1. The L and A dimensions in the table are the reference values when EWN BORING HEAD is attached.
2. Cutting edges and drive keys are aligned with boring heads mounted.
3. Head and inserts must be ordered separately.
4. Extension should not be used due to possible chatter.

For heads, A39

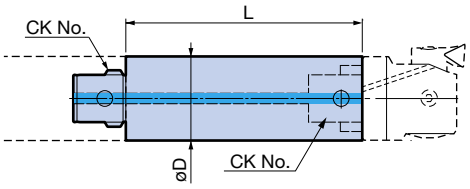
[Extension Type]

Center through

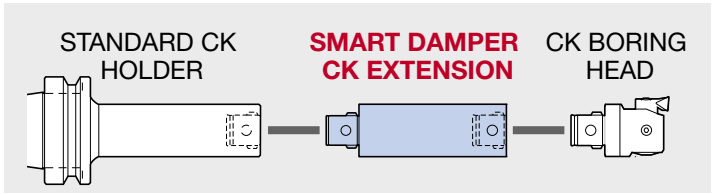
● Model Description

CK44 DP - 120

- 120: Extension length L
- DP: Built-in damper type
- CK44: Connection of CK4 and CK4



Standard CK holders can be used.



Model	CK No.	øD	L	Weight (kg)
CK44DP-120	CK4	39	120	1.3
CK55DP-150	CK5	50	150	2.6
CK66DP-180	CK6	64	180	5.3

1. Center through coolant supply is available.
2. Should not be used with a conventional extension due to possible chatter.

For heads, A39

SMART DAMPER
EWN BORING HEAD
integrated with finish boring head **is also available**

For details, A50

Extension

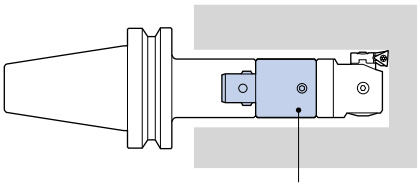
Center through

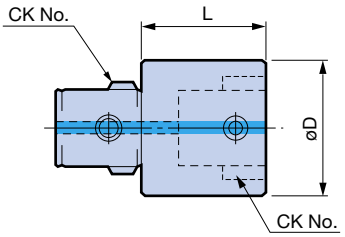
● Extends projection length by insertion between the head and shank.

● Model Description

CK11 - 20

- 20: Extension length
- CK11: Connection of CK1 and CK1





Model	CK No.	øD	L	Weight (kg)
CK11- 20	CK1	19	20	0.05
- 30			30	0.07
CK22- 30	CK2	24	30	0.10
- 45			45	0.15
CK33- 30	CK3	31	30	0.17
- 45			45	0.25
CK44- 45	CK4	39	45	0.40
- 60			60	0.53
CK55- 60	CK5	50	60	0.87
- 90			90	1.29
CK66- 60	CK6	64	60	1.38
-100			100	2.31
CK77-105	CK7	90	105	5.26

1. Center through coolant supply is available.
2. Note that using an extension to increase the length may cause chatter, depending on the L/D ratio.

Reduction

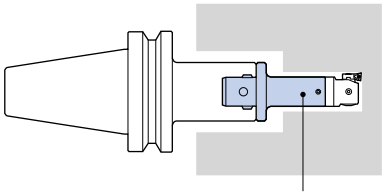
Center through

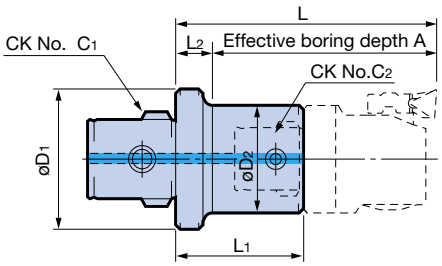
● Reduces CK connection sizes to use smaller boring heads.

● Model Description

CK21 - 55

- 55: Effective boring depth
- CK21: Reduced from CK2 to CK1



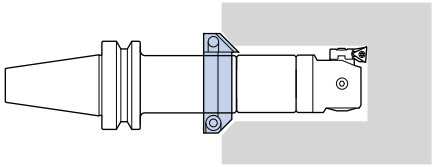


Model	CK No. C_1	CK No. C_2	øD_1	øD_2	L	A	L_1	L_2	Weight (kg)
CK21- 55	CK2	CK1	24	19	68.5	55	36	13.5	0.10
CK31- 60	CK3		31		73	60	40.5	13	0.14
CK32- 60		CK2		24	70		34.5	10	0.16
CK41- 75	CK4	CK1	39	19	90	75	57.5	15	0.25
CK42- 75		CK2		24	87		51.5	12	0.28
CK43- 75		CK3		31	87		47		0.32
CK51- 70	CK5	CK1	50	19	90	70	57.5	20	0.38
CK52- 70		CK2		24	87		51.5	17	0.40
-100					117	100	81.5		0.51
CK53- 70		CK3		31	87	70	47		0.54
-100					117	100	77		0.64
CK54- 70		CK4		39	87	70	40		0.47
-100					117	100	70		0.82
CK61- 65	CK6	CK1	64	19	99	65	66.5	34	0.84
CK62- 80		CK2		24	96	80	60.5	16	0.69
-115					131	115	95.5		0.98
CK63- 80		CK3		31	96	80	56		0.75
-115					131	115	91		1.12
CK64- 80		CK4		39	96	80	49		0.80
-115					131	115	84		1.28
CK65- 80		CK5		50	96	80	39		0.92
-115					131	115	74		1.33
CK76-160	CK7	CK6	90	64	177	160	106	17	3.10

1. The L and A dimensions in the table are the reference values when the EWN BORING HEAD is attached.
2. Center through coolant supply is available.

CK Chamfering Tool

● Mount to the CK Shank body
for easy composite chamfering and boring.



● Model Description

CR 1 - 35
- 35: Max. chamfering diameter
- 1: CK No.
- CR: Chamfering ring

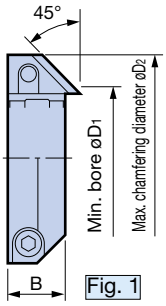


Fig. 1

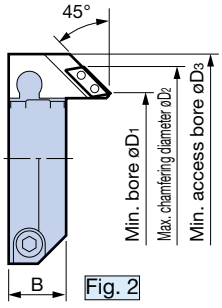


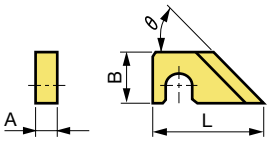
Fig. 2

Model	CK No.	Blade Model	Fig.	øD1	øD2	øD3	B	Weight (kg)
CR1- 35	CK1	CB1-45	1	20	35	-	13	0.06
CR2- 42	CK2			25	42		15	0.08
CR3- 49	CK3			32	49			0.10
CR4- 57	CK4			41	57			0.12
CR5- 90	CK5	CB2-45	1	53	90	-	25	0.55
		CB2-45CW12A	2	55	75	88		
		CB2-45CW12B		70	90	97		
CR6-104	CK6	CB2-45	1	68	104	-		0.67
		CB2-45CW12A	2	69	89	100		
		CB2-45CW12B		84	104	111		
-138		CB2-45	1	98	138	-		1.80
		CB2-45CW12A	2	103	123	135		
		CB2-45CW12B		118	138	145		
-160		CB2-45	1	120	160	-		2.50
		CB2-45CW12A	2	125	145	157		
		CB2-45CW12B		140	160	167		

1. A 45° blade (carbide integrated type) is included with the CK Chamfering Tool.
2. Specify the blade model number when spare blades are required.

■ Blade

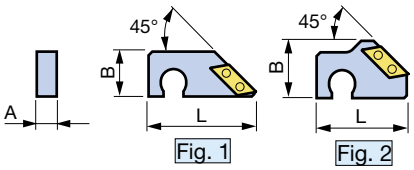
[Carbide Integrated Type]



Model	L	A	B	θ	Tool
CB1-45	23.5	4	9	45°	CR1 - 4
CB2-45	43	8	20		CR5 - 6
CB1-30	27.5	4	9	30°	CR1 - 4
CB2-30	52	8	20		CR5 - 6

1. Made of M-class carbide.

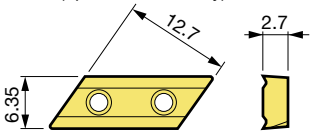
[Insert Type] (optional accessory)



Model	Fig.	L	A	B	Insert Model	Tool
CB2-45CW12A	1	43	8	18	CW1206A	CR5 - 6
CB2-45CW12B	2	36		22.5		

1. A wrench and screws are included. Insert must be ordered separately.

· Insert (optional accessory)



Model		
Non-Coating	ZX Coating	DLC Coating
CW1206A	**CW1206A(ZX)**	**CW1206A(DLC)**

1. Insert is available from 1 pc.

※ For details about 10-piece insert sets and coating, see **A78**.

C-Cutter

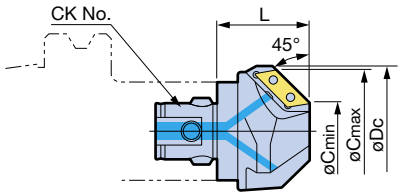
Center through

● Covers a wide range of chamfering diameters and reduces the number of tools and ATC required.

● Model Description

CKB2 - C 05 25 C

- Center through
- Max. chamfering diameter
- Min. bore
- Chamfering
- Shank type



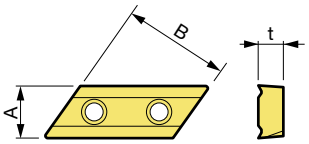
Model	CK No.	Min. bore øCmin	Max. chamfer diameter øCmax	Outer Diameter øDc	L	Number of inserts	Insert	Clamping Screw Set	Weight (kg)
CKB2-C0525C	CK2	5	25	28.5	25	1	CW1206A	S2S-B	0.08
CKB4-C1040C	CK4	10	40	45	35	2	CW1909A	S3S	0.27
CKB5-C3060C	CK5	30	60	65	40	3			0.70
CKB6-C50100C	CK6	50	100	106	65		CW3115A	S5S	2.80

1. Inserts must be ordered separately.
2. Insert wrench and screws are included.
3. The screw set (optional) contains 10 insert clamp screws and 1 wrench.

For holders, A71

For C-Cutter

■ Insert (optional accessory)



Model			A	B	t
Non-Coating	ZX Coating	DLC Coating			
CW1206A	**CW1206A(ZX)**	**CW1206A(DLC)**	6.35	12.7	2.7
CW1909A	**CW1909A(ZX)**	**CW1909A(DLC)**	9.525	19.05	4.5
CW3115A	**CW3115A(ZX)**	**CW3115A(DLC)**	15.875	31.75	7.0

1. Insert is available from 1 pc.

Insert set is available in packs of 10 pcs.
Please add **S** before each model number when ordering.
Example: **SCW1206A(ZX)**

∗ DLC coating types do not come in 10-piece sets.

Non-Coating	Adopts P30-equivalent carbide material with emphasis on toughness for versatile use with materials from steel to aluminum.
ZX Coating	TiN and AlN multilayer coating increases speeds and extends insert life in chamfering of steel or cast iron.
DLC Coating	The exclusive substrate is coated with thin DLC film to prevent welding in aluminum machining. Maintained sharpness realizes beautiful surface finish.

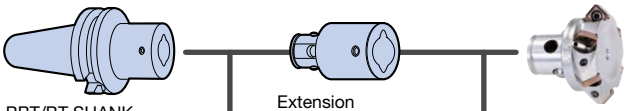
Ultra High Feed Chamfer Mill
C-CUTTER MINI (Front and back chamfering)

● Modular system allows front and back chamfering of deep holes.

● Model Description

CKB1 - C 22 32 - 45 B - 20
- CK No.
- Chamfering
- Min. chamfering diameter
- Max. diameter
- Chamfering angle
- L dimension

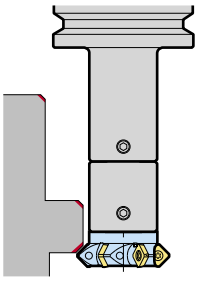
BIG DAISHOWA + KAISER
CK BORING SYSTEM



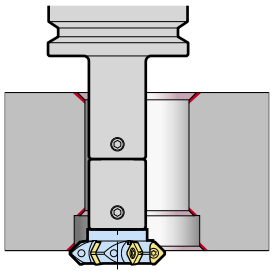
BBT/BT SHANK
IV SHANK
DV SHANK
HSK SHANK
BIG CAPTO SHANK

Extension
Used when extending the projection length.

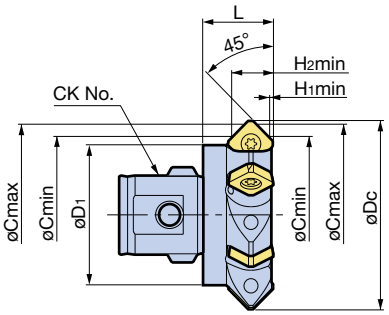
C-CUTTER MINI
CKB Type



Front and back chamfering of grooves and steps located at a distance.



Front and back chamfering of deep holes



Front and back chamfering

Model	CK No.	Face Milling Cutter	øDc	øD1	L	Chamfering diameter		H1min	H2min	Insert Model	Number of inserts	Weight (kg)
						øCmin	øCmax					
CKB1-C2232-45B-20	CK1	○	32.7	19	20	22	32	0.3	12.4	CM10...	4	0.05
CKB3-C3242-45B-20	CK3		42.7	31		32	42					0.14
-C5262-45B-20			62.7	31		52	62				6	0.24
CKB4-C4252-45B-20	CK4		52.7	39		42	52					0.24
CKB5-C5262-45B-20	CK5		62.7	51		52	62					0.40

1. Wrenches and screws are included. Insert must be ordered separately.
2. In case of chatter in plunge cutting, it is recommended to reduce the number of insert to 1 or 2 pcs.

For holders, A71

For C-CUTTER MINI

■ Insert (optional accessory)

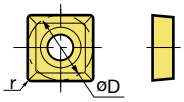


Fig. 1

● Model Description

CM 05 02 ACP200
- Material type
- Corner radius
- Insert size
- C-CUTTER MINI

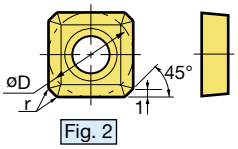


Fig. 2

SE model designates a sharp cutting edge insert.

Model	Fig.	Inscribed circle øD	r	Insert grade			Insert Clamping Screw Set Model
				ACP200	ACP300	DS20	
CM0502	1	5	0.2	○	-	○	**S2TS-T6**
CM0502SE				○	○	-	
CM10C1	2	10	0.2	○	-	○	**S4S-T15**
CM10C1SE				○	-	-	

1. Inserts are in packets of 10 pcs. Please specify the insert model number and grade when ordering.
   Example: **CM0502 ACP200**.....10 Pcs
2. The insert clamping screw set contains 10 screws and 1 wrench.
3. Insert Clamp Screws and tightening wrench are consumables. Order periodically for replacement or spares.

Insert Grade Description

ACP200/300 for Steel/Cast Iron	**DS20** for Aluminum/Non-Ferrous Metal
PVD-coated carbide with superior wear resistance due to its nanometer-level thickness ultra-multilayered TiAlN and AlCrN film.	DLC-coated carbide exclusive for aluminum and non-ferrous metals, ultra-smooth with a low wear coefficient and superior welding resistance.

CK NEW Hi- POWER MILLING CHUCK

Model	CK No.	Clamping diameter	L	Nut outer diameter	Wrench	Weight (kg)
CK5-HMC20S ※	CK5	ø20	57	50	FK45-50L	0.81
CK6-HMC20 ※	CK6	ø20	56	60	FK58-62	1.31
CK7-HMC32	CK7	ø32	102	80	FK80-90	4.09

1. Wrench included.
2. ※ marked models can only be used with OCA, C straight collets.

CK Boring Adapter

· BSA Type

· BSB Type

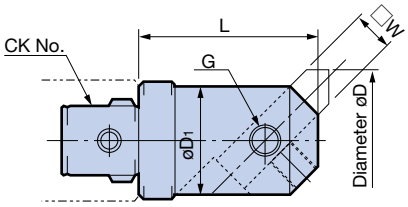


Fig. 1 BSA Type

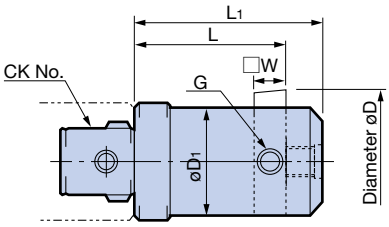


Fig. 2 BSB Type

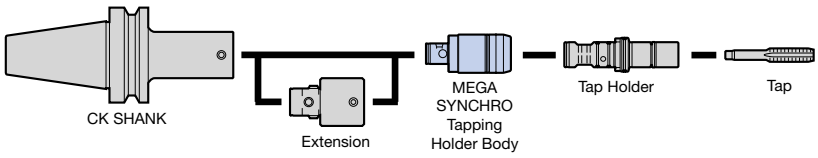
øD	Fig.	Model	CK No.	L	L1	øD1	G	□W
25 - 38	1	**CK1-BSA 25- 33**	CK1	32	-	19	M 6	8
30 - 42		**CK2-BSA 30- 37.5**	CK2	35.9		24		
38 - 52		**CK3-BSA 38- 56**	CK3	53.4		30	M 8	10
50 - 65		**CK4-BSA 50- 62**	CK4	59		39	M10	13
62 - 90		**CK5-BSA 62- 72**	CK5	70		50		16
90 - 125		**CK6-BSA 90-101**	CK6	97		75	M12	19
105 - 160		**CK7-BSA105-132**	CK7	129		90		25
20 - 40	2	**CK1-BSB 20- 33**	CK1	33	43	17	M 6	6
25 - 52		**CK2-BSB 25- 37.5**	CK2	37.5	52.5	24	M 8	8
38 - 70		**CK3-BSB 38- 41**	CK3	41	56	30	M10	10
50 - 90		**CK4-BSB 50- 47**	CK4	47	62	39		13
62 - 115		**CK5-BSB 62- 57**	CK5	57	72	50		16
90 - 150		**CK6-BSB 90- 71**	CK6	71	86	75	M12	19
105 - 190		**CK7-BSB105-117**	CK7	117	132	90		25

1. Boring bit is not included. Please use commercial products.

MEGA SYNCHRO TAPPING HOLDER Tapping range: M2 - M20

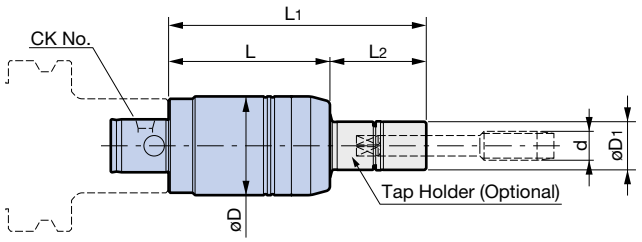
Center through

- Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.



- Model Description (Body)

CK4 - MGT6 - 62
- 62: L dimension
- MGT6: MEGA SYNCHRO No.
- CK4: CK No.



Model	CK No.	Tap Holder Model	Tapping range d	øD	øD1	L	L1	L2	Body weight (kg)
CK4-MGT 6-62	CK4	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	62	92	30	0.5
		- 70					132	70	
		-100					162	100	
		-150					212	150	
		-200					262	200	
CK4-MGT12-67		MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	67	97	30	0.6
		- 70					137	70	
		-100					167	100	
		-150					217	150	
		-200					267	200	
CK5-MGT20-87	CK5	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	87	122	35	1.2
		- 85					172	85	
		-115					202	115	
		-150					237	150	

1. MGT Set Screw is included.
2. Tap holder and wrench must be ordered separately.

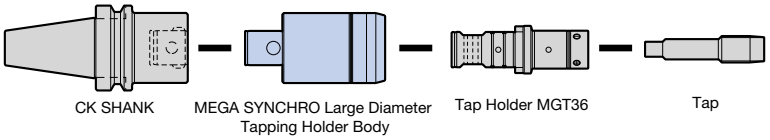
Cannot be used with machining center without synchronized tapping function.

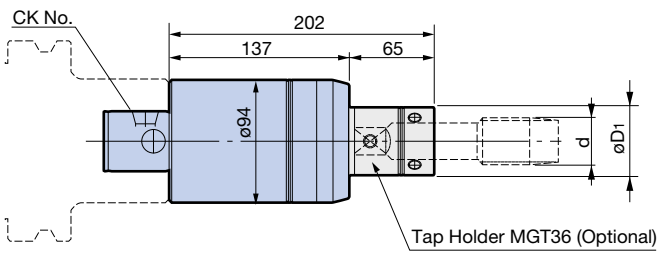
For tap holders, A122 For Mega Wrench, A126
For holders, A71

[Large Diameter Tap MGT36] Tapping range: M20 - M36

Center through

- Functions smoothly under high cutting torque of large diameter tapping.





Model	CK No.	Tapping range d	øD1	Body weight (kg)
CK7-MGT36-137	CK7	M20 - M36 P1/2 - P1	32 - 52	6.8

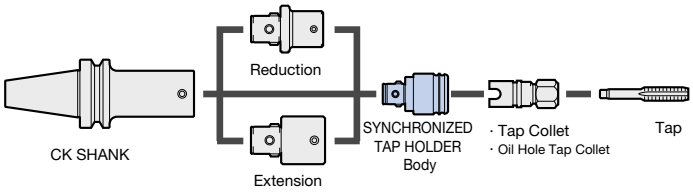
1. MGT Set Screw is included.
2. Tap holder is not included. Please order separately.

Cannot be used with machining center without synchronized tapping function.

For large-diameter tap holders, A128 For holders, A71

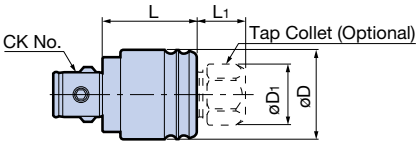
SYNCHRONIZED TAP HOLDER (STC Type) M2 - M30

● Tap Collet type enables quick tap change.
Flexible tool layout in combination with the CK Shanks.



● Model Description

CK2 - STC 8 - 47.5
- 8: Tapping range
- STC: SYNCHRONIZED TAP HOLDER
- CK2: CK No.



Model	Tapping range	CK No.	øD	øD1	L	L1	Body weight (kg)	Tap Collet
CK2-STC 8-47.5	M 2 - M 4	CK2	25.5	15.8	30.5	17	0.10	TC 8-d
	M 5 - M 8			19				
CK3-STC12-66	M 3 - M12	CK3	32	22	36	30	0.18	TC12-d
CK4-STC20-72	M 8 - M12	CK4	44	22	47	25	0.42	TC20-d
	M14 - M20			31				
CK5-STC30-92	M20 - M30	CK5	55	41	54	38	0.72	TC30-d

1. Tap collet must be ordered separately.
2. Cannot be used with machining center without synchronized tapping function.
3. The L1 dimension is 5mm longer with oil hole tap collets.

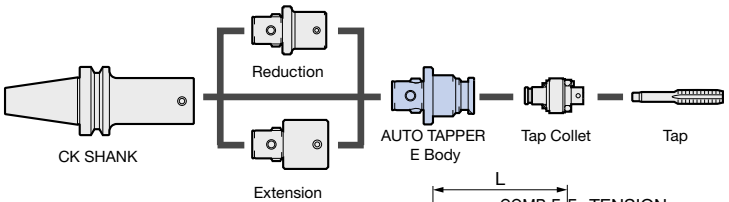
For holders, A71

Tap Collet TC Type (optional product)

For Tap Collets, A135
For Oil Hole Tap Collets, A136

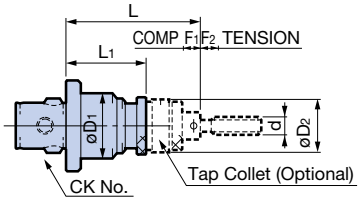
CK AUTO TAPPER E TYPE M3 - M24

● Combination with a long type CK Shank is convenient when long tapper is required.



● Model Description

CK6 - ATE 12
- 12: Tapping range
- ATE: AUTO TAPPER E
- CK6: CK No.



Model	Tapping range	CK No.	øD1	øD2	L	L1	F1	F2	Weight (kg)	Tap Collet
CK6-ATE12	M 3 - M12	CK6	47	38.5	90	50	5	10	0.9	TCE12-d
CK6-ATE24	M10 - M24		64	58.5	135	80	7	15	1.8	TCE24-d

1. Torque limiter is built into the tap collet.
2. The extension can be used to allow tapping inside deep holes.
3. Tap collet must be ordered separately.

For holders, A71

Tap Collet TCE Type (optional accessory)

For Tap Collets, A138

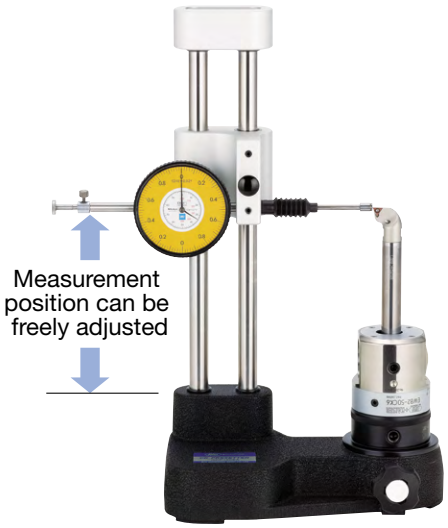
CK Presetter

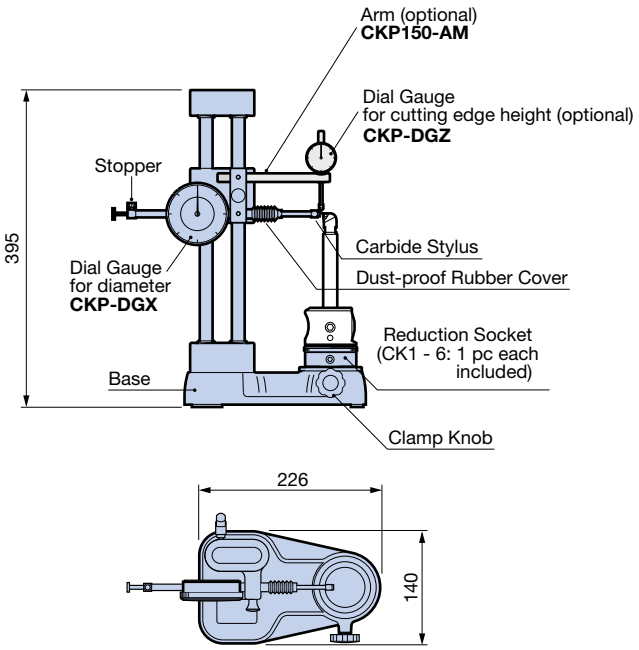
Fully utilizes the merits of a modular system.

- Low-cost, exclusive presetter allows easy presetting of the boring head alone.
- Compact design enables operations in the limited space beside the machine.

[CKP150ZA] (for CK1-6)

One unit allows easy presetting of various lengths of insert holders as well as roughing and finishing heads.



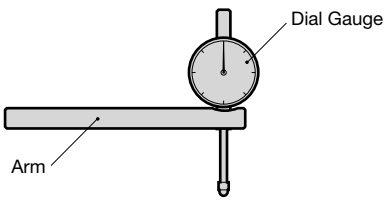


The optional "Dial Gauge for Edge Height" enables balance and step cutting setup for RW Boring Head.

Model	CKP150ZA
Measuring capacity	Radial direction: 0 - ø150mm (CK1 - CK6)
Min. scale	Radial direction: 0.02mm/ø
CK No.	CK1 - CK6 (Reduction socket compatible)
Max. tool height	Max. 227mm (When using CK6 reduction socket)
MASTER GAUGE	ø50±0.005
Reading method	Diameter direct reading method
Weight	6.5kg

1. Use within 0.02mm/ø measuring accuracy range.
2. Note that the maximum measuring diameter is 150mm.
3. Tool lengths cannot be measured.
4. For finishing with EWN Boring Head, first set to a smaller diameter than the target. After trial cutting, adjust the diameter by reading the scale on the head against the measured value on the machine.

■ Edge Height Measuring Dial Gauge Set (optional accessory)

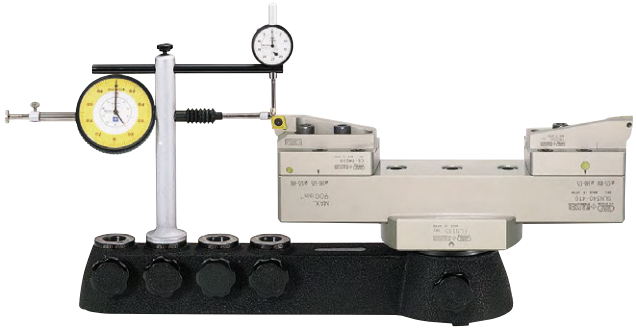


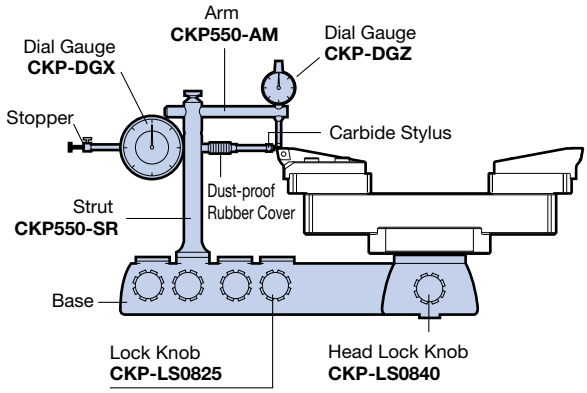
Min. scale: 0.01mm

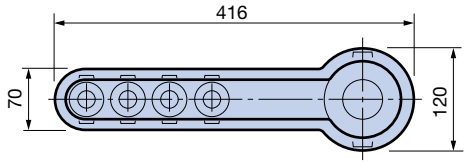
Set Model	Set contents	
	Dial Gauge	Arm
CKP-DGZS	CKP-DGZ	CKP150-AM

Dial gauge and arm are also available individually.

[CKP550] (For CK7)







Model	CKP550
Measuring capacity	ø100 - 550 (CK7)
CK No.	For CK7 only
Min. scale	Radial direction: 0.02mm/ø
	Axial direction: 0.01mm
MASTER GAUGE	ø120±0.005
Reading method	Diameter addition reading method
Weight	9.0kg

1. EWN100-203CKB7 and TWN98-153CKB7 cannot be used due to position of the stylus.

Tool Presetters to measure the assembled boring head with a shank are also available. See I9 for details.

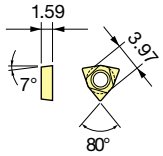
TOOL PRESETTER TPS

High accuracy 2D edge sensor enables measurement in two directions.
#40, #50, HSK-A40, A63, and BIG CAPTO C5, C6, C8 are supported.
Simple, compact and economical TPS-30E/40E models for BT(BBT)30 and 40 taper tools are also available.

TPS-30E/40E

● BIG designs optimal inserts exclusive for boring. Select the suitable insert to the application.

<WC02>

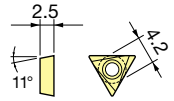


Head
Cylindrical Tool

●**EW MICRO HEAD**/EW15, 18 ● **Carbide Cylindrical Insert Holder**/EB06, EB7.5
●**Cylindrical Tool for EWN04-15**/ST7W-EB6 - EB7

No.	Insert Model	Nose radius	Workpiece	Grade	Material
1	**WCGT020102ELA**	0.2	General Steels	T1200A	Cermet
2	**WCGT020102ELA**		Aluminum/Cast Iron	H1	Carbide (K10 Equivalent)
3	**WCGT020102FN**		Aluminum	DA2200	Diamond
4	**WCGT020102FN**		Hardened Steel	BNX20	CBN
5	**WCGT020102FN**		Ductile	BN7000	

<TP07>



Head
Cylindrical Tool

●**Cylindrical Tool for EWN04-15**/ST7W-EB8 - EB12

No.	Insert Model	Nose radius	Workpiece	Grade	Material
6	**TPGP070202EL**	0.2	General Steels	T1500A	Cermet
7	**TPGD070202FN**		Cast Iron	H1	Carbide (K10 Equivalent)
8	**TPGD070202FN**		Hardened Steel	BN2000	CBN
9	**TPGP070202FLA**		Aluminum	H1	Carbide (K10 Equivalent)
10	**TPGD070202FN**		Aluminum	DA2200	Diamond

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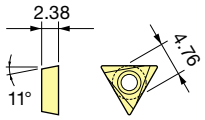


Head
Insert Holder

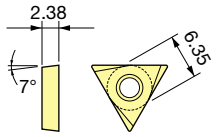
●**For EWB**/EBH3-1 ● **For EWN/EWD**/ENH1 - 3, ENH3-1J - ENH5-1J
●**Insert Holder**/EB09N - EB46N

No.	Insert Model	Nose radius	Workpiece	Grade	Material
11	**TPMT080202EFM**	0.2	General Steels 3D Breaker	T1500A	Cermet (M-class)
12	**TPMT080204EFM**	0.4			
13	**TPMT080202EFM**	0.2		T2000Z	Coated Cermet
14	**TPMT080204EFM**	0.4			
15	**TPGP080202EL**	0.2	General Steels	T1500A	Cermet (G-class)
16	**TPGP080204EL**	0.4			
17	**TPGP080202EL**	0.2		T2000Z	Coated Cermet
18	**TPGP080204EL**	0.4			
19	**TPGP080202EL**	0.2	General Steels Interrupted Cutting	T130A	Cermet (G-class)
20	**TPGP080204EL**	0.4			
21	**TPGP080202EL**	0.2		T130ZX	Coated Cermet
22	**TPGP080204EL**	0.4			
23	**TPGD080202FN**	0.2	Hardened Steel	BN2000	CBN
24	**TPGD080204FN**	0.4			
25	**TPGD080202FN**	0.2		BNC200	Coated CBN
26	**TPGD080204FN**	0.4			
27	**TPGP080202L**	0.2	Inconel Titanium	AC520U	Coated Carbide
28	**TPGP080204L**	0.4			
29	**TPGD080202FN**	0.2	Cast Iron	H1	Carbide (K10 Equivalent)
30	**TPGD080204FN**	0.4			
31	**TPGD080202FN**	0.2	Cast Iron/Ductile	H1ZX	Coated Carbide
32	**TPGD080204FN**	0.4			
33	**TPGD080202FN**	0.2	Ductile	BN500	CBN
34	**TPGD080204FN**	0.4			
35	**TPGD080202FN**	0.2		BN700	
36	**TPGD080204FN**	0.4		BN7000	
37	**TPGP080202FLA**	0.2	Aluminum	H1	Carbide (K10 Equivalent)
38	**TPGP080204FLA**	0.4			
39	**TPGD080202FN**	0.2		DA2200	Diamond
40	**TPGD080204FN**	0.4			
41	**TPGP080201FLA**	0.1	Chatter Resistant	A1	Micro-grained Carbide

[Remarks (All Inserts)]
1. Inserts are in a packet of 10 pcs except diamond and CBN inserts.
2. Diamond and CBN inserts are available from 1 pc.
3. Please specify the insert model number and grade when ordering.
Example: **WCGT020102ELA** (Insert Model) **(T1200A)** (Grade)... 10 pcs

● BIG designs optimal inserts exclusive for boring. Select the suitable insert to the application.

<TC11>



Head
Insert Holder

●**Insert Holder**/EB17AJ - 40AJ
●**For EWN/EWD**/ENH4 - 7, ENH6 - 1J - ENH6 - 3J, ENH7 - 1J
●**For EWB**/EBH4 - 6

No.	Insert Model	Nose radius	Workpiece	Grade	Material
42	**TCMT110204EFM**	0.4	General Steels 3D Breaker	T1500A	Cermet (M-class)
43	**TCMT110208EFM**	0.8			
44	**TCMT110204EFM**	0.4		T2000Z	Coated Cermet
45	**TCMT110208EFM**	0.8			
46	**TCGT110202EL**	0.2	General Steels	T1500A	Cermet (G-class)
47	**TCGT110204EL**	0.4			
48	**TCGT110208EL**	0.8			
49	**TCGT110202EL**	0.2		T2000Z	Coated Cermet
50	**TCGT110204EL**	0.4			
51	**TCGT110208EL**	0.8			
52	**TCGT110202FN**	0.2	Hardened Steel	BN2000	CBN
53	**TCGT110204FN**	0.4			
54	**TCGT110202FN**	0.2		BNC200	Coated CBN
55	**TCGT110204FN**	0.4			
56	**TCGT110202L**	0.2	Inconel Titanium	AC520U	Coated Carbide
57	**TCGT110204L**	0.4			
58	**TCGT110202FN**	0.2	Cast Iron	H1	Carbide (K10 Equivalent)
59	**TCGT110204FN**	0.4			
60	**TCGT110202FN**	0.2	Cast Iron/Ductile	H1ZX	Coated Carbide
61	**TCGT110204FN**	0.4			
62	**TCGT110202FN**	0.2	Ductile	BN500	CBN
63	**TCGT110204FN**	0.4			
64	**TCGT110202FN**	0.2		BN7000	
65	**TCGT110204FN**	0.4			
66	**TCGT110208FN**	0.8			
67	**TCGT110202FLA**	0.2	Aluminum	H1	Carbide (K10 Equivalent)
68	**TCGT110204FLA**	0.4			
69	**TCGT110208FLA**	0.8			
70	**TCGT110202FN**	0.2		DA2200	Diamond
71	**TCGT110204FN**	0.4			
72	**TCGT110208FN**	0.8			

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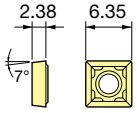


Insert Holder
Cartridge

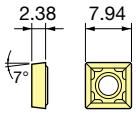
●**For EWN/EWD**/ENH4-1S - ENH5-3S
●**For SW**/SW2026A, SW2533A
●**For TW**/TW2026A, TW2531A, TW2533A, TW3240A

No.	Insert Model	Nose radius	Workpiece	Grade	Material
73	**SCMP060204EFM**	0.4	General Steels	T1500A	Cermet (P10)
74	**SCMP060204EFM**			AC820P	Coated Carbide (P20)
75	**SCMP060204EFM**			AC830P	Coated Carbide (P30)
76	**SCMP060204ESM**		SS/SUS	AC630M	Coated Carbide (M30)
77	**SCMP060204EFM**		Cast Iron	AC410K	Coated Carbide (K10)
78	**SCMP060204EFM**			AC700G	Coated Carbide (K20)
79	**SCGA060204FN**			H1	Carbide (K10 Equivalent)
80	**SCGP060204FLA**		Aluminum	H1	Carbide + Breakers for Aluminum

[Remarks (All Inserts)]
1. Inserts are in a packet of 10 pcs except diamond and CBN inserts.
2. Diamond and CBN inserts are available from 1 pc.
3. Please specify the insert model number and grade when ordering.
Example: **TCMT110204EFM** (**T1500A**)... 10 pcs
Insert Model Grade

● BIG designs optimal inserts exclusive for boring. Select the suitable insert to the application.

<SC07>



Insert Holder Cartridge

●**For EWN/EWD**/ENH6-1S - ENH6-3S, ENH7-1S
●**For RW**/RW2533A

No.	Insert Model	Nose radius	Workpiece	Grade	Material
81	**SCGP070204EFM**	0.4	General Steels	T1500A	Cermet (P10)
82	**SCMP070204EFM**			AC820P	Coated Carbide (P20)
83	**SCMP070204EFM**			AC830P	Coated Carbide (P30)
84	**SCMP070204ESM**		SS/SUS	AC630M	Coated Carbide (M30)
85	**SCMP070204EFM**		Cast Iron	AC410K	Coated Carbide (K10)
86	**SCMP070204EFM**			AC700G	Coated Carbide (K20)
87	**SCGA070204FN**			H1	Carbide (K10 Equivalent)
88	**SCGP070204FLA**		Aluminum	H1	Carbide + Breakers for Aluminum

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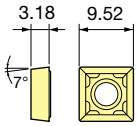

Cartridge

●**For SW**/SW3242A, SW4154A
●**For TW**/TW3242A, TW4151A, TW4154A, TW5366A
●**For RW**/RW3242A, RW4154A

No.	Insert Model	Nose radius	Workpiece	Grade	Material
89	**SCGM090304EFM**	0.4	General Steels	T1500A	Cermet (P10)
90	**SCGM090308EFM**	0.8			
91	**SCMM090304EFM**	0.4		AC820P	Coated Carbide (P20)
92	**SCMM090308EFM**	0.8			
93	**SCMM090308EFM**	0.8		AC830P	Coated Carbide (P30)
94	**SCMM090308ESM**	0.8	SS/SUS	AC630M	Coated Carbide (M30)
95	**SCMM090308EFM**	0.8	Cast Iron	AC410K	Coated Carbide (K10)
96	**SCMM090308EFM**	0.8		AC700G	Coated Carbide (K20)
97	**SCGA090304FN**	0.4		H1	Carbide (K10 Equivalent)
98	**SCGM090308FLA**	0.8	Aluminum	H1	Carbide + Breakers for Aluminum

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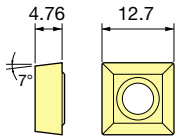

Cartridge

●**For SW**/SW5370A, SW6890A, SW88110A, SW98126A, SW125153A, SW148176A, SW175203A
●**For TW**/TW5370A, TW6986A, TW6890A, TW88110A, TW98126A, TW125153A, TW200A
●**For RW**/RW5370A, RW6888A, RW86106A, RW100125A, RW125150A

No.	Insert Model	Nose radius	Workpiece	Grade	Material
99	**SCGM120404EFM**	0.4	General Steels	T1500A	Cermet (P10)
100	**SCGM120408EFM**	0.8			
101	**SCMM120404EFM**	0.4		AC820P	Coated Carbide (P20)
102	**SCMM120408EFM**	0.8			
103	**SCMM120408EFM**	0.8		AC830P	Coated Carbide (P30)
104	**SCMM120408ESM**	0.8	SS/SUS	AC630M	Coated Carbide (M30)
105	**SCMM120408EFM**	0.8	Cast Iron	AC410K	Coated Carbide (K10)
106	**SCMM120408EFM**	0.8		AC700G	Coated Carbide (K20)
107	**SCGA120404FN**	0.4		H1	Carbide (K10 Equivalent)
108	**SCGM120408FLA**	0.8	Aluminum	H1	Carbide + Breakers for Aluminum

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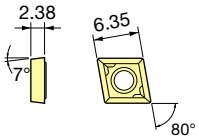


Insert Holder Cartridge

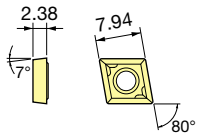
●**For EWN/EWD**/ENH4-1F - ENH5-3F
●**For SW**/SW2026E, SW2531E, SW2533E, SW3240E
●**For TW**/TW2026E, TW2531E, TW2533E, TW3240E

No.	Insert Model	Nose radius	Workpiece	Grade	Material
109	**CCMP060204EFM**	0.4	General Steels	T1500A	Cermet (P10)
110	**CCMP060204EFM**			AC820P	Coated Carbide (P20)
111	**CCMP060204EFM**			AC830P	Coated Carbide (P30)
112	**CCMP060204ESM**		SS/SUS	AC630M	Coated Carbide (M30)
113	**CCMP060204EFM**		Cast Iron	AC410K	Coated Carbide (K10)
114	**CCMP060204EFM**			AC700G	Coated Carbide (K20)
115	**CCGA060204FN**			H1	Carbide (K10 Equivalent)
116	**CCGP060204FLA**		Aluminum	H1	Carbide + Breakers for Aluminum

[Remarks]
1. Inserts are in packets of 10 pcs.
2. Please specify the insert model number and grade when ordering.
Example: **SCGP070204EFM (T1500A)**... 10 pcs
Insert Model / Grade

● BIG designs optimal inserts exclusive for boring. Select the suitable insert to the application.

<CC07>



Insert Holder Cartridge

●**For EWN/EWD**/ENH6-1F - ENH6-3F, ENH7-1F
●**For RW**/RW2533E, RW3037E

No.	Insert Model	Nose radius	Workpiece	Grade	Material
117	**CCGP070204EFM**	0.4	General Steels	T1500A	Cermet (P10)
118	**CCMP070204EFM**			AC820P	Coated Carbide (P20)
119	**CCMP070204EFM**			AC830P	Coated Carbide (P30)
120	**CCMP070204ESM**		SS/SUS	AC630M	Coated Carbide (M30)
121	**CCMM070204ESS**		SS	AC830P	(Breakers for SS)
122	**CCMP070204EFM**		Cast Iron	AC410K	Coated Carbide (K10)
123	**CCMP070204EFM**			AC700G	Coated Carbide (K20)
124	**CCGA070204FN**			H1	Carbide (K10 Equivalent)
125	**CCGP070204FLA**		Aluminum	H1	Carbide + Breakers for Aluminum

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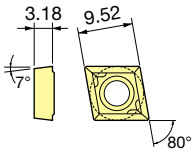

Cartridge

●**For SW**/SW3242E, SW4151E, SW4154E, SW5366E
●**For TW**/TW3242E, TW4151E, TW4154E, TW5366E
●**For RW**/RW3242E, RW4048E, RW4154E, RW5162E

No.	Insert Model	Nose radius	Workpiece	Grade	Material
126	**CCGM090304EFM**	0.4	General Steels	T1500A	Cermet (P10)
127	**CCGM090308EFM**	0.8			
128	**CCMM090304EFM**	0.4		AC820P	Coated Carbide (P20)
129	**CCMM090308EFM**	0.8			
130	**CCMM090308EFM**	0.8		AC830P	Coated Carbide (P30)
131	**CCMM090308ESM**	0.8	SS/SUS	AC630M	Coated Carbide (M30)
132	**CCMM090308ESS**	0.8	SS	AC830P	(Breakers for SS)
133	**CCMM090308EFM**	0.8	Cast Iron	AC410K	Coated Carbide (K10)
134	**CCMM090308EFM**	0.8		AC700G	Coated Carbide (K20)
135	**CCGA090304FN**	0.4		H1	Carbide (K10 Equivalent)
136	**CCGM090308FLA**	0.8	Aluminum	H1	Carbide + Breakers for Aluminum

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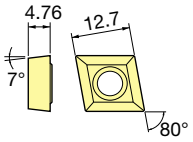

Cartridge

●**For SW**/SW5370E, SW6986E, SW6890E, SW88110E, SW98126E, SW125153E, SW148176E, SW175203E
●**For TW**/TW5370E, TW6986E, TW6890E, TW88110E, TW98126E, TW125153E, TW200E
●**For RW**/RW5370E, RW6681E, RW6888E, RW86106E, RW100125E, RW125150E

No.	Insert Model	Nose radius	Workpiece	Grade	Material
137	**CCGM120404EFM**	0.4	General Steels	T1500A	Cermet (P10)
138	**CCGM120408EFM**	0.8			
139	**CCMM120404EFM**	0.4		AC820P	Coated Carbide (P20)
140	**CCMM120408EFM**	0.8			
141	**CCMM120408EFM**	0.8		AC830P	Coated Carbide (P30)
142	**CCMM120408ESM**	0.8	SS/SUS	AC630M	Coated Carbide (M30)
143	**CCMM120408ESS**	0.8	SS	AC830P	(Breakers for SS)
144	**CCMM120408EFM**	0.8	Cast Iron	AC410K	Coated Carbide (K10)
145	**CCMM120408EFM**	0.8		AC700G	Coated Carbide (K20)
146	**CCGA120404FN**	0.4		H1	Carbide (K10 Equivalent)
147	**CCGM120408FLA**	0.8	Aluminum	H1	Carbide + Breakers for Aluminum

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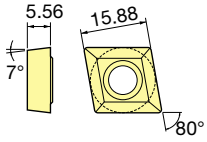


Cartridge

●**For SW**/SW6890EL, SW88110EL, SW98126EL, SW125153EL, SW148176EL, SW175203EL
●**For TW**/TW6890EL, TW88110EL, TW98126EL, TW125153EL, TW200EL
●**For RW**/RW6888EL, RW86106EL, RW100125EL, RW125150EL

No.	Insert Model	Nose radius	Workpiece	Grade	Material
148	**CCMM160508EFM**	0.8	General Steels	AC820P	Coated Carbide (P20)
149	**CCMM160508EFM**			AC830P	Coated Carbide (P30)
150	**CCMM160508ESS**		SS	AC830P	(Breakers for SS)
151	**CCMM160508EFM**		Cast Iron	AC700G	Coated Carbide (K20)

[Remarks]
1. Inserts are in packets of 10 pcs.
2. Please specify the insert model number and grade when ordering.
Example: **CCGP070204EFM** (Insert Model) **(T1500A)** (Grade)... 10 pcs

Insert Grade Introduction

T1500A

General purpose cermet from finishing to roughing.
Special technology improves the material's resistance to thermal shock, allowing safe use even for wet machining.

Grade	Cermet P10 Grade
T R S	2.1 (GPa)
Hardness	92.0 (HRA)

T2000Z

Cermet is coated with newly developed PVD film for smooth surface and good adhesion. The material easily doubles tool life compared to non-coated cermet, and enables a high-quality finished surface.

Grade	Cermet P10-20 Grade
Coating film	TiN/AℓN
T R S	2.1 (GPa)
Hardness	92.0 (HRA)

T130A

The unique production process of this tough cermet achieves a fine and uniform structure that has excellent chipping resistance. Achieves longer tool life than T1500A when used for interrupted cutting finishing.

Grade	Cermet P10 Grade
T R S	2.1 (GPa)
Hardness	91.8 (HRA)

T130ZX

The cermet is treated further with a layer of ceramic kept uniform with the new PVD method.
This doubles the tool life while maintaining the toughness of the material.

Grade	Cermet Tough Grade
Coating film	TiN/AℓN
T R S	2.0 (GPa)
Hardness	91.9 (HRA)

AC520U

The tough substrate is coated with multiple layers of nanometer-level thickness to create a material suitable for cutting difficult materials such as titanium with excellent wear resistance and notch wear resistance.

Grade	Carbide S20 Grade
Coating film	TiAℓN/AℓCrN
T R S	2.5 (GPa)
Hardness	91.7 (HRA)

H1

With slightly higher wear resistance than K10 material, this material is a best selling type of carbide that can be used across a wide range from roughing to finishing.

Grade	Fine Carbide K10 Grade
T R S	2.1 (GPa)
Hardness	92.9 (HRA)

H1ZX

For stable machining of ductile cast iron we recommend this material, made by coating carbide H1 with alumina for increased wear resistance.

Grade	Carbide K10 Grade
Coating film	TiN/Aℓ$_2$O$_3$/TiCN
T R S	2.1 (GPa)
Hardness	92.9 (HRA)

A1

Even among ultra-fine particle alloy steels, this material is notably tough; it also boasts excellent welding resistance at low to medium speeds, has a sharp cutting edge, and handles chatter suitably for fine diameter machining.

Grade	Ultra-Fine Particles Z20 Grade
T R S	3.3 (GPa)
Hardness	91.5 (HRA)

AC820P

The main grade for steel. The newly developed CVD method allows for a dense yet smooth coating that achieves outstanding versatility and consistency.

Grade	Carbide P20 Grade
Coating film	TiN/Aℓ$_2$O$_3$/TiCN
T R S	2.2 (GPa)
Hardness	90.1 (HRA)

AC830P

The tough substrate and the peel-resistant, dense and smooth coating deliver high reliability for heavy interrupted cutting of steel.

Grade	Carbide P30 Grade
Coating film	TiN/Aℓ$_2$O$_3$/TiCN
T R S	2.6 (GPa)
Hardness	89.4 (HRA)

AC410K

The hardest material for cast iron. Use if not satisfied with the wear resistance of AC700G. Note that this type is not suitable for heavy duty interrupted cutting.

Grade	Carbide K10 Grade
Coating film	TiAℓN/AℓCrN
T R S	2.4 (GPa)
Hardness	92.0 (HRA)

AC630M

The extremely smooth thin film coating gives this material great sharpness. Ideal for stainless steel or other materials that are easily work hardened.

Grade	Carbide M30 Grade
Coating film	TiAℓN/AℓCrN
T R S	2.7 (GPa)
Hardness	89.5 (HRA)

AC700G

Heat resistant carbide alloy is coated with multiple layers of mainly tough alumina, with additional surface smoothing treatment, to produce a highly reliable material for machining cast iron.

Grade	Carbide K20 Grade
Coating film	TiN/Aℓ$_2$O$_3$/TiCN
T R S	2.2 (GPa)
Hardness	91.0 (HRA)

BNX20

Crater resistant CBN grade. Cutting edge is arranged to suit small diameter boring of hardened materials.

BNC200

A combination of exclusive CBN substrate, selected for its strength, and special wear resistant TiAlN coating achieves a long and stable tool life across a wide range from low to high speed cutting, interrupted cutting, and high-efficiency cutting of hardened steel.

BN2000

A CBN material with an excellent balance of wear resistant and chipping resistant properties. Reliable performance is achieved in a wide range of cutting conditions in continuous and medium-heavy interrupted cutting.

BN500/BN700/BN7000

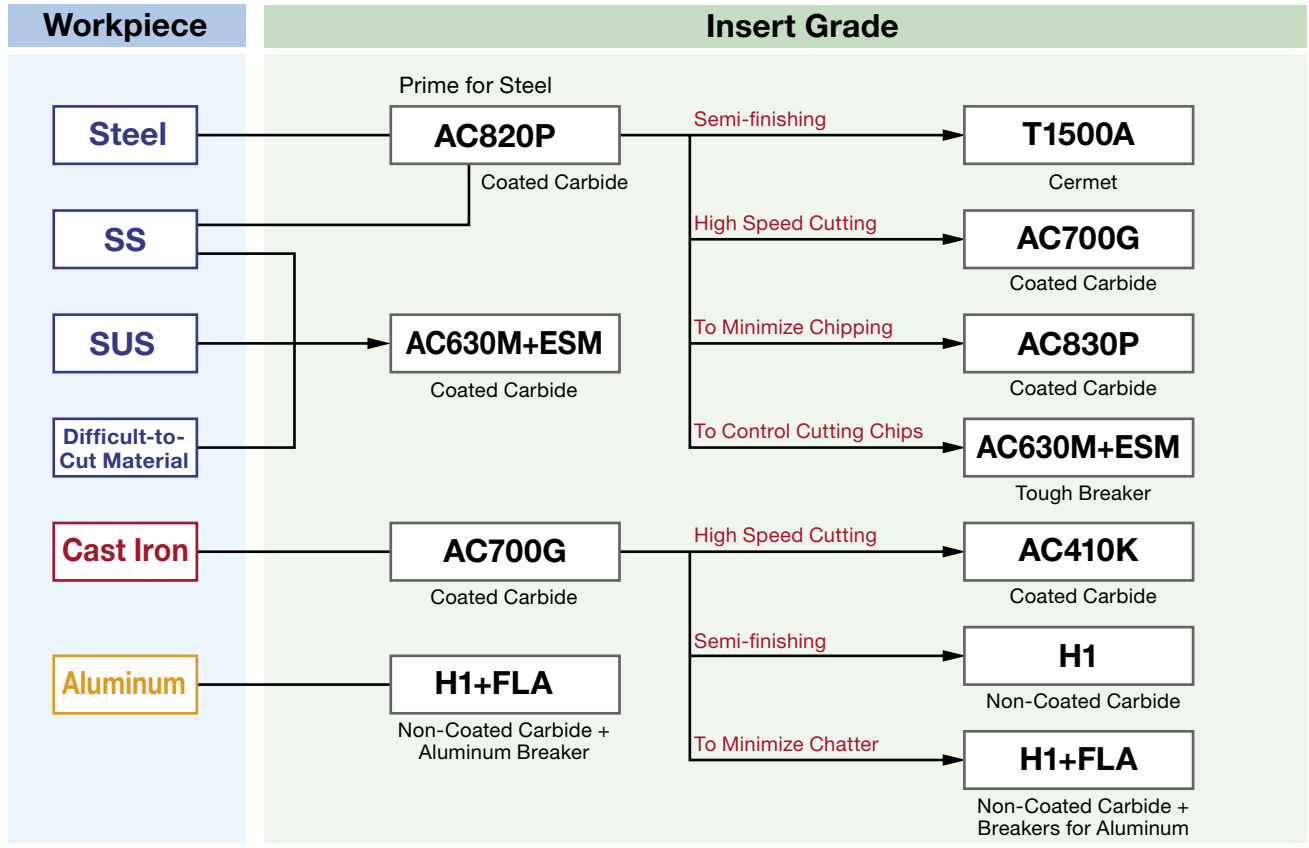
A CBN material with Co binder developed for cast iron. BN700/BN7000 is a material with excellent wear resistant and chipping resistant properties. BN700/BN7000 is recommended for high speed cutting of cast iron. If not satisfied with the wear resistance, use BN500.

DA2200

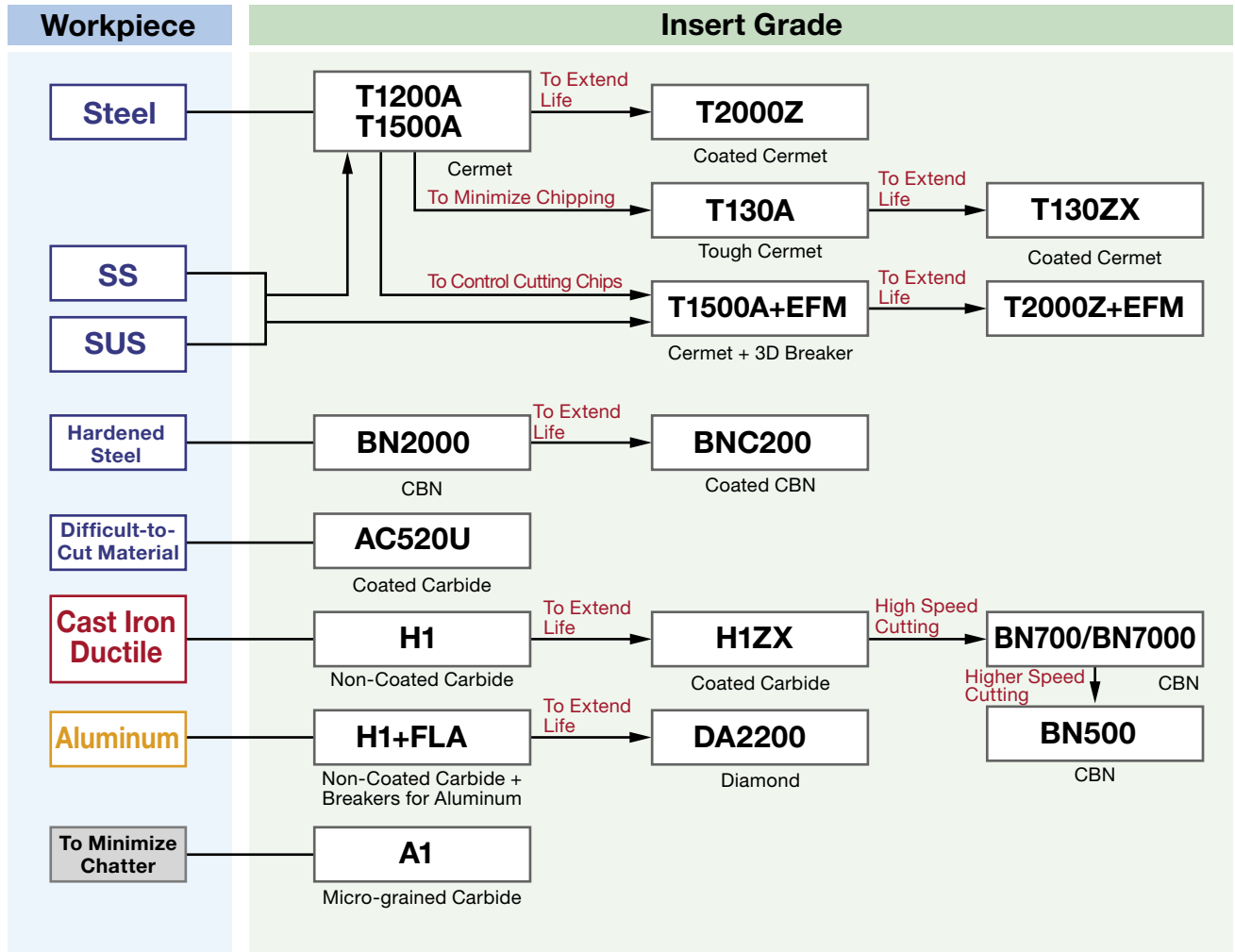
Ultra-precise sintering of ultra-fine diamond particles drastically improves the material's chipping resistance. With strength comparable to that of carbide (K10 type), it achieves a stable long tool life in interrupted cutting of aluminum alloys. Furthermore, the material boasts great cutting edge efficiency and achieves a good finish surface.

CK BORING SYSTEM Insert Selection Chart

For Roughing

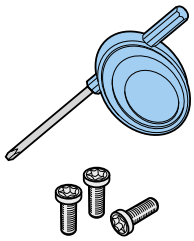


For Finishing



Screw/Wrench Set

● Insert Clamping Screw Set (Contains 10 screws and 1 wrench)

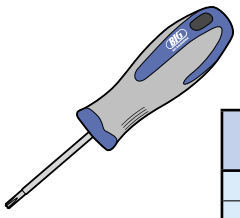


Set Model	Insert size	Shank/Insert Holder/Cartridge	Insert Clamp Screw	
			Thread	Wrench Model
S2S-A	WC02	ST05W-EB6-60 ST06W-EB7.5-65	M2×3	FA-T6
S2S-B		EN15	M2S×4	FLR-13S
694.101-2P ※	WC02	ST7W-EB6/EB7	M2×3.5	FW-6IP
694.102-2P ※	TP07	ST7W-EB8/EB9	M2×4.1	
694.103-2P ※		ST7W-EB10/12	M2×4.8	
S2S-S	TP08	EB09N EB10.5N EB12N	M2×4	FLR-13S
S2S		EB14N - EB46N	M2×5.5	
S2S-T6		ENH1 - ENH5, EBH3	M2×5.5	FA-T6
694.122-2P ※	TC11	EB17AJ - EB40AJ	M2.5×6.5	FW-7IP
S2.5S-7IP	SC06 CC06	SW2026 SW2531 SW2533 SW3240	M2.5×6.5	FS-7IP
S2.5S-T7	TC11 SC06 CC06	ENH4 - ENH7, EBH4 - EBH6 TW2026 TW2531 TW2533 TW3240	M2.5×6.5	FA-T7
S3S	SC07 CC07	ENH6 - ENH7 RW2533 RW3037	M3×7	FLR-20S
S4S-15IP	SC09 CC09	SW3242 SW4151 SW4154 SW5366	M4×8	FS-15IP
S4S-T15	SC09 CC09	TW3242 TW4151 TW4154 TW5366	M4×8	FA-T15
S4S	SC09 CC09	RW3242 RW4154 RW4048 RW5162	M4×8	FLR-20S
S5S-20IP	SC12 CC12 CC16	SW5370 SW6986 SW6890 SW88110 SW98126 SW125153 SW148176 SW175203	M5×12	FS-20IP
S5S-T20	SC12 CC12 CC16	TW5370 TW6986 TW6890 TW88110 TW98126 TW125153 TW200	M5×12	FA-T20
S5S	SC12 CC12 CC16	RW5370 RW6681 RW6888 RW86106 RW100125 RW125150	M5×12	FLR-28S
S1.6S-T6	MW04	MW1619 - MW1821	M1.6×4.2	FA-T6

· Wrenches are also sold individually. Please order the wrench model.
· ※ marked models consist of 2 screws. Wrench is not included.

Screw/Wrench Set

●Driver-Type Wrench



A BIG original Torx wrench using tough material and a grip that fits the hand well. Use for secure insert tightening.

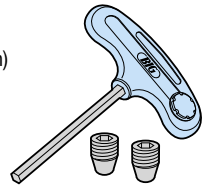
Wrench Model	Torx size
DA-T5	Torx-T 5
DA-T6	Torx-T 6
DA-T7	Torx-T 7
DA-T8	Torx-T 8
DA-T10	Torx-T 10
DA-T15	Torx-T 15
DA-T20	Torx-T 20

※ Insert Clamp Screw Wrench Models with a T indicate Torx size.

●CK Set Screw

(Contains 2 screws and 1 exclusive T-wrench)

Key element of the CK Connection. Periodical replacement is recommended in order to maintain accurate clamping.



Set Model	CK No.	Thread size	T Wrench Model
CK1S	CK1	M4xP0.5	CK-T2
CK2S	CK2	M5xP0.5	CK-T2.5
CK3S	CK3	M6xP0.75	CK-T3
CK4S	CK4	M8xP0.75	CK-T4
CK5S	CK5	M10xP1.0	CK-T5
CK6S	CK6	M12xP1.0	CK-T6
CK7S	CK7	M20xP1.5	-

※ Wrenches are also sold individually. Please order the wrench model.
("T" in the wrench model indicates T-shape of the wrench. This has nothing to do with Torx.)
※ An L wrench is included with CK7S.

●Grease Gun

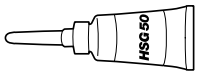
Model	**GRG-02**

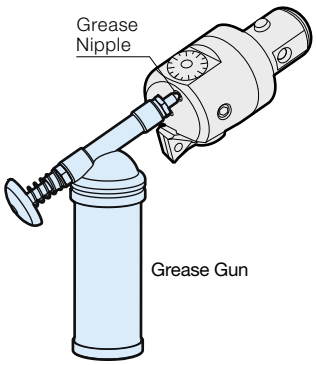
Essential for maintenance!
Can be used with all types of finishing heads.
(Grease not included.)

· The grease is effective for removing coolant and particles.
We recommend injecting grease into the grease nipple as required.

Grease (50g)

Model	**HSG50**





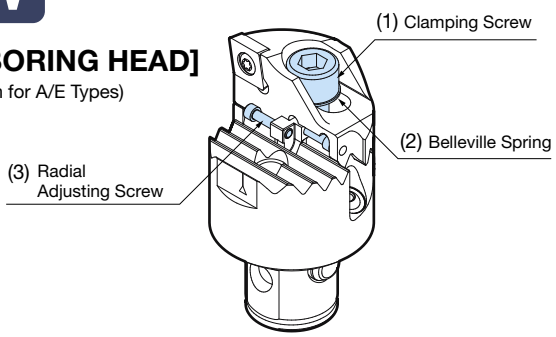
Screws for Boring Head

Specify both the head model and screw model when ordering.

SW

[SW BORING HEAD]

(Common for A/E Types)

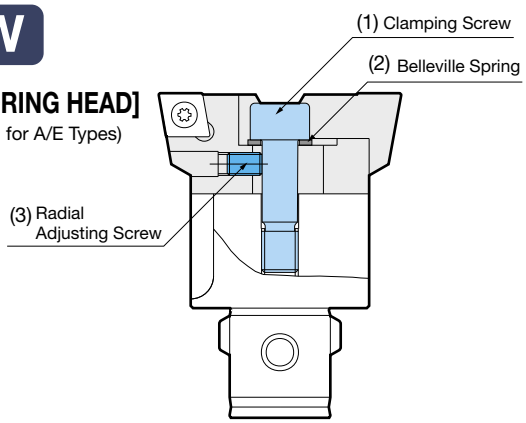


Head Model	(1) Clamping Screw x 2, Belleville Spring x 2	(2) 4 pcs	(3) 2 pcs
SW 20- 31CKB1	**SW20SS**	**SW20BS**	**SW20RS**
SW 25- 40CKB2	**SW25SS**	**SW25BS**	**SW25RS**
SW 32- 51CKB3	**SW32SS**	**SW32BS**	**SW32RS**
SW 41- 66CKB4	**SW41SS**	**SW41BS**	**SW41RS**
SW 53- 86CKB5	**SW53SS**	**SW53BS**	**SW53RS**
SW 68-110CKB6	**SW68SS**		**SW68RS**
SW 98-153CKB□	**SW98SS**	**SW98BS**	**SW98RS**
SW148-203CKB□			

TW

[TW BORING HEAD]

(Common for A/E Types)

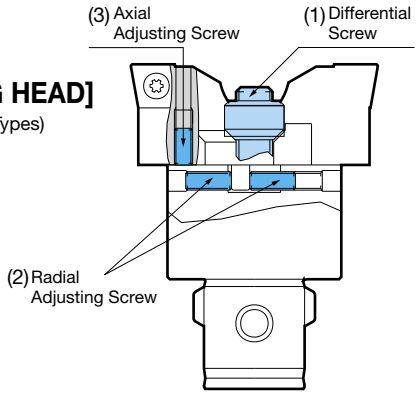


Head (Cartridge) Model	(1) Clamping Screw x 2, Belleville Spring x 2	(2) 4 pcs	(3) 5 pcs
TWN20-31CKB1	**TW20SS**	**TW20BS**	**H0305/R**
TWN25-40CKB2	**TW25SS**	**TW25BS**	**H0306/R**
TWN32-51CKB3	**TW32SS**	**TW32BS**	**H0408/R**
TWN41-66CKB4	**TW41SS**	**TW41BS**	**H0510/R**
TWN53-86CKB5	**TW53SS**	**TW53BS**	**H0614/R**
TW 6890A/E/EL	**TW68SS**	**TW68BS**	**H0616/R**
TW88110A/E/EL			**H0618/R**
TW98126A/E/EL	**TW98SS**	**TW98BS**	**H0820/R**
TW125153A/E/EL			**H0825/R**

RW

[RW BORING HEAD]

(Common for A/E Types)



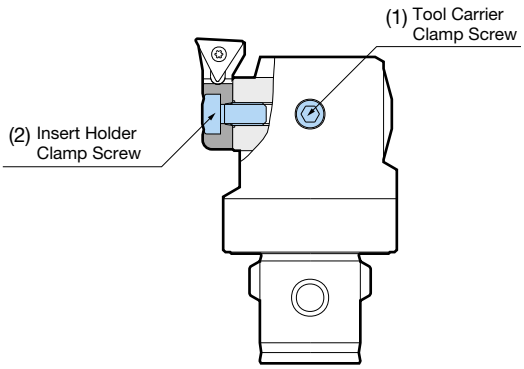
Head Model	(1) 1 pc	(2) 5 pcs	(3) 5 pcs
RW 25- 33CK2	**DS25**	**H0306/R**	**H0206**
RW 32- 42CK3	**DS32**	**H0308/R**	**H0308**
RW 41- 54CK4	**DS41**	**H0410/R**	**H0410**
RW 53- 70CK5	**DS53**	**H0515/R**	**H0512**
RW 68-100CK6	**DS68**	**H0515/R**	
RW100-150CK6		**H0520/R**	

Screws for Boring Head

Specify both the head model and screw model when ordering.

EWN

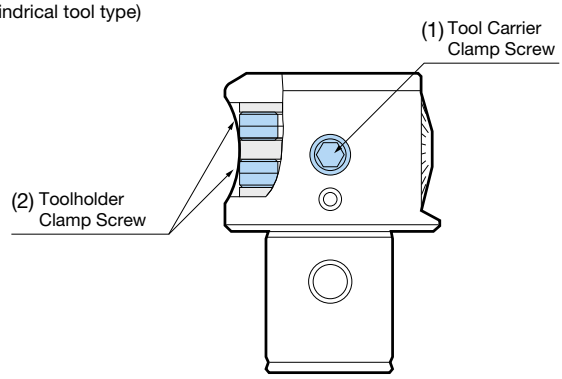
[EWN BORING HEAD]



Head Model	(1) 1 pc	(2) 1 pc
EWN 20- 36CKB1	**K0405**	**B0304-1**
EWN 25- 47CKB2	**K0406**	**B0306-1**
EWN 32- 60CKB3	**K0509**	**B0408-2**
EWN 41- 74CKB4	**K0610**	**B0510-3**
CKB4-EWN41DP-185		
EWN 53- 95CKB5	**K0814**	**B0510-4**
CKB5-EWN53DP-210		
EWN 68-150CKB6	**K1016**	**B0816-5**
CKB6-EWN68DP-240		
EWN100-203CKB6		
EWN100-203CKB7		
EW15	**H0303** (2 pcs)	**M2552T6** (2 pcs)
EW18	**H0304** (2 pcs)	

[EWN BORING HEAD]

(Cylindrical tool type)



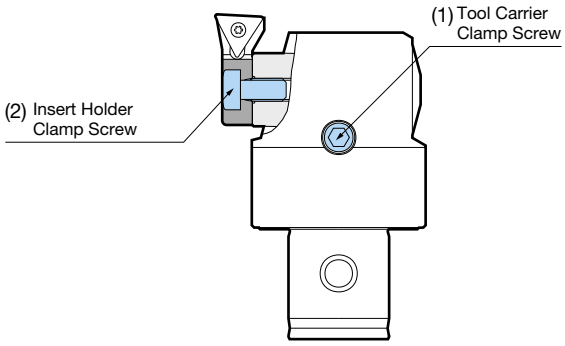
Head Model	(1) 1 pc	(2) 5 pcs
EWN2-22CK4	**K0606**	**H0605**
EWN2-32CK5	**K0809**	**H0806**
EWN2-50CK6	**K1011**	**H1008**

Screws for Boring Head

Specify both the head model and screw model when ordering.

EWB

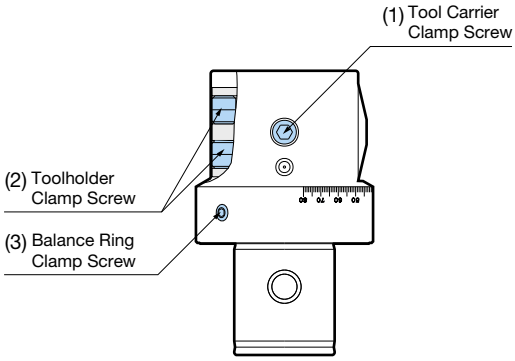
[EWB BORING HEAD]



Head Model	(1) 1 pc	(2) 1 pc
EWB 32- 42CK3	**S0705**	**B0408-2**
EWB 41- 54CK4	**S0706**	**B0510-3**
EWB 53- 70CK5	**S0808**	**B0510-4**
EWB 68- 88CK6	**S1012**	**B0612-5**
EWB 85-105CK6		
EWB100-153CK6AL		
EWB100-153CK7AL		
EWB150-203CK6AL		
EWB150-203CK7AL		

[EWB BORING HEAD]

(Cylindrical tool type)



Head Model	(1) 1 pc	(2) 5 pcs	(3) 1 pc
EWB2-32CK5	**K0809**	**H0806**	**BR232**
EWB2-50CK6	**K1011**	**H1008**	**BR250**

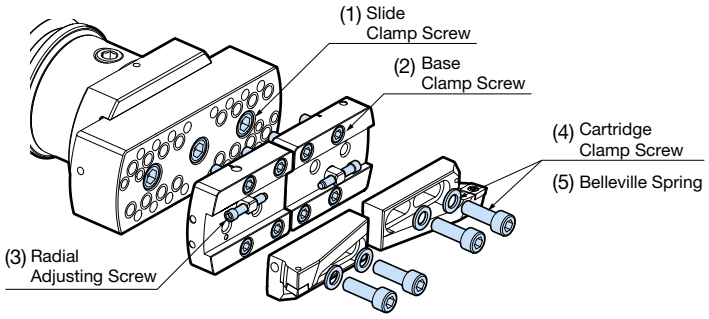
Specify both the head model and screw model when ordering.

For Roughing (Large diameters)

TW

For large diameters

[TW BORING HEAD]



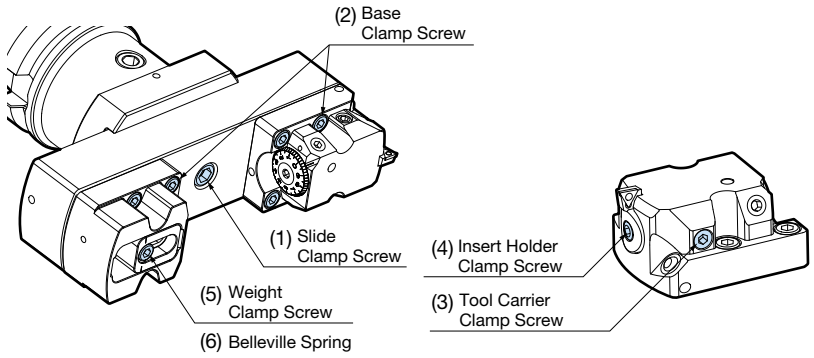
Clamp Base Model	(1) 1 pc	(2) 1 pcs	(3) 1 pc	(4) 1 pc	(5) 4 pcs
CB-TW200 CB-TW200AL	**C1250**	**C0825**	**TW200RS**	**C1030**	**TW53BS**

For Finishing (Large diameters)

EWN200

For large diameters

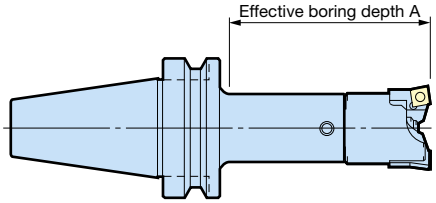
[EWN BORING HEAD]



Head/Balance Weight Model	(1) 1 pc	(2) 1 pc	(3) 1 pc	(4) 1 pc	(5) 1 pcs	(6) 4 pcs
EWN200(AL)	**C1250**	**C0825**	**K1016**	**B0612-5**	-	-
BWN200FB			-	-	**C0830**	**TW41BS**
BWN200PB			-	-	-	-

<SW/TW/RW BORING HEAD>

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. For blind holes, adjust the parameters by observing the chip evacuation.
3. Cermet T1500A is recommended for good surface finish for light roughing of steel.
4. AC830P is recommended for interrupted cutting of steel.
5. AC820P is recommended for interrupted cutting of ductile cast iron.
6. For step cutting, it is recommended to increase the depth of cut by 1.6 times and reduce the feed rate by 60%.



[BBT40]

Head Model	Workpiece material	A	Insert		Cutting speed Vc (m/min)	Cutting depth (mm/ø)		Feed f (mm/rev)	
			Nose radius	Grade		Recommended	Max.	Recommended	Max.
SW20 TWN20	Carbon Steel	73	0.4	AC820P	150	2.0	2.5	0.20	0.25
	Alloy Steel			AC820P	130	1.5	2.0	0.20	0.25
	Stainless Steel			AC630M	80	1.5	2.0	0.20	0.25
	Cast Iron			AC700G	130	2.5	3.0	0.25	0.30
	Ductile			AC410K	80	2.0	2.5	0.20	0.25
	Aluminum			H1	200	2.5	3.0	0.25	0.30
SW25 TWN25 RW25	Carbon Steel	88	0.4	AC820P	160	2.5	3.0	0.25	0.30
	Alloy Steel			AC820P	140	2.0	3.0	0.20	0.25
	Stainless Steel			AC630M	90	2.0	3.0	0.20	0.25
	Cast Iron			AC700G	140	3.0	4.0	0.25	0.30
	Ductile			AC410K	90	2.5	3.0	0.20	0.25
	Aluminum			H1	200	3.0	4.0	0.30	0.35
SW32 TWN32 RW32	Carbon Steel	103	0.8	AC820P	200	3.5	4.5	0.30	0.40
	Alloy Steel			AC820P	180	3.0	4.0	0.25	0.35
	Stainless Steel			AC630M	100	3.0	4.0	0.25	0.35
	Cast Iron			AC700G	180	4.0	5.5	0.30	0.40
	Ductile			AC410K	100	3.5	4.5	0.25	0.35
	Aluminum			H1	220	4.0	5.0	0.30	0.40
SW41 TWN41 RW41	Carbon Steel	103	0.8	AC820P	200	4.5	5.5	0.35	0.45
	Alloy Steel			AC820P	180	4.0	5.0	0.30	0.40
	Stainless Steel			AC630M	100	4.0	5.0	0.30	0.40
	Cast Iron			AC700G	180	5.0	7.0	0.35	0.45
	Ductile			AC410K	100	4.0	6.0	0.30	0.40
	Aluminum			H1	220	5.0	7.0	0.35	0.45
SW53 TWN53 RW53	Carbon Steel	103	0.8	AC820P	220	6.0	8.0	0.40	0.50
	Alloy Steel			AC820P	200	5.0	6.0	0.35	0.45
	Stainless Steel			AC630M	120	5.0	6.0	0.35	0.45
	Cast Iron			AC700G	200	8.0	10.0	0.40	0.50
	Ductile			AC410K	100	6.0	8.0	0.35	0.45
	Aluminum			H1	250	8.0	10.0	0.45	0.55
SW68 SW98 TWN68 TWN98 RW68 RW100	Carbon Steel	103	0.8	AC820P	220	8.0	10.0	0.40	0.50
	Alloy Steel			AC820P	200	7.0	9.0	0.35	0.45
	Stainless Steel			AC630M	120	7.0	9.0	0.35	0.45
	Cast Iron			AC700G	200	9.0	12.0	0.40	0.50
	Ductile			AC410K	100	8.0	10.0	0.35	0.45
	Aluminum			H1	250	9.0	12.0	0.45	0.55

Spindle Speed Calculation

$$N = \frac{Vc}{\pi D} \times 1{,}000$$

N : Spindle speed [min^{-1}]
Vc: Cutting speed [m/min]
D : Diameter [mm]

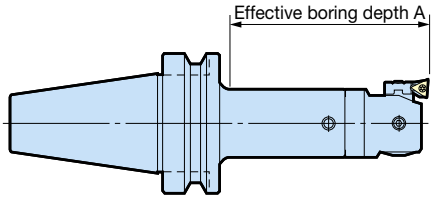
Cutting Conditions

[BBT50]

Head Model		Workpiece material	A	Insert		Cutting speed Vc (m/min)	Cutting depth (mm/ø)		Feed f (mm/rev)	
				Nose radius	Grade		Recommended	Max.	Recommended	Max.
SW20 TWN20		Carbon Steel	73	0.4	AC820P	150	2.0	2.5	0.20	0.25
		Alloy Steel			AC820P	130	1.5	2.0	0.20	0.25
		Stainless Steel			AC630M	80	1.5	2.0	0.20	0.25
		Cast Iron			AC700G	130	2.5	3.0	0.25	0.30
		Ductile			AC410K	80	2.0	2.5	0.20	0.25
		Aluminum			H1	200	2.5	3.0	0.25	0.30
SW25 TWN25 RW25		Carbon Steel	107	0.4	AC820P	150	2.5	3.5	0.25	0.30
		Alloy Steel			AC820P	130	2.0	3.0	0.20	0.25
		Stainless Steel			AC630M	80	2.0	3.0	0.20	0.25
		Cast Iron			AC700G	130	3.0	4.0	0.25	0.30
		Ductile			AC410K	80	2.5	3.0	0.20	0.25
		Aluminum			H1	200	3.0	4.0	0.30	0.35
SW32 TWN32 RW32		Carbon Steel	122	0.8	AC820P	180	3.5	4.5	0.30	0.40
		Alloy Steel			AC820P	160	3.0	4.0	0.25	0.35
		Stainless Steel			AC630M	100	3.0	4.0	0.25	0.35
		Cast Iron			AC700G	160	4.0	5.5	0.30	0.40
		Ductile			AC410K	100	3.5	4.5	0.25	0.35
		Aluminum			H1	200	4.0	5.0	0.30	0.40
SW41 TWN41 RW41		Carbon Steel	122	0.8	AC820P	200	4.5	5.5	0.35	0.45
		Alloy Steel			AC820P	180	4.0	5.0	0.30	0.40
		Stainless Steel			AC630M	100	4.0	5.0	0.30	0.40
		Cast Iron			AC700G	180	5.0	7.0	0.35	0.45
		Ductile			AC410K	100	4.0	6.0	0.30	0.40
		Aluminum			H1	220	5.0	7.0	0.35	0.45
SW53 TWN53 RW53		Carbon Steel	122	0.8	AC820P	220	7.0	9.0	0.40	0.55
		Alloy Steel			AC820P	200	6.0	8.0	0.35	0.50
		Stainless Steel			AC630M	120	6.0	8.0	0.35	0.50
		Cast Iron			AC700G	200	9.0	12.0	0.45	0.55
		Ductile			AC410K	120	7.0	10.0	0.35	0.50
		Aluminum			H1	250	9.0	12.0	0.45	0.55
SW68 TWN68 RW68		Carbon Steel	122	0.8	AC820P	220	10.0	12.0	0.40	0.60
		Alloy Steel			AC820P	200	8.0	12.0	0.35	0.55
		Stainless Steel			AC630M	120	8.0	10.0	0.35	0.55
		Cast Iron			AC700G	200	10.0	14.0	0.45	0.60
		Ductile			AC410K	120	9.0	12.0	0.35	0.55
		Aluminum			H1	250	10.0	12.0	0.45	0.60
SW98 TWN98 RW100		Carbon Steel	122	0.8	AC820P	220	10.0	12.0	0.40	0.60
		Alloy Steel			AC820P	200	8.0	12.0	0.35	0.55
		Stainless Steel			AC630M	120	8.0	10.0	0.35	0.55
		Cast Iron			AC700G	200	10.0	14.0	0.45	0.60
		Ductile			AC410K	120	9.0	12.0	0.35	0.55
		Aluminum			H1	250	10.0	12.0	0.45	0.60
TW200 (CK7)	≤ ø340	Carbon Steel	172	0.8	AC820P	220	10.0	12.0	0.40	0.60
		Alloy Steel			AC820P	200	8.0	12.0	0.35	0.55
		Stainless Steel			AC630M	120	8.0	10.0	0.35	0.55
		Cast Iron			AC700G	200	10.0	14.0	0.45	0.60
		Ductile			AC700G	120	9.0	12.0	0.35	0.55
		Aluminum			H1	250	10.0	12.0	0.45	0.60
	> ø340	Carbon Steel			AC820P	220	7.0	9.0	0.40	0.60
		Alloy Steel			AC820P	200	6.0	8.0	0.35	0.55
		Stainless Steel			AC630M	120	6.0	8.0	0.35	0.55
		Cast Iron			AC700G	200	7.0	10.0	0.45	0.60
		Ductile			AC700G	120	6.0	8.0	0.35	0.55
		Aluminum			H1	250	7.0	9.0	0.45	0.60

<EWN/EWD/EWB BORING HEAD>

1. This table is a guideline for selecting cutting parameters.
   Adjust them as needed according to the machine and workpiece conditions.
2. Internal high pressure coolant may cause deflection of the holder.
   Lower the pressure when close tolerance is required.
3. Coated cermet T2000Z is recommended to reduce wear when machining steel.
4. Dry cutting is recommended for CBN, BN250, BNC200 and BN700 inserts.



[BBT40]

Head Model	Workpiece material	A	Insert		Cutting speed Vc (m/min)	Cutting depth (mm/ø)	Feed f (mm/rev)	
			Nose radius	Grade			Recommended	Max.
EWN20	Carbon Steel/Alloy Steel	73	0.2	T1500A	160	0.15	0.06	0.12
	Stainless Steel		0.2	AC520U	120	0.15	0.06	0.10
	Hardened Steel		0.2	BN250	70	0.10	0.06	0.10
	Cast Iron		0.2	H1	120	0.20	0.06	0.12
	Ductile		0.2	H1ZX	100	0.15	0.06	0.10
	Ductile		0.2	BN700	120	0.15	0.06	0.10
	Aluminum		0.2	H1	200	0.20	0.06	0.12
	Aluminum		0.2	DA2200	300	0.20	0.06	0.12
EWN25	Carbon Steel/Alloy Steel	88	0.2	T1500A	180	0.15	0.06	0.12
	Stainless Steel		0.2	AC520U	140	0.15	0.06	0.12
	Hardened Steel		0.2	BN250	80	0.10	0.06	0.10
	Cast Iron		0.2	H1	140	0.20	0.06	0.12
	Ductile		0.2	H1ZX	120	0.15	0.06	0.12
	Ductile		0.2	BN700	180	0.15	0.06	0.10
	Aluminum		0.2	H1	200	0.20	0.06	0.12
	Aluminum		0.2	DA2200	400	0.20	0.06	0.12
EWN32 **EWB32**	Carbon Steel/Alloy Steel	103	0.2	T1500A	200	0.20	0.06	0.12
	Stainless Steel		0.2	AC520U	160	0.20	0.06	0.12
	Hardened Steel		0.2	BN250	100	0.10	0.06	0.10
	Cast Iron		0.2	H1	160	0.20	0.06	0.12
	Ductile		0.2	H1ZX	120	0.15	0.06	0.12
	Ductile		0.2	BN700	200	0.15	0.06	0.10
	Aluminum		0.4	H1	300	0.20	0.10	0.20
	Aluminum		0.4	DA2200	800	0.20	0.10	0.20
EWN41 **EWD41** **EWB41**	Carbon Steel/Alloy Steel	103	0.2	T1500A	200	0.20	0.06	0.12
	Stainless Steel		0.2	AC520U	160	0.20	0.06	0.12
	Hardened Steel		0.4	BN250	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	160	0.20	0.10	0.20
	Ductile		0.4	H1ZX	120	0.15	0.10	0.15
	Ductile		0.4	BN700	200	0.15	0.10	0.15
	Aluminum		0.4	H1	300	0.20	0.12	0.20
	Aluminum		0.4	DA2200	800	0.20	0.12	0.20
EWN53 **EWN68** **EWN100** **EWD53** **EWD68** **EWD100** **EWB53** **EWB68** **EWB85**	Carbon Steel/Alloy Steel	103	0.4	T1500A	250	0.25	0.10	0.20
	Stainless Steel		0.4	AC520U	180	0.25	0.10	0.20
	Hardened Steel		0.4	BN250	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	180	0.25	0.10	0.20
	Ductile		0.4	H1ZX	120	0.20	0.10	0.20
	Ductile		0.4	BN700	200	0.20	0.10	0.20
	Aluminum		0.8	H1	300	0.25	0.16	0.30
	Aluminum		0.4	DA2200	800	0.25	0.12	0.20

Cutting Conditions

[BBT50]

Head Model	Workpiece material	A	Insert		Cutting speed Vc (m/min)	Cutting depth (mm/ø)	Feed f (mm/rev)	
			Nose radius	Grade			Recommended	Max.
EWN20	Carbon Steel/Alloy Steel	73	0.2	T1500A	160	0.15	0.06	0.12
	Stainless Steel		0.2	AC520U	120	0.15	0.06	0.10
	Hardened Steel		0.2	BN250	70	0.10	0.06	0.10
	Cast Iron		0.2	H1	120	0.20	0.06	0.12
	Ductile		0.2	H1ZX	100	0.15	0.06	0.10
	Ductile		0.2	BN700	120	0.15	0.06	0.10
	Aluminum		0.2	H1	200	0.20	0.06	0.12
	Aluminum		0.2	DA2200	300	0.20	0.06	0.12
EWN25	Carbon Steel/Alloy Steel	107	0.2	T1500A	180	0.15	0.06	0.12
	Stainless Steel		0.2	AC520U	140	0.15	0.06	0.12
	Hardened Steel		0.2	BN250	80	0.10	0.06	0.10
	Cast Iron		0.2	H1	140	0.20	0.06	0.12
	Ductile		0.2	H1ZX	120	0.15	0.06	0.12
	Ductile		0.2	BN700	180	0.15	0.06	0.10
	Aluminum		0.2	H1	200	0.20	0.06	0.12
	Aluminum		0.2	DA2200	400	0.20	0.06	0.12
EWN32 **EWB32**	Carbon Steel/Alloy Steel	122	0.2	T1500A	200	0.20	0.06	0.12
	Stainless Steel		0.2	AC520U	160	0.20	0.06	0.12
	Hardened Steel		0.2	BN250	100	0.10	0.06	0.10
	Cast Iron		0.2	H1	160	0.20	0.06	0.12
	Ductile		0.2	H1ZX	120	0.15	0.06	0.12
	Ductile		0.2	BN700	200	0.15	0.06	0.10
	Aluminum		0.4	H1	300	0.20	0.10	0.20
	Aluminum		0.4	DA2200	800	0.20	0.10	0.20
EWN41 **EWD41** **EWB41**	Carbon Steel/Alloy Steel	122	0.2	T1500A	200	0.20	0.06	0.12
	Stainless Steel		0.2	AC520U	160	0.20	0.06	0.12
	Hardened Steel		0.4	BN250	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	160	0.20	0.10	0.20
	Ductile		0.4	H1ZX	120	0.15	0.10	0.15
	Ductile		0.4	BN700	200	0.15	0.10	0.15
	Aluminum		0.4	H1	300	0.20	0.12	0.20
	Aluminum		0.4	DA2200	800	0.20	0.12	0.20
EWN53 **EWD53** **EWB53**	Carbon Steel/Alloy Steel	122	0.4	T1500A	250	0.25	0.10	0.20
	Stainless Steel		0.4	AC520U	180	0.25	0.10	0.20
	Hardened Steel		0.4	BN250	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	180	0.25	0.10	0.20
	Ductile		0.4	H1ZX	120	0.20	0.10	0.20
	Ductile		0.4	BN700	200	0.20	0.10	0.20
	Aluminum		0.8	H1	300	0.25	0.16	0.30
	Aluminum		0.4	DA2200	800	0.25	0.12	0.20
EWN68 **EWN100** **EWD68** **EWD100** **EWB68** **EWB85**	Carbon Steel/Alloy Steel	122	0.4	T1500A	250	0.25	0.10	0.20
	Stainless Steel		0.4	AC520U	180	0.25	0.10	0.20
	Hardened Steel		0.4	BN250	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	180	0.25	0.10	0.20
	Ductile		0.4	H1ZX	120	0.20	0.10	0.20
	Ductile		0.4	BN700	200	0.20	0.10	0.20
	Aluminum		0.8	H1	300	0.25	0.16	0.30
	Aluminum		0.8	DA2200	800	0.25	0.16	0.30
EWN200 **(CK7)**	Carbon Steel/Alloy Steel	172	0.4	T1500A	250	0.25	0.10	0.20
	Stainless Steel		0.4	AC520U	180	0.25	0.10	0.20
	Hardened Steel		0.4	BN250	100	0.10	0.08	0.12
	Cast Iron		0.4	H1	180	0.25	0.10	0.20
	Ductile		0.4	H1ZX	120	0.20	0.10	0.20
	Ductile		0.4	BN700	200	0.20	0.10	0.20
	Aluminum		0.8	H1	300	0.25	0.16	0.30
	Aluminum		0.8	DA2200	800	0.25	0.16	0.30

<Cylindrical tool type>

Max. Spindle Speed for Cylindrical Tool Type

Head Model	Max. spindle speed n
EWN04- 7CK1	30,000min^{-1}
EWN04-15CK3	20,000min^{-1}
EWN 2-22CK4	18,000min^{-1}
EWB 2-32CK5	16,000min^{-1}
EWN 2-32CK5	14,000min^{-1}
EWB 2-50CK6	12,000min^{-1}
EWD 2-54CK6	12,000min^{-1}
EWN 2-50CK6	10,000min^{-1}

The max. spindle speeds listed in this table are the speeds allowable for safe use of the boring head only.
Note that these values differ depending on the cylindrical tools used, machine rigidity, etc.

Feed Rate Selection

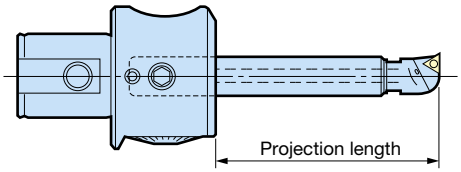
Suitable feed rate varies depending on the desired accuracy. Refer to the following formula and determine the best parameters.

$$\text{Theoretical surface roughness Ry } [\mu m] = \frac{(\text{Feed per revolution})^2}{8 \times \text{Nose radius}} \times 1{,}000$$

● In general, nose radius 0.2 should be used with f = 0.06 and radius 0.4 with f = 0.10
These values are reference only.

Recommended Cutting Conditions

1. This table is a guideline for selecting cutting parameters.
   Adjust them as needed according to the machine and workpiece conditions.
2. If chatter occurs, either lower the cutting speed or use an insert with a smaller nose radius.
3. Internal high pressure coolant may cause deflection of the cylindrical tool.
   Lower the pressure when close tolerance is required.
4. Coated cermet T2000Z is recommended to reduce wear when machining steel.
5. Dry cutting is recommended for CBN, BN250, BNC200 and BN700 inserts.



● Cylindrical Tool Type/ST05, ST06 (Diameter ø6 - 9)

Workpiece material	Projection length	Insert		Cutting speed Vc (m/min)	Cutting depth (mm/ø)
		Nose radius	Grade		
Carbon Steel Alloy Steel	20	0.2	T1200A	100	0.2
	40			70	0.2
	50			50	0.2
	60			30	0.1
Stainless Steel	20	0.2	T1200A	90	0.2
	40			60	0.2
	50			40	0.2
	60			30	0.1
Cast Iron	20	0.2	H1	100	0.2
	40			70	0.2
	50			50	0.2
	60			30	0.1
Aluminum	20	0.2	H1	120	0.2
	40			100	0.2
	50			80	0.2
	60			60	0.2

Red figures are achievable with cylindrical tools made of carbide.

● Cylindrical Tool Type/ST08 (Diameter ø9 - 12)

Workpiece material	Projection length	Insert		Cutting speed Vc (m/min)	Cutting depth (mm/ø)
		Nose radius	Grade		
Carbon Steel Alloy Steel	20	0.2	T1500A	100	0.20
	30			120	0.20
	40			90	0.20
	50			75	0.15
	60	0.1	A1	50	0.10
Stainless Steel	20	0.2	T130A	100	0.20
	30			120	0.20
	40			90	0.20
	50			75	0.15
	60	0.1	A1	50	0.10
Hardened Steel	20	0.2	BN250	70	0.10
	30			50	0.10
	40			20	0.10
Cast Iron	20	0.2	H1 (FN)	100	0.20
	30			120	0.20
	40			90	0.20
	50			75	0.15
	60	0.1	A1	40	0.10
Aluminum	20	0.2	H1 (FLA)	150	0.20
	30			165	0.25
	40			150	0.20
	50			125	0.15
	60	0.1	A1	60	0.15

Red figures are achievable with cylindrical tools made of carbide.

Cutting Conditions

● Cylindrical Tool Type/ST10 (Diameter ø12 - 14)

Workpiece material	Projection length	Insert		Cutting speed Vc (m/min)	Cutting depth (mm/ø)
		Nose radius	Grade		
Carbon Steel Alloy Steel	30	0.2	T1500A	120	0.20
	45			140	0.20
	60			100	0.20
	70			75	0.15
	80	0.1	A1	50	0.10
Stainless Steel	30	0.2	T130A	120	0.20
	45			130	0.20
	60			90	0.20
	70			55	0.15
	80	0.1	A1	40	0.10
Hardened Steel	30	0.2	BN250	80	0.10
	45			60	0.10
	60			30	0.10
Cast Iron	30	0.2	H1 (FN)	120	0.20
	45			130	0.20
	60			90	0.15
	75			60	0.15
	90	0.1	A1	30	0.10
Aluminum	30	0.2	H1 (FLA)	150	0.25
	45			180	0.25
	60			150	0.20
	75			90	0.20
	90	0.1	A1	60	0.15

Red figures are achievable with cylindrical tools made of carbide.

● Cylindrical Tool Type/ST12 (Diameter ø14 - 16)

Workpiece material	Projection length	Insert		Cutting speed Vc (m/min)	Cutting depth (mm/ø)
		Nose radius	Grade		
Carbon Steel Alloy Steel	40	0.2	T1500A	120	0.20
	60			180	0.20
	80			150	0.20
	95			90	0.15
	110	0.1	A1	50	0.10
Stainless Steel	40	0.2	T130A	120	0.20
	60			130	0.20
	80			100	0.20
	95			70	0.15
	110	0.1	A1	40	0.10
Hardened Steel	40	0.2	BN250	80	0.10
	50			60	0.10
	65			30	0.10
Cast Iron	40	0.2	H1 (FN)	120	0.20
	60			130	0.20
	80			100	0.15
	95			70	0.15
	110	0.1	A1	40	0.10
Aluminum	40	0.2	H1 (FLA)	150	0.25
	60			200	0.25
	80			180	0.20
	100			130	0.20
	120	0.1	A1	60	0.15

Red figures are achievable with cylindrical tools made of carbide.

● Cylindrical Tool Type/ST14 (Diameter ø16 - 18)

Workpiece material	Projection length	Insert		Cutting speed Vc (m/min)	Cutting depth (mm/ø)
		Nose radius	Grade		
Carbon Steel Alloy Steel	45	0.2	T1500A	130	0.20
	65			180	0.20
	80			150	0.20
	100			90	0.15
	120	0.1	A1	50	0.10
Stainless Steel	45	0.2	AC520U	120	0.20
	65			130	0.20
	80			120	0.20
	100			80	0.15
	120	0.1	A1	40	0.10
Hardened Steel	45	0.2	BN250	80	0.10
	60			60	0.10
	75			30	0.10
Cast Iron	45	0.2	H1 (FN)	120	0.20
	65			130	0.20
	80			120	0.15
	100			80	0.15
	120	0.1	A1	40	0.10
Aluminum	45	0.4	H1 (FLA)	150	0.25
	65			200	0.25
	80	0.2		180	0.20
	100			120	0.20
	120	0.1	A1	60	0.15

Red figures are achievable with cylindrical tools made of carbide.

● Cylindrical Tool Type/ST16 (Diameter ø18 - 50)

Workpiece material	Projection length	Insert		Cutting speed Vc (m/min)	Cutting depth (mm/ø)
		Nose radius	Grade		
Carbon Steel Alloy Steel	45	0.4	T1500A	130	0.20
	60			180	0.20
	80	0.2		150	0.20
	110			90	0.15
	140	0.1	A1	50	0.10
Stainless Steel	45	0.4	AC520U	120	0.20
	60			130	0.20
	80	0.2		120	0.20
	110			80	0.15
	140	0.1	A1	40	0.10
Hardened Steel	45	0.2	BN250	80	0.10
	60			60	0.10
	80			30	0.10
Cast Iron	45	0.4	H1 (FN)	120	0.20
	60			130	0.20
	80	0.2		120	0.15
	110			80	0.15
	140	0.1	A1	40	0.10
Aluminum	45	0.4	H1 (FLA)	150	0.25
	60			200	0.25
	80	0.2		180	0.20
	110			120	0.20
	140	0.1	A1	60	0.15

Red figures are achievable with cylindrical tools made of carbide.

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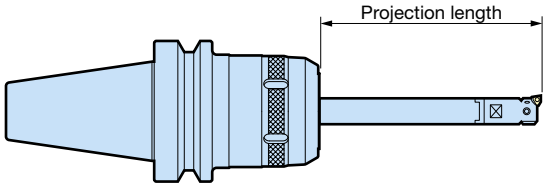
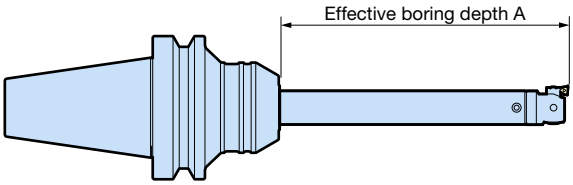


1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. Internal high pressure coolant may cause deflection of the holder. Lower the pressure when close tolerance is required.
3. These conditions are determined when the cylindrical tool is mounted on the BIG NEW Hi-POWER MILLING CHUCK or BIG NEW BABY CHUCK.

Workpiece material	Projection length	Diameter: ø15 - 18				Diameter ø18 - 22			
		ST14W-EW15-110. (140)				ST16W-EW18-100. (160)			
		Insert		Cutting speed Vc	Cutting depth	Insert		Cutting speed Vc	Cutting depth
		Nose radius	Grade	m/min	mm/ø	Nose radius	Grade	m/min	mm/ø
Carbon Steel Alloy Steel	20	0.2	T1200A	200	0.20	0.2	T1200A	200	0.20
	40			200	0.20			200	0.20
	60			180	0.20			200	0.20
	80			160	0.15			180	0.18
	100			120	0.15			150	0.15
	120			70	0.10			100	0.10
	140			30	0.10			60	0.10
	160			-	-			30	0.10
Stainless Steel	20	0.2	T1200A	150	0.20	0.2	T1200A	150	0.20
	40			150	0.20			150	0.20
	60			150	0.20			150	0.20
	80			130	0.15			140	0.18
	100			100	0.15			120	0.15
	120			70	0.10			100	0.10
	140			30	0.10			60	0.10
	160			-	-			30	0.10
Cast Iron	20	0.2	H1	150	0.20	0.2	H1	150	0.20
	40			150	0.20			150	0.20
	60			140	0.20			150	0.20
	80			120	0.15			140	0.18
	100			100	0.15			120	0.15
	120			60	0.10			100	0.10
	140			30	0.10			60	0.10
	160			-	-			30	0.10
Aluminum	20	0.2	H1	280	0.20	0.2	H1	320	0.20
	40			280	0.20			320	0.20
	60			280	0.20			320	0.20
	80			250	0.20			280	0.20
	100			180	0.15			220	0.15
	120			100	0.12			160	0.12
	140			60	0.12			100	0.12
	160			-	-			60	0.10

Cutting Conditions

<CK Carbide Cylindrical Shank>

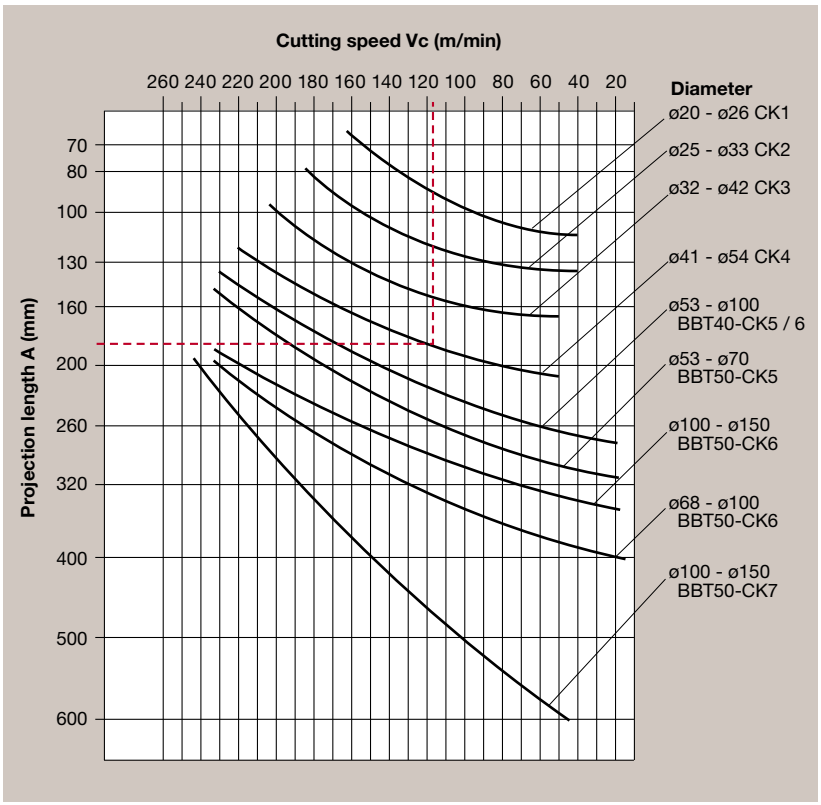


1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. Internal high pressure coolant may cause deflection of the holder. Lower the pressure when close tolerance is required.
3. Coated cermet T2000Z is recommended to reduce wear when machining steel.
4. T130A is recommended to prevent edge chipping for interrupted cutting of steel.
5. These conditions are determined when the cylindrical tool is mounted on the BIG HYDRAULIC CHUCK.

Head Model	Workpiece material	A	Insert		Cutting speed Vc (m/min)	Cutting depth (mm/ø)	Feed f (mm/rev)	
			Nose radius	Grade			Recommended	Max.
EWN20	Carbon Steel	90	0.2	T1500A	200	0.20	0.06	0.12
		150	0.2	T1500A	120	0.20	0.06	0.12
		175	0.2	T1500A	60	0.15	0.06	0.10
		200	0.2	T1500A	25	0.15	0.06	0.10
	Cast Iron	90	0.2	H1 (FN)	180	0.20	0.06	0.12
		150	0.2	H1 (FN)	120	0.20	0.06	0.12
		175	0.2	H1 (FN)	60	0.15	0.06	0.10
		200	0.2	H1 (FN)	25	0.15	0.06	0.10
	Aluminum	90	0.2	DA2200	400	0.20	0.06	0.12
		150	0.2	H1 (FLA)	200	0.20	0.06	0.12
		175	0.2	H1 (FLA)	100	0.20	0.06	0.10
		200	0.2	H1 (FLA)	40	0.15	0.06	0.10
		230	0.1	A1 (FLA)	25	0.15	0.04	0.08
EWN25	Carbon Steel	125	0.4	T1500A	200	0.25	0.08	0.15
		175	0.2	T1500A	120	0.20	0.06	0.12
		200	0.2	T1500A	60	0.20	0.06	0.10
		250	0.2	T1500A	25	0.15	0.06	0.10
	Cast Iron	125	0.4	H1 (FN)	180	0.25	0.08	0.15
		175	0.2	H1 (FN)	120	0.20	0.06	0.12
		200	0.2	H1 (FN)	60	0.20	0.06	0.10
		250	0.2	H1 (FN)	25	0.15	0.06	0.10
	Aluminum	125	0.4	DA2200	500	0.25	0.08	0.15
		175	0.4	H1 (FLA)	200	0.25	0.08	0.15
		200	0.2	H1 (FLA)	100	0.20	0.06	0.10
		250	0.2	H1 (FLA)	40	0.20	0.06	0.10
		285	0.1	A1 (FLA)	25	0.15	0.04	0.08
EWN32 EWB32	Carbon Steel	135	0.4	T1500A	200	0.25	0.08	0.15
		160	0.2	T1500A	130	0.20	0.06	0.12
		200	0.2	T1500A	80	0.20	0.06	0.10
		250	0.2	T1500A	25	0.15	0.06	0.10
	Cast Iron	135	0.4	H1 (FN)	180	0.25	0.08	0.15
		160	0.2	H1 (FN)	130	0.20	0.06	0.12
		200	0.2	H1 (FN)	80	0.20	0.06	0.10
		250	0.2	H1 (FN)	25	0.15	0.06	0.10
	Aluminum	135	0.4	DA2200	500	0.25	0.08	0.15
		160	0.4	H1 (FLA)	220	0.25	0.08	0.15
		200	0.2	H1 (FLA)	120	0.20	0.06	0.10
		250	0.2	H1 (FLA)	40	0.20	0.06	0.10
		310	0.1	A1 (FLA)	25	0.15	0.04	0.08

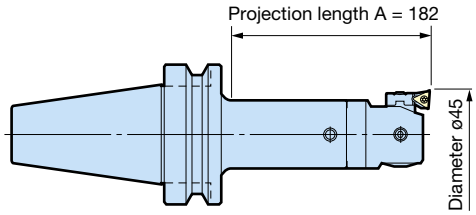
Cutting Speed Selection Graph for Cutting Steel

Chatter is always an issue in boring. The figure at right shows how the cutting speed (rotational speed) inevitably decreases as the bar becomes longer. Refer to the cutting conditions listed in this graph and on the previous pages when selecting the optimum cutting conditions.
For cast iron, 10-20% longer projection length is generally permissible.



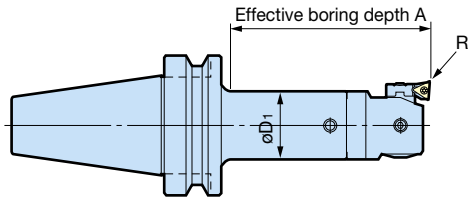
[Reference Example]
Indicated by - - - - - - in the graph at right

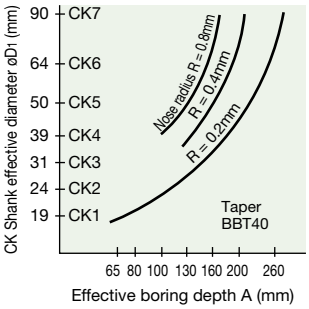
Example below shows the projection length A of 182mm and the diameter of ø45mm (ø41-ø54 CK4).
The recommended cutting speed is 118m/min.
Select an appropriate cutting speed based on this reference example.

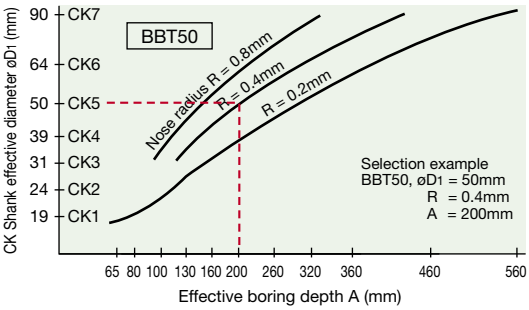


Relationship between Nose Radius and Effective Boring Depth

The insert nose radius and boring bar length (machining depth limit) are closely related. Refer to the graph below when selecting a CK Shank. Depths 1.1 - 1.3 times greater than listed in the graph are possible for cast iron (FC). Refer to the Cutting Conditions table on the previous page for information about cutting conditions. The cutting speed, in particular, inevitably decreases when the bar projection length increases. Refer to the above graph for details.







Cutting Conditions

General Toolholder

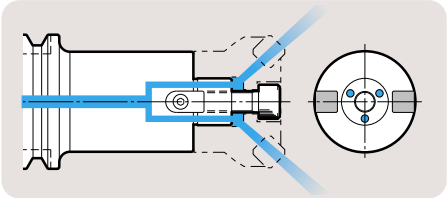
FACE MILL ARBOR TYPE FMH

● Face mill arbor capable of securely supplying coolant/air to cutting edges through oil holes of cutters.

DUAL CONTACT
BIG-PLUS®

Center through

Securely supplies coolant/air to the cutting edge



● Model Description

BBT30 - FMH 16 - 37 - 35

- BBT30 — BIG-PLUS BT No.
- FMH — FACE MILL ARBOR TYPE FMH
- 16 — Spigot diameter
- 37 — Body diameter
- 35 — L dimension

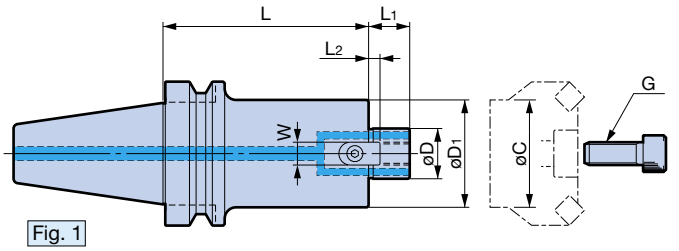


Fig. 1

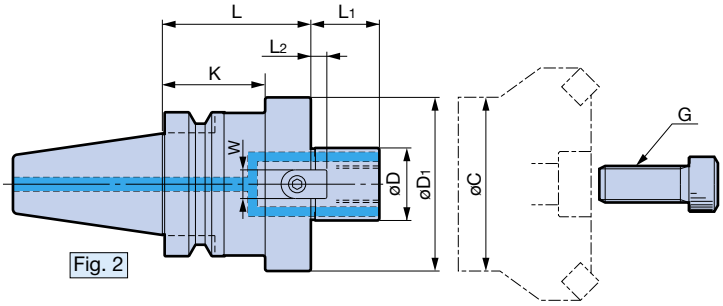


Fig. 2

BBT30/40

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	øD (h6)	øD1	L	L1	Drive Key L2	Drive Key W	G	Weight (kg)	Min. flange diameter øC
BBT30-FMH16 -37- 35	1	16	37	35	16	5	8	M 8	0.55	28
-FMH22 -47- 45 ○	2	22	47	45	18	5	10	M10	0.77	38
-FMH22 -60- 45 ○	2	22	60	45	18	5	10	M10	0.90	38
-FMH27 -60- 45 ○	2	27	60	45	20	6	12	M12	0.94	46
BBT40-FMH22.225-47- 60	1	22.225	47	60	17	3.5	8	M10	1.5	39
- 90				90					1.9	
-FMH25.4 -70- 60 ○	2	25.4	70	60	22	5	9.5	M12	2.0	46
- 90				90					2.7	
-105				105					3.1	
-FMH31.75 -76- 60 ○	2	31.75	76	60	30	7	12.7	M16	2.2	63
- 90				90					2.9	56
-FMH31.75 -96- 60 ○	2	31.75	96	60	30	7	12.7	M16	2.5	84
-FMH16 -37- 40	1	16	37	40	16	5	8	M 8	1.1	28
-FMH22 -47- 45	1	22	47	45	18	5	10	M10	1.3	38
- 60				60					1.5	36
- 90				90					1.9	
-150				150					2.7	
-FMH22 -60- 45	1	22	60	45	18	5	10	M10	1.5	49
- 60				60					1.8	
- 90				90					2.5	
-FMH27 -60- 45	1	27	60	45	20	6	12	M12	1.5	46
- 60				60					1.8	
- 90				90					2.5	
-FMH27 -76- 60 ○	2	27	76	60	20	6	12	M12	2.1	48
- 90				90					2.8	
-FMH32 -96- 60 ○	2	32	96	60	22	7	14	M16	2.4	58

1. The weight does not include the cutter.
2. Cutter clamping screw is included.
   If the provided clamping screw is not compatible, separately select one from the clamping screw table on A111.
3. When using a cutter without oil holes, an optional clamping screw with a through hole allows coolant supply.
4. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.
   Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.
5. The ATC arm interference zone K of model numbers with ○ is 30mm for BBT30 and 45mm for BBT40.

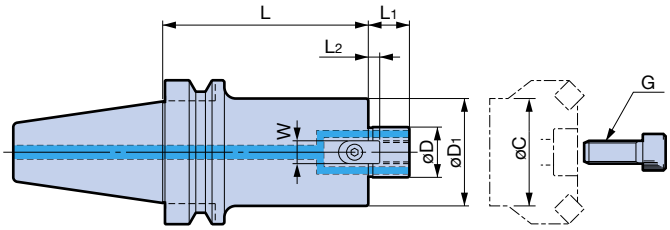
For BBT50, refer to the next page →

FACE MILL ARBOR TYPE FMH

● Face mill arbor capable of securely supplying coolant/air to cutting edges through oil holes of cutters.

DUAL CONTACT BIG-PLUS®

Center through



● Model Description

BBT50 - FMH 22.225 - 47 - 60

- 60 : L dimension
- 47 : Body diameter
- 22.225 : Spigot diameter
- FMH : FACE MILL ARBOR TYPE FMH
- BBT50 : BIG-PLUS BT No.

BBT50

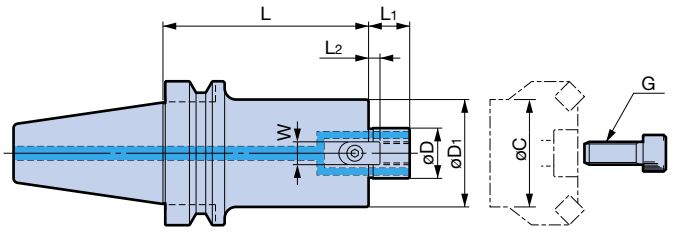
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	øD (h6)	øD1	L	L1	Drive Key L2	Drive Key W	G	Weight (kg)	Min. flange diameter øC
BBT50-FMH22.225- 47- 60	22.225	47	60	17	3.5	8	M10	4.1	39
-105			105					4.7	
-150			150					5.3	
-200			200					6.0	
-FMH25.4 - 70- 45	25.4	70	45	22	5	9.5	M12	4.0	46
- 60			60					4.5	
- 90			90					5.4	
-150			150					7.2	
-200			200					8.7	
-FMH31.75 - 76- 45	31.75	76	45	30	7	12.7	M16	4.1	56
- 75			75					5.2	
-105			105					6.3	
-150			150					7.9	
-200			200					9.7	
-FMH31.75 - 96- 45	31.75	96	45	30	7	12.7	M16	4.3	56
- 75			75					6.0	
-105			105					7.7	
-150			150					10.3	
-200			200					13.1	
-FMH38.1 -100- 45	38.1	100	45	34	9	15.9	M20 (MBA-M20H)	4.4	70
- 75			75					6.3	
-105			105					8.1	
-150			150					10.9	
-200			200					14.5	

1. The weight does not include the cutter.
2. Cutter clamping screw is included.
   If the provided clamping screw is not compatible, separately select one from the clamping screw table on A111.
3. When using a cutter without oil holes, an optional clamping screw with a through hole allows coolant supply.
4. For the detailed dimensions of clamping screw MBA-M20H, see A111.
5. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.
   Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

General Toolholder

FACE MILL ARBOR TYPE FMH



DUAL CONTACT
BIG-PLUS®

Center through

BBT50

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	øD (h6)	øD1	L	L1	Drive Key L2	Drive Key W	G	Weight (kg)	Min. flange diameter øC
BBT50-FMH16 - 37- 60	16	37	60	16	5	8	M8	3.8	28
-105			105					4.1	
-150			150					4.5	
-200			200					4.9	
-FMH22 - 47- 60	22	47	60	18	5	10	M10	4.1	38
-105			105					4.7	36
-150			150					5.3	
-200			200					6.0	
-250			250					6.7	
-300			300					7.8	
-350			350					8.9	
-FMH22 - 60- 60	22	60	60	18	5	10	M10	4.2	38
-105			105					5.2	
-150			150					5.2	
-200			200					7.4	
-250			250					8.5	
-300			300					9.6	49
-350			350					10.7	
-FMH27 - 60- 45	27	60	45	20	6	12	M12	3.9	46
- 90			90					5.0	
-150			150					6.3	
-200			200					7.4	
-250			250					8.5	
-300			300					9.6	
-FMH27 - 76- 45	27	76	45	20	6	12	M12	4.0	62
- 90			90					5.6	
-150			150					7.8	
-200			200					9.7	
-250			250					11.4	48
-300			300					13.2	
-FMH32 - 96- 45	32	96	45	22	7	14	M16	4.2	58
- 90			90					6.8	
-150			150					10.2	
-200			200					13.3	
-250			250					16.1	80
-300			300					19.0	
-FMH40 -100- 45	40	100	45	26	8.5	16	M20 (MBA-M20H)	4.4	70
- 75			75					6.2	
-105			105					8.1	

1. The weight does not include the cutter.
2. Cutter clamping screw is included.
   If the provided clamping screw is not compatible, separately select one from the clamping screw table on A111.
3. When using a cutter without oil holes, an optional clamping screw with a through hole allows coolant supply.
4. For the detailed dimensions of clamping screw MBA-M20H, see A111.
5. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.
   Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

FACE MILL ARBOR TYPE FMH

Built-in Damper SMART DAMPER

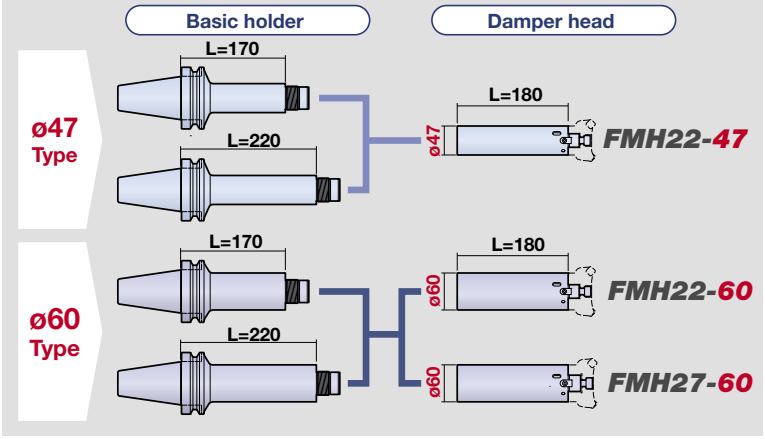
DUAL CONTACT
BIG-PLUS®

Center through

- Dynamic damper eliminates chatter.
- Modular system allows versatile combinations.

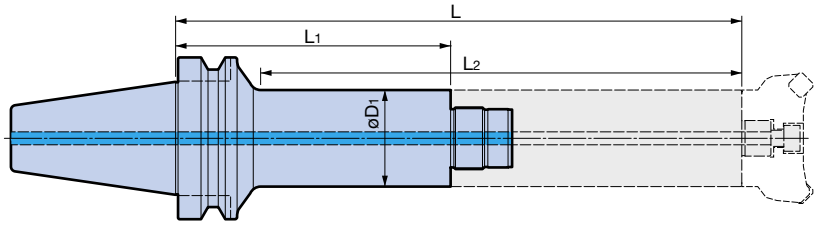
System layout diagram (for BBT50 Shank)

Basic holders of different lengths can be used with one damper head (for BBT/HSK Shank in common).



DUAL CONTACT
BIG-PLUS®

[Basic Holder]



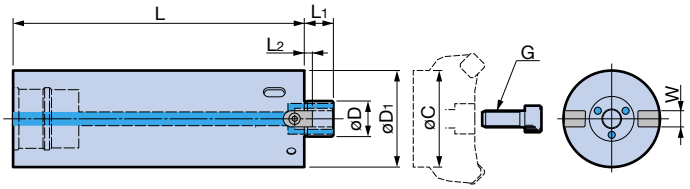
● Model Description

BBT50 - SDF36 - 47 - 170
- 170: L1 dimension
- 47: Body diameter
- SDF36: Connection size
- BBT50: BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	øD1	L	L1	L2	Weight (kg)	Applicable damper head
BBT50-SDF36-47-170	47	350	170	297	5.6	FMH□□DP-47
47-220		400	220	347	6.3	
-SDF36-60-170	60	350	170	297	6.7	FMH□□DP-60
-60-220		400	220	347	7.8	

[Damper Head]



● Model Description

SDF36 - FMH 22 DP - 47 - 180
- 180: L dimension
- 47: Body diameter
- DP: Built-In Damper Type
- 22: Spigot diameter
- FMH: FACE MILL ARBOR TYPE FMH
- SDF36: Connection size

Model	øD	øD1	L	L1	L2	W	G	Weight (kg)	Wrench Model	Min. flange diameter øC
SDF36-FMH22DP-47-180	22	47	180	18	5	10	M10	3.0	FK45-50L	36
-60-180	22	60	180	18	5	10	M10	4.5	FK58-62L	49
-FMH27DP-60-180	27	60	180	20	6	12	M12	4.5		46

1. Refer to the operation manual regarding the mounting method to the basic holder.
2. The weight does not include the cutter.
3. Hook wrench and cutter clamping screw are included.
4. If the provided clamping screw is not compatible, separately select one from the clamping screw table on A111.
5. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor. Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

FACE MILL ARBOR TYPE A

DUAL CONTACT
BIG-PLUS®

● Model Description

BBT30 - FMA 22.225 - 45
- 45 : L dimension
- 22.225 : Spigot diameter
- FMA : FACE MILL ARBOR TYPE A
- BBT30 : BIG-PLUS BT No.

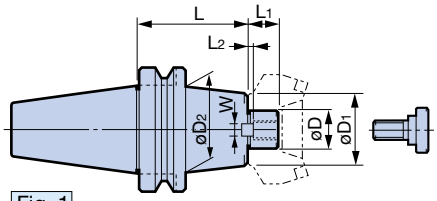


Fig. 1

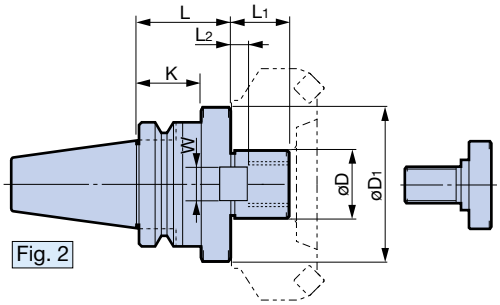


Fig. 2

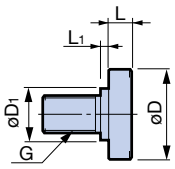
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	øD (h6)	øD1	øD2	L	L1	Drive Key L2	Drive Key W	Clamping Screw	Weight (kg)
BBT30-FMA22.225- 45	—	1	22.225	42	—	45	18	4	8.3	M10-40L	0.72
-FMA25.4 - 45	—	2	25.4	50	—	45	22	5	9.5	MBA-M12	0.86
—	BT30-FMA31.75 - 45	2	31.75	60	—	45	30	7	12.7	MBA-M16	1.07
BBT40-FMA25.4 - 45	BT40-FMA25.4 - 45	1	25.4	50	—	45	22	5	9.5	MBA-M12	1.5
- 90	- 90				60	90					2.3
-150 ※	—					150					3.4
-FMA31.75 - 45	-FMA31.75 - 45		31.75	60	—	45	30	7	12.7	MBA-M16	1.7
- 75	- 75					75					2.4
-105 ※	—					105					3.0
-150 ※						150					4.0
-FMA38.1 - 60 ○	-FMA38.1 - 60 ○	2	38.1	80	—	60	34	9	15.9	MBA-M20	2.5

BT shank models with "-" are not standard products.
Models with ※ do not have a through hole.

1. These arbors are compatible with the JIS B4113 (1970) face milling cutters.
2. The weight does not include the cutter.
3. The model, dimensions and accuracy conform to TMT standards.
4. Cutter clamping screw is included.
5. Depending on the cutter, a hex socket head screw may be required for clamping.
6. A clamping screw with oil hole must be ordered separately for use with center through coolant/air.
7. The ATC arm interference zone K of the model with "○" is 45mm.

Clamping Screw



Clamping Screw	Clamping screw with oil hole 					
Model	Model	øD	øD1	L	L1	G
MBA-M12	TMBA-M12	33	23	10	2	12
-M12H	—		—		—	
-M16	-M16	40	23	10	6	16
-M16H	—		—		—	
-M20	-M20	50	27	14	6	20
-M20H	—		—		—	
-M24	-M24	65	37		10	24

FACE MILL ARBOR TYPE A

DUAL CONTACT BIG-PLUS®

● Model Description

BBT50 - FMA 25.4 - 45
- 45 : L dimension
- 25.4 : Spigot diameter
- FMA : FACE MILL ARBOR TYPE A
- BBT50 : BIG-PLUS BT No.

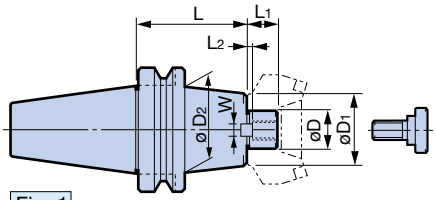


Fig. 1

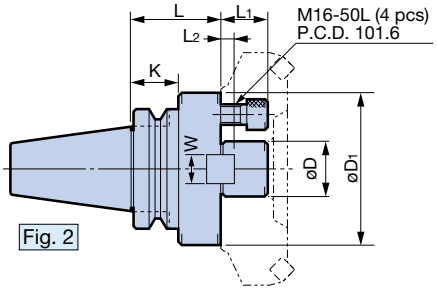


Fig. 2

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	øD (h6)	øD1	øD2	L	L1	Drive Key L2	Drive Key W	Clamping Screw	Weight (kg)
BBT50-FMA25.4 - 45	BT50-FMA25.4 - 45	1	25.4	50	—	45	22	5	9.5	MBA-M12	4.1
- 90	- 90				70	90					5.0
-150 ※	-150 ※					150					6.4
-200 ※	—					200					7.7
-250 ※						250					8.8
-300 ※						300					9.9
-350 ※						350					11.0
-FMA31.75 - 45	-FMA31.75 - 45	1	31.75	60	—	45	30	7	12.7	MBA-M16	4.2
- 75	- 75				70	75					5.1
-105	-105					105					5.6
-150 ※	-150 ※					150					6.7
-200 ※	—					200					8.3
-250 ※					80	250					9.6
-300 ※						300					10.9
-350 ※						350					12.2
-FMA38.1 - 45	-FMA38.1 - 45	1	38.1	80	—	45	34	9	15.9	MBA-M20	4.6
- 75	- 75					75					5.4
-105	-105					105					6.7
-150 ※	-150 ※					150					8.5
-200 ※	—					200					10.4
-250 ※						250					12.4
-300 ※						300					14.3
-350 ※						350					16.3
-FMA47.625- 75 ※○	—	2	47.625	128.57	—	75	38	12.5	25.3	M16-50L (4 pcs)	8.1
-100 ※						100					9.6
-150 ※						150					12.7
-FMA50.8 - 45	-FMA50.8 - 45	1	50.8	100	—	45	36	10	19.05	MBA-M24	4.8
- 75	- 75					75					6.6
-105	-105					105					8.5
-150 ※	—					150					11.2
-200 ※						200					14.3
-250 ※						250					17.4
-300 ※						300					20.4
-350 ※						350					23.5

BT shank models with "-" are not available. Please choose BBT shank models.
Models with ※ do not have a through hole.

For clamping screws, A111

1. These arbors are compatible with the JIS B4113 (1970) face milling cutters.
2. The weight does not include the cutter.
3. The model, dimensions and accuracy conform to TMT standards.
4. Cutter clamping screw is included.
5. Depending on the cutter, a hex socket head screw may be required for clamping.
6. A clamping screw with oil hole must be ordered separately for use with center through coolant/air.
7. The ATC arm interference zone K of the model with "○" is 48mm.

General Toolholder

FACE MILL ARBOR TYPE B

DUAL CONTACT
BIG-PLUS®

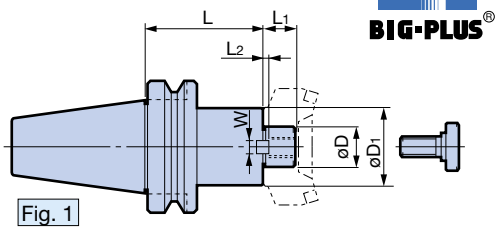


Fig. 1

● Model Description

BBT40 - FMB 25.4 - 60

- BBT40 — BIG-PLUS BT No.
- FMB — FACE MILL ARBOR TYPE B
- 25.4 — Spigot diameter
- 60 — L dimension

Figures and shapes may be different depending on the dimension L.

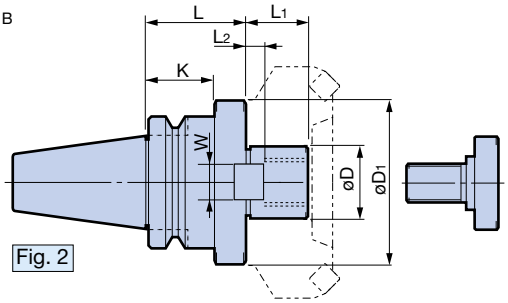


Fig. 2

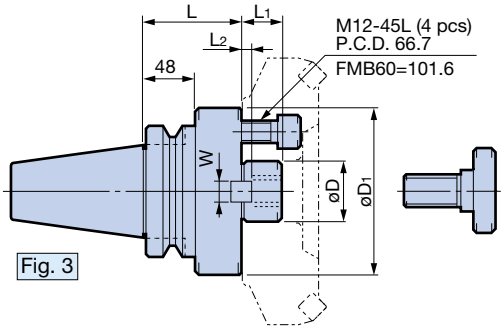


Fig. 3

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	øD (h6)	øD1	L	L1	Drive Key L2	Drive Key W	Clamping Screw	Weight (kg)
BBT40-FMB25.4 - 60 ○	2	25.4	80	60	26	5	9.5	MBA-M12	2.1
- 90				90					2.8
-FMB38.1 - 60 ○		38.1	85	60		9	15.9	MBA-M20	2.3
- 75				75					2.9
-105				105					3.4
-FMB40 - 60 ○		40	85	60		8.5	16	MBA-M20	2.3
- 75				75					2.7
BBT50-FMB25.4 - 45	1	25.4	80	45	26	5	9.5	MBA-M12	3.8
- 90				90					5.6
-150				150					8.1
-FMB38.1 - 45		38.1	85	45		9	15.9	MBA-M20	4.0
- 75				75					5.4
-105				105					6.7
-150				150					8.9
-FMB38.1F- 75	3	38.1	110	75		9	15.9	MBA-M20 or M12-45L (4 pcs)	6.6
-FMB27 - 45	1	27	80	45		6	12	MBA-M20	4.1
- 90				90					5.9
-150				150					8.3
-FMB40 - 45		40	85	45		8.5	16	MBA-M20	4.2
- 75				75					5.6
-105				105					6.9
-150				150					8.9
-FMB40F - 75	3	40	110	75		8.5	16	MBA-M20 or M12-45L (4 pcs)	6.6
-FMB60 - 75		60	140	75	25	12.5	25.4	M16-50L (4 pcs)	8.5

No through holes.

1. The weight does not include the cutter.
2. The model, dimensions and accuracy conform to TMT standards.
3. The ATC arm interference zone K of the model with "○" is 45mm.

For clamping screws, A111

FACE MILL ARBOR TYPE C

DUAL CONTACT
BIG-PLUS®

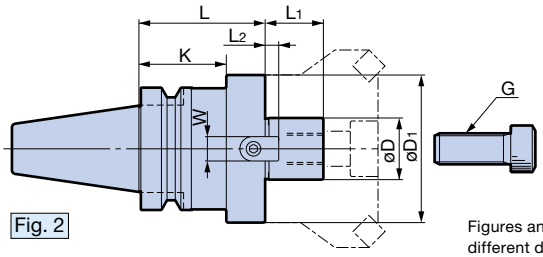


Fig. 2

Figures and shapes may be different depending on the dimension L.

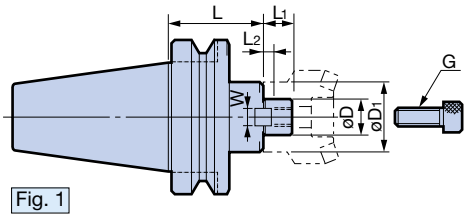


Fig. 1

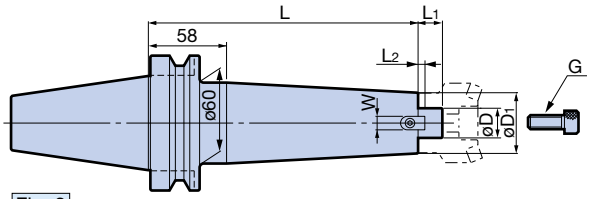


Fig. 3

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	øD (h6)	øD1	L	L1	Drive Key L2	Drive Key W	G	Weight (kg)
BBT30-FMC16 - 45		1	16	32		16	5	8	M 8	0.58
-FMC22 - 45	—	1	22	45	45	18	5	10	M10	0.75
-FMC27 - 45		2	27	70		20	6	12	M12	1.03
BBT40-FMC22 - 45	**BT40-FMC22 - 45**				45					1.3
- 90	**- 90**	1	22	45	90	18	5	10	M10	1.7
-150 ※	—				150					2.5
-FMC27 - 60 ○					60					2.0
- 90	—	2	27	70	90	20	6	12	M12	2.6
-150 ※					150					4.1
-FMC32 - 60 ○					60					2.1
- 75	—	2	32	85	75	22	7	14	M16	2.5
-105					105					3.3
BBT50-FMC22 - 60	**BT50-FMC22 - 60**				60					4.1
-105	**-105**	1			105					4.6
-150 ※	**-150 ※**		22	45	150	18	5	10	M10	4.9
-200 ※	—	3			200					6.5
-250 ※					250					7.3
-FMC27 - 45					45					4.1
- 90					90					5.1
-150 ※	—	1	27	70	150	20	6	12	M12	6.9
-200 ※					200					8.5
-250 ※					250					10.0
-FMC32 - 45					45					4.3
- 75					75					5.6
-105	—	1	32	85	105	22	7	14	M16	7.0
-150 ※					150					8.7
-200 ※					200					10.9
-250 ※					250					13.1

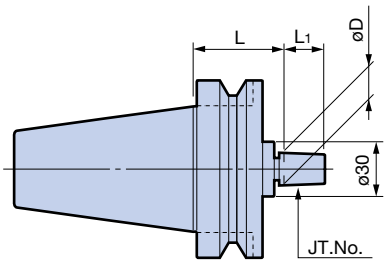
BT shank models with "-" are not available. Please choose BBT shank models.
Models with ※ do not have a through hole.

1. The weight does not include the cutter.
2. The model, dimensions and accuracy conform to TMT standards.
3. The ATC arm interference zone K of the model with "○" is 45mm.

General Toolholder

JACOBS TAPER ARBOR

● Holder for mounting keyless chuck or rubber chuck.



DUAL CONTACT
BIG-PLUS®

● Model Description

BBT30 - JTA 1 - 30
- 30: L dimension
- 1: JTNo.
- JTA: JACOBS TAPER ARBOR
- BBT30: BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	JT.No.	øD	L	L1	Weight (kg)
BBT30- JTA1 - 30	BT30- JTA1 - 30	1	9.754	30	15	0.45
- JTA6 - 30	- JTA6 - 30	6	17.17		24	0.49
BBT40- JTA1 - 45	BT40- JTA1 - 45	1	9.754	45	15	1.2
-105	-105			105		1.5
- JTA6 - 45	- JTA6 - 45	6	17.17	45	24	1.2
-105	-105			105		1.6
BBT50- JTA6 - 45	BT50- JTA6 - 45	6	17.17	45	24	4.0
-105	-105			105		4.2

1. The model, dimensions and accuracy conform to TMT standards.
2. Drill chuck is not included.

General Toolholder

SUPER KEYLESS CHUCK

Clamping diameter: ø0.5 - ø13

● Securely chucks the drill with simple operation.

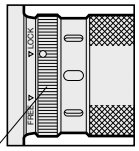
DUAL CONTACT
BIG-PLUS®

Integral holder type keyless chuck

Reverse lock mechanism (SKL13)

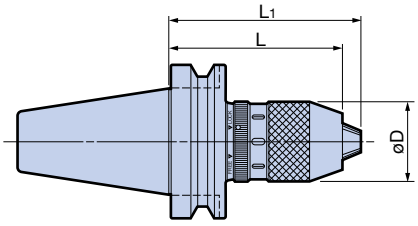
· No loosening even when the main spindle suddenly stops, by the reverse lock mechanism using a lock ring.

· Runout accuracy Within 0.05mm



● Model Description

BBT30 - SKL 13 - 110
- 110: L dimension
- 13: Max. tool diameter
- SKL: Chuck type
- BBT30: BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter	øD	L	L1	Weight (kg)	Wrench (Standard Accessory)
BBT30-SKL13 -110	ø0.5 - ø13	51	110	122.5	1.43	FS13LC
BBT40-SKL13 -105			106	118.5	1.9	
BBT50-SKL13 -115			115	127.5	4.4	
BBT30-KLC6.5- 70	ø0.5 - ø6.5	34	70	76.5	0.65	FS6.5LC
BBT40-KLC6.5- 75			75	81.5	1.2	

1. Hook wrench is included.
2. KLC type does not have the reverse lock mechanism.

MORSE TAPER HOLDER TYPE A *(Tang Type)*

● Precise finish of the Morse taper bore provides stable runout accuracy.

DUAL CONTACT BIG-PLUS®

● Model Description

BBT30 - MTA 1 - 60
- 60: L dimension
- 1: MT.No.
- MTA: MORSE TAPER HOLDER TYPE A
- BBT30: BIG-PLUS BT No.

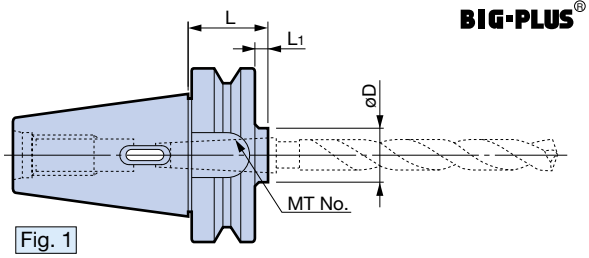


Fig. 1

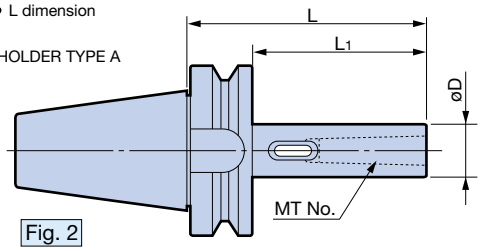


Fig. 2

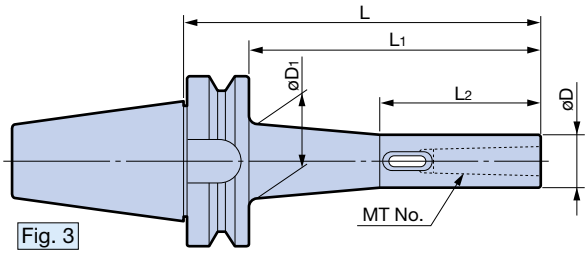


Fig. 3

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	MT. No.	øD	øD1	L	L1	L2	Weight (kg)	Reference drill diameter (※ JIS B4302 1)
BBT30-MTA1- 60	**BT30-MTA1- 60**	1	1	25	—	60	38	—	0.52	ø 3 - ø14
-MTA2- 60	**-MTA2- 60**		2	32		60	38		0.55	ø14.5 - ø23
-MTA3- 80	**-MTA3- 80**		3	40		80	58		0.74	ø23.5 - ø31.5
BBT40-MTA1- 45	**BT40-MTA1- 45**	1	1	25	—	45	18	—	1.0	ø 3 - ø14
-120	**-120**	2				120	93		1.3	
-MTA2- 45	**-MTA2- 45**	1	2	32	—	45	18	—	1.0	ø14.5 - ø23
-120	**-120**	2				120	93		1.6	
-MTA3- 75	**-MTA3- 75**	1	3	40	—	75	48	—	1.0	ø23.5 - ø31.5
-135	**-135**	2				135	108		1.7	
-MTA4- 90	**-MTA4- 90**	2	4	50	—	90	63	—	1.6	ø32 - ø50
BBT50-MTA1- 45	**BT50-MTA1- 45**	1	1	25	—	45	7	—	3.9	ø 3 - ø14
-120	**-120**	2				120	82		4.2	
-180	**-180**					180	142		4.3	
-210	—	3			41	210	172	85	4.4	
-250					43	250	212		4.8	
-MTA2- 45	**-MTA2- 45**	1	2	32	—	45	7	—	3.9	ø14.5 - ø23
-135	**-135**	2				135	97		4.3	
-180	**-180**					180	142		4.6	
-210	—	3			45.5	210	172	95	4.8	
-250					48.5	250	212		5.2	
-300					49.5	300	262		5.8	
-MTA3- 45	**-MTA3- 45**	1	3	40	—	45	7	—	3.8	ø23.5 - ø31.5
- 75	—					75	37		3.9	
-150	**-150**	2				150	112		4.6	
-180	**-180**					180	142		4.9	
-210	—					210	172		5.1	
-250		3			50.5	250	212	115	5.6	
-300						300	262		6.3	
-MTA4- 75	**-MTA4- 75**	1	4	50	—	75	37	—	3.9	ø32 - ø50
-180	**-180**	2				180	142		5.4	
-210	—					210	172		5.6	
-250						250	212		6.2	
-300						300	262		7.0	
-MTA5-105	**-MTA5-105**	1	5	65	—	105	67	—	4.5	ø51 - ø76
-210	**-210**	2				210	172		7.2	

BT shank models with "-" are not available. Please choose BBT shank models.

1. The model, dimensions and accuracy conform to TMT standards.

General Toolholder

SIDE LOCK DRILL HOLDER

Clamping diameter: ø16 - ø50

DUAL CONTACT
BIG-PLUS®

Center through

● Model Description

BBT30 - T SL 16 - 75

- 75 : L dimension
- 16 : Clamping diameter
- SL : SIDE LOCK HOLDER
- T : Center through
- BBT30 : BIG-PLUS BT No.

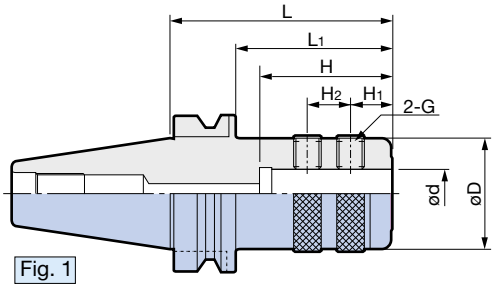


Fig. 1

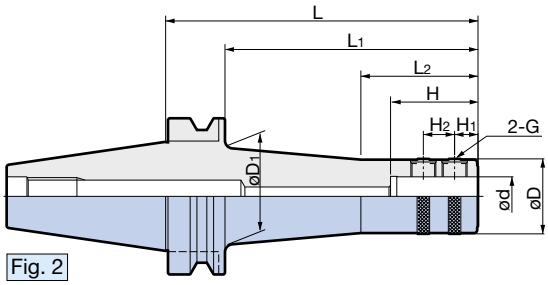


Fig. 2

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	ød	øD	øD1	L	L1	L2	H	H1	H2	G	Weight (kg)
BBT30-TSL16- 75	—	1	16	48	—	75	—	—	48	14	14	M10	1.03
-TSL20- 75			20						50				0.98
-TSL25- 80			25			80			56	15	20	M16	0.97
-TSL32- 85			32	63		85			60				1.38
BBT40-TSL16- 90	BT40-TSL16- 90	1	16	48	—	90	63	—	48	14	14	M10	1.7
-105	—					105	78						1.9
-TSL20- 90	-TSL20- 90		20	48		90	63		50	14	14	M10	1.7
-105	—					105	78						1.9
-TSL25- 90	-TSL25- 90		25	48		90	63		56	15	20	M16	1.6
-105	-105					105	78						1.8
-TSL32-105	-TSL32-105		32	63		105	78		60	15	20	M16	2.4
-135	—					135	108						3.0
-TSL40-105	-TSL40-105		40	68		105	—		70	15	25	M16	2.4
BBT50-TSL16- 90	BT50-TSL16- 90	1	16	48	—	90	52	—	48	14	14	M10	4.2
-135	—					135	97						4.8
-165						165	127						5.2
-200		2			62.5	200	162	75					6.1
-TSL20- 90	-TSL20- 90	1	20	48	—	90	52	—	50	14	14	M10	4.2
-135	-135					135	97						4.8
-165	-165					165	127						5.2
-200	—	2			62.5	200	162	75					6.0
-250					64	250	212	90					6.8
-TSL25-105	-TSL25-105	1	25	48	—	105	67	—	56	15	20	M16	4.3
-135	-135					135	97						4.7
-165	-165					165	127						5.1
-200	—	2			62.5	200	162	75					5.9
-250					64	250	212	90					6.7
-TSL32-105	-TSL32-105	1	32	63	—	105	67	—	60	15	20	M16	4.8
-135	-135					135	97						5.5
-165	-165					165	127						6.2
-200	—					200	162						6.9
-250						250	212						8.0
-TSL40-105	-TSL40-105	1	40	68	—	105	67	—	70	15	25	M16	4.8
-135	-135					135	97						5.6
-165	-165					165	127						6.4
-200	—					200	162						7.3
-250						250	212						8.6
-TSL50-105	-TSL50-105	1	50	84	—	105	67	—	70	15	25	M16	5.4
-150	—					150	112						7.2

BT shank models with "-" are not available. Please choose BBT shank models.

SIDE LOCK HOLDER TYPE SLE

● Drill diameter adjustment mechanism enables drilling within ±0.1mm tolerance.
(Adjustment amount: -0.2mm/ø - +1.0mm/ø)

DUAL CONTACT
BIG-PLUS®

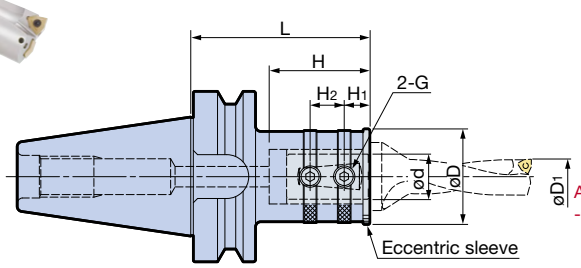
Center through

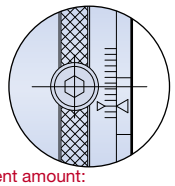
Drill diameter adjustment mechanism

● Model Description

BBT40 - T SLE 20 - 90

- 90: L dimension
- 20: Clamping diameter
- SLE: SIDE LOCK HOLDER with drill diameter adjustment mechanism
- T: Center through
- BBT40: BIG-PLUS BT No.





Adjustment amount:
-0.2 - +1.0mm/ø

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	øD	L	H	H_1	H_2	G	Weight (kg)	Compatible drill diameter ($øD_1$)
BBT40-TSLE20- 90	20	50	90	53	14	14	M10	1.7	12 - 19.8
-TSLE25- 90	25	56		59	15	20	M12	1.8	20 - 24.5
-TSLE32-105	32	66	105	63	16	20	M12	2.5	25 - 29.5
BBT50-TSLE20-105	20	50	105	53	14	14	M10	4.5	12 - 19.8
-TSLE25-105	25	56		59	15	20	M12	4.6	20 - 24.5
-TSLE32-105	32	66		63	16	20	M12	4.9	25 - 29.5
-TSLE40-105	40	80		73	18	25	M16	5.4	30 - 36

Caution

· External insert and flat of the drill shank should be aligned with each other.
Drills without this alignment cannot be used.

General Toolholder

SIDE LOCK ENDMILL HOLDER

Clamping diameter: ø6 - ø50

● Substantial Side Lock Holder allows high cross feed of endmilling.

DUAL CONTACT
BIG-PLUS®

Center through

● Model Description

BBT30 - ISL 6 - 60

- 60: L dimension
- 6: Clamping diameter
- ISL: SIDE LOCK ENDMILL HOLDER
- BBT30: BT SHANK No.

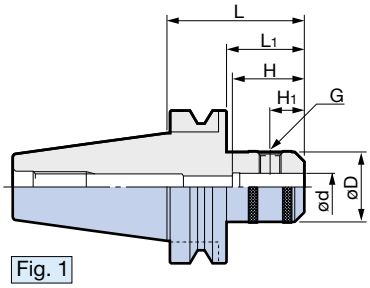


Fig. 1

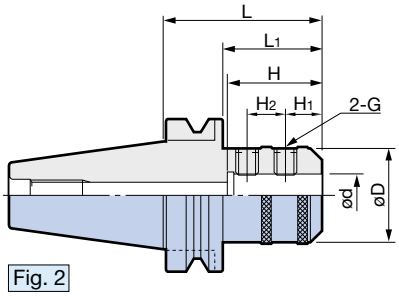


Fig. 2

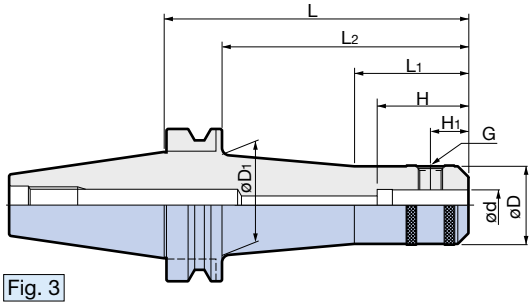


Fig. 3

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	Fig.	ød (H5)	øD	øD1	L	L1	L2	H	H1	H2	G	Weight (kg)
BBT30-ISL 6- 60			6	25					(85)	18		M 6	0.52
-ISL 8- 60			8	28								M 8	0.55
-ISL10- 60	—	1	10	35	—	60	38	—	45	20	—	M10	0.64
-ISL12- 60			12	42					48	22.5		M12	0.74
-ISL16- 60			16	48					53	24		M14	0.81
BBT40-ISL12- 75	—		12	42					(110)	22.5		M12	1.5
-ISL16- 75		1	16	48		75	48		53	24	—	M14	
-ISL20- 75	**BT40-ISL20- 75**		20	52	—			—	55	25		M16	1.6
-ISL25- 90	**-ISL25- 90**	2	25	63.5		90	63		60	24	25	M18xP2	2.1
-ISL32-105	**-ISL32-105**		32	72		105	—		82	24	28	M20xP2	2.9
BBT50-ISL16- 90	—	1	16	48	—	90	52	—	(145)	24	—	M14	4.4
-150		3			56.5	150	60	112	(205)				5.0
-ISL20- 90	**BT50-ISL20- 90**	1	20	52	—	90	52	—	(145)	25	—	M16	4.5
-150	—	3			60.5	150	60	112	60				5.3
-ISL25-105	**-ISL25-105**	2	25	65	—	105	67	—	60	24	25	M18xP2	4.6
-150	—					150	112						5.3
-ISL32-105	**-ISL32-105**	2	32	72	—	105	67	—	90	24	28	M20xP2	5.3
-150	—					150	112						6.1
-ISL40-120	**-ISL40-120**	2	40	90	—	120	82	—	90	30	32	M20xP2	6.5
-150	—					150	112						8.1
-ISL42-120	**-ISL42-120**	2	42	90	—	120	82	—	90	30	32	M20xP2	6.5
-150	—					150	112						8.0
-ISL50-121	**-ISL50-121**	2	50	99.5	—	121	83	—	90	35	35	M24xP2	7.2

BT shank models with "-" are not available. Please choose BBT shank models.

1. Although a through hole is provided, the air-bleeding hole needs to be plugged for use with center through coolant.
2. For use with center through coolant in drilling, use the SIDE LOCK DRILL HOLDER.
3. H dimensions in ( ) are reference length up to the PULLSTUD BOLT.

SIDE LOCK ENDMILL HOLDER

DUAL CONTACT BBT/BT SHANK

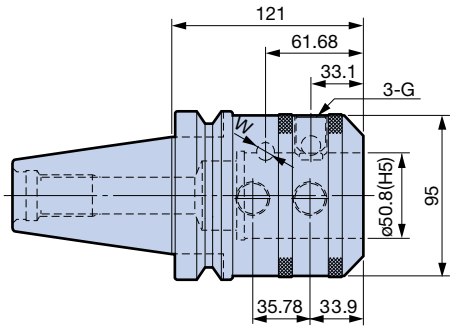
● Pin lock type holder for endmill.

[Pin Lock Type] BIG original standard product

DUAL CONTACT BIG-PLUS®

● Model Description

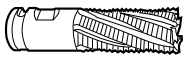
BBT50 - SL 50.8 - 121
- 121: L dimension
- 50.8: Clamping diameter
- SL: SIDE LOCK ENDMILL HOLDER
- BBT50: BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	BT SHANK Model	G	Clamping screw	W	Weight (kg)
BBT50-SL50.8-121	**BT50-SL50.8-121**	M20	K2025F	ø11.1	6.2

1. This holder is compatible with pin lock type endmill.
2. Clamping screws are included.

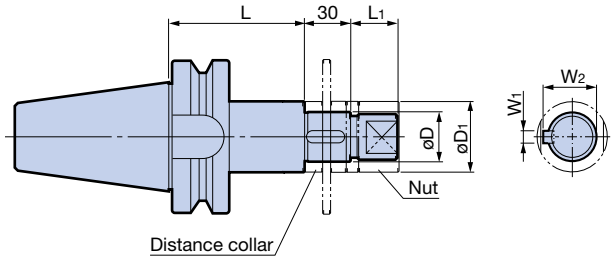


SIDE CUTTER ARBOR

DUAL CONTACT BBT/BT SHANK

● Arbor for JIS standard side cutters and slitting saws.

DUAL CONTACT BIG-PLUS®



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

● Model Description

BBT40 - SCA 25.4 - 75
- 75: L dimension
- 25.4: Spigot diameter
- SCA: SIDE CUTTER ARBOR A
- BBT40: BIG-PLUS BT No.

1. Nut is included.
2. One collar each of thickness 5, 8, 10 and 12 is included.
3. The model, dimensions and accuracy conform to TMT standards.

BIG-PLUS BBT SHANK Model	øD (h6)	øD1	W2	W1	L	L1	Weight (kg)
BBT40-SCA25.4 - 75	25.4	40	27.78	6.35	75	25	1.9
-120					120		2.3
-SCA31.75- 75	31.75	46	34.92	7.92	75	30	2.4
BBT50-SCA25.4 - 90	25.4	40	27.78	6.35	90	25	4.7
-135					135		5.1
-SCA31.75- 90	31.75	46	34.92	7.92	90	30	5.1
-135					135		5.7
-SCA38.1 - 90	38.1	55	42.06	9.52	90	36	5.8
-135					135		6.8

[Distance Collar] for side cutter arbor

Body Model	SCA25.4	SCA31.75	SCA38.1
Thickness	Distance collar model		
5	**SC254C 5**	**SC3175C 5**	**SC381C 5**
8	**SC254C 8**	**SC3175C 8**	**SC381C 8**
10	**SC254C10**	**SC3175C10**	**SC381C10**
12	**SC254C12**	**SC3175C12**	**SC381C12**

TAPPER

MEGA SYNCHRO TAPPING HOLDER PAT.

M2 - M20

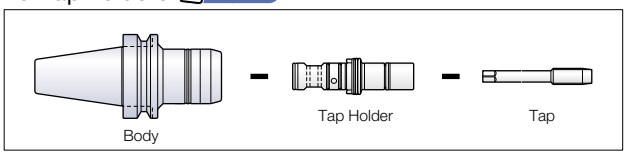
Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.

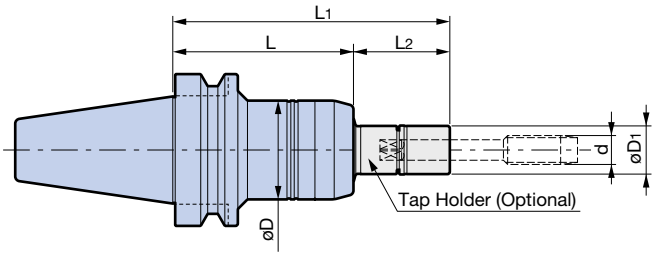
- Long tap holder now available as standard in addition to various tap sizes.

DUAL CONTACT
BIG-PLUS®

Center through

For tap holders A122.





- Model Description (Body)

BBT30 - MGT6 - 70

- 70: L dimension
- MGT6: MEGA SYNCHRO No.
- BBT30: BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Tap Holder Model	Tapping range d	øD	øD1	L	L1	L2	Body weight (kg)
BBT30-MGT 6- 70	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	70	100	30	0.69
	- 70					140	70	
	-100					170	100	
-MGT12- 70	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	70	100	30	0.74
	- 70					140	70	
	-100					170	100	
-MGT20-110	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	110	145	35	1.45
	- 85					195	85	
	-115					225	115	
BBT40-MGT 6- 75	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	75	105	30	1.3
	- 70					145	70	
	-100					175	100	
-MGT12- 75	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	75	105	30	1.4
	- 70					145	70	
	-100					175	100	
-MGT20- 95	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	95	130	35	1.8
	- 85					180	85	
	-115					210	115	
BBT50-MGT 6- 90	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	90	120	30	3.9
	- 70					160	70	
	-100					190	100	
-MGT12- 90	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	90	120	30	4.0
	- 70					160	70	
	-100					190	100	
-MGT20-105	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	105	140	35	4.4
	- 85					190	85	
	-115					220	115	

1. MGT Set Screw is included.
2. Tap holder and wrench must be ordered separately.

Cannot be used with machining center without synchronized tapping function.

For tap holders, A122
For Mega Wrench, A126

BIG + KAISER
CK BORING SYSTEM
MEGA SYNCHRO TAPPING HOLDER
CK Shank Type

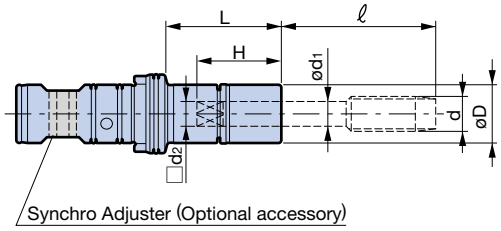
CK Shank type for versatile tool layout is also available.

For details, A81

MEGA SYNCHRO TAPPING HOLDER PAT.

Tap Holder (MGT6, MGT12) for JIS

● From short to long (150mm, 200mm)...
Abundant Tap Holders avoid workpiece interference flexibly.



Synchro Adjuster (Optional accessory)

● Model Description (Tap Holder)

MGT6 - M2 - 30
- 30 ● L dimension
- M2 ● Tap size
- MGT6 ● MEGA SYNCHRO No.

MGT6 (Tapping range: M2 - M6)

Tap Holder Model	Tapping range d						ød1	□ d2	H	L	øD	Weight (kg)
	Metric	ℓ	Pipe	ℓ	Unify	ℓ						
MGT6-M 2 - 30	M2	21			No.3 No.4	21	3	2.5	19	30	16	0.12
- 70										70		0.18
-100										100		0.23
-150										150		0.31
-M 3 - 30	M3	25			No.5 No.6	25	4	3.2	21	30		0.12
- 70										70		0.18
-100										100		0.23
-150										150		0.31
-M 4 - 30	M4	27			No.8	27	5	4	25	30		0.12
- 70										70		0.18
-100										100		0.22
-150										150		0.3
-200										200		0.37
-M 5 - 30	M5	35			No.10 No.12	35	5.5	4.5	25	30		0.12
- 70										70		0.18
-100										100		0.22
-150										150		0.3
-200										200		0.37
-M6, U1/4- 30	M6	37			U1/4	37	6	4.5	25	30		0.12
- 70										70		0.17
-100										100		0.22
-150										150		0.3
-200										200		0.37

Refer to the remarks in the table below.

MGT12 (Tapping range: M6 - M12)

Tap Holder Model	Tapping range d						ød1	□ d2	H	L	øD	Weight (kg)
	Metric	ℓ	Pipe	ℓ	Unify	ℓ						
MGT12-M 6,U1/4- 30	M6	35			U1/4	35	6	4.5	27	30	20	0.19
- 70										70		0.29
-100										100		0.36
-150										150		0.48
-200										200		0.6
-U5/16 - 30					U5/16	42	6.1	5	28	30		0.19
- 70										70		0.29
-100										100		0.36
-150										150		0.48
-200										200		0.6
-M 8 - 30	M8	42					6.2	5	28	30		0.19
- 70										70		0.29
-100										100		0.36
-150										150		0.48
-200										200		0.6
-M10,U3/8- 30	M10	47			U3/8	47	7	5.5	28	30		0.19
- 70										70		0.28
-100										100		0.35
-150										150		0.47
-200										200		0.59
-U7/16,P1/8- 30			P1/8	26	U7/16	51	8	6	29	30		0.18
- 70										70		0.28
-100										100		0.35
-150										150		0.46
-200										200		0.58
-M12 - 30	M12	53					8.5	6.5	29	30		0.18
- 70										70		0.27
-100										100		0.34
-150										150		0.46
-200										200		0.58

1. Nuts are included, but wrench must be ordered separately.
2. Tap projection length ℓ is a reference figure in accordance with JIS standards.

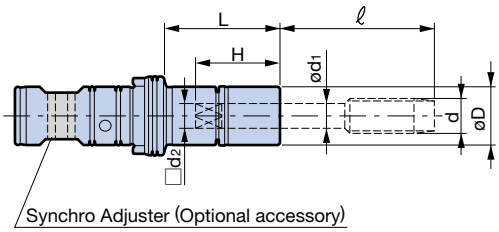
For Mega Wrench, A126

Caution

Tap with eccentric thread relief, having no margin on tap periphery, may cause oversize threads.
In such case, tap with con-eccentric thread relief is recommended.

MEGA SYNCHRO TAPPING HOLDER PAT.

Tap Holder (MGT20) for JIS



MGT20 (Tapping range: M12 - M20)

Tap Holder Model	Tapping range d						ød1	□ d2	H	L	øD	Weight (kg)
	Metric	ℓ	Pipe	ℓ	Unify	ℓ						
MGT20-M12 - 35	M12	53					8.5	6.5	29	35	30	0.55
- 85										85		0.82
-115										115		0.98
-150										150		1.17
-U1/2 - 35					U1/2	55	9	7	30	35		0.55
- 85										85		0.82
-115										115		0.98
-150										150		1.17
-M14,U9/16- 35	M14	55			U9/16	57	10.5	8	33	35		0.53
- 85										85		0.79
-115										115		0.95
-150										150		1.14
-P1/4 - 35			P1/4	31			11	9	31	35		0.53
- 85										85		0.79
-115										115		0.95
-150										150		1.14
-U5/8 - 35					U5/8	61	12	9	34	35		0.52
- 85										85		0.78
-115										115		0.94
-150										150		1.13
-M16 - 35	M16	60					12.5	10	35	35		0.52
- 85										85		0.77
-115										115		0.93
-150										150		1.11
-M18,U3/4- 35	M18	64			U3/4	69	14	11	36	35		0.51
- 85										85		0.76
-115										115		0.92
-150										150		1.1
-P3/8 - 35			P3/8	32			14	11	33	35		0.51
- 85										85		0.76
-115										115		0.92
-150										150		1.1
-M20 - 35	M20	68					15	12	37	35		0.49
- 85										85		0.74
-115										115		0.89
-150										150		1.06

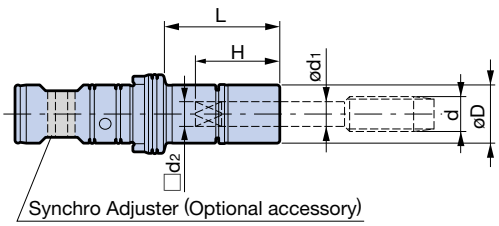
1. Nuts are included, but wrench must be ordered separately.
2. Tap projection length ℓ is a reference figure in accordance with JIS standards.

For Mega Wrench, A126

Caution

Tap with eccentric thread relief, having no margin on tap periphery, may cause oversize threads.
In such case, tap with con-eccentric thread relief is recommended.

Tap Holder (MGT6, MGT12) for DIN / ISO



MGT6 (Tapping range: DIN: M3 - M8 ISO: M3 - M5)

Tap Holder Model	Tapping range d (DIN)			Tapping range d (ISO)		ød1	□ d2	H	L	øD	Weight (kg)
	DIN371	DIN376	DIN353	ISO529	ISO2284						
MGT6-031025- 30									30		0.12
- 70									70		0.18
-100				M3		3.15	2.5	20	100		0.23
-150									150		0.31
-035027- 30									30		0.12
- 70	M3	M5				3.5	2.7	21	70		0.18
-100									100		0.23
-150									150		0.31
-040032- 30									30		0.12
- 70									70		0.18
-100				M4		4.0	3.15	21	100		0.23
-150									150		0.31
-045034- 30									30	16	0.12
- 70									70		0.18
-100	M4	M5				4.5	3.4	21	100		0.22
-150									150		0.30
-050040- 30									30		0.12
- 70									70		0.18
-100				M5		5.0	4.0	25	100		0.22
-150									150		0.30
-200									200		0.37
-060049- 30									30		0.12
- 70									70		0.17
-100	M5, M6	M8				6.0	4.9	26	100		0.22
-150									150		0.30
-200									200		0.37

1. Nuts are included, but wrench must be ordered separately.

For Mega Wrench, A126

MGT12 (Tapping range: DIN: M5 - M12 ISO: M6 - M12)

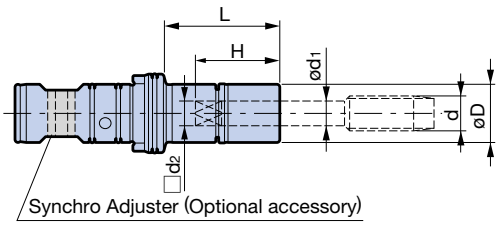
Tap Holder Model	Tapping range d (DIN)			Tapping range d (ISO)		ød1	□ d2	H	L	øD	Weight (kg)
	DIN371	DIN376	DIN353	ISO529	ISO2284						
MGT12-060049- 30									30		0.19
- 70									70		0.29
-100	M5, M6	M8				6.0	4.9	28	100		0.36
-150									150		0.48
-200									200		0.60
-063050- 30									30		0.19
- 70									70		0.29
-100				M6		6.3	5.0	28	100		0.36
-150									150		0.48
-200									200		0.60
-070055- 30									30		0.19
- 70									70		0.28
-100		M10	1/8			7.0	5.5	28	100	20	0.35
-150									150		0.47
-200									200		0.59
-080063- 30									30		0.18
- 70									70		0.28
-100	M8			M8	1/8	8.0	6.3	29	100		0.35
-150									150		0.46
-200									200		0.58
-090071- 30									30		0.18
- 70									70		0.27
-100		M12		M12		9.0	7.1	30	100		0.34
-150									150		0.46
-200									200		0.58

1. Nuts are included, but wrench must be ordered separately.

For Mega Wrench, A126

MEGA SYNCHRO TAPPING HOLDER PAT.

Tap Holder (MGT20) for DIN / ISO



MGT20 (Tapping range: DIN: M10 - M20 ISO: M10 - M20)

Tap Holder Model	Tapping range d (DIN)			Tapping range d (ISO)		ød1	□ d2	H	L	øD	Weight (kg)
	DIN371	DIN376	DIN353	ISO529	ISO2284						
MGT20-090071- 35									35		0.55
- 85		M12		M12		9.0	7.1	30	85		0.82
-115									115		0.98
-150									150		1.17
-100080- 35									35		0.54
- 85	M10			M10	1/4	10.0	8.0	33	85		0.80
-115									115		0.96
-150									150		1.15
-110090- 35									35		0.53
- 85		M14	1/4			11.0	9.0	34	85		0.79
-115									115		0.95
-150									150		1.14
-112090- 35									35		0.53
- 85				M14		11.2	9.0	34	85		0.79
-115									115		0.95
-150									150		1.14
-120090- 35									35	30	0.52
- 85		M16	3/8			12.0	9.0	34	85		0.78
-115									115		0.94
-150									150		1.13
-125100- 35									35		0.52
- 85				M16	3/8	12.5	10.0	35	85		0.77
-115									115		0.93
-150									150		1.11
-140110- 35									35		0.51
- 85		M18				14.0	11.0	36	85		0.76
-115									115		0.92
-150									150		1.10
-140112- 35									35		0.51
- 85				M18, M20		14.0	11.2	36	85		0.76
-115									115		0.92
-150									150		1.10
-160120- 35		M20	1/2			16.0	12.0	37	35		0.51

1. Nuts are included, but wrench must be ordered separately.

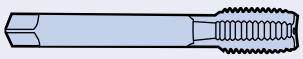
For Mega Wrench, A126

DIN Tap

DIN 371

Machine tap with reinforced shank

DIN 376

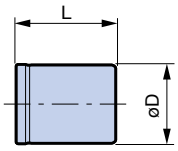


Machine tap with slender shank

Caution

Tap with eccentric thread relief, having no margin on tap periphery, may cause oversize threads.
In such case, tap with con-eccentric thread relief is recommended.

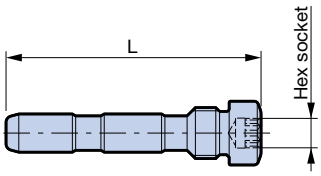
MGT Nut



Model	øD	L	Tap Holder
MGN 6T	16	19	MGT 6-d- □
MGN12T	20	21	MGT12-d- □
MGN20T	30	24	MGT20-d- □

MGT Set Screw (high-strength)

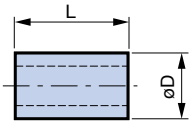
● Set screws for attaching the tap holder to the body.



Model	Hex socket size	L	Body Model
MGT 6SS	4	35	MGT 6
MGT12SS	4	40	MGT12
MGT20SS	5	53	MGT20

Synchro Adjuster (special material)

● Synchro Adjuster made of special material built into the tap holder.

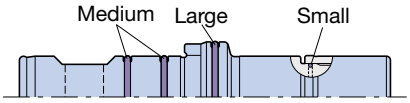


Model	øD	L	Tap Holder
MGT 6SA	9	11	MGT 6-d- □
MGT12SA	10	15	MGT12-d- □
MGT20SA	14	24	MGT20-d- □

1. Sold as 5-piece sets.

O-ring Set

● Set of O-rings mounted on the tap holder.

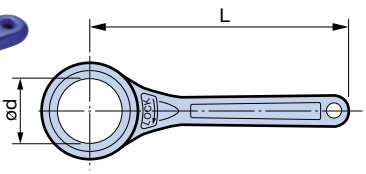


(large x 1, medium x 2, small x 1)

Set Model	Nut outer diameter	Tap Holder
MGT 6OR	ø16	MGT 6-d- □
MGT12OR	ø20	MGT12-d- □
MGT20OR	ø30	MGT20-d- □

1. O-ring (large) may not be required depending on the tap holder.

Mega Wrench PAT.



Model	ød	L	Nut Model
MGR16	16	90	MGN 6T
MGR20L	20	160	MGN12T
MGR30L	30	220	MGN20T

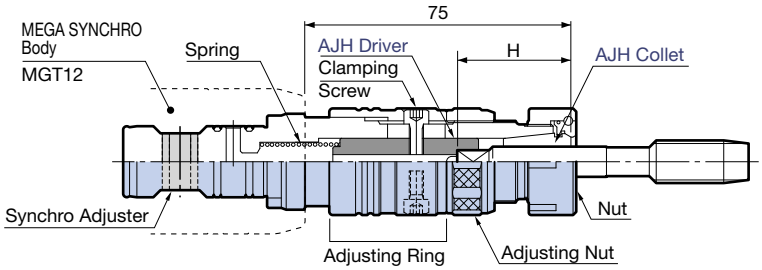
MEGA SYNCHRO TAPPING HOLDER PAT.

Length Adjustable Tap Holder (MGT12)

● The projection length of the tap can be adjusted.

Center through

Adjustment amount: 12mm



AJH Driver secures driving

Holds the square of the tap securely with a square hole.

Center through coolant available

When the tap has no oil hole, coolant is supplied through the slit of the collet. For the tap with oil hole, coolant is supplied through the tap by replacing the nut with the Baby Perfect Seal.

2 adjustment methods

● Adjusting with Tool Presetter

One revolution of the adjusting nut will adjust the tap projection length by 1mm.

● Adjusting using a height gauge, back gauge, etc.

Quick presetting can be done by directly moving the adjusting ring up and down and placing the tip of the tap against a height gauge etc.

Tap Holder Model	Tap Model			H	Standard Accessories			Weight (kg)
	Size	Shank diameter	Corner		AJH Collet	AJH Driver	Nut	
MGT12-AJH12-75/M 6	M 6	ø6.0	□ 4.5	22 - 34	AJH12C-M 6	AJH12D-M 6	NBON10	0.45 (including accessories)
MGT12-AJH12-75/M 8	M 8	ø6.2	□ 5.0	25 - 37	AJH12C-M 8	AJH12D-M 8		
MGT12-AJH12-75/M10	M10	ø7.0	□ 5.5	25 - 37	AJH12C-M10	AJH12D-M10		
MGT12-AJH12-75/M12	M12	ø8.5	□ 6.5	26 - 38	AJH12C-M12	AJH12D-M12		

1. AJH Collet, AJH Driver and nuts are included, but wrench **(NBK10)** must be ordered separately.

For wrenches, G26

Caution

Tap with eccentric thread relief, having no margin on tap periphery, may cause oversize threads.
In such case, tap with con-eccentric thread relief is recommended.

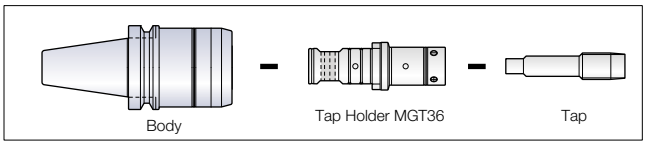
[Large Diameter Tap MGT36]

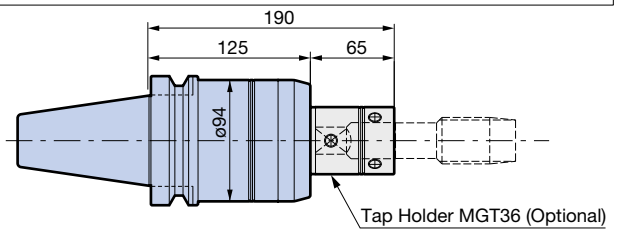
With a structure that smoothly tracks under high cutting torque of large diameter tapping, it compensates for axial deviation due to synchronization error, greatly reducing load during tapping.

DUAL CONTACT BIG-PLUS®

Center through

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.



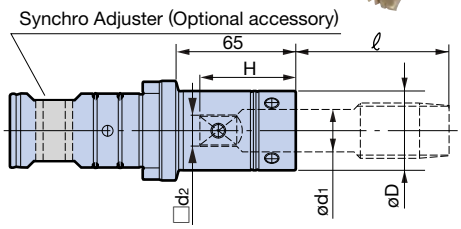


BIG-PLUS BBT SHANK Model	Body weight (kg)
BBT50-MGT36-125	7.2

1. MGT Set Screw is included.
2. Tap holder and wrench must be ordered separately.

Cannot be used with machining center without synchronized tapping function.

Large Diameter Tap Holder MGT36 (M20 - M36 P1/2, P3/4, P1)



Tap Holder Model	Tap		ød1	□ d2	H	øD	Weight (kg)
	Size	ℓ					
MGT36-M20-65	M20	65 - 68	15	12	40	32	1.2
-M22, U7/8-65	M22	71 - 74	17	13	44	34	1.3
-M24-65	M24	74 - 77	19	15	46	39	1.4
-M27, U1-65	M27	80 - 83	20	15	50	40	1.4
-M30-65	M30	83 - 86	23	17	52	43	1.5
-M33-65	M33	88 - 91	25	19	57	49	1.6
-M36-65	M36	94 - 97	28	21	61	52	1.6
-P1/2-65	P1/2	38 - 41	18	14	42	35	1.3
-P3/4-65	P3/4	38 - 41	23	17	47	43	1.5
-P1 -65	P1	49 - 52	26	21	46	50	1.7

1. Tap projection length ℓ is a reference figure in accordance with JIS standards.
2. Adjusting Screw is included.

Caution

Tap with eccentric thread relief, having no margin on tap periphery, may cause oversize threads. In such case, tap with con-eccentric thread relief is recommended.

MGT Set Screw (high-strength)

· Set screws for attaching the tap holder to the body.

Model	**MGT36SS**

Synchro Adjuster (special material)

· Synchro Adjuster made of special material built into the tap holder.

Model	**MGT36SA**

O-ring Set

· Set of O-rings mounted on the tap holder.

Model	**MGT36OR**

Adjusting Screw

· Adjusting screw for the projection length of the tap. (Adjustment amount: 3mm)

Model	**MGT36AJ**

Side Lock Bolt Set

Set Model	Tap Holder Model	Bolt size
MGT36SL 6	MGT36-M20-65	M6x 8L (4 pcs) + M6x10L (2 pcs)
	-M22-65	
	-P1/2-65	
MGT36SL 8	-M24-65	M8x10L (4 pcs) + M8x12L (2 pcs)
	-M27-65	
	-M30-65	
	-P3/4-65	
MGT36SL10	-M33-65	M10x12L (4 pcs) + M10x14L (2 pcs)
	-M36-65	
	-P1 -65	

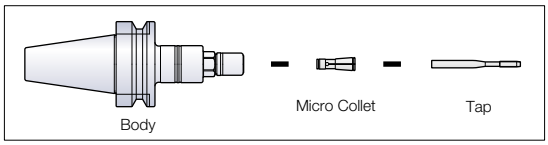
MEGA SYNCHRO TAPPING HOLDER

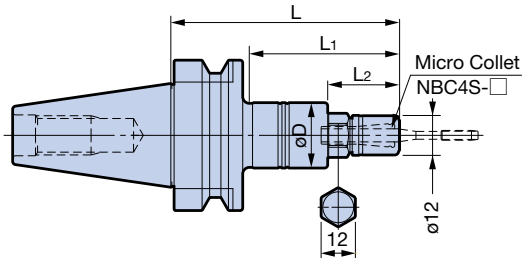
[Small Diameter Tap MGT3]

Stable small diameter tapping is achieved by the synchronization error compensation mechanism and minimized dynamic runout.

DUAL CONTACT
BIG-PLUS®

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.





BIG-PLUS BBT SHANK Model	Tapping range d	øD	L	L_1	L_2	Weight (kg)
BBT30-MGT3-70	M1 - M3	20	70	46	22	0.49
BBT40-MGT3-90			90	61		1.2

1. Nut is included, but wrench and collet must be ordered separately.
2. When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required. Prepare this on your own.

· Cannot be used with machining center without synchronized tapping function.

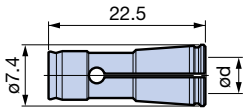
· Cannot be used with center through.

Mega Wrench

Model	**MGR12**

1. When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required. Prepare this on your own.

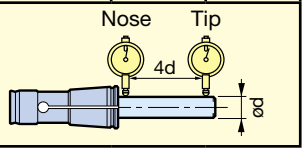
Micro Collet



Model	Tapping range		Tap shank diameter ød
	Metric	Unify	
NBC4S - 3.0AA	M1 - M2.6	No.0 - 4	3
NBC4S - 4.0AA	M3	No.5, 6	4

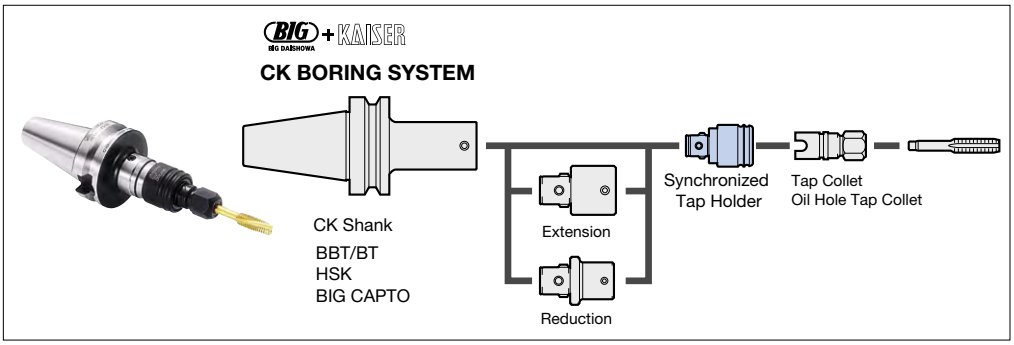
● Collet accuracy

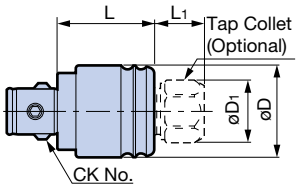
Collet class	Runout accuracy	
	Nose	4D
AA	Within 1 μm	Within 3 μm



SYNCHRONIZED TAP HOLDER

SYNCHRONIZED TAP HOLDER STC M2 - M30





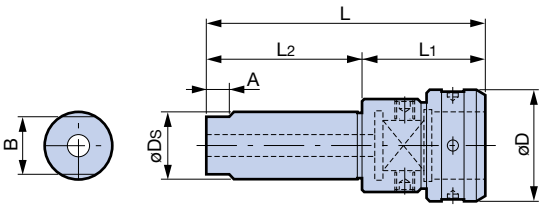
Model	Tapping range	CK No.	øD	øD1	L	L1	Weight (kg)	Tap Collet
CK2-STC 8-47.5	M 2 - M 4	CK2	25.5	15.8	30.5	17	0.10	TC 8-d
	M 5 - M 8			19				
CK3-STC12-66	M 3 - M12	CK3	32	22	36	30	0.18	TC12-d
CK4-STC20-72	M 8 - M12	CK4	44	22	47	25	0.42	TC20-d
	M14 - M20			31				
CK5-STC30-92	M20 - M30	CK5	55	41	54	38	0.72	TC30-d

1. Tap Collet TC Type must be ordered separately.
2. Cannot be used with machining center without synchronized tapping function.
3. The extension can be used to allow tapping inside deep holes.
4. The L_1 dimension is 5mm longer with oil hole TC collets.

For holders, **A71**
For Tap Collets, **A135**
For Oil Hole Tap Collet, **A136**

STD52 M39 - M52

● M39 to M52 large-diameter SYNCHRONIZED TAP HOLDER.



● Model Description

ST42 - STD - 52 - M39
- M39: Tap size
- 52: Class number
- STD: SYNCHRONIZED TAP HOLDER
- ST42: Shank diameter

Model	øDs	øD	L	L1	L2	A	B	Tap size
ST42-STD52-M39	42	63	173	73	100	15	36	M39
-M42								M42
-M45								M45
-M48		70	178	78				M48
-M52								M52

1. Tap chucking dimensions are designed suitable for shank diameters and square sizes of the JIS standard taps.
2. Please contact us regarding sizes other than the above.
3. T52 wrench is not included. Please order separately. (The same wrench used for the tap holder for the DT52 Drill Tapper.)

Ordering example for T52 wrench
Nut OD øD = 63 → Hook wrench DT52 (for ø60)
70 → Hook wrench DT52 (for ø70)

AUTO TAPPER A (for high-speed tapping) PAT.

Automatic reverse
Automatic depth control

Completes high-speed tapping while machine spindle is in forward rotation.
Reduces machine spindle load and time loss caused by reversing spindle rotations.

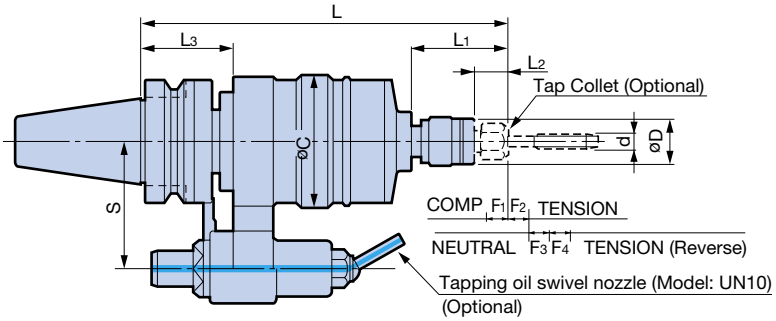
- As the angle of the oiling nozzle (optional) can be adjusted, accurate oil supply is possible even for taps with different lengths.

- Model Description

BT40 - AUTO A800 - 187 N

- N: Nozzle oiling type
- 187: L dimension
- A800: Tapping range: MAX.M8
- AUTO: AUTO TAPPER A
- BT40: BT SHANK No.

Not BIG-PLUS (DUAL CONTACT) specification



BT SHANK Model	Tapping range d	øD	øC	L	L1	L2	L3	F1	F2	F3	F4	S	Tap Collet	Max. spindle speed (min-1)	Weight (kg)
BT40-AUTO-A 800-187N	M3 - M 8	25.5	68	187	48	17	47	0.5	5.5	1.5	9.5	65	TC 8-d	2,500	4
-AUTO-A1200-213N	M4 - M12	32	81	213	64.5	30	46		8		11.5		TC12-d	2,000	6
BT50-AUTO-A 800-201N	M3 - M 8	25.5	68	201	48	17	61	0.5	5.5	1.5	9.5	80	TC 8-d	2,500	7
-AUTO-A1200-227N	M4 - M12	32	81	227	64.5	30			8		11.5		TC12-d	2,000	8.5
-AUTO-A2000-255N	M8 - M20	44	93	255	74	25			9				TC20-d	1,000	11

1. A Stop Block is required when mounting on machines. Please order separately.
2. Tap collet must be ordered separately.
3. Cannot be used in left-hand thread tapping.
4. Tapping using the machine dwell function (fixed cycle: G89) is also possible, but we recommend the use of the boring cycle (G85) to extend the tapper's life by several times.
5. F_2 in the table is the tension amount until it reaches neutral.
6. The R point (approach amount) should be positioned at 15mm or more from the upper surface of the workpiece.
7. When using the boring cycle (G85), the tap moves slightly beyond the prescribed feed amount when changing from forward to reverse.
   Be sure to perform test tapping when accurate tapping depth is required.

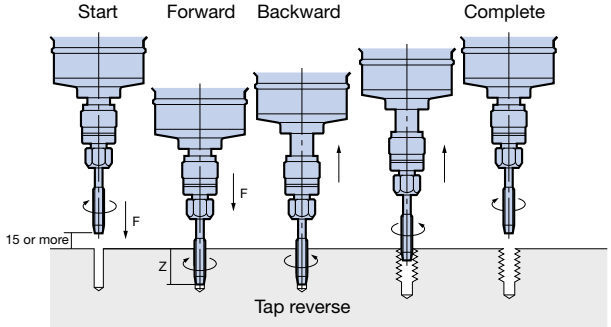
For Stop Blocks, A158

Tap Collet TC Type (optional accessory)

For Tap Collets, A135

Program using G85

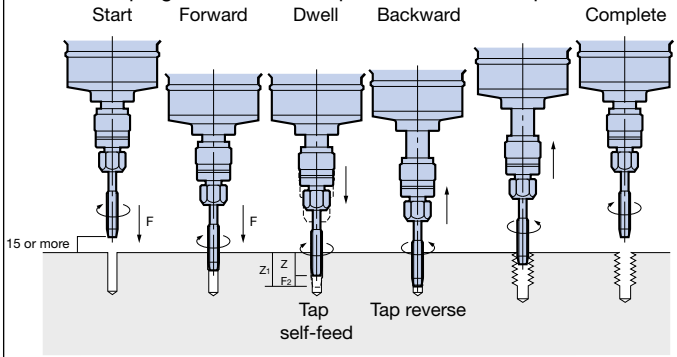
■ Tapper life will be extended in the case of high-speed tapping.



G85 X○○ Y○○ Z-□ R15.0 F□□;
Z: When the feed is switched from forward to reverse, the tap may go slightly deeper due to self-feed.
(Be sure to perform test tapping when accurate tapping depth is required.)
R: The approach amount should be positioned at 15mm or more from the upper surface of the workpiece.
F: The calculation will be "tap pitch mm x spindle speed min-1".
◎ Refer to the G89 cycle on the right to reliably align the tapping depth.

Program using G89

■ This program uses auto depth control for the tap.

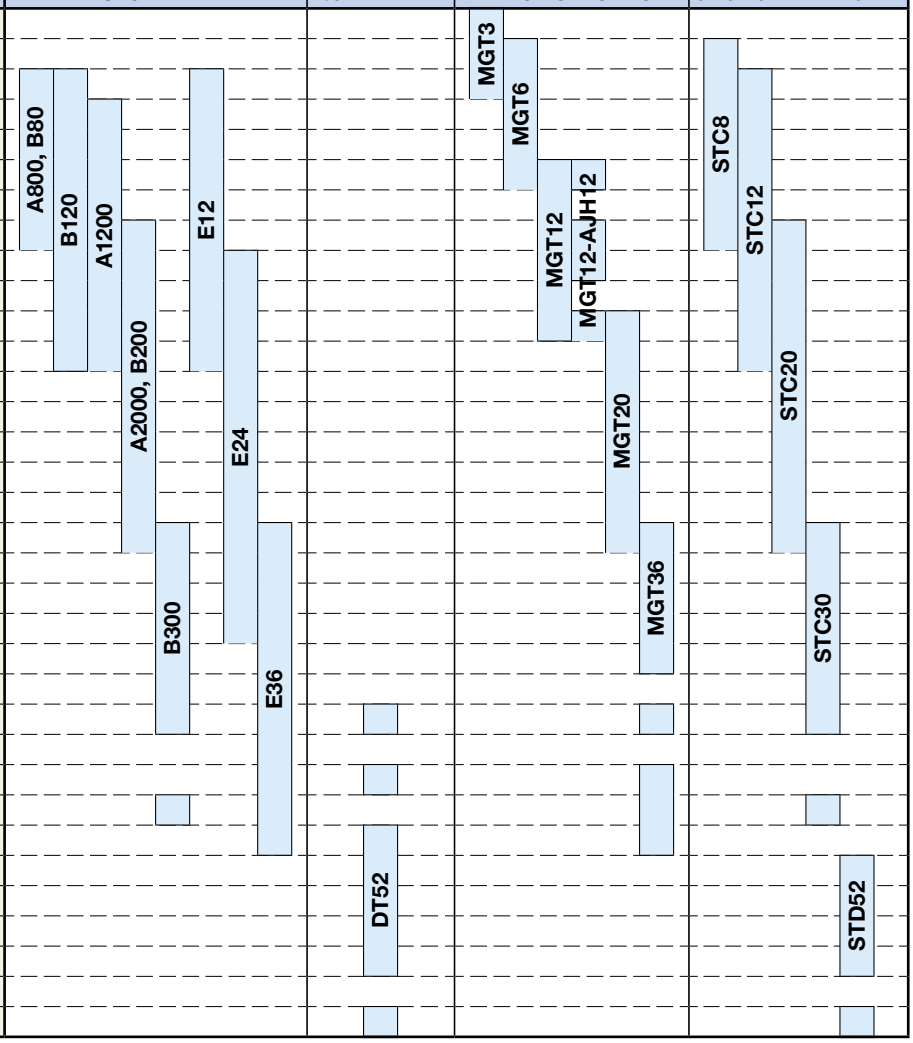


G89 X○○ Y○○ Z-□ R15.0 P□ F□□;
Z: Input the value of actual tapping depth Z_1 minus self-feed amount F_2.
R: The approach amount should be positioned at 15mm or more from the upper surface of the workpiece.
P: The dwell time is determined by the formula below.

$$\frac{F_2 \text{ (self-feed amount)}}{\text{Tap pitch mm} \times \text{spindle speed min}^{-1}} \times 60 \text{ [sec]}$$

Table of tap compatibility (JIS Standard)

Tap dimensions		Tap type			Tapper			
Shank diameter	Square size	Metric	Unify	Pipe	AUTO TAPPER	M/C DRILL TAPPER	MEGA SYNCHRO	SYNCHRONIZED TAP HOLDER
3	2.5	M1 - M1.8	No.0,1,2					
3	2.5	M2 - M2.6	No.3,4					
4	3.2	M3, M3.5	No.5.6					
5	4	M4, M4.5	No.8					
5.5	4.5	M5	No.10,12					
6	4.5	M6	U1/4					
6.1	5		U5/16					
6.2	5	M7, M8						
7	5.5	M9, M10	U3/8					
8	6	M11	U7/16	P1/8				
8.5	6.5	M12						
9	7		U1/2					
10.5	8	M14	U9/16					
11	9			P1/4				
12	9		U5/8					
12.5	10	M16						
14	11	M18	U3/4	P3/8				
15	12	M20						
17	13	M22	U7/8					
18	14			P1/2				
19	15	M24		P5/8				
20	15	M27	U1					
22	17		U1 1/8					
23	17	M30		P3/4				
24	19		U1 1/4	P7/8				
25	19	M33						
26	21		U1 3/8	P1				
28	21	M36		P1 1/8				
30	23	M39	U1 1/2					
32	26	M42		P1 1/4				
35	26	M45	U1 3/4					
38	29	M48		P1 1/2				
40	32		U2					
42	32	M52		P1 3/4				



1. BIG tapping head products are designed suitable for industry standard taps such as JIS. Some taps are produced based on manufacturers' standard. Be aware of this when selecting tools.
2. See each product page for the standard dimensions.
3. Even with the taps out of standard, tapping attachments are compatible as far as both the shank diameter and the square size are identical. (When using a pipe tap, the use of an exclusive Tap Collet is recommended.)

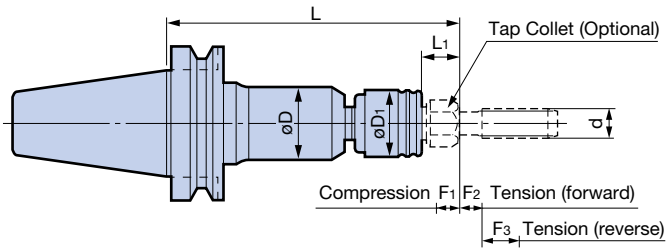
AUTO TAPPER B

Simple and compact tapper with automatic depth control.

- Reduces variation of tap depth to ±0.15mm, making it ideal for pipe tapping and blind hole tapping.
- Best-selling auto tapper series with a simple structure and affordable prices.

DUAL CONTACT
BIG-PLUS®

Automatic depth control



● Model Description

BBT30 - AUTO-B 80 - 125

- 125: L dimension
- 80: Tapping range
- AUTO-B: AUTO TAPPER B
- BBT30: BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Tapping range d	øD	øD1	L	L1	F1	F2	F3	Tap Collet	Weight (kg)
BBT30-AUTO-B 80-125	M 3 - M 8	30	25.5	125	17	5	5	10.5	TC 8-d	0.8
-AUTO-B120-150	M 3 - M12	35	32	150	30	6	6	12.5	TC12-d	1.0
BBT40-AUTO-B 80-130	M 3 - M 8	30	25.5	130	17	5	5	10.5	TC 8-d	1.4
-AUTO-B120-155	M 3 - M12	35	32	155	30	6	6	12.5	TC12-d	1.6
-AUTO-B200-185	M 8 - M20	48	44	185	25	6.5	6.5	13	TC20-d	2.3
-AUTO-B300-220	M20 - M30	58	55	220	38	7.5	7.5	14.5	TC30-d	3.2
BBT50-AUTO-B 80-140	M 3 - M 8	30	25.5	140	17	5	5	10.5	TC 8-d	4.2
-AUTO-B120-165	M 3 - M12	35	32	165	30	6	6	12.5	TC12-d	4.4
-AUTO-B200-195	M 8 - M20	48	44	195	25	6.5	6.5	13	TC20-d	5.1
-AUTO-B300-220	M20 - M30	58	55	220	38	7.5	7.5	14.5	TC30-d	6.0

1. Tap Collet is not included. TC Tap Collet is ordered separately.
2. Cannot be used in left-hand thread tapping.
3. Be sure to include the approach amount (distance between the tap tip and workpiece) when programming the starting point of tapping.
4. F_2 in the table is the tension amount until it reaches neutral. Be sure to perform test tapping when accurate tapping depth is required, as it may fluctuate slightly depending on the tap size and cutting conditions.

For Tap Collets, A135

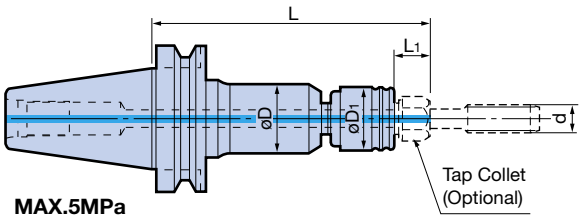
Center through tooling

AUTO TAPPER B M3 - M30

Automatic depth control

Center through

Not BIG-PLUS (DUAL CONTACT) specification



BT SHANK Model	Tapping range d	øD	øD1	L	L1	Weight (kg)	Tap Collet
BT40-TTB120-155	M 3 - M12	35	32	155	30	1.6	TC12
-TTB200-185	M 8 - M20	48	44	185	25	2.3	TC20
-TTB300-220	M20 - M30	58	55	220	38	3.2	TC30
BT50-TTB120-165	M 3 - M12	35	32	165	30	4.4	TC12
-TTB200-195	M 8 - M20	48	44	195	25	5.1	TC20
-TTB300-220	M20 - M30	58	55	220	38	6.0	TC30

1. Tap Collet is not included.
2. Cannot be used in left-hand thread tapping.
3. When using the depth control, be sure to include the approach amount for programming.
4. Compression is 3mm for all models.
5. The tension is the same as for AUTO TAPPER B.
6. Please contact us if higher pressure coolant than 5MPa is required.

For Oil Hole Tap Collets, A136
For Tap Collets, A135

AUTO TAPPER R M3 - M20

DUAL CONTACT
BIG-PLUS®

Radial float
Automatic depth control

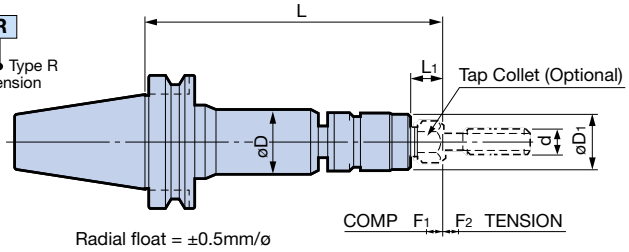
Tapper with built-in radial float mechanism that absorbs misalignment with starting holes.

- Ideal for die-cast workpieces or those with separately processed starting holes.
- The radial float amount of ±0.5mm not only prevents the tap from breaking due to misalignment, but also improves the thread accuracy.

● Model Description

BBT30 - AUTO-B 80 - 145 R

- BBT30: BIG-PLUS BT No.
- AUTO-B: AUTO TAPPER
- 80: Tapping range
- 145: L dimension
- R: Type R



Radial float = ±0.5mm/ø

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Tapping range d	øD	øD1	L	L1	F1	F2	Tap Collet	Weight (kg)
BBT30-AUTO-B 80-145R	M3 - M 8	30	25.5	145	17	5	5	TC 8-d	0.9
-B120-170R	M3 - M12	35	32	170	30	6	6	TC12-d	1.2
BBT40-AUTO-B 80-150R	M3 - M 8	30	25.5	150	17	5	5	TC 8-d	1.5
-B120-175R	M3 - M12	35	32	175	30	6	6	TC12-d	1.8
-B200-205R	M8 - M20	48	44	205	25	6.5	6.5	TC20-d	2.5
BBT50-AUTO-B120-185R	M3 - M12	35	32	185	30	6	6	TC12-d	4.6
-B200-215R	M8 - M20	48	44	215	25	6.5	6.5	TC20-d	5.3

1. Tap Collet is not included.
2. Cannot be used in left-hand thread tapping.
3. When using the depth control, be sure to include the following approach amount for programming.

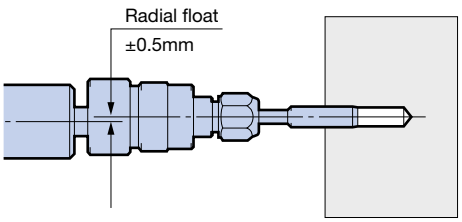
Tapper type	Approach amount
B 80-R	12mm
B120-R	13mm
B200-R	14mm

4. F_2 in the table is the tension amount until it reaches neutral.

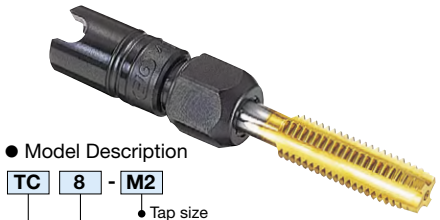
For Tap Collets, A135

Secure radial float function

The smooth radial float absorbs the misalignment when processing aluminum die-cast workpieces with existing starting holes or workpieces with separately processed starting holes, enabling stable tapping.



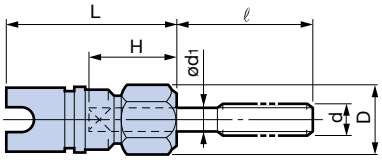
TAP COLLET TC (for Auto Tapper A / B / R and Synchronized Tap Holder STC)



● Model Description

TC 8 - M2

- Tap size
- Body size
- Tap Collet



● TC Mate
Convenient for attaching and removing Tap Collets

For TC Mate, H1

Model	Tapping range d			D	L	Weight (kg)	Tapper
	Metric	Unify	Pipe				
TC 8	M 2 - M 2.6	No.3, No.4	—	15.8	40.5	0.03	STC8
	M 3 - M 4	No.5 - No.8					AUTO-A800,B80,STC8
	M 5 - M 8	No.10 - U5/16		19		0.04	
TC12	M 3 - M12	No.5 - U1/2	P1/8	22	55	0.1	AUTO-A1200,B120,STC12
TC20	M 8 - M12	U3/8 - U1/2	P1/8	22	63	0.2	AUTO-A2000,B200,STC20
	M14 - M20	U9/16 - U3/4	P1/4 - P3/8	31			
TC30	M20 - M30	U7/8 - U1 1/8	P1/2 - P3/4	41	83	0.3	AUTO-B300,STC30
			P1	47			

TC8 Tap Collet

Metric				Unify			
Model TC 8-d	ød1	H	ℓ	Model TC 8-d	ød1	H	ℓ
TC 8-M 2	3	21	19	TC 8-U5/16	6.1	30	40
M 3	4	23	23				
-M 4	5	27	25				
-M 5	5.5	29	31				
-M 6	6		33				
-M 8	6.2	30	40				

TC12 Tap Collet

Metric				Unify				Pipe			
Model TC12-d	ød1	H	ℓ	Model TC12-d	ød1	H	ℓ	Model TC12-d	ød1	H	ℓ
TC12-M 3	4	24	22	TC12-U5/16	6.1	30	40	TC12-P1/8	8	31	24
-M 4	5	29	23	-U1/ 2	9	32	53				
-M 5	5.5		31								
-M 6	6		33								
-M 8	6.2	30	40								
-M10	7		45								
-M12	8.5	31	51								

TC20 Tap Collet

Metric				Unify				Pipe			
Model TC20-d	ød1	H	ℓ	Model TC20-d	ød1	H	ℓ	Model TC20-d	ød1	H	ℓ
TC20-M 8	6.2	33	37	TC20-U1/2	9	35	50	TC20-P1/8	8	33	22
-M10	7		42	-U5/8	12	37	58	-P1/4	11	31	31
-M12	8.5	34	48					-P3/8	14	34	31
-M14	10.5	36	52								
-M16	12.5	38	57								
-M18	14	39	61								
-M20	15	40	65								

TC30 Tap Collet

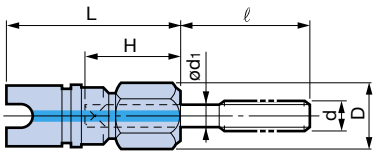
Metric				Unify				Pipe			
Model TC30-d	ød1	H	ℓ	Model TC30-d	ød1	H	ℓ	Model TC30-d	ød1	H	ℓ
TC30-M20	15	40	65	TC30-U1 1/8	22	45	90	TC30-P1/2	18	42	38
-M22	17	41	74					-P 1	26	45	50
-M24	19	43	77								
-M27	20		87								
-M30	23	45	90								

1. The tool projection length ℓ above is a reference figure in accordance with JIS standards.

■ For Unify taps not listed above, refer to the table of compatibility on A132.

OIL HOLE TAP COLLET TC (For Center Through AUTO TAPPER B, SYNCHRONIZED TAP HOLDER STC Type)

● Oil Hole Tap Collet that can feed coolant without waste.



● **TC Mate**
Convenient for attaching and removing Tap Collets


For TC Mate, H1

● Model Description

TC 8 - O M6
- Tap size
- Oil hole type
- Body size
- Tap Collet

Size	Tapping range d			D	L	Weight (kg)	Tapping attachment
	Metric	Unify	Pipe				
TC 8	M 6 - M 8	U1/4	—	19	45.5	0.05	STC 8
TC12	M 6 - M12	U1/4 - U1/2	P1/8	22	60	0.11	STC12
TC20	M 8 - M12	U3/8 - U1/2	P1/8	22	68	0.21	STC20
	M14 - M20	U9/16 - U3/4	P1/4,P3/8	31		0.23	
TC30	M20 - M30	U7/8 - U1 1/8	P1/2,P3/4	41	88	0.35	STC30

TC8 Tap Collet

Model	ød1	H	ℓ
TC 8-OM 6	6	34	28
-OM 8	6.2	35	35

TC20 Tap Collet

Model	ød1	H	ℓ
TC20-OM 8	6.2	38	32
-OM10	7		37
-OM12	8.5	39	43
-OM14	10.5	41	47
-OM16	12.5	43	52
-OM18	14	44	56
-OM20	15	45	60
-OU1/2	9	40	45
-OU5/8	12	42	
-OP1/8	8	38	17
-OP1/4	11	36	26
-OP3/8	14	39	

TC12 Tap Collet

Model	ød1	H	ℓ
TC12-OM 6	6	34	28
-OM 8	6.2	35	35
-OM10	7		40
-OM12	8.5	36	46
-OU1/2	9	37	48
-OP1/8	8	36	19

TC30 Tap Collet

Model	ød1	H	ℓ
TC30-OM20	15	45	60
-OM22	17	46	69
-OM24	19	48	72
-OM27	20		82
-OM30	23	50	85
-OU1 1/8	22	50	85
-OP1/2	18	47	33

Model symbol description

M = metric thread
U = unify thread
P = pipe thread

1. The tool projection length ℓ above is a reference figure in accordance with JIS standards.
For example, if the total length of the oil hole tap is 100, the calculation would be ℓ = 100 - H.

■ For Unify taps not listed above, refer to the table of compatibility on A132.

AUTO TAPPER SERIES

AUTO TAPPER E M3 - M36

DUAL CONTACT BIG-PLUS®

Torque limiter

Smoother axial float function and built-in torque limiter.

● Ideal for machining center tapping cycles.

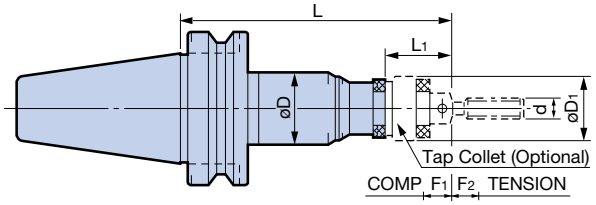
● Model Description

BBT40 - AUTO-E 12 - 165

- 165: L dimension
- 12: Tapping range
- AUTO-E: AUTO TAPPER E
- BBT40: BIG-PLUS BT No.

Original one-way torque limiter

If the torque limiter is activated with the tap in reverse, tap breakage may occur, which is very dangerous. The BIG AUTO TAPPER series uses a unique one-way torque limiter that does not work while in reverse, allowing safe tapping.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Tapping range d	øD	øD1	L	L1	F1	F2	Tap Collet	Weight (kg)
BBT40-AUTO-E12-165	M 3 - M12	46	38.5	165	40	15	20	TCE12-d	1.8
-AUTO-E24-195	M10 - M24	64	58.5	195	55	15	20	TCE24-d	3.4
BBT50-AUTO-E12-165	M 3 - M12	46	38.5	165	40	15	20	TCE12-d	4.2
-195				195					4.8
-AUTO-E24-195	M10 - M24	64	58.5	195	55	15	20	TCE24-d	5.7
-240				240					6.5
-AUTO-E36-255	M20 - M36	94	78.5	255	65	20	20	TCE36-d	11.0

1. Tap collet must be ordered separately.
2. Torque limiter is built into the Tap Collet.
3. The torque limiter of the Tap Collet is set for high-carbon steel upon delivery.
4. As the reverse torque is set to 3x, it cannot be used for the left-hand thread.

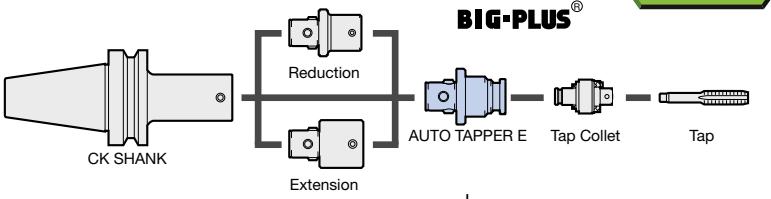
For Tap Collets, A138

BIG + KAISER
CK AUTO TAPPER E SET M3 - M24

DUAL CONTACT BIG-PLUS®

Torque limiter

● Combination with a long type CK Shank is convenient when a long tapper is required.



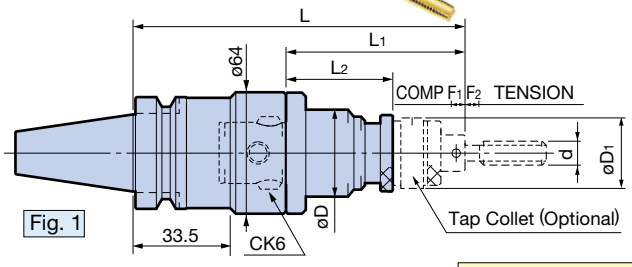


Fig. 1

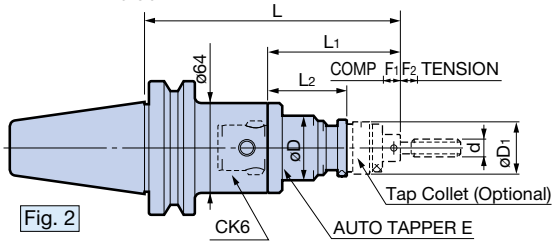


Fig. 2

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT** spindles.

BIG-PLUS BBT SHANK Set Model	Tapping range d	Fig.	øD	øD1	L	L1	L2	F1	F2	Set Contents: CK SHANK Model	Set Contents: AUTO TAPPER E Model	Tap Collet
BBT30-CK6-ATE12-135	M 3 - M12	1	47	38.5	154	90	50	5	10	BBT30-CK6-135	CK6-ATE12	TCE12-d
-ATE24-135	M10 - M24		64	58.5	199	135	80	7	15		CK6-ATE24	TCE24-d
BBT40-CK6-ATE12-135	M 3 - M12	2	47	38.5	154	90	50	5	10	BBT40-CK6-135	CK6-ATE12	TCE12-d
-ATE24-135	M10 - M24		64	58.5	199	135	80	7	15		CK6-ATE24	TCE24-d
BBT50-CK6-ATE12-165	M 3 - M12	2	47	38.5	184	90	50	5	10	BBT50-CK6-165	CK6-ATE12	TCE12-d
-ATE24-165	M10 - M24		64	58.5	229	135	80	7	15		CK6-ATE24	TCE24-d

1. Tap collet must be ordered separately.
2. Torque limiter is built into the Tap Collet.
3. The torque limiter of the Tap Collet is set for high-carbon steel upon delivery.
4. As the reverse torque is set to 3x, it cannot be used for the left-hand thread.

For Tap Collets, A138

<This set combination is only an example. For other combinations, please refer to the CK Shank table. A71>

TAP COLLET TCE (for Auto Tapper E)

Standard type

Long type
(L_2 is 50mm longer than the standard type.)

● Model Description

TCE12 - M3
- M3: ● Tap size
- TCE12: ● Tap Collet model

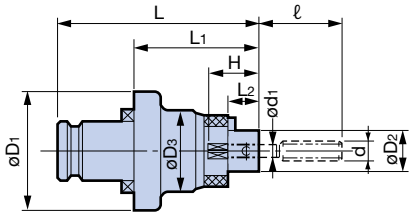


Fig. 1

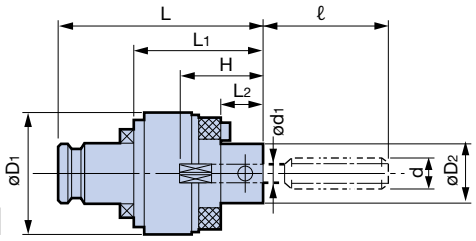


Fig. 2

Model	Tapping range d			Fig.	øD1	øD2	øD3	L		L1		L2		Weight (kg)		Tapping head model
	Metric	Unify	Pipe					Standard	Long	Standard	Long	Standard	Long	Standard	Long	
TCE12	M 3 - M 6	No.5 - U1/4	-	1	38	13	26	62	112	40	90	10	60	0.2	0.25	AUTO-E12 ATE12
	M 8 - M12	U5/16 - U1/2	P1/8	2	38.5	19	—					13	63	0.3	0.4	
TCE24	M10 - M12	U3/8 - U1/2	P1/8	1	58	19	40	90	140	55	105	13	63	0.7	0.8	AUTO-E24 ATE24
	M14 - M24	U9/16 - U7/8	P1/4 - P5/8	2	58.5	32	—					18	68	0.9	1.0	
TCE36	M20 - M24	U7/8	P1/2 - P5/8	1	78	32	60	116	—	65	—	18	—	1.8	—	AUTO-E36
	M27 - M36	U1 - U1·3/8	P3/4 - P1·1/8	2	78.5	45	—					21	—	2.0	—	

TCE12 Tap Collet

· Models with (L) are the long type. L_2 is 50mm longer than the standard type. Example: **TCE12-M3L**

Metric				Unify				Pipe			
Model TCE12-d (L)	ød1	H	ℓ	Model TCE12-d	ød1	H	ℓ	Model TCE12-d	ød1	H	ℓ
TCE12-M 3 (L)	4	23	24	TCE12-U5/16	6.1	33	37	TCE12-P1/8	8	33	22
-M 4 (L)	5	29	23	-U7/16	8	36	44				
-M 5 (L)	5.5	32	28	-U1/2	9	37	48				
-M 6 (L)	6		30								
-M 8 (L)	6.2	33	37								
-M10 (L)	7	35	40								
-M12 (L)	8.5	36	46								

TCE24 Tap Collet

· Models with (L) are the long type. L_2 is 50mm longer than the standard type. Example: **TCE24-M10L**

Metric				Unify				Pipe			
Model TCE24-d (L)	ød1	H	ℓ	Model TCE24-d	ød1	H	ℓ	Model TCE24-d	ød1	H	ℓ
TCE24-M10 (L)	7	38	37	TCE24-U7/16	8	39	41	TCE24-P1/8	8	33	22
-M12 (L)	8.5	39	43	-U1/2	9	40	45	-P1/4	11	31	31
-M14 (L)	10.5	41	47	-U5/8	12	42	53	-P3/8	14	34	31
-M16 (L)	12.5	43	52					-P1/2	18	42	38
-M18 (L)	14	44	56								
-M20 (L)	15	45	60								
-M22 (L)	17	51	64								
-M24 (L)	19	53	67								

TCE36 Tap Collet

Metric				Unify				Pipe			
Model TCE36-d	ød1	H	ℓ	Model TCE36-d	ød1	H	ℓ	Model TCE36-d	ød1	H	ℓ
TCE36-M20	15	48	57	TCE36-U1·1/8	22	60	75	TCE36-P1/2	18	42	38
-M22	17	49	66	-U1·1/4	24	62	83	-P3/4	23	47	38
-M24	19	51	69	-U1·3/8	26	69	86	-P7/8	24	47	43
-M27	20	58	72					-P1	26	47	48
-M30	23	60	75					-P1·1/8	28	52	48
-M33	25	62	83								
-M36	28	69	86								

1. The tool projection length ℓ above is a reference figure in accordance with JIS standards.

■ For Unify taps not listed above, refer to the table of compatibility on A132.

Built-in torque limiter mechanism, ideal for large-diameter tapping.

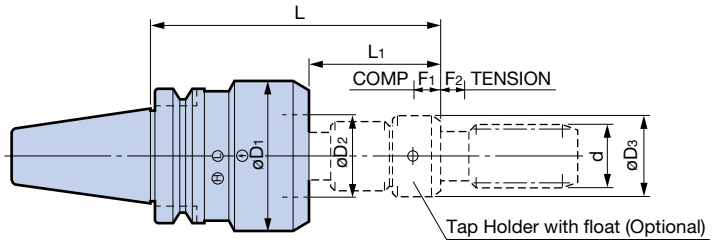
● Torque limiter with a proven track record, highly reliable and maintainable.

● Model Description

BT50 - DT 52 T

- T: Tapping range
- DT: DRILL TAPPER
- BT50: BT SHANK No.

Not BIG-PLUS (DUAL CONTACT) specification



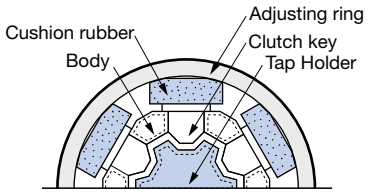
BT SHANK Model	Tapping range d	øD1	øD2	D3	L	L1	F1	F2	Tap Holder with float	Weight (kg)
BT50-DT52T	M30 - M33	113	58	58	165	50	20	20	T52- ⓓ TCD	9.5
	M36 - M52			58 - 70	210	95				10.0

1. The torque limiter can be adjusted into 2 steps, for steel or hard steel.
2. Tap holder is not included.

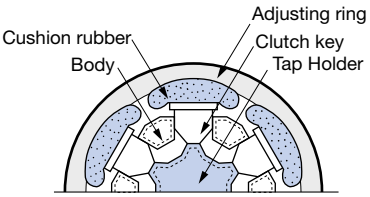
For tap holders, A140

Safety clutch

(at normal torque transmission)



(over-torqued)



- Stable tapping is achieved in combination with a Tap Holder designed with optimum torque and spring pressure for each tap size.
- The adjusting ring allows the torque to be set to either high or low.

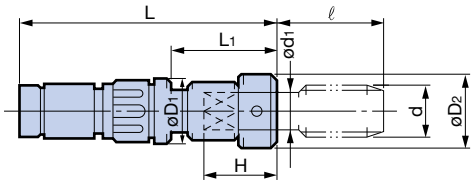
TAP HOLDER WITH FLOAT (for Drill Tapper for machining centers)

● Tap holders with optimal float amount and spring pressure for each tap size.

● Model Description

T52 - **M30** **TCD**

- TCD: With float
- M30: Tap size
- T52: Tap holder model



● Enter the required tap size in ⓓ to order.

Model	Tapping range d	øD1	L1	L	Weight (kg)
T52- ⓓ TCD	M30 - M33	58	49	182	3.5
	M36 - M52		94	227	4.0

1. Wrench is not included. Please order the T52 wrench separately. (See lower right of table)

T52 Tap Holder with float

Model		T52- ⓓ TCD							
d	M	M30	M33	M36	M39	M42	M45	M48	M52
	UNC	—	—	—	—	—	—	1 7/8	—
ød1		23	25	28	30	32	35	38	42
H		52	54	59	61	65		67	67
øD2		58			63			70	
ℓ		83	91	96	104	110	115	118	128

1. The tool projection length ℓ above is a reference figure in accordance with JIS standards.

Ordering example for T52 wrench

Nut OD øD2 =58, 63 → Hook wrench for DT52 (for ø60)
70 → Hook wrench for DT52 (for ø70)

(The tap holder with float of the Drill Tapper model DT52-5 for conventional machines can be purchased as T52 - ⓓ FT.
※ T52 - ⓓTCD cannot be used with the DT52-5 for conventional machines.)

ANGLE HEAD AG90 SERIES

Significantly reduces work time
through systematized multilateral machining.
BIG-PLUS DUAL CONTACT equipped as standard
to further improve rigidity.

DUAL CONTACT
BIG-PLUS®

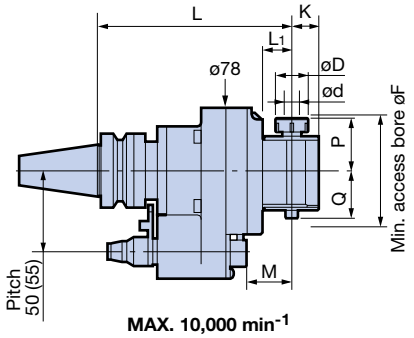
Spindle angle
90°

NEW BABY CHUCK Type Clamping diameter: ø0.25 - ø20

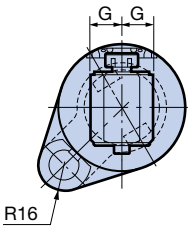
- High runout accuracy is achieved through the adoption of the high-accuracy New Baby Chuck.

Compact and lightweight High-speed ATC enabled

Weight 2.3kg - 2.7kg



MAX. 10,000 min^{-1}



- Model Description

BBT30 - **AG90** - **6** - **120**

- 120: L dimension
- 6: Maximum clamping diameter
- AG90: 90° Head type
- BBT30: BIG-PLUS BT No.

- NBC Tap Collet with tension mechanism can also be used to enable tapping. (NBC10 & 13 only)

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	øD	G	K	L	L_1	M	P	Q	øF	Collet Model	Weight (kg)
BBT30-AG90- 6-120	0.25 - 6	20	19.5	17	120	18.5	28.5	33	29	65	NBC 6	2.3
- 8-125	0.5 - 8	25	21.5	21	125	23.5	33.5	42	41	87	NBC 8	2.5
-10-125	1.5 - 10	30	24.5	25				45	43	92	NBC10	2.6
-13-125	2.5 - 13	35						52	45	102	NBC13	2.7

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.

For Collets, G4
For Stop Blocks, G29

DUAL CONTACT

BIG-PLUS®

Spindle angle 90°

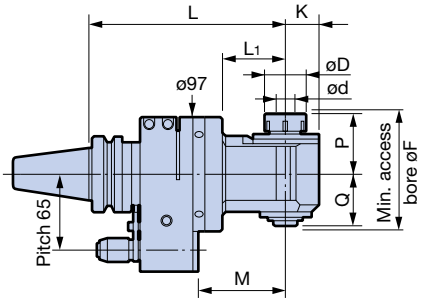


Fig. 1 **NBS6 - NBS13** Type
MAX. 6,000 min^{-1}

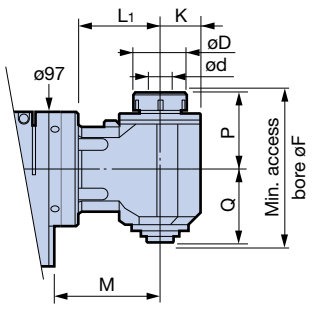


Fig. 2 **NBS20** Type
MAX. 3,000 min^{-1}

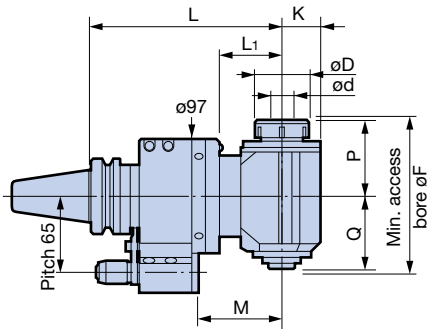
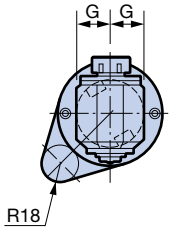


Fig. 3 High Rigidity Type
MAX. 3,000 min^{-1}



● Model Description

BBT40 - **AG90** / **NBS** **6** - **170**

- 170 : L dimension
- 6 : Maximum clamping diameter
- NBS : NEW BABY CHUCK System
- AG90 : 90° Head type
- BBT40 : BIG-PLUS BT No.

● High rigidity S type with reinforced Locating Pin part is also available.
Add the letter S at the end when ordering.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	ød	øD	G	K	L	L1	M	P	Q	øF	Collet Model	Weight (kg) Standard Type	Weight (kg) High Rigidity Type
BBT40-AG90/NBS 6 -170 ☐	1	0.25 - 6	20	21	17	170	55	77	33	29	67	NBC 6	5.1	6.0
-200 ☐						200	85	107					5.3	6.2
-230 ☐						230	115	137					5.5	6.4
-260 ☐						260	145	167					5.7	6.6
-AG90/NBS10 -170 ☐	1	1.5 - 10	30	30	25	170	55	77	45	43	91	NBC10	5.5	6.4
-200 ☐						200	85	107					5.9	6.8
-230 ☐						230	115	137					6.2	7.1
-AG90/NBS13 -170 ☐	1	2.5 - 13	35	31	28	170	55	77	52	45	101	NBC13	5.6	6.5
-200 ☐						200	85	107					6.0	6.9
-230 ☐						230	115	137					6.3	7.2
-AG90/NBS20 -185 ☐	2	2.5 - 20	46	35	35	185	70	92	65	62	132	NBC20	6.7	7.6
-AG90/NBS20S -165 S	3	2.5 - 20	46	35	33	165	53	72	65	62	132	NBC20	—	8.0

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.

For Collets, G4

For Stop Blocks, G29

ANGLE HEAD AG90 SERIES

NEW BABY CHUCK Type Clamping diameter: ø0.25 - ø20

- High runout accuracy is achieved through the adoption of the high-accuracy New Baby Chuck.

DUAL CONTACT
BIG-PLUS®

Spindle angle 90°

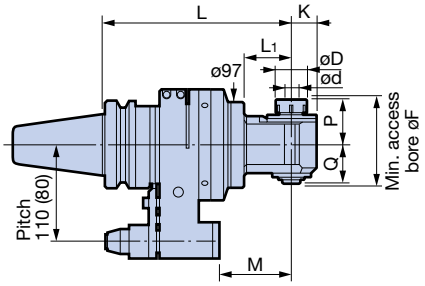


Fig. 1 **NBS6 - NBS13** Type
MAX. 6,000 min^{-1}

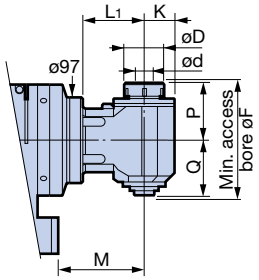


Fig. 2 **NBS20** Type
MAX. 3,000 min^{-1}

- Model Description

BBT50 - **AG90** / **NBS** **6** - **215**

- 215: L dimension
- 6: Maximum clamping diameter
- NBS: NEW BABY CHUCK System
- AG90: 90° Head type
- BBT50: BIG-PLUS BT No.

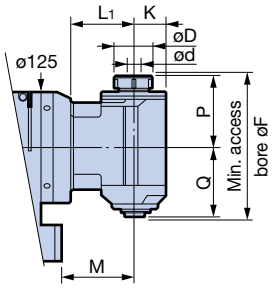
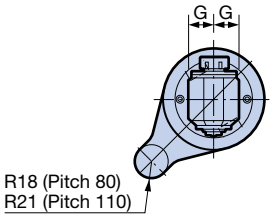


Fig. 3 Double-speed Type
MAX. 8,000 min^{-1}



- High rigidity S type with reinforced Locating Pin part is also available.
  Add the letter S at the end when ordering.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	ød	øD	G	K	L	L1	M	P	Q	øF	Collet Model	Weight (kg) Standard Type (Pitch 110)	High Rigidity Type (Pitch 110)	High Rigidity Type (Pitch 80)
BBT50-AG90/NBS6 -215 ☐	1	0.25 ~ 6	20	21	17	215	55	82	33	29	67	NBC 6	12.6	13.9	13.2
-245 ☐						245	85	112					12.8	14.1	13.4
-275 ☐						275	115	142					13.0	14.3	13.6
-305 ☐						305	145	172					13.2	14.5	13.8
-AG90/NBS10 -215 ☐	1	1.5 ~ 10	30	30	25	215	55	82	45	43	91	NBC10	13.0	14.3	13.6
-245 ☐						245	85	112					13.4	14.7	14.0
-275 ☐						275	115	142					13.7	15.0	14.3
-AG90/NBS13 -215 ☐	1	2.5 ~ 13	35	31	28	215	55	82	52	45	101	NBC13	13.1	14.4	13.7
-245 ☐						245	85	112					13.5	14.8	14.1
-275 ☐						275	115	142					13.8	15.1	14.4
-AG90/NBS20 -230 ☐	2	2.5 ~ 20	46	35	35	230	70	97	65	62	132	NBC20	14.2	15.5	14.8
-AG90/NBS16H-215 ☐	3	2.5 ~ 16	42	45	35	215	71	82	80	80	163	NBC16	14.6	15.9	15.2

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.

For Collets, G4
For Stop Blocks, G29

DUAL CONTACT
BIG-PLUS®

Spindle angle 90°

● TWIN HEAD (180° diagonal) Clamping diameter: ø1.5 - ø10

· Twin spindle head with a compact design. Symmetrical machining can be performed using one unit, contributing to the reduction of the number of magazines.

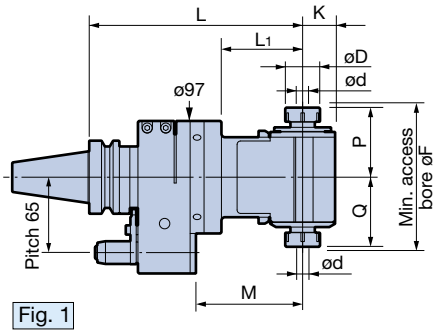


Fig. 1

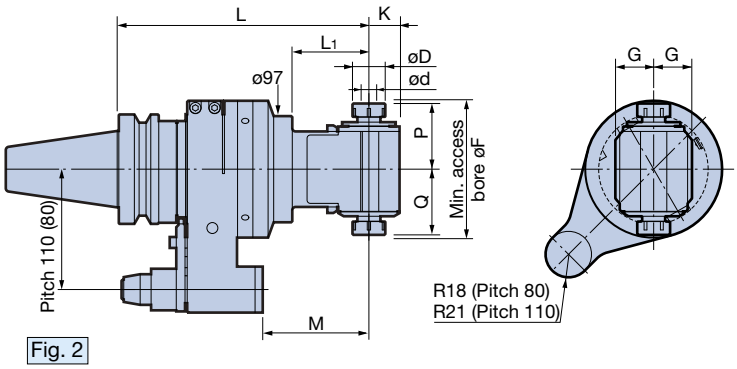


Fig. 2

● High rigidity S type with reinforced Locating Pin part is also available.
Add the letter S at the end when ordering.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	ød	øD	G	K	L	L1	M	P	Q	øF	Collet Model	Weight (kg)	
													Standard Type	High Rigidity Type
BBT40-AG90/NBS10W-185 □	1	1.5 - 10	30	31	28	185	70	92	60	60	124	NBC10	6.3 (pitch 65)	7.2 (pitch 65)
BBT50-AG90/NBS10W-230 □	2	1.5 - 10	30	31	28	230	70	97	60	60	124	NBC10	13.8	15.1 (pitch 110) / 14.4 (pitch 80)

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. Output spindles do not rotate in forward direction simultaneously.
4. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
5. A Stop Block is required when mounting on machines. Please order separately.
6. When supplied through the Stop Block, coolant can be ejected from the housing.
7. Automatic tool change may not be available depending on machine tool models.
8. New Baby Endmill Collets cannot be used.

For Collets, G4
For Stop Blocks, G29

ANGLE HEAD AG90 SERIES

Oil Hole Type Clamping diameter: ø2.5 - ø13

●Feeds coolant through the cutting tool via Stop Block!

DUAL CONTACT BIG-PLUS®

Spindle angle 90°

For drilling

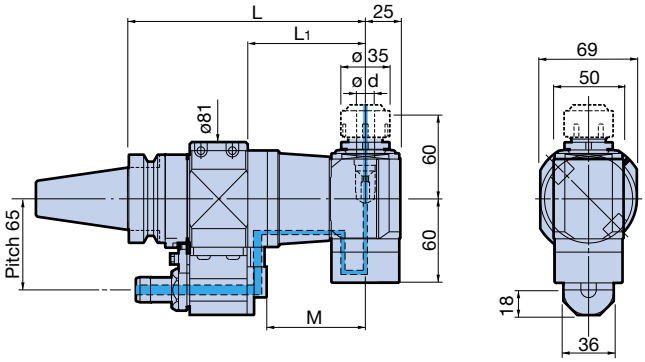
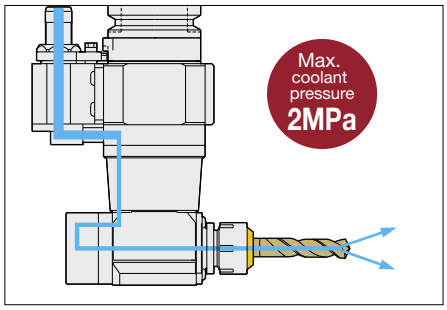


Fig. 1 **MAX. 5,000min-1**



Feeds coolant from the cutting edge via Stop Block

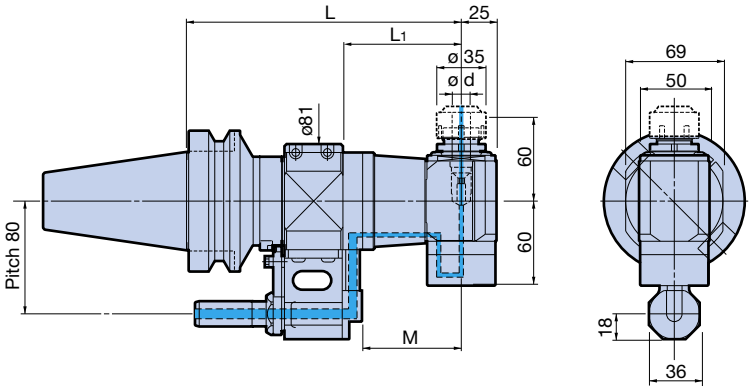


Fig. 2 **MAX. 5,000min-1**

● Model Description

BBT40 - O AG90 - 13 - 170

- 170: L dimension
- 13: Maximum clamping diameter
- AG90: 90° Head type
- O: Oil Hole
- BBT40: BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	ød	L	L1	M	Collet Model	Speed Ratio Input:output	Weight (kg)
BBT40-OAG90-13-170	1	2.5 - 13	170	84	70.5	NBC13	1:1	6.0
BBT50-OAG90-13-195	2		195					9.2

1. **The cutting tool rotates in reverse to the machine spindle.**
2. For use with an oil hole drill only. Never run without supplying coolant through the unit.
3. Baby Perfect Seal nut with sealing mechanism is required. Please order separately.
4. Collet is ordered separately.
5. Wrench and adjust screw are included.
6. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
7. A Stop Block is required when mounting on machines. Please order separately.
8. Automatic tool change may not be available depending on machine tool models.

For Perfect Seal, G24
For Collets, G4
For Stop Blocks, G29

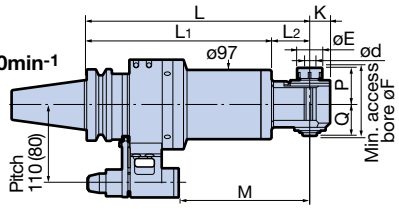
Long type Clamping diameter: ø0.25 - ø20

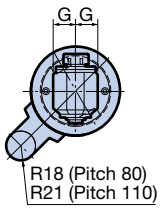
DUAL CONTACT BIG-PLUS®

Spindle angle 90°

- Ideal for inner-diameter lateral drilling and keyway grooving of large workpieces. 100, 200 or 300mm additional length to standard units are newly available!

Fig. 1 **Max. 6000min-1**





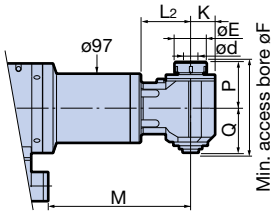


Fig. 2 **MAX. 3,000min-1**

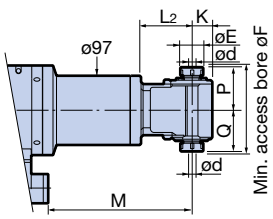


Fig. 3 Twin head (180° diagonal) **Max. 6000min-1**

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	ød	øE	G	K	L	L1	L2	M	P	Q	øF	Collet Model	Speed ratio Input:output	Weight (kg)
BBT50-AG90/NBS 6 -315LS	1	0.25 - 6	20	21	17	315	260	55	182	33	29	67	NBC 6	1:1	18.9
-345LS						345		85	212						19.1
-375LS						375		115	242						19.3
-405LS						405		145	272						19.5
-AG90/NBS10 -315LS	1	1.5 - 10	30	30	25	315	260	55	182	45	43	91	NBC10		19.3
-345LS						345		85	212						19.7
-375LS						375		115	242						20.0
-AG90/NBS13 -315LS	1	2.5 - 13	35	31	28	315	260	55	182	52	45	101	NBC13		19.4
-345LS						345		85	212						19.8
-375LS						375		115	242						20.1
-AG90/NBS20 -330LS	2	2.5 - 20	46	35	35	330	260	70	197	65	62	132	NBC20		20.5
-AG90/NBS10W-330LS	3	1.5 - 10	30	31	28	330	260	70	197	60	60	124	NBC10		20.1
BBT50-AG90/NBS 6 -415LS	1	0.25 - 6	20	21	17	415	360	55	282	33	29	67	NBC 6	1:1	23.3
-445LS						445		85	312						23.5
-475LS						475		115	342						23.7
-505LS						505		145	372						23.9
-AG90/NBS10 -415LS	1	1.5 - 10	30	30	25	415	360	55	282	45	43	91	NBC10		23.7
-445LS						445		85	312						24.1
-475LS						475		115	342						24.4
-AG90/NBS13 -415LS	1	2.5 - 13	35	31	28	415	360	55	282	52	45	101	NBC13		23.8
-445LS						445		85	312						24.2
-475LS						475		115	342						24.5
-AG90/NBS20 -430LS	2	2.5 - 20	46	35	35	430	360	70	297	65	62	132	NBC20		24.9
-AG90/NBS10W-430LS	3	1.5 - 10	30	31	28	430	360	70	297	60	60	124	NBC10		24.5
BBT50-AG90/NBS 6 -515LS	1	0.25 - 6	20	21	17	515	460	55	382	33	29	67	NBC 6	1:1	27.7
-545LS						545		85	412						27.9
-575LS						575		115	442						28.1
-605LS						605		145	472						28.3
-AG90/NBS10 -515LS	1	1.5 - 10	30	30	25	515	460	55	382	45	43	91	NBC10		28.1
-545LS						545		85	412						28.5
-575LS						575		115	442						28.8
-AG90/NBS13 -515LS	1	2.5 - 13	35	31	28	515	460	55	382	52	45	101	NBC13		28.2
-545LS						545		85	412						28.6
-575LS						575		115	442						28.9
-AG90/NBS20 -530LS	2	2.5 - 20	46	35	35	530	460	70	397	65	62	132	NBC20		29.3
-AG90/NBS10W-530LS	3	1.5 - 10	30	31	28	530	460	70	397	60	60	124	NBC10		28.9

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. Output spindles of Twin Head do not rotate in forward direction simultaneously.
4. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
5. New Baby Endmill Collets cannot be used.
6. A Stop Block is required when mounting on machines. Please order separately.
7. Automatic tool change may not be available depending on machine tool models.
8. When supplied through the Stop Block, coolant can be ejected from the housing.

For Collets, G4

For Stop Blocks, G29

ANGLE HEAD AG90 SERIES

Compact type Clamping diameter: ø2.5 - ø13

- Compact and lightweight while fully equipped with the functions and accuracy required in drilling!

For drilling/tapping

DUAL CONTACT BIG-PLUS®

Spindle angle 90°

Lightweight and compact

Compact and lightweight, while outperforming others:

- Reliable New Baby Collet
- Spiral bevel gears and angular contact bearings
- Special sealing mechanism for improved dustproof and waterproof performance

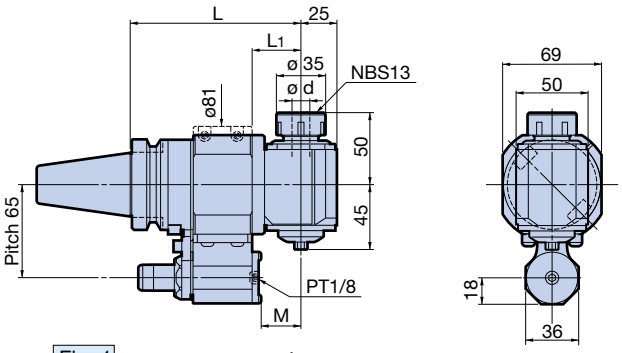


Fig. 1 **MAX. 5,000min-1**

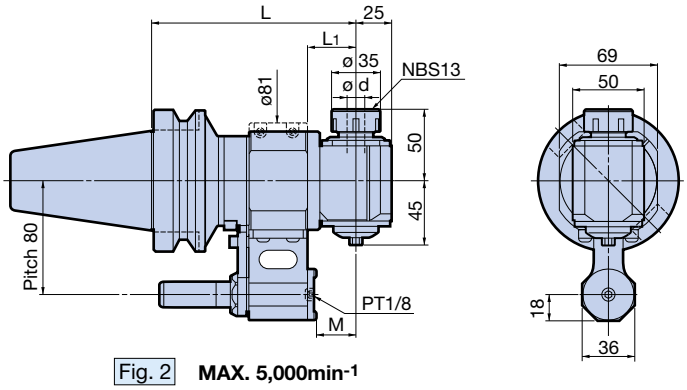


Fig. 2 **MAX. 5,000min-1**

● Model Description

BBT40 - AG90 - 13 - 120

- BBT40: BIG-PLUS BT No.
- AG90: 90° Head type
- 13: Maximum clamping diameter
- 120: L dimension

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	ød	L	L1	M	Collet Model	Speed ratio Input:output	Weight (kg)
BBT40-AG90-13-120	1	2.5 - 13	120	34	27.85	NBC13	1:1	4.5
-170			170	84	77.85			5.5
BBT50-AG90-13-145	2	2.5 - 13	145	34	27.85	NBC13	1:1	7.6
-195			195	84	77.85			8.6

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. New Baby Endmill Collet cannot be used.
4. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
5. A Stop Block is required when mounting on machines. Please order separately.
6. A tapped hole (PT1/8) is prepared at the bottom cover of the Locating Pin housing so that a pipe for coolant can be connected.
7. Automatic tool change may not be available depending on machine tool models.

For Collets, G4
For Stop Blocks, G29

Application example

Compact yet with high rigidity and runout accuracy, allowing stable machining.

	Drilling	Tapping
Tools used	ø12 carbide drill	M5 Tap
Workpiece material	S50C	A2017
Cutting speed	70m/min	7.5m/min
Feed	372mm/min	384mm/min
	0.2mm/rev	
Spindle speed	1,860min-1	450min-1

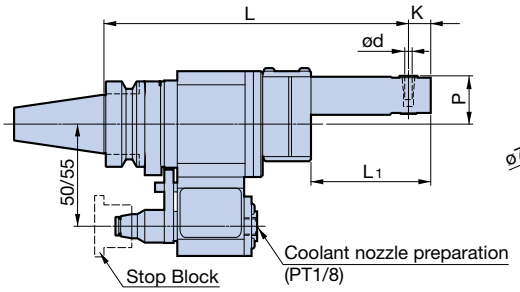
BBT30 lightweight type Clamping diameter: ø3 - ø6

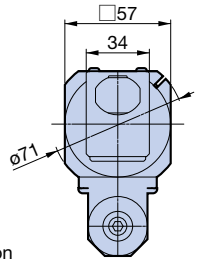
● Clears the ATC weight limit of the #30 machining center.

DUAL CONTACT
BIG-PLUS®

Spindle angle 90°

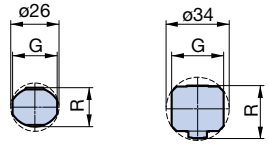
Lightweight under 2kg





MAX. 2,000min^{-1}

Head shape
Min. access bore



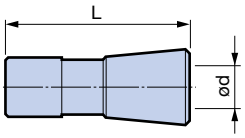
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	L	L1	K	P	G	R	Speed ratio Input:output	Weight (kg)
BBT30-AG90-CA4SG-164	3 - 4	164	64.5	12	26	24	21	1:1.13 (acceleration)	1.90
BBT30-AG90-CA6SG-164	3 - 6	164	67	14.5	28	28	28.5	1:0.91 (deceleration)	1.98

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. Exclusive collet is not included. Please order separately.

For Stop Blocks, G29

● Exclusive collet



Model	ød	L
CA4-3	3	16.5
-3.5	3.5	
-4	4	

Model	ød	L
CA6-3	3	22
-4	4	
-5	5	
-6	6	

1. Use only cutting tools that have a shank tolerance within h7.

ANGLE HEAD AG90 SERIES

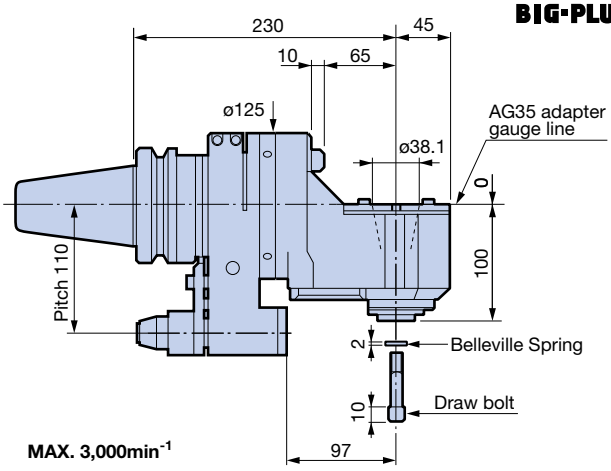
Offset design provides optimum tool projection with each adapter.

DUAL CONTACT
BIG-PLUS®

Spindle angle
90°

BUILD-UP type

● Standard type



MAX. 3,000min^{-1}

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

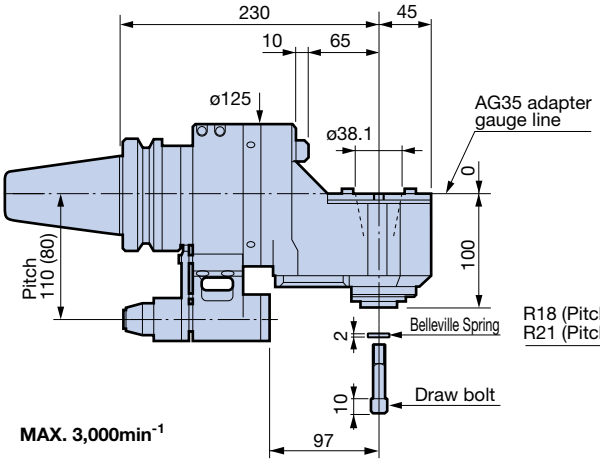
BIG-PLUS BBT SHANK Model	Weight (kg)
BBT50-AG90/AGH35-230	15.0

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. When supplied through the Stop Block, coolant can be ejected from the housing.
5. Automatic tool change may not be available depending on machine tool models.

For Stop Blocks, G29

● High rigidity S type

· About 30% higher rigidity compared to standard type



MAX. 3,000min^{-1}

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Weight (kg)	
	Pitch 110	Pitch 80
BBT50-AG90/AGH35-230S	16.3	15.6

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. When supplied through the Stop Block, coolant can be ejected from the housing.
5. Automatic tool change may not be available depending on machine tool models.

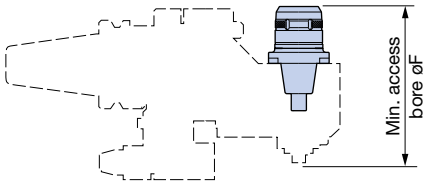
For Stop Blocks, G29

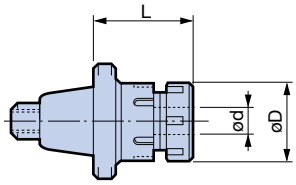
BUILD-UP Type AG35 ADAPTER

Spindle angle 90°

●Abundant adapters support various machining applications.

● Min. access bore when mounted on the Angle Head



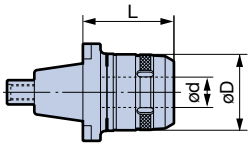


NEW BABY CHUCK

Model	ød	øD	L	øF	Weight (kg)
AG35-NBS10	1.5 - 10	30	47	162	0.6
-NBS13	2.5 - 13	35	54	168	0.7
-NBS16	2.5 - 16	42	54	170	0.8
-NBS20	2.5 - 20	46	54	170	0.9

1. Collet and wrench must be ordered separately. (See wrench G26)

For Collets, G4

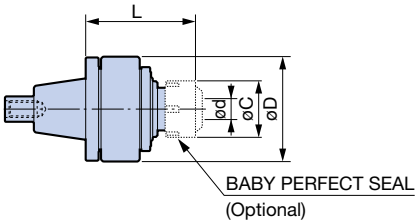


NEW Hi- POWER MILLING CHUCK

Model	ød	øD	L	øF	Weight (kg)
AG35-HMC20S	20	50	60	178	1.5

1. Wrench included. (Model: FK45-50L)

For Straight Collets, G20

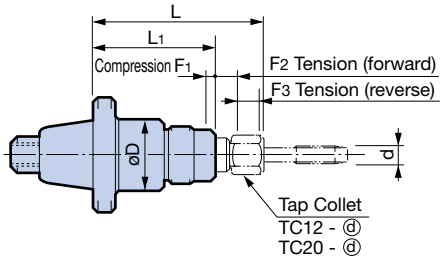


Hi-JET HOLDER

Model	ød	øC	øD	L	øF	Weight (kg)
AG35-ONBS13N	3 - 13	35	65	68	186	1.1

1. Baby Perfect Seal nut with sealing mechanism is required. (optional accessory)
2. Collet and wrench must be ordered separately.
3. Anti-rotation block set must be ordered separately. (Model: AG35-BL)

For Baby Perfect Seal, G24
For Collets, G4

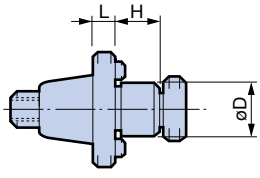


AUTO TAPPER B (with Tap Depth Control)

Model	d	øD	L	L_1	F_1	F_2	F_3	Weight (kg)
AG35-ATB12	M3 - M12	40	95	65	0.5	5	4	0.8
-ATB20	M8 - M20	54	125	100		6.5	5	1.5

1. Tap Collet must be ordered separately.

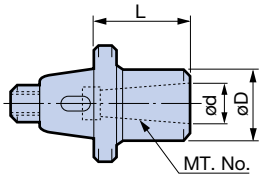
For TC Tap Collets, A135



FACE MILL ARBOR

Model	øD	L	H	Weight (kg)
AG35-FMA25.4-20	25.4	20	22	1.0
AG35-FMH22 -30	22	30	18	1.0
-FMH27 -20	27	20	20	1.0

※ Cutter face protrudes by 7.5mm from the 125mm diameter housing with the following combinations;
AG35-FMA25.4-20 + 50mm thick tool, AG35-FMH22-30 + 40mm thick tool and AG35-FMH27-20 + 50mm thick tool.



MORSE TAPER ADAPTER

Model	ød	MT.No.	øD	L	øF	Weight (kg)
AG35-MT1	12.065	1	24	50	164	0.6
-MT2	17.78	2	32	60	180	0.7

ANGLE HEAD AG90 SERIES

Versatile ø32 milling chuck allows use of various tools according to any machining application.

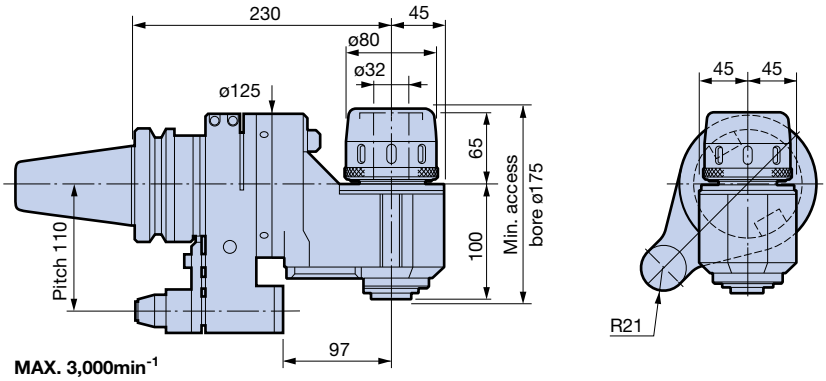
DUAL CONTACT
BIG-PLUS®

Spindle angle
90°

HMC32 Type

● Standard type

· High-rigidity milling chuck type that allows the most commonly used cylindrical shanks to be mounted.



MAX. 3,000min^{-1}

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

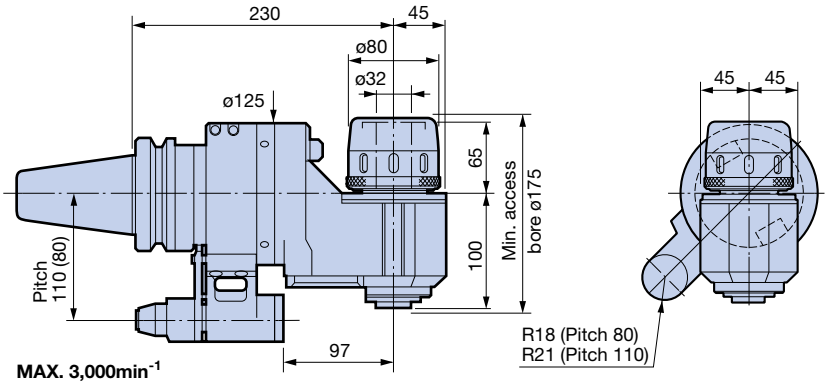
BIG-PLUS BBT SHANK Model	Weight (kg)
BBT50-AG90/HMC32-230	16.8

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. When supplied through the Stop Block, coolant can be ejected from the housing.
5. Automatic tool change may not be available depending on machine tool models.
6. Wrench included. (Model: FK80-90)

For Straight Collets, G20
For Stop Blocks, G29

● High rigidity S type

· About 30% higher rigidity compared to standard type



MAX. 3,000min^{-1}

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Weight (kg)	
	Pitch 110	Pitch 80
BBT50-AG90/HMC32-230S	18.1	17.4

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. When supplied through the Stop Block, coolant can be ejected from the housing.
5. Automatic tool change may not be available depending on machine tool models.
6. Wrench included. (Model: FK80-90)

For Straight Collets, G20
For Stop Blocks, G29

Face Milling type

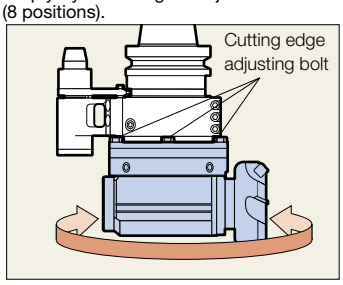
- Tool life is improved by high-rigidity bearings and optimum spindle dimensions!
- Series' highest rotation transmission force of 20kw (at 1,500min^{-1})
- 90° indexing mechanism is used to allow index of 90° increments after adjustment. (Indexing accuracy ±5')

DUAL CONTACT
BIG-PLUS®

Spindle angle 90°

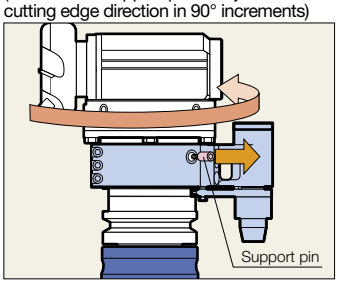
■ Cutting edge direction freely adjustable in 360°

The cutting edge direction can be easily set at any angle through 360 degrees simply by loosening its adjustment bolts (8 positions).

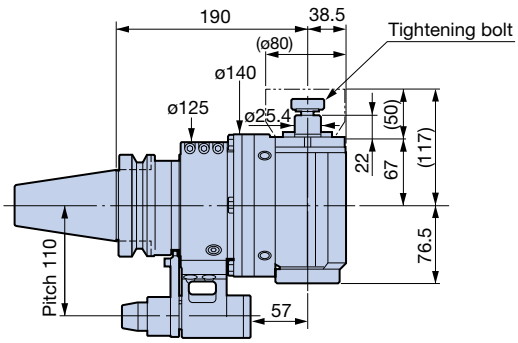


■ Cutting edge direction indexable in 90° increments

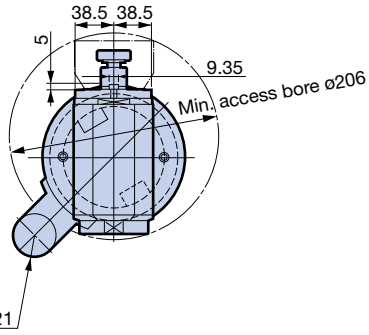
Indexing can be done in 90° increments after the cutting edge direction is adjusted. (Remove the support pin to adjust the cutting edge direction in 90° increments)



⚠ Note: Be sure to remove from the machine before setting in 90° increments.



MAX. 1,500min^{-1}



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Weight (kg)
BBT50-AG90-FMA25.4S-190S	19.2

Figures in ( ) indicate dimensions when 80mm diameter and 50mm high face mill cutter is mounted.

1. **The cutting tool rotates in reverse to the machine spindle.**
2. A Stop Block is required when mounting on machines. Please order separately.
3. Coolant cannot be supplied through the Locating Pin.
4. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
5. Automatic tool change may not be available depending on machine tool models.

For Stop Blocks, G29

Tapper Type

DUAL CONTACT
BIG-PLUS®

Spindle angle 90°

● Tapping depth is adjusted with automatic depth control. Spindle speed is reduced by half to achieve increased transmission torque.

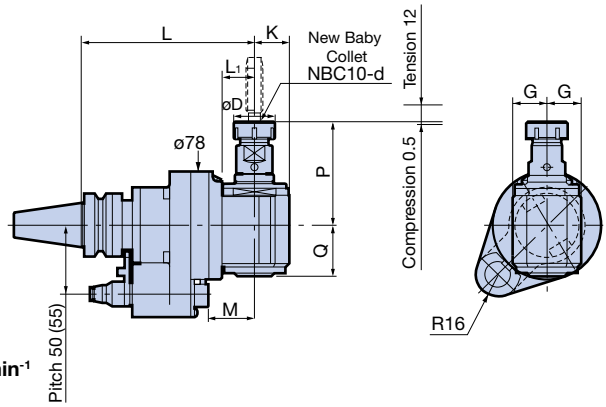
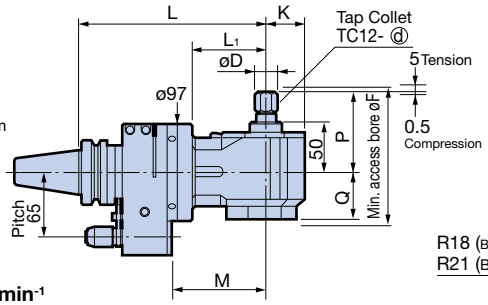


Fig. 1
MAX. 2,000min-1

● Model Description

BBT40 - AG90 / TC 12 - 185

- 185: L dimension
- 12: Tapping capacity
- TC: Tapper type with depth control mechanism
- AG90: 90° Head type
- BBT40: BIG-PLUS BT No.



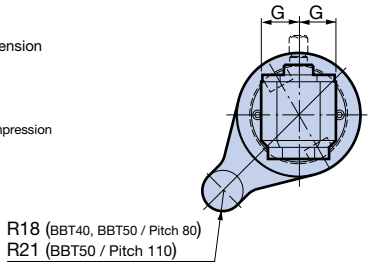


Fig. 2
MAX. 2,000min-1

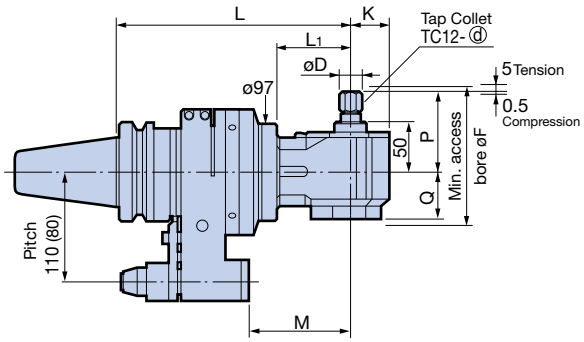


Fig. 3
MAX. 2,000min-1

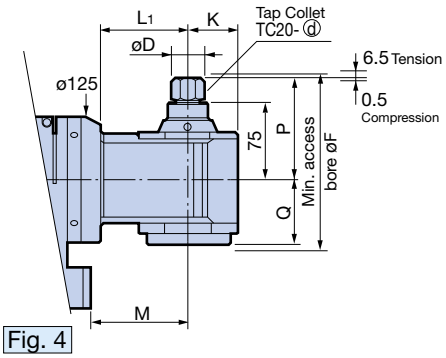


Fig. 4
MAX. 1,000min-1

● High rigidity S type with reinforced Locating Pin part is also available. Add the letter S at the end when ordering. (except BBT30)

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	d	øD	G	K	L	L1	M	P	Q	øF	Collet Model	Speed ratio Input:output	Weight (kg) Standard Type (Pitch)	High Rigidity Type (Pitch)	High Rigidity Type (Pitch 80)
BBT30-AG90-FT12-125	1	M4 - M12	30	24.5	25	125	23.5	33.5	75	37	117	NBC10	1:1	2.7	—	—
BBT40-AG90/TC12-185 □	2	M3 - M12	22	38	39	185	70	92	80	46	135	TC12-ⓓ	2:1 (Deceleration)	7.0 (65)	7.9 (65)	—
BBT50-AG90/TC12-230 □	3	M3 - M12	22	38	39	230	70	97	80	46	135	TC12-ⓓ		14.5 (110)	15.8 (110)	15.1
-AG90/TC20-230 □	4	M8 - M20	22/31	49	49		86		100	66.5	178	TC20-ⓓ		16.3 (110)	17.6 (110)	16.9

1. **The cutting tool rotates in reverse to the machine spindle.**
2. TC Tap Collet and NBC Collet are not included. Please order separately.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. Note that tap rotation is reduced to half the speed of the machine spindle. (except BBT30)
5. A Stop Block is required when mounting on machines. Please order separately.
6. The BBT30 Type does not provide depth control.
7. When supplied through the Stop Block, coolant can be ejected from the housing.
8. Automatic tool change may not be available depending on machine tool models.

For TC Tap Collets, A135
For NBC Collets, G4
For Stop Blocks, G29

45° exclusive fixing housing realizes secure diagonal machining.

● Highly versatile NEW BABY CHUCK enables high-accuracy machining.

DUAL CONTACT BIG-PLUS®

Spindle angle 45°

NEW BABY CHUCK Type Clamping diameter: ø1.5 - ø13

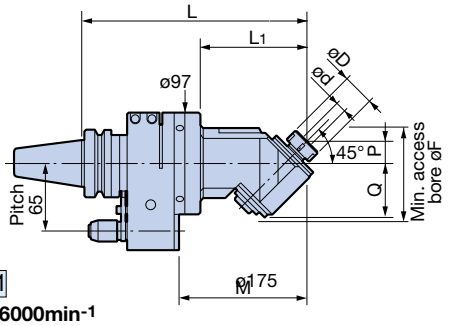


Fig. 1
Max. 6000min-1

● Model Description

BBT40 - **AG45** / **NBS** **10** - **215**

- BBT40 - BIG-PLUS BT No.
- AG45 - 45° Head type
- NBS - NEW BABY CHUCK system
- 10 - Maximum clamping diameter
- 215 - L dimension

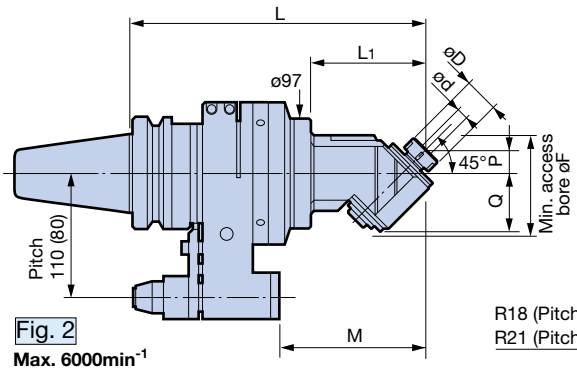
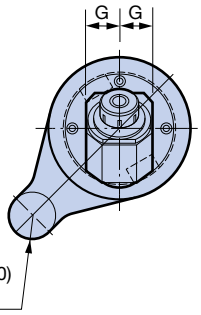


Fig. 2
Max. 6000min-1



● High rigidity S type with reinforced Locating Pin part is also available.
Add the letter S at the end when ordering.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	ød	øD	G	L	L1	M	P	Q	øF	Collet Model	Weight (kg) Standard Type (Pitch)	High Rigidity Type (Pitch)	High Rigidity Type (Pitch 80)
BBT40-AG45/NBS10-215 □	1	1.5 - 10	30	30	215	100	122	20	51.5	90	NBC10	5.7 (65)	6.6 (65)	-
-AG45/NBS13-220 □		2.5 - 13	35		220	105	127	25			NBC13	5.8 (65)	6.7 (65)	-
BBT50-AG45/NBS10-260 □	2	1.5 - 10	30	30	260	100	127	20	51.5	90	NBC10	13.2 (110)	14.5 (110)	13.8
-AG45/NBS13-265 □		2.5 - 13	35		265	105	132	25			NBC13	13.3 (110)	14.6 (110)	13.9

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.

For Collets, G4
For Stop Blocks, G29

ANGLE HEAD AGU SERIES

The cutting edge angle can be freely adjusted, making it ideal for machining the corners of molds in deep areas.

- The original 1° indexing mechanism allows easy angle adjustment.
- Robust clamping mechanism allows secure endmilling.

DUAL CONTACT
BIG-PLUS®

Spindle angle
0° - 90°

Universal Type Clamping diameter: ø2.5 - ø20

Indexing mechanism in 1° increments

Accurate angle adjustment is possible simply by tightening the angle setting pin.

The spindle angle can be adjusted in the range of 0° to 90°

The 1° angle indexing mechanism allows the angle to be easily set. (Indexing accuracy ±5')

- Model Description

BBT40 - **AGU** / **NBS** **13** - **270**

- 270: L dimension
- 13: Maximum clamping diameter
- NBS: NEW BABY CHUCK System
- AGU: Universal type
- BBT40: BIG-PLUS BT No.

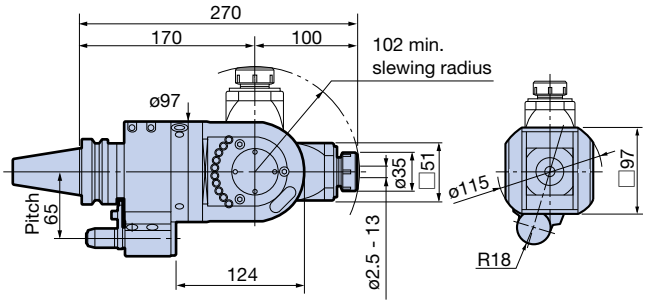


Fig. 1 **Max. 6000min-1**

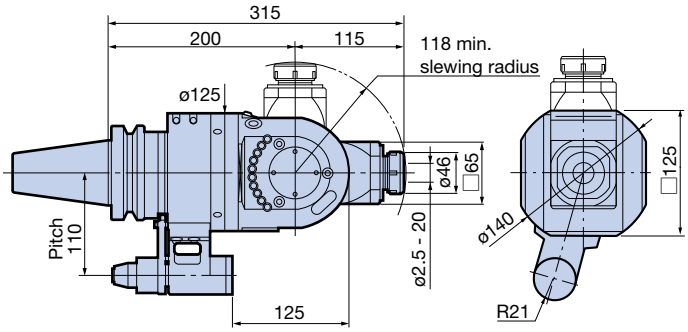


Fig. 2 **MAX. 4,000min-1**

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

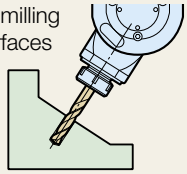
BIG-PLUS BBT SHANK Model	Fig.	Applicable Collet	Speed ratio Input:output	Weight (kg)
BBT40-AGU/NBS13-270	1	NBC13	1:1	9.7
BBT50-AGU/NBS20-315	2	NBC20	1:1	20.8

For Stop Blocks, G29
For Collets, G4

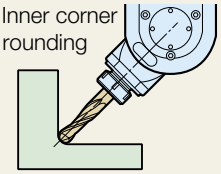
1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.

Machining examples Easy angle setup

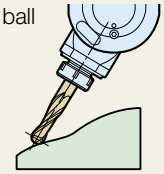
- Drilling or endmilling on angled surfaces



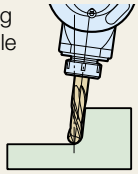
- Inner corner rounding



- Profiling with ball endmill



- Machining draft angle of molds

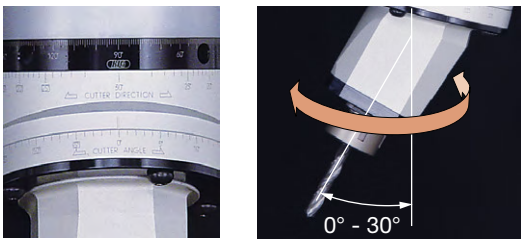


AGU30 type Clamping diameter: ø2.5 - ø20

DUAL CONTACT BIG-PLUS®

Spindle angle 0° - 30°

- Spindle angle adjustable 0°- 30°.
- Rigidity is improved by the flange coupling in the swivel!
- The new drive system achieves high transmission torque, low vibration and noise.



Angle adjustment by scale alignment

The angle spindle can be easily adjusted between 0° and 30° just by aligning to the scale provided on the swivel.

● Model Description

BBT40 - AGU30 / NBS 13 - 240

- BBT40 - BIG-PLUS BT No.
- AGU30 - AGU30 Type
- NBS - NEW BABY CHUCK System
- 13 - Maximum clamping diameter
- 240 - L dimension

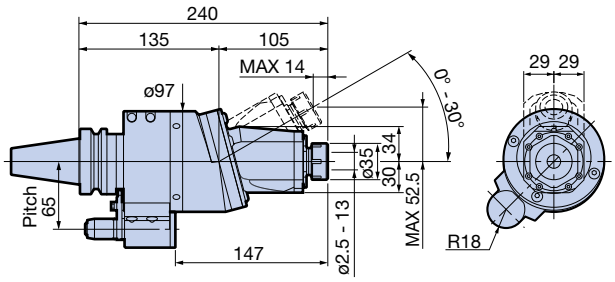


Fig. 1 **Max. 6000min-1**

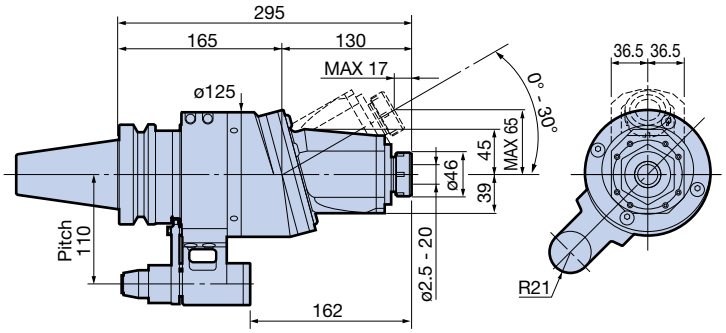


Fig. 2 **MAX. 4,000min-1**

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

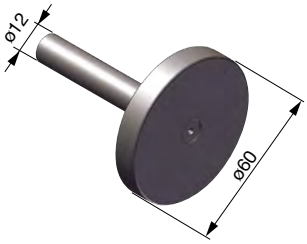
BIG-PLUS BBT SHANK Model	Fig.	Collet Model	Speed ratio Input:output	Weight (kg)
BBT40-AGU30/NBS13-240	1	NBC13	1:1	6.9
BBT50-AGU30/NBS20-295	2	NBC20	1:1	16.1

For Stop Blocks, G29
For Collets, G4

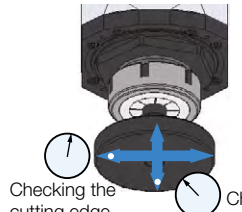
1. **The cutting tool rotates in forward to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.
6. When supplied through the Stop Block, coolant can be ejected from the housing.

●SETTING DISK (Standard accessory)

Use when accurate angle setting or fine adjustment of the cutting edge direction is required.



The angle and cutting edge direction can be adjusted using the setting disk.



ANGLE HEAD Small bore type

Small bore type

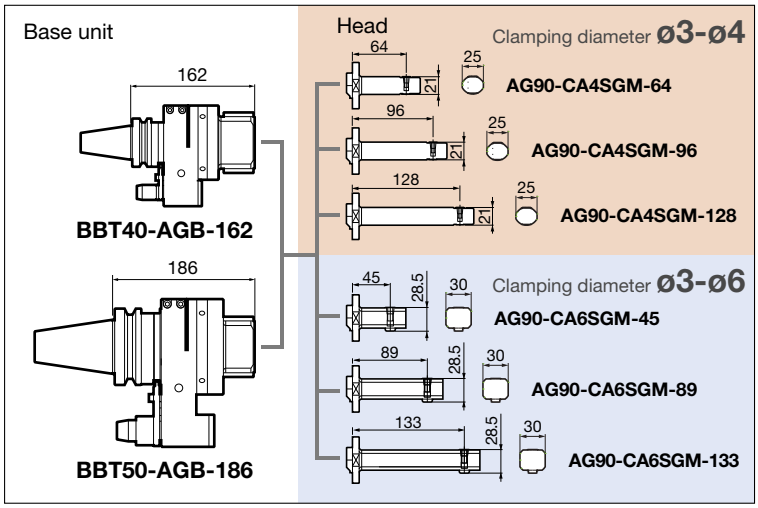
- Achieves angular drilling in the min. ø30 bore. (minimum diameter for CA6SGM is ø40)
- Prevents interference through flexible combination of base units and heads.
- The head is positioned at the center of the spindle, enabling easy programming.

DUAL CONTACT
BIG-PLUS®

● Model Description

BBT40 - AG90 - CA 4 SGM - 226

- BIG-PLUS BT No.
- 90° Head type
- Collet type
- Maximum clamping diameter
- Modular system
- L dimension



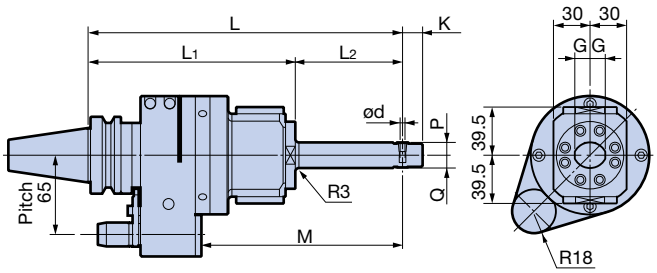


Fig. 1 **MAX. 2,000min-1**

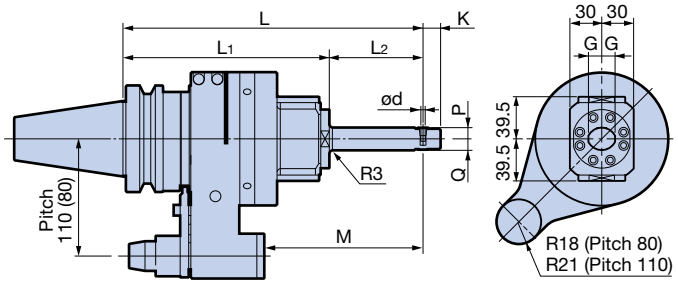


Fig. 2 **MAX. 2,000min-1**

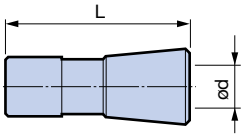
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Set Model	Base Model	Head Model	Fig.	ød	G	K	L	L1	L2	M	P	Q	Speed ratio Input:output	Weight (kg) Pitch 65	Pitch 80	Pitch 110
BBT40-AG90-CA4SGM-226	BBT40-AGB-162	AG90-CA4SGM- 64	1	3 - 4	12.5	16.5	226	170	56	133	10.5	10.5	1:1.06 (Acceleration)	5.6	—	—
-258		- 96					258		88	165				5.7		
-290		-128					290		120	197				5.8		
-CA6SGM-207		AG90-CA6SGM- 45		3 - 6	15	20	207		37	114	12.5	16	1:0.77 (Deceleration)	5.7		
-251		- 89					251		81	158				5.9		
-295		-133					295		125	202				6.1		
BBT50-AG90-CA4SGM-250 ☐	BBT50-AGB-186 ☐	AG90-CA4SGM- 64	2	3 - 4	12.5	16.5	250	194	56	117	10.5	10.5	1:1.06 (Acceleration)	—	12.5	11.9
-282 ☐		- 96					282		88	149					12.6	12
-314 ☐		-128					314		120	181					12.7	12.1
-CA6SGM-231 ☐		AG90-CA6SGM- 45		3 - 6	15	20	231		37	98	12.5	16	1:0.77 (Deceleration)	—	12.6	12
-275 ☐		- 89					275		81	142					12.8	12.2
-319 ☐		-133					319		125	186					13	12.4

1. **The cutting tool rotates in forward to the machine spindle.**
2. Models with pitch 80 carry "S" at the end of the model number.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.
6. Exclusive collet is not included. Please order separately.
7. Coolant cannot be supplied through the Locating Pin.

For Stop Blocks, G29

● Exclusive collet

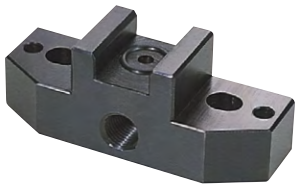


Model	ød	L
CA4-3	3	16.5
-3.5	3.5	
-4	4	

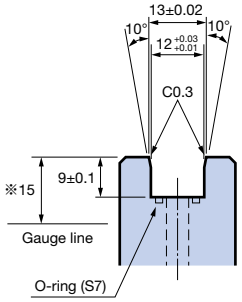
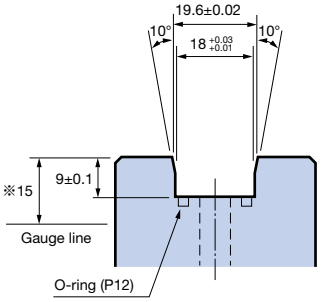
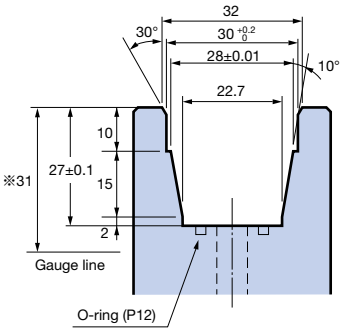
Model	ød	L
CA6-3	3	22
-4	4	
-5	5	
-6	6	

1. Use a drill with a shank diameter matched with ød of the collet.
2. Tool shank tolerance must be within h7.

Stop Block



The Stop Block must be installed on the spindle cover when using a BIG product with a locating pin. The mounting dimensions vary depending on machine tool models, specifications, etc.

			For BBT (BT) 30	BBT (BT) 40, BBT (BT) 50 (pitch 80) BDV (DV) 40, BDV (DV) 50 (pitch 80) For HSK-A63, A100 (pitch 80)	BBT50 (pitch 110) BDV50 (pitch 110) For HSK-A100 (pitch 110)
					
	Product	Page			
BT / BBT / DV / BDV	ANGLE HEAD	A141·B12	BBT30	BBT40, BBT50 (pitch 80) BDV40, BDV50 (pitch 80)	BBT50 (pitch 110) BDV50 (pitch 110)
	Hi-JET HOLDER	A159·B20	BBT30 BT30	BBT40,BBT50 BT40,BT50 BDV40,BDV50 DV40,DV50	-
	HIGH SPINDLE	A169·B19			
	AIR TURBINE ▲	A166·B18			
	AUTO TAPPER A	A131			
HSK	ANGLE HEAD	C36	-	HSK-A63, A100 (pitch 80)	HSK-A100 (pitch 110)
	AIR TURBINE ▲	C50		HSK-A63,A100	-

1. When ordering, provide us with the manufacturer, model and specifications of the machine tool, as well as the BIG product model number.
2. Consult us regarding Stop Block and mounting dimensions.
3. Check with the machine tool manufacturer for the shape of the Stop Block, as it will vary for each machine tool model.
4. The dimension from the spindle gauge line to the top of the Stop Block (※) is our default length.

▲ As the Air Turbine requires clean air, do not share the same Stop Block with other products.

For further details:
Angle Heads G29
Others G31

Coolant Feed

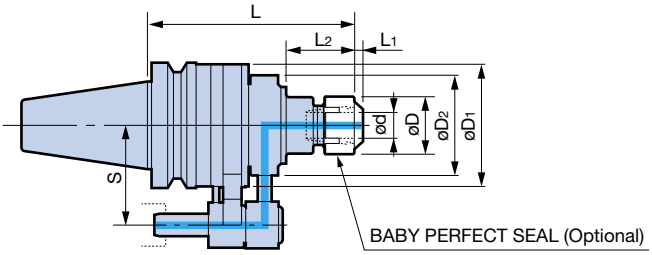
Hi-JET HOLDER

Unique separate sealing structure extends service life.

- Independent bearing and sealing sections eliminate infiltration of coolant into bearings.
- The seal replacement system allows maintenance and thus helps reduce costs.

DUAL CONTACT
BIG-PLUS®

NEW BABY CHUCK Type



- Model Description

BBT30 - ONBS 10 N - 135

- Hi-JET TYPE
- Maximum clamping diameter
- OIL HOLE NEW BABY CHUCK
- BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	øD	øD1	øD2	L	L2	Max. min-1	Merit Set (spare)	Weight (kg)	Perfect Seal Model	Collet Model
BBT30-ONBS10N-135	3 - 10	30	66	65	138	18	10,000	MES-40	2.7	BPS10	NBC10
-ONBS13N-140	3 - 13	35			143	23			2.7	BPS13	NBC13
-ONBS16N-140	3 - 16	42				24			2.6	BPS16	NBC16
-ONBS20N-140	3 - 20	46				24			2.6	BPS20	NBC20
BBT40-ONBS10N-165	3 - 10	30	81.6	73	168	46	10,000	MES-40	3.9	BPS10	NBC10
-200					203	82	8,000		4.1		
-ONBS13N-165	3 - 13	35			168	47	10,000		4.0	BPS13	NBC13
-200					203	82	8,000		4.2		
-ONBS16N-165	3 - 16	42		80	168	47	8,000	MES-50	4.3	BPS16	NBC16
-200					203	82	6,000		4.6		
-ONBS20N-165	3 - 20	46			168	48	8,000		4.3	BPS20	NBC20
-200					203	83	6,000		4.7		

1. Max. coolant pressure is 2MPa.
2. Wrench, nut (BPS), collet and adjusting screw are sold separately. BBT30 models include adjusting screw. Order together with a Perfect Seal of appropriate size.
3. For L_1, refer to Baby Perfect Seal on G24.
4. The standard S pitch is BBT40 = 65 and BBT50 = 80. For BBT30, it depends on the machine model.
5. A Stop Block is required when mounting on machines. Please order separately.

For Stop Blocks, G31

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

Optional Accessories

Collet	BABY PERFECT SEAL	Adjusting Screw
 G4	 G24	 G10

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	øD	øD1	øD2	L	L2	Max. min-1	Merit Set (spare)	Weight (kg)	Perfect Seal Model	Collet Model
BBT50-ONBS10N-165	3 - 10	30	99.6	80	168	47	8,000	MES-50	7.2	BPS10	NBC10
-200					203	82	6,000		7.4		
-250					253	132	4,000		7.6		
-ONBS13N-165	3 - 13	35			168	47	8,000		7.3	BPS13	NBC13
-200					203	82	6,000		7.5		
-250					253	132	4,000		7.8		
-ONBS16N-165	3 - 16	42			168	50	8,000		7.5	BPS16	NBC16
-200					203	85	6,000		7.8		
-250					253	135	4,000		8.2		
-ONBS20N-165	3 - 20	46			168	51	8,000		7.5	BPS20	NBC20
-200					203	86	6,000		7.9		
-250					253	136	4,000		8.2		

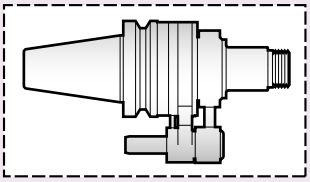
1. Max. coolant pressure is 2MPa.
2. Wrench, nut (BPS), collet and adjusting screw are sold separately.
   Order together with a Perfect Seal of appropriate size.
3. For L_1, refer to Baby Perfect Seal on G24.
4. The standard S pitch is BBT50 = 80.
5. A Stop Block is required when mounting on machines. Please order separately.

For Stop Blocks, G31

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

Example

Order together with a holder model and Perfect Seal of appropriate size



NEW BABY CHUCK TYPE MODEL (nut not included)
BBT40-ONBS10N-165

Optional Accessory
(Please order separately.)

New Baby Collet
G4

Optional Accessory
(Please order separately.)

OIL HOLE SEAL NUT
BABY PERFECT SEAL MODEL
BPS10-03035
G24

For quotations or orders, please specify the machine tool manufacturer and model.

For wrenches, G26

Hi-JET HOLDER

SIDE LOCK TYPE

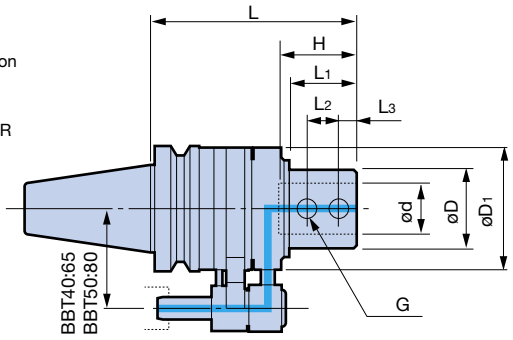
●For cylindrical shank oil hole drills.

DUAL CONTACT
BIG-PLUS®

● Model Description

BBT40 - OSL 16 N - 150

- 150: L dimension
- N: Hi-JET TYPE
- 16: Inner diameter
- OSL: OIL HOLE SIDE LOCK HOLDER
- BBT40: BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	øD	øD1	L	L1	L2	L3	G	H	Max. (min-1)	Merit Set	Weight (kg)
BBT40-OSL16N-150	16	48	81.6	150	35	14	14	M10	48	8,000	MES-50	4.4
-OSL20N-150	20	48		150	35				50			4.3
-OSL25N-165	25	48		165	50	20	15	M16	56			4.4
-OSL32N-165	32	58	99.6	165	45				60	6,000	MES-65	5.7
BBT50-OSL16N-150	16	48	99.6	150	38	14	14	M10	48	8,000	MES-50	7.5
-OSL20N-150	20	48		150	38				50			7.4
-OSL25N-165	25	48		165	53	20	15	M16	56			7.5
-OSL32N-165	32	58		165	53				60	6,000	MES-65	7.9
-OSL40N-165	40	64		165	53	25			70			8.0
-OSL50N-185	50	84	129.6	185	54.5					4,000	MES-90	11.9

1. Max. coolant pressure is 2MPa.
2. A Stop Block is required when mounting on machines. Please order separately.

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

For Stop Blocks, G31

For Side Lock type

SL Sleeve

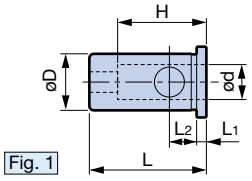


Fig. 1

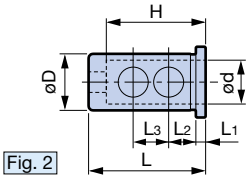


Fig. 2

Model	Fig.	ød	øD	L	L1	L2	L3	H
OSL25-16	1	16	25	62	5.5	15.5	—	48
-20		20						50
OSL32-16	1	16	32	66	5.5	15.5	—	48
-20		20						50
-25	2	25					20	56
OSL40-16	1	16	40	76	5.5	15.5	—	48
-20		20						50
-25		25						56
-32	2	32					25	60

MILLING CHUCK TYPE

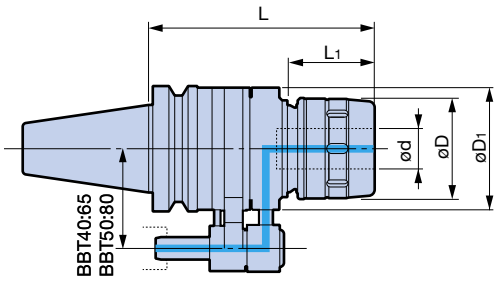
DUAL CONTACT
BIG-PLUS®

● High gripping force is ideal for endmilling.

● Model Description

BBT40 - OMC 20 N - 170

- 170: L dimension
- N: Hi-JET TYPE
- 20: Clamping diameter
- OMC: OIL HOLE MILLING CHUCK
- BBT40: BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	ød	øD	øD1	L	L1	Max. (min-1)	Merit Set	Weight (kg)
BBT40-OMC20N-170	20	60	81.6	170	55	8,000	MES-50	4.8
-OMC32N-190	32	80	99.6	190	69	6,000	MES-65	6.5
BBT50-OMC20N-165	20	60	99.6	165	53	8,000	MES-50	6.8
-OMC32N-180	32	80		180	68	6,000	MES-65	8.5
-OMC42N-200	42	99	129.6	200	69	4,000	MES-90	13.5

1. Max. coolant pressure is 2MPa.
2. Contact a BIG agent for replacement of the Merit Set, as the clamping nut needs to be disassembled.
3. For the collet, use the Oil Hole Straight Collet (OCA).
4. A Stop Block is required when mounting on machines. Please order separately.
5. Wrench included.

For OCA Collets, G20
For Stop Blocks, G31

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

Hi-JET HOLDER

BIG+KAISER

CK SHANK TYPE

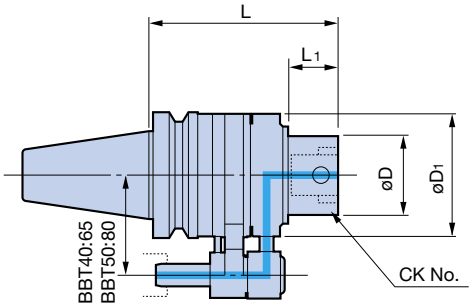
DUAL CONTACT
BIG-PLUS®

● Improves boring accuracy, insert life and chip evacuation.

● Model Description

BBT40 - OCK 5 N - 138

- 138: L dimension
- N: Hi-JET TYPE
- 5: CK No.
- OCK: OIL HOLE CK TYPE
- BBT40: BIG-PLUS BT No.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	CK No.	øD	øD1	L	L1	Max. (min-1)	Merit Set	Weight (kg)
BBT40-OCK5N-138	CK5	50	81.6	138	23	8,000	MES-50	4.2
-OCK6N-149	CK6	64	99.6	149	28	6,000	MES-65	5.4
BBT50-OCK6N-139	CK6	64	99.6	139	27	6,000	MES-65	7.2
-OCK7N-165	CK7	90	129.6	165	34.5	4,000	MES-90	12.3

1. Max. coolant pressure is 2MPa.
2. For boring heads, use the BIG+KAISER CK Boring System.
3. A Stop Block is required when mounting on machines. Please order separately.

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

For boring heads, A38
For Stop Blocks, G31

MORSE TAPER TYPE

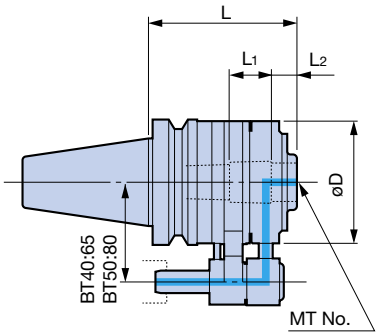
● Ideal for improving the life of Morse taper drills and accuracy of reaming.

Not BIG-PLUS (DUAL CONTACT) specification

● Model Description

BT40 - OMT 3 N - 120

- 120: L dimension
- N: Hi-JET TYPE
- 3: Morse Taper No.
- OMT: OIL HOLE MORSE TAPER
- BT40: BT SHANK No.



BT SHANK Model	MT No.	øD	L	L1	L2	Max. (min-1)	Merit Set	Weight (kg)
BT40-OMT3N-120	MT3	81.6	120	23	18	8,000	MES-50	3.7
-OMT4N-120	MT4		120	35	20			3.3
BT50-OMT3N-115	MT3	99.6	115	23	18	8,000	MES-50	6.9
-OMT4N-120	MT4		120	34	21			6.6
-OMT5N-120	MT5		120	40	28	6,000	MES-65	6.4

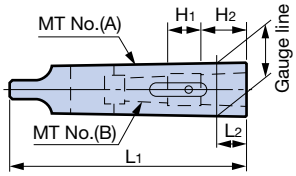
1. Max. coolant pressure is 2MPa.
2. A Stop Block is required when mounting on machines. Please order separately.

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

For Stop Blocks, G31

For Morse Taper type

MT Sleeve



Model	MT No. (A)	MT No. (B)	L1	L2	H1	H2
OMT3-2	3	2	109	15	20	17
OMT4-2	4	2	122	4.5	20	17
-3		3	140	22.5	22	21

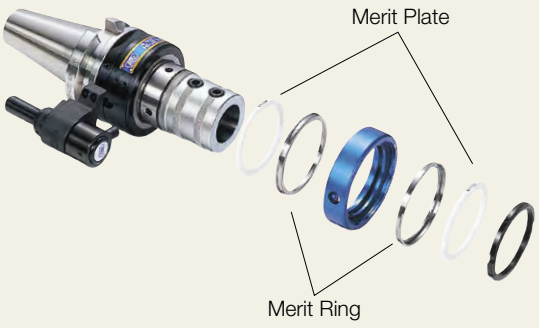
1. The OMT sleeve is an exclusive product for the BIG Hi-JET holder.

Maintenance parts for seal

Merit Set

If excessive coolant leak occurs while using the Hi-JET holder due to wear of the seal, purchase the seal replacement part “Merit Set”.
The model number is indicated in the dimension table for each Hi-JET Holder type.

<Merit Set contents>
● Merit Ring ● Merit Plate ● O-rings for Merit Case, 2 pcs each



1. Merit Set replacement at BIG is also available. Please feel free to contact us.
2. For replacement of the Merit Set of the Milling Chuck Type, contact a BIG agent, as the clamping nut needs to be replaced (paid service).

High-speed AIR SPINDLE

AIR TURBINE SPINDLE

The ultra-precision spindle enables challenging micromachining!

Machine spindle rotation **zero**

DUAL CONTACT BIG-PLUS®

MAX. 120,000min^{-1}

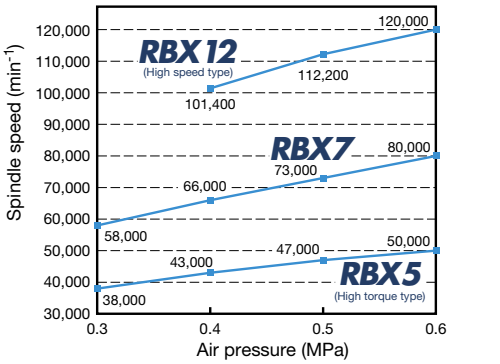
Ceramic ball bearing type

RBX Series

- Achieves efficient and accurate micromachining with excellent runout accuracy in the max. spindle speed range. 120,000rpm high-speed machining possible. World's smallest compact design (RBX12).

	RBX5 (High torque type)	RBX7	RBX12
Operating spindle speed (min^{-1})	40,000 - 50,000	60,000 - 80,000	100,000 - 120,000
Clamping diameter	ø0.45 - 4.05mm (MEGA4S)		
Spindle nose runout accuracy	Within 1 μ m		
Air pressure	0.3 - 0.6MPa		0.4 - 0.6MPa
Air flow rate	300L/min [ANR] (at 0.6MPa)		125L/min [ANR] (at 0.6MPa)

Spindle speed against air pressure (reference)



[Center through type]

ATC compatible

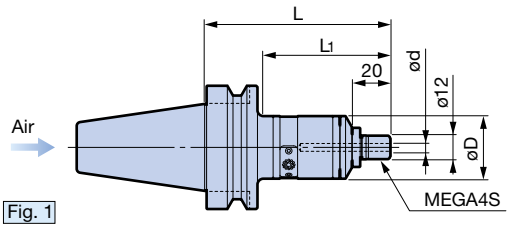


Fig. 1

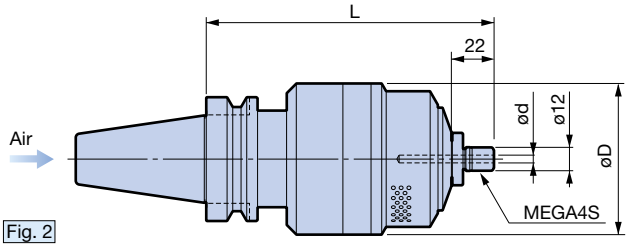


Fig. 2

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Fig.	Operating spindle speed (min^{-1})	Clamping diameter ød	Usable tool diameter	øD	L	L1	Mega Nut	Collet Model	Weight (kg)
BBT30-RBX12C-4S- 95	1	100,000 - 120,000	0.45 - 4.05	ø0.6 or smaller	32	95	70	MGN4S-HG	NBC4S	0.7
BBT40-RBX 5C-4S-150	2	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	150	—	MGN4S	NBC4S	4.1
-RBX 7C-4S-150		60,000 - 80,000		ø1.0 or smaller	78		—			3.1
-RBX12C-4S- 95	1	100,000 - 120,000		ø0.6 or smaller	32	95	65	MGN4S-HG		1.3
BBT50-RBX 5C-4S-160	2	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	160	—	MGN4S	NBC4S	7.3
-RBX 7C-4S-160		60,000 - 80,000		ø1.0 or smaller	78		—			6.3

1. Nut, exclusive wrench (RBX5,7 → **XW27**, RBX12 → **XW20**) and Mega Wrench (**MGR12**) are included, but collet must be ordered separately.
2. Air filter regulator (XF1) is required. A167

For Micro Collets, G2

Caution

· Clean air is an essential condition for the use of this product. Therefore, coolant should never be supplied through the spindle of the machine using the Air Turbine Spindle.

■ RBX12 MEGA NUT (Standard accessory)

Exclusive nut for high-speed rotation.

Model	MGN4S-HG

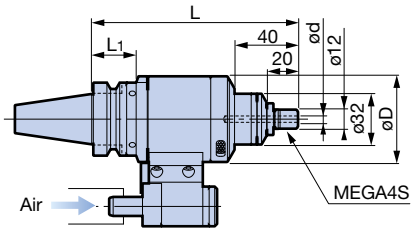
For RBX5 and RBX7 nuts, G3

DUAL CONTACT BIG-PLUS®

Max. 120,000min^{-1}

[Side through type]

● ATC is available by supplying air via Stop Block.
This enables unmanned operation.



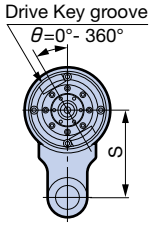
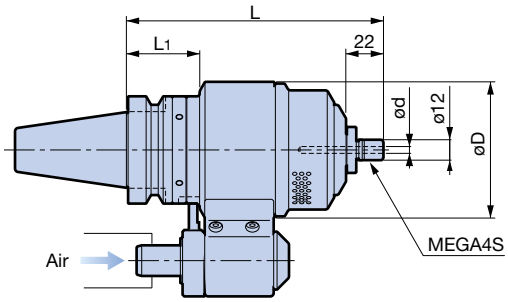


Fig. 1

ATC compatible



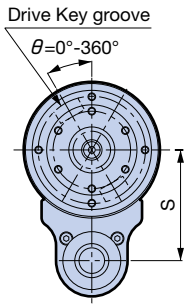


Fig. 2

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

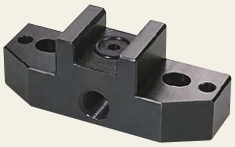
BIG-PLUS BBT SHANK Model	Fig.	Operating spindle speed (min^{-1})	Clamping diameter ød	Usable tool diameter	L	L1	øD	S	Mega Nut	Collet Model	Weight (kg)
BBT30-RBX 7-4S-152-55	2	60,000 - 80,000	0.45 - 4.05	ø1.0mm or less	152	28	80	55	MGN4S	NBC4S	2.7
-RBX12-4S-130-55	1	100,000 - 120,000		ø0.6mm or less	130		54		MGN4S-HG		1.7
BBT40-RBX 5-4S-151-65	2	40,000 - 50,000	0.45 - 4.05	ø1.5mm or less	151	43	96	65	MGN4S	NBC4S	5.0
-RBX 7-4S-151-65		60,000 - 80,000		ø1.0mm or less			80				4.0
-RBX12-4S-135-65	1	100,000 - 120,000		ø0.6mm or less	135	—	63		MGN4S-HG		3.0
BBT50-RBX 5-4S-166-80	2	40,000 - 50,000	0.45 - 4.05	ø1.5mm or less	166	58	100	80	MGN4S	NBC4S	9.7
-RBX 7-4S-166-80		60,000 - 80,000		ø1.0mm or less							8.7

1. Nut, exclusive wrench (RBX5,7 → **XW27**, RBX12 → **XW20**) and Mega Wrench (**MGR12**) are included, but collet must be ordered separately.
2. Air filter regulator (XF1) is required. A167
3. A Stop Block is required when mounting on machines. Please order separately.

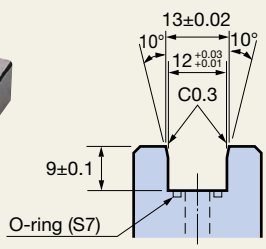
For Micro Collets, G2

※ Other shank types are also available. Please contact us for details.

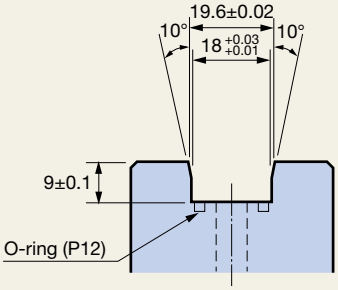
Stop Block



For BBT30



BBT40/50
BDV40/50
For HSK-A63/100



1. When ordering, provide us with the manufacturer, model and specifications of the machine tool, as well as the BIG product model number.
2. Consult us regarding Stop Block and mounting dimensions.
3. Check with the machine tool manufacturer for the shape of the Stop Block, as it will vary for each machine tool model. Although the Stop Block dimensions are compatible with other products such as Hi-Jet Holder or High Spindle, do not share the same Stop Block with them, as Air Turbine Spindle needs clean air.

High-speed AIR SPINDLE

AIR TURBINE SPINDLE

Ceramic ball bearing type

RBX Series

[Manual tool change type]

● Easy installation as Stop Block is not needed.

Machine spindle rotation **zero**

DUAL CONTACT BIG-PLUS®

MAX. 120,000min^{-1}

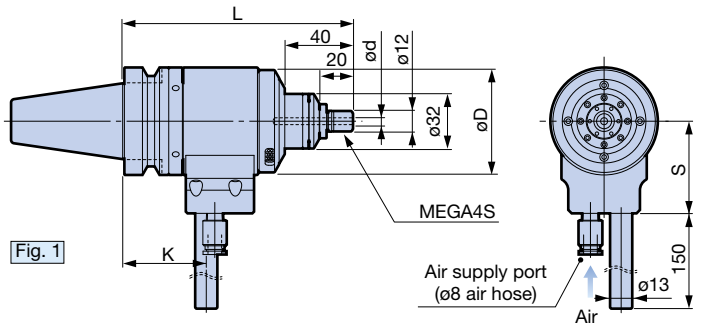


Fig. 1

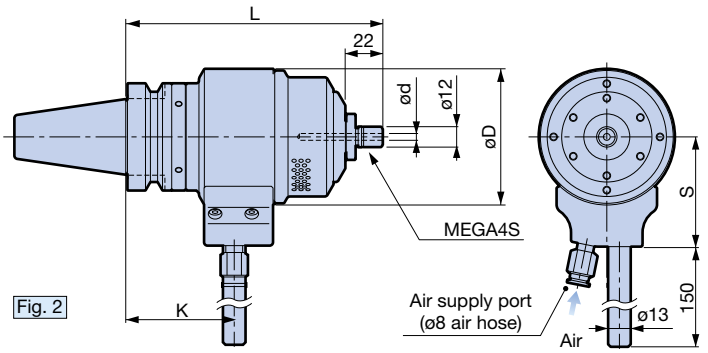


Fig. 2

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

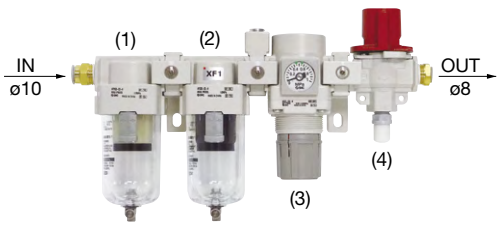
BIG-PLUS BBT SHANK Model	Fig.	Operating spindle speed (min^{-1})	Clamping diameter ød	Usable tool diameter	L	øD	K	S	Mega Nut	Collet Model	Weight (kg)
BBT30-RBX 7-4S-152H	2	60,000 - 80,000	0.45 - 4.05	ø1.0mm or less	152	80	64.5	65	MGN4S	NBC4S	2.7
-RBX12-4S-130H	1	100,000 - 120,000		ø0.6mm or less	130	54	46	50	MGN4S-HG		1.7
BBT40-RBX 5-4S-151H	2	40,000 - 50,000	0.45 - 4.05	ø1.5mm or less	151	96	63	71	MGN4S	NBC4S	5.0
-RBX 7-4S-151H		60,000 - 80,000		ø1.0mm or less		80		65			4.0
-RBX12-4S-135H	1	100,000 - 120,000		ø0.6mm or less	135	63	49	54	MGN4S-HG		2.7
BBT50-RBX 5-4S-166H	2	40,000 - 50,000	0.45 - 4.05	ø1.5mm or less	166	100	78	80	MGN4S	NBC4S	9.7
-RBX 7-4S-166H		60,000 - 80,000		ø1.0mm or less							8.7

1. Nut, exclusive wrench (RBX5,7 → **XW27**, RBX12 → **XW20**) and Mega Wrench (**MGR12**) are included, but collet must be ordered separately.
2. Air filter regulator (XF1) is required.

For Micro Collets, **G2**
For RBX5 and RBX7 nuts, **G3**
For RBX12 nuts, **A165**

Air filter regulator

● Regulator that cleans the air used in driving the turbine.



(1) Mist separator (filtration: 0.3 μm)

(2) Micro mist separator (filtration: 0.01 μm)

(3) Precision regulator

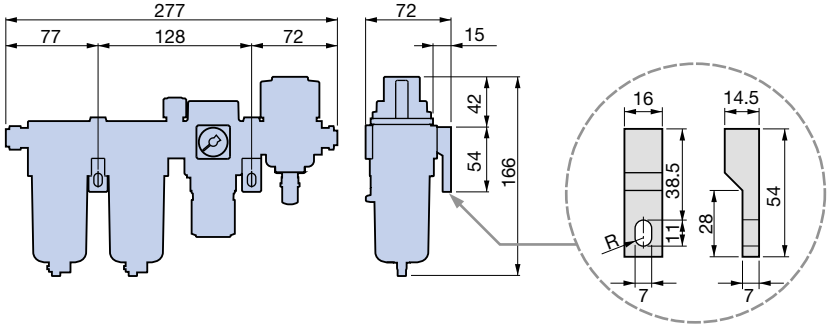
(4) Three ports valves for extracting residual pressure (non-grease type)

(Required for both the RBX and RSX models)

Model	XF1

[Accessories]
· ø10 air tube (3m)
· ø8 air tube (3m)

● Dimensions



Hydrostatic air bearing type

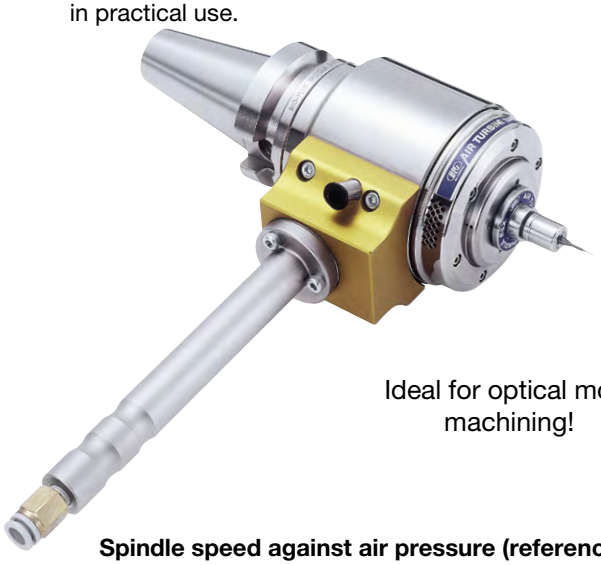
RSX

Machine spindle rotation **zero**

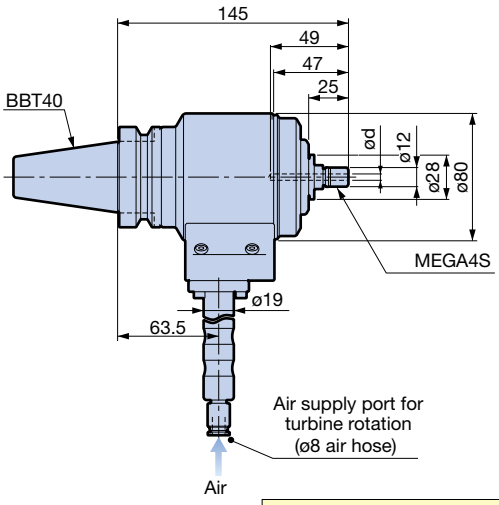
DUAL CONTACT BIG-PLUS®

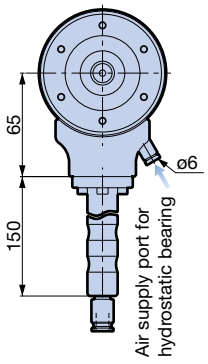
MAX. 60,000min^{-1}

● Highest runout accuracy.
Ultra-high-precision AIR TURBINE SPINDLE capable of ø0.03mm drilling in practical use.



Ideal for optical mold machining!

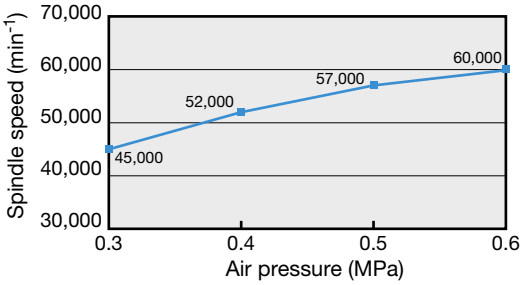




ATC is not available.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

Spindle speed against air pressure (reference)



BIG-PLUS BBT SHANK Model	BBT40-RSX7-4S-145H
Operating spindle speed	40,000 - 60,000min^{-1}
Clamping diameter ød	ø0.45 - 4.05mm (Collet Model NBC4S)
Spindle nose runout accuracy	1 μm or less
Air pressure	0.6MPa or less
Air flow rate	300L/min [ANR] (at 0.6MPa)
Weight	Approx. 4kg

1. Nut, exclusive wrench (**XW15**) and Mega Wrench (**MGR12**) are included, but collet must be ordered separately.
2. Air filter regulator (XF1) and air dryer regulator (XF2) are required.

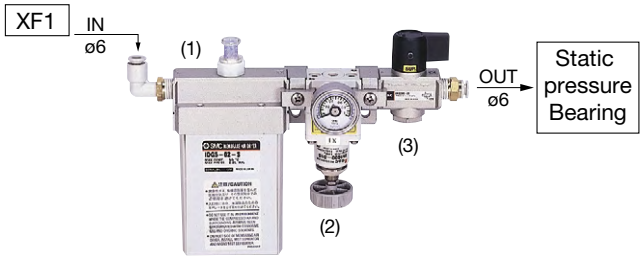
ATC is not available.

For Micro Collets, G2

※ Other shank types are also available. Please contact us for details.

Air dryer regulator

● Moisture removal apparatus for RSX type hydrostatic air bearings.



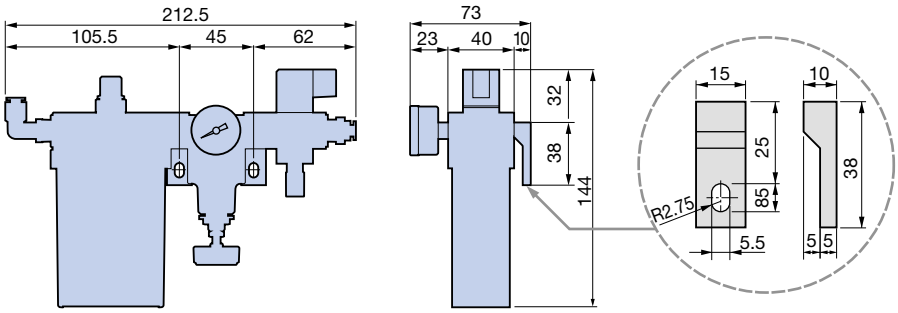
Model	XF2

[Standard accessories] · ø6 air tube (1m) ····· 1P
(3m) ····· 1P

(1) Membrane air dryer

(2) Precision regulator

(3) Three ports valves for extracting residual pressure (non-grease type)



Speed Increaser

HIGH SPINDLE

Accelerates the machine spindle. Improves productivity for machines with low spindle speeds.

- BIG's gear drive with a long track record is used for the drive system. High torque and low heat generation are achieved.

DUAL CONTACT
BIG-PLUS®

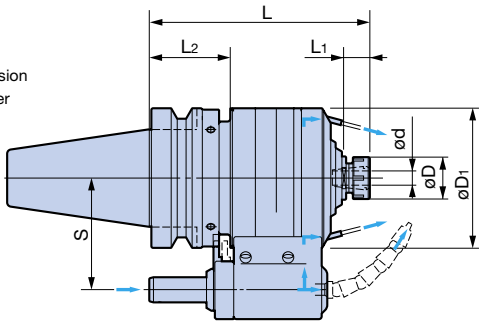
MAX. 20,000min^{-1}

GTG type

- Model Description

BBT40 - GTG 5 - 8 - 139

- BBT40: BIG-PLUS BT No.
- GTG: HIGH SPINDLE
- 5: 5x speed increase ratio
- 8: Clamping diameter
- 139: L dimension



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	øD	øD1	L	L1	L2	S	Collet Model	Speed ratio	Max. min^{-1}	Allowable torque N·m	Weight (kg)
BBT40-GTG5- 8-139	0.5 - 8	25	80	139	19	43	65	NBC8	4.67	20,000	7.8	4.8
- 8-180				180	60							4.9
-10-140	1.5 - 10	30		140	20			NBC10				4.8
-10-180				180	60							4.9
BBT50-GTG6- 8-157	0.5 - 8	25	100	157	19	58	80	NBC8	5.67	20,000	8.0	8.8
- 8-200				200	62							8.9
-10-158	1.5 - 10	30		158	20			NBC10				8.8
-10-200				200	62							9.0
-GTG4-16-177	2.5 - 16	42	110	177	25.5			NBC16	3.8	15,000	27.7	10.6
-16-220				220	68.5							11.0

1. The allowable torque is a calculated value of the drive system, and not the actual torque in cutting.
2. The maximum diameter when using an endmill is ø8 (GTG5, GTG6) and ø12 (GTG4).
3. A Stop Block is required when mounting on machines.
4. For continuous rotation of over 30 minutes, the spindle speed should be set within 80% of the maximum speed.
5. 1 pce. of the New Baby Collet in the table on the right is included.
6. Nut and 2 tightening wrenches are included.

Body Model	Included Collet Model
GTG5- 8	NBC 8- 8AA
GTG5-10	NBC10-10AA
GTG6- 8	NBC 8- 8AA
GTG6-10	NBC10-10AA
GTG4-16	NBC16-16AA

For Collets, G4
For Stop Blocks, G31

Please contact our agent when using neat oil coolant that may cause fire, or grinding or machining materials that generate powdery chips such as carbide.

GTX Type

- Bending rigidity is significantly improved.
- Long nose design ideal for mold machining.

DUAL CONTACT
BIG-PLUS®

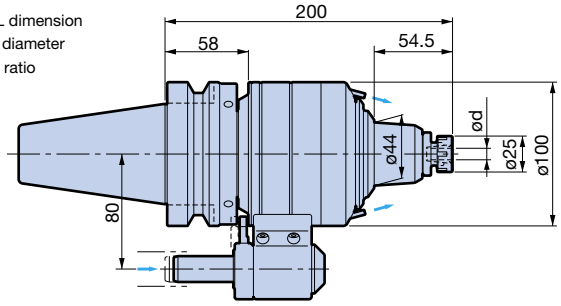
MAX. 24,000min^{-1}

Ideal for mold machining!

● Model Description

BBT50 - GTX 6 - 8 - 200

- BBT50 - BIG-PLUS BT No.
- GTX - HIGH SPINDLE
- 6 - 6x speed increase ratio
- 8 - Clamping diameter
- 200 - L dimension



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	Clamping diameter ød	Speed ratio	Collet Model	Max. speed (30 min) min^{-1}	Continuous speed min^{-1}	Allowable torque N·m	Weight (kg)
BBT50-GTX6-8-200	0.5 - 8	5.67	NBC8	24,000	20,000	8.0	9.3

1. The allowable torque is a calculated value of the drive system, and not the actual torque in cutting.
2. The maximum clamping diameter when using a drill is ø4mm.
3. A Stop Block is required when mounting on machines.
4. For continuous operation of over 30 minutes, the continuous speed listed in the table is recommended.
5. Collet is not included. Please order separately.
6. Nut and 2 tightening wrenches are included.

For Collets, G4
For Stop Blocks, G31

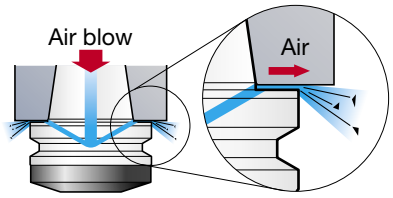
Please contact our agent when using neat oil coolant that may cause fire, or grinding or machining materials that generate powdery chips such as carbide.

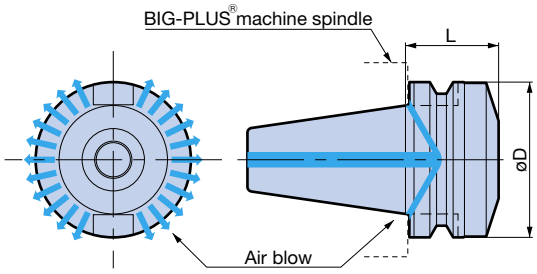
BIG-PLUS SPINDLE

FLANGE FACE CLEANER

Blowing air cleans the spindle flange face of BIG-PLUS machines.

● Removes oil and chips on the spindle flange face.





● Model Description

SBT30 - ASC - 30T
- 30T: L dimension
- ASC: FLANGE FACE CLEANER
- SBT30: Shank No.

Side through type for which air is supplied via a Stop Block is also available.
Please contact us for details.

Model	øD	L
SBT30-ASC- 30T	46	30
SBT40-ASC- 40T	63	40
SBT50-ASC- 60T	100	60

1. When the Flange Face Cleaner is mounted on the BIG-PLUS machine tool spindle, a 1mm gap exists between the flanges of the spindle and the cleaner.

High-Precision Test Bar

DynaTest DYNA TEST

See I11 for details.

Test bar with the highest quality and accuracy.
Periodic inspection of the machine spindle runout prevents problems

- A high-precision test bar developed by BIG's precise machining technology.
- Periodic accuracy evaluation eliminates machining defects.
- Calibration certificate and traceability diagram available upon request (with charge).

BDV/DV SHANK

BIG-PLUS®
SPINDLE SYSTEM
DUAL CONTACT

BDV/DV Shank

For High Speeds

MEGA MICRO CHUCK PAT.

Clamping diameter: ø0.45 - ø8.05

Ultra-slim design with world's smallest ø10 nut outer diameter.
Slim and high speed holder for less interference with the workpiece or jig.

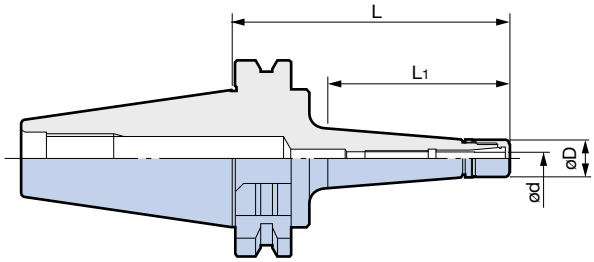
● Models for ultra-small endmilling are newly added!

World's Original

Center through

MAX. 35,000min^{-1}

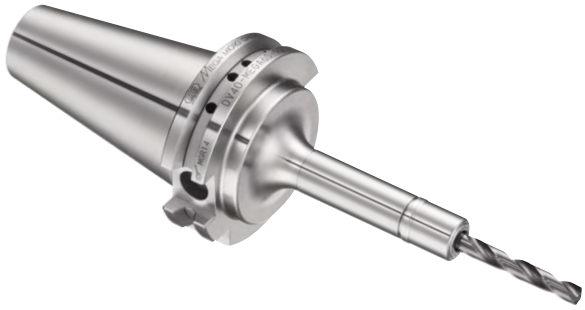
Not BIG-PLUS (DUAL CONTACT) specification

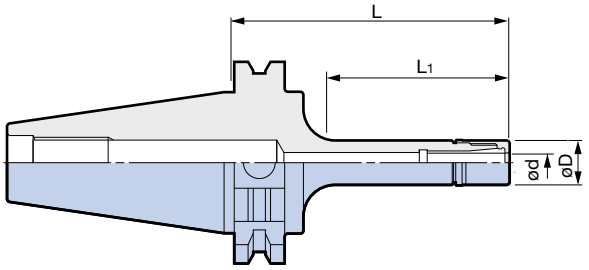


[High Rigidity Taper Type]

DV SHANK Model	Clamping diameter ød	øD	L	L1	MAX. min^{-1}	Collet Model	Nut Model	Weight (kg)
DV30-MEGA6S- 60T	0.45 - 6.05	14	60	36	25,000	NBC6S-□	MGN6S	0.41
-MEGA8S- 75T	2.95 - 8.05	18	75	51	25,000	NBC8S-□	MGN8S	0.48
DV40-MEGA3S- 90T	0.45 - 3.25	10	90	60	28,000	NBC3S-□	MGN3S	0.91
-MEGA4S- 90T	0.45 - 4.05	12	90	60	28,000	NBC4S-□	MGN4S	0.93
-MEGA6S- 60T	0.45 - 6.05	14	60	30	35,000	NBC6S-□	MGN6S	0.90
- 90T			90	60	28,000			0.94
-120T			120	90	22,000			1.04
-MEGA8S- 90T	2.95 - 8.05	18	90	60	28,000	NBC8S-□	MGN8S	1.00

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.





[Straight Type]

DV SHANK Model	Clamping diameter ød	øD	L	L1	MAX. min^{-1}	Collet Model	Nut Model	Weight (kg)
DV40-MEGA6S- 90	0.45 - 6.05	14	90	55	35,000	NBC6S-□	MGN6S	0.91

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.

Standard Accessory	Optional Accessories				
MEGA NUT  For Spares G3	Mega Wrench  G22	Micro Collet  G2	Micro Seal Nut (For 6S and 8S)  G3	Collet Case  G3	α Taper Cleaner  G3

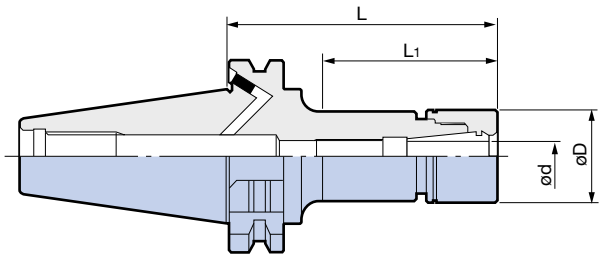
MEGA NEW BABY CHUCK PAT.

High speed version of NEW BABY CHUCK boasting a history of results.
Makes high speed machining possible in addition to its high accuracy and versatility.

DUAL CONTACT BIG-PLUS®

Coolant-through hole

MAX. 35,000min^{-1}

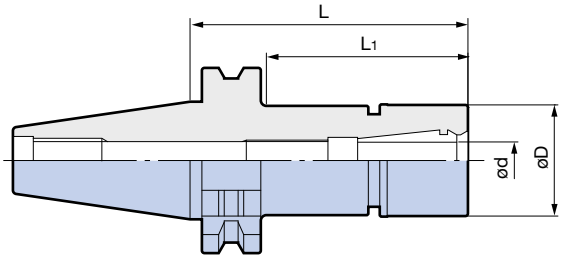


BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Clamping diameter ød	øD	L	L1	Max. min^{-1}	Collet Model	Nut Model	Weight (kg)
BDV40-MEGA 6N- 90	0.25 - 6	20	90	55	35,000	NBC 6-□	MGN 6	1.1
-135			135	100	20,000			1.2
-MEGA 8N- 90	0.5 - 8	25	90	57	35,000	NBC 8-□	MGN 8	1.1
-135			135	102	20,000			1.3
-MEGA10N- 90	1.5 - 10	30	90	59	35,000	NBC10-□	MGN10	1.2
-135			135	104	20,000			1.4
-MEGA13N- 90	2.5 - 13	35	90	61	35,000	NBC13-□	MGN13	1.3
-135			135	106	20,000			1.6
-165			165	136	15,000			1.8
-MEGA16N- 90	2.5 - 16	42	90	65	30,000	NBC16-□	MGN16	1.5
-135			135	110	20,000			1.9
-165			165	140	15,000			2.2
-MEGA20N- 60	2.5 - 20	46	60	40	30,000	NBC20-□	MGN20	1.3
- 90			90	70	30,000			1.6
-135			135	115	20,000			2.0
-165			165	145	15,000			2.3
-200			200	180	10,000			2.6
-MEGA25N- 90	15.5 - 25.4	60	90	70	25,000	NBC25-□	MGN25	1.8
-120			120	100	20,000			2.3

1. Nut is included. Collet, wrench, and Adjusting Screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Through holes are provided, allowing switching between center through and flange through use.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.

Center through



DV30 SHANK

Not BIG-PLUS (DUAL CONTACT) specification

DV SHANK Model	Clamping diameter ød	øD	L	L1	Max. min^{-1}	Collet Model	Nut Model	Weight (kg)
DV30-MEGA10N- 75	1.5 - 10	30	75	54	30,000	NBC10-□	MGN10	0.60

1. Nut is included. Collet, wrench, and Adjusting Screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.

For High Speeds

MEGA NEW BABY CHUCK PAT.

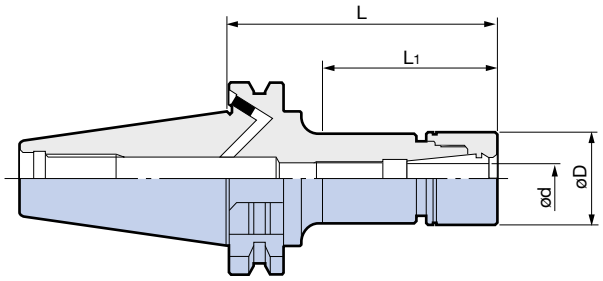
Clamping diameter: ø0.25 - ø25.4

The DUAL CONTACT BIG-PLUS system has been standardized.
The abundant variety is also ideal as reliable general-purpose holders.

DUAL CONTACT
BIG-PLUS®

Coolant-through hole

Max. 20,000min^{-1}



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Clamping diameter ød	øD	L	L_1	Max. min^{-1}	Collet Model	Nut Model	Weight (kg)
BDV50-MEGA 6N- 90	0.25 - 6	20	90	50	20,000	NBC 6-□	MGN 6	3.0
-120			120	80	20,000			3.0
-165			165	125	14,000			3.1
-MEGA10N- 90	1.5 - 10	30	90	55	20,000	NBC10-□	MGN10	3.2
-120			120	80	20,000			3.3
-165			165	125	16,000			3.5
-MEGA13N- 90	2.5 - 13	35	90	55	18,000	NBC13-□	MGN13	3.2
-120			120	80	18,000			3.4
-165			165	125	16,000			3.7
-MEGA16N- 90	2.5 - 16	42	90	55	17,000	NBC16-□	MGN16	3.4
-120			120	85	17,000			3.7
-165			165	130	16,000			4.1
-200			200	165	13,000			4.4
-MEGA20N- 90	2.5 - 20	46	90	55	16,000	NBC20-□	MGN20	3.5
-120			120	85	16,000			3.8
-165			165	130	15,000			4.3
-200			200	165	13,000			4.6
-MEGA25N-105	15.5 - 25.4	60	105	77	15,000	NBC25-□	MGN25	4.0
-135			135	107	15,000			4.6

1. Nut is included. Collet, wrench, and Adjusting Screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Through holes are provided, allowing switching between center through and flange through use.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.

Standard Accessory

MEGA NUT

For Spares G10

Optional Accessories

MEGA NUT Flat Type

G10

Mega Wrench

G22

Collet

G4

MEGA PERFECT SEAL

G11

Adjusting Screw

G10

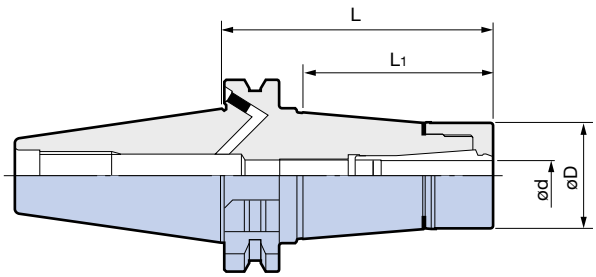
A high precision, high speed and high rigidity collet chuck especially for endmilling.

- Tapered body enhances damping effect by varying vibration frequency.
- Uses the MEGA E Collet designed for endmilling, delivering optimal clamping performance.

DUAL CONTACT
BIG-PLUS®

Coolant-through hole

MAX. 30,000min^{-1}



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Clamping diameter ød	øD	L	L_1	Max. min^{-1}	Collet Model	Nut Model	Weight (kg)
BDV40-MEGA 6E- 90	3 - 6	25	90	60	30,000	MEC 6-□	MEN 6	1.2
-MEGA 8E- 60	3 - 8	30	60	30	30,000	MEC 8-□	MEN 8	1.2
- 90			90	63	30,000			1.3
-MEGA 10E- 60	3 - 10	35	60	33	30,000	MEC10-□	MEN10	1.3
- 90			90	64	30,000			1.4
-MEGA 13E- 60	3 - 12	42	60	35	30,000	MEC13-□	MEN13	1.5
- 90			90	61	30,000			1.7
-120			120	95	29,000			1.9
BDV50-MEGA 6E-120	3 - 6	25	120	90	20,000	MEC 6-□	MEN 6	3.3
-MEGA 8E-120	3 - 8	30	120	90	20,000	MEC 8-□	MEN 8	3.4
-MEGA 10E-120	3 - 10	35	120	90	20,000	MEC10-□	MEN10	3.6
-MEGA 13E- 90	3 - 12	42	90	60	18,000	MEC13-□	MEN13	3.6
-120			120	90	18,000			3.8
-165			165	137	16,000			4.4

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
4. Through holes are provided, allowing switching between center through and flange through use.

Standard Accessory

MEGA E Nut

For Spares G13

Optional Accessories

Mega Wrench

G22

MEGA E Collet

G13

MEGA E PERFECT SEAL

G14

Adjusting Screw

G13

For High Speeds

MEGA DOUBLE POWER CHUCK PAT.

Clamping diameter: ø16 - ø42

Complete contact with the nut and body in conjunction with the BIG-PLUS specifications for double effect. High rigidity equal to integration with the machine spindle.

[Jet Through Type]

DUAL CONTACT
BIG-PLUS®

Coolant-through hole

MAX. 25,000min^{-1}

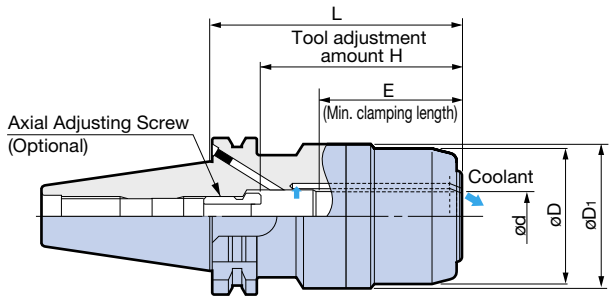


Fig. 1

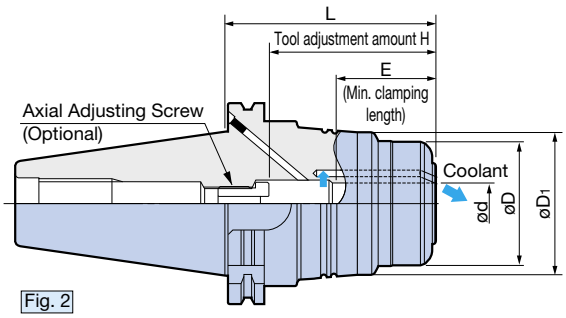


Fig. 2

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Fig.	Clamping diameter ød	øD	øD1	L	H	E	Mega Wrench	Weight (kg)
BDV40-MEGA16DS- 90A※	1	16	42	52.6	92	73	57	MGR42L	1.8
-MEGA20DS-100A		20	50	55	102	71 - 81	58	MGR50L	1.9
-135A					137				2.5
-MEGA25DS-100A		25	62	62.7	102	73 - 83	59	MGR62L	2.4
-135A					137				3.0
-MEGA32DS-100A		32	70	70.7	102	78 - 88	66	MGR70L	2.2
-135A					137				3.0
BDV50-MEGA16DS- 70※	2	16	46	55	72.5	73	52	MGR46L	3.5
-MEGA20DS-100		20	60	69	102.5	71 - 81	58	MGR60L	4.9
-135					137.5				5.7
-MEGA25DS-105		25	70	77	107.5	78 - 88	67	MGR70L	5.4
-135					137.5				6.3
-MEGA32DS-105	1	32	80	86	107.5	80 - 97	73	MGR80L	5.7
-135					137.5				6.7
-MEGA42DS-105		42	99	99.7	107	90 - 107		MGR99L	6.1

1. Wrench is not included. Please order separately.
2. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
4. Through holes are provided, allowing switching between center through and flange through use.

※MEGA16DS requires the hex socket head screw (M8) for axial adjustment.
However, please contact us if using for center through applications.
H dimension is the max. tool shank length that can be inserted into the holder.
※DS types have jet-through coolant supply, thus tools with oil holes cannot be used.

Optional Accessories

Straight Collet	Mega Wrench	Axial Adjusting Screw
 G18	 G22	 G21

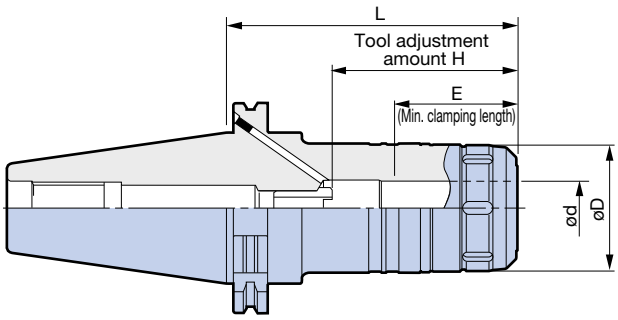
Clamping diameter: ø20 - ø42

NEW Hi-POWER MILLING CHUCK

The BIG original slit mechanism supports high power and high-precision endmilling from heavy cuts to fine cuts.

Coolant-through hole

Not BIG-PLUS (DUAL CONTACT) specification



DV SHANK Model	Clamping diameter ød	øD	L	H	E	Wrench	Weight (kg)
DV40-HMC20S- 85	20	50	85	69 - 79	56	FK45-50L	1.6
-105			105				1.8
-120			120				2.0
-HMC25S- 95	25	59	95	71 - 81	57	FK58-62L	1.9
-105			105				2.1
-HMC32S- 95	32	68	95	79 - 89	64	FK68-75L	2.0
-105			105				2.2
-135			135				2.7
DV50-HMC20S-105	20	50	105	69 - 79	56	FK45-50L	4.1
-135			135				4.6
-HMC25S-105	25	59	105	76 - 86	57	FK58-62L	4.5
-135			135				5.2
-HMC32S-105	32	68	105	88 - 98	72	FK68-75L	4.8
-135			135				5.5
-165			165				6.6
-HMC42S-135	42	85	135	93 - 105	73	FK80-90L	6.6

1. Wrench and axial adjusting screw are not included.
2. When using center through coolant;
   • Set screw with sealing compound applied (standard accessory) should be used to plug an air bleeding hole.
   • Oil hole type should be chosen when Straight Collet is required.
3. Tool adjustment amount "H" indicates the adjustment length with an Axial Adjusting Screw.
4. A through hole is provided, allowing switching between center through and flange through use.

Optional Accessories

Straight Collet	Wrench	Mega Wrench	Axial Adjusting Screw
 G18	 G21	 G22	 G21

[HMC12J Type] Clamping diameter: ø12

●A high rigidity and slim milling chuck with ø32 outer diameter nut for reduced interference.

■ Jet through coolant securely supplied from chuck nose to cutting edge.

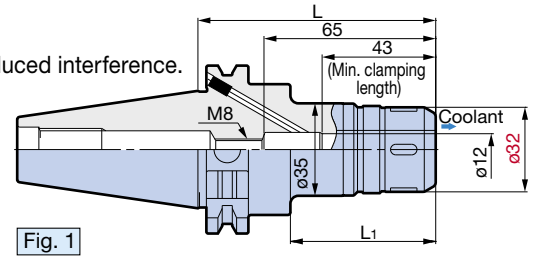


Fig. 1

DV SHANK Model	Fig.	L	L1	Wrench	Weight (kg)
DV40-HMC12J- 90	1	90	55	FK31-33	1.4
-120	2	120	70		1.6
DV50-HMC12J-105	1	105			3.5
-135	2	135			3.8

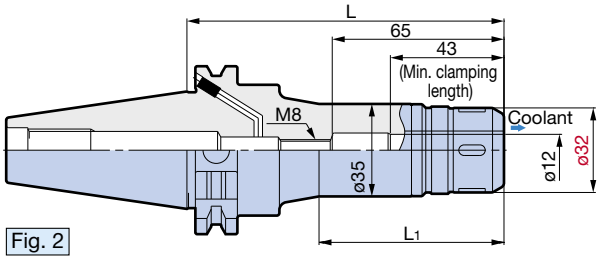


Fig. 2

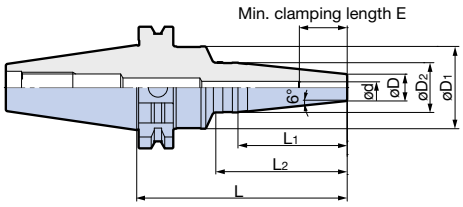
HYDRAULIC CHUCK

For versatile high-precision machining including molds and automotive components.

● Slim design minimizes workpiece interference, ideal for mold making.

Coolant-through hole

[SUPER SLIM Type PAT.P] Clamping diameter: ø4 - ø12



BDV40

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Clamping diameter ød	øD	øD1	øD2	L	L1	L2	E	Weight (kg)
BDV40-HDC 4S-110	4	14	43	26	110	57	68	19	1.2
-HDC 6S-110	6							25	1.2
-HDC 8S-110	8	17		28		52	69	31	1.3
-HDC10S-110	10	19	44	30				33	1.3
-HDC12S-110	12	21		32			70	36	1.3

1. Adjusting Screw cannot be used.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

Coolant-through hole

[Standard Type] Clamping diameter: ø6 - ø20

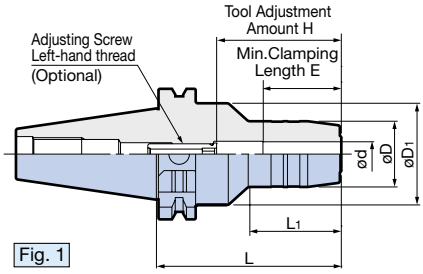


Fig. 1

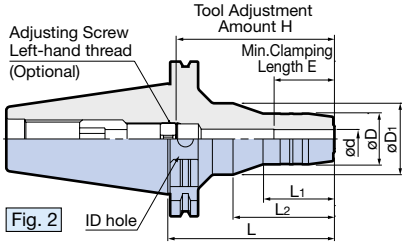


Fig. 2

BDV40 · BDV50

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

Model	ød	øD	øD1	L	L1	L2	H	E	Adjusting Screw (Optional)	Weight (kg)
BDV40-HDC 6 - 90	6	26	49.5	90	43	—	28 - 50	28	HDA 6-05032	1.3
-HDC 8 - 90	8	28							HDA 8-06032	
-HDC10 - 90	10	30			44		33 - 55	33	HDA10-08032	
-HDC12 - 90	12	32					38 - 60	38	HDA12-10032	
-HDC14 - 90	14	34								1.4
-HDC16 - 90	16	38			47		43 - 70	43	HDA16-12037	
-HDC18 - 90	18	40			49					
-HDC20 - 90	20	42			51					
BDV50-HDC12L-105	12	32	45	105	44	63	100 - 120	38	HDA 6-20010	3.2
-HDC20L-105	20	42	50		46	63	71 - 111	43	HDA20-12047	3.3

1. Adjusting Screw **with hexagon sockets on both sides** is also available, allowing adjustment from the shank side as well. Add the letter **"W"** at the end of the model number when ordering. (Example: HDA6-05032W)

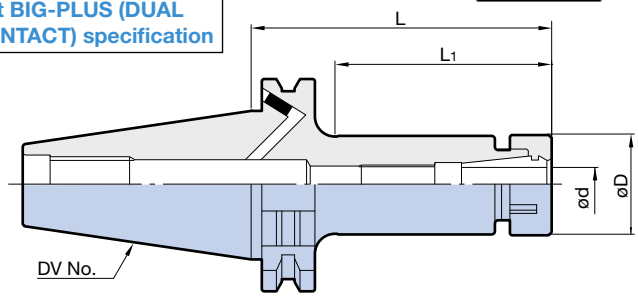
Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

Coolant-through hole

Not BIG-PLUS (DUAL CONTACT) specification



DV SHANK Model	Clamping diameter ød	øD	L	L1	Collet Model	Nut Model	Weight (kg)
DV40-NBS 6- 60	0.25 - 6	20	60	34	NBC 6-□	NBN 6	0.9
- 90			90	60			1.0
-135			135	105			1.0
-NBS 8- 60	0.5 - 8	25	60	34	NBC 8-□	NBN 8	0.9
- 90			90	62			1.0
-135			135	107			1.2
-NBS10- 60	1.5 - 10	30	60	34	NBC10-□	NBN10	1.0
- 90			90	64			1.1
-135			135	104			1.4
-NBS13- 60	2.5 - 13	35	60	37	NBC13-□	NBN13	1.0
- 90			90	66			1.2
-135			135	106			1.6
-NBS16- 60	2.5 - 16	42	60	38	NBC16-□	NBN16	1.1
- 90			90	68			1.4
-135			135	113			1.8
-NBS20- 60	2.5 - 20	46	60	40	NBC20-□	NBN20	1.3
- 90			90	70			1.6
-135			135	115			2.0
-165			165	145			2.3
-200			200	180			2.6
DV50-NBS 6-120	0.25 - 6	20	120	85	NBC 6-□	NBN 6	2.8
-165			165	125			3.1
-NBS 8-120	0.5 - 8	25	120	80	NBC 8-□	NBN 8	2.9
-165			165	130			3.0
-NBS10- 90	1.5 - 10	30	90	60	NBC10-□	NBN10	2.9
-120			120	85			3.0
-165			165	130			3.2
-NBS13- 90	2.5 - 13	35	90	60	NBC13-□	NBN13	3.0
-120			120	80			3.4
-165			165	125			3.7
-NBS16- 90	2.5 - 16	42	90	60	NBC16-□	NBN16	3.1
-120			120	85			3.9
-165			165	130			4.3
-200			200	165			4.6
-NBS20- 75	2.5 - 20	46	75	45	NBC20-□	NBN20	3.1
- 90			90	60			3.2
-120			120	85			4.0
-165			165	130			4.5
-200			200	165			4.8

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Through holes are provided, allowing switching between center through and flange through use.
3. Weight includes the nut but not the collet.

Standard Accessory

New Baby Nut

For Spares G26

Optional Accessories

New Baby Wrench

G26

Collet

G4

BABY PERFECT SEAL

G24

Adjusting Screw

G10

Tap Adjusting Screw

G26

CK SHANK (DV: DIN69871 A and D Standards IV: ISO7388 Standard compatible)

Coolant-through hole

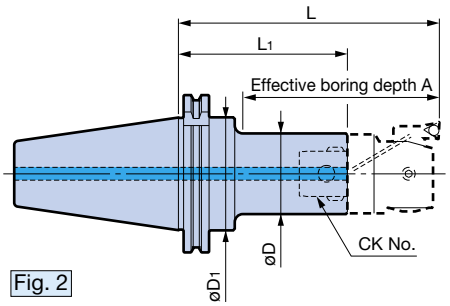


Fig. 2

● Model Description

IV40 - CK1 - 75

- CK No.
- Shank standard and taper No.

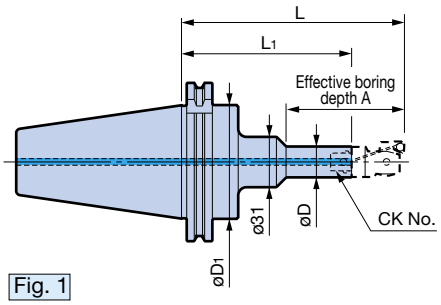


Fig. 1

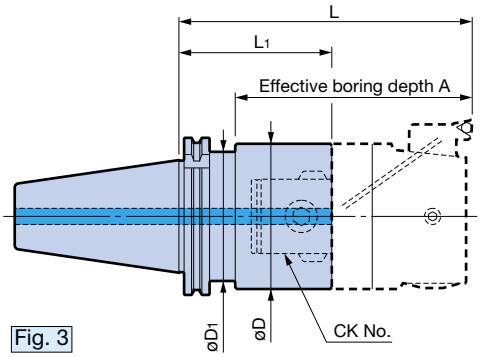


Fig. 3

IV and DV Shank models are mounted on DIN standard spindles.

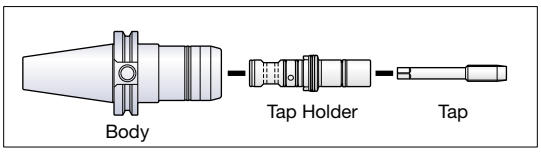
Model	Fig.	CK No.	øD1	øD	L	L1	A	Weight (kg)
IV40-CK1- 75	1	CK1	44.7	19	107.5	75	69.5	1.1
-CK2- 85	2	CK2		24	120.5	85	82.5	1.1
-CK3- 95		CK3		31	135	95	97	1.3
-CK4- 90		CK4		39	137	90	101	1.4
IV50-CK1-105	1	CK1	70.1	19	137.5	105	73	3.0
-CK2-115	2	CK2		24	150.5	115	107	3.0
-CK3-125		CK3		31	165	125	122	3.2
-CK4-120		CK4		39	167	120	122	3.5
-180					227	180	182	4.0
-CK5-105		CK5		50	162	105	122	3.7
-180					237	180	197	4.8
-225					282	225	242	5.5
-CK6- 95		CK6		64	166	95	130	4.1
-170					241	170	205	6.0
-230					301	230	267	7.4
DV40-CK5- 80	3	CK5	49.6	50	137	80	102	1.5
-CK6- 65		CK6		64	136	65	101	1.4
DV50-CK7- 95	3	CK7	80	90	182	95	147	5.3

1. The L and A diameters in the table are the values when the EWN BORING HEAD is attached.
2. Cutting edges and drive keys are aligned with boring heads mounted.
3. Center through coolant supply is available.
4. Mounting the DV Shank model on an ISO standard spindle may cause interference.

<CAT and ANSI standard shanks are also available upon request.>

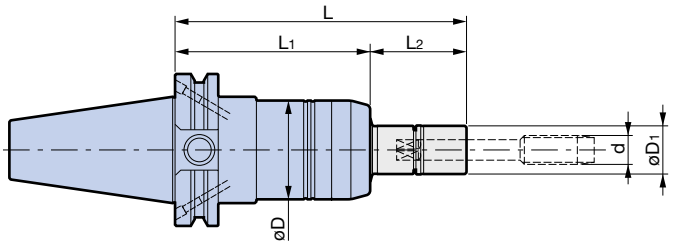
For heads, A39

Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.



Coolant-through hole

Not BIG-PLUS (DUAL CONTACT) specification



DV SHANK Model	Tap Holder Model	Tapping range d	øD	øD1	L	L1	L2	Weight (kg)
DV40-MGT 6- 80	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	110	80	30	1.2
	- 70				150		70	
	-100				180		100	
-MGT12- 80	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	110	80	30	1.3
	- 70				150		70	
	-100				180		100	
-MGT20-105	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	140	105	35	1.8
	- 85				190		85	
	-115				220		115	
DV50-MGT 6- 85	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	115	85	30	3.1
	- 70				155		70	
	-100				185		100	
-MGT12- 85	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	115	85	30	3.1
	- 70				155		70	
	-100				185		100	
-MGT20-105	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	140	105	35	3.7
	- 85				190		85	
	-115				220		115	

1. MGT Set Screw is included.
2. Tap holder and wrench are not included. Please order separately.
3. Through holes are provided, allowing switching between center through and flange through use.

Cannot be used with machining center without synchronized tapping function.

Caution
Tap with eccentric thread relief, having no margin on tap periphery, may cause oversize threads.
In such case, tap with con-eccentric thread relief is recommended.

For tap holders, A125
For Mega Wrench, A126

● Tapping range (DIN/ISO)

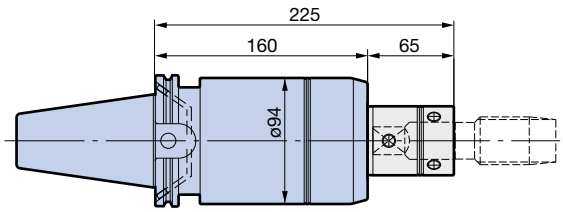
Tap Holder Size	DIN Standard			ISO Standard	
	DIN371	DIN376	DIN353	ISO529	ISO2284
MGT 6	M3 - M6	M 5 - M 8		M 3 - M5	
MGT12	M5 - M8	M 8 - M12	1/8	M6, M8, M12	1/8
MGT20	M10	M12 - M20	1/4 - 1/2	M10 - M20	1/4 - 3/8

For tap holders, A124

[Large Diameter Tap MGT36]

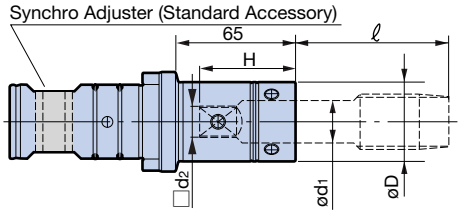
M22 - M36

Coolant-through hole



DV SHANK Model	Weight (kg)
DV50-MGT36-160	8.6

■ Tap Holder MGT36 DIN standard



Tap Holder Model	Tap size		ød1	□ d2	H	øD	Weight (kg)
	DIN376	DIN353					
MGT36-180145-65	M22, 24	P5/8	18	14.5	45	38	1.4
-200160-65	M27	P3/4	20	16	51	40	1.4
-220180-65	M30	P7/8	22	18	53	42	1.5
-250200-65	M33	P1	25	20	58	49	1.6
-280220-65	M36		28	22	62	52	1.6

For JIS Tap Holders, A128

General Toolholder

FACE MILL ARBOR TYPE FMH

DUAL CONTACT
BIG-PLUS®

Center through

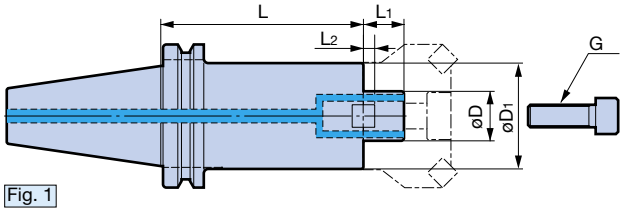


Fig. 1

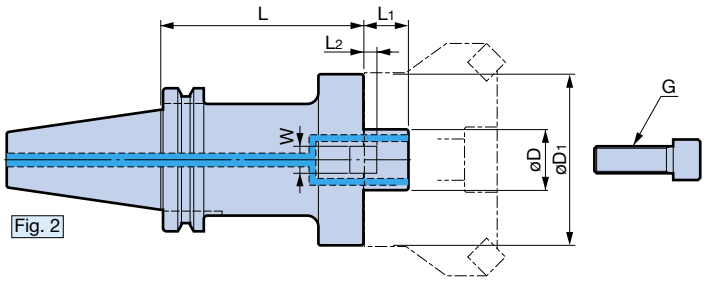
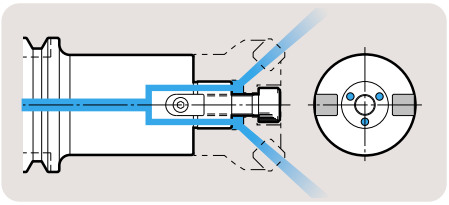


Fig. 2

Securely supplies coolant/air to the cutting edge



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Fig.	øD	øD1	L	L1	L2	W	G	Weight (kg)
BDV40-FMH22-47- 45	1	22	47	45	18	5	10	M10	1.2
- 90				90					1.8
-150				150					2.5
-60- 50	2	22	60	50	18	5	10	M10	1.4
- 90				90					2.0
-FMH27-60- 50		27	60	50	20	6	12	M12	1.4
- 90				90					2.0
-76- 60		27	76	60	20	6	12	M12	1.9
- 90				90					2.3
-FMH32-96- 60		32	96	60	22	7	14	M16	2.1
BDV50-FMH22-47- 60	1	22	47	60	18	5	10	M10	3.1
-105				105					3.7
-150				150					4.3
-200				200					4.9
-60- 60		22	60	60	18	5	10	M10	3.5
-105				105					4.4
-150				150					5.4
-200				200					6.5
-FMH27-60- 45		27	60	45	20	6	12	M12	3.2
- 90				90					4.1
-150				150					5.4
-200				200					6.5
-76- 45		27	76	45	20	6	12	M12	3.6
- 90				90					5.1
-150				150					7.2
-200				200					8.9
-FMH32-96- 50	2	32	96	50	22	7	14	M16	4.1
- 90				90					6.2
-150				150					8.4
-200				200					10.4
-FMH40-100- 50		40	100	50	26	8.5	16	M20 (MBA-M20H)	4.3
- 75				75					5.6
-105				105					6.9

1. Center through coolant supply only is available.
2. The weight does not include the cutter.
3. Cutter clamping screw is included.
   If the provided clamping screw is not compatible, separately select one from the clamping screw table on A111.
4. When using a cutter without oil holes, an optional clamping screw with a through hole allows coolant supply.
5. For the detailed dimensions of clamping screw MBA-M20H, see A111.

NEW BABY CHUCK Type Clamping diameter: ø0.25 - ø20

- High runout accuracy is achieved through the adoption of the high-precision New Baby Chuck.

DUAL CONTACT

BIG-PLUS®

Spindle angle 90°

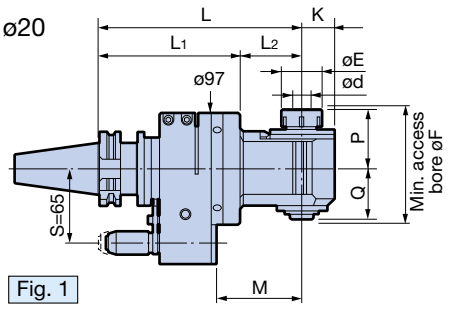


Fig. 1

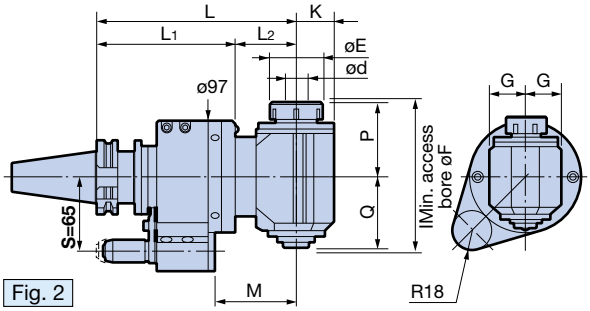


Fig. 2

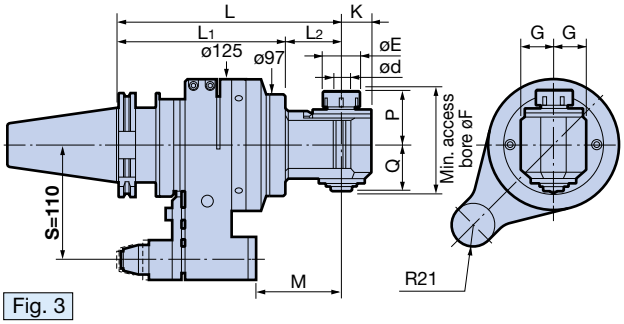


Fig. 3

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Fig.	Clamping diameter ød	øE	G	K	L	L1	L2	M	P	Q	øF	Collet Model	MAX. (min⁻¹)	Weight (kg)
BDV40-AG90/NBS 6 -180	1	0.25 - 6	20	21	17	180	125	55	77	33	29	67	NBC 6	6,000	5.1
-210						210		85	107						5.3
-240						240		115	137						5.5
-270						270		145	167						5.7
-AG90/NBS10 -180	1	1.5 - 10	30	30	25	180	125	55	77	45	43	91	NBC10	6,000	5.5
-210						210		85	107						5.9
-240						240		115	137						6.2
-AG90/NBS13 -180	1	2.5 - 13	35	31	28	180	125	55	77	52	45	101	NBC13	6,000	5.6
-210						210		85	107						6.0
-240						240		115	137						6.3
-AG90/NBS20S-175S	2	2.5 - 20	46	35	33	175	122	53	72	65	62	132	NBC20	3,000	8.0
BDV50-AG90/NBS 6 -215	3	0.25 - 6	20	21	17	215	160	55	82	33	29	67	NBC 6	6,000	12.6
-245						245		85	112						12.8
-275						275		115	142						13.0
-305						305		145	172						13.2
-AG90/NBS10 -215	3	1.5 - 10	30	30	25	215	160	55	82	45	43	91	NBC10	6,000	13.0
-245						245		85	112						13.4
-275						275		115	142						13.7
-AG90/NBS13 -215	3	2.5 - 13	35	31	28	215	160	55	82	52	45	101	NBC13	6,000	13.1
-245						245		85	112						13.5
-275						275		115	142						13.8
-AG90/NBS20 -230	3	2.5 - 20	46	35	35	230	160	70	97	65	62	132	NBC20	3,000	14.2

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nuts and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.

For Collets, G4

For Stop Blocks, G29

ANGLE HEAD AG90 SERIES

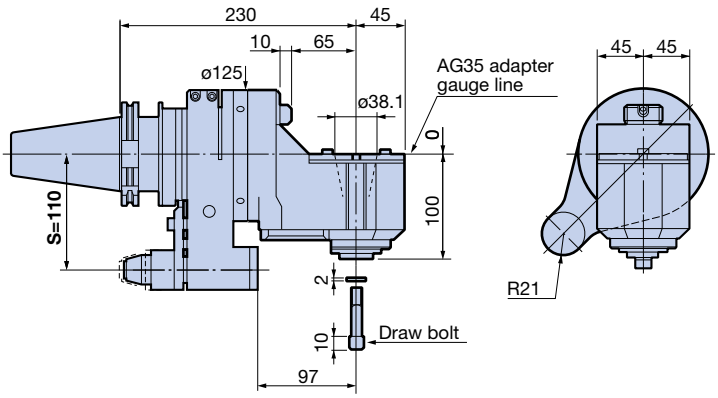
Offset design provides optimum tool projection with each adapter.

DUAL CONTACT
BIG-PLUS®

Spindle angle
90°

BUILD-UP Type

[Standard Type]



MAX. 3,000 min^{-1}

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

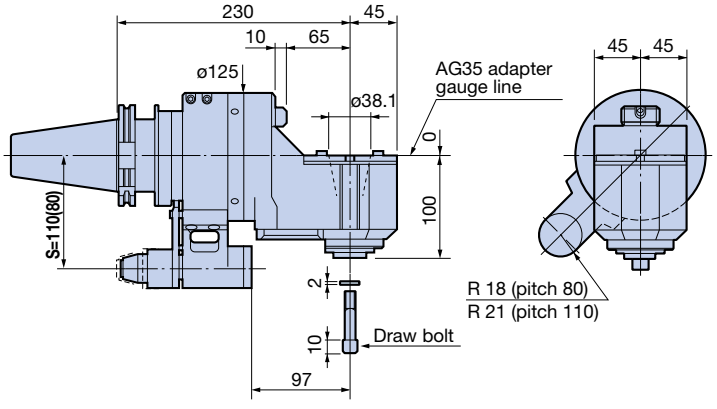
BIG-PLUS BDV SHANK Model	Weight (kg)
BDV50-AG90/AGH35-230	15.0

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. When supplied through the Stop Block, coolant can be ejected from the housing.
5. Automatic tool change may not be available depending on machine tool models.

For Stop Blocks, G29

[High Rigidity S Type]

· About 30% higher rigidity compared to standard type



MAX. 3,000 min^{-1}

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Weight (kg)	
	Pitch 110	Pitch 80
BDV50-AG90/AGH35-230S	16.3	15.6

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. When supplied through the Stop Block, coolant can be ejected from the housing.
5. Automatic tool change may not be available depending on machine tool models.

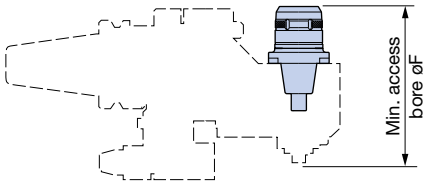
For Stop Blocks, G29

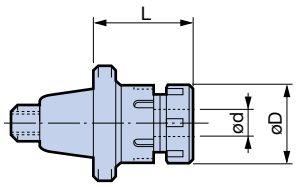
BUILD-UP Type AG35 ADAPTER

●Abundant adapters support various machining applications.

Spindle angle 90°

● Min. access bore when mounted on the Angle Head



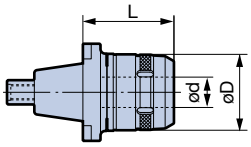


NEW BABY CHUCK

Model	ød	øD	L	øF	Weight (kg)
AG35-NBS10	1.5 - 10	30	47	162	0.6
-NBS13	2.5 - 13	35	54	168	0.7
-NBS16	2.5 - 16	42	54	170	0.8
-NBS20	2.5 - 20	46	54	170	0.9

1. Collet and wrench must be ordered separately. (Refer to wrench G26)

For Collets, G4

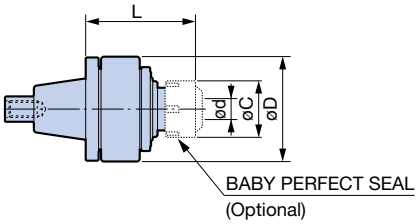


NEW Hi- POWER MILLING CHUCK

Model	ød	øD	L	øF	Weight (kg)
AG35-HMC20S	20	50	60	178	1.5

1. Wrench included. (Model: **FK45-50L**)

For Straight Collets, G20

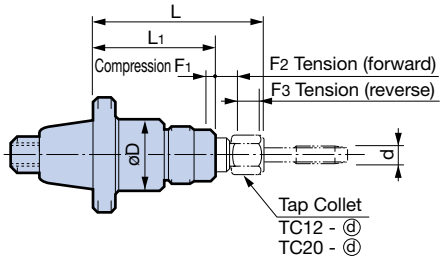


Hi-JET HOLDER

Model	ød	øC	øD	L	øF	Weight (kg)
AG35-ONBS13N	3 - 13	35	65	68	186	1.1

1. Baby Perfect Seal nut with sealing mechanism is required. (optional accessory)
2. Collet and wrench must be ordered separately.
3. Anti-rotation block set must be ordered separately. (Model: **AG35-BL**)

For Baby Perfect Seal, G24
For Collets, G4

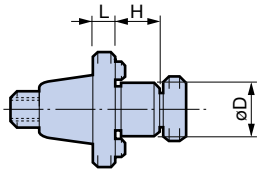


AUTO TAPPER B (with Tap Depth Control)

Model	d	øD	L	L_1	F_1	F_2	F_3	Weight (kg)
AG35-ATB12	M3 - M12	40	95	65	0.5	5	4	0.8
-ATB20	M8 - M20	54	125	100		6.5	5	1.5

1. Tap Collet must be ordered separately.

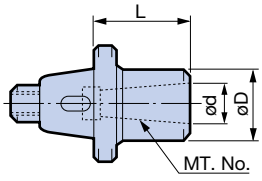
For TC Tap Collets, A135



FACE MILL ARBOR

Model	øD	L	H	Weight (kg)
AG35-FMA25.4-20	25.4	20	22	1.0
AG35-FMH22 -30	22	30	18	1.0
-FMH27 -20	27	20	20	1.0

※ Cutter face protrudes by 7.5mm from the 125mm diameter housing with the following combinations;
AG35-FMA25.4-20 + 50mm thick tool, AG35-FMH22-30 + 40mm thick tool and AG35-FMH27-20 + 50mm thick tool.



MORSE TAPER ADAPTER

Model	ød	MT.No.	øD	L	øF	Weight (kg)
AG35-MT1	12.065	1	24	50	164	0.6
-MT2	17.78	2	32	60	180	0.7

ANGLE HEAD AG90 SERIES

Versatile ø32 milling chuck allows use of various tools according to any machining application.

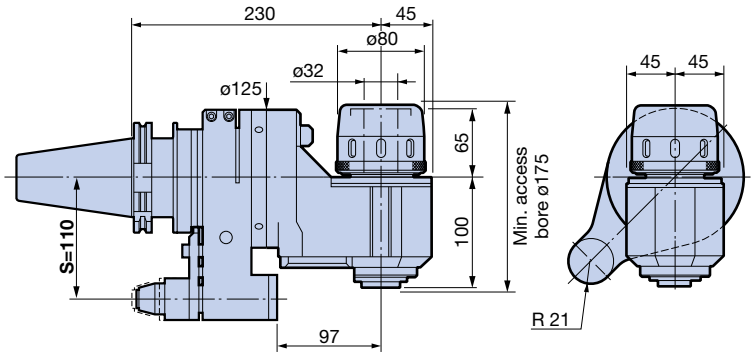
DUAL CONTACT
BIG-PLUS®

Spindle angle
90°

HMC32 Type

[Standard Type]

· High-rigidity milling chuck type that allows the most commonly used cylindrical shanks to be mounted.



MAX. 3,000 min^{-1}

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

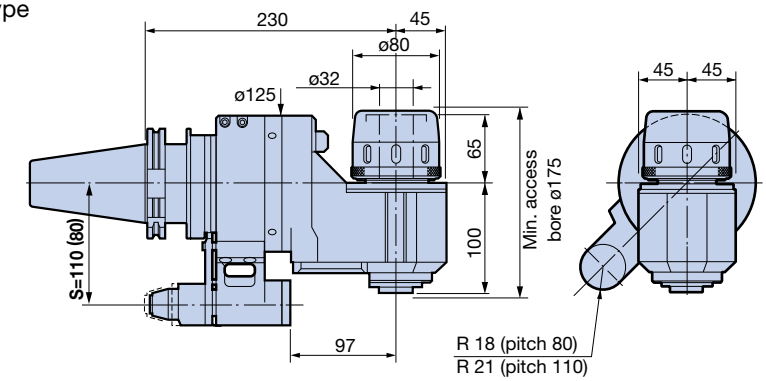
BIG-PLUS BDV SHANK Model	Weight (kg)
BDV50-AG90/HMC32-230	16.8

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. When supplied through the Stop Block, coolant can be ejected from the housing.
5. Automatic tool change may not be available depending on machine tool models.
6. Wrench included. (Model: **FK80-90**)

For Collets, G20
For Stop Blocks, G29

[High Rigidity S Type]

· About 30% higher rigidity compared to standard type



MAX. 3,000 min^{-1}

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Weight (kg)	
	Pitch 110	Pitch 80
BDV50-AG90/HMC32-230S	18.1	17.4

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. When supplied through the Stop Block, coolant can be ejected from the housing.
5. Automatic tool change may not be available depending on machine tool models.
6. Wrench included. (Model: **FK80-90**)

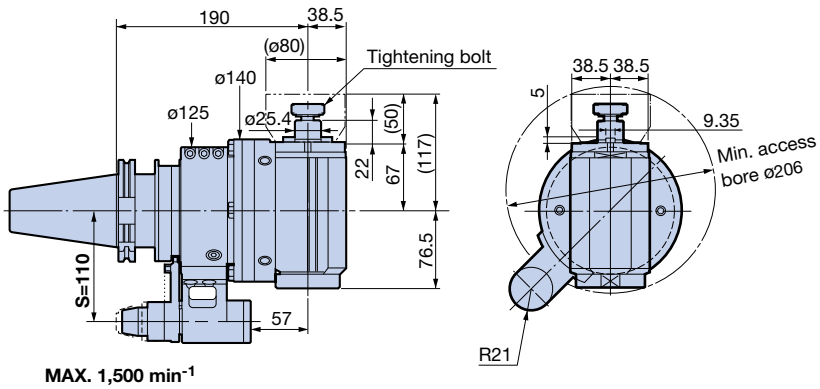
For Collets, G20
For Stop Blocks, G29

Face Milling type

DUAL CONTACT BIG-PLUS®

Spindle angle 90°

- Tool life is improved by high-rigidity bearings and optimum spindle dimensions!
- Series' highest rotation transmission force of 20kw (at 1,500min^{-1})
- 90° indexing mechanism is used to allow index of 90° increments after adjustment. (Indexing accuracy ±5')



MAX. 1,500 min^{-1}

BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Weight (kg)
BDV50-AG90-FMA25.4S-190S	19.2

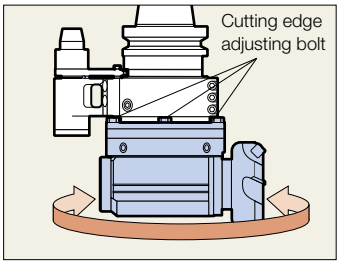
Figures in ( ) indicate dimensions when 80mm diameter and 50mm high face mill cutter is mounted.

1. **The cutting tool rotates in reverse to the machine spindle.**
2. A Stop Block is required when mounting on machines. Please order separately.
3. Coolant cannot be supplied through the Locating Pin.
4. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
5. Automatic tool change may not be available depending on machine tool models.

For Stop Blocks, G29

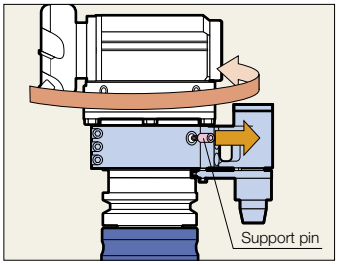
■ Cutting edge direction freely adjustable in 360°

The cutting edge direction can be easily set at any angle through 360 degrees simply by loosening its adjustment bolts (8 positions).



■ Cutting edge direction indexable in 90° increments

Indexing can be done in 90° increments after the cutting edge is adjusted. (Remove the support pin to adjust the cutting edge direction in 90° increments)



⚠ Caution: Be sure to remove from the machine before setting in 90° increments.

ANGLE HEAD AGU SERIES

The cutting edge angle can be freely adjusted, making it ideal for machining the corners of molds in deep areas.

- The original 1° indexing mechanism allows easy angle adjustment.
- Robust clamping mechanism allows secure endmilling.

DUAL CONTACT
BIG-PLUS®

Spindle angle
0° - 90°

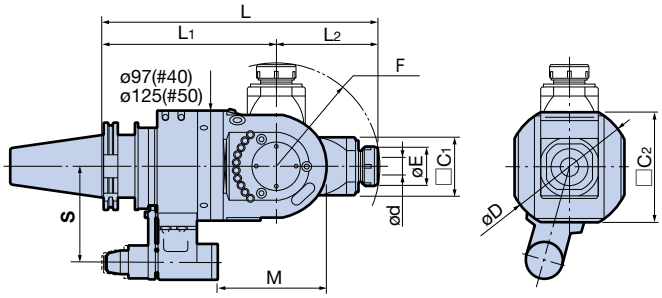
Universal Type Clamping diameter: ø2.5 - ø20

Indexing mechanism in 1° increments

Accurate angle adjustment is possible simply by tightening the angle setting pin.

The spindle angle can be adjusted in the range of 0° to 90°

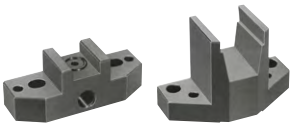
The 1° angle indexing mechanism allows the angle to be easily set. (Indexing accuracy ±5')



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Clamping diameter ød	øE	øD	□C1	□C2	L	L1	L2	M	F	S	Collet Model	MAX. (min⁻¹)	Weight (kg)
BDV40-AGU/NBS13-280	2.5 - 13	35	115	51	97	280	180	100	124	102	65	NBC13	6,000	9.7
BDV50-AGU/NBS20-315	2.5 - 20	46	140	65	125	315	200	115	125	118	110	NBC20	4,000	20.8

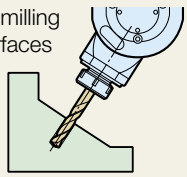
1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.



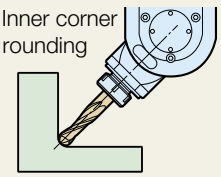
For Collets, G4
For Stop Blocks, G29

Machining examples Easy angle setup

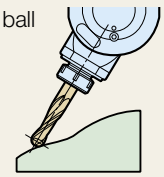
- Drilling or endmilling on angled surfaces



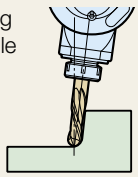
- Inner corner rounding



- Profiling with ball endmill



- Machining draft angle of molds



The ultra-precision spindle enables challenging micromachining!

- Achieves efficient and accurate micromachining with excellent runout accuracy in the max. spindle speed range.

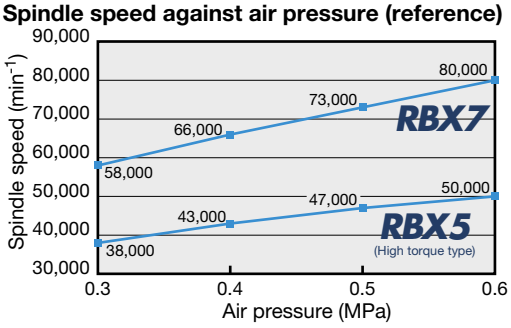
Machine spindle rotation **zero**

DUAL CONTACT BIG-PLUS®

MAX. 80,000min^{-1}

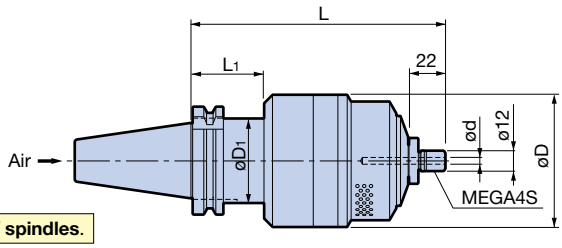
	RBX5	RBX7
Operating spindle speed (min^{-1})	40,000 - 50,000	60,000 - 80,000
Clamping diameter	ø0.45 - 4.05mm (MEGA4S)	
Spindle nose runout accuracy	Within 1 μm	
Air pressure	0.3 - 0.6MPa or less	
Air flow rate	300L/min [ANR] (at 0.6MPa)	

Spindle speed against air pressure (reference)



[Center Through Type]

ATC compatible



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Operating spindle speed (min^{-1})	Clamping diameter ød	Usable tool diameter	L	L1	øD	øD1	Weight (kg)
BDV40-RBX5C-4S-150	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	150	43	96	49.6	4.1
-RBX7C-4S-150	60,000 - 80,000		ø1.0 or smaller			78		3.1
BDV50-RBX5C-4S-145	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	145	38	96	68	6.8
-RBX7C-4S-145	60,000 - 80,000		ø1.0 or smaller			78		5.8

1. Nut, exclusive wrench (RBX5, 7 → **XW27**) and Mega Wrench (**MGR12**) are included. Collet is not included. Please order separately.
2. Air filter regulator (XF1) is required. A167

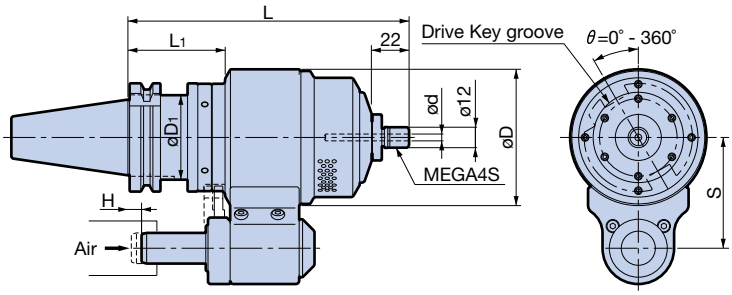
For Micro Collets, G2

Caution

- Clean air is an essential condition for the use of this product. Therefore, coolant should never be supplied through the spindle of the machine using the Air Turbine Spindle.

[Side Through Type]

ATC compatible



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	Operating spindle speed (min^{-1})	Usable tool diameter	L	L1	øD	øD1	S	H	Weight (kg)
BDV40-RBX5-4S-165-65	40,000 - 50,000	ø1.5 or smaller	165	57	96	49.6	65	-10 - 35	5.0
-RBX7-4S-165-65	60,000 - 80,000	ø1.0 or smaller			80				4.0
BDV50-RBX5-4S-170-80	40,000 - 50,000	ø1.5 or smaller	170	62	100	68	80	-5 - 40	9.7
-RBX7-4S-170-80	60,000 - 80,000	ø1.0 or smaller							8.7

1. Nut, exclusive wrench (RBX5, 7 → **XW27**) and Mega Wrench (**MGR12**) are included. Collet is not included. Please order separately.
2. Air filter regulator (XF1) is required. A167
3. A Stop Block is required when mounting on machines. Please order separately.

For Micro Collets, G2
For Stop Blocks, A166

※ Other shank types are also available. Please contact us for details.

Speed Increaser

HIGH SPINDLE

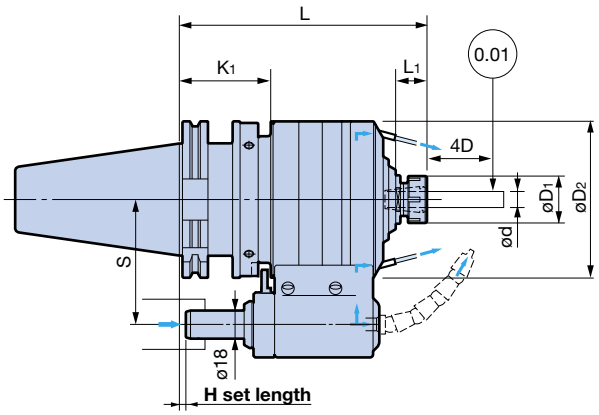
Accelerates the machine spindle. Improves productivity for machines with low spindle speeds.

- BIG's gear drive with a long track record is used for the drive system. High torque and low heat generation are achieved.

DUAL CONTACT
BIG-PLUS®

MAX. 20,000min^{-1}

GTG Type



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

Please contact our agent when using neat oil coolant that may cause fire, or grinding or machining materials that generate powdery chips such as carbide.

BIG-PLUS BDV SHANK Model	ød	L	L1	øD1	øD2	K1	S	Collet Model	Speed ratio	Max. (min^{-1})	Weight (kg)
BDV40-GTG5-10-155	1.5 - 10	155	20	30	80	58	65	NBC10	4.67	20,000	5.0
BDV50-GTG6-10-163	1.5 - 10	163	20	30	100	63	80	NBC10	5.67	20,000	9.0
-GTG4-16-182	2.5 - 16	182	25.5	42	110	63	80	NBC16	3.80	15,000	10.8

1. The allowable torque is a calculated value of the drive system, and not the actual torque in cutting.
2. The maximum diameter when using an endmill is ø8 (GTG5, GTG6) and ø12 (GTG4).
3. A Stop Block is required when mounting on machines.
4. For continuous rotation of over 30 minutes, the spindle speed should be set within 80% of the maximum speed.
5. Nut, wrench, and exclusive spanner are included.

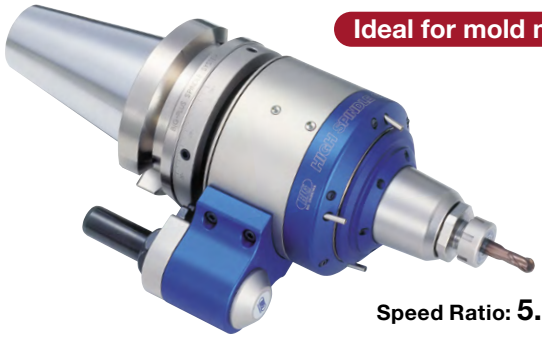
For Collets, G4
For Locating Pins, G31
For Stop Blocks, G31

Body Model	Included Collet Model (1 pc)
GTG5-10	NBC10-10AA
GTG6-10	NBC10-10AA
GTG4-16	NBC16-16AA

GTX Type

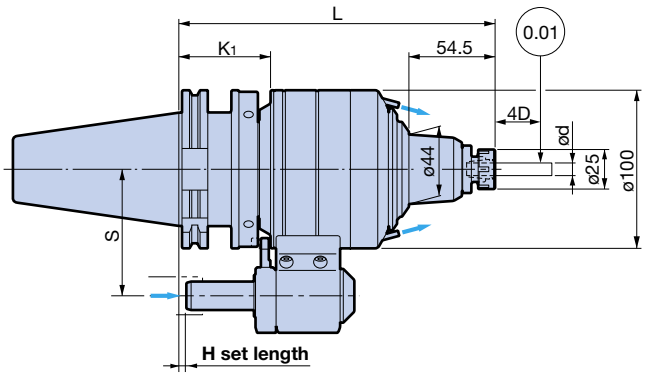
MAX. 24,000min^{-1}

- Bending rigidity is significantly improved.
- Long nose design ideal for mold machining.



Ideal for mold machining!

Speed Ratio: 5.67



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	ød	L	K1	S	Collet Model	Max. speed (30 min) min^{-1}	Continuous speed min^{-1}	Weight (kg)
BDV50-GTX6-8-205	0.5 - 8	205	62	80	NBC8	24,000	20,000	9.5

1. The allowable torque is a calculated value of the drive system, and not the actual torque in cutting.
2. The maximum clamping diameter when using a drill is ø4mm.
3. A Stop Block is required when mounting on machines.
4. For continuous operation of over 30 minutes, the continuous speed is recommended.
5. Collet is not included. Please order separately.
6. Nut, wrench, and exclusive spanner are included.

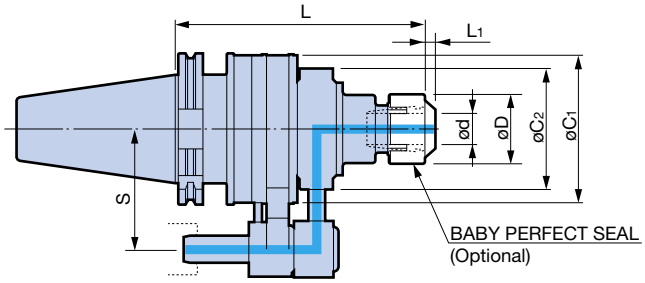
For Stop Blocks, G31
For Locating Pins, G31
For Collets, G4

Unique separate sealing structure extends life.

- Independent bearing and sealing sections eliminate infiltration of coolant into bearings.
- The seal replacement system allows maintenance and thus helps reduce costs.

NEW BABY CHUCK Type

Not BIG-PLUS (DUAL CONTACT) specification



DV SHANK Model	Clamping diameter ød	øD	L	øC1	øC2	S	Collet Model	Max. (min-1)	Merit Set	Weight (kg)
DV40-ONBS13N-165	2.5 - 13	35	165	81.6	73	65	NBC13	10,000	MES-40	4.0
-ONBS16N-165	2.5 - 16	42			80		NBC16	8,000	MES-50	4.3
-ONBS20N-165	2.5 - 20	46					NBC20	8,000		4.3
DV50-ONBS13N-165	2.5 - 13	35	165	99.6	80	80	NBC13	8,000	MES-50	7.3
-ONBS16N-165	2.5 - 16	42					NBC16			7.3
-ONBS20N-165	2.5 - 20	46					NBC20			7.5

1. Max. coolant pressure is 2MPa.
2. Wrench, nut (BPS), collet and Adjusting Screw are sold separately. Order together with a Perfect Seal of appropriate size.
3. For L_1, refer to the Baby Perfect Seal on G24.
4. A Stop Block is required when mounting on machines. Please order separately.

For Stop Blocks, G31
For Locating Pins, G31

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

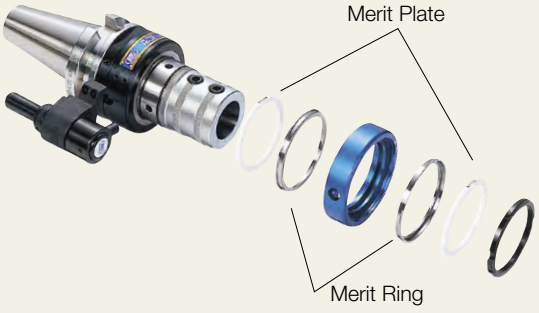
Optional Accessories

Collet	BABY PERFECT SEAL	Adjusting Screw
 G4	 G24	 G10

Maintenance parts for seal **Merit Set**

If excessive coolant leak occurs while using the Hi-JET holder due to wear of the seal, purchase the seal replacement part "Merit Set".
The model name is indicated in the dimension table for each Hi-JET Holder type.

<Merit Set contents>
● Merit Ring ● Merit Plate ● O-rings for Merit Case, 2 pcs each

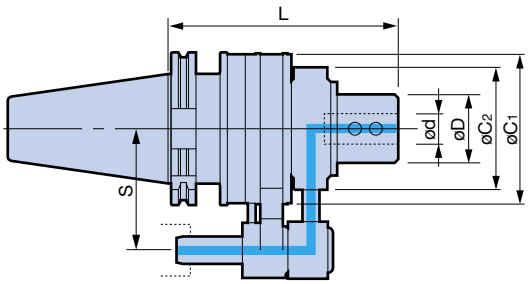


1. Merit Set replacement at BIG is also available. Please feel free to contact us.

SIDE LOCK TYPE

●For cylindrical shank oil hole drills.

Not BIG-PLUS (DUAL CONTACT) specification



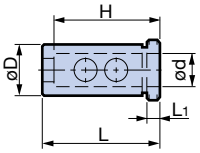
DV SHANK Model	ød	øD	L	øC1	øC2	S	Max. (min-1)	Merit Set	Weight (kg)
DV40-OSL16N-150	16	48	150	81.6	80	65	8,000	MES-50	4.4
-OSL20N-150	20				80				4.3
-OSL25N-165	25		165						4.4
-OSL32N-165	32	58		99.6	98		6,000	MES-65	5.7
DV50-OSL16N-150	16	48	150	99.6	80	80	8,000	MES-50	7.5
-OSL20N-150	20				80				7.4
-OSL25N-165	25		165						7.5
-OSL32N-165	32	58			98		6,000	MES-65	7.9
-OSL40N-165	40	64							8.0
-OSL50N-185	50	84	185	129.6	121		4,000	MES-90	11.9

1. Max. coolant pressure is 2MPa.
2. A Stop Block is required when mounting on machines. Please order separately.

Using neat oil coolant carries a risk of fire due to excessive heat generation or ignition of the holder.

For Stop Blocks, G31
For Locating Pins, G31

For Side Lock type
SL Sleeve



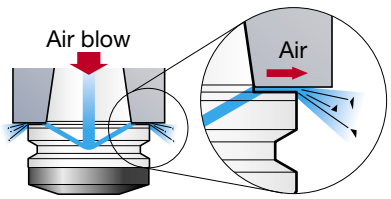
Model	ød	øD	L	L1	H
OSL25-16	16	25	62	5.5	48
-20	20				50
OSL32-16	16	32	66	5.5	48
-20	20				50
-25	25				56

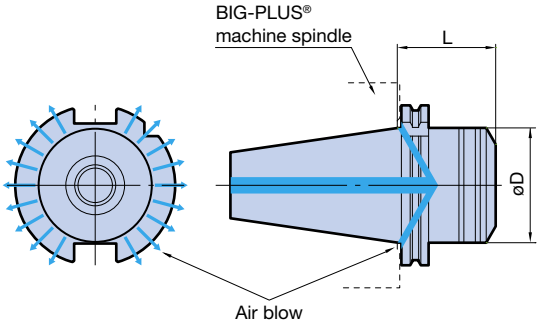
Model	ød	øD	L	L1	H
OSL40-16	16	40	76	5.5	48
-20	20				50
-25	25				56
-32	32				60

BIG-PLUS SPINDLE
FLANGE FACE CLEANER

Cleans the spindle flange face of BIG-PLUS machines.

● Removes oil and chips on the spindle flange face.





Model	øD	L
SDV40-ASC-40T	45	40
SDV50-ASC-60T	70	60

1. When the Flange Face Cleaner is mounted on the BIG-PLUS machine tool spindle, a 1mm gap exists between the flanges of the spindle and the cleaner.

DUAL CONTACT HSK SHANK

A/E/F Types

HSK Shank

For High Speeds

MEGA MICRO CHUCK PAT.

Clamping diameter: ø0.45 - ø8.05

Ultra-slim design with world's smallest ø10 nut outer diameter.
Slim and high speed holder for less interference with the workpiece or jig.

World's Original

Max. 40,000min^{-1}

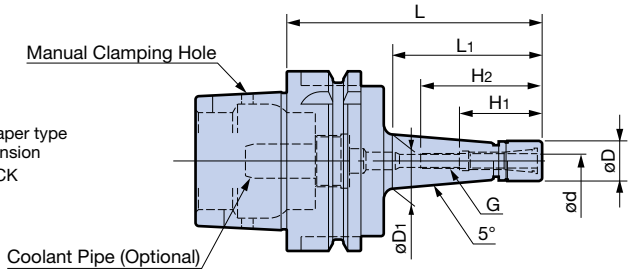
●Models for ultra-small endmilling are newly added!

[High Rigidity Taper Type]

● Model Description

HSK-A40 - MEGA 3 S - 75 T

- T: Taper type
- 75: L dimension
- S: MICRO CHUCK
- MEGA: MEGA CHUCK
- HSK-A40: HSK Shank Type



Through hole type.

A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ød	øD	øD1	L	L1	H1	H2	G	Collet Model	Weight (kg)
HSK-A40-MEGA3S- 75T	0.45 - 3.25	10	16	75	44	22	38	M4 P0.7	NBC 3S-□	0.28
- 90T			18	90	60					0.31
-MEGA4S- 60T	0.45 - 4.05	12	14	60	27	26.5	44	M5 P0.8	NBC 4S-□	0.27
- 90T			20	90	60		47			0.33
-105T			23	105	76					0.37
-MEGA6S- 60T ※	0.45 - 6.05	14	16	60	29	28.5	(40)	—	NBC 6S-□	0.28
- 75T			19	75	45		49	M7 P0.75		0.31
- 90T			21.5	90	60					0.34
-105T			25	105	76					0.39
HSK-A50-MEGA6S-105T	0.45 - 6.05	14	22.5	105	66	28.5	49	M7 P0.75	NBC 6S-□	0.6
HSK-A63-MEGA3S- 75T	0.45 - 3.25	10	14	75	36	22	38	M4 P0.7	NBC 3S-□	0.8
-120T			21.5	120	81					0.9
-MEGA4S- 75T	0.45 - 4.05	12	15.5	75	36	26.5	47	M5 P0.8	NBC 4S-□	0.9
- 90T			18	90	51					0.9
-120T			23.5	120	81					1.0
-MEGA6S- 60T	0.45 - 6.05	14	15.5	60	23	28.5	37	M7 P0.75	NBC 6S-□	0.8
- 75T			17	75	36		48			0.9
- 90T			20	90	51		49			0.9
-105T			22.5	105	66					0.9
-120T			25	120	81					1.0
-135T			27.5	135	96					1.0
-MEGA8S- 90T	2.95 - 8.05	18	23.5	90	51	31	50.5	M9 P0.75	NBC 8S-□	0.9
-120T			28.5	120	81					1.1

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
4. Models marked with "※" do not have inner thread. H_2 ( ) dimension is the max. tool shank length that can be inserted into the holder.
5. Coolant pipe is not included. C63

[Straight Type]

● Straight type with less workpiece interference.

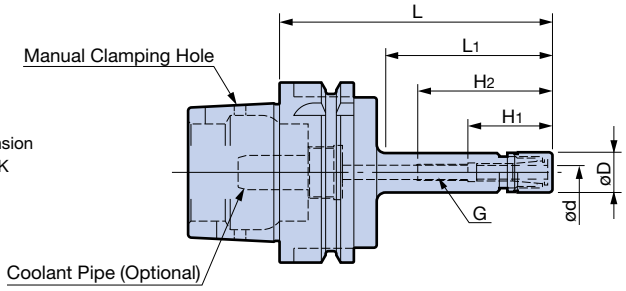
World's Original

MAX. 35,000min^{-1}

● Model Description

HSK-A40 - MEGA 3 S - 60

- 60: L dimension
- S: MICRO CHUCK
- MEGA: MEGA CHUCK
- 3: HSK Shank Type
- HSK-A40: HSK Shank Type



Through hole type.

A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ød	øD	L	L_1	H_1	H_2	G	Collet Model	Weight (kg)
HSK-A40-MEGA3S- 60	0.45 - 3.25	10	60	26	22	39	M4 P0.7	NBC 3S-□	0.26
-MEGA4S- 60	0.45 - 4.05	12	60	27	26.5	44	M5 P0.8	NBC 4S-□	0.26
- 90			90	57		47			0.29
-MEGA6S- 60 ※	0.45 - 6.05	14	60	28	28.5	(40)	—	NBC 6S-□	0.27
- 90			90	58		49	M7 P0.75		0.30
HSK-A50-MEGA4S- 75	0.45 - 4.05	12	75	36	26.5	47	M5 P0.8	NBC 4S-□	0.5
-MEGA6S- 75	0.45 - 6.05	14	75	36	28.5	49	M7 P0.75	NBC 6S-□	0.6
HSK-A63-MEGA4S- 75	0.45 - 4.05	12	75	36	26.5	48	M5 P0.8	NBC 4S-□	0.8
-105			105	61		47			0.9
-MEGA6S- 75	0.45 - 6.05	14	75	36	28.5	48	M7 P0.75	NBC 6S-□	0.9
-105			105	61		49			0.9
-MEGA8S- 90	2.95 - 8.05	18	90	48	31	50.5	M9 P0.75	NBC 8S-□	0.9

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
4. Models marked with "※" do not have inner thread. H_2 ( ) dimension is the max. tool shank length that can be inserted into the holder.
5. Coolant pipe is not included. ☞C63

Standard Accessory

MEGA NUT

For Spares ☞G3

Optional Accessories

Mega Wrench

☞G22

Micro Collet

☞G2

Micro Seal Nut (For 6S and 8S)

☞G3

Collet Case

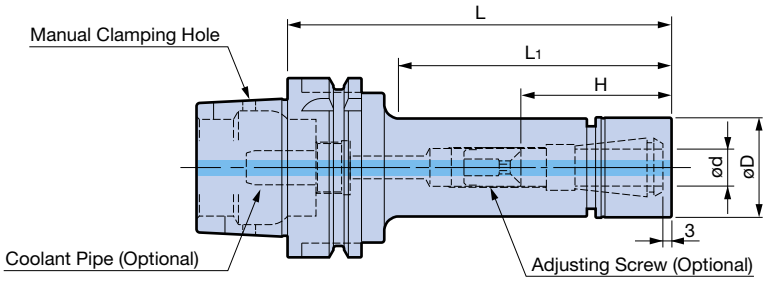
☞G3

α Taper Cleaner

☞G3

The best selling MEGA CHUCK series pursues high speed capability for its body, nut, collet and wrench.

World's Original | Center through | Max. 35,000min^{-1}



● Model Description

HSK-A40 - MEGA 6 N - 60
- HSK-A40: HSK Shank Type
- MEGA: MEGA CHUCK
- 6: Maximum clamping diameter
- N: NEW BABY CHUCK
- 60: L dimension

A Type (DIN 69893-1) (ISO 12164) For HSK-A63 and A100, C5

Model	Clamping diameter ød	øD	L	L1	Tool adjustment amount H	Collet Model	Weight (kg)
HSK-A40-MEGA 6N- 60 ※	0.25 - 6	20	60	30	33	NBC 6-□	0.31
- 75			75	45	23 - 38		0.34
- 90			90	60	23 - 43		0.37
-MEGA 8N- 60 ※	0.5 - 8	25	60	30	41	NBC 8-□	0.35
- 90			90	60	26 - 44		0.44
-MEGA10N- 60 ※	1.5 - 10	30	60	26	40	NBC10-□	0.42
- 90			90	54	38 - 48		0.56
-MEGA13N- 75 ※	2.5 - 13	35	75	55	55	NBC13-□	0.55
- 90 ※			90	70	64		0.64
-MEGA16N- 75 ※	2.5 - 16	42	75	55	53	NBC16-□	0.65
- 90 ※			90	70	63		0.78
-MEGA20N- 90 ※	2.5 - 20	46	90	70	66	NBC20-□	0.86

1. Nut is included. Adjusting screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
5. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
6. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
7. Coolant pipe is not included. C63

Standard Accessory

MEGA NUT

For Spares G10

Optional Accessories

MEGA NUT Flat Type

G10

Mega Wrench

G22

Collet

G4

MEGA PERFECT SEAL

G11

Adjusting Screw

G10

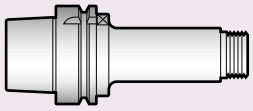
A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ød	øD	L	L_1	Tool adjustment amount H	Collet Model	Weight (kg)
HSK-A50-MEGA 6N- 75	0.25 - 6	20	75	37	23 - 43	NBC 6-□	0.6
-100			100	60			0.6
-135			135	93			0.7
-MEGA 8N- 75	0.5 - 8	25	75	37	26 - 37	NBC 8-□	0.6
-100			100	62	26 - 45		0.7
-135			135	96			0.8
-MEGA10N- 75 ※	1.5 - 10	30	75	38	46	NBC10-□	0.7
-100			100	63	38 - 48		0.8
-135			135	98			1.0
-MEGA13N- 75 ※	2.5 - 13	35	75	40	46	NBC13-□	0.7
-100			100	65	44 - 56		0.9
-135			135	100	44 - 63		1.1
-MEGA16N- 75 ※	2.5 - 16	42	75	49	48	NBC16-□	1.0
-100			100	74	48 - 55		1.1
-135			135	109	48 - 68		1.4
-MEGA20N- 75 ※▲	2.5 - 20	46	75	49	47	NBC20-□	0.9
-100			100	74	51 - 54		1.3
-135			135	109	51 - 68		1.8
-MEGA25N- 95 ※	15.5 - 25.4	60	95	69	65	NBC25-□	1.3

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
5. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
6. Models with ▲ indication cannot use a NEW BABY ENDMILL COLLET.
7. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
8. Coolant pipe is not included. C63

When ordering a MEGA PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/MEGA PERFECT SEAL separately.



MEGA NEW BABY CHUCK Model + NL
HSK-A40-MEGA 6N-60/NL
(NL at the end of the model number means nut not attached)

+

NBC Collet
NBC6-3AA

+

MEGA PERFECT SEAL Model
MPS6-03035

MEGA NUT Flat Type Model
MGN6F

MEGA NEW BABY CHUCK PAT.

Clamping diameter: ø0.25 - ø25.4

The best selling MEGA CHUCK series pursues high speed capability for its body, nut, collet and wrench.

● Model Description

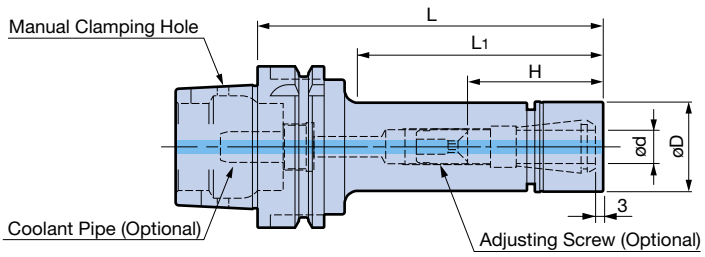
HSK-A63 - MEGA 6 N - 75

- 75: L dimension
- N: NEW BABY CHUCK
- 6: Maximum clamping diameter
- MEGA: MEGA CHUCK
- HSK-A63: HSK Shank Type

World's Original

Center through

Max. 35,000min^{-1}



A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ød	øD	L	L1	Tool adjustment amount H	Collet Model	Weight (kg)
HSK-A63-MEGA 6N- 75	0.25 - 6	20	75	35	23 - 38	NBC 6-□	0.9
- 90			90	48	23 - 43		0.9
-105			105	63			0.9
-120			120	76			1.0
-135			135	91			1.0
-165			165	121			1.0
-MEGA 8N- 75	0.5 - 8	25	75	35	26 - 38	NBC 8-□	0.9
- 90			90	50	26 - 45		1.0
-105			105	63			1.0
-120			120	76			1.1
-135			135	91			1.1
-165			165	121			1.2
-MEGA10N- 75 ※	1.5 - 10	30	75	36	50	NBC10-□	1.0
- 90			90	50	38 - 45		1.0
-105			105	65	38 - 48		1.1
-120			120	80			1.2
-135			135	93			1.3
-165			165	123			1.4
-MEGA13N- 75 ※	2.5 - 13	35	75	37	49	NBC13-□	1.0
- 90 ※			90	51	64		1.1
-105			105	66	44 - 56		1.2
-120			120	81	44 - 63		1.3
-135			135	96			1.4
-165			165	125			1.7
-MEGA16N- 75 ※	2.5 - 16	42	75	39	48	NBC16-□	1.1
- 90 ※			90	54	63		1.3
-105			105	69	48 - 54		1.4
-120			120	84	48 - 68		1.5
-135			135	99			1.7
-165			165	129			2.0
-200			200	164			2.4
-MEGA20N- 75 ※	2.5 - 20	46	75	39	51	NBC20-□	1.2
- 90 ※			90	54	61		1.4
-105			105	69	51 - 54		1.5
-120			120	84	51 - 68		1.7
-135			135	99			1.8
-165			165	129			2.3
-200			200	164			2.7
-MEGA25N- 90 ※	15.5 - 25.4	60	90	—	63	NBC25-□	1.6
-120 ※			120		90		2.2

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
5. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
6. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
7. Coolant pipe is not included. C63

A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ød	øD	L	L_1	Tool adjustment amount H	Collet Model	Weight (kg)
HSK-A100-MEGA 6N- 90	0.25 - 6	20	90	43	23 - 43	NBC 6-□	2.5
-105			105	58			2.5
-120			120	73			2.5
-135			135	88			2.5
-165			165	113			2.6
-MEGA 8N- 90	0.5 - 8	25	90	43	26 - 45	NBC 8-□	2.5
-105			105	58			2.6
-120			120	73			2.6
-135			135	88			2.7
-165			165	113			2.7
-MEGA10N- 90	1.5 - 10	30	90	43	38 - 45	NBC10-□	2.6
-105			105	58	38 - 48		2.7
-120			120	73			2.7
-135			135	88			2.8
-165			165	113			3.0
-MEGA13N- 90 ※	2.5 - 13	35	90	43	55	NBC13-□	2.7
-105 ※			105	58	70		2.8
-120			120	73	44 - 63		2.9
-135			135	88			3.0
-165			165	118			3.2
-200			200	148			3.5
-MEGA16N- 90 ※	2.5 - 16	42	90	47	55	NBC16-□	2.8
-105 ※			105	58	70		2.9
-120			120	73	48 - 68		3.1
-135			135	88			3.2
-165			165	118			3.6
-200			200	151			4.0
-MEGA20N- 90 ※	2.5 - 20	46	90	47	55	NBC20-□	2.9
-105 ※			105	58	70		3.0
-120			120	73	51 - 68		3.2
-135			135	88			3.3
-165			165	118			3.8
-200			200	153			4.3
-MEGA25N-120 ※	15.5 - 25.4	60	120	78	85	NBC25-□	3.8
-165			165	123	64 - 74		4.6

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
5. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
6. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
7. Coolant pipe is not included. C63

Standard Accessory

MEGA NUT

For Spares G10

Optional Accessories

MEGA NUT Flat Type

G10

Mega Wrench

G22

Collet

G4

MEGA PERFECT SEAL

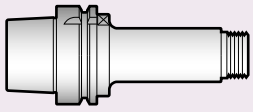
G11

Adjusting Screw

G10

When ordering a MEGA PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/MEGA PERFECT SEAL separately.



MEGA NEW BABY CHUCK Model + NL
HSK-A63-MEGA 6N-75/NL
(NL at the end of the model number means nut not attached)

+

NBC Collet
NBC6-3AA

+

MEGA PERFECT SEAL Model
MPS6-03035

MEGA NUT Flat Type Model
MGN6F

A high precision, high speed and high rigidity collet chuck especially for endmilling.

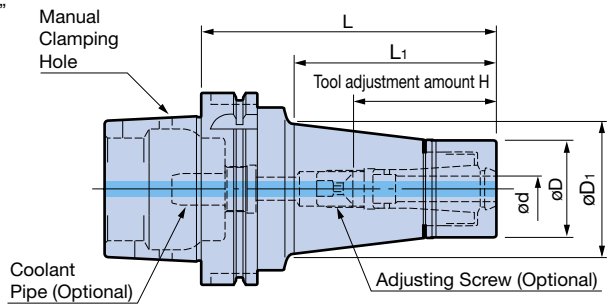
- Tapered body enhances damping effect by varying vibration frequency.
- Uses the MEGA E Collet designed for endmilling, delivering optimal clamping performance.

● Model Description

HSK-A40 - MEGA 6 E - 60

- 60: L dimension
- E: Abbreviation of "E CHUCK"
- 6: Maximum clamping diameter
- MEGA: MEGA CHUCK
- HSK-A40: HSK Shank Type

World's Original | Center through | Max. 35,000min^{-1}



A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ød	øD	øD1	L	L1	H	Collet Model	Weight (kg)
HSK-A40-MEGA 6E- 60 ※	3 - 6	25	26	60	24	41	MEC 6-□	0.39
- 75 ※			28.5	75	39	55		0.45
-MEGA 8E- 65 ※	3 - 8	30	34	65	30	44	MEC 8-□	0.46
- 75 ※			34	75	40	54		0.51
-MEGA10E- 70 ※	3 - 10	35	35	70	35	48	MEC10-□	0.52
- 90			35	90	55	48 - 52		0.67
-MEGA13E- 70 ※	3 - 12	42	42	70	35	50	MEC13-□	0.62
- 90 ※			42	90	55	67		0.81
HSK-A50-MEGA 6E- 75	3 - 6	25	28.5	75	37	37 - 43	MEC 6-□	0.6
-MEGA 8E- 75 ※	3 - 8	30	33	75	40	42	MEC 8-□	0.7
-MEGA10E- 75 ※	3 - 10	35	38	75	40	48	MEC10-□	0.8
-MEGA13E- 75 ※	3 - 12	42	—	75	49	50	MEC13-□	0.9
-100			—	100	74	50 - 55		1.1
HSK-A63-MEGA 6E- 65 ※	3 - 6	25	26.5	65	28	43	MEC 6-□	0.9
- 90			30	90	51	37 - 45		1.0
-105			33	105	66			1.1
-120			36	120	82			1.2
-135			39	135	99			1.4
-MEGA 8E- 67 ※	3 - 8	30	31.5	67	30	45	MEC 8-□	0.9
- 90			35	90	52	37 - 45		1.1
-105			38	105	68	42 - 51		1.2
-120			40.5	120	83			1.4
-135			44	135	100			1.6
-MEGA10E- 75 ※	3 - 10	35	37.5	75	37	48	MEC10-□	1.1
- 90 ※			40	90	53	64		1.2
-105			43	105	69	48 - 58		1.4
-120			46	120	85			1.5
-135			43	135	99			1.7
-MEGA13E- 75 ※	3 - 12	42	44	75	31	49	MEC13-□	1.2
- 90 ※			45	90	46	64		1.4
-105			46	105	61	50 - 57		1.6
-120			47.5	120	77			1.8
-135			47	135	92			1.9

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
4. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
5. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
6. Coolant pipe is not included. C63

A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ød	øD	øD1	L	L1	H	Collet Model	Weight (kg)
HSK-A100-MEGA 6E- 75 ※	3 - 6	25	28	75	33	46	MEC 6-□	2.5
- 90			29.5	90	48	37 - 45		2.6
-105			32.5	105	63			2.7
-120			35	120	78			2.8
-135			37.5	135	93			2.9
-165			43	165	123			3.2
-MEGA 8E- 75 ※	3 - 8	30	33	75	33	46	MEC 8-□	2.5
- 90			34.5	90	48	42 - 51		2.6
-105			37	105	63			2.8
-120			39.5	120	78			2.9
-135			42.5	135	93			3.1
-165			47.5	165	123			3.4
-MEGA 10E- 80 ※	3 - 10	35	37.5	80	38	51	MEC10-□	2.6
- 90 ※			39.5	90	48	61		2.7
-105			42	105	63	48 - 58		2.9
-120			44.5	120	78			3.1
-135			47	135	93			3.3
-165			52.5	165	123			3.7
-MEGA 13E- 82 ※	3 - 12	42	44.5	82	40	50	MEC13-□	2.8
- 90 ※			46	90	48			2.9
-105			48.5	105	63	50 - 61		3.1
-120			51.5	120	78			3.3
-135			54	135	93			3.6
-165			59	165	123			4.2

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
4. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
5. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
6. Coolant pipe is not included. C63

Standard Accessory

MEGA E Nut

For Spares G13

Optional Accessories

Mega Wrench

G22

MEGA E Collet

G13

MEGA E PERFECT SEAL

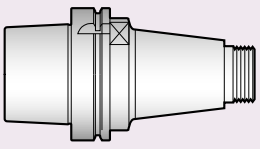
G14

Adjusting Screw

G13

When ordering a MEGA E PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the MEC Collet/MEGA E PERFECT SEAL separately.



MEGA E CHUCK Model + /NL
(Nut not attached)
HSK-A40-MEGA6E-60/NL

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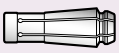


MEC Collet
MEC6-3AA

\+

MEGA E PERFECT SEAL Model
EPS6-03

MEGA DOUBLE POWER CHUCK PAT.

Complete contact with the nut and body.
High rigidity equal to integration with the machine spindle.

World's Original | Center through | MAX. 28,000min^{-1}

For Through Tools

[Standard Type]

● Model Description

HSK-A40 - MEGA 16 D - 80

- 80: L dimension
- D: DOUBLE CHUCK
- 16: Clamping diameter
- MEGA: MEGA CHUCK
- HSK-A40: HSK Shank Type

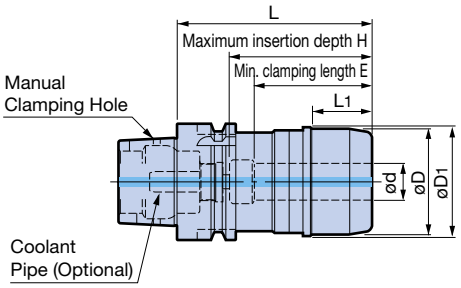


Fig. 1

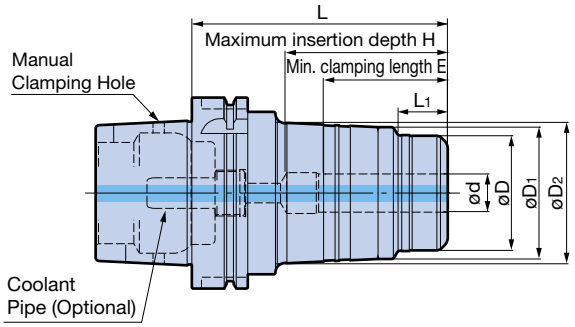


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ød	øD	øD1	øD2	L	L1	H	E	Mega Wrench	Weight (kg)
HSK-A 40-MEGA16D- 80	1	16	46	—	—	80	25	62	50	MGR46L	0.75
HSK-A 50-MEGA16D- 85	1	16	46	—	—	85	25	62	50	MGR46L	1.0
-MEGA20D- 85 ※		20	50			86	30	63	51	MGR50L	1.1
HSK-A 63-MEGA16D- 80A	2	16	42	53	—	80	25	55	50	MGR42L	1.3
- 90A						90		65	55		1.5
-105A						105		71			1.8
-135A ○						135					2.3
-165A ○						165					2.8
-MEGA20D- 90A	2	20	50	55	—	90	34	65	56	MGR50L	1.6
-105A						105		80			1.5
-120A						120		85			2.1
-135A						135					2.4
-165A △						165					3.0
-MEGA25D-100A	1	25	62	63	—	100	39	75	57	MGR62L	2.0
-135A △						135		80			2.8
-MEGA32D-105A		32	70	71	—	105	33	80	64	MGR70L	2.2
-135A						135		90			2.9

1. Wrench is not included. Please order separately.
2. Center through coolant supply is available.
3. Models with △ indication can be used with optional axial adjusting screws. Models with ○ indication require the hex socket head screw (M8) for axial adjustment. However, please contact us if using for center through applications.
4. ※ HSK-A50-MEGA20D-85 cannot be used with the adjustable straight collet model AC.
5. H dimension is the max. tool shank length that can be inserted into the holder.
6. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
7. Coolant pipe is not included. ☞ C63

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ød	øD	øD1	øD2	L	L1	H	E	Mega Wrench	Weight (kg)
HSK-A100-MEGA16D-105	2	16	46	55	63	105	23	71	50	MGR46L	3.5
-135 ○						135					4.1
-165 ○						165					4.7
-MEGA20D-105	2	20	60	69	74	105	25	73	56	MGR60L	4.1
-135						135		85			5.0
-165 △						165					5.9
-MEGA25D-105	2	25	70	77	85	105	32	73	65	MGR70L	4.5
-135						135		90			5.6
-165 △						165					6.8
-MEGA32D-115	2	32	80	86	—	115	39	83	71	MGR80L	5.0
-135						135		103			5.8
-165						165		105			7.1
-MEGA42D-115	1	42	99	100	—	115	40	83	78	MGR99L	5.5
-135						135		97			6.9

1. Wrench is not included. Please order separately.
2. Center through coolant supply is available.
3. Models with △ indication can be used with optional axial adjusting screws.
   Models with ○ indication require the use of commercially available hex socket head screw (M8) for axial adjustment.
   However, please contact us if using for center through applications.
4. H dimension is the max. tool shank length that can be inserted into the holder.
5. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
6. Coolant pipe is not included. ☞C63

Optional Accessories

Straight Collet

☞G19

Mega Wrench

☞G22

Axial Adjusting Screw

☞G21

Complete contact with the nut and body.
High rigidity equal to integration with the machine spindle.

World's Original | Center through | MAX. 28,000min^{-1}

For Jet Through

[Jet Through Type]

● Model Description

HSK-A40 - MEGA 16 DS - 80

- HSK-A40: HSK Shank Type
- MEGA: MEGA CHUCK
- 16: Clamping diameter
- DS: Jet through DOUBLE CHUCK
- 80

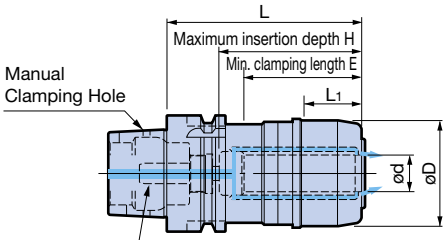


Fig. 1

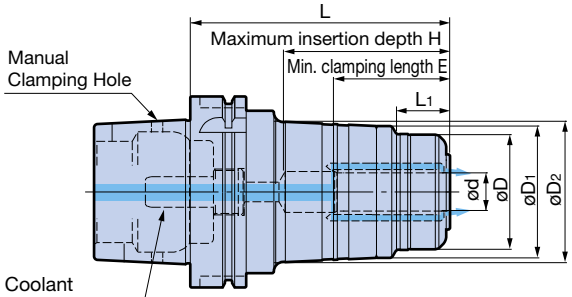


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ød	øD	øD1	øD2	L	L1	H	E	Mega Wrench	Weight (kg)
HSK-A 40-MEGA16DS- 80	1	16	46	—	—	82.5	28	64	52	MGR46L	0.75
HSK-A 50-MEGA16DS- 85	1	16	46	—	—	87.5	28	64	52	MGR46L	1.0
-MEGA20DS- 85	1	20	50	—	—	88.5	33	65	53	MGR50L	1.1
HSK-A 63-MEGA16DS- 80A	2	16	42	53	—	82	27	57	52	MGR42L	1.3
-MEGA20DS- 90A	2	20	50	55	—	92	36	67	58	MGR50L	1.6
-120A	2	20	50	55	—	122	36	87	58	MGR50L	2.1
-MEGA25DS-100A	1	25	62	—	—	102	41	77	59	MGR62L	2.0
-MEGA32DS-105A	1	32	70	—	—	107.5	35	82	66	MGR70L	2.2
HSK-A100-MEGA16DS-105	2	16	46	55	63	107.5	26	73	52	MGR46L	3.5
-135 ○	2	16	46	55	63	137.5	26	73	52	MGR46L	4.1
-MEGA20DS-105	2	20	60	69	74	107.5	28	75	58	MGR60L	4.1
-135	2	20	60	69	74	137.5	28	87	58	MGR60L	5.0
-165 △	2	20	60	69	74	167.5	28	87	58	MGR60L	5.9
-MEGA25DS-105	2	25	70	77	85	107.5	34	75	67	MGR70L	4.5
-135	2	25	70	77	85	137.5	34	92	67	MGR70L	5.6
-165 △	2	25	70	77	85	167.5	34	92	67	MGR70L	6.8
-MEGA32DS-115	2	32	80	86	—	117.5	42	85	73	MGR80L	5.0
-135	2	32	80	86	—	137.5	42	105	73	MGR80L	5.8
-165	2	32	80	86	—	167.5	42	107	73	MGR80L	7.1
-MEGA42DS-115	1	42	99	—	—	117	42	85	80	MGR99L	5.5

1. Wrench is not included. Please order separately.
2. Center through coolant supply is available.
3. **DS types have jet-through coolant supply, thus tools with oil holes cannot be used.**
4. Models with △ indication can be used with optional axial adjusting screws. Models with ○ indication require the hex socket head screw (M8) for axial adjustment. However, please contact us if using for center through applications.
5. H dimension is the max. tool shank length that can be inserted into the holder.
6. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
7. Coolant pipe is not included. ☞ C63

Optional Accessories

Straight Collet	Mega Wrench	Axial Adjusting Screw
 ☞ G19	 ☞ G22	 ☞ G21

For versatile high-precision machining including molds and automotive components.

Center through

●Slim design minimizes workpiece interference, ideal for mold making.

[SUPER SLIM Type PAT.P]

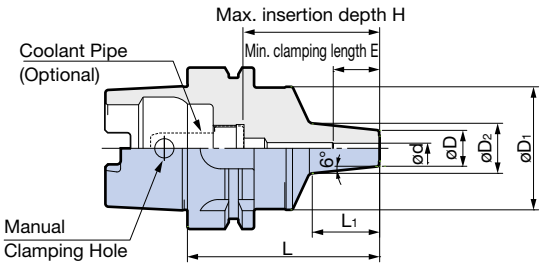


Fig. 1

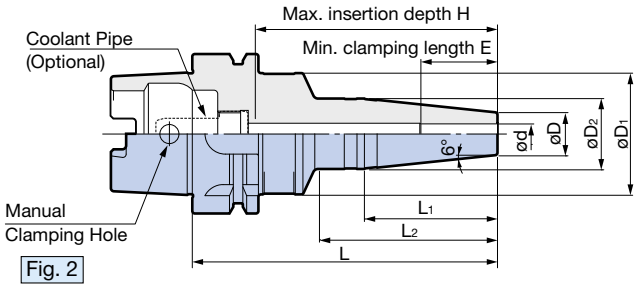


Fig. 2

● Model Description

HSK-A40 - HDC 4 S - 65
- 65: L dimension
- S: SUPER SLIM Type
- 4: Clamping diameter
- HDC: HYDRAULIC CHUCK
- HSK-A40: HSK Shank Type

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ød	øD	øD1	øD2	L	L1	L2	H	E	Weight (kg)
HSK-A40-HDC 4S- 65	1	4	14	33	21	65	28	—	49	19	0.33
HSK-A50-HDC 4S- 75	1	4	14	40	21	75	31	—	55	19	0.8
HSK-A63-HDC 3S- 90	1	3	14	48	24	90	43	—	68	16	1.1
-HDC 4S- 75		4			20	75	26		53	19	1.0
-120	2				26	120	57	72	98		1.1
-HDC 6S-120		6						70	98	25	
-150						150		85	128		1.3
-HDC 8S-120		8	17		28	120	52	70	95	31	1.2
-150						150		85	125		1.3
-HDC10S-120		10	19		30	120		70	94	33	1.2
-150						150		87	124		1.4
-HDC12S-120		12	21		32	120		70	93	36	1.2
-150						150		87	123		1.4

1. Adjusting Screw cannot be used.
2. Coolant pipe is not included. C63

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

HYDRAULIC CHUCK

For versatile high-precision machining including molds and automotive components.

Center through

●Slim design minimizes workpiece interference, ideal for mold making.

[Jet Through Type PAT.P]

● Model Description

HSK-A63 - HDC 4 J - 75
- 75: L dimension
- J: Jet Through Type
- 4: Clamping diameter
- HDC: HYDRAULIC CHUCK
- HSK-A63: HSK Shank Type

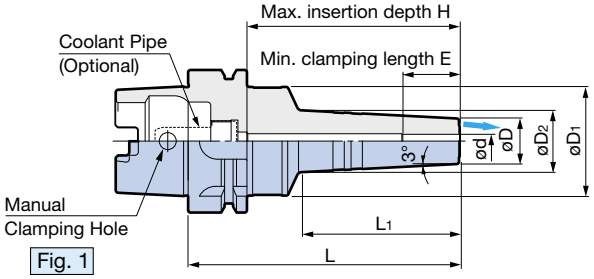


Fig. 1

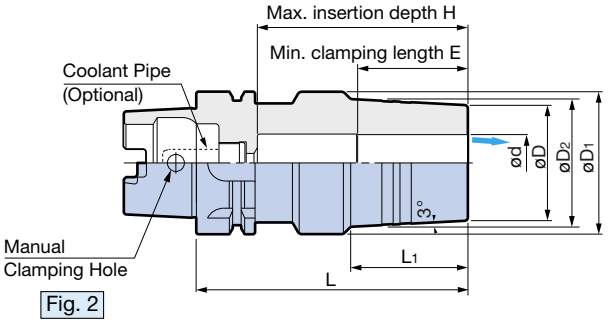


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ød	øD	øD1	øD2	L	L1	H	E	Weight (kg)
HSK-A63-HDC 4J- 75	1	4	20	48	23	75	29	53	19	1.0
-HDC 6J-120		6			28	120	70	98	25	1.2
-HDC 8J-120		8	22		30			95	31	1.2
-HDC10J-120		10	24		32			94	33	1.3
-HDC12J-120		12	26		34			93	36	1.3
-HDC16J-120		16	34		43		76	92	43	1.5
-HDC20J-120		20	38					91		1.5
-HDC25J-120	2	25	51	63	57		50	93	49	2.1
-HDC32J-120		32	60	69	-		53		56	2.3

1. Adjusting Screw cannot be used.
2. Coolant pipe is not included. C63

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

[Standard Type]

● Model Description

HSK-A40 - HDC 6 - 70
- 70: L dimension
- 6: Clamping diameter
- HDC: HYDRAULIC CHUCK
- HSK-A40: HSK Shank Type

Center through

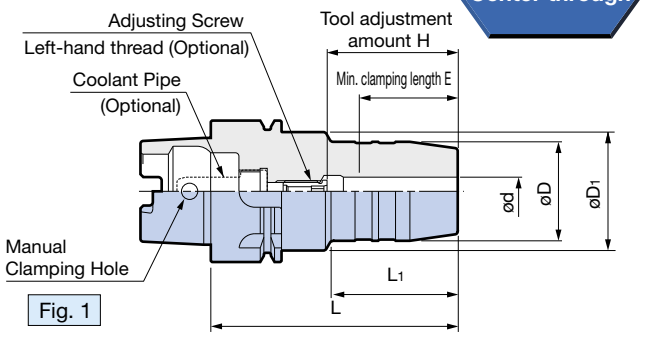


Fig. 1

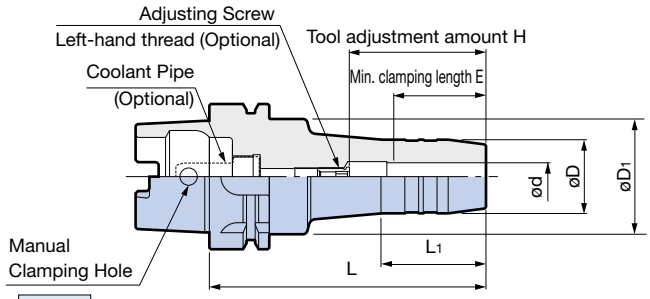


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	H	E	Adjusting Screw (Optional)	Weight (kg)
HSK-A40-HDC 6- 70	1	6	26	34	70	36	28 - 36	28	HDA 6-05013	0.47
-HDC 8- 70		8	28						HDA 8-06013	0.48
-HDC10- 75		10	30		75	41	33 - 41	33		0.50
-HDC12- 80		12	32		80	46	38 - 45	38		0.55
HSK-A50-HDC 6- 75	1	6	26	42	75	32	28 - 37	28	HDA 6-05013	0.7
-HDC 8- 75		8	28						HDA 8-06013	0.7
-HDC10- 80		10	30		80	37	33 - 41	33	HDA10-08015	0.7
-HDC12- 85		12	32		85	42	38 - 46	38		0.8
-HDC16- 90 ▲		16	38		90	48	43 - 51	43		0.9
-HDC20- 90 ▲		20	42	—		64				0.9
-HDC25- 90 ※▲		25	55	63		23	62	52	—	1.3
HSK-A63-HDC 6- 70 ※	2	6	26	50	70	24	46	28	—	1.0
-120					120	44	28 - 48		HDA 6-05032	1.2
-150					150					1.4
-HDC 7-120		7	27		120					1.3
-HDC 8- 70 ※		8	28		70	24	46		-	1.0
-120					120	44	28 - 48		HDA 8-06032	1.3
-150					150					1.5
-HDC 9-120		9	29		120					1.3
-HDC10- 80 ※		10	30		80	35	55	33	-	1.1
-120					120	45	33 - 53		HDA10-08032	1.3
-150					150					1.6
-HDC11-120		11	31		120					1.4
-HDC12- 85 ※		12	32		85	40	60	38	-	1.1
-120					120	45	38 - 58		HDA12-10025	1.4
-150					150					1.6

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
   ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank depth that can be inserted into the holder.
2. Models with ▲ indication cannot use a Straight Collet.
3. Coolant pipe is not included. C63
4. Adjusting Screw **with hexagon sockets on both sides** is also available, allowing adjustment from the shank side as well.
   Add the letter **"W"** at the end of the model number when ordering. (Example: HDA6-05013W)

For HSK-A63-HDC13 and beyond, refer to the next page

For Straight Collets, G18

α Wiper Cleaner & TK Cleaner PAT. are recommended for cleaning the holder bore. H4

Caution

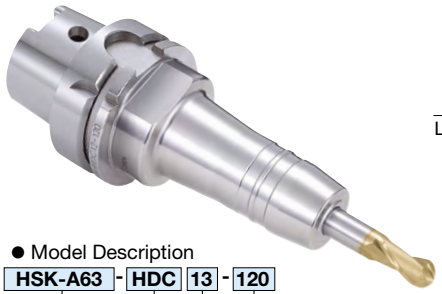
- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

HYDRAULIC CHUCK

Clamping diameter: ø6 - ø32

[Standard Type]

Center through



● Model Description

HSK-A63 - HDC 13 - 120

- 120: L dimension
- 13: Clamping diameter
- HDC: HYDRAULIC CHUCK
- HSK-A63: HSK Shank Type

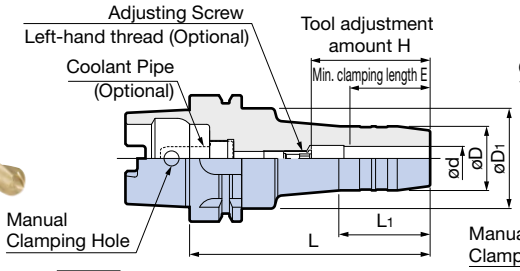


Fig. 1

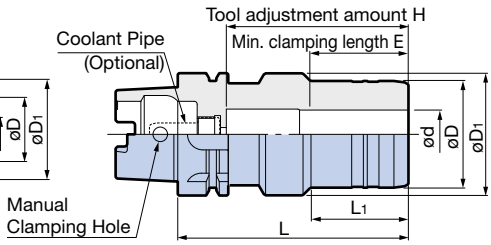


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	H	E	Adjusting Screw (Optional)	Weight (kg)
HSK-A 63-HDC13-120	1	13	33	50	120	45	38 - 58	38	HDA12-10025	1.4
-HDC14- 85 ※		14	34		85	40	60		—	1.2
-120					120	45	38 - 58		HDA12-10025	1.4
-150					150					1.7
-HDC15-120		15	37		120		58 - 68	43	HDA16-12015	1.5
-HDC16- 90 ※		16	38		90	46	65	43	—	1.3
-120					120		58 - 68		HDA16-12015	1.5
-150					150		43 - 68		HDA16-12037	1.9
-HDC18- 90 ※		18	40		90	46	65		—	1.3
-120					120		58 - 68		HDA20-16015	1.6
-150					150		43 - 68		HDA25-16039	2.0
-HDC20- 90 ※		20	42		90	48	65		—	1.3
-120					120		58 - 68		HDA20-16015	1.6
-150					150		43 - 68		HDA25-16039	2.0
-HDC25-120 ※	2	25	55	63	120	51	95	52	—	2.1
-HDC32-125 ※		32	60	69	125	59	100	56		2.4
HSK-A100-HDC 6- 75 ※	1	6	26	50	75	26	46	28	—	2.4
-120					120	44	28 - 48		HDA 6-05032	2.6
-165					165					2.9
-HDC 8- 75 ※		8	28		75	26	46		—	2.4
-120					120	44	28 - 48		HDA 8-06032	2.6
-165					165					3.0
-HDC10- 90 ※		10	30		90	42	61	33	—	2.5
-120					120	45	33 - 53		HDA10-08032	2.7
-165					165					3.1
-HDC12- 95 ※		12	32		95	47	63	38	—	2.5
-120					120		38 - 58		HDA12-10025	2.7
-165					165				HDA12-10032	3.1
-HDC16-100 ※		16	38		100	53	68	43	—	2.6
-135					135		43 - 68		HDA16-12030	3.0
-165					165				HDA16-12037	3.3
-HDC20-105 ※		20	42		105	59	73		—	2.7
-135					135		58 - 68		HDA20-16015	3.1
-165					165		43 - 68		HDA25-16039	3.6
-HDC25-110 ※		25	55	63	110	62	78	52	—	3.3
-HDC32-110 ※		32	64	75				56		3.7

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
   ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank depth that can be inserted into the holder.
2. Coolant pipe is not included. C63
3. Adjusting Screw **with hexagon sockets on both sides** is also available, allowing adjustment from the shank side as well.
   Add the letter **"W"** at the end of the model number when ordering. (Example: HDA12-10025W)

For Straight Collets, G18

α Wiper Cleaner & TK Cleaner PAT. are recommended for cleaning the holder bore. H4

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

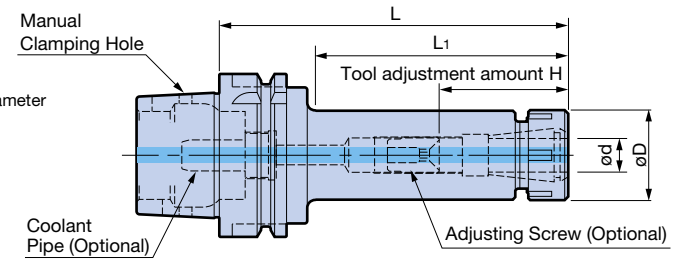
Center through

- Collet with an accuracy of 1 micron at nose enables increased productivity.
- A basic holder ideal for drilling, reaming and endmilling.

● Model Description

HSK-A63 - NBS 6 - 75

- HSK-A63: HSK Shank Type
- NBS: NEW BABY CHUCK
- 6: Maximum clamping diameter
- 75: L dimension



A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ød	øD	L	L1	Tool adjustment amount H	Collet Model	Weight (kg)
HSK-A63-NBS 6- 75	0.25 - 6	20	75	35	20 - 35	NBC 6-□	0.9
-105			105	63	20 - 40		0.9
-135			135	91			1.0
-165			165	121			1.0
-NBS 8- 75	0.5 - 8	25	75	35	23 - 37	NBC 8-□	0.9
-105			105	61	23 - 42		1.0
-135			135	91			1.1
-165			165	121			1.2
-NBS10- 75 ※	1.5 - 10	30	75	35	48	NBC10-□	1.0
-105			105	63	35 - 45		1.1
-135			135	93			1.3
-165			165	123			1.4
-NBS13- 75 ※	2.5 - 13	35	75	37	48	NBC13-□	1.0
-105			105	67	41 - 55		1.2
-135			135	97	41 - 60		1.5
-165			165	127			1.7
-NBS16- 75 ※	2.5 - 16	42	75	37	45	NBC16-□	1.1
-105			105	67	45 - 55		1.4
-135			135	97	45 - 65		1.8
-165			165	127			2.0
-200			200	162			2.4
-NBS20- 75 ※	2.5 - 20	46	75	39	48	NBC20-□	1.2
-105			105	69	48 - 53		1.5
-135			135	99	48 - 65		1.9
-165			165	129			2.3
-200			200	164			2.7

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).
4. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
5. Coolant pipe is not included. C63

Standard Accessory

New Baby Nut

For Spares G26

Optional Accessories

New Baby Wrench

G26

Collet

G4

BABY PERFECT SEAL

G24

Adjusting Screw

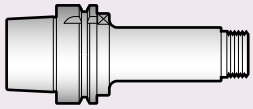
G10

Tap Adjusting Screw

G26

When ordering a BABY PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/BABY PERFECT SEAL separately.



MEGA NEW BABY CHUCK Model + NL
HSK-A63-NBS 6-75/NL
(NL at the end of the model number means nut not attached)

+

NBC Collet
NBC6-3AA

+

BABY PERFECT SEAL Model
BPS6-03035

NEW BABY CHUCK PAT.

A wide-ranging variety with sizes from short through long meets all the needs of high precision machining.

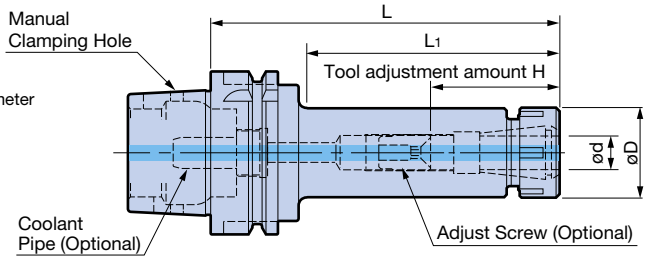
Center through

- Collet with an accuracy of 1 micron at nose enables increased productivity.
- A basic holder ideal for drilling, reaming and endmilling.

● Model Description

HSK-A100 - NBS 6 - 90

- 90: L dimension
- 6: Maximum clamping diameter
- NBS: NEW BABY CHUCK
- HSK-A100: HSK Shank Type



A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ød	øD	L	L1	Tool adjustment amount H	Collet Model	Weight (kg)
HSK-A100-NBS 6- 90	0.25 - 6	20	90	43	20 - 40	NBC 6-□	2.5
-120			120	68			2.5
-165			165	113			2.6
-NBS 8- 90	0.5 - 8	25	90	43	23 - 42	NBC 8-□	2.5
-120			120	73			2.6
-165			165	113			2.7
-NBS10- 90	1.5 - 10	30	90	43	35 - 45	NBC10-□	2.6
-120			120	73			2.7
-165			165	113			2.9
-NBS13- 90 ※	2.5 - 13	35	90	43	58	NBC13-□	2.7
-120			120	73	41 - 60		2.9
-165			165	113			3.2
-200			200	148			3.4
-NBS16- 90 ※	2.5 - 16	42	90	43	58	NBC16-□	2.8
-120			120	73	45 - 65		3.1
-165			165	118			3.5
-200			200	151			3.9
-NBS20- 90 ※	2.5 - 20	46	90	47	56	NBC20-□	2.9
-120			120	73	48 - 65		3.3
-165			165	118			3.8
-200			200	153			4.2

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).
4. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
5. Coolant pipe is not included. C63

Standard Accessory

New Baby Nut

For Spares G26

Optional Accessories

New Baby Wrench

G26

Collet

G4

BABY PERFECT SEAL

G24

Adjusting Screw

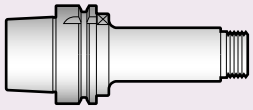
G10

Tap Adjusting Screw

G26

When ordering a BABY PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/BABY PERFECT SEAL separately.



MEGA NEW BABY CHUCK Model + NL
HSK-A100-NBS 6-90/NL
(NL at the end of the model number means nut not attached)

+

NBC Collet
NBC6-3AA

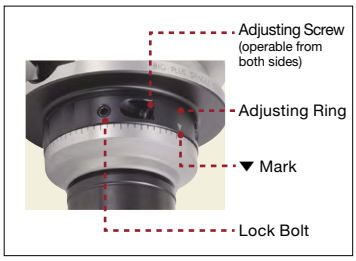
+

BABY PERFECT SEAL Model
BPS6-03035

Compensates for increased runout of machine tool spindles caused by extended use.

Center through

Tool edge runout Within 2μm



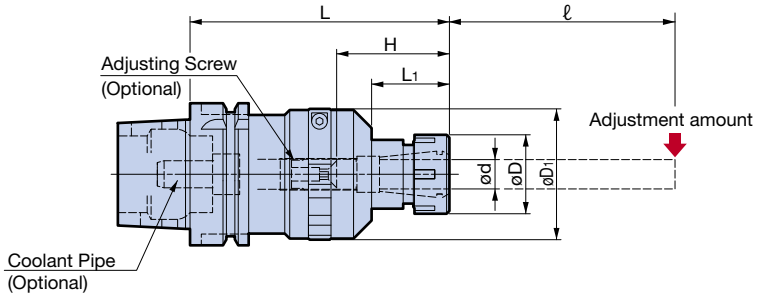
Simple structure allows for easy adjustment of runout accuracy!

1. Turn the adjusting ring and line up the ▼ mark with peak runout position.
2. Adjust the lock bolts in 3 locations to fix the ring.
3. The runout amount is adjusted by tightening the adjusting screw.

● Model Description

HSK-A63 - NBS | 8 - 105 | NRA

- NRA: Runout Adjustable Type
- 105: L dimension
- 8: Maximum clamping diameter
- NBS: NEW BABY CHUCK System
- HSK-A63: HSK Shank Type



A Type (DIN 69893-1) (ISO 12164)

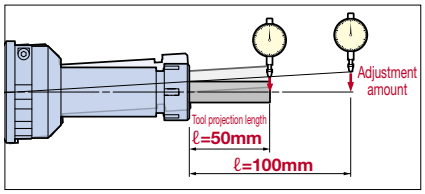
ℓ= Tool projection length

Model	ød	øD	øD1	L	L1	H	Collet Model	Adjustment amount ℓ=50mm	Adjustment amount ℓ=100mm	Weight (kg)
HSK-A63-NBS 8-105NRA	0.5 - 8	25	45	105	43	23 - 42	NBC 8-□	23 μm	34 μ m	1.2
-NBS13-115NRA	2.5 - 13	35	58	115	34.5	41 - 60	NBC13-□	18 μm	27 μ m	1.8
-NBS20-135NRA	2.5 - 20	46	70	135	45	48 - 65	NBC20-□	17 μm	25 μ m	2.4

1. Nut is included, but collet, wrench, and Adjusting Screw are not.
2. "H" indicates the adjustment length with an Adjusting Screw (NBA).
3. Coolant pipe is not included. C63

Runout adjustment amount

The adjustment amount depends on the length of the holder and the tool projection length. The maximum adjustment amount possible for 50mm and 100mm tool projection lengths is listed in the table. The maximum adjustment amount is a reference figure available when the Adjusting Screw is tightened with the listed allowable torque.



Adjusting Screw allowable torque

NEW BABY CHUCK Type	Wrench (Optional accessory)	Allowable Torque (N·m)
NBS 8-NRA	CK-T2.5	3
NBS13-NRA	CK-T3	6
NBS20-NRA		

Standard Accessory

New Baby Nut

For Spares G26

Optional Accessories

New Baby Wrench

G26

Collet

G4

BABY PERFECT SEAL

G24

Adjusting Screw

G10

NEW Hi-POWER MILLING CHUCK

The BIG original slit mechanism supports high power and high-precision endmilling from heavy cuts through to fine cuts.

Center through

[S Type] Clamping diameter: ø20 - ø42

● Model Description

HSK-A40 - HMC 20 - S 85
- HSK Shank Type
- NEW Hi- POWER MILLING CHUCK
- Chuck bore
- S Type
- L dimension

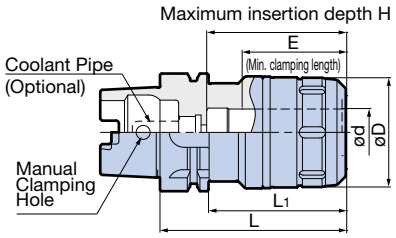


Fig. 1

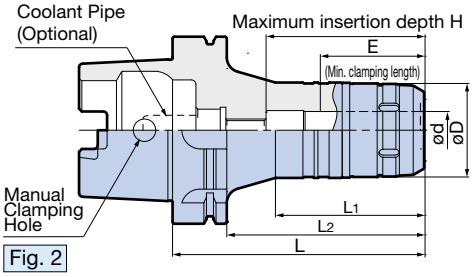


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	ød	øD	L	L_1	L_2	H	E	Wrench	Weight (kg)
HSK-A 40-HMC20S- 85	1	20	50	85	65	—	66	56	FK45-50L	0.9
HSK-A 50-HMC20S- 90	1	20	50	90	64	—	66	56	FK45-50L	1.2
HSK-A 63-HMC20S- 90	1	20	50	90	64	—	65	56	FK45-50L	1.5
-120 ○				120	94		85			1.9
-HMC25S-100	1	25	59	100	74	—	75	57	FK58-62L	1.9
-135 △				135	109		80			2.5
-HMC32S-110	1	32	68	110	84	—	85	64	FK68-75L	2.3
-135 ○				135	109		90			2.6
-165 △				165	139					3.2
HSK-A100-HMC20S-105	1	20	50	105	76	—	73	56	FK45-50L	3.0
-135 □	2			135	80	106	85			3.5
-165 △				165	100	136				4.1
-HMC25S-105	1	25	59	105	76	—	73	57	FK58-62L	3.3
-135 □				135	106		90			3.9
-165 △	2			165	105	136				4.8
-HMC32S-115	1	32	68	115	86	—	83	72	FK68-75L	3.9
-135				135	106		103			4.4
-165 □	2			165	105	136	105			5.4
-200 △				200	130	171				6.4
-300 △				300	200	271				9.3
-HMC42S-115	1	42	85	115	86	—	83	73	FK80-90L	4.9
-135				135	106		103			5.5
-165 □				165	136		107			6.8

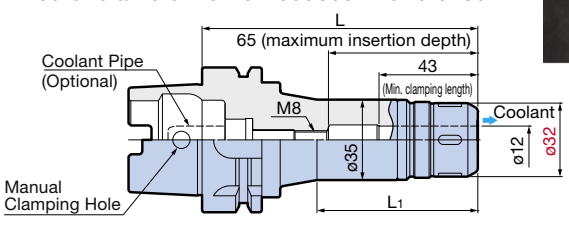
1. Wrench is not included. Please order separately.
2. Center through coolant supply is available.
3. Models with △ indication can be used with optional axial adjusting screws. Models with ○ indication require the hex socket head screw (M8) for axial adjustment.
   Models with □ indication require the hex socket head screw (M12) for axial adjustment.
   However, please contact us if using for center through applications.
4. H dimension is the max. tool shank length that can be inserted into the holder.
5. Coolant pipe is not included. C63

Optional Accessories

Straight Collet	Wrench	Mega Wrench	Axial Adjusting Screw
G18	G21	G22	G21

[HMC12J Type] Clamping diameter: ø12

●A slim yet highly rigid milling chuck with ø32 outer diameter nut for reduced interference.



■ Jet through coolant securely supplied from chuck nose to cutting edge.

Center through

A Type (DIN 69893-1) (ISO 12164)

Model	L	L_1	Wrench	Weight (kg)
HSK-A63-HMC12J- 90	90	52	FK31-33	1.1
- 120	120	70		1.4

1. Wrench is not included. Please order separately.
2. Coolant pipe is not included. C63

Compensates for increased runout of machine tool spindles caused by extended use.

Center through

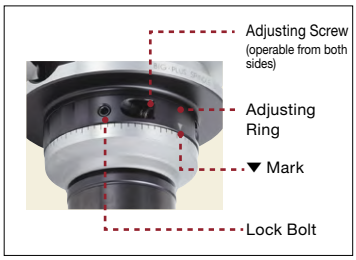
Tool edge runout

Within 2μm

Uniform hole diameter

Improved surface roughness

Extended tool life



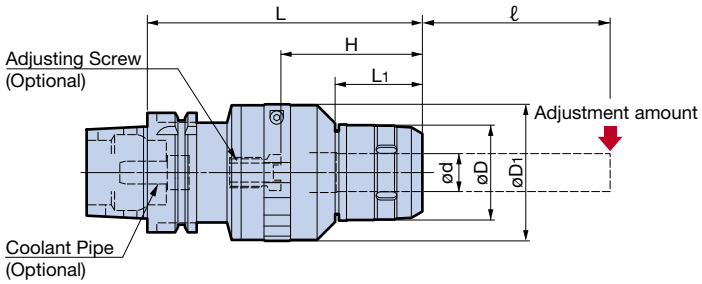
Simple structure allows for easy adjustment of runout accuracy!

1. Turn the adjusting ring and line up the ▼ mark with peak runout position.
2. Adjust the lock bolts in 3 locations to fix the ring.
3. The runout amount is adjusted by tightening the adjusting screw.

● Model Description

HSK-A63 - HMC 20 S - 145 NRA

- Runout Adjustable Type
- L dimension
- S Type
- Chuck bore
- NEW Hi- POWER MILLING CHUCK
- HSK Shank Type



A Type (DIN 69893-1) (ISO 12164)

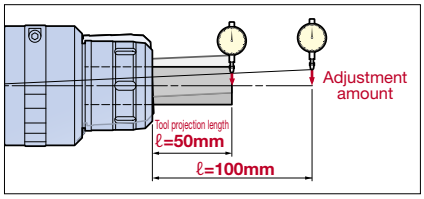
ℓ= Tool projection length

Model	ød	øD	øD1	L	L1	H	H max.	Min. clamping length	Adjustment amount ℓ=50mm	Adjustment amount ℓ=100mm	Wrench	Weight (kg)
HSK-A63-HMC20S-145NRA	20	50	72	145	46	69 - 79	85	45	23 μm	33 μm	FK45-50L	2.9
-HMC32S-155NRA※	32	68	86	155	55	—	120	53	20 μm	28 μm	FK68-75L	3.9

1. Wrench and axial adjusting screw are not included.
2. "H" indicates the adjustment length with an axial adjusting screw (HMA).
   ※ marked models cannot be used with axial adjusting screws.
3. H max. is the maximum tool insertion length when the adjusting screw is removed.
4. Coolant pipe is not included. ☞C63

■ Runout adjustment amount

The adjustment amount depends on the length of the holder and the tool projection length. The maximum adjustment amount possible for 50mm and 100mm tool projection lengths is listed in the table. The maximum adjustment amount is a reference figure available when the Adjusting Screw is tightened with the listed allowable torque.



Adjusting Screw allowable torque

NEW Hi- POWER MILLING CHUCK Type	Wrench (Optional accessory)	Allowable torque (N·m)
HMC20S-NRA HMC32S-NRA	CK-T4	8

Optional Accessories

Straight Collet	Wrench	Mega Wrench	Axial Adjusting Screw
			
☞G18	☞G21	☞G22	☞G21

MEGA PERFECT GRIP PAT.P

A holder equipped with tool Non-Pullout mechanism.
The unique Key Grip locking mechanism prevents the tool from slipping or pulling out during heavy machining.

Center through

Flood Jet-Through Coolant

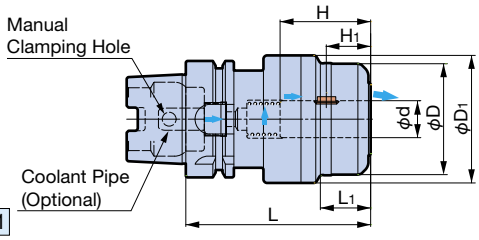


Fig. 1

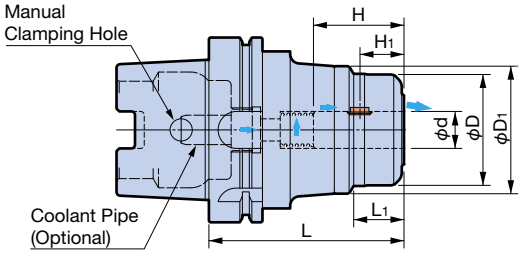


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	ød	øD	øD1	L	L1	H	H1	Mega Wrench	Weight (kg)
HSK-A 63-MEGA16DPG- 90	1	16	46	55	90	24	47	23	MGR46L	1.6
-MEGA20DPG-100		20	60	69	100	27	49	24	MGR60L	2.2
HSK-A100-MEGA20DPG-105	2	20	60	69	105	27	49	24	MGR60L	4.1
-MEGA25DPG-105		25	70	77	105	33	55	23	MGR70L	4.5
-MEGA32DPG-115		32	80	86	115	41	59	23	MGR80L	5.0

1. Key Grip and Spring are included.
2. Wrench is not included. Please order separately.
3. H1 is the dimension from the center of the Key Grip to the front end of the chuck.
4. Coolant pipe is not included. C63

※ Key Grips are consumable products. Do not use a damaged Key Grip.

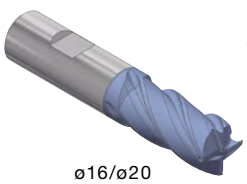
Standard ACCESSORIES

Chuck Size	Key Grip (2 pcs)	Spring
ø16	**PKG16-2P**	**PSP1519**
ø20	**PKG20-2P**	**PSP1823**
ø25	**PKG25-2P**	**PSP2420**
ø32	**PKG32-2P**	**PSP3128**

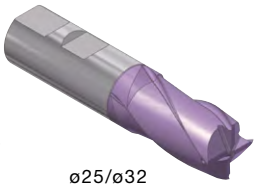
1. Key Grips are sold as 2-piece sets.

Cylindrical Shank with Flat Section JIS B 4005 (ISO3338-2)

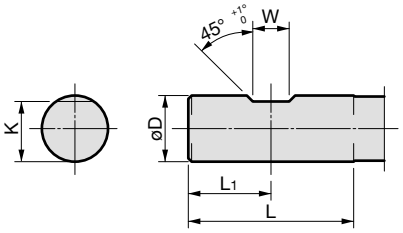
The following standard shank is required for MEGA Perfect GRIP.



ø16/ø20



ø25/ø32



øD Nominal	øD Tolerance	L	L1	W Nominal	W Tolerance	K Nominal	K Tolerance
16	0 -0.011	48	24	10	+0.2 0	14.2	0 -0.4
20	0 -0.013	50	25	11		18.2	
25		56	32	12		23	
32	0 -0.016	60	36	14		30	

1. JIS Standards require sizes ø25 or higher to be double-flat types. The MEGA Perfect GRIP does not use a rear flat surface, but is capable of clamping double flat shanks.
2. JIS B4005 has the same dimensions as International Standard ISO3338-2 and German Standard DIN1835-1.

CAUTION

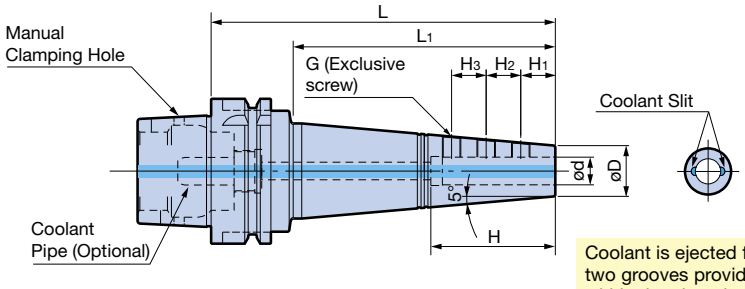
In case you are adding your own flat, the tool projection length in the MEGA Perfect GRIP will be decided by the flat position. Refer to H1 in the MEGA Perfect GRIP chart, decide the flat position to add, and then cut the cutter at L1 on cutter shank.

High performance side lock holder with slim design, high runout accuracy and high speed capability.
Runout accuracy of 5µm between cutting edges of 2-flute ball endmill.

Center through

● Model Description

HSK-A63 - SSL 3 - 135
- 135: L dimension
- 3: Clamping diameter
- SSL: MOLD CHUCK
- HSK-A63: HSK Shank Type



Coolant is ejected from two grooves provided within the clamping bore.

A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ød	øD	L	L1	Tool clamping length H	H1	H2	H3	G	Weight (kg)
HSK-A 63-SSL 3-135	3	10	135	99	(113)	6	6	—	M 3	1.0
-SSL 4-135	4	11					7		M 4	1.0
-SSL 6-135	6	13				12	13		M 6	1.1
-SSL 8-135	8	15			40	13.5	18			1.1
-SSL10-150	10	17	150	114	48	15	20			1.3
-SSL12-150	12	22		115	60		16	16	M 8	1.5
-SSL16-150	16	26			70		20	22		1.6
HSK-A100-SSL 8-150	8	15	150	111	(121)	13.5	18	—	M 6	2.8
-SSL10-150	10	17				15	20			2.9
-SSL12-150	12	22			60		16	16	M 8	3.0
-200			200	161						3.7
-SSL16-150	16	26	150	110	65		20	22		3.3
-200			200	160						4.0
-SSL20-150	20	30	150	110	80		20	25		3.4
-200			200	160						4.2

1. Center through coolant supply is available.
2. ( ) indications in H dimension mean inner bore beyond the clamping bore of those models is larger than the chucking bore.
3. Ensure the tip of the ball endmill is in 90° phase to the clamping bolt when clamping.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
5. Coolant pipe is not included. ☞ C63
6. H dimensions in ( ) are reference length up to the Coolant Pipe.

● BIG original side lock screws must be used as they are made to an exclusive design and different from other screws on the market.

Exclusive Side Lock Screw (Standard Accessory)

Model	Thread size	Screw length / quantity	Body Model
H0304FS	M3 P0.5	4mm x 2pcs	SSL3
H0404FS	M4 P0.5	4mm x 2pcs	SSL4
H06FSA	M6 P0.75	4.5, 5mm x 1pc each	SSL6
H06FSB		4.5, 6mm x 1pc each	SSL8, 10
H08FSA	M8 P0.75	6mm x 2pcs, 8mm x 1pc	SSL12
H08FSB		6, 8, 10mm x 1pc each	SSL16, 20

1. Each model consists of one set of screws required for each holder.

Optimal operation with eliminated workpiece/jig interference is achieved in deep endmilling, wall machining and precision mold machining.

Center through

[Slim Type]

● Model Description

HSK-A63 - SRC 6 S - 120
- 120: L dimension
- S: Slim Type
- 6: Clamping diameter
- SRC: SHRINK CHUCK
- HSK-A63: HSK Shank Type

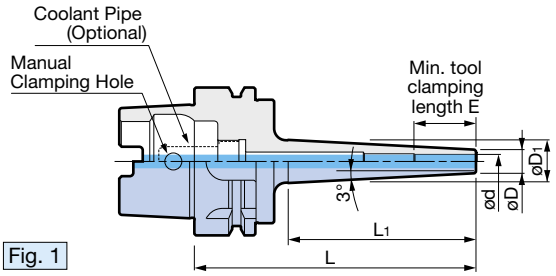


Fig. 1

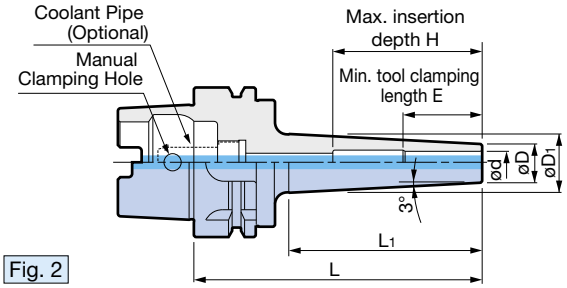


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	H	E	Weight (kg)
HSK-A63-SRC 6S-120	1	6	10	19	120	81	(98)	26	0.9
-165				23	165	121	(143)		1.0
-SRC 8S-120	2	8	13	22	120	81	(98)		1.0
-165				26	165	123	(143)		1.1
-SRC10S-120		10	16	25	120	81	62	32	1.0
-165				29	165	123			1.2
-SRC12S-120		12	19	28	120	81	72	36	1.0
-165				32	165	125			1.3

1. Use a carbide shank cutter within a tolerance of h6.
2. Center through coolant supply is available with tools with oil holes.
3. Coolant pipe is not included. C63
4. H dimensions in ( ) are reference length up to the Coolant Pipe.

α Wiper Cleaner & TK Cleaner PAT. are recommended for cleaning the holder bore. H4

[Standard Type]

Center through

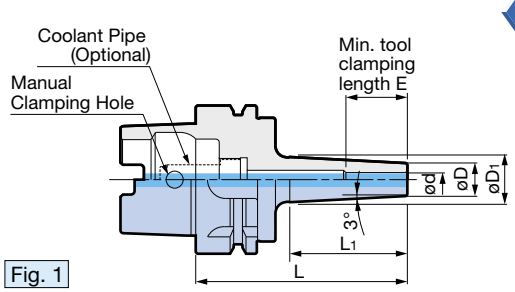


Fig. 1

● Model Description

HSK-A63 - SRC 4 - 90

- 90: L dimension
- 4: Clamping diameter
- SRC: SHRINK CHUCK
- HSK-A63: HSK Shank Type

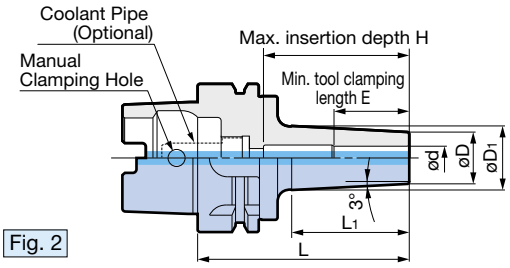


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	H	E	Weight (kg)
HSK-A 63-SRC 4- 90 ※	2	4	10	15	90	46	(68)	16	0.9
-SRC 6- 90	1	6	14	20		51	(68)	26	0.9
-150				26	150	108	(128)		1.1
-SRC 8- 90	2	8	18	24	90	51	(68)		1.0
-150				30	150	110	(128)		1.2
-SRC10- 90		10	22	28	90	51	62	32	1.0
-150				34	150	111			1.3
-SRC12- 90		12	24	30	90	51	65	36	1.0
-150				36	150	112	72		1.4
-SRC16- 90		16	28	34	90	51	65	38	1.1
-165				41	165	119	80		1.8
-SRC20- 90		20	34	40	90	53	65	42	1.2
-165				47	165	122	100		1.9

1. Use a carbide shank cutter within a tolerance of h6.
   For ※ models, use a carbide shank with a tolerance within h5.
2. Center through coolant supply is available with tools with oil holes.
3. Coolant pipe is not included. C63
4. H dimensions in ( ) are reference length up to the Coolant Pipe.

α Wiper Cleaner & TK Cleaner PAT. are recommended for cleaning the holder bore. H4

CK BORING SYSTEM

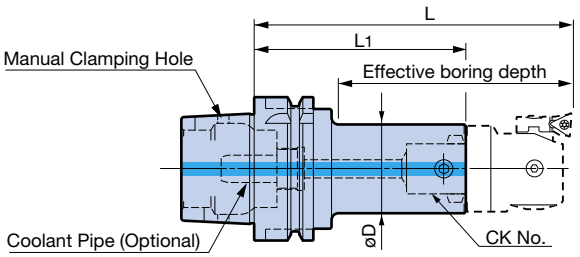
BIG DAISHOWA + KAISER Boring System with a high reputation for many years.
Basic holder for the high precision rough and finish boring head series.

Center through

● Model Description

HSK-A40 - CK1 - 73

- 73: HSK Shank Type
- CK1: CK No.



A Type (DIN 69893-1) (ISO 12164)

Select a head and holder with matching **CK No.**

Model	CK No.	øD	L	L1	A	Weight (kg)
HSK-A 40-CK1- 73	CK1	19	105	72.5	73	0.38
-CK2- 85	CK2	24	120	84.5	89	0.41
-CK3- 80	CK3	31	120	80	92	0.48
-CK4- 73	CK4	39	120	73	—	0.57
HSK-A 50-CK1- 73	CK1	19	105	72.5	65	0.5
-CK2- 85	CK2	24	117	84.5	80	0.6
-CK3- 80	CK3	31	120	80	82	0.7
-CK4- 73	CK4	39		73	76	0.8
-CK5- 83	CK5	50	140	83	—	1.0
HSK-A 63-CK1- 78	CK1	19	110	77.5	73	0.9
-CK2- 90	CK2	24	125	89.5	88	1.0
-CK3-100	CK3	31	140	100	103	1.1
-130			170	130	133	1.3
-CK4- 93	CK4	39	140	93	103	1.2
-123			170	123	133	1.5
-CK5- 83	CK5	50	140	83	105	1.3
-113			170	113	135	1.8
-CK6- 79	CK6	64	150	79	—	1.5
-109			180	109		2.3
HSK-A100-CK1-103	CK1	19	135	102.5	73	2.5
-CK2-115	CK2	24	150	114.5	107	2.6
-CK3-125	CK3	31	165	125	122	2.8
-CK4-118	CK4	39	165	118	122	3.0
-178			225	178	182	3.5
-CK5-108	CK5	50	165	108	122	3.3
-183			240	183	197	4.4
-228			285	228	242	5.0
-CK6- 94	CK6	64	165	94	122	3.4
-169			240	169	197	5.3
-229			300	229	257	6.7
-CK7-123	CK7	90	210	123	181	5.8
-213			300	213	271	10.2
-273			360	273	331	13.2

1. Center through coolant supply is available.
2. Coolant pipe is not included. C63
3. The L and A diameters in the table are the reference values when EWN BORING HEAD is attached.
4. Cutting edges and drive keys are aligned with boring heads mounted.
   For EWN and EWB BORING HEADs, the cutting edge is on the orientation notch side.

For boring heads, refer to the Roughing and Finishing pages.

Built-in Damper SMART DAMPER PAT.

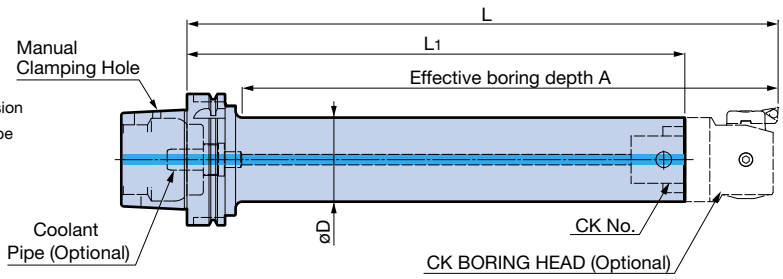
Center through

● Built-in damper eliminates chatter in deep hole boring.

● Model Description

HSK-A100 - CK4 DP - 241

- 241: L1 dimension
- DP: Built-in Damper Type
- CK4: CK No.
- HSK-A100: HSK Shank Type



A Type (DIN 69893-1) (ISO 12164)

Model	CK No.	øD	L	L1	A	Weight (kg)
HSK-A100-CK4DP-241	CK4	39	288	241	246	4.3
-CK5DP-303	CK5	50	360	303	318	6.5
-CK6DP-379	CK6	64	450	379	408	11.2

1. The L and A dimensions in the table are the reference values when EWN BORING HEAD is attached.
2. Cutting edges and drive keys are aligned with boring heads mounted.
3. Head and inserts are not included.
4. Extension should not be used due to possible chatter.
5. Coolant pipe is not included. C63

SMART DAMPERs other than the above are also available.

FINISH BORING HEAD and SMART DAMPER have been integrated

SMART DAMPER
EWN BORING HEAD

For details, A50

Standard CK Shanks can be used, allowing flexible tool layout

SMART DAMPER
Extension

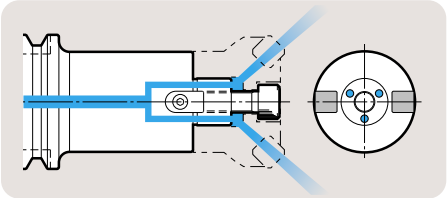
For details, A74

FACE MILL ARBOR TYPE FMH

● Face mill arbor capable of securely supplying coolant/air to cutting edges through oil holes of cutters.

Center through

Securely supplies coolant/air to the cutting edge



● Model Description

HSK-A50 - FMH 22 - 47 - 60

- 60: L dimension
- 47: Body diameter
- 22: Spigot diameter
- FMH: FACE MILL ARBOR TYPE FMH
- HSK-A50: HSK SHANK No.

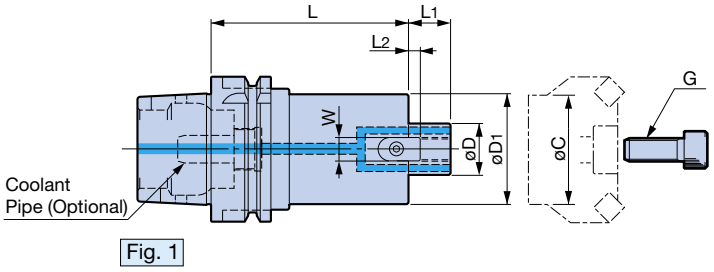


Fig. 1

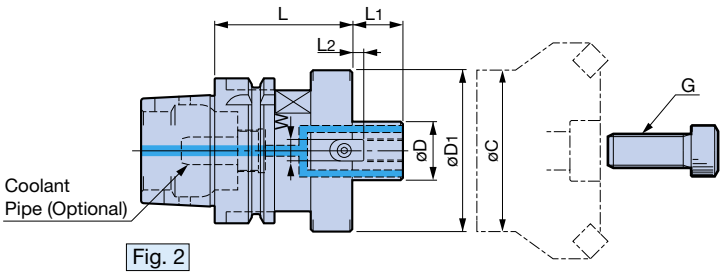


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	øD (h6)	øD1	L	L1	Drive Key L2	Drive Key W	G	Weight (kg)	Min. flange diameter øC
HSK-A50-FMH22 -47- 60	2	22	47	60	18	5	10	M10	0.8	36
- 90				90					1.2	
-FMH27 -60- 60	2	27	60	60	20	6	12	M12	1.0	46
- 90				90					1.3	
HSK-A63-FMH22.225-47- 60	1	22.225	47	60	17	3.5	8	M10	1.3	39
- 90				90					1.7	
-FMH25.4 -70- 60	2	25.4	70	60	22	5	9.5	M12	1.8	46
- 90				90					2.5	
-150				150					4.1	
-FMH31.75 -76- 60	2	31.75	76	60	30	7	12.7	M16	2.0	63
- 90				90					2.7	56
-FMH16 -37- 45	1	16	37	45	16	5	8	M 8	1.0	28
-FMH22 -47- 60	1	22	47	60	18	5	10	M10	1.3	36
- 90				90					1.7	
-150				150					2.5	
-60- 60	2	22	60	60	18	5	10	M10	1.4	38
- 90				90					1.8	
-FMH27 -60- 60	2	27	60	60	20	6	12	M12	1.6	46
- 90				90					2.3	
-FMH32 -96- 60	2	32	96	60	22	7	14	M16	2.0	58

1. The weight does not include the cutter.
2. Cutter clamping screw is included.
   If the provided clamping screw is not compatible, separately select one from the clamping screw table on C30.
3. When using a cutter without oil holes, an optional clamping screw with a through hole allows coolant supply.
4. Coolant pipe is not included. C63
5. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.
   Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

FACE MILL ARBOR TYPE FMH

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	øD (h6)	øD1	L	L1	Drive Key		G	Weight (kg)	Min. flange diameter øC
						L2	W			
HSK-A100-FMH22.225- 47-105	1	22.225	47	105	17	3.5	8	M10	3.4	39
-150				150					4.0	
-200				200					4.7	
-250				250					5.3	
-FMH22 - 47-105	1	22	47	105	18	5	10	M10	3.4	36
-150				150					4.0	
-200				200					4.7	
-250				250					5.4	
-FMH22 - 60- 60	1	22	60	60	18	5	10	M10	2.9	49
-105				105					3.9	38
-150				150					5.4	
-200				200					6.1	
-250				250					7.2	
-FMH27 - 60- 60	1	27	60	60	20	6	12	M12	2.9	46
- 90				90					3.7	
-150				150					5.0	
-FMH27 - 76- 60	1	27	76	60	20	6	12	M12	3.2	48
- 90				90					4.3	62
-150				150					6.5	
-FMH32 - 96- 60	2	32	96	60	22	7	14	M16	3.8	58
- 90				90					5.5	80
-150				150					8.9	
-FMH40 -100- 75	2	40	100	75	26	8.5	16	M20 (MBA-M20H)	4.9	80
-105				105					6.8	

1. The weight does not include the cutter.
2. Cutter clamping screw is included.
   If the provided clamping screw is not compatible, separately select one from the clamping screw table on C30.
3. When using a cutter without oil holes, an optional clamping screw with a through hole allows coolant supply.
4. For the detailed dimensions of clamping screw MBA-M20H, see C30.
5. Coolant pipe is not included. C63
6. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.
   Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

FACE MILL ARBOR TYPE FMH

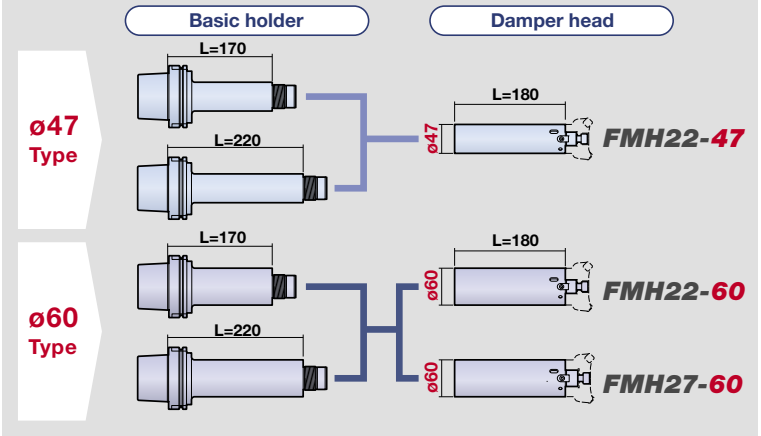
Built-in Damper SMART DAMPER

● Eliminates chatter in deep hole boring.

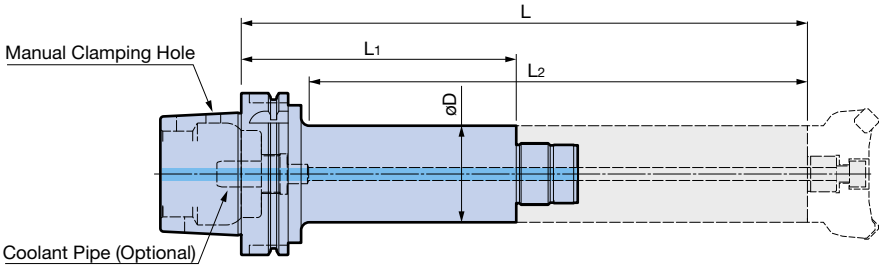
Center through

System layout diagram
(for HSK-100 Shank)

Basic holders of different lengths can be used with one damper head (for BBT/HSK Shank in common).



[Basic Holder]



● Model Description

HSK-A100 - SDF36 - 47 - 170

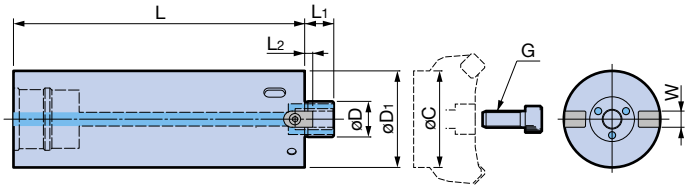
- 170: L1 dimension
- 47: Body diameter
- SDF36: Connection size
- HSK-A100: HSK Shank Type

A Type (DIN 69893-1) (ISO 12164)

Model	øD	L	L1	L2	Weight (kg)	Compatible Damper Head
HSK-A100-SDF36-47-170	47	350	170	310	4.4	FMH□□DP-47
-47-220		400	220	360	5.0	
-SDF36-60-170	60	350	170	310	5.5	FMH□□DP-60
-60-220		400	220	360	6.5	

1. Coolant pipe is not included. C63

[Damper Head]



● Model Description

SDF36 - FMH 22 DP - 47 - 180

- 180: L dimension
- 47: Body diameter
- DP: Built-In Damper Type
- 22: Spigot diameter
- FMH: FACE MILL ARBOR TYPE FMH
- SDF36: Connection size

Model	øD	øD1	L	L1	L2	W	G	Weight (kg)	Wrench Model	Min. flange diameter øC
SDF36-FMH22DP-47-180	22	47	180	18	5	10	M10	3.0	FK45-50L	36
-60-180	22	60	180	18	5	10	M10	4.5	FK58-62L	49
-FMH27DP-60-180	27	60	180	20	6	12	M12	4.5		46

1. Refer to the operation manual regarding the mounting method to the basic holder.
2. The weight does not include the cutter.
3. Hook wrench and cutter clamping screw are included.
4. If the provided clamping screw is not compatible, separately select one from the clamping screw table on C30.
5. øC indicates the smallest mounting surface diameter of the cutter that can be mounted on the arbor.
   Be careful when using a cutter with the mounting diameter considerably smaller than the cutting diameter, as it may not fit.

FACE MILL ARBOR TYPE A

● Model Description

HSK-A40 - FMA 25.4 - 50

- 50 : L dimension
- 25.4 : Spigot diameter
- FMA : FACE MILL ARBOR TYPE A
- HSK-A40 : HSK Shank Type

Center through

Fig. 1

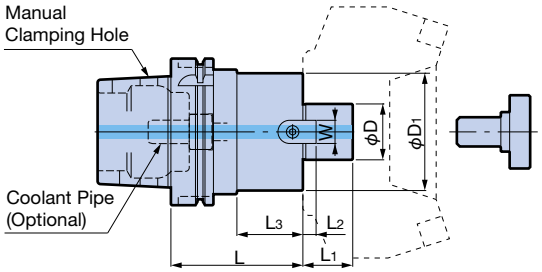


Fig. 2

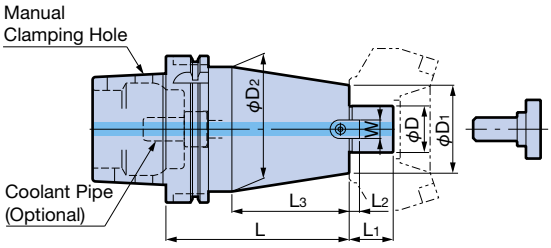
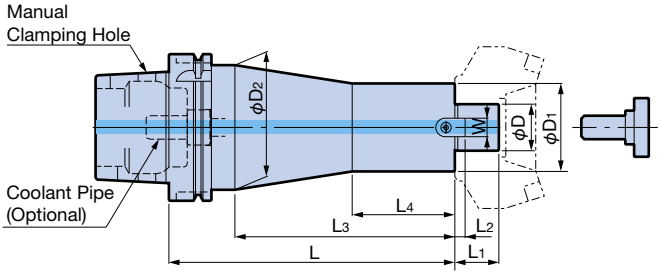


Fig. 3



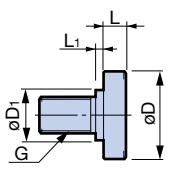
A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	øD	øD1	øD2	L	L1	Drive Key				Clamp Bolt	Weight (kg)
							L2	L3	L4	W		
HSK-A 40-FMA25.4 - 50	1	25.4	50	—	50	22	5	15	—	9.5	MBA-M12	0.6
HSK-A 50-FMA25.4 - 60	1	25.4	50	—	60	22	5	14	—	9.5	MBA-M12	1.0
- 90					90							1.3
-FMA31.75- 60		31.75	60		60	30	7	13		12.7	MBA-M16	1.2
HSK-A 63-FMA25.4 - 60	1	25.4	50	—	60	22	5	18	—	9.5	MBA-M12	1.3
- 90					90			48				1.7
-FMA31.75- 60		31.75	60		60	30	7	18		12.7	MBA-M16	1.5
-FMA38.1 - 60		38.1	80		60	34	9			15.9	MBA-M20	2.3
HSK-A100-FMA25.4 -105	2	25.4	50	70	105	22	5	60	—	9.5	MBA-M12	4.5
-135				85	135			90				5.3
-195					195			150				7.1
-FMA31.75-105	3	31.75	60		105	30	7	60	20	12.7	MBA-M16	4.8
-135					135			90				5.6
-195					195			150	70			7.0
-FMA38.1 - 90	1	38.1	80	—	90	34	9	45	—	15.9	MBA-M20	4.9
-FMA50.8 - 75		50.8	100		75	36	10	25		19.05	MBA-M24	5.3

1. Clamping screw is included.
2. A clamping screw with oil hole must be ordered separately for use with center through coolant/air.
3. Coolant pipe is not included. C63

※ Sizes and arbor types other than the above are also available. Please contact us for details.

Clamping Screw

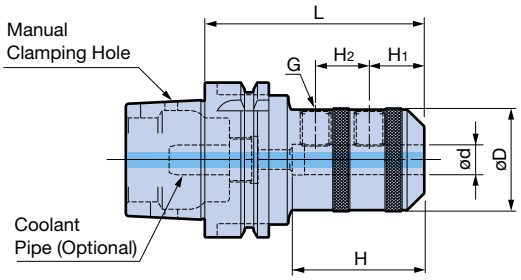


Clamping Screw	Clamping screw with oil hole 					
Model	Model	øD	øD1	L	L1	G
MBA-M12	TMBA-M12	33	23	10	2	12
-M12H	—		—		—	
-M16	-M16	40	23	10	6	16
-M16H	—		—		—	
-M20	-M20	50	27	14	6	20
-M20H	—		—		—	
-M24	-M24	65	37		10	24

SIDE LOCK ENDMILL HOLDER

Clamping diameter: ø20 - ø50

Center through



● Model Description

HSK-A63 - ISL 20 - 80

- 80: L dimension
- 20: Clamping diameter
- ISL: SIDE LOCK ENDMILL HOLDER
- HSK-A63: HSK Shank Type

A Type (DIN 69893-1) (ISO 12164) Endmill holder in accordance with ISO5414

Model	Clamping diameter ød	øD	L	H	H1	H2	G	Weight (kg)
HSK-A 63-ISL20- 80	20	52	80	54	25	—	M16	1.5
-ISL25-105	25	65	105	60	24	25	M18	2.3
-ISL32-115	32	72	115	64		28	M20	2.7
HSK-A100-ISL20- 90	20	52	90	54	25	—	M16	3.4
-135			135					4.1
-195			195					5.0
-ISL25-105	25	65	105	60	24	25	M18	4.3
-135			135					5.0
-195			195					6.4
-ISL32-125	32	72	125	90		28	M20	4.9
-165			165					6.3
-195			195					7.2
-ISL40-125	40	90	125	90	30	32		5.8
-165			165					8.1
-210			210					10.2
-ISL50-135	50	99.5	135	90	35	35	M24	6.7
-165			165					8.5
-210			210					11.0

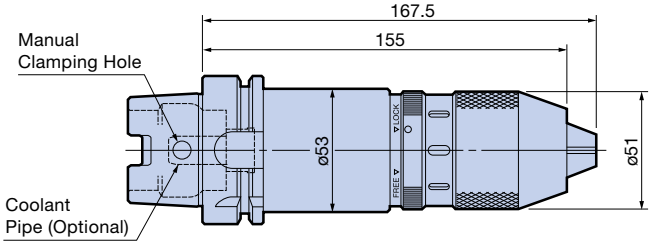
1. Center through coolant supply is available.
2. Coolant pipe is not included. C63

SUPER KEYLESS CHUCK

Clamping diameter: ø0.5 - ø13

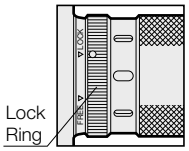
● Securely chucks the drill with simple operation.

Integral holder type keyless chuck



Reverse lock mechanism (SKL13)

· No loosening even when the main spindle suddenly stops, by the reverse lock mechanism using a lock ring.
· Runout accuracy within 0.05mm



A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter	Weight (kg)	Hook Wrench (Standard accessory)
HSK-A63-SKL13-155	ø0.5 - ø13	2.4	FS13LC

1. Hook wrench is included.
2. Coolant pipe is not included. C63
(Cannot be used with center through)

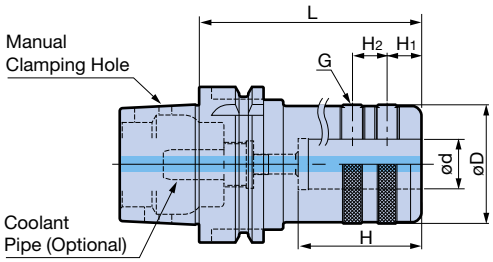
Clamping diameter: ø16 - ø50

SIDE LOCK DRILL HOLDER

Center through

● Model Description

HSK-A63 - TSL 16 - 90
- 90: L dimension
- 16: Clamping diameter
- TSL: SIDE LOCK DRILL HOLDER
- HSK-A63: HSK Shank Type



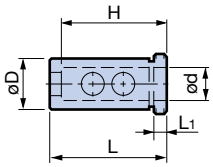
A Type (DIN 69893-1) (ISO 12164)

Model	Clamping diameter ød	øD	L	H	H1	H2	G	Weight (kg)
HSK-A 63-TSL16- 90	16	48	90	48	14	14	M10	1.5
-TSL20- 90	20			50				1.4
-TSL25- 90	25			56	15	20	M16	1.4
-TSL32-105	32	63	105	60				2.0
-TSL40-120	40	68	120	70		25		2.4
HSK-A100-TSL16- 90	16	48	90	48	14	14	M10	3.0
-TSL20- 90	20			50				2.9
-TSL25- 90	25			56	15	20	M16	2.9
-TSL32-105	32	63	105	60				3.6
-TSL40-105	40	68		70		25		3.6
-TSL50-105	50	84						4.2

1. Center through coolant supply is available.
2. Coolant pipe is not included. C63

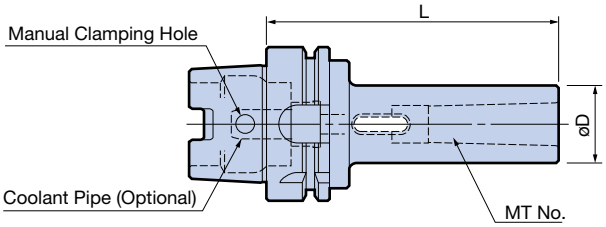
For Side Lock type

SL Sleeve



Model	ød	øD	L	L1	H
OSL25-16	16	25	62	5.5	48
-20	20				50
OSL32-20	20	32	66	5.5	50
-25	25				56
OSL40-25	25	40	76	5.5	56
-32	32				60

MORSE TAPER HOLDER TYPE A (Tang Type)



● Model Description

HSK-A63 - MTA 1 - 100
- 100: L dimension
- 1: MT. No.
- MTA: MORSE TAPER HOLDER TYPE A
- HSK-A63: HSK Shank Type

A Type (DIN 69893-1) (ISO 12164)

Model	MT No.	øD	L	Weight (kg)
HSK-A 63-MTA1-100	1	25	100	1.0
-MTA2-120	2	32	120	1.2
-MTA3-135	3	40	135	1.6
-MTA4-165	4	50	165	2.4
HSK-A100-MTA1-105	1	25	105	2.6
-MTA2-125	2	32	125	2.8
-MTA3-140	3	40	140	3.2
-MTA4-165	4	50	165	3.9

1. Coolant pipe is not included. C63

MEGA SYNCHRO TAPPING HOLDER PAT.

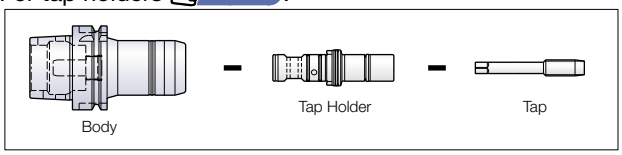
M2 - M20

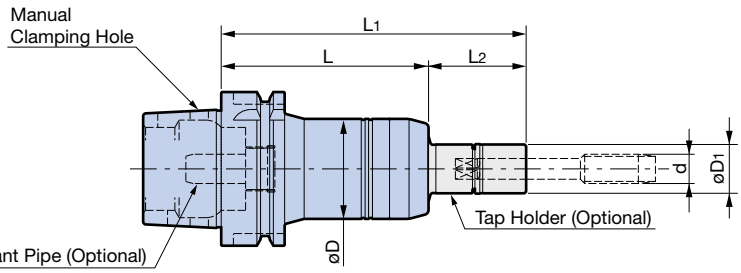
Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.

● Long tap holder now available as standard in addition to various tap sizes.

Center through

For tap holders A122.





● Model Description (Body)

HSK-A40 - MGT6 - 80

- 80: L dimension
- MGT6: MEGA SYNCHRO No.
- HSK-A40: HSK Shank Type

A Type (DIN 69893-1) (ISO 12164)

Model	Tap Holder Model	Tapping range d	øD	øD1	L	L1	L2	Body weight (kg)
HSK-A 40-MGT 6- 80	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	80	110	30	0.6
	- 70					150	70	
	-100					180	100	
-MGT12- 85	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	85	115	30	0.7
	- 70					155	70	
	-100					185	100	
HSK-A 50-MGT 6- 85	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	85	115	30	0.8
	- 70					155	70	
	-100					185	100	
-MGT12- 85	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	85	115	30	0.9
	- 70					155	70	
	-100					185	100	
-MGT20-125	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	125	160	35	1.6
	- 85					210	85	
	-115					240	115	
HSK-A 63-MGT 6- 85	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	85	115	30	1.1
	- 70					155	70	
	-100					185	100	
-MGT12- 85	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	85	115	30	1.2
	- 70					155	70	
	-100					185	100	
-MGT20-110	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	110	145	35	1.8
	- 85					195	85	
	-115					225	115	
HSK-A100-MGT 6- 95	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	95	125	30	2.6
	- 70					165	70	
	-100					195	100	
-MGT12- 95	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	95	125	30	2.7
	- 70					165	70	
	-100					195	100	
-MGT20-115	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	115	150	35	3.3
	- 85					200	85	
	-115					230	115	

1. MGT Set Screw is included.
2. Tap holder and wrench are not included. Please order separately.
3. Coolant pipe is not included. C63

Cannot be used with machining center without synchronized tapping function.

For tap holders, A122
For Mega Wrench, A126

MEGA SYNCHRO TAPPING HOLDER PAT.

[Small Diameter Tap MGT3] M1 - M3

Stable small diameter tapping is achieved by the synchronization error compensation mechanism and minimized dynamic runout.

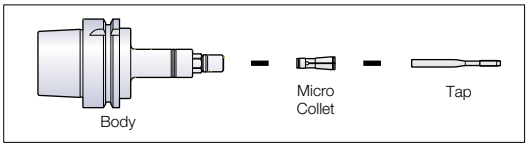
A Type (DIN 69893-1) (ISO 12164)

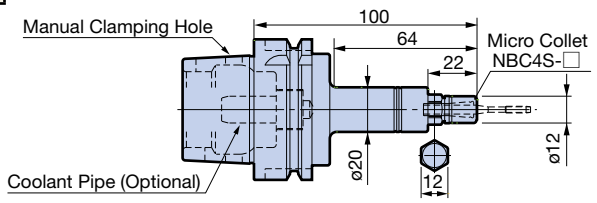
Model	Body weight (kg)
HSK-A63-MGT3-100	1.0

1. Nut is included, but wrench and collet are not. Please order separately.
2. When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required. Prepare this on your own.

· **Cannot be used with machining center without synchronized tapping function.**
· **Cannot be used with center through.**

For Mega Wrench and Collets, A129



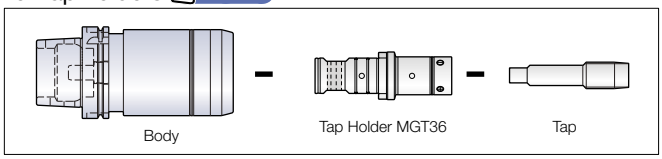


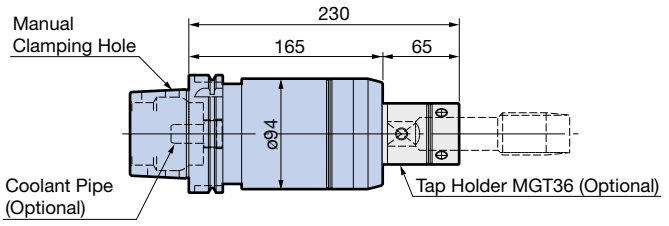
[Large Diameter Tap MGT36] M20 - M36

Center through

With a structure that smoothly tracks under high cutting torque of large diameter tapping, it compensates for axial deviation due to synchronization error, greatly reducing load during tapping.

For tap holders A128.





A Type (DIN 69893-1) (ISO 12164)

Model	Body weight (kg)
HSK-A100-MGT36-165	8.2

1. MGT Set Screw is included.
2. Tap holder and wrench are not included. Please order separately.
3. Coolant pipe is not included. C63

Cannot be used with machining center without synchronized tapping function.

For MGT36 accessories, A128

AUTO TAPPER B

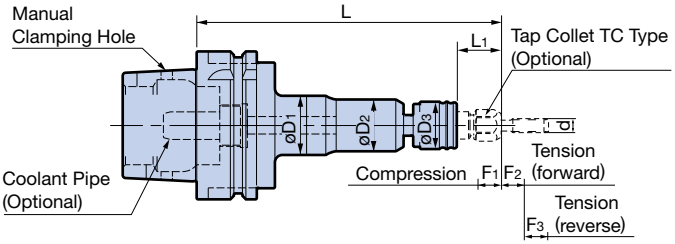
M3 - M30

Simple and compact tapper with automatic depth control.

Automatic depth control

● Model Description

HSK-A100 - AUTO-B 80 - 160
- 160: L dimension
- 80: Tapping range
- AUTO-B: AUTO TAPPER B
- HSK-A100: HSK Shank Type



A Type (DIN 69893-1) (ISO 12164)

Model	Tapping range d	øD1	øD2	øD3	L	L1	F1	F2	F3	Weight (kg)	Applicable Tap Collet
HSK-A100-AUTO-B 80-160	M 3 - M8	35	30	25.5	160	17	5	5	10.5	2.9	TC 8-d
-AUTO-B120-190	M 3 - M12	40	35	32	190	30	6	6	12.5	3.1	TC12-d
-AUTO-B200-225	M 8 - M20	54	48	44	225	25	6.5	6.5	13	4.1	TC20-d
-AUTO-B300-255	M20 - M30	63	58	55	255	38	7.5	7.5	14.5	5.1	TC30-d

1. Tap Collet is not included. TC Tap Collet must be ordered separately.
2. Cannot be used in left-hand thread tapping.
3. Be sure to include the approach amount (distance between the tap tip and workpiece) when programming the starting point of tapping.
4. Coolant pipe is not included. C63
5. F_2 in the table is the tension amount until it reaches neutral. Be sure to perform test tapping when accurate tapping depth is required, as it may fluctuate slightly depending on the tap size and cutting conditions.

For Tap Collets, A135

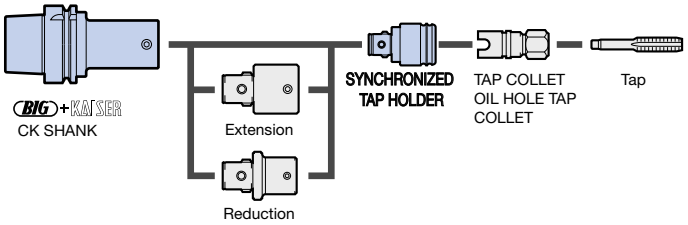
BIG DAISHOWA + KAISER

SYNCHRONIZED TAP HOLDER (STC) SET

Tapper for machining centers with synchronized tapping function.

Center through

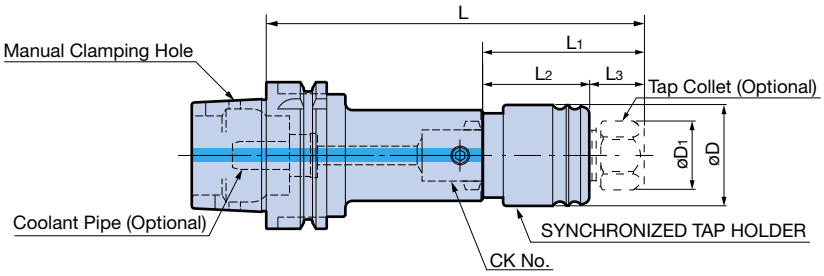
- Flexible tool layout in combination with the BIG DAISHOWA + KAISER CK Shanks.
- TC Collet with oil hole can be used to allow oil hole tapping.



● Model Description

HSK-A40 - CK2 - STC 8 - 85

- HSK-A40: HSK Shank Type
- CK2: CK No.
- STC: SYNCHRONIZED TAP HOLDER
- 8: Tapping range
- 85



A Type (DIN 69893-1) (ISO 12164)

Set Model	Tapping range	CK No.	øD	øD1	L	L1	L2	L3	Weight (kg)	Set Contents: CK Shank Model	Set Contents: Synchronized Tap Holder STC	Tap Collet
HSK-A 40-CK2-STC 8- 85	M 2 - M 4 / M 5 - M 8	2	25.5	15.8 / 19	132	47.5	30.5	17	0.51	HSK-A 40-CK2- 85	CK2-STC 8-47.5	TC 8-d
-CK3-STC12- 80	M 3 - M12	3	32	22	146	66	36	30	0.66	-CK3- 80	CK3-STC12-66	TC12-d
-CK4-STC20- 73	M 8 - M12 / M14 - M20	4	44	22 / 31	145	72	47	25	0.99	-CK4- 73	CK4-STC20-72	TC20-d
HSK-A 50-CK2-STC 8- 85	M 2 - M 4 / M 5 - M 8	2	25.5	15.8 / 19	132	47.5	30.5	17	0.7	HSK-A 50-CK2- 85	CK2-STC 8-47.5	TC 8-d
-CK3-STC12- 80	M 3 - M12	3	32	22	146	66	36	30	0.88	-CK3- 80	CK3-STC12-66	TC12-d
-CK4-STC20- 73	M 8 - M12 / M14 - M20	4	44	22 / 31	145	72	47	25	1.22	-CK4- 73	CK4-STC20-72	TC20-d
-CK5-STC30- 83	M20 - M30	5	55	41	175	92	54	38	1.72	-CK5- 83	CK5-STC30-92	TC30-d
HSK-A 63-CK2-STC 8- 90	M 2 - M 4 / M 5 - M 8	2	25.5	15.8 / 19	137	47.5	30.5	17	1.1	HSK-A 63-CK2- 90	CK2-STC 8-47.5	TC 8-d
-CK3-STC12-100	M 3 - M12	3	32	22	166	66	36	30	1.28	-CK3-100	CK3-STC12-66	TC12-d
-CK4-STC20- 93	M 8 - M12 / M14 - M20	4	44	22 / 31	165	72	47	25	1.62	-CK4- 93	CK4-STC20-72	TC20-d
-CK5-STC30- 83	M20 - M30	5	55	41	175	92	54	38	2.02	-CK5- 83	CK5-STC30-92	TC30-d
HSK-A100-CK2-STC 8-115	M 2 - M 4 / M 5 - M 8	2	25.5	15.8 / 19	162	47.5	30.5	17	2.7	HSK-A100-CK2-115	CK2-STC 8-47.5	TC 8-d
-CK3-STC12-125	M 3 - M12	3	32	22	191	66	36	30	2.98	-CK3-125	CK3-STC12-66	TC12-d
-CK4-STC20-118	M 8 - M12 / M14 - M20	4	44	22 / 31	190	72	47	25	3.42	-CK4-118	CK4-STC20-72	TC20-d
-178	M 8 - M12 / M14 - M20			22 / 31	250	72	47	25	3.92	-CK4-178	CK4-STC20-72	TC20-d
-CK5-STC30-108	M20 - M30	5	55	41	200	92	54	38	4.02	-CK5-108	CK5-STC30-92	TC30-d
-183	M20 - M30				275				5.12	-CK5-183		

1. Center through coolant supply is available.
2. Tap Collet TC Type must be ordered separately.
3. Cannot be used with machining center without synchronized tapping function.
4. The weight is the combination of the CK Shank and SYNCHRONIZED TAP HOLDER.
5. The L, L_1 and L_3 dimensions are 5mm longer with oil hole TC Collets.
6. Coolant pipe is not included. C63

∗ It will be shipped as a separate package.
(CK Shank, SYNCHRONIZED TAP HOLDER, Tap Collet)

For Tap Collets, A135
For Oil Hole Tap Collet, A136
For SYNCHRONIZED TAP HOLDER STC, A130

<This set combination is only an example. For other combinations, please refer to the CK Shank table. C25>

High runout accuracy is achieved through the adoption of the high-precision New Baby Chuck.

Spindle angle 90°

NEW BABY CHUCK Type Clamping diameter: ø0.25 - ø20

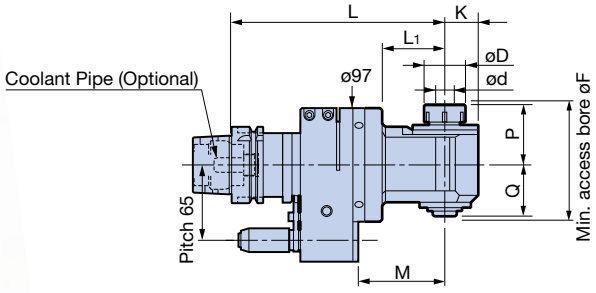
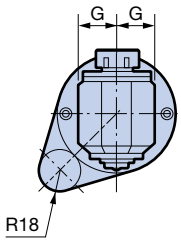


Fig. 1 **Max. 6,000min-1**



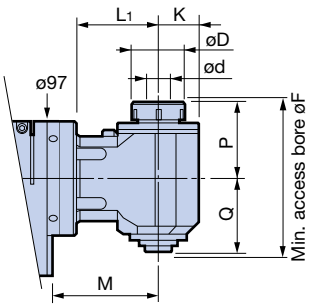


Fig. 2 **MAX. 3,000min-1**

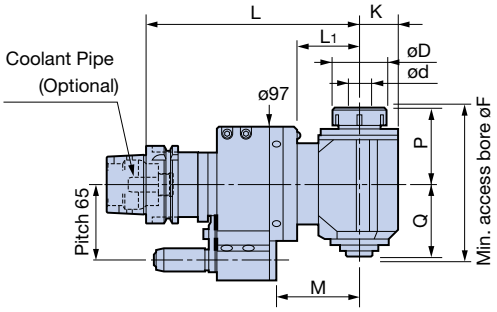


Fig. 3 Rigid Type **MAX. 3,000min-1**

● Model Description

HSK-A63 - **AG90** / **NBS** **6** - **185**

- 185: L dimension
- 6: Maximum clamping diameter
- NBS: NEW BABY CHUCK System
- AG90: 90° Head Type
- HSK-A63: HSK Shank Type

A Type (DIN 69893-1) (ISO 12164)

● High rigidity S type with reinforced Locating Pin also available. Add the letter S at the end when ordering.

Model	Fig.	ød	øD	G	K	L	L1	M	P	Q	øF	Collet Model	Speed Ratio Input:output	Weight (kg) Standard	Weight (kg) High Rigidity
HSK-A63-AG90/NBS 6 -185 ☐	1	0.25 - 6	20	21	17	185	55	77	33	29	67	NBC 6	1:1	5.0	5.9
-215 ☐						215	85	107						5.2	6.1
-245 ☐						245	115	137						5.4	6.3
-275 ☐						275	145	167						5.6	6.5
-AG90/NBS10 -185 ☐	1	1.5 - 10	30	30	25	185	55	77	45	43	91	NBC10		5.4	6.3
-215 ☐						215	85	107						5.8	6.7
-245 ☐						245	115	137						6.1	7.0
-AG90/NBS13 -185 ☐	1	2.5 - 13	35	31	28	185	55	77	52	45	101	NBC13		5.5	6.4
-215 ☐						215	85	107						5.9	6.8
-245 ☐						245	115	137						6.2	7.1
-AG90/NBS20 -200 ☐	2	2.5 - 20	46	35	35	200	70	92	65	62	132	NBC20		6.6	7.5
-AG90/NBS20S -180 S	3	2.5 - 20	46	35	33	180	53	72	65	62	132	NBC20		—	7.9

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.
8. Coolant pipe is not included. (Cannot be used with center through) C63

For Collets, G4
For Stop Blocks, G29

ANGLE HEAD AG90 SERIES

High runout accuracy is achieved through the adoption of the high-precision New Baby Chuck.

Spindle angle 90°

NEW BABY CHUCK Type Clamping diameter: ø0.25 - ø20

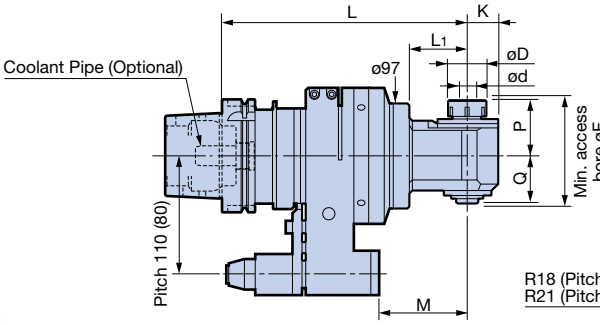


Fig. 1 **Max. 6,000min-1**

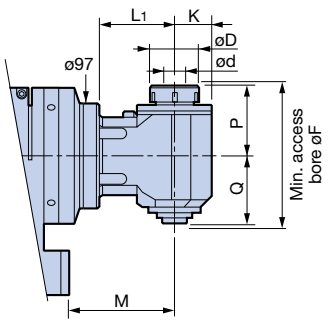


Fig. 2 **MAX. 3,000min-1**

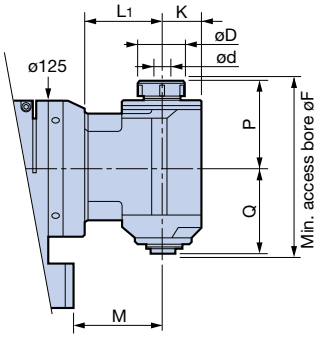


Fig. 3 Double-speed type **MAX. 8,000min-1**

A Type (DIN 69893-1) (ISO 12164)

● High rigidity S type with reinforced Locating Pin also available. Add the letter S at the end when ordering.

Model	Fig.	ød	øD	G	K	L	L1	M	P	Q	øF	Collet Model	Speed Ratio Input:output	Weight (kg) Standard (pitch 110)	High Rigidity (pitch 110)	High Rigidity (pitch 80)
HSK-A100-AG90/NBS6-225□	1	0.25 - 6	20	21	17	225	55	82	33	29	67	NBC 6	1:1	11.8	13.1	12.4
-255□						255	85	112						12.0	13.3	12.6
-285□						285	115	142						12.2	13.5	12.8
-315□						315	145	172						12.4	13.7	13.0
-AG90/NBS10 -225□	1	1.5 - 10	30	30	25	225	55	82	45	43	91	NBC10		12.2	13.5	12.8
-255□						255	85	112						12.6	13.9	13.2
-285□						285	115	142						12.9	14.2	13.5
-AG90/NBS13 -225□	1	2.5 - 13	35	31	28	225	55	82	52	45	101	NBC13		12.3	13.6	12.9
-255□						255	85	112						12.7	14.0	13.3
-285□						285	115	142						13.0	14.3	13.6
-AG90/NBS20 -240□	2	2.5 - 20	46	35	35	240	70	97	65	62	132	NBC20		13.4	14.7	14.0
-AG90/NBS16H-225□	3	2.5 - 16	42	45	35	225	71	82	80	80	163	NBC16	1:2 (acceleration)	13.8	15.1	14.4

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.
8. Coolant pipe is not included. (Cannot be used with center through) C63

For Collets, G4
For Stop Blocks, G29

● TWIN HEAD (180° diagonal) Clamping diameter: ø1.5 - ø10

Spindle angle 90°

· Twin spindle head with a compact design.
Symmetrical machining can be performed using one unit, contributing to the reduction of the number of magazines.

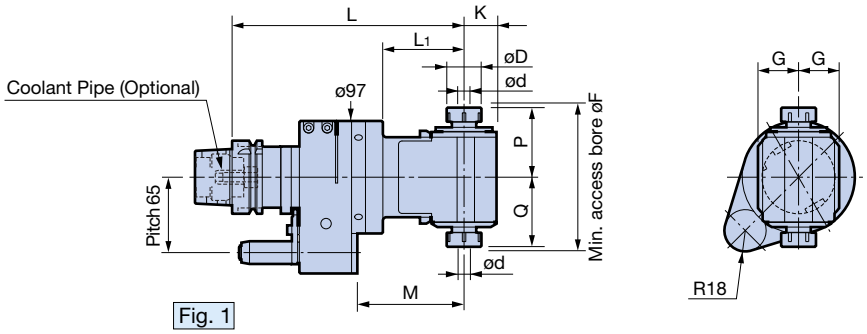


Fig. 1

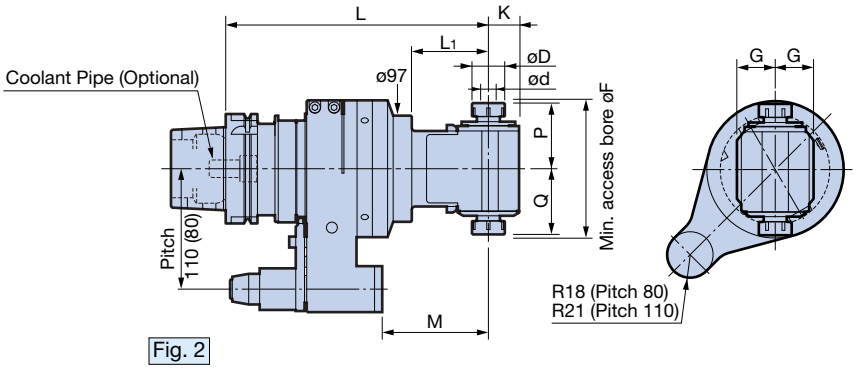


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

● High rigidity S type with reinforced Locating Pin also available.
Add the letter S at the end when ordering.

Model	Fig.	ød	øD	G	K	L	L1	M	P	Q	øF	Collet Model	Speed ratio Input:output	Weight (kg)		
														Standard Type	High Rigidity Type	
HSK-A 63-AG90/NBS10W-200□	1	1.5 - 10	30	31	28	200	70	92	60	60	124	NBC10	1.1	6.2 (pitch 65)	7.1 (pitch 65)	
HSK-A100-AG90/NBS10W-240□	2	1.5 - 10	30	31	28	240	70	97	60	60	124	NBC10		13.0	14.3 (pitch 110)	13.6 (pitch 80)

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. Output spindles do not rotate in forward direction simultaneously.
4. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
5. New Baby Endmill Collets cannot be used.
6. A Stop Block is required when mounting on machines. Please order separately.
7. Automatic tool change may not be available depending on machine tool models.
8. When supplied through the Stop Block, coolant can be ejected from the housing.
9. Coolant pipe is not included. (Cannot be used with center through) C63

For Collets, G4
For Stop Blocks, G29

ANGLE HEAD AG90 SERIES

Compact type Clamping diameter: ø2.5 - ø13

Spindle angle 90°

For drilling/tapping

Lightweight & Compact

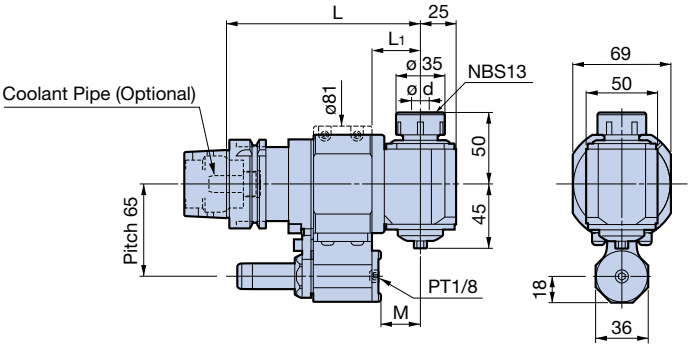


Fig. 1 **MAX. 5,000min-1**

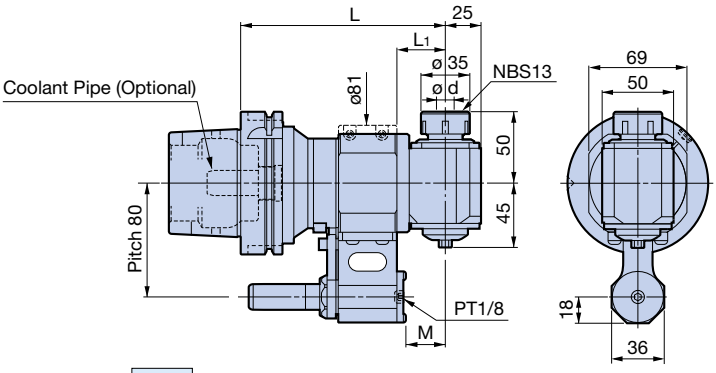


Fig. 2 **MAX. 5,000min-1**

● Model Description

HSK-A63 - AG90 - 13 - 135

- HSK-A63: HSK Shank Type
- AG90: 90° Head Type
- 13: Maximum clamping diameter
- 135: L dimension

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	ød	L	L1	M	Collet Model	Speed ratio Input:output	Weight (kg)
HSK-A 63-AG90-13-135	1	2.5 - 13	135	34	27.85	NBC13	1:1	4.4
-185			185	84	77.85			5.4
HSK-A100-AG90-13-145	2	2.5 - 13	145	34	27.85	NBC13	1:1	6.8
-195			195	84	77.85			7.8

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Consult with the machine tool manufacturer for the dimensions of the Stop Block, as they vary depending on machine models.
6. A tapped hole (PT1/8) is prepared at the bottom cover of the Locating Pin housing so that a pipe for coolant can be connected.
7. Automatic tool change may not be available depending on machine tool models.
8. New Baby Endmill Collets cannot be used.
9. Coolant pipe is not included. (Cannot be used with center through) C63

For Collets, G4
For Stop Blocks, G29

Application example

Compact yet with high rigidity and runout accuracy, allowing stable machining.

	Drilling	Tapping
Tools used	ø12 carbide drill	M5 Tap
Workpiece material	S50C	A2017
Cutting speed	70m/min	7.5m/min
Feed	372mm/min	384mm/min
	0.2mm/rev	
Spindle speed	1,860min-1	450min-1

Oil Hole Type Clamping diameter: ø2.5 - ø13

● Feeds coolant through the cutting tool via Stop Block.

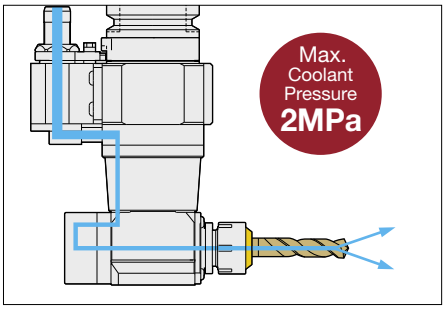
Spindle angle 90°

For drilling

● Model Description

HSK-A63 - O AG90 - 13 - 185

- 185: L dimension
- 13: Maximum clamping diameter
- AG90: 90° Head Type
- O: Oil Hole
- HSK-A63: HSK Shank Type



Feeds oil from the cutting edge via Stop Block

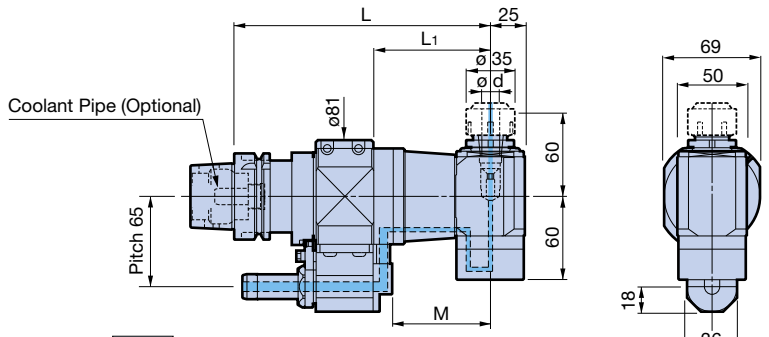


Fig. 1 **MAX. 5,000min-1**

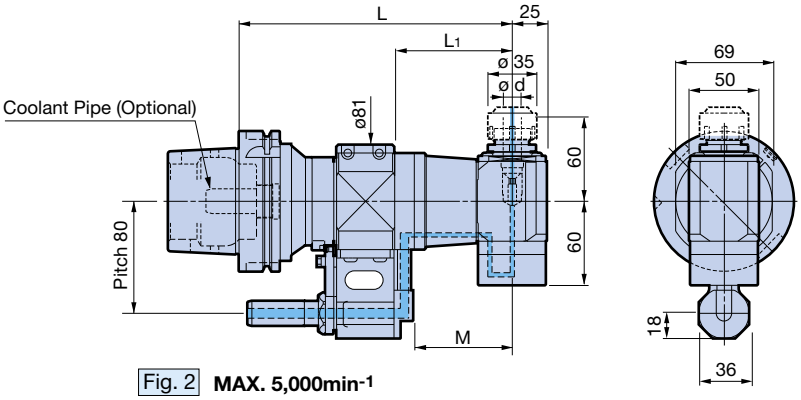


Fig. 2 **MAX. 5,000min-1**

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	ød	L	L1	M	Collet Model	Speed ratio Input:output	Weight (kg)
HSK-A 63-OAG90-13-185	1	2.5 - 13	185	84	70.5	NBC13	1:1	5.9
HSK-A100-OAG90-13-195	2		195					8.4

1. **The cutting tool rotates in reverse to the machine spindle.**
2. For use with an oil hole drill only. Never run without supplying coolant through the unit.
3. Baby Perfect Seal nut with sealing mechanism is required. Please order separately.
4. Collet is ordered separately.
5. Wrench and Adjusting Screw are included.
6. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
7. A Stop Block is required when mounting on machines. Please order separately.
8. Automatic tool change may not be available depending on machine tool models.
9. Coolant pipe is not included. (Cannot be used with center through) C63

For Collets, G4
For Perfect Seal, G24
For Stop Blocks, G29

ANGLE HEAD AG90 SERIES

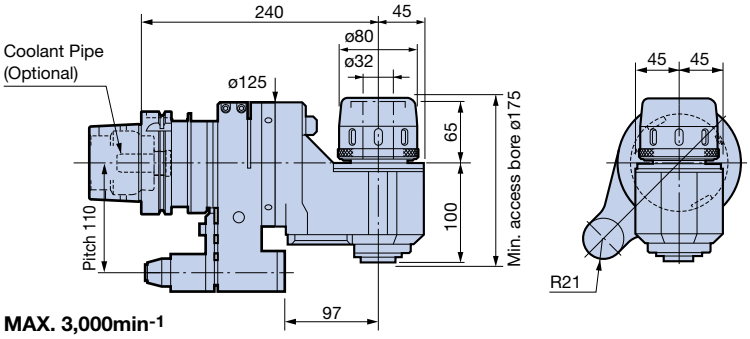
Versatile ø32 milling chuck allows use of various tools according to any machining application.

Spindle angle 90°

HMC32 Type

● Standard type

· High-rigidity milling chuck type that allows the most commonly used cylindrical shanks to be mounted.



MAX. 3,000min^{-1}

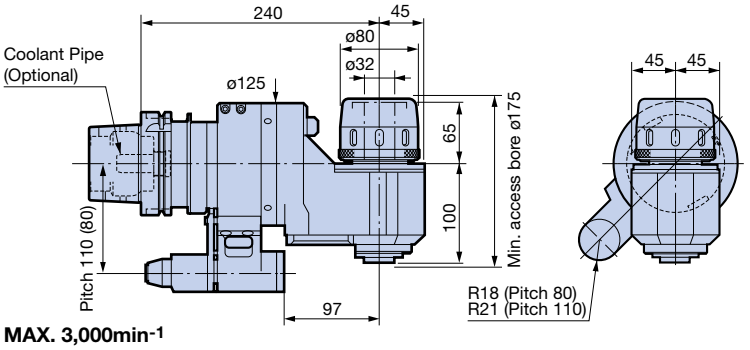
Model	Weight (kg)
HSK-A100-AG90/HMC32-240	16.0

1. The cutting tool rotates in forward to the machine spindle.
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. Automatic tool change may not be available depending on machine tool models.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Coolant pipe is not included. (Cannot be used with center through) C63
7. Wrench included. (Model: FK80-90)

For Straight Collets, G20
For Stop Blocks, G29

● High Rigidity S type

· About 30% higher rigidity compared to standard models



MAX. 3,000min^{-1}

Model	Weight (kg)	
	Pitch 110	Pitch 80
HSK-A100-AG90/HMC32-240S	17.3	16.6

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. Automatic tool change may not be available depending on machine tool models.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Coolant pipe is not included. (Cannot be used with center through) C63
7. Wrench included. (Model: **FK80-90**)

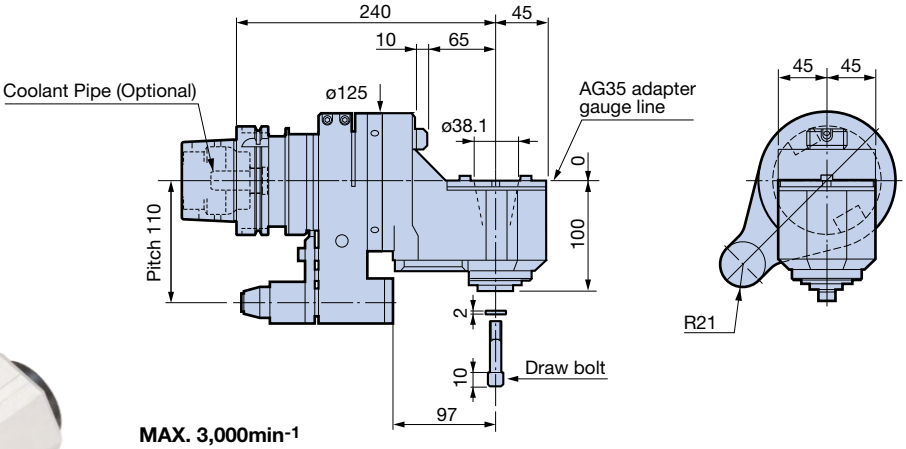
For Straight Collets, G20
For Stop Blocks, G29

Offset design provides optimum tool projection with each adapter.

Spindle angle 90°

BUILD-UP Type

● Standard type



MAX. 3,000min^{-1}

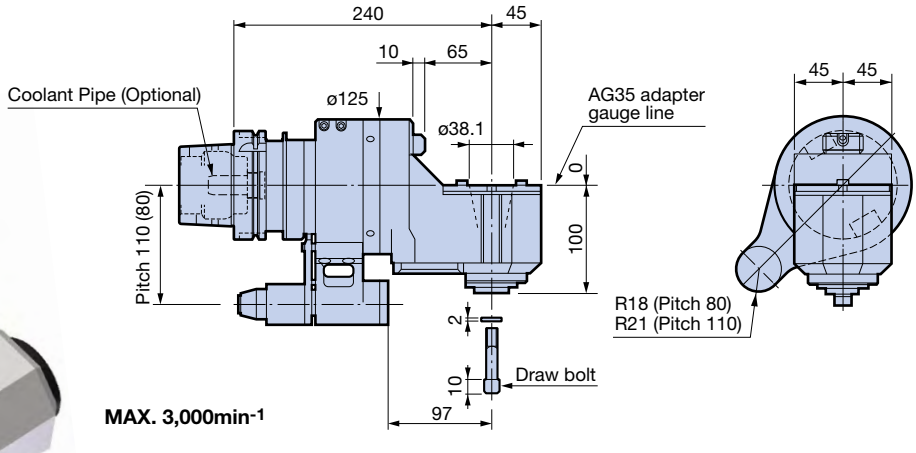
Model	Weight (kg)
HSK-A100-AG90/AGH35-240	14.2

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. Automatic tool change may not be available depending on machine tool models.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Coolant pipe is not included. (Cannot be used with center through) C63

For the AG35 adapter series, A150
For Stop Blocks, G29

● High Rigidity S type

· About 30% higher rigidity compared to standard type



MAX. 3,000min^{-1}

Model	Weight (kg)	
	Pitch 110	Pitch 80
HSK-A100-AG90/AGH35-240S	15.5	14.8

1. **The cutting tool rotates in forward to the machine spindle.**
2. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
3. A Stop Block is required when mounting on machines. Please order separately.
4. Automatic tool change may not be available depending on machine tool models.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Coolant pipe is not included. (Cannot be used with center through) C63

For the AG35 adapter series, A150
For Stop Blocks, G29

ANGLE HEAD AG90 SERIES

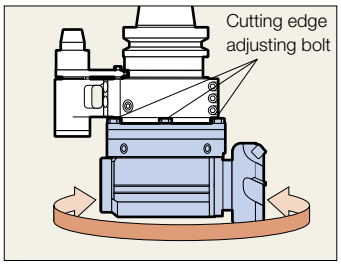
Face Milling Type

Spindle angle 90°

- Tool life is improved by high-rigidity bearings and optimum spindle dimensions!
- Series' highest rotation transmission force of 20kw (at 1,500min^{-1})
- 90° indexing mechanism is used to allow index of 90° increments after adjustment. (Indexing accuracy ±5')

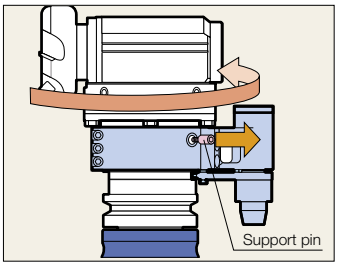
■ Cutting edge direction freely adjustable in 360°

The cutting edge direction can be easily set at any angle through 360 degrees simply by loosening its adjustment bolts (8 positions).

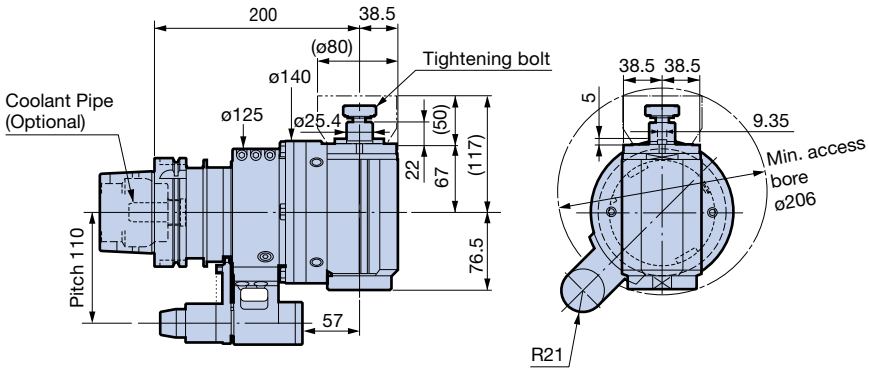


■ Cutting edge direction indexable in 90° increments

Indexing can be done in 90° increments after the cutting edge is adjusted. (Remove the support pin to adjust the cutting edge direction in 90° increments)



⚠ Note: Be sure to remove from the machine before setting in 90° increments.



MAX. 1,500min^{-1}

Model	Weight (kg)
HSK-A100-AG90-FMA25.4S-200S	18.4

Figures in ( ) indicate dimensions when 80mm diameter and 50mm high face mill cutter is mounted.

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Coolant cannot be supplied through the Locating Pin.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.
6. Coolant pipe is not included. (Cannot be used with center through) ☞ C63

☞ For Stop Blocks, G29

Tapper Type

● Tapping depth is adjusted with automatic depth control.

Spindle angle 90°

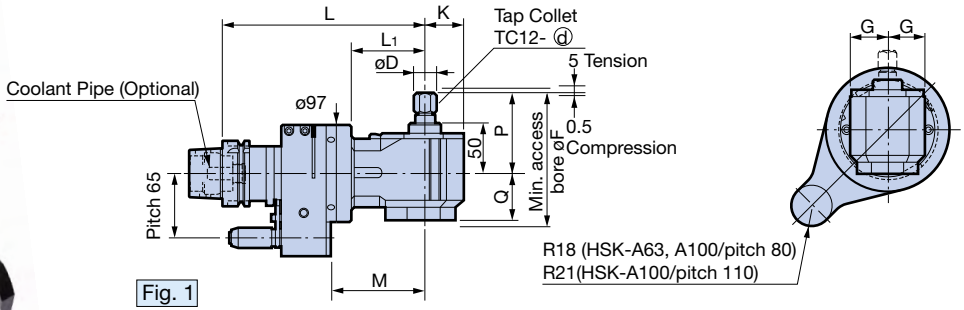


Fig. 1

MAX. 2,000min-1

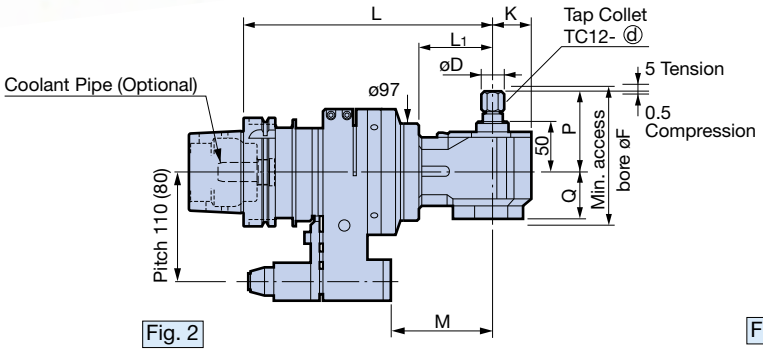


Fig. 2

MAX. 2,000min-1

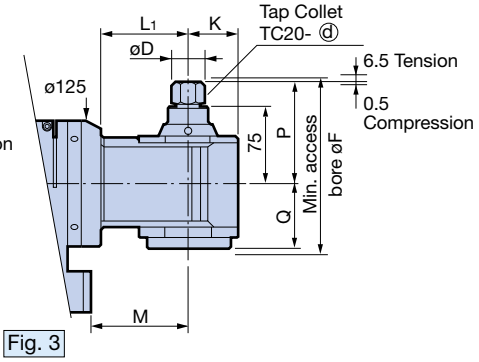


Fig. 3

MAX. 1,000min-1

● Model Description

HSK-A63 - AG90 / TC12 - 200

- 200: L dimension
- TC12: Tapping range
- AG90: 90° Head Type
- HSK-A63: HSK Shank Type

A Type (DIN 69893-1) (ISO 12164)

● High rigidity S type with reinforced Locating Pin is also available. Add the letter S at the end when ordering.

Model	Fig.	d	øD	G	K	L	L1	M	P	Q	øF	Collet Model	Speed ratio Input:output	Weight (kg) Standard (pitch)	High Rigidity (pitch)	High Rigidity (pitch 80)
HSK-A 63-AG90/TC12-200□	1	M3 - M12	22	38	39	200	70	92	80	46	135	TC12- ⓓ	2:1 (Deceleration)	6.9 (65)	7.8 (65)	—
HSK-A100-AG90/TC12-240□	2	M3 - M12	22	38	39	240	70	97	80	46	135	TC12- ⓓ		13.7 (110)	15.0 (110)	14.3
-AG90/TC20-240□	3	M8 - M20	22/31	49	49		86		100	66.5	178	TC20- ⓓ		15.5 (110)	16.8 (110)	16.1

1. **The cutting tool rotates in reverse to the machine spindle.**
2. TC Tap Collet is not included. Please order separately.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. Note that tap rotation is reduced to half the speed of the machine spindle.
5. A Stop Block is required when mounting on machines. Please order separately.
6. When supplied through the Stop Block, coolant can be ejected from the housing.
7. Automatic tool change may not be available depending on machine tool models.
8. Coolant pipe is not included. (Cannot be used with center through) C63

For TC Tap Collets, A135
For Stop Blocks, G29

ANGLE HEAD AG45 SERIES

45° exclusive fixing housing brings about secure diagonal machining.

● Highly versatile NEW BABY CHUCK enables high-accuracy machining.

Spindle angle 45°

NEW BABY CHUCK Type Clamping diameter: ø1.5 - ø13

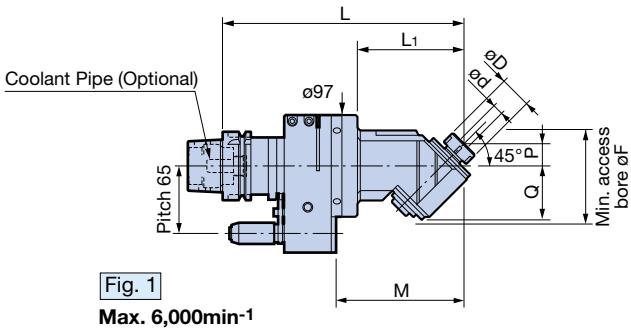


Fig. 1

Max. 6,000min-1

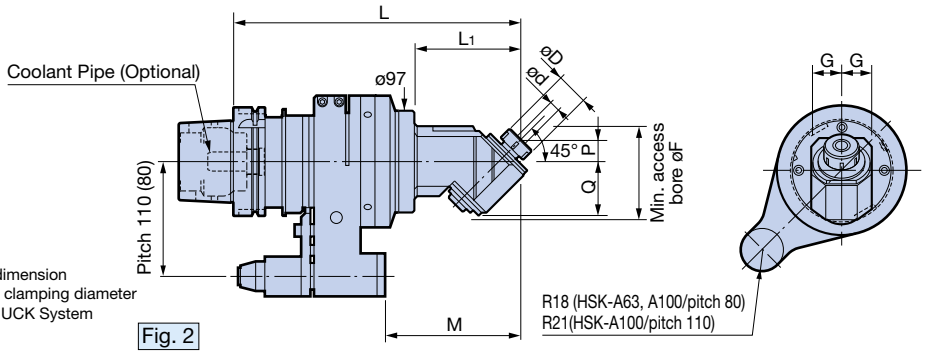


Fig. 2

Max. 6,000min-1

● Model Description

HSK-A63 - AG45 / NBS 10 - 230

- HSK Shank Type
- 45° Head Type
- NEW BABY CHUCK System
- Maximum clamping diameter
- L dimension

A Type (DIN 69893-1) (ISO 12164)

● High rigidity S type with reinforced Locating Pin also available. Add the letter S at the end when ordering.

Model	Fig.	ød	øD	G	L	L1	M	P	Q	øF	Collet Model	Speed ratio Input:output	Weight (kg) Standard Type (pitch)	High Rigidity Type (pitch)	High Rigidity Type (pitch 80)
HSK-A 63-AG45/NBS10-230□	1	1.5 - 10	30	30	230	100	122	20	51.5	90	NBC10	1:1	5.6 (65)	6.5 (65)	—
-AG45/NBS13-235□		2.5 - 13	35		235	105	127	25			NBC13		5.7 (65)	6.6 (65)	—
HSK-A100-AG45/NBS10-270□	2	1.5 - 10	30	30	270	100	127	20	51.5	90	NBC10	1:1	12.4 (110)	13.7 (110)	13.0
-AG45/NBS13-275□		2.5 - 13	35		275	105	132	25			NBC13		12.5 (110)	13.8 (110)	13.1

1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. When supplied through the Stop Block, coolant can be ejected from the housing.
6. Automatic tool change may not be available depending on machine tool models.
7. New Baby Endmill Collets cannot be used.
8. Coolant pipe is not included. (Cannot be used with center through) C63

For Collets, G4
For Stop Blocks, G29

The cutting edge angle can be freely adjusted, making it ideal for machining the corners of molds in deep areas.

Spindle angle 0° - 90°

- The original 1° indexing mechanism allows easy angle adjustment.
- Robust clamping mechanism allows secure endmilling.

Universal Type Clamping diameter: ø2.5 - ø20

Indexing mechanism in 1° increments

Accurate angle adjustment is possible simply by tightening the angle setting pin.

The spindle angle can be adjusted in the range of 0° to 90°

The 1° angle indexing mechanism allows the angle to be easily set. (Indexing accuracy ±5')

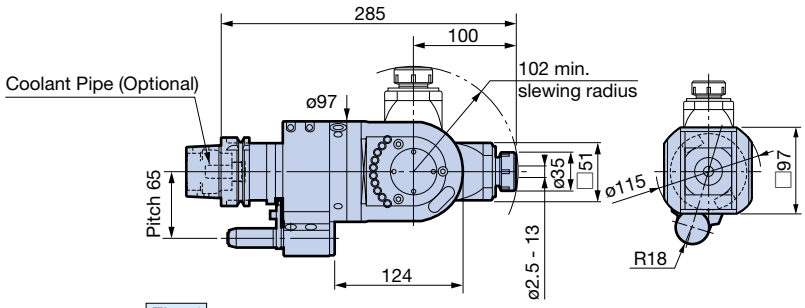


Fig. 1 **Max. 6,000min-1**

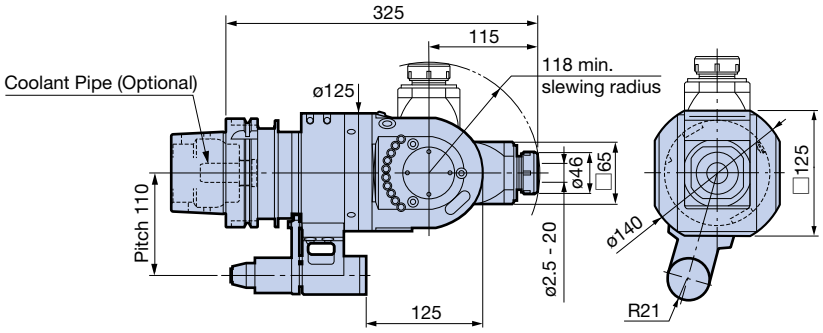


Fig. 2 **MAX. 4,000min-1**

- Model Description

HSK-A63 - AGU / NBS 13 - 285
- 285: L dimension
- 13: Maximum clamping diameter
- NBS: NEW BABY CHUCK System
- AGU: Universal type
- HSK-A63: HSK Shank Type

A Type (DIN 69893-1) (ISO 12164)

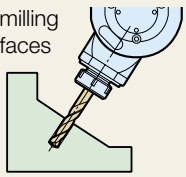
Model	Fig.	Collet Model	Speed ratio Input:output	Weight (kg)
HSK-A 63-AGU/NBS13-285	1	NBC13	1:1	9.6
HSK-A100-AGU/NBS20-325	2	NBC20	1:1	20.0

For Stop Blocks, G29
For Collets, G4

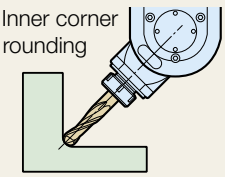
1. **The cutting tool rotates in reverse to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.
6. Coolant pipe is not included. (Cannot be used with center through) C63

Machining examples Easy angle setup

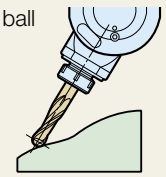
- Drilling or endmilling on angled surfaces



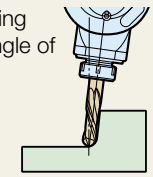
- Inner corner rounding



- Profiling with ball endmill



- Machining draft angle of molds

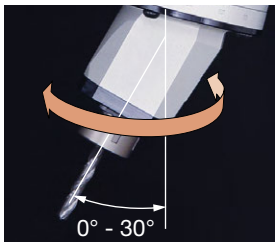


ANGLE HEAD AGU SERIES

AGU30 Type Clamping diameter: ø2.5 - ø20

Spindle angle 0° - 30°

- Spindle angle adjustable 0°- 30°.
- Rigidity is improved by the flange coupling in the swivel!
- The new drive system achieves high transmission torque, low vibration and low noise.



Angle adjustment by scale alignment

The angle spindle can be easily adjusted between 0° and 30° just by aligning to the scale provided on the swivel.

- Model Description

HSK-A63 - AGU30 / NBS 13 - 255

- 255: L dimension
- 13: Maximum clamping diameter
- NBS: NEW BABY CHUCK System
- AGU30: AGU30 Type
- HSK-A63: HSK Shank Type

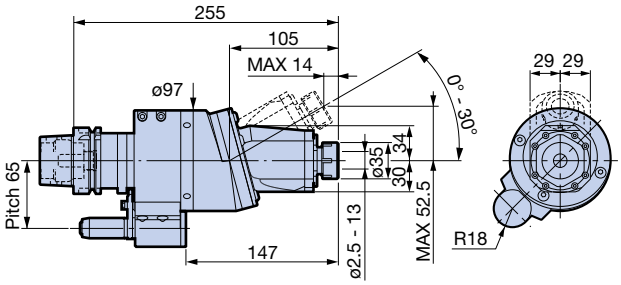


Fig. 1 **Max. 6,000min-1**

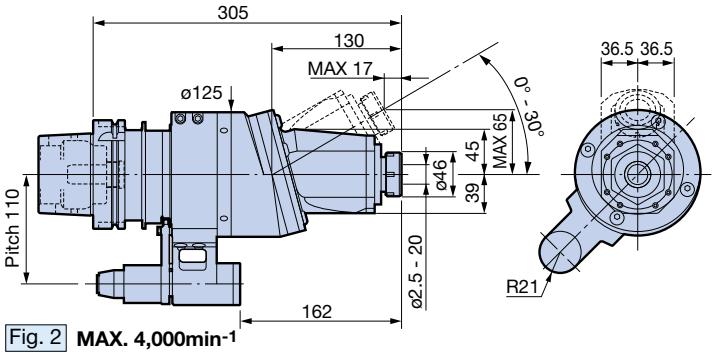


Fig. 2 **MAX. 4,000min-1**

A Type (DIN 69893-1) (ISO 12164)

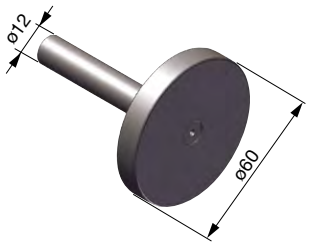
Model	Fig.	Collet Model	Speed ratio Input:output	Weight (kg)
HSK-A 63-AGU30/NBS13-255	1	NBC13	1:1	6.8
HSK-A100-AGU30/NBS20-305	2	NBC20	1:1	15.3

For Stop Blocks, G29
For Collets, G4

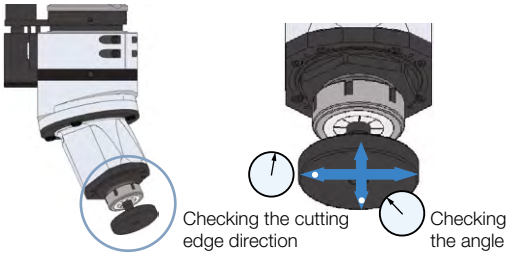
1. **The cutting tool rotates in forward to the machine spindle.**
2. Nut and wrench are included. Collet is not included.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.
6. When supplied through the Stop Block, coolant can be ejected from the housing.
7. Coolant pipe is not included. (Cannot be used with center through) C63

● SETTING DISK (Standard accessory)

Use when accurate angle setting or fine adjustment of the cutting edge direction is required.

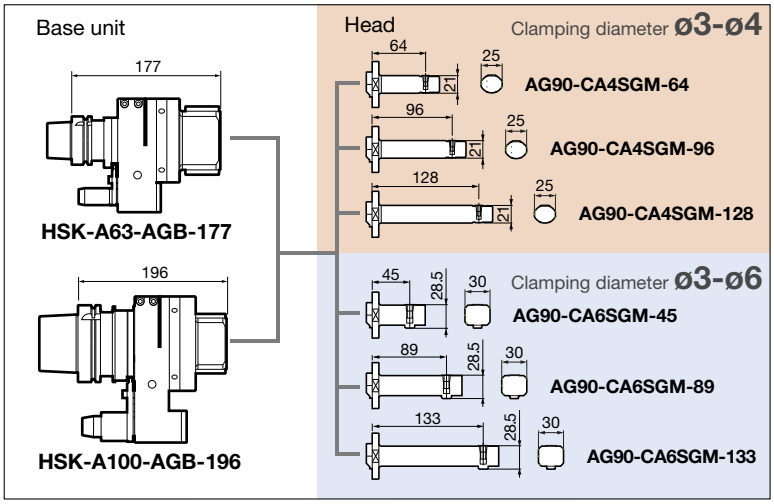


The angle and cutting edge direction can be adjusted using the setting disk.



Small bore type

- Achieves angular drilling in the min. ø30 bore. (minimum diameter for CA6SGM is ø40)
- Prevents interference through flexible combination of base units and heads.
- The head is positioned at the center of the spindle, enabling easy programming.



● Model Description

HSK-A63 - AG90 / CA 4 SGM - 241

- HSK-A63: HSK Shank Type
- AG90: 90° Head Type
- CA: Collet type
- 4: Maximum clamping diameter
- SGM: Modular system
- 241: L dimension

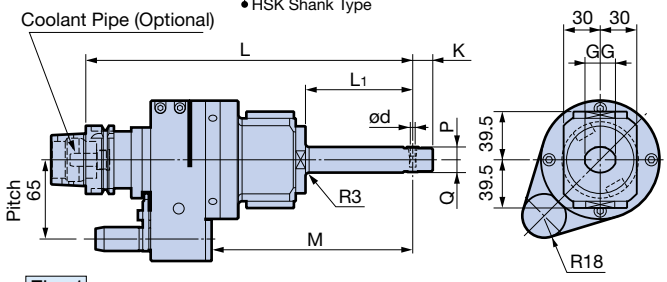


Fig. 1 **MAX. 2,000min-1**

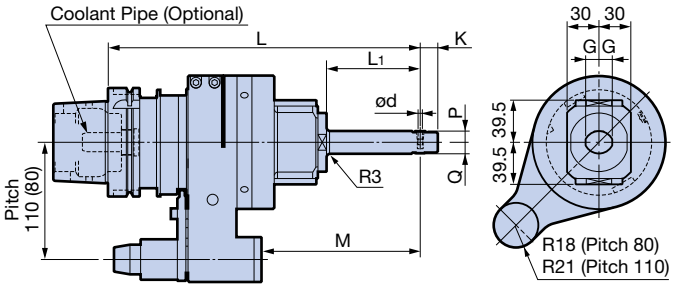


Fig. 2 **MAX. 2,000min-1**

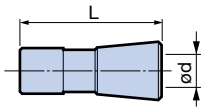
A Type (DIN 69893-1) (ISO 12164)

Set Model	Base Model	Head Model	Fig.	ød	G	K	L	L1	M	P	Q	Speed ratio Input:output	Weight (kg) Pitch 65	Pitch 80	Pitch 110
HSK-A 63-AGB90-CA4SGM-241	HSK-A63-AGB-177	AGB90-CA4SGM- 64	1	3 - 4	12.5	16.5	241	56	133	10.5	10.5	1:1.06 (Acceleration)	5.5	—	—
-273		- 96					273	88	165				5.6		
-305		-128					305	120	197				5.7		
-CA6SGM-222		AGB90-CA6SGM- 45		3 - 6	15	20	222	37	114	12.5	16	1:0.77 (Deceleration)	5.6		
-266		- 89					266	81	158				5.8		
-310		-133					310	125	202				6.0		
HSK-A100-AGB90-CA4SGM-260□	HSK-A100-AGB-196□	AGB90-CA4SGM- 64	2	3 - 4	12.5	16.5	260	56	117	10.5	10.5	1:1.06 (Acceleration)	—	11.7	11.1
-292□		- 96					292	88	149					11.8	11.2
-324□		-128					324	120	181					11.9	11.3
-CA6SGM-241□		AGB90-CA6SGM- 45		3 - 6	15	20	241	37	98	12.5	16	1:0.77 (Deceleration)	—	11.8	11.2
-285□		- 89					285	81	142					12.0	11.4
-329□		-133					329	125	186					12.2	11.6

1. **The cutting tool rotates in forward to the machine spindle.**
2. Models with pitch 80 carry "S" at the end of the model number.
3. The angles of the Locating Pin to the drive key groove and direction of cutting edge are freely adjustable.
4. A Stop Block is required when mounting on machines. Please order separately.
5. Automatic tool change may not be available depending on machine tool models.
6. Exclusive collet is not included. Please order separately.
7. Coolant cannot be supplied through the Locating Pin.
8. Coolant pipe is not included. (Cannot be used with center through) C63

For Stop Blocks, G29

● Exclusive collet



Model	ød	L
CA4-3	3	16.5
-3.5	3.5	
-4	4	

Model	ød	L
CA6-3	3	22
-4	4	
-5	5	
-6	6	

1. Use drill with a shank diameter matched with ød of the collet.
2. Tool shank tolerance must be within h7.

High-speed AIR SPINDLE

AIR TURBINE SPINDLE

The ultra-precision spindle enables challenging micromachining!

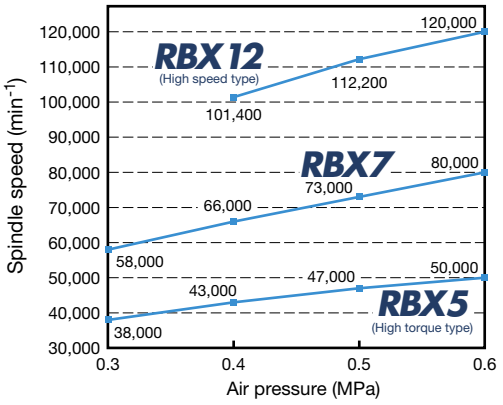
- Achieves efficient and accurate micromachining with excellent runout accuracy in the max. spindle speed range.
- World's smallest compact design (RBX12).

Machine spindle rotation **zero**

MAX. **120,000min^{-1}**

	RBX5 (High torque type)	RBX7	RBX12
Operating spindle speed (min^{-1})	40,000 - 50,000	60,000 - 80,000	100,000 - 120,000
Clamping diameter	ø0.45 - 4.05mm (MEGA4S)		
Spindle nose runout accuracy	Within 1 μm		
Air pressure	0.3 - 0.6MPa		0.4 - 0.6MPa
Air flow rate	300L/min [ANR] (at 0.6MPa)		125L/min [ANR] (at 0.6MPa)

Spindle speed against air pressure (reference)



[Center Through Type]

ATC compatible

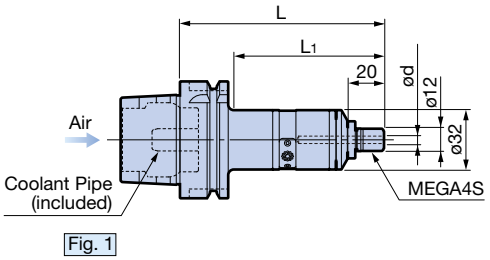


Fig. 1

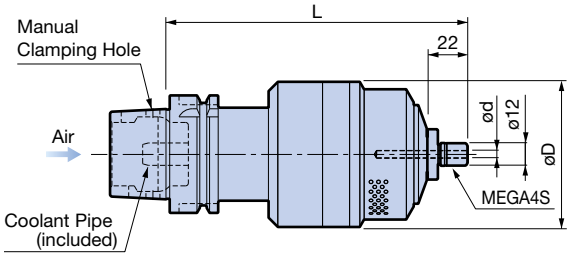


Fig. 2

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Operating spindle speed (min^{-1})	Clamping diameter ød	Usable tool diameter	øD	L	L1	Mega Nut	Collet Model	Weight (kg)
HSK-A 63-RBX 5C-4S-160	2	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	160	—	MGN4S	NBC4S	3.9
-RBX 7C-4S-160		60,000 - 80,000		ø1.0 or smaller	78					2.9
-RBX12C-4S-110	1	100,000 - 120,000		ø0.6 or smaller	32	110	81	MGN4S-HG		1.0
HSK-A100-RBX 5C-4S-165	2	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	165	—	MGN4S	NBC4S	5.9
-RBX 7C-4S-165		60,000 - 80,000		ø1.0 or smaller	78					4.9

1. Nut, exclusive wrench (RBX5,7 → **XW27**, RBX12 → **XW20**) and Mega Wrench (**MGR12**) are included. Collet is not included. Please order separately.
2. Air filter regulator (XF1) is required. A167

For Micro Collets, G2

Caution

- Clean air is an essential condition for the use of this product. Therefore, coolant should never be supplied through the spindle of the machine using the Air Turbine Spindle.

■ RBX12 MEGA NUT (Standard accessory)

Exclusive nut for high-speed rotation.

Model	MGN4S-HG

For RBX5 and RBX7 nuts, G3

[Side Through Type]

ATC compatible

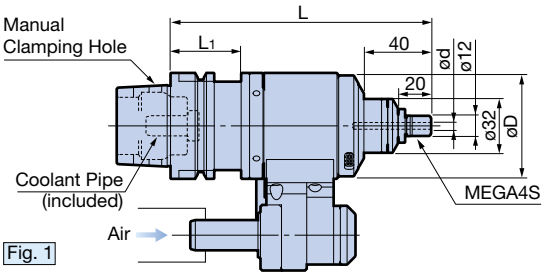


Fig. 1

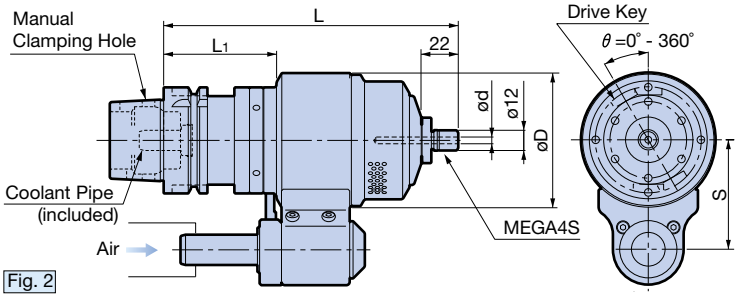


Fig. 2

MAX. 120,000min^{-1}

Machine spindle rotation **zero**

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Operating spindle speed (min^{-1})	Clamping diameter ød	Usable tool diameter	øD	L	L1	S	H	Mega Nut	Collet Model	Weight (kg)
HSK-A 63-RBX 5-4S-175-65	2	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	175	67	65	0 - 45	MGN4S	NBC4S	4.8
-RBX 7-4S-175-65		60,000 - 80,000		ø1.0 or smaller	80							3.8
-RBX12-4S-155-65	1	100,000 - 120,000		ø0.6 or smaller	63	155	42		-4 - 41	MGN4S-HG		3.0
HSK-A100-RBX 5-4S-180-80	2	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	100	180	72	80	5 - 50	MGN4S	NBC4S	9.4
-RBX 7-4S-180-80		60,000 - 80,000		ø1.0 or smaller								8.4

1. Nut, exclusive wrench (RBX5,7 → **XW27**, RBX12 → **XW20**) and Mega Wrench (**MGR12**) are included. Collet is not included. Please order separately.
2. Air filter regulator (XF1) is required. A167

For Micro Collets, G2
For Stop Blocks, A166

[Manual Tool Change Type]

● Easy installation as Stop Block is not needed.

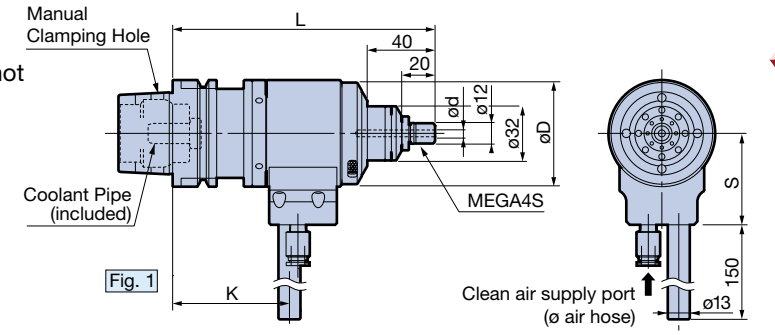


Fig. 1

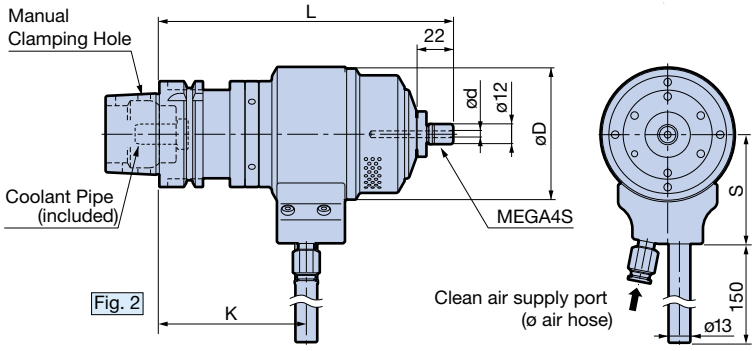


Fig. 2

MAX. 120,000min^{-1}

Machine spindle rotation **zero**

A Type (DIN 69893-1) (ISO 12164)

Model	Fig.	Operating spindle speed (min^{-1})	Clamping diameter ød	Usable tool diameter	øD	L	K	S	Mega Nut	Collet Model	Weight (kg)
HSK-A 63-RBX 5-4S-175H	2	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	96	175	87	71	MGN4S	NBC4S	4.8
-RBX 7-4S-175H		60,000 - 80,000		ø1.0 or smaller	80			65			3.8
-RBX12-4S-155H	1	100,000 - 120,000		ø0.6 or smaller	63	155	69	54	MGN4S-HG		2.7
HSK-A100-RBX 5-4S-180H	2	40,000 - 50,000	0.45 - 4.05	ø1.5 or smaller	100	180	92	80	MGN4S	NBC4S	9.4
-RBX 7-4S-180H		60,000 - 80,000		ø1.0 or smaller							8.4

1. Nut, exclusive wrench (RBX5,7 → **XW27**, RBX12 → **XW20**) and Mega Wrench (**MGR12**) are included. Collet is not included. Please order separately.
2. Air filter regulator (XF1) is required. A167

For Micro Collets, G2

Ultra slim design with ø10 nut outer diameter avoids interference.
Accurate small diameter drilling is achieved.

World's smallest ø10 nut outer diameter (MEGA3S)

Max. 60,000min^{-1}

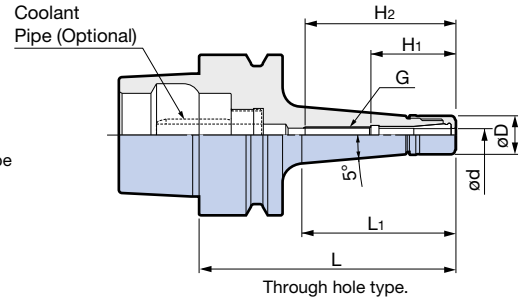
[High Rigidity Taper Type]

● Models for ultra-small endmilling are newly added!

● Model Description

HSK-E25 - MEGA 3 S - 45 T

- HSK-E25: HSK Shank Type
- MEGA: MEGA CHUCK
- 3: MICRO CHUCK
- S: L dimension
- 45: Taper type
- T: Taper type



Through hole type.

E Type (DIN 69893-5)

Model	Clamping diameter ød	øD	L	L1	H1	H2	G	Collet Model	Weight (kg)
HSK-E25-MEGA3S- 45T ※	0.45 - 3.25	10	45	32	22	(32)	—	NBC3S-□	0.06
- 60T			60	48		38	M4 P0.7		0.08
-MEGA4S- 45T ※	0.45 - 4.05	12	45	33	26.5	(32)	—	NBC4S-□	0.07
- 60T			60	49		41	M5 P0.8		0.10
-MEGA6S- 45T ※	0.45 - 6.05	14	45	33	28.5	(31)	—	NBC6S-□	0.08
- 60T			60	49		40	M7 P0.75		0.10
HSK-E32-MEGA3S- 60T	0.45 - 3.25	10	60	35	22	38	M4 P0.7	NBC3S-□	0.15
- 75T			75	50		38			0.17
-MEGA4S- 45T ※	0.45 - 4.05	12	45	23	26.5	(26)	—	NBC4S-□	0.14
- 60T			60	35		46	M5 P0.8		0.16
-MEGA6S- 45T ※	0.45 - 6.05	14	45	23	28.5	(28)	—	NBC6S-□	0.14
- 60T			60	36		38	M7 P0.75		0.17
-MEGA8S- 60T ※	2.95 - 8.05	18	60	38	31	(43)	—	NBC8S-□	0.20
HSK-E40-MEGA3S- 60T	0.45 - 3.25	10	60	35	22	39	M4 P0.7	NBC3S-□	0.23
- 75T			75	50		38			0.25
-MEGA4S- 60T	0.45 - 4.05	12	60	35	26.5	44	M5 P0.8	NBC4S-□	0.24
- 75T			75	50		47			0.27
-MEGA6S- 60T ※	0.45 - 6.05	14	60	35	28.5	(42)	—	NBC6S-□	0.24
- 75T			75	50		49	M7 P0.75		0.28
- 90T			90	65		49			0.32
HSK-E50-MEGA3S- 80T	0.45 - 3.25	10	80	49	22	38	M4 P0.7	NBC3S-□	0.5
-MEGA4S- 80T	0.45 - 4.05	12		48	26.5	47	M5 P0.8	NBC4S-□	0.5
-MEGA6S- 80T	0.45 - 6.05	14		49	28.5	49	M7 P0.75	NBC6S-□	0.5

1. Nut is included. Collet and wrench must be ordered separately.
2. Models marked with "※" do not have inner thread. H_2 ( ) dimension is the max. tool shank length that can be inserted into the holder.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
4. Coolant pipe is not included. C63

[Straight Type]

● Straight type with less workpiece interference.

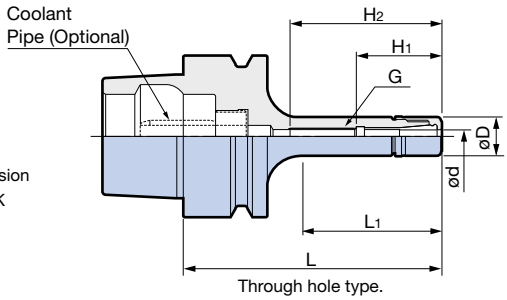
World's smallest ø10 nut outer diameter (MEGA3S)

MAX. 60,000min^{-1}

● Model Description

HSK-E25 - MEGA 4 S - 45

- HSK-E25: HSK Shank Type
- MEGA: MEGA CHUCK
- 4: MICRO CHUCK
- S: MICRO CHUCK
- 45: L dimension



Through hole type.

E Type (DIN 69893-5)

Model	Clamping diameter ød	øD	L	L_1	H_1	H_2	G	Collet Model	Weight (kg)
HSK-E25-MEGA4S-45 ※	0.45 - 4.05	12	45	31	26.5	(32)	—	NBC4S-□	0.06
-60			60	46		42	M5 P0.8		0.08
-MEGA6S-45 ※	0.45 - 6.05	14	45	32	28	(31)	—	NBC6S-□	0.07
-60			60	47	28.5	41	M7 P0.75		0.08
HSK-E32-MEGA3S-45 ※	0.45 - 3.25	10	45	23	22	(31)	—	NBC3S-□	0.13
-MEGA4S-45	0.45 - 4.05	12	45	22	26.5	31	M5 P0.8	NBC4S-□	0.14
-60			60	34		46			0.15
-MEGA6S-45 ※	0.45 - 6.05	14	45	22	28.5	(28)	—	NBC6S-□	0.14
-60			60	35		38	M7 P0.75		0.15
HSK-E40-MEGA3S-40 ※	0.45 - 3.25	10	40	19	22	(24)	—	NBC3S-□	0.21
-MEGA4S-60	0.45 - 4.05	12	60	34	26.5	44	M5 P0.8	NBC4S-□	0.23
-MEGA6S-45 ※	0.45 - 6.05	14	45	23	27.5	(27)	—	NBC6S-□	0.22
-60 ※			60	35	28.5	(42)	—		0.23
HSK-E50-MEGA3S-50 ※	0.45 - 3.25	10	50	20	22	(30)	—	NBC3S-□	0.5
-MEGA4S-50 ※	0.45 - 4.05	12	50	21	26.5	(30)	—	NBC4S-□	0.5
-80			80	44		47	M5 P0.8		0.5
-MEGA6S-55 ※	0.45 - 6.05	14	55	26	28.5	(35)	—	NBC6S-□	0.5
-80			80	44		49	M7 P0.75		0.5

1. Nut is included. Collet and wrench must be ordered separately.
2. Models marked with "※" do not have inner thread. H_2 ( ) dimension is the max. tool shank length that can be inserted into the holder.
3. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
4. Coolant pipe is not included. ☞C63

Standard Accessory	Optional Accessories				
MEGA NUT	Mega Wrench	Micro Collet	Micro Seal Nut (For 6S and 8S)	Collet Case	α Taper Cleaner
					
For Spares ☞G3	☞G22	☞G2	☞G3	☞G3	☞G3

For High Speeds

MEGA NEW BABY CHUCK PAT.

Clamping diameter: ø0.25 - ø20

High-speed small-diameter drilling and endmilling are achieved with the exceptional tool balance and high-precision collet chuck system.

Center through

MAX. 50,000min^{-1}

● Model Description

HSK-E25 - MEGA 6 N - 40

- 40: L dimension
- N: NEW BABY CHUCK
- 6: Maximum clamping diameter
- MEGA: MEGA CHUCK
- HSK-E25: HSK Shank Type

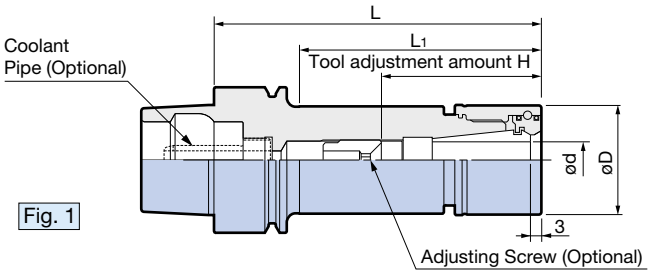


Fig. 1

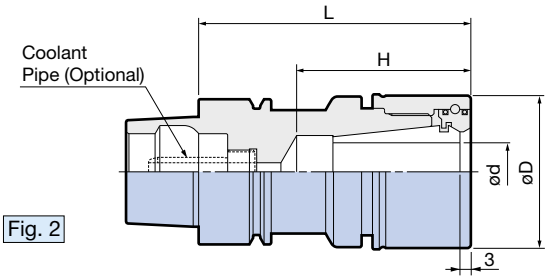


Fig. 2

E Type (DIN 69893-5)

Model	Fig.	Clamping diameter ød	øD	L	L1	Tool adjustment amount H	Collet Model	Weight (kg)
HSK-E25-MEGA 6N- 40 ※	1	0.25 - 6	20	40	29	25	NBC 6-□	0.10
8N- 45 ※	2	0.5 - 8	25	45	—	30	NBC 8-□	0.12
10N- 60 ※▲		1.5 - 10	30	60	—	45	NBC10-□	0.17
HSK-E32-MEGA 6N- 45 ※	1	0.25 - 6	20	45	24	28	NBC 6-□	0.17
- 60				60	37	23 - 27		0.20
-MEGA 8N- 50 ※	1	0.5 - 8	25	50	29	33	NBC 8-□	0.22
- 65				65	44	26 - 32		0.27
-MEGA10N- 65 ※	2	1.5 - 10	30	65	—	47	NBC10-□	0.28
-MEGA13N- 70 ※		2.5 - 13	35	70	—	44	NBC13-□	0.31
HSK-E40-MEGA 6N- 50 ※	1	0.25 - 6	20	50	26	31	NBC 6-□	0.26
- 60				60	34	23 - 26		0.28
- 75				75	49	23 - 41		0.31
- 90				90	64	23 - 43		0.35
-120				120	94			0.41
-MEGA 8N- 55 ※	1	0.5 - 8	25	55	31	36	NBC 8-□	0.31
- 75				75	51	26 - 41		0.38
- 90				90	66	26 - 45		0.43
-MEGA10N- 60 ※	1	1.5 - 10	30	60	37	40	NBC10-□	0.39
- 75 ※				75	52	55		0.46
- 90				90	67	38 - 48		0.53
-MEGA13N- 65 ※	1	2.5 - 13	35	65	44	44	NBC13-□	0.45
- 75 ※				75	54	55		0.53
- 90				90	69	44 - 48		0.62
-120				120	99	44 - 63		0.80
-150				150	129			1.00
-MEGA16N- 65 ※▲	2	2.5 - 16	42	65	—	46	NBC16-□	0.43
- 75 ※				75		48		0.60

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
3. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
4. Models with ▲ indication cannot use a NEW BABY ENDMILL COLLET.
5. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
6. Coolant pipe is not included. C63

E Type (DIN 69893-5)

Model	Fig.	Clamping diameter ød	øD	L	L_1	Tool adjustment amount H	Collet Model	Weight (kg)
HSK-E50-MEGA 6N- 55 ※	1	0.25 - 6	20	55	27	35	NBC 6-□	0.5
- 70				70	38	23 - 39		0.5
-100				100	64	23 - 43		0.6
-MEGA 8N- 60 ※	1	0.5 - 8	25	60	30	37	NBC 8-□	0.6
- 90				90	56	26 - 45		0.7
-MEGA10N- 60 ※ ▲	1	1.5 - 10	30	60	30	35	NBC10-□	0.6
- 90				90	58	38 - 48		0.7
-MEGA13N- 70 ※	1	2.5 - 13	35	70	40	45	NBC13-□	0.7
- 90				90	60	44 - 47		0.8
-120				120	90	44 - 63		1.0
-150				150	120			1.3
-MEGA16N- 75 ※	1	2.5 - 16	42	75	48	52	NBC16-□	0.9
- 90 ※				90	63	65		1.0
-MEGA20N- 75 ※ ▲	2	2.5 - 20	46	75	—	49	NBC20-□	0.8
-100				100	—	51 - 54		1.1
-130				130	—	51 - 68		1.5

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
3. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
4. Models with ▲ indication cannot use a NEW BABY ENDMILL COLLET.
5. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
6. Coolant pipe is not included. C63

Standard Accessory	Optional Accessories				
MEGA NUT For Spares G10	MEGA NUT Flat Type G10	Mega Wrench G22	Collet G4	MEGA PERFECT SEAL G11	Adjusting Screw G10

When ordering a MEGA PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/MEGA PERFECT SEAL separately.

MEGA NEW BABY CHUCK Model + NL
HSK-E50-MEGA 6N-55/NL
(NL at the end of the model number means nut not attached)

+

NBC Collet
NBC6-3AA

+

MEGA PERFECT SEAL Model
MPS6-03035

MEGA NUT Flat Type Model
MGN6F

HYDRAULIC CHUCK

High-precision and ultra-compact design.
New hydraulic chuck suitable for small machining centers.

Max. 60,000min^{-1}

[SUPER SLIM Type]

● Model Description

HSK-E25 - HDC 3 S - 40

- 40: L dimension
- S: SUPER SLIM Type
- 3: Clamping diameter
- HDC: HYDRAULIC CHUCK
- HSK-E25: HSK Shank Type

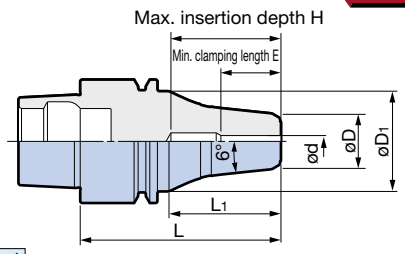


Fig. 1

E25: MAX. 60,000min^{-1}
E32: MAX. 45,000min^{-1}

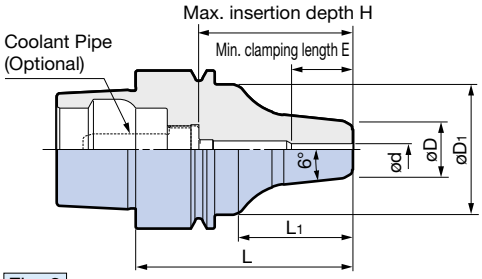


Fig. 2

MAX. 40,000min^{-1}

Center through

E Type (DIN 69893-5)

Model	Fig.	Clamping diameter ød	øD	øD1	L	L1	H	E	Weight (kg)
HSK-E25-HDC3S-40	1	3	14	20	40	27	22	16	0.09
-HDC4S-40		4					21		
HSK-E32-HDC3S-52	1	3	14	26	52	29	28	16	0.19
-HDC4S-52		4						19	
-HDC6S-57		6			57	34	33	25	0.20
HSK-E40-HDC3S-55	2	3	14	33	55	29	39	16	0.31
-HDC4S-55		4						19	
-HDC6S-60		6			60	34	40	25	0.32

1. HSK-E25, E32 cannot be used with center through.
2. Coolant pipe is not included. C63
3. Adjusting Screw cannot be used.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

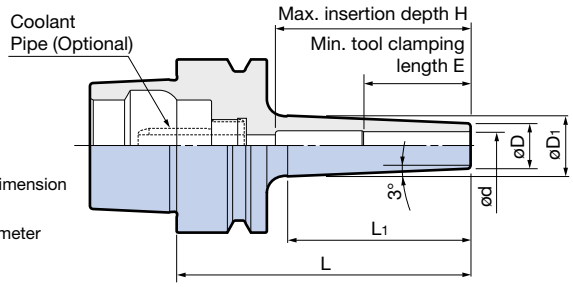
[Slim Type]

Center through

Clamping diameter ø4 -

● Model Description

HSK-E25 - SRC 4 S - 45
- 45: L dimension
- S: Slim Type
- 4: Clamping diameter
- SRC: SHRINK CHUCK
- HSK-E25: HSK Shank Type



E Type (DIN 69893-5)

Model	Clamping diameter ød	øD	øD1	L	L1	H	E	Weight (kg)
HSK-E25-SRC 4S- 45 ※	4	7	10	45	29	18	16	0.06
-SRC 6S- 60	6	10	15	60	46	46	26	0.08
-SRC 8S- 60	8	13	18		48			0.10
HSK-E32-SRC 4S- 60 ※	4	7	10	60	33	18	16	0.14
-SRC 6S- 60	6	10	13.5		34	43	26	0.15
-SRC 8S- 60	8	13	16.5					0.16
-SRC10S- 60	10	16	20		36		32	0.18
-SRC12S- 60	12	19	23		37		35	0.19
HSK-E40-SRC 4S- 60 ※	4	7	10	60	34	44	16	0.22
-SRC 6S- 75	6	10	15	75	49	52	26	0.24
-SRC 8S- 75	8	13	18					0.26
-SRC10S- 75	10	16	21			56	32	0.29
-SRC12S- 75	12	19	24				36	0.31

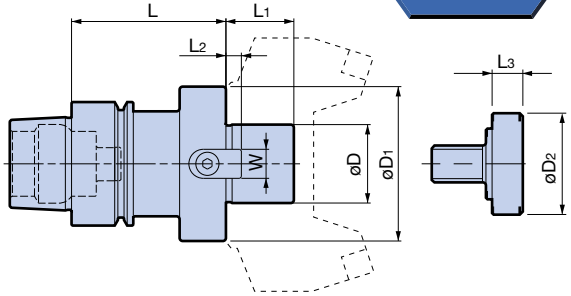
1. Use a carbide shank cutter within a tolerance of h6.
   For ※ models, use a carbide shank with a tolerance within h5.
2. Center through coolant supply is available with tools with oil holes.
3. Always insert the cutting tool into the holder beyond the min. clamping length E.
4. Coolant pipe is not included. ☞C63

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

Center through

● Model Description

HSK-E40 - FMA 25.4 - 50
- 50: L dimension
- 25.4: Spigot diameter
- FMA: FACE MILL ARBOR TYPE A
- HSK-E40: HSK Shank Type



E Type (DIN 69893-5)

Model	øD	øD1	L	L1	L2	W	øD2	L3	Clamping Screw	Weight (kg)
HSK-E40-FMA25.4-50	25.4	50	50	22	5	9.5	22	10	MBA-M12	0.62

1. Clamping screw is included.
2. Coolant pipe cannot be attached.

AIR TURBINE SPINDLE

The ultra-precision spindle enables challenging micromachining!

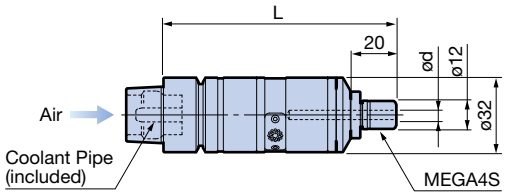
Machine spindle rotation **zero**

MAX. 120,000min^{-1}

- Achieves efficient and accurate micromachining with excellent runout accuracy in the max. spindle speed range.

Ceramic ball bearing type
RBX Series

[Center Through Type]



Caution
- Clean air is an essential condition for the use of this product. Therefore, coolant should never be supplied through the spindle of the machine using the Air Turbine Spindle.

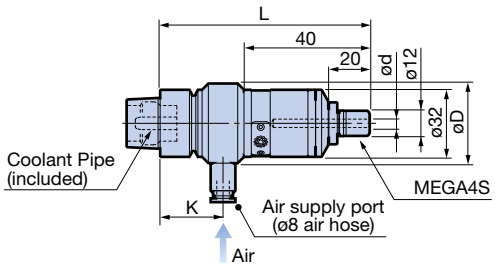
E Type (DIN 69893-5)

Model	Operating spindle speed (min^{-1})	Clamping diameter ød	Usable tool diameter	L	Nut	Collet Model	Weight (kg)
HSK-E32-RBX12C-4S-100	100,000 - 120,000	0.45 - 4.05	ø0.6 or smaller	100	MGN4S-HG	NBC4S	0.45

1. Nut and exclusive wrench (2 pieces) are included. Collet is not included; order separately.
2. Air filter regulator (XF1) is required. A167

For Micro Collets, G2

[Manual Tool Change Type]



E Type (DIN 69893-5)

Model	Operating spindle speed (min^{-1})	Clamping diameter ød	Usable tool diameter	øD	L	K	Nut	Collet Model	Weight (kg)
HSK-E32-RBX12-4S-100H	100,000 - 120,000	0.45 - 4.05	ø0.6 or smaller	38	100	30	MGN4S-HG	NBC4S	0.5

1. Nut and exclusive wrench (2 pieces) are included. Collet is not included; order separately.
2. Air filter regulator (XF1) is required. A167

For Micro Collets, G2

High-speed and high-precision holder with an ultra-slim design that minimizes interference with workpieces and jigs.

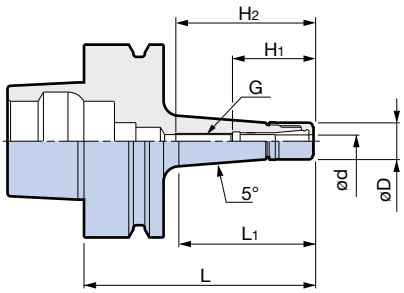
MAX. 30,000min^{-1}

[High Rigidity Taper Type]

● Model Description

HSK-F63 - MEGA 4 S - 75 T

- T: Taper type
- 75: L dimension
- S: MICRO CHUCK
- 4: MEGA CHUCK
- MEGA: MEGA CHUCK
- HSK-F63: HSK Shank Type



Through hole type.

F Type (DIN 69893-6)

Model	Clamping diameter ød	øD	L	L_1	H_1	H_2	G	Collet Model	Weight (kg)
HSK-F63-MEGA4S-75T	0.45 - 4.05	12	75	44	26.5	41	M5 P0.8	NBC4S-□	0.7
-MEGA6S-75T	0.45 - 6.05	14	75	44	28.5	41	M7 P0.75	NBC6S-□	0.7
-MEGA8S-75T	2.95 - 8.05	18	75	44	31	58	M9 P0.75	NBC8S-□	0.7

1. Nut is included. Collet and wrench must be ordered separately.
2. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
3. Contact us for a plug screw to block a coolant through hole.

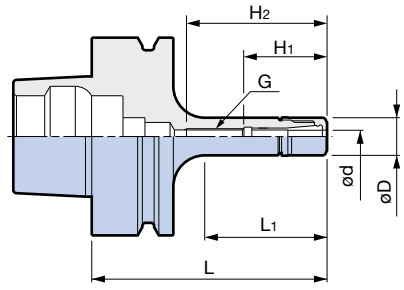
[Straight Type]

MAX. 30,000min^{-1}

● Model Description

HSK-F63 - MEGA 4 S - 75

- 75: L dimension
- S: MICRO CHUCK
- 4: MEGA CHUCK
- MEGA: MEGA CHUCK
- HSK-F63: HSK Shank Type



Through hole type.

F Type (DIN 69893-6)

Model	Clamping diameter ød	øD	L	L_1	H_1	H_2	G	Collet Model	Weight (kg)
HSK-F63-MEGA4S- 75	0.45 - 4.05	12	75	39	26.5	41	M5 P0.8	NBC4S-□	0.7
-105			105	76		47			0.7
-MEGA6S- 75	0.45 - 6.05	14	75	46	28.5	41	M7 P0.75	NBC6S-□	0.7
- 90			90	61		49			0.8
-105			105	76		49			0.8

1. Nut is included. Collet and wrench must be ordered separately.
2. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
3. Contact us for a plug screw to block a coolant through hole.

Standard Accessory	Optional Accessories				
MEGA NUT  For Spares G3	Mega Wrench  G22	Micro Collet  G2	Micro Seal Nut (For 6S and 8S)  G3	Collet Case  G3	α Taper Cleaner  G3

For High Speeds

MEGA NEW BABY CHUCK PAT.

Clamping diameter: ø0.25 - ø20

High-speed small-diameter drilling and endmilling are achieved with the exceptional tool balance and high-precision collet chuck system.

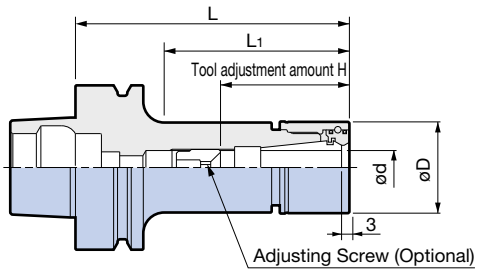
Center through

MAX. 35,000min^{-1}

● Model Description

HSK-F63 - MEGA 6 N - 75

- 75: L dimension
- N: NEW BABY CHUCK
- 6: Maximum clamping diameter
- MEGA: MEGA CHUCK
- HSK-F63: HSK Shank Type



F Type (DIN 69893-6)

Model	Clamping diameter ød	øD	L	L1	Tool adjustment amount H	Collet Model	Weight (kg)
HSK-F63-MEGA 6N- 75	0.25 - 6	20	75	42	23 - 31	NBC 6-□	0.7
- 90			90	53	23 - 43		0.8
-105			105	69			0.8
-135			135	99			0.9
-MEGA 8N- 75	0.5 - 8	25	75	43	26 - 38	NBC 8-□	0.8
- 90			90	54	26 - 45		0.9
-105			105	69			0.9
-120			120	84			0.9
-135			135	99			1.0
-165			165	129			1.1
-MEGA10N- 75 ※	1.5 - 10	30	75	43	48	NBC10-□	0.9
- 90			90	54	38 - 48		0.9
-105			105	69			1.0
-120			120	84			1.1
-MEGA13N- 75 ※	2.5 - 13	35	75	43	47	NBC13-□	0.9
- 90 ※			90	56	61		1.0
-105			105	71	44 - 53		1.1
-120			120	86	44 - 63		1.2
-165			165	131			1.6
-MEGA16N- 75 ※	2.5 - 16	42	75	43	48	NBC16-□	1.0
- 90 ※			90	58	61		1.2
-105			105	73	48 - 56		1.3
-MEGA20N- 75 ※	2.5 - 20	46	75	45	51	NBC20-□	1.1
- 90 ※			90	60	61		1.3
-105			105	75	51 - 58		1.4

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
3. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
5. Contact us for a plug screw to block a coolant through hole.

Standard Accessory

MEGA NUT

For Spares ☞ G10

Optional Accessories

MEGA NUT Flat Type

☞ G10

Mega Wrench

☞ G22

Collet

☞ G4

MEGA PERFECT SEAL

☞ G11

Adjusting Screw

☞ G10

High precision holder with superior collet chuck technology and the pursuit of high-speed and powerful endmilling.

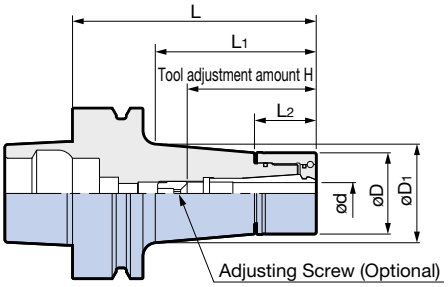
Center through

MAX. 30,000min^{-1}

● Model Description

HSK-F63 - MEGA 6 E - 65

- 65: L dimension
- E: Abbreviation of "E CHUCK"
- 6: Maximum clamping diameter
- MEGA: MEGA CHUCK
- HSK-F63: HSK Shank Type



F Type (DIN 69893-6)

Model	Clamping diameter ød	øD	øD1	L	L1	L2	Tool adjustment amount H	Collet Model	Weight (kg)
HSK-F63-MEGA 6E- 65 ※	3 - 6	25	28.5	65	34	21	39	MEC 6-□	0.8
- 90			31.5	90	58		37 - 45		0.9
-MEGA 8E- 65 ※	3 - 8	30	33	65	34	22.5	41	MEC 8-□	0.8
- 90			36.5	90	59		42 - 47		1.0
-MEGA10E- 75 ※	3 - 10	35	38.5	75	44	23	48	MEC10-□	1.0
- 90 ※			41.5	90	59		67		1.2
-105			44	105	75		48 - 58		1.3
-120			47	120	91				1.6
-135			49	135	107				1.8
-MEGA13E- 75 ※	3 - 12	42	46	75	47	25	50	MEC13-□	1.1
- 90 ※			48.5	90	62		64		1.4
-105			51	105	78		50 - 58		1.6
-135			52	135	108		50 - 60		2.0

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
3. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
4. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance. When using, slowly ramp up to the appropriate speed starting from slow speeds.
5. Contact us for a plug screw to block a coolant through hole.

Standard Accessory

MEGA E Nut

For Spares G13

Optional Accessories

Mega Wrench

G22

MEGA E Collet

G13

MEGA E PERFECT SEAL

G14

Adjusting Screw

G13

For High Speeds

MEGA DOUBLE POWER CHUCK PAT.

Clamping diameter: ø16 - ø32

Complete contact with the nut and body.
High rigidity equal to integration with the machine spindle.

Center through

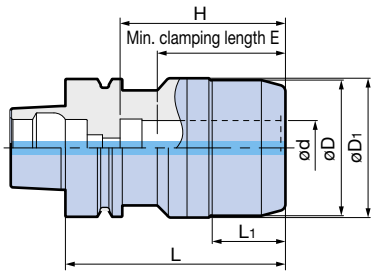
MAX. 28,000min^{-1}

[Standard Type]

● Model Description

HSK-F63 - MEGA 16 D - 80A

- HSK-F63: HSK Shank Type
- MEGA: MEGA CHUCK
- 16: Clamping diameter
- D: Standard type (Through Tools)
- 80A



F Type (DIN 69893-6)

Model	Clamping diameter ød	øD	øD1	L	L1	H	E	Mega Wrench	Weight (kg)
HSK-F63-MEGA16D- 80A	16	42	53	80	25	55	50	MGR42L	1.2
-MEGA20D- 90A	20	50	55	90	34	65	56	MGR50L	1.4
-MEGA25D-100A	25	62	63	100	39	75	57	MGR62L	1.8
-MEGA32D-105A	32	70	71	105	33	80	64	MGR70L	2.0

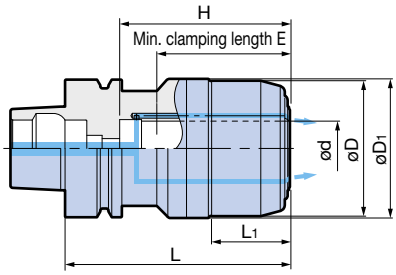
1. Wrench is not included. Please order separately.
2. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
3. H dimension is the max. tool shank length that can be inserted into the holder.
4. Contact us for a plug screw to block a coolant through hole.

[Jet Through Type] Coolant to tool periphery

● Model Description

HSK-F63 - MEGA 16 DS - 80A

- HSK-F63: HSK Shank Type
- MEGA: MEGA CHUCK
- 16: Clamping diameter
- DS: Jet Through Type
- 80A



F Type (DIN 69893-6)

Model	Clamping diameter ød	øD	øD1	L	L1	H	E	Mega Wrench	Weight (kg)
HSK-F63-MEGA16DS- 80A	16	42	53	82	27	57	52	MGR42L	1.2
-MEGA20DS- 90A	20	50	55	92	36	67	58	MGR50L	1.4
-MEGA25DS-100A	25	62	63	102	41	77	59	MGR62L	1.8
-MEGA32DS-105A	32	70	71	107	35	82	66	MGR70L	2.0

1. Wrench is not included. Please order separately.
2. Please note that the practical spindle speed may be considerably influenced by the machine rigidity and tool balance.
   When using, slowly ramp up to the appropriate speed starting from slow speeds.
3. **Jet-through type provides coolant from the chuck nose, thus tools with oil holes cannot be used.**
4. H dimension is the max. tool shank length that can be inserted into the holder.
5. Contact us for a plug screw to block a coolant through hole.

Optional Accessories

Straight Collet	Mega Wrench	Axial Adjusting Screw
 G19	 G22	 G21

For versatile high-precision machining including molds and automotive components.

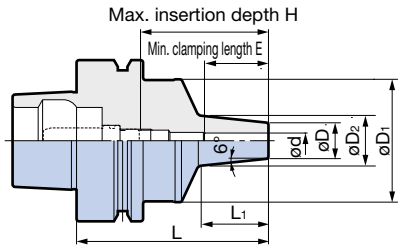
Center through

● Slim design minimizes workpiece interference, ideal for mold making.

[SUPER SLIM Type PAT.P**]**

● Model Description

HSK-F63 - HDC 3 S - 75
- 75: L dimension
- S: SUPER SLIM Type
- 3: Clamping diameter
- HDC: HYDRAULIC CHUCK
- HSK-F63: HSK Shank Type



F Type (DIN 69893-6)

Model	Clamping diameter ød	øD	øD1	øD2	L	L1	H	E	Weight (kg)
HSK-F63-HDC 3S- 75	3	14	48	20	75	26	50	16	1.0
-HDC 4S- 75	4							19	1.0
-HDC 6S- 75	6							25	1.0
-HDC 8S- 75	8	17		23		27		31	1.0
-HDC10S- 75	10	19		26			46	33	1.0
-HDC12S- 75	12	21		28		28		36	1.0

1. Adjusting Screw cannot be used.

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

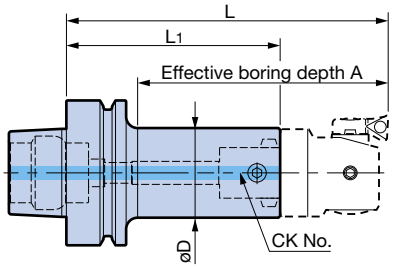
BORING SYSTEM BIG DAISHOWA + KAISER

CK BORING SYSTEM

DUAL CONTACT HSK SHANK

● Model Description

HSK-F63 - CK1 - 78
- 78: CK No.
- HSK-F63: HSK Shank Type



F Type (DIN 69893-6)

Select a head and holder with matching **CK No.**

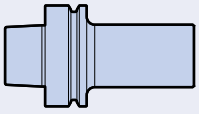
Model	CK No.	øD	L	L1	A	Weight (kg)
HSK-F63-CK1- 78	CK1	19	110	77.5	73	0.8
CK2- 90	CK2	24	125	89.5	94	0.8
CK3-100	CK3	31	140	100	108	1.0
CK4- 93	CK4	39		93		1.2
CK5- 83	CK5	50		83	114	1.3

1. The L and A diameters in the table are the reference values when EWN BORING HEAD is attached.

For heads, A39

● Supports various applications from rough to finish boring with abundant heads and accessories.

BIG DAISHOWA + KAISER
CK BORING SYSTEM Diagram



HSK-F Type

CK1 - CK5

Diameter: ø25 - ø86
ROUGH HEAD **A39**

Diameter: ø20 - ø95
FINISH HEAD **A49**

Back boring available

Diameter: ø30 - ø95

Diameter: ø1 - ø32
FINISH HEAD
(Cylindrical tool type) **A55**

M2 - M36
MEGA SYNCHRO TAPPING HOLDER **A81**

A wide variety of products are available in addition to the listed boring head accessories.

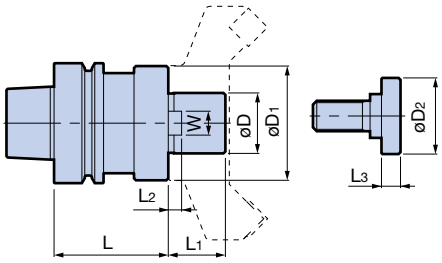
General Toolholder

FACE MILL ARBOR TYPE A

● Model Description

HSK-F63 - FMA 25.4 - 45

- 45: L dimension
- 25.4: Spigot diameter
- FMA: FACE MILL ARBOR TYPE A
- HSK-F63: HSK Shank Type



F Type (DIN 69893-6)

Model	øD	øD1	øD2	L	L1	L2	L3	W	Clamping Screw	Weight (kg)
HSK-F63-FMA25.4-45	25.4	45	33	45	22	5	10	9.5	MBA-M12	1.0

1. Clamping screw is included.
2. Contact us for a plug screw to block a coolant through hole.

Accessories for HSK

COOLANT PIPE

Coolant Pipe (Compatible for form A & E)

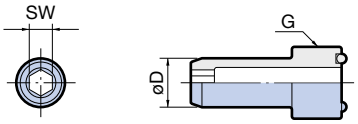
Contact us for the Coolant Pipe for the HSK-F type.

Caution

For machines capable of supplying coolant through the spindle, the Coolant Pipe should be fitted to all the holders to protect against accidental selection of coolant.

● Mono Block Type

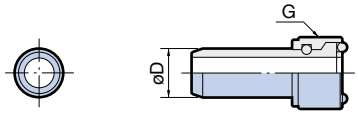
· Some machine tool builders may recommend the Mono Block Type. Check with the machine when selecting Mono Block or 1° Swing Type.



Model	øD	G	⬡ SW
HSK 25-CP	5	M 8xP1	2.5
32-CP	6	M10xP1	3
40-CP	8	M12xP1	4
50-CP	10	M16xP1	5
63-CP	12	M18xP1	6
80-CP	14	M20xP1.5	8
100-CP	16	M24xP1.5	8

● 1° Swing Type

· The DIN and ISO standards require movement range of ±1°. An exclusive wrench (optional) is required when attaching the 1° Swing Type to a holder.



Model	øD	G	Wrench Model (Optional)
HSK 40-CPM	8	M12xP1	CPW- 40
50-CPM	10	M16xP1	CPW- 50
63-CPM	12	M18xP1	CPW- 63
80-CPM	14	M20xP1.5	CPW- 80
100-CPM	16	M24xP1.5	CPW-100

Cylindrical Shank

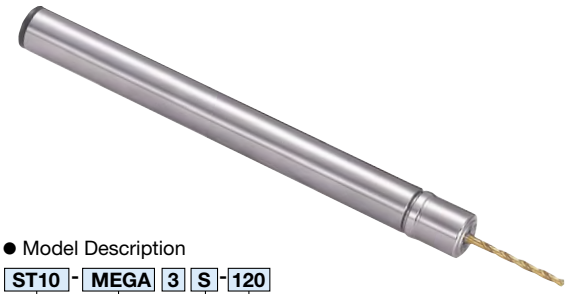
CYLINDRICAL Shank

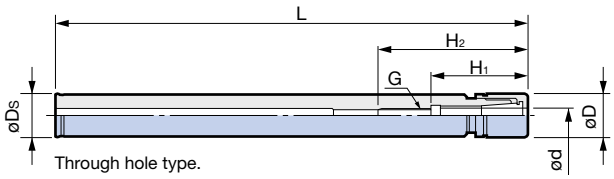
For High Speeds

MEGA MICRO CHUCK PAT.

Clamping diameter: ø0.45 - ø8.05

● Achieves high-precision machining in combination with the Mega New Baby Chuck.





Through hole type.

● Model Description

ST10 - MEGA 3 S - 120

- 120: L dimension
- S: MICRO CHUCK
- MEGA: MEGA CHUCK
- 3: Cylindrical shank diameter
- ST10: Cylindrical shank diameter

Model	Clamping diameter ød	øD	øDs	L	H1	H2	G	Collet Model	Weight (kg)
ST10-MEGA3S-120	0.45 - 3.25	10	10	120	22	38	M4 P0.7	NBC3S-□	0.06
ST12-MEGA4S-130	0.45 - 4.05	12	12	130	26.5	47	M5 P0.8	NBC4S-□	0.11
-160				160					0.13
ST14-MEGA6S-160	0.45 - 6.05	14	14	160	28.5	49	M7 P0.75	NBC6S-□	0.18
-200				200					0.21
ST16-MEGA8S-160	2.95 - 8.05	18	16	160	31	50.5	M9 P0.75	NBC8S-□	0.23
-200				200					0.25

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.

Cylindrical Shank Set

● With a set box convenient for storage

Set Contents

Model **SST12-MEGA4S-130**

<ø12 shank type accessories>
- Body/ST12-MEGA4S-130 (with MGN4S nuts)
- Micro Collet/NBC4S-3 and 4 (ø3, ø4)
- Mega Wrench/MGR12 ● Exclusive set box

Model **SST16-MEGA8S-160**

<ø16 shank type accessories>
- Body/ST16-MEGA8S-160 (with MGN8S nuts)
- Micro Collet/NBC8S-3, 4, 6 and 8 (ø3, ø4, ø6, ø8)
- Mega Wrench/MGR18 ● Exclusive set box

Model **SST14-MEGA6S-160**

<ø14 shank type accessories>
- Body/ST14-MEGA6S-160 (with MGN6S nuts)
- Micro Collet/NBC6S-3, 4, 5 and 6 (ø3, ø4, ø5, ø6)
- Mega Wrench/MGR14 ● Exclusive set box

Standard Accessory	Optional Accessories				
MEGA NUT	Mega Wrench	Micro Collet	Micro Seal Nut (For 6S and 8S)	Collet Case	α Taper Cleaner
					
For Spares ☞ G3	☞ G22	☞ G2	☞ G3	☞ G3	☞ G3

● Handles interference issues flexibly when combined with the MEGA DOUBLE POWER CHUCK.

Center through

● Model Description

ST20 - MEGA 6 N - 100

- 100: L dimension
- N: NEW BABY CHUCK
- 6: Maximum clamping diameter
- MEGA: MEGA CHUCK
- ST20: Cylindrical shank diameter

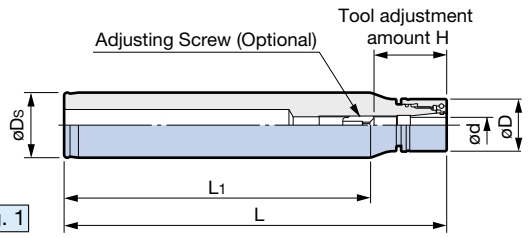


Fig. 1

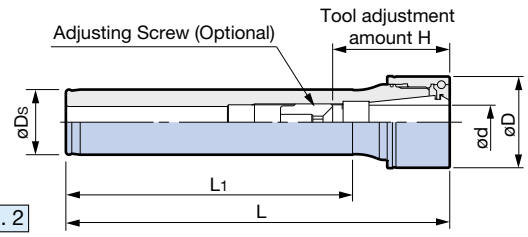


Fig. 2

Model	Fig.	Clamping diameter ød	øD	øDs	L	L1	Tool adjustment amount H	Collet Model	Nut Model	Weight (kg)
ST20-MEGA 6N-100	1	0.25 - 6	20	20	100	76	20 - 40	NBC 6-□	MGN 6F	0.2
-150					150	126				0.3
-250					250	226				0.5
-MEGA 8N-100	2	0.5 - 8	25		100	65	23 - 42	NBC 8-□	MGN 8F	0.3
-150					150	115				0.4
-250					250	215				0.6
-MEGA10N-100		1.5 - 10	30		100	60	35 - 45	NBC10-□	MGN10F	0.3
-150					150	110				0.4
-250					250	210				0.6
ST25-MEGA 6N-150	1	0.25 - 6	20	25	150	116	20 - 40	NBC 6-□	MGN 6F	0.5
-MEGA 8N-150		0.5 - 8	25		150	123	25 - 45	NBC 8-□	MGN 8F	0.5
-200					200	173				0.7
-MEGA10N-150	2	1.5 - 10	30		150	123	35 - 45	NBC10-□	MGN10F	0.5
-200					200	173				0.7
-MEGA13N-150		2.5 - 13	35		150	110	41 - 60	NBC13-□	MGN13F	0.6
-200					200	160				0.7
ST32-MEGA 6N-150	1	0.25 - 6	20	32	150	113	20 - 40	NBC 6-□	MGN 6F	0.8
-MEGA 8N-150		0.5 - 8	25		150	111	23 - 42	NBC 8-□	MGN 8F	0.9
-MEGA10N-150		1.5 - 10	30		150	123	35 - 45	NBC10-□	MGN10F	0.8
-200					200	173				1.1
-MEGA13N-150	2	2.5 - 13	35		150	120	41 - 60	NBC13-□	MGN13F	0.9
-200					200	170				1.1
-300					300	270				1.6
-MEGA16N-150		2.5 - 16	42		150	110	45 - 65	NBC16-□	MGN16F	1.0
-200					200	160				1.2
-300					300	260				1.7
-MEGA20N-150		2.5 - 20	46		150	105	48 - 65	NBC20-□	MGN20F	1.0
-200					200	155				1.3
-300					300	255				1.9

1. Nut is included (flat type). Collet, wrench, and Adjusting Screw must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
5. BIG ST LOCK is available for mounting and removing tools.

For ST LOCK, H3

Standard Accessory

MEGA NUT Flat Type

For Spares G10

Optional Accessories

Mega Wrench

G22

Collet

G4

MEGA PERFECT SEAL

G11

Adjusting Screw

G10

Collet Chuck System

NEW BABY CHUCK PAT.

Clamping diameter: ø0.25 - ø20

Handles interference issues flexibly when combined with the NEW Hi-POWER MILLING CHUCK.

- Enables easy tool layout for horizontal machining center prone to interference with workpieces and jigs.

● Model Description

ST20 - NBS 6 - 100

- 100: L1 dimension ※
- 6: Maximum clamping diameter
- NBS: NEW BABY CHUCK System
- ST20: Cylindrical shank diameter

Fig. 1

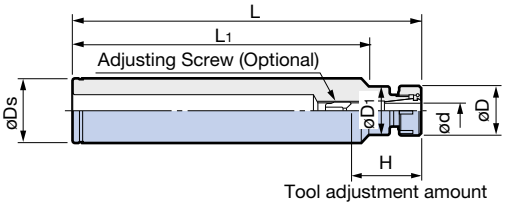
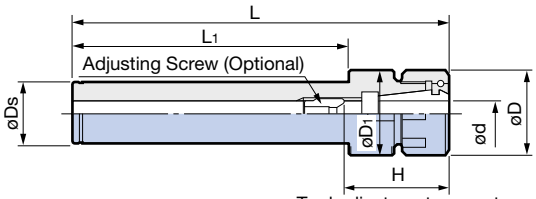


Fig. 2



※ Note that the 3rd digit in the model number does not correspond to the L dimension (overall length).

Model	Fig.	ød	øD	øD1	øDs	L	L1	H	Collet Model	Weight (kg)
ST20-NBS 6-100	1	0.25 - 6	20	19.5	20	124	100	20 - 40	NBC 6-□	0.27
-150						174	150			0.39
-250 ※						274	250			0.64
-NBS 8-100	2	0.5 - 8	25	24.5		126	100	23 - 42	NBC 8-□	0.29
-150						176	150			0.41
-250 ※						276	250			0.66
-NBS10-100		1.5 - 10	30	29.5		128	100	35 - 45	NBC10-□	0.32
-150						178	150			0.44
-250 ※						278	250			0.69
-350 ※						378	350			0.93
ST25-NBS 6-150	1	0.25 - 6	20	19.5	25	174	150	20 - 40	NBC 6-□	0.60
-200 ※						224	200			0.79
-250 ※						274	250			0.98
-NBS 8-150		0.5 - 8	25	24.5		176	150	23 - 42	NBC 8-□	0.62
-200 ※						226	200			0.81
-250 ※						276	250			1.00
-NBS10-150	2	1.5 - 10	30	29.5		178	150	35 - 45	NBC10-□	0.65
-200 ※						228	200			0.84
-250 ※						278	250			1.03
-NBS13-150		2.5 - 13	35	34.5		184	150	41 - 60	NBC13-□	0.67
-200 ※						234	200			0.86
-250 ※						284	250			1.05

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Models with ※ do not have a through hole.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).
5. BIG ST LOCK is available for mounting and removing tools. H3

Standard Accessory

New Baby Nut

For Spares G26

Optional Accessories

New Baby Wrench

G26

Collet

G4

BABY PERFECT SEAL

G24

Adjusting Screw

G10

Tap Adjusting Screw

G26

※ Note that the 3rd digit in the model number does not correspond to the L dimension (overall length).

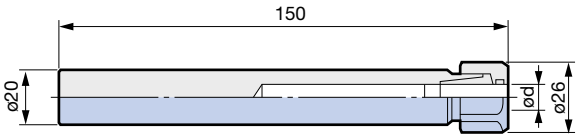
Model	Fig.	ød	øD	øD1	øDs	L	L1	Tool adjustment amount H	Collet Model	Weight (kg)
ST32-NBS 6-150	1	0.25 - 6	20	19.5	32	174	150	20 - 40	NBC 6-□	0.96
-200 ※						224	200			1.28
-NBS 8-150		0.5 - 8	25	24.5		176	150	23 - 42	NBC 8-□	0.99
-200 ※						226	200			1.30
-NBS10-150		1.5 - 10	30	29.5		178	150	35 - 45	NBC10-□	1.02
-200 ※						228	200			1.33
-250 ※						278	250			1.64
-350 ※						378	350			1.95
-NBS13-150	2	2.5 - 13	35	34.5		184	150	41 - 60	NBC13-□	1.04
-200 ※						234	200			1.35
-250 ※						284	250			1.67
-300 ※						334	300			2.30
-NBS16-150		2.5 - 16	42	41.5		184	150	45 - 65	NBC16-□	1.05
-200 ※						234	200			1.37
-300 ※						334	300			2.00
-NBS20-150		2.5 - 20	46	45.5		184	150	48 - 65	NBC20-□	1.05
-200 ※						234	200			1.37
-300 ※						334	300			2.00

1. The nut is included but the collet, wrench and Adjusting Screw must be ordered separately.
2. Models with ※ do not have a through hole.
3. Weight includes the nut but not the collet.
4. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw (NBA).
5. BIG ST LOCK is available for mounting and removing tools. H3

● Small-diameter endmill holder that prevents interference.

● Model Description

MB 20 - 6
- 6: Clamping diameter
- 20: Shank diameter
- MB: BABY CHUCK



Model	Standard Accessory (collet with nut)	
	Model	ød
MB20- 6	BC- 6	6
- 8	- 8	8
-10	-10	10

1. When spare collet is required, order the collet with nut model BC-x.
2. BIG ST LOCK is available for mounting and removing tools.

For ST LOCK, H3

<BABY CHUCK Set>

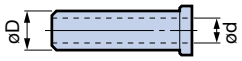
● Model Description

SMB - 20
- 20: Shank diameter
- SMB: BABY CHUCK Set

Model	Standard Accessory (Collet with nut)
SMB-20	BC-6, 8, 10

1. The set includes 3 types of collet with nut.

<Straight Collet>



● Model Description

C6 - 3
- 6: Collet outer diameter
- 3: Collet inner diameter

Model	ød	øD
C6-3	3	6
-4	4	
-5	5	

Model	ød	øD
C10-4	4	10

HYDRAULIC CHUCK

HYDRAULIC CHUCK

Clamping diameter: ø4 - ø20

For versatile high-precision machining including molds and automotive components.

NEW

Center through

● Cylindrical shank type that prevents interference with workpieces.

● Model Description

ST20 - HDC 4 S - 180

- 180: L dimension
- S: SUPER SLIM Type
- 4: Clamping diameter
- HDC: HYDRAULIC CHUCK
- ST20: Cylindrical shank diameter

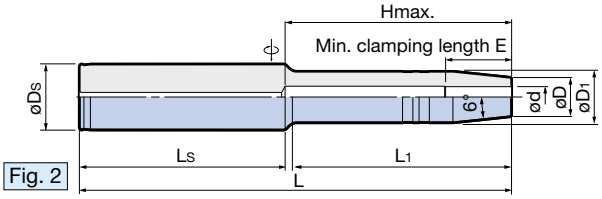


Fig. 2

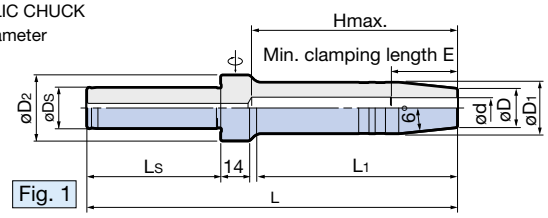


Fig. 1

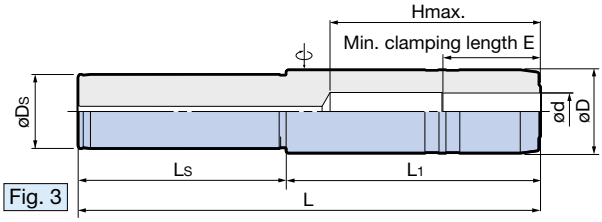


Fig. 3

Model	Fig.	Clamping diameter ød	øD	øD1	øD2	øDs	L	L1	Ls	H Max.	E	Weight (kg)
ST20-HDC 4S-180	1	4	14	18	32	20	180	94	65	–	19	0.40
-HDC 6S-180		6		20				95		101	25	0.43
-HDC 8S-180		8	17	23				96			31	0.50
-HDC10S-180		10	19	25				97		100	33	0.54
-HDC12S-180		12	21	28				99			36	0.61
ST32-HDC10S-210	2	10	19	25	–	32	210	106	100	110	33	0.98
-HDC12S-210		12	21	28				108		109	36	1.06
-HDC16 -200	3	16	36	–			200	110	90	91	43	1.27
-HDC20 -200		20	38							90		1.28

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

MILLING CHUCK

NEW Hi- POWER MILLING CHUCK

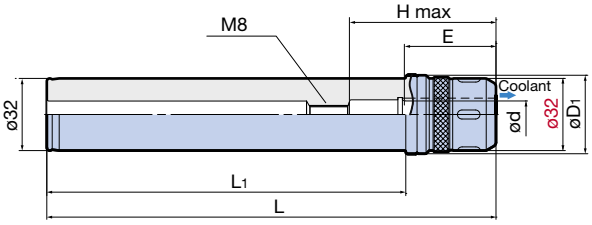
Clamping diameter: ø12

Slim milling chuck with high rigidity.
Nut diameter of ø32 avoids interference.

NEW

Center through

Jet Through Coolant



● Model Description

ST32 - HMC 12 J - 120

- 120: L dimension
- J: Jet Through Type
- 12: Chuck bore
- HMC: NEW Hi- POWER MILLING CHUCK
- ST32: Cylindrical shank diameter

Model	Clamping diameter ød	øD1	L	L1	H Max.	Min. clamping length E	Wrench Model	Weight (kg)
ST32-HMC12J-120	12	35	120	80	65	43	FK31-33	0.7
-160			160	120				0.9
-200			200	160				1.1

1. Wrench is not included. Please order separately.

For Straight Collets, G18

Clamping diameter ø4 -

Center through

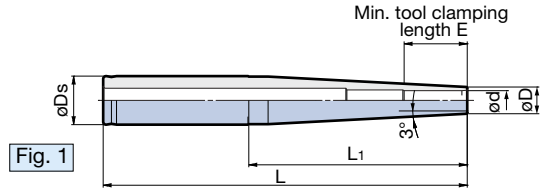


Fig. 1

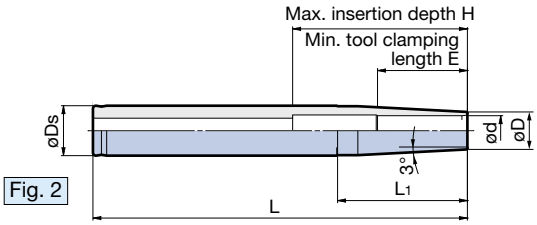


Fig. 2

● Model Description

ST20 - SRC 4 SS - 150 - K40

- K40: Stepped L1 dimension (Fig. 3 only)
- 150: L dimension
- SS: SUPER SLIM Type
- 4: Clamping diameter
- SRC: SHRINK CHUCK
- ST20: Cylindrical shank diameter

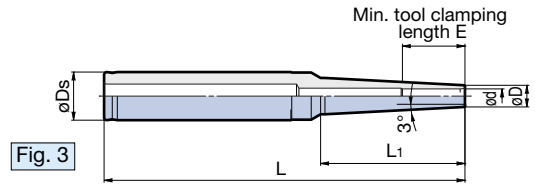


Fig. 3

SUPER SLIM Type

Model	Fig.	Clamping diameter ød	øD	øDs	L	L1	H	E	Weight (kg)
ST12-SRC 4SS-120 ※	1	4	7	12	120	51	—	16	0.10
-SRC 6SS-120	2	6	9			32	52	26	0.10
ST20-SRC 4SS-150-K40 ※	3	4	7	20	150	40	—	16	0.25
-SRC 6SS-150-K60		6	9	20	150	60	—	26	0.25
-200	1				200	110			0.30
-200-K60	3					60			0.30
-250	1				250	110			0.35
-250-K60	3					60			0.40
-SRC 8SS-150	1	8	11	20	150	90	—	26	0.25
-200					200				0.30
-250					250				0.40
-SRC10SS-150	2	10	13	20	150	71	60	32	0.25
-200					200				0.35
-250					250				0.40
-SRC12SS-150	2	12	15	20	150	52	70	36	0.25
-200					200				0.35
-250					250				0.45

1. Use a carbide shank cutter within a tolerance of h6.
   For ※ models, use a carbide shank with a tolerance within h5.
2. Center through coolant supply is available with tools with oil holes.

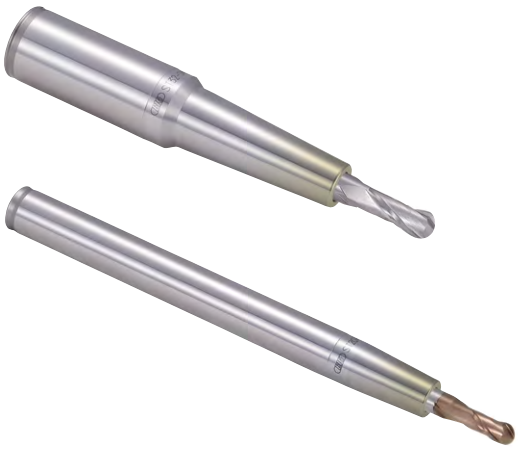
<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

SHRINK CHUCK

Clamping diameter: ø8 - ø20

Clamping diameter ø8 -

Center through



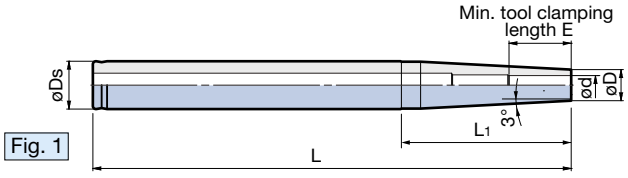


Fig. 1

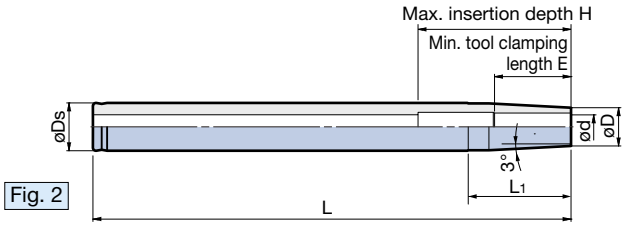


Fig. 2

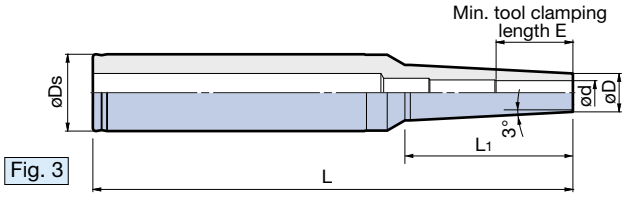


Fig. 3

● Model Description

ST32 - SRC 10 S - 150 - K70

- ST32: Cylindrical shank diameter
- SRC: SHRINK CHUCK
- 10: Clamping diameter
- S: Slim Type
- 150: L dimension
- K70: Stepped L1 dimension (Fig. 3 only)

Slim Type

Model	Fig.	Clamping diameter ød	øD	øDs	L	L1	H	E	Weight (kg)
ST20-SRC 8S-150	1	8	13	20	150	71	—	26	0.25
-200					200				0.35
-250					250				0.45
SRC10S-150	2	10	16	20	150	43	60	32	0.25
-200					200				0.35
-250					250				0.45
ST32-SRC10S-150-K70	3	10	16	32	150	70	—	32	0.50
-200-K70					200				0.75
-300-K70					300				1.20
-SRC12S-150-K70	3	12	19	32	150	70	—	36	0.55
-200-K70					200				0.80
-300	1				300	129			1.20
-300-K70	3					70			1.25
-SRC16S-150	2	16	24	32	150	83	70	38	0.60
-200					200		80		0.85
-300					300				1.30
-SRC20S-150	2	20	28	32	150	50	80	38	0.60
-200					200				0.85
-300					300				1.30

1. Use a carbide shank cutter within a tolerance of h6.
2. Center through coolant supply is available with tools with oil holes.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

Clamping diameter ø4 -

Center through

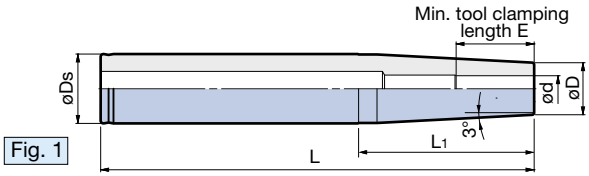


Fig. 1

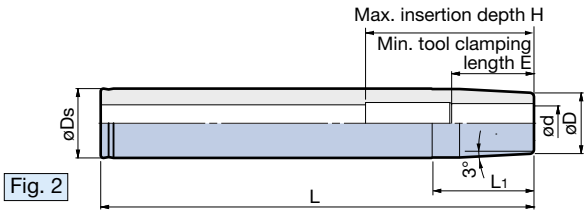


Fig. 2

● Model Description

ST20 - SRC - 4 - 150 - K40

- K40: Stepped L1 dimension (Fig. 3 only)
- 150: L dimension
- 4: Clamping diameter
- SRC: SHRINK CHUCK
- ST20: Cylindrical shank diameter

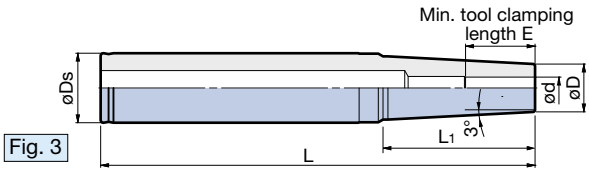


Fig. 3

Standard type

Model	Fig.	Clamping diameter ød	øD	øDs	L	L1	H	E	Weight (kg)
ST20-SRC 4-150-K40 ※	3	4	10	20	150	40	—	16	0.25
-150-K80 ※						80			0.20
-SRC 6-150	1	6	14	20	150	62	—	26	0.30
-200					200				0.35
-250					250				0.45
ST32-SRC10-150-K70	3	10	22	32	150	70	—	32	0.65
-200	1				200	100			0.85
-200-K70	3					70			0.90
-300	1				300	100			1.30
-300-K70	3					70			1.35
SRC12-150	1	12	24	32	150	81	—	36	0.65
-200					200				0.90
-300					300				1.35
SRC16-150	2	16	28	32	150	47	70	38	0.70
-200					200		80		0.90
-300					300				1.35

1. Use a carbide shank cutter within a tolerance of h6.
   For ※ models, use a carbide shank with a tolerance within h5.
2. Center through coolant supply is available with tools with oil holes.

<Some shrink fit machines may not be compatible with the Shrink Chuck. Please refer to the shrink fit machine operation manual.>

MEGA SYNCHRO TAPPING HOLDER PAT.

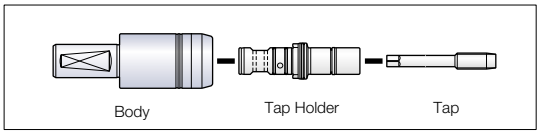
M2 - M20

Improves thread quality and tap life by reducing thrust loads caused by synchronization errors up to 90%.

Center through

● Long tap holder now available as standard in addition to various tap sizes.

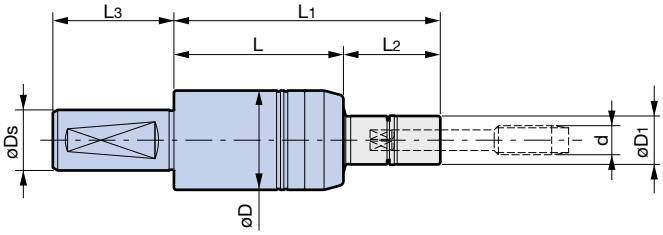
For tap holders A122.



● Model Description (Body)

ST20 - MGT6 - 65

- 65: L1 dimension
- MGT6: MEGA SYNCHRO No.
- ST20: Cylindrical shank No.



※ Use the BIG Side Lock Holder (TSL). A117

Model	Tap Holder Model	Tapping range d	øD	øD1	øDs	L	L1	L2	L3	Weight (kg)
ST20-MGT 6-65	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	20	65	95	30	40	0.5
	- 70						135	70		
	-100						165	100		
ST25-MGT12-70	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	25	70	100	30	50	0.8
	- 70						140	70		
	-100						170	100		
ST32-MGT20-90	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	32	90	125	35	55	1.5
	- 85						175	85		
	-115						205	115		

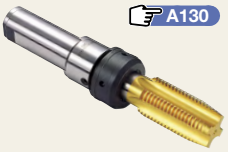
1. MGT Set Screw is included.
2. Tap holder and wrench are not included. Please order separately. A122

Cannot be used with machining center without synchronized tapping function.

For Mega Wrench, A126

SYNCHRONIZED TAP HOLDER STD52
M39 - M52

A130

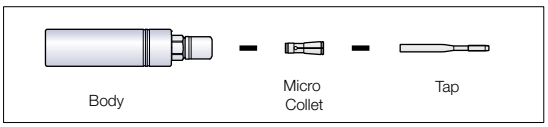


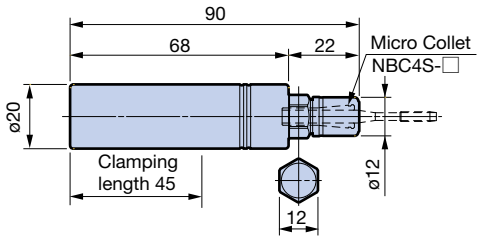
[Small Diameter Tap MGT3] M1 - M3

Model	ST20-MGT3-90

1. Nut is included, but wrench and collet are not. Please order separately.
2. When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required. Prepare this on your own.

· Cannot be used with machining center without synchronized tapping function.
· Cannot be used with center through.



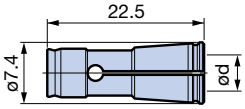


● Mega Wrench

Model	MGR12

1. When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required. Prepare this on your own.

● Micro Collet



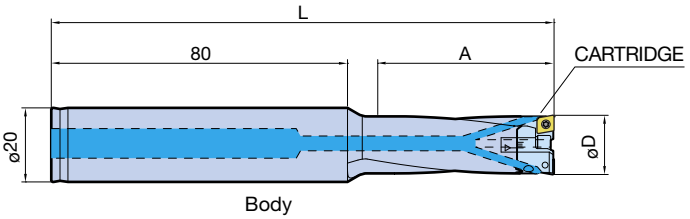
Model	Tapping range		Tap shank diameter ød
	Metric	Unify	
NBC4S - 3.0AA	M1 - M2.6	No.0 - 4	3
NBC4S - 4.0AA	M3	No.5, 6	4

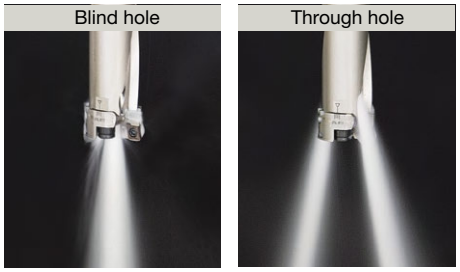
MW BORING HEAD (for roughing)

Center through

Achieves high efficiency small diameter rough boring with 2 inserts.

● Designed with versatile ø20 cylindrical shank.



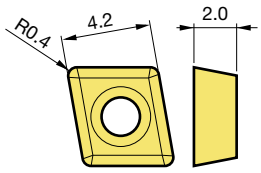


Threads for plug screws are prepared in the coolant holes to change the coolant directions.

Diameter øD	Model	Cartridge Model	L	Effective boring depth A
16 - 19	**ST20-MW1619-45**	**MW1619E**	136	45
	-60		151	60
18 - 21	**-MW1821-50**	**MW1821E**	141	50
	-65		156	65

1. Insert clamp screw and wrench are included.
2. Inserts must be ordered separately.

● Insert (optional)



Workpiece material	Insert Model	Materials
Steel/Stainless steel	**MW0404F Z30P**	P30 equivalent carbide substrate TiAlN + AlCrN coating
Cast iron/ Ductile	**MW0404S Z30K**	K20 equivalent carbide substrate TiAlN + AlCrN coating
Non-ferrous metal/ Aluminum	**MW0404E D15N**	K15 equivalent carbide substrate DLC coating

1. Inserts sold in packets of 10 pcs.

Example: MW0404F Z30P... 10 pcs

● Insert Clamping Screw Set (optional)

Set Model	Thread size	Wrench
S1.6S-T6	M1.6 x 4.2	FA-T6

1. The set contains ten screws and a wrench.

※ Wrenches are also available separately.

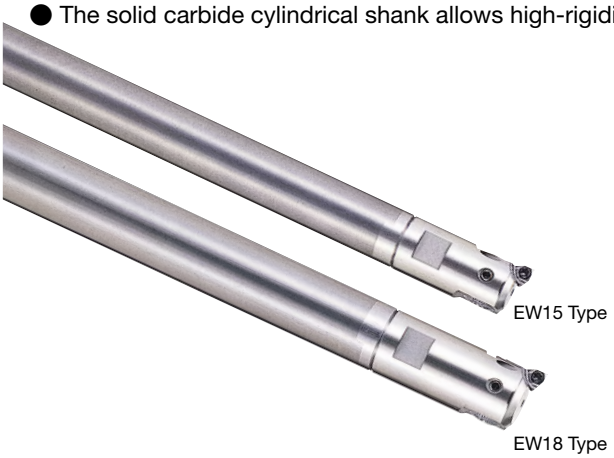
CK BORING SYSTEM

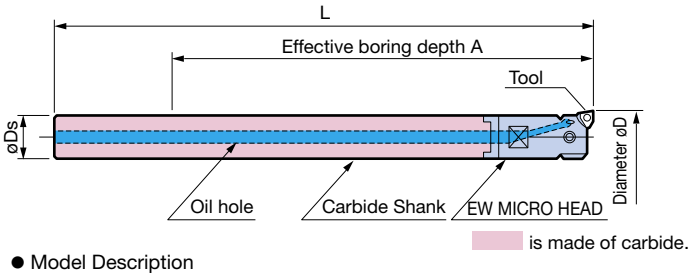
With Carbide Shank
EW MICRO HEAD Diameter: ø15 - ø22

Carbide | Center through

Smaller head while maintaining popular ø0.01mm/div. adjusting mechanism.

- Adjustment with only micro-quill eccentricity preserves high speed capability.
- The solid carbide cylindrical shank allows high-rigidity boring.





is made of carbide.

● Model Description

ST14 W - EW 15 - 110
- 110: Effective boring depth
- 15: Min. diameter
- EW: FINISH HEAD
- W: Carbide
- ST14: Cylindrical shank diameter

Model	øDs	Diameter øD	L	A	Tool Model	Insert	Insert Clamping Screw Set
ST14W-EW15-110	14	15 - 18	151	110	EN15	WC02	S2S-B
-140			181	140			
ST16W-EW18-100	16	18 - 22	144	100			
-160			204	160			

1. The carbide shank and micro head are integrated and cannot be sold separately.
2. Inserts must be ordered separately.

A85 A91

Caution
The maximum boring depth differs depending on the workpiece material.

CK Cylindrical Shank

● Model Description

ST32 - CK1 - 73
- 73: Effective boring depth
- CK1: CK No.
- ST32: Cylindrical shank No.

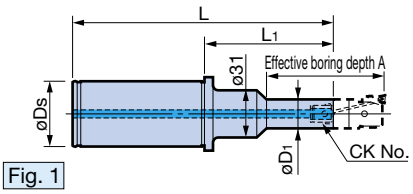


Fig. 1

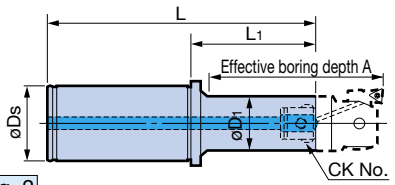


Fig. 2

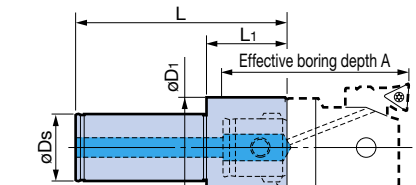


Fig. 3

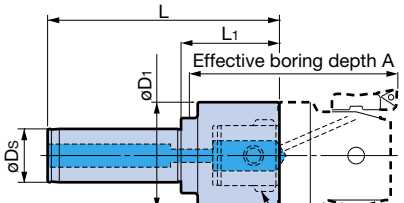


Fig. 4

Model	Fig.	CK No.	øD1	øDs	L	L1	A	Weight (kg)
ST32-CK1- 73	1	CK1	19	32	157	77	73	0.7
-CK2-100	2	CK2	24		152.5	72.5	100	0.7
-CK3-100		CK3	31		149	69		0.8
-CK4-100	3	CK4	39		138	58		0.9
-CK5-100	4	CK5	50		128	48		0.9
-CK6-125		CK6	64		139	59	125	1.5
ST42-CK1- 73	1	CK1	19	42	157	77	73	1.0
-CK2-100	2	CK2	24		152.5	72.5	100	1.0
-CK3-100		CK3	31		149	69		1.1
-CK4-100		CK4	39		143	63		1.2
-CK5-100	3	CK5	50		128	48		1.3
-CK6-125	4	CK6	64		139	59	125	1.8

1. Head and insert must be ordered separately.

For heads, A39

For chucking

When using a cylindrical shank tool, we recommend
BIG DAISHOWA **NEW Hi- POWER MILLING CHUCK**
for its high accuracy and rigidity.

For details, A29

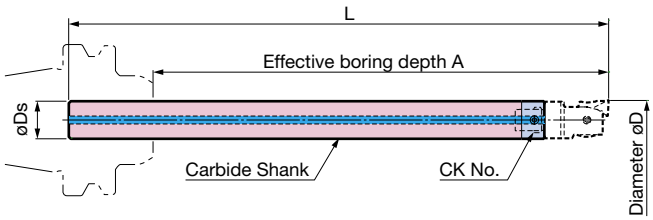
CK Carbide
Cylindrical Shank

Carbide | Center through

● The solid carbide bar realizes efficient deep hole boring which was conventionally impossible.

● Model Description

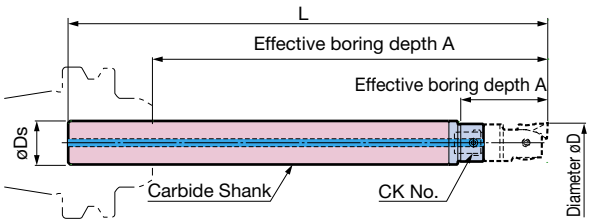
ST19 W - CKB1 - 130
- 130: Effective boring depth
- CKB1: CK No.
- W: Carbide
- ST19: Cylindrical shank diameter



Model	CK No.	øDs	Diameter øD	L	A
ST19W-CKB1-130	CK1	19	20 - 36	172.5	130
-180				222.5	180
-230				272.5	230
ST24W-CKB2-150	CK2	24	25 - 47	195.5	150
-210				255.5	210
-280				325.5	280
ST31W-CKB3-160	CK3	31	32 - 60	240	160
-240				320	240
-310				390	310

Refer to the remarks in the table below.

■ Stepped type



is made of carbide.

Model	CK No.	øDs	Diameter øD	L	A
ST22W-CKB1-45 / 200	CK1	22	20 - 22	242.5	45
			22 - 36		200
ST28W-CKB2-55 / 235	CK2	28	25 - 28	280.5	55
			28 - 47		235

1. The L and A dimensions in the table are the reference values when EWN BORING HEAD is attached.
2. Head and inserts are not included.

For heads, A39

Caution
The maximum boring depth differs depending on the workpiece material.

OTHER TOOLS

Other Cylindrical Shank Products

MEASURING TOOLS

Touch Probe & Edge Finder
Compact Sensor Series

Flexible
arm stand

Locks securely with
powerful cam mechanism
Accu Stand

CUTTING TOOLS

Ultra High Feed
Chamfer Mill

Smaller diameter for
higher feed rate
C-CUTTER MINI

Wide Range
Chamfering Tool

High-efficiency chamfering cutter capable
of covering wide range with 1 tool
C-Cutter

Ultra-small diameter allows both front
and back chamfering on complex
workpieces!
C-CUTTER MICRO

R-CUTTER

Automated rounded chamfering
R-Cutter

Chamfering Tool
for Drilling Machine

Carbide guide eliminates chatter
C-CUTTER BOY

Centering +
chamfering tool

Simultaneous centering and
chamfering before drilling.
CENTER BOY

Back spot facing tool

Optimal design that
matches cap bolt size
BF-CUTTER

Back spot facing tool

Achieves automatic back spot facing
in machining centers
Automatic Back Spot Facer

Indexable
Insert Endmill

Low cutting resistance!
High-efficiency endmill cutter.
FULLCUT MILL
FCR/FCM

MILLTURN TOOLING

BBT/HSK-T/BIG CAPTO Shank

E

Revolutionary modular system for turning

45° (Tilt Type) S Type

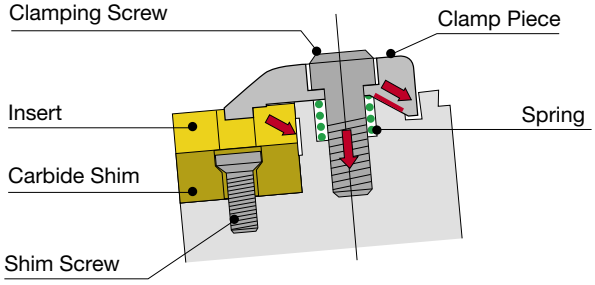
Tilting the “B” axis 45° minimizes the cutting forces transmitted to the machine spindle.

90° (Right Angle Type) F Type PAT.

Basic holder can be used with both right- and left-hand cartridges.

A **double-clamping system** that utilizes a “Push and Draw” mechanism to fix inserts securely

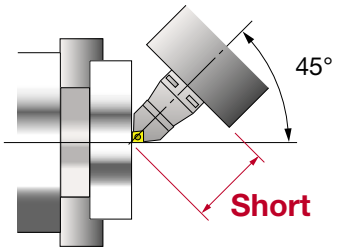
Secure insert clamping has been realized through the double-clamping system, which pushes the insert downwards while at the same time generating drawing force on the insert contact surface.



The issue of a valuable holder breakage caused by problems such as chipping has been eliminated through the use of a “modular system”, resulting in enhanced efficiency and economy.

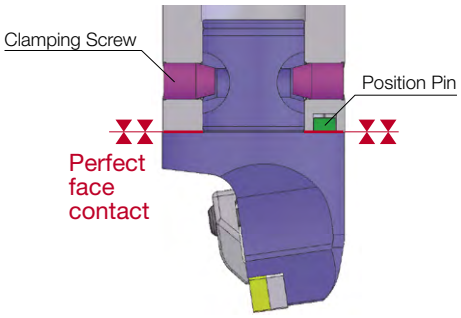
45° incline avoids interference with the chuck

Tool length can be minimized.

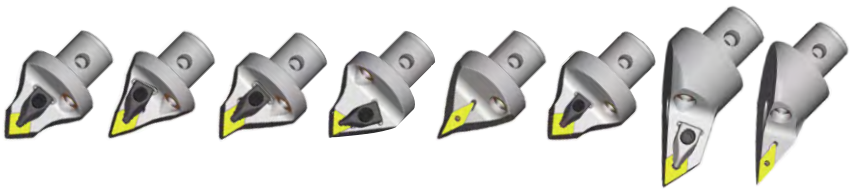


Strong clamping system

The two shallow-tapered clamping screws securely maintain contact between the cartridge and the basic holder flange face.

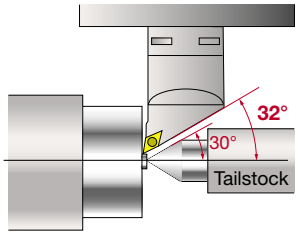


A total of 15 types of cartridges are available to support various applications



Comprehensive interference countermeasures

A series of “near-center” type cartridges are available, eliminating interference with the tailstock.

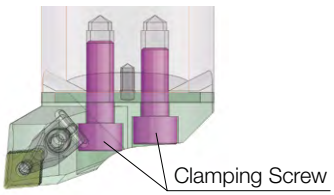


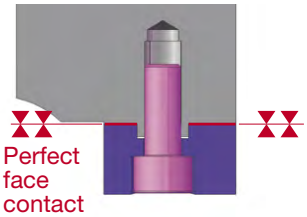
13 types of cartridges are available to support various applications

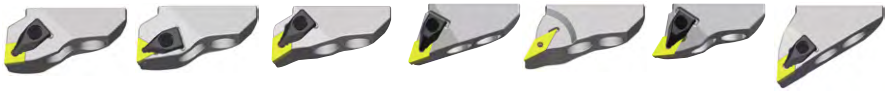
Both right hand and left hand are available.

Strong clamping system

In the F Type clamping system, cartridges are fixed using the two front clamping screws. The interlocking drive slot receives the cutting torque firmly.

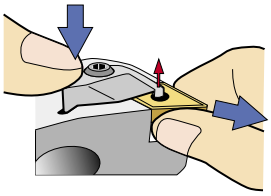






Easy attachment and removal of inserts

Insert attachment and removal can be performed easily by the built-in spring.
Loosen the clamping screw one full rotation, lightly press the clamp piece with a finger, and its tip will pop up.

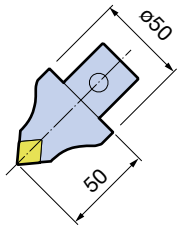


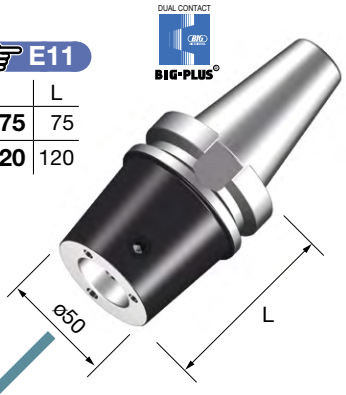
Turning Tool System Chart

45°

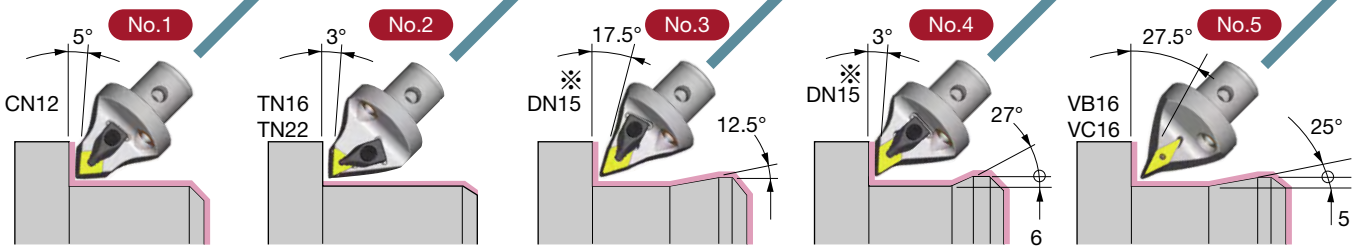
S Type
Basic Holder E11

	L
BBT40M-S50- 75	75
BBT50M-S50-120	120





S Type (Tilt Type)
Cartridge
E7



S50-DCLNN-00050-12

S50-DTJNR-00050-16(22)
-DTJNL-00050-16(22)

S50-DDHNN-00050-15

S50-DDJNR-00050-15
-DDJNL-00050-15

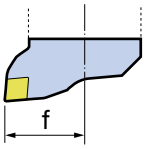
S50-SVQBN-00050-16

※ When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

90°

F Type
Basic Holder E12

	L	øD
BBT40M-F50- 75	75	50
-105	105	
BBT50M-F63- 70	70	63
-130	130	



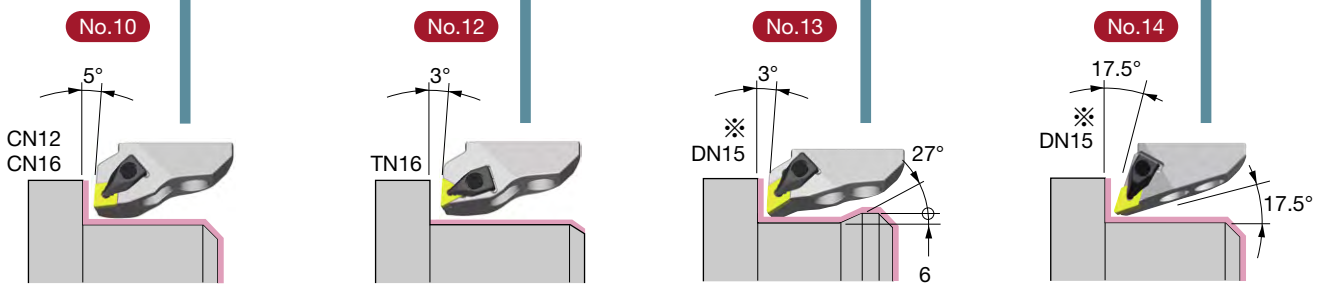
	f
F50	35
F63	45

S Type
Basic Holder E11

S Type
Cartridge E7

No.1
No.3
No.5
No.8

F Type (Right Angle Type)
Cartridge
E9



F50-DCLNR-35035-12(16)
-DCLNL-35035-12(16)

F63-DCLNR-45035-12(16)
-DCLNL-45035-12(16)

F50-DTJNR-35035-16
-DTJNL-35035-16

F63-DTJNR-45035-16
-DTJNL-45035-16

F50-DDJNR-35035-15
-DDJNL-35035-15

F63-DDJNR-45035-15
-DDJNL-45035-15

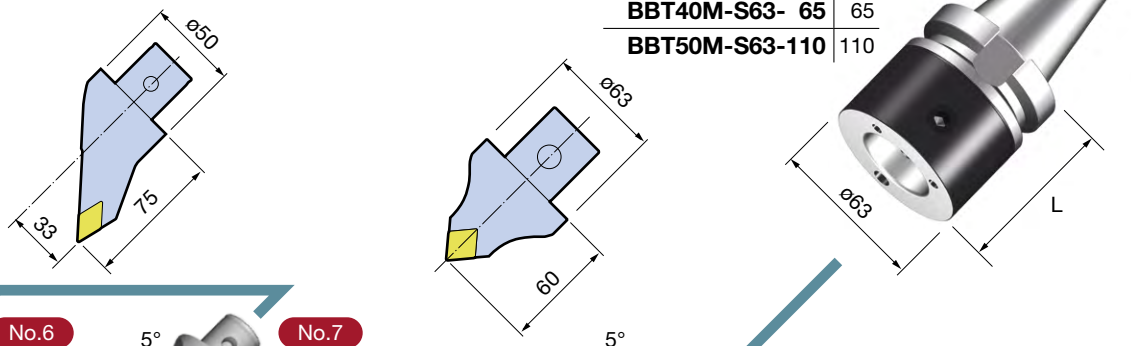
F63-DDHNR-45040-15
-DDHNL-45040-15

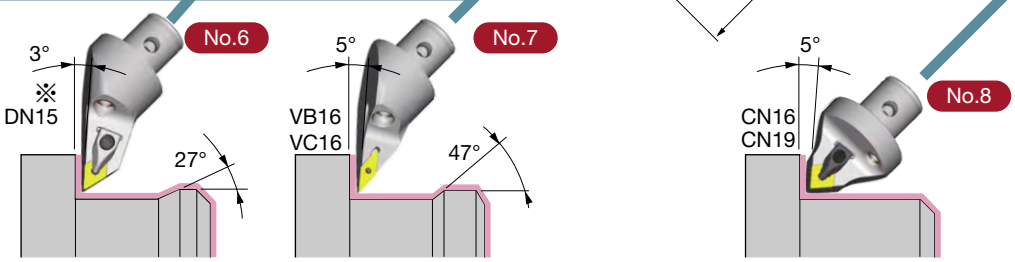
※ When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

S Type

Basic Holder E11

	L
BBT40M-S63- 65	65
BBT50M-S63-110	110

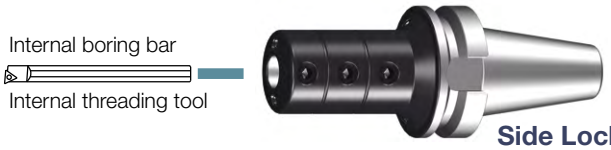




S50-DDJNR-33075-15
-DDJNL-33075-15

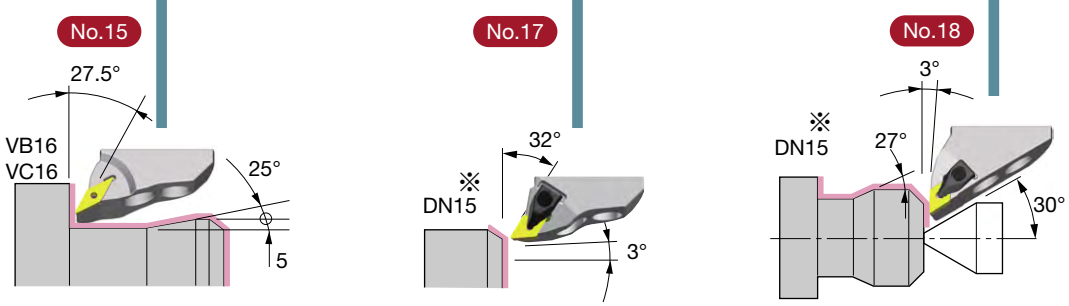
S50-SVLBR-33075-16
-SVLBL-33075-16

S63-DCLNN-00060-16
-DCLNN-00060-19



Side Lock Holder for Boring Bar E14

Square Tool Holder E13



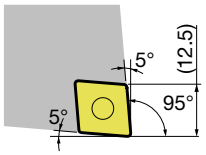
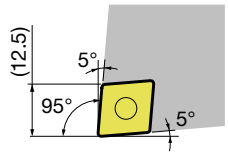
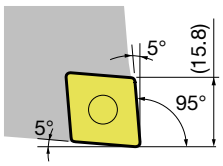
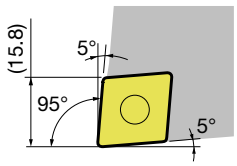
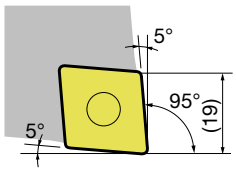
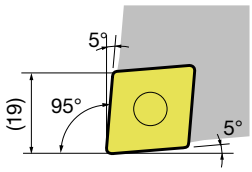
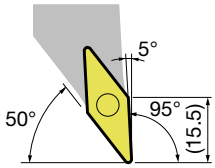
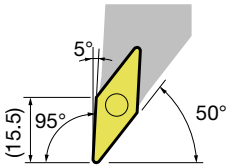
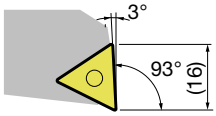
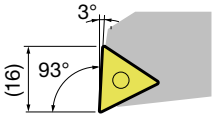
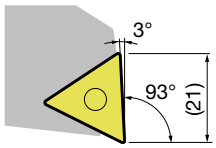
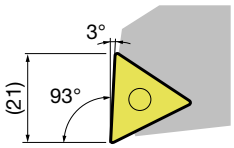
F63-SVQBR-45035-16
-SVQBL-45035-16

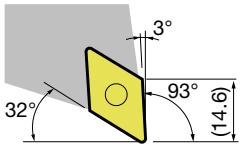
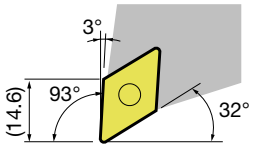
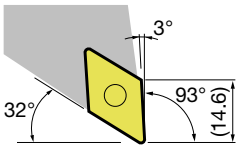
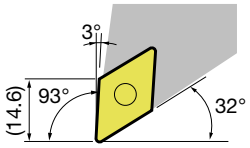
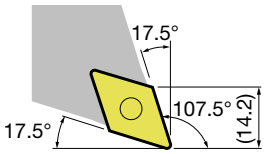
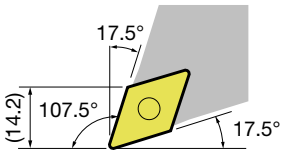
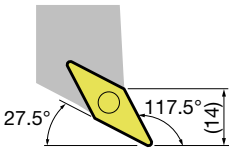
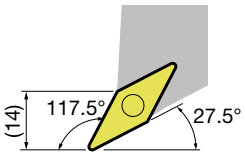
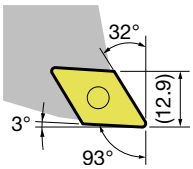
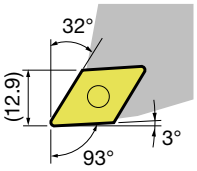
F63-DDUNR-45035-15
-DDUNL-45035-15

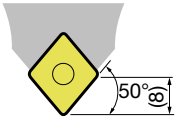
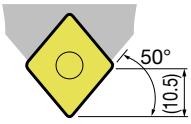
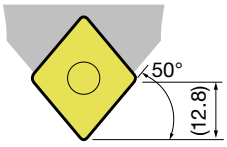
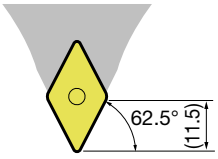
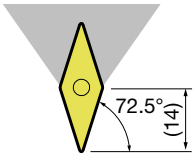
F50-DDJNR-35050-15
-DDJNL-35050-15

F63-DDJNR-45055-15
-DDJNL-45055-15

Selection Guide Table

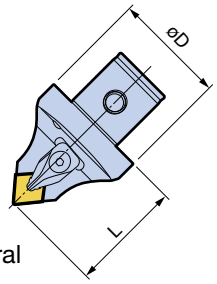
Entering angle	Insert	Cartridge		Right hand	Left hand
		S Type	F Type		
95°	CN1204	No.1	No.10-1		
	CN1606	No.8-1	No.10-2		
	CN1906	No.8-2			
	VB1604 VC1604	No.7			
93°	TN1604	No.2-1	No.12-1		
	TN2204	No.2-2			

Entering angle	Insert	Cartridge		Right hand	Left hand
		S Type	F Type		
93°	DN1504 (DN1506)	No.4	No.13		
	DN1504 (DN1506)	No.6	No.18		
107.5°	DN1504 (DN1506)	No.3	No.14		
117.5°	VB1604 VC1604	No.5	No.15		
93°	DN1504 (DN1506)		No.17		

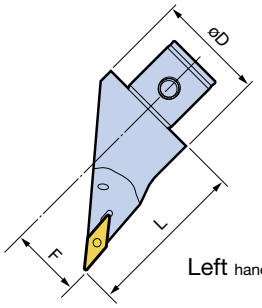
Neutral				
Insert				
CN12	CN16	CN19	DN1504 (DN1506)	VB1604 / VC1604
No.1	No.8-1	No.8-2	No.3	No.5
				

45° TYPE S (Tilt Type)

Cartridge



Neutral



Left hand

Type	Entering angle	No.	Hand	Model	Insert	L	F	øD	Clamp Piece
S50	95°	No.1	N	S50-DCLNN-00050-12	CN1204 Rhombic 80°	50	0	50	CP2
	93°	No.2-1	R	-DTJNR-00050-16	TN1604 Triangle 60°	50	0	50	CP1
			L	-DTJNL-00050-16					
		No.2-2	R	-DTJNR-00050-22	TN2204 Triangle 60°				CP2
			L	-DTJNL-00050-22					
	93°	No.4	R	-DDJNR-00050-15	DN1504 ※1 (DN1506) Rhombic 55°	50	0	50	CP2
			L	-DDJNL-00050-15					
		No.6	R	-DDJNR-33075-15		75	33		
			L	-DDJNL-33075-15					
	107.5°	No.3	N	-DDHNN-00050-15		50	0		
	95°	No.7	R	-SVLBR-33075-16	VB1604 ※2 VC1604 Rhombic 35°	75	33	50	M3.5 ※3
			L	-SVLBL-33075-16					
	117.5°	No.5	N	-SVQBN-00050-16		50	0		
S63	95°	No.8	N	S63-DCLNN-00060-16	CN1606 Rhombic 80°	60	0	63	CP3
				-00060-19	CN1906 Rhombic 80°				CP5

1. Wrench is not included.
2. Insert is not included. Compatible with ISO standard inserts.

For spare parts, E10

※1 A carbide shim for DN1504 (thickness: 4.76mm) is included. When using a DN1506 insert (thickness: 6.35mm), replace with the DNS1506 carbide shim (optional).
※2 Either VB1604 or VC1604 insert can be mounted. ※3 M3.5 is a screw-on type.

Right hand Left hand Neutral

Cartridge Model Description

S50 - D C L N N - 00 050 - 12

- S50 - D C L N N: Cartridge Type and Size
- 00: Value F (Offset value)
- 050: L dimension
- 12: Insert size

Clamping Method	
D	Double Clamp
S	Screw-on

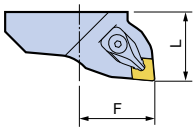
Insert Shape	
C	Rhombic 80°
T	Triangle 60°
D	Rhombic 55°
V	Rhombic 35°

Entering Angle	
J	93°
L	95°
H	107.5°
Q	117.5°
U	93°

Relief Angle	
N	0° negative
B	5° positive
C	7° positive

Hand	
R	Right hand
L	Left hand
N	Neutral

Cartridge PAT.



Above figure shows right hand

Right hand
Left hand

F50 Type

Entering angle	No.	Hand	Model	Insert	F	L	Clamp Piece
95°	No.10-1	R	F50-DCLNR-35035-12	CN1204 Rhombic 80°	35	35	CP2
		L	-DCLNL-35035-12				
	No.10-2	R	F50-DCLNR-35035-16	CN1606 Rhombic 80°	35	35	CP3
		L	-DCLNL-35035-16				
93°	No.12-1	R	F50-DTJNR-35035-16	TN1604 Triangle 60°	35	35	CP1
		L	-DTJNL-35035-16				
95°	No.13	R	F50-DDJNR-35035-15	DN1504 ※1 (DN1506) Rhombic 55°	35	35	CP2
		L	-DDJNL-35035-15				
	No.18	R	F50-DDJNR-35050-15		35	50	CP2
		L	-DDJNL-35050-15				

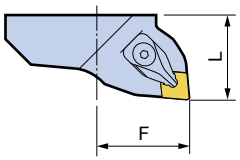
1. Wrench is not included.
2. Insert is not included. Compatible with ISO standard inserts.

For spare parts, E10

※1 A carbide shim for DN1504 (thickness: 4.76mm) is included.
When using a DN1506 insert (thickness: 6.35mm), replace with the DNS1506 carbide shim (optional).

90° TYPE F (Right Angle Type)

Cartridge PAT.



Right hand

Right hand
Left hand

F63 Type

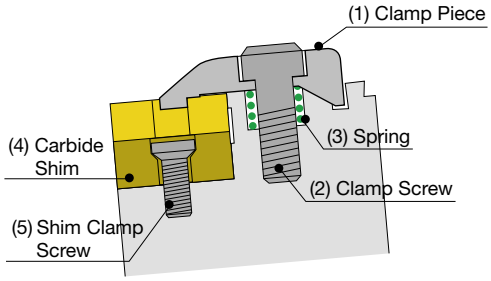
Entering angle	No.	Hand	Model	Insert	F	L	Clamp Piece
95°	No.10-1	R	F63-DCLNR-45035-12	CN1204 Rhombic 80°	45	35	CP2
		L	-DCLNL-45035-12				
	No.10-2	R	F63-DCLNR-45035-16	CN1606 Rhombic 80°	45	35	CP3
		L	-DCLNL-45035-16				
93°	No.12-1	R	F63-DTJNR-45035-16	TN1604 Triangle 60°	45	35	CP1
		L	-DTJNL-45035-16				
93°	No.13	R	F63-DDJNR-45035-15	DN1504 ※1 (DN1506) Rhombic 55°	45	35	CP2
		L	-DDJNL-45035-15				
	No.18	R	F63-DDJNR-45055-15		45	55	CP2
		L	-DDJNL-45055-15				
107.5°	No.14	R	F63-DDHNR-45040-15		45	40	CP2
		L	-DDHNL-45040-15				
93°	No.17	R	F63-DDUNR-45035-15		45	35	CP2
		L	-DDUNL-45035-15				
117.5°	No.15	R	F63-SVQBR-45035-16	VB1604 ※2 VC1604 Rhombic 35°	45	35	M3.5 ※3
		L	-SVQBL-45035-16				

1. Wrench is not included.
2. Insert is not included. Compatible with ISO standard inserts.

For spare parts, E10

※1 A carbide shim for DN1504 (thickness: 4.76mm) is included.
When using a DN1506 insert (thickness: 6.35mm), replace with the DNS1506 carbide shim (optional).
※2 Either VB1604 or VC1604 insert can be mounted.
※3 M3.5 is a screw clamp type.

Double Clamp Type



Clamp Piece Set

Set Model	(1) Clamp Piece	(2) Clamp Screw	(3) Spring	Compatible Insert
SCP1	CP1	M5 x 20	ø8 x 10	TN16
SCP2	CP2			CN12, TN22 DN15
SCP3	CP3			CN16
SCP5	CP5			CN19

- 1 pce. each of the clamp piece, clamp screw and spring are included in the set.
- The tightening wrench is a 4mm hex wrench. T-type hex wrench is sold as Model T-4.

Carbide Shim Set

Compatible Insert	Set Model	(4) Carbide Shim	(5) Shim Clamp Screw	Torx size
TN1604	**STNS1604**	TNS1604	M3 x 7	T10
TN2204	**STNS2204**	TNS2204	M4 x 8	T15
TN2706	**STNS2706**	TNS2706	M5 x 12	T20
DN1504	**SDNS1504**	DNS1504	M4 x 8	T15
DN1506	**SDNS1506**	DNS1506	M4 x 8	T15

Compatible Insert	Set Model	(4) Carbide Shim	(5) Shim Clamp Screw	Torx size
CN1204	**SCNS1204**	CNS1204	M4 x 8	T15
CN1606	**SCNS1606**	CNS1606	M5 x 12	T20
CN1906	**SCNS1906**	CNS1906	M5 x 12	T20

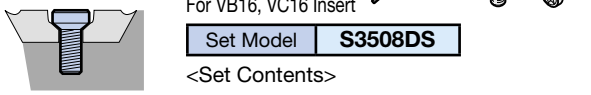
- 1 pce. each of the carbide shim and shim clamp screw are included in the set.
- The tightening wrench is a Torx wrench. Driver-type Torx wrench is sold as Models DA-T10, DA-T15, and DA-T20.

For S Type (Tilt Type) Basic Holder

Clamping Screw Set

Type	Set Model	Screw (2 pcs)	T-type Wrench (1 pc)
S50	**CK5S**	M10 x P1.0	CK-T5
S63	**CK6S**	M12 x P1.0	CK-T6

Insert Clamping Screw Set



For VB16, VC16 Insert

Set Model	**S3508DS**

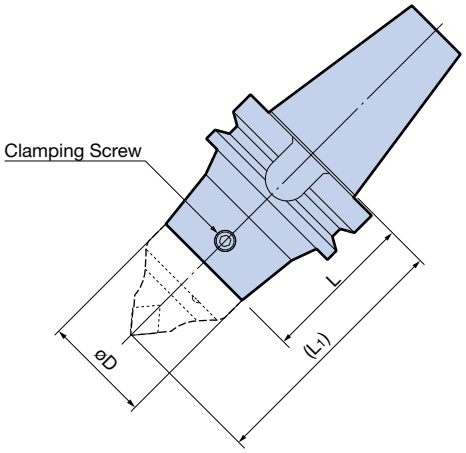
<Set Contents>

M3.5 Screw (10 pcs)
Driver-Type Wrench...**DA-T15** (1 pc)

45° TYPE S (Tilt Type)

Basic Holder

DUAL CONTACT
BIG-PLUS®



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

Type	Model	øD	L	(L_1)	Clamping Screw
S50	**BBT40M-S50- 75**	50	75	125	CK5S
S63	**-S63- 65**	63	65	125	CK6S
S50	**BBT50M-S50-120**	50	120	170	CK5S
S63	**-S63-110**	63	110	170	CK6S

1. Clamping screw is included with the basic holder.

For spare parts, E10
For cartridges, E7

90° TYPE F (Right Angle Type)

DUAL CONTACT BIG-PLUS®

Basic Holder PAT.

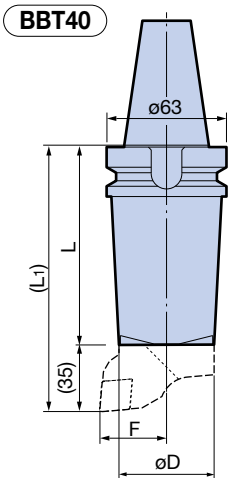


Fig. 1

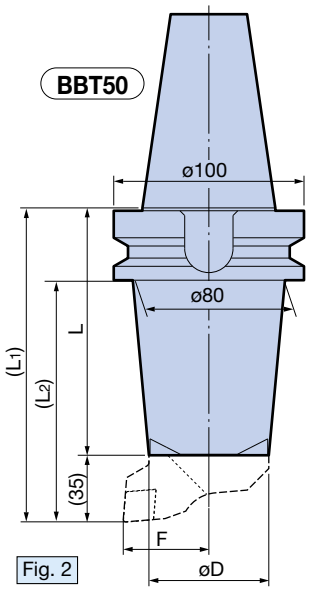


Fig. 2

Above figure shows a left-handed cartridge mounted.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

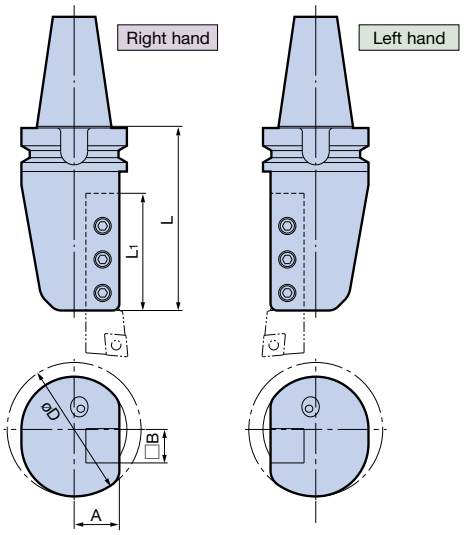
Type	Model	Fig.	øD	L	(L_1)	(L_2)	F
F50	**BBT40M-F50- 75**	1	50	75	110	—	35
	-105			105	140	—	
F63	**BBT50M-F63- 70**	2	63	70	105	67	45
	-130			130	165	127	

1. Both M10×22L and M10×25L bolts to clamp a Cartridge are included with the basic holder.
2. Hex wrench is not included.

For spare parts, E10
For cartridges, E8

SQUARE TOOL HOLDER

180° Type



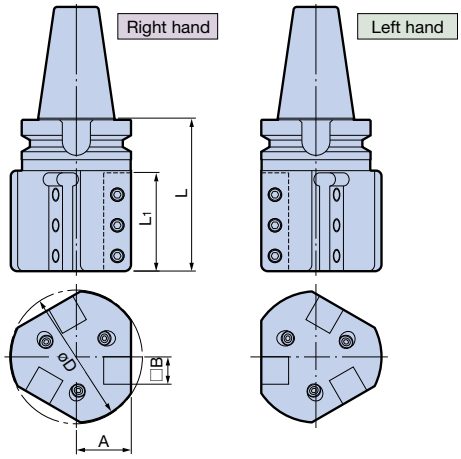
DUAL CONTACT
BIG-PLUS®

• Color coding in table
Right hand Left hand

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

Hand	Model	□B	L	L1	A	øD
R	BBT40M-180-BH20R-110	20	110	70	27	80
L	-BH20L-110					
R	-180-BH25R-130	25	130	90	31.5	90
L	-BH25L-130					
R	BBT50M-180-BH25R-140	25	140	90	50	120
L	-BH25L-140					

180° Multi Type



Mounting 3 tools minimizes ATC time.

• Color coding in table
Right hand Left hand

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

Hand	Model	□B	L	L1	A	øD
R	BBT40M-180-3BH20R-110	20	110	70	35	90
L	-3BH20L-110					
R	BBT50M-180-3BH25R-140	25	140	90	50	120
L	-3BH25L-140					

Caution
• 60° indexing capability is required for the machine spindle.

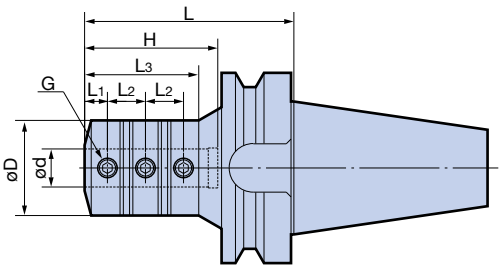
Side Lock Holder for Boring Bar

Holder for internal boring and threading.

Center through

DUAL CONTACT

BIG-PLUS®



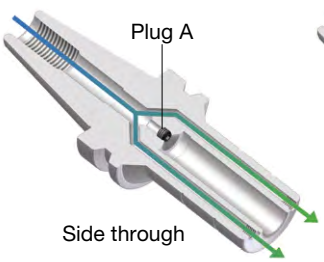
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

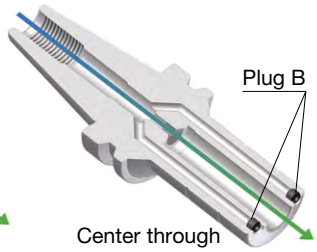
Model	ød	øD	L	L_1	L_2	L_3	H	Clamp Screw G	Plug A	Plug B
BBT40M-BSL 8- 75	8	25	75	6	10	40	40	M6 P1.0	M6 x 5L	M4 x 4L
-BSL10- 80	10	29	80	8	12	45	50	M8 P1.0	M6 x 5L	M5 x 5L
-BSL12- 90	12	34	90	8	16	53	55	M8 P1.0	M6 x 5L	M6 x 5L
-BSL16-100	16	40	100	10	21	65	68	M10 P1.25	M6 x 5L	M6 x 5L
-BSL20-100	20	50	100	12	20	67	70	M10 P1.25	M6 x 5L	M6 x 5L
-BSL25-110	25	55	110	14	23	83	74	M12 P1.5	M8 x 8L	M6 x 5L
-BSL32-125	32	64	125	16	26	—	83	M12 P1.5	M8 x 8L	M6 x 5L
-BSL40-150	40	80	150	18	32	—	98	M16 P1.5	M10 x 10L	M6 x 5L
BBT50M-BSL16-105	16	40	105	10	21	61	68	M10 P1.25	M6 x 5L	M6 x 5L
-BSL20-110	20	50	110	12	20	60	70	M10 P1.25	M6 x 5L	M6 x 5L
-BSL25-120	25	55	120	14	23	70	74	M12 P1.5	M8 x 8L	M6 x 5L
-BSL32-125	32	64	125	16	26	80	83	M12 P1.5	M8 x 8L	M6 x 5L
-BSL40-135	40	80	135	18	32	91	98	M16 P1.5	M10 x 10L	M6 x 5L
-BSL50-145	50	90	145	18	36	102	115	M16 P1.5	M10 x 10L	M6 x 5L

- Switchable coolant flow between side through and center through with plug screws.

Adjustable for right or left hand operation.

※ Plugs AB are included with the body.





For BSL SIDE LOCK HOLDER

BSL Sleeve

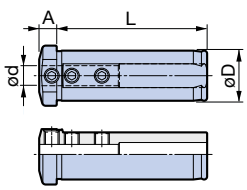


Fig. 1

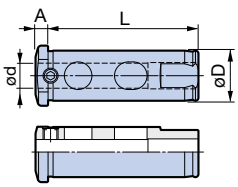


Fig. 2

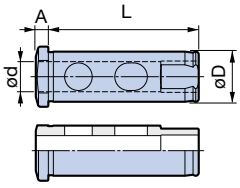


Fig. 3

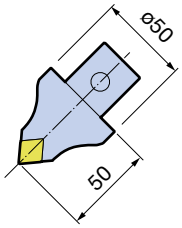
Model	Fig.	ød	øD	L	A
BSLA20- 6	1	6	20	60	5
- 8		8			7
-10	2	10			5
-12	3	12			5
-16		16			5
BSLA32-10	1	10	32	75	9
-12		12			9
-16	2	16			6
-20	3	20			6

Turning Tool System Chart

(Note) Contact us, as interference may occur depending on the machine model.

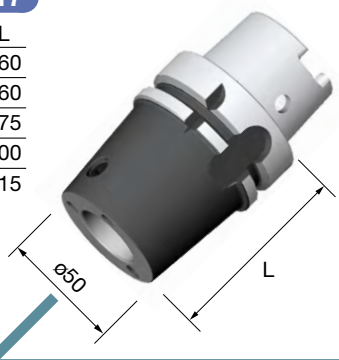
45°

S Type



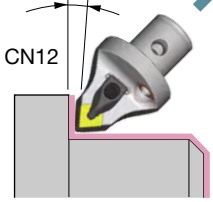
S Type
Basic Holder E17

	L
HSK-T 50-S50- 60	60
-T 63-S50- 60	60
- 75	75
-100	100
-T100-S50-115	115



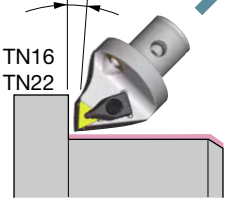
S Type (Tilt Type)
Cartridge
E7

No.1



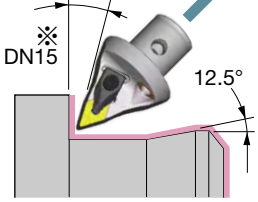
S50-DCLNN-00050-12

No.2



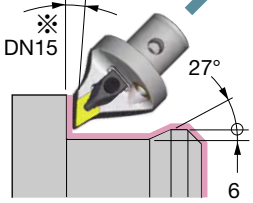
S50-DTJNR-00050-16(22)
-DTJNL-00050-16(22)

No.3



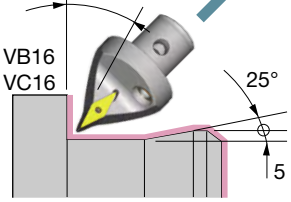
S50-DDHNN-00050-15

No.4



S50-DDJNR-00050-15
-DDJNL-00050-15

No.5



S50-SVQBN-00050-16

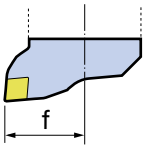
※ When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

90°

F Type PAT.

F Type
Basic Holder
E18

	L
HSK-T 63-F63- 50	50
- 75	75
-100	100
-130	130
-170	170
-T100-F63-100	100
-150	150



	f
F63	45

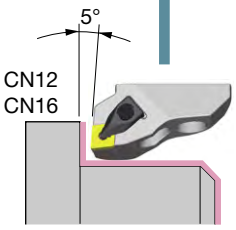
S Type
Basic Holder
E17

S Type
Cartridge
E7

No.1
No.3
No.5
No.8

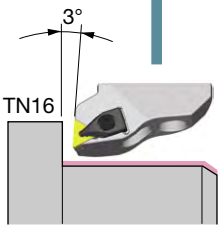
F Type (Right Angle Type)
Cartridge
E9

No.10



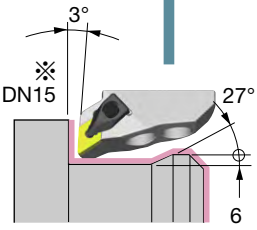
F63-DCLNR-45035-12(16)
-DCLNL-45035-12(16)

No.12



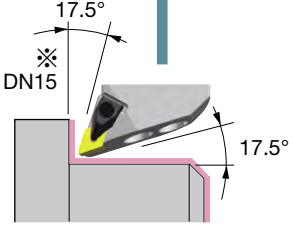
F63-DTJNR-45035-16
-DTJNL-45035-16

No.13



F63-DDJNR-45035-15
-DDJNL-45035-15

No.14



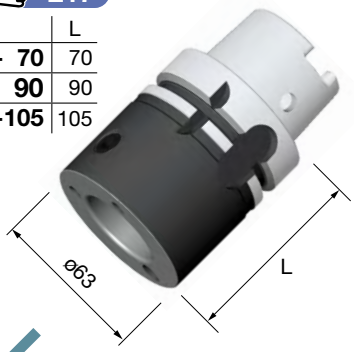
F63-DDHNR-45040-15
-DDHNL-45040-15

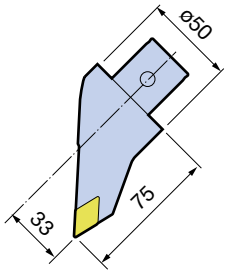
※When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

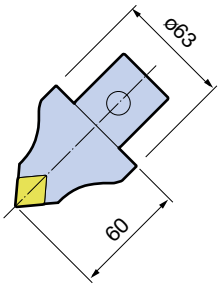
Turning Tool System Chart

S Type
Basic Holder E17

	L
HSK-T 63-S63- 70	70
- 90	90
-T100-S63-105	105







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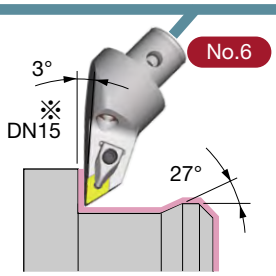
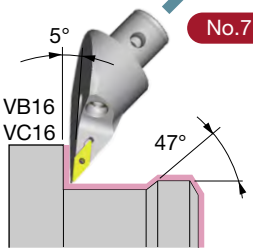


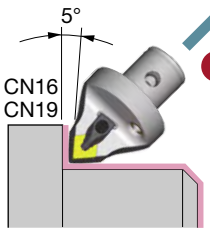
S50-DDJNR-33075-15
-DDJNL-33075-15

No.7



S50-SVLBR-33075-16
-SVLBL-33075-16

No.8



S63-DCLNN-00060-16
-DCLNN-00060-19

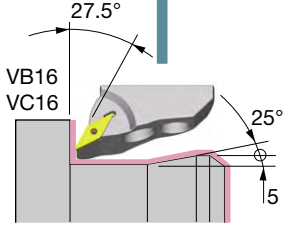
Internal boring bar
Internal threading tool

Side Lock Holder for Boring Bar E20

Square tool

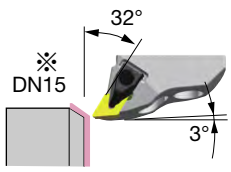
Square Tool Holder E19

No.15



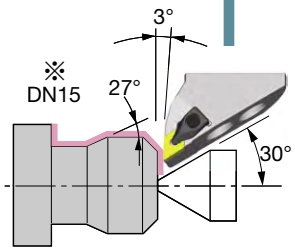
F63-SVQBR-45035-16
-SVQBL-45035-16

No.17



F63-DDUNR-45035-15
-DDUNL-45035-15

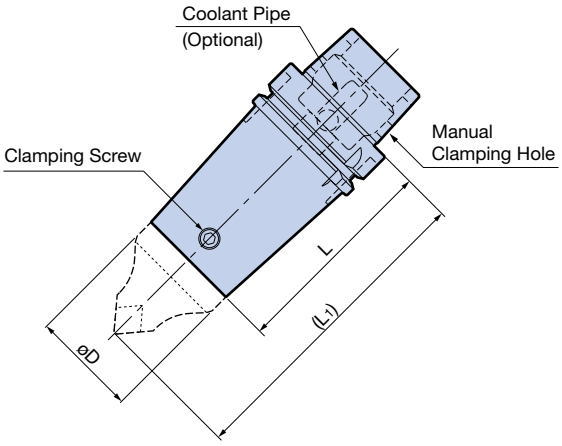
No.18



F63-DDJNR-45055-15
-DDJNL-45055-15

45° TYPE S (Tilt Type)

Basic Holder



Type	Model	øD	L	(L_1)	Clamping Screw
S50	**HSK-T50-S50- 60**	50	60	110	CK5S
S50	**HSK-T63-S50- 60**	50	60	110	CK5S
	- 75		75	125	
	-100		100	150	
S63	**-S63- 70**	63	70	130	CK6S
	- 90		90	150	
S50	**HSK-T100-S50-115**	50	115	165	CK5S
S63	**-S63-105**	63	105	165	CK6S

1. Clamping screw is included with the basic holder.
2. Coolant pipe is not included.

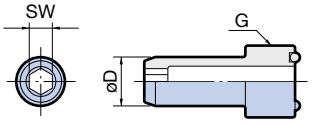
For spare parts, E10
For cartridges, E7

<Coolant Pipe>

Caution
For machines capable of supplying coolant through the spindle, the Coolant Pipe should be fitted to all the holders to protect against accidental selection of coolant.

● Mono Block Type

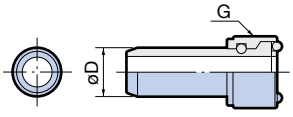
· Some machine tool builders may recommend the Mono Block Type. Check with the machine when selecting Mono Block or 1° Swing Type.



Model	øD	G	⬡ SW	
HSK 63-CP	12	M18 x P1	6	
HSK100-CP	16	M24 x P1.5	8	

● 1° Swing Type

· The DIN standards require movement range of ±1°.
An exclusive wrench (optional) is required when attaching the 1° Swing Type.



Model	øD	G	Wrench Model (Optional)	
HSK 63-CPM	12	M18 x P1	CPW 63	
HSK100-CPM	16	M24 x P1.5	CPW100	

Basic Holder PAT.

HSK-T63

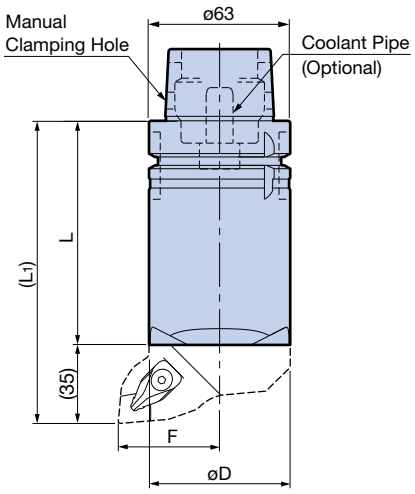


Fig. 1

HSK-T100

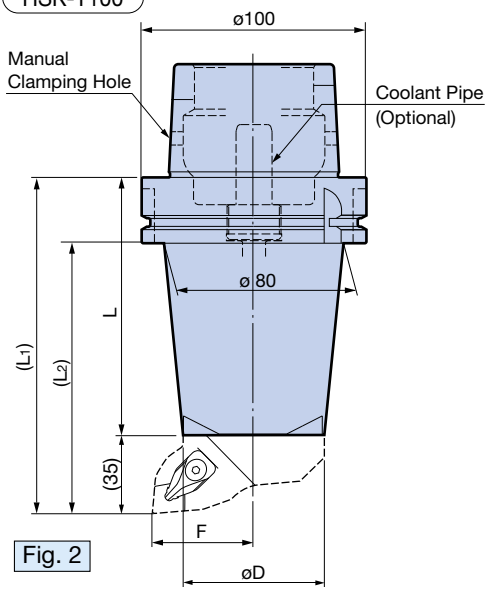


Fig. 2

Type	Model	Fig.	øD	L	(L1)	(L2)	F
F63	**HSK-T 63-F63- 50**	1	63	50	85	—	45
	- 75			75	110		
	-100			100	135		
	-130			130	165		
	-170			170	205		
F63	**HSK-T100-F63-100**	2	63	100	135	105	45
	-150			150	185	155	

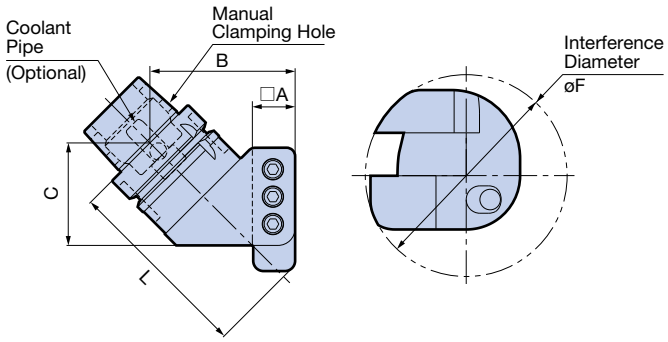
1. Both M10×22L and M10×25L bolts to clamp a Cartridge are included with the basic holder.
2. Hex wrench is not included.
3. Coolant pipe is not included.

For coolant pipes, E17
For spare parts, E10
For cartridges, E8

SQUARE TOOL HOLDER

For various operations including external turning, grooving and threading.

45° Type



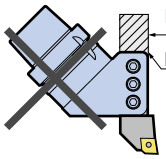
• Color coding in table

Right hand Left hand

Hand	Model	□A	B	C	L	øF
R	HSK-T63-45-BH25R-110	25	85	60	110	118
L	-BH25L-110					

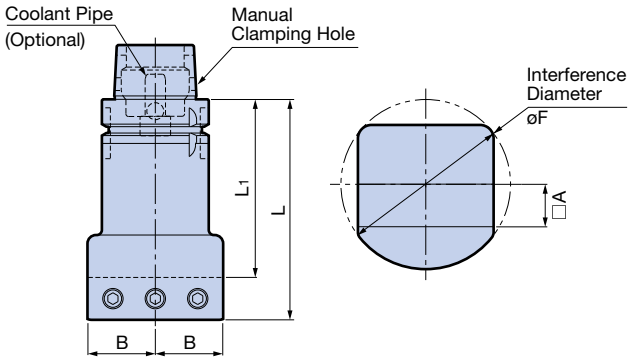
For coolant pipes, E17

Caution



To avoid interference with the ATC arm, cut off the residual part of the square tool projected from the holder end A.

90° Type



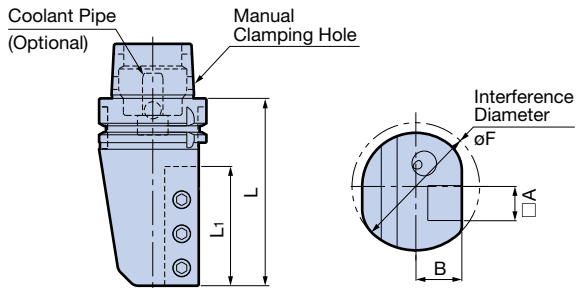
• Color coding in table

Right/left universal

Hand	Model	□A	B	L	L1	øF
N	HSK-T63-90-BH20N- 85	20	32	85	65	80
	-BH25N-100	25	40	100	75	100
	-BH25N-130			130	105	
	HSK-T100-90-BH25N-150	25	55	150	125	128

For coolant pipes, E17

180° Type



• Color coding in table

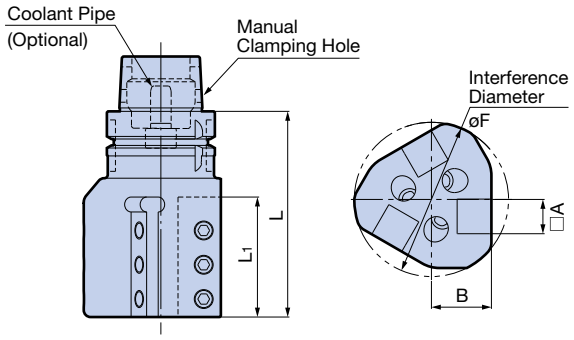
Right hand Left hand

Hand	Model	□A	B	L	L1	øF
R	HSK-T 63-180-BH20R-120	20	27	120	70	75
L	-BH20L-120					
R	HSK-T 63-180-BH25R-125	25	29.5	125	80	90
L	-BH25L-125					
R	HSK-T100-180-BH25R-140	25	50	140	90	120
L	-BH25L-140					
R	HSK-T100-180-BH25R-180	25	50	180	90	120
L	-BH25L-180					

For coolant pipes, E17

180° Multi Type

Mounting 3 tools minimizes ATC time.



• Color coding in table

Right hand Left hand

Hand	Model	□A	B	L	L1	øF
R	HSK-T63-180-3BH20R-120	20	35	120	70	90
L	-3BH20L-120					
R	HSK-T63-180-3BH25R-125	25	45	127	80	110
L	-3BH25L-125					

For coolant pipes, E17

Caution

• 60° indexing capability is required for the machine spindle.

Side Lock Holder for Boring Bar

Center through

Holder for internal boring and threading.

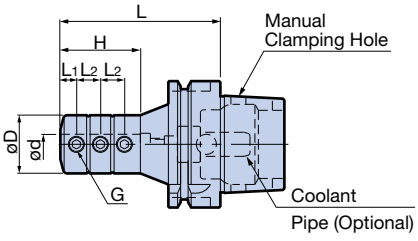


Fig. 1

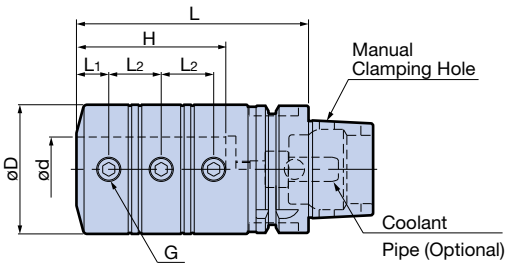


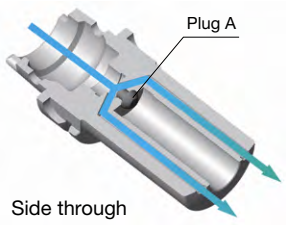
Fig. 2

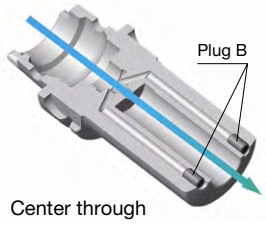
Model	Fig.	ød	øD	L	L_1	L_2	H	Clamp Screw G
HSK-T 63-BSL 6- 70	1	6	23	70	5	8	24	M 5 P0.8
-BSL 8- 75		8	25	75	6	10	32	M 6 P1.0
-BSL10- 80		10	29	80	8	12	40	M 8 P1.0
-BSL12- 85		12	34	85		16	45	
-BSL16- 80 ※		16	40	80	10	21	41	M10 P1.25
-100				100			60	
-BSL20- 80 ※	2	20	50	80	12	20	41	
-100				100			60	
-BSL25- 85 ※		25	55	85	14	23	47	M12 P1.5
-105				105			67	
-BSL32- 90 ※		32	64	90	16	26	49	
-115				115			74	
-BSL40-105 ※		40	80	105	18	32	61	M16 P1.5
-145				145			91	
HSK-T100-BSL16-105	1	16	40	105	10	21	60	M10 P1.25
-BSL20-110		20	50	110	12	20	60	
-BSL25-120		25	55	120	14	23	67	M12 P1.5
-BSL32-125		32	64	125	16	26	74	
-BSL40-135		40	80	135	18	32	90	M16 P1.5

1. ※ marked models come with two clamp screws.
2. ※ marked models cannot be used with BSL sleeve.

For coolant pipes, E17

- Switchable coolant flow between side through and center through with plug screws.





Adjustable for right or left hand operation.

Body Model	Plug A	Plug B
BSL 6	M5 P0.8	M4 P0.7
8	M6 P1.0	
10		M5 P0.8
12		M6 P1.0
16		
20	※ M6 P1.0	
25	※ M8 P1.25	
32		
40		

Plugs AB are included with the body.
※ indicates a button head bolt.

For BSL SIDE LOCK HOLDER

BSL Sleeve

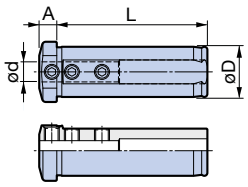


Fig. 1

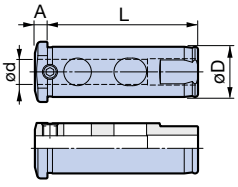


Fig. 2

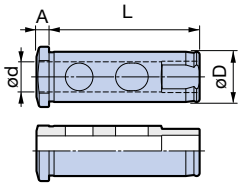


Fig. 3

Model	Fig.	ød	øD	L	A
BSLA20- 6	1	6	20	60	5
- 8		8			7
-10	2	10			5
-12	3	12			5
-16		16			5
BSLA32-10	1	10	32	75	9
-12		12			9
-16	2	16			6
-20	3	20			6

Turning Tool System Chart

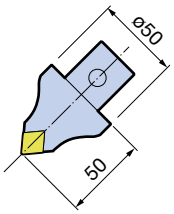
(Note) Contact us, as interference may occur depending on the machine model.

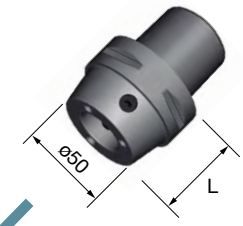
45°

S50 E23

S Type Basic Holder

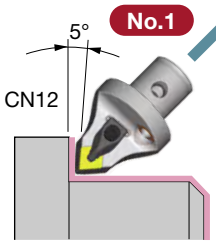
	L
C5-S50- 40	40
- 55	55
- 75	75
-100	100
C6-S50- 45	45
- 75	75
-100	100
C8-S50-135	135





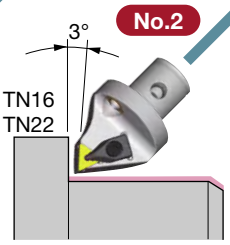
S Type Cartridge E7

No.1



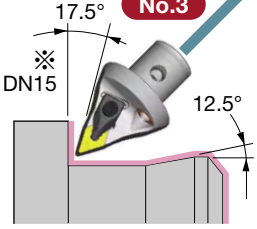
S50-DCLNN-00050-12
- Cartridge mono-block holders are also available.

No.2



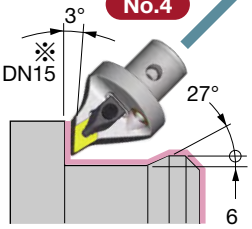
S50-DTJNR-00050-16
-DTJNL-00050-16
S50-DTJNR-00050-22
-DTJNL-00050-22

No.3



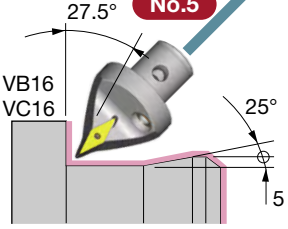
S50-DDHNN-00050-15
- Cartridge mono-block holders are also available.

No.4



S50-DDJNR-00050-15
-DDJNL-00050-15

No.5



S50-SVQBN-00050-16
- Cartridge mono-block holders are also available.

※ When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

90°

F50 E24

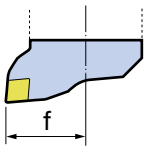
F Type Basic Holder

	L
C5-F50- 25	25
- 50	50
- 85	85
-125	125

F63 E24

F Type Basic Holder

	L
C6-F63- 30	30
- 75	75
-100	100
-130	130
-170	170
C8-F63- 45	45
-100	100
-130	130
-170	170



	f
F50	35
F63	45

S50/S63 E23

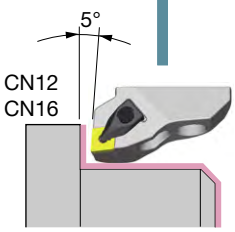
S Type Basic Holder

S Type Cartridge E7

- No.1
- No.3
- No.5
- No.8

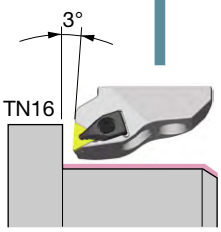
F Type Cartridge E9

No.10



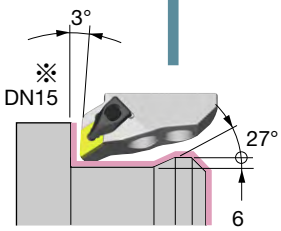
F50-DCLNR-35035-12(16)
-DCLNL-35035-12(16)
F63-DCLNR-45035-12(16)
-DCLNL-45035-12(16)

No.12



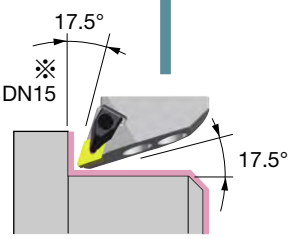
F50-DTJNR-35035-16
-DTJNL-35035-16
F63-DTJNR-45035-16
-DTJNL-45035-16

No.13



F50-DDJNR-35035-15
-DDJNL-35035-15
F63-DDJNR-45035-15
-DDJNL-45035-15

No.14



F63-DDHNR-45040-15
-DDHNL-45040-15

※ When using a DN1506 insert (thickness: 6.35mm), replace the standard carbide shim with the DNS1506 (optional).

Mono-block Holder

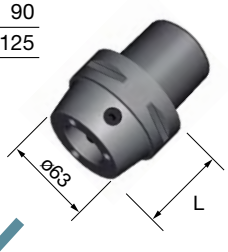
E23

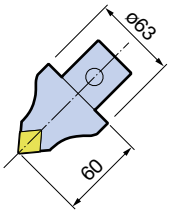
Refer to E23 for details.

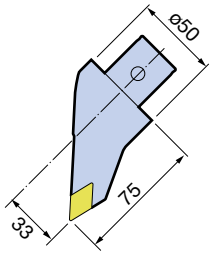
S63 E23

S Type Basic Holder

	L
C6-S63- 90	90
C8-S63-125	125







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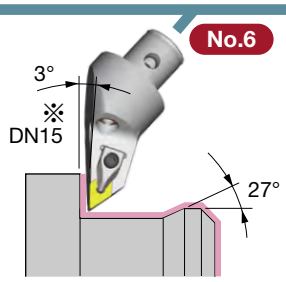
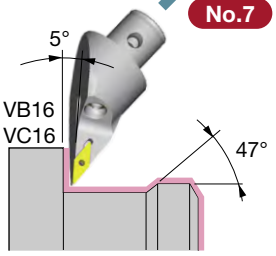


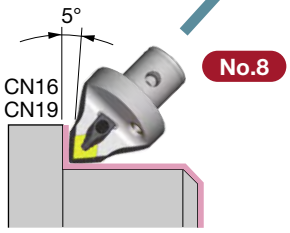
S50-DDJNR-33075-15
-DDJNL-33075-15

No.7



S50-SVLBR-33075-16
-SVLBL-33075-16

No.8

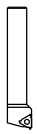


S63-DCLNN-00060-16
-DCLNN-00060-19

- Cartridge mono-block holders are also available.

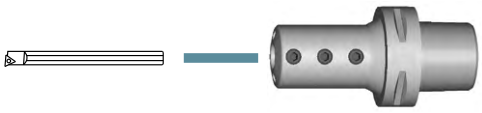
Square Tool Holder

E25



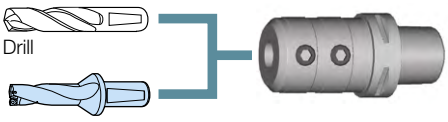
Side Lock Holder for Boring Bar

E27



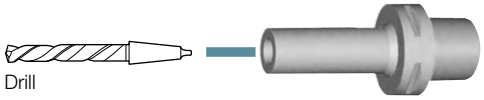
Side Lock Drill Holder

E28



Morse Taper Holder

E48



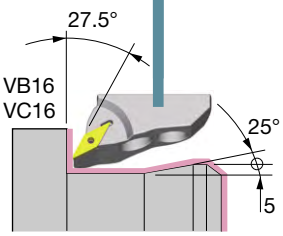
Extension E49

For extending tool length.

Reduction E49

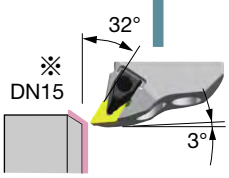
For reducing body diameter to avoid interference.

No.15



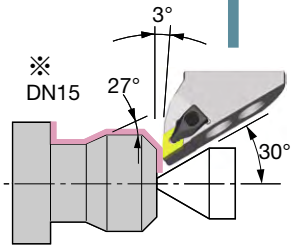
F50-SVQBR-35035-16
-SVQBL-35035-16
F63-SVQBR-45035-16
-SVQBL-45035-16

No.17



F63-DDUNR-45035-15
-DDUNL-45035-15

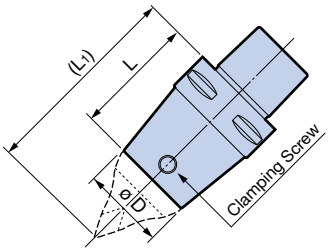
No.18



F50-DDJNR-35050-15
-DDJNL-35050-15
F63-DDJNR-45055-15
-DDJNL-45055-15

45° TYPE S (Tilt Type)

Basic Holder



C5/C6/C8

Type	Model	øD	L	(L1)	Clamping Screw
S50	C5-S50- 40	50	40	90	CK5S
	- 55		55	105	
	- 75		75	125	
S50	C6-S50- 45	50	45	95	CK5S
	- 75		75	125	
	-100		100	150	
S63	-S63- 90	63	90	150	CK6S
S50	C8-S50-135	50	135	185	CK5S
S63	-S63-125	63	125	185	CK6S

1. Clamping screw is included with the basic holder.

For spare parts, E10
For cartridges, E7

Mono-block Holder

CN1204
CN1606

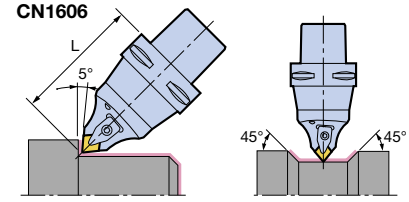


Fig. 1 Neutral

DN1504
DN1506

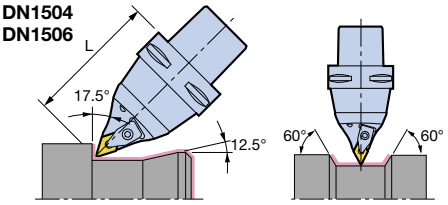


Fig. 2 Neutral

VB1604
VC1604

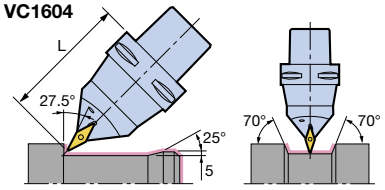


Fig. 3 Neutral

C5/C6/C8

Entering angle	No.	Hand	Set Model	Fig.	L	Insert		Clamp Piece
95°	No.1	N	C5-DCLNN-00105-12	1	105	CN1204	Rhombic 80°	CP2
	No.8-1		-DCLNN-00105-16			CN1606	Rhombic 80°	CP3
107.5°	No.3		-DDHNN-00105-15	2		DN1504 ※1 (DN1506)	Rhombic 55°	CP2
117.5°	No.5		-SVQBN-00105-16	3		VB1604 ※2 (VC1604)	Rhombic 35°	M3.5 ※3
95°	No.1	N	C6-DCLNN-00115-12	1	115	CN1204	Rhombic 80°	CP2
	No.8-1		-DCLNN-00115-16			CN1606	Rhombic 80°	CP3
107.5°	No.3		-DDHNN-00115-15	2		DN1504 ※1 (DN1506)	Rhombic 55°	CP2
117.5°	No.5		-SVQBN-00115-16	3		VB1604 ※2 (VC1604)	Rhombic 35°	M3.5 ※3
95°	No.1	N	C8-DCLNN-00150-12	1	150	CN1204	Rhombic 80°	CP2
	No.8-1		-DCLNN-00150-16			CN1606	Rhombic 80°	CP3

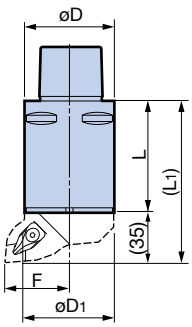
1. Insert is not included. Compatible with ISO standard inserts.

For spare parts, E10

※1 A carbide shim for DN1504 (thickness: 4.76mm) is included. When using a DN1506 insert (thickness: 6.35mm), replace with the DNS1506 carbide shim (optional).
※2 Either VB1604 or VC1604 insert can be mounted. ※3 M3.5 is a screw-on type.

Neutral

Basic Holder PAT.



C5/C6/C8

Type	Model	øD	øD1	L	(L1)	F
F50	**C5-F50- 25**	50	50	25	60	35
	- 50			50	85	
	- 85			85	120	
	-125			125	160	
F63	**C6-F63- 30**	63	63	30	65	45
	- 75			75	110	
	-100			100	135	
	-130			130	165	
	-170			170	205	
F63	**C8-F63- 45**	80	63	45	80	45
	-100			100	135	
	-130			130	165	
	-170			170	205	

1. Both M10×22L and M10×25L bolts to clamp a Cartridge are included with the basic holder.
2. Hex wrench is not included.

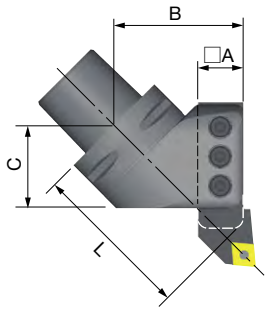
For spare parts, E10
For cartridges, E8

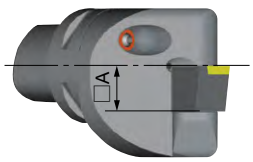
SQUARE TOOL HOLDER

45° Type

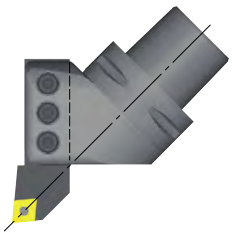
For various operations including external turning, grooving and threading.

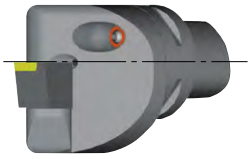
Right hand





Left hand

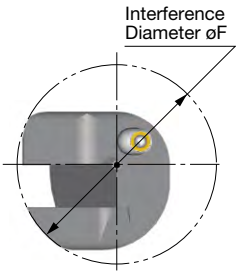




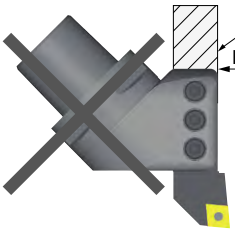
C5/C6/C8

Hand	Model	□A	B	C	L	øF	Weight (kg)
R	C5-45-BH20R- 5838	20	58	38	73	94	1.2
L	-BH20L- 5838						
R	C6-45-BH25R- 7752	25	77	52	100	118	2.5
L	-BH25L- 7752						
R	C8-45-BH32R-85109	32	85	109	145	135	7.3
L	-BH32L-85109						

Right hand　Left hand



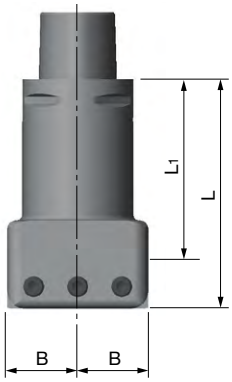
Caution

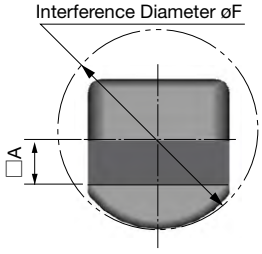


To avoid interference with the ATC arm, cut off the residual part of the square tool projected from the holder end A.

90° Type

Neutral





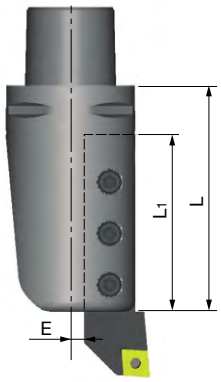
C5/C6/C8

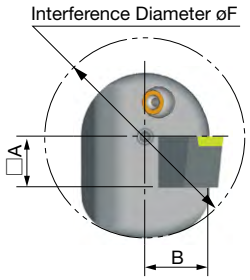
Hand	Model	□A	B	L	L1	øF	Weight (kg)
N	C5-90-BH20N-32058	20	32	58	38	80	0.9
	-32105			105	85		2.2
N	C6-90-BH20N-32060	20	32	60	40	80	2.4
	-32115			115	95		3.4
N	-BH25N-40071	25	40	71	46	100	3.3
	-40130			130	105		4.2
N	C8-90-BH32N-51085	32	51	85	53	128	6.0
	-51165			165	133		8.7

Neutral

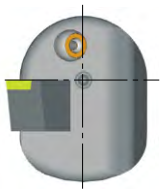
180° Type

Right hand





Left hand



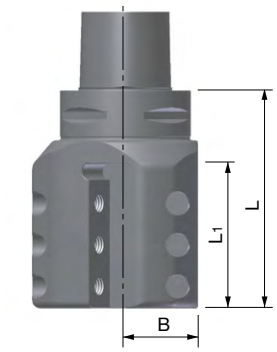
C5/C6/C8

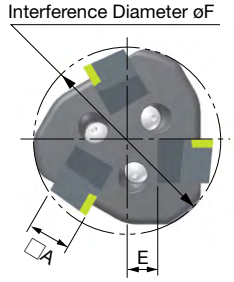
Hand	Model	□A	B	L	L_1	E	øF	Weight (kg)
R	C5-180-BH20R- 2590	20	25	90	65	5	80	1.6
L	-BH20L- 2590							
R	C6-180-BH20R-32100	20	31.5	100	65	11.5	80	2.6
L	-BH20L-32100							
R	-BH25R-32120S	25	29.5	120	80	4.5	90	3.1
L	-BH25L-32120S							
R	C8-180-BH32R-40125	32	40	125	85	8	128	6.0
L	-BH32L-40125							

Right hand Left hand

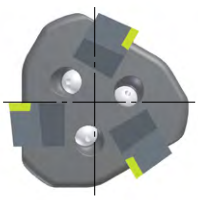
180° Multi Type

Right hand





Left hand



C5/C6/C8

Hand	Model	□A	B	L	L_1	E	øF	Weight (kg)
R	C5-180-3BH20R-100	20	35	100	70	15	90	2.6
L	-3BH20L-100							
R	C6-180-3BH20R-110	20	35	110	70	15	90	3.3
L	-3BH20L-110							
R	-3BH25R-125	25	45	125	80	20	110	5.0
L	-3BH25L-125							
R	C8-180-3BH25R-130	25	45	130	90	20	110	6.1
L	-3BH25L-130							

Right hand Left hand

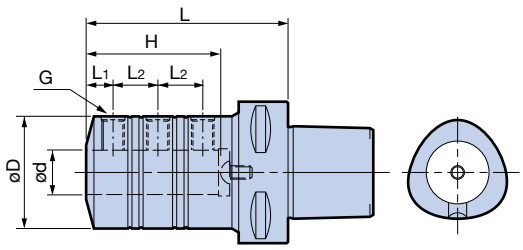
Caution

- 60° indexing capability is required for the machine spindle.

Side Lock Holder for Boring Bar

Clamping diameter: ø6 - ø40

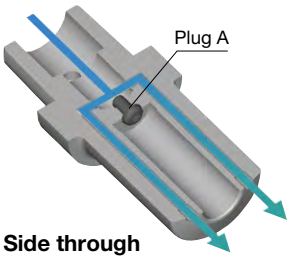
Holder for internal boring and threading tool.



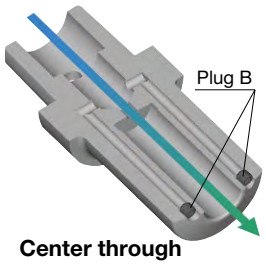
C5/C6/C8

Model	ød	øD	L	L1	L2	H	Clamp Screw G	Weight (kg)
C5-BSL 6- 70	6	23	70	5	8	41	M 5 P0.8	0.6
-BSL 8- 70	8	25		6	10		M 6 P1.0	
-BSL10- 70	10	29		8	12	42	M 8 P1.0	
-BSL12- 80	12	34	80	8	16	53		0.8
-BSL16- 90	16	40	90	10	21	65	M10 P1.25	1.0
-BSL20- 90	20	50		12	20	60		1.3
-BSL25-100	25	55	100	14	23	70	M12 P1.5	1.6
-BSL32-110	32	64	110	16	26	78		2.1
-BSL40-130	40	80	130	18	32	93	M16 P1.5	3.7
C6-BSL 6- 70	6	23	70	5	8	41	M 5 P0.8	1.4
-BSL 8- 70	8	25		6	10		M 6 P1.0	1.3
-BSL10- 70	10	29		8	12	42	M 8 P1.0	
-BSL12- 80	12	34	80		16	53		1.5
-BSL16- 90	16	40	90	10	21	65	M10 P1.25	1.7
-BSL20- 90	20	50		12	20	60		2.0
-BSL25-100	25	55	100	14	23	70	M12 P1.5	2.3
-BSL32-110	32	64	110	16	26	78		2.8
-BSL40-130	40	80	130	18	32	93	M16 P1.5	4.3
C8-BSL16- 90	16	40	90	10	21	65	M10 P1.25	2.9
-BSL20-100	20	50	100	12	22	70		3.3
-BSL25-110	25	55	110	14	26	80	M12 P1.5	3.6
-BSL32-120	32	64	120	16	30	88		4.1
-BSL40-130	40	80	130	18	32	93	M16 P1.5	5.3

- Switchable coolant flow between side through and center through with plug screws.



Side through



Center through

Adjustable for right or left hand operation.

Body Model	Plug A	Plug B
BSL 6	M 8 P1.25	M4 P0.7
8	M10 P1.0	
10	M12 P1.5	M5 P0.8
12	M14 P1.5	M6 P1.0
16	M18 P1.5 (C5:M6 P1.0)	
20	※ M 6 P1.0	
25		
32	※ M 8 P1.25	
40		

Plugs AB are included.
※ indicates a button head bolt.

For BSL SIDE LOCK HOLDER

BSL Sleeve

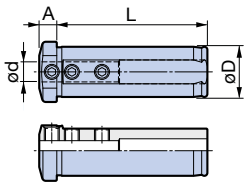


Fig. 1

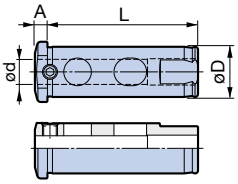


Fig. 2

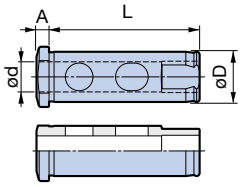
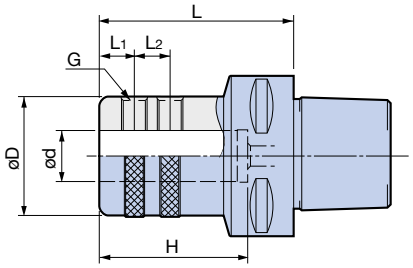


Fig. 3

Model	Fig.	ød	øD	L	A
BSLA20- 6	1	6	20	60	5
- 8		8			7
-10	2	10			5
-12	3	12			5
-16		16			5
BSLA32-10	1	10	32	75	9
-12		12			9
-16	2	16			6
-20	3	20			6

SIDE LOCK DRILL HOLDER

Basic holder for indexable insert drills.



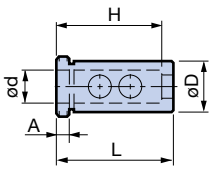
C5/C6/C8

Model	ød	øD	L	L_1	L_2	H	Clamp Screw G	Weight (kg)
C5-TSL16-60	16	48	60	14	14	48	M10 P1.25	0.8
-TSL20-60	20					50		0.9
-TSL25-75	25		75	15	20	56	M16 P1.5	0.9
-TSL32-85	32	63	85			60		1.6
C6-TSL16-70	16	48	70	14	14	48	M10 P1.25	1.7
-TSL20-70	20					50		1.7
-TSL25-70	25			15	20	56	M16 P1.5	1.6
-TSL32-75	32	63	75			60		2.0
-TSL40-85	40	68	85		25	70		2.2
C8-TSL16-80	16	48	80	14	14	48	M10 P1.25	3.1
-TSL20-80	20					50		3.1
-TSL25-85	25		85	15	20	56	M16 P1.5	3.0
-TSL32-90	32	63	90			60		3.5
-TSL40-95	40	68	95		25	70		3.5

1. Center through coolant supply is available.

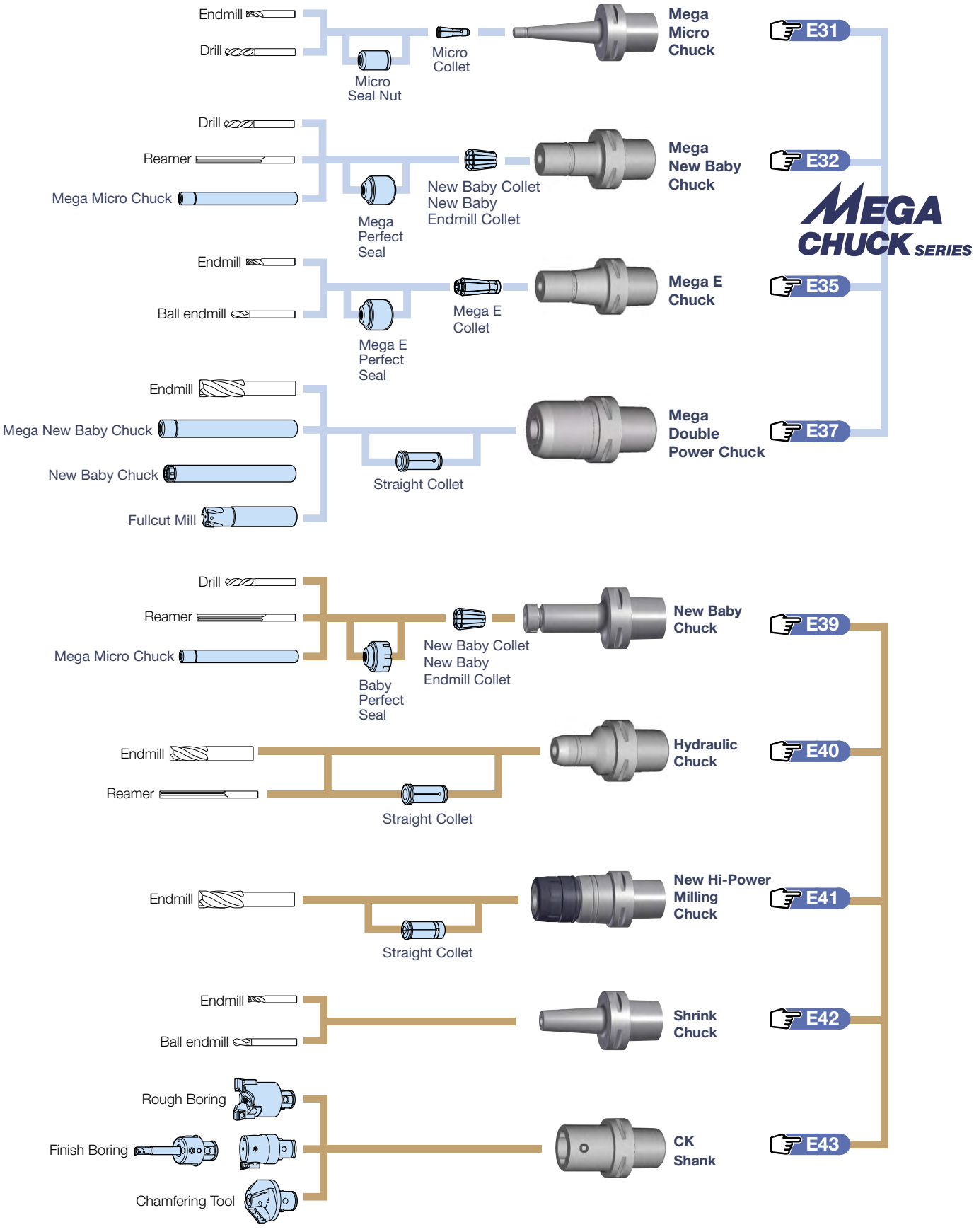
For SIDE LOCK DRILL HOLDER

SL Sleeve

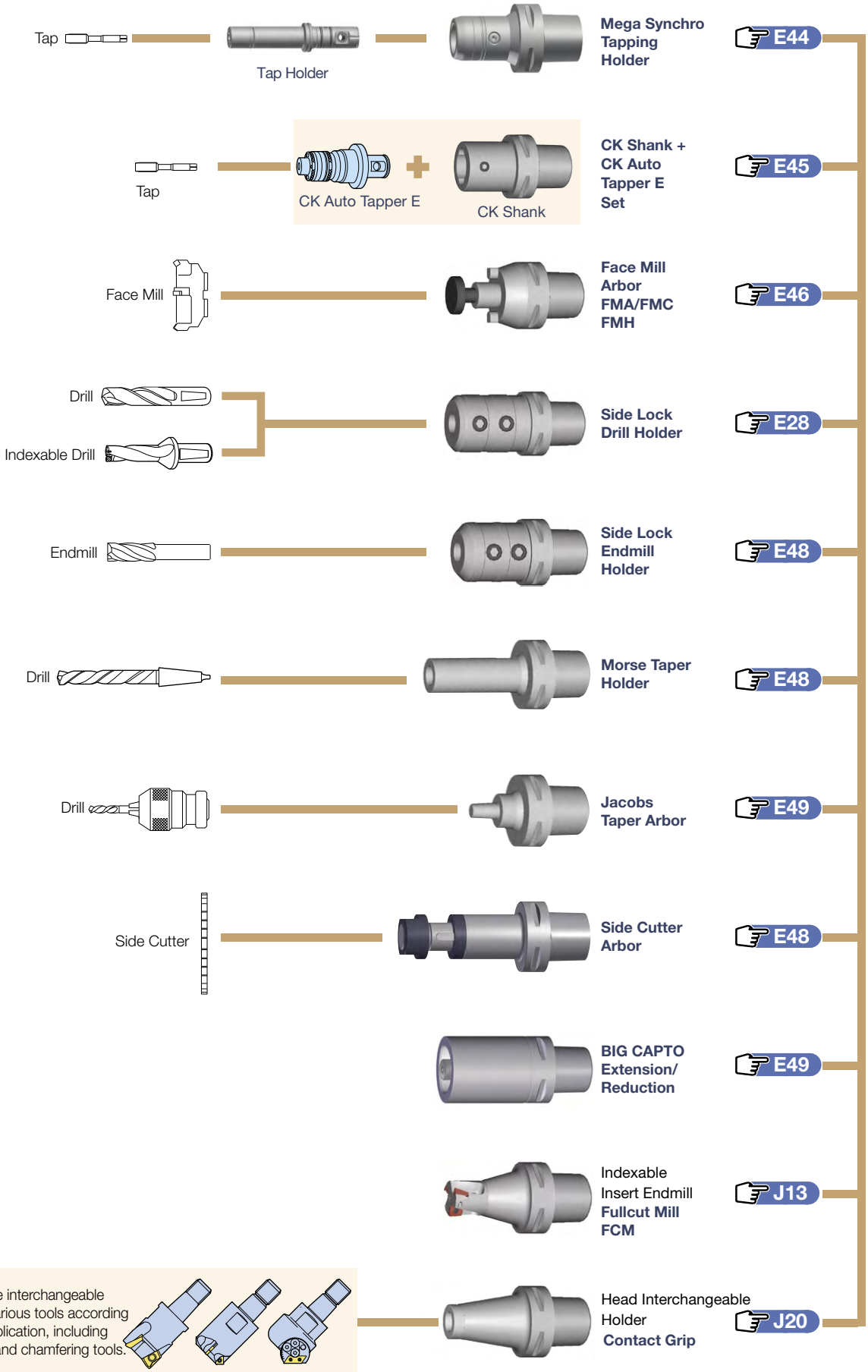


Model	ød	øD	L	A	H
OSL25-16	16	25	62	5.5	48
-20	20				50
OSL32-16	16	32	66	5.5	48
-20	20				50
-25	25				56
OSL40-16	16	40	76	5.5	48
-20	20				50
-25	25				56
-32	32				60

Rotating Tool System Chart



Rotating Tool System Chart



For High Speeds

MEGA MICRO CHUCK PAT.

Clamping diameter: ø0.45 - ø6.05

MAX. 30,000min^{-1}

C5-MEGA3S-105T

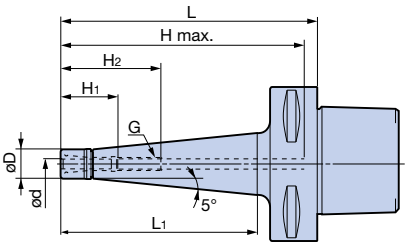
Ultra-slim design with ø10mm nut outer diameter.
High speed collet chuck with minimized interference.

[High Rigidity Taper Type]

● Model Description

C4 - MEGA 3 S - 60 T

- T: Taper type
- 60: L dimension
- S: MICRO CHUCK
- MEGA: MEGA CHUCK
- C4: Shank No.



C4/C5/C6

Model	Clamping diameter ød	øD	L	L_1	H_1	H_2	H Max.	G	Collet Model	Weight (kg)
C4-MEGA3S- 60T	0.45 - 3.25	10	60	35	22	38	54	M4 P0.7	NBC3S-□	0.3
-MEGA6S- 60T	0.45 - 6.05	14	60	35	28	47	54	M7 P0.75	NBC6S-□	0.3
- 90T			90	65		48	84			0.4
C5-MEGA3S-105T	0.45 - 3.25	10	105	79	22.5	38.5	98	M4 P0.7	NBC3S-□	0.5
-MEGA4S-105T	0.45 - 4.05	12	105	79	26.5	47	98	M5 P0.8	NBC4S-□	0.5
-120T			120	94			113			0.6
-MEGA6S-105T	0.45 - 6.05	14	105	79	28.5	49	98	M7 P0.75	NBC6S-□	0.6
-120T			120	94			113			0.6
C6-MEGA3S-120T	0.45 - 3.25	10	120	92	22.5	38.5	111	M4 P0.7	NBC3S-□	1.3
-MEGA4S-120T	0.45 - 4.05	12	120	92	26.5	47	111	M5 P0.8	NBC4S-□	1.3
-135T			135	107			126			1.4
-MEGA6S-120T	0.45 - 6.05	14	120	92	28.5	49	111	M7 P0.75	NBC6S-□	1.3
-135T			135	107			126			1.4

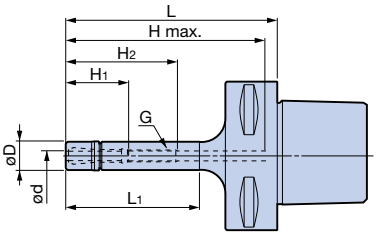
1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.

[Straight Type]

● Model Description

C5 - MEGA 3 S - 75

- 75: L dimension
- S: MICRO CHUCK
- MEGA: MEGA CHUCK
- C5: Shank No.



C5/C6

Model	Clamping diameter ød	øD	L	L_1	H_1	H_2	H Max.	G	Collet Model	Weight (kg)
C5-MEGA3S-75	0.45 - 3.25	10	75	49	22.5	38	68	M4 P0.7	NBC3S-□	0.4
-MEGA4S-75	0.45 - 4.05	12		50	26.5	47		M5 P0.8	NBC4S-□	0.4
-MEGA6S-75	0.45 - 6.05	14		50	28.5	49		M7 P0.75	NBC6S-□	0.4
C6-MEGA3S-90	0.45 - 3.25	10	90	50	22.5	38	81	M4 P0.7	NBC3S-□	1.1
-MEGA4S-90	0.45 - 4.05	12		58	26.5	47		M5 P0.8	NBC4S-□	1.2
-MEGA6S-90	0.45 - 6.05	14		58	28.5	49		M7 P0.75	NBC6S-□	1.2

1. Nut is included. Collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.

Standard Accessory	Optional Accessories				
MEGA NUT	Mega Wrench	Micro Collet	Micro Seal Nut (For 6S and 8S)	Collet Case	α Taper Cleaner
					
For Spares ☞ G3	☞ G22	☞ G2	☞ G3	☞ G3	☞ G3

MEGA NEW BABY CHUCK PAT.

Center through

MAX. 35,000min^{-1}

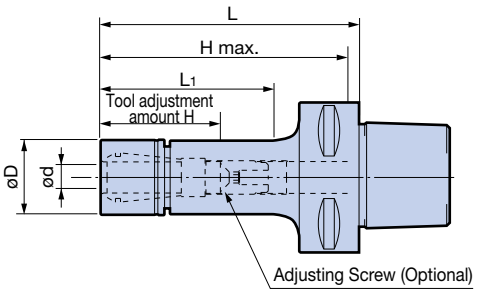
C5-MEGA6N-60

High speed and reliable machining are achieved with the exceptional tool balance and high precision collet chuck system.

● Model Description

C4 - MEGA 6 N - 75

- 75: L dimension
- N: NEW BABY CHUCK
- 6: Maximum clamping diameter
- MEGA: MEGA CHUCK
- C4: Shank No.



C4/C5

Model	Clamping diameter ød	øD	L	L_1	H	H Max.	Collet Model	Weight (kg)
C4 -MEGA 6N- 75	0.25 - 6	20	75	48	23 - 43	69	NBC 6-□	0.4
-MEGA 8N- 75	0.5 - 8	25	75	49	26 - 45	69	NBC 8-□	0.5
-MEGA10N- 50※	1.5 - 10	30	50	28	44	44	NBC10-□	0.5
- 75			75	52	38 - 48	69		0.6
-MEGA13N- 50※	2.5 - 13	35	50	29	44	44	NBC13-□	0.5
- 75			75	54	64	64		0.7
-MEGA16N- 55※	2.5 - 16	42	55	—	48	48	NBC16-□	0.7
-MEGA20N- 60※	2.5 - 20	46	60	—	53	53	NBC20-□	0.8
C5 -MEGA 6N- 60	0.25 - 6	20	60	34	23 - 36	53	NBC 6-□	0.5
- 75			75	49	23 - 43	68		0.5
- 90			90	62		83		0.5
-105			105	77		98		0.6
-120			120	90		113		0.6
-MEGA 8N- 60	0.5 - 8	25	60	33	26 - 36	53	NBC 8-□	0.5
- 75			75	49	26 - 45	68		0.6
- 90			90	64		83		0.6
-105			105	77		98		0.7
-120			120	92		113		0.7
-MEGA10N- 55※	1.5 - 10	30	55	31	48	48	NBC10-□	0.5
- 75			75	49	38 - 48	68		0.6
- 90			90	64		83		0.7
-105			105	79		98		0.8
-120			120	92		113		0.9
-MEGA13N- 55※	2.5 - 13	35	55	31	48	48	NBC13-□	0.6
- 75			75	49	44 - 48	68		0.7
- 90			90	64	44 - 63	83		0.8
-105			105	79		98		0.9
-120			120	94		113		1.0
-MEGA16N- 60※	2.5 - 16	42	60	38	53	53	NBC16-□	0.7
- 75※			75	53	68	68		0.9
- 90			90	69	48 - 63	83		1.0
-105			105	84	48 - 68	98		1.1
-120			120	99		111		1.3
-MEGA20N- 60※	2.5 - 20	46	60	39	51	51	NBC20-□	0.8
- 75※			75	54	66	66		1.0
- 90			90	69	51 - 60	83		1.1
-105			105	84	51 - 68	98		1.3
-120			120	99		111		1.4

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.

For MEGA PERFECT SEAL, G11
For Collets, G4
For Endmill Collets, G7

For High Speeds

MEGA NEW BABY CHUCK PAT.

Clamping diameter: ø0.25 - ø20

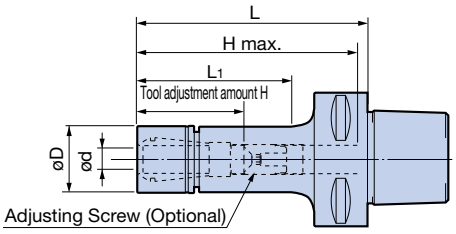
Center through

High speed and reliable machining are achieved with the exceptional tool balance and high precision collet chuck system.

● Model Description

C6 - MEGA 6 N - 60

- 60: L dimension
- N: NEW BABY CHUCK
- 6: Maximum clamping diameter
- MEGA: MEGA CHUCK
- C6: Shank No.



C6

Model	Clamping diameter ød	øD	L	L_1	H	H Max.	Collet Model	Weight (kg)
C6 -MEGA 6N- 60	0.25 - 6	20	60	30	23 - 33	51	NBC 6-□	1.2
- 75			75	43	23 - 43	66		1.2
- 90			90	58		81		1.2
-105			105	73		96		1.3
-120			120	88		111		1.3
-135			135	103		126		1.3
-165			165	128		156		1.4
-200			200	163		191		1.5
-MEGA 8N- 60	0.5 - 8	25	60	29	26 - 31	51	NBC 8-□	1.3
- 75			75	43	26 - 45	66		1.3
- 90			90	58		81		1.3
-105			105	73		96		1.4
-120			120	88		111		1.4
-135			135	103		126		1.5
-165			165	133		156		1.6
-200			200	163		191		1.7
-MEGA10N- 60 ※	1.5 - 10	30	60	32	51	51	NBC10-□	1.3
- 75			75	43	38 - 45	66		1.4
- 90			90	58	38 - 48	81		1.4
-105			105	73		96		1.5
-120			120	88		111		1.6
-135			135	103		126		1.6
-165			165	133		156		1.8
-200			200	168		191		2.0
-MEGA13N- 60 ※	2.5 - 13	35	60	32	51	51	NBC13-□	1.3
- 75 ※			75	45	66	66		1.4
- 90			90	60	44 - 55	81		1.5
-105			105	73	44 - 63	96		1.6
-120			120	90		111		1.7
-135			135	103		126		1.8
-165			165	133		156		2.0
-200			200	168		191		2.2
-MEGA16N- 65 ※	2.5 - 16	42	65	37	56	56	NBC16-□	1.5
- 75 ※			75	47	66	66		1.6
- 90			90	60	48 - 57	81		1.7
-105			105	75	48 - 68	96		1.8
-120			120	90		111		2.0
-135			135	105		126		2.1
-165			165	135		156		2.4
-200			200	170		191		2.7
-MEGA20N- 65 ※	2.5 - 20	46	65	37	51	51	NBC20-□	1.5
- 75 ※			75	47	65	65		1.6
- 90			90	62	51 - 56	76		1.8
-105			105	77	51 - 68	91		2.0
-120			120	92		104		2.1
-135			135	107		111		2.3
-165			165	137				2.6
-200			200	172				2.9

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.

C8

Model	Clamping diameter ød	øD	L	L_1	H	H Max.	Collet Model	Weight (kg)
C8 -MEGA 6N- 90	0.25 - 6	20	90	45	23 - 43	90	NBC 6-□	2.4
-120			120	75		120		2.6
-165			165	120		165		2.7
-MEGA 8N- 90	0.5 - 8	25	90	46	26 - 45	90	NBC 8-□	2.6
-120			120	75		120		2.7
-165			165	120		165		2.8
-MEGA10N- 90	1.5 - 10	30	90	45	38 - 48	90	NBC10-□	2.7
-120			120	75		120		2.8
-165			165	120		165		3.0
-MEGA13N- 90	2.5 - 13	35	90	50	44 - 63	90	NBC13-□	2.8
-120			120	80		120		2.9
-165			165	120		165		3.2
-200			200	155		200		3.5
-MEGA16N- 90	2.5 - 16	42	90	50	48 - 66	90	NBC16-□	2.9
-120			120	80	48 - 68	120		3.2
-165			165	125		165		3.6
-MEGA20N- 90	2.5 - 20	46	90	50	51 - 68	83	NBC20-□	3.0
-120			120	80		113		3.3
-165			165	125				3.8
-200			200	160				4.1

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.

Standard Accessory	Optional Accessories				
MEGA NUT	MEGA NUT Flat Type	Mega Wrench	Collet	MEGA PERFECT SEAL	Adjust Screw
					
For Spares G10	G10	G22	G4	G11	G10

For High Speeds

MEGA E CHUCK PAT.

Clamping diameter: ø3 - ø12

Center through

MAX. 35,000min^{-1}

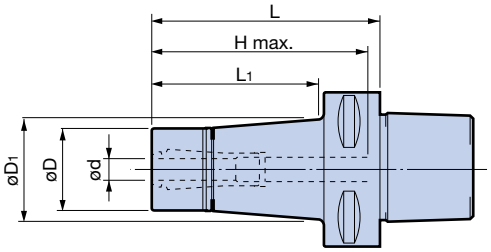
C5-MEGA6E-55

New collet chuck designed for endmilling.
Powerful gripping force and substantial body design with high bending rigidity provide optimum endmilling performance.

● Model Description

C4 - MEGA 6 E - 50

- 50: L dimension
- E: E CHUCK
- 6: Maximum clamping diameter
- MEGA: MEGA CHUCK
- C4: Shank No.



C4/C5

Model	Clamping diameter ød	øD	øD1	L	L1	H	H Max.	Collet Model	Weight (kg)
C4 -MEGA 6E- 50※	3 - 6	25	26.0	50	25	44	44	MEC 6-□	0.4
-MEGA 8E- 50※	3 - 8	30	31.0	50	28	44	44	MEC 8-□	0.5
-MEGA10E- 55※	3 - 10	35	37.0	55	34	49	49	MEC10-□	0.5
-MEGA13E- 60※	3 - 12	42	—	60	—	50	50	MEC13-□	0.6
C5 -MEGA 6E- 55※	3 - 6	25	26.4	55	29	48	48	MEC 6-□	0.5
- 90			32.3	90	64	37 - 45	83		0.7
-105			35.2	105	81		98		0.8
-120			37.9	120	97		113		0.9
-MEGA 8E- 55※	3 - 8	30	31.3	55	31	48	48	MEC 8-□	0.6
- 90			37.4	90	67	42 - 51	83		0.8
-105			40.1	105	82		98		1.0
-120			42.8	120	98		113		1.1
-MEGA10E- 60※	3 - 10	35	37.4	60	37	53	53	MEC10-□	0.6
- 90			42.7	90	69	48 - 58	83		0.9
-105			45.3	105	84		98		1.1
-120			45.3	120	99		113		1.3
-MEGA13E- 60※	3 - 12	42	44.4	60	39	50	50	MEC13-□	0.8
- 75※			44.8	75	54	68	68		0.9
- 90			44.8	90	69	50 - 60	83		1.1
-105			46.0	105	84		98		1.3
-120			45.8	120	99		113		1.4

Refer to the remarks on the next page.

C6/C8

Model	Clamping diameter ød	øD	øD1	L	L1	H	H Max.	Collet Model	Weight (kg)
C6 -MEGA 6E- 60※	3 - 6	25	27.9	60	33	51	51	MEC 6-□	1.2
- 75			29.5	75	48	37 - 45	66		1.3
- 90			32.1	90	63		81		1.4
-105			34.7	105	78		96		1.5
-120			37.3	120	93		111		1.6
-135			40.0	135	108		126		1.8
-165			45.2	165	138		156		2.1
-MEGA 8E- 60※	3 - 8	30	32.7	60	33	51	51	MEC 8-□	1.3
- 75			34.2	75	48	42 - 46	66		1.4
- 90			36.7	90	63	42 - 51	81		1.5
-105			39.5	105	78		96		1.7
-120			42.1	120	93		111		1.8
-135			44.7	135	108		126		1.9
-165			50.3	165	140		156		2.4
-MEGA10E- 65※	3 - 10	35	38.4	65	38	56	56	MEC10-□	1.4
- 75※			39.1	75	48	66	66		1.5
- 90			41.6	90	63	48 - 58	81		1.6
-105			44.4	105	78		96		1.8
-120			47.0	120	93		111		2.0
-135			50.0	135	110		126		2.2
-165			55.4	165	141		156		2.7
-MEGA13E- 65※	3 - 12	42	45.1	65	39	56	56	MEC13-□	1.5
- 75※			46.0	75	49	66	66		1.6
- 90			49.0	90	66	50 - 55	81		1.8
-105			51.4	105	80		96		2.1
-120			54.2	120	96	50 - 60	111		2.3
-135			56.8	135	112		126		2.6
-165			62.3	165	141		156		3.2
C8 -MEGA 6E- 90	3 - 6	25	30.7	90	55	37 - 45	90	MEC 6-□	2.6
-135			38.5	135	100		135		3.0
-MEGA 8E- 90	3 - 8	30	35.4	90	55	42 - 51	90	MEC 8-□	2.7
-135			43.3	135	100		135		3.2
-MEGA10E- 90	3 - 10	35	40.3	90	55	48 - 58	90	MEC10-□	2.8
-120			45.6	120	85		120		3.2
-135			48.2	135	100		135		3.4
-MEGA13E- 90	3 - 12	42	47.0	90	55	50 - 60	90	MEC13-□	3.0
-120			52.3	120	85		120		3.4
-135			54.9	135	100		135		3.7
-165			60.1	165	130		165		4.3

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Weight includes the nut but not the collet.
3. Center through coolant supply is available.
4. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.

Standard Accessory

MEGA E Nut

For Spares ☞ G13

Optional Accessories

Mega Wrench

☞ G22

MEGA E Collet

☞ G13

MEGA E PERFECT SEAL

☞ G14

Adjusting Screw

☞ G13

Note that suitable Mega Wrench models differ between the Mega E Chuck and Mega New Baby Chuck even for the same body size series, i.e. MEGA6E and MEGA6N require different wrenches from each other.

For High Speeds

MEGA DOUBLE POWER CHUCK PAT.

Clamping diameter: ø16 - ø32

Center through

MAX. 30,000min^{-1}

C5-MEGA16D-65

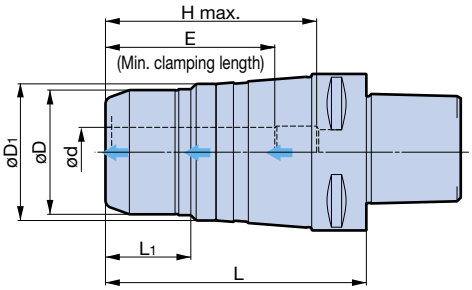
Complete contact with the nut and body.
High rigidity equal integration with the machine spindle.

[Standard Type] For Through Tools

● Model Description

C4 - MEGA 16 D - 70

- 70: L dimension
- D: DOUBLE POWER CHUCK Standard type
- 16: Clamping diameter
- MEGA: MEGA CHUCK
- C4: Shank No.



C4/C5/C6/C8

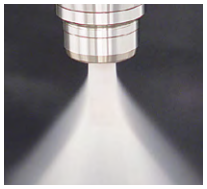
Model	Clamping diameter ød	øD	øD1	L	L1	H Max.	E	Mega Wrench	Weight (kg)
C4 -MEGA16D- 70	16	46	46.7	70	—	64	50	MGR46L	0.8
-MEGA20D- 65▲	20	50	50.7	65	—	59	51	MGR50L	0.8
C5 -MEGA16D- 65A	16	42	53	65	25	58	55	MGR42L	0.8
- 90A				90		71			1.3
-MEGA20D- 75A	20	50	55	75	34	68	56	MGR50L	1.1
- 90A				90		83			1.4
-MEGA25D- 75A	25	62	63	75	39	68	57	MGR62L	1.4
- 90A				90		83			1.7
C6 -MEGA16D- 70A	16	42	53	70	25	61	55	MGR42L	1.6
- 90A				90		81			2.0
-105A				105		71			2.3
-135A				135					2.9
-MEGA20D- 75A	20	50	55	75	34	66	56	MGR50L	1.9
- 90A				90		81			2.1
-105A				105		85			2.4
-135A				135					3.0
-MEGA25D- 75A▲	25	62	63	75	39	66	57	MGR62L	2.1
- 90A				90		81			2.4
-105A				105		85			2.8
-135A				135					3.3
-MEGA32D- 90A	32	70	71	90	33	81	64	MGR70L	2.5
-105A				105		90			2.9
-135A				135					3.4
C8 -MEGA16D- 70	16	46	55	70	23.5	71	50	MGR46L	2.8
-105				105					3.5
-MEGA20D- 75	20	60	69	75	25.5	75	56	MGR60L	3.3
-105				105		85			4.2
-135				135					5.0
-MEGA25D- 75	25	70	77	75	32	75	65	MGR70L	3.4
-105				105		90			4.5
-165				165					6.4
-MEGA32D- 90	32	80	86	90	39.5	90	71	MGR80L	4.3
-105				105		100			4.8
-135				135		105			6.0

1. Wrench is not included. Please order separately.
2. Center through coolant supply is available.
3. Models with ▲ indication cannot use a Straight Collet.

Optional Accessories

Straight Collet	Mega Wrench	Axial Adjusting Screw
 G18	 G22	 G21

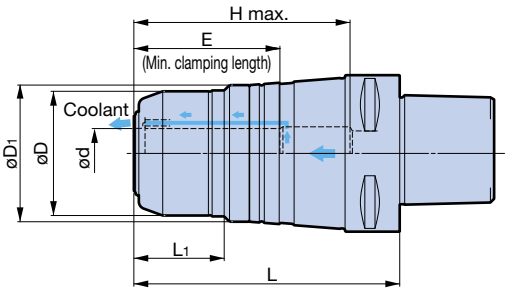
[Jet Through Type] Coolant to tool periphery



● Model Description

C5 - MEGA 16 DS - 65

- C5: Shank No.
- MEGA: MEGA CHUCK
- 16: Clamping diameter
- DS: DOUBLE POWER CHUCK Jet Through Type
- 65



C5/C6/C8

Model	Clamping diameter ød	øD	øD1	L	L1	H Max.	E	Mega Wrench	Weight (kg)
C5 -MEGA16DS- 65A	16	42	53	67	27	60	57	MGR42L	0.8
- 90A				92		73			1.3
-MEGA20DS- 75A	20	50	55	77	36	70	58	MGR50L	1.1
- 90A				92		85			1.4
-MEGA25DS- 75A	25	62	63	77	41	70	59	MGR62L	1.4
- 90A				92		85			1.7
C6 -MEGA16DS- 70A	16	42	53	72	27	63	57	MGR42L	1.6
- 90A				92		83			2.0
-105A				107		73			2.3
-135A				137					2.9
-MEGA20DS- 75A	20	50	55	77	36	68	58	MGR50L	1.9
- 90A				92		83			2.1
-105A				107		87			2.4
-135A				137					3.0
-MEGA25DS- 75A ▲	25	62	63	77	41	68	59	MGR62L	2.1
- 90A				92		83			2.4
-105A				107		87			2.8
-135A				137					3.3
-MEGA32DS- 90A	32	70	71	92	35	83	66	MGR70L	2.5
-105A				107		92			2.9
-135A				137					3.4
C8 -MEGA16DS- 70	16	46	55	72.5	26	73	52	MGR46L	2.8
-105				107.5					3.6
-135				137.5					4.1
-MEGA20DS- 75	20	60	69	77.5	28	77	58	MGR60L	3.3
-135				137.5		87			5.0
-165				167.5					5.9
-MEGA25DS- 75	25	70	77	77.5	34	77	67	MGR70L	3.4
-135				137.5		92			5.4
-165				167.5					6.4
-MEGA32DS- 90	32	80	86	92.5	42	92	73	MGR80L	4.3
-105				107.5		102			4.8
-135				137.5		107			6.0
-165				167.5					7.3

1. Wrench is not included. Please order separately.
2. **DS types have jet-through coolant supply, thus tools with oil holes cannot be used.**
3. Models with ▲ indication cannot use a Straight Collet.

Collet Chuck System

NEW BABY CHUCK PAT.

Clamping diameter: ø0.25 - ø20

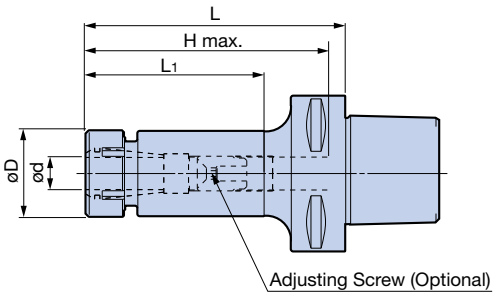
Center through

High-precision collet chuck system with a 1 micron runout accuracy at nose.
Applicable to various machining needs as a reliable general-purpose holder.

● Model Description

C6 - NBS 6 - 75

- 75: L dimension
- 6: Maximum clamping diameter
- NBS: NEW BABY CHUCK
- C6: Shank No.



C6

Model	Clamping diameter ød	øD	L	L1	H Max.	Collet Model	Weight (kg)
C6-NBS 6- 75	0.25 - 6	20	75	43	66	NBC 6-□	1.2
-105			105	73	96		1.3
-135			135	103	126		1.4
-165			165	133	156		1.4
-200			200	168	180		1.5
-NBS 8- 75	0.5 - 8	25	75	43	66	NBC 8-□	1.3
-105			105	73	96		1.4
-135			135	103	126		1.5
-165			165	133	156		1.6
-200			200	168	180		1.7
-NBS10- 75	1.5 - 10	30	75	43	66	NBC10-□	1.4
-105			105	73	96		1.5
-135			135	103	126		1.7
-165			165	133	156		1.8
-200			200	168	180		1.9
-NBS13- 75	2.5 - 13	35	75	45	66	NBC13-□	1.5
-105			105	73	96		1.7
-135			135	103	126		1.9
-165			165	133	156		2.0
-200			200	168	180		2.2
-NBS16- 75※	2.5 - 16	42	75	47	66	NBC16-□	1.6
-105			105	75	96		1.9
-135			135	105	126		2.1
-165			165	135	156		2.4
-200			200	170	180		2.7
-NBS20- 75※	2.5 - 20	46	75	47	65	NBC20-□	1.7
-105			105	77	90		2.0
-135			135	107	100		2.2
-165			165	137	110		2.6
-200			200	172	110		3.0

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Center through coolant supply is available.
3. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.

Standard Accessory

New Baby Nut

For Spares ☞ G26

Optional Accessories

New Baby Wrench

☞ G26

Collet

☞ G4

BABY PERFECT SEAL

☞ G24

Adjusting Screw

☞ G10

Tap Adjusting Screw

☞ G26

HYDRAULIC CHUCK

Center through

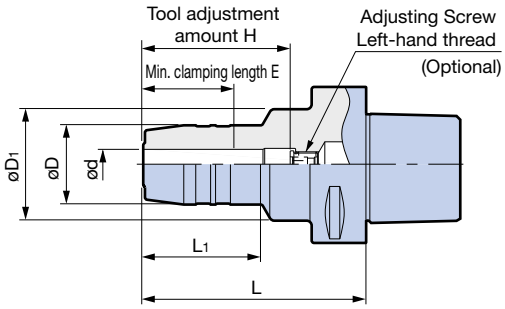
Secure chucking with just one wrench. Ideal for various high precision machining requirements.

Runout accuracy 4D 3μm or less

● Model Description

C5 - HDC 6 - 55

- 55: L dimension
- 6: Chuck bore
- HDC: HYDRAULIC CHUCK
- C5: Shank No.



C5/C6

Model	Clamping diameter ød	øD	øD1	L	L1	E	H	Adjusting Screw (Optional)	Weight (kg)
C5-HDC 6- 55※	6	26	45	55	18	28	48	—	0.8
- 90				90	45		33 - 50	HDA6-05020	1.0
-HDC 8- 55※	8	28	45	55	18	28	48	—	0.8
- 90				90	45		33 - 50	HDA8-06020	1.1
-HDC10- 60※	10	30	45	60	24	33	53	—	0.9
- 90				90	45		43 - 55	HDA10-08015	1.1
-HDC12- 60※	12	32	46	60	24	38	53	—	0.9
- 90			45	90	48		53 - 60	HDA12-10010●	1.1
-HDC14- 90	14	34	45	90	48	38	53 - 60	HDA12-10010●	1.1
-HDC16- 75※	16	38	50	75	35	43	68	—	1.1
- 90※			48	90	48		83	—	1.2
-HDC18- 90※	18	40	48	90	48	43	83	—	1.2
-HDC20- 75※	20	42	52	75	35	43	68	—	1.1
- 90※			50	90	48		83	—	1.2
-HDC25- 90※	25	55	63	90	48	52	83	—	1.7
C6-HDC 6- 60※	6	26	45	60	18	28	51	—	1.4
- 90				90	48		33 - 50	HDA 6-05020	1.5
-120				120	45		28 - 50	HDA 6-05032	1.8
-HDC 8- 60※	8	28	45	60	18	28	51	—	1.4
- 90				90	48		33 - 50	HDA 8-06020	1.6
-120				120	45		28 - 50	HDA 8-06032	1.8
-HDC10- 65※	10	30	45	65	24	33	56	—	1.4
- 90				90	48		43 - 55	HDA10-08015	1.6
-120				120	45		33 - 54	HDA10-08032	1.8
-HDC12- 65※	12	32	46	65	24	38	56	—	1.5
- 90			45	90	48		48 - 60	HDA10-08015	1.6
-120				120			38 - 60	HDA10-08032	1.8
-HDC14- 90	14	34	45	90	48	38	48 - 60	HDA10-08015	1.6
-120				120			38 - 60	HDA10-08032	1.9
-HDC16- 75※	16	38	50	75	35	43	66	—	1.6
- 90※			47	90	48		81		1.7
-120			48	120			43 - 70	HDA16-12037	2.0
-HDC18- 90※	18	40	48	90	48	43	66	—	1.7
-120			49	120			43 - 70	HDA16-12037	2.0
-HDC20- 75※	20	42	53	75	33	43	66	—	1.7
- 90※			50	90	48		72		1.8
-120				120			43 - 70	HDA16-12037	2.1
-HDC25- 90※	25	55	63	90	46	52	80	—	2.2
-120				120	51		67 - 79	HDA20-16015	2.8
-HDC32- 90※	32	75	63	90	43	56	81	—	2.8
-120		63	—	120	—		66 - 78	HDA20-16015	3.0

1. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.
2. ※ marked models cannot be used with Adjusting Screws. H dimension is the max. tool shank length that can be inserted into the holder.
3. Adjusting Screw **with hexagon sockets on both sides** is also available, allowing adjustment from the shank side as well.
   Add the letter **"W"** at the end of the model number when ordering. (Example: **HDA6-05020W**)
4. The above type is not available for the **HDA12-10010** marked with ●.

For Straight Collets, G18

Caution

- Use only cutting tools that have a shank tolerance within h6.
- Do not use with cutting tools made with a flat on the shank. (ie: Weldon type shank)
- We do not recommend use with roughing endmills.
- Do not clamp without a tool.
- Always insert the cutting tool into the holder beyond min. clamping length E.

NEW Hi- POWER MILLING CHUCK

Clamping diameter: ø16 - ø32

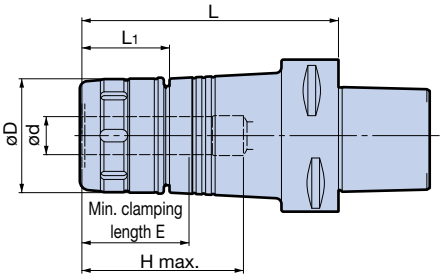
Center through

The BIG original slit mechanism supports high power and high-precision endmilling from heavy cuts to fine cuts.

● Model Description

C5 - HMC 16 S - 65

- 65 : L dimension
- S : S Type
- 16 : Chuck bore
- HMC : NEW Hi- POWER MILLING CHUCK
- C5 : Shank No.



C5/C6/C8

Model	Clamping diameter ød	øD	L	L1	H Max.	E	Wrench	Weight (kg)
C5-HMC16S- 65	16	43	65	44	58	55	FK45-50L	0.8
-HMC20S- 75	20	50	75	44	68	56		1.0
-105			105		85			1.4
-HMC25S- 75	25	55	75	47	68	57	FK52-55	1.3
-105			105		87			1.7
-HMC32S- 85	32	62	85	56	78	58	FK58-62L	1.6
C6-HMC16S- 70	16	43	70	44	61	55	FK45-50L	1.5
-HMC20S- 75	20	50	75	44	66	56		1.7
-105			105		85			2.3
-120			120					2.5
-HMC25S- 75	25	59	75	45	66	57	FK58-62L	2.0
-105			105		87			2.5
-135			135					3.1
-HMC32S- 90	32	68	90	54	81	64	FK68-75L	2.4
-105			105		90			2.7
-135			135					3.3
C8-HMC20- 80	20	60	80	46	80	56	FK58-62	3.3
-135			135		85			4.7
-HMC25- 85	25	62	85	55	85	65		3.5
-135			135		90			4.7
-HMC32- 95	32	80	95	63	95	71	FK80-90	4.5
-135			135		105			5.8

1. Wrench is not included.

For Straight Collets, G18

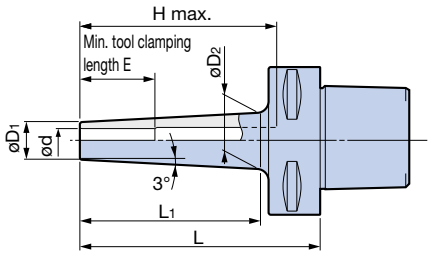
Center through

[Slim Type]

● Model Description

C6 - SRC 6 S - 120

- 120: L dimension
- S: Slim Type
- 6: Clamping diameter
- SRC: SHRINK CHUCK
- C6: Shank No.



C6

Model	Clamping diameter ød	øD1	øD2	L	L1	E	H Max.	Weight (kg)
C6-SRC 6S-120	6	10	19.5	120	92	26	111	1.2
-165			23.8	165	133		156	1.4
-SRC 8S-120	8	13	22.5	120	92	26	111	1.3
-165			26.8	165	133		156	1.5
-SRC10S-120	10	16	25.5	120	92	32	111	1.3
-165			30.5	165	135		156	1.5
-SRC12S-120	12	19	28.5	120	92	36	111	1.4
-165			33	165	135		156	1.6

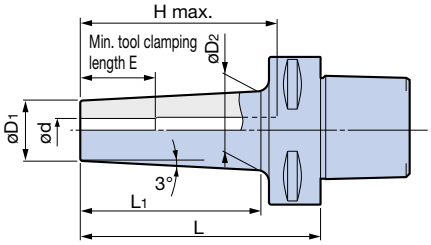
1. Use a carbide shank cutter within a tolerance of h6. HSS tools cannot be used.

[Standard Type]

● Model Description

C6 - SRC 6 - 90

- 90: L dimension
- 6: Clamping diameter
- SRC: SHRINK CHUCK
- C6: Shank No.



C6

Model	Clamping diameter ød	øD1	øD2	L	L1	E	H Max.	Weight (kg)
C6-SRC 6- 90	6	14	20.5	90	63	26	81	1.2
-SRC 8- 90	8	18	24.5	90	63	26		1.3
-SRC10- 90	10	22	28.5	90	63	32		1.3
-SRC12- 90	12	24	30.5	90	63	36		1.4
-SRC16- 90	16	28	34.5	90	63	38		1.4
-165			42.4	165	138		80	2.1
-SRC20- 90	20	34	40.5	90	63	42	80	1.5
-165			48.4	165	138		100	2.5

1. Use a carbide shank cutter within a tolerance of h6. HSS tools cannot be used.

CK SHANK

Basic holder for rough and finish boring heads of the proven BIG +KAISER Boring System.

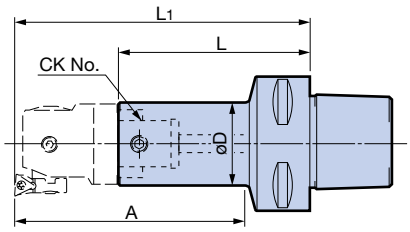
BIG +KAISER

Center through

● Model Description

C4 - CKB1 - 48

- CK No.
- Shank No.



C4/C5/C6/C8

Model	CK No.	øD	L	L_1	A	Weight (kg)
C4-CKB1- 48	CK1	19	48	80	55	0.4
-CKB2- 45	CK2	24	45	80	55	0.4
-CKB3- 40	CK3	31	40	80	57	0.5
-CKB4- 33	CK4	39	33	80	62	0.5
C5-CKB1- 73	CK1	19	72.5	105	80	0.5
-CKB2- 85	CK2	24	84.5	120	96	0.6
-CKB3- 55	CK3	31	55	95	70	0.6
-CKB4- 48	CK4	39	48	95	70	0.6
-CKB5- 50	CK5	50	50	107	—	0.6
-CKB6- 50	CK6	64	50	121	—	1.0
C6-CKB1- 78	CK1	19	77.5	110	83	1.2
-CKB2- 90	CK2	24	89.5	125	98	1.3
-CKB3- 65	CK3	31	65	105	78	1.3
-100			100	140	113	1.5
-CKB4- 58	CK4	39	58	105	78	1.3
- 93			93	140	113	1.7
-CKB5- 48	CK5	50	48	105	79	1.3
- 83			83	140	114	1.7
-CKB6- 59	CK6	64	59	130	—	1.6
- 94			94	165	—	2.3
C8-CKB4-118	CK4	39	118	165	130	2.4
-178			178	225	190	3.0
-CKB5-108	CK5	50	108	165	130	2.7
-183			183	240	205	3.8
-CKB6- 74	CK6	64	74	145	110	2.5
-169			169	240	206	4.8
-CKB7- 73	CK7	90	73	160	—	3.1
-123			123	210	—	5.6

1. Center through coolant supply is available.
2. The L_1 and A dimensions in the table are the reference values when EWN BORING HEAD is attached.

Modular boring system with secure and accurate connection mechanism

CK BORING SYSTEM

CK BORING SYSTEM

Supports various boring applications with abundant heads and accessories.

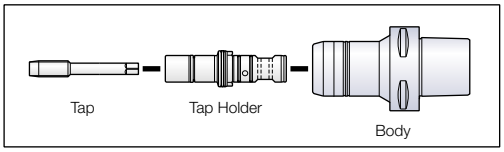
BIG +KAISER

For heads, A39

MEGA SYNCHRO TAPPING HOLDER

Center through

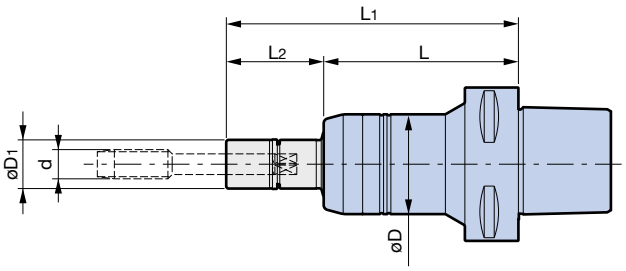
Absorbs and corrects machine synchronization errors for improved tap life.



● Model Description (Body)

C5 - MGT6 - 75

- 75: L dimension
- MGT6: MEGA SYNCHRO No.
- C5: Shank No.



C5/C6/C8

Model	Tap Holder Model	Tapping range d	øD	øD1	L	L1	L2	Weight (kg)
C5-MGT 6- 75	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	75	105	30	0.8
	- 70					145	70	
	-100					175	100	
-MGT12- 75	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	75	105	30	0.9
	- 70					145	70	
	-100					175	100	
-MGT20-100	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	100	135	35	1.4
	- 85					185	85	
	-115					215	115	
C6-MGT 6- 80	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	80	110	30	1.1
	- 70					150	70	
	-100					180	100	
-MGT12- 80	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	80	110	30	1.2
	- 70					150	70	
	-100					180	100	
-MGT20-100	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	100	135	35	1.8
	- 85					185	85	
	-115					215	115	
C8-MGT 6- 80	MGT 6-d- 30	M2 - M6 No.3 - U1/4	36	16	80	110	30	2.1
	- 70					150	70	
	-100					180	100	
-MGT12- 80	MGT12-d- 30	M6 - M12 U1/4 - U7/16 P1/8	41	20	80	110	30	2.2
	- 70					150	70	
	-100					180	100	
-MGT20- 95	MGT20-d- 35	M12 - M20 U1/2 - U3/4 P1/4 - P3/8	54	30	95	130	35	2.6
	- 85					180	85	
	-115					210	115	

1. MGT Set Screw is included.
2. Tap holder and wrench are not included. Please order separately.

Cannot be used with machining center without synchronized tapping function.

For tap holders, A123
For Mega Wrench, A126

Caution

Tap with eccentric thread relief, having no margin on tap periphery, may cause oversize threads.
In such case, tap with con-eccentric thread relief is recommended.

CK AUTO TAPPER E SET

M3 - M24

BIG DAISHOWA + KAISER

Axial float function and built-in torque limiter.
Flexible tool layout is available in combination with the CK shanks.

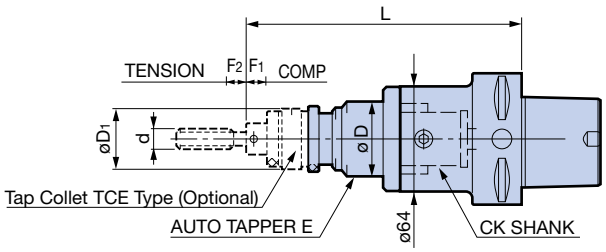
● Model Description

C5 - CKB6 - ATE 12 - 50

- 50: Tapping range
- 12: AUTO TAPPER E
- CKB6: CK No.
- C5: Shank No.

Original one-way torque limiter

If the torque limiter is activated with the tap in reverse, tap breakage may occur, which is very dangerous. The BIG DAISHOWA AUTO TAPPER series uses a unique one-way torque limiter that does not work while in reverse, allowing safe tapping.



C5/C6/C8

Model	Tapping range	øD	øD1	L	F1	F2	Set contents		Compatible Tap Collet
							CK SHANK	CK AUTO TAPPER E	
C5-CKB6-ATE12- 50	M 3 - M12	47	38.5	140	5	10	C5-CKB6- 50	CK6-ATE12	TCE12-d
-ATE24- 50	M10 - M24	64	58.5	185	7	15		CK6-ATE24	TCE24-d
C6-CKB6-ATE12- 59	M 3 - M12	47	38.5	149	5	10	C6-CKB6- 59	CK6-ATE12	TCE12-d
- 94				184			- 94		
-ATE24- 59	M10 - M24	64	58.5	194	7	15	C6-CKB6- 59	CK6-ATE24	TCE24-d
- 94				229			- 94		
C8-CKB6-ATE12- 74	M 3 - M12	47	38.5	164	5	10	C8-CKB6- 74	CK6-ATE12	TCE12-d
-169				259			-169		
-ATE24- 74	M10 - M24	64	58.5	209	7	15	C8-CKB6- 74	CK6-ATE24	TCE24-d
-169				304			-169		

1. Tap Collet must be ordered separately.
2. Torque limiter is built into the Tap Collet.
3. The torque limiter of the Tap Collet is set for high-carbon steel upon delivery.
4. As the reverse torque is set to 3x, it cannot be used for the left-hand thread.

∗Each component is shipped in a separate package.
(CK SHANK and CK AUTO TAPPER E)

For Tap Collets, A138

FACE MILL ARBOR TYPE A

● Model Description

C4 - FMA 25.4 - 40

- 40 : L dimension
- 25.4 : Spigot diameter
- FMA : FACE MILL ARBOR TYPE A
- C4 : Shank No.

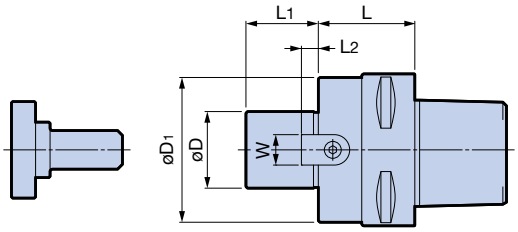


Fig. 1

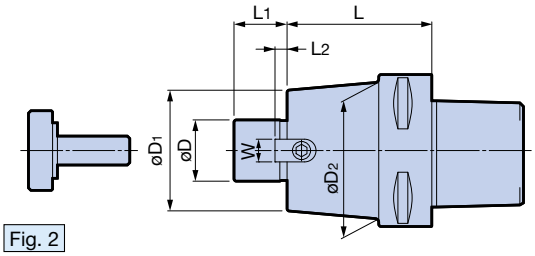


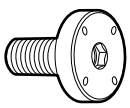
Fig. 2

C4/C5/C6/C8

Model	Fig.	øD	øD1	øD2	L	L1	Drive Key		Clamping Screw	Weight (kg)
							L2	W		
C4-FMA25.4 - 40	1	25.4	50	—	40	22	5	9.5	MBA-M12	0.7
C5-FMA25.4 - 40	1	25.4	50	—	40	22	5	9.5	MBA-M12	0.9
- 75					75					1.2
C6-FMA25.4 - 40	2	25.4	50	54	40	22	5	9.5	MBA-M12	1.4
- 60				57	60					1.8
- 90				60	90					2.4
-FMA31.75- 40	1	31.75	60	—	40	30	7	12.7	MBA-M16	1.6
- 90					90					2.6
-FMA38.1 - 45		38.1	80	—	45	34	9	15.9	MBA-M20	2.2
C8-FMA25.4 - 40	2	25.4	50	53	40	22	5	9.5	MBA-M12	2.7
- 75				60	75					3.2
-105					105					3.8
-FMA31.75- 40		31.75	60	62	40	30	7	12.7	MBA-M16	2.7
- 90				70	90					4.0
-FMA38.1 - 45	1	38.1	80	—	45	34	9	15.9	MBA-M20	3.2

1. Cutter clamping screw is included.
2. Depending on the cutter, a hex socket head screw may be required for clamping.
3. A clamping screw with oil hole must be ordered separately for use with center through coolant/air.

■ Clamping screw with oil hole



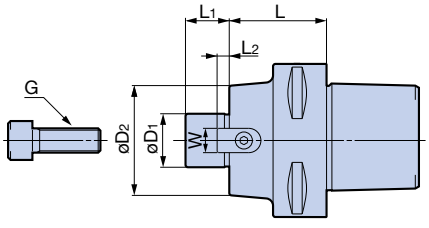
Model
TMBA-M12
-M16
-M20
-M24

FACE MILL ARBOR TYPE C

● Model Description

C6 - FMC 16 - 40

- 40 : L dimension
- 16 : Spigot diameter
- FMC : FACE MILL ARBOR TYPE C
- C6 : Shank No.



C6

Model	øD1	øD2	L	L1	Drive Key		Clamping Screw G	Weight (kg)
					L2	W		
C6-FMC16-40	16	32	40	16	5	8	M 8	1.3
-FMC22-40	22	45	40	18	5	10	M10	1.4

GENERAL TOOLHOLDER

Center through

FACE MILL ARBOR TYPE FMH

Face mill arbor capable of securely supplying coolant/air to cutting edges through oil holes of cutters.

● Model Description

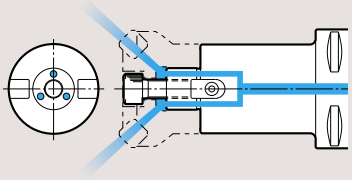
C5 - FMH 22 - 47 - 60

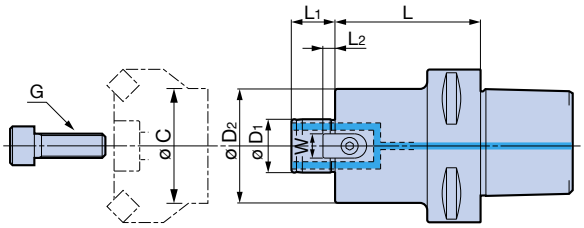
- 60: L dimension
- 47: Body diameter
- 22: Spigot diameter
- FMH: FACE MILL ARBOR TYPE FMH
- C5: Shank No.

Securely supplies coolant/air to the cutting edge.

What is FMH?

New standard of the arbors with coolant holes, which major Japanese carbide insert manufacturers established jointly, ideal for the high efficiency radius milling cutters and plunge milling cutters.



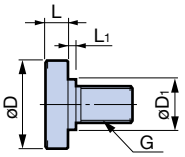


C5/C6/C8

Model	øD1	øD2	L	L1	Drive Key L2	Drive Key W	Clamping Screw	Weight (kg)	Minimum flange diameter (øC)
C5-FMH22- 47- 60	22	47	60	18	5	10	M10	1.2	36
- 90			90					1.6	
-FMH22- 60- 60	22	60	60	18	5	10	M10	1.4	38
-FMH27- 60- 60	27	60	60	20	6	12	M12	1.5	46
C6-FMH22- 47- 45	22	47	45	18	5	10	M10	1.5	38
- 60			60					1.8	36
- 90			90					2.2	
-150			150					3.0	
-FMH22- 60- 45	22	60	45	18	5	10	M10	1.8	38
- 60			60					2.1	
- 90			90					2.8	
-FMH27- 60- 45	27	60	45	20	6	12	M12	1.9	46
- 60			60					2.2	
- 90			90					2.8	
-150			150					4.2	
C8-FMH22- 47- 60	22	47	60	18	5	10	M10	2.9	36
-105			105					3.5	
-150			150					4.1	
-200			200					4.8	
-FMH22- 60- 60	22	60	60	18	5	10	M10	3.2	38
-105			105					4.2	
-150			150					5.2	
-FMH27- 60- 60	27	60	60	20	6	12	M12	3.3	46
-105			105					4.3	
-150			150					5.3	
-200			200					6.4	
-FMH32- 96- 75	32	96	75	22	7	14	M16	4.9	58
-105			105					6.1	
-150			150					7.8	

1. Cap screw to tighten the cutter is included. If the cutter requires a clamping bolt with larger clamping head diameter, please order the suitable model from the table below.

<Clamping Screws>



Model	øD	øD1	L	L1	G
MBA-M12	33	23	10	2	12
-M12H		—		—	
-M16	40	23	10	6	16
-M16H		—		—	

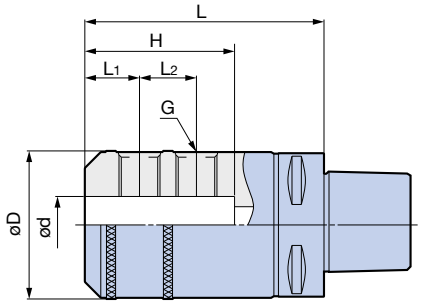
SIDE LOCK ENDMILL HOLDER

Center through

● Model Description

C6 - ISL 16 - 80

- 80: L dimension
- 16: Clamping diameter
- ISL: SIDE LOCK ENDMILL HOLDER
- C6: Shank No.



C6

Model	ød	øD	L	L_1	L_2	H	G	Weight (kg)
C6-ISL16- 80	16	48	80	24	—	52	M14	1.8
-ISL20- 80	20	52	80	25		55	M16	1.9
-ISL25-105	25	65	105	24	25	60	M18 P2.0	2.9
-ISL32-115	32	72	115	24	28	90	M20 P2.0	3.5

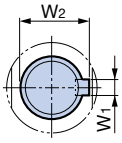
1. Center through coolant supply is available.

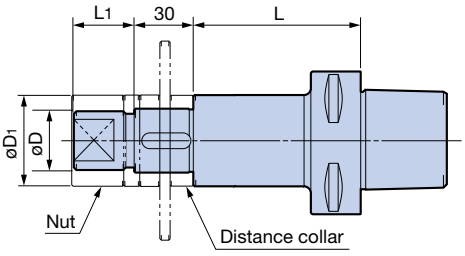
SIDE CUTTER ARBOR A

● Model Description

C6 - SCA 25.4 - 75

- 75: L dimension
- 25.4: Spigot diameter
- SCA: SIDE CUTTER ARBOR A
- C6: Shank No.





C6/C8

Model	øD	$øD_1$	L	L_1	W_1	W_2	Weight (kg)
C6-SCA25.4 - 75	25.4	40	75	25	6.35	27.78	2.0
-120			120				2.4
-SCA31.75- 75	31.75	46	75	30	7.92	34.92	2.4
C8-SCA25.4 - 90	25.4	40	90	25	6.35	27.78	3.3
-SCA31.75- 90	31.75	46	90	30	7.92	34.92	3.7

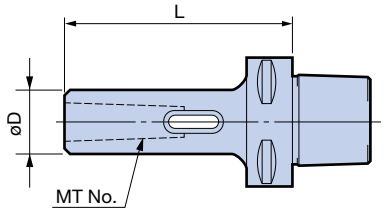
1. Nut is included.
2. Collars of thickness 5, 8, 10 and 12 are included.
3. The model, dimensions and accuracy conform to TMT standards.

MORSE TAPER HOLDER

● Model Description

C5 - MTA 1 - 95

- 95: L dimension
- 1: MT No.
- MTA: MORSE TAPER HOLDER TYPE A
- C5: Shank No.



C5/C6/C8

Model	MT No.	øD	L	Weight (kg)
C5-MTA1- 95	1	25	95	0.6
-MTA2-110	2	32	110	0.8
-MTA3-130	3	40	130	1.2
C6-MTA1- 95	1	25	95	1.3
-MTA2-110	2	32	110	1.5
-MTA3-130	3	40	130	1.9
C8-MTA1-105	1	25	105	2.6
-MTA2-120	2	32	120	2.8
-MTA3-140	3	40	140	3.2

1. The model, dimensions and accuracy conform to TMT standards.

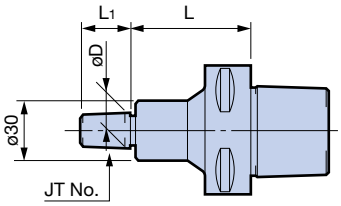
GENERAL TOOLHOLDER

JACOBS TAPER ARBOR

● Model Description

C5 - JTA 6 - 40

- 40: L dimension
- 6: JT No.
- JTA: JACOBS TAPER ARBOR
- C5: Shank No.



C5/C6/C8

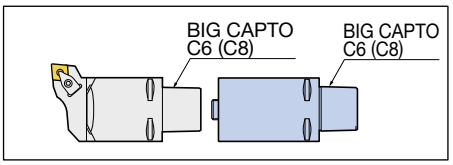
Model	JT No.	øD	L	L_1	Weight (kg)
C5-JTA6-40	6	17.170	40	24	0.5
C6-JTA6-40	6	17.170	40	24	1.2
C8-JTA6-50	6	17.170	50	24	2.5

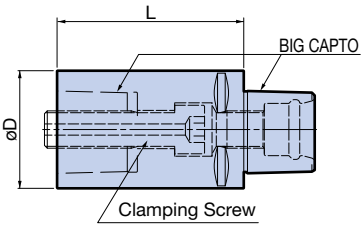
1. The model, dimensions and accuracy conform to TMT standards.

BIG CAPTO Extension

Center through

Extends length of basic holders.





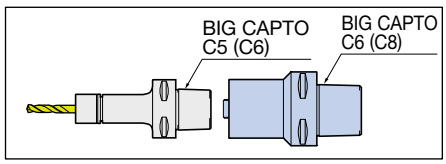
Model	BIG CAPTO	øD	L	Clamping Screw			Weight (kg)
				Thread	Hex	Torque	
C6-C6-100	C6	63	100	M20xP2	14mm	170N·m	1.2
C8-C8-100	C8	80					1.7

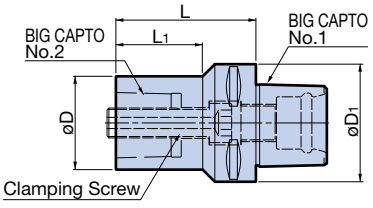
1. Clamping screws are included, but hex wrench is not.
2. When used for turning tools, connect by aligning with the phase of the hole on the taper shank.

BIG CAPTO Reduction

Center through

Reduces body diameter to avoid interference.





Model	BIG CAPTO No.1	BIG CAPTO No.2	øD	$øD_1$	L	L_1	Clamping Screw			Weight (kg)
							Thread	Hex	Torque	
C6-C5-75	C6	C5	50	63	75	46	M16×P1.5	10mm	95N·m	0.5
C8-C6-85	C8	C6	63	80	85	50	M20×P2	14mm	170N·m	0.8

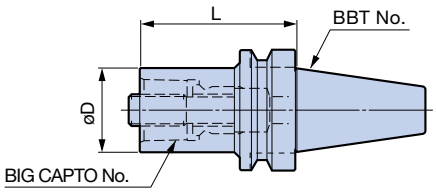
1. Clamping screw is included, but hex wrench is not.
2. When connected with a turning tool, align the holes on the polygon taper.

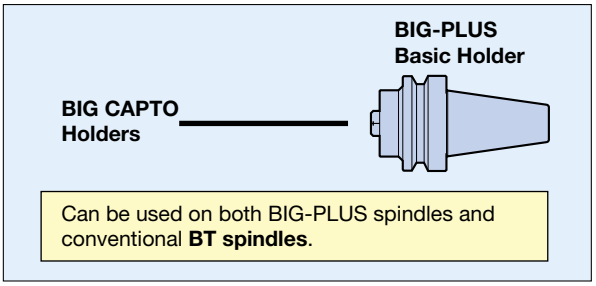
BIG-PLUS Basic Holder

- The ideal basic holder when using BIG CAPTO as a modular system with machining centers. Stable accuracy and rigidity are obtained with the Dual Contact BIG-PLUS spindle system.

- Increased rigidity with extended reference diameter.
- Extended tool life
- Improved surface finish and dimensional accuracy.
- Elimination of Z-axial movement at high speeds.

BIG-PLUS® SPINDLE SYSTEM
Dual contact spindle system





Model	BIG CAPTO No.	øD	L
BBT40-C3-30	C3	32	30
-C4-40	C4	40	40
-C5-50	C5	50	50
-C6-75	C6	63	75
BBT50-C3-40	C3	32	40
-C4-40	C4	40	
-C5-40	C5	50	
-C6-50	C6	63	50
-C8-70	C8	80	70

1. Center through coolant supply is available.

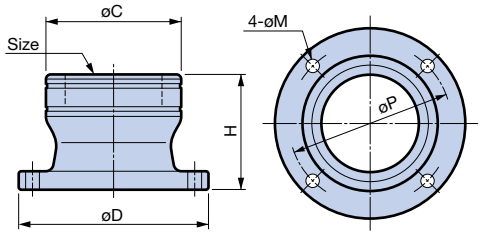
TOOL CLAMP STAND

KOMBI GRIP

- Unique 2-way clutch needle roller clamping system assures secure clamping just by placing the holder. Quick and safe tool assembly/disassembly is achieved.

For tool assembly

Caution
- Use after securely bolting to a workbench or surface plate.



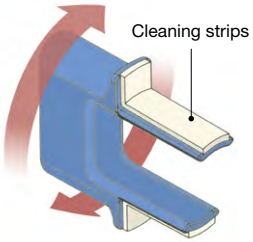
C4/C5/C6/C8

Model	Size	øC	øD	H	øP	øM
KG40R	C4	63	93	70	77	7 (for M6)
KG50R	C5	75	105	70	89	
KG63R	C6	88	123.5	75	105.5	9 (for M8)
KG80R	C8	107	142	90	124	

1. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

BIG CAPTO SPINDLE CLEANER

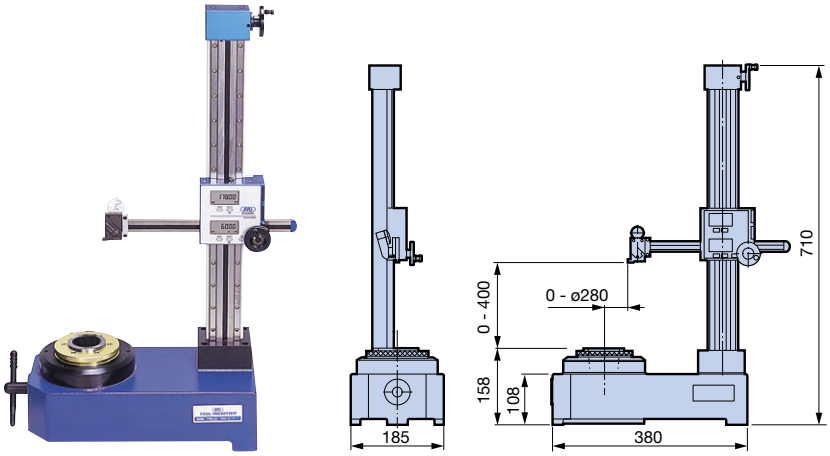
• Cleans both internal taper and flange face of the machine spindle simultaneously with simple inserting and rotating motions.



Model
SC-C3
-C4
-C5
-C6
-C8

TOOL PRESETTER TPS

• A simple and compact presetter featuring a digital scale.



For tool length/tool diameter measurement

C5/C6/C8

Model	Size	Min. scale	Measuring capacity	Weight (kg)
TPS-C5N	BIG CAPTO C5	0.01mm	X = 0 - ø280 Z = 0 - 400	41.0
TPS-C6N	BIG CAPTO C6			
TPS-C8N	BIG CAPTO C8			42.0

1. Origin can be set with the spindle itself.
2. Test bar is an optional product.
3. Battery: Uses two 3V lithium batteries (CR2032)
4. Operating temperature +5°C - +40°C

N/C LATHE TOOLING

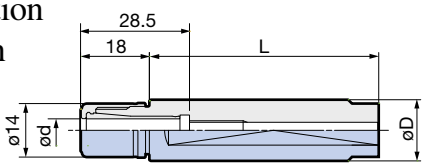
Collet Chuck System

MEGA MICRO CHUCK PAT.

Clamping diameter: ø0.45 - ø6.05

Smaller nut diameter than the body enables installation from the back of the toolholders in small lathes with limited space.

Center through



● Model Description

SL16 - MEGA 6 S - 60

- 60: L dimension
- S: MICRO CHUCK
- 6: Maximum clamping diameter
- MEGA: MEGA CHUCK System
- SL16: Side lock shank diameter

Model	ød	øD	L
SL16-MEGA6S- 60	0.45 - 6.05	16	60
SL20-MEGA6S- 40		20	40
- 80			80
SL15.875-MEGA6S- 60		15.875	60

1. Nut is included. Collet and wrench must be ordered separately.
2. Center through coolant supply is available.

Standard Accessory

MEGA NUT

For Spares G3

Optional Accessories

Mega Wrench

G22

Micro Collet

G2

Micro Seal Nut

G3

Collet Case

G3

α Taper Cleaner

G3

Collet Chuck System

NEW BABY CHUCK PAT.

Clamping diameter: ø2.5 - ø20

Flange acts as a stopper and reduces time for preset off the machine significantly. Designed to be directly mounted into the drill holder on the turret.

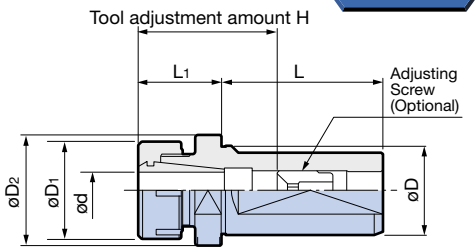
Center through

[With Stopper]

● Model Description

SLS25 - NBS 13 - 30

- 30: L1 dimension
- 13: Maximum clamping diameter
- NBS: NEW BABY CHUCK System
- SLS25: Side lock shank diameter



Model	ød	øD	øD1	øD2	L	L1	Tool adjustment amount H
SLS25-NBS13- 30	2.5 - 13	25	35	32	54	30	41 - 60
- 60						60	
SLS32-NBS13- 30	2.5 - 13	32	35	39.5	58	30	41 - 60
- 60						60	
-100						100	
-NBS20- 30	2.5 - 20		46	45.5		30	48 - 65
- 60						60	
-100						100	
SLS40-NBS13- 30	2.5 - 13	40	35	49.5	68	30	41 - 60
- 60						60	
-100						100	
-NBS20- 30	2.5 - 20		46			30	48 - 65
- 60						60	
-100						100	

1. Nut is included. Adjusting Screw, collet and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

Standard Accessory

New Baby Nut

For Spares G26

Optional Accessories

New Baby Wrench

G26

Collet

G4

BABY PERFECT SEAL

G24

Adjusting Screw

G10

Tap Adjusting Screw

G26

Ideal as a basic holder for drills, taps, small-diameter cylindrical turning tools and reamers on lathes!

Center through

[Standard]

● Model Description

SL16 - NBS 6 - 40

- 40: ● L dimension
- 6: ● Maximum clamping diameter
- NBS: ● NEW BABY CHUCK System
- SL16: ● Side lock shank diameter

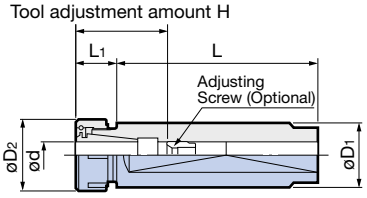


Fig. 1

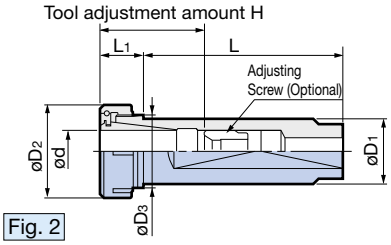


Fig. 2

Model	Fig.	ød	øD1	øD2	øD2	L	L1	Tool adjustment amount H
SL16 -NBS 6- 40	1	0.25 - 6	16	20	—	40	15	20 - 40
- 80						80		
-NBS 8- 40		0.5 - 8		25		40	16.5	23 - 42
- 80						80		
-NBS10- 40	2	1.5 - 10		30	21	40	37	35 - 45
- 80						80		
SL20 -NBS 6- 40	1	0.25 - 6	20	20	—	40	15	20 - 40
- 80						80		
-NBS 8- 40		0.5 - 8		25		40	16.5	23 - 42
- 80						80		
-NBS10- 40	2	1.5 - 10		30	21	40	18	35 - 45
- 80						80		
-NBS13- 40		2.5 - 13		35	26	40	43	41 - 60
- 80						80		
SL22 -NBS 6- 40	1	0.25 - 6	22	20	—	40	15	20 - 40
- 80						80		
-NBS 8- 40		0.5 - 8		25		40	16.5	23 - 42
- 80						80		
-NBS10- 40		1.5 - 10		30		40	18	35 - 45
- 80						80		
-NBS13- 40	2	2.5 - 13		35	26	40	21.5	41 - 47
- 80						80		41 - 60
SL25 -NBS 6- 80	1	0.25 - 6	25	20	—	80	15	20 - 40
-120						120		
-NBS 8- 80		0.5 - 8		25		80	16.5	23 - 42
-120						120		
-NBS10- 80		1.5 - 10		30		80	18	35 - 45
-120						120		
-NBS13- 80	2	2.5 - 13		35	26	80	21.5	41 - 60
-120						120		
-NBS16- 80		2.5 - 16		42	32	80	48	45 - 65
-120						120		
SL25.4-NBS 6- 80	1	0.25 - 6	25.4	20	—	80	15	20 - 40
-120						120		
-NBS 8- 80		0.5 - 8		25		80	16.5	23 - 42
-120						120		
-NBS10- 80		1.5 - 10		30		80	18	35 - 45
-120						120		
-NBS13- 80	2	2.5 - 13		35	26	80	21.5	41 - 50
-120						120		
-NBS16- 80		2.5 - 16		42	32	80	48	45 - 65
-120						120		
SL32 -NBS13-100	1	2.5 - 13	32	35	—	100	21.5	41 - 60
-150						150		
-NBS16-100		2.5 - 16		42		100		45 - 65
-150						150		
-NBS20-100	2	2.5 - 20		46	36	100		48 - 65
-150						150		

Refer to NEW BABY CHUCK [With Stopper] on the left page for remarks

Collet Chuck System

MEGA ER GRIP

Clamping diameter: ø2.75 - ø20

Popular 8° (single angle) taper ER collet.
Achieves stable machining with highly accurate chucking repeatability.

Center through

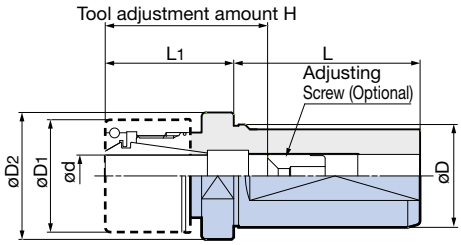
● Flat is provided on the shank to be mounted in the tool post of the NC lathe directly.

[With Stopper]

● Model Description

SLS25 - MEGA ER 20 - 45 / NL

- SLS25: Side lock shank diameter
- MEGA ER: MEGA ER GRIP
- 20
- 45: L1 dimension
- NL: Nut less



Model	ød	øD	øD1	øD2	L	L1	H	Adjusting Screw
SLS25-MEGA ER20-45/NL	2.75 - 13	25	35	32	54	45	42 - 62	NBA13B
-75/NL						75		
SLS32-MEGA ER20-45/NL	2.75 - 13	32	35	39.5	58	45	42 - 62	NBA13B
-75/NL						75		
-MEGA ER32-45/NL	2.75 - 20		50	50		45	47 - 68	NBA20B
-75/NL						75	50 - 68	
SLS40-MEGA ER20-45/NL	2.75 - 13	40	35	49.5	68	45	42 - 62	NBA13B
-75/NL						75		
-MEGA ER32-45/NL	2.75 - 20		50	50		45	50 - 68	NBA20B
-75/NL						75		

1. Collet, nut, Adjusting Screw and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

Optional Accessories

MEGA ER NUT	MEGA ER SOLID NUT	ER PERFECT SEAL	Mega Wrench	ER NUT	New Baby Wrench	Adjusting Screw
						
G16	G16	G17	G22	G16	G16	G16

For Mega ER Collets, G15

Collet and nut must be ordered separately.

● Example

MEGA ER PERFECT SEAL Model
MERPS20-030035

MEGA ER NUT Model
MERN20

MEGA ER SOLID NUT Model
MER20SN

ER NUT Model
ERN20

+

MEGA ER Collet
ERC20-3AA

+

MEGA ER GRIP
SLS25-MEGA ER20-45/NL

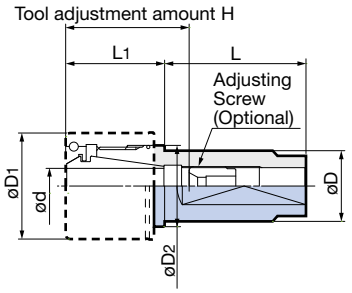
Center through

[Standard]

● Model Description

SL16 - MEGA ER 11 - 40 / NL

- SL16: Side lock shank diameter
- MEGA ER: MEGA ER GRIP
- 11:
- 40: L dimension
- NL: Nut less



Model	ød	øD	øD1	øD2	L	L1	H	Adjusting Screw
SL16-MEGA ER11- 40/NL	2.75 - 6	16	19	—	40	19	23 - 40	NBA 6B
- 80/NL					80			
SL20-MEGA ER11- 40/NL	2.75 - 6	20	19	—	40	19	23 - 40	NBA 6B
- 80/NL					80			
-MEGA ER16- 40/NL	1.9 - 10		30	23	40	28	35 - 47	NBA10B
- 80/NL					80			
SL25-MEGA ER11- 60/NL	2.75 - 6	25	19	—	60	19	23 - 40	NBA 6B
-100/NL					100			
-MEGA ER16- 60/NL	1.9 - 10		30	—	60	28	35 - 47	NBA10B
-100/NL					100			
-MEGA ER20- 60/NL	2.75 - 13		35	27	60	30	42 - 62	NBA13B
-100/NL					100			
-MEGA ER25- 60/NL	2.75 - 16		42	33.5	60	48	44 - 67	NBA16B
-100/NL					100			
SL19.05-MEGA ER11- 40/NL	2.75 - 6	19.05	19	—	40	19	23 - 40	NBA 6B
- 80/NL					80			
-MEGA ER16- 40/NL	1.9 - 10		30	23	40	28	35 - 47	NBA10B
- 80/NL					80			

1. Collet, nut, Adjusting Screw and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Tool adjustment amount "H" indicates the adjustment length with an Adjusting Screw.

Optional Accessories

MEGA ER NUT	MEGA ER SOLID NUT	ER PERFECT SEAL	Mega Wrench	ER NUT	New Baby Wrench	Adjusting Screw
						
G16	G16	G17	G22	G16	G16	G16

For Mega ER Collets, G15

TAPPER

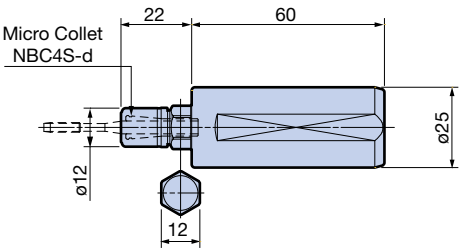
MEGA SYNCHRO TAPPING HOLDER PAT.

M1 - M3

Improves thread quality and tap life
by reducing thrust loads caused by synchronization errors up to 90%.

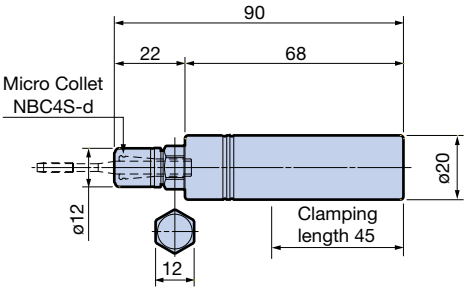
[Small Diameter Tap MTG3]

· **Cannot be used with machining center without synchronized tapping function.**



Model	SLS25-MGT3-22

1. Nut is included. (MGN4S)
   Collet and wrench must be ordered separately.
2. When attaching or detaching the tap, use the Mega Wrench and a commercially available flat wrench (12mm).



Model	ST20-MGT3-90

1. Nut is included. (MGN4S)
   Collet and wrench must be ordered separately.
2. There is no flat on the shank part.
3. When attaching or detaching the tap, use the Mega Wrench and a commercially available flat wrench (12mm).

● Model Description

SLS25 - MGT3 - 22

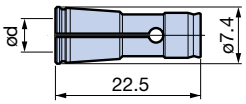
- 22: Tip length
- MGT3: MEGA SYNCHRO TAPPING HOLDER
- SLS25: Side lock shank diameter

Mega Wrench

Model	MGR12

1. When attaching or detaching the tap, a commercially available flat wrench (12mm width) is also required.
   Prepare this on your own.

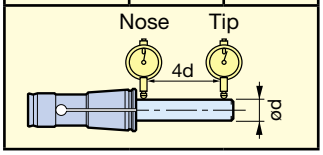
Micro Collet



Model	Tapping range		Tap shank diameter ød
	Metric	Unify	
NBC4S - 3.0AA	M1 - M2.6	No.0 - 4	3
NBC4S - 4.0AA	M3	No.5, 6	4

● Collet accuracy

Collet class	Runout accuracy	
	Nose	4D
AA	Within 1 μm	Within 3 μm

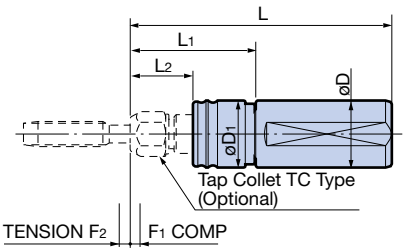


TAPPER

SYNCHRONIZED TAP HOLDER R

M3 - M20

- Built-in radial float mechanism absorbs misalignment with the spindle center. Excellent for rigid tapping with NC Lathes.
- Small axial float absorbs synchronization errors occurring when changing over the rotation from forward to reverse, reducing loads to the tap.



Radial float = ±0.5mm/ø

● Model Description

SLS32 - ATS 12 R - 60

- 60: L1 dimension
- R: Radial float mechanism
- 12: Tapping range
- ATS: MEGA SYNCHRO TAPPING HOLDER TYPE R
- SLS32: Side lock shank diameter

Model	Tapping range	øD	øD1	L	L1	L2	F1	F2	Compatible Tap Collet
SLS32-ATS12R- 60	M3 - M12	32	32	125	60	30	0.5	0.5	TC12-d
SLS40-ATS12R- 60		40	32	125	60	25	0.5	0.5	
-ATS20R- 70	M8 - M20		44	145	70				TC20-d

1. Tap Collet is not included.
   TC Tap Collet must be ordered separately.

F1: Compression amount
F2: Tension amount

· **Cannot be used with machining center without synchronized tapping function.**

For Tap Collets, A135

AUTO TAPPER B M3 - M20

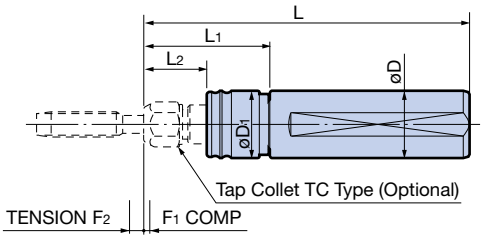
Automatic depth control

- Auto depth control eliminates variation in the tapping depth, ideal for blind-hole or pipe tapping.
- Minimized projection length avoids interference on turret lathes.

● Model Description

SLS25 - ATB 8 - 45

- 45: L1 dimension
- 8: Tapping range
- ATB: AUTO TAPPER B
- SLS25: Side lock shank diameter



Model	Tapping range	øD	øD1	L	L1	L2	F1	F2	Compatible Tap Collet
SLS25-ATB 8- 45	M3 - M 8	25	25.5	130	45	17	0.5	3	TC 8-d
SLS32-ATB12- 60	M3 - M12	32	32	155	60	30		4	TC12-d
SLS40-ATB12- 60		40	32	155	60	25		4	
-ATB20- 70	M8 - M20		44	180	70			5	TC20-d

1. Tap Collet is not included. TC Tap Collet must be ordered separately.
2. Cannot be used in left-hand thread machining.
3. F2 dimension in the table is the tension amount until it reaches neutral.

F1: Compression amount
F2: Tension amount

For Tap Collets, A135

AUTO TAPPER E M3 - M24

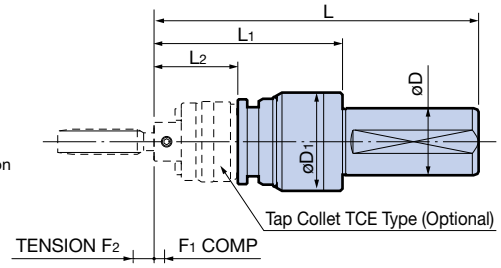
Torque limiter

- Easy-to-use built-in torque limiter.
- Extended axial float allows stable and reliable use.

● Model Description

SLS32 - ATE 12 - 90

- 90: L1 dimension
- 12: Tapping range
- ATE: AUTO TAPPER E
- SLS32: Side lock shank diameter



Model	Tapping range	øD	øD1	L	L1	L2	F1	F2	Compatible Tap Collet
SLS32-ATE12- 90	M 3 - M12	32	47	155	90	40	5	10	TCE12-d
SLS40-ATE12- 90		40	47	165	90	40	5	10	
-ATE24-135	M10 - M24		64	210	135	55	7	15	TCE24-d

1. Tap Collet is not included. TCE Tap Collet must be ordered separately.
2. Cannot be used in left-hand thread machining.

F1: Compression amount
F2: Tension amount

For Tap Collets, A138

Center Adjustable Holder for Lathe

CENTERING HOLDER

Clamping diameter: ø0.5 - ø20

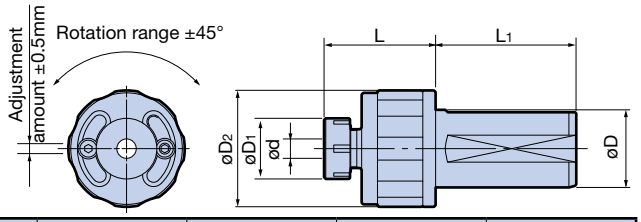
Easy and reliable centering adjustment for turret lathe sleeve holder.

Center through

Polar coordinate system realizing intuitive adjustment

The rotation center of the workpiece and the center of the turret pot may be misaligned not only in the center height direction, but also in the X-axis direction.

In order to easily correct the deviation of both directions at the same time, a polar coordinate system combining rotary and linear movement is used. Single 2-way adjusting bolt completes adjustment of center height both up and down.



Model	ød	øD	øD1	øD2	L	L1	Weight (kg)
SLS32-NBS 8CH-45	0.5 - 8	32	25	48	46	58	1.6
SLS40-NBS20CH-60	2.5 - 20	40	46	74	60	68	2.5

1. Nut is included. Collet and wrench must be ordered separately.
2. Center through coolant supply is available.
3. Adjusting Screw cannot be used.

Standard Accessory

Nut

For Spares G26

Optional Accessories

Wrench

G26

Collet

G4

BABY PERFECT SEAL

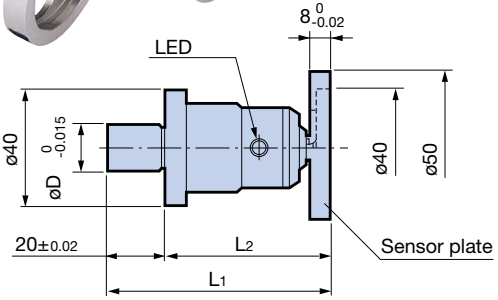
G24

Tool Offset Sensor

LATHE MASTER

Setup of tool offset is possible without trial cut.

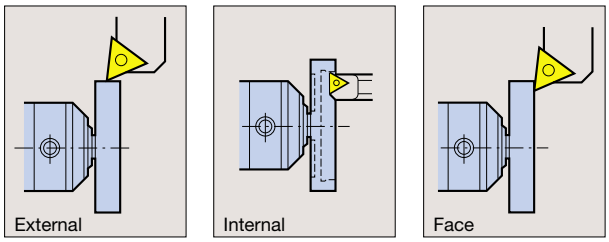
- Effective in reducing setup time for NC Lathes.
- Detectable with various tool bits for external, internal and face turning.



Model	øD	L1	L2	Repeatability	Battery
LM-15	15	75	55	±2 μ	BR425
LM-30	30	65	45		SR44 x 2

Caution

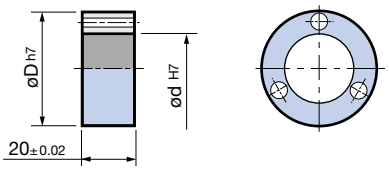
- Machine and tools must be electro-conductive for measurement.



Clamp the øD section of the LATHE MASTER with chuck jaws. LED illuminates when the tip of the tool touches the sensor plate.

Collar Set <Optional>

If the chuck jaw diameter does not fit, an optional collar set is available.



Model	Inner diameter ød	Outer diameter øD
LM15CS	15	20, 25, 30 (1 pc each)
LM30CS	30	35, 40, 45, 50 (1 pc each)

ACCESSORIES

Chuck Accessories List

MEGA MICRO CHUCK

MEGA NEW BABY CHUCK

MEGA E CHUCK

MEGA DOUBLE POWER CHUCK

HYDRAULIC CHUCK

NEW Hi- POWER MILLING CHUCK

NEW BABY CHUCK

MEGA ER GRIP for N/C Lathes

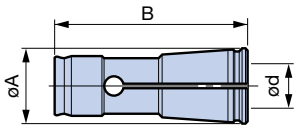
Micro Collet (for MEGA MICRO CHUCK) Clamping diameter: ø0.45 - ø8.05

World's smallest

- Select a clamping diameter in 0.1mm increments between ø0.45 and ø6.05 for the perfect fit.
- Small yet with outstanding gripping force, realizing precision small-diameter machining.

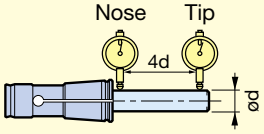
● Model Description

NBC 3 S - 0.5 AA
- AA: Class
- S: MICRO CHUCK
- 0.5: Body model size
- 3: New Baby Collet
- NBC



● Collet accuracy

Collet class	Runout accuracy	
	Nose	4D
AA	Within 1 μm	Within 3 μm



MEGA3S

Model	Clamping diameter ød
NBC3S-0.5 AA	0.45 - 0.55
-0.6 AA	0.55 - 0.65
-0.7 AA	0.65 - 0.75
-0.8 AA	0.75 - 0.85
-0.9 AA	0.85 - 0.95
-1.0 AA	0.95 - 1.05
-1.1 AA	1.05 - 1.15
-1.2 AA	1.15 - 1.25
-1.3 AA	1.25 - 1.35
-1.4 AA	1.35 - 1.45
-1.5 AA	1.45 - 1.55
-1.6 AA	1.55 - 1.65
-1.7 AA	1.65 - 1.75
-1.8 AA	1.75 - 1.85
-1.9 AA	1.85 - 1.95
-2.0 AA	1.95 - 2.05
-2.1 AA	2.05 - 2.15
-2.2 AA	2.15 - 2.25
-2.3 AA	2.25 - 2.35
-2.4 AA	2.35 - 2.45
-2.5 AA	2.45 - 2.55
-2.6 AA	2.55 - 2.65
-2.7 AA	2.65 - 2.75
-2.8 AA	2.75 - 2.85
-2.9 AA	2.85 - 2.95
-3.0 AA	2.95 - 3.05
-3.1 AA	3.05 - 3.15
-3.175AA	3.125 - 3.225
-3.2 AA	3.15 - 3.25

øA = 6.06, B = 18.8

MEGA4S

Model	Clamping diameter ød
NBC4S-0.5 AA	0.45 - 0.55
-0.6 AA	0.55 - 0.65
-0.7 AA	0.65 - 0.75
-0.8 AA	0.75 - 0.85
-0.9 AA	0.85 - 0.95
-1.0 AA	0.95 - 1.05
-1.1 AA	1.05 - 1.15
-1.2 AA	1.15 - 1.25
-1.3 AA	1.25 - 1.35
-1.4 AA	1.35 - 1.45
-1.5 AA	1.45 - 1.55
-1.6 AA	1.55 - 1.65
-1.7 AA	1.65 - 1.75
-1.8 AA	1.75 - 1.85
-1.9 AA	1.85 - 1.95
-2.0 AA	1.95 - 2.05
-2.1 AA	2.05 - 2.15
-2.2 AA	2.15 - 2.25
-2.3 AA	2.25 - 2.35
-2.4 AA	2.35 - 2.45
-2.5 AA	2.45 - 2.55
-2.6 AA	2.55 - 2.65
-2.7 AA	2.65 - 2.75
-2.8 AA	2.75 - 2.85
-2.9 AA	2.85 - 2.95
-3.0 AA	2.95 - 3.05
-3.1 AA	3.05 - 3.15
-3.175AA	3.125 - 3.225
-3.2 AA	3.15 - 3.25
-3.3 AA	3.25 - 3.35
-3.4 AA	3.35 - 3.45
-3.5 AA	3.45 - 3.55
-3.6 AA	3.55 - 3.65
-3.7 AA	3.65 - 3.75
-3.8 AA	3.75 - 3.85
-3.9 AA	3.85 - 3.95
-4.0 AA	3.95 - 4.05

øA = 7.4, B = 22.5

MEGA6S

Model	Clamping diameter ød	Model	Clamping diameter ød
NBC6S-0.5 AA	0.45 - 0.55	NBC6S-4.1 AA	4.05 - 4.15
-0.6 AA	0.55 - 0.65	-4.2 AA	4.15 - 4.25
-0.7 AA	0.65 - 0.75	-4.3 AA	4.25 - 4.35
-0.8 AA	0.75 - 0.85	-4.4 AA	4.35 - 4.45
-0.9 AA	0.85 - 0.95	-4.5 AA	4.45 - 4.55
-1.0 AA	0.95 - 1.05	-4.6 AA	4.55 - 4.65
-1.1 AA	1.05 - 1.15	-4.7 AA	4.65 - 4.75
-1.2 AA	1.15 - 1.25	-4.7625AA	4.7125 - 4.8125
-1.3 AA	1.25 - 1.35	-4.8 AA	4.75 - 4.85
-1.4 AA	1.35 - 1.45	-4.9 AA	4.85 - 4.95
-1.5 AA	1.45 - 1.55	-5.0 AA	4.95 - 5.05
-1.6 AA	1.55 - 1.65	-5.1 AA	5.05 - 5.15
-1.7 AA	1.65 - 1.75	-5.2 AA	5.15 - 5.25
-1.8 AA	1.75 - 1.85	-5.3 AA	5.25 - 5.35
-1.9 AA	1.85 - 1.95	-5.4 AA	5.35 - 5.45
-2.0 AA	1.95 - 2.05	-5.5 AA	5.45 - 5.55
-2.1 AA	2.05 - 2.15	-5.6 AA	5.55 - 5.65
-2.2 AA	2.15 - 2.25	-5.7 AA	5.65 - 5.75
-2.3 AA	2.25 - 2.35	-5.8 AA	5.75 - 5.85
-2.4 AA	2.35 - 2.45	-5.9 AA	5.85 - 5.95
-2.5 AA	2.45 - 2.55	-6.0 AA	5.95 - 6.05
-2.6 AA	2.55 - 2.65		
-2.7 AA	2.65 - 2.75		
-2.8 AA	2.75 - 2.85		
-2.9 AA	2.85 - 2.95		
-3.0 AA	2.95 - 3.05		
-3.1 AA	3.05 - 3.15		
-3.175AA	3.125 - 3.225		
-3.2 AA	3.15 - 3.25		
-3.3 AA	3.25 - 3.35		
-3.4 AA	3.35 - 3.45		
-3.5 AA	3.45 - 3.55		
-3.6 AA	3.55 - 3.65		
-3.7 AA	3.65 - 3.75		
-3.8 AA	3.75 - 3.85		
-3.9 AA	3.85 - 3.95		
-4.0 AA	3.95 - 4.05		

øA = 9.4, B = 24.5

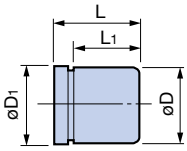
MEGA8S

Collet Model	Clamping diameter ød	Collet Model	Clamping diameter ød	Collet Model	Clamping diameter ød	Collet Model	Clamping diameter ød
NBC8S-3.0 AA	2.95 - 3.05	NBC8S-4.4 AA	4.35 - 4.45	NBC8S-5.8 AA	5.75 - 5.85	NBC8S-7.2 AA	7.15 - 7.25
-3.1 AA	3.05 - 3.15	-4.5 AA	4.45 - 4.55	-5.9 AA	5.85 - 5.95	-7.3 AA	7.25 - 7.35
-3.2 AA	3.15 - 3.25	-4.6 AA	4.55 - 4.65	-6.0 AA	5.95 - 6.05	-7.4 AA	7.35 - 7.45
-3.3 AA	3.25 - 3.35	-4.7 AA	4.65 - 4.75	-6.1 AA	6.05 - 6.15	-7.5 AA	7.45 - 7.55
-3.4 AA	3.35 - 3.45	-4.8 AA	4.75 - 4.85	-6.2 AA	6.15 - 6.25	-7.6 AA	7.55 - 7.65
-3.5 AA	3.45 - 3.55	-4.9 AA	4.85 - 4.95	-6.3 AA	6.25 - 6.35	-7.7 AA	7.65 - 7.75
-3.6 AA	3.55 - 3.65	-5.0 AA	4.95 - 5.05	-6.4 AA	6.35 - 6.45	-7.8 AA	7.75 - 7.85
-3.7 AA	3.65 - 3.75	-5.1 AA	5.05 - 5.15	-6.5 AA	6.45 - 6.55	-7.9 AA	7.85 - 7.95
-3.8 AA	3.75 - 3.85	-5.2 AA	5.15 - 5.25	-6.6 AA	6.55 - 6.65	-8.0 AA	7.95 - 8.05
-3.9 AA	3.85 - 3.95	-5.3 AA	5.25 - 5.35	-6.7 AA	6.65 - 6.75		
-4.0 AA	3.95 - 4.05	-5.4 AA	5.35 - 5.45	-6.8 AA	6.75 - 6.85		
-4.1 AA	4.05 - 4.15	-5.5 AA	5.45 - 5.55	-6.9 AA	6.85 - 6.95		
-4.2 AA	4.15 - 4.25	-5.6 AA	5.55 - 5.65	-7.0 AA	6.95 - 7.05		
-4.3 AA	4.25 - 4.35	-5.7 AA	5.65 - 5.75	-7.1 AA	7.05 - 7.15		

øA = 12, B = 27

Micro Nut PAT. (for MEGA MICRO CHUCK)

- High-precision nut without a groove for wrench application, effectively preventing vibration and coolant scattering.
- Eliminates whistling noise during high-speed rotation.



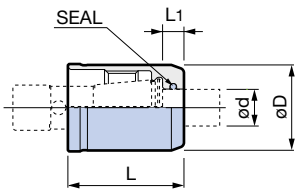
● Model Description

MGN 3 S
- S: MICRO CHUCK
- 3: Body model size
- MGN: MEGA NUT

Model	øD	øD1	L	L1	Body Model
MGN3S	10	10.3	13.0	11.0	MEGA3S
MGN4S	12	12.2	14.5	12.0	MEGA4S
MGN6S	14	14.2	17.0	14.5	MEGA6S
MGN8S	18	18.3	18.5	15.5	MEGA8S

Micro Seal Nut (for MEGA MICRO CHUCK)

- A sealing nut for drills with oil holes.



Body Model: **MEGA6S**

Model	ød	øD	L	L1
MGN6S-PS3	3.0	14	19	3.5
-PS4	4.0			
-PS5	5.0			
-PS6	6.0			

Body Model: **MEGA8S**

Model	ød	øD	L	L1
MGN8S-PS3	3.0	18	20.2	3.5
-PS4	4.0			
-PS5	5.0			
-PS6	6.0			
-PS7	7.0			
-PS8	8.0			

Collet Case (for MEGA MICRO CHUCK)

- Aids clearer collet management. Also ideal for maintaining collet precision.

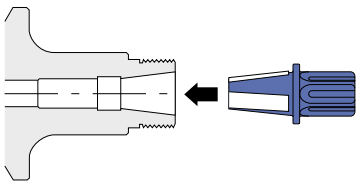
Case: Polypropylene

Model	Compatible Micro Collet	Number of holes	Case size (H x W)
NBB3S	NBC3S	50	200 x 170 x 50
NBB4S	NBC4S		
NBB6S	NBC6S	60	
NBB8S	NBC8S		

1. Case size includes handle.

α Taper Cleaner (for MEGA MICRO CHUCK)

- Removes particles and oil from the chuck bore taper.



Model	Body Model
SC-NBC3S	MEGA3S
SC-NBC4S	MEGA4S
SC-NBC6S	MEGA6S
SC-NBC8S	MEGA8S

1. Refer to H5 for other collet chucks.

New Baby Collet Collapsibility 0.1 - 0.2/ø series **0.1 - 0.2mm increments** (For MEGA NEW BABY CHUCK NEW BABY CHUCK)

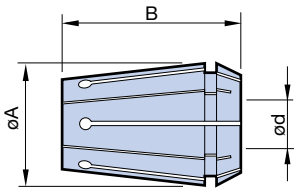
(NBC6, NBC8, NBC10)

New series of NEW BABY COLLET with collapsibility of 0.1 - 0.2/ø! Limited collet collapsible range allows chucking in stabler conditions. Available in 0.1-0.2mm increments for the optimal choice of the collet size that matches the tool shank diameter.

● Model Description

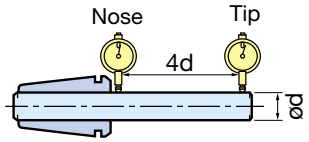
NBC 6 - 0.50 AA

- AA: Class
- 0.50: Clamping diameter (ød)
- 6: Body model size
- NBC: Abbreviation of New Baby Collet



● Collet accuracy

Collet class	Runout accuracy	
	Nose	4D
AA	Within 1μm	Within 3μm



Collapsibility 0.1/ø Collapsibility 0.2/ø

MEGA6N/NBS6			
Collet Model	Clamping diameter	Collet Model	Clamping diameter
NBC6-0.50AA	0.4 - 0.5	**NBC6-4.10AA**	4.0 - 4.1
-0.60AA	0.5 - 0.6	**-4.20AA**	4.1 - 4.2
-0.70AA	0.6 - 0.7	**-4.30AA**	4.2 - 4.3
-0.80AA	0.7 - 0.8	**-4.40AA**	4.3 - 4.4
-0.90AA	0.8 - 0.9	**-4.50AA**	4.4 - 4.5
-1.00AA	0.9 - 1.0	**-4.60AA**	4.5 - 4.6
-1.10AA	1.0 - 1.1	**-4.70AA**	4.6 - 4.7
-1.20AA	1.1 - 1.2	**-4.80AA**	4.7 - 4.8
-1.30AA	1.2 - 1.3	**-4.90AA**	4.8 - 4.9
-1.40AA	1.3 - 1.4	**-5.00AA**	4.9 - 5.0
-1.50AA	1.4 - 1.5	**-5.10AA**	5.0 - 5.1
-1.60AA	1.5 - 1.6	**-5.20AA**	5.1 - 5.2
-1.70AA	1.6 - 1.7	**-5.30AA**	5.2 - 5.3
-1.80AA	1.7 - 1.8	**-5.40AA**	5.3 - 5.4
-1.90AA	1.8 - 1.9	**-5.50AA**	5.4 - 5.5
-2.00AA	1.9 - 2.0	**-5.60AA**	5.5 - 5.6
-2.10AA	2.0 - 2.1	**-5.70AA**	5.6 - 5.7
-2.20AA	2.1 - 2.2	**-5.80AA**	5.7 - 5.8
-2.30AA	2.2 - 2.3	**-5.90AA**	5.8 - 5.9
-2.40AA	2.3 - 2.4	**-6.00AA**	5.9 - 6.0
-2.50AA	2.4 - 2.5		
-2.60AA	2.5 - 2.6		
-2.70AA	2.6 - 2.7		
-2.80AA	2.7 - 2.8		
-2.90AA	2.8 - 2.9		
-3.00AA	2.9 - 3.0		
-3.10AA	3.0 - 3.1		
-3.20AA	3.1 - 3.2		
-3.30AA	3.2 - 3.3		
-3.40AA	3.3 - 3.4		
-3.50AA	3.4 - 3.5		
-3.60AA	3.5 - 3.6		
-3.70AA	3.6 - 3.7		
-3.80AA	3.7 - 3.8		
-3.90AA	3.8 - 3.9		
-4.00AA	3.9 - 4.0		

øA = 9.3, B = 13.5

MEGA8N/NBS8	
Collet Model	Clamping diameter
NBC8-0.60AA	0.5 - 0.6
-0.70AA	0.6 - 0.7
-0.80AA	0.7 - 0.8
-0.90AA	0.8 - 0.9
-1.00AA	0.9 - 1.0
-1.10AA	1.0 - 1.1
-1.20AA	1.1 - 1.2
-1.30AA	1.2 - 1.3
-1.40AA	1.3 - 1.4
-1.50AA	1.4 - 1.5
-1.60AA	1.5 - 1.6
-1.70AA	1.6 - 1.7
-1.80AA	1.7 - 1.8
-1.90AA	1.8 - 1.9
-2.00AA	1.9 - 2.0
-2.10AA	2.0 - 2.1
-2.20AA	2.1 - 2.2
-2.30AA	2.2 - 2.3
-2.40AA	2.3 - 2.4
-2.50AA	2.4 - 2.5
-2.60AA	2.5 - 2.6
-2.70AA	2.6 - 2.7
-2.80AA	2.7 - 2.8
-2.90AA	2.8 - 2.9
-3.00AA	2.8 - 3.0
-3.20AA	3.0 - 3.2
-3.40AA	3.2 - 3.4
-3.60AA	3.4 - 3.6
-3.80AA	3.6 - 3.8
-4.00AA	3.8 - 4.0
-4.20AA	4.0 - 4.2
-4.40AA	4.2 - 4.4
-4.60AA	4.4 - 4.6
-4.80AA	4.6 - 4.8
-5.00AA	4.8 - 5.0

Refer to **G5** for ø5 and beyond

øA = 12.2, B = 17

MEGA10N/NBS10	
Collet Model	Clamping diameter
NBC10- 1.60AA	1.5 - 1.6
- 1.70AA	1.6 - 1.7
- 1.80AA	1.7 - 1.8
- 1.90AA	1.8 - 1.9
- 2.00AA	1.9 - 2.0
- 2.10AA	2.0 - 2.1
- 2.20AA	2.1 - 2.2
- 2.30AA	2.2 - 2.3
- 2.40AA	2.3 - 2.4
- 2.50AA	2.4 - 2.5
- 2.60AA	2.5 - 2.6
- 2.70AA	2.6 - 2.7
- 2.80AA	2.7 - 2.8
- 2.90AA	2.8 - 2.9

Refer to **G5** for ø3 and beyond

øA = 16.2, B = 26

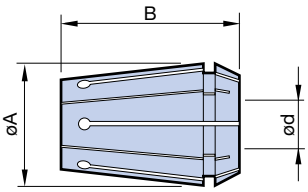
New Baby Collet Clamping diameter: ø0.25 - ø25.4 (For MEGA NEW BABY CHUCK / NEW BABY CHUCK)

- Within 1μm runout accuracy at nose exhibits outstanding performance at ultra-high speeds.

● Model Description

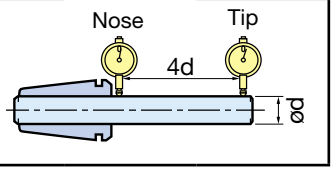
NBC 6 - 0.5 AA

- Class (AA)
- Clamping diameter (ød)
- Body model size
- Abbreviation of New Baby Collet



● Collet accuracy

Collet class	Runout accuracy	
	Nose	4D
AA	Within 1μm	Within 3μm



Collapsibility 0.25/ø

Collapsibility 0.5/ø

In the range of the marked diameters, collets with 0.1-0.2ø collapsibility (0.1-0.2 increments) are also available. Refer to G4 for details.

MEGA6N/NBS6

Collet Model	Clamping diameter
NBC6-0.5 AA	0.25 - 0.50
● -0.75AA	0.50 - 0.75
● -1 AA	0.75 - 1.00
● -1.25AA	1.00 - 1.25
● -1.5 AA	1.25 - 1.50
● -1.75AA	1.50 - 1.75
● -2 AA	1.75 - 2.00
● -2.25AA	2.00 - 2.25
● -2.5 AA	2.25 - 2.50
● -2.75AA	2.50 - 2.75
● -3 AA	2.75 - 3.00
-3.175AA	2.925 - 3.175
● -3.25AA	3.00 - 3.25
● -3.5 AA	3.25 - 3.50
● -3.75AA	3.50 - 3.75
● -4 AA	3.75 - 4.00
● -4.25AA	4.00 - 4.25
● -4.5 AA	4.25 - 4.50
● -4.75AA	4.50 - 4.75
● -5 AA	4.75 - 5.00
● -5.25AA	5.00 - 5.25
● -5.5 AA	5.25 - 5.50
● -5.75AA	5.50 - 5.75
● -6 AA	5.75 - 6.00

øA = 9.5, B = 14

MEGA8N/NBS8

Collet Model	Clamping diameter
● NBC8-0.75AA	0.5 - 0.75
● -1 AA	0.75 - 1.0
● -1.25AA	1.0 - 1.25
● -1.5 AA	1.25 - 1.5
● -1.75AA	1.5 - 1.75
● -2 AA	1.75 - 2.0
● -2.25AA	2.0 - 2.25
● -2.5 AA	2.25 - 2.5
● -2.75AA	2.5 - 2.75
● -3 AA	2.75 - 3.0
-3.175AA	2.675 - 3.175
● -3.5 AA	3.0 - 3.5
● -4 AA	3.5 - 4.0
● -4.5 AA	4.0 - 4.5
● -5 AA	4.5 - 5.0
-5.25AA	4.75 - 5.25
● -5.5 AA	5.0 - 5.5
-5.75AA	5.25 - 5.75
● -6 AA	5.5 - 6.0
● -6.5 AA	6.0 - 6.5
● -7 AA	6.5 - 7.0
● -7.5 AA	7.0 - 7.5
● -8 AA	7.5 - 8.0

øA = 12.5, B = 18

MEGA10N/NBS10

Collet Model	Clamping diameter
● NBC10- 1.75AA	1.5 - 1.75
● - 2 AA	1.75 - 2.0
● - 2.25AA	2.0 - 2.25
● - 2.5 AA	2.25 - 2.5
● - 2.75AA	2.5 - 2.75
● - 3 AA	2.75 - 3.0
- 3.175AA	2.675 - 3.175
- 3.25AA	2.75 - 3.25
● - 3.5 AA	3.0 - 3.5
- 3.75AA	3.25 - 3.75
● - 4 AA	3.5 - 4.0
- 4.25AA	3.75 - 4.25
● - 4.5 AA	4.0 - 4.5
- 4.75AA	4.25 - 4.75
● - 5 AA	4.5 - 5.0
- 5.25AA	4.75 - 5.25
● - 5.5 AA	5.0 - 5.5
- 5.75AA	5.25 - 5.75
● - 6 AA	5.5 - 6.0
● - 6.5 AA	6.0 - 6.5
● - 7 AA	6.5 - 7.0
● - 7.5 AA	7.0 - 7.5
● - 8 AA	7.5 - 8.0
● - 8.5 AA	8.0 - 8.5
● - 9 AA	8.5 - 9.0
● - 9.5 AA	9.0 - 9.5
● -10 AA	9.5 - 10.0

øA = 16.5, B = 27

The ● mark in the table indicates NEW BABY COLLET SET contents.

For NEW BABY COLLET SET, G7

Collapsibility 0.5/ø

MEGA13N/NBS13	
Collet Model	Clamping diameter
● NBC13- 3 AA	2.5 - 3.0
- 3.175AA	2.675 - 3.175
- 3.25AA	2.75 - 3.25
● - 3.5 AA	3.0 - 3.5
- 3.75AA	3.25 - 3.75
● - 4 AA	3.5 - 4.0
- 4.25AA	3.75 - 4.25
● - 4.5 AA	4.0 - 4.5
- 4.75AA	4.25 - 4.75
● - 5 AA	4.5 - 5.0
- 5.25AA	4.75 - 5.25
● - 5.5 AA	5.0 - 5.5
- 5.75AA	5.25 - 5.75
● - 6 AA	5.5 - 6.0
● - 6.5 AA	6.0 - 6.5
● - 7 AA	6.5 - 7.0
● - 7.5 AA	7.0 - 7.5
● - 8 AA	7.5 - 8.0
● - 8.5 AA	8.0 - 8.5
● - 9 AA	8.5 - 9.0
● - 9.5 AA	9.0 - 9.5
● -10 AA	9.5 - 10.0
● -10.5 AA	10.0 - 10.5
● -11 AA	10.5 - 11.0
● -11.5 AA	11.0 - 11.5
● -12 AA	11.5 - 12.0
● -12.5 AA	12.0 - 12.5
● -13 AA	12.5 - 13.0

øA = 20.5, B = 31

MEGA16N/NBS16	
Collet Model	Clamping diameter
● NBC16- 3 AA	2.5 - 3.0
- 3.25AA	2.75 - 3.25
● - 3.5 AA	3.0 - 3.5
- 3.75AA	3.25 - 3.75
● - 4 AA	3.5 - 4.0
- 4.25AA	3.75 - 4.25
● - 4.5 AA	4.0 - 4.5
- 4.75AA	4.25 - 4.75
● - 5 AA	4.5 - 5.0
- 5.25AA	4.75 - 5.25
● - 5.5 AA	5.0 - 5.5
- 5.75AA	5.25 - 5.75
● - 6 AA	5.5 - 6.0
● - 6.5 AA	6.0 - 6.5
● - 7 AA	6.5 - 7.0
● - 7.5 AA	7.0 - 7.5
● - 8 AA	7.5 - 8.0
● - 8.5 AA	8.0 - 8.5
● - 9 AA	8.5 - 9.0
● - 9.5 AA	9.0 - 9.5
● -10 AA	9.5 - 10.0
● -10.5 AA	10.0 - 10.5
● -11 AA	10.5 - 11.0
● -11.5 AA	11.0 - 11.5
● -12 AA	11.5 - 12.0
● -12.5 AA	12.0 - 12.5
● -13 AA	12.5 - 13.0
● -13.5 AA	13.0 - 13.5
● -14 AA	13.5 - 14.0
● -14.5 AA	14.0 - 14.5
● -15 AA	14.5 - 15.0
● -15.5 AA	15.0 - 15.5
● -16 AA	15.5 - 16.0

øA = 25.5, B = 35

MEGA20N/NBS20	
Collet Model	Clamping diameter
● NBC20- 3 AA	2.5 - 3.0
- 3.25AA	2.75 - 3.25
● - 3.5 AA	3.0 - 3.5
- 3.75AA	3.25 - 3.75
● - 4 AA	3.5 - 4.0
- 4.25AA	3.75 - 4.25
● - 4.5 AA	4.0 - 4.5
- 4.75AA	4.25 - 4.75
● - 5 AA	4.5 - 5.0
- 5.25AA	4.75 - 5.25
● - 5.5 AA	5.0 - 5.5
- 5.75AA	5.25 - 5.75
● - 6 AA	5.5 - 6.0
● - 6.5 AA	6.0 - 6.5
● - 7 AA	6.5 - 7.0
● - 7.5 AA	7.0 - 7.5
● - 8 AA	7.5 - 8.0
● - 8.5 AA	8.0 - 8.5
● - 9 AA	8.5 - 9.0
● - 9.5 AA	9.0 - 9.5
● -10 AA	9.5 - 10.0
● -10.5 AA	10.0 - 10.5
● -11 AA	10.5 - 11.0
● -11.5 AA	11.0 - 11.5
● -12 AA	11.5 - 12.0
● -12.5 AA	12.0 - 12.5
● -13 AA	12.5 - 13.0
● -13.5 AA	13.0 - 13.5
● -14 AA	13.5 - 14.0
● -14.5 AA	14.0 - 14.5
● -15 AA	14.5 - 15.0
● -15.5 AA	15.0 - 15.5
● -16 AA	15.5 - 16.0
● -16.5 AA	16.0 - 16.5
● -17 AA	16.5 - 17.0
● -17.5 AA	17.0 - 17.5
● -18 AA	17.5 - 18.0
● -18.5 AA	18.0 - 18.5
● -19 AA	18.5 - 19.0
● -19.5 AA	19.0 - 19.5
● -20 AA	19.5 - 20.0

øA = 28.5, B = 38

MEGA25N	
Collet Model	Clamping diameter
● NBC25-16 AA	15.5 - 16.0
● -16.5AA	16 - 16.5
● -17 AA	16.5 - 17.0
● -17.5AA	17.0 - 17.5
● -18 AA	17.5 - 18.0
● -18.5AA	18.0 - 18.5
● -19 AA	18.5 - 19.0
● -19.5AA	19.0 - 19.5
● -20 AA	19.5 - 20.0
● -20.5AA	20.0 - 20.5
● -21 AA	20.5 - 21.0
● -21.5AA	21.0 - 21.5
● -22 AA	21.5 - 22.0
● -22.5AA	22.0 - 22.5
● -23 AA	22.5 - 23.0
● -23.5AA	23.0 - 23.5
● -24 AA	23.5 - 24.0
● -24.5AA	24.0 - 24.5
● -25 AA	24.5 - 25.0
-25.4AA	24.9 - 25.4

øA = 35.5, B = 52

The ● mark in the table indicates NEW BABY COLLET SET contents.

For NEW BABY COLLET SET, G7

NEW BABY COLLET SET (For MEGA NEW BABY CHUCK / NEW BABY CHUCK)

The contents of each set are marked with ● in the table on the previous page. Refer to it for details.

Model	Clamping diameter ød	Number of Collets	Case size (H x W)	Body Model
SNBC 6AA-22	0.5 - 6	22 pcs	200 x 170 x 50	MEGA 6N / NBS 6
SNBC 8AA-20	0.5 - 8	20 pcs	200 x 170 x 50	MEGA 8N / NBS 8
SNBC10AA-20	1.5 - 10	20 pcs	200 x 170 x 50	MEGA10N / NBS10
SNBC13AA-21	2.5 - 13	21 pcs	245 x 210 x 60	MEGA13N / NBS13
SNBC16AA-27	2.5 - 16	27 pcs	275 x 230 x 65	MEGA16N / NBS16
SNBC20AA-35	2.5 - 20	35 pcs	310 x 260 x 75	MEGA20N / NBS20
SNBC25AA-19	15.5 - 25	19 pcs	310 x 260 x 75	MEGA25N

In exclusive plastic case.

Collet Case (For MEGA NEW BABY CHUCK / NEW BABY CHUCK)

● This exclusive plastic case is available for clearer collet management.
Ideal for collet storage and maintaining collet precision as well.

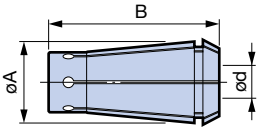
Model	Number of holes	Case size (H x W)	Collet Model
NBB 6	60	200 x 170 x 50	NBC 6/ FONBC 6
NBB 8	50	200 x 170 x 50	NBC 8/ FONBC 8
NBB10	40	200 x 170 x 50	NBC10/ FONBC10
NBB13	35	245 x 210 x 60	NBC13/ FONBC13
NBB16	35	275 x 230 x 65	NBC16/ FONBC16
NBB20	45	310 x 260 x 75	NBC20/ FONBC20
NBB25	28	310 x 260 x 75	NBC25/ FONBC25

Cannot be used with NEW BABY ENDMILL COLLET.

(Endmill exclusive)

NEW BABY ENDMILL COLLET (For MEGA NEW BABY CHUCK / NEW BABY CHUCK) Clamping diameter: ø3 - ø20

● Ideal for endmilling, with collets that perfectly fit the tool shank size.



● Model Description

NBC 6 - 3 E AA

- AA: Class
- E: Endmill exclusive
- 3: Clamping diameter (ød)
- 6: Body model size
- NBC: Abbreviation of New Baby Collet

MEGA6N / NBS6	
Collet Model	ød
NBC 6-3E AA	3.0
-4E AA	4.0
-5E AA	5.0
-6E AA	6.0

øA = 9.2, B = 17

MEGA8N / NBS8	
Collet Model	ød
NBC 8-3E AA	3.0
-4E AA	4.0
-5E AA	5.0
-6E AA	6.0
-8E AA	8.0

øA = 12, B = 20

MEGA10N / NBS10	
Collet Model	ød
NBC10- 3E AA	3.0
- 4E AA	4.0
- 5E AA	5.0
- 6E AA	6.0
- 8E AA	8.0
-10E AA	10.0

øA = 16, B = 32

MEGA13N / NBS13	
Collet Model	ød
NBC13- 3E AA	3.0
- 4E AA	4.0
- 5E AA	5.0
- 6E AA	6.0
- 8E AA	8.0
-10E AA	10.0
-12E AA	12.0

øA = 20, B = 38

MEGA16N / NBS16	
Collet Model	ød
NBC16- 3E AA	3.0
- 4E AA	4.0
- 5E AA	5.0
- 6E AA	6.0
- 8E AA	8.0
-10E AA	10.0
-12E AA	12.0
-14E AA	14.0
-16E AA	16.0

øA = 25, B = 42

MEGA20N / NBS20	
Collet Model	ød
NBC20- 3E AA	3.0
- 4E AA	4.0
- 5E AA	5.0
- 6E AA	6.0
- 8E AA	8.0
-10E AA	10.0
-12E AA	12.0
-14E AA	14.0
-16E AA	16.0
-20E AA	20.0

øA = 28, B = 45

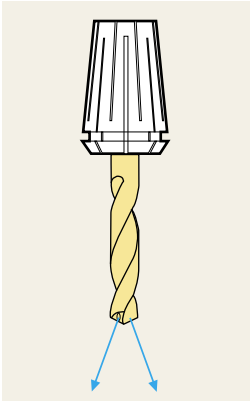
● Use cutting tools that have a shank tolerance within h7.

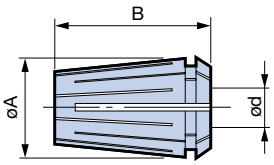
FONBC Coolant Collet (For MEGA NEW BABY CHUCK / NEW BABY CHUCK) Clamping diameter: ø2.9 - ø25.0

Coolant Pressure 7MPa

Tools with oil holes

An ideal collet for through-tool use with tools with oil holes such as oil hole drills.



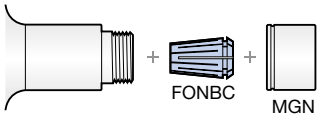


● Model Description

FONBC 6 - 3 AA

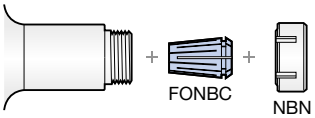
- AA: Class
- 3: Collet maximum clamping diameter
- 6: Body model size
- FONBC: Abbreviation of Oil Hole type

● For MEGA NEW BABY CHUCK



Use with the standard accessory **MGN** nut.

● For NEW BABY CHUCK



Use with the standard accessory **NBN** nut.

[FONBC Oil Hole Type]

[Caution]
Note that collapsibility differs from the NBC collets.

MEGA6N / NBS6	
Collet Model	Clamping diameter
FONBC 6 - 3 AA	※ 3.00
- 3.25AA	3.15 - 3.25
- 3.5 AA	3.40 - 3.50
- 3.75AA	3.65 - 3.75
- 4 AA	3.90 - 4.00
- 4.25AA	4.15 - 4.25
- 4.5 AA	4.40 - 4.50
- 4.75AA	4.65 - 4.75
- 5 AA	4.90 - 5.00
- 5.25AA	5.15 - 5.25
- 5.5 AA	5.40 - 5.50
- 5.75AA	5.65 - 5.75
- 6 AA	5.90 - 6.00

øA = 9.5, B = 14
※ No collapsibility.

MEGA8N / NBS8	
Collet Model	Clamping diameter
FONBC 8 - 3 AA	2.9 - 3.0
- 3.5AA	3.4 - 3.5
- 4 AA	3.9 - 4.0
- 4.5AA	4.4 - 4.5
- 5 AA	4.9 - 5.0
- 5.5AA	5.4 - 5.5
- 6 AA	5.9 - 6.0
- 6.5AA	6.4 - 6.5
- 7 AA	6.9 - 7.0
- 7.5AA	7.4 - 7.5
- 8 AA	7.9 - 8.0

øA = 12.5, B = 18

MEGA10N / NBS10	
Collet Model	Clamping diameter
FONBC10 - 3 AA	2.9 - 3.0
- 3.5AA	3.4 - 3.5
- 4 AA	3.9 - 4.0
- 4.5AA	4.4 - 4.5
- 5 AA	4.9 - 5.0
- 5.5AA	5.4 - 5.5
- 6 AA	5.9 - 6.0
- 6.5AA	6.4 - 6.5
- 7 AA	6.9 - 7.0
- 7.5AA	7.4 - 7.5
- 8 AA	7.9 - 8.0
- 8.5AA	8.4 - 8.5
- 9 AA	8.9 - 9.0
- 9.5AA	9.4 - 9.5
- 10 AA	9.9 - 10.0

øA = 16.5, B = 27

MEGA13N / NBS13	
Collet Model	Clamping diameter
FONBC13 - 3 AA	※ 3.0
- 3.5AA	3.4 - 3.5
- 4 AA	3.9 - 4.0
- 4.5AA	4.4 - 4.5
- 5 AA	4.9 - 5.0
- 5.5AA	5.4 - 5.5
- 6 AA	5.9 - 6.0
- 6.5AA	6.4 - 6.5
- 7 AA	6.9 - 7.0
- 7.5AA	7.4 - 7.5
- 8 AA	7.9 - 8.0
- 8.5AA	8.4 - 8.5
- 9 AA	8.9 - 9.0
- 9.5AA	9.4 - 9.5
- 10 AA	9.9 - 10.0
- 10.5AA	10.4 - 10.5
- 11 AA	10.9 - 11.0
- 11.5AA	11.4 - 11.5
- 12 AA	11.9 - 12.0
- 12.5AA	12.4 - 12.5
- 13 AA	12.9 - 13.0

øA = 20.5, B = 31
※ No collapsibility.

MEGA16N / NBS16	
Collet Model	Clamping diameter
FONBC16 - 5 AA	4.9 - 5.0
- 5.5AA	5.4 - 5.5
- 6 AA	5.9 - 6.0
- 6.5AA	6.4 - 6.5
- 7 AA	6.9 - 7.0
- 7.5AA	7.4 - 7.5
- 8 AA	7.9 - 8.0
- 8.5AA	8.4 - 8.5
- 9 AA	8.9 - 9.0
- 9.5AA	9.4 - 9.5
- 10 AA	9.9 - 10.0
- 10.5AA	10.4 - 10.5
- 11 AA	10.9 - 11.0
- 11.5AA	11.4 - 11.5
- 12 AA	11.9 - 12.0
- 12.5AA	12.4 - 12.5
- 13 AA	12.9 - 13.0
- 13.5AA	13.4 - 13.5
- 14 AA	13.9 - 14.0
- 14.5AA	14.4 - 14.5
- 15 AA	14.9 - 15.0
- 15.5AA	15.4 - 15.5
- 16 AA	15.9 - 16.0

øA = 25.5, B = 35

MEGA20N / NBS20	
Collet Model	Clamping diameter
FONBC20 - 5 AA	4.9 - 5.0
- 5.5AA	5.4 - 5.5
- 6 AA	5.9 - 6.0
- 6.5AA	6.4 - 6.5
- 7 AA	6.9 - 7.0
- 7.5AA	7.4 - 7.5
- 8 AA	7.9 - 8.0
- 8.5AA	8.4 - 8.5
- 9 AA	8.9 - 9.0
- 9.5AA	9.4 - 9.5
- 10 AA	9.9 - 10.0
- 10.5AA	10.4 - 10.5
- 11 AA	10.9 - 11.0
- 11.5AA	11.4 - 11.5
- 12 AA	11.9 - 12.0
- 12.5AA	12.4 - 12.5
- 13 AA	12.9 - 13.0
- 13.5AA	13.4 - 13.5
- 14 AA	13.9 - 14.0
- 14.5AA	14.4 - 14.5
- 15 AA	14.9 - 15.0
- 15.5AA	15.4 - 15.5
- 16 AA	15.9 - 16.0
- 16.5AA	16.4 - 16.5
- 17 AA	16.9 - 17.0
- 17.5AA	17.4 - 17.5
- 18 AA	17.9 - 18.0
- 18.5AA	18.4 - 18.5
- 19 AA	18.9 - 19.0
- 19.5AA	19.4 - 19.5
- 20 AA	19.9 - 20.0

øA = 28.5, B = 38

MEGA25N	
Collet Model	Clamping diameter
FONBC25 -16AA	15.9 - 16.0
-17AA	16.9 - 17.0
-18AA	17.9 - 18.0
-19AA	18.9 - 19.0
-20AA	19.9 - 20.0
-21AA	20.9 - 21.0
-22AA	21.9 - 22.0
-23AA	22.9 - 23.0
-24AA	23.9 - 24.0
-25AA	24.9 - 25.0

øA = 35.5, B = 52

COLLET EJECTOR PAT. (For MEGA NEW BABY CHUCK / NEW BABY CHUCK)

●Makes attachment and removal easy, even with the small New Baby Collet.

For New Baby Collet

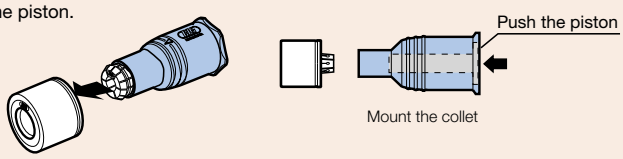
Model	Nut Model	Collet Model
NBC 6-CE	MGN 6/NBN 6	NBC 6/FONBC 6
NBC 8-CE	MGN 8/NBN 8	NBC 8/FONBC 8
NBC10-CE	MGN10/NBN10	NBC10/FONBC10
NBC13-CE	MGN13/NBN13	NBC13/FONBC13

For NEW BABY ENDMILL COLLET (endmill exclusive collet)

Model	Nut Model	Collet Model
NBC 6E- CE	MGN 6/NBN 6	NBC 6E
NBC 8E- CE	MGN 8/NBN 8	NBC 8E
NBC10E- CE	MGN10/NBN10	NBC10E
NBC13E- CE	MGN13/NBN13	NBC13E

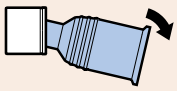
●Mounting Method

Mount the collet on the Collet Ejector, insert it into the nut, and then just push the piston.

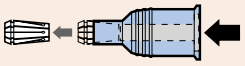


●Removal Method

1. Tilt the Collet Ejector in the direction of the arrow and remove the collet from the nut.



2. Push the piston and remove the collet.



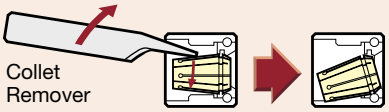
Push the piston and remove the collet

Collet Remover (For MEGA NEW BABY CHUCK / NEW BABY CHUCK)

●Collet Remover is also available.

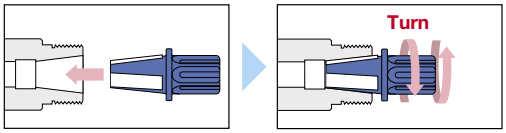
Model	NBJ

● Removal Method



α Taper Cleaner (For MEGA NEW BABY CHUCK / NEW BABY CHUCK)

●Removes particles and oil from the chuck bore taper.

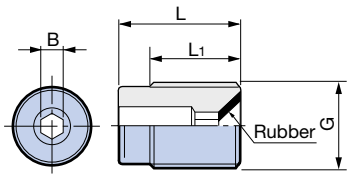


Model	Body Model
SC-NBC 6	MEGA 6N/NBS 6
SC-NBC 8	MEGA 8N/NBS 8
SC-NBC10	MEGA10N/NBS10
SC-NBC13	MEGA13N/NBS13
SC-NBC16	MEGA16N/NBS16
SC-NBC20	MEGA20N/NBS20

1. Refer to H5 for other collet chucks.

Adjusting Screw (MEGA NEW BABY CHUCK / MEGA E CHUCK/NEW BABY CHUCK)

●Use when adjusting tool projection length.

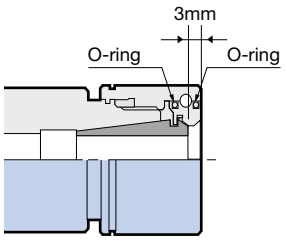


Model	G	L	L1	B	Body Model
NBA 6B	M 7	12	10	2	MEGA 6S/MEGA 6N/MEGA 6E/NBS 6
NBA 8B	M 9	13	10	2.5	MEGA 8S/MEGA 8N/MEGA 8E/NBS 8
NBA10B	M11	16	12	3	MEGA10N/MEGA10E/NBS10
NBA13B	M14	20	15	4	MEGA13N/MEGA13E/NBS13
NBA16B	M18				MEGA16N/NBS16
NBA20B	M21				MEGA20N/NBS20
NBA25B	M27				MEGA25N

Caution: Note that rubber may peel off when using high-pressure coolant.

MEGA NUT PAT. (for MEGA NEW BABY CHUCK)

■ Standard Type



● Model Description

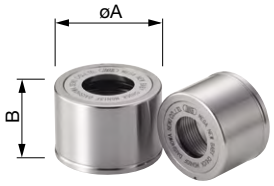
MGN **6**

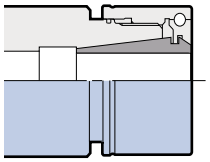
- 6 : Body model size
- MGN : MEGA NUT

A high-precision nut with excellent sealing properties, preventing the intrusion of coolant.

Model	øA	B	Body Model
MGN 6	20	20.5	MEGA 6N
MGN 8	25	23	MEGA 8N
MGN10	30	24	MEGA10N
MGN13	35	27	MEGA13N
MGN16	42	27	MEGA16N
MGN20	46	27	MEGA20N
MGN25	60	31	MEGA25N

■ Flat Type





● Model Description

MGN **6** **F**

- F : Abbreviation of Flat
- 6 : Body model size
- MGN : MEGA NUT

Model	øA	B	Body Model
MGN 6F	20	18	MEGA 6N
MGN 8F	25	20	MEGA 8N
MGN10F	30	21	MEGA10N
MGN13F	35	24	MEGA13N
MGN16F	42	24.5	MEGA16N
MGN20F	46	24.5	MEGA20N

Coolant nut

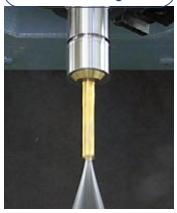
MEGA PERFECT SEAL PAT. (for MEGA NEW BABY CHUCK) Clamping diameter: ø3 - ø20

Coolant Pressure 7MPa

● Model Description

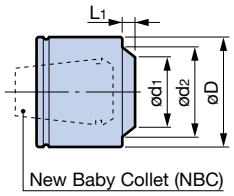
MPS 6 - 03035

- 03035: Clamping diameter: ø3 - ø3.5
- 6: Body model size
- MPS: Abbreviation of MEGA PERFECT SEAL



With PS Ring

Without PS Ring



New Baby Collet (NBC)

No coolant collet required!

● Unique idea of sealing function.
Higher pressure coolant provides stronger contact of the PS Ring to a tool shank and increases sealing performance.

Model	øD	ød1	ød2	L1	Compatible tool shank diameter	Collet Model
MPS 6-03035	20	11.2	14.7	2.3	3 - 3.5	NBC 6- 3 - 3.75
-0304					3 - 4	- 3 - 4.25
-04045		12.2			4 - 4.5	- 4 - 4.75
-0405					4 - 5	- 4 - 5.25
-05055		13.2			5 - 5.5	- 5 - 5.75
-0506					5 - 6	- 5 - 6
MPS 8-03035	25	12.2	19.2	3.9	3 - 3.5	NBC 8- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045		13.2			4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2			5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2		3.4	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2			7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8
MPS10-03035	30	12.2	23.9	3.9	3 - 3.5	NBC10- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045		13.2			4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2			5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2		4.3	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2			7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8.5
-08085		18.4		3.5	8 - 8.5	- 8 - 9
-0809					8 - 9	- 8 - 9.5
-09095		19.2			9 - 9.5	- 9 - 10
-0910					9 - 10	- 9 - 10

Model	øD	ød1	ød2	L1	Compatible tool shank diameter	Collet Model
MPS13-03035	35	12.2	28.7	4.3	3 - 3.5	NBC13- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045		13.2			4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2			5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2		4.6	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2			7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8.5
-08085		18.4		4.9	8 - 8.5	- 8 - 9
-0809					8 - 9	- 8 - 9.5
-09095		19.4			9 - 9.5	- 9 - 10
-0910					9 - 10	- 9 - 10.5
-10105		20.3		4.2	10 - 10.5	-10 - 11
-1011					10 - 11	-10 - 11.5
-11115		21.2			11 - 11.5	-11 - 12
-1112					11 - 12	-11 - 12.5
-12125		22.2			12 - 12.5	-12 - 13
-1213					12 - 13	-12 - 13

1. One PS Ring is included.

For "Jet-Through" application by removing the PS Ring, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

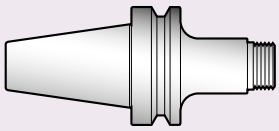
Model	øD	ød1	ød2	L1	Compatible tool shank diameter	Collet Model
MPS16-03035	42	12.2	34.4	4.0	3 - 3.5	NBC16- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045		13.2			4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2			5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2		4.3	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2			7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8.5
-08085		18.4		4.6	8 - 8.5	- 8 - 9
-0809					8 - 9	- 8 - 9.5
-09095		19.4			9 - 9.5	- 9 - 10
-0910					9 - 10	- 9 - 10.5
-10105		20.2		5.1	10 - 10.5	-10 - 11
-1011					10 - 11	-10 - 11.5
-11115		21.2			11 - 11.5	-11 - 12
-1112					11 - 12	-11 - 12.5
-12125		22.2		4.1	12 - 12.5	-12 - 13
-1213					12 - 13	-12 - 13.5
-1314		24.2			13 - 14	-13 - 14.5
-1415		25.2			14 - 15	-14 - 15.5
-1516		26.2			15 - 16	-15 - 16

1. One PS Ring is included.

Model	øD	ød1	ød2	L1	Compatible tool shank diameter	Collet Model
MPS20-03035	46	12.2	38.3	4.0	3 - 3.5	NBC20- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045		13.2			4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2			5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2		4.3	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2			7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8.5
-08085		18.4		4.6	8 - 8.5	- 8 - 9
-0809					8 - 9	- 8 - 9.5
-09095		19.4			9 - 9.5	- 9 - 10
-0910					9 - 10	- 9 - 10.5
-10105		20.2		5.1	10 - 10.5	-10 - 11
-1011					10 - 11	-10 - 11.5
-11115		21.2			11 - 11.5	-11 - 12
-1112					11 - 12	-11 - 12.5
-12125		22.2			12 - 12.5	-12 - 13
-1213					12 - 13	-12 - 13.5
-1314		24.2		5.2	13 - 14	-13 - 14.5
-1415		25.2			14 - 15	-14 - 15.5
-1516		26.2			15 - 16	-15 - 16.5
-1617		27.2		4.6	16 - 17	-16 - 17.5
-1718		28.2			17 - 18	-17 - 18.5
-1819		29.2			18 - 19	-18 - 19.5
-1920		30.2			19 - 20	-19 - 20

When ordering a MEGA PERFECT SEAL, the “Nut-Less Body” without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/MEGA PERFECT SEAL separately.



MEGA NEW BABY CHUCK Model + NL
BBT30-MEGA6N-60/NL
(NL at the end of the model number means nut not attached)

+

NBC Collet
NBC6-3AA

+

MEGA PERFECT SEAL Model
MPS6-03035

PS Ring PAT.

For Through Tools

Specially designed sealant is used inside the PERFECT SEAL.

(The PS Ring must be replaced if damage thereto is causing coolant to leak.)

Model	Body Model
PS-0304	MPS □ -03035,0304
0405	04045,0405
0506	05055,0506
0607	06065,0607
0708	07075,0708

Model	Body Model
PS-0809	MPS □ -08085,0809
0910	09095,0910
1011	10105,1011
1112	11115,1112
1213	12125,1213

Model	Body Model
PS-1314	MPS □ -1314
1415	1415
1516	1516
1617	1617
1718	1718
1819	1819
1920	1920

1 bag/5 pcs (same size)

MEGA E Collet (for MEGA E CHUCK)

Body Model/**MEGA 6E**

Model	ød	Min. clamping length
MEC6-3AA	3	19
-4AA	4	22
-5AA	5	25
-6AA	6	27

L = 34.9 øD = 11.3
Nut = MEN6

Body Model/**MEGA 8E**

Model	ød	Min. clamping length
MEC8-3AA	3	19
-4AA	4	22
-5AA	5	25
-6AA	6	28
-7AA	7	29
-8AA	8	31

L = 39.4 øD = 14.1
Nut = MEN8

Body Model/**MEGA 10E**

Model	ød	Min. clamping length
MEC10- 3AA	3	19
- 4AA	4	22
- 5AA	5	25
- 6AA	6	28
- 7AA	7	29.5
- 8AA	8	31
- 9AA	9	33
-10AA	10	37

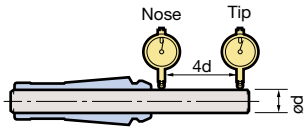
L = 45.7 øD = 17.1
Nut = MEN10

Body Model/**MEGA 13E**

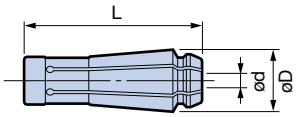
Model	ød	Min. clamping length
MEC13- 3AA	3	19
- 4AA	4	22
- 5AA	5	25
- 6AA	6	28
- 7AA	7	29.5
- 8AA	8	31
- 9AA	9	33
-10AA	10	35
-11AA	11	37
-12AA	12	39

L = 47.9 øD = 20.6
Nut = MEN13

● Collet accuracy (Class AA)



Collet class	Runout accuracy	
	Nose	4D
AA	Within 1μm	Within 3μm



● Model Description

MEC 6 - 3
- 3: Inner diameter ød
- 6: Chuck size
- MEC: MEGA E Collet

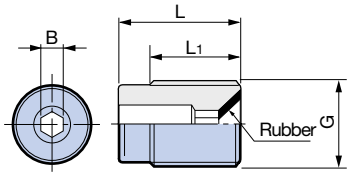
● Use cutting tools that have a shank tolerance within h7.

MEGA E NUT PAT. (for MEGA E CHUCK)

Model	Nut outer diameter	Body Model
MEN 6	25	MEGA 6E
MEN 8	30	MEGA 8E
MEN10	35	MEGA10E
MEN13	42	MEGA13E

Adjusting Screw (for MEGA E CHUCK)

● Use when adjusting cutting tool projection length.

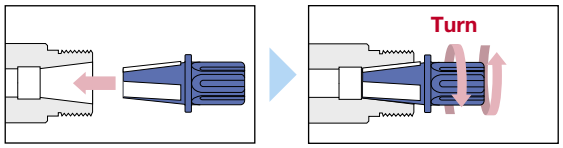


Model	G	L	L_1	B	Body Model
NBA 6B	M 7	12	10	2	MEGA 6E
NBA 8B	M 9	13	10	2.5	MEGA 8E
NBA10B	M11	16	12	3	MEGA10E
NBA13B	M14	20	15	4	MEGA13E

Caution: Note that rubber may peel off when using high-pressure coolant.

α Taper Cleaner (for MEGA E CHUCK)

● Removes particles and oil from the chuck bore taper.



Model	Body Model
SC-MEC 6	MEGA 6E
SC-MEC 8	MEGA 8E
SC-MEC10	MEGA10E
SC-MEC13	MEGA13E

1. Refer to H5 for other collet chucks.

OIL HOLE SEAL NUT

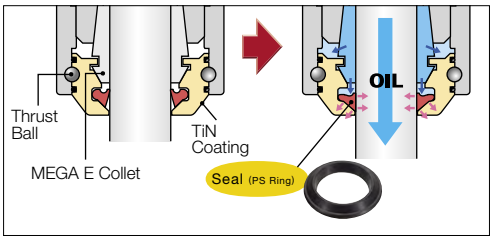
MEGA E PERFECT SEAL PAT. (for MEGA E CHUCK) Clamping diameter: ø3 - ø12

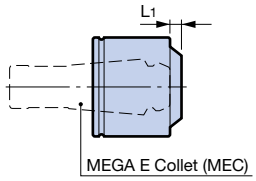
Coolant Pressure 7MPa

No coolant collet required!

- Unique concept of sealing function. Higher pressure coolant provides stronger contact of the PS Ring to the tool shank and increases sealing performance.

With PS Ring　Without PS Ring





● Model Description

EPS 6 - 03

- 03: Clamping diameter: ø3
- 6: Body model size
- EPS: Abbreviation of MEGA E PERFECT SEAL

The long clamping length makes it ideal for Jet-Through use with burnishing drills/reamers.

Model	L1	Compatible tool shank diameter	Collet Model
EPS 6-03	5.6	3	MEC 6- 3
-04	5.2	4	- 4
-05		5	- 5
-06		6	- 6
EPS 8-03	6.4	3	MEC 8- 3
-04	6.0	4	- 4
-05		5	- 5
-06		6	- 6
-07	5.6	7	- 7
-08		8	- 8
EPS10-03	6.4	3	MEC10- 3
-04	6.0	4	- 4
-05		5	- 5
-06		6	- 6
-07	6.3	7	- 7
-08		8	- 8
-09	5.7	9	- 9
-10		10	-10

Model	L1	Compatible tool shank diameter	Collet Model
EPS13-03	6.4	3	MEC13- 3
-04	6.0	4	- 4
-05		5	- 5
-06		6	- 6
-07	6.3	7	- 7
-08	6.5	8	- 8
-09		9	- 9
-10		10	-10
-11	6.2	11	-11
-12		12	-12

1. One PS Ring is included.
For "Jet-Through" application by removing the PS Ring, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

■ PS Ring PAT.

Specially designed sealant is used inside the PERFECT SEAL.

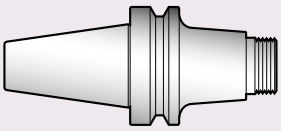
(The PS Ring must be replaced if damage thereto is causing coolant to leak.)

1 bag/5 pcs (same size)

Model	Body Model	Model	Body Model
PS-0304	EPS □ -03	**PS-0708**	EPS □ -08
	-04	**-0809**	-09
-0405	-05	**-0910**	-10
-0506	-06	**-1011**	-11
-0607	-07	**-1112**	-12

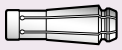
When ordering a MEGA E PERFECT SEAL, the "Nut-Less Body" without the standard nut attached is also available.

● Example Attach /NL (Nut less) to the end of the holder model number and order the MEC Collet/MEGA E PERFECT SEAL separately.



MEGA E CHUCK Model + /NL
(Nut not attached)
BBT30-MEGA6E-50/NL

+



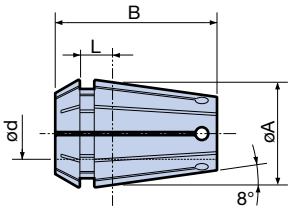
MEC Collet
MEC6-3AA

+

MEGA E PERFECT SEAL Model
EPS6-03

MEGA ER COLLET (for MEGA ER GRIP) Clamping diameter: ø1.9 - ø20

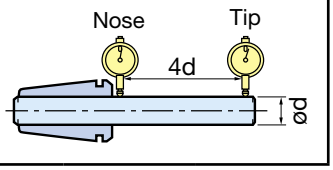
All ERC collets are inspected twice to guarantee high runout accuracy.
Available in min. 0.1mm increments to closely match each cutting tool shank size.



Dimension standards:
Compliant with DIN6499 and ISO15488

● Collet accuracy

Collet class	Runout accuracy	
	Nose	4D
AA	Within 1μm	Within 3μm



Collapsibility 0.1/ø Collapsibility 0.25/ø Collapsibility 0.5/ø

MEGA ER11	
Collet Model	Clamping diameter ød
ERC11-3AA	2.75 - 3.0
-3.25AA	3.0 - 3.25
-3.5AA	3.25 - 3.5
-3.75AA	3.5 - 3.75
-4AA	3.75 - 4.0
-4.25AA	4.0 - 4.25
-4.5AA	4.25 - 4.5
-4.75AA	4.5 - 4.75
-5AA	4.75 - 5.0
-5.25AA	5.0 - 5.25
-5.5AA	5.25 - 5.5
-5.75AA	5.5 - 5.75
-6AA	5.5 - 6.0

øA = 11, B = 18, L = 3.8

MEGA ER16	
Collet Model	Clamping diameter ød
ERC16-2AA	1.9 - 2.0
-2.1AA	2.0 - 2.1
-2.2AA	2.1 - 2.2
-2.3AA	2.2 - 2.3
-2.4AA	2.3 - 2.4
-2.5AA	2.4 - 2.5
-2.6AA	2.5 - 2.6
-2.7AA	2.6 - 2.7
-2.8AA	2.7 - 2.8
-2.9AA	2.8 - 2.9
-3AA	2.75 - 3.0
-3.25AA	3.0 - 3.25
-3.5AA	3.25 - 3.5
-3.75AA	3.5 - 3.75
-4AA	3.75 - 4.0
-4.25AA	4.0 - 4.25
-4.5AA	4.25 - 4.5
-4.75AA	4.5 - 4.75
-5AA	4.75 - 5.0
-5.25AA	5.0 - 5.25
-5.5AA	5.25 - 5.5
-5.75AA	5.5 - 5.75
-6AA	5.5 - 6.0
-6.5AA	6.0 - 6.5
-7AA	6.5 - 7.0
-7.5AA	7.0 - 7.5
-8AA	7.5 - 8.0
-8.5AA	8.0 - 8.5
-9AA	8.5 - 9.0
-9.5AA	9.0 - 9.5
-10AA	9.5 - 10.0

øA = 16, B = 27.5, L = 6.26

MEGA ER20	
Collet Model	Clamping diameter ød
ERC20-3AA	2.75 - 3.0
-3.25AA	3.0 - 3.25
-3.5AA	3.25 - 3.5
-3.75AA	3.5 - 3.75
-4AA	3.75 - 4.0
-4.25AA	4.0 - 4.25
-4.5AA	4.25 - 4.5
-4.75AA	4.5 - 4.75
-5AA	4.75 - 5.0
-5.25AA	5.0 - 5.25
-5.5AA	5.25 - 5.5
-5.75AA	5.5 - 5.75
-6AA	5.5 - 6.0
-6.5AA	6.0 - 6.5
-7AA	6.5 - 7.0
-7.5AA	7.0 - 7.5
-8AA	7.5 - 8.0
-8.5AA	8.0 - 8.5
-9AA	8.5 - 9.0
-9.5AA	9.0 - 9.5
-10AA	9.5 - 10.0
-10.5AA	10.0 - 10.5
-11AA	10.5 - 11.0
-11.5AA	11.0 - 11.5
-12AA	11.5 - 12.0
-12.5AA	12.0 - 12.5
-13AA	12.5 - 13.0

øA = 20, B = 31.5, L = 6.36

MEGA ER25	
Collet Model	Clamping diameter ød
ERC25-3AA	2.75 - 3.0
-3.25AA	3.0 - 3.25
-3.5AA	3.25 - 3.5
-3.75AA	3.5 - 3.75
-4AA	3.75 - 4.0
-4.25AA	4.0 - 4.25
-4.5AA	4.25 - 4.5
-4.75AA	4.5 - 4.75
-5AA	4.75 - 5.0
-5.25AA	5.0 - 5.25
-5.5AA	5.25 - 5.5
-5.75AA	5.5 - 5.75
-6AA	5.5 - 6.0
-6.5AA	6.0 - 6.5
-7AA	6.5 - 7.0
-7.5AA	7.0 - 7.5
-8AA	7.5 - 8.0
-8.5AA	8.0 - 8.5
-9AA	8.5 - 9.0
-9.5AA	9.0 - 9.5
-10AA	9.5 - 10.0
-10.5AA	10.0 - 10.5
-11AA	10.5 - 11.0
-11.5AA	11.0 - 11.5
-12AA	11.5 - 12.0
-12.5AA	12.0 - 12.5
-13AA	12.5 - 13.0
-13.5AA	13.0 - 13.5
-14AA	13.5 - 14.0
-14.5AA	14.0 - 14.5
-15AA	14.5 - 15.0
-15.5AA	15.0 - 15.5
-16AA	15.5 - 16.0

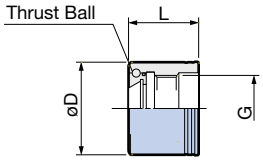
øA = 25, B = 34, L = 6.66

MEGA ER32	
Collet Model	Clamping diameter ød
ERC32-3AA	2.75 - 3.0
-3.25AA	3.0 - 3.25
-3.5AA	3.25 - 3.5
-3.75AA	3.5 - 3.75
-4AA	3.75 - 4.0
-4.25AA	4.0 - 4.25
-4.5AA	4.25 - 4.5
-4.75AA	4.5 - 4.75
-5AA	4.75 - 5.0
-5.25AA	5.0 - 5.25
-5.5AA	5.25 - 5.5
-5.75AA	5.5 - 5.75
-6AA	5.5 - 6.0
-6.5AA	6.0 - 6.5
-7AA	6.5 - 7.0
-7.5AA	7.0 - 7.5
-8AA	7.5 - 8.0
-8.5AA	8.0 - 8.5
-9AA	8.5 - 9.0
-9.5AA	9.0 - 9.5
-10AA	9.5 - 10.0
-10.5AA	10.0 - 10.5
-11AA	10.5 - 11.0
-11.5AA	11.0 - 11.5
-12AA	11.5 - 12.0
-12.5AA	12.0 - 12.5
-13AA	12.5 - 13.0
-13.5AA	13.0 - 13.5
-14AA	13.5 - 14.0
-14.5AA	14.0 - 14.5
-15AA	14.5 - 15.0
-15.5AA	15.0 - 15.5
-16AA	15.5 - 16.0
-16.5AA	16.0 - 16.5
-17AA	16.5 - 17.0
-17.5AA	17.0 - 17.5
-18AA	17.5 - 18.0
-18.5AA	18.0 - 18.5
-19AA	18.5 - 19.0
-19.5AA	19.0 - 19.5
-20AA	19.5 - 20.0

øA = 32, B = 40, L = 7.16

MEGA ER NUT (for MEGA ER GRIP)

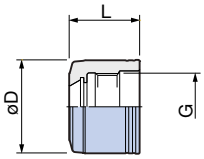
- Nut with thrust ball bearing for high precision and high retention force.
- Shows its strength in machining with carbide solid drills or reamers. Higher rigidity without wrench application grooves.



Model	øD	L	G	Wrench	Body Model
MERN16	30	25	M22 x P1.5	MGR30L	ER16
MERN20	35	26.5	M25 x P1.5	MGR35L	ER20
MERN25	42	27.5	M32 x P1.5	MGR42L	ER25
MERN32	50	30.2	M40 x P1.5	MGR50L	ER32

MEGA ER SOLID NUT (for MEGA ER GRIP)

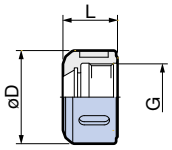
- A high-rigidity nut without wrench application grooves.



Model	øD	L	G	Wrench	Body Model
MER16SN	30	25	M22 x P1.5	MGR30L	ER16
MER20SN	35	26.5	M25 x P1.5	MGR35L	ER20
MER25SN	42	27.5	M32 x P1.5	MGR42L	ER25
MER32SN	50	30.2	M40 x P1.5	MGR50L	ER32

ER NUT [Hook wrench type] (for MEGA ER GRIP)

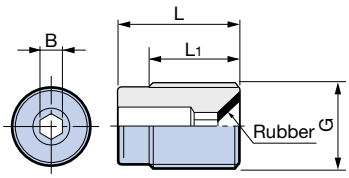
- An integrated nut with low coefficient of friction surface treatment.



Model	øD	L	G	Wrench	Body Model
ERN11	19	12.3	M14 x P0.75	NBK 6	ER11
ERN16	30	19	M22 x P1.5	NBK10	ER16
ERN20	35	20.5	M25 x P1.5	NBK13	ER20
ERN25	42	21.5	M32 x P1.5	NBK16	ER25
ERN32	50	24	M40 x P1.5	FK45-50L	ER32

Adjusting Screw (for MEGA ER GRIP)

- Use when adjusting tool projection length.



Model	G	L	L_1	B	Body Model
NBA 6B	M 7	12	10	2	MEGA ER11
NBA10B	M11	16	12	3	MEGA ER16
NBA13B	M14	20	15	4	MEGA ER20
NBA16B	M18				MEGA ER25
NBA20B	M21				MEGA ER32

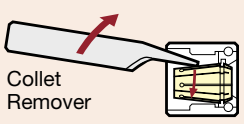
Caution: Note that rubber may peel off when using high-pressure coolant.

Collet Remover (for MEGA ER GRIP)

- Aids removal of the collet from the nut.

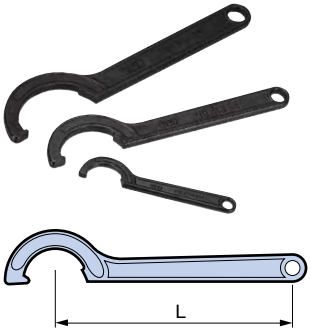
Model	NBJ

- Removal Method



New Baby Wrench (for MEGA ER GRIP)

- To tighten the ER Nut hook wrench type.



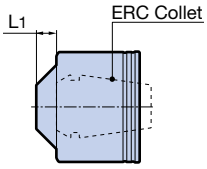
Model	L	Nut Model
NBK 6	65	ERN11
NBK 10	104	ERN16
NBK 13	113	ERN20
NBK 16	122	ERN25
FK45-50L	204	ERN32

Coolant nut
MEGA ER PERFECT SEAL PAT. (for MEGA ER GRIP) Clamping diameter: ø3 - ø20

Coolant Pressure 7MPa

● Model Description

MERPS 16 - 030035
- 030035: Clamping diameter: ø3 - ø3.5
- 16: Body model size
- MERPS: Abbreviation of MEGA ER PERFECT SEAL



Coolant through tool — With PS Ring

Jet Through — Without PS Ring

No coolant collet required!

● Simple replacement of the standard nut achieves secure coolant supply.

Model	L1	Compatible tool shank diameter	Collet Model
MERPS16-030035	6.4	3 - 3.5	ERC16- 3 - 3.75
-035040		3.5 - 4	- 3.5 - 4.25
-040045		4 - 4.5	- 4 - 4.75
-045050		4.5 - 5	- 4.5 - 5.25
-050055		5 - 5.5	- 5 - 6
-055060		5.5 - 6	- 5.5 - 6.5
-060065	6.8	6 - 6.5	- 6 - 7
-065070		6.5 - 7	- 6.5 - 7.5
-070075		7 - 7.5	- 7 - 8
-075080		7.5 - 8	- 7.5 - 8.5
-080085	6.1	8 - 8.5	- 8 - 9
-085090		8.5 - 9	- 8.5 - 9.5
-090095		9 - 9.5	- 9 - 10
-095100		9.5 - 10	- 9.5 - 10
MERPS20-030035	6.4	3 - 3.5	ERC20- 3 - 3.75
-035040		3.5 - 4	- 3.5 - 4.25
-040045		4 - 4.5	- 4 - 4.75
-045050		4.5 - 5	- 4.5 - 5.25
-050055		5 - 5.5	- 5 - 6
-055060		5.5 - 6	- 5.5 - 6.5
-060065	6.8	6 - 6.5	- 6 - 7
-065070		6.5 - 7	- 6.5 - 7.5
-070075		7 - 7.5	- 7 - 8
-075080		7.5 - 8	- 7.5 - 8.5
-080085	6.9	8 - 8.5	- 8 - 9
-085090		8.5 - 9	- 8.5 - 9.5
-090095		9 - 9.5	- 9 - 10
-095100		9.5 - 10	- 9.5 - 10.5
-100105	6.6	10 - 10.5	-10 - 11
-105110		10.5 - 11	-10.5 - 11.5
-110115		11 - 11.5	-11 - 12
-115120		11.5 - 12	-11.5 - 12.5
-120125		12 - 12.5	-12 - 13
-125130		12.5 - 13	-12.5 - 13

Model	L1	Compatible tool shank diameter	Collet Model
MERPS25-030035	6.3	3 - 3.5	ERC25- 3 - 3.75
-035040		3.5 - 4	- 3.5 - 4.25
-040045		4 - 4.5	- 4 - 4.75
-045050		4.5 - 5	- 4.5 - 5.25
-050055		5 - 5.5	- 5 - 6
-055060		5.5 - 6	- 5.5 - 6.5
-060065	6.7	6 - 6.5	- 6 - 7
-065070		6.5 - 7	- 6.5 - 7.5
-070075		7 - 7.5	- 7 - 8
-075080		7.5 - 8	- 7.5 - 8.5
-080085	6.8	8 - 8.5	- 8 - 9
-085090		8.5 - 9	- 8.5 - 9.5
-090095		9 - 9.5	- 9 - 10
-095100		9.5 - 10	- 9.5 - 10.5
-100105	7.3	10 - 10.5	- 10 - 11
-105110		10.5 - 11	- 10.5 - 11.5
-110115		11 - 11.5	- 11 - 12
-115120		11.5 - 12	- 11.5 - 12.5
-120125		12 - 12.5	- 12 - 13
-125130		12.5 - 13	- 12.5 - 13
-130140	6.6	13 - 14	- 13 - 14.5
-140150		14 - 15	- 14 - 15.5
-150160		15 - 16	- 15 - 16
MERPS32-030035	6.2	3 - 3.5	ERC32- 3 - 3.75
-035040		3.5 - 4	- 3.5 - 4.25
-040045		4 - 4.5	- 4 - 4.75
-045050		4.5 - 5	- 4.5 - 5.25
-050055		5 - 5.5	- 5 - 6
-055060		5.5 - 6	- 5.5 - 6.5
-060065	6.6	6 - 6.5	- 6 - 7
-065070		6.5 - 7	- 6.5 - 7.5
-070075		7 - 7.5	- 7 - 8
-075080		7.5 - 8	- 7.5 - 8.5
-080085	6.7	8 - 8.5	- 8 - 9
-085090		8.5 - 9	- 8.5 - 9.5
-090095		9 - 9.5	- 9 - 10
-095100		9.5 - 10	- 9.5 - 10.5
-100105	7.2	10 - 10.5	- 10 - 11
-105110		10.5 - 11	- 10.5 - 11.5
-110115		11 - 11.5	- 11 - 12
-115120		11.5 - 12	- 11.5 - 12.5
-120125		12 - 12.5	- 12 - 13
-125130		12.5 - 13	- 12.5 - 13.5
-130140	7.3	13 - 14	- 13 - 14.5
-140150		14 - 15	- 14 - 15.5
-150160		15 - 16	- 15 - 16.5
-160170	7.8	16 - 17	- 16 - 17.5
-170180		17 - 18	- 17 - 18.5
-180190		18 - 19	- 18 - 19.5
-190200		19 - 20	- 19 - 20

1. One PS Ring is included.

For "Jet-Through" application by removing the PS Ring, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

PS Ring PAT.

Specially designed sealant is used inside the PERFECT SEAL.

(The PS Ring must be replaced if damage thereto is causing coolant to leak.)

1 bag/5 pcs (same size)

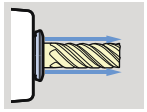
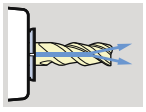
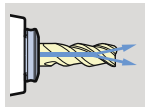
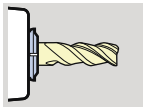
Model	Body Model
PS-0304	MERPS□-030035,035040
-0405	-040045,045050
-0506	-050055,055060
-0607	-060065,065070
-0708	-070075,075080

Model	Body Model
PS-0809	MERPS□-080085,085090
-0910	-090095,095100
-1011	-100105,105110
-1112	-110115,115120
-1213	-120125,125130

Model	Body Model
PS-1314	MERPS□-130140
-1415	-140150
-1516	-150160
-1617	-160170
-1718	-170180
-1819	-180190
-1920	-190200

Straight Collet (for MEGA DOUBLE POWER CHUCK, NEW Hi- POWER MILLING CHUCK, HYDRAULIC CHUCK)

Straight Collet Selection Guide

	PJC Collet	OCA Collet	PSC Collet	C Collet
				
	Jet Through	Coolant through tool	Coolant through tool	
MEGA DOUBLE POWER CHUCK (Standard type) **MEGA-D**	○	○	○	○
MEGA DOUBLE POWER CHUCK (Jet Through type) **MEGA-DS**	○		○	○
NEW Hi- POWER MILLING CHUCK **HMC**	○	○	○	○
HYDRAULIC CHUCK **HDC**	○		○	

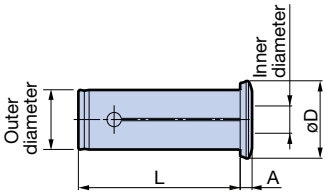
Jet Through

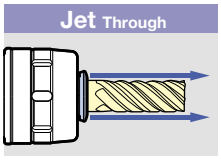
PJC Straight Collet PAT. (For MEGA DOUBLE POWER CHUCK, HYDRAULIC CHUCK, NEW Hi- POWER MILLING CHUCK)

●For jet through use.

● Model Description

PJC 12 - 6
- 6: Collet inner diameter
- 12: Collet outer diameter
- PJC: PJC Collet





Model	A	øD	L
PJC12-6, 8	5.4	20.4	40
-10	5.6		
PJC16-6	6.0	23	54
-8, 10, 12	6.3		
PJC20-3, 4, 5, 6,	5.2	27	61
-7, 8, 9, 10	5.7		
-11,12	6.4		
-13	6.8		
-14, 15, 16	7.3		
PJC25-6, 8, 10, 12	5.0	32.5	68
-16	5.4		
-18	5.8		
-20	6.5		
PJC32-6, 8, 10, 12, 14, 16, 20	5.0	39	74
-25	5.4		
PJC42-16, 20, 25, 32	5.0	50.5	83

※ MEGA-D/DS and HMC chucks allow jet-through coolant when PJC collets are used.
※ The maximum tool insertion depth from the flange of PJC20-16 collet is 58mm.

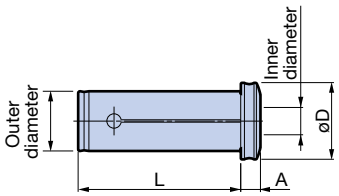
Through Tool

PSC Straight Collet PAT. (For MEGA DOUBLE POWER CHUCK, HYDRAULIC CHUCK, NEW Hi- POWER MILLING CHUCK)

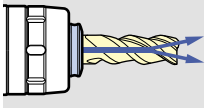
●For tools with oil holes.

● Model Description

PSC 20 - 3
- 3: Collet inner diameter
- 20: Collet outer diameter
- PSC: PSC Collet



Coolant through tool



Model	A	øD	L
PSC20-3	7.7	27	61
-4, 5, 6,	7.5		
-7, 8, 9, 10	8.2		
-11, 12, 13	8.7		
-14, 15, 16		28	
PSC32-6	7.5	38	74
-7, 8, 9, 10	8.2		
-11, 12, 13, 14, 15, 16	8.7		
-18, 19, 20, 21	9.2		
-22, 23, 24, 25	9.5		

※ MEGA-D/DS, HMC and HDC chucks allow through-tool coolant when the PSC collet is used.
※ The maximum tool insertion depth from the flange of PSC20-16 collet is 59mm.

■ PS Ring PAT.

Specially designed sealant is used inside the PSC Straight Collet.

(The PS Ring must be replaced if damage thereto is causing coolant to leak.)

Model	Body Model
PS-0304	PSC□-3, 4
-0405	5
-0506	6
-0607	7
-0708	8
-0809	9

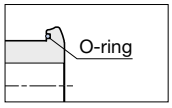
Model	Body Model
PS-0910	PSC□-10
-1011	11
-1112	12
-1213	13
-1314	14
-1415	15
-1516	16

Model	Body Model
PS-1718	PSC32-18
-1819	19
-1920	20
-2021	21
-2223	22,23
-2324	24
-2526	25

1 bag/5 pcs (same size)

O-ring for maintenance (common for PJC, PSC)

2-piece set



Replace if the O-ring is damaged.

Model	Collet Model
PJC16 OR	PJC16
20 OR	PJC20, PSC20
25 OR	PJC25

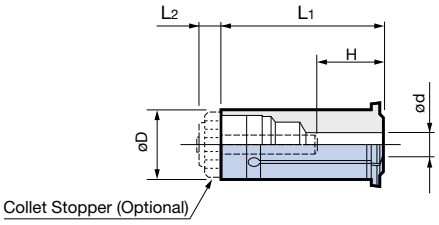
Model	Collet Model
PJC32 OR	PJC32, PSC32
42 OR	PJC42

Straight Collet (For MEGA DOUBLE POWER CHUCK NEW Hi- POWER MILLING CHUCK)

● Reduction sleeve for clamping smaller diameter cylindrical shank tool.

● Model Description

C 16 - 6
- 6: Collet inner diameter
- 16: Collet outer diameter
- C: Collet



Model	ød	øD	L1	L2	H min.	H max.	Compatible Collet Stopper (Optional)
C16- 6	6	16	52	6	30	47	AC16CS
- 8	8				32		
-10	10				37		
-12	12						
C20- 6	6	20	60	8	30	48	AC20CS
- 8	8				32		
-10	10				37		
-12	12						
-14	14				40		
-16※	16			–	46	–	–
AC20-16				8		48	AC20CS (Optional accessory)
C20-18※	18		52	–	50	–	–
C25- 6	6	25	68.5	8	30	58	AC25CS
- 8	8				32		
-10	10				37		
-12	12						
-14	14				45		
-16	16				46		
-18	18				48		
-20	20				52		

Model	ød	øD	L1	L2	H min.	H max.	Compatible Collet Stopper (Optional)
C32- 6	6	32	74	10	30	62	AC32CS
- 8	8				32		
-10	10				37		
-12	12						
-14	14				40		
-16	16				46		
-18	18				50		
-19	19						
-20	20				52		
-22	22						
-24	24				55		
-25	25						
C42- 6	6	42	89	10	30	77	AC42CS
- 8	8				34		
-10	10				40		
-12	12						
-16	16				46		
-20	20				52		
-25	25				57		
-31	31				62		
-32	32						

1. H max. are the figures with the collet stopper (optional) mounted.

● ※ indicates that collet stopper (optional) cannot be mounted.

● Collet stopper is included with AC20-16.

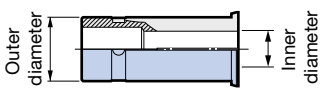
Oil Hole Straight Collet (For MEGA DOUBLE POWER CHUCK NEW Hi- POWER MILLING CHUCK)

Center through

● For tools with oil holes.

● Model Description

OCA 16 - 6
- 6: Collet inner diameter
- 16: Collet outer diameter
- OCA: Oil Hole Straight Collet

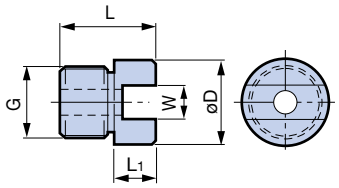


Model	Body Model
OCA16 - 6, 8, 10, 12	MEGA16D, HMC16 (S)
OCA20 - 6, 8, 10, 12, 14, 16	MEGA20D, HMC20 (S)
OCA25 - 6, 8, 10, 12, 14, 16, 18, 20	MEGA25D, HMC25 (S)
OCA32 - 6, 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 28	MEGA32D, HMC32 (S)
OCA42 - 6, 8, 10, 12, 16, 19, 20, 24, 25, 31, 32	MEGA42D, HMC42

1. Capable of supplying coolant through tool. Use with cutting tools with oil holes.
2. For the MEGA DS chuck, use the PSC Collet.

Axial Adjusting Screw (For MEGA DOUBLE POWER CHUCK / NEW Hi- POWER MILLING CHUCK)

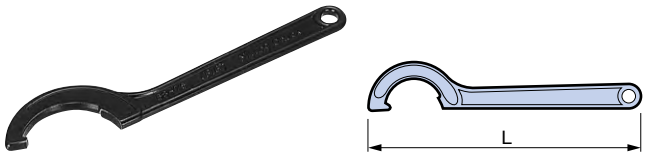
●To be mounted in the chuck body for adjusting cutting tool projection length.



Model	øD	L	L_1	G	W	Body Model	
						MEGA DOUBLE POWER CHUCK	NEW Hi- POWER MILLING CHUCK
HMA-M16	19	27	6	M16P1.5	8	MEGA20D (DS) MEGA25D (DS)	HMC20S, HMC20 HMC25S, HMC25
HMA-M16S	19	27	6	M16P1.5	10	MEGA32D (DS) (BBT30/40, BDV40)	HMC32S
HMA-M24	30	36	9.5	M24P1.5	10	MEGA32D (DS) (BBT50, BDV50) MEGA42D (DS) (BBT50, BDV50) MEGA50D (DS) (BBT50)	HMC32, HMC42S HMC42

1. Use hex socket head screws (M8) for NEW Hi- POWER MILLING CHUCK/HMC12J/16S and MEGA DOUBLE POWER CHUCK/ MEGA16D(DS).

Wrench (For NEW Hi- POWER MILLING CHUCK / Runout Adjustable RA HOLDER)



Model	L	Nut Model Outer diameter ø	Body Model
FK31- 33	153	31 - 33	HMC12J
FK45- 50L	242	43 - 50	HMC16S
			HMC20S
FK52- 55	220	52 - 55	HMC25S (BT/BBT30)
FK58- 62	240	58 - 62	HMC20
			HMC25
FK58- 62L	293		HMC25S
			HMC32S (BT/BBT30)
FK68- 75L	319	68 - 75	HMC32S
FK80- 90	280	80 - 90	HMC32
FK80- 90L	390		HMC42S
FK92-100	280	92 - 100	HMC42
			HMC50.8

For confirming gripping force
Grip Bar (for HYDRAULIC CHUCK)

For details of usage, refer to the Hydraulic Chuck operation manual.

Model	Chuck bore
TSB 3	3
4	4
5	5
6	6
7	7

Model	Chuck bore
TSB 8	8
9	9
10	10
11	11
12	12

Model	Chuck bore
TSB13	13
14	14
15	15
16	16
18	18

Model	Chuck bore
TSB19	19
20	20
22	22
24	24
25	25

Model	Chuck bore
TSB28	28
31	31
32	32
42	42

Mega Wrench (for MEGA CHUCK Series)

- One-way clutch system applies tightening force to entire nut periphery evenly.
- Prevents wrench slippage for safe and secure tightening operation.

● Model Description

MGR 10

- 10: Wrench diameter
- MGR: Mega Wrench

Model	Wrench Diameter ød	Body Model		
		MEGA MICRO	MEGA NEW BABY CHUCK	MEGA E CHUCK
MGR10	10	MEGA3S		
MGR12	12	MEGA4S		
MGR14	14	MEGA6S		
MGR18	18	MEGA8S		
MGR20	20		MEGA 6N	
MGR25	25		MEGA 8N	MEGA 6E
MGR30	30		MEGA10N	MEGA 8E
MGR35	35		MEGA13N	MEGA10E
MGR42	42		MEGA16N	MEGA13E
MGR46	46		MEGA20N	

Model	Wrench Diameter ød	Body Model				
		MEGA NEW BABY CHUCK	MEGA DOUBLE POWER CHUCK	NEW Hi- POWER MILLING CHUCK	MEGA PERFECT GRIP	MEGA ER GRIP
MGR 30L	30					MEGAER16
MGR 35L	35					MEGAER20
MGR 42L	42		MEGA16D/DS-□A (BBT40, HSK-A63/F63)			MEGAER25
MGR 43L	43			HMC16S		
MGR 46L	46		MEGA16D/DS (BBT30/50, HSK-A40/A50/A100)		MEGA16DPG	
MGR 50L	50		MEGA20D/DS-□A (BBT40, HSK-A63/F63) MEGA20D/DS (BBT30, HSK-A50)	HMC20S		MEGAER32
MGR 55L	55			HMC25S (BT/BBT30)		
MGR 59L	59			HMC25S		
MGR 60L	60	MEGA25N	MEGA20D/DS (BBT50, HSK-A100)	HMC20	MEGA20DPG	
MGR 62L	62		MEGA25D/DS- □ A (BBT40, HSK-A63/F63)	HMC25 HMC32S (BT/BBT30)		
MGR 68L	68			HMC32S		
MGR 70L	70		MEGA25D/DS (BBT50, HSK-A100) MEGA32D/DS-□A (BBT40, HSK-A63/F63)		MEGA25DPG	
MGR 80L	80		MEGA32D/DS (BBT50, HSK-A100)	HMC32	MEGA32DPG	
MGR 85L	85			HMC42S		
MGR 99L	99		MEGA42D/DS	HMC42		
MGR105L	105		MEGA50D/DS			

MEGA TORQUE WRENCH (for MEGA CHUCK Series)

- Mega Wrench with torque limiter.

● Model Description

MGR 10 TL

- TL: With torque limiter
- 10: Wrench diameter
- MGR: Mega Wrench

Model	Wrench Diameter ød	Body Model		
		MEGA MICRO	MEGA NEW BABY CHUCK	MEGA E CHUCK
MGR10TL	10	MEGA3S		
MGR12TL	12	MEGA4S		
MGR12TLS ※				
MGR14TL	14	MEGA6S		
MGR14TLS ※				
MGR18TL	18	MEGA8S		
MGR20TL	20		MEGA 6N	
MGR20TLS ※				
MGR25TL	25		MEGA 8N	MEGA 6E
MGR25TLS ※				
MGR30TL	30		MEGA10N	MEGA 8E
MGR35TL	35		MEGA13N	MEGA10E
MGR42TL	42		MEGA16N	MEGA13E
MGR46TL	46		MEGA20N	

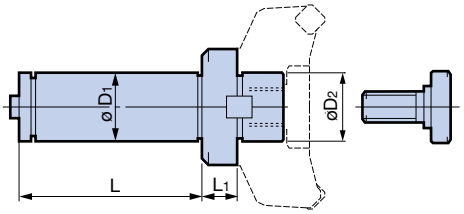
1. Use TLS models marked with ※ for ø3mm or smaller shank tools.

Adjustable
FACE MILL ARBOR (For NEW Hi-POWER MILLING CHUCK)

●An arbor for mounting JIS Standard B4114 face milling cutters.

● Model Description

AC 32 - F3
- F3: Face milling diameter inches
- 32: Body model size
- AC: Adjustable collet



Model	øD1	øD2	L	L1	Cutter diameter
AC32-F3	32	25.4	85	15.5	80 (3")
-F4		31.75		17.5	105 (4")
AC42-F3	42	25.4	105	16	80 (3")
-F4		31.75		18	105 (4")

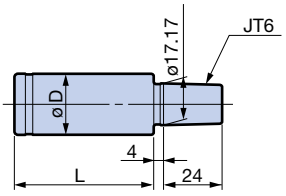
1. Axial Adjusting Screw is required for axial adjustment. Refer to G21
2. Use JIS B4114 face milling cutters.

JACOBS TAPER ARBOR (For NEW Hi-POWER MILLING CHUCK)

●An arbor for mounting Jacobs taper holders such as keyless chucks.

● Model Description

C 20 - JT6
- JT6: Jacobs Taper No.
- 20: Body model size
- C: Collet



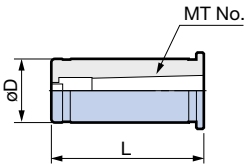
Model	øD	L
C20-JT6	20	80
C25-JT6	25	85
C32-JT6	32	93
C42-JT6	42	107

MORSE TAPER HOLDER (For NEW Hi-POWER MILLING CHUCK)

●A holder for mounting Morse taper shank drills or reamers.

● Model Description

C 20 - MT1
- MT1: Morse Taper No.
- 20: Body model size
- C: Collet



Model	MT No.	øD	L
C20-MT1	MT1	20	60
-MT2	MT2		72
C25-MT1	MT1	25	60
-MT2	MT2		72
C32-MT1	MT1	32	59.5
-MT2	MT2		72
-MT3	MT3		90
C42-MT1	MT1	42	59.5
-MT2	MT2		72
-MT3	MT3		90
-MT4	MT4		114

Coolant nut

BABY PERFECT SEAL PAT. (for NEW BABY CHUCK) Clamping diameter: ø3 - ø20

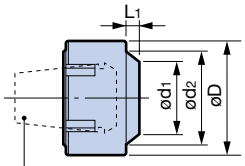
Coolant Pressure 7MPa

● Model Description

BPS 6 - 03035

- 03035: Clamping diameter: ø3 - ø3.5
- 6: Body model size
- BPS: Abbreviation of BABY PERFECT SEAL

With PS Ring　　Without PS Ring



New Baby Collet (NBC)

No coolant collet required!

● Unique concept of sealing function.
Higher pressure coolant provides stronger contact of the PS Ring to the tool shank and increases sealing performance.

Model	øD	ød1	ød2	L1	Compatible tool shank diameter	Collet Model
BPS 6-03035	20	11.2	14.7	2.3	3 - 3.5	NBC 6- 3 - 3.75
-0304					3 - 4	- 3 - 4.25
-04045		12.2			4 - 4.5	- 4 - 4.75
-0405					4 - 5	- 4 - 5.25
-05055		13.2			5 - 5.5	- 5 - 5.75
-0506					5 - 6	- 5 - 6
BPS 8-03035	25	12.2	19.2	3.9	3 - 3.5	NBC 8- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045		13.2			4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2			5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2		3.4	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2			7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8
BPS10-03035	30	12.2	23.9	3.9	3 - 3.5	NBC10- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045		13.2			4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2			5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2		4.3	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2			7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8.5
-08085		18.4		3.5	8 - 8.5	- 8 - 9
-0809					8 - 9	- 8 - 9.5
-09095		19.2			9 - 9.5	- 9 - 10
-0910					9 - 10	- 9 - 10

Model	øD	ød1	ød2	L1	Compatible tool shank diameter	Collet Model
BPS13-03035	35	12.2	28.7	4.3	3 - 3.5	NBC13- 3 - 4.5
-0304					3 - 4	- 3 - 4.5
-04045		13.2			4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2			5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2		4.6	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2			7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8.5
-08085		18.4		4.9	8 - 8.5	- 8 - 9
-0809					8 - 9	- 8 - 9.5
-09095		19.4			9 - 9.5	- 9 - 10
-0910					9 - 10	- 9 - 10.5
-10105		20.3		4.2	10 - 10.5	-10 - 11
-1011					10 - 11	-10 - 11.5
-11115		21.2			11 - 11.5	-11 - 12
-1112					11 - 12	-11 - 12.5
-12125		22.2			12 - 12.5	-12 - 13
-1213					12 - 13	-12 - 13

1. One PS Ring is included.
For "Jet-Through" application by removing the PS Ring, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

PS Ring PAT.

For Through Tools

Specially designed sealant is used inside the PERFECT SEAL.

(The PS Ring must be replaced if damage thereto is causing coolant to leak.)

Model	Body Model	Model	Body Model	Model	Body Model
PS-0304	BPS□-03035,0304	**PS-0809**	BPS□-08085,0809	**PS-1314**	BPS□-1314
0405	04045,0405	**0910**	09095,0910	**1415**	1415
0506	05055,0506	**1011**	10105,1011	**1516**	1516
0607	06065,0607	**1112**	11115,1112	**1617**	1617
0708	07075,0708	**1213**	12125,1213	**1718**	1718
				1819	1819
				1920	1920

1 bag/5 pcs (same size)

Coolant nut

BABY PERFECT SEAL PAT. (for NEW BABY CHUCK) Clamping diameter: ø3 - ø20

Coolant Pressure 7MPa

● Model Description

BPS 16 - 03035

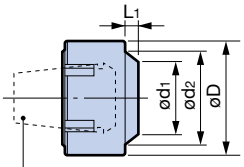
- 03035: Clamping diameter: ø3 - ø3.5
- 16: Body model size
- BPS: Abbreviation of BABY PERFECT SEAL

Coolant through tool

With PS Ring

Jet Through

Without PS Ring



New Baby Collet (NBC)

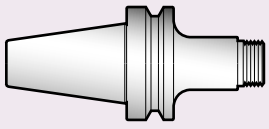
Model	øD	ød1	ød2	L1	Compatible tool shank diameter	Collet Model
BPS16-03035	42	12.2	34.4	4.0	3 - 3.5	NBC16- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045		13.2			4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2			5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2		4.3	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2			7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8.5
-08085		18.4		4.6	8 - 8.5	- 8 - 9
-0809					8 - 9	- 8 - 9.5
-09095		19.4			9 - 9.5	- 9 - 10
-0910					9 - 10	- 9 - 10.5
-10105		20.2		5.1	10 - 10.5	-10 - 11
-1011					10 - 11	-10 - 11.5
-11115		21.2			11 - 11.5	-11 - 12
-1112					11 - 12	-11 - 12.5
-12125		22.2		4.1	12 - 12.5	-12 - 13
-1213					12 - 13	-12 - 13.5
-1314		24.2			13 - 14	-13 - 14.5
-1415		25.2			14 - 15	-14 - 15.5
-1516		26.2			15 - 16	-15 - 16

Model	øD	ød1	ød2	L1	Compatible tool shank diameter	Collet Model
BPS20-03035	46	12.2	38.3	4.0	3 - 3.5	NBC20- 3 - 4
-0304					3 - 4	- 3 - 4.5
-04045		13.2			4 - 4.5	- 4 - 5
-0405					4 - 5	- 4 - 5.5
-05055		14.2			5 - 5.5	- 5 - 6
-0506					5 - 6	- 5 - 6.5
-06065		15.2		4.3	6 - 6.5	- 6 - 7
-0607					6 - 7	- 6 - 7.5
-07075		16.2			7 - 7.5	- 7 - 8
-0708					7 - 8	- 7 - 8.5
-08085		18.4		4.6	8 - 8.5	- 8 - 9
-0809					8 - 9	- 8 - 9.5
-09095		19.4			9 - 9.5	- 9 - 10
-0910					9 - 10	- 9 - 10.5
-10105		20.2		5.1	10 - 10.5	-10 - 11
-1011					10 - 11	-10 - 11.5
-11115		21.2			11 - 11.5	-11 - 12
-1112					11 - 12	-11 - 12.5
-12125		22.2			12 - 12.5	-12 - 13
-1213					12 - 13	-12 - 13.5
-1314		24.2		5.2	13 - 14	-13 - 14.5
-1415		25.2			14 - 15	-14 - 15.5
-1516		26.2			15 - 16	-15 - 16.5
-1617		27.2		4.6	16 - 17	-16 - 17.5
-1718		28.2			17 - 18	-17 - 18.5
-1819		29.2			18 - 19	-18 - 19.5
-1920		30.2			19 - 20	-19 - 20

1. One PS Ring is included.

For "Jet-Through" application by removing the PS Ring, it is recommended to use the largest clamping range of the nut corresponding to the tool shank diameter.

● Example Attach /NL (Nut less) to the end of the holder model number and order the NBC Collet/BABY PERFECT SEAL separately.



NEW BABY CHUCK Model + NL

BT30-NBS6-45/NL

(NL at the end of the model number means nut not attached)

+

NBC Collet

NBC6-3AA

+

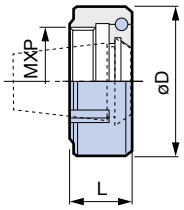
BABY PERFECT SEAL Model

BPS6-03035

New Baby Nut PAT. (for NEW BABY CHUCK)

● Thrust ball bearings prevent torsion on the collet. Accurate and smooth tightening is achieved.

With mechanism preventing thrust ball projection due to centrifugal force



Model	øD	L	M x P	Body Model
NBN 6	20	9.5	12 x 1	NBS 6
NBN 8	25	11	16 x 1	NBS 8
NBN 10	30	12.5	21 x 1	NBS 10
NBN 13	35	16	26 x 1	NBS 13
NBN 16	42	16	32 x 1	NBS 16
NBN 20	46	16	36 x 1	NBS 20

Tap Adjusting Screw

• For synchronized tapping.

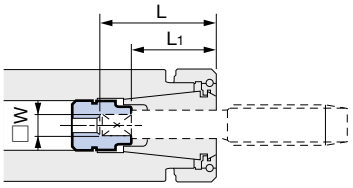


Fig. 1

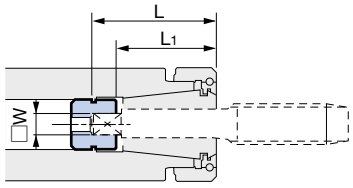
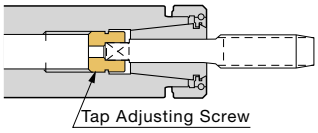


Fig. 2

Mounted in the New Baby Chuck body, the Tap Adjusting Screw holds the square of the tap and receives the tapping torque.



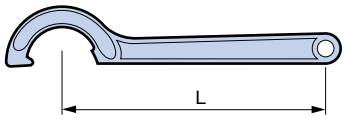
Model	Fig.	Tap size	L	L1	□W	Body Model
NBA10-M 8	1	M 8	34	26	5	NBS10
-M10		M 10	36	27	5.5	
NBA13-M 8		M 8	36	28	5	NBS13
-M10	1	M 10	37	28	5.5	
-M12		M 12	40	28	6.5	
-M14	2	M 14	40	34	8	
NBA16-M10		M 10	40	29	5.5	NBS16
-M12	1	M 12	42	29.5	6.5	
-M14		M 14	44	32	8	
-M16	2	M 16	47	38	10	

Model	Fig.	Tap size	L	L1	□W	Body Model
NBA20-M12	1	M 12	42	30	6.5	NBS20
-M14		M 14	45	34	8	
-M16		M 16	49	37	10	
-M18 ※	2	M 18	53	39	11	
-M20 ※		M 20			12	

1. Cannot be used with machines without synchronized tapping function.
2. L and L1 are dimensions when NBN nut is used.
3. Use a tap with shank length L1 or more.
4. For ※ models, shrink of the collet causes interference with the Tap Adjusting Screw. Use only nominal size of the collets, i.e. NBC20-14.5AA cannot be used with NBA20-M18 to hold M18 JIS tap, and NBC20-15.5AA cannot be used with NBA20-M20 to hold M20 JIS tap.
5. Cannot be used with NEW BABY ENDMILL COLLET or FONBC Coolant Collet.

New Baby Wrench (for NEW BABY CHUCK)

● To achieve the ideal tightening force for the NEW BABY CHUCK, the length and hook part of this wrench have been specially designed.



Model	L	Nut Model
NBK 6	65	NBN 6/BPS 6
NBK 8	94	NBN 8/BPS 8
NBK 10	104	NBN10/NBON10/BPS10
NBK 13	113	NBN13/BPS13
NBK 16	122	NBN16/BPS16
NBK 20	131	NBN20/BPS20

TORQUE WRENCH (for NEW BABY CHUCK)

● Wrench with torque limiter

Model		Nut Model
NBK 6TL	**NBK 6TLS ※**	NBN 6/BPS 6
NBK 8TL	**NBK 8TLS ※**	NBN 8/BPS 8
NBK10TL		NBN10/BPS10
NBK13TL		NBN13/BPS13
NBK16TL		NBN16/BPS16
NBK20TL		NBN20/BPS20

1. Use TLS models marked with ※ for ø3mm or smaller shank tools.

PULLSTUD BOLT

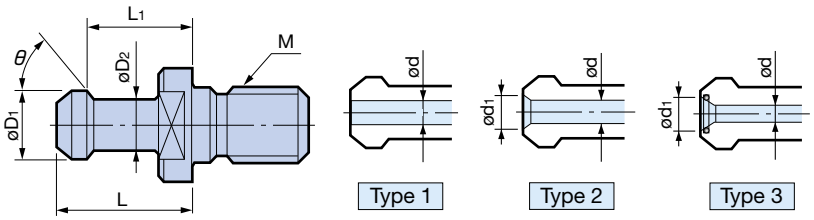
High-quality, durable PULLSTUD BOLT using highly reliable material.

Caution

- Only use pullstud bolts made by BIG.
  Accuracy is not guaranteed if poor-quality pullstud bolts are used.

When Purchasing

Dimensions of pullstud bolts vary depending on models or specifications of the machines. Be sure to confirm them by referring to the machine specification sheet.
Machines with coolant-through-spindle capability in particular may have different sealing methods depending on coolant discharge pressure even if they have the same model number, thus different pullstud bolt models may be required. Please attach a copy of the pullstud bolt drawing from the machine specification sheet when ordering.



Taper	Model	Standard	øD1	øD2	L	L1	θ	ød	ød1	Type	Machine manufacturer	Remarks
BBT30 BT30 (M12)	**30PMG**	JIS	12	8	23.4	18.4	75			—		
	30PMGH							4.0		1		
	30PMGH2							2.5	5.5	3	YASDA	
	P30T-1MG	MAS-I	11	7	23	18	45			—		
	P30T-1MGH							2.5		1		
	P30T-2MG	MAS-II	11	7	23	18	60			—		
	P30T-2MGH							2.5		1		
	30P-1MGH	Manufacturer standard	11	8	23	18	45	4.0		1	FANUC	
	P30T-2MGH3			7.5			60	2.5		1	BROTHER	
	PMO30MG			7			45		6.5	3	DMG MORI	
	PMF30-1MG		14	10	22	17				—	MAKINO SEIKI	
BBT40 BT40 (M16)	**40PMG**	JIS	19	14	29	23	75			—		
	40PMGH							7.0		1		
	40PMGH2										MAKINO	Ground end face
	40PMGH7							4.0	5.0	2	OKUMA	Ground end face
	40PMGH4A							7.0		1	YASDA	With ø3 side hole
	40PMGH11								10.0	3	YASDA	
	40PMGH12							5.0		1	MITSUI SEIKI	
	P40T-1MG	MAS-I	15	10	35	28	45			—		
	P40T-1MGHA							3.0		1		
	P40T-1MGH1							3.5	5.5	2		
	P40T-1MGH4							3.0	7.0	3	OKUMA	
	P40T-1MGH7							4.0		1	MAKINO	Ground end face
	P40T-1MGH8A							3.0	7.0	3	JTEKT	
	P40T-2MG	MAS-II	15	10	35	28	60			—		
	P40T-2MGHA							3.0		1		
	P40T-2MGH8							3.5	5.5	2		
	P40T-2MGH1							3.0	7.0	3		
	MP40MG	Manufacturer standard	15	10	25	18	90			—	MITSUI SEIKI	
	POM40MG				35	28				—	DMG MORI, SHIZUOKA	
	PMO40MG		19	14	29	23	75	7.0	10.0	3	DMG MORI	
	PYN40MG		18.8	12.45	19.11	14.03	45			1	MAZAK	

1. Types marked with – models are without holes.

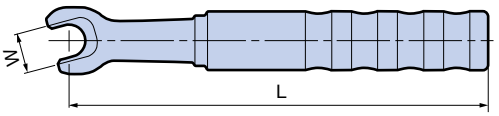
<Sizes and standards other than the above are also available.>

BIG has manufactured more than 450 types of PULLSTUD BOLTs.
Contact us for PULLSTUD BOLTs of other sizes and standards.

MEGA PULLSTUD BOLT

MEGA PULLSTUD BOLTs have **MG** in the model.
MEGA PULLSTUD BOLTs use tool steel for increased tensile strength.
We recommend MEGA PULLSTUD BOLTs for use with Dual Contact BIG-PLUS spindles.

PULLSTUD BOLT Wrench



Taper	Model	W	L	Compatible Pullstud Bolt
BBT30 BT30	**PLW30**	13	140	JIS, MAS-I, MAS-II 30P-1MGH, P30T-2MGH3, PMO30MG
BBT40 BT40	**PLW-40P**	19	200	JIS
	PLW-P40T			MAS-I, MAS-II, POM40MG
	PLW-PMO40			PMO40MG
	PLW-PYN40			PYN40MG

1. As well as the compatible PULLSTUD BOLT models, those with identical exterior shapes can also be used.

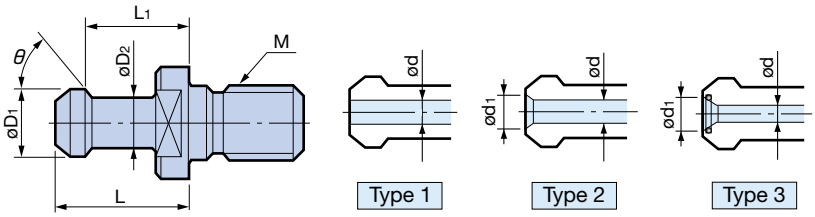
High-quality, durable PULLSTUD BOLT using highly reliable material.

Caution

- Only use pullstud bolts made by BIG. Accuracy is not guaranteed if poor-quality pullstud bolts are used.

When Purchasing

Dimensions of pullstud bolts vary depending on models or specifications of the machines. Be sure to confirm them by referring to the machine specification sheet.
Machines with coolant-through-spindle capability in particular may have different sealing methods depending on coolant discharge pressure even if they have the same model number, thus different pullstud bolt models may be required. Please attach a copy of the pullstud bolt drawing from the machine specification sheet when ordering.



Taper	Model	Standard	øD1	øD2	L	L1	θ	ød	ød1	Type	Machine manufacturer	Remarks
BBT50 BT50 (M24)	**50PH**	JIS	28	21	34	25	75	10.0		1	MAKINO, KITAMURA	Ground end face
	50PMGH											
	50PH2											
	P50T-1	MAS-I	23	17	45	35	45			–		
	P50T-1MG											
	P50T-1H							8.0		1		
	P50T-1MGH											
	P50T-1H1							6.0			MAKINO	Ground end face
	P50T-1H4								10.4	3	JTEKT	
	P50T-1H5							5.5	11.2		YASDA	
	P50T-1H8							8.0	11.0		DMG MORI	Ground end face
	P50T-1H19							4.5		1	TOSHIBA	
	P50T-2	MAS-II	23	17	45	35	60			–		
	P50T-2MG											
	P50T-2H							8.0		1		
	P50T-2MGH25							6.0				
	P50T-2H4							8.0	11.0	3	DMG MORI	Ground end face
	P50T-2H14							6.0	7.0	2	OKUMA	Ground end face
	Ground end face											
	P50T-2H11								9.5	3		
	P50T-2H15								10.4		JTEKT	
	P50T-2H16							5.5	11.2		YASDA	
	MP50	Manufacturer standard	24	18	31	23	90			–	MITSUI SEIKI	
	MP50H1							8.0		1		
	MP50H3							7.0	11.2	3		For high pressure
	POM50		23	17	45	35	90			–	DMG MORI, OKK, SHIZUOKA	
	POM50H							8.0		1	DMG MORI	
	POM50H1								11.0	3		
	POM50H8							6.0		1	OKK	End face O-ring
	PYN50-5		28.96	20.83	25.2	17.58	45	10.0		1	MAZAK	Ground end face

1. Types marked with – models are without holes.

<Sizes and standards other than the above are also available.>

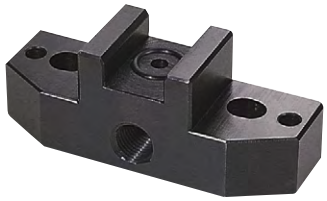
BIG has manufactured more than 450 types of PULLSTUD BOLTs.
Contact us for PULLSTUD BOLTs of other sizes and standards.

MEGA PULLSTUD BOLT

MEGA PULLSTUD BOLTs have **MG** in the model.
MEGA PULLSTUD BOLTs use tool steel for increased tensile strength.
We recommend MEGA PULLSTUD BOLTs for use with Dual Contact BIG-PLUS spindles.

Stop Block (for Angle Head)

Setup Information



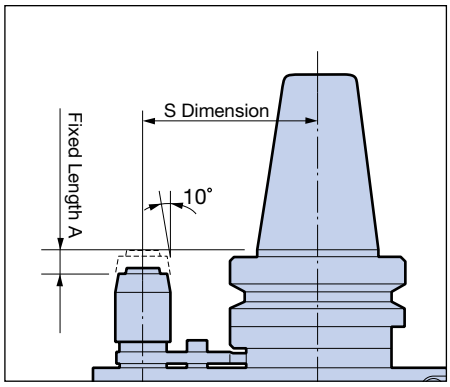
The BIG Angle Head utilizes a Locating Pin that engages with the Stop Block, which is mounted on the machine spindle cover to prevent radial movement of the Angle Head during operation. Therefore, it is necessary to use a Stop Block with the proper dimensions to match the Locating Pin of the BIG Angle Head.
Please contact us if using an existing Stop Block.

Standard setup of the Locating Pin

Please note that the "S" dimension and the Fixed Length "A" are not adjustable by the user. If the standard dimensions shown below are not suitable for your machine, please contact us.

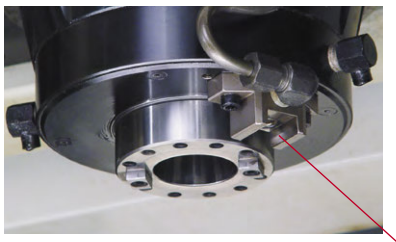
<S Dimension>
Distance from center of Angle Head body to center of Locating Pin

<Fixed Length A>
Distance in axial direction from the machine spindle gauge line to the smaller end of the taper of the Locating Pin, when the Locating Pin is properly engaged in the Stop Block.

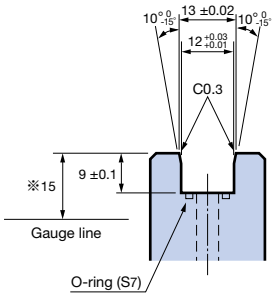


	S Dimension	Fixed Length A
BBT40 / BDV40 / HSK-A63	65	8
BBT50 / BDV50 / HSK-A100	110	6

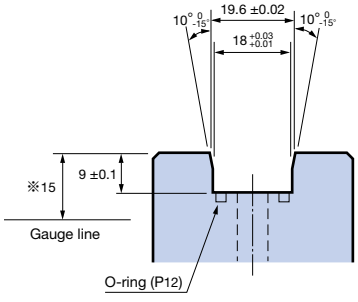
Stop Block dimensions



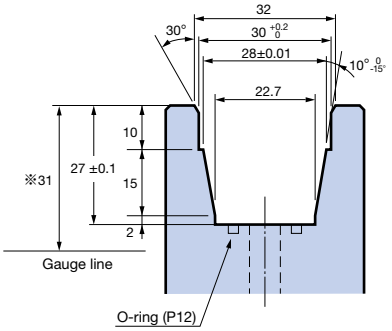
1. When ordering, provide us with the manufacturer, model and specifications of the machine tool, as well as the BIG product model number.
2. Consult us regarding Stop Block and mounting dimensions.
3. Check with the machine tool manufacturer for the shape of the Stop Block, as it will vary for each machine tool model.
4. The dimension from the spindle gauge line to the top of the Stop Block (※) is our default length.



BBT30



BBT40 BBT50 (S = 80)
BDV40 BDV50 (S = 80)
HSK-A63 HSK-A100 (S = 80)



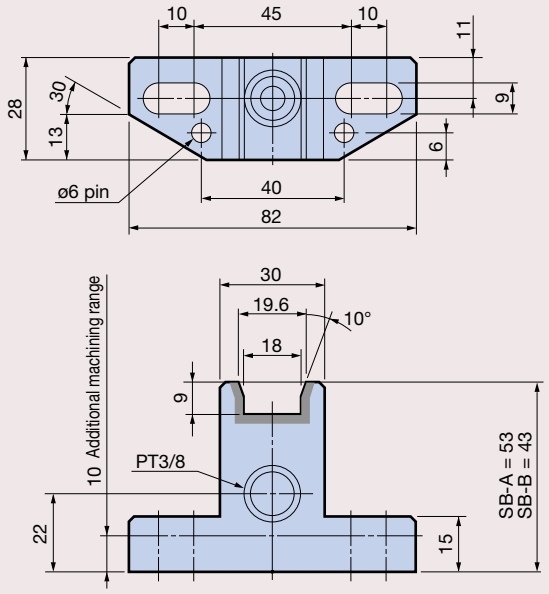
BBT50 (S = 110)
BDV50 (S = 110)
HSK-A100 (S = 110)

Semi-Finished Stop Block

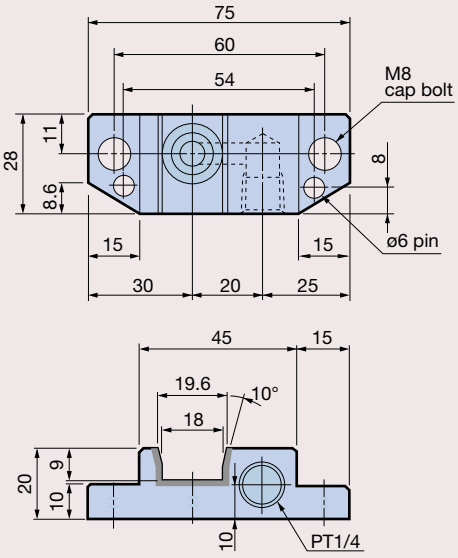
Semi-Finished Stop Blocks are semi-complete Stop Blocks with groove shapes which mate with a BIG Locating Pin. When a Stop Block cannot be purchased from the machine manufacturer, modify the block bottom surface to adjust its height as necessary.

<BBT40/BDV40/HSK-A63>
<BBT50/BDV50/HSK-A100> (S=80)

● SB-A Type/SB-B Type



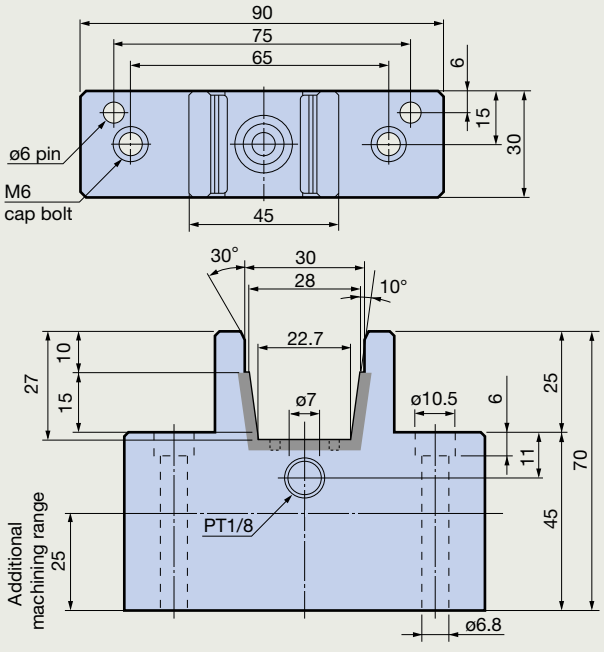
● SB-F Type



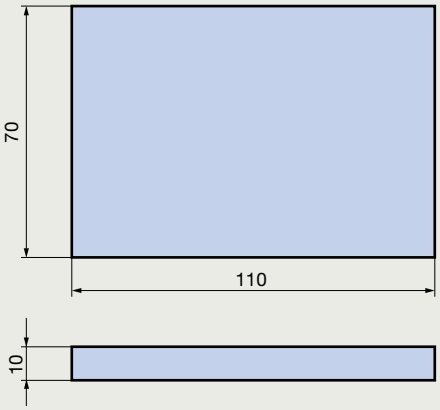
1. Adjust the height of the Stop Block by milling the bottom surface.
2. Press-fit dowel pins (ø6 x 2) for fixing.

<BBT50/BDV50/HSK-A100> (S = 110)

● SB-G Type



● SB-E Type



1. Adjust the height of the Stop Block by milling the bottom surface.
2. Press-fit dowel pins (ø6 x 2) for fixing.

Caution: The ▒▒ part is hardened (HRC45 - 50), but the other parts can be machined.

Stop Block (High Spindle/Hi-Jet Holder)

Setup Information

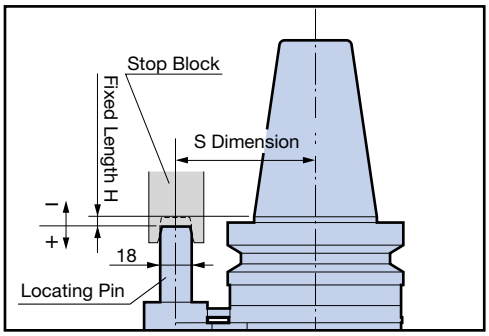
● Preparing the Locating Pin and Stop Block

The High Spindle and Hi-Jet Holder utilize a Locating Pin that engages with the Stop Block, which is mounted to the machine spindle cover. Please refer to the following instructions to select/adjust the Locating Pin, and to prepare for the Stop Block.

Standard setup of the Locating Pin

<S Dimension>
Distance from center of holder to center of Locating Pin.
Note that you cannot adjust this dimension yourself.

	S Dimension
BDV / DV / BBT40	65
BDV / DV / BBT50	80



<Fixed Length H>
Distance in axial direction from the machine spindle gauge line to the Stop Block groove bottom. You can adjust this dimension yourself.

Three types of Locating Pin models are available for use. LP-A, LP-B, LP-C. As shown in the table below, the different Fixed Length H ranges for each Locating Pin can be adjusted. When ordering, specify the Fixed Length H. When not specified, the BIG standard 6 mm setting will be applied.

HIGH SPINDLE

	BDV40	BDV50	BBT40	BBT50
LP-A	-9/ +6	-4/+11	-24 / -9	-9/ +6
LP-B	+6/+21	+11/+26	-9/ +6	+6/+21
LP-C	+21/+36	+26/+41	+6/+21	+21/+36

Hi-JET HOLDER

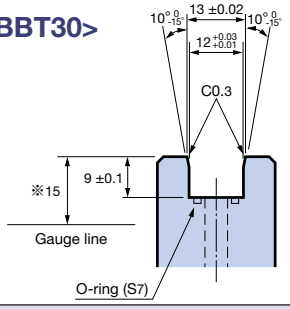
	DV40 BBT/BT40	DV50 BBT/BT50	DV40- OSL32N BBT40- OSL32N	DV50- OSL50N BBT50- OSL50N
LP-A	-6/ +9	-9/ +6	0/+15	+3/+18
LP-B	+9/+24	+6/+21	+15/+30	+18/+33
LP-C	+24/+39	+21/+36	+30/+45	+33/+48

Note: ☐ shows adjustment amount for the BIG standard setup specifications.

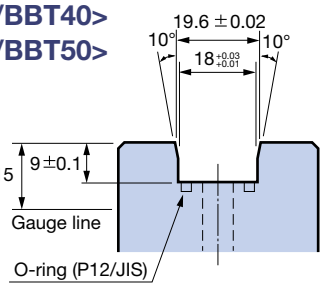
Stop Block Dimensions

The figures at right show proper groove dimensions for the Stop Blocks when using the High Spindle or Hi-Jet Holder. When ordering Stop Blocks from machine manufacturers, refer to these dimensions.

<BBT30>



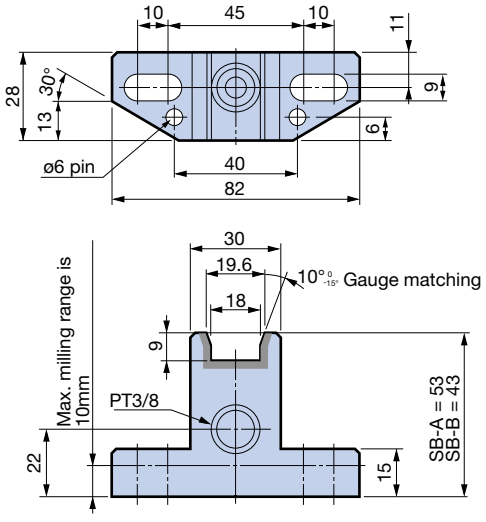
<BDV/DV/BBT40>
<BDV/DV/BBT50>



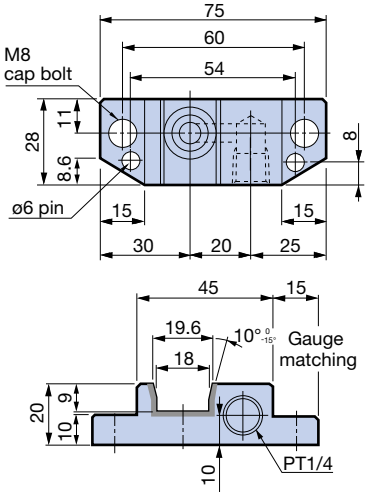
Semi-Finished Stop Block

Semi-Finished Stop Blocks have appropriate groove dimensions for use with the High Spindle and Hi-Jet Holder. You can adjust their height as necessary by machining the block bottom surface.
(Caution: The SB-F type cannot be adjusted for height.)
If Stop Blocks are unobtainable from machine manufacturers, a Semi-Finished Stop Block can be used.
Consult with the machine manufacturer for the selection, machining, and mounting of Semi-Finished Stop Blocks.

● SB-A/SB-B Type



● SB-F Type

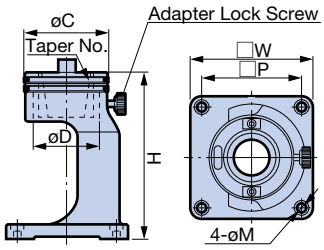


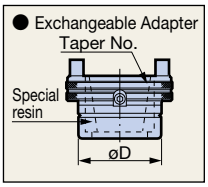
Caution: The ▒ part is hardened (HRC45 - 50), but the other parts can be machined.

PERIPHERALS

TOOLING MATE

● For mounting and removal of PULLSTUD BOLTs and tools!





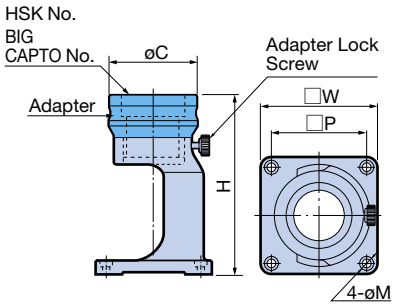
Model	Taper No.	øC	øD	H	□W	□P	øM	Adapter Model
TMS40-30	30	76	60	150	110	90	7 (for M6)	TMA40-30
-40	40							-40
TMS50-40	40	105	88	190	160	130	9 (for M8)	TMA50-40
-50	50							-50

1. One adapter is included with the body.
2. Adapters are also available separately.
3. Adapter Lock Screw is also available separately. (Model **RTM0615**)
4. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

Caution: Use after securely bolting to a workbench or surface plate.

[For HSK/BIG CAPTO SHANK]

● Unique needle roller clamping method.
The tool is safely fastened without damaging the taper.



Model	HSK No.	BIG CAPTO No.	øC	H	□W	□P	øM	Adapter Model
TMS40- 32R	32	—	76	165	110	90	7 (for M6)	TMA40- 32R
- 40R	40	C4	76	165				- 40R
- 50R	50	C5	76	165				- 50R
- 63R	63	C6	87	172				- 63R
TMS50- 80R	80	C8	114	215	160	130	9 (for M8)	TMA50- 80R
-100R	100	—	124	219				-100R

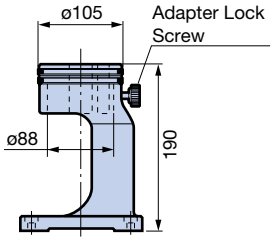
1. One adapter is included with the body.
2. Adapters are also available separately.
3. Adapter Lock Screw is also available separately. (Model: **RTM0615**)
4. The body (blue component) is compatible with other Tooling Mates as far as the first 2 digits of the model number are identical.
5. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

Caution: Use after securely bolting to a workbench or surface plate.

Tap Collet fastening jig

TC MATE

● Easy tap mounting and removal for Tap Collets TC8, TC12, TC20, and TC30!



Model **TCM50**

1. One adapter is included with the body.
2. Adapter is also available separately.
3. Adapter Lock Screw is also available separately. (Model: **RTM0615**)
4. The body (blue component) is compatible with other Tooling Mates as long as the first 2 digits of the model number are identical.
5. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

Caution: Use after securely bolting to a workbench or surface plate.

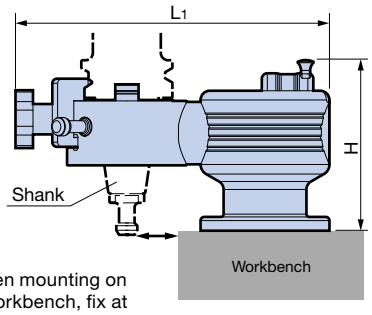
[Adapter]

Model **TCA50**

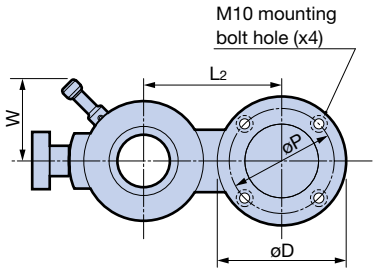
Exchangeable with existing adapter of your TMS50 Tooling Mate.

TOOLING MATE UNIVERSAL

● With flexible positions of vertical, horizontal and diagonal, tool setup time is drastically reduced.



When mounting on a workbench, fix at a location without interference with the pullstud bolt.



Model	Shank	L_1	L_2	øD	H	W	Mounting bolt hole		Weight (kg)
							øP	Size	
TMU50-50	BT50, BBT50	340	150	140	185	89	114	M10	20

Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included. The max. acceptable length of the bolt is 50mm.
Caution: Use after securely bolting to a workbench or surface plate.

±90° tilt Solidly fixable at every 45°

The holder can be securely fixed at inclinations of every 45°.
Work high in loads such as tightening pullstud bolts can be securely performed.

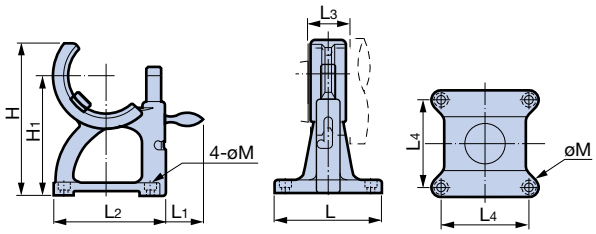
0° ±45° ±90°

360° rotation Ideal for replacing inserts

Mounting is easy and fast, as inserts can be replaced while rotating the holder 360°. (indexable at every 45°)

HOLDER LOCK

● Tool clamp stand exclusive for horizontal mode.



Prevents tools from falling into the chuck when mounting small-diameter tools.

Model	Taper No.	L	L_1	L_2	L_3	L_4	H	H_1	øM	Fixing cap
HL-BT30	BBT/BT30	82	31	82	26	65	120	100	7 (for M6)	**HL-30CP**
HL-BT40	BBT/BT40	98	33	98	32	80	140	115		**HL-40CP**
HL-BT50	BBT/BT50	124	43	131	44	100	178	140	9 (for M8)	**HL-50CP**

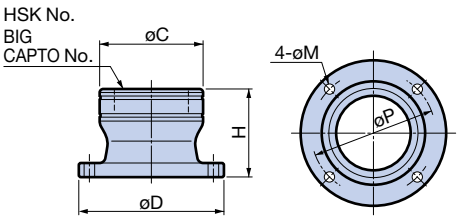
1. Fixing caps are also available separately. 2. HOLDER LOCKs are exclusive for BBT/BT shank holders.
3. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

Caution: Use after securely bolting to a workbench or surface plate.

For HSK/BIG CAPTO SHANK

KOMBI GRIP

● A unique clamping method using 2-way clutch needle rollers on the flange periphery.
The tool can be safely fastened without damaging the taper.



Model	HSK No.	BIG CAPTO No.	øC	øD	H	øP	øM
KG 25R	25	—	48	79	65	62	7 (for M6)
32R	32	—	55	85		69	
40R	40	C4	63	93	70	77	
50R	50	C5	75	105		89	
63R	63	C6	88	123.5	75	105.5	9 (for M8)
80R	80	C8	107	142	90	124	
100R	100	—	127	162	100	144	

1. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

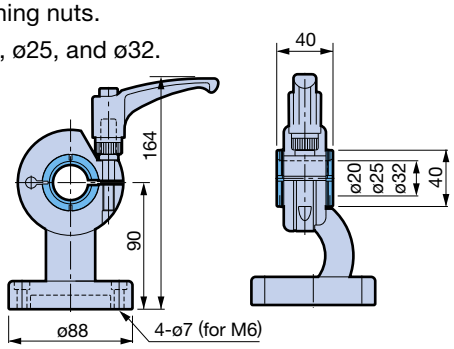
Caution: Use after securely bolting to a workbench or surface plate.

For ST SHANK

ST LOCK

● Fixes cylindrical shank tools, ideal for tightening nuts.
● Supports cylindrical shank diameters of ø20, ø25, and ø32.

Cylindrical Shank exclusive



Model	**STL40**

Advice

Also available for holders with small size interfaces including HSK-E25 and 32.

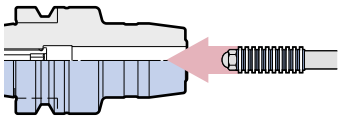
1. One sleeve each of ø20, ø25, and ø32 is included.
2. Do not clamp without a tool.
3. Cap bolts (4 pcs) for mounting on a workbench or surface plate are not included.

Caution: Use after securely bolting to a workbench or surface plate.

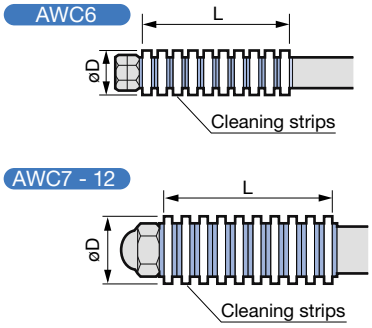
<For holder bores> Cleaning tool

α WIPER CLEANER (for chuck bore: ø6 - ø12)

● Developed for cleaning the clamping bores such as hydraulic chucks and shrink fit holders.
Use a cleaner matching the chuck bore size.



Ideal for small-diameter bores! Insert and extract the cleaner to remove inner chips, particles and oil.

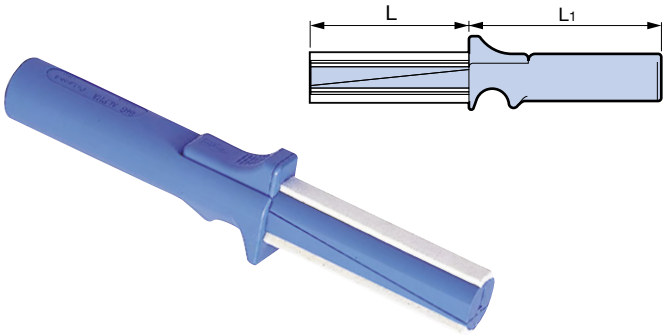


Model	øD	L
AWC 6	6	20
AWC 7	7	
AWC 8	8	
AWC 9	9	26
AWC10	10	
AWC11	11	31
AWC12	12	

1. øD in table = supported holder bore ød

TK CLEANER PAT. (For chuck bores: ø13 - ø42)

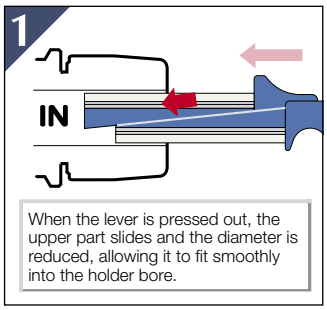
● Wipes off particles and oil in chuck bore and keeps your machining safe and secure.

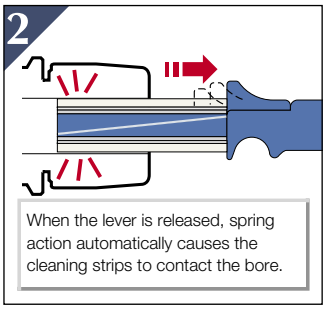


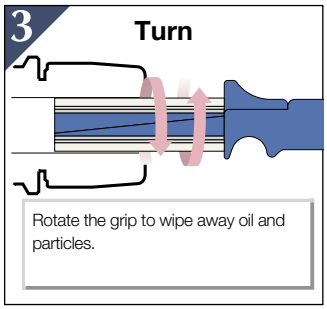
For MEGA DOUBLE POWER CHUCK/
NEW Hi- POWER MILLING CHUCK/HYDRAULIC CHUCK

Model	Supported holder bore ød	L	L_1	Number of cleaning strips
TKC13	13	60	106	2
14	14			
15	15			
16	16	70		
18	18			
20	20			
25	25	80		3
32	32	100	121	4
40	40	105		
42	42			

※ Select in accordance with the chuck bore







Automatic cleaning tools, convenient for factory automation.

For spindle flange face

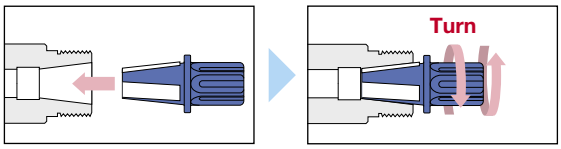
Automatically cleans the spindle flange face of BIG-PLUS machines.
Enables stabler DUAL CONTACT machining.

For details, A171

<For holder bores> Cleaning tool

α Taper Cleaner

● Removes oil and particles from the chuck bore taper.



For MEGA MICRO CHUCK

Model	Body Model
SC-NBC3S	MEGA3S
SC-NBC4S	MEGA4S
SC-NBC6S	MEGA6S
SC-NBC8S	MEGA8S

For MEGA NEW BABY CHUCK/ NEW BABY CHUCK

Model	Body Model
SC-NBC 6	MEGA 6N / NBS 6
SC-NBC 8	MEGA 8N / NBS 8
SC-NBC10	MEGA10N / NBS10
SC-NBC13	MEGA13N / NBS13
SC-NBC16	MEGA16N / NBS16
SC-NBC20	MEGA20N / NBS20

For MEGA E CHUCK

Model	Body Model
SC-MEC 6	MEGA 6E
SC-MEC 8	MEGA 8E
SC-MEC10	MEGA10E
SC-MEC13	MEGA13E

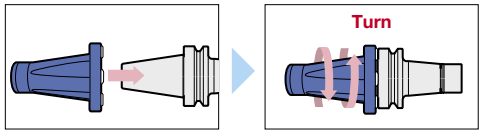
For ER CHUCK

Model	Body Model
SC-MER11	MEGA ER11
SC-MER16	MEGA ER16
SC-MER20	MEGA ER20
SC-MER25	MEGA ER25
SC-MER32	MEGA ER32

<For holder tapers> Cleaning tool

α TOOLING CLEANER

● The taper and flange face are cleaned simultaneously.



Model	Shank
SCE-30	BBT30 / BT30
SCE-40	BBT40 / BT40

SPINDLE CLEANER

● Completely removes oil and particles from machine spindle and holder bore!

■ For ISO Taper Spindle

Model	Taper
SC20	BBT/BT20 (NT20)
SC30	BBT/BT30 (NT30)
SC40	BBT/BT40 (NT40)
SC45	BBT/BT45 (NT45)
SC50	BBT/BT50 (NT50)

■ For Morse Taper Spindle

Model	Taper
SC1	MT1
SC2	MT2
SC3	MT3
SC4	MT4
SC5	MT5
SC6	MT6

1. Also available for the bore of Morse taper holders.

■ For HSK Spindle

Model	Spindle
SC-HSK 32	HSK-A 32
40	HSK-A 40
50	HSK-A 50
63	HSK-A 63
80	HSK-A 80
100	HSK-A100

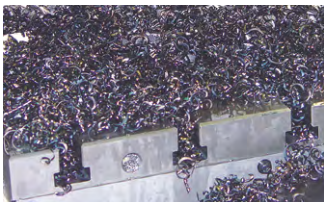
Model	Spindle
SC-HSK25E	HSK-E 25
32E	HSK-E 32
40E	HSK-E 40
50E	HSK-E 50

T-SLOT CLEAN

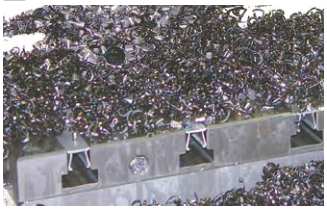
Set in the T-slot on machine tables to prevent chips from being packed.

- Flattens surface of the table and aids quick removal of chips.
- Three sizes of groove widths are available to match the machine table. (T-slot widths 14/18/22mm)

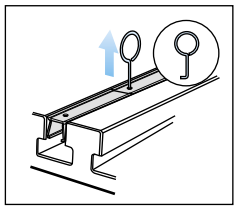
■ Before use



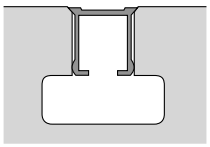
■ After use

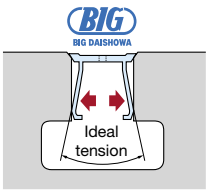


Removal pin included

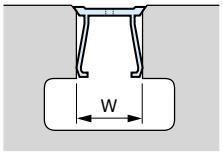


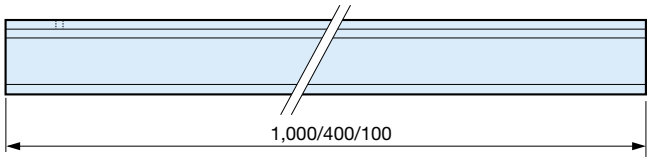
Other manufacturers





Due to the uniquely angled shape of the table T-slot contact part, slipout is prevented and chips are completely shut out.





※ Cut for use, for dimensions not listed above.

Standard set

Set Model	W	Set contents
TS14-S	14	400mm x 4 pcs 100mm x 4 pcs Removal pin x 1 pc
TS18-S	18	
TS22-S	22	

400mm set

Set Model	W	Set contents
TS14-400L-100P	14	400mm x 100 pcs Removal pin x 10 pcs
TS18-400L-100P	18	
TS22-400L-100P	22	

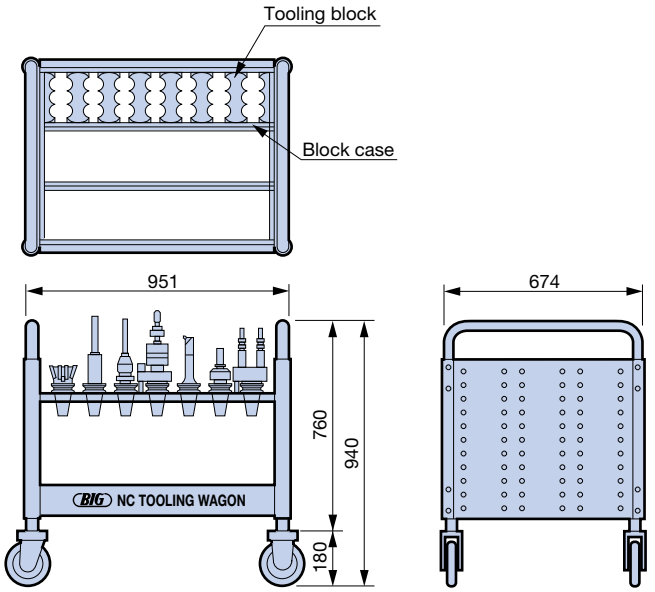
Ideal for T-slots in large machines!

1,000mm set

Set Model	W	Set contents
TS18-1000L-10P	18	1,000mm x 10 pcs Removal pin x 1 pc
TS22-1000L-10P	22	

TOOLING WAGON

● Tools with various types and sizes of shank can be stored.



Standard type (With 3 block case sets <30 tooling blocks>)

Model	Number of tools storable with one wagon	Weight (kg)
TW-1	BT50, BT45, NT50, NT45: 7 tools in 1 row / 21 tools in 3 rows	43.8
	BT40, BT35, BT30, NT40, NT35, NT30: 18 tools in 1 row / 54 tools in 3 rows	

Block case (Optional) <With 10 tooling blocks>

Model	Number of tools storable in 1 block case row (10 pcs)
TW-B	For BT50 Shank.....7 tools
	For BT40 Shank.....18 tools
	For BT30 Shank.....18 tools

MEASURING TOOLS

SENSORS

POINT MASTER PRO

The 3-dimensional touch sensor that detects touch-position instantaneously.

PMPC Series

With battery alarm function

- Instantaneously detects reference points even on non-conductive workpieces and machines!
- Notification of touchpoint with LED and beep.

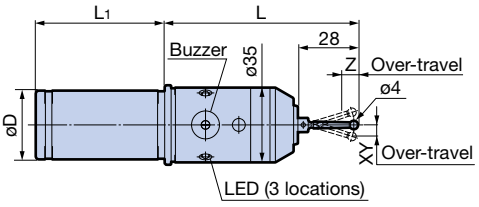
For all workpieces and machine tools

Notifies via LED

Notifies via buzzer

LED flashes to indicate that battery life is low

Cylindrical Shank Type



Model	øDh7	L	L1	Weight (kg)
PMPC-20	20	100	50	0.5
PMPC-32	32	90	60	0.7

1. **ST28-4R** stylus is included.

For stylus replacements, I4

BBT Shank Type (BIG-PLUS)

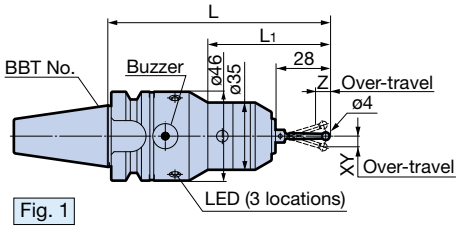


Fig. 1

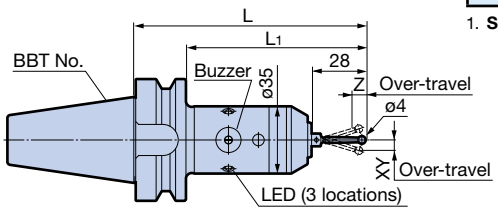


Fig. 2

DUAL CONTACT BIG-PLUS®

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

Model	Fig.	L	L1	Weight (kg)
BBT30-PMPC-115	1	115	63	0.8
BBT40-PMPC-120	2	120	93	1.3

1. **ST28-4R** stylus is included.

For stylus replacements, I4

Main Specifications

Repeatability	±1 μm (2 σ)	
Over-travel	XY ±12mm Z 5mm	
Measuring pressure	XY 0.4N Z 1.5N	
Battery	**PMPC-20, 32 BBT40-PMPC-120**	LR1 x 2P
	BBT30-PMPC-115	CR2 x 1

Battery life	**PMPC-20, 32 BBT40-PMPC-120**	140 continuous hours
	BBT30-PMPC-115	120 continuous hours

1. The specifications above are values when ST28-4R stylus is used.
2. Repeatability is affected by stylus length.
3. There is a delay of approx. 5μm in XY direction and 2μm in Z direction when the stylus contacts the workpiece measuring surface to illuminate the LED.

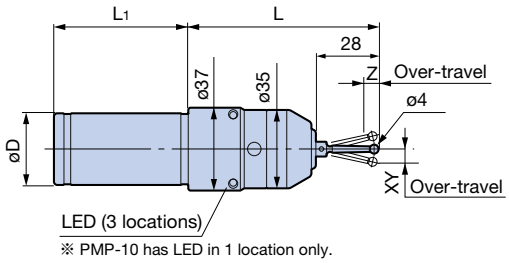
PMP Series

- Instantaneously detects reference points even on non-conductive workpieces and machines!
- Ideal for high-speed machining centers with ceramic bearings.

All Supported — For all workpieces and machine tools

LED — Notifies via LED

Cylindrical Shank Type



※ PMP-10 has LED in 1 location only.

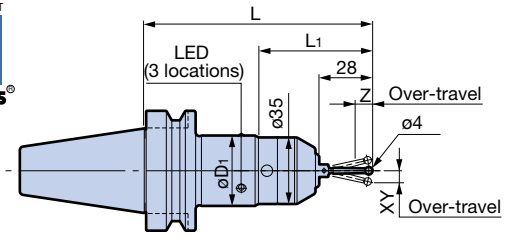
Model	øDh7	L	L1	Weight (kg)
PMP-10	10	75	49	0.4
PMP-20	20	90	50	0.5
PMP-32	32	80	60	0.6

1. **ST28-4R** stylus is included.

For stylus replacements, I4

BBT Shank Type

DUAL CONTACT BIG-PLUS®



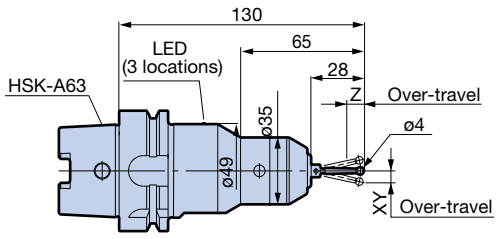
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

Model	øD1	L	L1	Weight (kg)
BBT30-PMP-115	46	115	63	0.8
BBT40-PMP-120	37	120	60	1.3

1. **ST28-4R** stylus is included.

For stylus replacements, I4

HSK-A63 Shank Type
(DIN 69893-1) (ISO 12164)

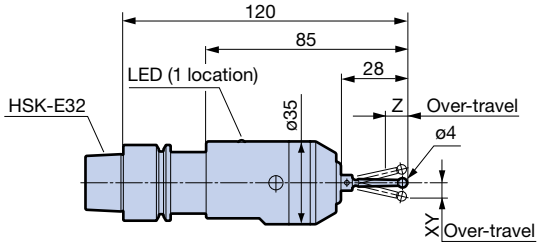


Model	Weight (kg)
HSK-A63-PMP-130	1.3

1. **ST28-4R** stylus is included.

For stylus replacements, I4

HSK-E32 Shank Type
(DIN 69893-5)



Model	Weight (kg)
HSK-E32-PMP-120	0.5

1. **ST28-4R** stylus is included.

Main Specifications

Repeatability	±1μm (2σ)	
Over-travel	XY ±12mm Z 5mm	
Measuring pressure	XY 0.4N Z 1.5N	
Battery	**PMP-10**	Panasonic lithium battery BR435 x 1P
	PMP-20, 32 **BBT40-PMP-120**	LR1 x 2P
	HSK-A63-PMP-130 **BBT30-PMP-115**	CR2 x 1
	HSK-E32-PMP-120	SR44 x 2P

Battery life	**PMP-10**	50 continuous hours
	PMP-20, 32 **BBT40-PMP-120**	50 continuous hours
	HSK-A63-PMP-130 **BBT30-PMP-115**	90 continuous hours
	HSK-E32-PMP-120	24 continuous hours

1. The specifications above are values when ST28-4R stylus is used.
2. Repeatability is affected by stylus length.
3. There is a delay of approx. 5μm in XY direction and 2μm in Z direction when the stylus contacts the workpiece measuring surface to illuminate the LED.

PMC Series

- Instantaneous detection with LED and beep.
- LED flashes to notify low battery life while measuring workpieces.

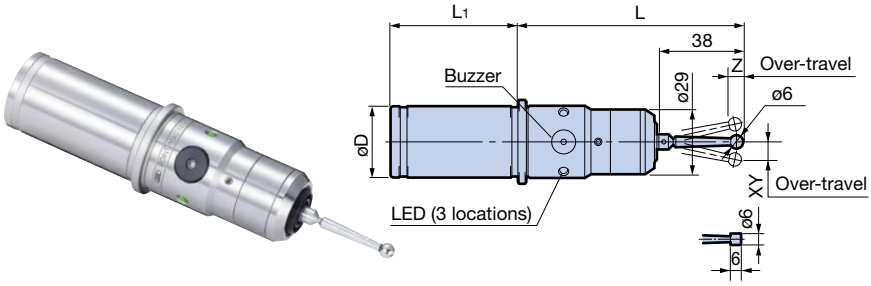
For use with conductive workpieces and machine tools

Notifies via LED

Notifies via buzzer

LED flashes to indicate that battery life is low

Cylindrical Shank Type



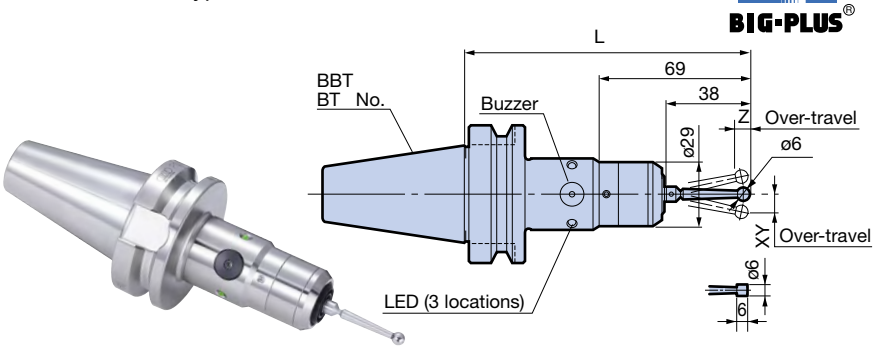
Model	øDh7	L	L1	Battery	Weight (kg)
PMC-20	20	110	50	LR1 x 2	0.4
-20S					
-32	32	102	58	LR1 x 2	0.6
-32S					

1. **ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.
2. Cannot be used with non-conductive workpieces and machines with ceramic bearings. Use POINT MASTER PRO.

For replaceable stylus, I4

BT/BBT Shank Type

DUAL CONTACT
BIG-PLUS®



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT Shank Type

Model	L	Battery	Weight (kg)
BBT40-PMC-130	130	LR1 x 2	1.2
-PMC-130S			
BBT50-PMC-160	160	LR03 x 2	4.0
-PMC-160S			

1. **ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.
2. Cannot be used with non-conductive workpieces and machines with ceramic bearings. Use POINT MASTER PRO.

Model	L	Battery	Weight (kg)
BT40-PMC-130	130	LR1 x 2	1.2
-PMC-130S			
BT50-PMC-160	160	LR03 x 2	4.0
-PMC-160S			

1. **ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.

For replaceable stylus, I4

Caution

Pullstud bolts with a center through hole cannot be used.
In the case of machines that require a hole on the pullstud bolts due to the coolant nozzle, please contact (BIG) agent.

Main Specifications

Probe repeatability	±1 μm (2σ)	
Over-travel	XY ±12mm Z 5mm	
Measuring pressure	XY 0.6N Z 2.7N	
Battery life	**PMC-20, 20S, 32, 32S**	90 continuous hours
	BBT(BT)40-PMC-130, 130S	
	BBT(BT)50-PMC-160, 160S	100 continuous hours

1. The specifications above are values when the standard accessory stylus is used.

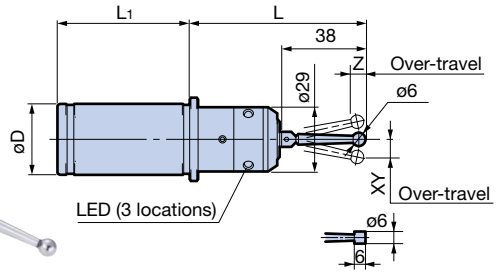
PMG Series

● Instantaneous detection with LED.

For use with conductive workpieces and machine tools

Notifies via LED

Cylindrical Shank Type

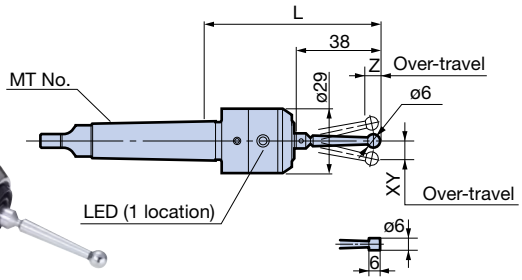


※ PMG-10 and PMG-10S have LED in 1 location only.

Model	øDh7	L	L1	Battery	Weight (kg)
PMG-10	10	75	50	Panasonic lithium BR435 x 1	0.2
-10S					
-20	20	90	50	LR1 x 2	0.3
-20S					
-32	32	80	60	LR1 x 2	0.5
-32S					

1. **ST38-6P** stylus is included. Models with an S at the end of the model number include ø6 cylindrical **ST38-6X6** stylus.

Morse Taper Type



Model	MT No.	L	Battery	Weight (kg)
PMG-MT2	MT2	80	Panasonic lithium BR435 x 1	0.2
-MT2S				

1. LED in 1 location only.
2. **ST38-6P** stylus is included. Model with an S at the end of the model number includes ø6 cylindrical **ST38-6X6** stylus.

Main Specifications

Probe repeatability	±1 μm (2σ)	
Over-travel	XY ±12mm	Z 5mm
Measuring pressure	XY 0.6N	Z 2.7N
Battery life	**PMG-20, 20S, 32, 32S**	25 continuous hours
	PMG-10, 10S, MT2, MT2S	50 continuous hours

1. The specifications above are values when the standard accessory stylus is used.

<Replaceable Stylus> Optional Product For PMPC, PMP, PMC, PMG Series

M3 threading has been applied to make the stylus replaceable, allowing replacement if it is damaged or according to the workpiece shape.

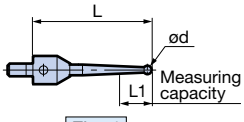


Fig. 1

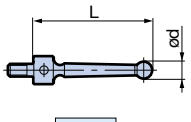


Fig. 2

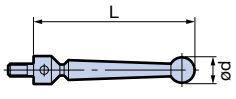


Fig. 3

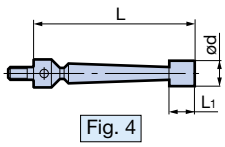
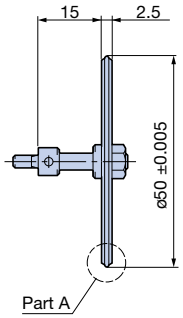
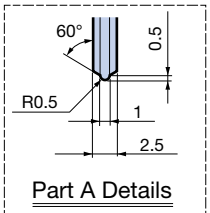


Fig. 4

Model	Fig.	L	L1	ød	Weight (g)	Stylus Tip	Point Master Model
ST28 -1P	1	28	2	1	2.0	Carbide	PMG/PMC PMP/PMPC
-2P			8	2	2.0		
-3P	2		-	3	2.5		
-4P				4	2.9		
ST28 -4R				4	2.6	Ruby	PMP/PMPC
ST38 -6P	3	38	-	6	4.8	Steel (SUS)	PMG/PMC
ST38 -6 x 6	4		6	6	4.8		PMG□□S/PMC□□S

※ ST38-6 x 6 stylus is exclusive for PMG □□ S/PMC □□ S models. Mounting on other models will negatively affect the runout accuracy.





Ideal for measuring the taper of irregularly shaped workpieces or plastic molds.

Model	ST15-50K

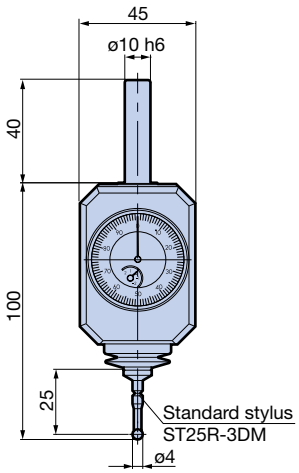
※ Exclusive for PMG/PMC Series.

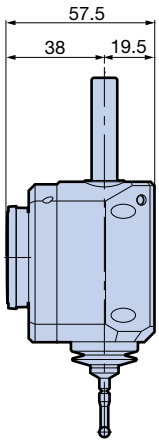
3D MASTER RED

For all workpieces and machine tools

- The all-rounder dial-type reference position measuring instrument.
- Also available for non-conductive workpieces.
- XYZ direction measurement possible with this tool alone.
- Calculation of the stylus ball radius not required.
- After contacting the workpiece, moving half of the ball radius finds the center of the spindle.

Model	3DM-10R





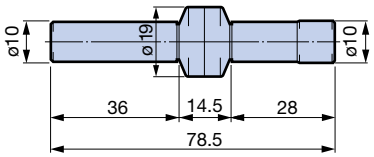
Main Specifications

Min. scale	0.01mm
Repeatability	Within 0.01mm
XY Stroke	±4mm
Z Stroke	4mm
Protection rating	IP67
Weight	0.5kg
Accessory	Stylus ST25R-3DM

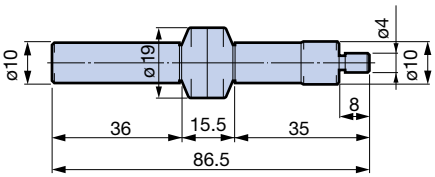
ACCU CENTER

- Simple mechanical design for high-precision positioning!
- Just touch the stylus to the workpiece surface to complete measurement.
- Repeatability within 3μm (when used on vertical machines).
- Hard chrome plated stylus for superior durability.

Model	ACCU-C10

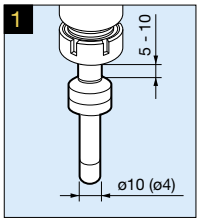


Model	ACCU-C104

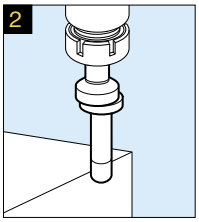


Caution
Not suitable for horizontal type machines.

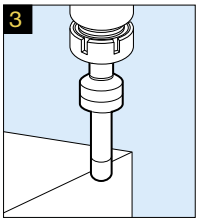
● Measuring Method



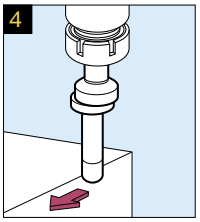
Mount the ø10 straight part to a Milling Chuck or New Baby Chuck.



Press the stylus lightly with fingers to move off center and rotate at 400 - 600min^{-1}.



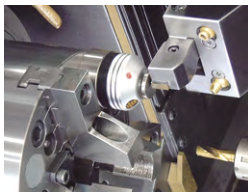
From the 2 position, touch the stylus to the workpiece; its runout will gradually decrease and it will seem to come to a stop.



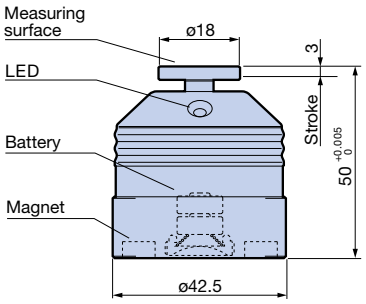
From the 3 position, apply finer feed and keep the stylus in contact; it will begin to slide in one direction. Where it begins to slide, compensate the position by radius of the stylus 5mm(2mm) to detect the reference position.

BASE MASTER

- Electronic detection of cutting edge position.
- Repeatability ±1μm (2σ).



Model	BM-50



For use with conductive cutting tools, workpieces, and machine tools

Notifies via LED

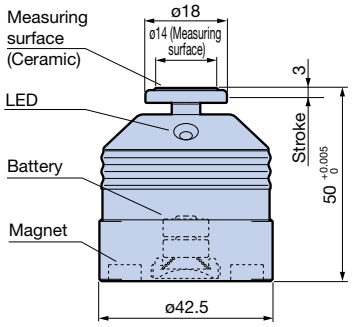
Height accuracy	50 +0.005 0 mm
Repeatability	±1μm (2σ)
Min. tool diameter	ø1mm
Measuring pressure	3N
Stroke	3mm
Touch signal	LED illuminates (red)
Battery	SR44 x 2
Battery life	10 continuous hours
Weight	0.23kg

※ Type without magnets is also available. If required, add /N at the end of the model number when ordering. (Example: **BM-50/N**)

BASE MASTER GOLD

- Internal contact method compatible with various tools and workpieces.

Model	BM-50G



For all cutting tools, workpieces and machine tools

Notifies via LED

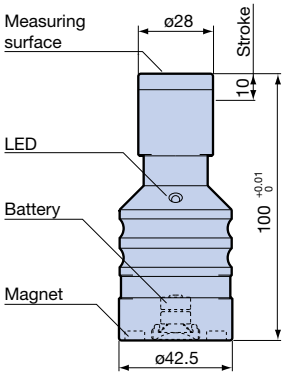
Height accuracy	50 +0.005 0 mm
Repeatability	±1μm (2σ)
Min. tool diameter	ø1mm
Measuring pressure	2N
Stroke	3mm
Touch signal	LED illuminates (red)
Battery	SR44 x 2
Battery life	10 continuous hours
Weight	0.24kg

※ Type without magnets is also available. If required, add /N at the end of the model number when ordering. (Example: **BM-50G/N**)

Easily visible measuring surface even with large machines

Model	BM-100G

Cutting edge detection position of 100mm from machining object top surface.



For all cutting tools, workpieces and machine tools

Notifies via LED

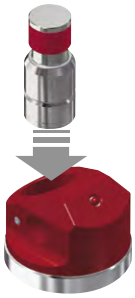
Height accuracy	100 +0.01 0 mm
Repeatability	±1μm (2σ)
Min. tool diameter	ø1mm
Measuring pressure	2N
Stroke	10mm
Touch signal	LED illuminates (red)
Battery	SR44 x 2
Battery life	10 continuous hours
Weight	0.36kg

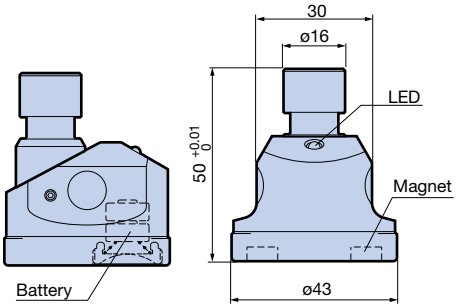
※ Type without magnets is also available. If required, add /N at the end of the model number when ordering. (Example: **BM-100G/N**)

BASE MASTER RED

- Independent body and measurement part.
- DLC coated Sensor Plate.

Safe stroke amount of 5mm.





■ Body Set

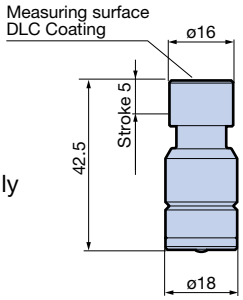
Model	BM-50R

1. Measurement part (BM-MEG) is included.

■ Measurement Part only

Model	BM-MEG

1. Measurement part is also available separately.



All Supported — For all cutting tools, workpieces and machine tools

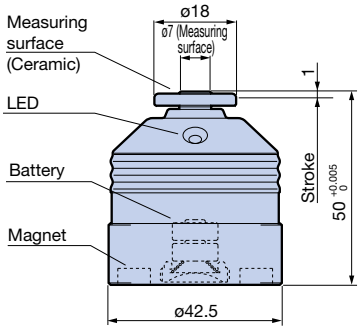
LED — Notifies via LED

Height accuracy	$50^{+0.01}_{0}$ mm
Repeatability	±1μm (2σ)
Min. tool diameter	ø1mm
Measuring pressure	2N
Stroke	5mm
Touch signal	LED illuminates (red)
Battery	SR44 x 2
Battery life	10 continuous hours
Weight	0.2kg

BASE MASTER MICRO

- Cutting edge position detection of ø0.05mm tool.
- Low-contact pressure cushion mechanism realizes measurement of ultra-small tools.

Model	BM-50M



All Supported — For all cutting tools, workpieces and machine tools

LED — Notifies via LED

Height accuracy	$50^{+0.005}_{0}$ mm
Repeatability	±1μm (2σ)
Min. tool diameter	ø0.05mm
Measuring pressure	0.3N
Stroke	1mm
Touch signal	LED illuminates (green)
Battery	SR44 x 2
Battery life	10 continuous hours
Weight	0.24kg

※ Type without magnets is also available. If required, add /N at the end of the model number when ordering. (Example: **BM-50M/N**)

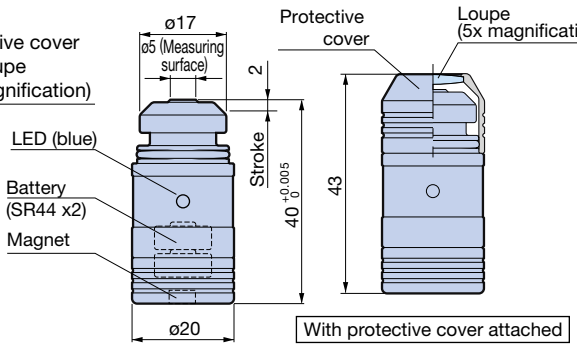
BASE MASTER MINI

- World's smallest tool offset sensor with a diameter of ø20.

All Supported — For all cutting tools, workpieces and machine tools

LED — Notifies via LED

Protective cover with loupe (5x magnification)



Model	BMM-20

Height accuracy	$40^{+0.005}_{0}$ mm
Repeatability	±1 μm (2σ)
Min. tool diameter	ø0.1mm
Measuring pressure	1.8N
Stroke	2mm
Touch signal	LED illuminates (blue)
Battery	SR44 x 2
Battery life	10 continuous hours
Weight	55g

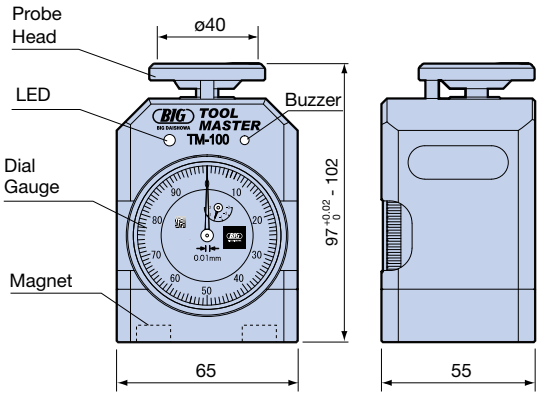
TOOL MASTER

- Non-conductive workpieces and tools can also be measured!
- Uses a large, easily read dial (with buzzer and LED).
- One-touch height adjustment mechanism.
- Firmly fixed with a powerful magnet.

All Supported — For all cutting tools, workpieces and machine tools

LED — Notifies via LED

Buzzer — Notifies via buzzer



Model	TM-100

Height accuracy		$100^{+0.02}_{0}$ mm
Min. tool diameter		ø1mm
Stroke		5mm
Stroke range		97 - 102mm
Measuring pressure		6N (at 100mm)
Notification signal		LED and buzzer
Battery		SR44 x 2
Weight		1.2kg
Dial Gauge Accuracy	Min. scale	0.01mm
	Indicator error	12 μ m
	Repeatability	3 μ m
	Return error	3 μ m

※ Dial gauge accuracy conforms to JIS B7503:2011.
※ Type without magnets is also available.
If required, add /N at the end of the model number when ordering. (Example: **TM-100/N**)

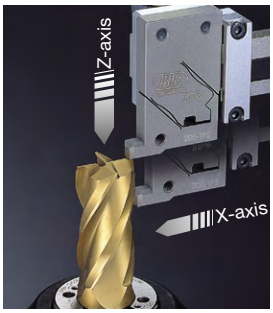
TOOL PRESETTER TPS

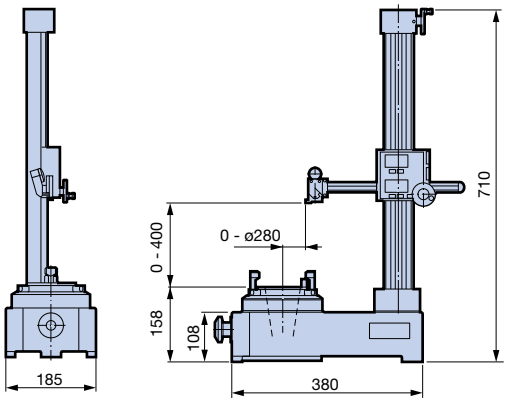
2D edge sensor enables simple presetting.

- A simple and compactly designed presetter featuring a digital scale.
- Maintains long-term taper accuracy with a ceramic spindle.

2D edge sensor used

2D edge sensor

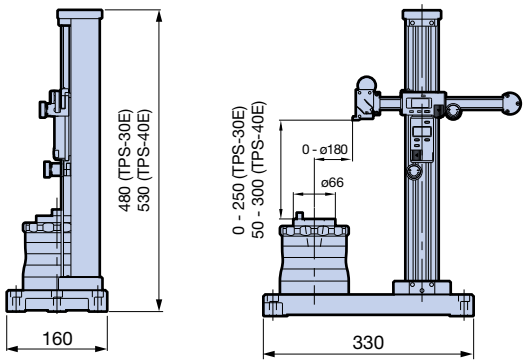




Model	Taper	Measuring capacity (mm)	Min. scale	Battery	Operating temperature	Weight (kg)
TPS-40N	BT40	X-axis: 0 - ø280 Z-axis: 0 - 400	0.01mm	3V lithium battery x 2 (CR2032)	+5°C - +40°C	38.5
-50N	BT50					41.0
-HSK 40-N	HSK-A40					41.0
-HSK 63-N	HSK-A63					41.0
-HSK100-N	HSK-A100					43.0
-C5N	BIG CAPTO C5					41.0
-C6N	BIG CAPTO C6					41.0
-C8N	BIG CAPTO C8					42.0

1. Origin can be set with the spindle itself.
2. Various adapters and test bars are available as optional products.
3. HSK-E types without Drive Key grooves cannot be mounted.

[Compact Type]



Model	Taper	Measuring capacity (mm)	Min. scale	Battery	Operating temperature	Weight (kg)
TPS-30E	BT30	X-axis: 0 - ø180 Z-axis: 0 - 250 (BT30) Z-axis: 50 - 300 (BT40)	0.01mm	SR44 Battery x 2	+5°C - +40°C	18.5
-40E	BT40					20.0

1. An optional Setting Gauge (SG40-50) is required to set reference values for TPS-40E.

■ TAPER ADAPTER (Optional)

Model	Taper	L
BT40-30	Converts BT40 Taper to BT30	60
BT50-30	Converts BT50 Taper to BT30	
BT50-40	Converts BT50 Taper to BT40	

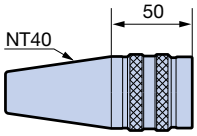
■ HSK Front Clamp Adapter (Optional)

· With the adapter mounted on the presetter, HSK tools can be mounted/demounted using an allen key.

Model	Taper	HSK Type	L
BT40 -TPA / HSK32E- 75	BT40	E32	75
-TPA / HSK40 -100		E40, A40	100
-TPA / HSK50 -100		E50, A50	
-TPA / HSK63 -100		A63	
-TPA / HSK63F-100		F63	
BT50 -TPA / HSK32E-100	BT50	E32	100
-TPA / HSK40 -100		E40, A40	
-TPA / HSK50 -100		E50, A50	
-TPA / HSK63 -100		A63	
-TPA / HSK63F-100		F63	

1. The adapter is designed for the presetter and cannot be used on a machining center.
2. BIG CAPTO types are also available. Please contact us for details.

■ Setting Gauge (Optional)



Model
SG40-50

· Used for setting reference values for TPS-40E.

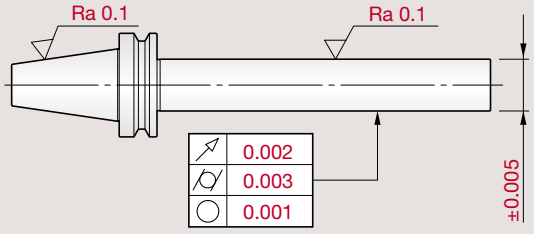
DYNA TEST [For static precision measurement]

A high-precision test bar developed by BIG's precise machining technology.

● Periodic accuracy evaluation eliminates machining defects.

● Precision standard of BIG Test Bars

BIG provides high quality test bars,
produced under a strict quality control system.



Runout accuracy	0.002mm
Roundness	0.001mm
Cylindricity	0.003mm
Surface roughness	Ra: 0.1 μm
Outer diameter tolerance	±0.005mm

● Calibration certificate and traceability diagram (with charge)

A calibration certificate and traceability diagram is offered upon request with charge for reliable use of these test bars or for the customers certified with ISO9000.

Traceability is defined under JIS Z8103 as "the establishment of a pathway related to national and international standards in which standard instruments or measuring instruments are continually calibrated according to higher-level measurement standards."

Static accuracy of machining centers is regulated in JIS-B6336 and 6338. We recommend periodic accuracy checks for stable production.

JIS standard machine spindle value

Runout of spindle inner taper

	Horizontal M/C	Vertical M/C
Test bar nose	0.007 (mm) or less	0.01 (mm) or less
300mm tip	0.015 (mm) or less	0.02 (mm) or less

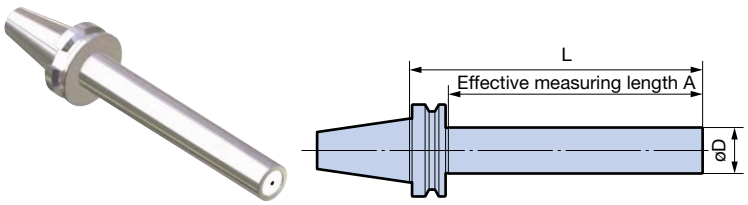
BIG-PLUS Type

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT

Caution
• Only use PULLSTUD BOLTS made by BIG. For PULLSTUD BOLT, G27

■ BBT Shank [MAS403 and JIS B6339]

· The short type is ideal for ATC repeatability inspection.

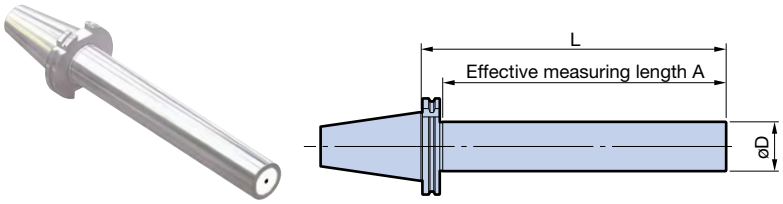


BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

BIG-PLUS BBT SHANK Model	L	A	øD
BBT30-32-L150	150	125	32
-L235	235	210	
BBT40-50-L200	200	170	50
-L350	350	320	
BBT50-50-L200	200	159	50
-L360	360	319	

1. The BBT Shank conforms to JIS-BT standards.

■ BDV Shank [DIN 69871 and ISO 7388-1]

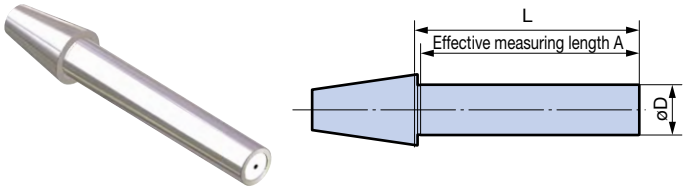


BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

BIG-PLUS BDV SHANK Model	L	A	øD
BDV40-50-L200SD	200	170	50
-L340SD	340	310	
BDV50-50-L200SD	200	178	
-L340SD	340	318	

Basic Type

· Can also be used as a setting gauge for tool presetters.

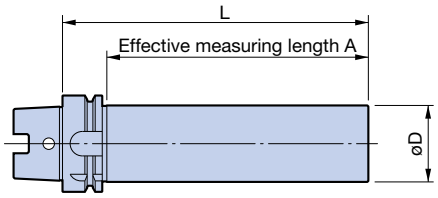


Model	L	A	øD
NT30-32-L150	150	144	32
-L225	225	219	
NT40-50-L200	200	184	50
-L335	335	319	
NT50-50-L200	200	194	50
-L335	335	319	

HSK Shank Type

※ Other shank types are also available.
Please contact us for details.

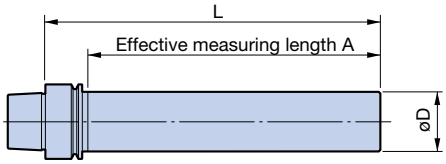
HSK-A Type [DIN 69893-1 and ISO 12164-1]



Model	L	A	øD
HSK-A 40-32-L180SD	180	157	32
-A 50-32-L240SD	240	211	
-A 63-50-L200SD	200	171	50
-L350SD	350	321	
HSK-A100-50-L200SD	200	168	
-L350SD	350	318	

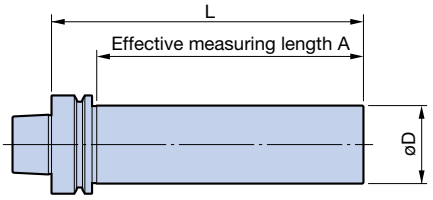
1. As the depth of the drive keys are symmetrical, it can be mounted in 180° inversion.

HSK-E Type [DIN 69893-5]



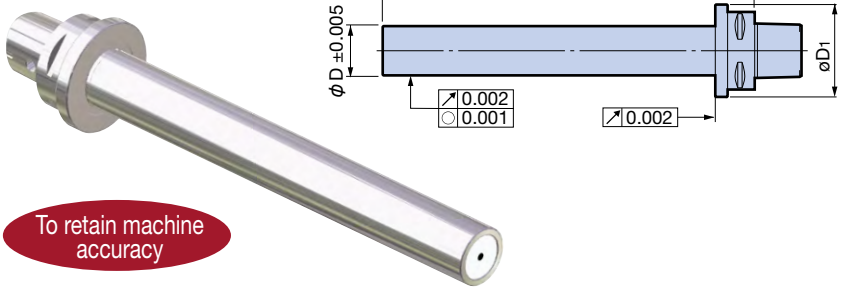
Model	L	A	øD
HSK-E25-20-L175	175	163	20
-E32-20-L180	180	158	
-E40-32-L180		157	32
-E50-32-L240	240	211	

HSK-F Type [DIN 69893-6]



Model	L	A	øD
HSK-F63-50-L200	200	171	50
-L350	350	321	

BIG CAPTO SHANK Type



C5/C6/C8

Model	øD	øD1	L	L1
C5-32-L150	32	63	180	150
- 215			245	215
-40-L250	40		280	250
C6-40-L150	40	75	182	150
-L200			232	200
-L320			352	320
C8-40-L200	40	85	240	200
-L320			360	320

DYNA TEST [For dynamic precision measurement]

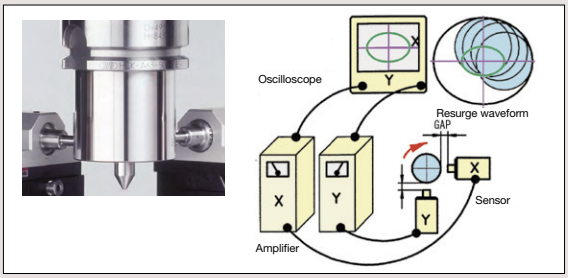
Evaluates the dynamic runout accuracy of the machine spindle by measuring the runout while rotating at practical speeds.

- The dynamic accuracy may differ from static accuracy due to centrifugal force, vibration and heat caused by spindle rotation. Knowing the dynamic accuracy will aid in finding the appropriate cutting parameters for actual machining.

Dynamic runout accuracy

Allows measurement of the runout during actual rotation.

[Example of dynamic runout measuring devices.]



This example uses a static capacitance non-contact displacement meter. X and Y axis displacement can be measured simultaneously, with the resurge waveform displayed on an oscilloscope.

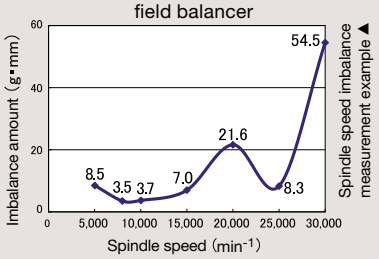
Measurement example of radial direction error at different spindle speeds

Spindle speed (min⁻¹)	500	10,000	30,000
Resurge waveform	4.2 μm	8.2 μm	24.4 μm

Imbalance

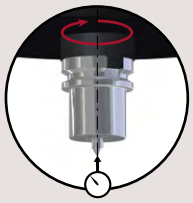
The balance also changes with spindle speed. Tool life and machining accuracy are improved by usage at a spindle speed with good balance performance.

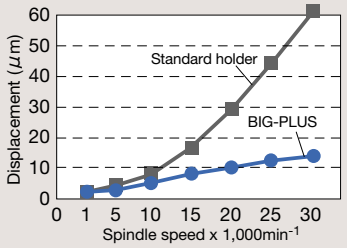
Measurement example using a field balancer



Measurement of Z-axis direction displacement

Z-axis displacement varies depending on the thermal displacement and spindle expansion caused at each spindle speed. The center boss allows measurement with a non-contact displacement meter.

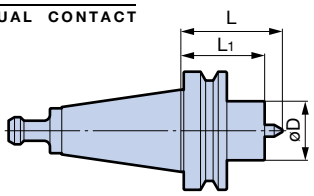




※ Changes due to thermal expansion of the machine spindle are also included.

BIG-PLUS Type

BIG-PLUS SPINDLE SYSTEM DUAL CONTACT



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

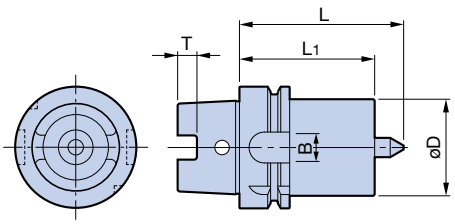
Model	øD	L	L1
BBT30-40-Z62	40	62	50
BBT40-50-Z85	50	85	70
BBT50-50-Z85	50	85	70

1. Specify the pullstud bolt model, as the taper is ground with the pullstud bolt mounted.

HSK Shank Type

HSK-A Type [DIN 69893-1 and ISO 12164-1]

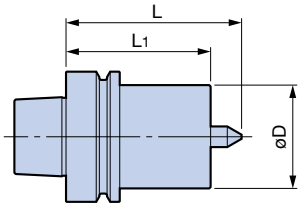
※ HSK-E Type and other shank sizes are also available. Please contact us for details.



Model	L	L1	øD	B	T
HSK-A 40-40-Z62AB	62	50	40	11	6
-A 50-40-Z62AB				14	7.5
-A 63-50-Z85AB	85	70	50	18	10
-A100-50-Z85AB				22	15

1. Symmetrically designed HSK shanks for improved balance.

HSK-F Type [DIN 69893-6]

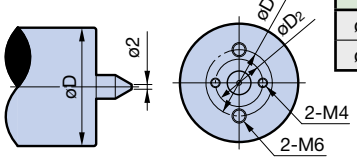


Model	L	L1	øD
HSK-F63-50-Z85	85	70	50

1. HSK-E Type (DIN 69893-5) is also available

Common for BBT Shank/HSK Shank

Test Bar Tip Dimensions



øD	øD1	øD2
ø40 Type	18	16
ø50 Type	28	20

※ M4 and M6 threaded holes are prepared for mounting test weights used for field balance measurement.

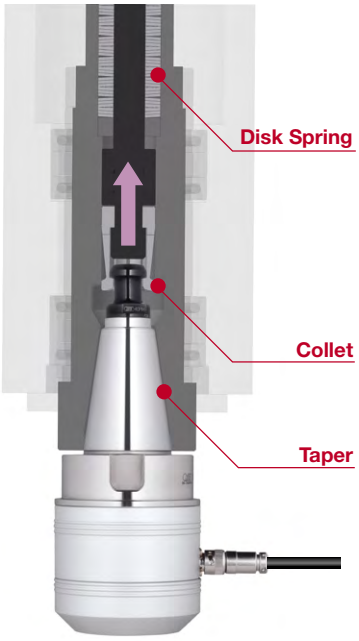
DYNA FORCE [Measuring device for pulling force]

Measures pulling force of machine tool spindles and tool clamp equipment, a vital factor of machine tool performance.

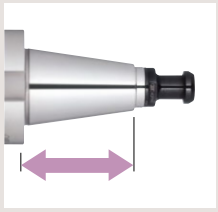
- Prevents machining errors and shortened tool life due to decreased pulling force.
- Measurement values visible at a glance with digital display. (Minimum display unit 0.1kN)
- Lightweight and compact display aids measuring work.

An Essential for Machine Maintenance

The pulling force produced could deteriorate due to degradation of disc springs or wear of the components of the booster, due to many years of punishing use. Decreased pulling force reduces static rigidity, causing chatter, decreased machining accuracy, and shortened tool life. Periodic inspections with DYNA FORCE can prevent problems in advance.



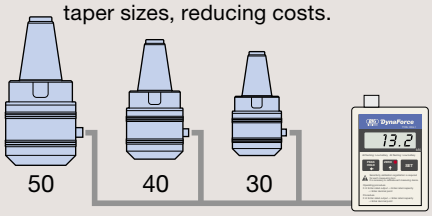
Long taper for increased reliability



The taper is long, with a shape similar to regular tools, enabling highly reliable measurement values.

Supports all taper sizes with a single display

A single display can be used with all taper sizes, reducing costs.



Main Specifications

Conforms to domestic and international standards (JIS, DIN, ANSI).

Measuring tool

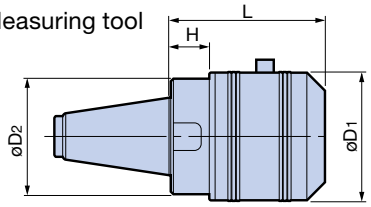


Fig. 1

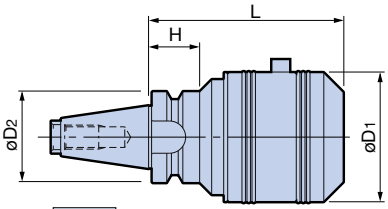


Fig. 2

Display

Cable

Case

Set Model	Set contents				Taper size	Rated capacity	øD1	øD2	L	H	Weight (kg)
	Measuring tool	Fig.	Display	Cable							
SNT30-DF10	**NT30-DF10**	1	**DFA-1** (Includes 2 AA batteries)	**DFC-1** (2m)	30	10kN (980kgf)	65	58	80	20	1.5
SBT30-DF10	**BT30-DF10**	2						46	98	26	1.6
SNT40-DF30	**NT40-DF30**	1			40	30kN (2,940kgf)	73	66	90	24	2.5
SNT50-DF50	**NT50-DF50**	1			50	50kN (4,900kgf)	96	90	110	33	6.0
-DF30 ※	**-DF30**	1				30kN (2,940kgf)	73	70	86	20	3.9

1. The items are also sold individually. (Single measuring tool also provided with exclusive case.)
2. SBT model is a special purpose product for use with machines where manual mounting is impossible.
3. SBT model can be used on JIS BT and BBT spindle machines only.
4. Pullstud bolt must be ordered separately. Note that standard pullstud bolt can be used with the machines that require JIS or MAS standard pullstud bolts, while the exclusive pullstud bolts are required for the machines with other standard spindles such as DIN or CAT.
5. ※ indicates lightweight type.

A calibration certificate and traceability diagram is offered upon request with charge for reliable use of these measuring instruments.

Exclusive pullstud bolts

- DIN/ANSI/CAT standard spindles require exclusive pullstud bolts.
  MAS and JIS standards permit the use of standard pullstud bolts.
- These exclusive pullstud bolts cannot be used with the SBT and BT Dyna Force models.

Standard number		Shank No.		
		30	40	50
DIN Standard (DIN 69872)		**DF-PDV30**	**DF-PDV40A**	**DF-PDV50A**
ISO Standard (ISO 7388)	Form A	—		
	Form B	—	**DF-PAV40**	**DF-PAV50**
ANSI Standard (ANSI B5.50)		**DF-PAV30**		
CAT Standard (ASME B5.50)		**DF-PCV30**	**DF-PCV40**	**DF-PCV50**

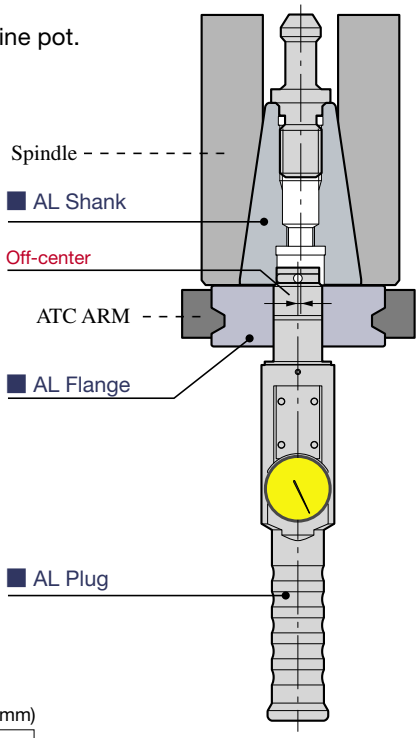
ATC ALIGNMENT TOOL

To retain machine tool spindle accuracy!

- Measures misalignment of the spindle center and ATC arm.
- Measures the position of the ATC arm to the center of the machine spindle or magazine pot.

How to use

1. Mount the AL Shank on the machine spindle and AL Flange on the ATC Arm.
2. Insert the AL Plug into the AL Flange.
3. Rotate the AL Plug and find the highest and lowest positions indicated on the dial gauge.
   This direction is the center misalignment direction, and half the difference is the misalignment amount.
4. Adjust the position of the ATC Arm so that the entire øD2 section of the AL Plug can be fully inserted into the AL Flange.



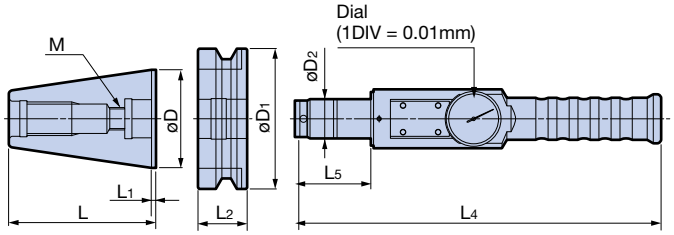


Fig. 1

In exclusive case

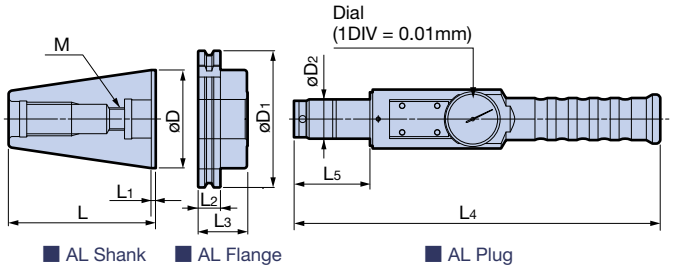


Fig. 2

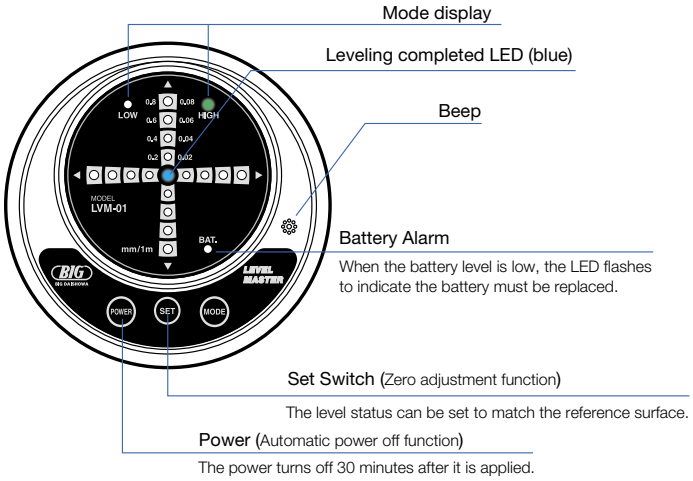
Set Model	Fig.	øD	D_1	D_2	L	L_1	L_2	L_3	L_4	L_5	M
BT30-ATC18	1	31.75	46.00	18	50.40	2.0	20.0	-	251	44	12
BT40-ATC20		44.45	63.00	20	67.40	2.0	25.0	-	251	44	12
BT50-ATC28		69.85	100.00	28	104.80	3.0	35.0	-	261	54	16
DV40-ATC20	2	44.45	63.55	20	71.60	3.2	15.9	24.3	251	44	12
DV50-ATC20		69.85	97.50	28	104.95	3.2	15.9	35.3	261	54	16

1. Contact us for CAT Standard 7/24 taper shank versions.
2. Prior consultation is required for HSK shank versions.

For level management of machine tools/precision assembly devices

- 2-axis simultaneous level detector.
- Notifies leveling completion with LED and beep.
- Uses optical level detection sensor.

High precision of 0.01mm/1m



Instantaneous display of level status with LED

HIGH Mode

- Flashing: Over 0.08mm
- Lit: 0.08mm or less
- Lit: 0.06mm or less
- Lit: 0.04mm or less
- Lit: 0.02mm or less
- Lit: **0.01mm or less**

Tilt at 1m distance

LOW Mode

- Flashing: Over 0.8mm
- Lit: 0.8mm or less
- Lit: 0.6mm or less
- Lit: 0.4mm or less
- Lit: 0.2mm or less
- Lit: **0.1mm or less**

Tilt at 1m distance

Notifies leveling completion with LED and beep

HIGH Mode

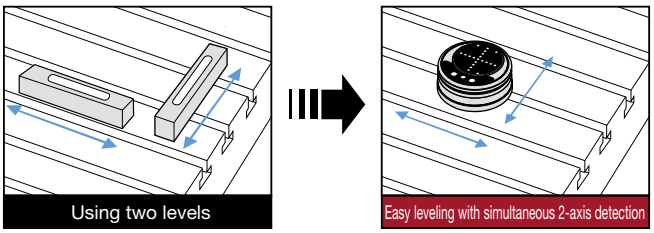
When level is **0.01mm/1m or less**

LOW Mode

When level is **0.1mm/1m or less**

Notification with LED (blue) and beep

2-axis simultaneous detection High precision of 0.01mm/1m



2-axis simultaneous detection makes leveling drastically faster and more economical, compared to the conventional process of using two separate levels.

Main Specifications

Model	LVM-01
Minimum read value	0.01mm/1m
Power	Alkaline dry cell: LR03 (AAA) x 4P
Automatic power off	Power off 30 minutes after application
Operating temperature range	0°C - 40°C (recommended 20°C ±5°C)
Battery life	50 continuous hours
Dimensions	ø109 x H46
Weight	0.985kg

※ For high-precision level adjustment, we recommend confirming the level with a reference surface such as a surface plate before use.

Set Contents

- LEVEL MASTER body
- Exclusive aluminum case
- Battery (Alkaline dry cell: LR03 (AAA) x 4 pcs)
- Operation manual
- Warranty
- Inspection Certificate

ACCU STAND

Flexible arm stand which locks solidly by the special cam mechanism.

Magnetic Base Type

● Firmly fixed with a powerful magnet.

Rigid type

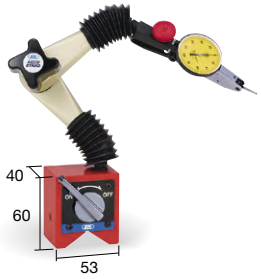
■ **Standard Type**

Model	ASP-M

Mini Rigid type

■ **Mini Rigid Type**

Model	AMP-M



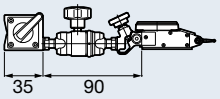
■ **Mini Type**

Model	AM-M

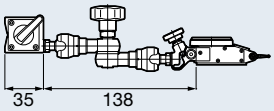
※ Test indicators and dial gauges are not included with any model.

The thread size of the joint between the magnet and arm is M8 x P1.25 for **AMM, AML and AM** and M10 x P1.5 for **AMP and ASP**.

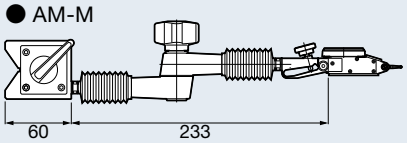
● AMM-M



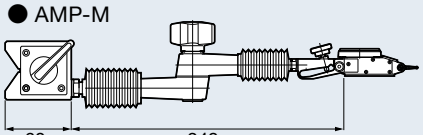
● AML-M



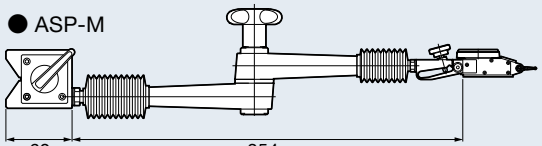
● AM-M



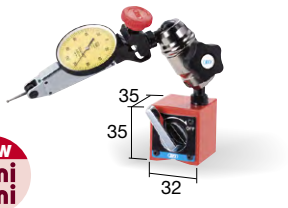
● AMP-M



● ASP-M



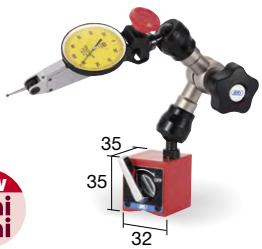
Compact yet tough arm and powerful clamp.
Mini-Mini Type!



NEW mini mini

■ **Mini-Mini Type** PAT.
(Short arm)

Model	AMM-M



NEW mini mini

■ **Mini-Mini Type**
(Long arm)

Model	AML-M

Cast Base Type

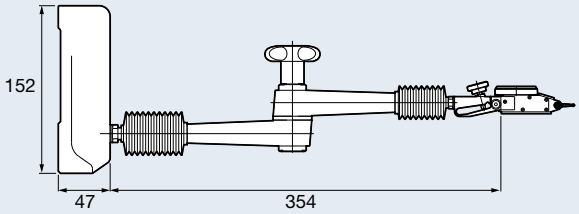
● Cast base type ideal for precision measurement on a surface plate

Rigid type

Model	ASP-B

The base shape is designed for stability, with a precision-ground bottom surface that enables higher-precision measurement. The side is also ground perpendicular to the bottom, allowing measurement while sliding.

● ASP-B



The thread size of the joint between the cast base and arm is M10 x P1.5.

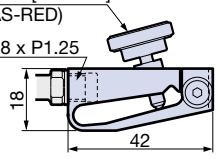
See below for gauge support details

Gauge support details (Test indicators and dial gauges are not included.)

Standard/Mini Type

Fine adjustment knob [P = 0.25] (AS-RED)

M8 x P1.25

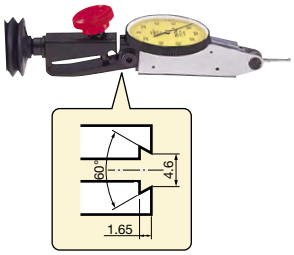


Available for spare supplies

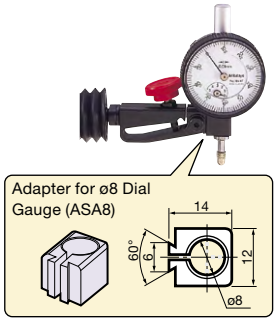
Gauge Support Set

Set Model	DGH-3

Set Contents: Gauge support/Fine adjustment knob/Adapter for ø8 Dial Gauge



Test indicator mounting groove

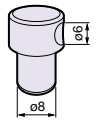


Dial Gauge mounting hole

Optional Product

● Clamp Piece for ø6

Procure when using a ø6 Dial Gauge.

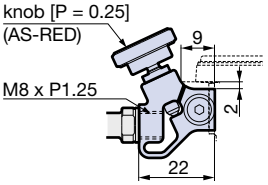


Model	ASA8-6

Mini-Mini Type

Fine adjustment knob [P = 0.25] (AS-RED)

M8 x P1.25

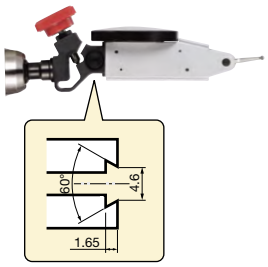


Available for spare supplies

Gauge Support Set

Set Model	DGH-MM

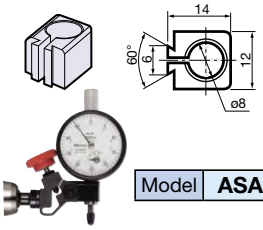
Set Contents: Gauge support/Fine adjustment knob



Test indicator mounting groove

Optional Products

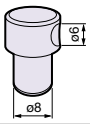
● Adapter for ø8 Dial Gauge



Model	ASA8

● Clamp Piece for ø6

Procure when using a ø6 Dial Gauge.



Model	ASA8-6

ACCU STAND

Flexible arm stand which locks solidly by the special cam mechanism.

Cylindrical Shank Type

● For workpiece centering.

※ Test indicators and dial gauges are not included with any model.

⚠ Caution Not suitable for horizontal machines.

Rigid type

■ **Standard Type**

Model	Shank diameter
ASP-32	ø32
ASP-42	ø42

■ **Mini Type**

Model	Shank diameter
AM-20	ø20
AM-32	ø32

NEW mini mini

■ **Mini-Mini Type** PAT.
(Short arm)

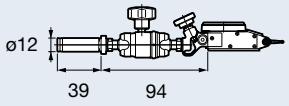
Model	Shank diameter
AMM-12	ø12
AMM-20	ø20

NEW mini mini

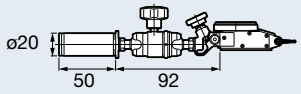
■ **Mini-Mini Type**
(Long arm)

Model	Shank diameter
AML-12	ø12
AML-20	ø20

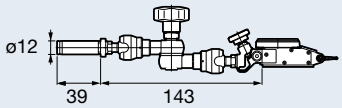
● AMM-12



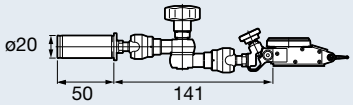
● AMM-20



● AML-12



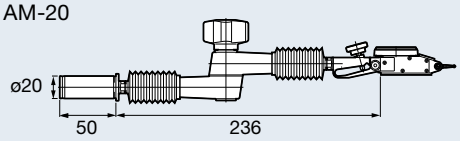
● AML-20



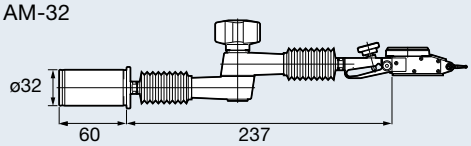
The thread size of the joint between the cylindrical shank and arm is M8 x P1.25 for **AMM, AML, and AM** and M10 x P1.5 for **ASP**.

For gauge support details, I18

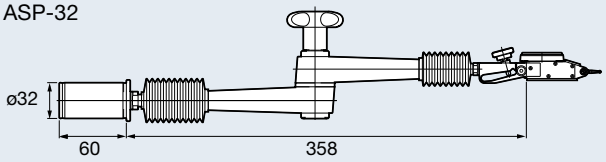
● AM-20



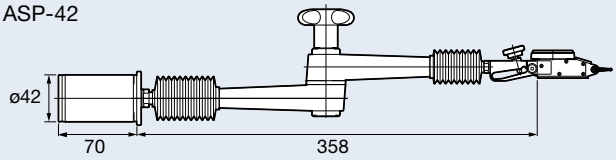
● AM-32



● ASP-32



● ASP-42



HSK Shank Type

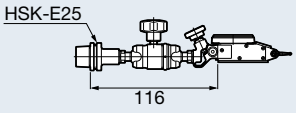
- For small machining centers with HSK-E spindles.
- HSK-E Shank type can be directly mounted on spindle.

※ Test indicators and dial gauges are not included with any model.

■ **Mini-Mini Type** PAT.

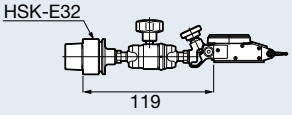
Model	Shank No.
HSK-E25-AMM	HSK-E25
HSK-E32-AMM	-E32

● HSK-E25-AMM



The thread size of the joint between the HSK shank and arm is M8 x P1.25.

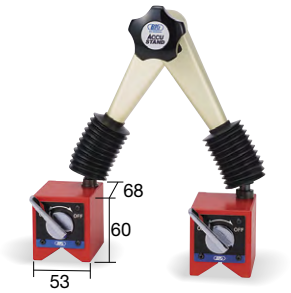
● HSK-E32-AMM



For gauge support details, I18

Double Magnetic Base Type

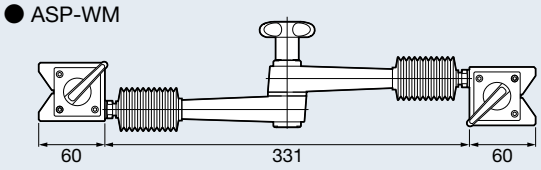
- For workpiece machining and cutting.



Model	**ASP-WM**

Rigid type

● ASP-WM



The thread size of the joint between the magnet and arm is M10 x P1.5.

Arm Only Type

- For various applications according to your idea.

■ **Standard Type**

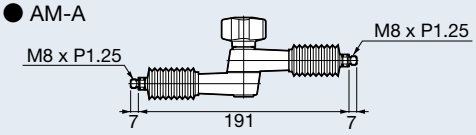
Model	**ASP-A**

Rigid type

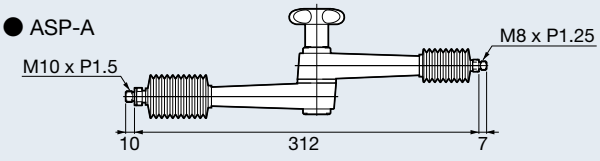
■ **Mini Type**

Model	**AM-A**

● AM-A



● ASP-A



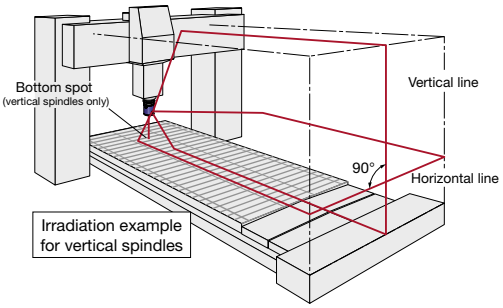
Ideal for large machines!
Laser marking makes workpiece positioning quick and easy!

- Simultaneous vertical and horizontal irradiation (cross-hairs) is possible.
- Switch to pulsed light for a laser receiver that can be used even in bright areas.

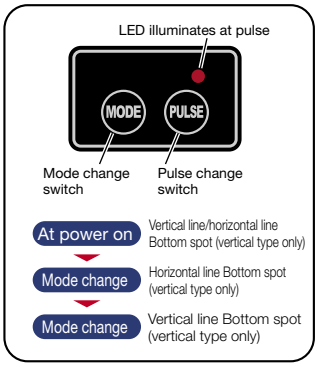
High luminosity laser light

For horizontal spindles

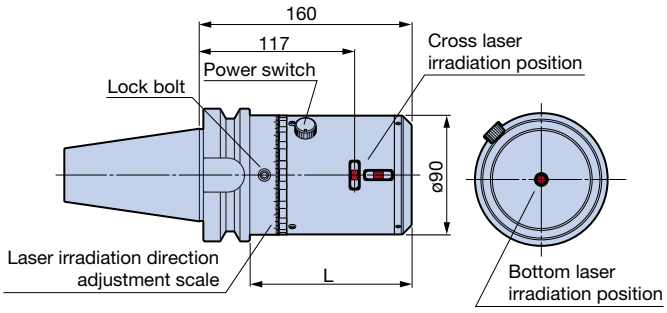
For vertical spindles



With mode change function

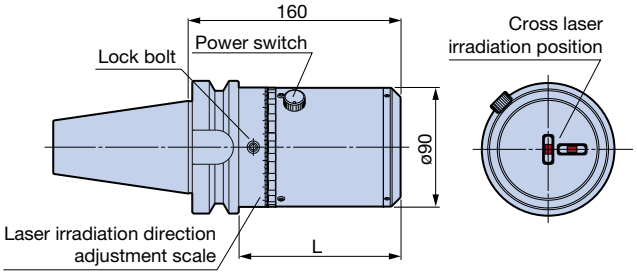


For vertical spindles



Model	L
BT40-LMX-VHV30	120
BT50-LMX-VHV30	122

For horizontal spindles



Model	L
BT40-LMX-VHH20	120
BT50-LMX-VHH20	122

∗ Loosening the lock bolt allows adjustment of the laser head (laser irradiation) phase relative to the drive key groove.
∗ DUAL CONTACT BIG-PLUS specifications are also available.
∗ As ATC may affect laser element deterioration, we recommend using manual attachment to the machine spindle for this device.

Main Specifications

Model		**BT50-LMX-VHV30 BT40-LMX-VHV30**	**BT50-LMX-VHH20 BT40-LMX-VHH20**
Light source		635nm red semiconductor laser (bottom laser: 650nm)	
Light output		Class 1M	
Line width		Within 2.0mm/5m	
Horizontal line accuracy		±1mm or less/10m	
Vertical line accuracy		±1mm or less/10m	
Power		Lithium CR123A x 1P	
Pulse change function		Pulse switch ON/OFF	
Reception distance when using pulse		Vertical line/horizontal line: Max. 40m (using exclusive laser receiver)	
Battery life (20°C) When using pulse, the life is extended by approx. 1.5 times from the listed.	For vertical/horizontal lines	9 continuous hours (includes bottom spot)	10 continuous hours
	For vertical line	19 continuous hours (includes bottom spot)	20 continuous hours
	For horizontal line	19 continuous hours (includes bottom spot)	20 continuous hours
Operating environment	Temperature	0 - 40°C	
	Humidity	85% RH or less (no condensation)	
Protection rating		IP52	
Body weight		5.5kg (BT50) 3.3kg (BT40)	5.5kg (BT50) 3.3kg (BT40)

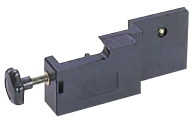
ACCESSORIES

■ Laser receiver (Optional)

Model	**LR-301**

Incident line light can be received even in bright areas or wide spaces where laser light is hard to see.

■ Laser receiver holder (Optional)



Model	**LH-20**

Use to fix the laser receiver.

Caution

For laser light
The body has a caution/explanation label attached. Follow the instructions on the label for handling.

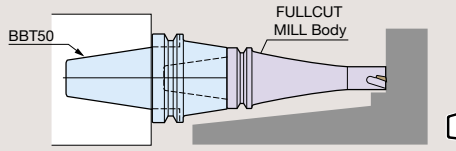
CUTTING TOOLS

Evolved rigidity realizes both heavy and stable ramping.

- Integral design with a taper shank and dual face contact of BIG-PLUS and HSK provide the highest rigidity.

Slotting | Shoulder milling | Ramping | Helical milling | Peck-drilling

An adapter for use of the BBT40 (FULLCUT MILL) on BBT50/BT50 machines.

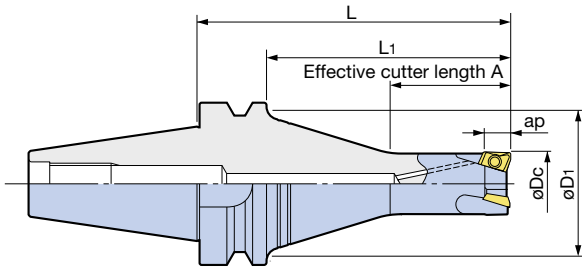


J8

BBT Integrated Type

DUAL CONTACT
BIG-PLUS®

[Standard Type]



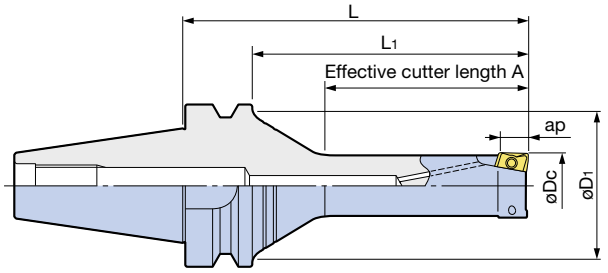
BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	**BBT30-FCR16082- 65**	8	40	65	43	28	2	BRG1608□□	0.50
20	**-FCR20083- 65**			65	43	28	3	BRG2008□□	0.51
25	**-FCR25083- 65**			65	43	33	3	BRG2508□□	0.55
32	**-FCR32103- 65**	10		65	43	40	3	BRG3210□□	0.60
16	**BBT40-FCR16082- 85**	8	60	85	58	25	2	BRG1608□□	1.3
	-120			120	93	30			1.5
	-135			135	108	25			1.6
20	**-FCR20083- 85**	8	60	85	58	35	3	BRG2008□□	1.2
	-120			120	93	30			1.6
	-135			135	108	30			1.7
25	**-FCR25083- 85**	8	60	85	58	40	3	BRG2508□□	1.3
	-120			120	93	45			1.6
	-135			135	108	35			1.8
32	**-FCR32103- 85**	10	60	85	58	45	3	BRG3210□□	1.4
	-120			120	93	50			1.7
	-135			135	108	40			1.9

1. Wrench included. Inserts must be ordered separately.

For inserts, J4 For cutting conditions, J5

[Long Type]



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	**BBT30-FCR16082L- 85**	8	40	85	63	45	2	BRG1608□□	0.52
20	**-FCR20082L- 85**			85	63	50	2	BRG2008□□	0.55
25	**-FCR25082L- 85**			85	63	50	2	BRG2508□□	0.62
32	**-FCR32102L- 85**	10		85	63	60	2	BRG3210□□	0.71
16	**BBT40-FCR16082L-105**	8	60	105	78	45	2	BRG1608□□	1.3
	-120			120	93	45			1.4
20	**-FCR20082L-120**	8	60	120	93	60	2	BRG2008□□	1.4
	-135			135	108	60			1.5
25	**-FCR25082L-135**	8	60	135	108	75	2	BRG2508□□	1.5
	-150			150	123	75			1.7
32	**-FCR32102L-135**	10	60	135	108	80	2	BRG3210□□	1.7
	-150			150	123	90			1.9

1. Wrench included. Inserts must be ordered separately.

For inserts, J4 For cutting conditions, J5

BDV Integrated Type

[Standard Type]

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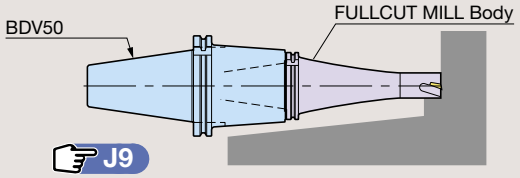
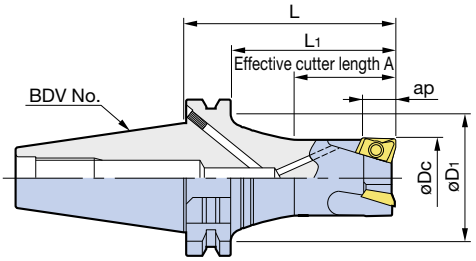
BIG-PLUS®

An adapter for use of the BDV40 (FULLCUT MILL) on BDV50/DV50 machines.



J9



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

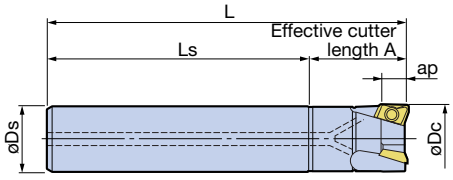
Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	**BDV40-FCR16082- 85**	8	52	85	65	25	2	BRG1608□□	1.3
	-120			120	100	30			1.5
	-135			135	115	25			1.6
20	**-FCR20083- 85**	8	52	85	65	35	3	BRG2008□□	1.2
	-120			120	100	30			1.6
	-135			135	115	30			1.7
25	**-FCR25083- 85**	8	52	85	65	40	3	BRG2508□□	1.3
	-120			120	100	45			1.6
	-135			135	115	35			1.8
32	**-FCR32103- 85**	10	52	85	65	45	3	BRG3210□□	1.4
	-120			120	100	50			1.7
	-135			135	115	40			1.9

1. Wrench included. Inserts must be ordered separately.

For inserts, J4 For cutting conditions, J5

[Oversize]

Cutter diameter is **1mm** larger than shank diameter, preventing workpiece interference. (except ST28)



Cutter diameter øDc	Model	øDs	Effective cutting edge length ap	L	A	Ls	Number of inserts	Insert Model	Weight (kg)
16	**ST15-FCR16082-120**	15	8	120	25	95	2	BRG1608□□	0.2
17	**ST16-FCR17082-120**	16	8	120	25	95	2	BRG1608□□	0.2
20	**ST19-FCR20082-165**	19	8	165	30	135	2	BRG2008□□	0.4
	-FCR20083-135			135		105	3		0.3
21	**ST20-FCR21082-165**	20	8	165	30	135	2	BRG2008□□	0.4
	-FCR21083-135			135		105	3		0.3
25	**ST24-FCR25082-180**	24	8	180	35	145	2	BRG2508□□	0.7
	-FCR25083-150			150		115	3		0.6
26	**ST25-FCR26082-165**	25	8	165	38	127	2	BRG2508□□	0.6
	-FCR26083-150			150		112	3		0.6
32	**ST28-FCR32102-180**	28	10	180	48	132	2	BRG3210□□	1.1
	-FCR32103-180			180		132	3		1.0
33	**ST32-FCR33102-180**	32	10	180	48	132	2	BRG3210□□	1.1
	-FCR33103-180			180		132	3		1.0

1. Wrench included. Inserts must be ordered separately.
2. Lower the cutting parameters as needed for long projection length and 3 inserts models.
3. 2-insert models are recommended for medium or heavy milling of slots or pockets.
4. For medium or heavy slot milling or ramping with projection length exceeding 2.5 times the diameter, 2-insert models are recommended.

For inserts, J4 For cutting conditions, J5

Evolved rigidity realizes both heavy and stable ramping.

HSK Integrated Type

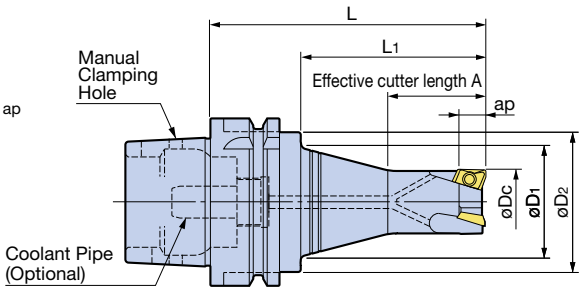
Slotting | Shoulder milling | Ramping | Helical milling | Peck-drilling

[Standard Type]

● Model Description

HSK-A50 - FCR 16 08 2 - 75

- HSK SHANK No.
- FCR Type
- Cutter diameter øDc
- Effective cutting edge length ap
- Number of inserts
- L dimension



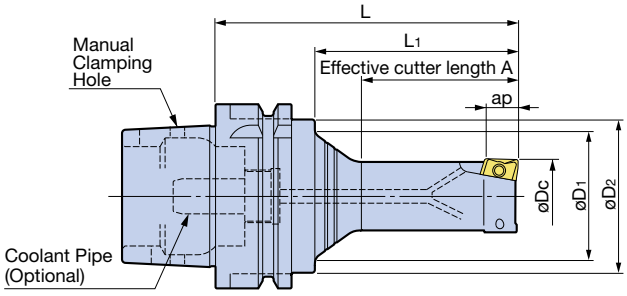
A Type (**DIN69893-1**) (**ISO12164**)

Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	øD2	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	**HSK-A50-FCR16082- 75**	8	32	40	75	41	27	2	BRG1608□□	0.5
20	**-FCR20083- 75**				75	41	28	3	BRG2008□□	0.6
25	**-FCR25083- 75**				75	41	33	3	BRG2508□□	0.6
32	**-FCR32103- 75**	10	—		75	41	39	3	BRG3210□□	0.7
16	**HSK-A63-FCR16082- 85**	8	45	50	85	51	25	2	BRG1608□□	0.9
	-120				120	86	30			1.1
	-135				135	101	25			1.2
20	**-FCR20083- 85**	8	45	50	85	51	32	3	BRG2008□□	1.0
	-120				120	86	30			1.2
	-135				135	101	30			1.3
25	**-FCR25083- 85**	8	45	50	85	51	35	3	BRG2508□□	1.0
	-120				120	86	45			1.2
	-135				135	101	35			1.4
32	**-FCR32103- 85**	10	45	50	85	51	40	3	BRG3210□□	1.1
	-120				120	86	50			1.4
	-135				135	101	40			1.5

1. Wrench included. Inserts must be ordered separately.
2. Coolant pipe is not included. Please order separately. See page C63

For inserts, J4 | For cutting conditions, J5

[Long Type]



A Type (**DIN69893-1**) (**ISO12164**)

Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	øD2	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	**HSK-A63-FCR16082L- 85**	8	45	50	85	51	40	2	BRG1608□□	0.9
	-120				120	86	45			1.0
20	**-FCR20082L-105**	8	45	50	105	71	50	2	BRG2008□□	1.1
	-120				120	86	60			1.2
25	**-FCR25082L-105**	8	45	50	105	71	55	2	BRG2508□□	1.1
	-120				120	86	65			1.1
32	**-FCR32102L-120**	10	45	50	120	86	70	2	BRG3210□□	1.4
	-135				135	101	80			1.4

1. Wrench included. Inserts must be ordered separately.
2. Coolant pipe is not included. Please order separately. See page C63

For inserts, J4 | For cutting conditions, J5

<Insert PAT.>

FCR Type exclusive

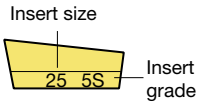
· Exclusive design with relief angles and rake angles optimized for each cutter size.

● Model Description

BRG16 | 08 | 08 | ACZ350S

- ACZ350S: Grade
- 08: Nose Radius
- 08: Effective cutting edge length: ø16 - 26...08 ø32 - 33...10

Insert Marking Description



1: ACZ310
5S: ACZ350S
2: DS20

Cutter diameter	Insert Model	Effective cutting edge length	Nose radius	Insert grade		
				ACZ350S (for general steel)	ACZ310 (for cast iron)	DS20 (for aluminum)
ø16, ø17	**BRG160808**	8	0.8	○	○	○
ø20, ø21	**BRG200808**	8		○	○	○
ø25, ø26	**BRG250808**	8		○	○	○
ø32, ø33	**BRG321008**	10		○	○	○
	BRG321032	10	3.2	—	—	○

1. Inserts are available in packets of 10 pcs.
   Please specify the insert model number and grade when ordering.

Caution

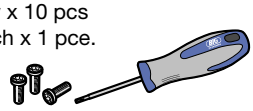
- Inserts are exclusive for each cutter diameter. Be sure to purchase an insert suited to the cutter diameter, as the use of a different insert may cause problems.
- Not compatible with inserts for FULLCUT MILL FCM Type.

■ Insert Grade Description

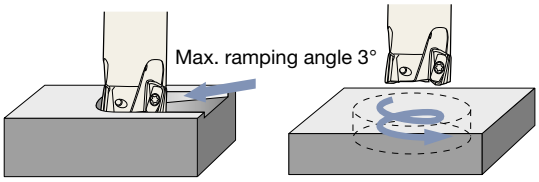
ACZ350S	ACZ310	DS20
Material with highly chipping-resistant, heat-resistant, and peeling-resistant coating on a tough carbide substrate. We recommend dry machining, but the wide application range also allows wet machining.	Material for cast iron and ductile cast iron machining, with a PVD multilayer coating on an ultra-fine particle alloy substrate. Highly wear-resistant and also resistant to machine impact.	Material for non-ferrous metals, with a special diamond coating (DLC) realizing high adhesion and low friction, on K20 class carbide.

<Insert Clamping Screw Set>

Insert clamp screws and tightening wrench are consumables. Order periodically for replacement or spares.

		● Insert Clamping Screw Set Screw x 10 pcs Wrench x 1 pce. 	● Driver-Type Wrench 
Cutter diameter	Insert Model	Set Model	Wrench Model
ø16, ø17	BRG1608□□	**S2506DS**	**DA-T8**
ø20, ø21	BRG2008□□		
ø25, ø26	BRG2508□□		
ø32, ø33	BRG3210□□	**S3508DS**	**DA-T15**

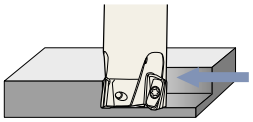
Cutting Conditions



Cutter diameter	Blind Hole Helical Machining		Through Hole Helical Machining
	Max. diameter	Min. diameter	Min. diameter
ø16	ø30	ø27	ø22
ø20	ø38	ø36	ø29
ø25	ø48	ø45	ø39
ø32	ø62	ø59	ø48

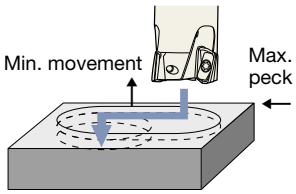
■Ramping/Helical Milling

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Pre-hardened Steel HRC40 or less	Stainless Steel	Tool Steel (SKD11)	Cast Iron	Aluminum
	Insert grade	ACZ350S					ACZ310	DS20
	Cutting fluid	Dry		Wet	Dry/Wet	Dry		Dry/Wet
ø16 - ø17	Cutting speed Vc (m/min)	100 - 200	150 - 220	60 - 80	100 - 150	60 - 80	100 - 180	200 - 1,000
	Feed rate fz (mm/t)	0.06 - 0.12	0.06 - 0.12	0.05 - 0.08	0.08 - 0.16	0.06 - 0.1	0.08 - 0.18	0.06 - 0.24
ø20 - ø26	Cutting speed Vc (m/min)	100 - 200	150 - 200	60 - 100	120 - 150	60 - 100	100 - 180	200 - 1,000
	Feed rate fz (mm/t)	0.08 - 0.2	0.08 - 0.2	0.05 - 0.1	0.12 - 0.2	0.06 - 0.1	0.02 - 0.18	0.1 - 0.35
ø32 - ø33	Cutting speed Vc (m/min)	100 - 200	150 - 200	60 - 100	120 - 150	60 - 120	100 - 180	200 - 1,000
	Feed rate fz (mm/t)	0.08 - 0.2	0.08 - 0.2	0.05 - 0.1	0.12 - 0.2	0.08 - 0.12	0.06 - 0.2	0.1 - 0.35



■Shoulder Milling/Slotting

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Pre-hardened Steel HRC40 or less	Stainless Steel	Tool Steel (SKD11)	Cast Iron	Aluminum
	Insert grade	ACZ350S					ACZ310	DS20
	Cutting fluid	Dry		Wet	Dry/Wet	Dry		Dry/Wet
ø16 - ø21	Cutting speed Vc (m/min)	100 - 200	100 - 200	60 - 80	120 - 180	80 - 120	100 - 180	200 - 1,000
	Feed rate fz (mm/t)	0.08 - 0.18	0.08 - 0.18	0.05 - 0.1	0.12 - 0.18	0.08 - 0.12	0.08 - 0.18	0.1 - 0.3
ø25 - ø33	Cutting speed Vc (m/min)	100 - 200	100 - 200	60 - 100	120 - 180	80 - 120	100 - 180	200 - 1,500
	Feed rate fz (mm/t)	0.08 - 0.2	0.08 - 0.2	0.05 - 0.1	0.12 - 0.2	0.08 - 0.12	0.08 - 0.2	0.1 - 0.35



Cutter diameter	Max. peck	Min. movement
ø16	0.5	14
ø20	1	18
ø25	1	23
ø32	2	30

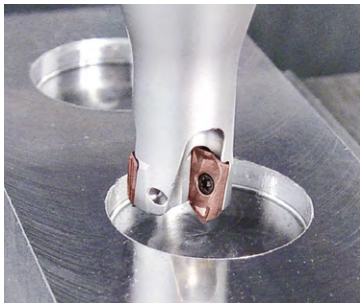
■Peck-drilling

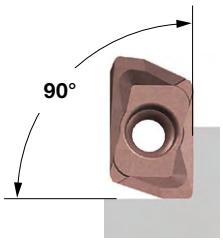
Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Pre-hardened Steel HRC40 or less	Stainless Steel	Tool Steel (SKD11)	Cast Iron	Aluminum
	Insert grade	ACZ350S					ACZ310	DS20
	Cutting fluid	Air blow		Wet	Air/Wet	Air blow		Air/Wet
ø16 - ø17	Cutting speed Vc (m/min)	80 - 120	80 - 120	60	80 - 120	60 - 80	80 - 160	200 - 350
	Feed per rev. f (mm/rev)	0.06 - 0.1	0.06 - 0.1	0.04 - 0.06	0.05 - 0.08	0.05 - 0.08	0.06 - 0.1	0.06 - 0.1
ø20 - ø26	Cutting speed Vc (m/min)	100 - 160	100 - 160	60 - 100	100 - 160	60 - 100	80 - 180	200 - 500
	Feed per rev. f (mm/rev)	0.1 - 0.25	0.1 - 0.25	0.1 - 0.25	0.12 - 0.25	0.1 - 0.2	0.08 - 0.3	0.1 - 0.3
ø32 - ø33	Cutting speed Vc (m/min)	100 - 160	100 - 160	60 - 100	100 - 160	60 - 100	80 - 180	200 - 600
	Feed per rev. f (mm/rev)	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3	0.12 - 0.3	0.1 - 0.2	0.08 - 0.4	0.1 - 0.3

⚠ Caution

- This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
- Be sure to use safety enclosures, as chips may scatter.
- Do not use oil-based cutting fluid, as there is a risk of fire.

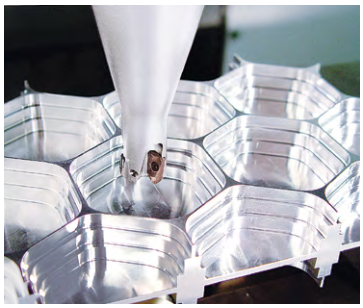
APPLICATION EXAMPLES





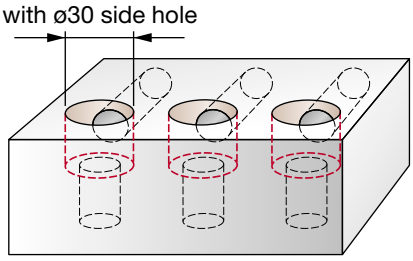
S50C helical machining was accomplished stably at 1,100mm/min. feed, with excellent perpendicularity.

FULLCUT MILL Model	**BBT40-FCR20083-120**
Insert Model	BRG200808 (ACZ350S)
Workpiece material	S50C/Air blow
Cutting speed Vc (m/min)	150
Feed Vf (mm/min)	1,100
Axial cutting depth ap (mm)	2mm x 3 times
Machining hole diameter	ø38



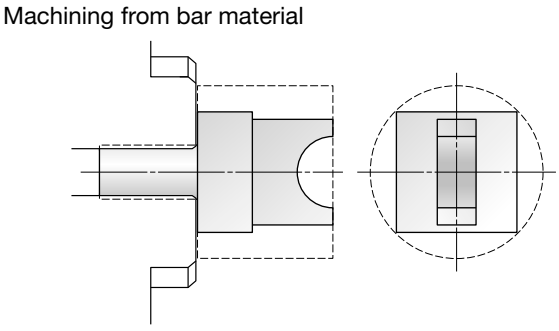
Even with less-rigid workpiece with 3mm bottom thickness clamped by a vise, machining at 4,300mm/min. feed on both sides of the workpiece is achieved.

FULLCUT MILL Model	**BBT40-FCR20083-85**
Insert Model	BRG200808 (DS20)
Workpiece material	A2017/Air blow
Cutting speed Vc (m/min)	750
Feed Vf (mm/min)	4,300
Axial cutting depth ap (mm)	6mm x 3 times
Radial cutting depth ae (mm)	Max. 20



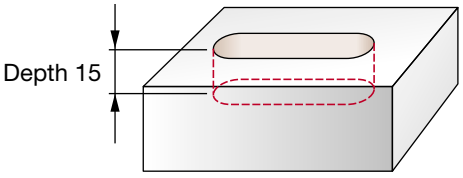
Side holes caused frequent machining defects with conventional ø30 drilling, while helical machining achieved excellent stability.
No problems with machining surface or steps either.

FULLCUT MILL Model	**BBT40-FCR25083-85**
Insert Model	BRG250808 (ACZ350S)
Workpiece material	SS400/Dry cutting
Cutting speed Vc (m/min)	160
Feed Vf (mm/min)	600
Hole depth (mm)	25



Even with less-rigid cantilever chucking of a workpiece on a millturn machine, low cutting resistance allowed high-precision, high-efficiency machining with no problems.

FULLCUT MILL Model	**BBT40-FCR16082-85**
Insert Model	BRG160808 (ACZ350S)
Workpiece material	S45C/Dry cutting
Cutting speed Vc (m/min)	160
Feed Vf (mm/min)	650
Axial cutting depth ap (mm)	2
Radial cutting depth ae (mm)	10



Excellent surface finish for indexable insert endmills, and no finishing required. No problems with steps either. Achieved 7 times greater cutting efficiency than conventional carbide drills and endmills.

FULLCUT MILL Model	**BBT40-FCR20083-85**
Insert Model	BRG200808 (DS20)
Workpiece material	A2017/Wet cutting
Cutting speed Vc (m/min)	350
Feed Vf (mm/min)	2,000
Axial cutting depth ap (mm)	5mm Peck-drilling
Radial cutting depth ae (mm)	20

Indexable insert endmills which combine sharpness and toughness are comparable to solid endmills.

● Abundant variations from cylindrical shanks to DUAL CONTACT integrated types.

BBT Integrated Type

Slotting Shoulder milling

- Tough 7/24 taper shank integrated type. Equipped with DUAL CONTACT <BIG-PLUS> to further improve rigidity and precision!

[Standard Type]

● Model Description

BBT30 - FCM 16 09 2 - 65

- BIG-PLUS BT No.
- FCM Type
- Cutter diameter øDc
- Effective cutting edge length ap
- Number of inserts
- L dimension

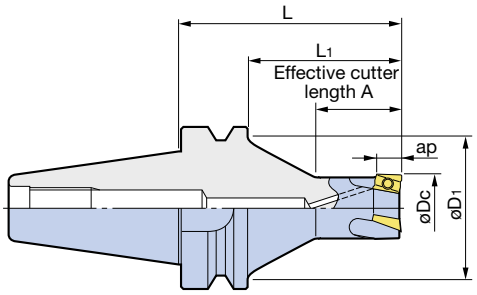
Holder with DUAL CONTACT as standard

BIG-PLUS® SPINDLE SYSTEM
Dual contact spindle system

- BT type dual contact system.
- Improvement of rigidity, Z-axis accuracy, and ATC repeatability.

Caution

BIG-PLUS spindles produced by licensed machine or spindle builders are strictly controlled in dimensions by the BIG original MASTER GAUGE. Only the BIG-PLUS HOLDERS can achieve the optimal performance of these spindles fully and safely.



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

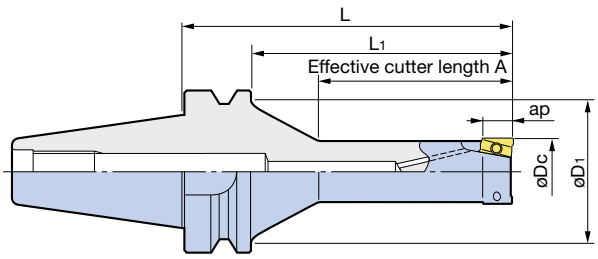
Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	**BBT30-FCM16092- 65**	9	40	65	43	23	2	ARG1609□□	0.50
20	**-FCM20093- 65**				43	28	3	ARG2009□□	0.51
25	**-FCM25093- 65**				43	33	3	ARG2509□□	0.55
32	**-FCM32113- 65**	11			43	38	3	ARG3211□□	0.60
40	**-FCM40114- 50**		—	50	28	25	4	ARG4011□□	0.60
50	**-FCM50115- 50**					28	5		0.73
16	**BBT40-FCM16092- 85**	9	55	85	58	23	2	ARG1609□□	1.2
	-105		58	105	78	30			1.3
	-120		60	120	93	25			1.4
	-150			150	123				1.7
20	**-FCM20093- 85**	9	55	85	58	28	3	ARG2009□□	1.2
	-105		58	105	78	35			1.3
	-120		60	120	93	30			1.4
	-150			150	123				1.7
25	**-FCM25093- 85**	9	55	85	58	33	3	ARG2509□□	1.2
	-120		58	120	93	45			1.4
	-135		60	135	108	40			1.6
	-165			165	138				1.9
32	**-FCM32113- 85**	11	55	85	58	38	3	ARG3211□□	1.3
	-120		58	120	93	60			1.5
	-135		60	135	108	50			1.7
	-165			165	138	40			2.1
40	**-FCM40114- 85**	11	55	85	58	43	4	ARG4011□□	1.4
	-120		58	120	93	65			1.7
	-135		60	135	108	60			2.0
	-165			165	138	50			2.4
50	**-FCM50115- 70**	11	—	70	43	38	5		1.5
	-120		60	120	93	65			2.2
	-135			135	108	60			2.4
	-165			165	138	50			3.0

1. Wrench included. Inserts must be ordered separately.
2. For medium/heavy grooving exceeding L = 120mm at ø20 or L = 135mm at ø25 or more, we recommend the LONG TYPE (next page). In such cases, 2-flute LONG TYPEs can perform machining using several times greater axial cutting depth, achieving machining efficiency significantly higher than 3-flute models.

For inserts, J14
For cutting conditions, J15

[Long Type]

DUAL CONTACT
BIG-PLUS®



BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

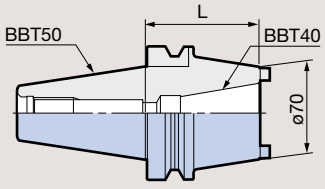
Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	**BBT30-FCM16092L- 85**	9	40	85	63	45	2	ARG1609□□	0.52
20	**-FCM20092L- 85**				63	50		ARG2009□□	0.55
25	**-FCM25092L- 85**				63	50		ARG2509□□	0.62
32	**-FCM32112L- 85**	11			63	60		ARG3211□□	0.71
16	**BBT40-FCM16092L-105**	9	60	105	78	45	2	ARG1609□□	1.3
	-120			120	93				1.4
20	**-FCM20092L-120**	9	60	120	93	60	2	ARG2009□□	1.4
	-135			135	108				1.5
25	**-FCM25092L-135**	9	60	135	108	75	2	ARG2509□□	1.5
	-150			150	123				1.7
32	**-FCM32112L-135**	11	60	135	108	80	2	ARG3211□□	1.7
	-150			150	123	90			1.9

1. Wrench included. Inserts must be ordered separately.

For inserts, J14 For cutting conditions, J15

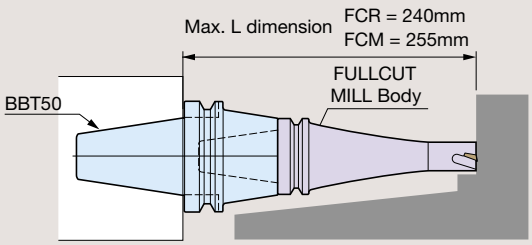
Adapter

An adapter for use of the BBT40 (FULLCUT MILL) on BBT50/BT50 machines.



Model	L
BBT50-BBT40-50	50
-90	90

For the **head interchangeable holder CONTACT GRIP, BBT50 models** are also available.
Refer to J19 for details.

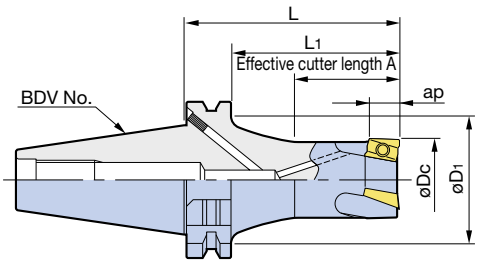


Combination with the Long Type enables further workpiece interference countermeasures.

BDV Integrated Type

[Standard Type]

DUAL CONTACT
BIG-PLUS®



BIG-PLUS (BDV Shank) tools can be used on both BIG-PLUS spindles and conventional **DV spindles**.

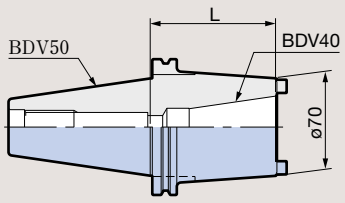
Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	**BDV40-FCM16092- 85**	9	52	85	65	23	2	ARG16	1.2
	-105			105	85	35			1.3
	-120			120	100	34			1.4
20	**-FCM20093- 85**	9	52	85	65	35	3	ARG20	1.2
	-105			105	85	40			1.3
	-120			120	100	39			1.4
25	**-FCM25093- 85**	9	52	85	65	33	3	ARG25	1.2
	-120			120	100	45			1.4
	-135			135	115	40			1.6
32	**-FCM32113- 85**	11	52	85	65	38	3	ARG32	1.3
	-120			120	100	60			1.5
	-135			135	115	50			1.7
40	**-FCM40114- 85**	11	52	85	65	45	4	ARG40	1.4
	-120			120	100	65			1.7
	-135			135	115	60			2.0
50	**-FCM50115- 70**	11	52	70	50	50	5	ARG40	1.5
	-120			120	100	100			2.2
	-135			135	115	115			2.4

1. Wrench included. Inserts must be ordered separately.

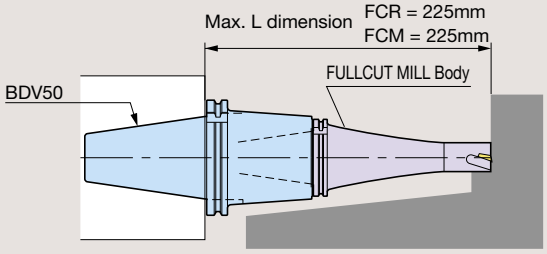
For inserts, J14 For cutting conditions, J15

Adapter

An adapter for use of the BDV40 (FULLCUT MILL) on BDV50/DV50 machines.



Model	L
BDV50-BDV40-50	50
-90	90



Cylindrical Shank Type

Slotting Shoulder milling

We recommend the BIG MEGA DOUBLE POWER CHUCK for chucking.

- Highly versatile Cylindrical Shank Type.
  Make cutting easier by combining with the BIG MEGA DOUBLE POWER CHUCK!

Cutter diameter from ø12 -

● Model Description

ST16 - FCM 12 09 1 - 90

- 90: L dimension
- 1: Number of inserts
- 09: Effective cutting edge length ap
- 12: Cutter diameter øDc
- FCM: FCM Type
- ST16: Cylindrical shank diameter

Fig. 1

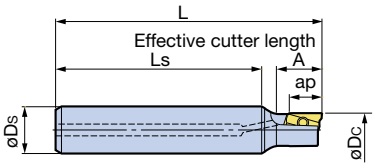
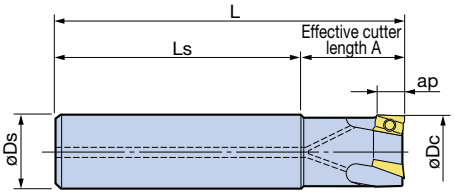


Fig. 2



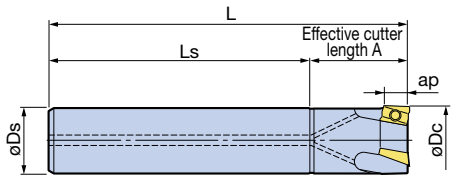
Cutter diameter øDc	Model	Fig.	øDs	Effective cutting edge length ap	L	A	Ls	Number of inserts	Insert Model	Weight (kg)
12	**ST16-FCM12091- 90**	1	16	9	90	15	70	1	ARG1609□□	0.1
14	**-FCM14091- 90**					17				0.1
16	**-FCM16092- 90**	2				25	65	2		0.1
20	**ST20-FCM20093-110**		20		110	30	80	3	ARG2009□□	0.2
25	**ST25-FCM25093-120**		25		120	35	85		ARG2509□□	0.4
32	**ST32-FCM32113-130**		32	11	130	35	95	3	ARG3211□□	0.7
40	**-FCM40114-130**					40	90	4	ARG4011□□	0.8
	-180				180		140			1.2
50	**-FCM50115-130**				130		90	5		1.0

1. Wrench included. Inserts must be ordered separately.

For inserts, J14 For cutting conditions, J15

[Oversize]

Cutter diameter is **1mm** larger than shank diameter, preventing workpiece interference.

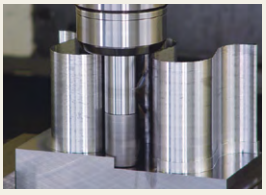


Cutter diameter øDc	Model	øDs	Effective cutting edge length ap	L	A	Ls	Number of inserts	Insert Model	Weight (kg)
17	**ST16-FCM17092-120**	16	9	120	25	95	2	ARG1609□□	0.2
21	**ST20-FCM21092-165**	20	9	165	30	135	2	ARG2009□□	0.4
	-FCM21093-135			135		105	3		0.3
26	**ST25-FCM26092-165**	25	9	165	38	127	2	ARG2509□□	0.6
	-FCM26093-150			150		112	3		0.6
33	**ST32-FCM33112-180**	32	11	180	48	132	2	ARG3211□□	1.1
	-FCM33113-180			180		132	3		1.0

1. Wrench included. Inserts must be ordered separately.
2. We recommend 2-flute models for medium/heavy grooving.

For inserts, J14 For cutting conditions, J15

●Machining of S55C



Model	ST32-FCM33112-180
Cutting speed Vc (m/min)	120
Feed rate fz (mm/t)	0.1
Axial DOC ap (mm)	10mm x 10 steps
Radial DOC ae (mm)	Max. 33mm

Result

Machining was problem-free even under heavy cutting conditions of projection 110mm and ap 10mm.

HSK Integrated Type

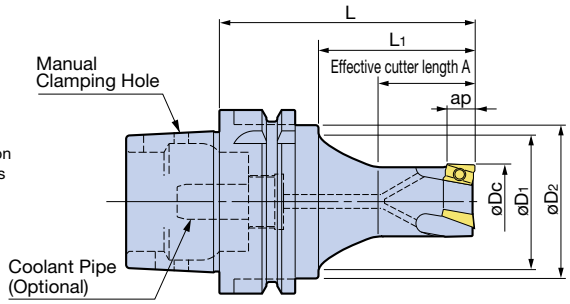
Slotting Shoulder milling

[Standard Type]

● Model Description

HSK-A40 - FCM 16 09 2 - 65

- HSK SHANK No.
- FCM Type
- Cutter diameter øDc
- Effective cutting edge length ap
- Number of inserts
- L dimension



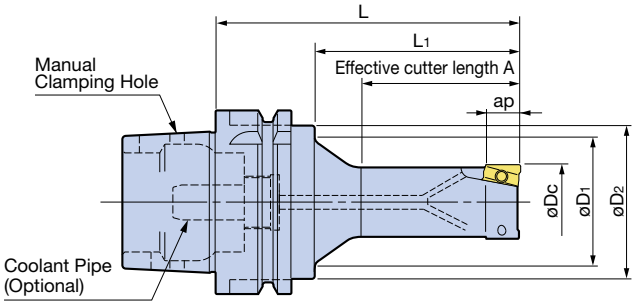
A Type (**DIN69893-1**) (**ISO12164**)

Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	øD2	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	**HSK-A40-FCM16092- 65**	9	25	34	65	37	23	2	ARG1609□□	0.3
20	**-FCM20093- 65**						28	3	ARG2009□□	0.3
25	**-FCM25093- 65**		–				35		ARG2509□□	0.4
32	**-FCM32113- 65**	11							ARG3211□□	0.5
40	**-FCM40114- 65**			–		–	45	4	ARG4011□□	0.6
50	**-FCM50115- 65**							5		0.7
16	**HSK-A50-FCM16092- 75**	9	32	40	75	41	23	2	ARG1609□□	0.6
20	**-FCM20093- 75**						28	3	ARG2009□□	0.6
25	**-FCM25093- 75**						33		ARG2509□□	0.6
32	**-FCM32113- 75**	11	–				39		ARG3211□□	0.7
40	**-FCM40114- 75**			–		–	48	4	ARG4011□□	0.9
50	**-FCM50115- 75**							5		1.0
16	**HSK-A63-FCM16092- 85**	9	45	50	85	51	23	2	ARG1609□□	0.9
	-105				105	71	30			1.0
	-120				120	86	25			1.1
	-150				150	116	25			1.3
20	**-FCM20093- 85**	9	45	50	85	51	28	3	ARG2009□□	1.0
	-105				105	71	35			1.1
	-120				120	86	30			1.2
	-150				150	116	30			1.4
25	**-FCM25093- 85**	9	45	50	85	51	33	3	ARG2509□□	1.0
	-120				120	86	45			1.2
	-135				135	101	40			1.3
	-165				165	131	40			1.5
32	**-FCM32113- 85**	11	45	50	85	51	38	3	ARG3211□□	1.1
	-120				120	86	60			1.3
	-135				135	101	50			1.4
	-165				165	131	40			1.7
40	**-FCM40114- 85**	11	45	50	85	51	43	4	ARG4011□□	1.3
	-120				120	86	65			1.5
	-135				135	101	60			1.7
	-165				165	131	50			2.1
50	**-FCM50115- 70**	11	–	53	70	28	28	5	ARG4011□□	1.3
	-120				120	78	78			1.9
	-135				135	93	93			2.2
	-165				165	123	123			2.8

1. Wrench included. Inserts must be ordered separately.
2. Coolant pipe is not included. Please order separately. See page C63

For inserts, J14
For cutting conditions, J15

[Long Type]



A Type (DIN69893-1) (ISO12164)

Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	øD2	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	HSK-A63-FCM16092L- 85	9	45	50	85	51	40	2	ARG1609□□	0.9
	-120				120	86	45			1.0
20	-FCM20092L-105	9	45	50	105	71	50	2	ARG2009□□	1.1
	-120				120	86	60			1.2
25	-FCM25092L-105	9	45	50	105	71	55	2	ARG2509□□	1.1
	-120				120	86	65			1.2
32	-FCM32112L-120	11	45	50	120	86	70	2	ARG3211□□	1.3
	-135				135	101	80			1.4

1. Wrench included. Inserts must be ordered separately.
2. Coolant pipe is not included. Please order separately. See page C63

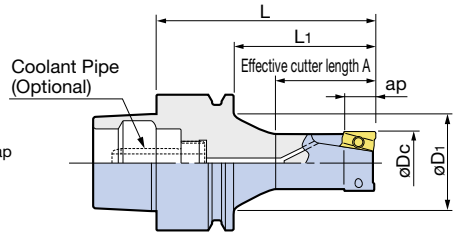
For inserts, J14 For cutting conditions, J15

[Standard Type]

● Model Description

HSK-E25 - FCM 16 09 2 - 45

- HSK-E SHANK No.
- FCM Type
- Cutter diameter ø16
- Effective cutting edge length ap
- Number of inserts
- L dimension



E Type (DIN69893-5)

Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	HSK-E25-FCM16092-45	9	19	45	35	23	2	ARG1609□□	0.17
	-E32-FCM16092-55		26	55	35	23			0.20
	-E40-FCM16092-65		34	65	45	28			0.45

1. Wrench included. Inserts must be ordered separately.
2. Coolant pipe is not included. Please order separately. See page C63

For inserts, J14 For cutting conditions, J15

Caution

As the HSK-E type interface does not have drive key grooves, there is a risk that it may slip in the machine spindle and damage it if cutting load exceeds clamping force of the machine tool. Starting from the lowest possible conditions, increase them gradually while observing the cutting status, and find the optimum with sufficient safety margin.

BIG CAPTO Integrated Type

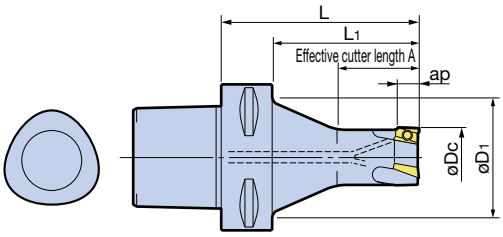
Slotting Shoulder milling

[Standard Type]

● Model Description

C5 - FCM 16 09 2 - 65

- C5 – Shank No.
- FCM – FCM Type
- 16 – Cutter diameter øDc
- 09 – Effective cutting edge length ap
- 2 – Number of inserts
- 65 – L dimension



Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	L	L1	A	Number of inserts	Insert Model	Weight (kg)
16	**C5-FCM16092 - 65**	9	40	65	45	23	2	ARG1609□□	0.5
	- 90		44	90	70	30			0.6
20	**-FCM20093 - 65**	9	40	65	45	28	3	ARG2009□□	0.5
	- 90		44	90	70	35			0.6
25	**-FCM25093 - 65**	9	40	65	45	33	3	ARG2509□□	0.6
	- 90		44	90	70	40			0.7
32	**-FCM32113 - 65**	11	40	65	45	38	3	ARG3211□□	0.6
	- 90		44	90	70	45			0.8
40	**-FCM40114 - 50**	11	—	50	30	25	4	ARG4011□□	0.6
	- 90		46	90	70	60			1.0
50	**-FCM50115 - 50**	11	—	50	30	25	5		0.7
	- 90			90	70	65			1.0

1. Wrench included. Inserts must be ordered separately.

※ **For the C6 size, we offer the head interchangeable holder CONTACT GRIP (FCM/FCR). (J20)**

For inserts, J14 For cutting conditions, J15

<Insert PAT.>

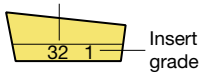
FCM Type exclusive

● Model Description

ARG16 | 09 | 02 | ACP300

- ACP300: Grade
- 02: Nose Radius
- 09: Effective cutting edge length: ø12 - 26...09 ø32 - 50...11

Insert Marking Description



1: ACZ310
2: DS20
P2: ACP200
P3: ACP300
M3: ACM300S
5S: ACZ350S

Cutter diameter	Insert Model	Effective cutting edge length	Nose radius	Insert grade					
				ACP300 (for steel)	ACP200 (for pre-hardened steel)	NEW ACM300S (for stainless steel)	ACZ350S (for stainless steel)	ACZ310 (for cast iron)	DS20 (for aluminum)
ø12 - ø17	**ARG160902**	9	0.2	○	–	–	○	○	○
	160904		0.4	○	○	○	○	○	○
ø20, ø21	**ARG200902**	9	0.2	○	–	–	○	○	○
	200904		0.4	○	○	○	○	○	○
ø25, ø26	**ARG250902**	9	0.2	○	–	–	○	○	○
	250904		0.4	○	○	○	○	○	○
ø32, ø33	**ARG321102**	11	0.2	○	–	–	○	○	○
	321104		0.4	○	○	○	○	○	○
ø40, ø50	**ARG401102**	11	0.2	○	–	–	○	○	○
	401104		0.4	○	○	○	○	○	○

1. Inserts are available in packets of 10 pcs.
Please specify the insert model number and grade when ordering.

Caution

- Inserts are exclusive for each cutter diameter. Be sure to purchase an insert suited to the cutter diameter, as the use of a non-compatible insert may cause problems.
- Not compatible with inserts for FULLCUT MILL FCR Type.
- Insert with nose radius 0.2 is for light cutting.

■ Insert Grade Description

ACP300	ACP200	ACM300S	ACZ350S
Material for general steel, with a PVD multilayer coating on an ultra-tough substrate. Resistant to chipping and thermal fractures, allowing interrupted cutting as well.	With multilayers of nano-order TiAlN and AlCrN on a high-hardness substrate, it has superior wear resistance in pre-hardened steel machining.	Uses a new coating with improved film hardness and oxidation start temperature on a newly developed high-strength carbide substrate. Our most highly recommended material for stainless steel machining, combining wear resistance and fracture resistance.	With cutting-edge treatment and coating developed for stainless steel, on a tough carbide substrate. Extended life through superior heat fracture and chipping resistance.

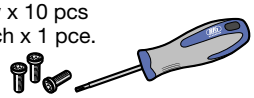
ACZ310	DS20
Material for cast iron and ductile cast iron machining, with a PVD multilayer coating on an ultra-fine particle alloy substrate. Highly wear-resistant and also resistant to machine impact.	Material for non-ferrous metals, with a special diamond coating (DLC) realizing high adhesion and low friction, on K20 class carbide.

Both ACP300 and ACP200 can be used for steel machining

ACP200 has excellent wear resistance, while ACP300 has superb chipping resistance. For steel machining, we recommend ACP300 the most highly. ACP300 provides stable machining, but for even higher speeds or when wear resistance is required, use ACP200. Note that ACP200 is not recommended for heavy interrupted cutting or heavy cutting.

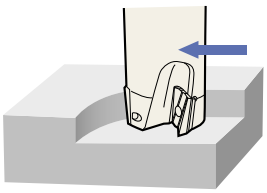
<Insert Clamping Screw Set>

Insert clamp screw and tightening wrench are consumables. Order periodically for replacement or spares.

		● Insert Clamping Screw Set Screw x 10 pcs Wrench x 1 pce. 	● Driver-Type Wrench 
Cutter diameter	Insert Model	Set Model	Wrench Model
ø12	ARG1609□□	**S2505DS**	**DA-T8**
ø14, ø16, ø17		**S2506DS**	
ø20, ø21	ARG2009□□		
ø25, ø26	ARG2509□□		
ø32, ø33	ARG3211□□	**S3508DS**	**DA-T15**
ø40	ARG4011□□		
ø50			

Cutting Conditions

■ Shoulder Milling/Slotting



Caution

- FULLCUT MILL FCM Type cannot be used for machining with Z-direction tool feed, such as ramping or drilling.

Light to medium cutting

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Pre-hardened Steel HRC40 or less	Stainless Steel		Cast Iron	Aluminum
	Insert grade	ACP300		ACP200	ACM300S	ACZ350S	ACZ310	DS20
	Cutting fluid	Dry			Dry/Wet		Dry	Dry/Wet
ø12 - ø14	Cutting speed Vc (m/min)	150 - 250	180 - 250	80 - 140	140 - 180	140 - 180	100 - 200	200 - 750
	Feed rate fz (mm/t)	0.1 - 0.2	0.1 - 0.2	0.08 - 0.12	0.12 - 0.18	0.12 - 0.18	0.1 - 0.2	0.10 - 0.3
ø16 - ø21	Cutting speed Vc (m/min)	150 - 250	180 - 250	80 - 140	140 - 180	140 - 180	100 - 200	200 - 1,000
	Feed rate fz (mm/t)	0.1 - 0.2	0.1 - 0.2	0.08 - 0.12	0.12 - 0.18	0.12 - 0.18	0.1 - 0.2	0.10 - 0.3
ø25 - ø33	Cutting speed Vc (m/min)	180 - 280	200 - 280	80 - 140	140 - 200	140 - 200	100 - 200	200 - 1,500
	Feed rate fz (mm/t)	0.1 - 0.24	0.1 - 0.22	0.08 - 0.14	0.12 - 0.2	0.12 - 0.2	0.1 - 0.2	0.10 - 0.35
ø40 - ø50	Cutting speed Vc (m/min)	180 - 280	200 - 280	80 - 140	140 - 200	140 - 200	80 - 200	200 - 1,500
	Feed rate fz (mm/t)	0.1 - 0.24	0.1 - 0.22	0.08 - 0.14	0.12 - 0.2	0.12 - 0.2	0.1 - 0.2	0.10 - 0.35

Heavy interrupted cutting/Heavy cutting

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Stainless Steel		Cast Iron	Aluminum
	Insert grade	ACP300		ACM300S	ACZ350S	ACZ310	DS20
	Cutting fluid	Dry		Dry/Wet		Dry	Dry/Wet
ø12 - ø14	Cutting speed Vc (m/min)	100 - 200	150 - 200	120 - 180	120 - 180	100 - 180	200 - 750
	Feed rate fz (mm/t)	0.08 - 0.14	0.1 - 0.15	0.12 - 0.15	0.12 - 0.15	0.08 - 0.18	0.10 - 0.2
ø16 - ø21	Cutting speed Vc (m/min)	100 - 200	150 - 200	120 - 180	120 - 180	100 - 180	200 - 1,000
	Feed rate fz (mm/t)	0.08 - 0.14	0.1 - 0.15	0.12 - 0.15	0.12 - 0.15	0.08 - 0.18	0.10 - 0.2
ø25 - ø33	Cutting speed Vc (m/min)	100 - 200	160 - 220	120 - 180	120 - 180	100 - 200	200 - 1,500
	Feed rate fz (mm/t)	0.1 - 0.16	0.1 - 0.15	0.12 - 0.15	0.12 - 0.15	0.08 - 0.2	0.10 - 0.3
ø40 - ø50	Cutting speed Vc (m/min)	100 - 200	160 - 220	120 - 180	120 - 180	100 - 220	200 - 1,500
	Feed rate fz (mm/t)	0.1 - 0.16	0.1 - 0.15	0.12 - 0.15	0.12 - 0.15	0.08 - 0.2	0.10 - 0.3

Caution

- As the nose radius 0.2 insert is for light cutting, pay attention to the axial and radial cutting depth and the feed rate.
- This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions, considering the cutting width as well.
- For the oversize type, we recommend 2-flute models for medium/heavy slotting.
- Dry (or air blow) cutting is recommended for steel machining, except finishing. Dry cutting is recommended for stainless steel as well; however, wet cutting may extend insert life in case severe built-up edge occurs.

APPLICATION EXAMPLES

※ All the following examples are dry cutting.

■ Slotting

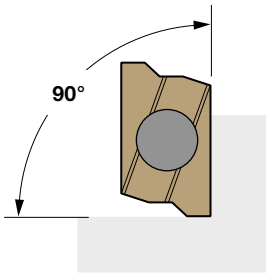
Only the FULLCUT MILL was able to achieve these parameters on a BT40 machine.

FULLCUT MILL Model	**BBT40-FCM32113-85**
Insert Model	ARG321104 (ACP300)
Workpiece material	S50C
Cutting speed Vc (m/min)	150
Feed rate fz (mm/t)	0.12
Axial DOC ap (mm)	9

■ Shoulder Milling

Excellent perpendicularity was achieved.

FULLCUT MILL Model	**BBT40-FCM32113-85**
Insert Model	ARG321104 (ACP300)
Workpiece material	S50C
Cutting speed Vc (m/min)	200
Feed rate fz (mm/t)	0.15
Axial DOC ap (mm)	11
Radial DOC ae (mm)	5



■ Face Milling

Even at Vc = 200 and fz = 0.15, finishing surface roughness of Ry = 2.53 was achieved.

FULLCUT MILL Model	**BBT40-FCM50115-70**
Insert Model	ARG401104 (ACP300)
Workpiece material	S50C
Cutting speed Vc (m/min)	200
Feed rate fz (mm/t)	0.15
Axial DOC ap (mm)	1
Radial DOC ae (mm)	30

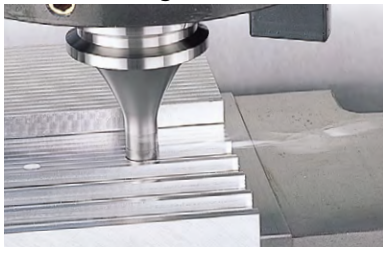
	Bottom surface roughness Ry
BIG	2.53
General Cutter A	3.75
General Cutter B	4.32

■ Difficult-to-Cut Material Machining

High-efficiency machining with SUS304 (feed Vf = 1,140mm/min) was achieved stably.

FULLCUT MILL Model	**ST25-FCM25093-120**
Holder Model	BBT50-MEGA25D-105
Insert Model	ARG250904 (ACZ350S)
Workpiece material	SUS304
Cutting speed Vc (m/min)	150
Feed rate fz (mm/t)	0.2
Axial DOC ap (mm)	9
Radial DOC ae (mm)	3

■ Aluminum High-Speed Machining



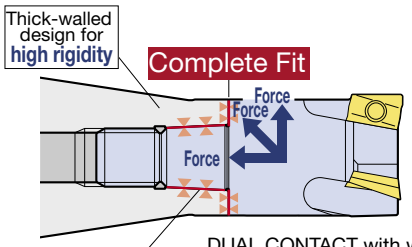
Excellent chips and surface roughness were achieved even in high-speed machining of duralumin A2017 (spindle speed n = 12,000min^{-1}).

FULLCUT MILL Model	**BBT40-FCM16092-85**
Insert Model	ARG16094 (DS20)
Workpiece material	A2017
Cutting speed Vc (m/min)	600
Feed rate fz (mm/t)	0.15
Axial DOC ap (mm)	9

CONTACT GRIP

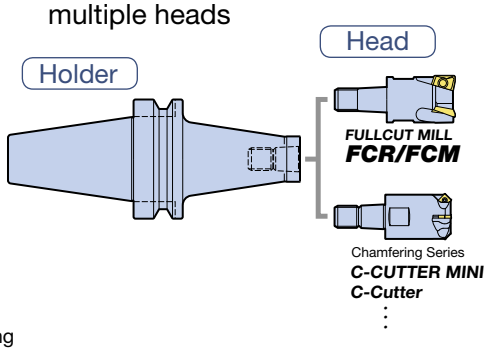
With the unique DUAL CONTACT "CONTACT GRIP", this threaded coupling system achieves machining capacity close to that of integrated types!

■ Taper and flange face make close contact for solid connection



DUAL CONTACT with wide retaining surface area and fine-pitch threads enable strong retention force in any direction.

■ One holder allows selection from multiple heads



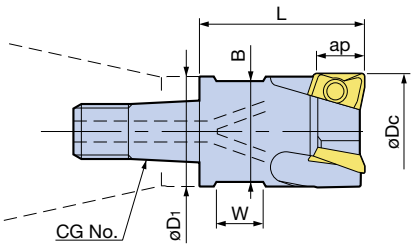
FULLCUT MILL PAT. FCR Head

Ramping · Helical milling · Peck-drilling · Slotting · Shoulder milling

● Realizing both heavy and stable ramping.

● Model Description

CG15 - FCR 16 08 2 - 25
- CG15 - CG No.
- FCR - FCR Type
- 16 - Cutter diameter øDc
- 08 - Effective cutting edge length ap
- 2 - Number of inserts
- 25 - L dimension



Cutter diameter øDc	Model	CG No.	øD1	Effective cutting edge length ap	L	Number of inserts	Flat for Wrench B	Flat for Wrench W	Insert Model	Weight (kg)
16	**CG15-FCR16082-25**	CG15	15	8	25	2	12	6.2	BRG1608□□	0.03
20	**CG19-FCR20082-32**	CG19	19	8	32	2	17	8.2	BRG2008□□	0.07
	-FCR20083-32					3				
25	**CG24-FCR25082-36**	CG24	24	8	36	2	22	10.2	BRG2508□□	0.13
	-FCR25083-36					3				
32	**CG31-FCR32102-43**	CG31	31	10	43	2	27	12.2	BRG3210□□	0.26
	-FCR32103-43					3				

1. Driver-Type Wrench for insert clamping is included. Inserts must be ordered separately.
2. Single-ended wrench for head tightening is not included. Use a commercial product.
3. When used with a body of L=100mm or longer, 2-flute model is recommended for medium/ heavy slotting or ramping.

For inserts and Insert Clamping Screw Sets, J4
For holders, J19

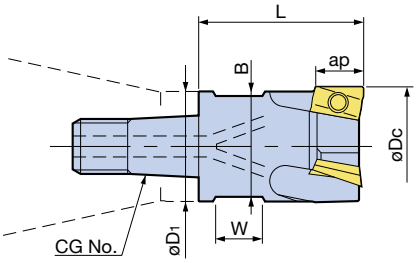
FULLCUT MILL PAT. FCM Head

Slotting · Shoulder milling

● Low resistance, high efficiency cutter especially for cross-feed machining.

● Model Description

CG15 - FCM 16 09 2 - 25
- CG15 - CG No.
- FCM - FCM Type
- 16 - Cutter diameter øDc
- 09 - Effective cutting edge length ap
- 2 - Number of inserts
- 25 - L dimension



Cutter diameter øDc	Model	CG No.	øD1	Effective cutting edge length ap	L	Number of inserts	Flat for Wrench B	Flat for Wrench W	Insert Model	Weight (kg)
16	**CG15-FCM16092-25**	CG15	15	9	25	2	12	6.2	ARG1609□□	0.03
20	**CG19-FCM20092-32**	CG19	19	9	32	2	17	8.2	ARG2009□□	0.07
	-FCM20093-32					3				
25	**CG24-FCM25092-36**	CG24	24	9	36	2	22	10.2	ARG2509□□	0.13
	-FCM25093-36					3				
32	**CG31-FCM32112-43**	CG31	31	11	43	2	27	12.2	ARG3211□□	0.26
	-FCM32113-43					3				

1. Driver-Type Wrench for insert clamping is included. Inserts must be ordered separately.
2. Single-ended wrench for head tightening is not included. Use a commercial product.
3. When used with a body of L=100mm or longer, 2-flute model is recommended for medium/ heavy slotting or ramping.

For inserts and Insert Clamping Screw Sets, J14
For holders, J19

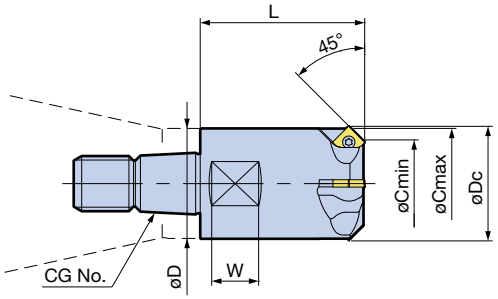
Ultra High Feed Chamfer Mill
C-CUTTER MINI (Front Chamfering)

● Ultra-high feed machining enables drastic reduction of machining time.

● Model Description

CG19 - C 14 19 - 45 - 32

- 32: Projection length
- 45: Chamfering angle
- 19: Max. diameter
- 14: Min. diameter
- C: Chamfering
- CG19: CONTACT GRIP No.



Model	CG No.	øD	Min. hole øCmin	Max. chamfer diameter øCmax	øDc	L	Number of inserts	Flat for Wrench		Insert Model	Weight (kg)
								Wrench width	W		
CG19-C1419-45-32	CG19	19	14	19	19.9	32	4	17	8.2	CM05...	0.07
CG24-C1924-45-36	CG24	24	19	24	24.9	36	4	22	10.2		0.14
CG31-C2131-45-43	CG31	31	21	31	31.8	43	4	27	12.2	CM10...	0.25

1. Wrenches and screws are included. Inserts must be ordered separately.
2. Single-ended wrench for head tightening is not included. Use a commercial product.

For inserts, J31 For holders, J19

C-Cutter

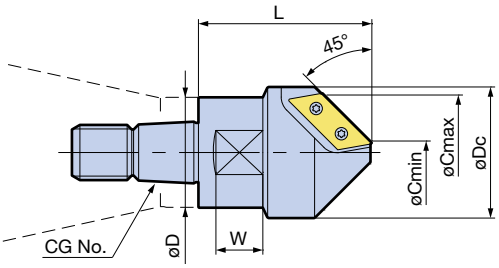
[45° Type]

● Reduces the number of tools, covering a wide range of chamfering.

● Model Description

CG24 - C 05 25

- 25: Max. chamfering diameter
- 05: Min. bore
- C: C-Cutter
- CG24: CONTACT GRIP No.



Model	CG No.	øD	Min. hole øCmin	Max. chamfer diameter øCmax	øDc	L	Number of inserts	Flat for Wrench		Insert Model	Weight (kg)
								Wrench width	W		
CG24-C0525	CG24	24	5	25	28.5	36	1	22	10.2	CW1206A	0.13
CG31-C1040	CG31	31	10	40	45	52	2	27	12.2	CW1909A	0.39

1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.
3. Single-ended wrench for head tightening is not included. Use a commercial product.

For inserts, J34 For holders, J19

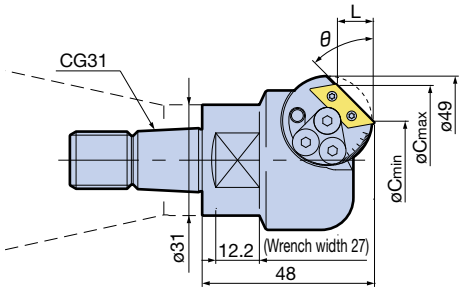
[Universal Type]

● Covers chamfering angles from 5° to 85°.

● Model Description

CG31 - C 5 / 85 A - 48

- 48: Chamfering angle adjustment amount
- C: C-Cutter
- CG31: CONTACT GRIP No.



Model	CG No.
CG31-C5/85A-48	CG31

Compatible insert: **CW1206A**

For inserts, J34
For holders, J19

[Chamfering Range]

Chamfering angle θ	Min. hole øCmin	Max. chamfer diameter øCmax	L	Chamfering angle θ	Min. hole øCmin	Max. chamfer diameter øCmax	L	Chamfering angle θ	Min. hole øCmin	Max. chamfer diameter øCmax	L
5°	5.5	33.5	1.2	35°	17.4	40.5	8.0	65°	30.7	42.4	12.5
10°	7.3	34.7	2.4	40°	19.6	41.2	9.0	70°	32.9	42.1	12.6
15°	9.0	36.2	3.6	45°	21.8	41.8	10.0	75°	34.9	41.7	12.7
20°	11.2	37.4	4.7	50°	24.0	42.2	10.8	80°	36.9	41.1	11.9
25°	13.0	38.6	5.9	55°	26.4	42.4	11.4	85°	38.8	40.3	8.6
30°	15.2	39.6	7.0	60°	28.5	42.5	12.1				

Chamfering range and L are reference only. Measure accurate values such as with a presetter.

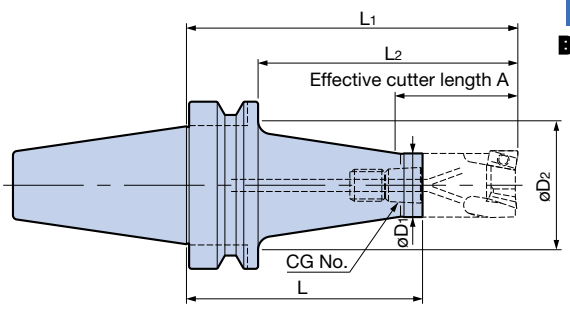
CONTACT GRIP

BIG-PLUS HOLDER

DUAL CONTACT

BIG-PLUS®

Center through



● Model Description

BBT30 - CG15 - 50

- 50: L dimension
- CG15: CG No.
- BBT30: BIG-PLUS BT No.

BIG-PLUS (BBT Shank) tools can be used on both BIG-PLUS spindles and conventional **BT spindles**.

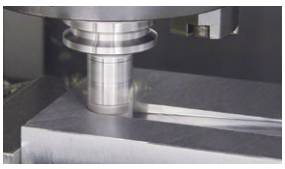
Model	CG No.	øD1	øD2	L	L1	L2	A	Weight (kg)
BBT30-CG15- 50	CG15	15	40	50	75	53	31	0.48
- 80			40	80	105	83	32	0.57
-CG19- 43	CG19	19	40	43	75	53	39	0.47
- 73			42	73	105	83	40	0.59
-CG24- 39	CG24	24	41	39	75	53	45	0.46
- 69			42	69	105	83	45	0.62
-CG31- 32	CG31	31	41	32	75	53	49	0.42
- 62			40	62	105	83	53	0.61
BBT40-CG15- 50	CG15	15	46	50	75	48	30	1.1
- 80			48	80	105	78	32	1.2
-100			49	100	125	98	32	1.3
-CG19- 43	CG19	19	45	43	75	48	36	1.1
- 73			48	73	105	78	40	1.2
- 93			49	93	125	98	40	1.3
-CG24- 39	CG24	24	39	39	75	48	41	1.0
- 69			48	69	105	78	45	1.2
- 89			49	89	125	98	45	1.3
-CG31- 37	CG31	31	43	37	80	53	48	1.0
- 77			57	77	120	93	53	1.4
- 92			57	92	135	108	53	1.5
BBT50-CG15-115	CG15	15	90	115	140	102	30	4.4
-145			80	145	170	132	45	4.4
-CG19-108	CG19	19	90	108	140	102	38	4.4
-153			80	153	185	147	60	4.5
-CG24-114	CG24	24	90	114	150	112	42	4.5
-164				164	200	162	75	4.9
-CG31-107	CG31	31	95	107	150	112	50	4.7
-157			90	157	200	162	90	5.0

1. Single-ended wrench for head tightening is not included. Use a commercial product.
2. L1, L2, and A above are values with a FULLCUT MILL type head mounted.

For heads, J17

APPLICATION EXAMPLES

■ Ramping



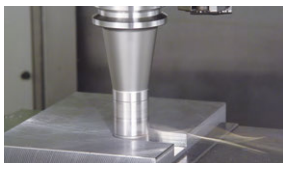
Amazing performance on #40 taper machine.

Machine used	BBT40 vertical machining center
Head type	FCR32 (3-inserts)
Holder model	BBT40-CG31-37
Workpiece Material	S50C

Cutting speed Vc (m/min)	150
Feed rate fz (mm/t)	0.1
Axial cutting depth ap (mm)	Max. 10 (3° ramping)

※ The example is dry cutting.

■ Slotting



Amazing performance on #40 taper machine.

Machine used	BBT40 vertical machining center
Head type	FCM32 (2-inserts)
Holder model	BBT40-CG31-92
Material	S50C

Cutting speed Vc (m/min)	150
Feed rate fz (mm/t)	0.1
Axial cutting depth ap (mm)	11 (Grooving)

※ The example is dry cutting.

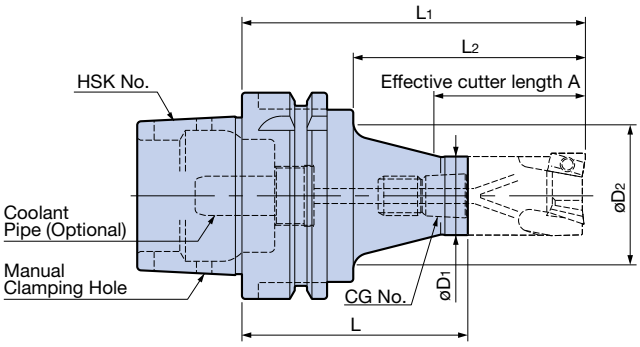
HSK Holder

Center through

● Model Description

HSK-A63 - CG15 - 50

- 50: L dimension
- CG15: CG No.
- HSK-A63: HSK SHANK No.



A Type (DIN69893-1) (ISO12164)

Model	CG No.	øD1	øD2	L	L1	L2	A	Weight (kg)
HSK-A63-CG15- 50	CG15	15	36	50	75	41	30	0.8
- 80			45	80	105	71	31	1.0
-100			45	100	125	91	32	1.0
-CG19- 73	CG19	19	45	73	105	71	39	1.0
- 93			45	93	125	91	40	1.0
-CG24- 69	CG24	24	45	69	105	71	44	1.0
- 89			45	89	125	91	45	1.1
-CG31- 77	CG31	31	45	77	120	86	53	1.0
- 92			45	92	135	101	53	1.1

1. Single-ended wrench for head tightening is not included. Use a commercial product.
2. L1, L2, and A above are values with a FULLCUT MILL type head mounted.

For heads, J17

Coolant pipe is not included. Please order separately. See page C63

BIG CAPTO Holder

Center through

● Model Description

C6 - CG15 - 50

- 50: L dimension
- CG15: CONTACT GRIP No.
- C6: Shank No.

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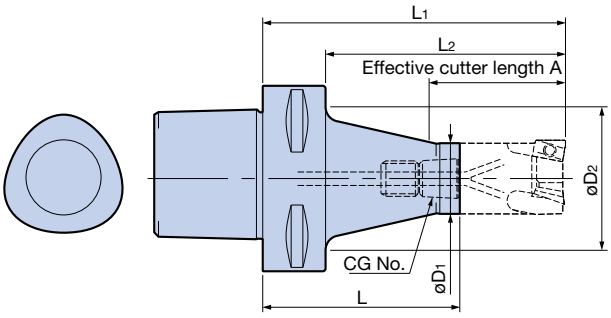


C6 (ISO26623-1)

Model	CG No.	øD1	øD2	L	L1	L2	A	Weight (kg)
C6-CG15- 50	CG15	15	46	50	75	53	31	0.9
- 80			48	80	105	83	31	1.0
-100			49	100	125	103	32	1.1
-CG19- 43	CG19	19	45	43	75	53	39	0.9
- 73			48	73	105	83	39	1.0
- 93			49	93	125	103	40	1.1
-CG24- 69	CG24	24	49	69	105	83	44	1.0
- 89			49	89	125	103	45	1.1
-CG31- 77	CG31	31	57	77	120	98	53	1.2
- 92			57	92	135	113	53	1.3

1. Single-ended wrench for head tightening is not included. Use a commercial product.
2. L1, L2, and A above are values with a FULLCUT MILL type head mounted.

For heads, J17

Arbor Type

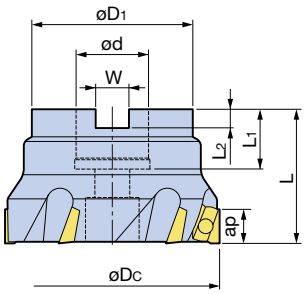
Slotting Shoulder milling

- Compatible with the new-standard Face Mill Arbor type FMH. Exhibits incredible cutting capacity even with #40 machining centers or millturn machines.

● Model Description

FMH 22 - FCM 50 11 5 - 40

- 40: L dimension
- 5: Number of inserts
- 11: Effective cutting edge length ap
- 50: Cutter diameter øDc
- FCM: FCM Type
- 22: Mounting part bore
- FMH: FACE MILL ARBOR Type (FMH Type)



Cutter diameter øDc	Model	Effective cutting edge length ap	ød	øD1	L	L1	L2	W	Number of inserts	Insert Model	Weight (kg)
50	**FMH22-FCM 50115-40**	11	22	47	40	20	6	10.4	5	ARG4011□□	0.5
63	**-FCM 63116-40**								6	ARG6311□□	0.7
80	**FMH27-FCM 80116-50**		27	60	50	22	7	12.4	6	ARG8011□□	1.2
NEW 100	**-FCM100116-50**			76							2.0

1. Insert clamping screws and wrench are included. Inserts must be ordered separately.
2. The □□ at the end of the Insert Model is the nose radius. Order them putting 02 for 0.2, 04 for 0.4 and 08 for 0.8 nose radius.
3. Insert with nose radius 0.2 is for light cutting.

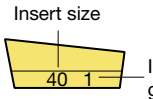
<Insert PAT.>

● Model Description

ARG40 11 04 ACP300

- ACP300: Grade
- 04: Nose Radius
- 11: Effective cutting edge length

Insert Marking Description



1: ACZ310
2: DS20
P2: ACP200
P3: ACP300
M3: ACM300S
5S: ACZ350S

Cutter diameter	Insert Model	Effective cutting edge length	Nose radius	Insert Grade					
				ACP300 (for steel)	ACP200 (for pre-hardened steel)	NEW ACM300S (for stainless steel)	ACZ350S (for stainless steel)	ACZ310 (for cast iron)	DS20 (for aluminum)
ø50	**ARG401102**	11	0.2	○	–	–	○	○	○
	ARG401104	11	0.4	○	○	○	○	○	○
ø63	**ARG631104**	11	0.4	–	–	○	–	–	–
	ARG631108	11	0.8	○	○	–	○	○	○
ø80, ø100	**ARG801104**	11	0.4	–	–	○	–	–	–
	ARG801108	11	0.8	○	○	–	○	○	○

1. Inserts are available in packets of 10 pcs.
   Please specify the insert model number and grade when ordering.

Caution

- Be sure to purchase an insert suited to the cutter diameter, as the use of a non-compatible insert may cause problems.
- Not compatible with inserts for FULLCUT MILL FCR Type.
- Insert with nose radius 0.2 is for light cutting.

■ Insert Grade Description

ACP300	ACP200	ACM300S	ACZ350S
Material for general steel, with a PVD multilayer coating on an ultra-tough substrate. Resistant to chipping and thermal fractures, allowing interrupted cutting as well.	With multilayers of nano-order TiAlN and AlCrN on a high-hardness substrate, it has superior wear resistance in pre-hardened steel machining.	Uses a new coating with improved film hardness and oxidation start temperature on a newly developed high-strength carbide substrate. Our most highly recommended material for stainless steel machining, combining wear resistance and fracture resistance.	With cutting-edge treatment and coating developed for stainless steel, on a tough carbide substrate. Extended life through superior heat fracture and chipping resistance.

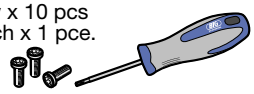
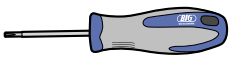
ACZ310	DS20
Material for cast iron and ductile cast iron machining, with a PVD multilayer coating on an ultra-fine particle alloy substrate. Highly wear-resistant and also resistant to machine impact.	Material for non-ferrous metals, with a special diamond coating (DLC) realizing high adhesion and low friction, on K20 class carbide.

Both ACP300 and ACP200 can be used for steel machining

ACP200 has excellent wear resistance, while ACP300 has superb chipping resistance. For steel machining, we recommend ACP300 the most highly. ACP300 provides stable machining, but for even higher speeds or when wear resistance is required, use ACP200. Note that ACP200 is not recommended for heavy interrupted cutting or heavy cutting.

<Insert Clamping Screw Set>

Insert clamping screws and tightening wrench are consumables. Order periodically for replacement or spares.

		● Insert Clamping Screw Set Screw x 10 pcs Wrench x 1 pce. 	● Driver-Type Wrench 
Cutter Diameter	Insert Model	Set Model	Wrench Model
ø50	ARG401102	S3508DS	DA-T15
	ARG401104		
ø63	ARG631104		
	ARG631108		
ø80, ø100	ARG801104		
	ARG801108		

Cutting Conditions

■ Shoulder Milling/Slotting

Caution

- FULLCUT MILL FCM Type cannot be used for machining with Z-direction tool feed, such as ramping or drilling.

Light to medium cutting

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Pre-hardened Steel HRC40 or less	Stainless Steel	Cast Iron	Aluminum
	Insert grade	ACP300		ACP200	ACM300S	ACZ310	DS20
	Cutting fluid	Dry			Dry/Wet	Dry	Dry/Wet
ø50 ø63 ø80	Cutting speed Vc (m/min)	100 - 220	150 - 240	80 - 120	120 - 180	100 - 200	200 - 1,500
	Feed rate fz (mm/t)	0.1 - 0.24	0.1 - 0.22	0.08 - 0.14	0.12 - 0.20	0.10 - 0.25	0.10 - 0.35

Heavy interrupted cutting/Heavy cutting

Cutter diameter	Material	Carbon Steel Alloy Steel	Unalloyed Steel	Stainless Steel	Cast Iron	Aluminum
	Insert grade	ACP300		ACM300S	ACZ310	DS20
	Cutting fluid	Dry		Dry/Wet	Dry	Dry/Wet
ø50 ø63 ø80	Cutting speed Vc (m/min)	100 - 220	150 - 240	120 - 180	100 - 200	200 - 1,500
	Feed rate fz (mm/t)	0.08 - 0.18	0.08 - 0.16	0.12 - 0.15	0.10 - 0.20	0.10 - 030

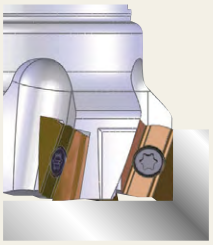
Caution

- As the nose radius 0.2 insert is for light cutting, pay attention to the axial and radial cutting depth and the feed rate.
- This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions, considering the cutting width as well.
- Dry (or air blow) cutting is recommended for steel machining, except finishing. Dry cutting is recommended for stainless steel as well; however, wet cutting may extend insert life in case severe built-up edge occurs.

Perpendicularity and excellent surface finish unrivaled in indexable insert cutters

Machined with holder BBT40-FMH22-47-45 and Fullcut Mill FMH22-FCM63116-40

※ The perpendicularity and surface roughness will vary depending on the cutting conditions, material, machine tool and workpiece rigidity.



Perpendicularity	Cutting speed Vc (m/min)	150
	Feed rate fz (mm/blade)	0.1
	Axial DOC ap (mm)	5
	Radial DOC ae (mm)	0.1

BIG DAISHOWA	10μm
General Cutter	40μm

Wiper flat	Cutting speed Vc (m/min)	250
	Feed rate fz (mm/t)	0.2
	Axial DOC ap (mm)	0.1
	Radial DOC ae (mm)	50

	Ra	Rz
BIG DAISHOWA	0.51	2.89
General Cutter	1.56	7.77

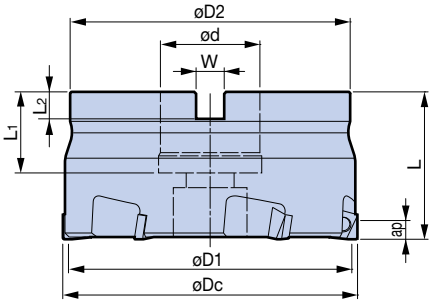
Greatly improves the surface finish in ultra-high-speed machining!

●Speedy cutting edge height adjustment within 1 μm! Superb surface finish!

We recommend the BIG FACE MILL ARBOR TYPE FMH for holders.

● Model Description

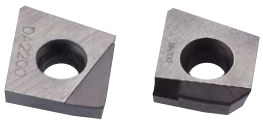
FM 22 - PLS 50 5 - 35
- 35: L dimension
- 5: Number of inserts
- 50: Cutter diameter øDc
- PLS: Abbreviation of SPEED FINISHER
- 22: Mounting part bore
- FM: FACE MILL ARBOR



Model	Cutter diameter øDc	øD1		ød	øD2	L	L1	L2	W	Number of inserts	MAX min-1	Clamping Screw	Weight (kg)
		DA2200	CBN										
FM22-PLS 505-35	50	46.9	44.9	22	47	35	19	6	10.4	5	20,000	M10 cap bolt	0.4
-PLS 636-35	63	59.9	57.9	22	60	35	19	6	10.4	6			0.7
FM27-PLS 806-40	80	76.9	74.9	27	76	40	22	7	12.4		16,000	M12 cap bolt	1.2
-PLS 1006-35 ●	100	96.9	94.9	27	60	35	24	7	12.4		12,800	MBA-M12 ※	1.3
-PLS 1256-35 ●	125	121.9	119.9	27	60	35	24	7	12.4		10,200	MBA-M12 ※	1.9
FM32-PLS 1006-42	100	96.9	94.9	32	96	42	24	8	14.4		12,800	MBA-M16 ※	2.0
FM40-PLS 1258-50	125	121.9	119.9	40	100	50	28	9	16.4	8	10,200	MBA-M20	3.3
-PLS16010-50	160	156.9	154.9	40	100	50	28	9	16.4	10	8,000	MBA-M20	5.1

1. Insert clamping screws and wrench are included. Inserts must be ordered separately.
2. For use at spindle speeds of 12,000min-1 and higher, contact us for balance adjustment with the cutter mounted on the arbor.
3. Effective cutting edge length ap differs depending on the insert used. Refer to the Insert table for details.
4. Cutting edge height adjustment amount is 0.1mm. Note when using reground inserts.
5. The ● mark indicates lightweight design exclusive for BT30.
6. The clamping screw marked ※ is included.

<Insert>



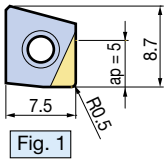


Fig. 1

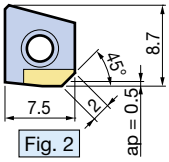


Fig. 2

Insert Model	Material	Fig.	Insert grade	Effective cutting edge length
PL0705 DA2200	Aluminum/Non-ferrous	1	Diamond	5.0
PL0705 CBN	Cast Iron	2	CBN	0.5

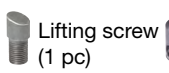
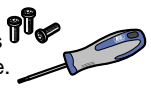
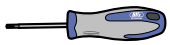
1. Inserts are available in packets of 1 pcs. Example: PL0705 DA2200...5 pcs
2. Although the insert can be reground once (regrinding allowance 0.2mm), severe wear or chipping on the cutting edge make regrinding impossible. We therefore recommend carrying out early regrinding.

Insert Grade Description

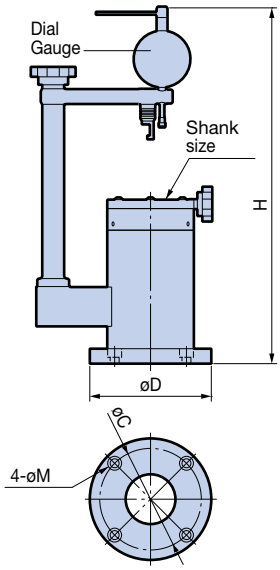
DA2200	CBN
Ultra-precise sintering of ultra-fine diamond particles creates a diamond sintered body with high strength and wear resistance comparable to carbide alloy.	CBN sintered body with greatly increased CBN content and optimized sintered body structure, improving material strength and thermal conductivity.

<Spare Parts>

Insert clamping screws and tightening wrench are consumables. Order periodically for replacement or spares.

● Lifting Screw Set	● Insert Clamping Screw Set	● Driver-Type Wrench
 Lifting screw (1 pc) Lifting nut (1 pc)	Screw x 10 pcs Wrench x 1 pce. 	
Set Model	Set Model	Driver Model
LSN35	**S2506DS**	**DA-T8**

PL Presetter



Essential for cutting edge presetting

- Presetter that allows quick adjustment in micron increments.
- Cutting edge height adjustment can be set within just 15 seconds per insert!

Model	Shank Model	H	øD	øC	øM	Max. tool diameter	※ Max. tool length	Weight (kg)
PLP-BBT30	BBT30	>417	122	102	9 (for M8)	ø160	150	7.5
-BBT40	BBT40							7.6
-BBT50	BBT50	>502	172	149	11 (for M10)	ø315	160	17.5
-HSK63	HSK-A63	>417	122	102	9 (for M8)	ø160	150	7.7

1. Dial Gauge and stabilizer (with 2 AAA dry cells) are included.
2. Included Dial Gauge min. scale is 0.001mm
3. BT shank holders cannot be used.
4. ※ The max. tool length in the table is the dimension from the arbor gauge line to the cutting edge.

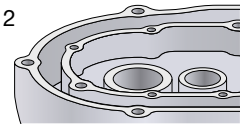
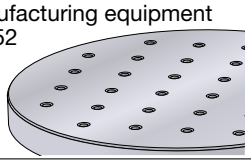
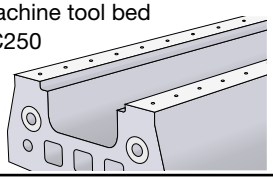
Cutting Conditions

Workpiece material		Insert grade	Cutting speed Vc (m/min)	Feed fz (mm/t)	Coolant
Aluminum alloy	Si content 13% ≥	DA2200	2,000 - 4,000	0.05 - 0.2	Wet
	Si content 13% <		400 - 800		
Copper alloy		DA2200	500 - 2,500	0.05 - 0.2	Wet
Gray cast iron		CBN	800 - 2,000	0.1 - 0.3	Dry

This table is a guideline for selecting cutting parameters. Select the optimum, considering the cutting width as well, as conditions differ depending on the machine tool or workpiece rigidity.

APPLICATION EXAMPLES

Cutter diameter: ø80

Workpiece	Cutting conditions	Finishing surface roughness	Height difference	No. of workpieces	Result
Crankcase ADC12 	Cutting speed Vc: 4,000m/min Spindle speed n: 15,900min^{-1} Feed Vf: 9,550mm/min Cutting depth ap: 2.5mm	Ra = **0.08** μm Rz = **0.55** μm	Within 1 μm	24,000 pcs	Roughing and finishing are combined in a single operation.
Part of semiconductor manufacturing equipment A5052 	Cutting speed Vc: 4,000m/min Spindle speed n: 15,900min^{-1} Feed Vf: 9,550mm/min Cutting depth ap: 2.0mm	Ra = **0.07** μm Rz = **0.32** μm	Within 1 μm	320 pcs	Mirror surface finish was achieved.
Machine tool bed FC250 	Cutting speed Vc: 1,500m/min Spindle speed n: 6,000min^{-1} Feed Vf: 3,600mm/min Cutting depth ap: 0.5mm	Ra = **0.12** μm Rz = **0.67** μm	Within 2 μm	20 pcs	A finishing surface with flatness 1 - 2 μm was achieved.

Superior surface finish of the workpiece!

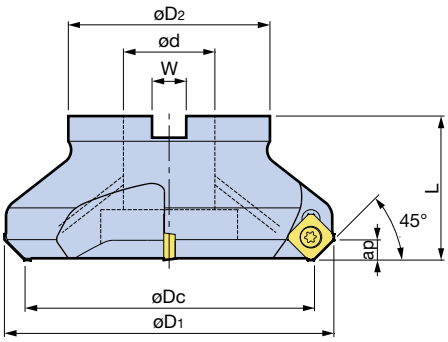
We recommend the BIG FACE MILL ARBOR TYPE FMA for holders.

We recommend the BIG FACE MILL ARBOR TYPE FMH for holders.

● Model Description

FM 25.4 - SFM 80 4 - 40

- FM: FACE MILL ARBOR Type
- 25.4: Mounting part bore
- SFM: SURFACE MILL
- 80: Cutter diameter øDc
- 4: Number of inserts
- 40: L dimension



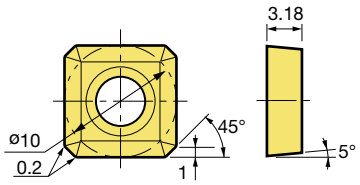
Cutter diameter øDc	Model	Effective cutting edge length ap	øD1	ød	øD2	L	W	Number of inserts	Weight (kg)
80	**FM25.4-SFM804-40**	5	91.6	25.4	56	40	9.5	4	0.9
	FM27 -SFM804-40			27	60		12.4		

1. Insert clamping screws and wrench are included. Inserts must be ordered separately.

Compatible arbors: FMA25.4 and FMH25.4, FMH27

※ When using FMH, clamping screw MBA-M12H is required.

<Insert>

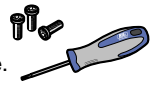


Insert Model	Coating
CM10C1 ACP200	TiAlN and AlCrN multilayer
CM10C1 DS20	DLC

1. Inserts are available in packets of 10 pcs.

<Insert Clamping Screw Set>

Insert clamping screws and tightening wrench are consumables. Order periodically for replacement or spares.

● Insert Clamping Screw Set	● Driver-Type Wrench
Screw x 10 pcs Wrench x 1 pce. 	
Set Model	Driver Model
S4S-T15DS	**DA-T15**

Cutting Conditions

Workpiece material	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)	Axial DOC ap Max. (mm)	Insert grade
General Steel	150-**200**- 250	0.10-**0.20**-0.30	3	ACP200
Mild Steel	180-**240**- 300	0.10-**0.25**-0.40	4	
Stainless Steel	160-**205**- 250	0.15-**0.23**-0.30	3	
Cast Iron	100-**175**- 250	0.15-**0.23**-0.30	4	
Light Alloy	500-**750**-1000	0.15-**0.23**-0.30	5	DS20

This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.

High-performance chamfering tool, more compact and with ultra-high feed.

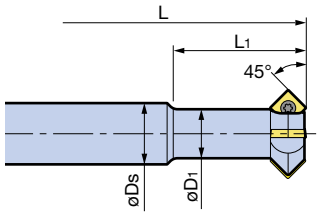
- Ultra-high feed machining enables drastic reduction of chamfering time.
- Supports various machining applications including front and back chamfering as well as face milling.

[Multi-Insert Type] Front and back chamfering

● Model Description

ST12 - C 10 12 - 45 B - 20

- ST12: Shank diameter
- C: Chamfering
- 10: Min. diameter
- 12: Max. diameter
- 45: Chamfering angle
- B
- 20: Projection length (L_1)



Cutting Edge Details

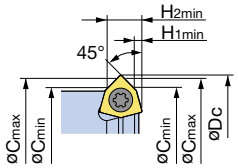


Fig. 1

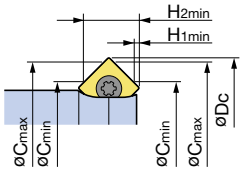


Fig. 2

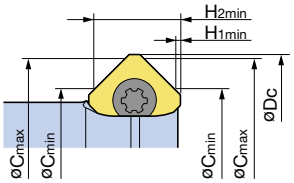


Fig. 3

Model	Face Milling Cutter	Fig.	øDc	øDs	øD1	L	L1	øCmin	øCmax	H1min	H2min	Insert Model	Number of inserts
ST12-C1012-45B-20	—	1	12.7	12	9	93	20	10	12	1.0	3.7	CM04...	3
-35						108	35						
ST12-C1116-45B-25	—	2	17.1	12	9.6	98	25	11	16	0.4	6.5	CM05...	4
-40						113	40						
ST16-C1520-45B-50	—	2	20.7	16	13.2	123	50	15	20	0.6	6.3		
ST20-C1924-45B-60	—	2	24.7	20	17.2	143	60	19	24	0.6	6.3		
ST20-C2232-45B-50	○	3	32.7	20	19.2	130	50	22	32	0.4	12.4	CM10...	
-80						160	80						
ST32-C3242-45B-65	○	3	42.7	32	30.6	175	65	32	42	0.4	12.4		
-100						211	100						

1. Insert clamping screws and wrench are included. Inserts must be ordered separately.
2. In case of chatter in plunge cutting, it is recommended to reduce the number of inserts to only 1 or 2 pcs.

For cutting conditions, refer to Cutting Conditions A on J31.

For inserts, J31

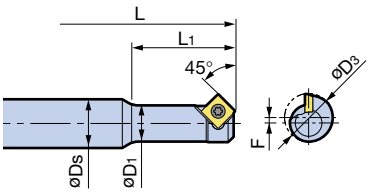
[Single Insert Type] Front and back chamfering

Hex Insert

● Model Description

ST10 - C 06 08 - 45 B - 16

- 16: Projection length (L_1)
- 45: Chamfering angle
- 08: Max. diameter
- 06: Min. diameter
- C: Chamfering
- ST10: Shank diameter



Cutting Edge Details

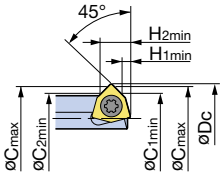


Fig. 1

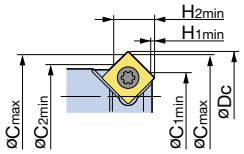


Fig. 2

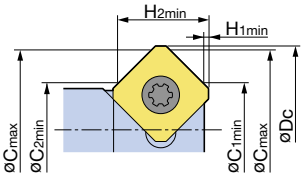


Fig. 3

Model	Fig.	øDc	øDs	øD1	øD3	L	L1	øC1min	øC2min	øCmax	H1min	H2min	Offset amount F	Insert Model
ST10-C0608-45B-16	1	8.8	10	5.7	5.7	78	16	6	6	8	1.0	3.8	1.55	CM04...
ST10-C0409-45B-20	2	9.8	10	5.4	7.7	86	20	4	6	9	0.5	5.4	1.1	CM05...
ST10-C0611-45B-20	2	12.0	10	7.4	9.8	81	20	6	8	11	0.4	5.5	1.1	CM05...
-35						96	35							
ST16-C1222-45B-40	3	22.6	16	11.0	16.9	117	40	12	12	22	0.3	12.4	2.9	CM10...

1. Insert clamping screws and wrench are included. Inserts must be ordered separately.

For cutting conditions, refer to Cutting Conditions A on J31.

For inserts, J31

[Bolt Hole & Tap Starting Hole Type] Front and back chamfering Tap starting size: M8 - M20

● Model Description

ST10 - C M08 - 45 B - 19

- Shank diameter
- Chamfering
- Tap size
- Chamfering angle
- Projection length (L_1)

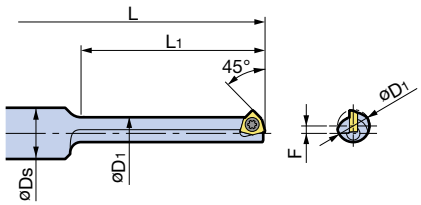
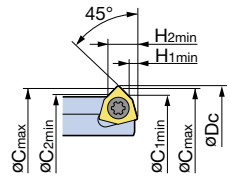


Fig. 1

Cutting Edge Details



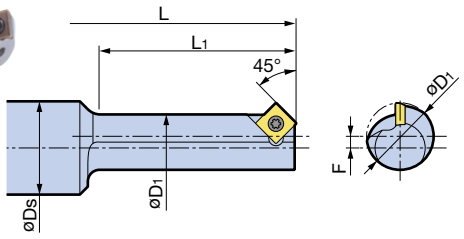
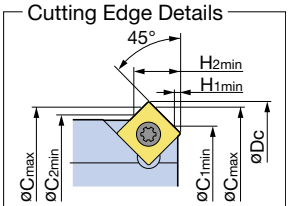


Fig. 2

Cutting Edge Details



The ● mark in the table indicates **LONG TYPE** with long projection length.

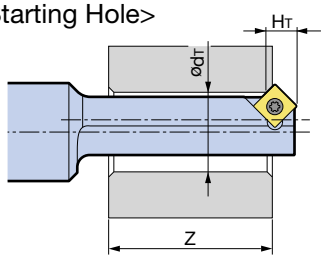
Model	Fig.	øDc	øDs	øD1	L	L1	øC1min	øC2min	øCmax	H1min	H2min	Offset amount F	Insert Model
ST10-CM08-45B-19	1	9.2	10	6.3	81	19	6.4	6.6	8.4	1.0	3.7	1.45	CM04...
-35 ●					97	35							
ST12-CM10-45B-25	2	11.3	12	8.0	99	25	5.5	8.3	10.5	0.5	5.0	1.65	CM05...
-45 ●					119	45							
ST12-CM12-45B-29	2	13.4	12	9.7	102	29	7.6	10.0	12.6	0.5	5.2	1.85	
-53 ●					126	53							
ST16-CM14-45B-33	2	15.5	16	11.5	107	33	9.7	11.8	14.7	0.5	5.3	2.00	
-61 ●					135	61							
ST16-CM16-45B-37	2	17.6	16	13.5	110	37	11.8	13.8	16.8	0.5	5.4	2.05	
-69 ●					142	69							
ST20-CM18-45B-42	2	19.7	20	14.9	126	42	13.9	15.2	18.9	0.5	5.7	2.40	
-78 ●					162	78							
ST20-CM20-45B-46	2	21.8	20	16.9	129	46	16.0	17.2	21.0	0.5	5.8	2.45	
-86 ●					169	86							

1. Insert clamping screws and wrench are included. Inserts must be ordered separately.
2. When using an insert model CM05... with the ● mark (LONG TYPE), use the standard insert (CM0502 ACP200) for resistance to chatter.

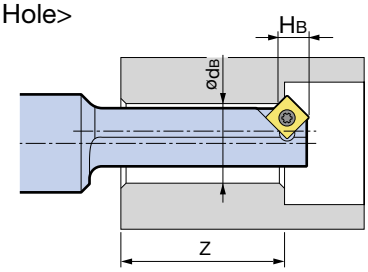
For cutting conditions, refer to Cutting Conditions B on J31for the ● marked LONG TYPE, and A for others.

For inserts, J31

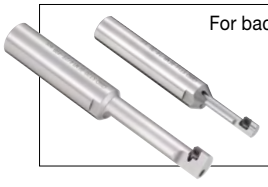
<Tap Starting Hole>



<Bolt Hole>



Cutter size	Tap starting hole		Bolt hole		Z	
	ødT	HT	ødB	HB	Standard Type	Long Type
CM08	6.8 (M 8)	3.6	6.6 (M6)	3.7	13	29
CM10	8.5 (M10)	4.9	9 (M8)	4.6	17	37
CM12	10.3 (M12)	5.0	11 (M10)	4.7	21	45
CM14	12.0 (M14)	5.2	—	—	25	53
CM16	14.0 (M16)	5.3	14 (M12)	5.3	29	61
CM18	15.5 (M18)	5.6	16 (M14)	5.3	33	69
CM20	17.5 (M20)	5.6	18 (M16)	5.4	37	77



For back spot facing tool for cap bolt...
Back spot facing tool
BF-CUTTER

J41

[Single Insert Type] Front chamfering

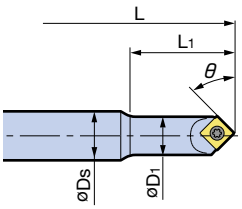
World Smallest

Hex Insert

● Model Description

ST10 - C 02 04 - 45 - 15

- Projection length
- Chamfering angle
- Max. diameter
- Min. diameter
- Chamfering
- Shank diameter



Cutting Edge Details

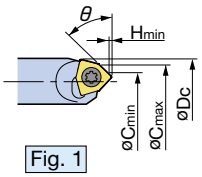


Fig. 1

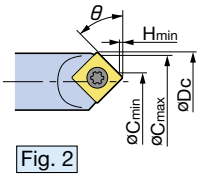


Fig. 2

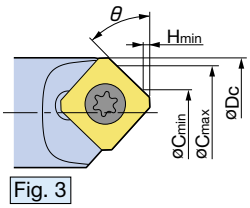


Fig. 3

Model	Fig.	θ	øDc	øDs	øD1	L	L1	øCmin	øCmax	Hmin	Insert Model
ST10-C0204-45-15	1	45°	6.3	10	6	78	15	2	4	0.4	CM04...
-25						88	25				
ST10-C0207-45-20	2	45°	8.1	10	7.8	81	20	2	7	0.4	CM05...
-35						96	35				
ST16-C0515-45-50	3	45°	15.8	16	15.2	122	50	5	15	0.4	CM10...
ST16-C0214-30-40	3	30°	15.9	16	15.4	105	40	2	14	0.2	CM10...
ST16-C0916-60-40	3	60°	16.5	16	15.6	105	40	9	16	0.8	CM10...

1. Insert clamping screws and wrench are included. Inserts must be ordered separately.
2. Spot drilling (centering) cannot be performed.

For cutting conditions, refer to Cutting Conditions A on J31.

For inserts, J31

[Universal Type] Front chamfering

Covers chamfering angles from 5° to 85°.

● Model Description

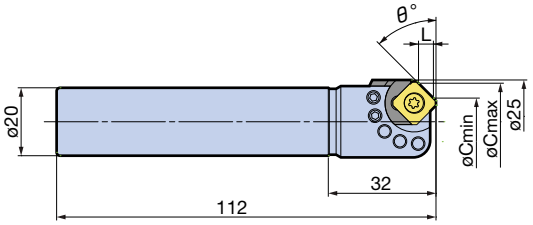
ST20 - CM 5 / 85 A - 30

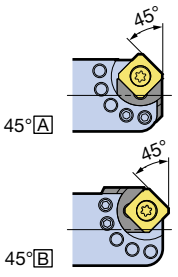
- Chamfering angle adjustment range
- C-CUTTER MINI
- Shank type

Model	ST20-CM5 / 85A-30

Compatible insert: **CM10C1**

For inserts, J31





[Chamfering Range]

Chamfering angle θ	Min. hole øCmin	Max. chamfer diameter øCmax	L
5°	5.7	18.8	0.6
10°	6.7	19.7	1.2
15°	7.6	20.5	1.7
20°	8.5	21.2	2.3
25°	9.6	21.8	2.9
30°	10.6	22.3	3.4
35°	11.6	22.7	3.9
40°	12.7	23.0	4.4
45° A	13.7	23.3	4.8
45° B	13.4	23.0	4.8

Chamfering angle θ	Min. hole øCmin	Max. chamfer diameter øCmax	L
50°	14.4	23.2	5.2
55°	15.5	23.3	5.6
60°	16.4	23.3	5.9
65°	17.4	23.2	6.2
70°	18.3	23.0	6.4
75°	19.1	22.7	6.6
80°	19.9	22.3	6.7
85°	20.7	21.9	6.8

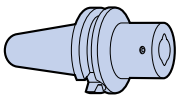
Values in the table are reference only. Measure accurate values with a presetter.

BIG+KAISER CK BORING SYSTEM

[CKB Type] Front and back chamfering

Modular system allows chamfering of deep holes.

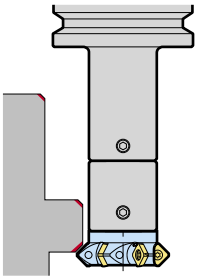
BIG+KAISER CK BORING SYSTEM



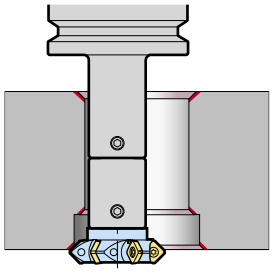
BBT/BT SHANK
HSK SHANK
BIG CAPTO SHANK

Extension
Used when extending the projection length.

C-CUTTER-MINI
CKB Type



Front and back chamfering of grooves and steps located at a distance.

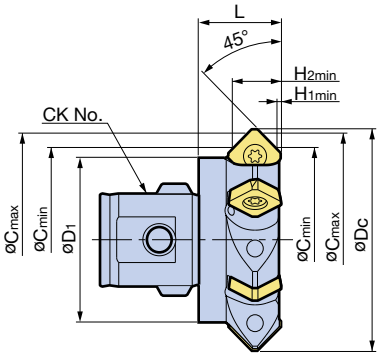


Front and back chamfering of deep holes

● Model Description

CKB1 - C 22 32 - 45 B - 20

- CKB1 – CK No.
- C – Chamfering
- 22 – Min. diameter
- 32 – Max. diameter
- 45 – Chamfering angle
- B
- 20 – L dimension



Model	Face milling capability	øDc	øD1	L	Chamfering diameter		H1min	H2min	Insert Model	Number of inserts
					øCmin	øCmax				
CKB1-C2232-45B-20	○	32.7	19	20	22	32	0.3	12.4	CM10...	4
CKB3-C3242-45B-20		42.7	31		32	42				
-C5262-45B-20		62.7	31		52	62				6
CKB4-C4252-45B-20		52.7	39		42	52				
CKB5-C5262-45B-20		62.7	51		52	62				

1. Insert clamping screws and wrench are included. Inserts must be ordered separately.
2. In case of chatter in plunge cutting, it is recommended to reduce the number of inserts to 1 or 2 pcs.

For cutting conditions, refer to Cutting Conditions A on J31.

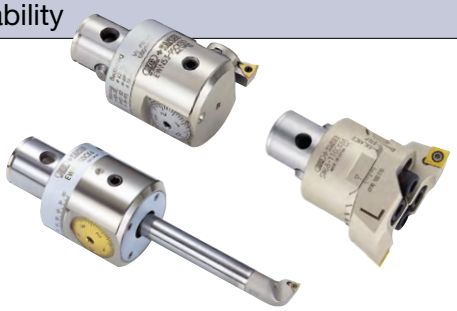
For inserts, J31

Connection mechanism boasting outstanding reliability

CK BORING SYSTEM

CK BORING SYSTEM

Supports various boring applications with abundant heads and accessories.



BIG+KAISER

<Insert> Optional

● Model Description

CM 04 02 ACP300

- ACP300 — Grade
- 02 — Corner radius
- 04 — Insert size
- CM — C-CUTTER MINI

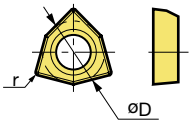


Fig. 1

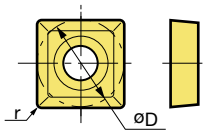


Fig. 2

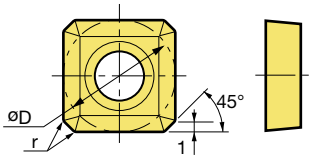


Fig. 3

Suffix **SE** model designates a sharp cutting edge insert.

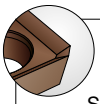
Model	Fig.	Inscribed circle øD	r	Insert grade			Insert Clamping Screw Set Model
				ACP200	ACP300	DS20	
CM0402	1	3.97	0.2	—	○	—	**S2SS-T6**
CM0502	2	5	0.2	○	—	○	**S2TS-T6**
CM0502SE				○	○	—	
CM10C1	3	10	0.2	○	—	○	**S4S-T15**
CM10C1SE				○	—	—	

1. Inserts are available in packets of 10 pcs. Please specify the insert model number and grade when ordering.
2. The insert clamping screw set contains 10 screws and 1 wrench.
3. Insert clamping screws and tightening wrench are consumables. Order periodically for replacement or spares.

Example: **CM0502 ACP200**.....10 Pcs

Insert Grade Description

ACP200/300	DS20
For steel/cast iron	For aluminum/non-ferrous metals
PVD-coated carbide with superior wear resistance due to its nanometer-level thickness ultra-multilayered TiAlN and AlCrN film.	DLC-coated carbide exclusive for aluminum and non-ferrous metals, ultra-smooth with a low wear coefficient and superior welding resistance.



New sharp-edge inserts!

Sharp cutting edge effectively prevents burrs.
For anti-burr countermeasures on stainless steel and mild steel!

Cutting Conditions

A (Standard Cutting Conditions)

Workpiece material	Insert grade	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)		Coolant
			Chamfering	Face Milling	
Unalloyed Steel, Carbon Steel, Alloy Steel	ACP200 ACP300	100 - 350	0.05 - 0.4	0.05 - 0.2	Dry
Pre-hardened Steel HRC40 or less		60 - 100	0.05 - 0.1	0.05 - 0.1	Wet
Stainless Steel		100 - 250	0.08 - 0.3	0.08 - 0.2	Dry/Wet
Cast Iron		100 - 350	0.1 - 0.5	0.05 - 0.25	Dry
Aluminum/Non-ferrous	DS20, ACP300	100 - 800	0.1 - 0.5	0.05 - 0.3	Dry/Wet

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. Generally, wet cutting effectively improves finishing surfaces.
3. Wet cutting effectively suppresses built-up edges occurring on stainless steel or aluminum chamfering.

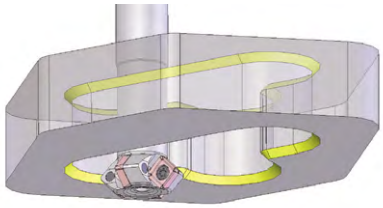
B (Cutting Conditions for Long Type of the Bolt Hole & Tap Starting Hole Series)

Workpiece material	Insert grade	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)	Coolant
Unalloyed Steel, Carbon Steel, Alloy Steel	ACP200 ACP300	20 - 100	0.03 - 0.12	Wet
Cast Iron		50 - 160	0.05 - 0.20	Dry
Aluminum/Non-ferrous		30 - 100	0.03 - 0.12	Wet

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. Short projection length types other than the LONG TYPE are recommended for stainless steel and pre-hardened steel.

APPLICATION EXAMPLES

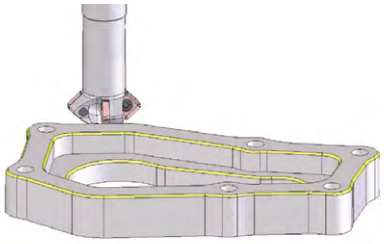
■ Front and back chamfering of stainless steel machine parts



Workpiece: SUS304
Chamfering amount: C3
Feed per tooth: 0.1mm/tooth

	Third-party product (Non-coated carbide insert used)	C-CUTTER MINI (ST20-C2232-45B-50)
Chamfering diameter	ø30	ø28
Number of inserts	1	4
Cutting speed Vc (m/min)	140	180
Spindle speed n (min^{-1})	1,490	2,050
Feed Vf (mm/min)	149	819
Result	**5 times greater machining efficiency**	

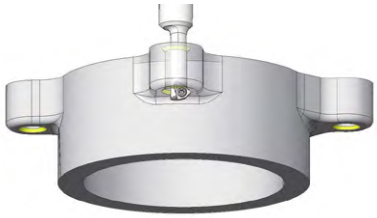
■ Aluminum case chamfering



Workpiece: AC4C
Chamfering amount: C0.5
Feed per tooth: 0.1mm/tooth

	Third-party product (Non-coated carbide insert used)	C-CUTTER MINI (ST12-C1116-45B-25)
Chamfering diameter	ø40	ø12
Number of inserts	3	4
Cutting speed Vc (m/min)	200	600
Spindle speed n (min^{-1})	1,590	15,920
Feed Vf (mm/min)	477	6,370
Result	**13 times greater machining efficiency**	

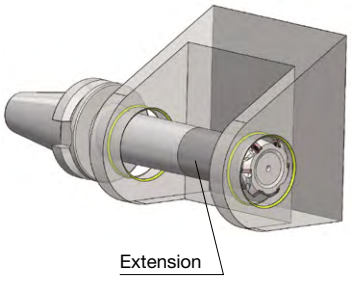
■ Front and back chamfering of M8 Tap Starting Holes



Workpiece: FC250
Hole diameter: ø6.6
Chamfering diameter: ø8.4

	Third-party product (Non-coated carbide insert used)	C-CUTTER MINI (ST10-CM08-45B-19)
Cutting speed Vc (m/min)	30	150
Spindle speed n (min^{-1})	1,140	5,680
Feed f (mm/rev)	0.05	0.1
Feed Vf (mm/min)	57	568
Result	**No chatter even with a tenfold feed increase.**	

■ Front and back chamfering of carbon steel parts



Modular system handles deep holes, too

Workpiece: S35C
Chamfering amount: C0.5
Feed per tooth : 0.1mm/tooth
Projection length: 275mm

	Third-party product	C-CUTTER MINI (CKB5-C5262-45B-20)
Number of inserts	Chatter prevents machining	6
Cutting speed Vc (m/min)		200
Spindle speed n (min^{-1})		1,230
Feed Vf (mm/min)		735
Result	**Front and back chamfering of conventionally impossible projection lengths is also possible.**	

C-CUTTER

Covers wide range of chamfering diameters and reduces the number of tools and ATC required.

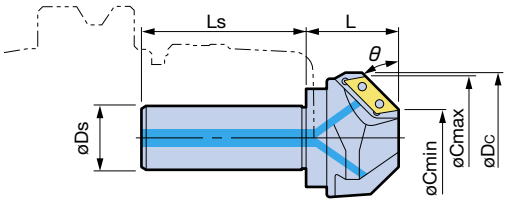
- With design exclusive for chamfering, the insert has a large rake angle and produces clean chamfering surface.
- Wide machining range reduces the number of tools in the magazine and is especially effective for reducing ATC time loss.

We recommend the BIG NEW BABY CHUCK for chucking.

We recommend the BIG NEW Hi- POWER MILLING CHUCK for chucking.

Cylindrical Shank

[30°/45°/60° Type]



● Model Description

ST32 - C 16 52 C - 30

- 30: Chamfering angle (Blank for 45°)
- C: Center through
- 52: Max. chamfering diameter
- 16: Min. bore
- C: C-CUTTER
- ST32: Shank type

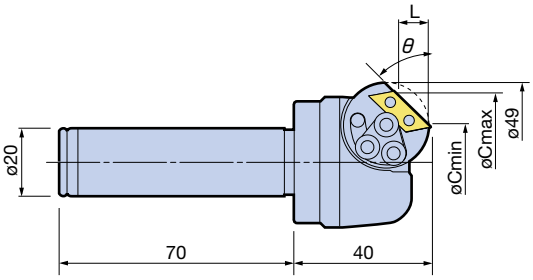
Chamfering angle θ	Model	øDs	Min. hole øCmin	Max. chamfer diameter øCmax	Outer diameter øDc	L	Ls	Number of inserts	Applicable Insert
30°	**ST32-C1652C-30**	32	16	52	68	48	80	2	CW1909A
	ST42-C5085C-30	42	50	85	96	52	80	3	
45°	**ST20-C0525C**	20	5	25	33	25	60	1	CW1206A
	ST25-C1040C	25	10	40	45	35	70	2	CW1909A
	ST32-C3060C	32	30	60	65	45	80	3	
	ST42-C50100C	42	50	100	106	70	80	3	CW3115A
60°	**ST25-C1434C-60**	25	14	34	39	37	70	2	CW1909A
	ST32-C3050C-60	32	30	50	54	45	80	3	
	ST32-C4565C-60	32	45	65	69	50	80	3	

1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.

For inserts, J34

[Universal Type]

Handles chamfering angles from 5° to 85°.



Model	ST20-C5/85A-40

Compatible insert: **CW1206A**

For inserts, J34

● Model Description

ST20 - C 5 / 85 A - 40

- 5 / 85: Chamfering angle adjustment amount
- C: C-CUTTER
- ST20: Shank type

[Chamfering Range]

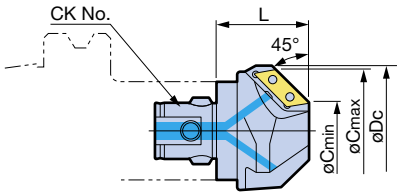
Chamfering angle θ	Min. hole øCmin	Max. chamfer diameter øCmax	L
5°	5.5	33.5	1.2
10°	7.3	34.7	2.4
15°	9.0	36.2	3.6
20°	11.2	37.4	4.7
25°	13.0	38.6	5.9
30°	15.2	39.6	7.0
35°	17.4	40.5	8.0
40°	19.6	41.2	9.0
45°	21.8	41.8	10.0

Chamfering angle θ	Min. hole øCmin	Max. chamfer diameter øCmax	L
50°	24.0	42.2	10.8
55°	26.4	42.4	11.4
60°	28.5	42.5	12.1
65°	30.7	42.4	12.5
70°	32.9	42.1	12.6
75°	34.9	41.7	12.7
80°	36.9	41.1	11.9
85°	38.8	40.3	8.6

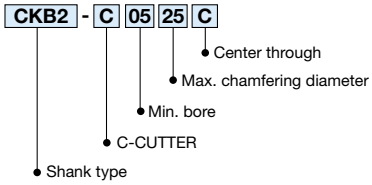
Chamfering range and L are reference only.
Measure accurate values with a presetter.

CKB SHANK BIG DAISHOWA + KAISER

Use the BIG CK Shank for holders.



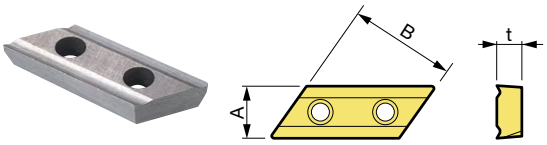
● Model Description



Chamfering angle θ	Model	CK No.	Min. hole øCmin	Max. chamfer diameter øCmax	Outer diameter øDc	L	Number of inserts	Applicable Insert
45°	**CKB2-C0525C**	2	5.0	25.0	28.5	25	1	CW1206A
	CKB4-C1040C	4	10.0	40.0	45	35	2	CW1909A
	CKB5-C3060C	5	30.0	60.0	65	40	3	
	CKB6-C50100C	6	50.0	100.0	106	65	3	CW3115A

1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.

<Insert>



Model			A	B	t
Non-Coating	ZX Coating	DLC Coating			
CW1206A	**CW1206A(ZX)**	**CW1206A(DLC)**	6.35	12.7	2.7
CW1909A	**CW1909A(ZX)**	**CW1909A(DLC)**	9.525	19.05	4.5
CW3115A	**CW3115A(ZX)**	**CW3115A(DLC)**	15.875	31.75	7.0

1. Insert is available from 1 pc.

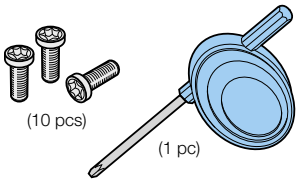
Insert set is available in packs of 10 pcs.
Please add **S** before each model number when ordering.

Example: **SCW1206A(ZX)**

※ DLC coating types do not come in 10-piece sets.

Non-Coating	Adopts P30-equivalent carbide material with emphasis on toughness for versatile use with materials from steel to aluminum.
ZX Coating	TiN and AlN multilayer coating increases speeds and extends insert life in chamfering of steel or cast iron.
DLC Coating	The exclusive substrate is treated with a thin DLC coating to prevent welding during aluminum machining. It retains sharpness and achieves a clean surface finish.

<Insert Clamping Screw Set>



Insert	Set Model	Wrench
CW1206A	**S2S-B**	FLR-13S
CW1909A	**S3S**	FLR-20S
CW3115A	**S5S**	FLR-28S

1. The set contains 10 screws and 1 wrench.

※ Wrenches are also available separately.

Cutting Conditions

Model	Max. chamfering amount	Chamfering mode	General Steels		Stainless Steel		Cast Iron		Aluminum	
			Vc	f	Vc	f	Vc	f	Vc	f
ST20-C5/85A-40	※ 2mm	Plunge	50	0.1	30	0.08	40	0.1	80	0.1
		Side	80	0.15	60	0.1	50	0.15	100	0.2
ST20-C0525C	C2	Plunge	50	0.1	30	0.08	40	0.1	80	0.1
		Side	80	0.15	60	0.1	50	0.15	100	0.15
ST25-C1040C	C3	Plunge	90	0.15	40	0.12	60	0.15	100	0.2
ST25-C1434C-60 **ST32-C1652C-30**	※ 3mm	Side	120	0.3	60	0.2	90	0.3	150	0.3
ST32-C3060C	C4	Plunge	120	0.3	60	0.18	90	0.25	150	0.3
ST32-C3050C-60 **ST32-C4565C-60** **ST42-C5085C-30**	※ 4mm	Side	150	0.45	60	0.3	120	0.6	200	0.6
ST42-C50100C	C4	Plunge	150	0.4	80	0.25	120	0.35	180	0.4
		Side	150	0.45	60	0.36	120	0.6	240	0.6

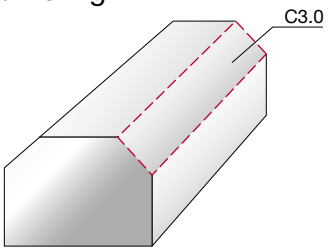
Vc: Cutting speed (m/min), f = Feed per revolution (mm/rev)

1. Cutting conditions are the same for coated and non-coated inserts.
   The use of coated inserts enables better surface finish and extended insert life.
2. Lower the cutting speed if the maximum chamfering amount is exceeded.
3. If plunge cutting produces long chips, use step feed.
4. We recommend the use of a high-rigidity holder for chucking. (HMC, MEGA-D etc.)
5. Max. chamfering amount for the 30°, 60° and Universal Types marked with ※ is the chamfering length of the longer side.

APPLICATION EXAMPLES

■ C3 traverse chamfering

S55C



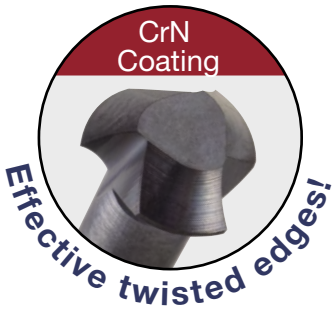
A clean surface with no chatter was achieved even in traverse chamfering, under high cutting conditions.

C-Cutter Model	**ST25-C1040C**
Insert Model	CW1909A
Spindle speed n	3,000 min^{-1}
Feed Vf	1,800mm/min

C-CUTTER MICRO

Ultra-fine diameter allows both front and back chamfering even on workpieces with complex shapes!

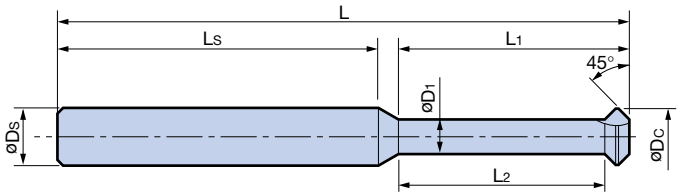
- The long-neck size has been standardized, convenient for deep workpiece edges, or back chamfering of drilled holes.
- Uses a chromium nitride coating for high welding resistance.



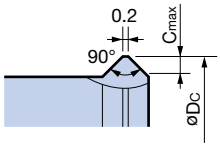
● Model Description

ST3 W - C S 3 - 45 B - 06

- 06: Projection length (L_1)
- 45: Front & back chamfering angle
- 3: Max. diameter
- S: Chamfering
- ST3: Shank diameter



Cutting Edge Details



Model	øDc	øD1	øDs	L	Ls	L1	L2	Cmax
ST3W-CS3-45B-06	2.9	1.7	3	40	33.0	6	4.5	0.50
-12		1.9			27.0	12	10.5	0.40
ST4W-CS4-45B-08	3.9	2.1	4	45	35.5	8	6.0	0.80
-16		2.4			27.5	16	14.0	0.65
ST5W-CS5-45B-10	4.9	2.5	5	50	37.5	10	7.0	1.10
-20		2.8			28.0	20	17.5	0.95
ST6W-CS6-45B-12	5.9	3.0	6	50	35.5	12	8.5	1.35
-24		3.4		60	33.5	24	21.0	1.15
ST8W-CS8-45B-16	7.9	4.0	8	60	40.5	16	11.5	1.85
-32		4.5		70	35.0	32	28.0	1.60

Cutting edge material is CrN coated carbide. Number of inserts is 3 for all models.

Cutting Conditions

Workpiece material	Cutting speed Vc (m/min)	Feed per tooth fz (mm/flute)
Unalloyed Steel, Carbon Steel, Alloy Steel	70 - 100	0.05 - 0.1
Stainless Steel	60 - 80	0.03 - 0.08
Cast Iron/Ductile Cast Iron	40 - 80	0.05 - 0.1
Aluminum/Non-ferrous	80 - 150	0.05 - 0.12

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. Generally, wet cutting provides a better surface finish.
3. Back chamfering may require lower cutting conditions than front.
4. Lower the feed if secondary burrs appear.

Caution

- Keep the tool projection length as short as possible.
- Stop using the tool if it receives strong impact such as collision.
- The tool becomes hot during cutting. There is a risk of burn if touched immediately after use.
- Use protective equipment such as safety enclosures and glasses against scattering chips or tool breakage caused by accidents.

Automated rounded chamfering.

- Supports chamfering for both front and back.
- 4 inserts vastly improve efficiency!

Front and back round chamfering

● Model Description

ST10 - RC 06 1 B - 15

- 15: Projection length (L_1)
- B: Front & back chamfering
- 1: Number of inserts
- 06: Compatible insert size
- RC: R-CUTTER
- ST10: Shank diameter

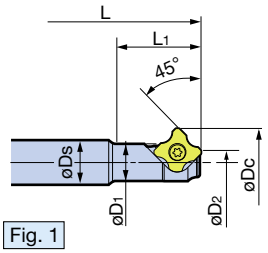


Fig. 1

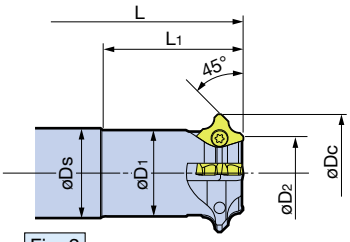
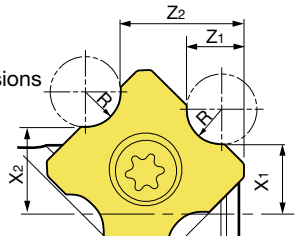


Fig. 2

R position/
Detailed dimensions



Model	Fig.	øDc	øDs	$øD_1$	$øD_2$	L	L_1	Number of inserts	R	X_1	Z_1	X_2	Z_2	Insert Model
ST10-RC061B-15	1	12.3	10	6.6	4.4	78	15	1	0.5	3.61	1.93	4.30	5.78	RC06....
									1	3.35	2.18	4.04	5.53	
									1.5	3.09	2.43	3.78	5.28	
									2	2.83	2.68	3.52	5.03	
ST16-RC121B-30	1	24.4	16	13.3	8.6	103	30	1	1	7.17	3.79	8.56	11.63	RC12....
									2	6.65	4.29	8.03	11.13	
									3	6.13	4.79	7.51	10.63	
									4	5.60	5.29	6.99	10.13	
ST16-RC064B-30	2	21	16	15.2	13.2	101	30	4	0.5	7.89	1.93	8.59	5.78	RC06....
									1	7.64	2.18	8.34	5.53	
									1.5	7.39	2.43	8.09	5.28	
									2	7.13	2.68	7.84	5.03	
ST32-RC124B-50	2	42	32	30.8	26.3	141	50	4	1	15.85	3.79	17.26	11.63	RC12....
									2	15.33	4.29	16.75	11.13	
									3	14.83	4.79	16.24	10.63	
									4	14.31	5.29	15.73	10.13	

1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.

Cutting Conditions

Workpiece material	Cutting speed Vc (m/min)	Feed per tooth fz (mm/t)	Coolant
Unalloyed Steel, Carbon Steel, Alloy Steel	100 - 350	0.05 - 0.2	Dry
Pre-hardened Steel HRC40 or less	60 - 80	0.05 - 0.1	Wet
Stainless Steel	100 - 250	0.08 - 0.2	Dry/Wet
Cast Iron	100 - 350	0.05 - 0.25	Dry
Aluminum, Non-ferrous	100 - 800	0.05 - 0.25	Dry/Wet

1. This table is a guideline for selecting cutting parameters. Adjust them as needed according to the machine and workpiece conditions.
2. Generally, wet cutting effectively improves surface finish.
3. Wet cutting effectively suppresses built-up edges occurring on stainless steel or aluminum.

Front round chamfering

● Model Description

ST16 - RC 06 1 - 20

- Projection length (L_1)
- Number of inserts
- Compatible insert size
- R-CUTTER
- Shank diameter

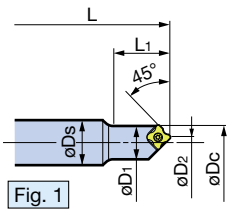


Fig. 1

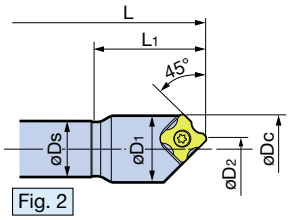
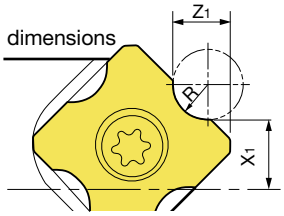


Fig. 2

R position/Detailed dimensions



Model	Fig.	øDc	øDs	øD1	øD2	L	L1	Number of inserts	R	X1	Z1	Insert Model
ST16-RC061-20	1	12.3	16	11.9	4.5	94	20	1	0.5	3.61	1.93	RC06....
									1	3.35	2.18	
									1.5	3.09	2.43	
									2	2.83	2.68	
ST20-RC121-40	2	24.4	20	23.8	8.9	121	40	1	1	7.17	3.79	RC12....
									2	6.65	4.29	
									3	6.13	4.79	
									4	5.60	5.29	

1. Inserts must be ordered separately.
2. Insert clamping screws and wrench are included.

<Insert>

● Model Description

RC 06 050 (ACP300)

- Grade
- R Size
- Insert size
- R-CUTTER

Uses 4 corners

Type	Insert Model	R size	Insert Clamping Screw Set Model
RC06	**RC06050 (ACP300)**	R0.5	**S2TS-T6**
	RC06100 (ACP300)	R1.0	
	RC06150 (ACP300)	R1.5	
	RC06200 (ACP300)	R2.0	
RC12	**RC12100 (ACP300)**	R1.0	**S4S-T15**
	RC12200 (ACP300)	R2.0	
	RC12300 (ACP300)	R3.0	
	RC12400 (ACP300)	R4.0	

1. Inserts are available in packets of 10 pcs.
2. Insert is coated carbide.
3. The insert clamping screw set contains 10 screws and 1 wrench.
4. Insert Clamp Screws and tightening wrench are consumables. Order periodically for replacement or spares.

Insert set in a packet of 2 pcs. is also available.
Please add **-2P** before the grade of each model number when ordering.

Example: **RC06050-2P(ACP300)**

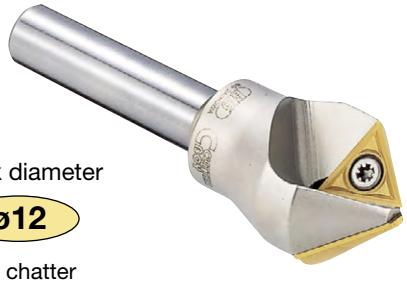
C-CUTTER BOY

Ideal for chamfering with a bench drill.

- Carbide insert achieves excellent chamfering.
- Carbide guide prevents chatter, enabling easy operation.

Chamfering Tool for Drilling Machine

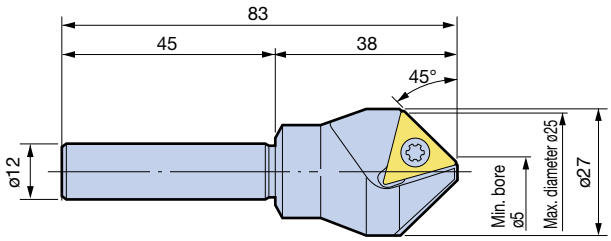
With carbide guide



Shank diameter

ø12

No chatter
with a bench drill.



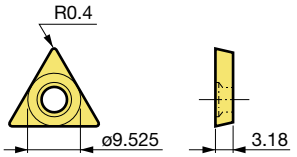
Model	ST12B-C0525

One insert is included.

<Insert>

Model	C1603B

Inserts sold in packets of 10 pcs
Example: C1603B...10 pcs



(Insert material: coated carbide)

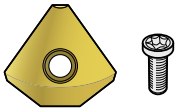
<Insert Clamping Screw Set>

Set Model	Thread size	Wrench
S4S	M4 x 8	FLR-20S

1. The set contains 10 screws and 1 wrench.

※ Wrench is also available separately.

<Carbide Guide Set>



Set Model	Carbide guide	Thread size
CG0525S	CG0525	M4 x 7

1. The set contains one carbide guide and one screw.
2. The screw compatible wrench is FLR-20S.

Cutting Conditions

Hole diameter	Spindle speed n (min^{-1})		
	Steel	Cast Iron	Aluminum
ø 5	600	800	1,000
ø10	500	600	800
ø15	400	500	600
ø20	300	400	500

1. The values in this table are only for reference and should be adjusted based on workpiece hardness, rigidity and chamfering amount.
2. Keep runout as low as possible while machining.
3. We recommend the use of cutting fluid.

Accurate positioning of drill holes and chamfering can be performed simultaneously.

- Uses high-precision throwaway bit with superb sharpness.
- Since the cutting edge can be replaced, there is no need for regrinding and the performance remains stable at all times.
- Long shank type with less workpiece interference.

New chamfer angle 120° bit

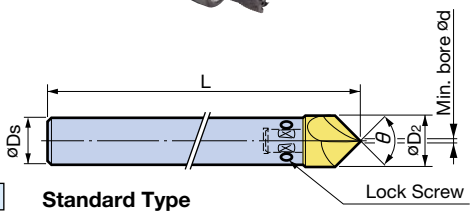


Fig. 1 **Standard Type**

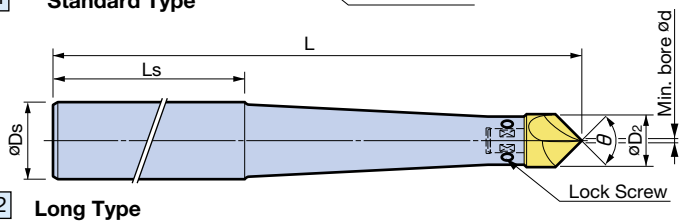


Fig. 2 **Long Type**

Chamfering angle θ	Model	Fig.	øDs	øD2	ød	L	Ls	Compatible Bit Model	Spare Lock Screw (Optional)
90°	**ST10-CBY09010**	1	10	10	0.9	150	—	**CBY09010**	**H0403-5P**
	ST12-CBY09013		12	13				**CBY09013**	
	ST16-CBY09016		16	16	1.0	180		**CBY09016**	**H0504-5P**
	ST20-CBY09022		20	22	1.5			**CBY09022**	**H0505-5P**
	ST20-CBY09013-220 ●	2	20	13	0.9	220	120	**CBY09013**	**H0403-5P**
	-260 ●					260			
	ST32-CBY09022-260 ●		32	22	1.5	260		**CBY09022**	**H0505-5P**
	-300 ●					300			
120°	**ST12-CBY12013**	1	12	13	0.9	150	—	**CBY12013**	**H0403-5P**

1. 2 throwaway bits are included.
2. Lock Screw is included. 5-piece sets are sold under the above model number for spare part orders.

⚠ Use with manual feed is not recommended.

<Throwaway Bit>

Precision-finished cutting edge with superb sharpness.
Since the bit can be replaced, there is no need for regrinding and the performance remains stable at all times.

Chamfering angle θ	Model	Compatible Body Model
90°	**CBY09010**	ST10-CBY09010
	CBY09013	ST12-CBY09013/ST20-CBY09013
	CBY09016	ST16-CBY09016
	CBY09022	ST20-CBY09022/ST32-CBY09022
120°	**CBY12013**	ST12-CBY12013

· Bits are sold as 5-piece sets.
(Bit material) High-speed steel/TiN coating

Cutting Conditions

Model	Chamfering						Centering					
	Steel		Cast Iron		Aluminum		Steel		Cast Iron		Aluminum	
	Vc	f	Vc	f	Vc	f	Vc	f	Vc	f	Vc	f
CBY09010···	20	0.1	20	0.12	45	0.15	25	0.08	30	0.1	50	0.15
CBY09013···	25		25		50		30		35		55	
CBY12013···												
CBY09016···	30		35		55		45		40		60	
CBY09022···	35		40		60		50		45		65	

1. Vc: Cutting speed (m/min) f: Feed (mm/rev).
2. The values in this table are only for reference and should be adjusted based on workpiece hardness, rigidity, and chamfering amount.
3. Lower the cutting speed Vc if chatter occurs.
4. Keep the projection length as short as possible.

Back spot facing cutter of optimal design that matches the cap bolt size.

Center through

● Easy programming, simply offset the machine spindle and starting hole centers before inserting into the hole.

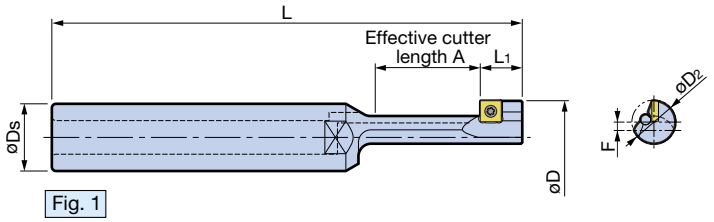


Fig. 1

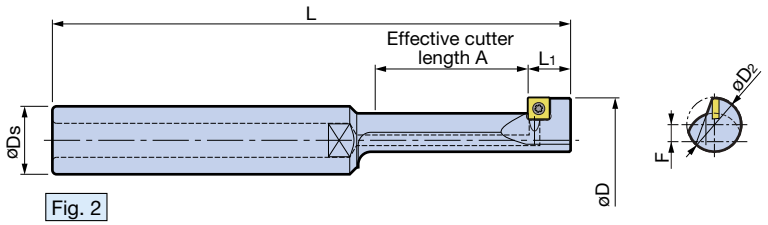


Fig. 2

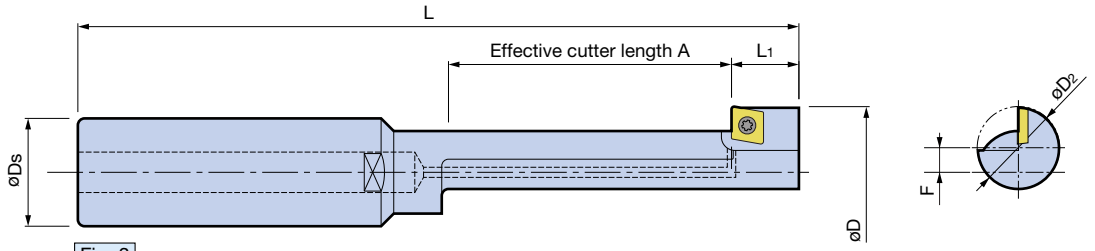
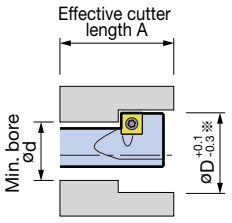


Fig. 3



● Model Description

ST16 - BF M6 / 11 - 12

- 12: Effective cutter length
- 11: Spot facing diameter
- M6: Cap bolt size
- BF: Back spot facing
- ST16: Shank diameter

Model	Fig.	Spot facing diameter øD	øDs	Min. hole ød	L	A	L1	Offset amount F	Insert Model
ST16-BFM 6/11 - 12	1	11	16	6.5	102	12	9	2.40	CM0502
-BFM 8/14 - 20		14		8.5	108	20		2.90	
-BFM10/17.5- 25		17.5		10.5	112	25	10	3.65	
-BFM12/20 - 36	2	20		13	122	36		3.65	
ST20-BFM14/23 - 49		23	20	15	136	49		4.15	
-BFM16/26 - 56		26		17	142	56		4.65	
ST32-BFM18/29 - 63	3	29	32	19	188	63	15	5.2	CC□□07…
-BFM20/32 - 70		32		21	195	70		5.7	
-BFM22/35 - 77		35		23	202	77		6.2	
-BFM24/39 - 84		39		25	214	84	20	7.3	CC□□09…
-BFM27/43 - 95		43		30	225	95		6.8	
-BFM30/48 -105		48		33	235	105		7.8	

1. Insert clamping screw and wrench are included. Inserts must be ordered separately.
2. The tolerance marked with ※ is only for reference, as the actual diameter varies depending on rigidity of the machine or workpiece, as well as the cutting conditions.

<Insert> (Optional)

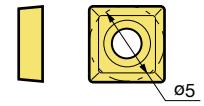


Fig. 1

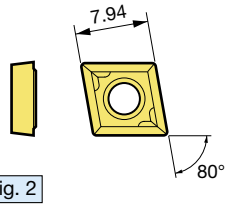


Fig. 2

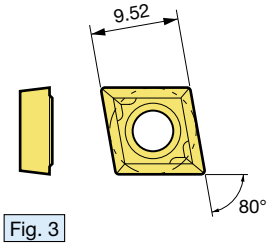


Fig. 3

Model	Fig.	Nose radius	Material	Insert grade
CM0502	1	0.2	General Steel	ACP200
CM0502			Aluminum/Non-ferrous	DS20
CCGP070204EFM	2	0.4	General Steel	T1500A
CCMP070204EFM				AC820P
CCMP070204EFM				AC830P
CCMP070204ESM			Stainless Steel	AC630M
CCMP070204EFM			Cast Iron	AC700G
CCMP070204EFM			Cast iron/Aluminum/ Non-ferrous	AC410K
CCGA070204FN				H1
CCGM090308EFM	3	0.8	General Steel	T1500A
CCMM090308EFM				AC820P
CCMM090308EFM				AC830P
CCMM090308ESM			Stainless Steel	AC630M
CCMM090308EFM			Cast Iron	AC700G
CCMM090308EFM			Cast iron/Aluminum/Non-ferrous	AC410K

Insert Grade Description

ACP200	DS20	T1500A	AC820P	AC830P
For general steel	For aluminum/non-ferrous	For general steel	For general steel	For general steel
PVD-coated carbide with superior wear resistance due to its nanometer-level thickness ultra-multilayered TiAlN and AlCrN film.	DLC-coated carbide exclusive for aluminum and non-ferrous metals, ultra-smooth with a low wear coefficient and superior welding resistance.	General purpose cermet for applications in regions from finishing to roughing. Special technology improves the material's resistance to thermal shock, allowing safe use even for wet machining.	The newly developed CVD method allows for a dense yet smooth coating that achieves outstanding versatility and consistency as the main material for steel.	The tough substrate and the peel-resistant, dense and smooth coating deliver high reliability for interrupted cutting of steel.

AC630M	AC700G	AC410K	H1
For stainless steel	For cast iron	For cast iron/aluminum/non-ferrous	For cast iron/aluminum/non-ferrous
The extremely smooth thin film coating gives this material great sharpness. Ideal for stainless steel or other materials that are easily work hardened.	Heat resistant carbide alloy is coated with multiple layers of mainly tough alumina, with additional surface smoothing treatment, to produce a highly reliable material for machining cast iron.	The hardest material for cast iron. Use if not satisfied with the wear resistance of AC700G. Note that this type is not suitable for heavy duty interrupted cutting.	With slightly higher wear resistance than K10 material, this material is a best selling type of carbide that can be used across a wide range from roughing to finishing.

<Spare Parts>

Cutter size	Insert Clamping Screw Set
BFM 6 / 11	**S2SS-T6**
BFM 8 / 14	
BFM10 / 17.5	**S2TS-T6**
BFM12 / 20	
BFM14 / 23	
BFM16 / 26	

Cutter size	Insert Clamping Screw Set
BFM18 / 29	**S3S**
BFM20 / 32	
BFM22 / 35	
BFM24 / 39	**S4S-T15**
BFM27 / 43	
BFM30 / 48	

1. The insert clamping screw set contains 10 screws and 1 wrench.

Cutting Conditions

Workpiece material	Cutting speed Vc (m/min)	Feed f (mm/rev)
Carbon Steel, Alloy Steel	30	0.03
Cast Iron	30	0.03
Aluminum/Non-ferrous	30 - 50	0.03

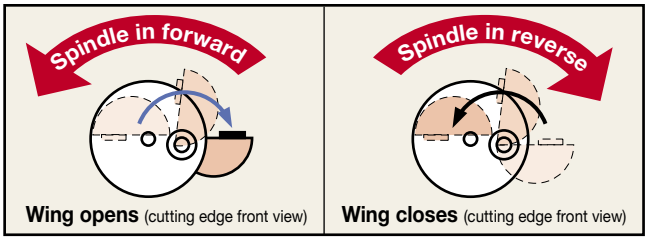
AUTOMATIC BACK SPOT FACER

Hole diameter: ø4.5 - ø9

The simplest mechanism achieves automatic back spot facing in machining centers.

- Only forward/reverse rotation of the machine spindle makes back spot facing and back chamfering possible.
- Abundant varieties and unique opening/closing method make it ideal for cast iron and aluminum machining.

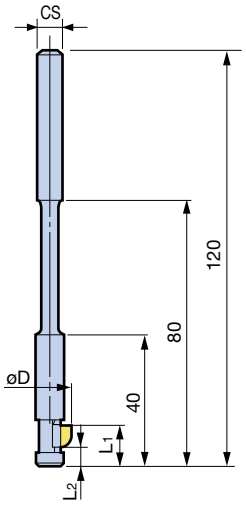
Automatic opening and closing system

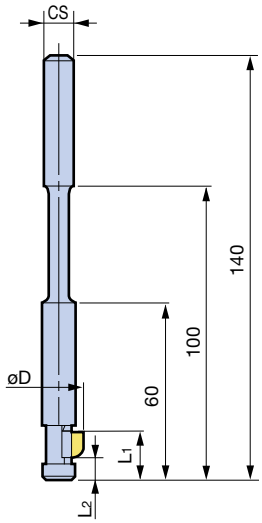


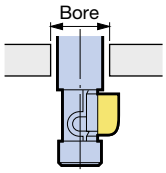
Reliable cooling through oil hole (Hole diameter ø10 - ø30)

Reliable lubrication and air supply to the cutting edge reduce the problems caused by chips to extend tool life.

Standard back spot facing series





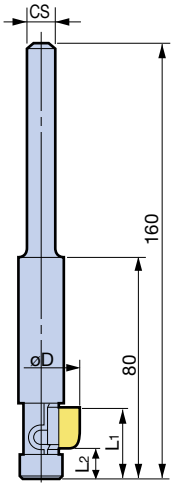


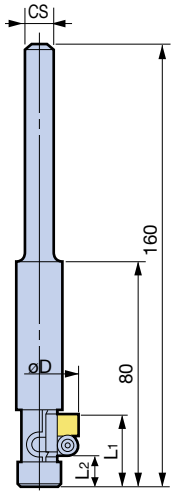
Hole diameter	Spot facing diameter øD	Spindle	Wing	Insert	L1	L2	CS
4.5	8	**27-4.5-CS6**	**37-011**	HSS	11	5	6
5.5	9	**27-5.5-CS6**	**37-011**	HSS	11	5	6
	10		**-012**				
	10.5		**-013**				
	11		**-014**				
6.5	9.5	**27-6.5-CS6**	**37-011**	HSS	11	5	6
	10.5		**-012**				
	11		**-013**				
	11.5		**-014**				
	13		**-015**				
7	11.8	**27-7-CS8**	**37-021**	HSS	15	5	8
	13.8		**-022**				
	14.4		**-023**				
8.4	13	**27-8.4-CS8**	**37-021**	HSS	15	5	8
	15		**-022**				
	15.6		**-023**				
	17		**-024**				
9	13.4	**27-9-CS8**	**37-021**	HSS	15	5	8
	15		**-020-0480**				
	15.4		**-022**				
	16		**-023**				
	17.4		**-024**				
	18		**-025**				
	19.6		**-020-0710**				

1. Upon purchase, specify the spindle and wing models with reference to the hole diameter and spot facing diameter.
2. The inserts marked with HSS in the table have high-speed steel wings integrated with the cutting edge. HSS wings have no nose radius.
3. Use a NEW BABY CHUCK or NEW Hi- POWER MILLING CHUCK for chucking.

Hole diameter: ø10 - ø13.5

AUTOMATIC BACK SPOT FACER



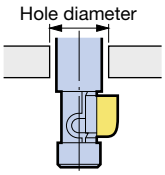


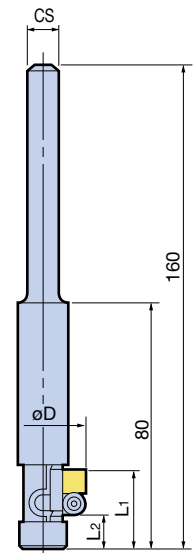
Hole diameter	Spot facing diameter øD	Spindle	Wing	Insert	Nose radius	L_1	L_2	CS
10	15.5	27-10-CS10	37-031	HSS	—	24	10	10
	17		-032					
	17.5		-033					
	18		-034					
	19		-035					
	19.6		-030-0730					
10.5	16	27-10.5-CS10	37-031	HSS	—	24	10	10
	17.5		-032					
	18		-033					
	18.5		-034					
	19.5		-035					
	20		-036					
	20.5		-037					
	21.1		-030-0780					
11	16.5	27-11-CS10	37-031	HSS	—	24	10	10
	18		-032					
	18.5		-033					
	19		-034					
	20		-035					
	20.5		-036					
	21		-037					
	22.6		-030-0830					
12	17.5	27-12-CS10	37-031	HSS	—	24	10	10
	19		-032					
	19.5		-033					
	20		-034					
	21		-035					
	21.5		-036					
	22		-037					
	24		-042	080208	0.8	25	9	
	25.6		-040-0930					
13	17.5	27-13-CS10	37-031	HSS	—	24	10	10
	19		-032					
	19.5		-033					
	20		-034					
	21		-035					
	21.5		-036					
	22		-037					
	24		-042	080208	0.8	25	9	
	26		-044					
	26.6		-040-0980					
13.5	18	27-13.5-CS12	37-031	HSS	—	24	10	12
	19.5		-032					
	20		-033					
	20.5		-034					
	21.5		-035					
	22		-036					
	22.5		-037					
	24		-041	080208	0.8	25	9	
	26		-043					
	28.1		-050-1030	C-0820	0.4	23	9	

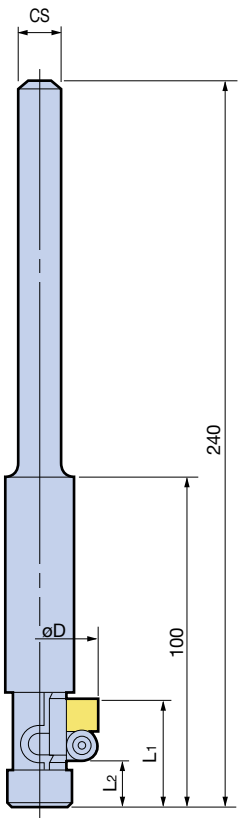
1. Upon purchase, specify the spindle and wing models with reference to the hole diameter and spot facing diameter.
2. The inserts marked with HSS in the table have high-speed steel wings integrated with the cutting edge. HSS wings have no nose radius.
3. Inserts for cast iron (K) are included with wings as standard. Insert for steel (P) is also available. Please order separately. (10 pcs packet)

AUTOMATIC BACK SPOT FACER

Hole diameter: ø14 - ø19





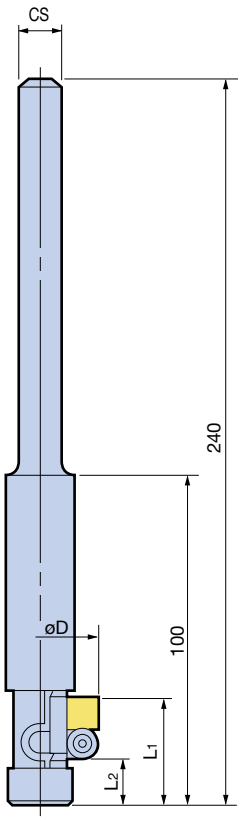


Hole diameter	Spot facing diameter øD	Spindle	Wing	Insert	Nose radius	L_1	L_2	CS
14	18.5	27-14-CS12	**37-031**	HSS	—	24	10	12
	20		**-032**					
	20.5		**-033**					
	21		**-034**					
	22		**-035**					
	22.5		**-036**					
	23		**-037**					
	25		**-042**	080208	0.8	25	9	
	27		**-044**					
	29.6		**-050-1080**	C-0820	0.4	23	9	
15	19.5	27-15-CS12	**37-031**	HSS	—	24	10	12
	21		**-032**					
	21.5		**-033**					
	22		**-034**					
	23		**-035**					
	23.5		**-036**					
	24		**-037**					
	26		**-042**	080208	0.8	25	9	
	30		**-052**	C-0820	0.4	23	9	
	32.6		**-050-1180**	C-1000				
15.5	20	27-15.5-CS12	**37-031**	HSS	—	24	10	12
	21.5		**-032**					
	22		**-033**					
	22.5		**-034**					
	23.5		**-035**					
	24		**-036**					
	24.5		**-037**					
	26		**-041**	080208	0.8	25	9	
	30		**-051**	C-0820	0.4	23	9	
16	24	27-16-CS12	**37-060-0750**	Carbide brazing	—	28	11	12
	26		**-061**	080208	0.8	30		
	30		**-062**	090308				
	33		**-063**					
	33.6		**-070-1230**	K-1050	0.4	28		
17	27	27-17-CS16	**37-061**	080208	0.8	28	11	16
	31		**-062**	090308		30		
	34		**-063**					
	36.6		**-070-1330**	K-1150	0.4	28		
17.5	26	27-17.5-CS16	**37-060-0775**	Carbide brazing	—	28	11	16
	27.5		**-061**	080208	0.8	30		
	31.5		**-062**	090308				
	33		**-060-1125**					
	34.5		**-063**					
	38.1		**-070-1380**	K-1150	0.4	28		
18	28	27-18-CS16	**37-061**	080208	0.8	28	11	16
	32		**-062**	090308		30		
	35		**-063**					
	39.6		**-070-1430**	K-1250	0.4	28		
19	28	27-19-CS16	**37-061**	080208	0.8	28	11	16
	32		**-062**	090308		30		
	35		**-063**					
	40.6		**-080-1480**	K-1250	0.4	28		

1. Upon purchase, specify the spindle and wing models with reference to the hole diameter and spot facing diameter.
2. The inserts marked with HSS in the table have high-speed steel wings integrated with the cutting edge. HSS wings have no nose radius.
3. Inserts for cast iron (K) are included with wings as standard. Insert for steel (P) is also available. Please order separately. (10 pcs packet)

Hole diameter: ø20 - ø30

AUTOMATIC BACK SPOT FACER



Hole diameter	Spot facing diameter øD	Spindle	Wing	Insert	Nose radius	L1	L2	CS
20	29	27-20-CS16	37-061	080208	0.8	28	11	16
	30		-060-0900					
	33		-062	090308		30		
	36		-063					
	43.6		-080-1580	K-1350	0.4	28		
21	30	27-21-CS20	37-061	080208	0.8	28	11	20
	34		-062	090308		30		
	37		-063					
	46.6		-080-1680	K-1450	0.4	28		
22	30	27-22-CS20	37-061	080208	0.8	30	13	20
	33		-060-1000					
	34		-062	090308		32		
	36		-060-1150					
	37		-063					
	40		-090-1350	120308		33	11	
	41		-091					
	47.6		-090-1730	K-1450	0.4	30		
23	31	27-23-CS20	37-061	080208	0.8	30	13	20
	35		-062	090308		32		
	38		-063					
	42		-091	120308		33	11	
24	32	27-24-CS20	37-061	080208	0.8	30	13	20
	36		-062	090308		32		
	39		-063					
	40		-090-1250				11	
	43		-091	120308		33		
25	33	27-25-CS20	37-101	090308	0.8	46	15	20
	40		-102					
	45		-111	120308		44		
	50		-121	150412	0.4	46		
26	34	27-26-CS25	37-101	090308	0.8	46	15	25
	40		-100-1300					
	41		-102					
	46		-111	120308		44		
	51		-121	150412	1.2	46		
27	35	27-27-CS25	37-101	090308	0.8	46	15	25
	42		-102					
	47		-111	120308		44		
	52		-121	150412	1.2	46		
28	36	27-28-CS25	37-101	090308	0.8	46	15	25
	43		-102					
	48		-111	120308		44		
	53		-121	150412	1.2	46		
29	37	27-29-CS25	37-101	090308	0.8	46	15	25
	44		-102					
	49		-111	120308		44		
	54		-121	150412	1.2	46		
30	38	27-30-CS25	37-101	090308	0.8	46	15	25
	45		-102					
	46		-100-1400					
	50		-111	120308		44		
	55		-121	150412	1.2	46		

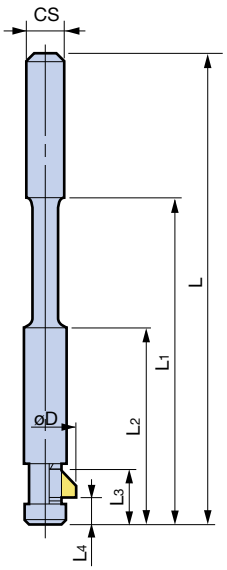
1. Upon purchase, specify the spindle and wing models with reference to the hole diameter and spot facing diameter.
2. Inserts for cast iron (K) are included with wings as standard. Insert for steel (P) is also available. Please order separately. (10 pcs packet)

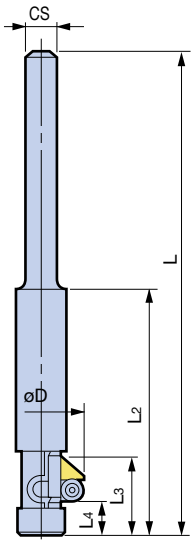
Tools for larger diameter holes than ø30 are also available.
Please contact us for details.

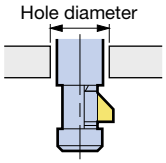
AUTOMATIC BACK SPOT FACER

Hole diameter: ø4.5 - ø30

45° Back Chamfering Series







Hole diameter	Chamfering diameter øD	Spindle	Wing	Insert	L	L1	L2	L3	L4	CS
4.5	8	**27-4.5-CS6**	**34-011**	HSS	120	80	40	11	5	6
5.5	9	**-5.5**								
6.5	9.5	**-6.5**								
7	14.4	**27-7 -CS8**	**34-023**	HSS	140	100	60	15	5	8
8.4	15.6	**-8.4**								
9	16	**-9**								

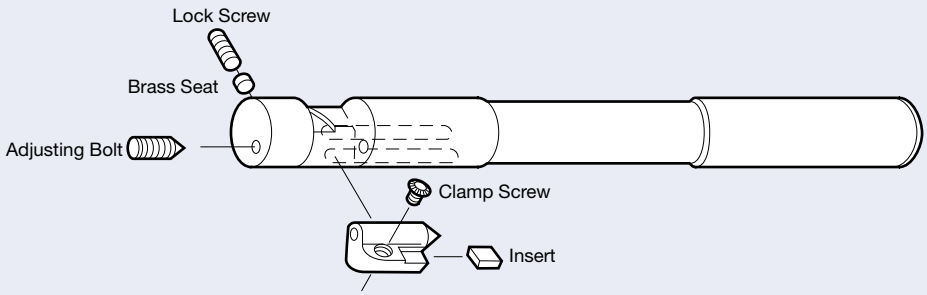
Hole diameter	Chamfering diameter øD	Spindle	Wing	Insert	L	L1	L2	L3	L4	CS
10	19	**27-10 -CS10**	**34-035**	HSS	160	—	80	24	10	10
10.5	19.5	**-10.5**								
11	20	**-11**								
12	21	**-12**								
13	21	**-13**								
13.5	21.5	**27-13.5-CS12**	**34-035**	HSS	160	—	80	24	10	12
14	22	**-14**								
15	23	**-15**								
15.5	23.5	**-15.5**								
16	33	**27-16 -CS12**	**34-063**	090308 x 45	240	—	100	30	11	12
17	34	**27-17 -CS16**	**34-063**	090308 x 45	240	—	100	30	11	16
17.5	34.5	**-17.5**								
18	35	**-18**								
19	35	**-19**								
20	36	**-20**								
21	37	**27-21 -CS20**	**34-063**	090308 x 45	240	—	100	30	11	20
22	37	**-22**	**34-063**	090308 x 45			100	32	13	
23	38	**-23**								
24	39	**-24**								
25	50	**-25**	**34-121**	150412 x 45			100	46	15	
26	51	**27-26 -CS25**	**34-121**	150412 x 45	240	—	100	46	15	25
27	52	**-27**								
28	53	**-28**								
29	54	**-29**								
30	55	**-30**								

1. Upon purchase, specify the spindle and wing models with reference to the hole diameter and chamfering diameter.
2. The inserts marked with HSS in the table have high-speed steel wings integrated with the cutting edge.
3. Inserts for cast iron (K) are included with wings as standard. Insert for steel (P) is also available. Please order separately. (10 pcs packet)

Tools for larger diameter holes than ø30 are also available.
Please contact us for details.

AUTOMATIC BACK SPOT FACER

<Spare Parts>



<Adjusting Bolt, Lock Bolt Set>

Hole diameter	Adjusting bolt	Allen key size for adjusting bolt	Lock Screw Set Set Contents: Brass (2 pcs), Screws (2 pcs), Allen Key (1 pc)
4.5 - 6.5	**211-1**	0.9	**215-1**
7 - 9	**211-2**	1.3	
10 - 15.5	**211-3**	2	**215-3**
16 - 24	**211-4**	3	**215-4**
25 - 30	**211-5**	5	**215-5**

<Clamp Screw>

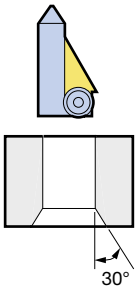
Wing Model	Clamp Screw
040 - 061	**4-631**
062 - 102	**5-639**
110 - 121	**6-635**

1. Note that the clamp screws for wing models 37-060-1125 and 37-060-1150 are different from those listed in the table at left. (Refer to table below)

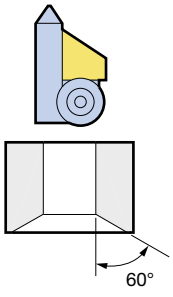
Wing Model	Clamp Screw
37-060-1125	**5-639**
37-060-1150	**5-639**

Wing replacement permits back machining of different diameters and different angles.

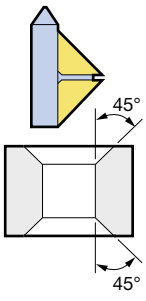
※ For models and dimensions, refer to the following page.



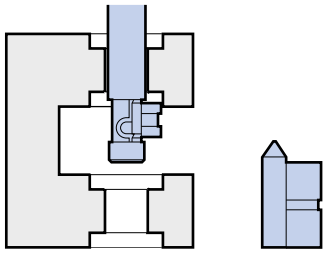
30° back chamfering



60° back chamfering



45° front and back chamfering



Wing for front and back spot facing

Front and back spot-facing wings effective for multistep machining are also available. Please contact us for details.

●Tools for hole diameter larger than ø30

The various series are also available in hole diameter sizes up to ø69. Please contact us for details.

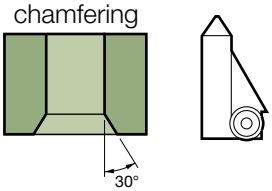
AUTOMATIC BACK SPOT FACER

Hole diameter: ø4.5 - ø30

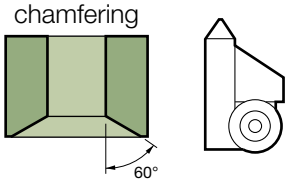
Wing Models by Angle

• For 30° and 60° back chamfering, as well as 45° front and back chamfering, select spindles and wings from the table below.

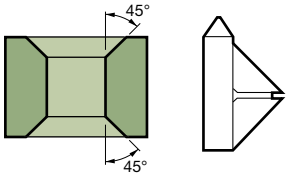
30° back chamfering



60° back chamfering



45° front and back chamfering



Hole diameter	Chamfering diameter	Spindle Model	Wing Model		
			30° back chamfering	60° back chamfering	45° front & back chamfering
4.5	8	**27- 4.5-CS 6**	**34-011-30**	**34-011-60**	**35-011**
5.5	9	**- 5.5**			
6.5	9.5	**- 6.5**			
7	14.4	**27- 7 -CS 8**	**34-023-30**	**34-023-60**	**35-022**
8.4	15.6	**- 8.4**			
9	16	**- 9**			
10	19	**27-10 -CS10**	**34-035-30**	**34-035-60**	**35-035**
10.5	19.5	**-10.5**			
11	20	**-11**			
12	21	**-12**			
13	21	**-13**			
13.5	21.5	**27-13.5-CS12**			
14	22	**-14**			
15	23	**-15**			
15.5	23.5	**-15.5**			
16	26	**-16**	**34-061-30 ＊** (Insert 090308 x 30)	**34-063-60 ＊** (Insert 090308 x 60)	**35-060**
17	27	**27-17 -CS16**			
17.5	27.5	**-17.5**			
18	28	**-18**			
19	28	**-19**			
20	29	**-20**			
21	30	**27-21 -CS20**			
22	30	**-22**			
23	31	**-23**			
24	32	**-24**			
25	40	**-25**	**34-102-30 ＊** (Insert 150412 x 30)	**34-121-60 ＊** (Insert 150412 x 60)	**35-102**
26	41	**27-26 -CS25**			
27	42	**-27**			
28	43	**-28**			
29	44	**-29**			
30	45	**-30**			

1. ＊ mark indicates insert type of wing. Insert for cast iron (K) is included as standard.
2. Refer to the previous pages for spindle dimensions.
3. The chamfering diameter shows the maximum machinable value.

Cutting Conditions

●For horizontal machining centers and interrupted cutting

When using on a horizontal machining center or for interrupted cutting, double the spindle speed and decrease the feed by 20 to 30%.

●Feed when passing through the workpiece

Set the feed at f=0.2mm/rev or lower when inserting/extracting the tool into/from the workpiece.

●For use with internal coolant

Coolant discharged during inserting/extracting the tool into/from the workpiece interrupts the opening and closing of the wing, which leads to danger.
Stop supplying coolant except when cutting.

●Prohibition of hand feed operation

Always use mechanical feed when cutting with this product. Hand feed should never be used as it may cause unstable cutting, affecting the opening and closing of the wing and leading to damage.

●Spindle selection for the hole diameter

The workpiece starting hole serves as a guide for the spindle during cutting.
Always use a spindle that matches the hole diameter.

Spot facing diameter (Chamfering diameter)	Spindle speed n (min^{-1})	Feed f (mm/rev)	
		Steel	Cast Iron
9-11	700	0.03	0.05
12-14	600	0.04	0.06
15-17	500	0.05	0.08
18-21	400	0.07	0.10
22-25	550	0.08	0.12
26-30	470	0.09	0.14
31-35	400	0.11	0.16
36-40	350	0.13	0.18
41-45	325	0.14	0.21
46-50	275	0.16	0.24
51-60	250	0.18	0.27
61-70	225	0.22	0.33
71-80	200	0.24	0.37

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