Advanced Engineering

MMC Hitachi Tool

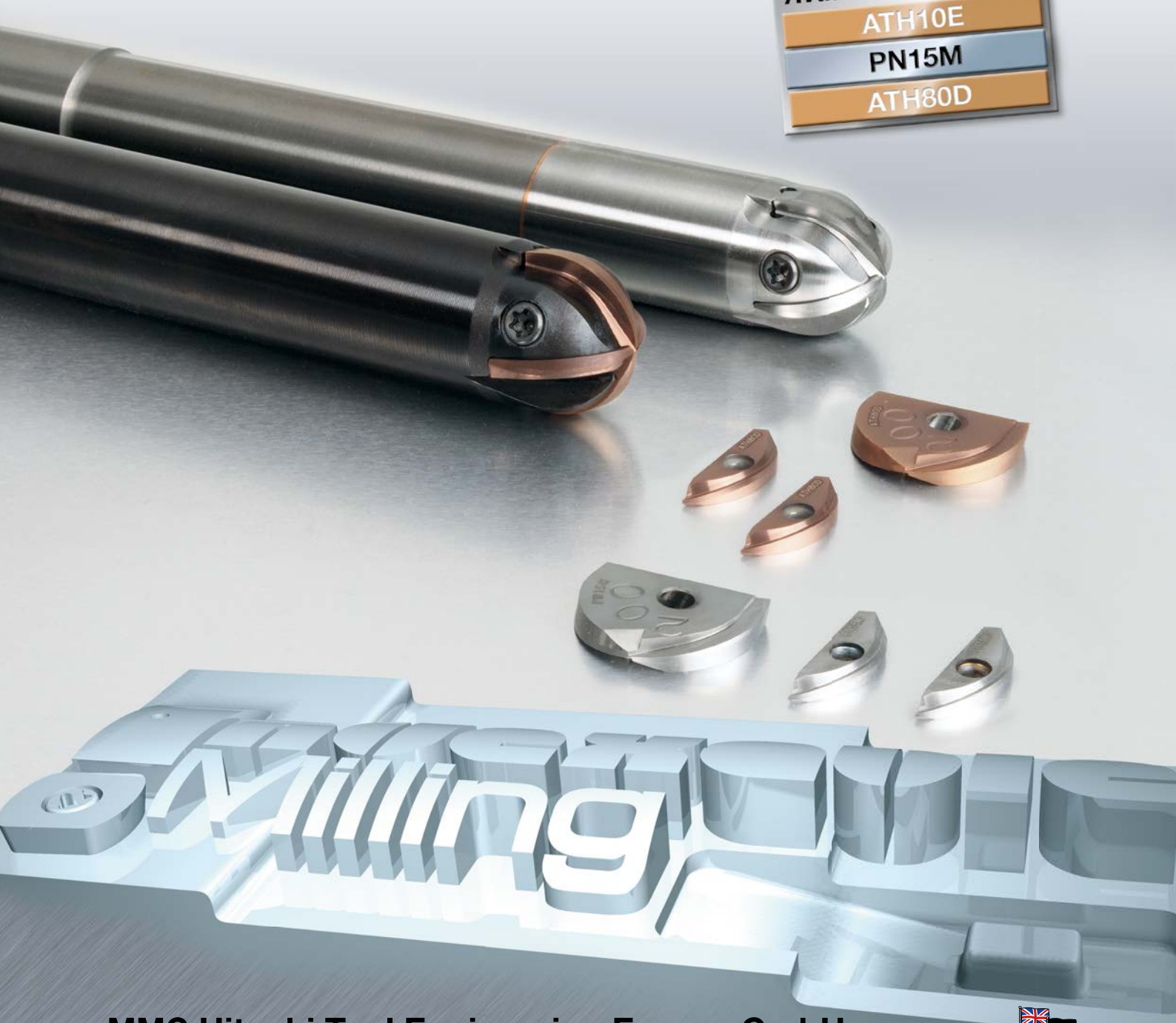
No. 337

Indexable Milling +Modular Series

ABP4F Precision Ball Series

High Efficiency 4 Flute · D 20

Available Coatings:
ATH10E
PN15M
ATH80D



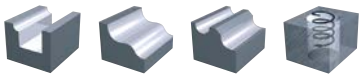
MMC Hitachi Tool Engineering Europe GmbH

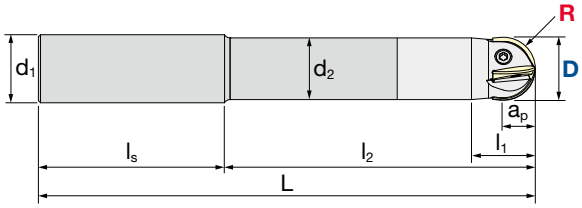
www.high-speed-cutting.com

Indexable Milling Tools

ABP4F

V max			HRC	No. of Teeth
High Speed	Semi Finishing	Finishing	65	4





CARBIDE

R	Set-up
±0.01 mm	±0.015 mm

ID Code	Item Code	Flutes	D	R	L	l_1	l_2	l_s	d_1	d_2	Shank	Primary insert	Sec. Insert
FH277	**ABP4F-20S20WL80**	4	20	10	160	17	80	80	20	19	Carbide	ZDFG-200CE ZDFG-200CT	ZDFG-200SE
FH278	**ABP4F-20S20WL100**				180		100						
FH279	**ABP4F-20S20WL120**				200		120						

STEEL

R	Set-up
±0.01 mm	±0.015 mm

ID Code	Item Code	Flutes	D	R	L	l_1	l_2	l_s	d_1	d_2	Shank	Primary insert	Sec. Insert
FH280	**ABP4F-20S20L60**	4	20	10	140	17	60	80	20	19	Steel	ZDFG-200CE ZDFG-200CT	ZDFG-200SE
FH281	**ABP4F-20S20L80**				160		80						
FH282	**ABP4F-20S20L100**				190		100						

INSERTS ABP4F

Main Insert

Item Code	Tolerance	Grade			Size (mm)		
		ATH10E	ATH80D	PN15M	R	A	T
ZDFG-200CE	F class	WF376			10	13.8	3.2
ZDFG-200CT			WF379	WF382			

Sub Insert

Item Code	Tolerance	Grade			Size (mm)		
		ATH10E	ATH80D	PN15M	R	A	T
ZDFG-200SE	F class	WF377	WF380	WF383	10	13.8	2.4

Insert Set

Item Code	Tolerance	Grade			Size (mm)
		ATH10E	ATH80D	PN15M	Set Items
ZDFG-200SET	F class	WF378	WF381	WF384	1 Main + 2 Sub Inserts

	Description	Target
ATH10E	High wear resistance PVD coat + Micro grain substrate	Cast iron
PN15M	Lower friction high hardness PVD coat + Micro grain substrate	Carbon steel, pre-hardened steel
ATH80D	High wear and heat resistance PVD coat + Micro grain substate	Hardened Steel

ABP4F | Precision Ball Series

To meet the specification for radius tolerance ± 0.01 mm, attach inserts according to the procedure below.

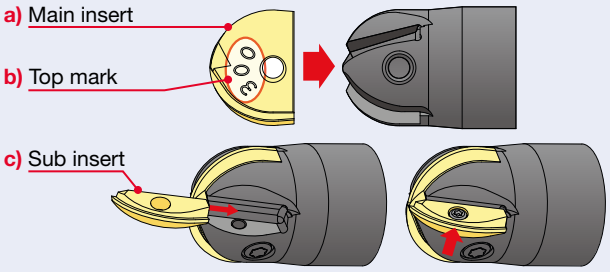
Set-up procedures of main insert:

1. Place a top mark on the insert as shown toward a screw thightening side.
2. Tighten the insert screw without pressing down the insert too much strongly.

Set-up procedures of sub inserts:

1. Install a sub insert along the restraining wall.
2. Pressing the insert firmly against the wall while tighten the insert screw.

Tightening torque:	Main insert	Sub insert
	2.2 Nm	0.5 Nm



Damit die bestmögliche Genauigkeit von +/- 0,01mm gewährleistet werden kann, beachten Sie bitte die Handhabung des Plattenwechsels wie folgt.

Wendeschneidplattenwechsel der Hauptschneide (große Platte):

1. Die beschriftete Seite der Hauptschneide muss in Richtung Schraubenkopf zeigen, gem. Grafik
2. Ziehen Sie die Schraube mit dem angegebenen Drehmoment an (2,2 Nm), ohne die Wendeschneidplatte zu stark in die Anlage zu drücken.

Wendeschneidplattenwechsel der beiden Nebenschneiden (2x kleine Platten):

1. Schieben Sie die beiden Nebenschneiden an der geraden Anlagefläche bis hin zum endgültigen Plattensitz im Radius
2. Pressen Sie die Nebenschneiden kräftig in ihren Sitz und ziehen Sie diese mit dem angegebenen Drehmoment an (0,5 Nm).

Anzugsdrehmoment:	Hauptschneidplatte	Sekundärschneidplatte
	2,2 Nm	0,5 Nm

a) Hauptschneide **b)** Markierung **c)** Nebenschneiden

Al fine di soddisfare la tolleranza sul raggio di ± 0.01 mm, seguire la procedura sottostante.

Montaggio inserto principale:

1. Inserire l'inserto con posizione di riferimento rivolta verso la testa della vite
2. Serrare la vite senza esercitare forte pressione sull'inserto

Montaggio inserti secondari:

1. Alloggiare l'inserto nella sede di riferimento
2. Premere l'inserto contro la parete di riferimento e serrare la vite

Serrare le viti con le Coppie di serraggio specificate	Inserto principale	Inserto secondario
	2.2 Nm	0.5 Nm

a) Inserto Principale **b)** Posizione di riferimento **c)** Inserto secondario

Para cumplir la especificación de la tolerancia del radio ± 0,01 mm, monte las placas según el procedimiento de abajo.

Procedimiento de montaje de la placa principal:

1. Coloque la marca superior de la placa, como se muestra en el dibujo, hacia el lado de apriete del tornillo.
2. Apriete el tornillo de la placa sin presionar hacia abajo la placa demasiado fuerte.

Procedimiento de montaje de las placas secundarias:

1. Coloque la placa secundaria a lo largo del alojamiento de la pared
2. Presione firmemente la placa secundaria contra la pared mientras apriete el tornillo de la placa secundaria.

Par de apriete:	Placa principal	Placa secundaria
	2.2 Nm	0.5 Nm

a) Placa principal **b)** Marca superior **c)** Placa secundaria

Fixez les plaquettes selon les indications ci-dessous, afin de répondre aux conditions de tolérance du rayon +/-0.01mm.

Procédure d'installation des plaquettes principales:

1. Placez la marque de la plaquette comme indiqué, du côté du pas de vis de serrage.
2. Serrez la vis sans exercer une pression verticale trop importante

Procédure d'installation des plaquettes secondaires:

1. Positionnez une plaquette secondaire dans le logement prévu à cet effet
2. Maintenez fermement la plaquette contre le corps en serrant la vis

Couple de serrage:	Plaquette principale	Plaquette secondaire
	2.2 Nm	0.5 Nm

a) Plaquette principale **b)** Marque **c)** Plaquette secondaire

De modo a cumprir a especificação para a tolerância de raio ± 0.01mm, aplique as plaquetes de acordo com o procedimento indicado.

Procedimentos de instalação da plaquete principal:

1. Coloque a marca de topo na plaquete como demonstrado, num dos encaixes de aperto de parafuso.
2. Aperte o parafuso sem pressionar a plaquete para baixo com muita força.

Procedimentos de instalação das plaquetes secundárias:

1. Aplique as plaquetes secundárias ao longo das paredes limitadoras
2. Pressione as plaquetes firmemente contra as paredes, enquanto aperta os parafusos das plaquetes.

Torque de aperto:	Plaquete principal	Plaquete secundária
	2.2 Nm	0.5 Nm

a) Plaquete principal **b)** Marca de topo **c)** Plaquete secundária

Clamp Screw					
Primary insert			Secondary insert		
ID Code	Item Code	Tightening torque	ID Code	Item Code	Tightening torque
ET065	**155-158**	**2.2 Nm**	ET066	**250-140**	**0.5 Nm**

Screw driver			
ID Code	Item Code	ID Code	Item Code
ET012	**104-T15**	ET056	**104-T6**

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