

Advanced Engineering

Indexable
Milling
+Modular Series

MMC Hitachi Tool

No. 327.2

ASPV Polish Mill Vertical Type Modular & Bore Types Multi Function High Speed End Mill

Multi-Function End Mill
for bottom & vertical wall finishing
of high quality surfaces

CR
0.4
0.8
2.0

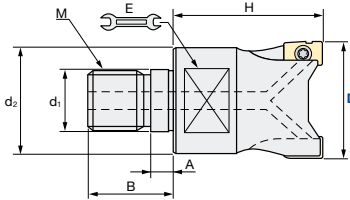
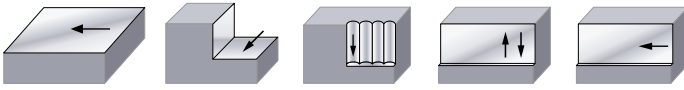
MMC Hitachi Tool Engineering Europe GmbH
www.high-speed-cutting.com




Indexable Milling Tools

ASPVM | Polish Mill V-Type / Modular

Jet Air Hole	▽ Roughing	▽▽ Finishing	HRC 62	No. of Teeth 2~6	90°	Mill-D tolerance for master insert 0 -0.1
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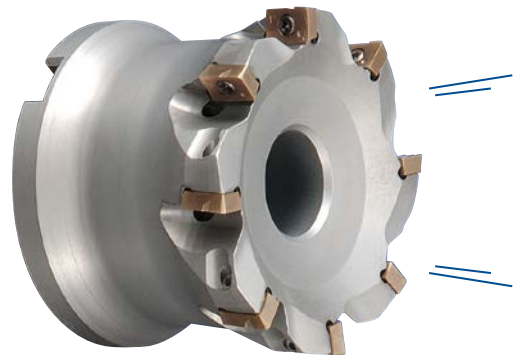
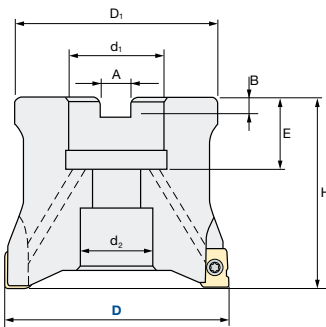
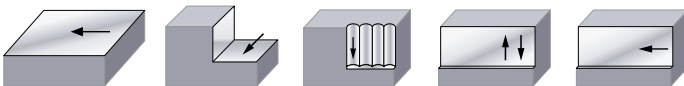


Tolerance D for master insert:	Torque on screw:
0/-0.1 mm	1.1 Nm


Modular Type												Inserts
ID Code	Item Code	Flutes	D	H	d ₁	M	d ₂	A	B	C	E	
FH161	ASPVM-2016R-2-M8	2	16	25	8.5	M8	12.8	5.5	17	8	10	MPHW06.... 
FH162	ASPVM-2020R-3-M10	3	20	30	10.5	M10	17.8		19	15		
FH163	ASPVM-2025R-4-M12	4	25	35	12.5	M12	20.8		22	17		
FH164	ASPVM-2032R-5-M16	5	32	40	17	M16	28.8	6	23	12	22	
FH165	ASPVM-2035R-5-M16		35									
FH166	ASPVM-2042R-6-M16	6	42									

ASPVB | Polish Mill V-Type / Bore Type

Jet Air Hole	▽ Roughing	▽▽ Finishing	HRC 62	No. of Teeth 6~8	90°	Mill-D tolerance for master insert 0 -0.1
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Tolerance D for master insert:	Torque on screw:
0/-0.1 mm	1.1 Nm

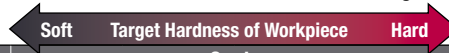
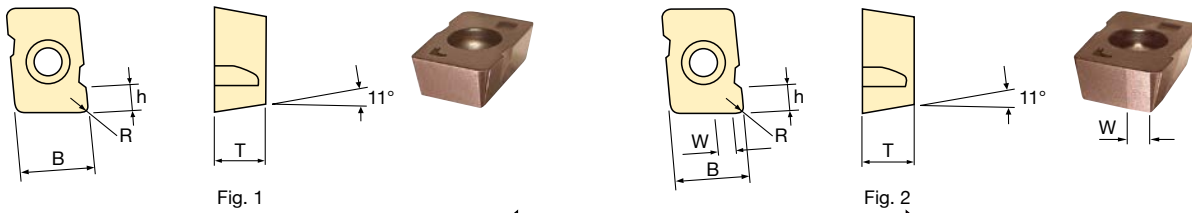
Bore Type												Inserts
ID Code	Item Code	Flutes	D	H	d ₁	d ₂	M	D ₁	A	B	E	
FH157	ASPVB-2042RM-6-16	6	42	40	16	13.5	M8	35	8.4	5.6	18	MPHW06.... 
FH158	ASPVB-2052RM-7-22	7	52	50	22	17	M10	40	10.4	6.3	20	
FH159	ASPVB-2052RM-7-27											
FH160	ASPVB-2066RM-8-27	8	66		27	20	M12	45 60	12.4	7	22	

Note: Arbor screw is not included.

Indexable Milling Tools

INSERTS ASPV | Polish Mill V-Type

MPHW0603..ZEL/ZFL

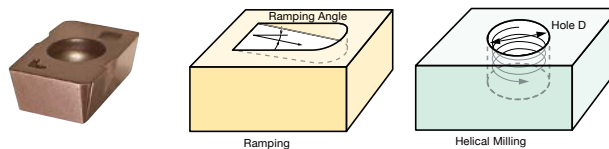


Inserts	Tolerance Class	Grade				Size (mm)					Shape
		SD5010	JX1045	JX1020	ATH08M	B	W	T	h	R	
Item Code		ID Code									
R 0.4	H	MPHW060304ZEL ATH08M			WF188	6.35	-	3.18	3	0.4	Fig-1
MPHW060304ZEL-0.5 ATH08M				WF189	0.5		Fig-2				
MPHW060304ZFL SD5010		WF190			-		Fig-1				
MPHW060308ZEL ATH08M				WF191	1.5	0.8	Fig-1				
MPHW060308ZEL JX1020			WF192								
MPHW060308ZEL JX1045		WF193	×								
MPHW060308ZEL-1.5 ATH08M				WF194							
MPHW060308ZEL-1.5 JX1020				WF195		2	Fig-1				
MPHW060308ZEL-1.5 JX1045		WF196	×								
MPHW060308ZFL SD5010		WF197									
R 2		MPHW060320ZEL ATH08M			WF198	-				Fig-1	

SD5010	PVD · For Aluminium
JX1045	× to be replaced by JS4045
JX1020	PVD · For pre-hardened steels 40–55HRC
ATH08M	PVD · General grade from soft to hard

Parts	Clamp Screw		Screw Driver	
Shape				
Cutter body	ID Code	Item Code	ID Code	Item Code
ASPVM20..R-	ET175	250-141	ET13	104-T8

- Ramping / Helical Milling
- Rampen-/ Helikalfräsen
- Rampa / Fresatura elicoidale
- Rampas / fresado helicoidal
- Rampe / Fraisage Hélicoïdal
- Rampa / Fresagem Helicoidal



Inserts	MPHW0603..ZEL/ZFL							
Tool diameter D (mm)	D16	D20	D25	D32	D35	D42	D52	D66
Maximum ramp angle °	2.5°	2.5°	2.1°	1.6°	1.4°	1.2°	1°	0.5°
Helical Milling / Hole Dia. (mm)	22~30	30~38	40~48	54~62	60~68	74~82	94~102	122~130

- 1. The ramp angle should be set within the ranges listed above. Use at ramp angles of 0.5° is recommended.
- 2. For hole diameters outside the ranges listed above, a pilot hole should be drilled before milling.
- 1. Der Rampenfräswinkel sollte innerhalb der oben aufgelisteten Bereiche sein. Empfohlen wird ein Winkel von 0,5°.
- 2. Für Bohrungen mit einem größeren Durchmesser als oben aufgeführt sollte vor dem Helikalfräsen eine Startbohrung durchgeführt werden.
- 1. L'angolo di rampa dovrebbe essere compreso tra i valori sopra esposti. E' comunque raccomandabile l'utilizzo di un angolo di 0.5°.
- 2. Per i fori di diametro non compreso tra i valori sopra riportati è necessaria una pre-foratura da effettuare prima della fresatura elicoidale.

- 1. El ángulo de rampa debe establecerse dentro de los rangos indicados en el cuadro. Es recomendable utilizar ángulos de rampa de 0,5°.
- 2. Para agujeros distintos a los rangos indicados en el cuadro, es necesario realizar un orificio previo antes del fresado.
- 1. L'angle de rampe utilise doit-être tel que précisé dans la liste ci-dessous. L'utilisation d'un angle de rampe de 0.5° est recommandée.
- 2. Pour la réalisation de perçage par fraisage, voir la liste ci-dessous. Un avant trou doit-être réalisé au préalable.
- 1. O ângulo da rampa deve ser definido dentro dos intervalos listados acima. Use em ângulos de rampa de 0,5° é recomendado.
- 2. Para diâmetros de furos fora dos intervalos listados acima, um furo piloto deve ser perfurado antes de maquinação.

Indexable Milling Tools

Flute tip has 3 cutting edges:

1 Cutting edge for reciprocating machining
Used as the cutting edge when performing reciprocating finishing vertical machining.

2 Peripheral cutting edge
Used as the peripheral cutting edge when performing side machining.

3 Face cutting edge: Used when bottom finishing. Used as the reciprocating cutting edge when performing vertical machining.

Feed direction:

4. Insert with supplementary cutting edge:
For increased feed rates

MPHW0603..ZEL 0.5
MPHW0603..ZEL 1.5

5. Insert without supplementary cutting edge:
For bottom machining, suitable for long overhang (L/Dc = 5 or more) machining or for handling low rigidity in main axis direction.
For vertical machining, inserts without supplementary cutting edge are recommended.

MPHW0603..ZEL

Fräser mit 3 Schneidkanten | Vorschubrichtung:

- Schneidkante für oszillierende Bearbeitung:** Für vertikale Schlichtoperationen mit wechselnder Richtung.
- Äußere Schneidkante:** Für die Seitenbearbeitung.
- Stirnschneidkante:** Zum Schlichten der Bodenflächen. Schneidkante für vertikales Schlichten mit wechselnder Richtung.
- Schneidplatte mit zusätzlicher Schneidkante:** Für erhöhte Vorschubraten
- Schneidplatte ohne zusätzliche Schneidkante: Für die Bearbeitung der Bodenflächen, geeignet für große Auskraglängen (L/Dc = 5 und mehr) oder bei geringer Stabilität in der Hauptachse. Für Vertikalbearbeitung sind diese Schneidplatten besonders geeignet.

La punta dell'inserto ha 3 parti taglienti | Direzione avanzamento:

- Tagliente per lavorazioni di finitura alternata.**
Utilizzo del bordo tagliente per lavorazioni di finitura assiale con direzione alternata.
- Tagliente periferico**
Utilizzato come tagliente periferico durante lavorazioni di contornatura.
- Inserto per lavorazione dei piani**
Utilizzato per finitura di piani. Utilizzato come tagliente alternato per finitura verticale.
- Inserto con affilatura supplementare:
Per aumentare l'avanzamento
- Inserto senza affilatura supplementare:**
Per lavorazioni di piani, adatto per lavorazioni con lunghe sporgenze (L/D = 5 volte o superiore) o in situazioni di bassa rigidità nella direzione dell'asse principale. Per le lavorazioni di finitura in verticale sono raccomandati gli inserti senza affilatura supplementare.

Placas con 3 filos de corte | Sentido del avance:

- Filo de corte para mecanizado bidireccional.**
Para las operaciones de acabado verticales con procesos ascendentes y descendentes.
- Filo de corte periferico**
Para el mecanizado lateral en procesos de contorneado.

Filo de corte frontal

Se utiliza en acabado de fondo. Se utiliza como filo de corte cuando se realiza un mecanizado vertical descendente

- Plaqueta con un filo de corte suplementario:
Permite aumentar el avance

Plaqueta sin filo de corte suplementario:

Para el mecanizado de fondos. Ideal para mecanizados con grandes voladizos (L / Dc = 5 o más) y para maquinas poco rígidas. Para el mecanizado vertical, se recomienda plaquetas sin filo de corte suplementario

La plaquette a 3 arrêtes de coupe | Sens de l'avance:

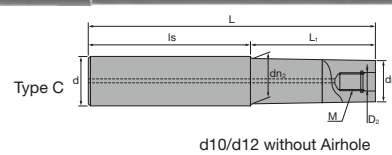
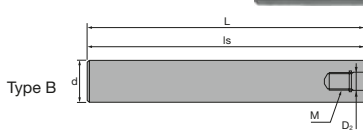
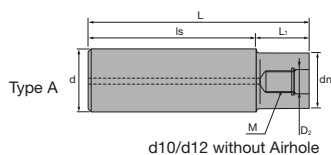
- Arrête de coupe pour Usinage en tirant**
Utilisée en alternance comme arête de coupe lors d'usinage de finition vertical en bidirectionnel (en montant)
- Arrête de coupe périphérique**
Utilisée lors d'opérations de contournage.
- Arrête de coupe inférieure**
Utilisée en surfaçage. Utilisée en alternance comme arête de coupe lors d'usinage de finition vertical en bidirectionnel (en descendant)
- Plaquette avec Wiper:** Pour des avances supérieures
- Plaquette sans Wiper:** En surfaçage, adaptée aux usinages avec de longs portes à faux (L/Dc = 5 ou plus) ou pour pallier à un manque de rigidité dans l'axe de broche. Pour l'usinage vertical, nous recommandons les plaquettes sans Wiper

A zona corte tem 3 arestas: | Direção Maquinação:

- Chanfre para maquinação vertical:**
Usado para realizar maquinação de acabamento vertical. (Plunging)
- Zona periférica**
Usado para realizar maquinação acabamento lateral.
- Chanfre inferior:**
Usado no acabamento de topo e usado também na maquinação vertical.
- Plaquete com chanfre inferior corte suplementar:**
Para o aumento dos avanços.
- Plaquete sem chanfre inferior de corte suplementar:**
Para maquinação de topos e adequado para zonas Altas (> = 5 vezes D) de maquinação ou para resolução da rigidez na direção do eixo principal. Para maquinação vertical, plaquetes sem chanfre suplementar de corte são recomendadas.

Indexable Milling Tools

ASC | Carbide Shanks for Modular Mills



d10/d12 without Airhole

d10/d12 without Airhole

Carbide Shank															
	ID Code	Item Code	D ₂	M	L	L ₁	Is	dn	dn ₂	d	Type				
Without Airhole	FH137	ASC10-6.5-74-24	6.5	M6	74	24	50	9.3	-	10	A				
	FH254	ASC10-6.5-84-34			84	34									
	FH255	ASC10-6.5-114-24			114	24						90			
	FH138	ASC10-6.5-114-49			74	24	65								
	FH139	ASC12-6.5-74-24			94	44	50					11	11.5	12	C
	FH256	ASC12-6.5-94-44			74	24	105								
	FH257	ASC12-6.5-129-24			129	24	65								
	FH140	ASC12-6.5-129-64			95	30	65								
FH141	ASC16-8.5-95-30	120	50	70											
FH258	ASC16-8.5-120-55	170	90	80											
FH142	ASC16-8.5-140-75	140	75	65											
With Airhole	FH260	ASC16-8.5-160-30	8.5	M8	160	30	130	18	-	20	A				
	FH259	ASC16-8.5-160-95			95	55	65								
	FH143	ASC20-10.5-120-50			120	50	70					18.5	19.5	20	C
	FH261	ASC20-10.5-170-90Z			170	90	80								
	FH144	ASC20-10.5-220-50	220	50	170	18	-	20	A						
	FH262	ASC20-10.5-220-120Z	120	100	100										
	FH263	ASC20-10.5-270-150Z	270	150	120										
	FH264	ASC20-10.5-270-50Z	50	220	220										
	With Airhole	FH145	ASC25-12.5-145-65	12.5	M12	145	65	80	23	-	25	A			
		FH146	ASC25-12.5-265-65			265	200	200							
		FH265	ASC25-12.5-215-115			215	115	100							
		FH266	ASC25-12.5-265-145			265	145	120							
		FH268	ASC25-12.5-315-65			315	65	250							
		FH267	ASC25-12.5-315-195			195	120	120							
		With Airhole	FH147	ASC32-17-160-80	17	M16	160	80	80	28	-	32	A		
			FH269	ASC32-17-260-140			260	140	120						
FH148			ASC32-17-310-80	310			80	230							
FH270			ASC32-17-360-240	360			240	120							

- 🇬🇧 SUPER Lock milling chucks or shrink-fit holders can be used.
- 🇩🇪 SUPER Lock Aufnahmen oder Schrumpffutter können verwendet werden.
- 🇮🇹 Possono essere utilizzati mandrini a forte serraggio SUPER Lock.

- 🇪🇸 Aptos para amarrar en portapinzas SUPER Lock.
- 🇫🇷 Les attachements SUPER Lock peuvent être utilisés.
- 🇵🇹 Cones hidráulicos de grande aperto e aperto térmico podem ser usados.

AS | Steel Shanks for Modular Mills



Steel Shank											
	ID Code	Item Code	D ₂	M	L	L ₁	Is	dn	dn ₂	d	Type
Without Airhole	FH131	AS10-6.5-74-0	6.5	M6	74	-	74	-	-	10	B
	FH132	AS12-6.5-84-4			84	4	80	11	-	12	A
With Airhole	FH133	AS16-8.5-95-15	8.5	M8	95	15	80	14.5	15.5	16	C
	FH134	AS20-10.5-100-20	10.5	M10	100	20		18	-	20	A
	FH271	AS25-12.5-115-35	12.5	M12	115	35		23	23	25	
	FH272	AS32-17-110-30	17	M16	110	30		28	28	32	

- 🇬🇧 SUPER Lock milling chucks can be used.
- 🇩🇪 SUPER Lock Aufnahmen können verwendet werden.
- 🇮🇹 Possono essere utilizzati mandrini a forte serraggio SUPER Lock.

- 🇪🇸 Aptos para amarrar en portapinzas SUPER Lock.
- 🇫🇷 Les attachements SUPER Lock peuvent être utilisés.
- 🇵🇹 Cones hidráulicos de grande aperto e aperto térmico podem ser usados.

- 🇬🇧 For further information about modular chucks please see our brochure *Indexable Modular Series No. 328.2*
- 🇩🇪 Weitere Informationen über modulare Werkzeugaufnahmen finden Sie in unserem Prospekt: *Indexable Modular Series No. 328.2*
- 🇪🇸 Para obtener más información sobre conos modulares consulte nuestro folleto *Indexable Modular Series No. 328.2*
- 🇮🇹 Per maggiori informazioni riguardanti la gamma dei mandrini avvitali consultate il catalogo *Indexable Modular Series No. 328.2*

- 🇫🇷 Pour de plus amples informations concernant les attachements modulaires, voyez SVP notre brochure *Indexable Modular Series No. 328.2*
- 🇵🇹 Para mais informações sobre Cones Modulares consulte o nosso folheto *Indexable Modular Series No. 328.2*



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Product Range

Solid Carbide End Mills



Indexable Milling Tools



WHNSB Drills



Milling Chucks



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