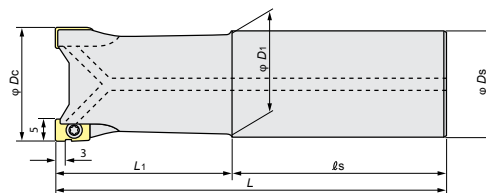


IASPV/ASPV

Shank Style
Inch + Metric



IASPVS-Inch (Shank Style)

D -0.03/-0.1

Part No.	Stock	Flutes	ØDc	L	ØDs	ØD1	L1	ls	Insert
IASPVS2010R-2	•	2	0.625	4.0	0.625	0.567	1.25	2.75	MPHW0603xxZEL MPHW0603xZEL-xx
IASPVS2012R-3	•	3	0.750	5.0	0.750	0.673	2.00	3.00	
IASPVS2016R-4	•	4	1.000	5.5	1.000	0.921	2.50	3.00	
IASPVS2020R-5	•	5	1.250	6.0	1.250	1.177	2.75	3.25	
IASPVS2024R-6	•	6	1.500	6.0	1.500	1.343	1.75	4.25	

ASPVS-Metric (Shank Style)

Part No.	Stock	Flutes	ØDc	L	ØDs	ØD1	L1	ls	Insert
ASPVS2016R-2	□	2	16	100	16	14.5	30	70	MPHW0603xxZEL MPHW0603xZEL-xx
ASPVS2020R-3	□	3	20	110	20	18.0	30	80	
ASPVS2025R-4	□	4	25	120	25	23.0	40	80	
ASPVS2030R-4	□	4	30	150	32	28.0	50	100	
ASPVS2032R-5	□	5	32	150	32	30.0	50	100	
ASPVS2035R-5	□	5	35	150	32	31.0	50	100	
ASPVS2040R-6	□	6	40	170	32	31.0	50	120	

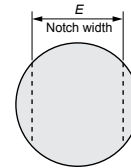
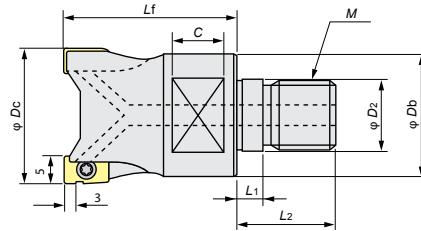
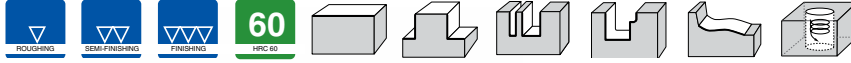


Inserts p. 44

□ = Stocked items in Japan

IASPV/ASPV

Modular Style
Inch + Metric



IASPVM-Inch (Modular Style)

D -0.03/-0.1

Part No.	Stock	Flutes	ØDc	Lf	ØD2	M	ØDb	L1	L2	C	E	Insert
IASPVM2010R-2	•	2	0.625	0.984	0.335	8	0.504	0.217	0.669	0.315	0.394	MPHW0603xxZEL MPHW0603xZEL-xx
IASPVM2012R-3	•	3	0.750	1.181	0.413	10	0.701	0.217	0.748	0.394	0.591	
IASPVM2016R-4	•	4	1.000	1.378	0.492	12	0.819	0.217	0.866	0.394	0.669	
IASPVM2020R-5	•	5	1.250	1.575	0.669	16	1.134	0.236	0.906	0.472	0.866	
IASPVM2024R-6	•	6	1.500	1.575	0.669	16	1.134	0.236	0.906	0.472	0.866	

ASPVM-Metric (Modular Style)

Part No.	Stock	Flutes	ØDc	Lf	ØD2	M	ØDb	L1	L2	C	E	Insert
ASPVM2016R-2	□	2	16	25	8.5	M8	12.8	5.5	17	8	10	MPHW0603xxZEL MPHW0603xZEL-xxt
ASPVM2020R-2	□	2	20	30	10.5	M10	17.8	5.5	19	10	15	
ASPVM2020R-3	□	3	20	30	10.5	M10	17.8	5.5	19	10	15	
ASPVM2025R-4	□	4	25	35	12.5	M12	20.8	5.5	22	10	17	
ASPVM2032R-5	□	5	32	40	17.0	M16	28.8	6.0	23	12	22	
ASPVM2040R-6	□	6	40	40	17.0	M16	28.8	6.0	23	12	22	

Modular Shanks on p. 163

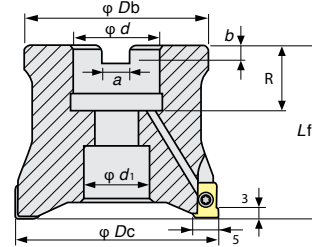
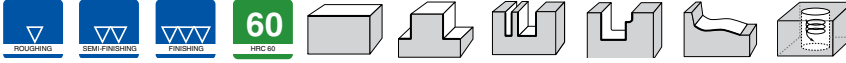


Inserts p. 44

□ = Stocked items in Japan

IASP/ASP

Face Mill Style
Inch + Metric



D -0.03/-0.1

IASPVB-Inch (Face Mill Style)

Part No.	Stock	Flutes	ϕDc	ϕDb	L_f	L	a	b	ϕd	ϕd_1	Insert
IASPVB2032R-7	•	7	2.000	1.80	2	0.75	0.315	0.917	0.75	0.67	MPHW0603xxZEL
IASPVB2040R-8	•	8	2.500	2.26	2	0.75	0.315	0.917	0.75	0.67	MPHW0603xxZEL-xx

ASPVB-Metric (Face Mill Style)

Part No.	Stock	Flutes	ϕDc	ϕDb	L_f	L	a	b	ϕd	ϕd_1	Insert
ASPVB2050R-7	□	7	50	47.0	50	19	8.4	5	22.225	17	MPHW0603xxZEL MPHW0603xxZEL-xx
ASPVB2063R-8	□	8	63	60.0	50	19	8.4	5	22.225	17	
ASPVB2050RM-7	□	7	50	47.0	50	20	10.4	6.3	22.000	17	
ASPVB2063RM-8	□	8	63	60.0	50	20	10.4	6.3	22.000	17	

□ = Stocked items in Japan

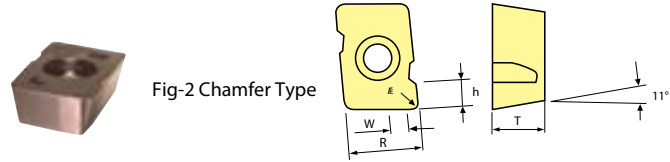
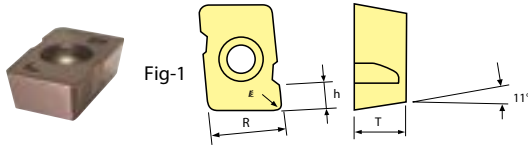


Inserts p. 44

Part No.	Clamp Screw	Arbor Screw	Screw Driver	Screw Anti-Seizure Agent
(I)ASPVM20 ○○ R- ○ (I)ASPVS20 ○○ R- ○ (I)ASPVB20 ○○ R- ○ (I)ASPVB20 ○○ RM- ○	250-141	100-178	104-T8	P-37

IASPV/ASP

Inserts



Inserts

Part No.	Shape	ATH08M	JP4020	MZ1000	l(mm)	W(mm)	T(mm)	h(mm)	r(mm)
MPHW060302ZEL	Fig-1			□	6.35	-	3.18	3	0.2
MPHW060302ZEL-0.5	Fig-2			□	6.35	0.5	3.18	3	0.2
MPHW060304ZEL	Fig-1	•		•	6.35	-	3.18	3	0.4
MPHW060304ZEL-0.5	Fig-2	•		□	6.35	0.5	3.18	3	0.4
MPHW060308ZEL	Fig-1	•	•	•	6.35	-	3.18	3	0.8
MPHW060308ZEL-1.5	Fig-2	•	□	□	6.35	1.5	3.18	3	0.8

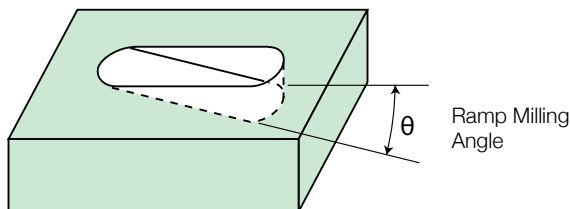
□ = Stocked items in Japan

COATING MATERIALS FOR INSERTS

Material name ISO Classification	Coating Name Coating Type	Application	Features
JP4020 P10-M10-K10	JP Coating PVD	For pre-hardened steel (40-50HRC)	Uses coating with excellent shock resistance, making it superior for cutting prehardened steel.
ATH08M P01-M01	ATH Coating PVD	For hardened steel 50HRC or more	ATH coating is optimized for cutting high-hardness materials. Uses substrate of ultrafine-particle cemented carbide.
MZ1000 P20	TH Coating PVD	For finishing of steel	Cermet coating provides clean finished surfaces and is suitable for high-speed cutting.

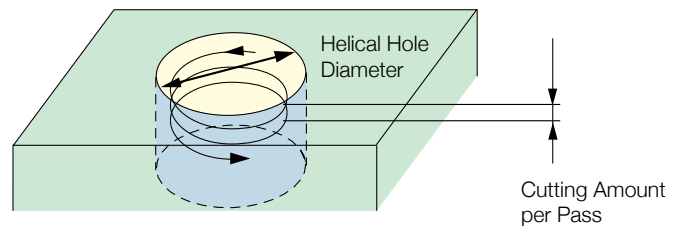
Ramping and Helical Milling Data

Ramping



Processing by direct milling is also possible.

Helical Milling



Since the cutting flute do not extend to the center, there are limitations on the ramp angle and hole diameter, but as shown below, processing by direct milling without a pilot hole is possible for ramping and helical milling.

Inserts		MPN(H)W060300ZEL											
Metric	Tool Diameter	ø16	ø18	ø20	ø22	ø25	ø28	ø30	ø32	ø35	ø40	ø50	ø63
	Maximum Ramp Angle θ	2.5°	2.5°	2.5°	2.5°	2.1°	1.8°	1.7°	1.6°	1.4°	1.2°	1.0°	0.5°
	Hole Diameter	22-30	26-34	30-38	34-42	40-48	46-54	50-58	54-62	60-68	70-78	90-98	116-124
Inch	Tool Diameter	0.630	0.709	0.787	0.866	0.984	1.102	1.181	1.260	1.378	1.575	1.969	2.480
	Maximum Ramp Angle θ	2.5°	2.5°	2.5°	2.5°	2.1°	1.8°	1.7°	1.6°	1.4°	1.2°	1.0°	0.5°
	Hole Diameter	0.866-1.181	1.024-1.339	1.181-1.496	1.339-1.654	1.575-1.89	1.811-2.126	1.969-2.283	2.126-2.441	2.362-2.677	2.756-3.071	3.543-3.858	4.567-4.882