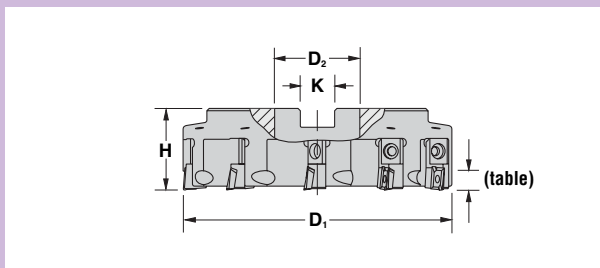


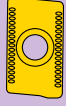
MULTIPLE GEOMETRY CARTRIDGE FACE MILL SERIES 4W2A

Diameters
4.000" to 12.500"

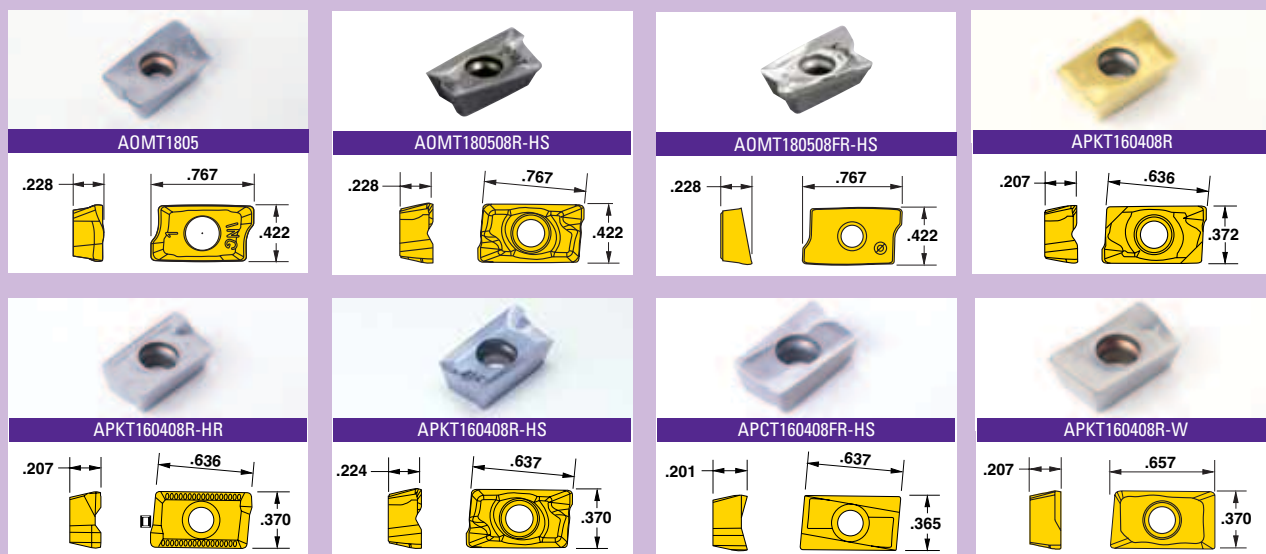
Max. Depth of Cut
Varies by Insert Type

Insert Corner
Varies by Insert Type



Insert Style	D ₁ Nominal Dia.	Cartridge Number	Cutter Number	Number of Inserts	H Height	D ₂ Bore Diameter	Bolt Circle	Weight with Cartridges	K Keyway
HI POS + 	4.020	52E-11R01	4W2A-04R01	6	2.460	1.500	—	4.11 lbs.	.63
	6.020	52E-11R01	4W2A-06R01	8	2.460	1.500	—	10.13 lbs.	.63
	8.020	52E-11R01	4W2A-08R01	10	2.460	2.500	4.00	17.11 lbs.	1.00
	10.020	52E-11R01	4W2A-10R01	12	2.460	2.500	4.00	28.7 lbs.	1.00
	12.020	52E-11R01	4W2A-12R01	14	2.460	2.500	4.00, 7.00	39.15 lbs.	1.00
45° HIGH SHEER 	4.000	52J-11R01	4W2A-04R01	6	2.460	1.500	—	4.11 lbs.	.63
	6.000	52J-11R01	4W2A-06R01	8	2.460	1.500	—	10.13 lbs.	.63
	8.000	52J-11R01	4W2A-08R01	10	2.460	2.500	4.00	17.11 lbs.	1.00
	10.000	52J-11R01	4W2A-10R01	12	2.460	2.500	4.00	28.7 lbs.	1.00
	12.000	52J-11R01	4W2A-12R01	14	2.460	2.500	4.00, 7.00	39.15 lbs.	1.00
V MAX 	4.000	52K-11R02	4W2A-04R01	6	2.460	1.500	—	4.11 lbs.	.63
	6.000	52K-11R02	4W2A-06R01	8	2.460	1.500	—	10.13 lbs.	.63
	8.000	52K-11R02	4W2A-08R01	10	2.460	2.500	4.00	17.11 lbs.	1.00
	10.000	52K-11R02	4W2A-10R01	12	2.460	2.500	4.00	28.7 lbs.	1.00
	12.000	52K-11R02	4W2A-12R01	14	2.460	2.500	4.00, 7.00	39.15 lbs.	1.00
.750 BUTTON 	4.500	55M-11R01	4W2A-04R01	6	2.375	1.500	—	4.14 lbs.	.63
	6.500	55M-11R01	4W2A-06R01	8	2.375	1.500	—	11.0 lbs.	.63
	8.500	55M-11R01	4W2A-08R01	10	2.375	2.500	4.00	18.0 lbs.	1.00
	10.500	55M-11R01	4W2A-10R01	12	2.375	2.500	4.00	28.14 lbs.	1.00
	12.500	55M-11R01	4W2A-12R01	14	2.375	2.500	4.00, 7.00	40.5 lbs.	1.00
HI-POS 	4.000	52B-11R01	4W2A-04R01	6	2.375	1.500	—	4.11 lbs.	.63
	6.000	52B-11R01	4W2A-06R01	8	2.375	1.500	—	10.13 lbs.	.63
	8.000	52B-11R01	4W2A-08R01	10	2.375	2.500	4.00	17.11 lbs.	1.00
	10.000	52B-11R01	4W2A-10R01	12	2.375	2.500	4.00	28.8 lbs.	1.00
	12.000	52B-11R01	4W2A-12R01	14	2.375	2.500	4.00, 7.00	39.15 lbs.	1.00
DEKA 	4.000	55H-11R07	4W2A-04R01	6	2.460	1.500	—	4.11 lbs.	.63
	6.000	55H-11R07	4W2A-06R01	8	2.460	1.500	—	10.13 lbs.	.63
	8.000	55H-11R07	4W2A-08R01	10	2.460	2.500	4.00	17.11 lbs.	1.00
	10.000	55H-11R07	4W2A-10R01	12	2.460	2.500	4.00	28.8 lbs.	1.00
	12.000	55H-11R07	4W2A-12R01	14	2.460	2.500	4.00, 7.00	39.15 lbs.	1.00

INSERT/HARDWARE CONFIGURATIONS

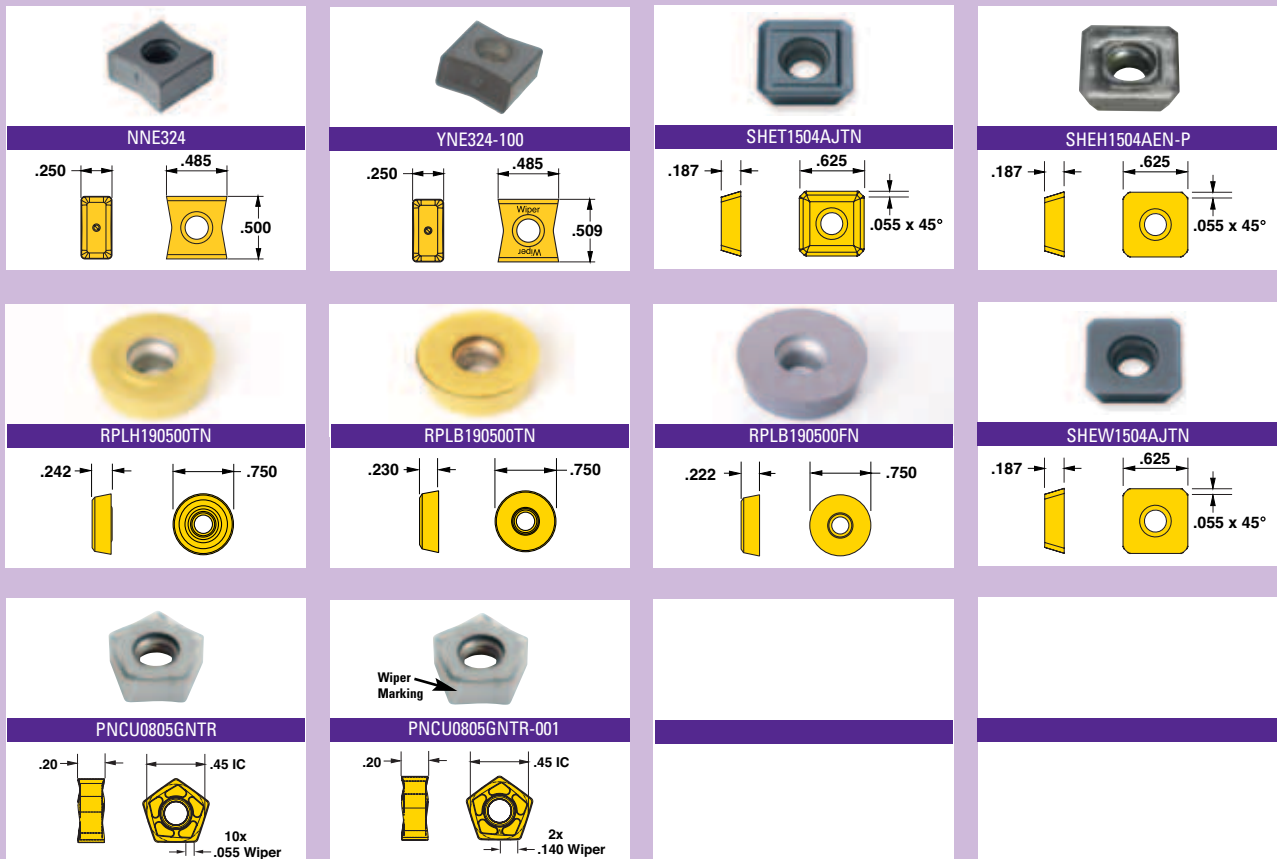


0° Lead HiPos+, HiPos				Grades												
Cartridge Style	Insert Number	Application	Corner	Grades												
				IN	30M	40P	90D	6530	2005	2030	2015	2040	1030	5015	1530	6515
	AOMT180508R-HS	Ground/Polished (for Alum.)	.031R	■												
	AOMT180508R	Helical Positive	.031R							■	■	■	■	■		
	AOMT180516R	Helical Positive	.062R							■	■	■	■	■		
	AOMT180524R	Helical Positive	.093R *							■		■		■		
	AOMT180532R	Helical Positive	.125R *							■	■	■	■	■		
	AOMT180508R-HS	HiTemp/Titanium	.031R							■	■					
	AOMT180516R-HS	HiTemp/Titanium	.062R							■	■					
	APKT160408R	Multi-Purpose	.031R			■		■		■	■	■	■	■	■	
	APKT160408R-HR	Multi-Purpose-Pressed	.031R			■								■		
	APKT160408R-HS	HiTemp/Titanium	.031R		■									■		
	APKT160404R-HS	HiTemp/Titanium	.015R		■									■		
	APKT160404R-HR	Multi-Purpose-Pressed	.015R				■									
	APKT160416R-HS	HiTemp/Titanium	.062R		■									■		
	APCT160408FR-HS	Ground/Polished (for Alum.)	.031R		■											
	APKT160416R	Multi-Purpose	.062R			■				■	■	■	■	■	■	
	APKT160416R	Multi-Purpose	.062R						■							
	APKT160408R-W	Wiper	.031R											■	■	

* May need to relieve cartridge body to accept larger radii on heavy advance per tooth applications.

MULTIPLE GEOMETRY CARTRIDGE FACE MILL SERIES 4W2A (CONT.)

INSERTS



0° Lead VMax					 Grades											
Cartridge Style	Insert Number	Application	Corner	Cut Edge Configuration	IN	04S			2010	2030	2015	2040	1530		15K	70N
	NNE324-100	Multi-Purpose	.031R	4RH/4LH						■	■	■	■	■		
	NNE324-102	Multi-Purpose	.063R	4RH/4LH						■	■	■	■	■		
	NNE324-104	Multi-Purpose	.031 x 45°	4RH/4LH					■		■				■	
	NNE324-125	Multi-Purpose	.125R	4RH/4LH						■						
	YNE324-100	Wiper	.031R	2RH/2LH						■	■	■			■	
	NNE324R109	Multi-Purpose	.031R	4RH				■	■	■	■	■			■	
	NJE324-100-P	Ground/Polished (for Alum.)	.031R	4RH/4LH (Polished)		■										■
	NCE324-100	Iron	.031R	4RH/4LH (SiNit)												■

.750 Button					Grades					
Cartridge Style	Insert Number	Application	Corner		IN	40P	1530	1540	6530	2030
	RPLH190500TN	Positive Rake Face w/K-Land	.375R			■	■	■	■	■
	RPLB190500TN	Positive Flat Top w/K-Land	.375R				■	■	■	■
	RPLB190500FN	Sharp Flat Top	.375R							■

45° High Shear				Grades					
Cartridge Style	Insert Number	Application	Corner	IN	15K	1030	2010	2040	2005

	SHET1504AJTN	Positive Hook	.055 x 45°			■	■	■	■
	SHEW1504AJTN	Flat Top	.055 x 45°					■	
	SHEH1504AEN-P	Un-Sharp, Ground/Polished	.055 x 45°		■				

Deka				Grades					
Cartridge Style	Insert Number	Application	Corner	IN	1030	2005	2015	2030	2505

	PNCU0805GNTR	Multi-Purpose	.030R		■	■	■	■	
	PNCU0805GNTR-001	Wiper	.030R			■			■

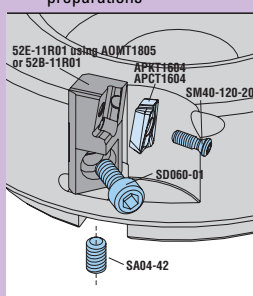
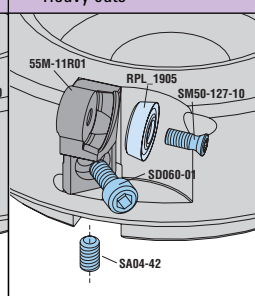
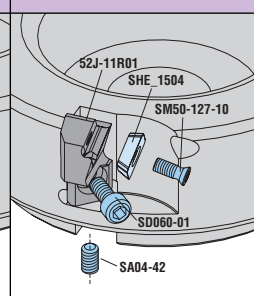
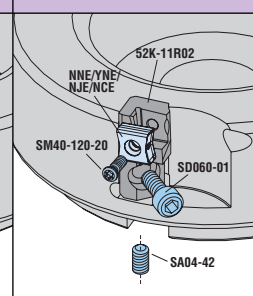
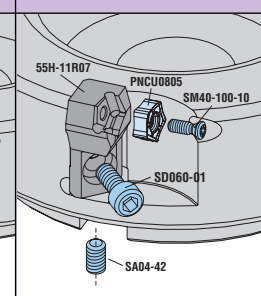
HARDWARE

Insert Screw			Driver
Insert Style	Part No.	Torque	Part No.
Hi-Pos+ / HiPos	SM40-120-20	30-35 in. lbs.	DS-T15T (Tx-15)
.750" Button	SM50-127-10	40-45 in. lbs.	DS-T20T (Tx-20)
45° High Shear	SM50-127-10	40-45 in. lbs.	DS-T20T (Tx-20)
VMax	SM40-120-20	25-30 in. lbs.	DS-T15T (Tx-15)
HiPosDeka	SM40-100-10	40 in. lbs.	DS-T15T (Tx-15)

Cartridge		Cartridge Screw		Driver
Insert Style	Part No.	Part No.	Torque	Part No.
Hi-Pos +	52E-11R01	SD060-01	150-180 in. lbs.	DS-H05T (5mm hex)
Hi-Pos	52B-11R01	SD060-01	150-180 in. lbs.	DS-H05T (5mm hex)
.750" Button	55M-11R01	SD060-01	150-180 in. lbs.	DS-H05T (5mm hex)
45° High Shear	52J-11R01	SD060-01	150-180 in. lbs.	DS-H05T (5mm hex)
V-Max 0°	52K-11R02	SD060-01	150-180 in. lbs.	DS-H05T (5mm hex)
HiPosDeka	55H-11R07	SD060-01	150-180 in. lbs.	DS-H05T (5mm hex)

Axial Adjusting Screw	Driver
Part No.	Part No.
SA04-42	DS-H03T (3mm hex)

Insert/Hardware Configurations

0° HiPos & HiPos+	.750" I.C. Button	45° High Shear	0° VMax	0° HiPosDeka
- High positive geometry - Variety of edge preparations	- Double positive geometry - Strong, free cutting inserts - Heavy cuts	- Double positive geometry - High Axial Shear	0° lead angle 4 Strong cutting edges	20° lead angle 10 Strong cutting edges
				

FACE MILL OPERATING GUIDELINES

					Grades										Coolant
Series 4W2A SERIES APLH, AOMT, APXX, APXH, APLV, APLS, APEB, APXB, NNE, SPLH, SHET, SHEW, YPLH INSERTS					IN30M	IN40P	IN2005	IN2015	IN1030	IN1530	IN2030	IN2040	IN5015	IN6530	
Material		Brinell Hardness	SFM	Feed per Insert											
Aluminum	6061-T6, 7075-T6, 2024	-	1500-3000	.004-.010	1	3	2								Yes
Cast Iron	Gray	150-250	300-1000	.004-.010		3	1					2	4		No
	Nodular		300-600												
Steel	Low Carbon 1018, 8620	100-250	400-1000	.004-.010		5	2		1	1	1*	3	4	4	No
	High Carbon F-6180, Nitralloy 52100	250-400	350-500	.004-.008											
	Alloyed Steel 4140, 4340, 6150	150-300	300-700	.004-.010		5	3		1	1	1*	2	4	4	
	Tool Steel A-6, D-1, D-2, P-20	Up to 300													
Stainless Steel	300 Series, 304, 316	-	300-700	.004-.010											May not be required at high speeds Yes
	400 Series, 15-5 PH, 17-4 PH	-	400-900		5	6	2	3	1	1	1*	5		4	
	13-8 PH	-	200-400												
Nickel Alloys	Inconel 600, 706, 718, 903, Hastelloy, Waspalloy	-	75-120	.003-.006			2	3	1	1	1				Yes
Titanium	6AL-4V	-	100-150	.005-.008	4		1		2	2	2				Yes

*Preferred for higher SFM.

Series 4W2A SERIES RPLP, RPLB, RPCB, RPLS, SHLP BUTTON INSERTS AND PNCU INSERTS						Grades					Coolant
						Feed per Insert					
Material		Brinell Hardness	SFM	RPLT, RPLH, RPLP, PNCU	RPLW, RPCW, RPLB, RPLS, RPCB	IN40P	IN1530	IN2030	IN2040/1540	IN6530	
Aluminum	6061-T6, 7075-T6, 2024	-	1500-3000	.005-.015	-	1					Yes
Cast Iron	Gray	150-250	250-800	.005-.015	.008-.020	3	2		1		No
	Nodular		200-800								
Steel	Low Carbon 1018, 8620	150-250	250-1000	.005-.015	.008-.020	1	2	2*	1	4	No
	High Carbon F-6180, Nitr alloy 52100	250-400	200-750	.005-.015	.008-.020	1	2	2*	1	4	
	Alloyed Steel 4140, 4340, 6150	150-300	250-750								
	Tool Steel A-6, D-1, D-2, P-20	Up to 300									
Stainless Steel	300 Series, 304, 316	-	250-750	.005-.015	.005-.015	2	1		3	May not be required at high speeds	
	400 Series, 15-5 PH, 17-4 PH	Up to 320	300-800								
	13-8 PH	-	200-600								
Nickel Alloys	Inconel 600, 706, 718, 903, Hastelloy, Waspalloy	-	75-120	.005-.008	-	1	2		3	Yes	
Titanium	6AL-4V	-	100-150	.005-.010	-	2	1		3	Yes	

*Preferred for higher SFM.

The success of any cutter application is a function of many variables. Our initial preference of grade is based on applying a more tough grade.