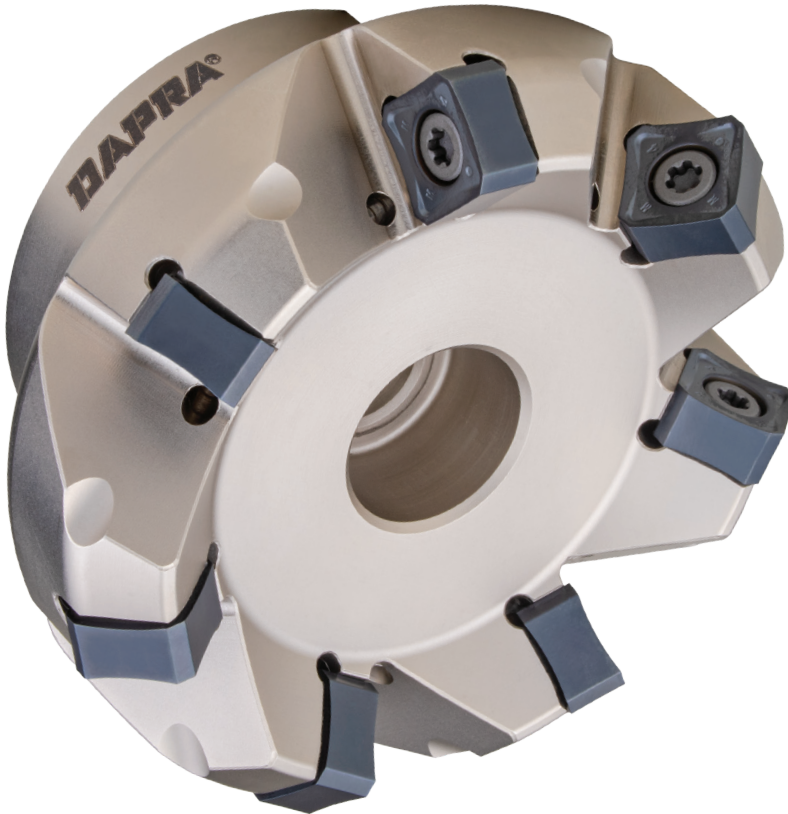


VOLUM³



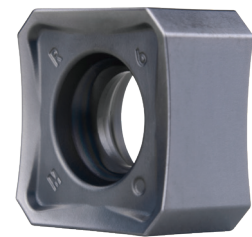
45° Face
Indexable Milling



VOLUM³™ Double-Sided 45° Face Milling Insert Platform

Dependable technology to maximize revenue in the toughest face milling applications.

- › Robust QUAD-X2™ eight-edged insert available in multiple geometries, reducing overall machining costs in most materials.
- › Creates excellent surface finishes.
- › Reduced spindle loads with positive cutting action.
- › Deep gullets promote effective chip evacuation.



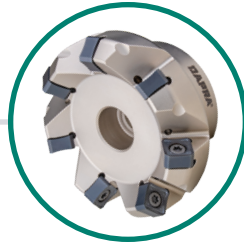
QUAD-X2™



› Scan to learn more about VOLUM³ or visit dapra.com/volum3.

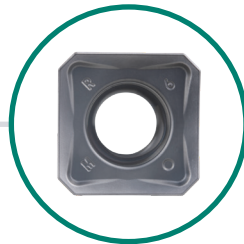
VOLUM³

CUTTER
BODIES

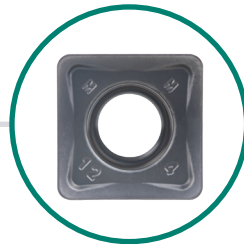


SHELL MILLS
Steel

INSERTS



1/2" IC
Short Wiper



1/2" IC
Corner Radius



Steel



Stainless



Iron



Super Alloys



Hardened



Face



Chamfer



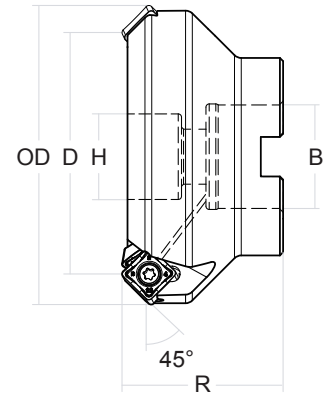
DAPRA NEXT TECHNOLOGY

*Look for more new products with the **DNT** stamp.*

1/2" Series Cutter Bodies

Shell Mills

EDP	D Cutting Dia.	Description	OD	R Overall Length	B Arbor Dia.	H Counter Bore Dia.	Flutes	DOC Max.	Insert
11000020	2.000"	DS45SM-200-075-R4-4C	2.580"	1.580"	0.750"	0.670"	4	0.250"	SNGX-1206 SNMX-1206
11000021	2.000"	DS45SM-200-075-R4-6C	2.580"	1.580"	0.750"	0.670"	6	0.250"	
11000022	2.500"	DS45SM-250-100-R4-6C	3.080"	1.970"	1.000"	0.827"	6	0.250"	
11000023	3.000"	DS45SM-300-100-R4-5C	3.580"	1.970"	1.000"	0.827"	5	0.250"	
11000024	3.000"	DS45SM-300-100-R4-7C	3.580"	1.970"	1.000"	0.827"	7	0.250"	
11000025	4.000"	DS45SM-400-150-R4-6C	4.580"	2.480"	1.500"	1.299"	6	0.250"	
11000026	4.000"	DS45SM-400-150-R4-8C	4.580"	2.480"	1.500"	1.299"	8	0.250"	
11000027	5.000"	DS45SM-500-150-R4-8C	5.580"	2.480"	1.500"	1.299"	8	0.250"	
11000028	5.000"	DS45SM-500-150-R4-10C	5.580"	2.480"	1.500"	1.299"	10	0.250"	
11000029	6.000"	DS45SM-600-200-R4-10	6.580"	2.480"	2.000"	2.830"	10	0.250"	
11000030	6.000"	DS45SM-600-200-R4-12	6.580"	2.480"	2.000"	2.830"	12	0.250"	



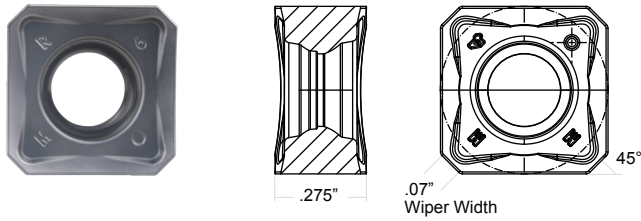
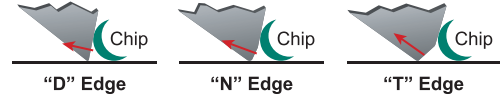
EDP # 11000029 and 11000030 do not include coolant thru.
TP20 Torx Plus insert wrench not included with cutter bodies.

1/2" Series Accessories

EDP	Part Number	Description
11000032	DS45S-5-TP20	1 Insert Screw (Torque range: 30-35 in-lbs.) <i>Uses a TP20 Torx Plus driver – not included</i>
QM07041	TC-3/8-SHCS	2 Shell Mill Socket Head Cap Screw with Coolant for 2" shell mills (3/8-24 x 1" long)
QM07051	TC-1/2-SHCS	3 Shell Mill Socket Head Cap Screw with Coolant for 2.5" and 3" shell mills (1/2-20 x 1-1/4" long)
QM07061	TC-3/4-SHCS	4 Shell Mill Socket Head Cap Screw with Coolant for 4" shell mills (3/4-16 x 1-1/2" long)
41110	ASG-120	Anti-Seize Grease



1/2" Series Inserts



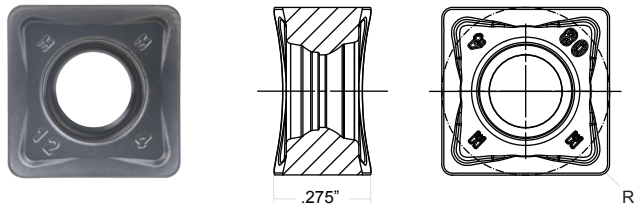
"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

"N" Edge: Enhanced-Flat, T-land insert face combines strength and shear.

"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

QUAD-X2™ Short Wiper Inserts

Insert	Thickness	# of Usable Edges	Wiper Width	Lead Angle	DOC Max.
SNGX-1206ANN	.275"	8	.070"	45°	.250"
SNMX-1206ANN	.275"	8	.070"	45°	.250"



QUAD-X2™ Corner Radius Inserts

Insert	Thickness	# of Usable Edges	R Corner Radius	Lead Angle	DOC Max.
SNGX-120612	.275"	8	.047"	45°	.300"

QUAD-X2™ Insert Grade Availability

Insert	Edge	IC	Grade	Coating		
				GLH	TCI	IN
SNGX-1206ANN	D	1/2"	DMK30	11000006		11000050
SNMX-1206ANN	N	1/2"	DMK35	11000014		11000036
			DMP25	11000002	11000034	
	T	1/2"	DMP25	11000010	11000035	
SNGX-120612	N	1/2"	DMP25	11000018	11000038	

See page 6 for insert grade and coating selection.

1/2" Series Recommended Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
SNGX-1206ANN	D	DMK30	GLH	Speed	700-1000	500-900	250-550		
				Feed	.003-.014	.003-.012	.003-.010		
			IN	Speed					
				Feed					
SNMX-1206ANN	N	DMK35	GLH	Speed	700-1000	500-900	250-550		
				Feed	.004-.014	.004-.013	.004-.010		
		DMP25	TCI	Speed	600-1100	400-800	300-600	250-450	
				Feed	.005-.015	.005-.015	.005-.013	.004-.012	
			GLH	Speed	700-1200	500-900	350-650	250-450	
				Feed	.005-.015	.005-.015	.005-.013	.004-.012	
	T	DMP25	TCI	Speed	600-1100	400-800	300-600	250-450	
				Feed	.005-.015	.005-.015	.005-.013	.004-.012	
		GLH	Speed	700-1200	500-900	350-650	250-450		
			Feed	.005-.015	.005-.015	.005-.013	.004-.012		
SNGX-120612	N	DMP25	TCI	Speed	600-1100	400-800	300-600	250-450	
				Feed	.005-.015	.005-.015	.005-.013	.004-.012	
			GLH	Speed	700-1200	500-900	350-650	250-450	
				Feed	.005-.015	.005-.015	.005-.013	.004-.012	

- › **Bold text** indicates best choice for material shown.
- › The parameters provided are suggested starting operating parameters.

Insert Grade & Coating Selection

	Grade	Materials	Machining Conditions			Coating		Coolant	
			Roughing	Medium	Light	1st Choice	2nd Choice		
			Severe	Moderate	Rigid				
TOUGHEST (Shock Resistant)	DMK35	High-Temp. Alloys	S20-S40	■	■	■	IN	GLH	●
		Tough Stainless Steel	M20-M40	■	■	■	IN	GLH	●
↑	DMK30	Steel	P30-P40	■	■	■	GLH	IN	★
		Iron	K30-K40	■	■	□	GLH	IN	★
		High-Temp. Alloys	S20-S35	■	■	■	IN	GLH	●
		Stainless Steel	M25-M35	■	■	■	GLH	IN	◆
		Titanium	S20-S35	■	■	■	IN	GLH	●
		Steel	P25-P35	■	■	■	TCI	GLH	★
HARDEST (Wear Resistant)	DMP25	Iron	K20-K30	■	■	■	GLH	TCI	★
		PH Stainless Steel	M20-M30	■	■	■	GLH	TCI	★
		Hardened Steel (< 52 Rc)	H20-H30	■	■	■	GLH	TCI	★ ○

- Highly Recommended
- Recommended
- Not Recommended
- Coolant Beneficial
- ◆ Coolant Optional
- Coolant Detrimental
- ★ Air Preferred
- › **Bold text** indicates preferred material.

Visit dapra.com/VOLref
for technical reference &
application information



Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous
300-600	500-900		600-1000	500-900	55-90	35-65	120-180	400-900	
.003-.010	.003-.012		.003-.014	.003-.013	.002-.007	.002-.006	.003-.008	.003-.010	
300-600	500-900				55-90	35-65	120-180		
.003-.010	.003-.012				.002-.007	.002-.006	.003-.008		
300-600	500-900		600-1000	500-900	55-90	35-65	120-180	400-900	
.004-.012	.004-.014		.004-.014	.004-.013	.004-.007	.003-.006	.004-.008	.005-.012	
300-600	500-900				55-90	35-65			
.004-.012	.004-.014				.004-.007	.003-.006			
		250-500	600-1000	450-800					
		.003-.010	.005-.015	.005-.015					
		250-500	600-1000	500-900					
		.003-.010	.005-.015	.005-.015					
			600-1000	450-800					
			.005-.015	.005-.015					
			600-1000	500-900					
			.005-.015	.005-.015					
		250-500	600-1000	450-800					
		.004-.010	.005-.015	.005-.015					
		250-500	600-1000	500-900					
		.004-.010	.005-.015	.005-.015					

HEADQUARTERS

66 Granby Street
Bloomfield, CT 06002

860-242-8539
Fax: 860-242-3017

(800) 243-3344
info@dapra.com

WWW.DAPRA.COM

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