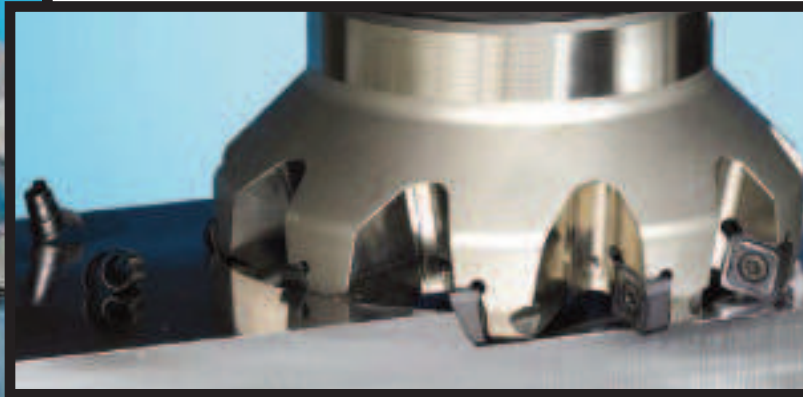




## INDEXABLE CUTTING TOOL PROGRAM



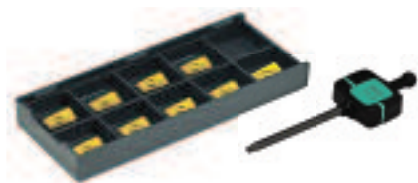
***"CUT COSTS WITHOUT CUTTING PRODUCTIVITY"***



**CONTENT INCLUDES A BRIEF OVERVIEW OF THE "COMPLETE PACKAGE"**

**... With One Of The Largest Indexable Inventories In Canada. **

## AP11 End Mill Kits

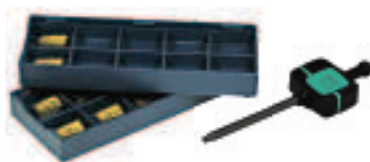


**Consists of:**  
 1 - AP11-90 End Mill  
 10 - APXT 11T3 Inserts (Coated)

Kit Contents	Insert	Kit Code No.	Price \$
3/4" $\emptyset$ 2-Flute Mini End Mill (3/4" Shank) (#146-373)	10 - APXT 11T3 Coated Inserts (#146-356)	149-864	162.80
1" $\emptyset$ 3-Flute Mini End Mill (3/4" Shank) (#146-374)	10 - APXT 11T3 Coated Inserts (#146-356)	149-865	172.80

Note: Each Kit Contains 146-596 T8 Torx Wrench

## AP11 Master End Mill Kit



**Consists of:**  
 1 - Each 1/2", 5/8", 3/4", 1" AP11-90 End Mills  
 20 - APXT 11T3 Inserts (Coated)

Kit Contents	Insert	Kit Code No.	Price \$
$\emptyset$ 1/2", $\emptyset$ 5/8", $\emptyset$ 3/4", and $\emptyset$ 1" Mini-Mill (#146-371, #146-372, #146-373, #146-374)	20 - APXT 11T3 Coated Inserts (#146-356)	149-866	632.30

Note: Each Kit Contains 146-596 T8 Torx Wrench

## AP16 End Mill Kits

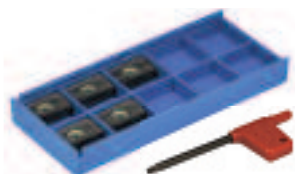


**Consists of:**  
 1 - AP16-90 End Mill  
 10 - APKT 1604 Inserts (Coated)

Kit Contents	Insert	Kit Code	Price \$
1" 2-fl. End Mill (1" Shank) (#145-705)	10 - APKT 1604PDSR M PM30P Coated Inserts (#147-333)	149-900	195.30
1-1/4" 3-fl. End Mill (1" Shank) (#145-706)	10 - APKT 1604PDSR M PM30P Coated Inserts (#147-333)	149-901	207.90
1-1/2" 3-fl. End Mill (1-1/4" Shank) (#145-707)	10 - APKT 1604PDSR M PM30P Coated Inserts (#147-333)	149-902	220.60

Note: Each Kit Contains 146-596 T8 Torx Wrench

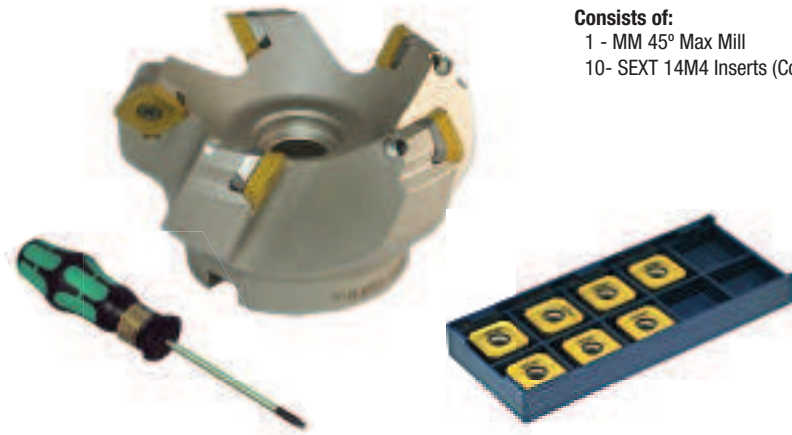
## APFM 90° Face Mill Kits



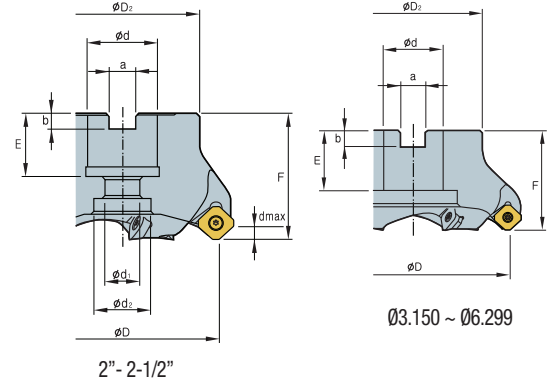
**Consists of:**  
 1 - APFM 16-90 Face Mill  
 10 - APKT 1604 Inserts (Coated)

Kit Contents	Insert	Kit Code	Price \$
2" 4-fl. Face Mill (147-009)	c/w 10 inserts (147-333) APKT 1604 PDSR M PM30P	149-907	255.80
2-1/2" 5-fl. Face Mill (147-011)	c/w 10 inserts (147-333) APKT 1604 PDSR M PM30P	149-908	300.00
3" 5-fl. Face Mill (147-013)	c/w 10 inserts (147-333) APKT 1604 PDSR M PM30P	149-909	329.00
4" 6-fl. Face Mill (147-000)	c/w 10 inserts (147-333) APKT 1604 PDSR M PM30P	149-910	376.10
5" 6-fl. Face Mill (147-015)	c/w 10 inserts (147-333) APKT 1604 PDSR M PM30P	149-911	722.30

## 45° Max Mill Kits



**Consists of:**  
 1 - MM 45° Max Mill  
 10- SEXT 14M4 Inserts (Coated)



Designation	Cutter No.	ØD	Ød	ØD <sub>2</sub>	Ød <sub>1</sub>	Ød <sub>2</sub>	a	b	E	F	No. of Flutes	d max
MM 45° Coarse Pitch												
4200FM	<b>147-811</b>	2.000	0.750	1.654	0.433	0.709	0.321	0.181	0.787	1.575	3	0.256
4250FM	<b>147-812</b>	2.500	0.750	1.654	0.433	0.709	0.321	0.181	0.787	1.575	4	
4300FM	<b>147-813</b>	3.000	1.000	1.969	0.551	0.787	0.384	0.248	0.866	1.969	5	
4400FM	<b>147-814</b>	4.000	1.250	2.362	-	1.772	0.510	0.319	0.866	1.969	5	

Kit Contents	Insert	Kit Code No.	Price \$	
2" Cutter (147-811)	c/w 10 inserts (147-730)	SEXT 14M4 AGSN PM25C	149-932	<b>307.90</b>
2" Cutter (147-811)	c/w 10 inserts (148-182)	SEXT 14M4 AGSN PM30P	149-933	<b>307.90</b>
2 1/2" Cutter (147-812)	c/w 10 inserts (147-730)	SEXT 14M4 AGSN PM25C	149-934	<b>448.40</b>
2 1/2" Cutter (147-812)	c/w 10 inserts (148-182)	SEXT 14M4 AGSN PM30P	149-935	<b>369.10</b>
3" Cutter (147-813)	c/w 10 inserts (147-730)	SEXT 14M4 AGSN PM25C	149-936	<b>400.60</b>
3" Cutter (147-813)	c/w 10 inserts (148-182)	SEXT 14M4 AGSN PM30P	149-937	<b>488.10</b>
4" Cutter (147-814)	c/w 10 inserts (147-730)	SEXT 14M4 AGSN PM25C	149-938	<b>603.10</b>
4" Cutter (147-814)	c/w 10 inserts (148-182)	SEXT 14M4 AGSN PM30P	149-939	<b>603.10</b>

## OKT-MAX Face Mill Kits



**Consists of:**  
 1 - OKT-MAX Face Mill  
 10- OFKT 05T3 Inserts (Coated)

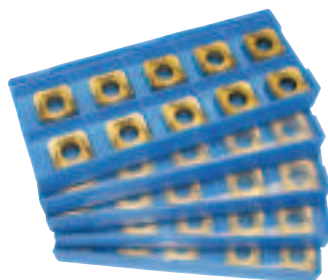
Kit Contents	Insert	Kit Code	Price \$	
<b>1-1/2" 3-fl. OKT-MAX Face Mill (147-029)</b>	c/w 10 inserts (146-843)	OFKT 05T3 Inserts (Coated)	149-862	<b>410.50</b>
<b>2" 4-fl. OKT-MAX Face Mill (147-019)</b>	c/w 10 inserts (146-843)	OFKT 05T3 Inserts (Coated)	149-863	<b>462.20</b>

Note: Each Kit Contains 146-940 T15 Torx Wrench

## DS8 45° Milling Kits



Coolant through



Consists of:

- 1 - DS8 45° Face Mill
- 20-80 SNMX 1206ANN-M Inserts

Kit Contents	Insert	Kit Code No.	Price \$	
2"(Z=4) DS8 4200HR-M (148-979)	c/w 20 inserts (145-679)	SNMX 1206ANN-M PM30P	149-779	463.40
2-1/2"(Z=6) DS8 4250HR-M (148-980)	c/w 20 inserts (145-679)	SNMX 1206ANN-M PM30P	149-778	745.90
3"(Z=5) DS8 4300HR (148-885)	c/w 30 inserts (145-679)	SNMX 1206ANN-M PM30P	149-777	896.10
3"(Z=7) DS8 4300HR-M (148-887)	c/w 30 inserts (145-679)	SNMX 1206ANN-M PM30P	149-776	1,185.00
3"(Z=10) DS8 4300HR-H (148-886)	c/w 30 inserts (145-679)	SNMX 1206ANN-M PM30P	149-775	959.80
4"(Z=6) DS8 4400HR (148-888)	c/w 40 inserts (145-679)	SNMX 1206ANN-M PM30P	149-774	1,108.30
4"(Z=8) DS8 4400HR-M (148-890)	c/w 40 inserts (145-679)	SNMX 1206ANN-M PM30P	149-773	1,450.50
4"(Z=12) DS8 4400HR-H (148-889)	c/w 40 inserts (145-679)	SNMX 1206ANN-M PM30P	149-772	1,183.80
5"(Z=8) DS8 4500HR (148-891)	c/w 50 inserts (145-679)	SNMX 1206ANN-M PM30P	149-771	1,896.60
5"(Z=10) DS8 4500HR-M (148-893)	c/w 50 inserts (145-679)	SNMX 1206ANN-M PM30P	149-764	1,829.30
5"(Z=16) DS8 4500HR-H (148-892)	c/w 50 inserts (145-679)	SNMX 1206ANN-M PM30P	149-770	1,541.50
6"(Z=10) DS8 4600HR (148-894)	c/w 60 inserts (145-679)	SNMX 1206ANN-M PM30P	149-769	1,723.60
6"(Z=12) DS8 4600HR-M (148-896)	c/w 60 inserts (145-679)	SNMX 1206ANN-M PM30P	149-768	2,357.20
6"(Z=18) DS8 4600HR-H (148-895)	c/w 60 inserts (145-679)	SNMX 1206ANN-M PM30P	149-767	1,398.00
8"(Z=14) DS8 4800HR-M (148-898)	c/w 80 inserts (145-679)	SNMX 1206ANN-M PM30P	149-766	3,105.20
8"(Z=24) DS8 4800HR-H (148-897)	c/w 80 inserts (145-679)	SNMX 1206ANN-M PM30P	149-765	2,519.00

2" - 5" With Coolant hole

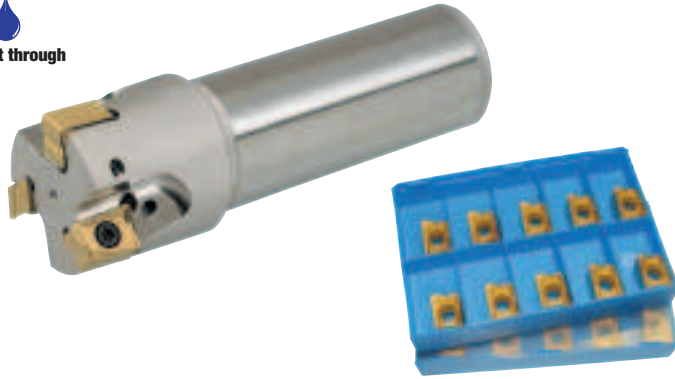
6" - 8" No Coolant Hole

### Features Of The DS8 Insert



- Innovative double-sided high rake angle insert makes it possible to use 8 cutting edges.
- Smooth cutting with low cutting load that has been acquired from the unique geometry & high rake angle of cutting edge guarantees excellent surface finish.
- The combination of the innovative geometries & the variety of grades provides wide coverage for milling applications.
- Applicable for various workpieces including Steel, Cast Iron & Stainless Steel.

## DS4 End Mill Kits



### Consists of:

- 1 - DS4 45° End Mill
- 10-20 LNMX100605PNR-F2 Inserts or
- 10-20 LNMX151008PNR-M Inserts

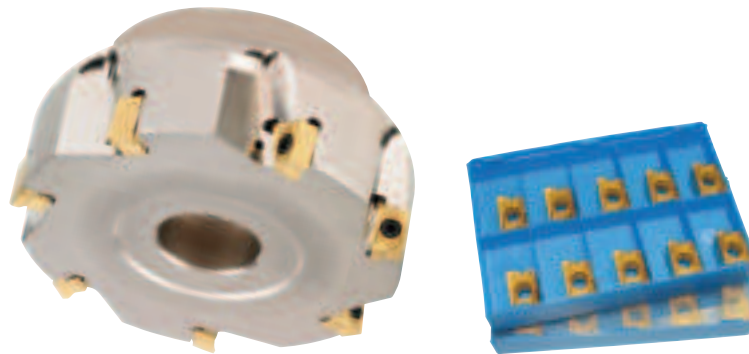


### Features Of The DS4 Insert

- Chip breaker has a high rake angle for smooth chip control.
- Step design improves chip control by reducing the cutting load
- Major cutting edge for low cutting
- Concave design to avoid interference between each cutting edge.
- Specially designed minor cutting edge improves surface finish.
- Periphery face has a strong and negative face. (Clearance angle 0°).

Kit Contents		Insert	Kit Code No.	Price \$
1-1/4"(Z=3) DS4 3125HR-S125 (146-390)	c/w 10 inserts (145-636)	LNMX100605PNR-F2 PM30P	149-763	523.90
1-1/4"(Z=4) DS4 3125HR-S125M (146-391)	c/w 10 inserts (145-636)	LNMX100605PNR-F2 PM30P	149-780	592.40
1-1/4"(Z=2) DS4 4125HR-S125 (148-870)	c/w 10 inserts (145-678)	LNMX151008PNR-M PM30P	149-781	510.20
1-1/2"(Z=3) DS4 4150HR-S125 (148-871)	c/w 10 inserts (145-678)	LNMX151008PNR-M PM30P	149-782	615.00
2"(Z=4) DS4 4200HR-S125M (148-872)	c/w 10 inserts (145-678)	LNMX151008PNR-M PM30P	149-783	727.70
1-1/2"(Z=4) DS4 3150HR-S125 (146-392)	c/w 20 inserts (145-636)	LNMX100605PNR-F2 PM30P	149-784	626.30
1-1/2"(Z=5) DS4 3150HR-S125M (148-372)	c/w 20 inserts (145-636)	LNMX100605PNR-F2 PM30P	149-785	709.30
2"(Z=5) DS4 3200HR-S125 (146-394)	c/w 20 inserts (145-636)	LNMX100605PNR-F2 PM30P	149-786	741.60
2"(Z=7) DS4 3200HR-S125M (146-395)	c/w 20 inserts (145-636)	LNMX100605PNR-F2 PM30P	149-787	993.60

## DS4 Face Mill Kits



### Consists of:

- 1 - DS4 45° Face Mill
- 20-30 LNMX100605PNR-F2 Inserts or
- 20-60 LNMX151008PNR-M Inserts



Kit Contents		Insert	Kit Code No.	Price \$
1-1/2"(Z=5) DS4 3150HR-M (146-393)	c/w 20 inserts (145-636)	LNMX100605PNR-F2 PM30P	149-788	855.90
2-1/2"(Z=9) DS4 3250HR-M (148-374)	c/w 30 inserts (145-636)	LNMX100605PNR-F2 PM30P	149-789	1,421.20
3"(Z=10) DS4 3300HR-M (148-376)	c/w 30 inserts (145-636)	LNMX100605PNR-F2 PM30P	149-790	934.60
4"(Z=12) DS4 3400HR-M (148-391)	c/w 30 inserts (145-636)	LNMX100605PNR-F2 PM30P	149-791	1,907.70
2-1/2"(Z=4) DS4 4250HR (148-875)	c/w 20 inserts (145-678)	LNMX151008PNR-M PM30P	149-792	968.30
2-1/2"(Z=6) DS4 4250HR-M (148-876)	c/w 20 inserts (145-678)	LNMX151008PNR-M PM30P	149-793	968.50
3"(Z=5) DS4 4300HR (148-877)	c/w 30 inserts (145-678)	LNMX151008PNR-M PM30P	149-794	1,339.90
4"(Z=8) DS4 4400HR-M (146-880)	c/w 40 inserts (145-678)	LNMX151008PNR-M PM30P	149-795	1,873.50
5"(Z=7) DS4 4500HR (148-881)	c/w 50 inserts (125-678)	LNMX151008PNR-M PM30P	149-796	2,184.30
5"(Z=10) DS4 4500HR-M (148-882)	c/w 50 inserts (145-678)	LNMX151008PNR-M PM30P	149-797	2,511.30
6"(Z=8) DS4 4600HR (148-883)*	c/w 60 inserts (145-678)	LNMX151008PNR-M PM30P	149-798	2,477.10
6"(Z=11) DS4 4600HR-M (148-884)*	c/w 60 inserts (145-678)	LNMX151008PNR-M PM30P	149-799	2,831.60

\* non coolant through

## Alumi Mill Face Mill Kits

Coolant through



Consists of:

1 - AMFM Face Mill Complete With  
VCKT 43.57.5 Inserts (Polished)

- High rake angle ensures excellent finish and reduces cutting resistance
- For shouldering, curved surface and slanted shouldering
- Buffed mirror finish of inserts allows outstanding chip control and prevents edge build up

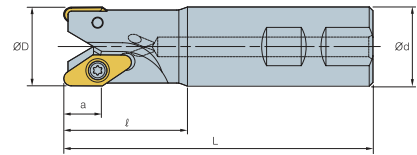
Kit Contents	Insert	Kit Code	Price \$
2" 3-fl. Face Mill (147-424) c/w 3 inserts (147-425)	VCKT 43.57.5 NA KT10U	149-927	452.50
2-1/2" 4-fl. Face Mill (147-834) c/w 4 inserts (147-425)	VCKT 43.57.5 NA KT10U	149-928	562.80
3" 4-fl. Face Mill (147-470) c/w 4 inserts (147-425)	VCKT 43.57.5 NA KT10U	149-929	587.40
4" 5-fl. Face Mill (147-471) c/w 5 inserts (147-425)	VCKT 43.57.5 NA KT10U	149-930	721.80

## Alumi Mill End Mills



Coolant through

- High rake angle ensures excellent finish and reduces cutting resistance
- For shouldering, curved surface and slanted shouldering
- Buffed mirror finish of inserts allows outstanding chip control and prevents edge build up



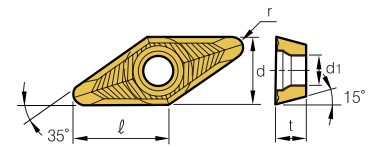
(inch)

Designation	Code No.	Price \$	ØD	Ød	a	l	L	No. of Inserts	Insert
AME 2050HR	146-887	269.40	0.500	0.625	0.315	0.984	3.346	1	VDKT 11T210N-MA
AME 2062HR	146-404	361.90	0.625	0.625	0.315	0.984	3.543	2	
AME 2075HR	148-935	425.30	0.750	0.750	0.315	1.181	3.937	2	
AME 2100HR	146-405	530.20	1.000	1.000	0.315	1.378	4.528	3	
AME 2125HR	146-406	642.00	1.250	1.250	0.315	1.575	4.921	4	
AME 2150HR	146-409	688.50	1.500	1.500	0.315	1.654	5.118	5	VCKT 43.57.5N-A
AME 4125HR	147-422	276.40	1.250	1.250	0.590	1.969	4.921	2	
AME 4150HR	147-423	358.60	1.500	1.250	0.590	1.969	5.512	3	

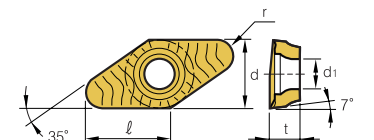
Designation	Uncoated Carbide	(inch)				
	KTM10U	l	d	t	r	d1
VDKT 11T210N-MA	148-936 \$24.20	0.346	1/4	0.113	0.039	0.110
VCKT 220530N-MA	147-425 \$32.80	0.614	1/2	7/32	0.118	0.220



VDKT 11T210N-MA



VCKT 220530N-MA

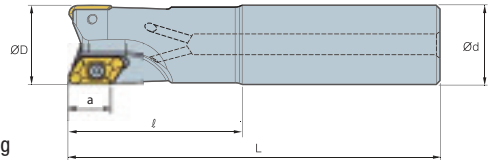


## Alumi-X Mill End Mills



Coolant through

- Multi-dimensional clamping face prevents micro-vibrations during high speed machining
- Buffed mirror finish of inserts allows outstanding chip control and prevents edge build up
- Multifunctional aluminum milling tool: Shouldering, Slotting, Helical ramping, and Copying



(inch)

Designation	Code No.	Price \$	ØD	Ød	a	l	L	No. of Inserts	Insert
AME-X 5100HR-A	146-411	365.70	1.00	1.00	0.669	2.362	5.512	2	XEKT 19M5
AME-X 5100HR-B	146-413	365.70	1.00	1.00	0.669	2.362	5.512	2	
AME-X 5125HR-A	146-419	390.20	1.25	1.25	0.669	2.756	5.901	2	
AME-X 5125HR-B	146-423	390.20	1.25	1.25	0.669	2.756	5.901	2	
AME-X 5150HR-A	146-431	531.20	1.50	1.50	0.669	2.756	6.229	3	
AME-X 5150HR-B	146-432	531.20	1.50	1.50	0.669	2.756	6.229	3	

\* Type A: Insert Nose R 1/64"-1/8" Type B: Insert Nose R 0.157"~0.197

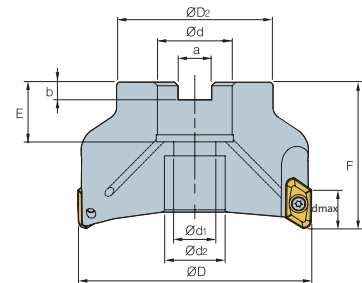
## Alumi-X Mill Face Mills



Coolant through



- Multi-dimensional clamping face prevents micro-vibrations during high speed machining
- Buffed mirror finish of inserts allows outstanding chip control and prevents edge build up
- Multifunctional aluminum milling tool: Shouldering, Slotting, Helical ramping, and Copying

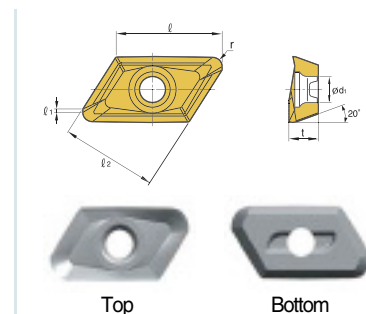


(inch)

Designation	Code No.	Price \$	ØD	Ød	ØD <sub>2</sub>	a	b	E	F	dmax	No. of Inserts
AMFM-X 5150HR-A	146-434	372.40	1.50	0.50	1.417	0.252	0.169	0.630	1.50	0.67	3
AMFM-X 5250HR-A	146-481	444.70	2.50	0.75	1.772	0.321	0.220	0.787	1.75	0.67	5
AMFM-X 5300HR-A	146-525	461.40	3.00	1.00	2.205	0.384	0.248	0.866	2.00	0.67	5
AMFM-X 5400HR-A	146-534	525.90	4.00	1.50	3.386	0.636	0.394	1.181	2.50	0.67	6

\* Type A: Insert Nose R 1/64"-1/8"

		Uncoated Carbide	(inch)						
Designation		KTM10U	l	l <sub>2</sub>	l <sub>1</sub>	t	r	d1	
XEKT 19M504FR-MA	A	145-610 \$34.90	0.709	0.646	0.055	0.197	1/64	0.173	
XEKT 19M508FR-MA	A	145-611 \$34.90	0.709	0.646	0.039	0.197	1/32	0.173	
XEKT19M512FR-MA	A	146-367 \$34.90	0.709	0.646	0.024	0.197	3/64	0.173	
XEKT 19M516FR-MA	A	145-612 \$34.90	0.689	0.646	0.020	0.197	1/16	0.173	
XEKT 19M520FR-MA	A	146-368 \$34.90	0.689	0.646	0.020	0.197	0.079	0.173	
XEKT 19M530FR-MA	A	146-369 \$34.90	0.669	0.646	0.028	0.197	0.118	0.173	
XEKT 19M532FR-MA	A	145-613 \$34.90	0.669	0.646	0.020	0.197	1/8	0.173	
XEKT 19M540FR-MA	B	146-370 \$34.90	0.650	0.646	0.020	0.197	0.157	0.173	
XEKT 19M550FR-MA	B	146-375 \$34.90	0.630	0.646	0.016	0.197	0.197	0.173	



## Chamfer Tool Kits



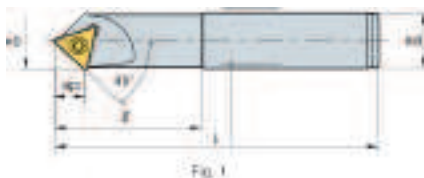
**Consists of:**  
 1 - CT 45° Chamfer Tool  
 10- TCMT/TCGT Inserts

Kit Contents	Insert	Kit Code	Price \$
1/8-5/8" Chamfer Tool 1 Flute (147-113)	c/w 10 inserts (146-501)	TCMT 21.51 Inserts (Coated)	149-853 <b>223.40</b>
1/8-5/8" Chamfer Tool 1 Flute (147-113)	c/w 10 inserts (146-506)	TCGT 21.52 Inserts For <b>Aluminum</b>	149-854 <b>180.90</b>
15/32-1-1/8" Chamfer Tool 2 Flute (147-112)	c/w 10 inserts (146-522)	TCMT 32.52 Inserts (Coated)	149-855 <b>235.60</b>
15/32-1-1/8" Chamfer Tool 2 Flute (147-112)	c/w 10 inserts (146-508)	TCGT 32.52 Inserts For <b>Aluminum</b>	149-856 <b>273.40</b>

## Multi-functional 45° Chamfer Tool



- Uses**
- Centering
  - Grooving
  - Chamfering



\*AR: -12~15° (inch)

Designation	Code No.	Price \$	ØD	Ød	l	L	ap	Fig.	Insert
CTP45 1600R-S050	147-543	177.40	0.87	0.50	1.6	3.5	0.4	2	TWX16R-KC
CTP45 1600R-S075	147-548	139.30	0.87	0.75	2.0	4.5	0.4	1	
CTP45 1600R-L075	147-552	145.70	0.87	0.75	2.4	8.0	0.4	1	
CTP45 2200R-S050	147-930	202.80	1.14	0.50	1.6	3.5	0.6	2	TWX22R-KC
CTP45 2200R-S075	147-931	155.20	1.14	1.00	2.0	3.5	0.6	1	
CTP45 2200R-L100	147-932	171.00	1.14	1.00	2.4	8.0	0.6	1	

## TWX-KC

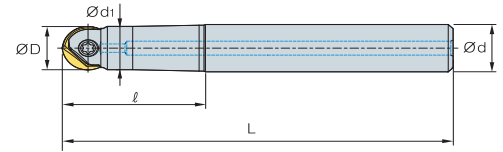
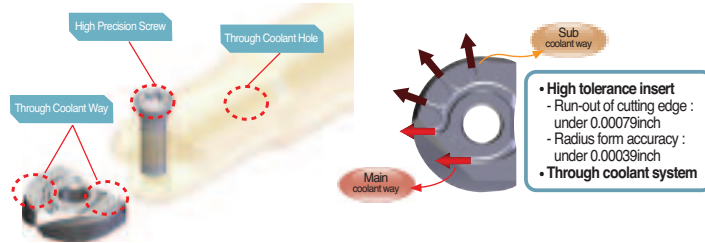


Designation	Coated Carbide									Uncoated Carbide		(inch)					
	PT20C	PM25C	PM25P	PM30P	PM35P	PM40P	KM20C	MM30P	MT30P	SM20P	PM20U	KTM10U	l	d	t	r	d1
TWX16R-KC	147-961 \$21.00			147-960 \$21.00									0.650	3/8	5/32	1/32	0.175
TWX22R-KC				147-962 \$30.70									0.866	1/2	3/16	1/32	0.175



## Jet Mill

Coolant through



### Features

- High accuracy indexable end mill for mold finishing.
- Optimum machining of mold has been achieved due to MQL available system.
- Easy clamping with simple screw on system.

### Advantages of MQL system

(Minimum quantity lubricant)



- Environmental friendly system
- Decreased coolant cost
- Lubrication of cutting edge
- Improved chip control  
(Injection of coolant directly to the cutting edge)
- Increased tool life & improved surface quality

(inch)

Designation	Code No.	Price \$	ØD	Ød	ℓ	L	d1	Clamp Screw	Wrench	Insert Size Ø
JMBE031138T-S050	148-777	335.60	5/16	1/2	1.378	3.583	0.283	ETND02506F	TWP07S	5/16
JMBE031217T-S050	147-430	347.70	5/16	1/2	2.165	4.370	0.283	ETND02506F	TWP07S	5/16
JMBE031295T-S050	147-431	359.80	5/16	1/2	2.953	5.157	0.283	ETND02506F	TWP07S	5/16
JMBE037138T-S050	147-883	335.60	3/8	1/2	1.378	3.583	0.335	ETND0307F	TWP08S	3/8
JMBE037217T-S050	147-442	347.70	3/8	1/2	2.165	4.370	0.335	ETND0307F	TWP08S	3/8
JMBE050217T-S050	147-637	347.70	1/2	1/2	2.165	4.370	0.433	ETND03509	TWP10S	1/2
JMBE062256T-S062	147-638	372.00	5/8	5/8	2.559	4.921	0.571	ETND0413	TWP15S	5/8
JMBE062394T-S075	147-663	266.90	5/8	3/4	3.937	6.693	0.571	ETND0413	TWP15S	5/8
JMBE075453T-S100	147-664	535.30	3/4	1	4.528	7.677	0.689	ETKD0516	TWP20	3/4
JMBE100354T-S100	147-722	527.20	1	1	3.543	6.693	0.906	ETKD0620	TWP25	1
JMBE100532T-S125	147-723	571.70	1	1-1/4	5.315	8.858	0.906	ETKD0620	TWP25	1
JMBE125413T-S125	147-776	545.80	1-1/4	1-1/4	4.134	7.677	1.142	ETGD0825	TWP40	1-1/4
JMBE125630T-S125	147-777	597.50	1-1/4	1-1/4	6.299	9.843	1.142	ETGD0825	TWP40	1-1/4

### Inserts Available

Insert Styles	JMBE031	JMBE037	JMBE050	JMBE062	JMBE075	JMBE100	JMBE125
JMBH (Ball type) 		JMBH0375 3/8" 147-891 \$61.60	JMBH0500 1/2" 147-086 \$68.60	JMBH0625 5/8" 147-966 \$79.40	JMBH0750 3/4" 147-967 \$107.50	JMBH1000 1" 147-088 \$158.20	JMBH1250 1-1/4" 146-776 \$166.90
JMFH (High feed type) 		JMFH0375 3/8" 147-943 \$73.20	JMFH0500 1/2" 147-944 \$72.40	JMFH0625 5/8" 147-945 \$91.50	JMFH0750 3/4" 147-946 \$121.60	JMFH1000 1" 147-991 \$145.00	JMFH1250 1-1/4" 147-992 \$195.00
JMCF (Chamfer type) 				JMCF0625 5/8" 147-785 \$91.50	JMCF0750 3/4" 147-786 \$121.60	JMCF1000 1" 147-942 \$145.00	
JMBS (Ball type) 	JMBS0312 5/16" 147-084 \$54.40	JMBS0375 3/8" 146-858 \$61.60		JMBS0625 5/8" 147-781 \$132.30	JMBS0750 3/4" 147-782 \$107.50		JMBS1250 1-1/4" 147-784 \$166.90

## Mold Mill Kits



**Consists of:**  
 1 - Mold Mill  
 2 - RC Inserts (Coated)

While Supplies Last.

KIT CONTENTS	Insert	Kit Code	Price \$
5/8" Standard Length Mold Mill (148-094)	c/w 2 pcs RC-5/8 Inserts (147-858)	149-912	357.20
5/8" Medium Length Mold Mill (147-853)	c/w 2 pcs RC-5/8 Inserts (147-858)	149-913	373.00
5/8" Long Length Mold Mill (148-095)	c/w 2 pcs RC-5/8 Inserts (147-858)	149-914	388.30
3/4" Standard Length Mold Mill (148-096)	c/w 2 pcs RC-3/4 Inserts (147-859)	149-915	500.10
3/4" Medium Length Mold Mill (147-854)	c/w 2 pcs RC-3/4 Inserts (147-859)	149-916	500.10
3/4" Long Length Mold Mill (148-097)	c/w 2 pcs RC-3/4 Inserts (147-859)	149-917	546.20
1" Standard Length Mold Mill (148-098)	c/w 2 pcs RC-1 Inserts (147-860)	149-918	554.60
1" Medium Length Mold Mill (147-855)	c/w 2 pcs RC-1 Inserts (147-860)	149-919	585.90
1" Long Length Mold Mill (148-099)	c/w 2 pcs RC-1 Inserts (147-860)	149-920	629.30
1-1/8" Standard Length Mold Mill (148-100)	c/w 2 pcs RC-1-1/8 Inserts (147-861)	149-923	502.10
1-1/8" Medium Length Mold Mill (147-856)	c/w 2 pcs RC-1-1/8 Inserts (147-861)	149-924	532.90
1-1/8" Long Length Mold Mill (148-102)	c/w 2 pcs RC-1-1/8 Inserts (147-861)	149-925	568.20
1-1/4" Standard Length Mold Mill (148-103)	c/w 2 pcs RC-1-1/4 Inserts (147-862)	149-921	624.50
1-1/4" Medium Length Mold Mill (147-857)	c/w 2 pcs RC-1-1/4 Inserts (147-862)	149-922	666.60
1-1/4" Long Length Mold Mill (148-104)	c/w 2 pcs RC-1-1/4 Inserts (147-862)	149-926	714.60

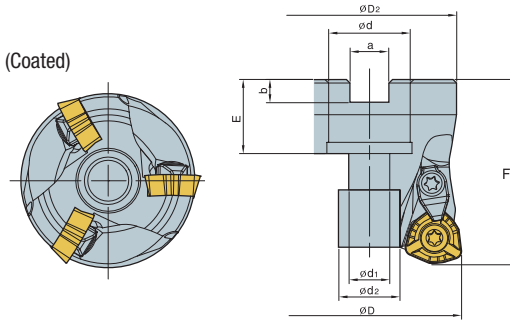
\* Reference page E132 in Catalogue for dimensions.

## HFPC Face Mill Kits

Coolant through



**Consists of:**  
 1 - HFPC Face Mill  
 10- WDKT 130520 Inserts (Coated)



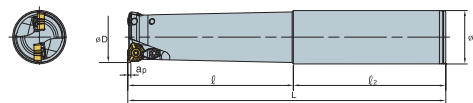
Model No.	Cutting Dia. (ØD)	Bore Dia.(Ød)	ØD2	Ød2	a	b	E	F	Insert	No. of Inserts	Kit Code No.	Price \$
HFPC 13200R-3 (148-636)	2.000	.750	1.772	.630	.321	.221	.778	1.969	WDKT 130520 ZDSR-MH PM10C (148-653)	10	149-992	603.10
HFPC 13250R-4 (148-639)	2.500	.750	1.772	.630	.321	.221	.778	1.969	WDKT 130520 ZDSR-MH PM10C (148-653)	10	149-993	735.80
HFPC 13300R-5 (148-641)	3.000	1.000	2.205	.827	.384	.248	.985	2.756	WDKT 130520 ZDSR-MH PM10C (148-653)	10	149-994	897.70

## HFA End Mill Kits

Coolant through



**Consists of:**  
 1 - HFA End Mill  
 10- WDKT 130520 Inserts (Coated)



Model No.	Cutting Dia. (ØD)	Shank Dia.(Ød)	l1	l2	L	Insert	No. of Inserts	Kit Code No.	Price \$
HFA 1-1/4 (148-646)	1-1/4	1.000	2.756	3.150	5.906	WDKT 130520 ZDSR-MH PM10C (148-653)	10	149-990	493.60
HFA 1-1/4 (148-647)	1-1/4	1.000	4.725	3.150	7.874	WDKT 130520 ZDSR-MH PM10C (148-653)	10	149-991	504.10

DOUBLE SIDED HIGH FEED MILL PROGRAM ALSO AVAILABLE

## Combo Turning & Drilling Tool



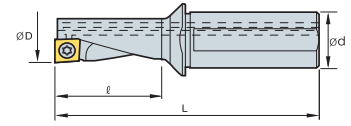
Coolant through

### Features:

- Double coolant system.
- Excellent chip evacuation and tool life.
- Ideal flute design minimizing stress concentrations.

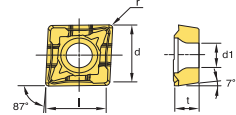
### Uses:

- External / internal turning
- Facing
- Drilling



(inch)

Designation	Code No.	Price \$	ØD	Ød	l	L	Insert
CTD10R-2.25D	147-993	441.60	0.394	0.472	0.886	2.736	QCMT 050204-CM
CTD12R-2.25D	147-243	455.20	0.472	0.630	1.063	1.890	QCMT 060204-CM
CTD14R-2.25D	147-698	464.50	0.551	0.630	1.240	3.287	QCMT 070304-CM
CTD16R-2.25D	147-008	475.00	0.630	0.787	1.417	3.701	QCMT 080304-CM
CTD20R-2.25D	147-061	557.60	0.787	0.984	1.772	4.370	QCMT 10T304-CM



Designation	ISO	Coated Carbide										Cermet	Uncoated Carbide							
		PT20C	PT22C	PM30C	PM30P	PM35P	PTM50P	KT10C	MM30P	MT30P	PT30S		PTM30U	l	d	t	r	d1		
QCMT-050204-CM 10MM		147-994 \$15.50	147-995 \$15.50				147-241 \$15.50	147-242 \$15.50								0.197	0.213	0.038	0.016	0.091
QCMT-060204-CM 12MM		147-244 \$15.50	147-435 \$15.50				147-436 \$15.50	147-437 \$15.50								0.236	0.252	0.094	0.016	0.098
QCMT-070204-CM 14MM		147-699 \$15.50	147-700 \$15.50				146-364 \$15.50									0.276	0.291	0.125	0.016	0.110
QCMT-080204-CM 16MM		147-042 \$15.80	147-043 \$15.80				147-044 \$15.80	147-060 \$15.80								0.315	0.331	0.125	0.016	0.134
QCMT-10T304-CM 20MM		147-062 \$18.70	147-465 \$18.70				147-472 \$18.70	147-540 \$18.70								0.394	0.409	0.156	0.016	0.157

# DRILLING

## Pro-SP Drill Kits (3XD)



Coolant through



### Consists of:

- 1 - Pro-SP Drill
- 10- SPMT Inserts

Kit Contents	Insert	Kit Code	Price \$
5/8" Pro SP 0625 Indexable Drill (147-897)	c/w 10 pcs Inserts 148-327	SPMT 060204-DM PM35P	149-884 <b>528.70</b>
3/4" Pro SP 0750 Indexable Drill (147-899)	c/w 10 pcs Inserts 148-327	SPMT 060204-DM PM35P	149-885 <b>511.90</b>
7/8" Pro SP 0875 Indexable Drill (147-901)	c/w 10 pcs Inserts 148-328	SPMT 070204-DM PM35P	149-886 <b>594.30</b>

## Pro-NP Drill Kits (3XD)



Coolant through



### Consists of:

- 1 - Pro-NP Drill
- 10- NPMT Inserts

Kit Contents	Kit Insert	Code	Price \$
1" Pro NP 1000 Indexable Drill (147-903)	c/w 10 pcs Inserts 148-330	NPMT 252808-DM PM35P	149-887 <b>644.40</b>
1-1/8" Pro NP 1125 Indexable Drill (147-906)	c/w 10 pcs Inserts 148-330	NPMT 252808-DM PM35P	149-888 <b>665.20</b>
1-1/4" Pro NP 1250 Indexable Drill (147-908)	c/w 10 pcs Inserts 148-331	NPMT 293208-DM PM35P	149-889 <b>735.00</b>
1-3/8" Pro NP 1375 Indexable Drill (147-910)	c/w 10 pcs Inserts 148-332	NPMT 334008-DM PM35P	149-890 <b>741.80</b>
1-1/2" Pro NP 1500 Indexable Drill (147-912)	c/w 10 pcs Inserts 148-332	NPMT 334008-DM PM35P	149-891 <b>775.00</b>
1-5/8" Pro NP 1625 Indexable Drill (147-914)	c/w 10 pcs Inserts 148-333	NPMT 415008-DM PM35P	149-892 <b>843.61</b>
1-3/4" Pro NP 1750 Indexable Drill (147-916)	c/w 10 pcs Inserts 148-333	NPMT 415008-DM PM35P	149-893 <b>843.70</b>
2" Pro NP 2000 Indexable Drill (147-920)	c/w 10 pcs Inserts 148-333	NPMT 415008-DM PM35P	149-894 <b>883.90</b>

\* Other sizes also available.

## MCLNR/L Turning Kits



**Consists of:**  
 1 - MCLNR/L Toolholder  
 10 - CNMG 432 Inserts (Coated)

Application	Material	Kit Contents	Right Hand		Left Hand	
			Kit Code	Price \$	Kit Code	Price \$
Finishing	Steel	1 pc MCLNR 16-4D (145-828) 10 pcs CNMG 432 F2 PT10C (146-471)	149-800	129.80	-	-
Medium/Finishing	Steel	1 pc MCLNR 16-4D (145-828) 10 pcs CNMG 432 M PT20C (147-534)	149-806	129.80	-	-
Medium	Steel	1 pc MCLNR 16-4D (145-828)/MCLNL 16-4D (145-829) 10 pcs CNMG 432 MM PT20C (146-099)	149-801	129.80	149-805	129.80
Roughing	Steel	1 pc MCLNR 16-4D (145-828) 10 pcs CNMG 432 R1 PT20C (146-046)	149-802	129.80	-	-
Medium	Stainless Steel	1 pc MCLNR 16-4D (145-828) 10 pcs CNMG 432 MM MT20C (146-765)	149-803	129.80	-	-
Medium	Cast Iron	1 pc MCLNR 16-4D (145-828) 10 pcs CNMA 432 KT10C (147-473)	149-804	129.80	-	-

## MDJNR/L Turning Kits



**Consists of:**  
 1 - MDJNR/L Toolholder  
 10 - DNMG 432 Inserts (Coated)

Application	Material	Kit Contents	Right Hand		Left Hand	
			Kit Code	Price \$	Kit Code	Price \$
Finishing	Steel	1 pc MDJNR 16-4D (145-845) 10 pcs DNMG 432 F2 PT10C (146-757)	149-807	144.70	-	-
Medium/Finishing	Steel	1 pc MDJNR 16-4D (145-845) 10 pcs DNMG 432 M PT20C (147-588)	149-813	144.70	-	-
Medium	Steel	1 pc MDJNR 16-4D (145-845)/MDJNL 16-4D (145-846) 10 pcs DNMG 432 MM PT20C (146-260)	149-808	144.70	149-812	144.70
Roughing	Steel	1 pc MDJNR 16-4D (145-845) 10 pcs DNMG 432 R1 PT10C (146-263)	149-809	144.70	-	-
Medium	Stainless Steel	1 pc MDJNR 16-4D (145-845) 10 pcs DNMG 432 MM MT20C (146-768)	149-810	144.70	-	-
Medium	Cast Iron	1 pc MDJNR 16-4D (145-845) 10 pcs DNMA 432 KT10C (147-551)	149-811	144.70	-	-

## MTGNR Turning Kits



**Consists of:**  
 1 - MTGNR Toolholder  
 10 - TNMG 432 Inserts (Coated)

Application	Material	Kit Contents	Right Hand	
			Kit Code	Price \$
Finishing	Steel	1 pc MTGNR 16-4D (145-814) 10 pcs TNMG 432 F2 PT10C (146-632)	149-814	145.80
Medium/Finishing	Steel	1 pc MTGNR 16-4D (145-814) 10 pcs TNMG 432 M PT20C (147-644)	149-824	145.80
Roughing	Steel	1 pc MTGNR 16-4D (145-814) 10 pcs TNMG 432 MM PT20C (146-618)	149-815	145.80
Medium	Cast Iron	1 pc MTGNR 16-4D (145-814) 10 pcs TNMA 432 R1 KT10C (147-609)	149-816	145.80

## MTJNR/L Turning Kits



**Consists of:**  
 1 - MTJNR/L Toolholder  
 10 - TNMG 432 Inserts (Coated)

Application	Material	Kit Contents	Right Hand	Price \$	Left Hand	Price \$
			Kit Code		Kit Code	
Medium Finishing	Steel	1 pc MTJNR 16-4D (145-757) 10 pcs TNMG 432 M PT20C (147-644)	149-823	190.60	-	-
Medium	Steel	1 pc MTJNR 16-4D 1" Shank (145-757)/MTJNL 16-4D (145-756) 10 pcs TNMG 432 MM PT20C (146-044)	149-817	190.60	149-820	190.60
Medium	Steel	1 pc MTJNR 12-3D 3/4" Shank (145-887)/MTJNL 12-3B (145-888) 10 pcs TNMG 322 G PT30C (146-093)	149-818	155.60	149-821	155.60
Medium	Steel	1 pc MTJNR 10-3B 5/8" Shank (145-891)/MTJNL 10-3B (145-892) 10 pcs TNMG 322 G PT30C (146-093)	149-819	159.00	149-822	159.00

## MVJNR/L Turning Kits



**Consists of:**  
 1 - MVJNR/L Toolholder  
 10 - VNMG 332 Inserts (Coated)

Application	Material	Kit Contents	Right Hand	Price \$	Left Hand	Price \$
			Kit Code		Kit Code	
Medium	Steel	1 pc MVJNR 16-3D (145-893)/MVJNL 16-3D (145-738) 10 pcs VNMG 332 M PT20C (147-666)	149-833	167.70	149-834	167.70

## MWLNR/L Turning Kits



**Consists of:**  
 1 - MWLNR/L Toolholder  
 10 - WNMG 432 Inserts (Coated)

Application	Material	Kit Contents	Right Hand	Price \$	Left Hand	Price \$
			Kit Code		Kit Code	
Medium Finish	Steel	1 pc MWLNR 16-4D (145-808) 10 pcs WNMG 432 M PT20C (147-694)	149-832	133.60	-	-
Medium	Steel	1 pc MWLNR 16-4D 1" Shank (145-808)/MWLNL 16-4D (145-809) 10 pcs WNMG 432 MM PT20C (146-865)	149-825	133.60	149-830	133.60
Medium	Steel	1 pc MWLNR 12-4D 3/4" Shank (145-875)/MWLNL 12-4D (145-876) 10 pcs WNMG 432 MM PT20C (146-865)	149-826	134.90	149-831	134.90
Medium	Stainless Steel	1 pc MWLNR 16-4D (145-808) 10 pcs WNMG 432 MM MT20C (146-769)	149-827	133.60	-	-
Medium	Cast Iron	1 pc MWLNR 16-4D (145-808) 10 pcs WNMA 432 KT05C (147-429)	149-828	133.60	-	-
Roughing	Cast Iron	1 pc MWLNR 16-4D (145-808) 10 pcs WNMA 432 KT10C (147-672)	149-829	133.60	-	-

## SI-SCLCR/L Master Boring Bar Kits

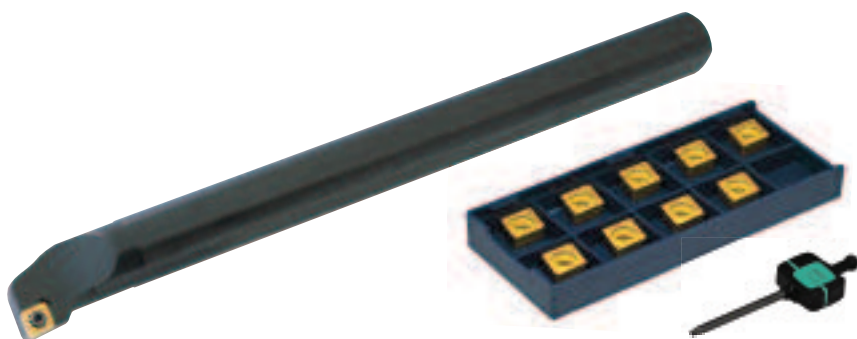


**Consists of:**

- 1 - 5/8"  $\emptyset$  B/Bar, SI-SCLCR 10-3 (#145-925)
- 1 - 3/4"  $\emptyset$  B/Bar, SI-SCLCR 12-3 (#145-926)
- 1 - 1"  $\emptyset$  B/Bar, SI-SCLCR 16-3 (#145-927)
- 10 - CCMT 32.51 inserts
- 1 - wrench (#146-940)

Application	Material	Kit Contents	Right Hand		Left Hand	
			Kit Code	Price \$	Kit Code	Price \$
Medium	Steel	1 pc SI SCLCR 5/8", 3/4", 1" Boring Bars	149-844	244.80	-	-
Medium	Steel	1 pc SI SCLCL 5/8", 3/4", 1" Boring Bars	-	-	149-845	245.00
Medium	Cast Iron	1 pc SI SCLCR 5/8", 3/4", 1" Boring Bars	149-846	244.80	-	-
Medium	Aluminum	1 pc SI SCLCR 5/8", 3/4", 1" Boring Bars	149-847	273.60	-	-

## SI-SCLCR Boring Bar Kits



**Consists of:**

- 1 - SI-SCLCR Boring Bar
- 10 - CCMT 32.51 Inserts (Coated)

Application	Material	Kit Contents	Right Hand	
			Kit Code	Price \$
Medium	Steel	1 pc SI SCLCR 10-3(5/8") (145-925)	149-873	111.50
Medium	Steel	1 pc SI SCLCR 12-3(3/4") (145-926)	149-874	116.90
Medium	Steel	1 pc SI SCLCR 16-3(1") (145-927)	149-875	129.10

## A-SCLCR Coolant Thru Boring Bar Kits



**Consists of:**

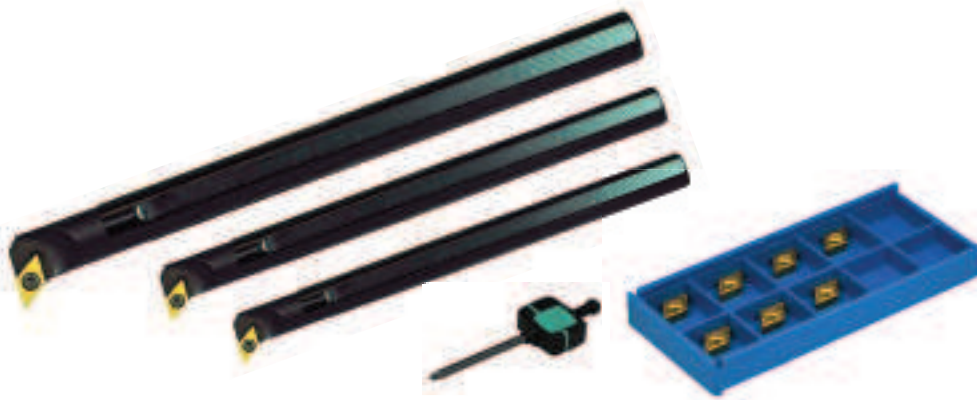
- 1 - 5/16"  $\emptyset$  B/Bar, A-SCLCR 5-2 (#146-589)
- 1 - 3/8"  $\emptyset$  B/Bar, A-SCLCR 6-2 (#146-590)
- 1 - 1/2"  $\emptyset$  B/Bar, A-SCLCR 8-2 (#146-591)
- 1 - 5/8"  $\emptyset$  B/Bar, A-SCLCR 10-2 (#147-348)
- 1 - wrench (#146-939)
- 10 - CC\_T21.51 Inserts

Application	Material	Kit Contents	Right Hand	
			Kit Code	Price \$
Finishing	Steel	1 pc A-SCLCR 5/16", 3/8", 1/2", 5/8	149-848	289.60
Medium	Steel	1 pc A-SCLCR 5/16", 3/8", 1/2", 5/8	149-849	289.60
Medium	Aluminum	1 pc A-SCLCR 5/16", 3/8", 1/2", 5/8	149-850	307.30



# BORING

## SI-SDUCR Boring Bar Kits



**Consists of:**

- 1 - 3/8"  $\emptyset$  B/Bar, SI-SDUCR 6-2 (#145-939)
- 1 - 1/2"  $\emptyset$  B/Bar, SI-SDUCR 8-2 (#145-940)
- 1 - 5/8"  $\emptyset$  B/Bar, SI-SDUCR 10-2 (#145-941)
- 10 DC\_T21.51 Inserts

Application	Material	Kit Contents	Right Hand Kit Code	Price \$
Medium	Steel	1 pc SI-SDUCR 3/8", 1/2", 5/8" Boring Bars 10 pcs DCMT 21.51 F2P PT20C (146-793)	149-851	202.20
Medium	Aluminum	1 pc SI-SDUCR 3/8", 1/2", 5/8" Boring Bars 10 pcs DCGT 21.51 AP KT10U (146-989)	149-852	211.00



# THREADING

## External Threading Kits



**Consists of:**

- 1 - ETH3 Toolholder
- 2 - ECTR 300 Inserts (Coated)

Kit Contents	Insert	Kit Code	Price \$
3/4" Toolholder (146-708) c/w 2pcs 3/8" Partial Profile inserts Coated (146-597)	ECTR 300 8-28 PM30P	149-839	139.90
1" Toolholder (146-290) c/w 2pcs 3/8" Partial Profile inserts Coated (146-597)	ECTR 300 8-28 PM30P	149-840	145.90

## Internal Threading Kits

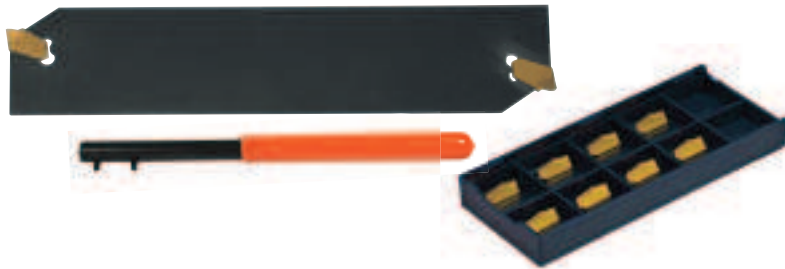


**Consists of:**

- 1 - ITH3 Toolholder
- 2 - ICTR 300 Inserts (Coated)

Kit Contents	Insert	Kit Code	Price \$
3/4" Toolholder (146-255) c/w 2pcs - 3/8" Partial Profile inserts Coated (146-610)	ICTR 300 8-28 PM30P	149-842	162.50
1" Toolholder (146-254) c/w 2pcs - 3/8" Partial Profile inserts Coated (146-610)	ICTR 300 8-28 PM30P	149-843	171.80
1-1/4" Toolholder (146-256) c/w 2pcs - 3/8" Partial Profile inserts Coated (146-610)	ICTR 300 8-28 PM30P	149-879	195.60

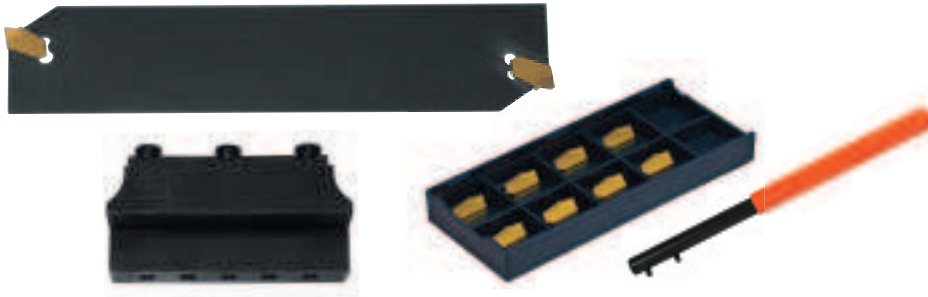
## PRO Part Off Kits



**Consists of:**  
 1 - PP-B Part Off Blade  
 10 - SP Inserts (Coated)  
 1 - SW15S Wrench

Kit Contents	Insert	Kit Code	Price \$
PP-B 326S 1" Blade (146-232) c/w 10-3mm inserts (146-452)	SP300 PT30C	149-835	211.00
PP-B 332S 1-1/4" Blade (146-898) c/w 10-3mm inserts (146-452)	SP300 PT30C	149-836	211.00
PP-B 432S 1-1/4" Blade (146-899) c/w 10- 4mm inserts (146-454)	SP400 PT30C	147-441	211.00

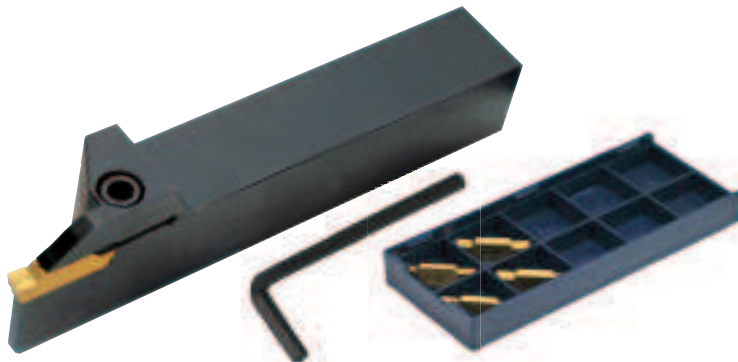
## PRO Part Off Kits



**Consists of:**  
 1 - PP-B Part Off Blade  
 1 - P.O.B. Part Off Block  
 10 - SP 300 Inserts (Coated)  
 1 - SW15S Wrench

Kit Contents	Insert	Kit Code	Price \$
PP-B 326S 1" Blade (146-232) c/w 10-3mm inserts (146-452) & P.O.B. 19-5 Part Off Block (146-510)	SP300 PT30C	149-837	338.10
PP-B 326S 1-1/4" Blade (146-898) c/w 10-3mm inserts (146-452) & P.O.B. 25; 4-6 Part Off Block (145-895)	SP300 PT30C	149-838	343.80

## MTG - Multi Turn Groove Kits



**Consists of:**  
 1 - MGEHR Toolholder  
 5 - MGMN Inserts (Coated)

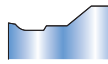
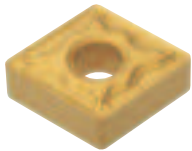
Kit Contents	Insert	Kit Code	Price \$
MGEHR 16-3 1" Shank (148-066) c/w 5-3mm inserts (146-834)	MGMN 300M PT20C	149-898	177.00
MGEHR 16-4 1" Shank (148-074) c/w 5-4mm inserts (146-835)	MGMN 400M PT20C	149-899	180.40



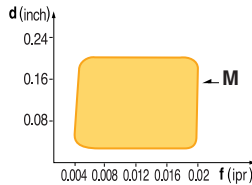
- One of the largest indexable insert inventories in Canada
- Ask about our guaranteed test
- User friendly colour code system
- Contract pricing available on volume purchases



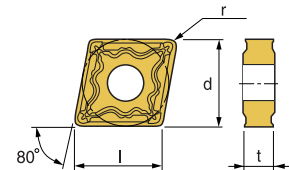
## CNMG-432



• Wide available chip control range from medium-finishing to medium-roughing.  
• Suitable chip breaker for CNC machining

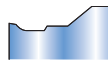
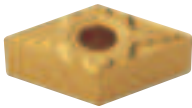


- USE Medium
- Recommendation  
M  $d = 0.04 \sim 0.2 \text{ inch}$   
 $f = 0.004 \sim 0.02 \text{ ipr}$

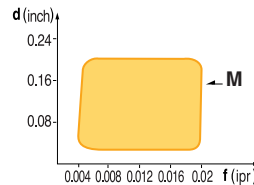


Designation	Coated Carbide										Uncoated Carbide				(inch)			
	PT10C-M	PT20C-M	PM25P	PM30P	PM35P	PM40P	KM20C	MM30P-SM	MT30P	SM20P	PM20U	KTM10U	l	d	t	r		
CNMG 432	147-533 <b>\$8.55</b>	147-534 <b>\$8.55</b>						147-489 <b>\$8.55</b>					.508	1/2	3/16	1/32		

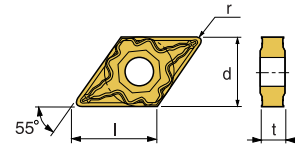
## DNMG-432



• Wide available chip control range from medium-finishing to medium-roughing.  
• Suitable chip breaker for CNC machining

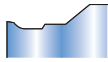
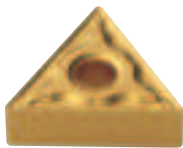


- USE Medium
- Recommendation  
M  $d = 0.04 \sim 0.2 \text{ inch}$   
 $f = 0.004 \sim 0.02 \text{ ipr}$

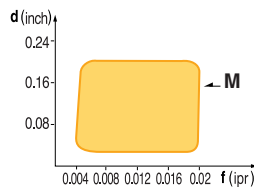


Designation	Coated Carbide										Uncoated Carbide		(inch)			
	PT10C-M	PT20C-M	PM25P	PM30P	PM35P	PM40P	KM20C	MM30P-SM	MT30P	SM20P	PM20U	KTM10U	l	d	t	r
DNMG 432	146-258 <b>\$10.43</b>	147-588 <b>\$10.43</b>						147-561 <b>\$10.43</b>					.610	1/2	3/16	1/32

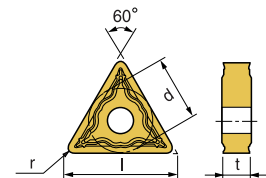
## TNMG-432



• Wide available chip control range from medium-finishing to medium-roughing.  
• Suitable chip breaker for CNC machining

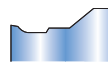


- USE Medium
- Recommendation  
M  $d = 0.04 \sim 0.2 \text{ inch}$   
 $f = 0.004 \sim 0.02 \text{ ipr}$

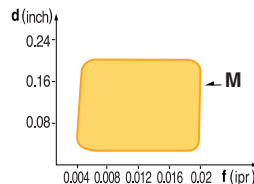


Designation	Coated Carbide										Uncoated Carbide		(inch)			
	PT10C-M	PT20C-M	PM25P	PM30P	PM35P	PM40P	KM20C	MM30P-SM	MT30P	SM20P	PM20U	KTM10U	l	d	t	r
TNMG 432	146-617 <b>\$10.58</b>	147-644 <b>\$10.58</b>						147-616 <b>\$10.58</b>					.886	1/2	3/16	1/32

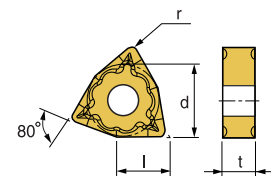
## WNMG-432



• Wide available chip control range from medium-finishing to medium-roughing.  
• Suitable chip breaker for CNC machining



- USE Medium
- Recommendation  
M  $d = 0.04 \sim 0.2 \text{ inch}$   
 $f = 0.004 \sim 0.02 \text{ ipr}$



Designation	Coated Carbide										Uncoated Carbide		(inch)			
	PT10C-M	PT20C-M	PM25P	PM30P	PM35P	PM40P	KM20C	MM30P-SM	MT30P	SM20P	PM20U	KTM10U	l	d	t	r
WNMG 432	146-864 <b>\$9.00</b>	147-694 <b>\$9.00</b>						148-425 <b>\$9.00</b>					.343	1/2	3/16	1/32

M chipbreaker chart shown only.

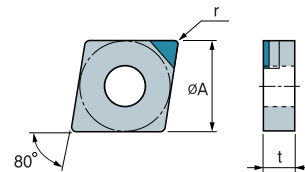
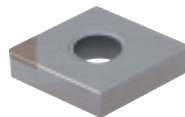
SOWA C.B.N products are made from Cubic Boron Nitride powder and special ceramic binder. SOWA C.B.N can provide excellent cutting performance for hardened steel and cast iron having high hardness. Using a C.B.N can replace of additional grinding process, thus cost savings can be acquired.

- Suitable for sintered alloy, hard material, heat treated alloy · Excellent surface finish at the cutting of hardened steel.
- Excellent for cast iron cutting

### Recommended Cutting Condition

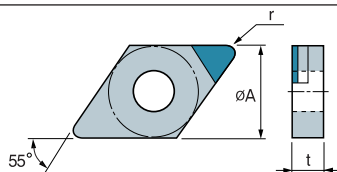
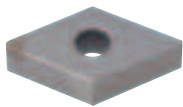
Work piece	Speed (sfm)	Feed Turning(ipr) Milling(ipt)	Depth (inch)	1st Recommended Grade
Gray Cast Iron (180~230HB)	1325 ~ 3275	0.004 ~ 0.02	0.005 ~ 0.04	KB350
	1325 ~ 3275	0.004 ~ 0.02	0.005 ~ 0.04	KB360
Heat Treated Steel (over HRC45)	325 ~ 450	0.001 ~ 0.012	0.005 ~ 0.04	KB320 KB330
High Temp Alloy (over HRC45)	175 ~ 600	0.002 ~ 0.008	0.005 ~ 0.04	KB360
Sintered Alloy	175 ~ 825	0.001 ~ 0.008	0.005 ~ 0.04	KB360
Carbide Roll, High speed steel Roll	150 ~ 200	0.024 ~ 0.031	0.08 ~ 0.16	KB360

### CNMA



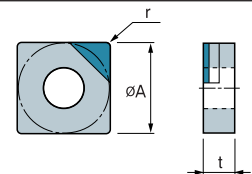
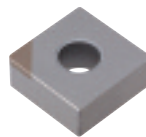
Designation	ISO	KB320		KB350		KB360	
		Code No.	SALE \$	Code No.	SALE \$	Code No.	SALE \$
CNMA 432	120408	146-131	57.54	147-886	57.54	147-965	57.54

### DNMA



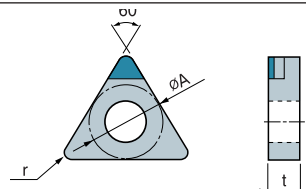
Designation	ISO	KB320	
		Code No.	SALE \$
DNMA 432	120408	146-132	57.54

### SNMA



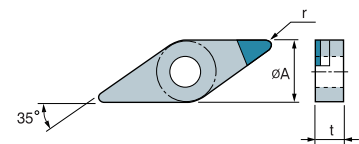
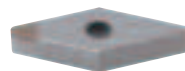
Designation	ISO	KB320	
		Code No.	SALE \$
SNMA 432	120408	146-133	57.54
SNMA 433	120412	146-134	57.54

### TNMA



Designation	ISO	KB320	
		Code No.	SALE \$
TNMA 332	160408	146-139	55.68
TNMA 432	220408	146-141	57.54

### VNMA



Designation	ISO	KB360	
		Code No.	SALE \$
VNMA 331	160402	147-968	61.32

### Grades

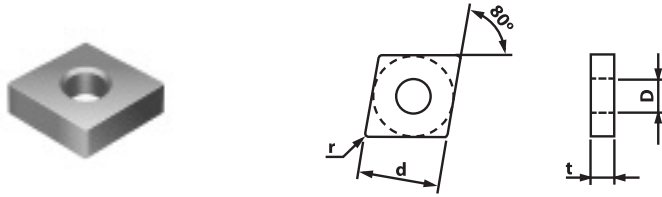
- KB320** (Turning) • Suitable for general cutting, intermittent and continuous cutting.
  - Superior toughness
  - Comprehensive grade having optimal wear resistance and toughness
- KB350** (Turning) • Suitable for speed finishing of Cast Iron.
  - Comprehensive grade for machining of Cast Iron.
- KB360** (Turning) • Suitable for high speed cutting of Cast Iron and milling of high hardness roll, sintered alloy as well.

Grade	Dimensions (inch)		
	A	t	r
432	1/2	3/16	1/32
433	1/2	3/16	3/64
331	1/2	3/16	1/64
332	3/8	3/16	1/32

For more information see page E6-E45 in our Catalogue

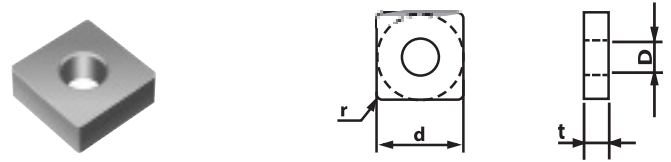
\*Double sided also available

## CNGA



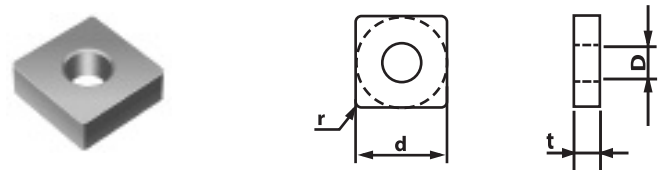
Designation	ISO	GP100		GP300	
		Code No.	SALE \$	Code No.	SALE \$
CNGA 431	120404	149-416	9.53	149-418	9.90
CNGA 432	120408	149-420	9.53	149-422	9.90
CNGA 433	120412	149-424	9.53	149-426	9.90
CNGA 434	120426	149-428	9.53	149-430	8.85
CNGA 452	120708	149-432	11.48	149-434	12.08
CNGA 453	120712	149-436	11.48	149-438	12.08

## SNGA



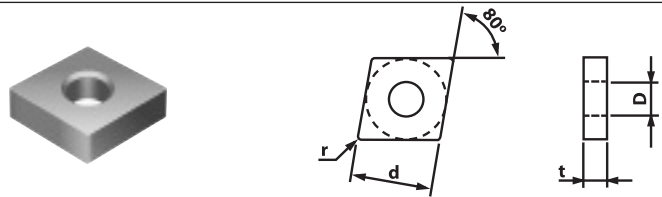
Designation	ISO	GP100		GP300	
		Code No.	SALE \$	Code No.	SALE \$
SNGA 432	120408	149-586	8.63		
SNGA 433	120412	149-588	8.63	149-590	9.08

## SNMA



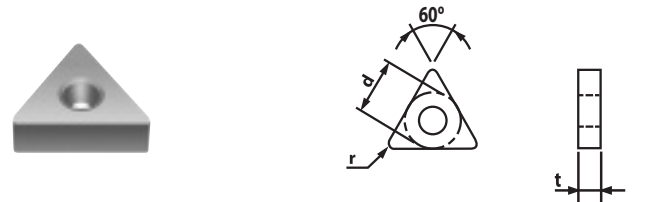
Designation	ISO	S400	
		Code No.	SALE \$
SNMA 433	120412	149-560	15.90
SNMA 434	120416	149-594	15.90

## CNMA



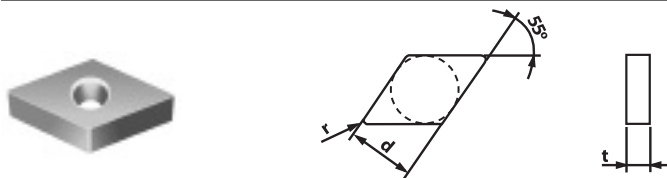
Designation	ISO	S400	
		Code No.	SALE \$
CNMA 432	150404	149-558	15.90
CNMA 433	150412	149-592	17.40
CNMA 434	150416	149-562	15.90
CNMA 544	160416	149-564	23.18

## TNGA



Designation	ISO	GP100		GP300	
		Code No.	SALE \$	Code No.	SALE \$
TNGA 222	110308	149-403	7.43	149-401	7.80
TNGA 331	160404	149-520	8.18	149-522	8.55
TNGA 332	160408	149-524	8.18	149-526	8.55
TNGA 333	160412	149-528	8.18	149-529	8.55
TNGA 432	220408	149-530	12.45		
TNGA 433	220412	149-532	12.45		
TNGA 434	220416	149-534	12.45		

## DNGA



Designation	ISO	GP100		GP300	
		Code No.	SALE \$	Code No.	SALE \$
DNGA 431	150404	149-448	13.50	149-450	14.10
DNGA 432	150408	149-452	13.50	149-454	14.10
DNGA 441	150604	149-456	14.25	149-458	15.00
DNGA 442	150608	149-460	14.25	149-462	15.00
DNGA 443	150612	149-464	14.25	149-466	15.00

Grade	Dimensions (inch)		
	d	t	r
431	.500	.187	.016
432	.500	.187	.031
433	.500	.187	.047
434	.500	.187	.063
452	.500	.313	.031
453	.500	.313	.047
544	.625	.250	.063
441	.500	.250	.016
442	.500	.250	.031
433	.500	.250	.047
222	.250	.125	.031
331	.375	.187	.016
332	.375	.187	.031
333	.375	.187	.047

**\* Whisker ceramic also available**

### Grades

**GP100 (Turning)** GP100 offers excellent shock resistance and wear resistance. It is a general machining grade for hardened steel and difficult cutting.

**GP300 (Turning)** GP300 was developed for extremely hardened steel and high hardness alloy steel. It is an Al-TiCN grade with micrograin structure.

**S400 (Turning) Silicon Nitride** for Cast Iron.

The toughness and hardness of edge were highly improved against wear for high speed cutting with heavy interruption, especially in the automotive industry.

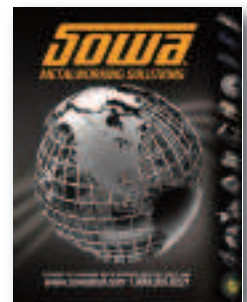


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**FULL RANGE OF TECHNICAL  
 INFORMATION  
 CAN BE FOUND IN THE  
 CATALOGUE  
 #ST0312 SECTION "E"**

December, 2014

Pricing valid while quantities last or until further notice.



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