



Premium Tooling #V23 for the Modern Shop



Ball Nose Cutters & Inserts
Inch & Metric Sizes Available

90° Square Shoulder Milling Kits



High Feed Indexable Milling Cutter Kits

Size Range of 1.0" to 8.0"

Kits Include:

- 1 Cutter
- 10 Inserts
- 1 Wrench



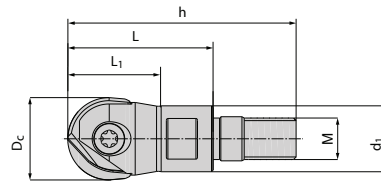
Inch & Metric Standard and Steel Sealed ER Collets and Sets



High Performance Carbide End Mills

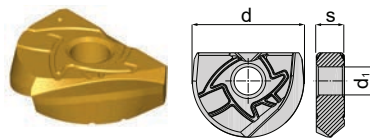
Manufactured in Canada





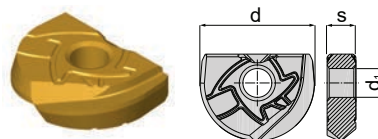
**Purchase 10 Ball Nose Style BN Inserts
and receive a 50% discount on the cutter**

Model	Dc (inch)	Dc (mm)	d1	h	L	L1	M	z	List	with Purchase of 10 Inserts
BNC-TS-5/16-8MM-M6	5/16	8mm	.382	1.437	.906	.630	M6	2	243.48	\$121.⁷⁴
BNC-TS-3/8-10MM-M6	3/8	10mm	.382	1.437	.906	.906	M6	2	250.74	\$125.³⁷
BNC-TS-1/2-12MM-M6	1/2	12mm	.382	1.437	.906	.906	M6	2	257.82	\$128.⁹¹
BNC-TS-5/8-16MM-M8	5/8	16mm	.500	1.732	1.102	1.102	M8	2	279.36	\$139.⁶⁸
BNC-TS-3/4-20MM-M10	3/4	20mm	.697	1.811	1.102	1.102	M10	2	300.86	\$150.⁴³
BNC-TS-1.0-25MM-M12	1.0	25mm	.815	2.165	1.378	1.378	M12	2	329.52	\$164.⁷⁶
BNC-TS-1.1/4-32MM-M16	1.1/4	32mm	1.130	2.559	1.693	1.378	M16	2	372.39	\$186.²⁰



FH - Positive / Helical

FH is our first choice geometry for semi-finish to finishing applications in all steel materials up to 62RC



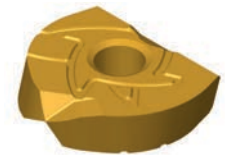
SP - Positive

SP geometry is designed for semi-finish applications in all steels. Alternate choices in this design include MP (medium roughing) & FP (finishing).

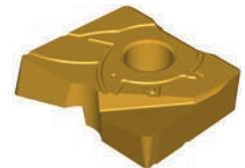
**Additional Inserts
available on request**



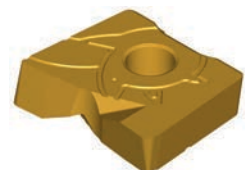
Geometry- RF, SF



Geometry- FN, RN & SN



Geometry- SP



Geometry- RF

Inch

Insert Code	d	s	d1	NH13MP	Price
BN-0.312-FH	5/16	.094	.098	■	\$24.⁹¹
BN-0.375-FH	3/8	.100	.118	■	\$26.²¹
BN-0.500-FH	1/2	.118	.138	■	\$27.⁹³
BN-0.625-FH	5/8	.157	.157	■	\$31.³⁶
BN-0.750-FH	3/4	.196	.196	■	\$37.³⁴

Metric

Insert Code	d	s	d1	NH13MP	Price
BN-8MM-FH	8	2.39	2.5	■	\$23.¹⁴
BN-10MM-FH	10	2.59	3.0	■	\$24.⁴⁴
BN-12MM-FH	12	2.99	3.5	■	\$26.⁰⁰
BN-16MM-FH	16	3.99	4.0	■	\$29.¹²
BN-20MM-FH	20	4.99	5.0	■	\$34.⁸⁴
BN-25MM-FH	25	5.99	6.0	■	\$46.²⁸
BN-32MM-FH	32	6.99	8.0	■	\$65.²⁶

NH13MP

For finishing and semi-finishing of materials up to max. 62 HRC, at stable or moderately unstable conditions. High wear resistant ultrafine carbide grade with an excellent hardness / bending ratio. Moreover this grade fulfils highest performance requirements compared to process secureness, through the usage of wear resistant state of the art PVD coating technology.

Inch

Insert Code	d	s	d1	NH10MP	NH23MP	Price
BN-0.312-SP	5/16	.094	.098	■	■	\$20.¹⁵
BN-0.375-SP	3/8	.100	.118	■	■	\$21.¹⁷
BN-0.500-SP	1/2	.118	.138	■	■	\$24.³⁴
BN-0.625-SP	5/8	.157	.157	■	■	\$27.²⁷
BN-0.750-SP	3/4	.196	.196	■	■	\$32.⁴⁵
BN-1.000-SP	1.00	.236	.236	■	■	\$43.²⁴
BN-1.250-SP	1.25	.275	.315	■	■	\$61.⁰²

Metric

Insert Code	d	s	d1	NH10MP	NH23MP	Price
BN-12MM-SP	12	2.99	3.5	■	■	\$22.⁶²
BN-16MM-SP	16	3.99	4.0	■	■	\$25.⁴⁸
BN-20MM-SP	20	4.99	5.0	■	■	\$30.¹⁶
BN-25MM-SP	25	5.99	6.0	■	■	\$40.³⁰
BN-32MM-SP	32	6.99	8.0	■	■	\$56.³⁴

NH10MP

Grade for the machining of steel materials in the area up to maximum 58 HRC, PVD coated. Standard submicron grade for monocrystalline, wear resistant PVD coating.

NH23MP

For finishing and semi-finishing of materials up to maximum 60 HRC. Tough ultrafine carbide grade for good wear resistance and at the same time good breakage and cutting edge stability. Wear and temperature resistant PVD coating.

TYCARB HIGH FEED MILLING KITS

A comprehensive offering of tooling designed for High Feed Machining

- Exceptional material removal
- Three indexable insert sizes
 - Cost effective 4 corner design
- Two milling cutters in one cutter body design
 - High Feed and / or 90° Square Shoulder



**All Kits include 1 cutter body,
10 inserts & 1 Torx Key**

HF10 End Mills

End Mills with Weldon Shanks and
Extended Length End Mills with Cylindrical Shanks

Designation	Tool Dia.	Shank Dia.	O.A.L.	Reach	Flutes	Kit Price
All Kits include 1 cutter body, 10 pcs XDMT or XDMW-100415-ANSN inserts & 1 Torx Key						
Weldon Shank Tools						
HF10EM-1000-5.00H2-KIT	1.00	1.00	5.0	2.72	2	\$259 ⁹⁵
HF10EM-1000-5.00H3-KIT	1.00	1.00	5.0	2.72	3	\$269 ⁹⁵
HF10EM-1250-6.00J3-KIT	1.1/4	1.25	6.0	3.72	3	\$299 ⁹⁵
HF10EM-1500-6.00J3-KIT	1.1/2	1.25	6.0	--	3	\$349 ⁹⁵
Cylindrical Shank Tools						
HF10CY-1000-8.00H2-KIT	1.00	1.00	8.0	3.00	2	\$319 ⁹⁵
HF10CY-1000-10.00H2-KIT	1.00	1.00	10.0	3.00	2	\$329 ⁹⁵
HF10CY-1250-8.00J3-KIT	1.1/4	1.25	8.0	3.00	3	\$349 ⁹⁵
HF10CY-1250-10.00J3-KIT	1.1/4	1.25	10.0	3.00	3	\$369 ⁹⁵
HF10CY-1500-8.00J3-KIT	1.1/2	1.25	8.0	--	3	\$379 ⁹⁵

For additional inserts, please see pricing in insert table below

**All Kits include 1 cutter body,
10 inserts & 1 Torx Key**

HF10 & HF14 Face Mills

Face Mill Design with Through Coolant

Designation	Dia.	Bore	Height	Flutes	Kit Price
All Kits include 1 cutter body, 10 pcs XDMT or XDMW-100415-ANSN inserts & 1 Torx Key					
HF10SM-2000-1.50F5-KIT	2.00	.75	1.50	5	\$339 ⁹⁵
HF10SM-2000-1.50F7-KIT	2.00	.75	1.50	7	\$399 ⁹⁵
All Kits include 1 cutter body, 10 pcs XDMT or XDMW-140520-ANSN inserts & 1 Torx Key					
HF14SM-2000-1.50F4-KIT	2.00	.75	1.50	4	\$349 ⁹⁵
HF14SM-2000-1.50F5-KIT	2.00	.75	1.50	5	\$359 ⁹⁵
HF14SM-2500-1.75H6-KIT	2.50	1.00	1.75	6	\$399 ⁹⁵
HF14SM-3000-2.00H6-KIT	3.00	1.00	2.00	6	\$429 ⁹⁵
HF14SM-4000-2.00L8-KIT	4.00	1.50	2.00	8	\$599 ⁹⁵
HF14SM-6000-2.00L10-KIT	6.00	1.50	2.00	10	\$939 ⁹⁵

For additional inserts, please see pricing in insert table

**All Kits include 1 cutter body,
10 inserts & 1 Torx Key**

HF18 Face Mills

Face Mill Design with Through Coolant

Designation	Dia.	Bore	Height	Flutes	Kit Price
All Kits include 1 cutter body, 10 pcs XDMT or XDMW-180630 inserts & 1 Torx Key					
HF18SM-3000-2.00J5-KIT	3.00	1.25	2.00	5	\$459 ⁹⁵
HF18SM-4000-2.00L7-KIT	4.00	1.50	2.00	7	\$639 ⁹⁵
HF18SM-5000-2.50L8-KIT	5.00	1.50	2.50	8	\$839 ⁹⁵
HF18SM-6000-2.50P8-KIT	6.00	2.00	2.50	8	\$939 ⁹⁵
HF18SM-8000-2.50T10-KIT	8.00	2.50	2.50	10	\$1,559 ⁹⁵



TyCarb High Feed DOC & Programming Info

Insert	Rt	Ap	X	b
XDM_-100415	0.089	0.04	0.024	0.316
XDM_-140520	0.136	0.08	0.037	0.428
XDM_-180630	0.190	0.14	0.049	0.542

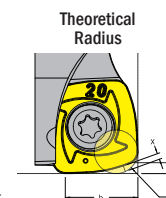
Rt= Theoretical Radius for Programming

X= Material Uncut

Programming

Theoretical Radius

- CAD / CAM systems will require a defined radius dimension in order to program for cavity machining. The "Rt" noted in the table above is defined as the Theoretical Radius to be used for programming of each XDMT/XDMW insert size.



Overcutting and Material left Uncut

- When programming for high feed inserts with a Theoretical Radius, overcutting is a normal occurrence. The "X" value as detailed in the table indicates the value of material that will remain uncut.

Application Recommendations

Extended Length Tools

- When using TyCarb High Feed tools with extended lengths (such as HF10CY tools or HF10TS tools threaded onto long extensions), reduce the cutting conditions to 70% of recommended cutting data of standard length tools.

Machine Power and Workpiece Rigidity

- As machining conditions vary greatly based on machine power and workpiece stability, begin by using half of the recommended values in the Cutting Data tables and progressively increase values as the machine proves to operate within normal conditions.

Cutting Forces of High Feed vs Round Copy Mills

- TyCarb High Feed milling tools are designed to transfer the majority of the cutting forces axially to ensure the most stable cutting conditions. Typical milling with the use of round copy milling style cutters exert greater tangential forces, thereby increasing vibration and lowering productivity.

Air Blast

- Effective high feed machining will create large amounts of metal chips- use air blasts to prevent re-cutting of chips when pocketing or slotting.

High Feed XDMT / XDMW Inserts

Designation	P20	P25	P30	P35	P40	M35	M40	K15	K25	H10	H30
	NP20MC	NP25MP	NP30MC	NP35MP	NP40MP	NM35MP	NM40MP	NK15MC	NK20MP	NH10MP	NH30MP
XDMT-100415SR-PH	10 ⁹²	10 ⁹²	10 ⁹²	10 ⁹²							
XDMT-100415ER-MH						10 ⁹²	10 ⁹²				
XDMT-100415SR-H										10 ⁹²	
XDMT-140520SR-PH	12 ⁴⁸	12 ⁴⁸	12 ⁴⁸	12 ⁴⁸							
XDMT-140520ER-MH						12 ⁴⁸	12 ⁴⁸				
XDMT-140520SR-H										12 ⁴⁸	
XDMW-100415SR-PH	10 ⁹⁹	10 ⁹⁹	10 ⁹⁹	10 ⁹⁹							
XDMW-100415SR-KH								10 ⁹²	10 ⁹²		
XDMW-100415SR-H										10 ⁹²	10 ⁹²
XDMW-140520SR-PH	12 ⁴⁸	12 ⁴⁸	12 ⁴⁸	12 ⁴⁸							
XDMW-140520SR-KH								12 ⁴⁸	12 ⁴⁸		
XDMW-140520SR-H										12 ⁴⁸	12 ⁴⁸
XDMW-180630SR-PH				16 ⁶⁴	16 ⁶⁴						
XDMW-180630SR-KH								16 ⁶⁴	16 ⁶⁴		
XDMW-180630SR-H											16 ⁶⁴
XDMT-180630SR-PH		16 ⁶⁴		16 ⁶⁴							
XDMT-180630SR-MH						16 ⁶⁴	16 ⁶⁴				

45° FACE MILLING KITS



All kits include 1 cutter,
10pcs. SNMX-1206 Inserts
& 1 Torx Key

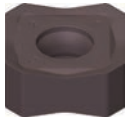


SN12 Face Mills

Designation	Tool Dia.	Bore	Height	Flutes	Kit Price
All Kits include 1 Cutter body, 10 pcs SNMX-1206 ANSN Inserts & 1 Torx Key					
SN12SM-2000-1.75F5-KIT	2.00	.75	1.75	5	\$330 ^{.46}
SN12SM-2500-2.00H6-KIT	2.50	1.00	2.00	6	\$405 ^{.13}
SN12SM-3000-2.00H7-KIT	3.00	1.00	2.00	7	\$447 ^{.12}
SN12SM-4000-2.50L8-KIT	4.00	1.50	2.50	8	\$567 ^{.42}
SN12SM-6000-2.50P10-KIT	6.00	2.00	2.50	10	\$765 ^{.98}

For additional inserts, please see pricing in insert table below

SNMX Inserts



Designation	P20	P25	P30	P35	M35	M40	K15	K25
	NP20MC	NP25MP	NP30MC	NP35MP	NM35MP	NM40MP	NK15MC	NK20MP
SNMX-1206ANSN-P	12 ^{.22}	12 ^{.22}	12 ^{.22}	12 ^{.22}				
SNMX-1206ANSN-M					12 ^{.22}	12 ^{.22}		
SNMX-1206ANSN-K							12 ^{.22}	12 ^{.22}

BN90 HIGH FEED MILLING CUTTER KITS

All kits include 1 cutter,
10 BNMX-0603 Inserts,
1 Torx Key & 1 Tube MolySlip



BN90 High Feed End Mills

Please Note: These cutters are a quality Import

Designation	Tool Dia.	Shank Dia.	O.A.L.	Reach	Flutes	Kit Price
All Kits include 1 Cutter body, 10 pcs BNMX-0603 Inserts, 1 Torx Key & 1 tube MolySlip						
Cylindrical Shank Tools - Inch Dimensions						
BN90CY-0625-4.00E2-KIT	5/8	.625	4	1.1/4	2	\$179 ^{.00}
BN90CY-0750-5.00F3-KIT	3/4	.750	5	1.1/2	3	\$199 ^{.00}
BN90CY-1000-6.00H4-KIT	1.0	1.00	6	2.00	4	\$229 ^{.00}
Cylindrical Shank Tools - Metric Dimensions						
BN90CY-16MM-130Z2-KIT	16MM	16	130	26	2	\$179 ^{.00}
BN90CY-20MM-150Z3-KIT	20MM	20	150	40	3	\$199 ^{.00}
BN90CY-25MM-150Z4-KIT	25MM	25	150	40	4	\$229 ^{.00}

Recommended Cutting Conditions for BNMX-0603

Working Material	SFM	fz (inch / tooth)	ap (inch)	First Choice Grade
Carbon Steel (HB85-225)	395 - 720	0.016 - 0.063	0.012 - 0.035	WP30MP
Stainless 300 Series	230 - 490	0.012 - 0.047	0.012 - 0.028	WP30MP
Cast Iron (HB140-220)	395 - 720	0.016 - 0.063	0.012 - 0.035	WP35MP
Titanium	130 - 260	0.012 - 0.047	0.012 - 0.028	WP30MP
High temp. Titanium Alloy	130 - 260	0.012 - 0.031	0.012 - 0.024	WP40MP
Hardened Steel	165 - 330	0.012 - 0.039	0.012 - 0.024	WP35MP

90° SQUARE SHOULDER MILLING KITS



The 2" to 4" Kits include 1 cutter,
10pcs. XNEX-080608 Inserts & 1 Torx Key.
The 6" Kit includes 15 pcs. XNEX Inserts

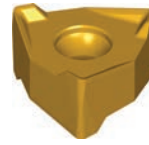


XN08 Face Mills

Designation	Dia.	Bore	Height	Flutes	Kit Price
All Kits include 1 Cutter body, 10 pcs XNEX-08 Inserts & 1 Torx Key					
XN08SM-2000-1.75F5-KIT	2.00	.75	1.75	5	\$376 ^{.00}
XN08SM-2500-2.00H6-KIT	2.50	1.00	2.00	6	\$427 ^{.84}
XN08SM-3000-2.00H7-KIT	3.00	1.00	2.00	7	\$483 ^{.14}
XN08SM-4000-2.50L8-KIT	4.00	1.50	2.50	8	\$610 ^{.40}
All Kits include 1 Cutter body, 15 pcs XNEX-08 Inserts & 1 Torx Key					
XN08SM-6000-2.00L12-KIT	6.00	2.00	2.50	12	\$895 ^{.51}

For additional inserts, please see pricing in insert table below

XNEX Inserts



Designation	P25	P35	M35	M40	K25	M20
	NP25MP	NP35MP	NM35MP	NM40MP	NK20MP	RTK20
XNEX-080608-TP	17 ^{.16}	17 ^{.16}				
XNEX-080608-TM			17 ^{.16}	17 ^{.16}		
XNEX-080608-TK					17 ^{.16}	
XNEX-080608-TN						24 ^{.18}

The BN90 High Feed cutters are designed for high volume metal removal rates.

Their applications include:

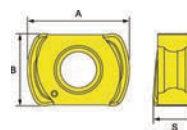
- Facing
- Slotting
- Ramping
- Pocket Milling



BN90 High Feed Thread-On Mills

Please Note: These cutters are a quality Import

Designation	Tool Dia.	Shank Thread	Head Length	Flutes	Kit Price
All Kits include 1 Cutter body, 10 pcs BNMX-0603 Inserts, 1 Torx Key & 1 tube MolySlip					
Threaded Shank Tools - Inch Dimensions					
BN90TS-0625-M8-2C-KIT	5/8	M8	1.0	2	\$219 ^{.00}
BN90TS-0750-M10-3C-KIT	3/4	M10	1.2	3	\$249 ^{.00}
BN90TS-1000-M12-4C-KIT	1.0	M12	1.4	4	\$299 ^{.00}
Threaded Shank Tools - Metric Dimensions					
BN90TS-16MM-M8-2C-KIT	16MM	M8	26mm	2	\$179 ^{.00}
BN90TS-20MM-M10-3C-KIT	20MM	M10	30mm	3	\$199 ^{.00}
BN90TS-25MM-M12-4C-KIT	25MM	M12	35mm	4	\$239 ^{.00}



BNMX Inserts

■ Primary application □ Secondary application

Designation	A	B	D	d1	P	M	K	S	H	Price
BNMX-0603-TM WP30MP	.354	.251	.148	.126	■	■	■	□	□	\$9 ^{.99} Each
BNMX-0603-TM WP35MP	.354	.251	.148	.126	■	■	■	□	□	
BNMX-0603-TR WP30MP	.354	.251	.148	.126	■	■	■	□	□	
BNMX-0603-TR WP35MP	.354	.251	.148	.126	■	□	■	□	□	
BNMX-0603-TR W540MP	.354	.251	.148	.126	■	□	□	■	□	

D'ANDREA SHELL ARBOUR CLEARANCE

>> Pricing valid for existing inventory only!

**All Arbours Are Through Coolant
For Improved Performance!**

Made in Italy!



CV40 MONOd' Shell Mill Holders

Designation	Qty.	Pilot Dia.	Gage Lgth	Price Ea.
CV40SM-1000-4.00	5	1.00"	4	\$89. ⁹⁵
CV40SM-1250-2.25	5	1.25"	2.25	\$79. ⁹⁵
CV40SM-1250-4.00	23	1.25"	4	\$99. ⁹⁵
CV40SM-1500-2.25	22	1.50"	2.25	\$89. ⁹⁵
CV40SM-1500-4.00	90	1.50"	4	\$99. ⁹⁵

CV50 MONOd' Shell Mill Holders

Designation	Qty.	Pilot Dia.	Gage Lgth	Price Ea.
CV50SM-0750-2.00	34	.75"	2	\$99. ⁹⁵
CV50SM-0750-6.00	5	.75"	6	\$149. ⁹⁵
CV50SM-1000-2.00	28	1.00"	2	\$99. ⁹⁵
CV50SM-1250-2.25	36	1.25"	2.25	\$99. ⁹⁵
CV50SM-1250-4.00	20	1.25"	4	\$129. ⁹⁵
CV50SM-1250-6.00	51	1.25"	6	\$149. ⁹⁵
CV50SM-1500-2.25	11	1.50"	2.25	\$109. ⁹⁵
CV50SM-1500-6.00	27	1.50"	6	\$159. ⁹⁵

Balanceable Shell Arbours facilitate the balancing of complete cutter assemblies for improved performance!

CV40 TOPRUN Balanceable Shell Mill Holders

Designation	Qty.	Pilot Dia.	Gage Lgth	Price Ea.
CV40SM-1000-TR	26	1.00"	2.36	\$99. ⁹⁵
CV40SM-1250-TR	34	1.25"	2.76	\$99. ⁹⁵

CV50 TOPRUN Balanceable Shell Mill Holders

Designation	Qty.	Pilot Dia.	Gage Lgth	Price Ea.
CV50SM-0750-TR	28	.75"	2.17	\$119. ⁹⁵
CV50SM-1000-TR	30	1.00"	2.36	\$119. ⁹⁵
CV50SM-1250-TR	48	1.25"	2.76	\$129. ⁹⁵
CV50SM-1500-TR	29	1.50"	2.76	\$139. ⁹⁵

BT40 MONOd' Shell Mill Holders

Designation	Qty.	Pilot Dia.	Gage Lgth	Price Ea.
BT40SM-0750-2.00	110	.75"	2	\$69. ⁹⁵
BT40SM-1000-2.00	6	1.00"	2	\$69. ⁹⁵
BT40SM-1000-4.00	65	1.00"	4	\$89. ⁹⁵
BT40SM-1250-2.17	15	1.25"	2.17	\$79. ⁹⁵
BT40SM-1250-2.25	77	1.25"	2.25	\$79. ⁹⁵
BT40SM-1250-4.00	74	1.25"	4	\$99. ⁹⁵

BT50 MONOd' Shell Mill Holders

Designation	Qty.	Pilot Dia.	Gage Lgth	Price Ea.
BT50SM-1000-2.00	7	1.00"	2	\$79. ⁹⁵
BT50SM-1500-2.25	5	1.50"	2.25	\$99. ⁹⁵
BT50SM-1875-2.50	1	1.875"	2.5	\$99. ⁹⁵
BT50SM-2000-2.75	6	2.00"	2.75	\$119. ⁹⁵

HSK-A63 MONOd' Shell Mill Holders

Designation	Qty.	Pilot Dia.	Gage Lgth	Price Ea.
HSK-A63SM-1000-2.00	9	1.00"	2	\$99. ⁹⁵
HSK-A63SM-1000-4.00	8	1.00"	4	\$109. ⁹⁵
HSK-A63SM-1250-2.25	5	1.25"	2.25	\$99. ⁹⁵
HSK-A63SM-1250-4.00	12	1.25"	4	\$109. ⁹⁵

HSK-A100 MONOd' Shell Mill Holders

Designation	Qty.	Pilot Dia.	Gage Lgth	Price Ea.
HSK-A100SM-0750-2.25	14	.75"	2.25	\$139. ⁹⁵
HSK-A100SM-1000-2.25	15	1.00"	2.25	\$149. ⁹⁵
HSK-A100SM-1000-4.00	5	1.00"	4	\$169. ⁹⁵
HSK-A100SM-1250-2.50	15	1.25"	2.5	\$159. ⁹⁵
HSK-A100SM-1250-4.00	14	1.25"	4	\$169. ⁹⁵
HSK-A100SM-1500-2.50	15	1.50"	2.5	\$169. ⁹⁵

Balanceable Shell Arbours facilitate the balancing of complete cutter assemblies for improved performance!

HSK-A63 TOPRUN Balanceable Shell Mill Holders

Designation	Qty.	Pilot Dia.	Gage Lgth	Price Ea.
HSK-A63SM-1000-TR	25	1.00"	2.17	\$129. ⁹⁵
HSK-A63SM-1250-TR	43	1.25"	2.36	\$129. ⁹⁵

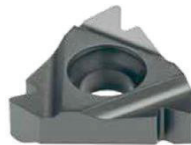
EXTERNAL THREADING INSERTS

>> Partial Profile Threading Inserts for as low as \$9.95

TyCarb

External Partial Profile Threading Inserts

Designation	Insert I.C.	Insert Length	Thread Range	Price
16ERA60 GT30	3/8"	.629"	48 - 16 TPI	\$9. ⁹⁵
16ERAG60 GT30	3/8"	.629"	48 - 8 TPI	\$9. ⁹⁵
16ERG60 GT30	3/8"	.629"	14 - 8 TPI	\$9. ⁹⁵
22ERN60 GT30	1/2"	.866"	7 - 5 TPI	\$12. ⁹⁵



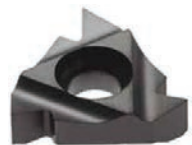
INTERNAL THREADING INSERTS

>> Partial Profile Threading Inserts for as low as \$9.95

TyCarb

Internal Partial Profile Threading Inserts

Designation	Insert I.C.	Insert Length	Thread Range	Price
16NRA60 GT30	3/8"	.629"	48 - 16 TPI	\$9. ⁹⁵
16NRAG60 GT30	3/8"	.629"	48 - 8 TPI	\$9. ⁹⁵
16NRG60 GT30	3/8"	.629"	14 - 8 TPI	\$9. ⁹⁵
22NRN60 GT30	1/2"	.866"	7 - 5 TPI	\$12. ⁹⁵



3/8" I.C. INSERTS \$9.95 • 1/2" I.C. INSERTS \$12.95

GP4 VARIABLE 4 FLUTE END MILLS

The TyCarb GP Series of 4 flute end mills have been specifically designed for today's difficult materials as well as the modern machinery now available. From Micro Grain Carbide Rod to differential fluting and superior PVD coating the GP Series excels in all materials and applications.



GP 4 Flute End Mills (Variable Flute / Center Cutting)

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Corner Rad.	Price
GP4S-SQ0125 TL25	1/8	1/8	1/4	1.1/2	---	\$12. ⁹³
GP4S-SQ0125-010 TL25	1/8	1/8	1/4	1.1/2	.010	\$13. ⁹⁷
GP4S-SQ0125-015 TL25	1/8	1/8	1/4	1.1/2	.015	\$13. ⁹⁷
GP4R-SQ0125 TL25	1/8	1/8	1/2	2	---	\$13. ²¹
GP4R-SQ0125-010 TL25	1/8	1/8	1/2	2	.010	\$14. ³⁷
GP4S-SQ0187 TL25	3/16	3/16	5/16	1.1/2	---	\$15. ⁰⁴
GP4S-SQ0187-015 TL25	3/16	3/16	5/16	1.1/2	.015	\$15. ⁹⁸
GP4R-SQ0187 TL25	3/16	3/16	5/8	2	---	\$14. ⁴³
GP4R-SQ0187-015 TL25	3/16	3/16	5/8	2	.015	\$16. ⁶¹
GP4E-SQ0187 TL25	3/16	3/16	7/8	2.1/2	---	\$18. ¹⁰
GP4S-SQ0250 TL25	1/4	1/4	3/8	2	---	\$17. ¹⁴
GP4S-SQ0250-015 TL25	1/4	1/4	3/8	2	.015	\$18. ⁹⁵
GP4S-SQ0250-030 TL25	1/4	1/4	3/8	2	.030	\$18. ⁹⁵
GP4R-SQ0250 TL25	1/4	1/4	3/4	2.1/2	---	\$18. ⁹⁴
GP4R-SQ0250-020 TL25	1/4	1/4	3/4	2.1/2	.020	\$20. ⁹⁵
GP4R-SQ0250-030 TL25	1/4	1/4	3/4	2.1/2	.030	\$20. ⁹⁵
GP4R-SQ0250-060 TL25	1/4	1/4	3/4	2.1/2	.060	\$20. ⁹⁵
GP4L-SQ0250 TL25	1/4	1/4	1.1/4	3	---	\$22. ²⁹
GP4L-SQ0250-020 TL25	1/4	1/4	1.1/4	3	.020	\$24. ⁰⁸
GP4S-SQ0312 TL25	5/16	5/16	1/2	2	---	\$21. ⁸⁶
GP4S-SQ0312-020 TL25	5/16	5/16	1/2	2	.020	\$22. ⁴⁶
GP4R-SQ0312 TL25	5/16	5/16	13/16	2.1/2	---	\$24. ⁴⁷
GP4R-SQ0312-020 TL25	5/16	5/16	13/16	2.1/2	.020	\$25. ⁰¹
GP4S-SQ0375 TL25	3/8	3/8	1/2	2	---	\$26. ²⁵
GP4S-SQ0375-020 TL25	3/8	3/8	1/2	2	.020	\$28. ⁵⁰
GP4S-SQ0375-030 TL25	3/8	3/8	1/2	2	.030	\$28. ⁵⁰
GP4R-SQ0375 TL25	3/8	3/8	7/8	2.1/2	---	\$29. ⁰⁸
GP4R-SQ0375-020 TL25	3/8	3/8	7/8	2.1/2	.020	\$30. ⁷¹
GP4R-SQ0375-030 TL25	3/8	3/8	7/8	2.1/2	.030	\$30. ⁷¹
GP4R-SQ0375-060 TL25	3/8	3/8	7/8	2.1/2	.060	\$30. ⁷¹
GP4R-SQ0375-120 TL25	3/8	3/8	7/8	2.1/2	.120	\$30. ⁷¹
GP4E-SQ0375 TL25	3/8	3/8	1.1/8	3	---	\$33. ⁶⁴
GP4E-SQ0375-020 TL25	3/8	3/8	1.1/8	3	.020	\$35. ⁸⁰
GP4L-SQ0375 TL25	3/8	3/8	1.1/2	3.1/2	---	\$38. ⁶⁸
GP4L-SQ0375-030 TL25	3/8	3/8	1.1/2	3.1/2	.030	\$38. ⁶⁸
GP4R-SQ0437 TL25	7/16	7/16	1	2.3/4	---	\$38. ⁰²
GP4S-SQ0500 TL25	1/2	1/2	5/8	2.1/2	---	\$43. ²⁴

The unique design enables true chatter-free machining. Excellent performance is achievable in slotting as well as profiling applications. The GP family is ideal for heavily interrupted cuts and when machining carbon, die, alloy and stainless steels, also titanium as well as other materials that generate high temperatures.



Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Corner Rad.	Price
GP4S-SQ0500-020 TL25	1/2	1/2	5/8	2.1/2	.020	\$44. ³⁹
GP4S-SQ0500-030 TL25	1/2	1/2	5/8	2.1/2	.030	\$44. ³⁹
GP4R-SQ0500 TL25	1/2	1/2	1	3	---	\$44. ⁸⁸
GP4R-SQ0500-030 TL25	1/2	1/2	1	3	.030	\$50. ⁴⁵
GP4R-SQ0500-060 TL25	1/2	1/2	1	3	.060	\$50. ⁴⁵
GP4E-SQ0500 TL25	1/2	1/2	1.1/4	3	---	\$48. ⁶⁸
GP4E-SQ0500-020 TL25	1/2	1/2	1.1/4	3	.020	\$52. ²⁹
GP4E-SQ0500-030 TL25	1/2	1/2	1.1/4	3	.030	\$52. ²⁹
GP4E-SQ0500-060 TL25	1/2	1/2	1.1/4	3	.060	\$52. ²⁹
GP4E-SQ0500-090 TL25	1/2	1/2	1.1/4	3	.090	\$52. ²⁹
GP4E-SQ0500-120 TL25	1/2	1/2	1.1/4	3	.120	\$52. ²⁹
GP4M-SQ0500 TL25	1/2	1/2	1.5/8	3.1/2	---	\$52. ⁰⁷
GP4L-SQ0500 TL25	1/2	1/2	2	4	---	\$61. ³⁰
GP4L-SQ0500-030 TL25	1/2	1/2	2	4	.030	\$64. ³²
GP4R-SQ0562 TL25	9/16	9/16	1.1/4	3.1/2	---	\$72. ⁹²
GP4R-SQ0625 TL25	5/8	5/8	1.1/4	3.1/2	---	\$81. ⁵⁰
GP4R-SQ0625-030 TL25	5/8	5/8	1.1/4	3.1/2	.030	\$87. ³⁵
GP4R-SQ0625-060 TL25	5/8	5/8	1.1/4	3.1/2	.060	\$87. ³⁵
GP4E-SQ0625 TL25	5/8	5/8	1.5/8	3.1/2	---	\$88. ²⁵
GP4E-SQ0625-030 TL25	5/8	5/8	1.5/8	3.1/2	.030	\$91. ⁸⁷
GP4S-SQ0750 TL25	3/4	3/4	7/8	3	---	\$103. ³³
GP4S-SQ0750-030 TL25	3/4	3/4	7/8	3	.030	\$108. ⁹³
GP4S-SQ0750-060 TL25	3/4	3/4	7/8	3	.060	\$108. ⁹³
GP4R-SQ0750 TL25	3/4	3/4	1.1/2	4	---	\$113. ⁵⁰
GP4R-SQ0750-030 TL25	3/4	3/4	1.1/2	4	.030	\$121. ⁰⁷
GP4R-SQ0750-060 TL25	3/4	3/4	1.1/2	4	.060	\$121. ⁰⁷
GP4R-SQ0750-090 TL25	3/4	3/4	1.1/2	4	.090	\$121. ⁰⁷
GP4R-SQ0750-120 TL25	3/4	3/4	1.1/2	4	.120	\$121. ⁰⁷
GP4E-SQ0750 TL25	3/4	3/4	1.3/4	4	---	\$123. ⁶⁹
GP4E-SQ0750-030 TL25	3/4	3/4	1.3/4	4	.030	\$127. ⁸²
GP4E-SQ0750-060 TL25	3/4	3/4	1.3/4	4	.060	\$127. ⁸²
GP4E-SQ0750-120 TL25	3/4	3/4	1.3/4	4	.120	\$127. ⁸²
GP4M-SQ0750 TL25	3/4	3/4	2.3/8	5	---	\$143. ³⁴
GP4R-SQ1000 TL25	1	1	1.1/2	4	---	\$179. ³⁵
GP4R-SQ1000-030 TL25	1	1	1.1/2	4	.030	\$194. ³⁰
GP4R-SQ1000-060 TL25	1	1	1.1/2	4	.060	\$194. ³⁰
GP4R-SQ1000-120 TL25	1	1	1.1/2	4	.120	\$194. ³⁰

For the full TyCarb End Mill Catalogue please visit:

http://www.tysontool.com/2020TyCarbEndMills_Interactive.pdf

4 FLUTE ROUGHING END MILLS

The TyCarb Roughing end mill is recommended for use in most materials from carbon, tool, die, alloy steels as well as cast iron and even stainless steel. The unique chipbreaker and flute configuration achieves higher productivity with less H.P. than other High Performance end mills. The specially designed chipbreaker creates smaller chips, ensuring rapid evacuation and helping reduce potential tool chatter. Added features include differential flute spacing to achieve even higher productivity.



4 Flute Roughing End Mills (Variable Flute / Center Cutting / Weldon)

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Chamfer	Price
RC4EW-SQ0500-C20 TL30	1/2	1/2	1.1/4	3	.020	\$60. ⁵⁴
RC4RW-SQ0625-C30 TL30	5/8	5/8	1.1/4	3.1/2	.030	\$104. ¹²
RC4RW-SQ0750-C30 TL30	3/4	3/4	1.1/2	4	.030	\$139. ⁹⁵
RC4RW-SQ1000-C30 TL30	1	1	1.1/2	4	.030	\$218. ⁰⁰

- Cutting edges protected with 45 deg. chamfer
- Next generation AlCrN PVD coating
- Differential flute spacing
- Available with cylindrical or weldon style shanks



4 Flute Roughing End Mills (Variable Flute / Center Cutting)

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Chamfer	Price
RC4RC-SQ0250-C10 TL30	1/4	1/4	3/4	2.1/2	.010	\$26. ¹⁴
RC4RC-SQ0375-C10 TL30	3/8	3/8	7/8	2.1/2	.010	\$37. ²⁷
RC4EC-SQ0500-C20 TL30	1/2	1/2	1.1/4	3	.020	\$60. ⁵⁴
RC4RC-SQ0625-C30 TL30	5/8	5/8	1.1/4	3.1/2	.030	\$101. ⁰⁷
RC4RC-SQ0750-C30 TL30	3/4	3/4	1.1/2	4	.030	\$137. ⁵⁰
RC4RC-SQ1000-C30 TL30	1	1	1.1/2	4	.030	\$212. ⁴⁸

ORION

End Mills for Machining Aluminum

- Orion 3 flute End Mills specifically designed for Aluminum
- Differential flute spacing for chatter free performance
- New Polished flute design for effective chip evacuation
- One tool for roughing, semi-finishing as well as finishing operations
- Effective for slotting up to 1xD axial depth
- For Side or profile milling capable of 0.5xD radial and 1.5xD axial depth
- Cutting speeds only limited by your machine (Tool Balancing for Higher speeds recommended)
- These end mills are available with a DLC coating on request



ORION 3 Flute Solid Carbide End Mills (Center Cutting)

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Corner Rad.	Price
OR3RC-SQ0125 UK20	1/8	1/8	3/8	1.1/2	---	\$11 ³⁰
OR3EC-SQ0125 UK20	1/8	1/8	1/2	1.1/2	---	\$12 ²⁹
OR3LC-SQ0125 UK20	1/8	1/8	3/4	2.1/2	---	\$16 ¹⁸
OR3RC-SQ0187 UK20	3/16	3/16	5/16	2	---	\$13 ³²
OR3EC-SQ0187 UK20	3/16	3/16	9/16	2	---	\$14 ⁸¹
OR3RC-SQ0250 UK20	1/4	1/4	1/2	2.1/2	---	\$19 ²¹
OR3RC-SQ0250-015 UK20	1/4	1/4	1/2	2.1/2	.015	\$21 ¹¹
OR3RC-SQ0250-030 UK20	1/4	1/4	1/2	2.1/2	.030	\$21 ⁰⁰
OR3RC-SQ0250-060 UK20	1/4	1/4	1/2	2.1/2	.060	\$21 ⁰⁰
OR3EC-SQ0250 UK20	1/4	1/4	3/4	2.1/2	---	\$20 ²¹
OR3EC-SQ0250-015 UK20	1/4	1/4	3/4	2.1/2	.015	\$22 ¹⁹
OR3EC-SQ0250-030 UK20	1/4	1/4	3/4	2.1/2	.030	\$22 ¹⁹
OR3LC-SQ0250 UK20	1/4	1/4	1.1/8	2.1/2	---	\$23 ⁸⁷
OR3LC-SQ0250-015 UK20	1/4	1/4	1.1/8	2.1/2	.015	\$27 ¹⁴
OR3LC-SQ0250-030 UK20	1/4	1/4	1.1/8	2.1/2	.030	\$27 ¹⁴
OR3RC-SQ0312 UK20	5/16	5/16	5/8	2.1/2	---	\$24 ⁹⁴
OR3RC-SQ0312-030 UK20	5/16	5/16	5/8	2.1/2	.030	\$27 ⁴¹
OR3LC-SQ0312 UK20	5/16	5/16	1.1/8	3	---	\$29 ⁵⁸
OR3LC-SQ0312-030 UK20	5/16	5/16	1.1/8	3	.030	\$33 ²⁴
OR3RC-SQ0375 UK20	3/8	3/8	3/4	2.1/2	---	\$28 ³²
OR3RC-SQ0375-030 UK20	3/8	3/8	3/4	2.1/2	.030	\$31 ²⁹
OR3RC-SQ0375-060 UK20	3/8	3/8	3/4	2.1/2	.060	\$31 ³¹
OR3EC-SQ0375 UK20	3/8	3/8	1.1/8	3	---	\$32 ³⁵
OR3EC-SQ0375-030 UK20	3/8	3/8	1.1/8	3	.030	\$38 ⁷²
OR3EC-SQ0375-060 UK20	3/8	3/8	1.1/8	3	.060	\$38 ⁷²
OR3LC-SQ0375 UK20	3/8	3/8	2	4	---	\$42 ⁹⁸
OR3LC-SQ0375-030 UK20	3/8	3/8	2	4	.030	\$49 ⁰⁰
OR3LC-SQ0375-060 UK20	3/8	3/8	2	4	.060	\$49 ⁰⁰
OR3RC-SQ0500 UK20	1/2	1/2	1	3	---	\$44 ⁷⁹
OR3RC-SQ0500-030 UK20	1/2	1/2	1	3	.030	\$48 ³⁹
OR3RC-SQ0500-060 UK20	1/2	1/2	1	3	.060	\$48 ⁸⁴
OR3EC-SQ0500 UK20	1/2	1/2	1.1/4	3	---	\$46 ⁵⁹
OR3EC-SQ0500-030 UK20	1/2	1/2	1.1/4	3	.030	\$51 ⁹¹
OR3EC-SQ0500-060 UK20	1/2	1/2	1.1/4	3	.060	\$51 ⁹¹
OR3EC-SQ0500-090 UK20	1/2	1/2	1.1/4	3	.090	\$51 ⁹¹

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Corner Rad.	Price
OR3EC-SQ0500-120 UK20	1/2	1/2	1.1/4	3	.120	\$51 ⁹¹
OR3LC-SQ0500 UK20	1/2	1/2	2	4	---	\$56 ⁹²
OR3LC-SQ0500-030 UK20	1/2	1/2	2	4	.030	\$64 ¹²
OR3LC-SQ0500-060 UK20	1/2	1/2	2	4	.060	\$64 ¹²
OR3RC-SQ0625 UK20	5/8	5/8	1.1/4	3.1/2	---	\$78 ³⁴
OR3RC-SQ0625-030 UK20	5/8	5/8	1.1/4	3.1/2	.030	\$84 ²⁴
OR3RC-SQ0625-060 UK20	5/8	5/8	1.1/4	3.1/2	.060	\$84 ²⁴
OR3EC-SQ0625 UK20	5/8	5/8	1.5/8	3.1/2	---	\$86 ²³
OR3EC-SQ0625-030 UK20	5/8	5/8	1.5/8	3.1/2	.030	\$92 ¹⁷
OR3EC-SQ0625-060 UK20	5/8	5/8	1.5/8	3.1/2	.060	\$92 ¹⁷
OR3LC-SQ0625 UK20	5/8	5/8	2	4	---	\$101 ⁸⁰
OR3LC-SQ0625-030 UK20	5/8	5/8	2	4	.030	\$105 ⁴⁰
OR3LC-SQ0625-060 UK20	5/8	5/8	2	4	.060	\$105 ⁴⁰
OR3RC-SQ0750 UK20	3/4	3/4	1.1/2	4	---	\$123 ⁴²
OR3RC-SQ0750-030 UK20	3/4	3/4	1.1/2	4	.030	\$125 ⁴¹
OR3RC-SQ0750-060 UK20	3/4	3/4	1.1/2	4	.060	\$125 ⁴¹
OR3RC-SQ0750-090 UK20	3/4	3/4	1.1/2	4	.090	\$126 ⁸⁸
OR3RC-SQ0750-120 UK20	3/4	3/4	1.1/2	4	.120	\$125 ⁴¹
OR3EC-SQ0750 UK20	3/4	3/4	1.3/4	4	---	\$126 ⁸⁸
OR3EC-SQ0750-030 UK20	3/4	3/4	1.3/4	4	.030	\$123 ⁹¹
OR3EC-SQ0750-060 UK20	3/4	3/4	1.3/4	4	.060	\$123 ⁹¹
OR3LC-SQ0750 UK20	3/4	3/4	3	6	---	\$174 ⁵¹
OR3LC-SQ0750-030 UK20	3/4	3/4	3	6	---	\$183 ⁵¹
OR3LC-SQ0750-060 UK20	3/4	3/4	3	6	.060	\$183 ⁵¹
OR3RC-SQ1000 UK20	1	1	1.1/2	4	---	\$186 ⁷⁷
OR3RC-SQ1000-030 UK20	1	1	1.1/2	4	.030	\$200 ⁶⁴
OR3RC-SQ1000-060 UK20	1	1	1.1/2	4	.060	\$200 ⁶⁴
OR3RC-SQ1000-090 UK20	1	1	1.1/2	4	.090	\$200 ⁶⁴
OR3RC-SQ1000-120 UK20	1	1	1.1/2	4	.120	\$206 ⁴³
OR3EC-SQ1000 UK20	1	1	2	4.1/2	---	\$221 ⁰⁸
OR3EC-SQ1000-030 UK20	1	1	2	4.1/2	.030	\$230 ⁰⁸
OR3EC-SQ1000-060 UK20	1	1	2	4.1/2	.060	\$230 ⁰⁸
OR3LC-SQ1000 UK20	1	1	3	6	---	\$280 ⁴⁹
OR3LC-SQ1000-030 UK20	1	1	3	6	.030	\$289 ⁴⁹
OR3LC-SQ1000-060 UK20	1	1	3	6	.060	\$289 ⁴⁹

ORION 2 & 3 FLUTE BALL NOSE END MILLS

The unique design characteristics of the ORION End Mills provide exceptional performance & outstanding tool life. These end mills are available as uncoated UK20 or with a DLC coating on request.

- Highly polished design
- 3 Flute end mill has differential pitch
- Premium Micro-Grain Carbide
- Special Diameters or lengths available on request



ORION 2 Flute Ball Nose End Mills

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Price
OR2RC-BN0250 UK20	1/4	1/4	3/4	2.1/2	\$24 ³¹
OR2RC-BN0312 UK20	5/16	5/16	13/16	2.1/2	\$31 ⁵⁵
OR2RC-BN0375 UK20	3/8	3/8	3/4	2.1/2	\$35 ⁶⁸
OR2EC-BN0500 UK20	1/2	1/2	1.1/4	3	\$58 ⁶⁵
OR2RC-BN0625 UK20	5/8	5/8	1.1/4	3.1/2	\$99 ⁰⁵
OR2RC-BN0750 UK20	3/4	3/4	1.1/2	4	\$156 ¹³



ORION 3 Flute Ball Nose End Mills

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Price
OR3RC-BN0250 UK20	1/4	1/4	3/4	2.1/2	\$24 ³¹
OR3RC-BN0312 UK20	5/16	5/16	13/16	2.1/2	\$31 ⁵⁵
OR3RC-BN0375 UK20	3/8	3/8	3/4	2.1/2	\$35 ⁶⁸
OR3EC-BN0500 UK20	1/2	1/2	1.1/4	3	\$58 ⁶⁵
OR3RC-BN0625 UK20	5/8	5/8	1.1/4	3.1/2	\$99 ⁰⁵
OR3RC-BN0750 UK20	3/4	3/4	1.1/2	4	\$156 ¹³

ORION 3 FLUTE ROUGHING END MILLS

- Orion 3 flute Roughing End Mills specifically designed for Aluminum
- Differential flute spacing for chatter free performance
- Polished flute design for effective chip evacuation
- Designed for aggressive feed rates while maintaining good surface finishes
- Specially designed chipbreaker creates smaller chips and reduces cutting loads on lighter duty machines
- These end mills are available with a DLC coating on request
- 3 Flute to center end cut design for improved plunging capabilities



ORION 3 Flute Roughing End Mills (Variable Flute / Center Cutting / Cylindrical Shank)

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Corner Rad.	Price
RCOR3RC-SQ0250-R020 UK20	1/4	1/4	3/4	2.1/2	.020	\$24 ⁷⁷
RCOR3RC-SQ0375-R030 UK20	3/8	3/8	7/8	2.1/2	.030	\$37 ²⁷
RCOR3EC-SQ0375-R030 UK20	3/8	3/8	1.1/8	3	.030	\$36 ⁵⁵
RCOR3MC-SQ0375-R030 UK20	3/8	3/8	1.1/2	3	.030	\$44 ⁵³
RCOR3EC-SQ0500-R030 UK20	1/2	1/2	1.1/4	3	.030	\$58 ¹³
RCOR3LC-SQ0500-R030 UK20	1/2	1/2	2	4	.030	\$66 ⁸⁶
RCOR3RC-SQ0625-R030 UK20	5/8	5/8	1.1/4	3.1/2	.030	\$93 ²⁹
RCOR3LC-SQ0625-R030 UK20	5/8	5/8	2	4	.030	\$115 ⁸⁵
RCOR3RC-SQ0750-R060 UK20	3/4	3/4	1.1/2	4	.060	\$141 ⁹⁴
RCOR3SP-SQ0750-R060 UK20	3/4	3/4	1.5/8	4	.060	\$141 ⁹⁴
RCOR3EC-SQ0750-R060 UK20	3/4	3/4	1.3/4	4	.060	\$169 ¹⁶
RCOR3MC-SQ0750-R060 UK20	3/4	3/4	2.1/4	4.1/2	.060	\$163 ⁶⁹
RCOR3LC-SQ0750-R060 UK20	3/4	3/4	3	6	.060	\$205 ⁵¹
RCOR3EC-SQ1000-R060 UK20	1	1	1.1/2	4	.060	\$211 ⁶⁵
RCOR3MC-SQ1000-R060 UK20	1	1	2	4.1/2	.060	\$230 ⁰⁸
RCOR3LC-SQ1000-R060 UK20	1	1	3	6	.060	\$309 ⁷²

STRATUS 5 FLUTE END MILLS

The STRATUS family of Premium end mills bring a new performance level to machining of todays difficult to machine materials. We have incorporated many of the advanced features necessary to achieve superior results

- Differential Flute spacing
- Variable Flute design
- Eccentric Relief for improved edge strength
- Tapered core for added stability
- Next Generation AlCrN PVD coating
- Post Process treatment after coating



STRATUS 5 Flute End Mills

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Corner Rad.	Price
ST5RC-SQ0187	3/16	3/16	5/8	2	---	\$19 ^{.11}
ST5RC-SQ0187-015	3/16	3/16	5/8	2	0.015	\$19 ^{.90}
ST5EC-SQ0187	3/16	3/16	7/8	2.1/2	---	\$20 ^{.53}
ST5RC-SQ0250	1/4	1/4	3/4	2.1/2	---	\$22 ^{.19}
ST5RC-SQ0250-020	1/4	1/4	3/4	2.1/2	0.020	\$25 ^{.91}
ST5RC-SQ0250-030	1/4	1/4	3/4	2.1/2	0.030	\$25 ^{.91}
ST5RC-SQ0250-060	1/4	1/4	3/4	2.1/2	0.060	\$25 ^{.91}
ST5RC-SQ0312	5/16	5/16	13/16	2.1/2	---	\$27 ^{.83}
ST5RC-SQ0312-020	5/16	5/16	13/16	2.1/2	0.020	\$28 ^{.72}
ST5RC-SQ0375	3/8	3/8	7/8	2.1/2	---	\$33 ^{.57}
ST5RC-SQ0375-020	3/8	3/8	7/8	2.1/2	0.020	\$35 ^{.09}
ST5RC-SQ0375-030	3/8	3/8	7/8	2.1/2	0.030	\$35 ^{.09}
ST5RC-SQ0375-060	3/8	3/8	7/8	2.1/2	0.060	\$35 ^{.09}
ST5RC-SQ0375-120	3/8	3/8	7/8	2.1/2	0.120	\$35 ^{.77}
ST5EC-SQ0375	3/8	3/8	1.1/8	3	---	\$30 ^{.94}
ST5EC-SQ0375-020	3/8	3/8	1.1/8	3	0.020	\$32 ^{.69}
ST5SC-SQ0500	1/2	1/2	5/8	2.1/2	---	\$50 ^{.31}
ST5RC-SQ0500	1/2	1/2	1	3	---	\$54 ^{.52}
ST5RC-SQ0500-020	1/2	1/2	1	3	0.020	\$57 ^{.55}
ST5RC-SQ0500-030	1/2	1/2	1	3	0.030	\$57 ^{.55}
ST5RC-SQ0500-060	1/2	1/2	1	3	0.060	\$57 ^{.55}
ST5EC-SQ0500	1/2	1/2	1.1/4	3	---	\$55 ^{.34}
ST5EC-SQ0500-015	1/2	1/2	1.1/4	3	0.015	\$59 ^{.15}
ST5EC-SQ0500-020	1/2	1/2	1.1/4	3	0.020	\$61 ^{.51}
ST5EC-SQ0500-030	1/2	1/2	1.1/4	3	0.030	\$59 ^{.15}
ST5EC-SQ0500-060	1/2	1/2	1.1/4	3	0.060	\$61 ^{.51}
ST5EC-SQ0500-090	1/2	1/2	1.1/4	3	0.090	\$61 ^{.51}
ST5EC-SQ0500-120	1/2	1/2	1.1/4	3	0.120	\$63 ^{.26}
ST5RC-SQ0625	5/8	5/8	1.1/4	3.1/2	---	\$92 ^{.43}
ST5RC-SQ0625-030	5/8	5/8	1.1/4	3.1/2	0.030	\$95 ^{.53}
ST5RC-SQ0625-060	5/8	5/8	1.1/4	3.1/2	0.060	\$95 ^{.53}
ST5EC-SQ0625	5/8	5/8	1.5/8	3.1/2	---	\$94 ^{.64}
ST5EC-SQ0625-030	5/8	5/8	1.5/8	3.1/2	0.030	\$101 ^{.92}
ST5RC-SQ0750	3/4	3/4	1.1/2	4	---	\$127 ^{.61}
ST5RC-SQ0750-030	3/4	3/4	1.1/2	4	0.030	\$130 ^{.19}
ST5RC-SQ0750-060	3/4	3/4	1.1/2	4	0.060	\$125 ^{.18}
ST5RC-SQ0750-090	3/4	3/4	1.1/2	4	0.090	\$130 ^{.19}
ST5RC-SQ0750-120	3/4	3/4	1.1/2	4	0.120	\$130 ^{.19}
ST5EC-SQ0750	3/4	3/4	1.3/4	4	---	\$136 ^{.71}
ST5EC-SQ0750-030	3/4	3/4	1.3/4	4	0.030	\$148 ^{.55}
ST5EC-SQ0750-060	3/4	3/4	1.3/4	4	0.060	\$148 ^{.55}
ST5EC-SQ0750-120	3/4	3/4	1.3/4	4	0.120	\$151 ^{.70}
ST5RC-SQ1000	1	1	1.1/2	4	---	\$184 ^{.10}
ST5RC-SQ1000-030	1	1	1.1/2	4	0.030	\$187 ^{.60}
ST5RC-SQ1000-060	1	1	1.1/2	4	0.060	\$187 ^{.60}
ST5RC-SQ1000-120	1	1	1.1/2	4	0.120	\$187 ^{.60}

STRATUS 5 FLUTE EXTENDED LENGTH

- Extended Cut length of 4 times diameter
- Differential Flute spacing
- Eccentric Relief for improved edge strength
- Next Generation AlCrN PVD Coating
- Post Process treatment after coating
- Designed for HSC (High Speed Cutting)
- Ideal tool for dynamic / trochoidal milling



STRATUS 5 Flute End Mills (4xD)

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Corner Rad.	Price
ST5X4C-SQ0375	3/8	3/8	1.1/2	3.1/2	---	\$43 ^{.36}
ST5X4C-SQ0375-030	3/8	3/8	1.1/2	3.1/2	0.030	\$53 ^{.55}
ST5X4C-SQ0375-060	3/8	3/8	1.1/2	3.1/2	0.060	\$53 ^{.55}
ST5X4C-SQ0500	1/2	1/2	2	4	---	\$64 ^{.63}
ST5X4C-SQ0500-030	1/2	1/2	2	4	0.030	\$74 ^{.70}
ST5X4C-SQ0500-060	1/2	1/2	2	4	0.060	\$74 ^{.70}
ST5X4C-SQ0500-120	1/2	1/2	2	4	0.120	\$74 ^{.70}
ST5X4C-SQ0625	5/8	5/8	2.1/2	5	---	\$105 ^{.86}
ST5X4C-SQ0625-030	5/8	5/8	2.1/2	5	0.030	\$116 ^{.18}
ST5X4C-SQ0750	3/4	3/4	3	6	---	\$149 ^{.07}
ST5X4C-SQ0750-030	3/4	3/4	3	6	0.030	\$159 ^{.00}
ST5X4C-SQ0750-060	3/4	3/4	3	6	0.060	\$159 ^{.00}
ST5X4C-SQ0750-120	3/4	3/4	3	6	0.120	\$159 ^{.00}
ST5X4C-SQ1000	1	1	4	7	---	\$272 ^{.39}
ST5X4C-SQ1000-030	1	1	4	7	0.030	\$283 ^{.09}
ST5X4C-SQ1000-060	1	1	4	7	0.060	\$283 ^{.09}
ST5X4C-SQ1000-120	1	1	4	7	0.120	\$283 ^{.09}

TAPERED END MILLS FOR PRE-PREPPING NPT THREADS

Used for milling the workpiece in preparation of the thread milling or tapping operation of NPT type threads.

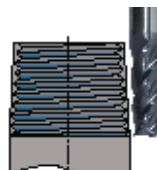
Advantages:

- Increases the tool life of thread milling cutters, indexable inserts or NPT type taps
- Equal and uniform load along the cutting edge of the thread mill cutter
- Shorter machining time during the thread mill operation, due to the preparation of the workpiece



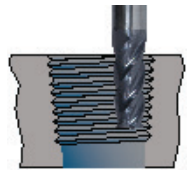
Solid Carbide Tapered End Mills

Designation	Shank Dia.	Tip Dia.	Flute Length	OAL	# of Flutes	Thread Size	Price
Standard Length							
TP4RC-SQ0375	3/8	.32	.95	3.0	4	NPT 1/8" - 1" NPTF 1/8" - 1" BSPT 1/8" - 1"	\$43 ^{.66}
TP4RC-SQ0500	1/2	.42	1.26	3.5	4	NPT 1/4" - 3" NPTF 1/4" - 3" BSPT 1/4" - 3"	\$59 ^{.79}
Extended Length							
TP4LC-SQ0500	1/2	.42	1.26	6.0	4	NPT 1/4" - 3" NPTF 1/4" - 3" BSPT 1/4" - 3"	\$82 ^{.66}



External Preparation

The Ideal Tool to
Pre-Prep for NPT
Thread Milling
Applications



Internal Preparation

STRATUS 2xD, 3xD & 4xD 7 FLUTE END MILLS

- Differential Flute spacing
- Eccentric Relief for improved edge strength
- Tapered core for added stability
- Next Generation AlCrN PVD Coating
- Post Process treatment after coating
- Designed for HSC (High Speed Cutting)
- Extended Cut length of 2, 3 or 4 times diameter
- Ideal tool for dynamic / trochoidal milling
- Supplied with Chip Management Grooves



Designed for Trochoidal
& Dynamic Milling!



STRATUS 7 Flute End Mills (2xD)

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Corner Rad.	Price
ST7X2C-SQ0375 TL30	3/8	3/8	3/4	2.1/2	---	\$44. ⁴⁷
ST7X2C-SQ0375-030 TL30	3/8	3/8	3/4	2.1/2	.030	\$47. ⁷⁷
ST7X2C-SQ0375-060 TL30	3/8	3/8	1	2.1/2	.060	\$48. ⁴⁸
ST7X2C-SQ0500 TL30	1/2	1/2	1	3	---	\$65. ²¹
ST7X2C-SQ0500-030 TL30	1/2	1/2	1	3	.030	\$73. ⁴⁶
ST7X2C-SQ0500-060 TL30	1/2	1/2	1	3	.060	\$74. ⁴⁸
ST7X2C-SQ0500-090 TL30	1/2	1/2	1	3	.090	\$74. ⁴⁸
ST7X2C-SQ0500-120 TL30	1/2	1/2	1.1/4	3	.120	\$74. ⁴⁸
ST7X2C-SQ0625 TL30	5/8	5/8	1.1/4	3.1/2	---	\$107. ³⁰
ST7X2C-SQ0625-030 TL30	5/8	5/8	1.1/4	3.1/2	.030	\$112. ²⁷
ST7X2C-SQ0750 TL30	3/4	3/4	1.1/2	4	---	\$155. ⁶⁹
ST7X2C-SQ0750-030 TL30	3/4	3/4	1.1/2	4	.030	\$162. ⁵⁷
ST7X2C-SQ0750-060 TL30	3/4	3/4	1.1/2	4	.060	\$163. ²⁷
ST7X2C-SQ0750-090 TL30	3/4	3/4	1.1/2	4	.090	\$163. ²⁷
ST7X2C-SQ0750-120 TL30	3/4	3/4	1.1/2	4	.120	\$163. ²⁷

DRILL MILLS

Drill Mills provide versatility in multiple applications. These tools can be applied on carbon & alloy steels as well as Stainless Steels, cast iron and non-ferrous materials. Operations that can be performed with these tools include:

- Drilling
- Chamfering
- Spot Drilling
- Side Milling
- Countersinking

Drill Mill- 2 Flute 120° & 90°



Drill Mill- 2 Flute 120°

Designation	Angle	Cutter Dia.	Shank Dia.	LOC	OAL	Price
DRM2RC-DP0125-A120 TL25	120°	1/8	1/8	3/16	1.1/2	\$22. ⁰⁶
DRM2RC-DP0187-A120 TL25	120°	3/16	3/16	5/8	2.00	\$22. ⁰⁶
DRM2RC-DP0250-A120 TL25	120°	1/4	1/4	3/4	2.1/2	\$36. ⁶⁰
DRM2RC-DP0312-A120 TL25	120°	5/16	5/16	13/16	2.1/2	\$40. ¹⁰
DRM2RC-DP0375-A120 TL25	120°	3/8	3/8	1	2.1/2	\$49. ⁹⁶
DRM2RC-DP0437-A120 TL25	120°	7/16	7/16	1	2.3/4	\$65. ⁵³
DRM2RC-DP0500-A120 TL25	120°	1/2	1/2	1	3.00	\$71. ⁵⁶

Drill Mill- 2 Flute 90°

Designation	Angle	Cutter Dia.	Shank Dia.	LOC	OAL	Price
DRM2RC-DP0125-A90 TL25	90°	1/8	1/8	3/16	1.1/2	\$22. ⁰⁶
DRM2RC-DP0187-A90 TL25	90°	3/16	3/16	5/8	2.00	\$22. ⁰⁶
DRM2RC-DP0250-A90 TL25	90°	1/4	1/4	3/4	2.1/2	\$36. ⁶⁰
DRM2RC-DP0312-A90 TL25	90°	5/16	5/16	13/16	2.1/2	\$40. ¹⁰
DRM2RC-DP0375-A90 TL25	90°	3/8	3/8	1	2.1/2	\$49. ⁹⁶
DRM2RC-DP0437-A90 TL25	90°	7/16	7/16	1	2.3/4	\$65. ⁵³
DRM2RC-DP0500-A90 TL25	90°	1/2	1/2	1	3.00	\$71. ⁵⁶

STRATUS 7 Flute End Mills (3xD)

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Corner Rad.	Price
ST7X3C-SQ0375 TL30	3/8	3/8	1.1/8	3	---	\$44. ⁸⁹
ST7X3C-SQ0375-015 TL30	3/8	3/8	1.1/8	3	.015	\$48. ¹⁴
ST7X3C-SQ0375-030 TL30	3/8	3/8	1.1/8	3	.030	\$48. ¹²
ST7X3C-SQ0375-060 TL30	3/8	3/8	1.1/8	3	.060	\$48. ⁷⁷
ST7X3C-SQ0500 TL30	1/2	1/2	1.1/2	3.1/2	---	\$69. ⁷⁶
ST7X3C-SQ0500-030 TL30	1/2	1/2	1.1/2	3.1/2	.030	\$73. ⁷⁵
ST7X3C-SQ0500-060 TL30	1/2	1/2	1.1/2	3.1/2	.060	\$74. ⁶⁹
ST7X3C-SQ0500-090 TL30	1/2	1/2	1.1/2	3.1/2	.090	\$74. ⁶⁹
ST7X3C-SQ0500-120 TL30	1/2	1/2	1.1/2	3.1/2	.120	\$74. ⁶⁹
ST7X3C-SQ0625 TL30	5/8	5/8	1.7/8	4.1/2	---	\$107. ⁸²
ST7X3C-SQ0625-030 TL30	5/8	5/8	1.7/8	4.1/2	.030	\$112. ⁸⁷
ST7X3C-SQ0750 TL30	3/4	3/4	2.1/4	5	---	\$156. ⁶⁹
ST7X3C-SQ0750-030 TL30	3/4	3/4	2.1/4	5	.030	\$163. ⁶²
ST7X3C-SQ0750-060 TL30	3/4	3/4	2.1/4	5	.060	\$164. ³²
ST7X3C-SQ0750-090 TL30	3/4	3/4	2.1/4	5	.090	\$164. ³²
ST7X3C-SQ0750-120 TL30	3/4	3/4	2.1/4	5	.120	\$164. ³²
ST7X3C-SQ1000 TL30	1	1	3	6	---	\$290. ⁷⁶
ST7X3C-SQ1000-030 TL30	1	1	3	6	.030	\$297. ⁴³
ST7X3C-SQ1000-060 TL30	1	1	3	6	.060	\$297. ⁴³
ST7X3C-SQ1000-090 TL30	1	1	3	6	.090	\$297. ⁴³
ST7X3C-SQ1000-120 TL30	1	1	3	6	.120	\$297. ⁴³

STRATUS 7 Flute End Mills (4xD)

Designation	Cutter Dia.	Shank Dia.	Lgth of Cut	OAL	Corner Rad.	Price
ST7X4C-SQ0375 TL30	3/8	3/8	1.1/2	3.1/2	---	\$50. ³⁷
ST7X4C-SQ0375-030 TL30	3/8	3/8	1.1/2	3.1/2	.030	\$53. ²⁴
ST7X4C-SQ0375-060 TL30	3/8	3/8	1.1/2	3.1/2	.060	\$54. ¹⁷
ST7X4C-SQ0500 TL30	1/2	1/2	2	4	---	\$76. ²²
ST7X4C-SQ0500-030 TL30	1/2	1/2	2	4	.030	\$81. ²²
ST7X4C-SQ0500-060 TL30	1/2	1/2	2	4	.060	\$81. ²²
ST7X4C-SQ0500-090 TL30	1/2	1/2	2	4	.090	\$81. ²²
ST7X4C-SQ0500-120 TL30	1/2	1/2	2	4	.120	\$81. ²²
ST7X4C-SQ0625 TL30	5/8	5/8	2.1/2	5	---	\$125. ⁴¹
ST7X4C-SQ0625-030 TL30	5/8	5/8	2.1/2	5	.030	\$130. ⁴¹
ST7X4C-SQ0750 TL30	3/4	3/4	3	6	---	\$190. ⁰²
ST7X4C-SQ0750-030 TL30	3/4	3/4	3	6	.030	\$196. ¹⁵
ST7X4C-SQ0750-060 TL30	3/4	3/4	3	6	.060	\$197. ⁰⁵
ST7X4C-SQ0750-090 TL30	3/4	3/4	3	6	.090	\$197. ⁰⁵
ST7X4C-SQ0750-120 TL30	3/4	3/4	3	6	.120	\$197. ⁰⁵
ST7X4C-SQ1000 TL30	1	1	4	7	---	\$320. ⁸¹
ST7X4C-SQ1000-030 TL30	1	1	4	7	.030	\$327. ⁴⁸
ST7X4C-SQ1000-060 TL30	1	1	4	7	.060	\$327. ⁴⁸
ST7X4C-SQ1000-090 TL30	1	1	4	7	.090	\$327. ⁴⁸
ST7X4C-SQ1000-120 TL30	1	1	4	7	.120	\$327. ⁴⁸

SPOTTING DRILLS

Used for drilling spotting holes for High Performance drills in most steels, including stainless as well as cast iron and high temp alloys. The 145° point angle prevents damage to the corners of the follow-up drill.

- 2 Flute, Right Hand Spiral, Right-Hand Cut
- 145° Point
- Short Length
- TiAlN coated standard, additional coatings on request

145° Point Spotting Drill



145° Spotting Drills

Designation	Cutter Dia.	Shank Dia.	LOC	OAL	Price
SD2RC-DP0125-A145 TL25	1/8	1/8	3/8	2.1/2	\$25. ¹⁴
SD2RC-DP0250-A145 TL25	1/4	1/4	1/2	2.1/2	\$35. ⁹¹
SD2RC-DP0375-A145 TL25	3/8	3/8	3/4	2.1/2	\$47. ³²
SD2RC-DP0500-A145 TL25	1/2	1/2	1	3	\$66. ⁴⁶
SD2RC-DP0750-A145 TL25	3/4	3/4	1.1/2	4	\$120. ⁸⁷

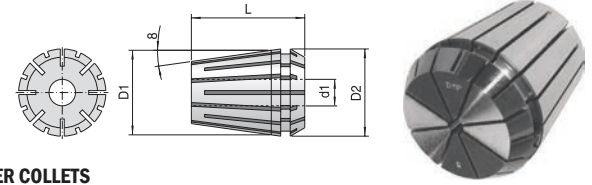
INCH & METRIC ER COLLETS



INCH CAPACITY ER COLLETS

	ER16	ER20	ER25	ER32	ER40
Range d ¹	1/16 - 13/32	1/16 - 1/2	1/16 - 5/8	1/16 - 3/4	1/8 - 1.0
D ¹	0.629	0.787	0.984	1.259	1.574
D ²	0.669	0.826	1.023	1.299	1.614
L	1.082	1.240	1.338	1.574	1.811
CAPACITY	ER16	ER20	ER25	ER32	ER40
1/16	ER16P-0063	ER20P-0063	ER25P-0063	ER32P-0063	
3/32	ER16P-0094	ER20P-0094	ER25P-0094	ER32P-0094	
1/8	ER16P-0125	ER20P-0125	ER25P-0125	ER32P-0125	ER40P-0125
5/32	ER16P-0156	ER20P-0156	ER25P-0156	ER32P-0156	ER40P-0156
3/16	ER16P-0188	ER20P-0188	ER25P-0188	ER32P-0188	ER40P-0188
7/32	ER16P-0219	ER20P-0219	ER25P-0219	ER32P-0219	ER40P-0219
1/4	ER16P-0250	ER20P-0250	ER25P-0250	ER32P-0250	ER40P-0250
9/32	ER16P-0281	ER20P-0281	ER25P-0281	ER32P-0281	ER40P-0281
5/16	ER16P-0313	ER20P-0313	ER25P-0313	ER32P-0313	ER40P-0313
11/32	ER16P-0344	ER20P-0344	ER25P-0344	ER32P-0344	ER40P-0344
3/8	ER16P-0375	ER20P-0375	ER25P-0375	ER32P-0375	ER40P-0375
13/32	ER16P-0406	ER20P-0406	ER25P-0406	ER32P-0406	ER40P-0406
7/16		ER20P-0438	ER25P-0438	ER32P-0438	ER40P-0438
15/32		ER20P-0469	ER25P-0469	ER32P-0469	ER40P-0469
1/2		ER20P-0500	ER25P-0500	ER32P-0500	ER40P-0500
17/32			ER25P-0531	ER32P-0531	ER40P-0531
9/16			ER25P-0563	ER32P-0563	ER40P-0563
19/32			ER25P-0594	ER32P-0594	ER40P-0594
5/8			ER25P-0625	ER32P-0625	ER40P-0625
21/32				ER32P-0656	ER40P-0656
11/16				ER32P-0688	ER40P-0688
23/32				ER32P-0719	ER40P-0719
3/4				ER32P-0750	ER40P-0750
25/32					ER40P-0781
13/16					ER40P-0813
27/32					ER40P-0844
7/8					ER40P-0875
29/32					ER40P-0906
15/16					ER40P-0938
31/32					ER40P-0969
1					ER40P-1000

Please note special pricing on TyCarb ER collets. Range shown is for the complete offering of each Collet size, example the ER16P covers the Inch range from 1/16 to 13/32 or the metric range of 0.5 to 10.0 mm. Total number of collets in these ranges is 22.



METRIC CAPACITY ER COLLETS

	ER16	ER20	ER25	ER32	ER40
Range d ¹	0.5 - 10.0	1.0 - 13.0	1.0 - 16.0	2.0 - 20.0	3.0 - 26.0
D ¹	0.629	0.787	0.984	1.259	1.574
D ²	0.669	0.826	1.023	1.299	1.614
L	1.082	1.240	1.338	1.574	1.811
CAPACITY	ER16	ER20	ER25	ER32	ER40
1.0 - 0.5	ER16P-010				
2.0 - 1.0	ER16P-020	EP20P-020	ER25P-020		
3.0 - 2.0	ER16P-030	EP20P-030	ER25P-030	ER32P-030	
4.0 - 3.0	ER16P-040	EP20P-040	ER25P-040	ER32P-040	ER40P-040
5.0 - 4.0	ER16P-050	EP20P-050	ER25P-050	ER32P-050	ER40P-050
6.0 - 5.0	ER16P-060	EP20P-060	ER25P-060	ER32P-060	ER40P-060
7.0 - 6.0	ER16P-070	EP20P-070	ER25P-070	ER32P-070	ER40P-070
8.0 - 7.0	ER16P-080	EP20P-080	ER25P-080	ER32P-080	ER40P-080
9.0 - 8.0	ER16P-090	EP20P-090	ER25P-090	ER32P-090	ER40P-090
10.0 - 9.0	ER16P-100	EP20P-100	ER25P-100	ER32P-100	ER40P-100
11.0 - 10.0		EP20P-110	ER25P-110	ER32P-110	ER40P-110
12.0 - 11.0		EP20P-120	ER25P-120	ER32P-120	ER40P-120
13.0 - 12.0		EP20P-130	ER25P-130	ER32P-130	ER40P-130
14.0 - 13.0			ER25P-140	ER32P-140	ER40P-140
15.0 - 14.0			ER25P-150	ER32P-150	ER40P-150
16.0 - 15.0			ER25P-160	ER32P-160	ER40P-160
17.0 - 16.0				ER32P-170	ER40P-170
18.0 - 17.0				ER32P-180	ER40P-180
19.0 - 18.0				ER32P-190	ER40P-190
20.0 - 19.0				ER32P-200	ER40P-200
21.0 - 20.0					ER40P-210
22.0 - 21.0					ER40P-220
23.0 - 22.0					ER40P-230
24.0 - 23.0					ER40P-240
25.0 - 24.0					ER40P-250
26.0 - 25.0					ER40P-260

Special Offer on ER Collets (Price per Collet)

Collet Size	Range Inch	Range Metric	Price
ER16P	1/16 - 1/32	0.5 - 10.0	\$16 ⁹⁵
ER20P	1/16 - 1/2	1.0 - 13.0	\$16 ⁹⁵
ER25P	1/16 - 5/8	1.0 - 16.0	\$19 ⁹⁵
ER32P	1/16 - 3/4	2.0 - 20.0	\$19 ⁹⁵
ER40P	1/8 - 1.0	3.0 - 26.0	\$23 ⁹⁵

Price shown is special promotional pricing per collet.

INCH & METRIC COLLET SETS

INCH COLLET SETS	Collet Size	# of Collets	Collets Included	For Shank Size	Price
ER16P-SET-I-10PC-T	ER16	10	3/32 - 3/8 by 32nds	1/16 - 3/8	\$169 ⁹⁵
ER20P-SET-I-12PC-T	ER20	12	5/32 - 1/2 by 32nds	1/8 - 1/2	\$199 ⁹⁵
ER25P-SET-I-16PC-T	ER25	16	5/32 - 5/8 by 32nds	1/8 - 5/8	\$299 ⁹⁵
ER32P-SET-I-18PC-T	ER32	18	7/32 - 3/4 by 32nds	3/16 - 3/4	\$339 ⁹⁵
ER40P-SET-I-13PC-T	ER40	13	1/8 - 1.0 by 16ths	1/8 - 1.0	\$299 ⁹⁵

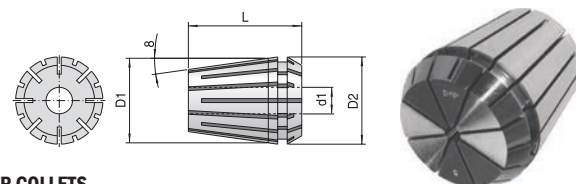
Note! ER40 collet set does not include 13/16 & 15/16 size collets

METRIC COLLET SETS	Collet Size	# of Collets	Collets Included	For Shank Size	Price
ER16P-SET-M-10PC-T	ER16	10	1 - 10 by 1mm	.5 - 10 mm	\$169 ⁹⁵
ER20P-SET-M-12PC-T	ER20	12	2 - 13 by 1mm	1.0 - 13mm	\$199 ⁹⁵
ER25P-SET-M-15PC-T	ER25	15	2 - 16 by 1mm	1.0 - 16mm	\$279 ⁹⁵
ER32P-SET-M-18PC-T	ER32	18	3 - 20 by 1mm	2.0 - 20mm	\$339 ⁹⁵
ER40P-SET-M-23PC-T	ER40	23	4 - 26 by 1mm	3.0 - 26mm	\$499 ⁹⁵

Price shown is special promotional pricing per set.



INCH & METRIC "STEEL SEALED" ER COOLANT COLLETS



INCH CAPACITY ER COLLETS

	ER16	ER20	ER25	ER32	ER40
Range d ¹	3/32 - 13/32	1/8 - 1/2	7/32 - 5/8	7/32 - 3/4	3/8 - 1.0
D ¹	0.629	0.787	0.984	1.259	1.574
D ²	0.669	0.826	1.023	1.299	1.614
L	1.082	1.240	1.338	1.574	1.811
CAPACITY	ER16	ER20	ER25	ER32	ER40
3/32	ER16P-SIK-0094				
1/8	ER16P-SIK-0125 ER20P-SIK-0125				
5/32	ER16P-SIK-0156 ER20P-SIK-0156				
3/16	ER16P-SIK-0188 ER20P-SIK-0188				
7/32	ER16P-SIK-0219 ER20P-SIK-0219 ER25P-SIK-0219 ER32P-SIK-0219				
1/4	ER16P-SIK-0250 ER20P-SIK-0250 ER25P-SIK-0250 ER32P-SIK-0250				
9/32	ER16P-SIK-0281 ER20P-SIK-0281 ER25P-SIK-0281 ER32P-SIK-0281				
5/16	ER16P-SIK-0313 ER20P-SIK-0313 ER25P-SIK-0313 ER32P-SIK-0313				
11/32	ER16P-SIK-0344 ER20P-SIK-0344 ER25P-SIK-0344 ER32P-SIK-0344				
3/8	ER16P-SIK-0375 ER20P-SIK-0375 ER25P-SIK-0375 ER32P-SIK-0375 ER40P-SIK-0375				
13/32	ER16P-SIK-0406 ER20P-SIK-0406 ER25P-SIK-0406 ER32P-SIK-0406 ER40P-SIK-0406				
7/16	ER20P-SIK-0438 ER25P-SIK-0438 ER32P-SIK-0438 ER40P-SIK-0438				
15/32	ER20P-SIK-0469 ER25P-SIK-0469 ER32P-SIK-0469 ER40P-SIK-0469				
1/2	ER20P-SIK-0500 ER25P-SIK-0500 ER32P-SIK-0500 ER40P-SIK-0500				
17/32	ER25P-SIK-0531 ER32P-SIK-0531 ER40P-SIK-0531				
9/16	ER25P-SIK-0563 ER32P-SIK-0563 ER40P-SIK-0563				
19/32	ER25P-SIK-0594 ER32P-SIK-0594 ER40P-SIK-0594				
5/8	ER25P-SIK-0625 ER32P-SIK-0625 ER40P-SIK-0625				
21/32	ER32P-SIK-0656 ER40P-SIK-0656				
11/16	ER32P-SIK-0688 ER40P-SIK-0688				
23/32	ER32P-SIK-0719 ER40P-SIK-0719				
3/4	ER32P-SIK-0750 ER40P-SIK-0750				
27/32	ER40P-SIK-0844				
7/8	ER40P-SIK-0875				
29/32	ER40P-SIK-0906				
31/32	ER40P-SIK-0969				
1	ER40P-SIK-1000				

Please note special pricing on TyCarb ER collets. Range shown is for the complete offering of each Collet size, example the ER16P covers the Inch range from 1/16 to 13/32 or the metric range of 0.5 to 10.0 mm. Total number of collets in these ranges is 22.

Coolant Pressure up to 2,000 PSI

METRIC CAPACITY ER COLLETS

	ER16	ER20	ER25	ER32	ER40
Range d ¹	3 - 10mm	3 - 13mm	3 - 16mm	3 - 20mm	6 - 25mm
D ¹	0.629	0.787	0.984	1.259	1.574
D ²	0.669	0.826	1.023	1.299	1.614
L	1.082	1.240	1.338	1.574	1.811
CAPACITY	ER16	ER20	ER25	ER32	ER40
3mm	ER16P-SIK-030 EP20P-SIK-030 ER25P-SIK-030 ER32P-SIK-030				
4mm	ER16P-SIK-040 EP20P-SIK-040 ER25P-SIK-040 ER32P-SIK-040				
5mm	ER16P-SIK-050 EP20P-SIK-050 ER25P-SIK-050 ER32P-SIK-050				
6mm	ER16P-SIK-060 EP20P-SIK-060 ER25P-SIK-060 ER32P-SIK-060 ER40P-SIK-060				
7mm	ER16P-SIK-070 EP20P-SIK-070 ER25P-SIK-070 ER32P-SIK-070 ER40P-SIK-070				
8mm	ER16P-SIK-080 EP20P-SIK-080 ER25P-SIK-080 ER32P-SIK-080 ER40P-SIK-080				
9mm	ER16P-SIK-090 EP20P-SIK-090 ER25P-SIK-090 ER32P-SIK-090 ER40P-SIK-090				
10mm	ER16P-SIK-100 EP20P-SIK-100 ER25P-SIK-100 ER32P-SIK-100 ER40P-SIK-100				
11mm	EP20P-SIK-110 ER25P-SIK-110 ER32P-SIK-110 ER40P-SIK-110				
12mm	EP20P-SIK-120 ER25P-SIK-120 ER32P-SIK-120 ER40P-SIK-120				
13mm	EP20P-SIK-130 ER25P-SIK-130 ER32P-SIK-130 ER40P-SIK-130				
14mm	ER25P-SIK-140 ER32P-SIK-140 ER40P-SIK-140				
15mm	ER25P-SIK-150 ER32P-SIK-150 ER40P-SIK-150				
16mm	ER25P-SIK-160 ER32P-SIK-160 ER40P-SIK-160				
17mm	ER32P-SIK-170 ER40P-SIK-170				
18mm	ER32P-SIK-180 ER40P-SIK-180				
19mm	ER32P-SIK-190 ER40P-SIK-190				
20mm	ER32P-SIK-200 ER40P-SIK-200				
21mm					
22mm					
23mm					
24mm					
25mm	ER40P-SIK-250				
26mm					

Special Offer on ER SIK Sealed Coolant Collets (Price per Collet)

Collet Size	Range Inch	Range Metric	Price
ER16P-SIK	3/32 - 13/32	3 - 10mm	\$37^{.95}
ER20P-SIK	1/8 - 1/2	3 - 13mm	\$39^{.95}
ER25P-SIK	7/32 - 5/8	3 - 16mm	\$42^{.95}
ER32P-SIK	7/32 - 3/4	3 - 20mm	\$43^{.95}
ER40P-SIK	3/8 - 1.0	6 - 25mm	\$48^{.95}

Price shown is special promotional pricing per collet.

INCH & METRIC "Steel Sealed" ER Collet Sets

INCH COLLET SETS	Collet Size	# of Collets	Collets Included	Price
ER16P-SIK-SET-I-10PC-T	ER16	10	3/32 - 3/8"	\$379^{.95}
ER20P-SIK-SET-I-12PC-T	ER20	12	5/32 - 1/2"	\$469^{.95}
ER25P-SIK-SET-I-14PC-T	ER25	14	7/32 - 5/8"	\$595^{.95}
ER32P-SIK-SET-I-18PC-T	ER32	18	7/32 - 3/4"	\$785^{.95}
ER40P-SIK-SET-I-15PC-T	ER40	15	3/8 - 1.0"	\$739^{.95}

Note! ER40 collet set does not include 13/16 & 15/16 size collets.

METRIC COLLET SETS	Collet Size	# of Collets	Collets Included	Price
ER16P-SIK-SET-M-8PC-T	ER16	8	3 - 10 by 1mm	\$299^{.95}
ER20P-SIK-SET-M-11PC-T	ER20	11	3 - 13 by 1mm	\$429^{.95}
ER25P-SIK-SET-M-14PC-T	ER25	14	3 - 16 by 1mm	\$595^{.95}
ER32P-SIK-SET-M-18PC-T	ER32	18	3 - 20 by 1mm	\$785^{.95}
ER40P-SIK-SET-M-16PC-T	ER40	16	6 - 25 by 1mm	\$789^{.95}

Price shown is special promotional pricing per set.



PRECISION GROUND INSERTS FOR TURNING & BORING ALUMINUM

RTK20- Premium Uncoated Grade
TK10MP- Premium TiAlN Coated Grade

CCGT- ... -RAL

Designation	l	d	s	d'	r	RTK20	TK10MP
CCGT-21.50.5-RAL	.252	1/4	.094	.110	.008	\$8⁻¹⁰	\$9⁻⁷²
CCGT-21.51-RAL	.252	1/4	.094	.110	1/64	\$8⁻¹⁰	\$9⁻⁷²
CCGT-32.50.5-RAL	.382	3/8	.156	.173	.008	\$8⁻⁶⁸	\$9⁻⁹⁹
CCGT-32.51-RAL	.382	3/8	.156	.173	1/64	\$8⁻⁶⁸	\$9⁻⁹⁹
CCGT-32.52-RAL	.382	3/8	.156	.173	1/32	\$8⁻⁶⁸	\$9⁻⁹⁹
CCGT-431-RAL	.504	1/2	.187	.217	1/64	\$9⁻⁹³	\$12⁻⁷¹
CCGT-432-RAL	.504	1/2	.187	.217	1/32	\$9⁻⁹³	\$12⁻¹⁷

DCGT- ... -RAL

Designation	l	d	s	d'	r	RTK20	TK10MP
DCGT-21.50.5-RAL	.305	1/4	.094	.148	.008	\$8⁻¹⁰	\$9⁻⁷²
DCGT-21.51-RAL	.305	1/4	.094	.148	1/64	\$8⁻¹⁰	\$9⁻⁷²
DCGT-32.50.5-RAL	.457	3/8	.156	.173	.008	\$8⁻⁶⁸	\$10⁻³³
DCGT-32.51-RAL	.457	3/8	.156	.173	1/64	\$8⁻⁶⁸	\$10⁻³³
DCGT-32.52-RAL	.457	3/8	.156	.173	1/32	\$8⁻⁶⁸	\$10⁻³³

RCGT- ... -RAL

Designation	l	d	s	d'	r	RTK20	TK10MP
RCGT-0602MO-RAL	--	6mm	.094	.110	--	\$5⁻⁴³	\$6⁻⁵⁰
RCGT-0803MO-RAL	--	8mm	.125	.134	--	\$5⁻⁶⁹	\$7⁻³²
RCGT-1003MO-RAL	--	10mm	.125	.157	--	\$7⁻³²	\$8⁻⁹³

SCGT- ... -RAL

Designation	l	d	s	d'	r	RTK20	TK10MP
SCGT-432-RAL	.500	1/2	.187	.217	1/32	\$9⁻⁹³	\$12⁻¹⁴

TCGT- ... -RAL

Designation	l	d	s	d'	r	RTK20	TK10MP
TCGT-21.51-RAL	.433	1/4	.094	.110	1/64	8⁻⁵³	9⁻³⁴
TCGT-32.51-RAL	.650	3/8	.156	.173	1/64	8⁻⁹³	9⁻⁷⁶

VCGT- ... -RAL

Designation	l	d	s	d'	r	RTK20	TK10MP
VCGT-220.5-RAL	.437	1/4	.125	.110	.008	\$10⁻⁷⁶	\$12⁻⁷¹
VCGT-221-RAL	.437	1/4	.125	.110	1/64	\$10⁻⁷⁶	\$12⁻⁷¹
VCGT-330.5-RAL	.654	3/8	.187	.173	.008	\$11⁻⁷⁵	\$13⁻⁶⁹
VCGT-331-RAL	.654	3/8	.187	.173	1/64	\$11⁻⁷⁵	\$13⁻⁶⁹
VCGT-332-RAL	.654	3/8	.187	.173	1/32	\$11⁻⁷⁵	\$13⁻⁶⁹
VCGT-333-RAL	.654	3/8	.187	.173	3/64	\$11⁻⁷⁵	\$13⁻⁶⁹
VCGT-43.58-RAL	.870	1/2	.219	.217	.118	\$16⁻⁶⁰	\$19⁻³²

VPGT- ... -RAL

Designation	l	d	s	d'	r	RTK20	TK10MP
VPGT-43.54-RAL	.870	1/2	.219	.217	1/16	\$16⁻²⁶	--

WCGT- ... -RAL

Designation	l	d	s	d'	r	RTK20	TK10MP
WCGT-32.50.5-RAL	.256	3/8	.156	.173	.008	\$9⁻⁶⁰	\$12⁻¹⁵
WCGT-32.51-RAL	.256	3/8	.156	.173	1/64	\$9⁻⁶⁰	\$12⁻¹⁵
WCGT-32.52-RAL	.256	3/8	.156	.173	1/32	\$9⁻⁶⁰	\$12⁻¹⁵
WCGT-431-RAL	.339	1/2	.187	.217	1/64	\$10⁻⁹⁰	\$14⁻⁷²
WCGT-432-RAL	.339	1/2	.187	.217	1/32	\$10⁻⁹⁰	\$14⁻⁷²



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