



Setting Higher Standards in Precision Miniature Cutting Tools

Miniature End Mills · Micro Drills · Specialty Cutting Tools



**1000+ NEW
PRODUCTS!**

NOW OFFERING:

**MORE SIZES FOR STANDARD & COATED END MILLS
CORNER ROUNDING END MILLS**

MANUFACTURING
SINCE

1961

Richards Micro-Tool

American Made... in America's Hometown!

ISO 13485 Certified



≪ LEARN MORE ≪

ARCH
GLOBAL PRECISION

**AMERICAN MANUFACTURING
SERVING THE WORLD**



For more than 50 years Richards Micro-Tool has been the Precision Performance company when it comes to engineering and producing miniature cutting tools for industry and the medical field. We set the standards of quality, service and value that others follow.

Cost Effective Solutions

At Richards Micro-Tool our goal is to deliver enhanced value through engineered solutions for your cutting tool applications. We take the time to understand your application so that we can provide a cost effective solution that delivers effective results and long-term value. This includes our in-stock cutting tools and custom applications.

Raising Standards on Every Product

The combination of practical experience and state-of-the-art technology at Richards Micro-Tool provides our customers with performance that not only exceeds industry standards, it exceeds expectations. Our job is to help you create a superior product by partnering with you as a unified metalworking team.

“Above and Beyond” Service

We are continuously improving both our products and our service. We make every effort to turn quotes around in 24 hours or less, responsiveness that is second to none in the industry. We have a well deserved reputation for delivering products on time, and for going the extra mile to assist our customers. Discover for yourself the difference Richards Micro-Tool can make for your company.

Locate a distributor near you by visiting our website: richardsmicrotool.com

MATERIAL TYPE:

CARBIDE

COBALT

COATING TYPE:

TIN

TITANIUM
NITRIDE

TICN

TITANIUM
CARBON
NITRIDE

TIALN

TITANIUM
ALUMINUM
NITRIDE

ALTiN

ALUMINUM
TITANIUM
NITRIDE

HM

HARDMILL

AD

AMORPHOUS
DIAMOND

CVD

CRYSTALLINE
DIAMOND

PCD

POLYCRYSTALLINE
DIAMOND

DLC

DIAMOND-LIKE
CARBON

END FEATURE:



SQUARE
END



BALL
END



CORNER
RADIUS



ANGLED
EDGE



CORNER
ROUNDING

MEASUREMENT:

.XXX

DECIMAL

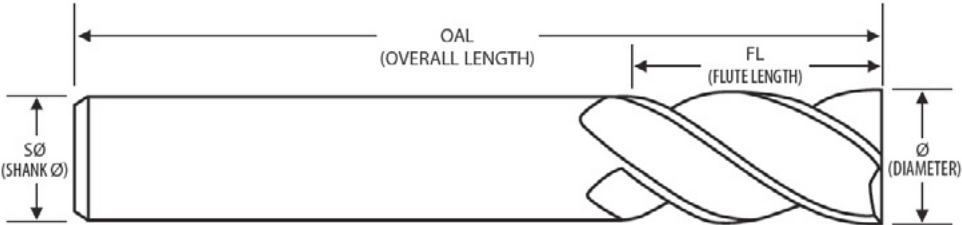
X/X

FRACTIONAL

mm

METRIC

READING OUR DIMENSIONS:



CARBIDE DECIMAL END MILLS-----6-56

SQUARE-----	6-19
Standard-----	6-8
Stub-----	9-10
Long Shank Stub-----	11
Long Reach Stub-----	12-15
Long Reach Standard-----	16
Long Reach Long Flute-----	17
Extra Long Flute-----	18
Multi-Flute & High-Helix-----	19
BALL-----	20-32
Standard-----	20-22
Stub-----	23-24
Long Shank Stub-----	25
Long Reach Stub-----	26-29
Long Reach Standard-----	30
Long Reach Long Flute-----	31
Extra Long Flute-----	32
CORNER RADIUS-----	33-34
Standard-----	33
Stub-----	34
TIALN COATED-----	35-43
Standard Square-----	35-37
Stub Square-----	38
Standard Ball-----	39-41
Stub Ball-----	42
Stub Corner Radius-----	43
HARD MILL COATED-----	44
AMORPHOUS DIAMOND COATED-----	45-52
Standard Square-----	45-46
Stub Square-----	47-48
Standard Ball-----	49
Stub Ball-----	50-51
Corner Radius-----	52
CVD COATED-----	53-56
Square Standard & Stub-----	53
Square Long Reach Stub & Long Flute-----	54
Ball Standard & Stub-----	55
Ball Long Reach Stub & Long Flute-----	56

CARBIDE FRACTIONAL END MILLS-----57-86

SQUARE-----57-67

Standard-----	57
Stub/ Long Reach Stub-----	58
Double End-----	59-60
Long Flute-----	61
Multi-Flute-----	62
High Helix-----	63
High Helix ALTIM Coated-----	64
Q Mills-----	65-67

BALL-----68-74

QB Mills-----	68
Standard-----	69-70
Stub-----	71
Long Reach Stub-----	72
Long Flute-----	73-74

CORNER RADIUS-----75-76

Standard-----	75
Hard Mill Stub-----	76

TIALN COATED-----77-78

Standard/ Stub Square-----	77
Standard/ Stub Ball-----	78

AMORPHOUS DIAMOND COATED-----79-86

Standard Square-----	79
Long Flute Square-----	80
Long Flute Long Reach Square-----	81
Long Reach Stub Square-----	82
Standard Ball-----	83
Long Flute Ball-----	84
Long Flute Long Reach Ball-----	85
Long Reach Stub Ball-----	86

CARBIDE METRIC END MILLS-----87-92

Square End Standard-----	87
Ball End Standard-----	88

AMORPHOUS DIAMOND COATED G MILLS-----89-92

Reach Stub Square-----	89
Reach Long Flute Square-----	90
Reach Stub Ball-----	91
Reach Long Flute Ball-----	92

CARBIDE SPECIALTY TOOLS-----94-155

Circuit Board Drills-----	94-98
NC Spot Drills-----	99-104
Corner Rounding End Mills-----	105-120
Drill and Countersink-----	121-124
Keyseat Cutters-----	125-130
PCD Mills-----	131-132
Drill Mills-----	133-134
Chamfer Mills-----	135-146
Engraving Cutters-----	147-152
Marking Cutters-----	153-155

COBALT/ HSS-----157-190

SQUARE-----157-164

Standard Decimal-----	157
Stub Decimal-----	158
Standard Decimal TICN Coated-----	159
Standard Fractional Uncoated & TICN Coated-----	160
Standard Double End Fractional-----	161-162
Stub Double End Fractional-----	163
Long Flute Double End Fractional-----	164

BALL-----165-172

Standard Decimal-----	165
Stub Decimal-----	166
Standard Decimal TICN Coated-----	167
Standard Fractional Uncoated & TICN Coated-----	168
Standard Double End Fractional-----	169-170
Stub Double End Fractional-----	171
Long Flute Double End Fractional-----	172

MICRO DRILLS-----173-182

DRILL AND COUNTERSINKS-----183-190

60 Degree Cobalt-----	183
60 Degree HSS-----	184
82 Degree HSS-----	185
90 Degree HSS-----	186
Bell Type & Radial-----	187
Long Series-----	188
60 Degree TICN Coated-----	189
82 & 90 Degree TICN Coated-----	190

INDEX-----191-192

Terms And Conditions-----193

Technical Information-----194-201

SQUARE END, STANDARD DECIMAL .005"-.030"



- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	3 FLUTE	4 FLUTE	
.005"	.015"	.125"	1.50"	874-.005	--	--	\$24.20
.006"	.018"	.125"	1.50"	874-.006	--	--	\$24.20
.007"	.021"	.125"	1.50"	874-.007	--	--	\$24.20
.008"	.024"	.125"	1.50"	874-.008	--	--	\$24.20
.009"	.027"	.125"	1.50"	874-.009	--	--	\$24.20
.010"	.030"	.125"	1.50"	874-.010	887-.010	875-.010	\$19.54
.011"	.033"	.125"	1.50"	874-.011	887-.011	875-.011	\$19.54
.012"	.036"	.125"	1.50"	874-.012	887-.012	875-.012	\$19.54
.013"	.039"	.125"	1.50"	874-.013	887-.013	875-.013	\$19.54
.014"	.042"	.125"	1.50"	874-.014	887-.014	875-.014	\$19.54
.015"	.045"	.125"	1.50"	874-.015	887-.015	875-.015	\$17.35
.0156" (1/64")	.0468"	.125"	1.50"	874-1560	887-1560	875-1560	\$17.35
.016"	.048"	.125"	1.50"	874-.016	--	875-.016	\$17.35
.017"	.051"	.125"	1.50"	874-.017	--	875-.017	\$17.35
.018"	.054"	.125"	1.50"	874-.018	887-.018	875-.018	\$17.35
.019"	.057"	.125"	1.50"	874-.019	--	875-.019	\$17.35
.0197" (.5 mm)	.0591"	.125"	1.50"	874-0197	887-0197	875-0197	\$17.35
.020"	.060"	.125"	1.50"	874-.020	887-.020	875-.020	\$16.56
.021"	.063"	.125"	1.50"	874-.021	--	875-.021	\$16.56
.022"	.066"	.125"	1.50"	874-.022	--	875-.022	\$16.56
.023"	.069"	.125"	1.50"	874-.023	887-.023	875-.023	\$16.56
.024"	.072"	.125"	1.50"	874-.024	887-.024	875-.024	\$16.56
.025"	.075"	.125"	1.50"	874-.025	887-.025	875-.025	\$15.27
.026"	.078"	.125"	1.50"	874-.026	887-.026	875-.026	\$15.27
.027"	.081"	.125"	1.50"	874-.027	--	875-.027	\$15.27
.028"	.084"	.125"	1.50"	874-.028	--	875-.028	\$15.27
.029"	.087"	.125"	1.50"	874-.029	887-.029	875-.029	\$15.27
.030"	.090"	.125"	1.50"	874-.030	887-.030	875-.030	\$15.27



SQUARE END, STANDARD DECIMAL .031"-.0591"

· Now available in more sizes

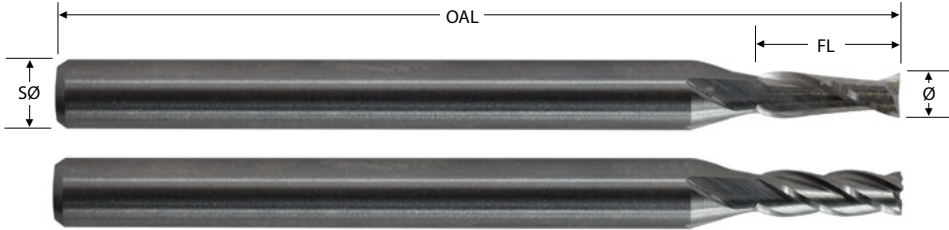


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	3 FLUTE	4 FLUTE	
.031" (1/32")	.093"	.125"	1.50"	874-.031	887-.031	875-.031	\$15.27
.032"	.096"	.125"	1.50"	874-.032	--	875-.032	\$15.27
.033"	.099"	.125"	1.50"	874-.033	887-.033	875-.033	\$15.27
.034"	.102"	.125"	1.50"	874-.034	--	875-.034	\$15.27
.035"	.105"	.125"	1.50"	874-.035	887-.035	875-.035	\$12.89
.036"	.108"	.125"	1.50"	874-.036	--	875-.036	\$12.89
.037"	.111"	.125"	1.50"	874-.037	--	875-.037	\$12.89
.038"	.114"	.125"	1.50"	874-.038	--	875-.038	\$12.89
.039"	.117"	.125"	1.50"	874-.039	--	875-.039	\$12.89
.0394" (1.0mm)	.1182"	.125"	1.50"	874-0394	887-0394	875-0394	\$12.89
.040"	.120"	.125"	1.50"	874-.040	887-.040	875-.040	\$12.89
.041"	.123"	.125"	1.50"	874-.041	--	875-.041	\$12.89
.042"	.126"	.125"	1.50"	874-.042	--	874-.042	\$12.89
.043"	.129"	.125"	1.50"	874-.043	--	875-.043	\$12.89
.044"	.132"	.125"	1.50"	874-.044	--	875-.044	\$12.89
.045"	.135"	.125"	1.50"	874-.045	887-.045	875-.045	\$12.89
.046"	.138"	.125"	1.50"	874-.046	--	875-.046	\$12.89
.047" (3/64")	.141"	.125"	1.50"	874-.047	887-.047	875-.047	\$12.89
.048"	.144"	.125"	1.50"	874-.048	--	875-.048	\$12.89
.049"	.147"	.125"	1.50"	874-.049	--	875-.049	\$12.89
.0492" (125mm)	.1476"	.125"	1.50"	874-0492	887-0492	875-0492	\$12.89
.050"	.150"	.125"	1.50"	874-.050	887-.050	875-.050	\$12.89
.051"	.153"	.125"	1.50"	874-.051	--	875-.051	\$12.89
.052"	.156"	.125"	1.50"	874-.052	--	875-.052	\$12.89
.053"	.159"	.125"	1.50"	874-.053	--	875-.053	\$12.89
.054"	.162"	.125"	1.50"	874-.054	--	875-.054	\$12.89
.055"	.165"	.125"	1.50"	874-.055	887-.055	875-.055	\$12.89
.056"	.168"	.125"	1.50"	874-.056	--	875-.056	\$12.89
.057"	.171"	.125"	1.50"	874-.057	--	875-.057	\$12.89
.058"	.174"	.125"	1.50"	874-.058	--	875-.058	\$12.89
.059"	.177"	.125"	1.50"	874-.059	--	875-.059	\$12.89
.0591" (1.5mm)	.1773"	.125"	1.50"	874-0591	887-0591	875-0591	\$12.89

SQUARE END, STANDARD DECIMAL .060"- .1772"



- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	3 FLUTE	4 FLUTE	
.060"	.180"	.125"	1.50"	874-.060	887-.060	875-.060	\$12.89
.062" (1/16")	.1875"	.125"	1.50"	874-.062	887-.062	875-.062	\$11.50
.0630" (1.6 mm)	.189"	.125"	1.50"	874-0630	887-0630	875-0630	\$11.50
.064"	.192"	.125"	1.50"	874-.064	887-.064	875-.064	\$11.50
.065"	.195"	.125"	1.50"	874-.065	887-.065	875-.065	\$11.50
.070"	.210"	.125"	1.50"	874-.070	887-.070	875-.070	\$11.50
.0709" (1.8 mm)	.2127"	.125"	1.50"	874-0709	887-0709	875-0709	\$11.50
.075"	.225"	.125"	1.50"	874-.075	887-.075	875-.075	\$11.50
.078" (5/64")	.2343"	.125"	1.50"	874-.078	887-.078	875-.078	\$11.50
.0787" (2.0 mm)	.2361"	.125"	1.50"	874-0787	887-0787	875-0787	\$11.50
.080"	.240"	.125"	1.50"	874-.080	887-.080	875-.080	\$11.50
.085"	.255"	.125"	1.50"	874-.085	887-.085	875-.085	\$11.50
.0866" (2.2 mm)	.2598"	.125"	1.50"	874-0866	887-0866	875-0866	\$11.50
.090"	.270"	.125"	1.50"	874-.090	887-.090	875-.090	\$11.50
.093" (3/32")	.2814"	.125"	1.50"	874-.093	887-.093	875-.093	\$11.50
.095"	.285"	.125"	1.50"	874-.095	887-.095	875-.095	\$11.50
.0984" (2.5 mm)	.2952"	.125"	1.50"	874-0984	887-0984	875-0984	\$11.50
.100"	.300"	.125"	1.50"	874-.100	887-.100	875-.100	\$11.50
.103"	.309"	.125"	1.50"	874-.103	887-.103	875-.103	\$11.50
.105"	.315"	.125"	1.50"	874-.105	--	875-.105	\$11.50
.1102" (2.8 mm)	.3306"	.125"	1.50"	874-1102	887-1102	875-1102	\$11.50
.115"	.345"	.125"	1.50"	874-.115	--	875-.115	\$11.50
.1181" (3.0 mm)	.3543"	.125"	1.50"	874-1181	887-1181	875-1181	\$11.50
.120"	.360"	.125"	1.50"	874-.120	887-.120	875-.120	\$11.50
.1378" (3.5 mm)	.4134"	.1875"	2.00"	874-1378	887-1378	875-1378	\$12.59
.1772" (4.5 mm)	.5316"	.1875"	2.00"	874-1772	887-1772	875-1772	\$12.59



SQUARE END, STUB DECIMAL .005" - .035"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.005"	.008"	.125"	1.50"	878-.005	--	\$24.20
.006"	.009"	.125"	1.50"	878-.006	--	\$24.20
.007"	.011"	.125"	1.50"	878-.007	--	\$24.20
.008"	.012"	.125"	1.50"	878-.008	--	\$24.20
.009"	.014"	.125"	1.50"	878-.009	--	\$24.20
.010"	.015"	.125"	1.50"	878-.010	879-.010	\$19.54
.011"	.017"	.125"	1.50"	878-.011	879-.011	\$19.54
.012"	.018"	.125"	1.50"	878-.012	879-.012	\$19.54
.013"	.020"	.125"	1.50"	878-.013	879-.013	\$19.54
.014"	.021"	.125"	1.50"	878-.014	879-.014	\$19.54
.015"	.023"	.125"	1.50"	878-.015	879-.015	\$17.35
.0156" (1/64")	.023"	.125"	1.50"	878-1560	879-1560	\$17.35
.016"	.024"	.125"	1.50"	878-.016	879-.016	\$17.35
.017"	.026"	.125"	1.50"	878-.017	879-.017	\$17.35
.018"	.027"	.125"	1.50"	878-.018	879-.018	\$17.35
.019"	.029"	.125"	1.50"	878-.019	879-.019	\$17.35
.0197" (.5 mm)	.030"	.125"	1.50"	878-0197	879-0197	\$17.35
.020"	.030"	.125"	1.50"	878-.020	879-.020	\$16.56
.021"	.032"	.125"	1.50"	878-.021	879-.021	\$16.56
.022"	.033"	.125"	1.50"	878-.022	879-.022	\$16.56
.023"	.035"	.125"	1.50"	878-.023	879-.023	\$16.56
.024"	.036"	.125"	1.50"	878-.024	879-.024	\$16.56
.025"	.038"	.125"	1.50"	878-.025	879-.025	\$15.27
.026"	.039"	.125"	1.50"	878-.026	879-.026	\$15.27
.027"	.041"	.125"	1.50"	878-.027	879-.027	\$15.27
.028"	.042"	.125"	1.50"	878-.028	879-.028	\$15.27
.029"	.044"	.125"	1.50"	878-.029	879-.029	\$15.27
.030"	.045"	.125"	1.50"	878-.030	879-.030	\$15.27
.031" (1/32")	.047"	.125"	1.50"	878-.031	879-.031	\$15.27
.032"	.048"	.125"	1.50"	878-.032	879-.032	\$15.27
.033"	.050"	.125"	1.50"	878-.033	879-.033	\$15.27
.034"	.051"	.125"	1.50"	878-.034	879-.034	\$15.27
.035"	.052"	.125"	1.50"	878-.035	879-.035	\$12.89

SQUARE END, STUB DECIMAL .036" - .1378"



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.036"	.054"	.125"	1.50"	878-.036	879-.036	\$12.89
.037"	.056"	.125"	1.50"	878-.037	879-.037	\$12.89
.038"	.057"	.125"	1.50"	878-.038	879-.038	\$12.89
.0394" (1.0 mm)	.059"	.125"	1.50"	878-0394	879-0394	\$12.89
.040"	.060"	.125"	1.50"	878-.040	879-.040	\$12.89
.045"	.068"	.125"	1.50"	878-.045	879-.045	\$12.89
.047" (3/64")	.071"	.125"	1.50"	878-.047	879-.047	\$12.89
.0492" (1.25 mm)	.074"	.125"	1.50"	878-0492	879-0492	\$12.89
.050"	.075"	.125"	1.50"	878-.050	879-.050	\$12.89
.055"	.083"	.125"	1.50"	878-.055	879-.055	\$12.89
.0591" (1.5 mm)	.089"	.125"	1.50"	878-0591	879-0591	\$12.89
.060"	.090"	.125"	1.50"	878-.060	879-.060	\$12.89
.062" (1/16")	.093"	.125"	1.50"	878-.062	879-.062	\$11.50
.0630" (1.6 mm)	.095"	.125"	1.50"	878-0630	879-0630	\$11.50
.065"	.098"	.125"	1.50"	878-.065	879-.065	\$11.50
.070"	.105"	.125"	1.50"	878-.070	879-.070	\$11.50
.0709" (1.8 mm)	.106"	.125"	1.50"	878-0709	879-0709	\$11.50
.074"	.111"	.125"	1.50"	878-.074	879-.074	\$11.50
.075"	.113"	.125"	1.50"	878-.075	879-.075	\$11.50
.078" (5/64")	.117"	.125"	1.50"	878-.078	879-.078	\$11.50
.0787" (2.0 mm)	.118"	.125"	1.50"	878-0787	879-0787	\$11.50
.080"	.120"	.125"	1.50"	878-.080	879-.080	\$11.50
.085"	.128"	.125"	1.50"	878-.085	879-.085	\$11.50
.0866" (2.2 mm)	.130"	.125"	1.50"	878-0866	879-0866	\$11.50
.090"	.135"	.125"	1.50"	878-.090	879-.090	\$11.50
.093" (3/32")	.140"	.125"	1.50"	878-.093	879-.093	\$11.50
.095"	.143"	.125"	1.50"	878-.095	879-.095	\$11.50
.0984" (2.5 mm)	.148"	.125"	1.50"	878-0984	879-0984	\$11.50
.100"	.150"	.125"	1.50"	878-.100	879-.100	\$11.50
.105"	.158"	.125"	1.50"	878-.105	879-.105	\$11.50
.1102" (2.8 mm)	.166"	.125"	1.50"	878-1102	879-1102	\$11.50
.115"	.172"	.125"	1.50"	878-.115	879-.115	\$11.50
.1181" (3.0 mm)	.177"	.125"	1.50"	878-1181	879-1181	\$11.50
.120"	.180"	.125"	1.50"	878-.120	879-.120	\$11.50
.1378" (3.5 mm)	.207"	.1875"	2.00"	878-1378	879-1378	\$12.59



SQUARE END, LONG SHANK, STUB DECIMAL .010"-.250"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 - .005" to .124": $\pm .0005$
 - .125" to .375": $+0.000/-0.002$



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
.010"	.015"	.125"	2.50"	888X-.010	\$20.73
.015"	.023"	.125"	2.50"	888X-.015	\$18.54
.020"	.030"	.125"	2.50"	888X-.020	\$17.75
.025"	.037"	.125"	2.50"	888X-.025	\$16.46
.030"	.045"	.125"	2.50"	888X-.030	\$16.46
.031"	.047"	.125"	2.50"	888X-.031	\$16.46
.035"	.053"	.125"	2.50"	888X-.035	\$16.46
.039"	.058"	.125"	2.50"	888X-.039	\$16.46
.040"	.060"	.125"	2.50"	888X-.040	\$15.86
.045"	.068"	.125"	2.50"	888X-.045	\$15.86
.047"	.071"	.125"	2.50"	888X-.047	\$15.86
.050"	.075"	.125"	2.50"	888X-.050	\$15.86
.055"	.083"	.125"	2.50"	888X-.055	\$15.86
.060"	.090"	.125"	2.50"	888X-.060	\$15.86
.062"	.093"	.125"	2.50"	888X-.062	\$15.86
.065"	.098"	.125"	2.50"	888X-.065	\$15.86
.070"	.105"	.125"	2.50"	888X-.070	\$15.86
.075"	.113"	.125"	2.50"	888X-.075	\$15.86
.078"	.117"	.125"	2.50"	888X-.078	\$15.86
.080"	.120"	.125"	2.50"	888X-.080	\$15.86
.085"	.128"	.125"	2.50"	888X-.085	\$15.86
.090"	.135"	.125"	2.50"	888X-.090	\$15.86
.093"	.140"	.125"	2.50"	888X-.093	\$15.86
.095"	.143"	.125"	2.50"	888X-.095	\$15.86
.100"	.150"	.125"	2.50"	888X-.100	\$15.86
.125"	.1875"	.125"	2.50"	888X-.125	\$15.86
.187"	.281"	.1875"	3.00"	888X-.187	\$21.01
.250"	.375"	.250"	4.00"	888X-.250	\$24.78

SQUARE END, LONG SHANK, LONG REACH, STUB DECIMAL .010"- .031"



- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 .005" to .124": $\pm .0005$
 .125" to .375": $+0.000/- .002$



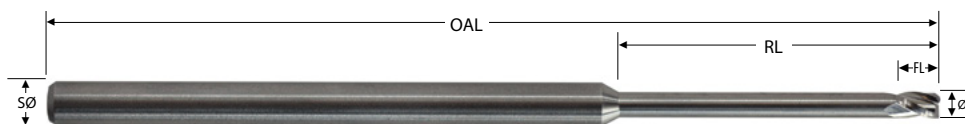
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.010"	.015"	.125"	2.50"	.050" (5X)	888X-RL5-.010	\$36.49
.010"	.015"	.125"	2.50"	.080" (8X)	888X-RL8-.010	\$36.49
.010"	.015"	.125"	2.50"	.125" (12X)	888X-RL12-.010	\$38.48
.010"	.015"	.125"	2.50"	.150" (15X)	888X-RL15-.010	\$44.53
.015" (1/64")	.023"	.125"	2.50"	.045" (3X)	888X-RL3-.015	\$30.25
.015" (1/64")	.023"	.125"	2.50"	.078" (5X)	888X-RL5-.015	\$30.25
.015" (1/64")	.023"	.125"	2.50"	.125" (8X)	888X-RL8-.015	\$30.25
.015" (1/64")	.023"	.125"	2.50"	.1875" (12X)	888X-RL12-.015	\$31.34
.015" (1/64")	.023"	.125"	2.50"	.225" (15X)	888X-RL15-.015	\$35.60
.015" (1/64")	.023"	.125"	2.50"	.300" (20X)	888X-RL20-.015	\$41.55
.020"	.030"	.125"	2.50"	.100" (5X)	888X-RL5-.020	\$29.06
.020"	.030"	.125"	2.50"	.160" (8X)	888X-RL8-.020	\$29.06
.020"	.030"	.125"	2.50"	.250" (12X)	888X-RL12-.020	\$30.15
.020"	.030"	.125"	2.50"	.300" (15X)	888X-RL15-.020	\$34.21
.020"	.030"	.125"	2.50"	.400" (20X)	888X-RL20-.020	\$40.16
.025"	.037"	.125"	2.50"	.125" (5X)	888X-RL5-.025	\$27.87
.025"	.037"	.125"	2.50"	.200" (8X)	888X-RL8-.025	\$27.87
.025"	.037"	.125"	2.50"	.3125" (12X)	888X-RL12-.025	\$28.86
.025"	.037"	.125"	2.50"	.375" (15X)	888X-RL15-.025	\$33.62
.025"	.037"	.125"	2.50"	.500" (20X)	888X-RL20-.025	\$33.62
.030"	.045"	.125"	2.50"	.150" (5X)	888X-RL5-.030	\$27.87
.030"	.045"	.125"	2.50"	.250" (8X)	888X-RL8-.030	\$27.87
.030"	.045"	.125"	2.50"	.375" (12X)	888X-RL12-.030	\$28.86
.030"	.045"	.125"	2.50"	.450" (15X)	888X-RL15-.030	\$33.62
.031" (1/32")	.047"	.125"	2.50"	.093" (3X)	888X-RL3-.031	\$27.87
.031" (1/32")	.047"	.125"	2.50"	.155" (5X)	888X-RL5-.031	\$27.87
.031" (1/32")	.047"	.125"	2.50"	.250" (8X)	888X-RL8-.031	\$27.87
.031" (1/32")	.047"	.125"	2.50"	.375" (12X)	888X-RL12-.031	\$28.86
.031" (1/32")	.047"	.125"	2.50"	.470" (15X)	888X-RL15-.031	\$33.62
.031" (1/32")	.047"	.125"	2.50"	.625" (20X)	888X-RL20-.031	\$39.57

SQUARE END, LONG SHANK, LONG REACH, STUB DECIMAL .035"-.055"



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.035"	.052"	.125"	2.50"	.187" (5X)	888X-RL5-.035	\$27.87
.035"	.052"	.125"	2.50"	.280" (8X)	888X-RL8-.035	\$27.87
.035"	.052"	.125"	2.50"	.425" (12X)	888X-RL12-.035	\$28.86
.035"	.052"	.125"	2.50"	.525" (15X)	888X-RL15-.035	\$33.62
.035"	.052"	.125"	2.50"	.700" (20X)	888X-RL20-.035	\$39.57
.040"	.060"	.125"	2.50"	.200" (5X)	888X-RL5-.040	\$27.87
.040"	.060"	.125"	2.50"	.325" (8X)	888X-RL8-.040	\$27.87
.040"	.060"	.125"	2.50"	.480" (12X)	888X-RL12-.040	\$28.86
.040"	.060"	.125"	2.50"	.600" (15X)	888X-RL15-.040	\$33.62
.040"	.060"	.125"	2.50"	.800" (20X)	888X-RL20-.040	\$39.57
.045"	.067"	.125"	2.50"	.225" (5X)	888X-RL5-.045	\$27.27
.045"	.067"	.125"	2.50"	.375" (8X)	888X-RL8-.045	\$27.27
.045"	.067"	.125"	2.50"	.550" (12X)	888X-RL12-.045	\$28.16
.045"	.067"	.125"	2.50"	.680" (15X)	888X-RL15-.045	\$31.83
.045"	.067"	.125"	2.50"	.900" (20X)	888X-RL20-.045	\$37.19
.047" (3/64")	.071"	.125"	2.50"	.141" (3X)	888X-RL3-.047	\$27.27
.047" (3/64")	.071"	.125"	2.50"	.250" (5X)	888X-RL5-.047	\$27.27
.047" (3/64")	.071"	.125"	2.50"	.375" (8X)	888X-RL8-.047	\$27.27
.047" (3/64")	.071"	.125"	2.50"	.570" (12X)	888X-RL12-.047	\$28.16
.047" (3/64")	.071"	.125"	2.50"	.710" (15X)	888X-RL15-.047	\$31.83
.047" (3/64")	.071"	.125"	2.50"	.950" (20X)	888X-RL20-.047	\$37.19
.050"	.075"	.125"	2.50"	.250" (5X)	888X-RL5-.050	\$27.27
.050"	.075"	.125"	2.50"	.400" (8X)	888X-RL8-.050	\$27.27
.050"	.075"	.125"	2.50"	.600" (12X)	888X-RL12-.050	\$28.16
.050"	.075"	.125"	2.50"	.750" (15X)	888X-RL15-.050	\$31.83
.055"	.083"	.125"	2.50"	.275" (5X)	888X-RL5-.055	\$27.27
.055"	.083"	.125"	2.50"	.450" (8X)	888X-RL8-.055	\$27.27
.055"	.083"	.125"	2.50"	.660" (12X)	888X-RL12-.055	\$28.16
.055"	.083"	.125"	2.50"	.825" (15X)	888X-RL15-.055	\$31.83

SQUARE END, LONG SHANK, LONG REACH, STUB DECIMAL .060"-.085"



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.060"	.090"	.125"	2.50"	.312" (5X)	888X-RL5-.060	\$27.27
.060"	.090"	.125"	2.50"	.500" (8X)	888X-RL8-.060	\$27.27
.060"	.090"	.125"	2.50"	.720" (12X)	888X-RL12-.060	\$28.16
.060"	.090"	.125"	2.50"	.900" (15X)	888X-RL15-.060	\$31.83
.062" (1/16")	.093"	.125"	2.50"	.186" (3X)	888X-RL3-.062	\$27.27
.062" (1/16")	.093"	.125"	2.50"	.312" (5X)	888X-RL5-.062	\$27.27
.062" (1/16")	.093"	.125"	2.50"	.500" (8X)	888X-RL8-.062	\$27.27
.062" (1/16")	.093"	.125"	2.50"	.750" (12X)	888X-RL12-.062	\$28.16
.062" (1/16")	.093"	.125"	2.50"	.950" (15X)	888X-RL15-.062	\$31.83
.062" (1/16")	.093"	.125"	2.50"	1.250" (20X)	888X-RL20-.062	\$37.19
.065"	.098"	.125"	2.50"	.325" (5X)	888X-RL5-.065	\$27.27
.065"	.098"	.125"	2.50"	.525" (8X)	888X-RL8-.065	\$27.27
.065"	.098"	.125"	2.50"	.800" (12X)	888X-RL12-.065	\$28.16
.070"	.105"	.125"	2.50"	.375" (5X)	888X-RL5-.070	\$27.27
.070"	.105"	.125"	2.50"	.570" (8X)	888X-RL8-.070	\$27.27
.070"	.105"	.125"	2.50"	.850" (12X)	888X-RL12-.070	\$28.16
.075"	.113"	.125"	2.50"	.375" (5X)	888X-RL5-.075	\$27.27
.075"	.113"	.125"	2.50"	.625" (8X)	888X-RL8-.075	\$27.27
.075"	.113"	.125"	2.50"	.900" (12X)	888X-RL12-.075	\$28.16
.078" (5/64")	.117"	.125"	2.50"	.234" (3X)	888X-RL3-.078	\$27.27
.078" (5/64")	.117"	.125"	2.50"	.400" (5X)	888X-RL5-.078	\$27.27
.078" (5/64")	.117"	.125"	2.50"	.625" (8X)	888X-RL8-.078	\$27.27
.078" (5/64")	.117"	.125"	2.50"	.940" (12X)	888X-RL12-.078	\$28.16
.078" (5/64")	.117"	.125"	2.50"	1.187" (15X)	888X-RL15-.078	\$31.83
.078" (5/64")	.117"	.125"	3.00"	1.562" (20X)	888X-RL20-.078	\$37.19
.080"	.120"	.125"	2.50"	.400" (5X)	888X-RL5-.080	\$27.27
.080"	.120"	.125"	2.50"	.650" (8X)	888X-RL8-.080	\$27.27
.080"	.120"	.125"	2.50"	.960" (12X)	888X-RL12-.080	\$28.16
.085"	.128"	.125"	2.50"	.425" (5X)	888X-RL5-.085	\$27.27
.085"	.128"	.125"	2.50"	.700" (8X)	888X-RL8-.085	\$27.27
.085"	.128"	.125"	2.50"	1.020" (12X)	888X-RL12-.085	\$28.16

SQUARE END, LONG SHANK, LONG REACH, STUB DECIMAL .090"-.250"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 .005" to .124": $\pm .0005$
 .125" to .375": $\pm 0.000 / -.002$



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.090"	.135"	.125"	2.50"	.450" (5X)	888X-RL5-.090	\$27.27
.090"	.135"	.125"	2.50"	.750" (8X)	888X-RL8-.090	\$27.27
.090"	.135"	.125"	2.50"	1.080" (12X)	888X-RL12-.090	\$28.16
.093" (3/32")	.140"	.125"	2.50"	.270" (3X)	888X-RL3-.093	\$27.27
.093" (3/32")	.140"	.125"	2.50"	.500" (5X)	888X-RL5-.093	\$27.27
.093" (3/32")	.140"	.125"	2.50"	.750" (8X)	888X-RL8-.093	\$27.27
.093" (3/32")	.140"	.125"	2.50"	1.125" (12X)	888X-RL12-.093	\$28.16
.093" (3/32")	.140"	.125"	3.00"	1.400" (15X)	888X-RL15-.093	\$33.72
.093" (3/32")	.140"	.125"	4.00"	1.875" (20X)	888X-RL20-.093	\$39.27
.095"	.143"	.125"	2.50"	.500" (5X)	888X-RL5-.095	\$27.27
.095"	.143"	.125"	2.50"	.750" (8X)	888X-RL8-.095	\$27.27
.095"	.143"	.125"	2.50"	1.150" (12X)	888X-RL12-.095	\$28.16
.100"	.150"	.125"	2.50"	.500" (5X)	888X-RL5-.100	\$27.27
.100"	.150"	.125"	2.50"	.800" (8X)	888X-RL8-.100	\$27.27
.100"	.150"	.125"	2.50"	1.200" (12X)	888X-RL12-.100	\$28.16
.125" (1/8")	.1875"	.125"	2.50"	.625" (5X)	888X-RL5-.125	\$27.27
.125" (1/8")	.1875"	.125"	2.50"	1.000" (8X)	888X-RL8-.125	\$27.27
.125" (1/8")	.1875"	.125"	3.00"	1.500" (12X)	888X-RL12-.125	\$29.65
.125" (1/8")	.1875"	.125"	3.00"	1.875" (15X)	888X-RL15-.125	\$33.72
.125" (1/8")	.1875"	.125"	4.00"	2.500" (20X)	888X-RL20-.125	\$39.27
.187" (3/16")	.281"	.1875"	3.00"	1.000" (5X)	888X-RL5-.187	\$32.43
.187" (3/16")	.281"	.1875"	3.00"	1.500" (8X)	888X-RL8-.187	\$32.43
.187" (3/16")	.281"	.1875"	4.00"	2.250" (12X)	888X-RL12-.187	\$34.71
.187" (3/16")	.281"	.1875"	4.00"	2.812" (15X)	888X-RL15-.187	\$37.09
.250" (1/4")	.375"	.250"	4.00"	1.250" (5X)	888X-RL5-.250	\$36.20
.250" (1/4")	.375"	.250"	4.00"	2.000" (8X)	888X-RL8-.250	\$36.20
.250" (1/4")	.375"	.250"	6.00"	3.000" (12X)	888X-RL12-.250	\$45.02
.250" (1/4")	.375"	.250"	6.00"	3.750" (15X)	888X-RL15-.250	\$45.02

SQUARE END, LONG REACH DECIMAL .005"-.100"



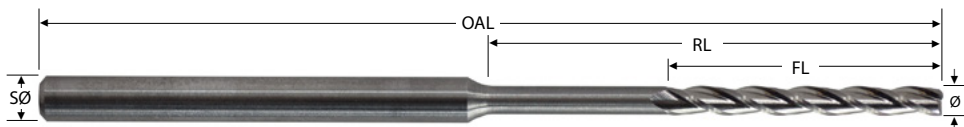
- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005



DIA	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	2 FLUTE	4 FLUTE	
.005"	.015"	.125"	1.50"	.047"	874-.005RL	--	\$39.67
.010"	.030"	.125"	1.50"	.080"	874-RL.010X.080	875-RL.010X.080	\$35.30
.010"	.030"	.125"	1.50"	.0937"	874-.010RL	875-.010RL	\$35.30
.015"	.045"	.125"	1.50"	.125"	874-.015RL	875-.015RL	\$29.06
.020"	.060"	.125"	1.50"	.170"	874-RL.020X.170	875-RL.020X.170	\$27.87
.020"	.060"	.125"	1.50"	.1875"	874-.020RL	875-.020RL	\$27.87
.025"	.075"	.125"	1.50"	.213"	874-RL.025X.213	875-RL.025X.213	\$26.68
.025"	.075"	.125"	1.50"	.250"	874-.025RL	875-.025RL	\$26.68
.030"	.090"	.125"	1.50"	.250"	874-.030RL	875-.030RL	\$26.68
.030"	.090"	.125"	1.50"	.270"	874-RL.030X.270	875-RL.030X.270	\$26.68
.031"	.093"	.125"	1.50"	.279"	874-RL.031X.279	875-RL.031X.279	\$26.68
.035"	.105"	.125"	1.50"	.250"	874-.035RL	875-.035RL	\$26.68
.035"	.105"	.125"	1.50"	.315"	874-RL.035X.315	875-RL.035X.315	\$26.68
.040"	.120"	.125"	1.50"	.250"	874-.040RL	875-.040RL	\$26.68
.040"	.120"	.125"	1.50"	.360"	874-RL.040X.360	875-RL.040X.360	\$26.68
.045"	.135"	.125"	1.50"	.405"	874-RL.045X.405	875-RL.045X.405	\$26.08
.045"	.135"	.125"	1.50"	.500"	874-.045RL	875-.045RL	\$26.08
.047"	.141"	.125"	1.50"	.423"	874-RL.047X.423	875-RL.047X.423	\$26.08
.050"	.150"	.125"	1.50"	.500"	874-.050RL	875-.050RL	\$26.08
.055"	.165"	.125"	1.50"	.500"	874-.055RL	875-.055RL	\$26.08
.060"	.180"	.125"	1.50"	.500"	874-.060RL	875-.060RL	\$26.08
.062"	.186"	.125"	1.50"	.500"	874-RL.062X.500	875-RL.062X.500	\$26.08
.065"	.195"	.125"	1.50"	.500"	874-.065RL	875-.065RL	\$26.08
.070"	.210"	.125"	1.50"	.500"	874-.070RL	875-.070RL	\$26.08
.078"	.234"	.125"	1.50"	.500"	874-RL.078X.500	875-RL.078X.500	\$26.08
.080"	.240"	.125"	1.50"	.500"	874-.080RL	875-.080RL	\$26.08
.090"	.270"	.125"	1.50"	.500"	874-.090RL	875-.090RL	\$26.08
.090"	.270"	.125"	1.50"	.625"	874-RL.090X.625	875-RL.090X.625	\$26.08
.093"	.279"	.125"	1.50"	.625"	874-RL.093X.625	875-RL.093X.625	\$26.08
.095"	.285"	.125"	1.50"	.625"	874-RL.095X.625	875-RL.095X.625	\$26.08
.100"	.300"	.125"	1.50"	.500"	874-.100RL	875-.100RL	\$26.08
.100"	.300"	.125"	1.50"	.625"	874-RL.100X.625	875-RL.100X.625	\$26.08

SQUARE END, LONG FLUTE, LONG REACH DECIMAL .010" - .250"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 .005" to .124": $\pm .0005$
 .125" to .375": $\pm 0.000 / -.002$



DIAMETER	FLUTE LENGTH (X DIAMETER)	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.010"	.050" (5X)	.125"	2.50"	.100" (10X)	887X-F5R10-.010	\$37.49
.015" (1/64")	.075" (5X)	.125"	2.50"	.150" (10X)	887X-F5R10-.015	\$31.24
.020"	.100" (5X)	.125"	2.50"	.200" (10X)	887X-F5R10-.020	\$30.05
.025"	.125" (5X)	.125"	2.50"	.250" (10X)	887X-F5R10-.025	\$28.86
.030"	.150" (5X)	.125"	2.50"	.300" (10X)	887X-F5R10-.030	\$28.86
.031" (1/32")	.155" (5X)	.125"	2.50"	.300" (10X)	887X-F5R10-.031	\$28.86
.035"	.175" (5X)	.125"	2.50"	.350" (10X)	887X-F5R10-.035	\$28.86
.040"	.200" (5X)	.125"	2.50"	.400" (10X)	887X-F5R10-.040	\$28.86
.045"	.225" (5X)	.125"	2.50"	.450" (10X)	887X-F5R10-.045	\$28.26
.047" (3/64")	.250" (5X)	.125"	2.50"	.500" (10X)	887X-F5R10-.047	\$28.26
.050"	.300" (6X)	.125"	2.50"	.600" (12X)	887X-FR-.050 X .600	\$28.26
.055"	.385" (7X)	.125"	2.50"	.770" (14X)	887X-FR-.055 X .770	\$28.26
.060"	.500" (8.3X)	.125"	2.50"	1.00" (16X)	887X-FR-.060 X 1.00	\$28.26
.062" (1/16")	.500" (8X)	.125"	2.50"	1.00" (16X)	887X-FR-.062 X 1.00	\$28.26
.065"	.500" (7.7X)	.125"	2.50"	1.00" (15X)	887X-FR-.065 X 1.00	\$28.26
.070"	.500" (7.1X)	.125"	2.50"	1.00" (14X)	887X-FR-.070 X 1.00	\$28.26
.075"	.500" (6.7X)	.125"	2.50"	1.00" (13X)	887X-FR-.075 X 1.00	\$28.26
.078" (5/64")	.500" (6.4X)	.125"	2.50"	1.00" (12X)	887X-FR-.078 X 1.00	\$28.26
.080"	.750" (9.4X)	.125"	2.50"	1.25" (15X)	887X-FR-.080 X 1.25	\$28.26
.085"	.750" (8.8X)	.125"	2.50"	1.25" (14X)	887X-FR-.085 X 1.25	\$28.26
.090"	.750" (8.3X)	.125"	2.50"	1.25" (14X)	887X-FR-.090 X 1.25	\$28.26
.093" (3/32")	.750" (8.1X)	.125"	2.50"	1.25" (13X)	887X-FR-.093 X 1.25	\$28.26
.095"	.750" (7.9X)	.125"	2.50"	1.25" (13X)	887X-FR-.095 X 1.25	\$28.26
.100"	.750" (7.5X)	.125"	2.50"	1.25" (12X)	887X-FR-.100 X 1.25	\$28.26
.125" (1/8")	1.00" (8X)	.125"	2.50"	1.50" (12X)	887X-FR-.125 X 1.50	\$28.26
.187" (3/16")	1.125" (6X)	.1875"	3.00"	1.625" (8X)	887X-FR-.187 X 1.625	\$33.42
.250" (1/4")	1.50" (8X)	.250"	4.00"	2.00" (8X)	887X-FR-.250 X 2.0	\$37.19

SQUARE END, EXTRA LONG FLUTE DECIMAL .031" - .250"



- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 .005" to .124": $\pm .0005$
 .125" to .250": $+0.000 / -.002$



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
.031" (1/32")	.375" (12X)	.125"	2.50"	887X-LF12-.031	\$47.90
.047" (3/64")	.570" (12X)	.125"	2.50"	887X-LF12-.047	\$44.53
.062" (1/16")	.750" (12X)	.125"	2.50"	887X-LF12-.062	\$37.58
.078" (5/64")	.940" (12X)	.125"	2.50"	887X-LF12-.078	\$37.58
.093" (3/32")	1.125" (12X)	.125"	2.50"	887X-LF12-.093	\$37.58
.125" (1/8")	1.50" (12X)	.125"	3.00"	887X-LF12-.125	\$39.67



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
.062" (1/16")	.950" (15X)	.125"	2.50"	887X-LF15-.062	\$51.37
.078" (5/64")	1.187" (15X)	.125"	2.50"	887X-LF15-.078	\$51.37
.093" (3/32")	1.400" (15X)	.125"	3.00"	887X-LF15-.093	\$53.45
.125" (1/8")	1.875" (15X)	.125"	3.00"	887X-LF15-.125	\$53.45



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
.156" (5/32")	1.875" (12X)	.1875"	4.00"	875X-LF12-.156	\$50.77
.187" (3/16")	2.25" (12X)	.1875"	4.00"	875X-LF12-.187	\$50.77
.250" (1/4")	3.00" (12X)	.250"	6.00"	875X-LF12-.250	\$55.73

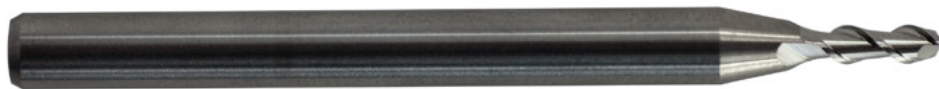


MULTI FLUTE/ HIGH HELIX DECIMAL .015"-.100"

- Use: General Purpose
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		5 FLUTE	
.031"	.090"	.125"	1.50"	889MF-.031	\$23.70
.040"	.120"	.125"	1.50"	889MF-.040	\$23.70
.047"	.141"	.125"	1.50"	889MF-.047	\$23.70
.050"	.150"	.125"	1.50"	889MF-.050	\$23.70
.060"	.180"	.125"	1.50"	889MF-.060	\$24.69
.062"	.186"	.125"	1.50"	889MF-.062	\$22.02
.070"	.210"	.125"	1.50"	889MF-.070	\$22.02
.078"	.234"	.125"	1.50"	889MF-.078	\$22.02
.080"	.240"	.125"	1.50"	889MF-.080	\$22.02
.093"	.279"	.125"	1.50"	889MF-.093	\$22.02
.100"	.300"	.125"	1.50"	889MF-.100	\$22.02



- Helix: 45 Degrees
- Diameter Tolerance: +/- .0005

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
.015"	.045"	.125"	1.50"	874HH-.015	\$23.11
.031"	.090"	.125"	1.50"	874HH-.031	\$16.83
.047"	.141"	.125"	1.50"	874HH-.047	\$16.83
.062"	.106"	.125"	1.50"	874HH-.062	\$15.07
.078"	.210"	.125"	1.50"	874HH-.078	\$14.70
.093"	.249"	.125"	1.50"	874HH-.093	\$14.70

BALL END, STANDARD DECIMAL .005"- .030"



- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005

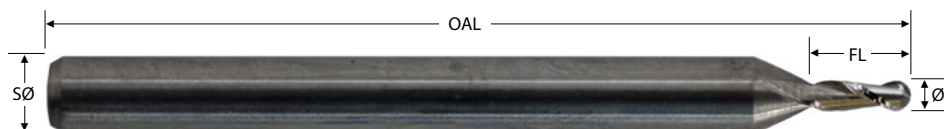


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.005"	.015"	.125"	1.50"	882-.005	--	\$35.80
.006"	.018"	.125"	1.50"	882-.006	--	\$35.80
.007"	.021"	.125"	1.50"	882-.007	--	\$35.80
.008"	.024"	.125"	1.50"	882-.008	--	\$35.80
.009"	.027"	.125"	1.50"	882-.009	--	\$35.80
.010"	.030"	.125"	1.50"	882-.010	883-.010	\$29.35
.011"	.033"	.125"	1.50"	882-.011	883-.011	\$29.35
.012"	.036"	.125"	1.50"	882-.012	883-.012	\$29.35
.013"	.039"	.125"	1.50"	882-.013	883-.013	\$29.35
.014"	.042"	.125"	1.50"	882-.014	883-.014	\$29.35
.015"	.045"	.125"	1.50"	882-.015	883-.015	\$23.50
.0156" (1/64")	.0468"	.125"	1.50"	882-1560	883-1560	\$23.50
.016"	.048"	.125"	1.50"	882-.016	883-.016	\$23.50
.017"	.051"	.125"	1.50"	882-.017	883-.017	\$23.50
.018"	.054"	.125"	1.50"	882-.018	883-.018	\$23.50
.019"	.057"	.125"	1.50"	882-.019	883-.019	\$23.50
.0197" (.5 mm)	.0591"	.125"	1.50"	882-0197	883-0197	\$22.61
.020"	.060"	.125"	1.50"	882-.020	883-.020	\$22.61
.021"	.063"	.125"	1.50"	882-.021	883-.021	\$22.61
.022"	.066"	.125"	1.50"	882-.022	882-.022	\$22.61
.023"	.069"	.125"	1.50"	882-.023	882-.023	\$22.61
.024"	.072"	.125"	1.50"	882-.024	882-.024	\$22.61
.025"	.075"	.125"	1.50"	882-.025	883-.025	\$20.53
.026"	.078"	.125"	1.50"	882-.026	883-.026	\$20.53
.027"	.081"	.125"	1.50"	882-.027	883-.027	\$20.53
.028"	.084"	.125"	1.50"	882-.028	883-.028	\$20.53
.029"	.087"	.125"	1.50"	882-.029	883-.029	\$20.53
.030"	.090"	.125"	1.50"	882-.030	883-.030	\$18.54



BALL END, STANDARD DECIMAL .0312" - .057"

· Now available in more sizes

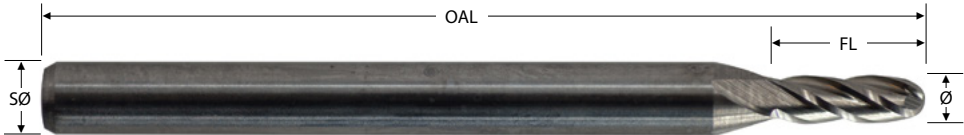


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.0312" (1/32")	.093"	.125"	1.50"	882-.031	883-.031	\$18.54
.032"	.096"	.125"	1.50"	882-.032	883-.032	\$18.54
.033"	.099"	.125"	1.50"	882-.033	883-.033	\$18.54
.034"	.102"	.125"	1.50"	882-.034	883-.034	\$18.54
.035"	.105"	.125"	1.50"	882-.035	883-.035	\$17.45
.036"	.108"	.125"	1.50"	882-.036	883-.036	\$17.45
.037"	.111"	.125"	1.50"	882-.037	883-.037	\$17.45
.038"	.114"	.125"	1.50"	882-.038	883-.038	\$17.45
.039"	.117"	.125"	1.50"	882-.039	883-.039	\$17.45
.0394" (1.0 mm)	.1182"	.125"	1.50"	882-0394	883-0394	\$17.45
.040"	.120"	.125"	1.50"	882-.040	883-.040	\$17.45
.041"	.123"	.125"	1.50"	882-.041	883-.041	\$17.45
.042"	.126"	.125"	1.50"	882-.042	883-.042	\$17.45
.043"	.129"	.125"	1.50"	882-.043	883-.043	\$17.45
.044"	.132"	.125"	1.50"	882-.044	883-.044	\$17.45
.045"	.135"	.125"	1.50"	882-.045	883-.045	\$17.45
.046"	.138"	.125"	1.50"	882-.046	883-.046	\$17.45
.0468" (3/64")	.141"	.125"	1.50"	882-.047	883-.047	\$17.45
.048"	.144"	.125"	1.50"	882-.048	883-.048	\$17.45
.049"	.147"	.125"	1.50"	882-.049	883-.049	\$17.45
.0492" (1.25 mm)	.1476"	.125"	1.50"	882-0492	883-0492	\$17.45
.050"	.150"	.125"	1.50"	882-.050	883-.050	\$17.45
.051"	.153"	.125"	1.50"	882-.051	883-.051	\$17.45
.052"	.156"	.125"	1.50"	882-.052	883-.052	\$17.45
.053"	.159"	.125"	1.50"	882-.053	883-.053	\$17.45
.054"	.162"	.125"	1.50"	882-.054	883-.054	\$17.45
.055"	.165"	.125"	1.50"	882-.055	883-.055	\$17.45
.056"	.168"	.125"	1.50"	882-.056	883-.056	\$17.45
.057"	.171"	.125"	1.50"	882-.057	883-.057	\$17.45

BALL END, STANDARD DECIMAL .058"-.1772"



- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005



DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	RMT PART 2 FLUTE	RMT PART 4 FLUTE	LIST PRICE
.058"	.174"	.125"	1.50"	882-.058	883-.058	\$17.45
.059"	.177"	.125"	1.50"	882-.059	883-.059	\$17.45
.0591" (1.5 mm)	.1773"	.125"	1.50"	882-0591	883-0591	\$17.45
.060"	.180"	.125"	1.50"	882-.060	883-.060	\$17.45
.062" (1/16")	.1875"	.125"	1.50"	882-.062	883-.062	\$17.06
.0630" (1.6 mm)	.189"	.125"	1.50"	882-0630	883-0630	\$17.06
.064"	.192"	.125"	1.50"	882-.064	883-.064	\$17.06
.065"	.195"	.125"	1.50"	882-.065	883-.065	\$17.06
.070"	.210"	.125"	1.50"	882-.070	883-.070	\$17.06
.0709" (1.8 mm)	.2127"	.125"	1.50"	882-0709	883-0709	\$17.06
.075"	.225"	.125"	1.50"	882-.075	883-.075	\$17.06
.0781" (5/64")	.2343"	.125"	1.50"	882-.078	883-.078	\$17.06
.0787" (2.0 mm)	.2361"	.125"	1.50"	882-0787	883-0787	\$17.06
.080"	.240"	.125"	1.50"	882-.080	883-.080	\$17.06
.085"	.255"	.125"	1.50"	882-.085	883-.085	\$17.06
.0866" (2.2 mm)	.2598"	.125"	1.50"	882-0866	883-0866	\$17.06
.090"	.270"	.125"	1.50"	882-.090	883-.090	\$17.06
.0938" (3/32")	.2814"	.125"	1.50"	882-.093	883-.093	\$17.06
.095"	.285"	.125"	1.50"	882-.095	883-.095	\$17.06
.0984" (2.5 mm)	.2952"	.125"	1.50"	882-0984	883-0984	\$17.06
.100"	.300"	.125"	1.50"	882-.100	883-.100	\$17.06
.105"	.315"	.125"	1.50"	882-.105	883-.105	\$17.06
.1102" (2.8 mm)	.3306"	.125"	1.50"	882-1102	883-1102	\$17.06
.115"	.345"	.125"	1.50"	882-.115	883-.115	\$17.06
.1181" (3.0 mm)	.3543"	.125"	1.50"	882-1181	883-1181	\$17.06
.120"	.360"	.125"	1.50"	882-.120	883-.120	\$17.06
.1378" (3.5 mm)	.4134"	.1875"	2.00"	882-1378	883-1378	\$18.15
.1772" (4.5 mm)	.5316"	.1875"	2.00"	882-1772	883-1772	\$18.15



BALL END, STUB DECIMAL .005" - .034"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.005"	.008"	.125"	1.50"	876-.005	--	\$35.80
.006"	.009"	.125"	1.50"	876-.006	--	\$35.80
.007"	.011"	.125"	1.50"	876-.007	--	\$35.80
.008"	.012"	.125"	1.50"	876-.008	--	\$35.80
.009"	.014"	.125"	1.50"	876-.009	--	\$35.80
.010"	.015"	.125"	1.50"	876-.010	880-.010	\$29.35
.011"	.017"	.125"	1.50"	876-.011	880-.011	\$29.35
.012"	.018"	.125"	1.50"	876-.012	880-.012	\$29.35
.013"	.020"	.125"	1.50"	876-.013	880-.013	\$29.35
.014"	.021"	.125"	1.50"	876-.014	880-.014	\$29.35
.015"	.023"	.125"	1.50"	876-.015	880-.015	\$23.50
.0156" (1/64")	.023"	.125"	1.50"	876-1560	880-1560	\$23.50
.016"	.024"	.125"	1.50"	876-.016	880-.016	\$23.50
.017"	.026"	.125"	1.50"	876-.017	880-.017	\$23.50
.018"	.027"	.125"	1.50"	876-.018	880-.018	\$23.50
.019"	.028"	.125"	1.50"	876-.019	880-.019	\$23.50
.0197" (.5 mm)	.030"	.125"	1.50"	876-0197	880-0197	\$22.61
.020"	.030"	.125"	1.50"	876-.020	880-.020	\$22.61
.021"	.031"	.125"	1.50"	876-.021	880-.021	\$22.61
.022"	.033"	.125"	1.50"	876-.022	880-.022	\$22.61
.023"	.034"	.125"	1.50"	876-.023	880-.023	\$22.61
.024"	.036"	.125"	1.50"	876-.024	880-.024	\$22.61
.025"	.038"	.125"	1.50"	876-.025	880-.025	\$20.53
.026"	.039"	.125"	1.50"	876-.026	880-.026	\$20.53
.027"	.041"	.125"	1.50"	876-.027	880-.027	\$20.53
.028"	.042"	.125"	1.50"	876-.028	880-.028	\$20.53
.029"	.044"	.125"	1.50"	876-.029	880-.029	\$20.53
.030"	.045"	.125"	1.50"	876-.030	880-.030	\$18.54
.031" (1/32")	.047"	.125"	1.50"	876-.031	880-.031	\$18.54
.032"	.048"	.125"	1.50"	876-.032	880-.032	\$18.54
.033"	.050"	.125"	1.50"	876-.033	880-.033	\$18.54
.034"	.051"	.125"	1.50"	876-.034	880-.034	\$18.54

BALL END, STUB DECIMAL .035" - .1378"



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.035"	.053"	.125"	1.50"	876-.035	880-.035	\$17.45
.036"	.054"	.125"	1.50"	876-.036	880-.036	\$17.45
.037"	.056"	.125"	1.50"	876-.037	880-.037	\$17.45
.038"	.058"	.125"	1.50"	876-.038	880-.038	\$17.45
.039"	.059"	.125"	1.50"	876-.039	880-.039	\$17.45
.0394" (1.0 mm)	.059"	.125"	1.50"	876-0394	880-0394	\$17.45
.040"	.060"	.125"	1.50"	876-.040	880-.040	\$17.45
.045"	.068"	.125"	1.50"	876-.045	880-.045	\$17.45
.047" (3/64")	.071"	.125"	1.50"	876-.047	880-.047	\$17.45
.0492" (1.25 mm)	.074"	.125"	1.50"	876-0492	880-0492	\$17.45
.050"	.075"	.125"	1.50"	876-.050	880-.050	\$17.45
.055"	.083"	.125"	1.50"	876-.055	880-.055	\$17.45
.0591" (1.5 mm)	.089"	.125"	1.50"	876-0591	880-0591	\$17.45
.060"	.090"	.125"	1.50"	876-.060	880-.060	\$17.45
.062" (1/16")	.093"	.125"	1.50"	876-.062	880-.062	\$17.06
.0630" (1.6 mm)	.095"	.125"	1.50"	876-0630	880-0630	\$17.06
.065"	.098"	.125"	1.50"	876-.065	880-.065	\$17.06
.070"	.105"	.125"	1.50"	876-.070	880-.070	\$17.06
.0709" (1.8 mm)	.106"	.125"	1.50"	876-0709	880-0709	\$17.06
.075"	.113"	.125"	1.50"	876-.075	880-.075	\$17.06
.078" (5/64")	.117"	.125"	1.50"	876-.078	880-.078	\$17.06
.0787" (2.0 mm)	.118"	.125"	1.50"	876-0787	880-0787	\$21.02
.080"	.120"	.125"	1.50"	876-.080	880-.080	\$17.06
.085"	.128"	.125"	1.50"	876-.085	880-.085	\$17.06
.0866" (2.2 mm)	.130"	.125"	1.50"	876-0866	880-0866	\$17.06
.090"	.135"	.125"	1.50"	876-.090	880-.090	\$17.06
.093" (3/32")	.140"	.125"	1.50"	876-.093	880-.093	\$17.06
.095"	.143"	.125"	1.50"	876-.095	880-.095	\$17.06
.0984" (2.5 mm)	.148"	.125"	1.50"	876-0984	880-0984	\$17.06
.100"	.150"	.125"	1.50"	876-.100	880-.100	\$17.06
.1102" (2.8 mm)	.166"	.125"	1.50"	876-1102	880-1102	\$17.06
.1181" (3.0 mm)	.177"	.125"	1.50"	876-1181	880-1181	\$17.06
.120"	.180"	.125"	1.50"	876-.120	880-.120	\$17.06
.1378" (3.5 mm)	.207"	.1875"	2.00"	876-1378	880-1378	\$18.15



BALL END, LONG SHANK, STUB DECIMAL .010" - .250"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 .005" to .124": +/- .0005
 .125" to .375": +0.000/ -.002

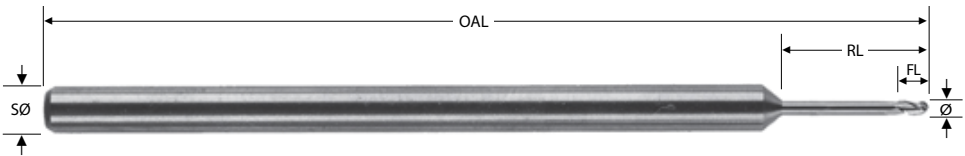


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
.010"	.015"	.125"	2.50"	888XB-.010	\$30.15
.015"	.023"	.125"	2.50"	888XB-.015	\$27.57
.020"	.030"	.125"	2.50"	888XB-.020	\$26.68
.025"	.037"	.125"	2.50"	888XB-.025	\$21.42
.030"	.045"	.125"	2.50"	888XB-.030	\$21.42
.031"	.047"	.125"	2.50"	888XB-.031	\$21.42
.035"	.053"	.125"	2.50"	888XB-.035	\$21.42
.040"	.060"	.125"	2.50"	888XB-.040	\$21.42
.045"	.068"	.125"	2.50"	888XB-.045	\$20.62
.047"	.071"	.125"	2.50"	888XB-.047	\$20.62
.050"	.075"	.125"	2.50"	888XB-.050	\$20.62
.055"	.083"	.125"	2.50"	888XB-.055	\$20.62
.060"	.090"	.125"	2.50"	888XB-.060	\$20.62
.062"	.093"	.125"	2.50"	888XB-.062	\$20.62
.065"	.098"	.125"	2.50"	888XB-.065	\$20.62
.070"	.105"	.125"	2.50"	888XB-.070	\$20.62
.075"	.113"	.125"	2.50"	888XB-.075	\$20.62
.078"	.117"	.125"	2.50"	888XB-.078	\$20.62
.080"	.120"	.125"	2.50"	888XB-.080	\$20.62
.085"	.128"	.125"	2.50"	888XB-.085	\$20.62
.090"	.135"	.125"	2.50"	888XB-.090	\$20.62
.093"	.140"	.125"	2.50"	888XB-.093	\$20.62
.095"	.143"	.125"	2.50"	888XB-.095	\$20.62
.100"	.150"	.125"	2.50"	888XB-.100	\$20.62
.125"	.1875"	.125"	2.50"	888XB-.125	\$20.62
.187"	.281"	.1875"	3.00"	888XB-.187	\$23.89
.250"	.375"	.250"	4.00"	888XB-.250	\$27.66

BALL END, LONG SHANK, LONG REACH, STUB DECIMAL .010"-.030"

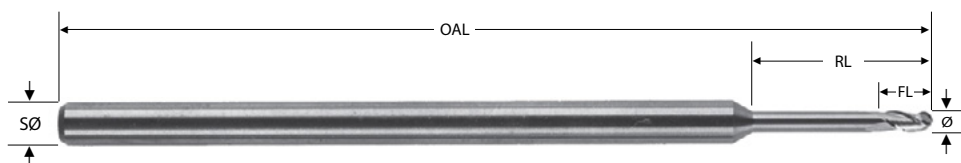


- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
.005" to .124": +/- .0005



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.010"	.015"	.125"	2.50"	.050" (5X)	888XB-RL5-.010	\$45.91
.010"	.015"	.125"	2.50"	.080" (8X)	888XB-RL8-.010	\$45.91
.010"	.015"	.125"	2.50"	.125" (12X)	888XB-RL12-.010	\$47.90
.010"	.015"	.125"	2.50"	.150" (15X)	888XB-RL15-.010	\$53.85
.015" (1/64")	.023"	.125"	2.50"	.045" (3X)	888XB-RL3-.015	\$39.27
.015" (1/64")	.023"	.125"	2.50"	.078" (5X)	888XB-RL5-.015	\$39.27
.015" (1/64")	.023"	.125"	2.50"	.125" (8X)	888XB-RL8-.015	\$39.27
.015" (1/64")	.023"	.125"	2.50"	.1875" (12X)	888XB-RL12-.015	\$40.26
.015" (1/64")	.023"	.125"	2.50"	.225" (15X)	888XB-RL15-.015	\$44.53
.015" (1/64")	.023"	.125"	2.50"	.300" (20X)	888XB-RL20-.015	\$49.39
.020"	.030"	.125"	2.50"	.100" (5X)	888XB-RL5-.020	\$37.98
.020"	.030"	.125"	2.50"	.160" (8X)	888XB-RL8-.020	\$37.98
.020"	.030"	.125"	2.50"	.250" (12X)	888XB-RL12-.020	\$39.07
.020"	.030"	.125"	2.50"	.300" (15X)	888XB-RL15-.020	\$43.14
.020"	.030"	.125"	2.50"	.400" (20X)	888XB-RL20-.020	\$49.09
.025"	.037"	.125"	2.50"	.125" (5X)	888XB-RL5-.025	\$32.82
.025"	.037"	.125"	2.50"	.200" (8X)	888XB-RL8-.025	\$32.82
.025"	.037"	.125"	2.50"	.3125" (12X)	888XB-RL12-.025	\$33.82
.025"	.037"	.125"	2.50"	.375" (15X)	888XB-RL15-.025	\$38.58
.030"	.045"	.125"	2.50"	.150" (5X)	888XB-RL5-.030	\$32.82
.030"	.045"	.125"	2.50"	.250" (8X)	888XB-RL8-.030	\$32.82
.030"	.045"	.125"	2.50"	.375" (12X)	888XB-RL12-.030	\$33.82
.030"	.045"	.125"	2.50"	.450" (15X)	888XB-RL15-.030	\$38.58

BALL END, LONG SHANK, LONG REACH, STUB DECIMAL .031" - .055"



DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	REACH LENGTH (RL)	RMT PART 3 FLUTE	LIST PRICE
.031" (1/32")	.047"	.125"	2.50"	.093" (3X)	888XB-RL3-.031	\$32.82
.031" (1/32")	.047"	.125"	2.50"	.155" (5X)	888XB-RL5-.031	\$32.82
.031" (1/32")	.047"	.125"	2.50"	.250" (8X)	888XB-RL8-.031	\$32.82
.031" (1/32")	.047"	.125"	2.50"	.375" (12X)	888XB-RL12-.031	\$33.82
.031" (1/32")	.047"	.125"	2.50"	.470" (15X)	888XB-RL15-.031	\$38.58
.031" (1/32")	.047"	.125"	2.50"	.625" (20X)	888XB-RL20-.031	\$44.53
.035"	.052"	.125"	2.50"	.187" (5X)	888XB-RL5-.035	\$32.82
.035"	.052"	.125"	2.50"	.280" (8X)	888XB-RL8-.035	\$32.82
.035"	.052"	.125"	2.50"	.425" (12X)	888XB-RL12-.035	\$33.82
.035"	.052"	.125"	2.50"	.525" (15X)	888XB-RL15-.035	\$38.58
.040"	.060"	.125"	2.50"	.200" (5X)	888XB-RL5-.040	\$32.82
.040"	.060"	.125"	2.50"	.325" (8X)	888XB-RL8-.040	\$32.82
.040"	.060"	.125"	2.50"	.480" (12X)	888XB-RL12-.040	\$33.82
.040"	.060"	.125"	2.50"	.600" (15X)	888XB-RL15-.040	\$38.58
.040"	.060"	.125"	2.50"	.800" (20X)	888XB-RL20-.040	\$44.53
.045"	.067"	.125"	2.50"	.225" (5X)	888XB-RL5-.045	\$32.03
.045"	.067"	.125"	2.50"	.375" (8X)	888XB-RL8-.045	\$32.03
.045"	.067"	.125"	2.50"	.550" (12X)	888XB-RL12-.045	\$32.92
.045"	.067"	.125"	2.50"	.680" (15X)	888XB-RL15-.045	\$36.59
.047" (3/64")	.071"	.125"	2.50"	.141" (3X)	888XB-RL3-.047	\$32.03
.047" (3/64")	.071"	.125"	2.50"	.250" (5X)	888XB-RL5-.047	\$32.03
.047" (3/64")	.071"	.125"	2.50"	.375" (8X)	888XB-RL8-.047	\$32.03
.047" (3/64")	.071"	.125"	2.50"	.570" (12X)	888XB-RL12-.047	\$32.92
.047" (3/64")	.071"	.125"	2.50"	.710" (15X)	888XB-RL15-.047	\$36.59
.047" (3/64")	.071"	.125"	2.50"	.950" (20X)	888XB-RL20-.047	\$41.95
.050"	.075"	.125"	2.50"	.250" (5X)	888XB-RL5-.050	\$32.03
.050"	.075"	.125"	2.50"	.400" (8X)	888XB-RL8-.050	\$32.03
.050"	.075"	.125"	2.50"	.600" (12X)	888XB-RL12-.050	\$32.92
.055"	.083"	.125"	2.50"	.275" (5X)	888XB-RL5-.055	\$32.03
.055"	.083"	.125"	2.50"	.450" (8X)	888XB-RL8-.055	\$32.03
.055"	.083"	.125"	2.50"	.660" (12X)	888XB-RL12-.055	\$32.92

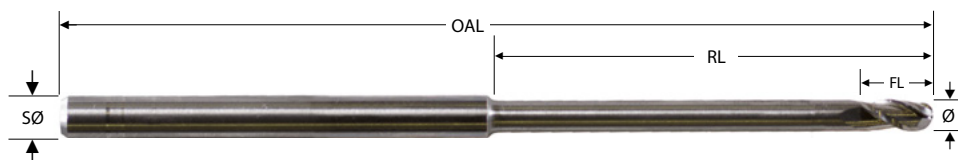
BALL END, LONG SHANK, LONG REACH, STUB DECIMAL .060" - .090"



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.060"	.090"	.125"	2.50"	.312" (5X)	888XB-RL5-.060	\$32.03
.060"	.090"	.125"	2.50"	.500" (8X)	888XB-RL8-.060	\$32.03
.060"	.090"	.125"	2.50"	.720" (12X)	888XB-RL12-.060	\$32.92
.060"	.090"	.125"	2.50"	.900" (15X)	888XB-RL15-.060	\$36.59
.062" (1/16")	.093"	.125"	2.50"	.186" (3X)	888XB-RL3-.062	\$32.03
.062" (1/16")	.093"	.125"	2.50"	.312" (5X)	888XB-RL5-.062	\$32.03
.062" (1/16")	.093"	.125"	2.50"	.500" (8X)	888XB-RL8-.062	\$32.03
.062" (1/16")	.093"	.125"	2.50"	.750" (12X)	888XB-RL12-.062	\$32.92
.062" (1/16")	.093"	.125"	2.50"	.950" (15X)	888XB-RL15-.062	\$36.59
.062" (1/16")	.093"	.125"	2.50"	1.250" (20X)	888XB-RL20-.062	\$41.95
.065"	.098"	.125"	2.50"	.325" (5X)	888XB-RL5-.065	\$32.03
.065"	.098"	.125"	2.50"	.525" (8X)	888XB-RL8-.065	\$32.03
.070"	.105"	.125"	2.50"	.375" (5X)	888XB-RL5-.070	\$32.03
.070"	.105"	.125"	2.50"	.570" (8X)	888XB-RL8-.070	\$32.03
.075"	.113"	.125"	2.50"	.375" (5X)	888XB-RL5-.075	\$32.03
.075"	.113"	.125"	2.50"	.625" (8X)	888XB-RL8-.075	\$32.03
.078" (5/64")	.117"	.125"	2.50"	.234" (3X)	888XB-RL3-.078	\$32.03
.078" (5/64")	.117"	.125"	2.50"	.400" (5X)	888XB-RL5-.078	\$32.03
.078" (5/64")	.117"	.125"	2.50"	.625" (8X)	888XB-RL8-.078	\$32.03
.078" (5/64")	.117"	.125"	2.50"	.940" (12X)	888XB-RL12-.078	\$32.92
.078" (5/64")	.117"	.125"	2.50"	1.187" (15X)	888XB-RL15-.078	\$36.59
.078" (5/64")	.117"	.125"	3.00"	1.562" (20X)	888XB-RL20-.078	\$41.95
.080"	.120"	.125"	2.50"	.400" (5X)	888XB-RL5-.080	\$32.03
.080"	.120"	.125"	2.50"	.650" (8X)	888XB-RL8-.080	\$32.03
.085"	.128"	.125"	2.50"	.425" (5X)	888XB-RL5-.085	\$32.03
.085"	.128"	.125"	2.50"	.700" (8X)	888XB-RL8-.085	\$32.03
.090"	.135"	.125"	2.50"	.450" (5X)	888XB-RL5-.090	\$32.03
.090"	.135"	.125"	2.50"	.750" (8X)	888XB-RL8-.090	\$32.03

BALL END, LONG SHANK, LONG REACH, STUB DECIMAL .093"-.250"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 $.005" \text{ to } .124": \pm .0005$
 $.125" \text{ to } .375": +0.000 / -.002$



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.093" (3/32")	.140"	.125"	2.50"	.270" (3X)	888XB-RL3-.093	\$32.03
.093" (3/32")	.140"	.125"	2.50"	.500" (5X)	888XB-RL5-.093	\$32.03
.093" (3/32")	.140"	.125"	2.50"	.750" (8X)	888XB-RL8-.093	\$32.03
.093" (3/32")	.140"	.125"	2.50"	1.125" (12X)	888XB-RL12-.093	\$32.92
.093" (3/32")	.140"	.125"	3.00"	1.400" (15X)	888XB-RL15-.093	\$38.48
.093" (3/32")	.140"	.125"	4.00"	1.875" (20X)	888XB-RL20-.093	\$44.33
.095"	.143"	.125"	2.50"	.500" (5X)	888XB-RL5-.095	\$32.03
.095"	.143"	.125"	2.50"	.750" (8X)	888XB-RL8-.095	\$32.03
.100"	.150"	.125"	2.50"	.500" (5X)	888XB-RL5-.100	\$32.03
.100"	.150"	.125"	2.50"	.800" (8X)	888XB-RL8-.100	\$32.03
.125" (1/8")	.1875"	.125"	2.50"	.625" (5X)	888XB-RL5-.125	\$32.03
.125" (1/8")	.1875"	.125"	2.50"	1.000" (8X)	888XB-RL8-.125	\$32.03
.125" (1/8")	.1875"	.125"	3.00"	1.500" (12X)	888XB-RL12-.125	\$34.41
.125" (1/8")	.1875"	.125"	3.00"	1.875" (15X)	888XB-RL15-.125	\$38.48
.125" (1/8")	.1875"	.125"	4.00"	2.500" (20X)	888XB-RL20-.125	\$44.33
.187" (3/16")	.281"	.1875"	3.00"	1.000" (5X)	888XB-RL5-.187	\$35.30
.187" (3/16")	.281"	.1875"	3.00"	1.500" (8X)	888XB-RL8-.187	\$35.30
.187" (3/16")	.281"	.1875"	4.00"	2.250" (12X)	888XB-RL12-.187	\$37.58
.187" (3/16")	.281"	.1875"	4.00"	2.812" (15X)	888XB-RL15-.187	\$39.96
.250" (1/4")	.375"	.250"	4.00"	1.250" (5X)	888XB-RL5-.250	\$39.07
.250" (1/4")	.375"	.250"	4.00"	2.000" (8X)	888XB-RL8-.250	\$39.07
.250" (1/4")	.375"	.250"	6.00"	3.000" (12X)	888XB-RL12-.250	\$43.73
.250" (1/4")	.375"	.250"	6.00"	3.750" (15X)	888XB-RL15-.250	\$47.90

BALL END, LONG REACH DECIMAL .005"- .100"



- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	2 FLUTE	4 FLUTE	
.005"	.015"	.125"	1.50"	.047"	882-.005RL	--	\$56.03
.010"	.030"	.125"	1.50"	.080"	882-RL.010X.080	883-RL.010X.080	\$49.58
.010"	.030"	.125"	1.50"	.0937"	882-.010RL	883-.010RL	\$49.58
.015"	.045"	.125"	1.50"	.125"	882-.015RL	883-.015RL	\$39.77
.020"	.060"	.125"	1.50"	.170"	882-RL.020X.170	883-RL.020X.170	\$38.28
.020"	.060"	.125"	1.50"	.1875"	882-.020RL	883-.020RL	\$38.28
.025"	.075"	.125"	1.50"	.213"	882-RL.025X.213	883-RL.025X.213	\$35.01
.025"	.075"	.125"	1.50"	.250"	882-.025RL	883-.025RL	\$35.01
.030"	.090"	.125"	1.50"	.250"	882-.030RL	883-.030RL	\$35.01
.030"	.090"	.125"	1.50"	.270"	882-RL.030X.270	883-RL.030X.270	\$35.01
.031"	.093"	.125"	1.50"	.279"	882-RL.031X.279	883-RL.031X.279	\$35.01
.035"	.105"	.125"	1.50"	.250"	882-.035RL	883-.035RL	\$35.01
.035"	.105"	.125"	1.50"	.315"	882-RL.035X.315	883-RL.035X.315	\$35.01
.040"	.120"	.125"	1.50"	.250"	882-.040RL	883-.040RL	\$35.01
.040"	.120"	.125"	1.50"	.360"	882-RL.040X.360	883-RL.040X.360	\$35.01
.045"	.135"	.125"	1.50"	.405"	882-RL.045X.405	883-RL.045X.405	\$33.82
.045"	.135"	.125"	1.50"	.500"	882-.045RL	883-.045RL	\$33.82
.047"	.141"	.125"	1.50"	.423"	882-RL.047X.423	883-RL.047X.423	\$33.82
.050"	.150"	.125"	1.50"	.500"	882-.050RL	883-.050RL	\$33.82
.055"	.165"	.125"	1.50"	.500"	882-.055RL	883-.055RL	\$33.82
.060"	.180"	.125"	1.50"	.500"	882-.060RL	883-.060RL	\$33.82
.062"	.186"	.125"	1.50"	.500"	882-RL.062X.500	883-RL.062X.500	\$33.82
.065"	.195"	.125"	1.50"	.500"	882-.065RL	883-.065RL	\$33.82
.070"	.210"	.125"	1.50"	.500"	882-.070RL	883-.070RL	\$33.82
.078"	.234"	.125"	1.50"	.500"	882-RL.078X.500	883-RL.078X.500	\$33.82
.080"	.240"	.125"	1.50"	.500"	882-.080RL	883-.080RL	\$33.82
.090"	.270"	.125"	1.50"	.500"	882-.090RL	883-.090RL	\$33.82
.090"	.270"	.125"	1.50"	.625"	882-RL.090X.625	883-RL.090X.625	\$33.82
.093"	.279"	.125"	1.50"	.625"	882-RL.093X.625	883-RL.093X.625	\$33.82
.095"	.285"	.125"	1.50"	.625"	882-RL.095X.625	883-RL.095X.625	\$33.82
.100"	.300"	.125"	1.50"	.500"	882-.100RL	883-.100RL	\$33.82
.100"	.300"	.125"	1.50"	.625"	882-RL.100X.625	883-RL.100X.625	\$33.82

BALL END, LONG FLUTE, LONG REACH DECIMAL .010" - .250"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 .005" to .124": $\pm .0005$
 .125" to .375": $+0.000 / -.002$

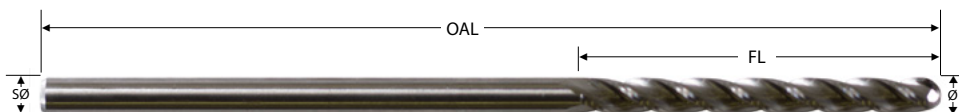


DIAMETER	FLUTE LENGTH (X DIAMETER)	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.010"	.050" (5X)	.125"	2.50"	.100" (10X)	887XB-F5R10-.010	\$46.41
.015" (1/64")	.075" (5X)	.125"	2.50"	.150" (10X)	887XB-F5R10-.015	\$39.77
.020"	.100" (5X)	.125"	2.50"	.200" (10X)	887XB-F5R10-.020	\$38.48
.025"	.125" (5X)	.125"	2.50"	.250" (10X)	887XB-F5R10-.025	\$33.32
.030"	.150" (5X)	.125"	2.50"	.300" (10X)	887XB-F5R10-.030	\$33.32
.031" (1/32")	.155" (5X)	.125"	2.50"	.300" (10X)	887XB-F5R10-.031	\$33.32
.035"	.175" (5X)	.125"	2.50"	.350" (10X)	887XB-F5R10-.035	\$33.32
.040"	.200" (5X)	.125"	2.50"	.400" (10X)	887XB-F5R10-.040	\$33.32
.045"	.225" (5X)	.125"	2.50"	.450" (10X)	887XB-F5R10-.045	\$32.53
.047" (3/64")	.250" (5X)	.125"	2.50"	.500" (10X)	887XB-F5R10-.047	\$32.53
.050"	.300" (6X)	.125"	2.50"	.600" (12X)	887XB-FR-.050 X .600	\$32.53
.055"	.385" (7X)	.125"	2.50"	.770" (14X)	887XB-FR-.055 X .770	\$32.53
.060"	.500" (8.3X)	.125"	2.50"	1.00" (16X)	887XB-FR-.060 X 1.00	\$32.53
.062" (1/16")	.500" (8X)	.125"	2.50"	1.00" (16X)	887XB-FR-.062 X 1.00	\$32.53
.065"	.500" (7.7X)	.125"	2.50"	1.00" (15X)	887XB-FR-.065 X 1.00	\$32.53
.070"	.500" (7.1X)	.125"	2.50"	1.00" (14X)	887XB-FR-.070 X 1.00	\$32.53
.075"	.500" (6.7X)	.125"	2.50"	1.00" (13X)	887XB-FR-.075 X 1.00	\$32.53
.078" (5/64")	.500" (6.4X)	.125"	2.50"	1.00" (12X)	887XB-FR-.078 X 1.00	\$32.53
.080"	.750" (9.4X)	.125"	2.50"	1.25" (15X)	887XB-FR-.080 X 1.25	\$32.53
.085"	.750" (8.8X)	.125"	2.50"	1.25" (14X)	887XB-FR-.085 X 1.25	\$32.53
.090"	.750" (8.3X)	.125"	2.50"	1.25" (14X)	887XB-FR-.090 X 1.25	\$32.53
.093" (3/32")	.750" (8.1X)	.125"	2.50"	1.25" (13X)	887XB-FR-.093 X 1.25	\$32.53
.095"	.750" (7.9X)	.125"	2.50"	1.25" (13X)	887XB-FR-.095 X 1.25	\$32.53
.100"	.750" (7.5X)	.125"	2.50"	1.25" (12X)	887XB-FR-.100 X 1.25	\$32.53
.125" (1/8")	1.00" (8X)	.125"	2.50"	1.50" (12X)	887XB-FR-.125 X 1.50	\$32.53
.187" (3/16")	1.125" (6X)	.1875"	3.00"	1.625" (8X)	887XB-FR-.187 X 1.625	\$35.20
.250" (1/4")	1.50" (8X)	.250"	4.00"	2.00" (8X)	887XB-FR-.250 X 2.0	\$39.57

BALL END, EXTRA LONG FLUTE DECIMAL .031" - .125"



- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 $.005" \text{ to } .124": \pm .0005$
 $.125" \text{ to } .375": +0.000 / -.002$



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
.031" (1/32")	.375" (12X)	.125"	2.50"	887XB-LF12-.031	\$54.94
.047" (3/64")	.570" (12X)	.125"	2.50"	887XB-LF12-.047	\$51.07
.062" (1/16")	.750" (12X)	.125"	2.50"	887XB-LF12-.062	\$43.04
.078" (5/64")	.940" (12X)	.125"	2.50"	887XB-LF12-.078	\$43.04
.093" (3/32")	1.125" (12X)	.125"	2.50"	887XB-LF12-.093	\$43.04
.125" (1/8")	1.50" (12X)	.125"	3.00"	887XB-LF12-.125	\$44.53



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
.062" (1/16")	.950" (15X)	.125"	2.50"	887XB-LF15-.062	\$58.91
.078" (5/64")	1.187" (15X)	.125"	2.50"	887XB-LF15-.078	\$58.91
.093" (3/32")	1.400" (15X)	.125"	3.00"	887XB-LF15-.093	\$60.19
.125" (1/8")	1.875" (15X)	.125"	3.00"	887XB-LF15-.125	\$60.19



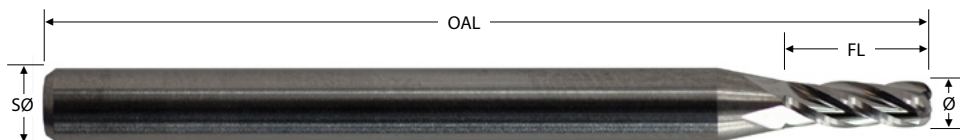
American Made... In America's Hometown!

A representative is standing by to take your order!

CALL 800-233-9956

CORNER RADIUS, STANDARD, 4 FLUTE DECIMAL .020" - .100"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005

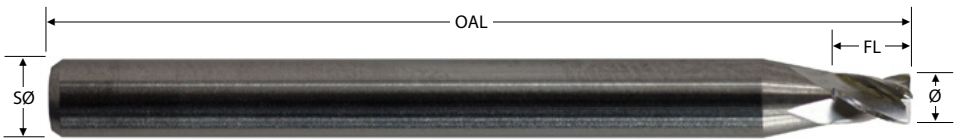


DIA	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		.005 CR	.010 CR	.015 CR	.020 CR	
.020"	.060"	.125"	1.50"	875-CR5-.020	—	—	—	\$34.01
.025"	.075"	.125"	1.50"	875-CR5-.025	—	—	—	\$30.94
.030"	.090"	.125"	1.50"	875-CR5-.030	875-CR10-.030	—	—	\$28.86
.031"	.093"	.125"	1.50"	875-CR5-.031	875-CR10-.031	—	—	\$28.86
.035"	.105"	.125"	1.50"	875-CR5-.035	875-CR10-.035	—	—	\$24.20
.040"	.120"	.125"	1.50"	875-CR5-.040	875-CR10-.040	—	—	\$18.35
.045"	.135"	.125"	1.50"	875-CR5-.045	875-CR10-.045	875-CR15-.045	—	\$18.35
.047"	.141"	.125"	1.50"	875-CR5-.047	875-CR10-.047	875-CR15-.047	—	\$18.35
.050"	.150"	.125"	1.50"	875-CR5-.050	875-CR10-.050	875-CR15-.050	—	\$18.35
.055"	.165"	.125"	1.50"	875-CR5-.055	875-CR10-.055	875-CR15-.055	—	\$18.35
.060"	.180"	.125"	1.50"	875-CR5-.060	875-CR10-.060	875-CR15-.060	—	\$18.35
.062"	.186"	.125"	1.50"	875-CR5-.062	875-CR10-.062	875-CR15-.062	875-CR20-.062	\$18.35
.065"	.195"	.125"	1.50"	875-CR5-.065	875-CR10-.065	875-CR15-.065	—	\$18.35
.070"	.210"	.125"	1.50"	875-CR5-.070	875-CR10-.070	875-CR15-.070	—	\$18.35
.075"	.225"	.125"	1.50"	875-CR5-.075	875-CR10-.075	875-CR15-.075	—	\$18.35
.078"	.234"	.125"	1.50"	875-CR5-.078	875-CR10-.078	875-CR15-.078	875-CR20-.078	\$18.35
.080"	.240"	.125"	1.50"	875-CR5-.080	875-CR10-.080	875-CR15-.080	—	\$18.35
.085"	.255"	.125"	1.50"	875-CR5-.085	875-CR10-.085	875-CR15-.085	—	\$18.35
.090"	.270"	.125"	1.50"	875-CR5-.090	875-CR10-.090	875-CR15-.090	—	\$18.35
.093"	.279"	.125"	1.50"	875-CR5-.093	875-CR10-.093	875-CR15-.093	875-CR20-.093	\$18.35
.095"	.285"	.125"	1.50"	875-CR5-.095	875-CR10-.095	875-CR15-.095	—	\$18.35
.100"	.300"	.125"	1.50"	875-CR5-.100	875-CR10-.100	875-CR15-.100	—	\$18.35

CORNER RADIUS, STUB, 4 FLUTE DECIMAL .020" - .093"



- Prevents corner breaking
- Makes radius between wall and floor
- 4 Flute End Mills - Best used for profile and contour milling
- Coating available upon request
- Helix: 30 Degrees



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		.005 CR	.010 CR	.015 CR	
.020"	.030"	.125"	1.50"	879-CR5-.020	—	—	\$34.01
.025"	.038"	.125"	1.50"	879-CR5-.025	—	—	\$30.94
.031" (1/32")	.047"	.125"	1.50"	879-CR5-.031	—	—	\$28.86
.047" (3/64")	.071"	.125"	1.50"	879-CR5-.047	879-CR10-.047	—	\$18.35
.062" (1/16")	.093"	.125"	1.50"	879-CR5-.062	879-CR10-.062	879-CR15-.062	\$18.35
.078" (5/64")	.117"	.125"	1.50"	879-CR5-.078	879-CR10-.078	879-CR15-.078	\$18.35
.093" (3/32")	.140"	.125"	1.50"	879-CR5-.093	879-CR10-.093	879-CR15-.093	\$18.35

SQUARE END, STANDARD, COATED DECIMAL .005" - .030"

- High Performance
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005
- Titanium Aluminum Nitride Coated

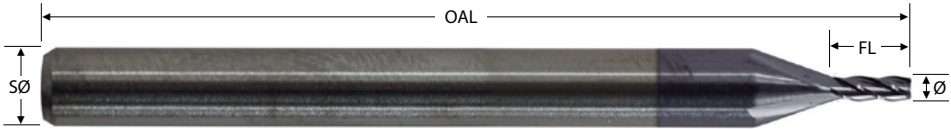


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	3 FLUTE	4 FLUTE	
.005"	.015"	.125"	1.50"	874-C-.005	--	--	\$28.13
.006"	.018"	.125"	1.50"	874-C-.006	--	--	\$28.13
.007"	.021"	.125"	1.50"	874-C-.007	--	--	\$28.13
.008"	.024"	.125"	1.50"	874-C-.008	--	--	\$28.13
.009"	.027"	.125"	1.50"	874-C-.009	--	--	\$28.13
.010"	.030"	.125"	1.50"	874-C-.010	887-C-.010	875-C-.010	\$23.50
.011"	.033"	.125"	1.50"	874-C-.011	887-C-.011	875-C-.011	\$23.50
.012"	.036"	.125"	1.50"	874-C-.012	887-C-.012	875-C-.012	\$23.50
.013"	.039"	.125"	1.50"	874-C-.013	887-C-.013	875-C-.013	\$23.50
.014"	.042"	.125"	1.50"	874-C-.014	887-C-.014	875-C-.014	\$23.50
.015"	.045"	.125"	1.50"	874-C-.015	887-C-.015	875-C-.015	\$21.32
.0156" (1/64")	.0468"	.125"	1.50"	874-C-1560	887-C-1560	875-C-1560	\$21.32
.016"	.048"	.125"	1.50"	874-C-.016	--	875-C-.016	\$21.32
.017"	.051"	.125"	1.50"	874-C-.017	--	875-C-.017	\$21.32
.018"	.054"	.125"	1.50"	874-C-.018	887-C-.018	875-C-.018	\$21.32
.019"	.057"	.125"	1.50"	874-C-.019	--	875-C-.019	\$21.32
.0197" (.5 mm)	.0591"	.125"	1.50"	874-C-0197	887-C-0197	875-C-0197	\$21.32
.020"	.060"	.125"	1.50"	874-C-.020	887-C-.020	875-C-.020	\$20.53
.021"	.063"	.125"	1.50"	874-C-.021	--	875-C-.021	\$20.53
.022"	.065"	.125"	1.50"	874-C-.022	--	875-C-.022	\$20.53
.023"	.069"	.125"	1.50"	874-C-.023	887-C-.023	875-C-.023	\$20.53
.024"	.072"	.125"	1.50"	874-C-.024	887-C-.024	875-C-.024	\$20.53
.025"	.075"	.125"	1.50"	874-C-.025	887-C-.025	875-C-.025	\$19.24
.026"	.078"	.125"	1.50"	874-C-.026	--	875-C-.026	\$19.24
.027"	.081"	.125"	1.50"	874-C-.027	--	875-C-.027	\$19.24
.028"	.084"	.125"	1.50"	874-C-.028	--	875-C-.028	\$19.24
.029"	.087"	.125"	1.50"	874-C-.029	887-C-.029	875-C-.029	\$19.24
.030"	.090"	.125"	1.50"	874-C-.030	887-C-.030	875-C-.030	\$19.24

SQUARE END, STANDARD, COATED DECIMAL .031" - .055"

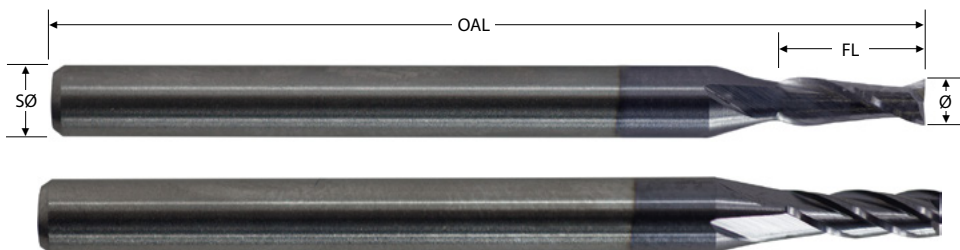


· Now available in more sizes



DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	RMT PART 2 FLUTE	RMT PART 3 FLUTE	RMT PART 4 FLUTE	LIST PRICE
.031" (1/32")	.093"	.125"	1.50"	874-C-.031	887-C-.031	875-C-.031	\$19.24
.032"	.096"	.125"	1.50"	874-C-.032	--	875-C-.032	\$19.24
.033"	.099"	.125"	1.50"	874-C-.033	--	875-C-.033	\$19.24
.034"	.102"	.125"	1.50"	874-C-.034	--	875-C-.034	\$19.24
.035"	.105"	.125"	1.50"	874-C-.035	887-C-.035	875-C-.035	\$16.86
.036"	.108"	.125"	1.50"	874-C-.036	--	875-C-.036	\$16.86
.037"	.111"	.125"	1.50"	874-C-.037	--	875-C-.037	\$16.86
.038"	.114"	.125"	1.50"	874-C-.038	--	875-C-.038	\$16.86
.039"	.117"	.125"	1.50"	874-C-.039	--	875-C-.039	\$16.86
.0394" (1.0 mm)	.1182"	.125"	1.50"	874-C-0394	887-C-0394	875-C-0394	\$16.86
.040"	.120"	.125"	1.50"	874-C-.040	887-C-.040	875-C-.040	\$16.86
.041"	.123"	.125"	1.50"	874-C-.041	--	875-C-.041	\$16.86
.042"	.126"	.125"	1.50"	874-C-.042	--	875-C-.042	\$16.86
.043"	.129"	.125"	1.50"	874-C-.043	--	875-C-.043	\$16.86
.044"	.132"	.125"	1.50"	874-C-.044	--	875-C-.044	\$16.86
.045"	.135"	.125"	1.50"	874-C-.045	887-C-.045	875-C-.045	\$16.86
.046"	.138"	.125"	1.50"	874-C-.046	--	875-C-.046	\$16.86
.047" (3/64")	.141"	.125"	1.50"	874-C-.047	887-C-.047	875-C-.047	\$16.86
.048"	.144"	.125"	1.50"	874-C-.048	--	875-C-.048	\$16.86
.049"	.147"	.125"	1.50"	874-C-.049	--	875-C-.049	\$16.86
.0492" (1.25 mm)	.1476"	.125"	1.50"	874-C-0492	887-C-0492	875-C-0492	\$16.86
.050"	.150"	.125"	1.50"	874-C-.050	887-C-.050	875-C-.050	\$16.86
.051"	.153"	.125"	1.50"	874-C-.051	--	875-C-.051	\$16.86
.052"	.156"	.125"	1.50"	874-C-.052	--	875-C-.052	\$16.86
.053"	.159"	.125"	1.50"	874-C-.053	--	875-C-.053	\$16.86
.054"	.162"	.125"	1.50"	874-C-.054	--	875-C-.054	\$16.86
.055"	.165"	.125"	1.50"	874-C-.055	887-C-.055	875-C-.055	\$16.86

SQUARE END, STANDARD, COATED DECIMAL .056" - .1772"



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	3 FLUTE	4 FLUTE	
.056"	.168"	.125"	1.50"	874-C-.056	--	875-C-.056	\$16.86
.057"	.171"	.125"	1.50"	874-C-.057	--	875-C-.057	\$16.86
.058"	.174"	.125"	1.50"	874-C-.058	--	875-C-.058	\$16.86
.059"	.177"	.125"	1.50"	874-C-.059	--	875-C-.059	\$16.86
.0591" (1.5 mm)	.1773"	.125"	1.50"	874-C-0591	887-C-0591	875-C-0591	\$16.86
.060"	.180"	.125"	1.50"	874-C-.060	887-C-.060	875-C-.060	\$16.86
.062" (1/16")	.1875"	.125"	1.50"	874-C-.062	887-C-.062	875-C-.062	\$15.47
.0630" (1.6 mm)	.189"	.125"	1.50"	874-C-0630	887-C-0630	875-C-0630	\$15.47
.065"	.195"	.125"	1.50"	874-C-.065	887-C-.065	875-C-.065	\$15.47
.070"	.210"	.125"	1.50"	874-C-.070	887-C-.070	875-C-.070	\$15.47
.0709" (1.8 mm)	.2127"	.125"	1.50"	874-C-0709	887-C-0709	875-C-0709	\$15.47
.075"	.225"	.125"	1.50"	874-C-.075	887-C-.075	875-C-.075	\$15.47
.078" (5/64")	.2343"	.125"	1.50"	874-C-.078	887-C-.078	875-C-.078	\$15.47
.0787" (2.0 mm)	.2361"	.125"	1.50"	874-C-0787	887-C-0787	875-C-0787	\$15.47
.080"	.240"	.125"	1.50"	874-C-.080	887-C-.080	875-C-.080	\$15.47
.085"	.255"	.125"	1.50"	874-C-.085	887-C-.085	875-C-.085	\$15.47
.0866" (2.2 mm)	.2598"	.125"	1.50"	874-C-0866	887-C-0866	875-C-0866	\$15.47
.090"	.270"	.125"	1.50"	874-C-.090	887-C-.090	875-C-.090	\$15.47
.093" (3/32")	.2814"	.125"	1.50"	874-C-.093	887-C-.093	875-C-.093	\$15.47
.095"	.285"	.125"	1.50"	874-C-.095	887-C-.095	875-C-.095	\$15.47
.0984" (2.5 mm)	.2952"	.125"	1.50"	874-C-0984	887-C-0984	875-C-0984	\$15.47
.100"	.300"	.125"	1.50"	874-C-.100	887-C-.100	875-C-.100	\$15.47
.1102" (2.8 mm)	.3306"	.125"	1.50"	874-C-1102	887-C-1102	875-C-1102	\$15.47
.1181" (3.0 mm)	.3543"	.125"	1.50"	874-C-1181	887-C-1181	875-C-1181	\$15.47
.120"	.360"	.125"	1.50"	874-C-.120	887-C-.120	875-C-.120	\$15.47
.1378" (3.5 mm)	.4134"	.1875"	2.00"	874-C-1378	887-C-1378	875-C-1378	\$16.86
.1772" (4.5 mm)	.5316"	.1875"	2.00"	874-C-1772	887-C-1772	875-C-1772	\$16.86

**SQUARE END, STUB, COATED
DECIMAL .005"-.040"**

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.005"	.008"	.125"	1.50"	878-C-.005	--	\$28.13
.006"	.009"	.125"	1.50"	878-C-.006	--	\$28.13
.007"	.011"	.125"	1.50"	878-C-.007	--	\$28.13
.008"	.012"	.125"	1.50"	878-C-.008	--	\$28.13
.009"	.014"	.125"	1.50"	878-C-.009	--	\$28.13
.010"	.015"	.125"	1.50"	878-C-.010	879-C-.010	\$23.50
.011"	.017"	.125"	1.50"	878-C-.011	879-C-.011	\$23.50
.012"	.018"	.125"	1.50"	878-C-.012	879-C-.012	\$23.50
.013"	.020"	.125"	1.50"	878-C-.013	879-C-.013	\$23.50
.014"	.021"	.125"	1.50"	878-C-.014	879-C-.014	\$23.50
.015"	.023"	.125"	1.50"	878-C-.015	879-C-.015	\$21.32
.016"	.024"	.125"	1.50"	878-C-.016	879-C-.016	\$21.32
.017"	.026"	.125"	1.50"	878-C-.017	879-C-.017	\$21.32
.018"	.027"	.125"	1.50"	878-C-.018	879-C-.019	\$21.32
.019"	.029"	.125"	1.50"	878-C-.019	879-C-.019	\$21.32
.020"	.030"	.125"	1.50"	878-C-.020	879-C-.020	\$20.53
.021"	.032"	.125"	1.50"	878-C-.021	879-C-.021	\$20.53
.022"	.033"	.125"	1.50"	878-C-.022	879-C-.022	\$20.53
.023"	.035"	.125"	1.50"	878-C-.023	879-C-.023	\$20.53
.024"	.036"	.125"	1.50"	878-C-.024	879-C-.024	\$20.53
.025"	.038"	.125"	1.50"	878-C-.025	879-C-.025	\$19.24
.026"	.039"	.125"	1.50"	878-C-.026	879-C-.026	\$19.24
.027"	.041"	.125"	1.50"	878-C-.027	879-C-.027	\$19.24
.028"	.042"	.125"	1.50"	878-C-.028	879-C-.028	\$19.24
.029"	.044"	.125"	1.50"	878-C-.029	879-C-.029	\$19.24
.030"	.045"	.125"	1.50"	878-C-.030	879-C-.030	\$19.24
.031"	.047"	.125"	1.50"	878-C-.031	879-C-.031	\$19.24
.032"	.048"	.125"	1.50"	878-C-.032	879-C-.032	\$19.24
.033"	.050"	.125"	1.50"	878-C-.033	879-C-.033	\$19.24
.034"	.051"	.125"	1.50"	878-C-.034	879-C-.034	\$19.24
.035"	.052"	.125"	1.50"	878-C-.035	879-C-.035	\$16.86
.036"	.054"	.125"	1.50"	878-C-.036	879-C-.036	\$16.86
.037"	.055"	.125"	1.50"	878-C-.037	879-C-.037	\$16.86
.038"	.057"	.125"	1.50"	878-C-.038	879-C-.038	\$16.86
.039"	.059"	.125"	1.50"	878-C-.039	879-C-.039	\$16.86
.040"	.060"	.125"	1.50"	878-C-.040	879-C-.040	\$16.86



BALL END, STANDARD, COATED DECIMAL .005"-.030"

- High Performance
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005
- Titanium Aluminum Nitride Coated

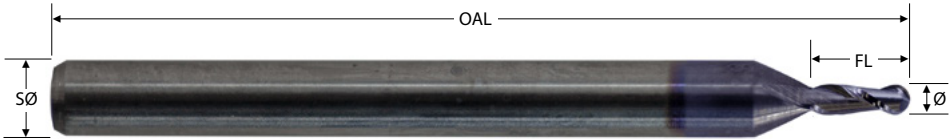


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.005"	.015"	.125"	1.50"	882-C-.005	--	\$39.67
.006"	.018"	.125"	1.50"	882-C-.006	--	\$39.67
.007"	.021"	.125"	1.50"	882-C-.007	--	\$39.67
.008"	.024"	.125"	1.50"	882-C-.008	--	\$39.67
.009"	.027"	.125"	1.50"	882-C-.009	--	\$39.67
.010"	.030"	.125"	1.50"	882-C-.010	883-C-.010	\$33.32
.011"	.033"	.125"	1.50"	882-C-.011	883-C-.011	\$33.32
.012"	.036"	.125"	1.50"	882-C-.012	883-C-.012	\$33.32
.013"	.039"	.125"	1.50"	882-C-.013	883-C-.013	\$33.32
.014"	.042"	.125"	1.50"	882-C-.014	883-C-.014	\$33.32
.015"	.045"	.125"	1.50"	882-C-.015	883-C-.015	\$27.47
.0156" (1/64")	.0468"	.125"	1.50"	882-C-1560	883-C-1560	\$27.47
.016"	.048"	.125"	1.50"	882-C-.016	883-C-.016	\$27.47
.017"	.051"	.125"	1.50"	882-C-.017	883-C-.017	\$27.47
.018"	.054"	.125"	1.50"	882-C-.018	883-C-.018	\$27.47
.019"	.057"	.125"	1.50"	882-C-.019	883-C-.019	\$27.47
.0197" (.5 mm)	.0591"	.125"	1.50"	882-C-0197	883-C-0197	\$26.58
.020"	.060"	.125"	1.50"	882-C-.020	883-C-.020	\$26.58
.021"	.063"	.125"	1.50"	882-C-.021	883-C-.021	\$26.58
.022"	.066"	.125"	1.50"	882-C-.022	883-C-.022	\$26.58
.023"	.069"	.125"	1.50"	882-C-.023	883-C-.023	\$26.58
.024"	.072"	.125"	1.50"	882-C-.024	883-C-.024	\$26.58
.025"	.075"	.125"	1.50"	882-C-.025	883-C-.025	\$24.49
.026"	.078"	.125"	1.50"	882-C-.026	883-C-.026	\$24.49
.027"	.081"	.125"	1.50"	882-C-.027	883-C-.27	\$24.49
.028"	.084"	.125"	1.50"	882-C-.028	883-C-.028	\$24.49
.029"	.087"	.125"	1.50"	882-C-.029	883-C-.029	\$24.49
.030"	.090"	.125"	1.50"	882-C-.030	883-C-.030	\$22.51

BALL END, STANDARD, COATED DECIMAL .031" - .055"



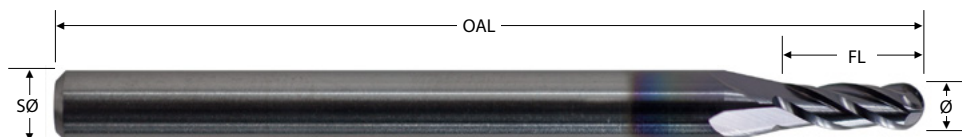
• Now available in more sizes



DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	RMT PART 2 FLUTE	RMT PART 4 FLUTE	LIST PRICE
.031"(1/32")	.093"	.125"	1.50"	882-C-.031	883-C-.031	\$22.51
.032"	.096"	.125"	1.50"	882-C-.032	883-C-.032	\$22.51
.033"	.099"	.125"	1.50"	882-C-.033	883-C-.033	\$22.51
.034"	.102"	.125"	1.50"	882-C-.034	883-C-.034	\$22.51
.035"	.105"	.125"	1.50"	882-C-.035	883-C-.035	\$21.42
.036"	.108"	.125"	1.50"	882-C-.036	883-C-.036	\$21.42
.037"	.111"	.125"	1.50"	882-C-.037	883-C-.037	\$21.42
.038"	.114"	.125"	1.50"	882-C-.038	883-C-.038	\$21.42
.039"	.117"	.125"	1.50"	882-C-.039	883-C-.039	\$21.42
.0394" (1.0 mm)	.1182"	.125"	1.50"	882-C-0394	883-C-0394	\$21.42
.040"	.120"	.125"	1.50"	882-C-.040	883-C-.040	\$21.42
.041"	.123"	.125"	1.50"	882-C-.041	883-C-.041	\$21.42
.042"	.126"	.125"	1.50"	882-C-.042	883-C-.042	\$21.42
.043"	.129"	.125"	1.50"	882-C-.043	883-C-.043	\$21.42
.044"	.132"	.125"	1.50"	882-C-.044	883-C-.044	\$21.42
.045"	.135"	.125"	1.50"	882-C-.045	883-C-.045	\$21.42
.046"	.138"	.125"	1.50"	882-C-.046	883-C-.046	\$21.42
.047"(3/64")	.141"	.125"	1.50"	882-C-.047	883-C-.047	\$21.42
.048"	.144"	.125"	1.50"	882-C-.048	883-C-.048	\$21.42
.049"	.147"	.125"	1.50"	882-C-.049	883-C-.049	\$21.42
.0492" (1.25 mm)	.1476"	.125"	1.50"	882-C-0492	883-C-0492	\$21.42
.050"	.150"	.125"	1.50"	882-C-.050	883-C-.050	\$21.42
.051"	.153"	.125"	1.50"	882-C-.051	883-C-.051	\$21.42
.052"	.156"	.125"	1.50"	882-C-.052	883-C-.052	\$21.42
.053"	.156"	.125"	1.50"	882-C-.053	883-C-.053	\$21.42
.054"	.161"	.125"	1.50"	882-C-.054	883-C-.054	\$21.42
.055"	.165"	.125"	1.50"	882-C-.055	883-C-.055	\$21.42

BALL END, STANDARD, COATED DECIMAL .056" - .1772"

• Now available in more sizes



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.056"	.168"	.125"	1.50"	882-C-.056	883-C-.056	\$21.42
.057"	.171"	.125"	1.50"	882-C-.057	883-C-.057	\$21.42
.058"	.174"	.125"	1.50"	882-C-.058	883-C-.058	\$21.42
.059"	.177"	.125"	1.50"	882-C-.059	883-C-.059	\$21.42
.0591" (1.5 mm)	.1773"	.125"	1.50"	882-C-0591	883-C-0591	\$21.42
.060"	.180"	.125"	1.50"	882-C-.060	883-C-.060	\$21.42
.062" (1/16")	.1875"	.125"	1.50"	882-C-.062	883-C-.062	\$21.02
.0630" (1.6 mm)	.189"	.125"	1.50"	882-C-0630	883-C-0630	\$21.42
.065"	.195"	.125"	1.50"	882-C-.065	883-C-.065	\$21.02
.070"	.210"	.125"	1.50"	882-C-.070	883-C-.070	\$21.02
.0709" (1.8mm)	.2127"	.125"	1.50"	882-C-0709	883-C-0709	\$21.02
.075"	.225"	.125"	1.50"	882-C-.075	883-C-.075	\$21.02
.0781" (5/64")	.2343"	.125"	1.50"	882-C-.078	883-C-.078	\$21.02
.0787" (2.0 mm)	.2361"	.125"	1.50"	882-C-0787	883-C-0787	\$21.02
.080"	.240"	.125"	1.50"	882-C-.080	883-C-.080	\$21.02
.085"	.255"	.125"	1.50"	882-C-.085	883-C-.085	\$21.02
.0866" (2.2 mm)	.2598"	.125"	1.50"	882-C-0866	883-C-0866	\$21.02
.090"	.270"	.125"	1.50"	882-C-.090	883-C-.090	\$21.02
.0938" (3/32")	.2814"	.125"	1.50"	882-C-.093	883-C-.093	\$21.02
.095"	.285"	.125"	1.50"	882-C-.095	883-C-.095	\$21.02
.0984" (2.5 mm)	.2952"	.125"	1.50"	882-C-0984	883-C-0984	\$21.02
.100"	.300"	.125"	1.50"	882-C-.100	883-C-.100	\$21.02
.1102" (2.8 mm)	.3306"	.125"	1.50"	882-C-1102	883-C-1102	\$21.02
.1181" (3.0 mm)	.3543"	.125"	1.50"	882-C-1181	883-C-1181	\$21.02
.120"	.360"	.125"	1.50"	882-C-.120	883-C-.120	\$21.02
.1378" (3.5 mm)	.4134"	.1875"	2.00"	882-C-1378	883-C-1378	\$22.41
.1772" (4.5 mm)	.5316"	.1875"	2.00"	882-C-1772	883-C-1772	\$22.41

BALL END, STUB, COATED DECIMAL .005" - .040"

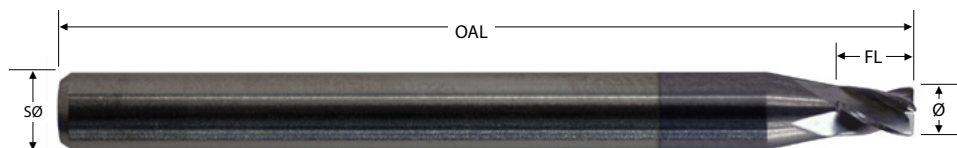


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.005"	.008"	.125"	1.50"	876-C-.005	--	\$39.67
.006"	.009"	.125"	1.50"	876-C-.006	--	\$39.67
.007"	.011"	.125"	1.50"	876-C-.007	--	\$39.67
.008"	.012"	.125"	1.50"	876-C-.008	--	\$39.67
.009"	.014"	.125"	1.50"	876-C-.009	--	\$39.67
.010"	.015"	.125"	1.50"	876-C-.010	880-C-.010	\$33.32
.011"	.017"	.125"	1.50"	876-C-.011	880-C-.011	\$33.32
.012"	.018"	.125"	1.50"	876-C-.012	880-C-.012	\$33.32
.013"	.020"	.125"	1.50"	876-C-.013	880-C-.013	\$33.32
.014"	.021"	.125"	1.50"	876-C-.014	880-C-.014	\$33.32
.015"	.023"	.125"	1.50"	876-C-.015	880-C-.015	\$27.47
.016"	.024"	.125"	1.50"	876-C-.016	880-C-.016	\$27.47
.017"	.026"	.125"	1.50"	876-C-.017	880-C-.017	\$27.47
.018"	.027"	.125"	1.50"	876-C-.019	880-C-.018	\$27.47
.019"	.029"	.125"	1.50"	876-C-.020	880-C-.019	\$27.47
.020"	.030"	.125"	1.50"	876-C-.020	880-C-.020	\$26.58
.021"	.032"	.125"	1.50"	876-C-.021	880-C-.021	\$26.58
.022"	.033"	.125"	1.50"	876-C-.022	880-C-.022	\$26.58
.023"	.035"	.125"	1.50"	876-C-.023	880-C-.023	\$26.58
.024"	.036"	.125"	1.50"	876-C-.024	880-C-.024	\$26.58
.025"	.038"	.125"	1.50"	876-C-.025	880-C-.025	\$24.49
.026"	.039"	.125"	1.50"	876-C-.026	880-C-.026	\$24.49
.027"	.041"	.125"	1.50"	876-C-.027	880-C-.027	\$24.49
.028"	.042"	.125"	1.50"	876-C-.028	880-C-.028	\$24.49
.029"	.044"	.125"	1.50"	876-C-.029	880-C-.029	\$24.49
.030"	.045"	.125"	1.50"	876-C-.030	880-C-.030	\$22.51
.031"	.047"	.125"	1.50"	876-C-.031	880-C-.031	\$22.51
.032"	.048"	.125"	1.50"	876-C-.032	880-C-.032	\$22.51
.033"	.050"	.125"	1.50"	876-C-.033	880-C-.033	\$22.51
.034"	.051"	.125"	1.50"	876-C-.034	880-C-.034	\$22.51
.035"	.052"	.125"	1.50"	876-C-.035	880-C-.035	\$21.42
.036"	.054"	.125"	1.50"	876-C-.036	880-C-.036	\$21.42
.037"	.055"	.125"	1.50"	876-C-.037	880-C-.037	\$21.42
.038"	.057"	.125"	1.50"	876-C-.038	880-C-.038	\$21.42
.039"	.059"	.125"	1.50"	876-C-.039	880-C-.039	\$21.42
.040"	.060"	.125"	1.50"	876-C-.040	880-C-.040	\$21.42

CORNER RADIUS, STUB, 4 FLUTE COATED DECIMAL .020"- .093"



- Titanium Aluminum Nitride Coated
- Application: High Performance
- Helix: 30 Degrees

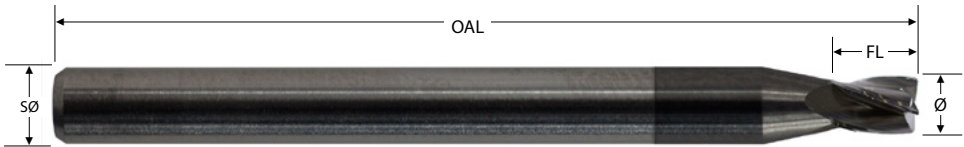


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		.005" CR	.010" CR	.015" CR	
.020"	.030"	.125"	1.50"	879C-CR5-.020	--	--	\$37.98
.025"	.038"	.125"	1.50"	879C-CR5-.025	--	--	\$34.91
.031" (1/32")	.047"	.125"	1.50"	879C-CR5-.031	--	--	\$32.82
.047" (3/64")	.071"	.125"	1.50"	879C-CR5-.047	879C-CR10-.047	--	\$22.31
.062" (1/16")	.093"	.125"	1.50"	879C-CR5-.062	879C-CR10-.062	879C-CR15-.062	\$22.31
.078" (5/64")	.117"	.125"	1.50"	879C-CR5-.078	879C-CR10-.078	879C-CR15-.078	\$22.31
.093" (3/32")	.140"	.125"	1.50"	879C-CR5-.093	879C-CR10-.093	879C-CR15-.093	\$22.31

HARD MILL COATED, 4 FLUTE STUB DECIMAL .015"-.093"



- Use: Tool Steels/ High Rc
- Helix: 18 Degrees
- Hand: RHS/ RHC
- Rake Angle: Neutral
- Center Cutting: Yes
- Corner Radius Stub
- Diameter Tolerance: +0.000 /- .001



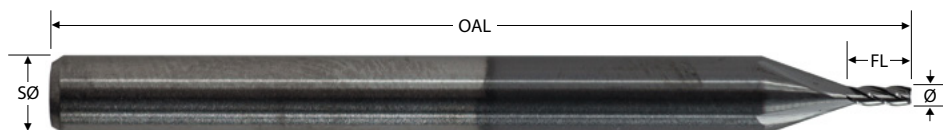
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	CORNER RADIUS	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)			4 FLUTE	
.015"	.023"	.125"	1.50"	.002"	879HM-.015	\$55.73
.031"	.047"	.125"	1.50"	.003"	879HM-.031	\$49.29
.047"	.071"	.125"	1.50"	.005"	879HM-.047	\$49.29
.062"	.093"	.125"	1.50"	.006"	879HM-.062	\$49.29
.078"	.117"	.125"	1.50"	.008"	879HM-.078	\$49.29
.093"	.140"	.125"	1.50"	.009"	879HM-.093	\$49.29



SQUARE END, STANDARD, COATED DECIMAL .010"-.029"



- Use: Graphites/ Composites
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005
- Amorphous Diamond Coated



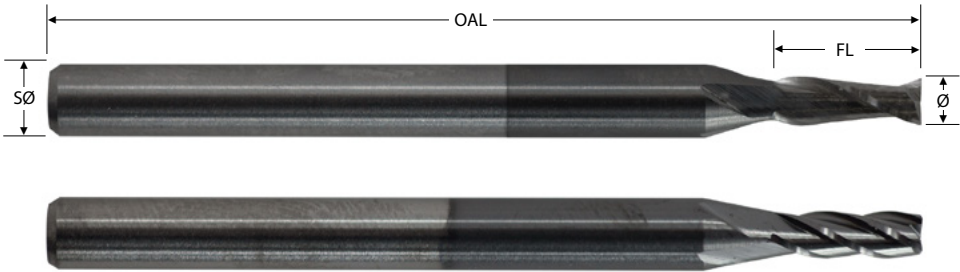
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	3 FLUTE	4 FLUTE	
.010"	.030"	.125"	1.50"	874-A-.010	887-A-.010	875-A-.010	\$29.95
.011"	.033"	.125"	1.50"	--	--	875-A-.011	\$29.95
.012"	.036"	.125"	1.50"	--	--	875-A-.012	\$29.95
.013"	.039"	.125"	1.50"	--	--	875-A-.013	\$29.95
.014"	.042"	.125"	1.50"	--	--	875-A-.014	\$29.95
.015"	.045"	.125"	1.50"	874-A-.015	887-A-.015	875-A-.015	\$27.77
.016"	.048"	.125"	1.50"	--	--	875-A-.016	\$27.77
.017"	.051"	.125"	1.50"	--	--	875-A-.017	\$27.77
.018"	.054"	.125"	1.50"	--	--	875-A-.018	\$27.77
.019"	.057"	.125"	1.50"	--	--	875-A-.019	\$27.77
.020"	.060"	.125"	1.50"	874-A-.020	887-A-.020	875-A-.020	\$26.97
.021"	.063"	.125"	1.50"	--	--	875-A-.021	\$26.97
.022"	.066"	.125"	1.50"	--	--	875-A-.022	\$26.97
.023"	.069"	.125"	1.50"	--	--	875-A-.023	\$26.97
.024"	.072"	.125"	1.50"	--	--	875-A-.024	\$26.97
.025"	.075"	.125"	1.50"	874-A-.025	887-A-.025	875-A-.025	\$25.68
.026"	.078"	.125"	1.50"	--	--	875-A-.026	\$25.68
.027"	.081"	.125"	1.50"	--	--	875-A-.027	\$25.68
.028"	.084"	.125"	1.50"	--	--	875-A-.028	\$25.68
.029"	.087"	.125"	1.50"	--	--	875-A-.029	\$25.68

SQUARE END, STANDARD, COATED DECIMAL .030"- .100"



• Amorphous Diamond (AD) Coating is a smooth, hard, thin film coating used primarily for machining graphite and non-ferrous materials.

• Applied at low temperatures under 150° centigrade, thin film diamond enhances the surface properties of carbide without distorting the concentricity of the end mill.



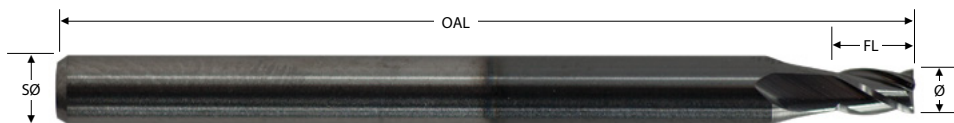
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	3 FLUTE	4 FLUTE	
.030"	.090"	.125"	1.50"	874-A-.030	887-A-.030	875-A-.030	\$25.68
.031"	.093"	.125"	1.50"	874-A-.031	887-A-.031	875-A-.031	\$25.68
.035"	.105"	.125"	1.50"	874-A-.035	887-A-.035	875-A-.035	\$23.30
.040"	.120"	.125"	1.50"	874-A-.040	887-A-.040	875-A-.040	\$23.30
.045"	.135"	.125"	1.50"	874-A-.045	887-A-.045	875-A-.045	\$23.30
.047"	.141"	.125"	1.50"	874-A-.047	887-A-.047	875-A-.047	\$23.30
.050"	.150"	.125"	1.50"	874-A-.050	887-A-.050	875-A-.050	\$23.30
.055"	.165"	.125"	1.50"	874-A-.055	887-A-.055	875-A-.055	\$23.30
.060"	.180"	.125"	1.50"	874-A-.060	887-A-.060	875-A-.060	\$23.30
.062"	.1875"	.125"	1.50"	874-A-.062	887-A-.062	875-A-.062	\$21.92
.065"	.195"	.125"	1.50"	874-A-.065	887-A-.065	875-A-.065	\$21.92
.070"	.210"	.125"	1.50"	874-A-.070	887-A-.070	875-A-.070	\$21.92
.078"	.2343"	.125"	1.50"	874-A-.078	887-A-.078	875-A-.078	\$21.92
.080"	.240"	.125"	1.50"	874-A-.080	887-A-.080	875-A-.080	\$21.92
.090"	.270"	.125"	1.50"	874-A-.090	887-A-.090	875-A-.090	\$21.92
.093"	.2814"	.125"	1.50"	874-A-.093	887-A-.093	875-A-.093	\$21.92
.100"	.300"	.125"	1.50"	874-A-.100	887-A-.100	875-A-.100	\$21.92



SQUARE END, STUB, COATED DECIMAL .010" - .100"



- Use: Graphites/ Composites
- Helix: 30 Degrees
- Center Cutting: Yes
- 4 Flute
- Amorphous Diamond Coated
- Diameter Tolerance: +/- .0005



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
.010"	.015"	.125"	1.50"	879-A-.010	\$29.95
.015"	.023"	.125"	1.50"	879-A-.015	\$27.77
.020"	.030"	.125"	1.50"	879-A-.020	\$26.97
.025"	.038"	.125"	1.50"	879-A-.025	\$25.68
.030"	.045"	.125"	1.50"	879-A-.030	\$25.68
.031"	.047"	.125"	1.50"	879-A-.031	\$25.68
.035"	.053"	.125"	1.50"	879-A-.035	\$23.30
.040"	.060"	.125"	1.50"	879-A-.040	\$23.30
.045"	.068"	.125"	1.50"	879-A-.045	\$23.30
.047"	.071"	.125"	1.50"	879-A-.047	\$23.30
.050"	.075"	.125"	1.50"	879-A-.050	\$23.30
.055"	.083"	.125"	1.50"	879-A-.055	\$23.30
.060"	.090"	.125"	1.50"	879-A-.060	\$23.30
.062"	.093"	.125"	1.50"	879-A-.062	\$21.92
.065"	.098"	.125"	1.50"	879-A-.065	\$21.92
.070"	.105"	.125"	1.50"	879-A-.070	\$21.92
.078"	.117"	.125"	1.50"	879-A-.078	\$21.92
.080"	.120"	.125"	1.50"	879-A-.080	\$21.92
.090"	.135"	.125"	1.50"	879-A-.090	\$21.92
.093"	.140"	.125"	1.50"	879-A-.093	\$21.92
.100"	.150"	.125"	1.50"	879-A-.100	\$21.92

SQUARE END, LONG SHANK STUB, COATED DECIMAL .010" - .100"



- Use: Graphites/ Composites
- Helix: 30 Degrees
- Center Cutting: Yes
- 3 Flute
- Amorphous Diamond Coated
- Diameter Tolerance: +/- .0005

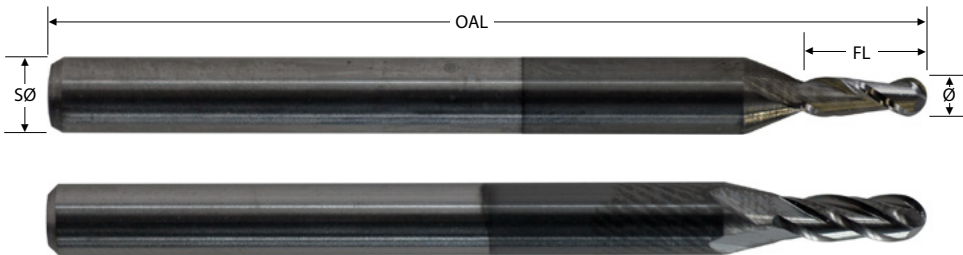


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
.010"	.015"	.125"	2.50"	888X-A-.010	\$31.14
.015"	.023"	.125"	2.50"	888X-A-.015	\$28.96
.020"	.030"	.125"	2.50"	888X-A-.020	\$28.16
.025"	.037"	.125"	2.50"	888X-A-.025	\$26.87
.030"	.045"	.125"	2.50"	888X-A-.030	\$26.87
.031"	.047"	.125"	2.50"	888X-A-.031	\$26.87
.035"	.052"	.125"	2.50"	888X-A-.035	\$26.87
.040"	.060"	.125"	2.50"	888X-A-.040	\$26.87
.045"	.067"	.125"	2.50"	888X-A-.045	\$26.27
.047"	.071"	.125"	2.50"	888X-A-.047	\$26.27
.050"	.075"	.125"	2.50"	888X-A-.050	\$26.27
.055"	.083"	.125"	2.50"	888X-A-.055	\$26.27
.060"	.090"	.125"	2.50"	888X-A-.060	\$26.27
.062"	.093"	.125"	2.50"	888X-A-.062	\$26.27
.065"	.098"	.125"	2.50"	888X-A-.065	\$26.27
.070"	.105"	.125"	2.50"	888X-A-.070	\$26.27
.078"	.117"	.125"	2.50"	888X-A-.078	\$26.27
.080"	.120"	.125"	2.50"	888X-A-.080	\$26.27
.090"	.135"	.125"	2.50"	888X-A-.090	\$26.27
.093"	.140"	.125"	2.50"	888X-A-.093	\$26.27
.100"	.150"	.125"	2.50"	888X-A-.100	\$26.27



BALL END, STANDARD, COATED DECIMAL .010" - .100"

- Use: Graphites/ Composites
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005
- Amorphous Diamond Coated

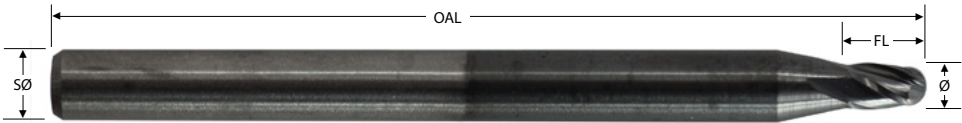


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.010"	.030"	.125"	1.50"	882-A-.010	883-A-.010	\$39.77
.015"	.045"	.125"	1.50"	882-A-.015	883-A-.015	\$33.92
.020"	.060"	.125"	1.50"	882-A-.020	883-A-.020	\$33.02
.025"	.075"	.125"	1.50"	882-A-.025	883-A-.025	\$30.94
.030"	.090"	.125"	1.50"	882-A-.030	883-A-.030	\$28.96
.031"	.093"	.125"	1.50"	882-A-.031	883-A-.031	\$28.96
.035"	.105"	.125"	1.50"	882-A-.035	883-A-.035	\$27.87
.040"	.120"	.125"	1.50"	882-A-.040	883-A-.040	\$27.87
.045"	.135"	.125"	1.50"	882-A-.045	883-A-.045	\$27.87
.047"	.141"	.125"	1.50"	882-A-.047	883-A-.047	\$27.87
.050"	.150"	.125"	1.50"	882-A-.050	883-A-.050	\$27.87
.055"	.165"	.125"	1.50"	882-A-.055	883-A-.055	\$27.87
.060"	.180"	.125"	1.50"	882-A-.060	883-A-.060	\$27.87
.062"	.1875"	.125"	1.50"	882-A-.062	883-A-.062	\$27.47
.065"	.195"	.125"	1.50"	882-A-.065	883-A-.065	\$27.47
.070"	.210"	.125"	1.50"	882-A-.070	883-A-.070	\$27.47
.078"	.234"	.125"	1.50"	882-A-.078	883-A-.078	\$27.47
.080"	.240"	.125"	1.50"	882-A-.080	883-A-.080	\$27.47
.090"	.270"	.125"	1.50"	882-A-.090	883-A-.090	\$27.47
.093"	.279"	.125"	1.50"	882-A-.093	883-A-.093	\$27.47
.100"	.300"	.125"	1.50"	882-A-.100	883-A-.100	\$27.47

BALL END, STUB, COATED DECIMAL .010" - .100"



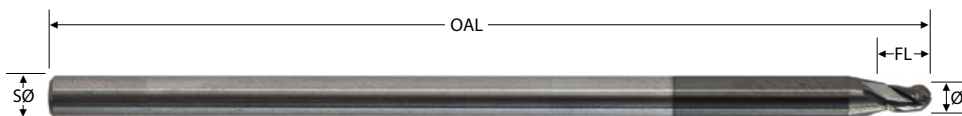
- Use: Graphites/ Composites
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- 4 Flute
- Center Cutting: Yes
- Diameter Tolerance: +/- .0005
- Amorphous Diamond Coated



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
.010"	.015"	.125"	1.50"	880-A-.010	\$39.77
.015"	.023"	.125"	1.50"	880-A-.015	\$33.92
.020"	.030"	.125"	1.50"	880-A-.020	\$33.92
.025"	.038"	.125"	1.50"	880-A-.025	\$30.94
.030"	.045"	.125"	1.50"	880-A-.030	\$30.94
.031"	.047"	.125"	1.50"	880-A-.031	\$28.96
.035"	.053"	.125"	1.50"	880-A-.035	\$27.87
.040"	.060"	.125"	1.50"	880-A-.040	\$27.87
.045"	.068"	.125"	1.50"	880-A-.045	\$27.87
.047"	.071"	.125"	1.50"	880-A-.047	\$27.87
.050"	.075"	.125"	1.50"	880-A-.050	\$27.87
.055"	.083"	.125"	1.50"	880-A-.055	\$27.87
.060"	.090"	.125"	1.50"	880-A-.060	\$27.87
.062"	.093"	.125"	1.50"	880-A-.062	\$27.47
.065"	.098"	.125"	1.50"	880-A-.065	\$27.47
.070"	.105"	.125"	1.50"	880-A-.070	\$27.47
.078"	.117"	.125"	1.50"	880-A-.078	\$27.47
.080"	.120"	.125"	1.50"	880-A-.080	\$27.47
.090"	.135"	.125"	1.50"	880-A-.090	\$27.47
.093"	.140"	.125"	1.50"	880-A-.093	\$27.47
.100"	.150"	.125"	1.50"	880-A-.100	\$27.47

BALL END, LONG SHANK, STUB, COATED DECIMAL .010" - .100"

- 3 Flute
- Amorphous Diamond Coated
- Diameter Tolerance: +/- .0005

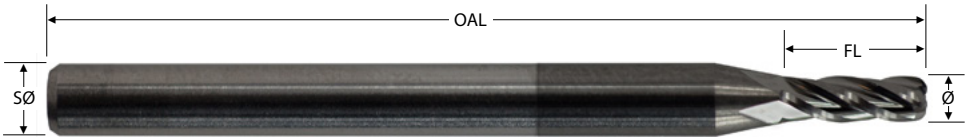


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
.010"	.015"	.125"	2.50"	888XB-A-.010	\$40.56
.015"	.023"	.125"	2.50"	888XB-A-.015	\$37.98
.020"	.030"	.125"	2.50"	888XB-A-.020	\$37.09
.025"	.037"	.125"	2.50"	888XB-A-.025	\$31.83
.030"	.045"	.125"	2.50"	888XB-A-.030	\$31.83
.031"	.047"	.125"	2.50"	888XB-A-.031	\$31.83
.035"	.052"	.125"	2.50"	888XB-A-.035	\$31.83
.040"	.060"	.125"	2.50"	888XB-A-.040	\$31.83
.045"	.067"	.125"	2.50"	888XB-A-.045	\$31.03
.047"	.071"	.125"	2.50"	888XB-A-.047	\$31.03
.050"	.075"	.125"	2.50"	888XB-A-.050	\$31.03
.055"	.083"	.125"	2.50"	888XB-A-.055	\$31.03
.060"	.090"	.125"	2.50"	888XB-A-.060	\$31.03
.062"	.093"	.125"	2.50"	888XB-A-.062	\$31.03
.065"	.098"	.125"	2.50"	888XB-A-.065	\$31.03
.070"	.105"	.125"	2.50"	888XB-A-.070	\$31.03
.078"	.117"	.125"	2.50"	888XB-A-.078	\$31.03
.080"	.120"	.125"	2.50"	888XB-A-.080	\$31.03
.090"	.135"	.125"	2.50"	888XB-A-.090	\$31.03
.093"	.140"	.125"	2.50"	888XB-A-.093	\$31.03
.100"	.150"	.125"	2.50"	888XB-A-.100	\$31.03

CORNER RADIUS, STANDARD, COATED DECIMAL .020"-.100"

NEW!

- 4 Flute
- Amorphous Diamond Coated
- Diameter Tolerance: $\pm .0005$

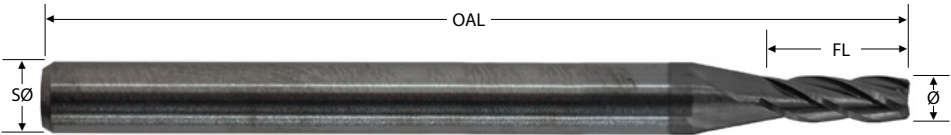


DIA	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		.005 CR	.010 CR	.015 CR	.020 CR	
.020"	.060"	.125"	1.50"	875A-CR5-.020	—	—	—	\$44.43
.025"	.075"	.125"	1.50"	875A-CR5-.025	—	—	—	\$41.35
.030"	.090"	.125"	1.50"	875A-CR5-.030	875A-CR10-.030	—	—	\$39.27
.031"	.093"	.125"	1.50"	875A-CR5-.031	875A-CR10-.031	—	—	\$39.27
.035"	.105"	.125"	1.50"	875A-CR5-.035	875A-CR10-.035	—	—	\$34.61
.040"	.120"	.125"	1.50"	875A-CR5-.040	875A-CR10-.040	—	—	\$28.76
.045"	.135"	.125"	1.50"	875A-CR5-.045	875A-CR10-.045	875A-CR15-.045	—	\$28.76
.047"	.141"	.125"	1.50"	875A-CR5-.047	875A-CR10-.047	875A-CR15-.047	—	\$28.76
.050"	.150"	.125"	1.50"	875A-CR5-.050	875A-CR10-.050	875A-CR15-.050	—	\$28.76
.055"	.165"	.125"	1.50"	875A-CR5-.055	875A-CR10-.055	875A-CR15-.055	—	\$28.76
.060"	.180"	.125"	1.50"	875A-CR5-.060	875A-CR10-.060	875A-CR15-.060	—	\$28.76
.062"	.186"	.125"	1.50"	875A-CR5-.062	875A-CR10-.062	875A-CR15-.062	875A-CR20-.062	\$28.76
.065"	.195"	.125"	1.50"	875A-CR5-.065	875A-CR10-.065	875A-CR15-.065	—	\$28.76
.070"	.210"	.125"	1.50"	875A-CR5-.070	875A-CR10-.070	875A-CR15-.070	—	\$28.76
.075"	.225"	.125"	1.50"	875A-CR5-.075	875A-CR10-.075	875A-CR15-.075	—	\$28.76
.078"	.234"	.125"	1.50"	875A-CR5-.078	875A-CR10-.078	875A-CR15-.078	875A-CR20-.078	\$28.76
.080"	.240"	.125"	1.50"	875A-CR5-.080	875A-CR10-.080	875A-CR15-.080	—	\$28.76
.085"	.255"	.125"	1.50"	875A-CR5-.085	875A-CR10-.085	875A-CR15-.085	—	\$28.76
.090"	.270"	.125"	1.50"	875A-CR5-.090	875A-CR10-.090	875A-CR15-.090	—	\$28.76
.093"	.279"	.125"	1.50"	875A-CR5-.093	875A-CR10-.093	875A-CR15-.093	875A-CR20-.093	\$28.76
.095"	.285"	.125"	1.50"	875A-CR5-.095	875A-CR10-.095	875A-CR15-.095	—	\$28.76
.100"	.300"	.125"	1.50"	875A-CR5-.100	875A-CR10-.100	875A-CR15-.100	—	\$28.76

SQUARE
XXX
CVD

**SQUARE END, STANDARD AND STUB, COATED
DECIMAL .015" - .093"**

- Use: Graphites/ Composites
- Extended Tool Life
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/-0.001
- Crystalline Diamond Coated



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
.015"	.045"	.125"	1.50"	875-CVD-.015	\$66.24
.020"	.060"	.125"	1.50"	875-CVD-.020	\$66.24
.031" (1/32")	.093"	.125"	1.50"	875-CVD-.031	\$66.24
.047" (3/64")	.141"	.125"	1.50"	875-CVD-.047	\$66.24
.062" (1/16")	.1875"	.125"	1.50"	875-CVD-.062	\$64.36
.093" (3/32")	.279"	.125"	1.50"	875-CVD-.093	\$64.36



LONG SHANK, STUB

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
.015"	.023"	.125"	2.50"	888X-CVD-.015	\$74.87
.020"	.030"	.125"	2.50"	888X-CVD-.020	\$74.87
.031"	.047"	.125"	2.50"	888X-CVD-.031	\$74.87
.047"	.071"	.125"	2.50"	888X-CVD-.047	\$74.87
.062"	.093"	.125"	2.50"	888X-CVD-.062	\$73.19
.093"	.140"	.125"	2.50"	888X-CVD-.093	\$73.19

SQUARE END, LONG REACH, STUB, COATED

DECIMAL .015" - .093"



· Crystalline Diamond Coated



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.015" (1/64")	.023"	.125"	2.50"	.078" (5X)	888X-R5CVD-.015	\$92.03
.015" (1/64")	.023"	.125"	2.50"	.125" (8X)	888X-R8CVD-.015	\$92.03
.015" (1/64")	.023"	.125"	2.50"	.1875" (12X)	888X-R12CVD-.015	\$94.51
.020"	.030"	.125"	2.50"	.100" (5X)	888X-R5CVD-.020	\$92.03
.020"	.030"	.125"	2.50"	.160" (8X)	888X-R8CVD-.020	\$92.03
.020"	.030"	.125"	2.50"	.250" (12X)	888X-R12CVD-.020	\$94.51
.031" (1/32")	.047"	.125"	2.50"	.155" (5X)	888X-R5CVD-.031	\$92.03
.031" (1/32")	.047"	.125"	2.50"	.250" (8X)	888X-R8CVD-.031	\$92.03
.031" (1/32")	.047"	.125"	2.50"	.375" (12X)	888X-R12CVD-.031	\$94.51
.047" (3/64")	.071"	.125"	2.50"	.250" (5X)	888X-R5CVD-.047	\$92.03
.047" (3/64")	.071"	.125"	2.50"	.375" (8X)	888X-R8CVD-.047	\$92.03
.047" (3/64")	.071"	.125"	2.50"	.570" (12X)	888X-R12CVD-.047	\$94.51
.062" (1/16")	.093"	.125"	2.50"	.312" (5X)	888X-R5CVD-.062	\$82.01
.062" (1/16")	.093"	.125"	2.50"	.500" (8X)	888X-R8CVD-.062	\$82.01
.062" (1/16")	.093"	.125"	2.50"	.750" (12X)	888X-R12CVD-.062	\$84.49
.093" (3/32")	.140"	.125"	2.50"	.500" (5X)	888X-R5CVD-.093	\$82.01
.093" (3/32")	.140"	.125"	2.50"	.750" (8X)	888X-R8CVD-.093	\$82.01
.093" (3/32")	.140"	.125"	2.50"	1.125" (12X)	888X-R12CVD-.093	\$84.49



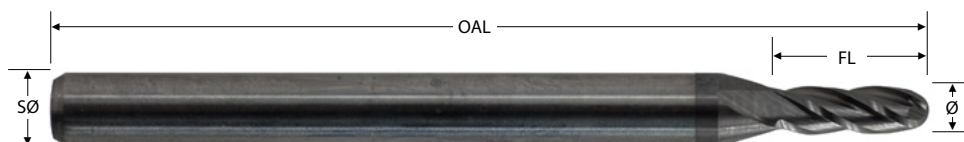
5X FLUTE, 10X REACH

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	4 FLUTE	
.015"	.075" (5X)	.125"	2.50"	.156" (10X)	875X-F5R10CVD-.015	\$105.41
.031"	.155" (5X)	.125"	2.50"	.312" (10X)	875X-F5R10CVD-.031	\$105.41
.047"	.235" (5X)	.125"	2.50"	.480" (10X)	875X-F5R10CVD-.047	\$105.41
.062"	.312" (5X)	.125"	2.50"	.625" (10X)	875X-F5R10CVD-.062	\$94.41
.078"	.390" (5X)	.125"	2.50"	.800" (10X)	875X-F5R10CVD-.078	\$94.41
.093"	.465" (5X)	.125"	2.50"	.950" (10X)	875X-F5R10CVD-.093	\$94.41

BALL END, STANDARD AND STUB, COATED DECIMAL .015" - .093"



- Use: Graphites/ Composites
- Extended Tool Life
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/-0.001
- Crystalline Diamond Coated



DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	RMT PART 4 FLUTE	LIST PRICE
.015"	.045"	.125"	1.50"	883-CVD-.015	\$72.19
.020"	.060"	.125"	1.50"	883-CVD-.020	\$72.19
.031" (1/32")	.093"	.125"	1.50"	883-CVD-.031	\$72.19
.047" (3/64")	.141"	.125"	1.50"	883-CVD-.047	\$72.19
.062" (1/16")	.1875"	.125"	1.50"	883-CVD-.062	\$68.33
.093" (3/32")	.279"	.125"	1.50"	883-CVD-.093	\$68.33



LONG SHANK, STUB

DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	RMT PART 3 FLUTE	LIST PRICE
.015"	.023"	.125"	2.50"	888XB-CVD-.015	\$80.82
.020"	.030"	.125"	2.50"	888XB-CVD-.020	\$80.82
.031"	.047"	.125"	2.50"	888XB-CVD-.031	\$80.82
.047"	.071"	.125"	2.50"	888XB-CVD-.047	\$80.82
.062"	.093"	.125"	2.50"	888XB-CVD-.062	\$76.95
.093"	.140"	.125"	2.50"	888XB-CVD-.093	\$76.95

BALL END, LONG REACH, STUB, COATED DECIMAL .015" - .093"

· Crystalline Diamond Coated



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.015" (1/64")	.023"	.125"	2.50"	.078" (5X)	888XB-R5CVD-.015	\$96.29
.015" (1/64")	.023"	.125"	2.50"	.125" (8X)	888XB-R8CVD-.015	\$96.29
.015" (1/64")	.023"	.125"	2.50"	.1875" (12X)	888XB-R12CVD-.015	\$98.77
.020"	.030"	.125"	2.50"	.100" (5X)	888XB-R5CVD-.020	\$96.29
.020"	.030"	.125"	2.50"	.160" (8X)	888XB-R8CVD-.020	\$96.29
.020"	.030"	.125"	2.50"	.250" (12X)	888XB-R12CVD-.020	\$98.77
.031" (1/32")	.047"	.125"	2.50"	.155" (5X)	888XB-R5CVD-.031	\$96.29
.031" (1/32")	.047"	.125"	2.50"	.250" (8X)	888XB-R8CVD-.031	\$96.29
.031" (1/32")	.047"	.125"	2.50"	.375" (12X)	888XB-R12CVD-.031	\$98.77
.047" (3/64")	.071"	.125"	2.50"	.250" (5X)	888XB-R5CVD-.047	\$96.29
.047" (3/64")	.071"	.125"	2.50"	.375" (8X)	888XB-R8CVD-.047	\$96.29
.047" (3/64")	.071"	.125"	2.50"	.570" (12X)	888XB-R12CVD-.047	\$98.77
.062" (1/16")	.093"	.125"	2.50"	.312" (5X)	888XB-R5CVD-.062	\$84.39
.062" (1/16")	.093"	.125"	2.50"	.500" (8X)	888XB-R8CVD-.062	\$84.39
.062" (1/16")	.093"	.125"	2.50"	.750" (12X)	888XB-R12CVD-.062	\$86.87
.093" (3/32")	.140"	.125"	2.50"	.500" (5X)	888XB-R5CVD-.093	\$84.39
.093" (3/32")	.140"	.125"	2.50"	.750" (8X)	888XB-R8CVD-.093	\$84.39
.093" (3/32")	.140"	.125"	2.50"	1.125" (12X)	888XB-R12CVD-.093	\$86.87



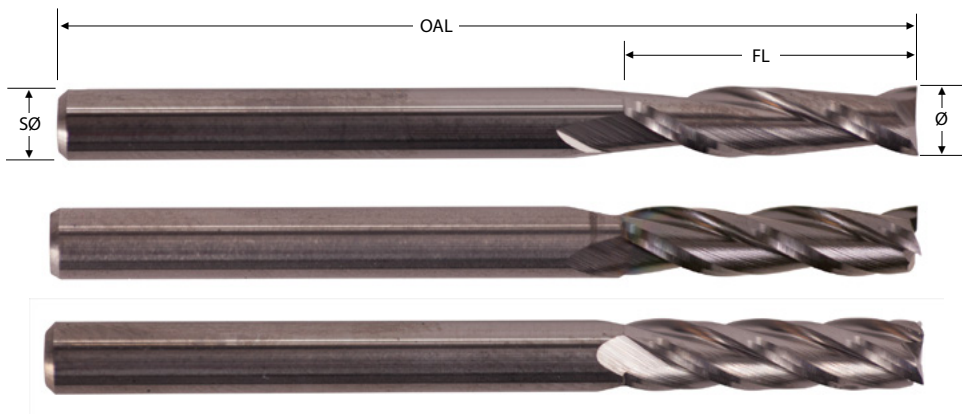
5X FLUTE, 10X REACH

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	4 FLUTE	
.015"	.075" (5X)	.125"	2.50"	.156" (10X)	875XB-F5R10CVD-.015	\$112.65
.031"	.155" (5X)	.125"	2.50"	.312" (10X)	875XB-F5R10CVD-.031	\$112.65
.047"	.235" (5X)	.125"	2.50"	.480" (10X)	875XB-F5R10CVD-.047	\$112.65
.062"	.312" (5X)	.125"	2.50"	.625" (10X)	875XB-F5R10CVD-.062	\$99.07
.078"	.390" (5X)	.125"	2.50"	.800" (10X)	875XB-F5R10CVD-.078	\$99.07
.093"	.465" (5X)	.125"	2.50"	.950" (10X)	875XB-F5R10CVD-.093	\$99.07



SQUARE END, STANDARD FRACTIONAL 1/32" - 1/2"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 1/32" to 1/4": +0.000/ -.002
 5/16" to 1/2": +0.000/ -.003

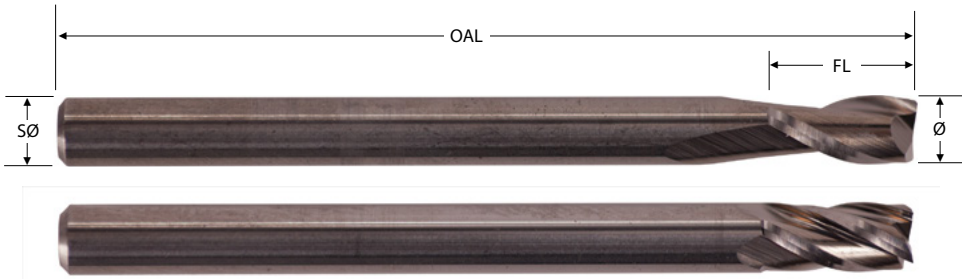


DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	RMT PART 2 FLUTE	RMT PART 3 FLUTE	RMT PART 4 FLUTE	LIST PRICE
1/32"	3/32"	.125"	1.50"	874-0031	13001	875-0031	\$14.89
3/64"	9/64"	.125"	1.50"	874-0046	13002	875-0046	\$12.57
1/16"	3/16"	.125"	1.50"	874-0062	13003	875-0062	\$11.22
5/64"	3/16"	.125"	1.50"	874-0078	13004	875-0078	\$11.22
3/32"	3/8"	.125"	1.50"	874-0093	13005	875-0093	\$11.22
7/64"	7/16"	.125"	1.50"	874-0109	13006	875-0109	\$11.50
1/8"	1/2"	.125"	1.50"	874-0125	13007	875-0125	\$11.50
9/64"	1/2"	.1875"	2.00"	874-0140	13008	875-0140	\$12.59
5/32"	9/16"	.1875"	2.00"	874-0156	13009	875-0156	\$12.59
11/64"	5/8"	.1875"	2.00"	874-0171	13010	875-0171	\$12.59
3/16"	5/8"	.1875"	2.00"	874-0187	13011	875-0187	\$12.59
13/64"	5/8"	.250"	2.50"	874-0203	13012	875-0203	\$13.88
7/32"	5/8"	.250"	2.50"	874-0219	13013	875-0219	\$13.88
15/64"	5/8"	.250"	2.50"	874-0234	13014	875-0234	\$13.88
1/4"	3/4"	.250"	2.50"	874-0250	13015	875-0250	\$13.88
5/16"	13/16"	.3125"	2.50"	874-0312	13019	875-0312	\$19.64
3/8"	1"	.375"	2.50"	874-0375	13023	875-0375	\$26.87
1/2"	1"	.500"	3.00"	874-0500	--	875-0500	\$55.73

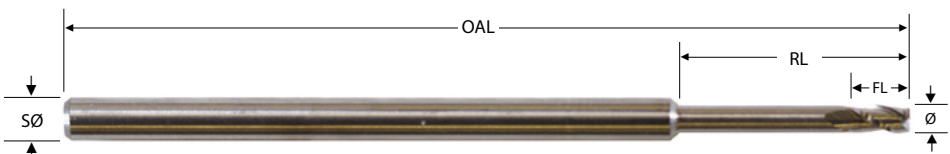
SQUARE END, STUB FRACTIONAL 1/32" - 1/4"



- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +0.000/ -.002



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
1/32"	1/16"	.125"	1.50"	878-0031	879-0031	\$14.89
3/64"	1/16"	.125"	1.50"	878-0046	879-0046	\$12.57
1/16"	1/8"	.125"	1.50"	878-0062	879-0062	\$11.22
3/32"	3/16"	.125"	1.50"	878-0093	879-0093	\$11.22
1/8"	1/4"	.125"	1.50"	878-0125	879-0125	\$11.50
5/32"	3/8"	.1875"	2.00"	878-0156	879-0156	\$12.59
3/16"	3/8"	.1875"	2.00"	878-0187	879-0187	\$12.59
1/4"	1/2"	.250"	2.00"	878-0250	879-0250	\$13.88



- Helix: 35 Degrees
- Diameter Tolerance: +0.000/-0.001

8X REACH STUB

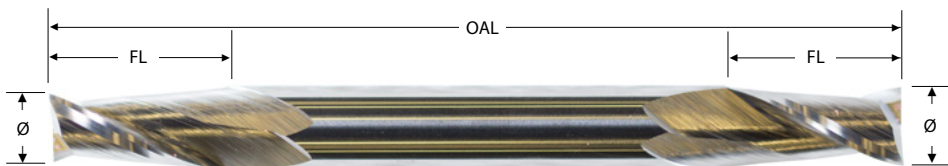
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
1/32"	.0625"	.125"	2.50"	.250" (8X)	3-0312RS	\$25.20
1/16"	.125"	.125"	2.50"	.500" (8X)	3-0625RS	\$25.20
3/32"	.1875"	.125"	2.50"	.750" (8X)	3-0938RS	\$25.20



X/X

SQUARE END, DOUBLE END, STUB FRACTIONAL 1/32" - 3/8"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 $1/32''$ to $1/4''$: $+0.000/-0.002$
 $5/16''$ to $3/8''$: $+0.000/-0.003$

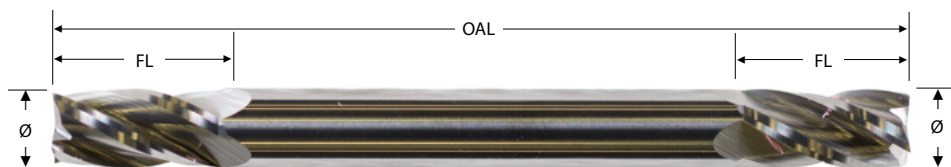


DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	RMT PART 2 FLUTE	LIST PRICE
1/32"	1/16"	.125"	1.50"	872-0031	\$17.01
3/64"	1/16"	.125"	1.50"	872-0046	\$17.01
1/16"	1/8"	.125"	1.50"	872-0062	\$16.20
5/64"	1/8"	.125"	1.50"	872-0078	\$16.20
3/32"	3/16"	.125"	1.50"	872-0093	\$16.20
7/64"	1/4"	.125"	1.50"	872-0109	\$16.20
1/8"	1/4"	.125"	1.50"	872-0125	\$16.20
9/64"	5/16"	.1875"	2.00"	872-0140	\$21.99
5/32"	5/16"	.1875"	2.00"	872-0156	\$21.99
11/64"	3/8"	.1875"	2.00"	872-0171	\$21.99
3/16"	3/8"	.1875"	2.00"	872-0187	\$21.99
7/32"	1/2"	.250"	2.50"	872-0219	\$27.27
1/4"	1/2"	.250"	2.50"	872-0250	\$27.27
5/16"	1/2"	.3125"	2.50"	872-0312	\$37.67
3/8"	1/2"	.3125"	2.50"	872-0375	\$40.28

SQUARE END, DOUBLE END, STUB FRACTIONAL 1/32" - 3/8"



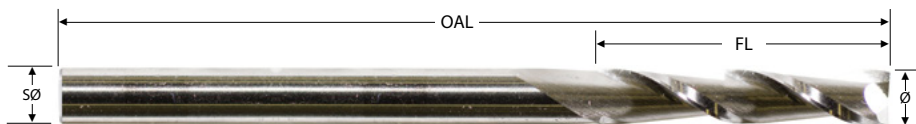
- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 $1/32''$ to $1/4''$: $+0.000/-0.002$
 $5/16''$ to $3/8''$: $+0.000/-0.003$



DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	RMT PART 4 FLUTE	LIST PRICE
1/32"	1/16"	.125"	1.50"	873-0031	\$17.89
3/64"	1/16"	.125"	1.50"	873-0046	\$17.89
1/16"	1/8"	.125"	1.50"	873-0062	\$17.02
5/64"	1/8"	.125"	1.50"	873-0078	\$17.02
3/32"	3/16"	.125"	1.50"	873-0093	\$17.02
7/64"	1/4"	.125"	1.50"	873-0109	\$17.02
1/8"	1/4"	.125"	1.50"	873-0125	\$17.02
9/64"	5/16"	.1875"	2.00"	873-0140	\$23.06
5/32"	5/16"	.1875"	2.00"	873-0156	\$23.06
11/64"	3/8"	.1875"	2.00"	873-0171	\$23.06
3/16"	3/8"	.1875"	2.00"	873-0187	\$23.06
7/32"	1/2"	.250"	2.50"	873-0219	\$28.60
1/4"	1/2"	.250"	2.50"	873-0250	\$28.60
5/16"	1/2"	.3125"	2.50"	873-0312	\$39.57
3/8"	1/2"	.3125"	2.50"	873-0375	\$42.28



SQUARE END, LONG FLUTE, LONG SHANK FRACTIONAL 1/64" - 1/2"



· Helix: 30 Degrees

· Diameter Tolerance: +0.000/ -.002

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
1/8"	.750"	.125"	2.25"	16201	17201	\$18.10
1/8"	1.000"	.125"	3.00"	16202	17202	\$20.25
3/16"	.750"	.1875"	2.50"	16203	17203	\$21.25
3/16"	1.125"	.1875"	3.00"	16204	17204	\$21.52
1/4"	1.125"	.250"	3.00"	16205	17205	\$30.40
1/4"	1.000"	.250"	4.00"	16206	17206	\$32.05
1/4"	1.500"	.250"	4.00"	16207	17207	\$37.19
1/4"	1.500"	.250"	6.00"	16208	17208	\$42.05
5/16"	1.125"	.3125"	3.00"	16209	17209	\$34.30
5/16"	1.625"	.3125"	4.00"	16210	17210	\$35.11
3/8"	1.125"	.375"	3.00"	16211	17211	\$39.35
3/8"	1.000"	.375"	4.00"	16212	17212	\$45.95
3/8"	1.750"	.375"	4.00"	16213	17213	\$37.29
3/8"	1.500"	.375"	6.00"	16214	17214	\$72.90
1/2"	2.000"	.500"	4.00"	16218	17218	\$52.76



· Helix: 35 Degrees

· Diameter Tolerance: +0.000/ -.001

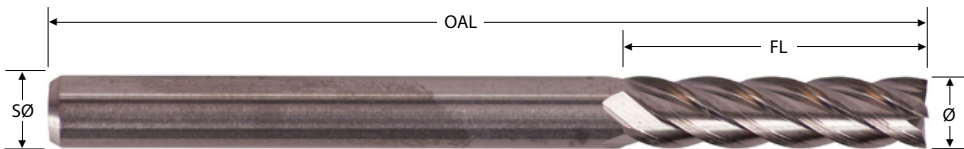
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
1/64"	.078"	.125"	2.50"	3-0156	\$27.97
1/32"	.156"	.125"	2.50"	3-0312	\$22.02
3/64"	.250"	.125"	2.50"	3-0469	\$21.42
1/16"	.500"	.125"	2.50"	3-0625	\$21.92
5/64"	.500"	.125"	2.50"	3-0781	\$19.64
3/32"	.750"	.125"	2.50"	3-0938	\$21.92
1/8"	1.000"	.125"	3.00"	3-1250	\$20.63

MULTI FLUTE

FRACTIONAL 1/32" - 1/4"



- Use: General Purpose
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +0/- .001



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		5 FLUTE	
1/32"	3/32"	.125"	1.50"	889MF-0031	\$23.11
3/64"	9/64"	.125"	1.50"	889MF-0046	\$23.11
1/16"	3/16"	.125"	1.50"	889MF-0062	\$21.46
5/64"	3/16"	.125"	1.50"	889MF-0078	\$21.46
3/32"	3/8"	.125"	1.50"	889MF-0093	\$21.46
1/8"	1/2"	.125"	1.50"	889MF-0125	\$20.63
3/16"	5/8"	.1875"	2.00"	889MF-0187	\$24.30
1/4"	3/4"	.250"	2.50"	889MF-0250	\$32.43





45 AND 60 DEG. HELIX FRACTIONAL 1/32" - 3/8"

- Helix: 45 & 60 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive

- Diameter Tolerance:
2 Flutes: +0.000/ -.001
3 Flutes: +0.000/ -.002



SQUARE END, 45 DEG. HELIX 1/32" - 3/8"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
1/32"	3/32"	.125"	1.50"	874HH-0031	\$16.83
3/64"	9/64"	.125"	1.50"	874HH-0046	\$16.83
1/16"	3/16"	.125"	1.50"	874HH-0062	\$14.58
5/64"	3/16"	.125"	1.50"	874HH-0078	\$14.70
3/32"	3/8"	.125"	1.50"	874HH-0093	\$14.70
1/8"	3/8"	.125"	1.50"	874HH-0125	\$14.58
3/16"	5/8"	.1875"	2.00"	874HH-0187	\$16.46
1/4"	3/4"	.250"	2.50"	874HH-0250	\$20.53
(Ø)	(FL)	(SØ)		3 FLUTE	
1/8"	1/2"	.125"	1.50"	12499	\$20.30
3/16"	5/8"	.1875"	2.00"	12500	\$24.30
1/4"	3/4"	.250"	2.50"	12501	\$26.05
5/16"	13/16"	.3125"	2.50"	12502	\$31.50
3/8"	7/8"	.375"	2.50"	12503	\$42.15



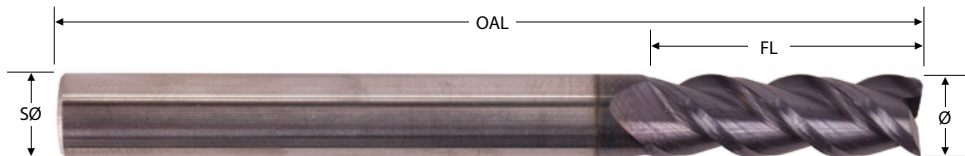
SQUARE END, 60 DEG. HELIX 1/8" - 3/8"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
1/8"	1/2"	.125"	1.50"	12699	\$20.30
3/16"	5/8"	.1875"	2.00"	12700	\$24.30
1/4"	3/4"	.250"	2.50"	12701	\$26.05
5/16"	13/16"	.3125"	2.50"	12702	\$31.50
3/8"	7/8"	.375"	2.50"	12703	\$42.15

45 AND 60 DEG. HELIX, COATED FRACTIONAL 1/8" - 3/8"



· Aluminum Titanium Nitride Coated



SQUARE END, 45 DEG. HELIX (ALTiN) 1/8" - 3/8"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
1/8"	1/2"	.125"	1.50"	12599	\$25.35
3/16"	5/8"	.1875"	2.00"	12600	\$30.35
1/4"	3/4"	.250"	2.50"	12601	\$32.55
5/16"	13/16"	.3125"	2.50"	12602	\$39.35
3/8"	7/8"	.375"	2.50"	12603	\$52.70



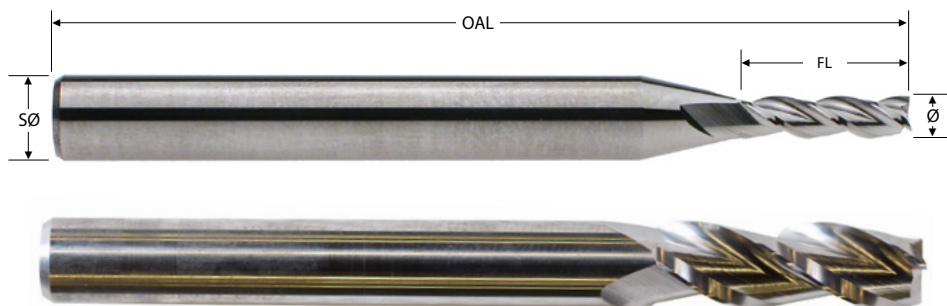
SQUARE END, 60 DEG. HELIX (ALTiN) 1/8" - 3/8"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
1/8"	1/2"	.125"	1.50"	12799	\$25.35
3/16"	5/8"	.1875"	2.00"	12800	\$30.35
1/4"	3/4"	.250"	2.50"	12801	\$32.55
5/16"	13/16"	.3125"	2.50"	12802	\$39.35
3/8"	7/8"	.375"	2.50"	12803	\$52.70



Q MILLS FRACTIONAL 1/32"- 1/4"

- High Performance
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +0.000/ -.001



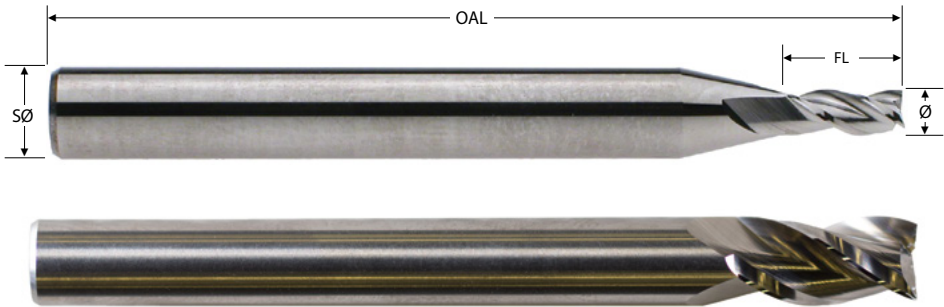
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
1/32"	3/32"	.250"	2.50"	885-SS0031	\$20.14
3/64"	9/64"	.250"	2.50"	885-SS0046	\$20.14
1/16"	3/16"	.250"	2.50"	885-SS0062	\$19.89
5/64"	3/16"	.250"	2.50"	885-SS0078	\$19.89
3/32"	3/8"	.250"	2.50"	885-SS0093	\$19.89
7/64"	7/16"	.250"	2.50"	885-SS0109	\$19.89
1/8"	1/2"	.250"	2.50"	885-SS0125	\$19.89
5/32"	9/16"	.250"	2.50"	885-SS0156	\$14.71
3/16"	5/8"	.250"	2.50"	885-SS0187	\$14.71
7/32"	5/8"	.250"	2.50"	885-SS0219	\$24.86
1/4"	3/4"	.250"	2.50"	885-SS0250	\$21.32

- Designed with a fast helix and 3 flutes. Manufactured from precision performing sub micro-grain carbide, the 1/4" shank provides greater rigidity and is easier to handle.
- CNC ground to exact tolerances, specifications and finish to provide increased rates of stock removal with an improved part finish.

QS MILLS FRACTIONAL 1/32"- 1/4"



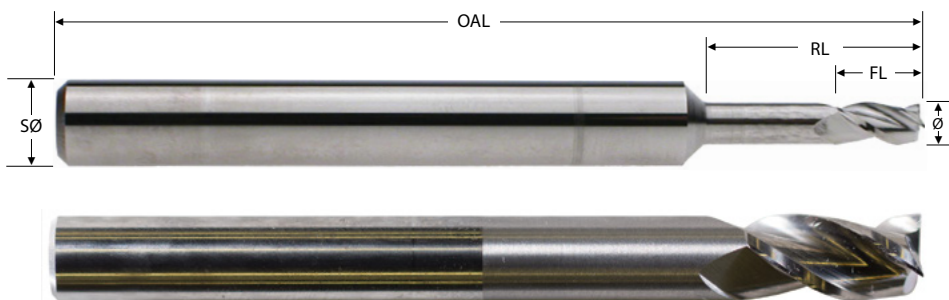
- High Performance
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +0.000/ -.001



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
1/32"	1/16"	.250"	2.50"	884-SS0031	\$14.71
3/64"	3/32"	.250"	2.50"	884-SS0046	\$14.71
1/16"	1/8"	.250"	2.50"	884-SS0062	\$14.50
5/64"	1/8"	.250"	2.50"	884-SS0078	\$14.50
3/32"	3/16"	.250"	2.50"	884-SS0093	\$14.50
7/64"	3/16"	.250"	2.50"	884-SS0109	\$14.50
1/8"	1/4"	.250"	2.50"	884-SS0125	\$14.50
5/32"	3/8"	.250"	2.50"	884-SS0156	\$17.07
3/16"	3/8"	.250"	2.50"	884-SS0187	\$17.07
7/32"	3/8"	.250"	2.50"	884-SS0219	\$15.63
1/4"	1/2"	.250"	2.50"	884-SS0250	\$15.63

QSR MILLS FRACTIONAL 1/32"- 1/4"

- High Performance
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +0.000/ -.001

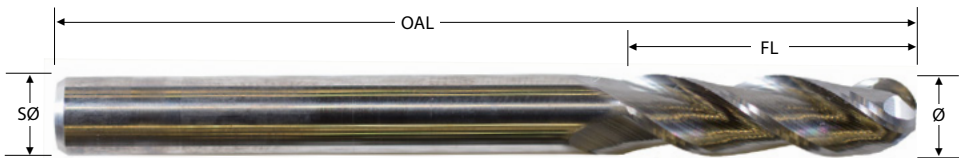


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
1/32"	1/16"	.250"	2.50"	.155" (5X)	884-SS0031LBS	\$29.57
3/64"	3/32"	.250"	2.50"	.230" (5X)	884-SS0046LBS	\$29.57
1/16"	1/8"	.250"	2.50"	.312" (5X)	884-SS0062LBS	\$26.39
5/64"	1/8"	.250"	2.50"	.390" (5X)	884-SS0078LBS	\$26.39
3/32"	3/16"	.250"	2.50"	.465" (5X)	884-SS0093LBS	\$26.39
7/64"	3/16"	.250"	2.50"	.545" (5X)	884-SS0109LBS	\$22.96
1/8"	1/4"	.250"	2.50"	.625" (5X)	884-SS0125LBS	\$22.96
5/32"	3/8"	.250"	2.50"	.780" (5X)	884-SS0156LBS	\$26.09
3/16"	3/8"	.250"	2.50"	.9375" (5X)	884-SS0187LBS	\$26.09
7/32"	3/8"	.250"	2.50"	1.093" (5X)	884-SS0219LBS	\$26.70
1/4"	1/2"	.250"	2.50"	1.250" (5X)	884-SS0250LBS	\$26.70

QB MILLS FRACTIONAL 1/32" - 1/4"



- High Performance
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +0.000/ -.001



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
1/32"	1/16"	.250"	2.50"	885B-SS0031	\$26.24
1/16"	1/8"	.250"	2.50"	885B-SS0062	\$25.52
3/32"	3/16"	.250"	2.50"	885B-SS0093	\$24.91
1/8"	1/4"	.250"	2.50"	885B-SS0125	\$24.91
3/16"	3/8"	.250"	2.50"	885B-SS0187	\$24.91
1/4"	1/2"	.250"	2.50"	885B-SS0250	\$24.91



American Made... In America's Hometown!

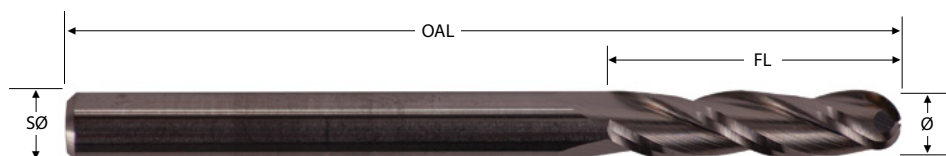
A representative is standing by to take your order!

CALL 800-233-9956



BALL END, STANDARD FRACTIONAL 1/32" - 3/8"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
 $1/32''$ to $1/4''$: $+0.000/-0.002$
 $5/16''$ to $3/8''$: $+0.000/-0.003$

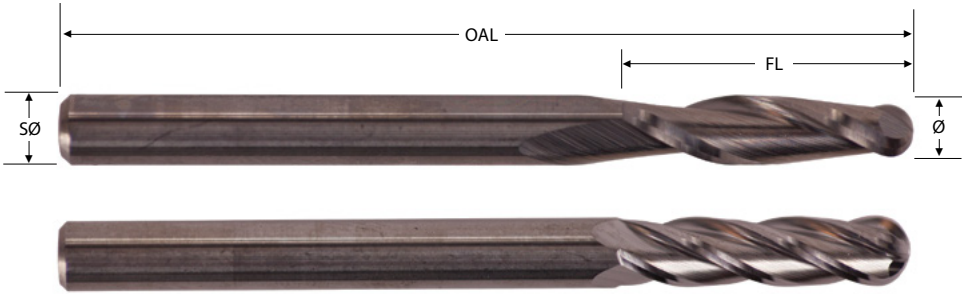


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
1/32"	3/32"	.125"	1.50"	13001BN	\$18.23
3/64"	9/64"	.125"	1.50"	13002BN	\$17.02
1/16"	3/16"	.125"	1.50"	13003BN	\$16.63
5/64"	3/16"	.125"	1.50"	13004BN	\$16.63
3/32"	3/8"	.125"	1.50"	13005BN	\$16.63
7/64"	7/16"	.125"	1.50"	13006BN	\$17.06
1/8"	1/2"	.125"	1.50"	13007BN	\$17.06
9/64"	1/2"	.1875"	2.00"	13008BN	\$18.15
5/32"	9/16"	.1875"	2.00"	13009BN	\$18.15
11/64"	5/8"	.1875"	2.00"	13010BN	\$18.15
3/16"	5/8"	.1875"	2.00"	13011BN	\$18.15
13/64"	5/8"	.250"	2.50"	13012BN	\$20.43
7/32"	5/8"	.250"	2.50"	13013BN	\$20.43
15/64"	5/8"	.250"	2.50"	13014BN	\$20.43
1/4"	3/4"	.250"	2.50"	13015BN	\$20.43
5/16"	13/16"	.3125"	2.50"	13019BN	\$28.75
3/8"	1"	.375"	2.50"	13023BN	\$32.72

BALL END, STANDARD FRACTIONAL 1/32" - 1/2"



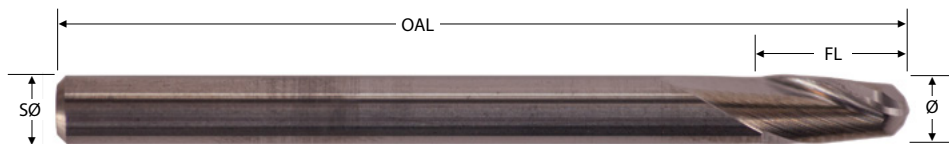
- 2 Flute End Mills - Best used for slotting non-ferrous, plastic and composite materials
- 4 Flute End Mills - Best used for profile and contour milling



DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	RMT PART 2 FLUTE	RMT PART 4 FLUTE	LIST PRICE
1/32"	3/32"	.125"	1.50"	882-0031	883-0031	\$18.08
3/64"	9/64"	.125"	1.50"	882-0046	883-0046	\$17.02
1/16"	3/16"	.125"	1.50"	882-0062	883-0062	\$16.63
5/64"	3/16"	.125"	1.50"	882-0078	883-0078	\$16.63
3/32"	3/8"	.125"	1.50"	882-0093	883-0093	\$16.63
7/64"	7/16"	.125"	1.50"	882-0109	883-0109	\$17.06
1/8"	1/2"	.125"	1.50"	882-0125	883-0125	\$17.06
9/64"	1/2"	.1875"	2.00"	882-0140	883-0140	\$18.15
5/32"	9/16"	.1875"	2.00"	882-0156	883-0156	\$18.15
11/64"	5/8"	.1875"	2.00"	882-0171	883-0171	\$18.15
3/16"	5/8"	.1875"	2.00"	882-0187	883-0187	\$18.15
13/64"	5/8"	.250"	2.50"	882-0203	883-0203	\$20.43
7/32"	5/8"	.250"	2.50"	882-0219	883-0219	\$20.43
15/64"	5/8"	.250"	2.50"	882-0234	883-0234	\$20.43
1/4"	3/4"	.250"	2.50"	882-0250	883-0250	\$20.43
5/16"	13/16"	.3125"	2.50"	882-0312	883-0312	\$28.75
3/8"	1"	.375"	2.50"	882-0375	883-0375	\$32.72
1/2"	1"	.500"	3.00"	882-0500	883-0500	\$67.13

BALL END, STUB FRACTIONAL 1/32" - 1/4"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +/- .0002



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
1/32"	1/16"	.125"	1.50"	876-0031	\$18.08
3/64"	1/16"	.125"	1.50"	876-0046	\$17.02
1/16"	1/8"	.125"	1.50"	876-0062	\$16.63
3/32"	3/16"	.125"	1.50"	876-0093	\$16.63
1/8"	1/4"	.125"	1.50"	876-0125	\$17.06
5/32"	3/8"	.1875"	2.00"	876-0156	\$18.15
3/16"	3/8"	.1875"	2.00"	876-0187	\$18.15
1/4"	1/2"	.250"	2.00"	876-0250	\$20.43

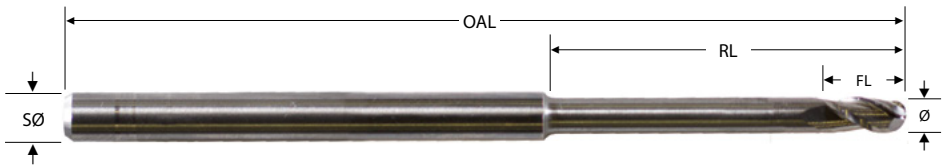


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
1/32"	1/16"	.125"	1.50"	880-0031	\$18.08
3/64"	1/16"	.125"	1.50"	880-0046	\$17.02
1/16"	1/8"	.125"	1.50"	880-0062	\$16.63
3/32"	3/16"	.125"	1.50"	880-0093	\$16.63
1/8"	1/4"	.125"	1.50"	880-0125	\$17.06
5/32"	3/8"	.1875"	2.00"	880-0156	\$18.15
3/16"	3/8"	.1875"	2.00"	880-0187	\$18.15
1/4"	1/2"	.250"	2.00"	880-0250	\$20.43

BALL END, LONG SHANK, LONG REACH, STUB FRACTIONAL 1/32" - 3/32"



- Use: General Purpose
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +0.000/ -.001



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
1/32"	.0625"	.125"	2.50"	.250" (8X)	3-0312RSB	\$27.50
1/16"	.125"	.125"	2.50"	.500" (8X)	3-0625RSB	\$36.00
3/32"	.1875"	.125"	2.50"	.750" (8X)	3-0938RSB	\$27.50





BALL END, LONG FLUTE, LONG SHANK
FRACTIONAL 1/8"- 1/2"

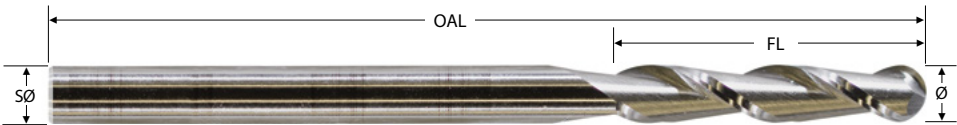
- Use: General Purpose

· Hand: RHS/ RHC

· Helix: 30 Degrees
- Rake Angle: Positive

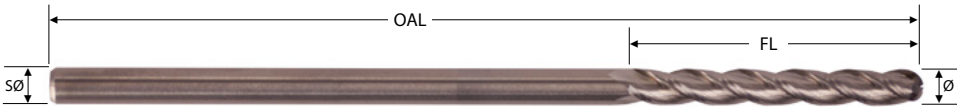
· Center Cutting: Yes

· Diameter Tolerance: +0.000/ -.002



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
1/8"	.750"	.125"	2.25"	16301	\$18.10
1/8"	1.000"	.125"	3.00"	16302	\$20.25
3/16"	.750"	.1875"	2.50"	16303	\$21.25
3/16"	1.125"	.1875"	3.00"	16304	\$22.95
1/4"	1.125"	.250"	3.00"	16305	\$30.40
1/4"	1.000"	.250"	4.00"	16306	\$32.05
1/4"	1.500"	.250"	4.00"	16307	\$31.10
1/4"	1.500"	.250"	6.00"	16308	\$42.05
5/16"	1.125"	.3125"	3.00"	16309	\$34.30
5/16"	1.625"	.3125"	4.00"	16310	\$42.40
3/8"	1.125"	.375"	3.00"	16311	\$39.35
3/8"	1.000"	.375"	4.00"	16312	\$45.95
3/8"	1.750"	.375"	4.00"	16313	\$48.15
3/8"	1.500"	.375"	6.00"	16314	\$72.90
1/2"	2.000"	.500"	4.00"	16318	\$71.12

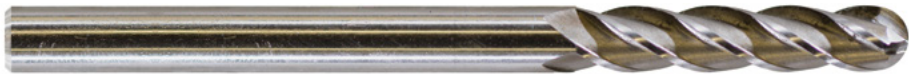
BALL END, LONG FLUTE, LONG SHANK FRACTIONAL 1/64" - 1/2"



· Helix: 35 Degrees

· Diameter Tolerance: +0.000/ -.001

DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	RMT PART 3 FLUTE	LIST PRICE
1/64"	.078"	.125"	2.50"	3-0156B	\$32.03
1/32"	.156"	.125"	2.50"	3-0312B	\$25.19
3/64"	.250"	.125"	2.50"	3-0469B	\$24.49
1/16"	.500"	.125"	2.50"	3-0625B	\$25.09
5/64"	.500"	.125"	2.50"	3-0781B	\$22.41
3/32"	.750"	.125"	2.50"	3-0938B	\$25.09
1/8"	1.000"	.125"	3.00"	3-1250B	\$22.91



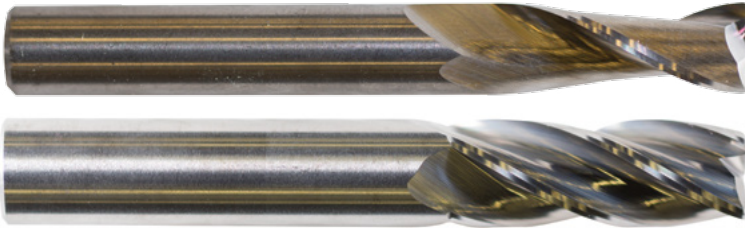
· Helix: 30 Degrees

· Diameter Tolerance: +0.000/ -.002

DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	RMT PART 4 FLUTE	LIST PRICE
1/8"	.750"	.125"	2.25"	17301	\$21.55
1/8"	1.000"	.125"	3.00"	17302	\$24.10
3/16"	.750"	.1875"	2.50"	17303	\$24.80
3/16"	1.125"	.1875"	3.00"	17304	\$24.49
1/4"	1.125"	.250"	3.00"	17305	\$34.85
1/4"	1.000"	.250"	4.00"	17306	\$38.45
1/4"	1.500"	.250"	4.00"	17307	\$27.57
1/4"	1.500"	.250"	6.00"	17308	\$43.05
5/16"	1.125"	.3125"	3.00"	17309	\$40.95
5/16"	1.625"	.3125"	4.00"	17310	\$37.68
3/8"	1.125"	.375"	3.00"	17311	\$47.25
3/8"	1.000"	.375"	4.00"	17312	\$57.90
3/8"	1.750"	.375"	4.00"	17313	\$47.50
3/8"	1.500"	.375"	6.00"	17314	\$77.60
1/2"	2.000"	.500"	4.00"	17318	\$58.81

CORNER RADIUS, STANDARD FRACTIONAL 1/8" - 3/8"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
1/32" to 1/4": +0.000/ -.002
5/16" to 3/8": +0.000/ -.003



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	CORNER RADIUS	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)			2 FLUTE	4 FLUTE	
1/8"	1/2"	.125"	1.50"	.010"	12007CR.010	14007CR.010	\$18.35
3/16"	5/8"	.1875"	2.00"	.010"	12011CR.010	14011CR.010	\$20.53
1/8"	1/2"	.125"	1.50"	.015"	12007CR.015	14007CR.015	\$18.35
3/16"	5/8"	.1875"	2.00"	.015"	12011CR.015	14011CR.015	\$20.53
1/4"	3/4"	.250"	2.50"	.015"	12015CR.015	14015CR.015	\$24.99
5/16"	13/16"	.3125"	2.50"	.015"	12019CR.015	14019CR.015	\$31.54
3/8"	1"	.375"	2.50"	.015"	12023CR.015	14023CR.015	\$38.08
1/8"	1/2"	.125"	1.50"	.020"	12007CR.020	14007CR.020	\$18.35
1/4"	3/4"	.250"	2.50"	.020"	12015CR.020	14015CR.020	\$24.99
5/16"	13/16"	.3125"	2.50"	.020"	12019CR.020	14019CR.020	\$31.54
3/16"	5/8"	.1875"	2.00"	.030"	12011CR.030	14011CR.030	\$20.53
1/4"	3/4"	.250"	2.50"	.030"	12015CR.030	14015CR.030	\$24.99
5/16"	13/16"	.3125"	2.50"	.030"	12019CR.030	14019CR.030	\$31.54
3/8"	1"	.375"	2.50"	.030"	12023CR.030	14023CR.030	\$38.08
1/4"	3/4"	.250"	2.50"	.045"	12015CR.045	14015CR.045	\$24.99
5/16"	13/16"	.3125"	2.50"	.045"	12019CR.045	14019CR.045	\$31.54
3/8"	1"	.375"	2.50"	.045"	12023CR.045	14023CR.045	\$38.08
1/4"	3/4"	.250"	2.50"	.060"	12015CR.060	14015CR.060	\$24.99
5/16"	13/16"	.3125"	2.50"	.060"	12019CR.060	14019CR.060	\$31.54
3/8"	1"	.375"	2.50"	.060"	12023CR.060	14023CR.060	\$38.08

HARD MILL COATED, 4 FLUTE STUB FRACTIONAL 1/32" - 1/4"

CORNER
RADIUS

X/X

HM

- Use: Tool Steels/ High Rc
- Helix: 18 Degrees
- Hand: RHS/ RHC
- Rake Angle: Neutral
- Corner Radius Stub
- Center Cutting: Yes
- Diameter Tolerance: +0.000 /-.001



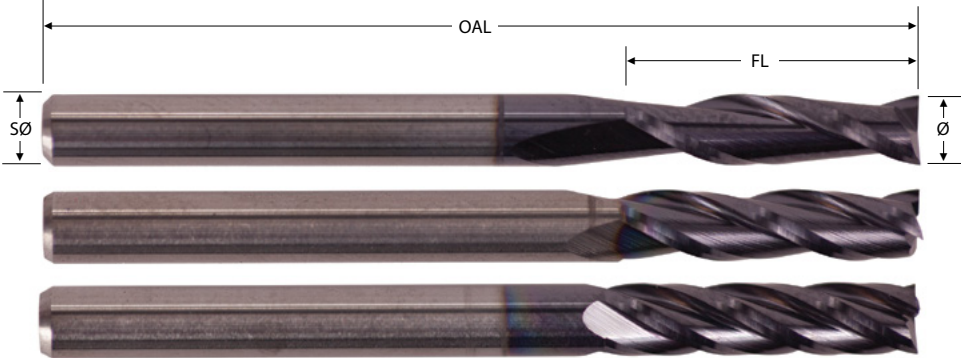
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	CORNER RADIUS	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)			4 FLUTE	
1/32"	1/16"	.125"	1.50"	.003"	879HM-0031	\$48.06
3/64"	1/16"	.125"	1.50"	.005"	879HM-0046	\$48.06
1/16"	1/8"	.125"	1.50"	.006"	879HM-0062	\$48.06
5/64"	1/8"	.125"	1.50"	.008"	879HM-0078	\$48.06
3/32"	3/16"	.125"	1.50"	.009"	879HM-0093	\$48.06
1/8"	1/4"	.125"	1.50"	.013"	879HM-0125	\$55.69
3/16"	3/8"	.1875"	2.00"	.019"	879HM-0187	\$55.69
1/4"	1/2"	.250"	2.50"	.025"	879HM-0250	\$55.69



TIALN

SQUARE END, STANDARD AND STUB, COATED
FRACTIONAL 1/32" - 1/8"

- Titanium Aluminum Nitride Coated
- High Performance



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	3 FLUTE	4 FLUTE	
1/32"	3/32"	.125"	1.50"	874-C-0031	13001-C	875-C-0031	\$18.76
3/64"	9/64"	.125"	1.50"	874-C-0046	13002-C	875-C-0046	\$16.44
1/16"	3/16"	.125"	1.50"	874-C-0062	13003-C	875-C-0062	\$15.08
5/64"	3/16"	.125"	1.50"	874-C-0078	13004-C	875-C-0078	\$15.08
3/32"	3/8"	.125"	1.50"	874-C-0093	13005-C	875-C-0093	\$15.08
1/8"	1/2"	.125"	1.50"	874-C-0125	13007-C	875-C-0125	\$15.47

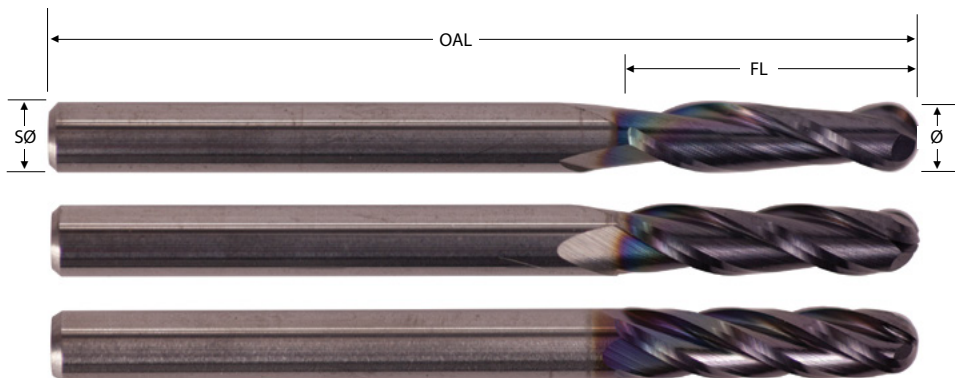


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
1/32"	1/16"	.125"	1.50"	878-C-0031	879-C-0031	\$18.76
3/64"	1/16"	.125"	1.50"	878-C-0046	879-C-0046	\$16.44
1/16"	1/8"	.125"	1.50"	878-C-0062	879-C-0062	\$15.08
3/32"	3/16"	.125"	1.50"	878-C-0093	879-C-0093	\$15.08
1/8"	1/4"	.125"	1.50"	878-C-0125	879-C-0125	\$15.47

BALL END, STANDARD AND STUB, COATED FRACTIONAL 1/32" - 1/8"



- Titanium Aluminum Nitride Coated
- High Performance



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	3 FLUTE	4 FLUTE	
1/32"	3/32"	.125"	1.50"	882-C-0031	13001BN-C	883-C-0031	\$18.76
3/64"	9/64"	.125"	1.50"	882-C-0046	13002BN-C	883-C-0046	\$16.44
1/16"	3/16"	.125"	1.50"	882-C-0062	13003BN-C	883-C-0062	\$15.08
5/64"	3/16"	.125"	1.50"	882-C-0078	13004BN-C	883-C-0078	\$15.08
3/32"	3/8"	.125"	1.50"	882-C-0093	13005BN-C	883-C-0093	\$15.08
1/8"	1/2"	.125"	1.50"	874-C-0125	13007BN-C	883-C-0125	\$15.47



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
1/32"	1/16"	.125"	1.50"	876-C-0031	880-C-0031	\$18.76
3/64"	1/16"	.125"	1.50"	876-C-0046	880-C-0046	\$16.44
1/16"	1/8"	.125"	1.50"	876-C-0062	880-C-0062	\$15.08
3/32"	3/16"	.125"	1.50"	876-C-0093	880-C-0093	\$15.08
1/8"	1/4"	.125"	1.50"	876-C-0125	880-C-0125	\$15.47

SQUARE END, STANDARD, COATED FRACTIONAL 1/32" - 1/2"

- Use: Graphites/ Composites
- 30° Helix
- Amorphous Diamond Coated

- Center Cutting: Yes
- Diameter Tolerance:

1/32" to 1/4": +0.000/ -.002

5/16" to 1/2": +0.000/ -.003



- 2 Flute End Mills - Best used for slotting non-ferrous, plastic and composite materials
- 4 Flute End Mills - Best used for profile and contour milling

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
1/32"	3/32"	.125"	1.50"	AD12001	AD14001	\$25.04
3/64"	9/64"	.125"	1.50"	AD12002	AD14002	\$22.72
1/16"	3/16"	.125"	1.50"	AD12003	AD14003	\$21.37
5/64"	3/16"	.125"	1.50"	AD12004	AD14004	\$21.37
3/32"	3/8"	.125"	1.50"	AD12005	AD14005	\$21.37
7/64"	7/16"	.125"	1.50"	AD12006	AD14006	\$21.92
1/8"	1/2"	.125"	1.50"	AD12007	AD14007	\$21.92
9/64"	1/2"	.1875"	2.00"	AD12008	AD14008	\$26.97
5/32"	9/16"	.1875"	2.00"	AD12009	AD14009	\$26.97
3/16"	5/8"	.1875"	2.00"	AD12011	AD14011	\$26.97
1/4"	3/4"	.250"	2.50"	AD12015	AD14015	\$30.25
3/8"	1"	.375"	2.50"	AD12023	AD14023	\$58.62
1/2"	1"	.500"	3.00"	AD12031	AD14031	\$93.20

SQUARE END, LONG FLUTE, COATED FRACTIONAL 1/64" - 1/4"



- Use: Graphites/ Composites
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Amorphous Diamond Coated
- Center Cutting: Yes
- Diameter Tolerance:
Under 1/8": +0.000/-.001
1/8" and above: +0.000/-.002



3 FLUTE 1/64" - 1/8"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
1/64"	5/64" (5X)	.125"	2.50"	AD3-0156	\$38.38
1/32"	5/32" (5X)	.125"	2.50"	AD3-0312	\$32.43
3/64"	1/4" (5X)	.125"	2.50"	AD3-0469	\$31.83
1/16"	1/2" (8X)	.125"	2.50"	AD3-0625	\$32.33
5/64"	1/2" (6X)	.125"	2.50"	AD3-0781	\$30.05
3/32"	3/4" (8X)	.125"	2.50"	AD3-0938	\$32.33
1/8"	1" (8X)	.125"	3.00"	AD3-1250	\$31.04



4 FLUTE 3/16" - 1/4"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
3/16"	1-1/8" (6X)	.1875"	3.00"	AD4-1875	\$37.85
1/4"	1-1/2" (6X)	.250"	4.00"	AD4-2500	\$47.05

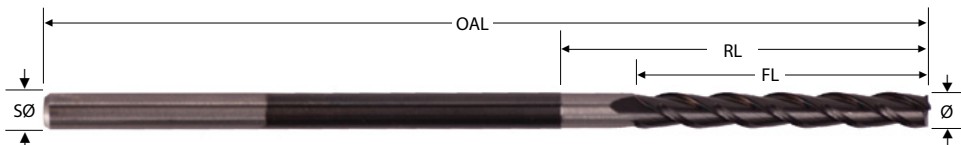
SQUARE END, LONG FLUTE, LONG REACH, COATED FRACTIONAL 1/64"- 1/4"

- Use: Graphites/ Composites
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive

- Amorphous Diamond Coated
- Center Cutting: Yes
- Diameter Tolerance:

Under 1/8": +0.000/-0.001

1/8" and above: +0.000/-0.002



3 FLUTE 1/64"- 1/8"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
1/64"	5/64" (5X)	.125"	2.50"	.150" (10X)	AD3-0156XR	\$53.45
1/64"	5/64" (5X)	.125"	2.50"	.250" (16X)	AD3-0156XLR	\$60.35
1/32"	5/32" (5X)	.125"	2.50"	.250" (16X)	AD3-0312XR	\$43.10
1/32"	5/32" (5X)	.125"	2.50"	.375" (12X)	AD3-0312XLR	\$53.95
3/64"	1/4" (5X)	.125"	2.50"	.375" (8X)	AD3-0469XR	\$43.10
3/64"	1/4" (5X)	.125"	2.50"	.500" (11X)	AD3-0469XLR	\$53.95
1/16"	1/2" (8X)	.125"	2.50"	.750" (12X)	AD3-0625XR	\$43.10
1/16"	1/2" (8X)	.125"	2.50"	1.00" (16X)	AD3-0625XLR	\$53.95
5/64"	1/2" (6X)	.125"	2.50"	.750" (10X)	AD3-0781XR	\$43.10
5/64"	1/2" (6X)	.125"	2.50"	1.00" (13X)	AD3-0781XLR	\$53.95
3/32"	3/4" (8X)	.125"	2.50"	1.00" (11X)	AD3-0938XR	\$43.10
3/32"	3/4" (8X)	.125"	2.50"	1.25" (13X)	AD3-0938XLR	\$53.95
1/8"	1" (8X)	.125"	3.00"	1.25" (10X)	AD3-1250XR	\$43.10
1/8"	1" (8X)	.125"	3.00"	1.50" (12X)	AD3-1250XLR	\$53.95



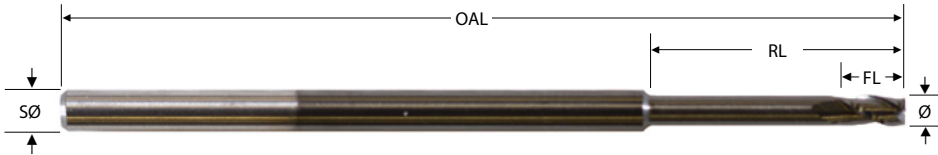
4 FLUTE 3/16"- 1/4"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	4 FLUTE	
3/16"	1-1/8" (6X)	.1875"	3.00"	1.50" (8X)	AD4-1875XR	\$50.55
3/16"	1-1/8" (6X)	.1875"	3.00"	1.75" (9X)	AD4-1875XLR	\$57.40
1/4"	1-1/2" (6X)	.250"	4.00"	2.00" (8X)	AD4-2500XR	\$62.65
1/4"	1-1/2" (6X)	.250"	4.00"	2.50" (10X)	AD4-2500XLR	\$70.70

SQUARE END, LONG REACH, STUB, COATED FRACTIONAL 1/32"- 3/32"

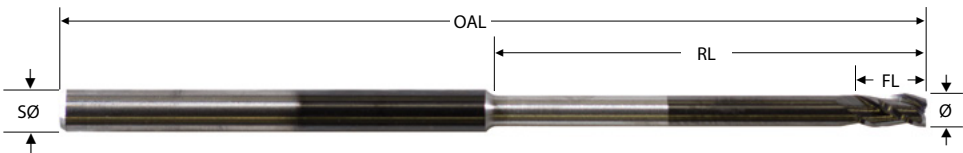


- Use: Graphites/ Composites
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: $+0.000/-0.001$



REACH STUB 1/32"- 3/32"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
1/32"	1/16"	.125"	2.50"	.250" (8X)	AD3-0312RS	\$37.50
1/16"	1/8"	.125"	2.50"	.500" (8X)	AD3-0625RS	\$37.68
3/32"	3/16"	.125"	2.50"	.750" (8X)	AD3-0938RS	\$37.68



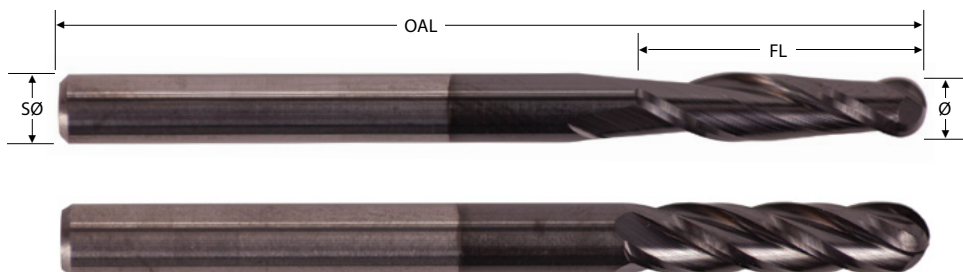
LONG REACH STUB 1/32"- 3/32"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
1/32"	1/16"	.125"	2.50"	.375" (12X)	AD3-0312XRS	\$48.20
1/32"	1/16"	.125"	2.50"	.500" (16X)	AD3-0312XLRS	\$53.95
1/16"	1/8"	.125"	2.50"	.750" (12X)	AD3-0625XRS	\$38.58
1/16"	1/8"	.125"	2.50"	1.00" (16X)	AD3-0625XLRS	\$42.25
3/32"	3/16"	.125"	2.50"	1.00" (11X)	AD3-0938XRS	\$48.20
3/32"	3/16"	.125"	2.50"	1.25" (13X)	AD3-0938XLRS	\$38.58



BALL END, STANDARD, COATED FRACTIONAL 1/32" - 1/2"

- 30° Helix
- Amorphous Diamond (AD) Coating is a smooth, hard, thin film coating used primarily for machining graphite and non-ferrous materials.
- Applied at low temperatures under 150° centigrade, thin film diamond enhances the surface properties of carbide without distorting the concentricity of the end mill.



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
1/32"	3/32"	.125"	1.50"	AD12001BN	AD14001BN	\$28.23
3/64"	9/64"	.125"	1.50"	AD12002BN	AD14002BN	\$27.17
1/16"	3/16"	.125"	1.50"	AD12003BN	AD14003BN	\$26.78
5/64"	3/16"	.125"	1.50"	AD12004BN	AD14004BN	\$26.78
3/32"	3/8"	.125"	1.50"	AD12005BN	AD14005BN	\$26.78
7/64"	7/16"	.125"	1.50"	AD12006BN	AD14006BN	\$27.47
1/8"	1/2"	.125"	1.50"	AD12007BN	AD14007BN	\$27.47
9/64"	1/2"	.1875"	2.00"	AD12008BN	AD14008BN	\$32.53
5/32"	9/16"	.1875"	2.00"	AD12009BN	AD14009BN	\$32.53
3/16"	5/8"	.1875"	2.00"	AD12011BN	AD14011BN	\$32.53
1/4"	3/4"	.250"	2.50"	AD12015BN	AD14015BN	\$36.79
3/8"	1"	.375"	2.50"	AD12023BN	AD14023BN	\$64.47
1/2"	1"	.500"	3.00"	AD12031BN	AD14031BN	\$104.61

BALL END, LONG FLUTE, LONG SHANK, COATED FRACTIONAL 1/64" - 1/4"

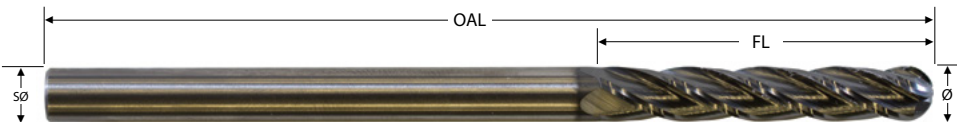


- Use: Graphites/ Composites
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Amorphous Diamond Coated
- Center Cutting: Yes
- Diameter Tolerance:
Under 1/8": +0.000/ -.001
1/8" and above: +0.000/ -.002



3 FLUTE 1/64" - 1/8"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		3 FLUTE	
1/64"	5/64" (5X)	.125"	2.50"	AD3-0156B	\$42.44
1/32"	5/32" (5X)	.125"	2.50"	AD3-0312B	\$35.60
3/64"	1/4" (5X)	.125"	2.50"	AD3-0469B	\$34.91
1/16"	1/2" (8X)	.125"	2.50"	AD3-0625B	\$35.50
5/64"	1/2" (6X)	.125"	2.50"	AD3-0781B	\$32.82
3/32"	3/4" (8X)	.125"	2.50"	AD3-0938B	\$35.50
1/8"	1" (8X)	.125"	3.00"	AD3-1250B	\$33.32



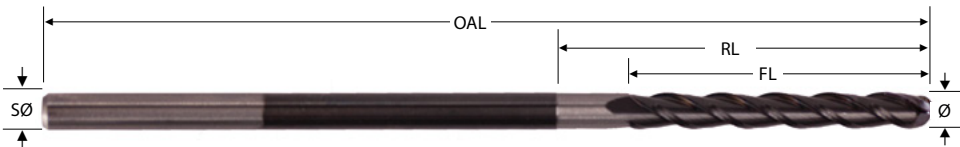
4 FLUTE 3/16" - 1/4"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
3/16"	1-1/8" (6X)	.1875"	3.00"	AD4-1875B	\$38.87
1/4"	1-1/2" (6X)	.250"	4.00"	AD4-2500B	\$43.93

BALL END, LONG FLUTE, LONG REACH, COATED
FRACTIONAL 1/64" - 1/4"



- Use: Graphites/ Composites
 - Helix: 35 Degrees
 - Hand: RHS/ RHC
 - Rake Angle: Positive
- Amorphous Diamond Coated
 - Center Cutting: Yes
 - Diameter Tolerance:
Under 1/8": +0.000/- .001
1/8" and above: +0.000/- .002



3 FLUTE 1/64" - 1/8"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH (X DIAMETER)	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
1/64"	5/64" (5X)	.125"	2.50"	.150" (10X)	AD3-0156XRB	\$55.75
1/64"	5/64" (5X)	.125"	2.50"	.250" (16X)	AD3-0156XLRB	\$66.10
1/32"	5/32" (5X)	.125"	2.50"	.250" (12X)	AD3-0312XRB	\$45.40
1/32"	5/32" (5X)	.125"	2.50"	.375" (16X)	AD3-0312XLRB	\$50.50
3/64"	1/4" (5X)	.125"	2.50"	.375" (8X)	AD3-0469XRB	\$45.40
3/64"	1/4" (5X)	.125"	2.50"	.500" (11X)	AD3-0469XLRB	\$50.50
1/16"	1/2" (8X)	.125"	2.50"	.750" (12X)	AD3-0625XRB	\$45.40
1/16"	1/2" (8X)	.125"	2.50"	1.00" (16X)	AD3-0625XLRB	\$50.50
5/64"	1/2" (6X)	.125"	2.50"	.750" (10X)	AD3-0781XRB	\$45.40
5/64"	1/2" (6X)	.125"	2.50"	1.00" (13X)	AD3-0781XLRB	\$50.50
3/32"	3/4" (8X)	.125"	2.50"	1.00" (11X)	AD3-0938XRB	\$45.40
3/32"	3/4" (8X)	.125"	2.50"	1.25" (13X)	AD3-0938XLRB	\$50.50
1/8"	1" (8X)	.125"	3.00"	1.25" (10X)	AD3-1250XRB	\$45.40
1/8"	1" (8X)	.125"	3.00"	1.50" (12X)	AD3-1250XLRB	\$50.50



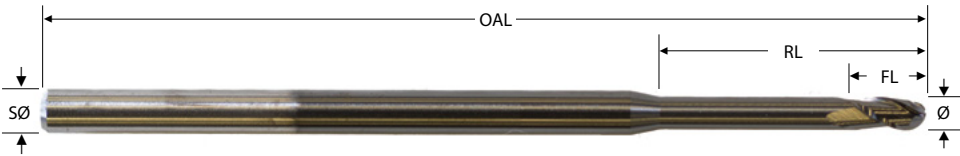
4 FLUTE 3/16" - 1/4"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	4 FLUTE	
3/16"	1-1/8" (6X)	.1875"	3.00"	1.50" (8X)	AD4-1875XRB	\$50.18
3/16"	1-1/8" (6X)	.1875"	3.00"	1.75" (9X)	AD4-1875XLRB	\$60.85
1/4"	1-1/2" (6X)	.250"	4.00"	2.00" (8X)	AD4-2500XRB	\$67.25
1/4"	1-1/2" (6X)	.250"	4.00"	2.50" (10X)	AD4-2500XLRB	\$75.30

BALL END, REACH, STUB, COATED FRACTIONAL 1/32"- 3/32"

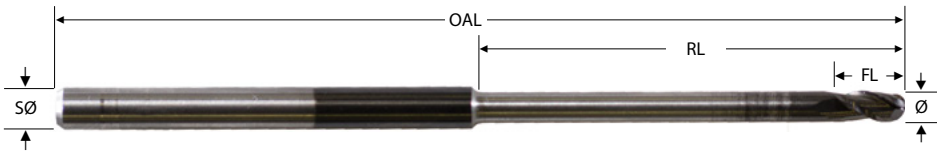


- Graphites/ Composites
- Helix: 35 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Amorphous Diamond Coated
- Center Cutting: Yes
- Diameter Tolerance:
Under 1/8": +0.000/ -.001
1/8" and above: +0.000/ -.002



REACH STUB 1/32"- 3/32"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
1/32"	1/16"	.125"	2.50"	.250" (8X)	AD3-0312RSB	\$43.24
1/16"	1/8"	.125"	2.50"	.500" (8X)	AD3-0625RSB	\$42.44
3/32"	3/16"	.125"	2.50"	.750" (8X)	AD3-0938RSB	\$42.44



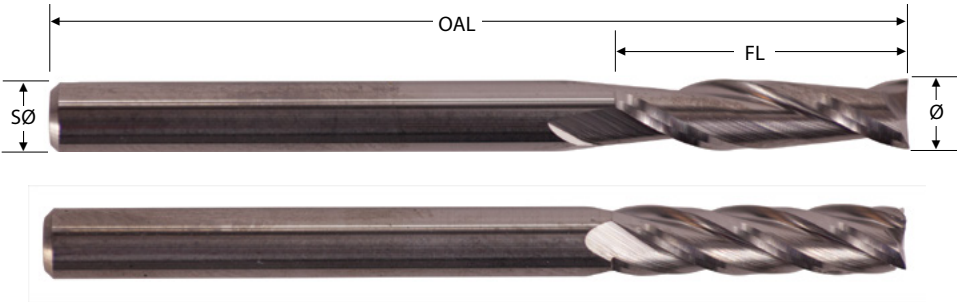
LONG REACH STUB 1/32"- 3/32"

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
1/32"	1/16"	.125"	2.50"	.375" (12X)	AD3-0312XRSB	\$44.23
1/32"	1/16"	.125"	2.50"	.500" (16X)	AD3-0312XLRSB	\$48.99
1/16"	1/8"	.125"	2.50"	.750" (12X)	AD3-0625XRSB	\$43.34
1/16"	1/8"	.125"	2.50"	1.00" (16X)	AD3-0625XLRSB	\$47.01
3/32"	3/16"	.125"	2.50"	1.00" (11X)	AD3-0938XRSB	\$50.50
3/32"	3/16"	.125"	2.50"	1.25" (13X)	AD3-0938XLRSB	\$56.25



SQUARE END, STANDARD
METRIC .50 mm - 12 mm

- Use: General Purpose
 - Helix: 30 Degrees
 - Hand: RHS/ RHC
- Rake Angle: Positive
 - Center Cutting: Yes
 - Diameter Tolerance: +0/ -.05 mm



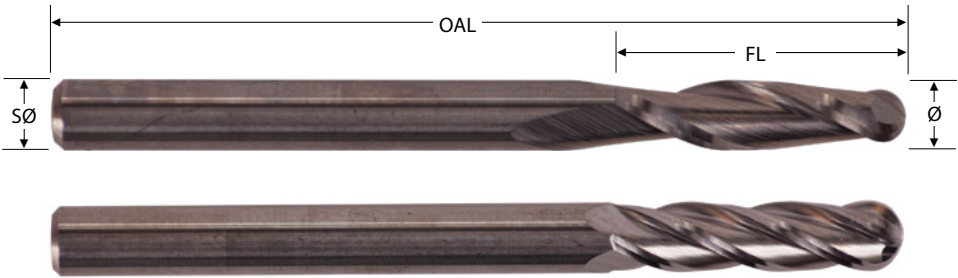
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.50 mm	1.5 mm	3 mm	38 mm	41001	43001	\$13.50
1.0 mm	3 mm	3 mm	38 mm	41002	43002	\$12.25
1.5 mm	4.5 mm	3 mm	38 mm	41003	43003	\$11.60
2.0 mm	6 mm	3 mm	38 mm	41004	43004	\$10.75
2.5 mm	8 mm	3 mm	38 mm	41005	43005	\$10.75
3.0 mm	10 mm	3 mm	38 mm	41006	43006	\$10.75
3.5 mm	12 mm	4 mm	50 mm	41007	43007	\$14.05
4.0 mm	12 mm	4 mm	50 mm	41008	43008	\$14.05
4.5 mm	14 mm	5 mm	50 mm	41009	43009	\$17.75
5.0 mm	15 mm	5 mm	50 mm	41010	43010	\$17.75
6 mm	18 mm	6 mm	63 mm	41011	43011	\$17.75
7 mm	20 mm	8 mm	63 mm	41012	43012	\$18.85
8 mm	20 mm	8 mm	63 mm	41013	43013	\$18.85
9 mm	22 mm	10 mm	63 mm	41014	43014	\$31.20
10 mm	22 mm	10 mm	63 mm	41015	43015	\$31.20
12 mm	25 mm	12 mm	75 mm	41016	43016	\$45.10

BALL END, STANDARD

METRIC .50 mm - 12 mm



- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +0/ -.05 mm



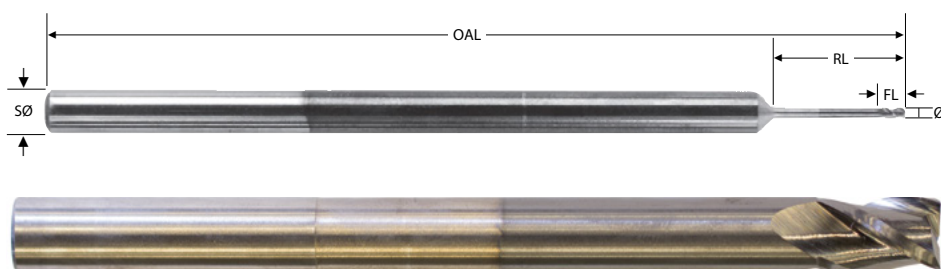
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
.50 mm	1.5 mm	3 mm	38 mm	42001	44001	\$17.40
1.0 mm	3 mm	3 mm	38 mm	42002	44002	\$17.40
1.5 mm	4.5 mm	3 mm	38 mm	42003	44003	\$17.40
2.0 mm	6 mm	3 mm	38 mm	42004	44004	\$15.30
2.5 mm	8 mm	3 mm	38 mm	42005	44005	\$15.30
3.0 mm	10 mm	3 mm	38 mm	42006	44006	\$15.30
3.5 mm	12 mm	4 mm	50 mm	42007	44007	\$19.95
4.0 mm	12 mm	4 mm	50 mm	42008	44008	\$19.95
4.5 mm	14 mm	5 mm	50 mm	42009	44009	\$25.25
5.0 mm	15 mm	5 mm	50 mm	42010	44010	\$25.25
6 mm	18 mm	6 mm	63 mm	42011	44011	\$25.25
7 mm	20 mm	8 mm	63 mm	42012	44012	\$26.85
8 mm	20 mm	8 mm	63 mm	42013	44013	\$26.85
9 mm	22 mm	10 mm	63 mm	42014	44014	\$44.30
10 mm	22 mm	10 mm	63 mm	42015	44015	\$44.30
12 mm	25 mm	12 mm	75 mm	42016	44016	\$63.95



G MILL STUB, REACH, SQUARE, COATED METRIC .40 mm - 12 mm



- Helix: 35 Degrees
- Diameter Tolerance: $+.000"/-.001"$
- Amorphous Diamond Coated "G" Mills are specifically designed for machining graphite electrodes.
- "G" Mills have been shown to be a cost effective solution in producing graphite electrodes by lowering tooling costs and improving productivity.



STUB 8X REACH LENGTH

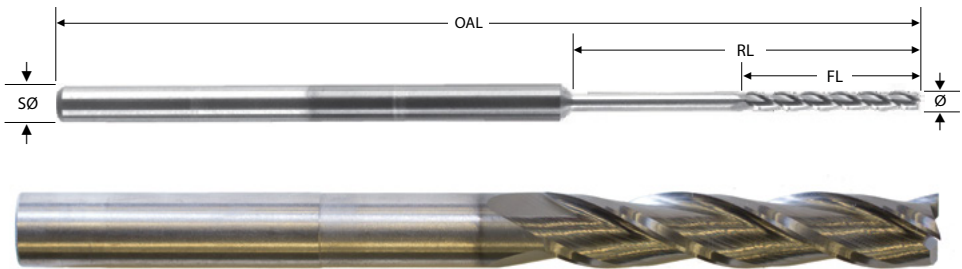
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.40 mm	.60 mm	3 mm	75 mm	3.2 mm	61001	\$51.15
.50 mm	.75 mm	3 mm	75 mm	4 mm	61002	\$51.15
.60 mm	.90 mm	3 mm	75 mm	4.8 mm	61003	\$51.15
.80 mm	1.2 mm	3 mm	75 mm	6.4 mm	61004	\$40.80
1 mm	1.5 mm	3 mm	75 mm	8 mm	61005	\$40.80
1.5 mm	2.25 mm	3 mm	75 mm	12 mm	61006	\$40.80
2 mm	3 mm	3 mm	75 mm	16 mm	61007	\$40.80
2.5 mm	3.75 mm	3 mm	75 mm	20 mm	61008	\$40.80
3 mm	4.5 mm	3 mm	75 mm	24 mm	61009	\$40.80
4 mm	6 mm	4 mm	75 mm	32 mm	61010	\$44.25
6 mm	9 mm	6 mm	100 mm	48 mm	61011	\$59.80
8 mm	12 mm	8 mm	100 mm	64 mm	61012	\$86.25
10 mm	15 mm	10 mm	120 mm	80 mm	61013	\$125.60
12 mm	18 mm	12 mm	150 mm	96 mm	61014	\$149.50

G MILL LONG FLUTE, LONG REACH, SQUARE, COATED METRIC .40 mm - 12 mm



· Designed with a Fast Helix and 3-flute design, “G” Mills outperform conventional end mills by providing faster particle evacuation while producing extremely smooth finishes in graphite.

· “G” Mills are factory laser inspected to ensure more accurate machining of graphite electrodes.



5X FLUTE LENGTH, 10X REACH LENGTH

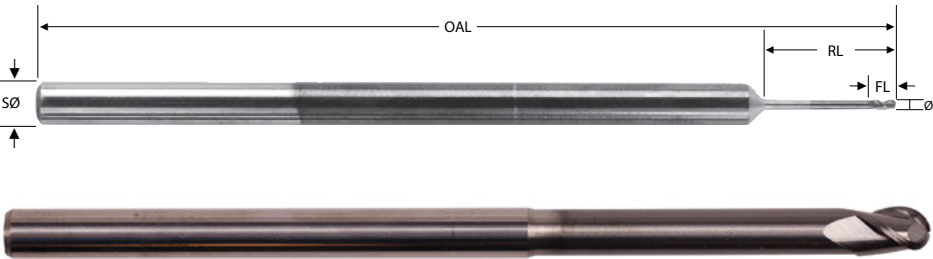
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.40 mm	2 mm	3 mm	75 mm	4 mm	51001	\$44.25
.50 mm	2.5 mm	3 mm	75 mm	5 mm	51002	\$44.25
.60 mm	3 mm	3 mm	75 mm	6 mm	51003	\$44.25
.80 mm	4 mm	3 mm	75 mm	8 mm	51004	\$35.35
1 mm	5 mm	3 mm	75 mm	10 mm	51005	\$35.35
1.2 mm	6 mm	3 mm	75 mm	12 mm	51006	\$35.35
1.5 mm	7.5 mm	3 mm	75 mm	15 mm	51007	\$35.35
2 mm	10 mm	3 mm	75 mm	20 mm	51008	\$35.35
2.5 mm	12.5 mm	3 mm	75 mm	25 mm	51009	\$35.35
3 mm	15 mm	3 mm	75 mm	30 mm	51010	\$35.35
4 mm	20 mm	4 mm	75 mm	40 mm	51011	\$38.50
6 mm	30 mm	6 mm	100 mm	60 mm	51012	\$52.00
8 mm	40 mm	8 mm	100 mm	70 mm	51013	\$74.75
10 mm	50 mm	10 mm	120 mm	80 mm	51014	\$113.25
12 mm	60 mm	12 mm	150 mm	85 mm	51015	\$138.00



G MILL STUB, REACH, BALL, COATED
METRIC .40 mm - 12 mm



- Helix: 35 Degrees
- Diameter Tolerance: $+.000"/-.001"$
- Amorphous Diamond Coated "G"
Mills are specifically designed for
machining graphite electrodes.
- "G" Mills have been shown to be a cost
effective solution in producing graphite
electrodes by lowering tooling costs and
improving productivity.



STUB 8X REACH LENGTH

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.40 mm	.60 mm	3 mm	75 mm	3.2 mm	62001	\$57.50
.50 mm	.75 mm	3 mm	75 mm	4 mm	62002	\$57.50
.60 mm	.90 mm	3 mm	75 mm	4.8 mm	62003	\$57.50
.80 mm	1.2 mm	3 mm	75 mm	6.4 mm	62004	\$43.10
1 mm	1.5 mm	3 mm	75 mm	8 mm	62005	\$43.10
1.5 mm	2.25 mm	3 mm	75 mm	12 mm	62006	\$43.10
2 mm	3 mm	3 mm	75 mm	16 mm	62007	\$43.10
2.5 mm	3.75 mm	3 mm	75 mm	20 mm	62008	\$43.10
3 mm	4.5 mm	3 mm	75 mm	24 mm	62009	\$43.10
4 mm	6 mm	4 mm	75 mm	32 mm	62010	\$48.00
6 mm	9 mm	6 mm	100 mm	48 mm	62011	\$64.95
8 mm	12 mm	8 mm	100 mm	64 mm	62012	\$92.85
10 mm	15 mm	10 mm	120 mm	80 mm	62013	\$132.25
12 mm	18 mm	12 mm	150 mm	96 mm	62014	\$166.75

G MILL LONG FLUTE, LONG REACH, BALL, COATED METRIC .40 mm - 12 mm



• Designed with a Fast Helix and 3-flute design, “G” Mills outperform conventional end mills by providing faster particle evacuation while producing extremely smooth finishes in graphite.

• “G” Mills are factory laser inspected to ensure more accurate machining of graphite electrodes.



5X FLUTE LENGTH, 10X REACH LENGTH

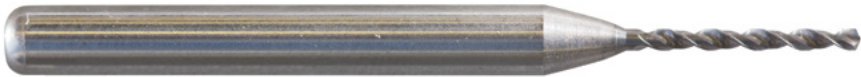
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(RL)	3 FLUTE	
.40 mm	2 mm	3 mm	75 mm	4 mm	52001	\$50.60
.50 mm	2.5 mm	3 mm	75 mm	5 mm	52002	\$50.60
.60 mm	3 mm	3 mm	75 mm	6 mm	52003	\$50.60
.80 mm	4 mm	3 mm	75 mm	8 mm	52004	\$37.85
1 mm	5 mm	3 mm	75 mm	10 mm	52005	\$37.85
1.2 mm	6 mm	3 mm	75 mm	12 mm	52006	\$37.85
1.5 mm	7.5 mm	3 mm	75 mm	15 mm	52007	\$37.85
2 mm	10 mm	3 mm	75 mm	20 mm	52008	\$37.85
2.5 mm	12.5 mm	3 mm	75 mm	25 mm	52009	\$37.85
3 mm	15 mm	3 mm	75 mm	30 mm	52010	\$37.85
4 mm	20 mm	4 mm	75 mm	40 mm	52011	\$41.95
6 mm	30 mm	6 mm	100 mm	60 mm	52012	\$56.90
8 mm	40 mm	8 mm	100 mm	70 mm	52013	\$86.85
10 mm	50 mm	10 mm	120 mm	80 mm	52014	\$126.50
12 mm	60 mm	12 mm	150 mm	85 mm	52015	\$155.25

CIRCUIT BOARD DRILLS -----	94-98
NC SPOT DRILLS -----	99-104
Type 1 Spot Drills-----	99-101
Type 2 Spot Drills-----	102
Four-Facet Spot Drills-----	103
Metric Spot Drills-----	104
CORNER ROUNDING END MILLS -----	105-120
Double End Flared-----	105-108
Standard Double End-----	109-110
Single End-----	111-112
Double End Flared TIALN Coated-----	113-116
Standard Double End TIALN Coated-----	117-118
Single End TIALN Coated-----	119-120
DRILL COUNTERSINKS -----	121-124
Drill Countersinks TIALN Coated-----	123-124
KEYSEAT CUTTERS -----	125-130
6 Flute-----	125-126
6 Flute TIALN Coated-----	127-128
8 Flute-----	129
8 Flute TIALN Coated-----	130
PCD END MILLS -----	131-132
Square End-----	131
Ball End-----	132
Corner Radius-----	132
DRILL POINT MILLS -----	133-134
60 Degree-----	133
90 Degree-----	134
CHAMFER MILLS -----	135-146
Single End-----	135-138
Flat Tip Single End-----	139-140
Single End TIALN Coated-----	141-143
Flat Tip Single End TIALN Coated-----	144
Double End-----	145
Double End TIALN Coated-----	146
ENGRAVING CUTTERS -----	147-152
Pointed: Type 1 and Type 2-----	147
Pointed TIALN Coated-----	148
Flat Tip-----	149
Flat Tip TIALN Coated-----	150
Radius-----	151
Radius TIALN Coated-----	152
MARKING CUTTERS -----	153-155
Web-----	153
Web TIALN & DLC Coated-----	154
Radius-----	155
Radius TIALN Coated-----	155

CARBIDE CIRCUIT BOARD DRILLS DECIMAL .004" - .016"



- Use: Micro Drilling
- Helix: 20 Degrees
- Hand: RHS/ RHC
- Center Cutting: Yes
- Engineered for small diameter hole drilling
- All drills are on 1/8" shanks, 1.5" overall length
- Diameter tolerance: +0"/-0.0003"
- Coatings and reach lengths priced upon request



DIAMETER	WIRE SIZE	METRIC SIZE	POINT ANGLE	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)				(SØ)		2 FLUTE	
.0040"	# 102	.10	118° DP	.125"	1.50"	RS3170040	\$27.97
.0050"	# 99	.13	118° DP	.125"	1.50"	RS3170050	\$27.97
.0059"	# 97	.15	118° DP	.125"	1.50"	RS3170059	\$25.63
.0063"	# 96	.16	118° DP	.125"	1.50"	RS3170063	\$25.63
.0067"	# 95	.17	118° DP	.125"	1.50"	RS3170067	\$25.63
.0071"	# 94	.18	118° DP	.125"	1.50"	RS3170071	\$21.93
.0075"	# 93	.19	118° DP	.125"	1.50"	RS3170075	\$21.93
.0079"	# 92	.20	118° DP	.125"	1.50"	RS3170079	\$16.77
.0083"	# 91	.21	118° DP	.125"	1.50"	RS3170083	\$16.77
.0087"	# 90	.22	118° DP	.125"	1.50"	RS3170087	\$16.77
.0091"	# 89	.23	118° DP	.125"	1.50"	RS3170091	\$16.26
.0095"	# 88	.24	118° DP	.125"	1.50"	RS3170095	\$16.26
.0098"	.25mm	.25	118° DP	.125"	1.50"	RS3170098	\$16.26
.0100"	# 87	.25	118° DP	.125"	1.50"	RS3170100	\$16.26
.0105"	# 86	.27	118° DP	.125"	1.50"	RS3170105	\$16.26
.0110"	# 85	.28	118° DP	.125"	1.50"	RS3170110	\$16.26
.0115"	# 84	.29	118° DP	.125"	1.50"	RS3170115	\$13.51
.0118"	.30mm	.30	118° DP	.125"	1.50"	RS3170118	\$13.51
.0120"	# 83	.30	118° DP	.125"	1.50"	RS3170120	\$13.51
.0125"	# 82	.32	118° DP	.125"	1.50"	RS3170125	\$10.57
.0130"	# 81	.33	130° DP	.125"	1.50"	RS3170130	\$10.57
.0135"	# 80	.34	130° DP	.125"	1.50"	RS3170135	\$6.50
.0138"	.35mm	.35	130° DP	.125"	1.50"	RS3170138	\$6.50
.0145"	# 79	.37	130° DP	.125"	1.50"	RS3170145	\$6.50
.0156"	1/64"	.40	130° DP	.125"	1.50"	RS3170156	\$6.33
.0157"	.40mm	.40	130° DP	.125"	1.50"	RS3170157	\$6.33
.0160"	# 78	.41	130° DP	.125"	1.50"	RS3170160	\$5.90

*** SOLD IN MULTIPLES OF FIVE**



CARBIDE CIRCUIT BOARD DRILLS

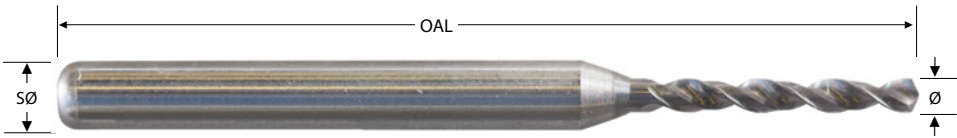
DECIMAL .0177" - .040"

- Use: Micro Drilling
- Helix: 20 Degrees
- Hand: RHS/ RHC
- Center Cutting: Yes
- Engineered for small diameter hole drilling
- All drills are on 1/8" shanks, 1.5" overall length
- Diameter tolerance: +0"/-0.0003"
- Coatings and reach lengths priced upon request

DIAMETER	WIRE SIZE	METRIC SIZE	POINT ANGLE	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)				(SØ)		2 FLUTE	
.0177"	.45mm	.45	130° DP	.125"	1.50"	RS3170177	\$5.90
.0180"	# 77	.46	130° DP	.125"	1.50"	RS3170180	\$5.90
.0197"	.50mm	.50	130° DP	.125"	1.50"	RS3170197	\$5.90
.0200"	# 76	.51	130° DP	.125"	1.50"	RS3170200	\$5.63
.0210"	# 75	.53	130° DP	.125"	1.50"	RS3170210	\$5.63
.0217"	.55mm	.55	130° DP	.125"	1.50"	RS3170217	\$5.63
.0225"	# 74	.57	130° DP	.125"	1.50"	RS3170225	\$5.63
.0236"	.60mm	.60	130° DP	.125"	1.50"	RS3170236	\$5.63
.0240"	# 73	.61	130° DP	.125"	1.50"	RS3170240	\$5.63
.0250"	# 72	.64	130° DP	.125"	1.50"	RS3170250	\$5.63
.0256"	.65mm	.65	130° DP	.125"	1.50"	RS3170256	\$5.63
.0260"	# 71	.66	130° DP	.125"	1.50"	RS3170260	\$5.63
.0276"	.70mm	.70	130° DP	.125"	1.50"	RS3170276	\$5.63
.0280"	# 70	.71	130° DP	.125"	1.50"	RS3170280	\$5.63
.0292"	# 69	.74	130° DP	.125"	1.50"	RS3170292	\$5.63
.0295"	.75mm	.75	130° DP	.125"	1.50"	RS3170295	\$5.63
.0310"	# 68	.79	130° DP	.125"	1.50"	RS3170310	\$5.63
.0312"	1/32"	.79	130° DP	.125"	1.50"	RS3170312	\$5.63
.0315"	.80mm	.80	130° DP	.125"	1.50"	RS3170315	\$5.63
.0320"	# 67	.81	130° DP	.125"	1.50"	RS3170320	\$5.63
.0330"	# 66	.84	130° DP	.125"	1.50"	RS3170330	\$5.63
.0335"	.85mm	.85	130° DP	.125"	1.50"	RS3170335	\$5.63
.0350"	# 65	.89	130° DP	.125"	1.50"	RS3170350	\$5.63
.0354"	.90mm	.90	130° DP	.125"	1.50"	RS3170354	\$5.63
.0360"	# 64	.91	130° DP	.125"	1.50"	RS3170360	\$5.63
.0370"	# 63	.94	130° DP	.125"	1.50"	RS3170370	\$5.63
.0374"	.95mm	.95	130° DP	.125"	1.50"	RS3170374	\$5.63
.0380"	# 62	.97	130° DP	.125"	1.50"	RS3170380	\$5.63
.0390"	# 61	.99	130° DP	.125"	1.50"	RS3170390	\$5.63
.0394"	1.0mm	1.00	130° DP	.125"	1.50"	RS3170394	\$5.63
.0400"	# 60	1.02	130° DP	.125"	1.50"	RS3170400	\$5.63

*** SOLD IN MULTIPLES OF FIVE**

CARBIDE CIRCUIT BOARD DRILLS DECIMAL .041" - .070"



DIAMETER	WIRE SIZE	METRIC SIZE	POINT ANGLE	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)				(SØ)		2 FLUTE	
.0410"	# 59	1.04	130° DP	.125"	1.50"	RS3170410	\$5.63
.0413"	1.05mm	1.05	130° DP	.125"	1.50"	RS3170413	\$5.63
.0420"	# 58	1.07	130° DP	.125"	1.50"	RS3170420	\$5.63
.0430"	# 57	1.09	130° DP	.125"	1.50"	RS3170430	\$5.63
.0433"	1.10mm	1.10	130° DP	.125"	1.50"	RS3170433	\$5.63
.0440"	1.12mm	1.12	130° DP	.125"	1.50"	RS3170440	\$5.63
.0453"	1.15mm	1.15	130° DP	.125"	1.50"	RS3170453	\$5.63
.0465"	# 56	1.18	130° DP	.125"	1.50"	RS3170465	\$5.63
.0469"	3/64"	1.19	130° DP	.125"	1.50"	RS3170469	\$5.63
.0472"	1.20mm	1.20	130° DP	.125"	1.50"	RS3170472	\$5.63
.0492"	1.25mm	1.25	130° DP	.125"	1.50"	RS3170492	\$5.63
.0512"	1.30mm	1.30	130° DP	.125"	1.50"	RS3170512	\$5.63
.0520"	# 55	1.32	130° DP	.125"	1.50"	RS3170520	\$5.63
.0531"	1.35mm	1.35	130° DP	.125"	1.50"	RS3170531	\$5.63
.0550"	# 54	1.40	130° DP	.125"	1.50"	RS3170550	\$5.63
.0551"	1.40mm	1.40	130° DP	.125"	1.50"	RS3170551	\$5.63
.0571"	1.45mm	1.45	130° DP	.125"	1.50"	RS3170571	\$5.63
.0591"	1.50mm	1.50	130° DP	.125"	1.50"	RS3170591	\$5.63
.0595"	# 53	1.51	130° DP	.125"	1.50"	RS3170595	\$5.63
.0610"	1.55mm	1.55	130° DP	.125"	1.50"	RS3170610	\$5.63
.0625"	1/16"	1.59	130° DP	.125"	1.50"	RS3170625	\$5.63
.0630"	1.60mm	1.60	130° DP	.125"	1.50"	RS3170630	\$5.99
.0635"	# 52	1.61	130° DP	.125"	1.50"	RS3170635	\$5.99
.0650"	1.65mm	1.65	130° DP	.125"	1.50"	RS3170650	\$5.99
.0669"	1.70mm	1.70	130° DP	.125"	1.50"	RS3170669	\$5.99
.0670"	# 51	1.70	130° DP	.125"	1.50"	RS3170670	\$5.99
.0689"	1.75mm	1.75	130° DP	.125"	1.50"	RS3170689	\$5.99
.0700"	# 50	1.78	130° DP	.125"	1.50"	RS3170700	\$5.99

* SOLD IN MULTIPLES OF FIVE

visit us online: www.richardsmicrotool.com



CARBIDE CIRCUIT BOARD DRILLS

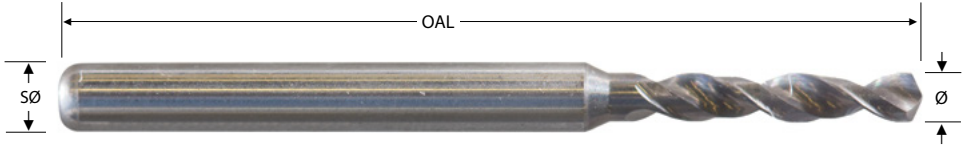
DECIMAL .0709" - .098"

- Use: Micro Drilling
- Helix: 20 Degrees
- Hand: RHS/ RHC
- Center Cutting: Yes
- Engineered for small diameter hole drilling
- All drills are on 1/8" shanks, 1.5" overall length
- Diameter tolerance: +0"/-0.0003"
- Coatings and reach lengths priced upon request

DIAMETER	WIRE SIZE	METRIC SIZE	POINT ANGLE	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)				(SØ)		2 FLUTE	
.0709"	1.80mm	1.80	130° DP	.125"	1.50"	RS3170709	\$5.99
.0728"	1.85mm	1.85	130° DP	.125"	1.50"	RS3170728	\$5.99
.0730"	# 49	1.85	130° DP	.125"	1.50"	RS3170730	\$5.99
.0748"	1.90mm	1.90	130° DP	.125"	1.50"	RS3170748	\$5.99
.0760"	# 48	1.93	130° DP	.125"	1.50"	RS3170760	\$5.99
.0768"	1.95mm	1.95	130° DP	.125"	1.50"	RS3170768	\$5.99
.0781"	5/64"	1.98	130° DP	.125"	1.50"	RS3170781	\$5.99
.0785"	# 47	1.99	130° DP	.125"	1.50"	RS3170785	\$5.99
.0787"	2.0mm	2.00	130° DP	.125"	1.50"	RS3170787	\$5.99
.0807"	2.05mm	2.05	130° DP	.125"	1.50"	RS3170807	\$5.99
.0810"	# 46	2.06	130° DP	.125"	1.50"	RS3170810	\$5.99
.0820"	# 45	2.08	130° DP	.125"	1.50"	RS3170820	\$5.99
.0827"	2.10mm	2.10	130° DP	.125"	1.50"	RS3170827	\$5.99
.0846"	2.15mm	2.15	130° DP	.125"	1.50"	RS3170846	\$5.99
.0860"	# 44	2.18	130° DP	.125"	1.50"	RS3170860	\$5.99
.0866"	2.20mm	2.20	130° DP	.125"	1.50"	RS3170866	\$5.99
.0886"	2.25mm	2.25	130° DP	.125"	1.50"	RS3170886	\$5.99
.0890"	# 43	2.26	130° DP	.125"	1.50"	RS3170890	\$5.99
.0906"	2.30mm	2.30	130° DP	.125"	1.50"	RS3170906	\$5.99
.0925"	2.35mm	2.35	130° DP	.125"	1.50"	RS3170925	\$5.99
.0935"	# 42	2.37	130° DP	.125"	1.50"	RS3170935	\$5.99
.0938"	3/32"	2.38	130° DP	.125"	1.50"	RS3170938	\$5.99
.0945"	2.40mm	2.40	130° DP	.125"	1.50"	RS3170945	\$5.99
.0960"	# 41	2.44	130° DP	.125"	1.50"	RS3170960	\$5.99
.0965"	2.45mm	2.45	130° DP	.125"	1.50"	RS3170965	\$5.99
.0980"	# 40	2.49	130° DP	.125"	1.50"	RS3170980	\$5.99

*** SOLD IN MULTIPLES OF FIVE**

CARBIDE CIRCUIT BOARD DRILLS DECIMAL .0984" - .1250"



DIAMETER	WIRE SIZE	METRIC SIZE	POINT ANGLE	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)				(SØ)		2 FLUTE	
.0984"	2.50mm	2.50	130° DP	.125"	1.50"	RS3170984	\$5.99
.0995"	# 39	2.53	130° DP	.125"	1.50"	RS3170995	\$5.99
.1004"	2.55mm	2.55	130° DP	.125"	1.50"	RS3171004	\$5.99
.1015"	# 38	2.58	130° DP	.125"	1.50"	RS3171015	\$5.99
.1024"	2.60mm	2.60	130° DP	.125"	1.50"	RS3171024	\$5.99
.1040"	# 37	2.64	130° DP	.125"	1.50"	RS3171040	\$5.99
.1043"	2.65mm	2.65	130° DP	.125"	1.50"	RS3171043	\$5.99
.1063"	2.70mm	2.70	130° DP	.125"	1.50"	RS3171063	\$5.99
.1065"	# 36	2.71	130° DP	.125"	1.50"	RS3171065	\$5.99
.1083"	2.75mm	2.75	130° DP	.125"	1.50"	RS3171083	\$5.99
.1094"	7/64"	2.78	130° DP	.125"	1.50"	RS3171094	\$5.99
.1100"	# 35	2.79	130° DP	.125"	1.50"	RS3171100	\$5.99
.1102"	2.80mm	2.80	130° DP	.125"	1.50"	RS3171102	\$5.99
.1110"	# 34	2.82	130° DP	.125"	1.50"	RS3171110	\$5.99
.1122"	2.85mm	2.85	130° DP	.125"	1.50"	RS3171122	\$5.99
.1130"	# 33	2.87	130° DP	.125"	1.50"	RS3171130	\$5.99
.1142"	2.90mm	2.90	130° DP	.125"	1.50"	RS3171142	\$5.99
.1160"	# 32	2.95	130° DP	.125"	1.50"	RS3171160	\$5.99
.1161"	2.95mm	2.95	130° DP	.125"	1.50"	RS3171161	\$5.99
.1181"	3.00mm	3.00	130° DP	.125"	1.50"	RS3171181	\$5.99
.1200"	# 31	3.05	130° DP	.125"	1.50"	RS3171200	\$5.99
.1201"	3.05mm	3.05	130° DP	.125"	1.50"	RS3171201	\$5.99
.1220"	3.10mm	3.10	130° DP	.125"	1.50"	RS3171220	\$5.99
.1240"	3.15mm	3.15	130° DP	.125"	1.50"	RS3171240	\$5.99
.1250"	1/8"	3.18	130° DP	.125"	1.50"	RS3171250	\$5.99

* SOLD IN MULTIPLES OF FIVE

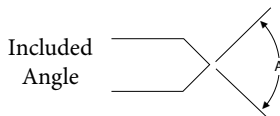
Email for orders: sales@richardsmicrotool.com



82° - 90 DEG. NC SPOT DRILL DECIMAL .005" - .125"



- Solid Carbide NC Spotting Drills - 82°, 90°, 120°, 130°, 140°, and 150°
- Tight tolerances applied to short overall lengths with short flute design translate to greater rigidity and strength for the end user.
- Ground only on CNC equipment utilizing the latest in grinding wheel technology, our solid carbide NC Spotting Drill will outperform HSS and Cobalt.

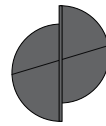


DRILL Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
.030"	.090"	.125"	1.50"	82°	701-0300.82	\$21.52
.060"	.180"	.125"	1.50"	82°	701-0600.82	\$19.34
.125"	.375"	.125"	1.50"	82°	701-1250.82	\$17.45
.005"	.025"	.125"	1.50"	90°	701-0050.90	\$33.62
.010"	.035"	.125"	1.50"	90°	701-0100.90	\$26.87
.015"	.045"	.125"	1.50"	90°	701-0150.90	\$26.87
.020"	.050"	.125"	1.50"	90°	701-0200.90	\$23.01
.025"	.075"	.125"	1.50"	90°	701-0250.90	\$23.01
.030"	.090"	.125"	1.50"	90°	701-0300.90	\$21.52
.0312"	.090"	.125"	1.50"	90°	701-0312.90	\$21.52
.040"	.120"	.125"	1.50"	90°	701-0400.90	\$19.54
.045"	.135"	.125"	1.50"	90°	701-0450.90	\$19.54
.047"	.141"	.125"	1.50"	90°	701-0470.90	\$19.54
.050"	.150"	.125"	1.50"	90°	701-0500.90	\$19.54
.060"	.180"	.125"	1.50"	90°	701-0600.90	\$19.34
.0625"	.200"	.125"	1.50"	90°	701-0625.90	\$19.34
.078"	.234"	.125"	1.50"	90°	701-0780.90	\$19.34
.090"	.270"	.125"	1.50"	90°	701-0900.90	\$18.35
.0938"	.279"	.125"	1.50"	90°	701-0930.90	\$18.35
.100"	.300"	.125"	1.50"	90°	701-1000.90	\$18.35
.118"	.354"	.125"	1.50"	90°	701-1180.90	\$18.35
.125"	.375"	.125"	1.50"	90°	701-1250.90	\$17.45

100 - 130 DEG. NC SPOT DRILL DECIMAL .005" - .125"



· Type 1: On center tip design



TYPE 1
FRONT
VIEW



DRILL Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
.030"	.090"	.125"	1.50"	100°	701-0300.100	\$21.52
.060"	.180"	.125"	1.50"	100°	701-0600.100	\$19.34
.125"	.375"	.125"	1.50"	100°	701-1250.100	\$17.45
.010"	.030"	.125"	1.50"	120°	701-0100.120	\$26.87
.015"	.045"	.125"	1.50"	120°	701-0150.120	\$26.87
.020"	.050"	.125"	1.50"	120°	701-0200.120	\$23.01
.030"	.090"	.125"	1.50"	120°	701-0300.120	\$21.52
.0312"	.090"	.125"	1.50"	120°	701-0312.120	\$21.52
.045"	.135"	.125"	1.50"	120°	701-0450.120	\$19.54
.047"	.141"	.125"	1.50"	120°	701-0470.120	\$19.54
.060"	.180"	.125"	1.50"	120°	701-0600.120	\$19.34
.0625"	.186"	.125"	1.50"	120°	701-0625.120	\$19.34
.078"	.234"	.125"	1.50"	120°	701-0780.120	\$19.34
.090"	.270"	.125"	1.50"	120°	701-0900.120	\$18.35
.0938"	.279"	.125"	1.50"	120°	701-0930.120	\$18.35
.125"	.375"	.125"	1.50"	120°	701-1250.120	\$17.45
.005"	.025"	.125"	1.50"	130°	701-0050.130	\$33.62
.010"	.035"	.125"	1.50"	130°	701-0100.130	\$26.87
.015"	.045"	.125"	1.50"	130°	701-0150.130	\$26.87
.020"	.050"	.125"	1.50"	130°	701-0200.130	\$23.01
.0312"	.090"	.125"	1.50"	130°	701-0312.130	\$21.52
.0625"	.200"	.125"	1.50"	130°	701-0625.130	\$19.34
.0938"	.279"	.125"	1.50"	130°	701-0938.130	\$18.35



140 - 150 DEG. NC SPOT DRILL DECIMAL .010" - .125"

Type 1 Spot Drills suited for small drilling applications



DRILL Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
.010"	.030"	.125"	1.50"	140°	701-0100.140	\$26.87
.015"	.045"	.125"	1.50"	140°	701-0150.140	\$26.87
.020"	.050"	.125"	1.50"	140°	701-0200.140	\$23.01
.030"	.090"	.125"	1.50"	140°	701-0300.140	\$21.52
.0312"	.090"	.125"	1.50"	140°	701-0312.140	\$21.52
.045"	.135"	.125"	1.50"	140°	701-0450.140	\$19.54
.047"	.141"	.125"	1.50"	140°	701-0470.140	\$19.54
.060"	.180"	.125"	1.50"	140°	701-0600.140	\$19.34
.0625"	.186"	.125"	1.50"	140°	701-0625.140	\$19.34
.078"	.234"	.125"	1.50"	140°	701-0780.140	\$19.34
.090"	.270"	.125"	1.50"	140°	701-0900.140	\$18.35
.0938"	.279"	.125"	1.50"	140°	701-0930.140	\$18.35
.125"	.375"	.125"	1.50"	140°	701-1250.140	\$17.45
.030"	.090"	.125"	1.50"	150°	701-0300.150	\$21.52
.060"	.180"	.125"	1.50"	150°	701-0600.150	\$19.34
.125"	.375"	.125"	1.50"	150°	701-1250.150	\$17.45



TYPE 2 NC SPOT DRILL DECIMAL .125"-.250"



- Type 2: Ahead of center tip design
- Suited for larger drilling applications



TYPE 2
FRONT
VIEW



90 DEG. NC SPOT DRILL

DRILL Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
.125"	.375"	.125"	1.50"	90°	701-T1250.90	\$17.45
.187"	.625"	.187"	2.00"	90°	701-T1870.90	\$20.33
.250"	.750"	.250"	2.50"	90°	701-T2500.90	\$24.99

90 DEG. NC SPOT DRILL LONG

DRILL Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
.125"	.375"	.125"	4.00"	90°	701L-T1250.90	\$24.69
.187"	.625"	.187"	4.00"	90°	701L-T1870.90	\$30.35
.250"	.750"	.250"	6.00"	90°	701L-T2500.90	\$40.96

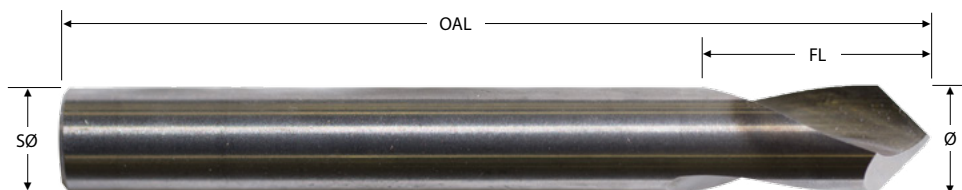


120 - 140 DEG. NC SPOT DRILL

DRILL Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
.125"	.375"	.125"	1.50"	120°	701-T1250.120	\$17.45
.187"	.625"	.187"	2.00"	120°	701-T1870.120	\$20.33
.250"	.750"	.250"	2.50"	120°	701-T2500.120	\$24.99
.125"	.375"	.125"	1.50"	140°	701-T1250.140	\$17.45
.187"	.625"	.187"	2.00"	140°	701-T1870.140	\$20.33
.250"	.750"	.250"	2.50"	140°	701-T2500.140	\$24.99

FOUR-FACET SPOT DRILLS DECIMAL .125" - .500"

Featuring a unique four-facet point, the NC Spotting Drill offers greater precision in spotting applications. This tool can be used to stabilize a deep hole drilling operation or chamfer a hole for another too.



90 DEG. NC SPOT DRILL

DRILL Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
.125"	.312"	.125"	1.50"	90°	701-012590	\$17.45
.1875"	.500"	.1875"	2.00"	90°	701-018790	\$20.33
.250"	.625"	.250"	2.50"	90°	701-025090	\$24.99
.3125"	.750"	.3125"	2.50"	90°	701-031290	\$31.45
.375"	.937"	.375"	2.50"	90°	701-037590	\$35.99
.500"	1.25"	.500"	3.00"	90°	701-050090	\$56.27



120 DEG. NC SPOT DRILL

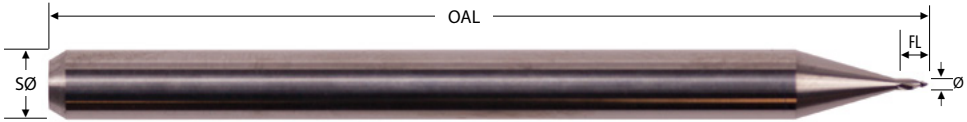
DRILL Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
.125"	.312"	.125"	1.50"	120°	701-0125120	\$17.45
.1875"	.500"	.1875"	2.00"	120°	701-0187120	\$20.33
.250"	.625"	.250"	2.50"	120°	701-0250120	\$24.99
.3125"	.750"	.3125"	2.50"	120°	701-0312120	\$31.45
.375"	.937"	.375"	2.50"	120°	701-0375120	\$35.99
.500"	1.25"	.500"	3.00"	120°	701-0500120	\$56.27

METRIC NC SPOT DRILL

METRIC .15 mm - 3 mm



Type 1: On center tip design



90 DEG. NC SPOT DRILL

DRILL Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
.15 mm	.65 mm	3 mm	38 mm	90°	702-0059.90	\$32.92
.25 mm	.9 mm	3 mm	38 mm	90°	702-0098.90	\$26.87
.40 mm	1.15 mm	3 mm	38 mm	90°	702-0157.90	\$26.87
.50 mm	1.3 mm	3 mm	38 mm	90°	702-0197.90	\$23.01
1 mm	2.3 mm	3 mm	38 mm	90°	702-0394.90	\$21.52
1.5 mm	5 mm	3 mm	38 mm	90°	702-0591.90	\$19.54
2 mm	5 mm	3 mm	38 mm	90°	702-0787.90	\$19.34
3 mm	5 mm	3 mm	38 mm	90°	702-1181.90	\$18.35



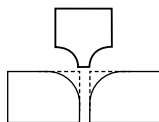
130 DEG. NC SPOT DRILL

DRILL Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
.15 mm	.65 mm	3 mm	38 mm	130°	702-0059.130	\$32.92
.25 mm	.9 mm	3 mm	38 mm	130°	702-0098.130	\$26.87
.40 mm	1.15 mm	3 mm	38 mm	130°	702-0157.130	\$26.87
.50 mm	1.3 mm	3 mm	38 mm	130°	702-0197.130	\$23.01
1 mm	2.3 mm	3 mm	38 mm	130°	702-0394.130	\$21.52
1.5 mm	5 mm	3 mm	38 mm	130°	702-0591.130	\$19.54
2 mm	5 mm	3 mm	38 mm	130°	702-0787.130	\$19.34
3 mm	5 mm	3 mm	38 mm	130°	702-1181.130	\$18.35

DOUBLE END CORNER ROUNDING END MILLS, FLARED DECIMAL .005"-.018" RADIUS

NEW!

- 5 Degree Flares at Shoulder and Pilot
- Application: End Cutting
- 2 Flute .008"-.046" Pilot Diameter



Small pilots for
narrow spaces

RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(5Ø)		2 FLUTE	
.005"	.008"	.125"	1.50"	839F-2.005X.008	\$39.07
.005"	.020"	.125"	1.50"	839F-2.005X.020	\$34.61
.005"	.046"	.125"	1.50"	839F-2.005X.046	\$31.93
.005"	.046"	.1875"	4.00"	839FL-2.005X.046	\$53.65
.006"	.020"	.125"	1.50"	839F-2.006X.020	\$34.61
.006"	.046"	.125"	1.50"	839F-2.006X.046	\$31.93
.007"	.020"	.125"	1.50"	839F-2.007X.020	\$34.61
.007"	.046"	.125"	1.50"	839F-2.007X.046	\$31.93
.008"	.008"	.125"	1.50"	839F-2.008X.008	\$39.07
.008"	.020"	.125"	1.50"	839F-2.008X.020	\$34.61
.008"	.046"	.125"	1.50"	839F-2.008X.046	\$31.93
.008"	.046"	.1875"	4.00"	839FL-2.008X.046	\$53.65
.009"	.020"	.125"	1.50"	839F-2.009X.020	\$34.61
.009"	.046"	.125"	1.50"	839F-2.009X.046	\$31.93
.010"	.008"	.125"	1.50"	839F-2.010X.008	\$39.07
.010"	.020"	.125"	1.50"	839F-2.010X.020	\$34.61
.010"	.046"	.125"	1.50"	839F-2.010X.046	\$31.93
.010"	.046"	.1875"	4.00"	839FL-2.010X.046	\$53.65
.011"	.020"	.125"	1.50"	839F-2.011X.020	\$34.61
.011"	.046"	.125"	1.50"	839F-2.011X.046	\$31.93
.012"	.020"	.125"	1.50"	839F-2.012X.020	\$34.61
.012"	.046"	.125"	1.50"	839F-2.012X.046	\$31.93
.013"	.020"	.125"	1.50"	839F-2.013X.020	\$34.61
.013"	.046"	.125"	1.50"	839F-2.013X.046	\$31.93
.014"	.020"	.125"	1.50"	839F-2.014X.020	\$34.61
.014"	.046"	.125"	1.50"	839F-2.014X.046	\$31.93
.015"	.008"	.125"	1.50"	839F-2.015X.008	\$39.07
.015"	.020"	.125"	1.50"	839F-2.015X.020	\$34.61
.015"	.046"	.125"	1.50"	839F-2.015X.046	\$31.93
.015"	.046"	.1875"	4.00"	839FL-2.015X.046	\$53.65
.018"	.046"	.125"	1.50"	839F-2.018X.046	\$31.93

DOUBLE END CORNER ROUNDING END MILLS, FLARED DECIMAL .020"-.050" RADIUS



• 2 Flute .008"-.125" Pilot Diameter

RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		2 FLUTE	
.020"	.008"	.125"	1.50"	839F-2.020X.008	\$39.07
.020"	.020"	.125"	1.50"	839F-2.020X.020	\$34.61
.020"	.046"	.125"	1.50"	839F-2.020X.046	\$31.93
.020"	.046"	.1875"	4.00"	839FL-2.020X.046	\$53.65
.022"	.046"	.125"	1.50"	839F-2.022X.046	\$31.93
.025"	.020"	.125"	1.50"	839F-2.025X.020	\$34.61
.025"	.046"	.125"	1.50"	839F-2.025X.046	\$31.93
.025"	.046"	.1875"	4.00"	839FL-2.025X.046	\$53.65
.027"	.046"	.125"	1.50"	839F-2.027X.046	\$31.93
.030"	.020"	.125"	1.50"	839F-2.030X.020	\$34.61
.030"	.046"	.125"	1.50"	839F-2.030X.046	\$31.93
.030"	.046"	.1875"	4.00"	839FL-2.030X.046	\$53.65
.031"	.020"	.125"	1.50"	839F-2.031X.020	\$34.61
.031"	.046"	.125"	1.50"	839F-2.031X.046	\$31.93
.031"	.046"	.1875"	4.00"	839FL-2.031X.046	\$53.65
.032"	.046"	.125"	1.50"	839F-2.032X.046	\$31.93
.035"	.020"	.125"	1.50"	839F-2.035X.020	\$34.61
.035"	.046"	.125"	1.50"	839F-2.035X.046	\$31.93
.035"	.046"	.1875"	4.00"	839FL-2.035X.046	\$53.65
.039"	.020"	.125"	1.50"	839F-2.039X.020	\$34.61
.039"	.046"	.125"	1.50"	839F-2.039X.046	\$31.93
.039"	.046"	.1875"	4.00"	839FL-2.039X.046	\$53.65
.039"	.100"	.1875"	2.00"	839F-2.039X.100	\$40.96
.043"	.046"	.1875"	2.00"	839F-2.043X.046	\$40.96
.047"	.020"	.125"	1.50"	839F-2.047X.020	\$34.61
.047"	.046"	.1875"	2.00"	839F-2.047X.046	\$40.96
.047"	.046"	.1875"	4.00"	839FL-2.047X.046	\$53.65
.047"	.125"	.250"	2.00"	839F-2.047X.125	\$46.91
.050"	.020"	.125"	1.50"	839F-2.050X.020	\$34.61
.050"	.046"	.1875"	2.00"	839F-2.050X.046	\$40.96
.050"	.046"	.250"	4.00"	839FL-2.050X.046	\$63.57
.050"	.125"	.250"	2.00"	839F-2.050X.125	\$46.91

DOUBLE END CORNER ROUNDING END MILLS, FLARED DECIMAL .055" - .156" RADIUS

· Large Pilots for Profiling and increased durability



RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		2 FLUTE	
.055"	.046"	.1875"	2.00"	839F-2.055X.046	\$40.96
.060"	.020"	.1875"	2.00"	839F-2.060X.020	\$42.34
.060"	.046"	.1875"	2.00"	839F-2.060X.046	\$40.96
.060"	.046"	.250"	4.00"	839FL-2.060X.046	\$63.57
.060"	.125"	.250"	2.00"	839F-2.060X.125	\$46.91
.062"	.020"	.1875"	2.00"	839F-2.062X.020	\$42.34
.062"	.046"	.1875"	2.00"	839F-2.062X.046	\$40.96
.062"	.046"	.250"	4.00"	839FL-2.062X.046	\$63.57
.062"	.125"	.250"	2.00"	839F-2.062X.125	\$46.91
.072"	.046"	.250"	2.00"	839F-2.072X.046	\$46.91
.078"	.046"	.250"	2.00"	839F-2.078X.046	\$46.91
.078"	.046"	.250"	4.00"	839FL-2.078X.046	\$63.57
.089"	.045"	.250"	2.00"	839F-2.089X.045	\$46.91
.093"	.045"	.250"	2.00"	839F-2.093X.045	\$46.91
.093"	.045"	.3125"	4.00"	839FL-2.093X.045	\$83.80
.100"	.045"	.250"	2.00"	839F-2.100X.045	\$46.91
.100"	.045"	.3125"	4.00"	839FL-2.100X.045	\$83.80
.109"	.058"	.3125"	2.50"	839F-2.109X.058	\$69.22
.118"	.058"	.3125"	2.50"	839F-2.118X.058	\$69.22
.125"	.058"	.3125"	2.50"	839F-2.125X.058	\$69.22
.125"	.058"	.375"	4.00"	839FL-2.125X.058	\$97.38
.140"	.058"	.375"	2.50"	839F-2.140X.058	\$83.50
.156"	.058"	.375"	2.50"	839F-2.156X.058	\$83.50

4 Flute

.005"-.010" Radius



RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		4 FLUTE	
.005"	.058"	.125"	1.50"	839F-4.005X.058	\$42.15
.005"	.249"	.375"	2.50"	839F-4.005X.249	\$49.39
.008"	.058"	.125"	1.50"	839F-4.008X.058	\$42.15
.008"	.249"	.375"	2.50"	839F-4.008X.249	\$49.39
.010"	.058"	.125"	1.50"	839F-4.010X.058	\$42.15
.010"	.249"	.375"	2.50"	839F-4.010X.249	\$49.39

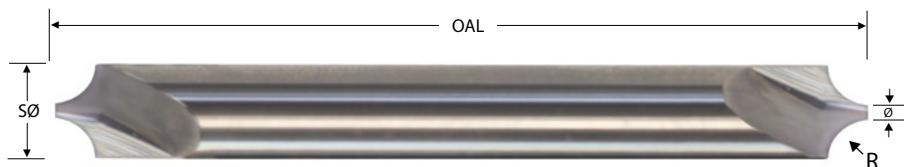
DOUBLE END CORNER ROUNDING END MILLS, FLARED DECIMAL .015" - .125" RADIUS

· 4 Flute .058"-.249" Pilot Diameter

RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		4 FLUTE	
.015"	.058"	.125"	1.50"	839F-4.015X.058	\$42.15
.015"	.107"	.1875"	2.00"	839F-4.015X.107	\$45.91
.015"	.249"	.375"	2.50"	839F-4.015X.249	\$49.39
.020"	.058"	.125"	1.50"	839F-4.020X.058	\$42.15
.020"	.107"	.1875"	2.00"	839F-4.020X.107	\$45.91
.020"	.249"	.375"	2.50"	839F-4.020X.249	\$49.39
.025"	.058"	.125"	1.50"	839F-4.025X.058	\$42.15
.025"	.107"	.1875"	2.00"	839F-4.025X.107	\$45.91
.025"	.249"	.375"	2.50"	839F-4.025X.249	\$49.39
.030"	.058"	.125"	1.50"	839F-4.030X.058	\$42.15
.030"	.058"	.125"	1.50"	839F-4.030X.058	\$42.15
.030"	.107"	.1875"	2.00"	839F-4.030X.107	\$45.91
.030"	.249"	.375"	2.50"	839F-4.030X.249	\$54.34
.031"	.058"	.125"	1.50"	839F-4.031X.058	\$42.15
.031"	.107"	.1875"	2.00"	839F-4.031X.107	\$45.91
.031"	.249"	.375"	2.50"	839F-4.031X.249	\$54.34
.032"	.249"	.375"	2.50"	839F-4.032X.249	\$54.34
.035"	.249"	.375"	2.50"	839F-4.035X.249	\$54.34
.039"	.058"	.1875"	2.00"	839F-4.039X.058	\$47.40
.039"	.249"	.375"	2.50"	839F-4.039X.249	\$54.34
.043"	.249"	.375"	2.50"	839F-4.043X.249	\$65.65
.047"	.058"	.1875"	2.00"	839F-4.047X.058	\$47.40
.047"	.107"	.250"	2.00"	839F-4.047X.107	\$56.82
.047"	.249"	.375"	2.50"	839F-4.047X.249	\$65.65
.050"	.058"	.1875"	2.00"	839F-4.050X.058	\$47.40
.050"	.107"	.250"	2.00"	839F-4.050X.107	\$60.00
.050"	.249"	.375"	2.50"	839F-4.050X.249	\$65.65
.060"	.058"	.1875"	2.00"	839F-4.060X.058	\$47.40
.060"	.107"	.250"	2.00"	839F-4.060X.107	\$60.00
.062"	.058"	.1875"	2.00"	839F-4.062X.058	\$47.40
.062"	.107"	.250"	2.00"	839F-4.062X.107	\$60.00
.078"	.058"	.250"	2.00"	839F-4.078X.058	\$60.00
.078"	.107"	.3125"	2.50"	839F-4.078X.107	\$69.22
.093"	.058"	.250"	2.00"	839F-4.093X.058	\$60.00
.093"	.107"	.3125"	2.50"	839F-4.093X.107	\$69.22
.100"	.107"	.3125"	2.50"	839F-4.100X.107	\$69.22
.118"	.107"	.375"	2.50"	839F-4.118X.107	\$84.79
.125"	.107"	.375"	2.50"	839F-4.125X.107	\$84.79

DOUBLE END CORNER ROUNDING END MILLS DECIMAL .005" - .100" RADIUS

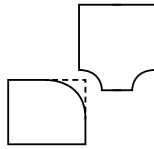
- Application: End Cutting
- 2 Flute .047" Pilot Diameter
- Small pilots for narrow spaces
- Diameter Tolerance: $\pm .0005$ "



RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		2 FLUTE	
.005"	.047"	.125"	1.50"	839-2.005X.047	\$25.88
.008"	.047"	.125"	1.50"	839-2.008X.047	\$25.88
.010"	.047"	.125"	1.50"	839-2.010X.047	\$25.88
.012"	.047"	.125"	1.50"	839-2.012X.047	\$25.88
.015"	.047"	.125"	1.50"	839-2.015X.047	\$25.88
.018"	.047"	.125"	1.50"	839-2.018X.047	\$25.88
.020"	.047"	.125"	1.50"	839-2.020X.047	\$25.88
.022"	.047"	.125"	1.50"	839-2.022X.047	\$25.88
.025"	.047"	.125"	1.50"	839-2.025X.047	\$25.88
.027"	.047"	.125"	1.50"	839-2.027X.047	\$25.88
.030"	.047"	.125"	1.50"	839-2.030X.047	\$25.88
.031"	.047"	.125"	1.50"	839-2.031X.047	\$25.88
.032"	.047"	.125"	1.50"	839-2.032X.047	\$25.88
.035"	.047"	.125"	1.50"	839-2.035X.047	\$25.88
.039"	.047"	.125"	1.50"	839-2.039X.047	\$25.88
.043"	.047"	.1875"	2.00"	839-2.043X.047	\$33.92
.047"	.047"	.1875"	2.00"	839-2.047X.047	\$33.92
.050"	.047"	.1875"	2.00"	839-2.050X.047	\$33.92
.055"	.047"	.1875"	2.00"	839-2.055X.047	\$33.92
.060"	.047"	.1875"	2.00"	839-2.060X.047	\$34.61
.062"	.047"	.1875"	2.00"	839-2.062X.047	\$34.61
.067"	.047"	.1875"	2.00"	839-2.067X.047	\$34.61
.072"	.047"	.250"	2.00"	839-2.072X.047	\$39.87
.078"	.047"	.250"	2.00"	839-2.078X.047	\$39.87
.089"	.047"	.250"	2.00"	839-2.089X.047	\$39.87
.093"	.047"	.250"	2.00"	839-2.093X.047	\$39.87
.100"	.047"	.250"	2.00"	839-2.100X.047	\$39.87

DOUBLE END CORNER ROUNDING END MILLS

DECIMAL .010"- .156" RADIUS



Large Pilots for Profiling
and increased durability



· 2 Flute .060" Pilot Diameter

RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		2 FLUTE	
.104"	.060"	.3125"	2.50"	839-2.104X.060	\$55.34
.109"	.060"	.3125"	2.50"	839-2.109X.060	\$55.34
.118"	.060"	.3125"	2.50"	839-2.118X.060	\$56.33
.125"	.060"	.3125"	2.50"	839-2.125X.060	\$56.33
.140"	.060"	.375"	2.50"	839-2.140X.060	\$64.56
.156"	.060"	.375"	2.50"	839-2.156X.060	\$69.91



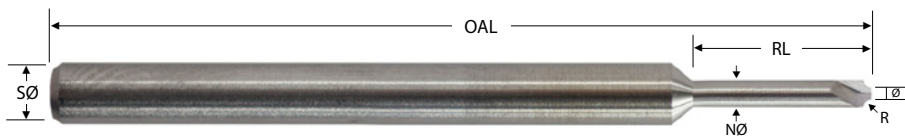
· 4 Flute .250" Pilot Diameter

RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		4 FLUTE	
.010"	.250"	.375"	2.50"	839-4.010X.250	\$44.53
.015"	.250"	.375"	2.50"	839-4.015X.250	\$44.53
.020"	.250"	.375"	2.50"	839-4.020X.250	\$44.53
.025"	.250"	.375"	2.50"	839-4.025X.250	\$44.53
.030"	.250"	.375"	2.50"	839-4.030X.250	\$48.79
.031"	.250"	.375"	2.50"	839-4.031X.250	\$48.79
.039"	.250"	.375"	2.50"	839-4.039X.250	\$48.79
.047"	.250"	.375"	2.50"	839-4.047X.250	\$48.79
.050"	.250"	.375"	2.50"	839-4.050X.250	\$48.79



CORNER ROUNDING END MILLS, REACHED, FLARED
DECIMAL .005"- .010" RADIUS

- Single End
- Diameter Tolerance: +/- .0005"



RADIUS	PILOT DIAMETER	SHANK Ø	NECK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)	(NØ)			2 FLUTE	
.005"	.010"	.125"	.031"	1.50"	.156"	838F-2.005X.010-1	\$28.66
.005"	.010"	.125"	.031"	1.50"	.250"	838F-2.005X.010-2	\$28.66
.005"	.010"	.125"	.031"	1.50"	.375"	838F-2.005X.010-3	\$28.66
.005"	.020"	.125"	.031"	1.50"	.156"	838F-2.005X.020-1	\$28.66
.005"	.020"	.125"	.031"	1.50"	.250"	838F-2.005X.020-2	\$28.66
.005"	.020"	.125"	.031"	1.50"	.375"	838F-2.005X.020-3	\$29.55
.005"	.020"	.125"	.062"	1.50"	.312"	838F-2.005X.020-4	\$28.66
.005"	.020"	.125"	.062"	1.50"	.500"	838F-2.005X.020-5	\$28.66
.005"	.020"	.125"	.062"	2.00"	.750"	838F-2.005X.020-6	\$29.55
.005"	.020"	.125"	.093"	2.00"	.750"	838F-2.005X.020-7	\$32.92
.005"	.020"	.125"	.093"	2.00"	1.125"	838F-2.005X.020-8	\$32.92
.008"	.010"	.125"	.031"	1.50"	.156"	838F-2.008X.010-1	\$28.66
.008"	.010"	.125"	.031"	1.50"	.250"	838F-2.008X.010-2	\$28.66
.008"	.010"	.125"	.031"	1.50"	.375"	838F-2.008X.010-3	\$28.66
.010"	.010"	.125"	.031"	1.50"	.156"	838F-2.010X.010-1	\$28.66
.010"	.010"	.125"	.031"	1.50"	.250"	838F-2.010X.010-2	\$28.66
.010"	.010"	.125"	.031"	1.50"	.375"	838F-2.010X.010-3	\$29.55

CORNER ROUNDING END MILLS, REACHED, FLARED

DECIMAL .010"-.030" RADIUS



- Single End
- Diameter Tolerance: $\pm .0005"$



RADIUS	PILOT DIAMETER	SHANK Ø	NECK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)	(NØ)			2 FLUTE	
.010"	.020"	.125"	.062"	1.50"	.312"	838F-2.010X.020-4	\$28.66
.010"	.020"	.125"	.062"	1.50"	.500"	838F-2.010X.020-5	\$28.66
.010"	.020"	.125"	.062"	2.00"	.750"	838F-2.010X.020-6	\$29.55
.010"	.020"	.125"	.093"	2.00"	.750"	838F-2.010X.020-7	\$32.92
.010"	.020"	.125"	.093"	2.00"	1.125"	838F-2.010X.020-8	\$32.92
.015"	.020"	.125"	.062"	1.50"	.312"	838F-2.015X.020-4	\$28.66
.015"	.020"	.125"	.062"	1.50"	.500"	838F-2.015X.020-5	\$28.66
.015"	.020"	.125"	.062"	2.00"	.750"	838F-2.015X.020-6	\$29.55
.015"	.020"	.125"	.093"	2.00"	.750"	838F-2.015X.020-7	\$32.92
.015"	.020"	.125"	.093"	2.00"	1.125"	838F-2.015X.020-8	\$32.92
.020"	.020"	.125"	.062"	1.50"	.312"	838F-2.020X.020-4	\$28.66
.020"	.020"	.125"	.062"	1.50"	.500"	838F-2.020X.020-5	\$28.66
.020"	.020"	.125"	.062"	2.00"	.750"	838F-2.020X.020-6	\$29.55
.020"	.020"	.125"	.093"	2.00"	.750"	838F-2.020X.020-7	\$32.92
.020"	.020"	.125"	.093"	2.00"	1.125"	838F-2.020X.020-8	\$32.92
.025"	.020"	.125"	.093"	2.00"	.750"	838F-2.025X.020-7	\$32.92
.025"	.020"	.125"	.093"	2.00"	1.125"	838F-2.025X.020-8	\$32.92
.030"	.020"	.125"	.093"	2.00"	.750"	838F-2.030X.020-7	\$32.92
.030"	.020"	.125"	.093"	2.00"	1.125"	838F-2.030X.020-8	\$32.92

CORNER ROUNDING END MILLS, FLARED, COATED DECIMAL .005"- .018" RADIUS

· 2 Flute Double End

· Titanium Aluminum Nitride Coated



RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		2 FLUTE	
.005"	.008"	.125"	1.50"	839CF-2.005X.008	\$44.13
.005"	.020"	.125"	1.50"	839CF-2.005X.020	\$39.57
.005"	.046"	.125"	1.50"	839CF-2.005X.046	\$36.99
.005"	.046"	.1875"	4.00"	839CFL-2.005X.046	\$58.11
.006"	.020"	.125"	1.50"	839CF-2.006X.020	\$39.57
.006"	.046"	.125"	1.50"	839CF-2.006X.046	\$36.99
.007"	.020"	.125"	1.50"	839CF-2.007X.020	\$39.57
.007"	.046"	.125"	1.50"	839CF-2.007X.046	\$36.99
.008"	.008"	.125"	1.50"	839CF-2.008X.008	\$44.13
.008"	.020"	.125"	1.50"	839CF-2.008X.020	\$39.57
.008"	.046"	.125"	1.50"	839CF-2.008X.046	\$36.99
.008"	.046"	.1875"	4.00"	839CFL-2.008X.046	\$58.11
.009"	.020"	.125"	1.50"	839CF-2.009X.020	\$39.57
.009"	.046"	.125"	1.50"	839CF-2.009X.046	\$36.99
.010"	.008"	.125"	1.50"	839CF-2.010X.008	\$44.13
.010"	.020"	.125"	1.50"	839CF-2.010X.020	\$39.57
.010"	.046"	.125"	1.50"	839CF-2.010X.046	\$36.99
.010"	.046"	.1875"	4.00"	839CFL-2.010X.046	\$58.11
.011"	.020"	.125"	1.50"	839CF-2.011X.020	\$39.57
.011"	.046"	.125"	1.50"	839CF-2.011X.046	\$36.99
.012"	.020"	.125"	1.50"	839CF-2.012X.020	\$39.57
.012"	.046"	.125"	1.50"	839CF-2.012X.046	\$36.99
.013"	.020"	.125"	1.50"	839CF-2.013X.020	\$39.57
.013"	.046"	.125"	1.50"	839CF-2.013X.046	\$36.99
.014"	.020"	.125"	1.50"	839CF-2.014X.020	\$39.57
.014"	.046"	.125"	1.50"	839CF-2.014X.046	\$36.99
.015"	.008"	.125"	1.50"	839CF-2.015X.008	\$44.13
.015"	.020"	.125"	1.50"	839CF-2.015X.020	\$39.57
.015"	.046"	.125"	1.50"	839CF-2.015X.046	\$36.99
.015"	.046"	.1875"	4.00"	839CFL-2.015X.046	\$58.11
.018"	.046"	.125"	1.50"	839CF-2.018X.046	\$36.99

CORNER ROUNDING END MILLS, FLARED, COATED DECIMAL .020"-.050" RADIUS



· 5 Degree Flares at Shoulder and Pilot

· Diameter Tolerance: +/- .0005"



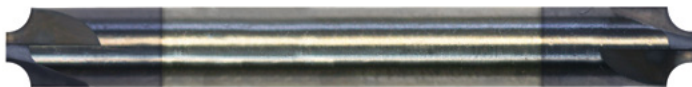
RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		2 FLUTE	
.020"	.008"	.125"	1.50"	839CF-2.020X.008	\$44.13
.020"	.020"	.125"	1.50"	839CF-2.020X.020	\$39.57
.020"	.046"	.125"	1.50"	839CF-2.020X.046	\$36.99
.020"	.046"	.1875"	4.00"	839CFL-2.020X.046	\$58.11
.022"	.046"	.125"	1.50"	839CF-2.022X.046	\$36.99
.025"	.020"	.125"	1.50"	839CF-2.025X.020	\$39.57
.025"	.046"	.125"	1.50"	839CF-2.025X.046	\$36.99
.025"	.046"	.1875"	4.00"	839CFL-2.025X.046	\$58.11
.027"	.046"	.125"	1.50"	839CF-2.027X.046	\$36.99
.030"	.020"	.125"	1.50"	839CF-2.030X.020	\$39.57
.030"	.046"	.125"	1.50"	839CF-2.030X.046	\$36.99
.030"	.046"	.1875"	4.00"	839CFL-2.030X.046	\$58.11
.031"	.020"	.125"	1.50"	839CF-2.031X.020	\$39.57
.031"	.046"	.125"	1.50"	839CF-2.031X.046	\$36.99
.031"	.046"	.1875"	4.00"	839CFL-2.031X.046	\$58.11
.032"	.046"	.125"	1.50"	839CF-2.032X.046	\$36.99
.035"	.020"	.125"	1.50"	839CF-2.035X.020	\$39.57
.035"	.046"	.125"	1.50"	839CF-2.035X.046	\$36.99
.035"	.046"	.1875"	4.00"	839CFL-2.035X.046	\$58.11
.039"	.020"	.125"	1.50"	839CF-2.039X.020	\$39.57
.039"	.046"	.125"	1.50"	839CF-2.039X.046	\$36.99
.039"	.046"	.1875"	4.00"	839CFL-2.039X.046	\$58.11
.039"	.100"	.1875"	2.00"	839CF-2.039X.100	\$46.71
.043"	.046"	.1875"	2.00"	839CF-2.043X.046	\$46.71
.047"	.020"	.125"	1.50"	839CF-2.047X.020	\$39.57
.047"	.046"	.1875"	2.00"	839CF-2.047X.046	\$44.72
.047"	.046"	.1875"	4.00"	839CFL-2.047X.046	\$58.11
.047"	.125"	.250"	2.00"	839CF-2.047X.125	\$54.94
.050"	.020"	.125"	1.50"	839CF-2.050X.020	\$39.57
.050"	.046"	.1875"	2.00"	839CF-2.050X.046	\$44.72
.050"	.046"	.250"	4.00"	839CFL-2.050X.046	\$71.60
.050"	.125"	.250"	2.00"	839CF-2.050X.125	\$54.94

CORNER ROUNDING END MILLS, FLARED, COATED DECIMAL .055"-.156" RADIUS



RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		2 FLUTE	
.055"	.046"	.1875"	2.00"	839CF-2.055X.046	\$44.72
.060"	.020"	.1875"	2.00"	839CF-2.060X.020	\$44.72
.060"	.046"	.1875"	2.00"	839CF-2.060X.046	\$41.30
.060"	.046"	.250"	4.00"	839CFL-2.060X.046	\$71.60
.060"	.125"	.250"	2.00"	839CF-2.060X.125	\$54.94
.062"	.020"	.1875"	2.00"	839CF-2.062X.020	\$42.70
.062"	.046"	.1875"	2.00"	839CF-2.062X.046	\$41.30
.062"	.046"	.250"	4.00"	839CFL-2.062X.046	\$71.60
.062"	.125"	.250"	2.00"	839CF-2.062X.125	\$54.94
.072"	.046"	.250"	2.00"	839CF-2.072X.046	\$54.94
.078"	.046"	.250"	2.00"	839CF-2.078X.046	\$54.94
.078"	.046"	.250"	4.00"	839CFL-2.078X.046	\$71.60
.089"	.045"	.250"	2.00"	839CF-2.089X.045	\$54.94
.093"	.045"	.250"	2.00"	839CF-2.093X.045	\$54.94
.093"	.045"	.3125"	4.00"	839CFL-2.093X.045	\$94.90
.100"	.045"	.250"	2.00"	839CF-2.100X.045	\$54.94
.100"	.045"	.3125"	4.00"	839CFL-2.100X.045	\$94.90
.109"	.058"	.3125"	2.50"	839CF-2.109X.058	\$79.23
.118"	.058"	.3125"	2.50"	839CF-2.118X.058	\$79.23
.125"	.058"	.3125"	2.50"	839CF-2.125X.058	\$79.23
.125"	.058"	.375"	4.00"	839CFL-2.125X.058	\$104.52
.140"	.058"	.375"	2.50"	839CF-2.140X.058	\$95.60
.156"	.058"	.375"	2.50"	839CF-2.156X.058	\$95.60

4 Flute Double End
.005"-.010" Radius



RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		4 FLUTE	
.005"	.058"	.125"	1.50"	839CF-4.005X.058	\$47.30
.005"	.249"	.375"	2.50"	839CF-4.005X.249	\$61.29
.008"	.058"	.125"	1.50"	839CF-4.008X.058	\$47.30
.008"	.249"	.375"	2.50"	839CF-4.008X.249	\$61.19
.010"	.058"	.125"	1.50"	839CF-4.010X.058	\$47.30
.010"	.249"	.375"	2.50"	839CF-4.010X.249	\$61.29

CORNER ROUNDING END MILLS, FLARED, COATED

DECIMAL .015"-.125" RADIUS



· 4 Flute Double End

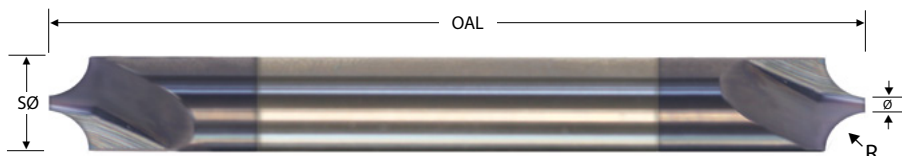
· Titanium Aluminum Nitride Coated



RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		4 FLUTE	
.015"	.058"	.125"	1.50"	839CF-4.015X.058	\$47.30
.015"	.107"	.1875"	2.00"	839CF-4.015X.107	\$51.86
.015"	.249"	.375"	2.50"	839CF-4.015X.249	\$61.29
.020"	.058"	.125"	1.50"	839CF-4.020X.058	\$47.30
.020"	.107"	.1875"	2.00"	839CF-4.020X.107	\$51.86
.020"	.249"	.375"	2.50"	839CF-4.020X.249	\$61.29
.025"	.058"	.125"	1.50"	839CF-4.025X.058	\$47.30
.025"	.107"	.1875"	2.00"	839CF-4.025X.107	\$51.86
.025"	.249"	.375"	2.50"	839CF-4.025X.249	\$61.29
.030"	.058"	.125"	1.50"	839CF-4.030X.058	\$47.30
.030"	.107"	.1875"	2.00"	839CF-4.030X.107	\$51.86
.030"	.249"	.375"	2.50"	839CF-4.030X.249	\$66.54
.031"	.058"	.125"	1.50"	839CF-4.031X.058	\$47.30
.031"	.107"	.1875"	2.00"	839CF-4.031X.107	\$51.86
.031"	.249"	.375"	2.50"	839CF-4.031X.249	\$66.54
.032"	.249"	.375"	2.50"	839CF-4.032X.249	\$66.54
.035"	.249"	.375"	2.50"	839CF-4.035X.249	\$66.54
.039"	.058"	.1875"	2.00"	839CF-4.039X.058	\$53.35
.039"	.249"	.375"	2.50"	839CF-4.039X.249	\$66.54
.043"	.249"	.375"	2.50"	839CF-4.043X.249	\$77.85
.047"	.058"	.1875"	2.00"	839CF-4.047X.058	\$53.35
.047"	.107"	.250"	2.00"	839CF-4.047X.107	\$64.76
.047"	.249"	.375"	2.50"	839CF-4.047X.249	\$77.85
.050"	.058"	.1875"	2.00"	839CF-4.050X.058	\$53.35
.050"	.107"	.250"	2.00"	839CF-4.050X.107	\$68.13
.050"	.249"	.375"	2.50"	839CF-4.050X.249	\$77.85
.060"	.058"	.1875"	2.00"	839CF-4.060X.058	\$53.35
.060"	.107"	.250"	2.00"	839CF-4.060X.107	\$68.13
.062"	.058"	.1875"	2.00"	839CF-4.062X.058	\$53.35
.062"	.107"	.250"	2.00"	839CF-4.062X.107	\$68.13
.078"	.058"	.250"	2.00"	839CF-4.078X.058	\$68.13
.078"	.107"	.3125"	2.50"	839CF-4.078X.107	\$79.23
.093"	.058"	.250"	2.00"	839CF-4.093X.058	\$68.13
.093"	.107"	.3125"	2.50"	839CF-4.093X.107	\$79.23
.100"	.107"	.3125"	2.50"	839CF-4.100X.107	\$79.23
.118"	.107"	.375"	2.50"	839CF-4.118X.107	\$97.08
.125"	.107"	.375"	2.50"	839CF-4.125X.107	\$97.08

CORNER ROUNDING END MILLS, COATED DECIMAL .005" - .100" RADIUS

- Titanium Aluminum Nitride Coated
- Double End
- Diameter Tolerance: +/- .0005"



• 2 Flute .047" Pilot Diameter

RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		2 FLUTE	
.005"	.047"	.125"	1.50"	839C-2.005X.047	\$30.84
.008"	.047"	.125"	1.50"	839C-2.008X.047	\$30.84
.010"	.047"	.125"	1.50"	839C-2.010X.047	\$30.84
.012"	.047"	.125"	1.50"	839C-2.012X.047	\$30.84
.015"	.047"	.125"	1.50"	839C-2.015X.047	\$30.84
.018"	.047"	.125"	1.50"	839C-2.018X.047	\$30.84
.020"	.047"	.125"	1.50"	839C-2.020X.047	\$30.84
.022"	.047"	.125"	1.50"	839C-2.022X.047	\$30.84
.025"	.047"	.125"	1.50"	839C-2.025X.047	\$30.84
.027"	.047"	.125"	1.50"	839C-2.027X.047	\$30.84
.030"	.047"	.125"	1.50"	839C-2.030X.047	\$30.84
.031"	.047"	.125"	1.50"	839C-2.031X.047	\$30.84
.032"	.047"	.125"	1.50"	839C-2.032X.047	\$30.84
.035"	.047"	.125"	1.50"	839C-2.035X.047	\$30.84
.039"	.047"	.125"	1.50"	839C-2.039X.047	\$30.84
.043"	.047"	.1875"	2.00"	839C-2.043X.047	\$39.67
.047"	.047"	.1875"	2.00"	839C-2.047X.047	\$39.67
.050"	.047"	.1875"	2.00"	839C-2.050X.047	\$39.67
.055"	.047"	.1875"	2.00"	839C-2.055X.047	\$39.67
.060"	.047"	.1875"	2.00"	839C-2.060X.047	\$40.36
.062"	.047"	.1875"	2.00"	839C-2.062X.047	\$40.36
.067"	.047"	.1875"	2.00"	839C-2.067X.047	\$40.36
.072"	.047"	.250"	2.00"	839C-2.072X.047	\$47.80
.078"	.047"	.250"	2.00"	839C-2.078X.047	\$47.80
.089"	.047"	.250"	2.00"	839C-2.089X.047	\$47.80
.093"	.047"	.250"	2.00"	839C-2.093X.047	\$47.80
.100"	.047"	.250"	2.00"	839C-2.100X.047	\$47.80

CORNER ROUNDING END MILLS, COATED

DECIMAL .010" - .156" RADIUS



- Double End
- Titanium Aluminum Nitride Coated



• 2 Flute .060" Pilot Diameter

RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		2 FLUTE	
.104"	.060"	.3125"	2.50"	839C-2.104X.060	\$65.25
.109"	.060"	.3125"	2.50"	839C-2.109X.060	\$65.25
.118"	.060"	.3125"	2.50"	839C-2.118X.060	\$66.24
.125"	.060"	.3125"	2.50"	839C-2.125X.060	\$66.24
.140"	.060"	.375"	2.50"	839C-2.140X.060	\$76.46
.156"	.060"	.375"	2.50"	839C-2.156X.060	\$81.81



• 4 Flute .250" Pilot Diameter

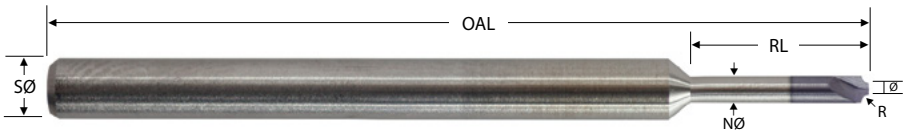
RADIUS	PILOT Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)		4 FLUTE	
.010"	.250"	.375"	2.50"	839C-4.010X.250	\$56.43
.015"	.250"	.375"	2.50"	839C-4.015X.250	\$56.43
.020"	.250"	.375"	2.50"	839C-4.020X.250	\$56.43
.025"	.250"	.375"	2.50"	839C-4.025X.250	\$56.43
.030"	.250"	.375"	2.50"	839C-4.030X.250	\$60.69
.031"	.250"	.375"	2.50"	839C-4.031X.250	\$60.69
.039"	.250"	.375"	2.50"	839C-4.039X.250	\$60.69
.047"	.250"	.375"	2.50"	839C-4.047X.250	\$60.69
.050"	.250"	.375"	2.50"	839C-4.050X.250	\$60.69



CORNER ROUNDING END MILLS, REACHED, COATED
DECIMAL .005"- .010" RADIUS



- Single End
- Diameter Tolerance: +/- .0005"
- Titanium Aluminum Nitride Coated



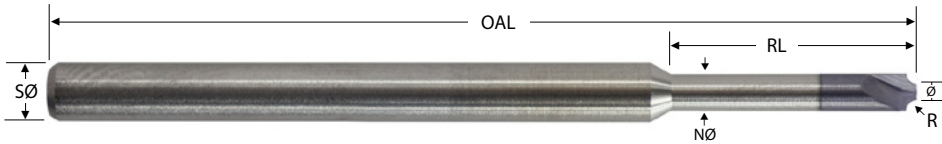
RADIUS	PILOT DIAMETER	SHANK Ø	NECK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)	(NØ)		(RL)	2 FLUTE	
.005"	.010"	.125"	.031"	1.50"	.156"	838CF-2.005X.010-1	\$32.87
.005"	.010"	.125"	.031"	1.50"	.250"	838CF-2.005X.010-2	\$32.87
.005"	.010"	.125"	.031"	1.50"	.375"	838CF-2.005X.010-3	\$32.87
.005"	.020"	.125"	.031"	1.50"	.156"	838CF-2.005X.020-1	\$32.87
.005"	.020"	.125"	.031"	1.50"	.250"	838CF-2.005X.020-2	\$32.87
.005"	.020"	.125"	.031"	1.50"	.375"	838CF-2.005X.020-3	\$32.87
.005"	.020"	.125"	.062"	1.50"	.312"	838CF-2.005X.020-4	\$32.87
.005"	.020"	.125"	.062"	1.50"	.500"	838CF-2.005X.020-5	\$32.87
.005"	.020"	.125"	.062"	2.00"	.750"	838CF-2.005X.020-6	\$32.87
.005"	.020"	.125"	.093"	2.00"	.750"	838CF-2.005X.020-7	\$32.87
.005"	.020"	.125"	.093"	2.00"	1.125"	838CF-2.005X.020-8	\$32.87
.008"	.010"	.125"	.031"	1.50"	.156"	838CF-2.008X.010-1	\$32.87
.008"	.010"	.125"	.031"	1.50"	.250"	838CF-2.008X.010-2	\$32.87
.008"	.010"	.125"	.031"	1.50"	.375"	838CF-2.008X.010-3	\$32.87
.010"	.010"	.125"	.031"	1.50"	.156"	838CF-2.010X.010-1	\$32.87
.010"	.010"	.125"	.031"	1.50"	.250"	838CF-2.010X.010-2	\$32.87
.010"	.010"	.125"	.031"	1.50"	.375"	838CF-2.010X.010-3	\$32.87

CORNER ROUNDING END MILLS, REACHED, COATED

DECIMAL .010"-.030" RADIUS



- Single End
- Diameter Tolerance: $\pm .0005$ "
- Titanium Aluminum Nitride Coated

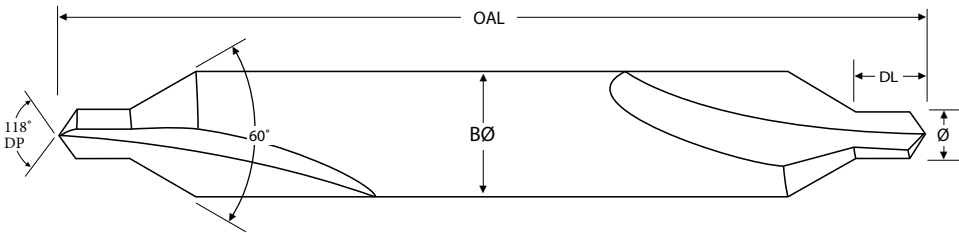


RADIUS	PILOT DIAMETER	SHANK Ø	NECK Ø	OAL	REACH LENGTH	RMT PART	LIST PRICE
(R)	(Ø)	(SØ)	(NØ)		(RL)	2 FLUTE	
.010"	.020"	.125"	.062"	1.50"	.312"	838CF-2.010X.020-4	\$32.87
.010"	.020"	.125"	.062"	1.50"	.500"	838CF-2.010X.020-5	\$32.87
.010"	.020"	.125"	.062"	2.00"	.750"	838CF-2.010X.020-6	\$32.87
.010"	.020"	.125"	.093"	2.00"	.750"	838CF-2.010X.020-7	\$37.14
.010"	.020"	.125"	.093"	2.00"	1.125"	838CF-2.010X.020-8	\$37.14
.015"	.020"	.125"	.062"	1.50"	.312"	838CF-2.015X.020-4	\$32.87
.015"	.020"	.125"	.062"	1.50"	.500"	838CF-2.015X.020-5	\$32.87
.015"	.020"	.125"	.062"	2.00"	.750"	838CF-2.015X.020-6	\$32.87
.015"	.020"	.125"	.093"	2.00"	.750"	838CF-2.015X.020-7	\$37.14
.015"	.020"	.125"	.093"	2.00"	1.125"	838CF-2.015X.020-8	\$37.14
.020"	.020"	.125"	.062"	1.50"	.312"	838CF-2.020X.020-4	\$32.87
.020"	.020"	.125"	.062"	1.50"	.500"	838CF-2.020X.020-5	\$32.87
.020"	.020"	.125"	.062"	2.00"	.750"	838CF-2.020X.020-6	\$32.87
.020"	.020"	.125"	.093"	2.00"	.750"	838CF-2.020X.020-7	\$37.14
.020"	.020"	.125"	.093"	2.00"	1.125"	838CF-2.020X.020-8	\$37.14
.025"	.020"	.125"	.093"	2.00"	.750"	838CF-2.025X.020-7	\$37.14
.025"	.020"	.125"	.093"	2.00"	1.125"	838CF-2.025X.020-8	\$37.14
.030"	.020"	.125"	.093"	2.00"	.750"	838CF-2.030X.020-7	\$37.14
.030"	.020"	.125"	.093"	2.00"	1.125"	838CF-2.030X.020-8	\$37.14



60 DEG. DRILL AND COUNTERSINK
DECIMAL .010"- .3125"

- Type: DE
 - Flute Length: Standard
 - Helix: 0 Degrees
 - 118° Drill Point
- Hand: RHC
 - Rake Angle: Nuetral
 - Center Cutting: Yes
 - Diameter Tolerance: +/-0.0015



60 DEG. DRILL AND COUNTERSINK

SIZE	DRILL Ø	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 60°	.010"	.010"	.125"	1.50"	601-0100	\$31.63
#0000 x 60°	.015"	.015"	.125"	1.50"	601-0150	\$27.67
#000 x 60°	.020"	.020"	.125"	1.50"	601-0200	\$21.22
#00 x 60°	.025"	.025"	.125"	1.50"	601-0250	\$16.36
#0 x 60°	.031"	.031"	.125"	1.50"	601-0310	\$16.36
#1 x 60°	.047"	.047"	.125"	1.50"	601-0001	\$13.69
#2 x 60°	.078"	.078"	.1875"	2.00"	601-0002	\$21.22
#3 x 60°	.109"	.109"	.250"	2.00"	601-0003	\$24.00
#4 x 60°	.125"	.125"	.3125"	2.125"	601-0004	\$32.63
#5 x 60°	.1875"	.1875"	.4375"	2.75"	601-0005	\$49.19
#6 x 60°	.219"	.219"	.500"	3.00"	601-0006	\$68.63
#7 x 60°	.250"	.250"	.625"	3.75"	601-0007	\$153.27
#8 x 60°	.3125"	.3125"	.750"	4.00"	601-0008	\$209.01

82 AND 90 DEG. DRILL AND COUNTERSINK

DECIMAL .010"-.3125"



82 DEG. DRILL AND COUNTERSINK

SIZE	DRILL Ø	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 82°	.010"	.010"	.125"	1.50"	681-0100	\$31.63
#0000 x 82°	.015"	.015"	.125"	1.50"	681-0150	\$27.67
#000 x 82°	.020"	.020"	.125"	1.50"	681-0200	\$21.22
#00 x 82°	.025"	.025"	.125"	1.50"	681-0250	\$16.36
#0 x 82°	.031"	.031"	.125"	1.50"	681-0310	\$16.36
#1 x 82°	.047"	.047"	.125"	1.50"	681-0001	\$13.69
#2 x 82°	.078"	.078"	.1875"	2.00"	681-0002	\$21.22
#3 x 82°	.109"	.109"	.250"	2.00"	681-0003	\$24.00
#4 x 82°	.125"	.125"	.3125"	2.125"	681-0004	\$32.63
#5 x 82°	.188"	.188"	.438"	2.75"	681-0005	\$49.19
#6 x 82°	.219"	.219"	.500"	3.00"	681-0006	\$68.63
#7 x 82°	.250"	.250"	.625"	3.75"	681-0007	\$153.27
#8 x 82°	.3125"	.3125"	.750"	4.00"	681-0008	\$209.01

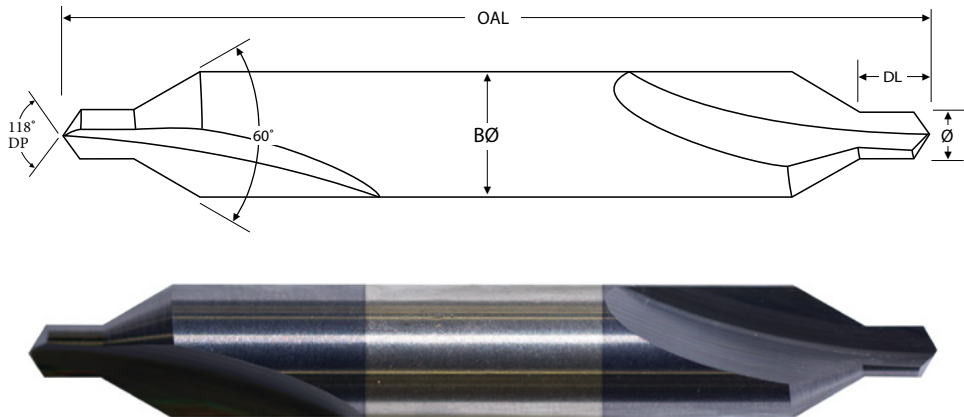
90 DEG. DRILL AND COUNTERSINK

SIZE	DRILL Ø	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 90°	.010"	.010"	.125"	1.50"	691-0100	\$31.63
#0000 x 90°	.015"	.015"	.125"	1.50"	691-0150	\$27.67
#000 x 90°	.020"	.020"	.125"	1.50"	691-0200	\$21.22
#00 x 90°	.025"	.025"	.125"	1.50"	691-0250	\$16.36
#0 x 90°	.031"	.031"	.125"	1.50"	691-0310	\$16.36
#1 x 90°	.047"	.047"	.125"	1.50"	691-0001	\$13.69
#2 x 90°	.078"	.078"	.1875"	2.00"	691-0002	\$21.22
#3 x 90°	.109"	.109"	.250"	2.00"	691-0003	\$24.00
#4 x 90°	.125"	.125"	.3125"	2.125"	691-0004	\$32.63
#5 x 90°	.188"	.188"	.438"	2.75"	691-0005	\$49.19
#6 x 90°	.219"	.219"	.500"	3.00"	691-0006	\$68.63
#7 x 90°	.250"	.250"	.625"	3.75"	691-0007	\$153.27
#8 x 90°	.3125"	.3125"	.750"	4.00"	691-0008	\$209.01

COATED 60 DEG. DRILL AND COUNTERSINK
DECIMAL .010"- .3125"



· Titanium Aluminum Nitride Coated



60 DEG. DRILL AND COUNTERSINK

SIZE	DRILL Ø	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 60°	.010"	.010"	.125"	1.50"	601C-0100	\$36.59
#0000 x 60°	.015"	.015"	.125"	1.50"	601C-0150	\$32.63
#000 x 60°	.020"	.020"	.125"	1.50"	601C-0200	\$26.18
#00 x 60°	.025"	.025"	.125"	1.50"	601C-0250	\$21.32
#0 x 60°	.031"	.031"	.125"	1.50"	601C-0310	\$21.32
#1 x 60°	.047"	.047"	.125"	1.50"	601C-0001	\$18.64
#2 x 60°	.078"	.078"	.1875"	2.00"	601C-0002	\$26.97
#3 x 60°	.109"	.109"	.250"	2.00"	601C-0003	\$29.95
#4 x 60°	.125"	.125"	.3125"	2.125"	601C-0004	\$38.58
#5 x 60°	.1875"	.1875"	.4375"	2.75"	601C-0005	\$59.10
#6 x 60°	.219"	.219"	.500"	3.00"	601C-0006	\$97.31
#7 x 60°	.250"	.250"	.625"	3.75"	601C-0007	\$194.85
#8 x 60°	.3125"	.3125"	.750"	4.00"	601C-0008	\$258.11

COATED DRILL AND COUNTERSINK DECIMAL .010" - .3125"



82 DEG. DRILL AND COUNTERSINK

SIZE	DRILL Ø	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 82°	.010"	.010"	.125"	1.50"	681C-0100	\$36.59
#0000 x 82°	.015"	.015"	.125"	1.50"	681C-0150	\$32.63
#000 x 82°	.020"	.020"	.125"	1.50"	681C-0200	\$26.18
#00 x 82°	.025"	.025"	.125"	1.50"	681C-0250	\$21.32
#0 x 82°	.031"	.031"	.125"	1.50"	681C-0310	\$21.32
#1 x 82°	.047"	.047"	.125"	1.50"	681C-0001	\$18.64
#2 x 82°	.078"	.078"	.1875"	2.00"	681C-0002	\$26.97
#3 x 82°	.109"	.109"	.250"	2.00"	681C-0003	\$29.95
#4 x 82°	.125"	.125"	.3125"	2.125"	681C-0004	\$38.58
#5 x 82°	.1875"	.1875"	.4375"	2.75"	681C-0005	\$59.10
#6 x 82°	.219"	.219"	.500"	3.00"	681C-0006	\$97.31
#7 x 82°	.250"	.250"	.625"	3.75"	681C-0007	\$194.85
#8 x 82°	.3125"	.3125"	.750"	4.00"	681C-0008	\$258.11

90 DEG. DRILL AND COUNTERSINK

SIZE	DRILL Ø	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 90°	.010"	.010"	.125"	1.50"	691C-0100	\$36.59
#0000 x 90°	.015"	.015"	.125"	1.50"	691C-0150	\$32.63
#000 x 90°	.020"	.020"	.125"	1.50"	691C-0200	\$26.18
#00 x 90°	.025"	.025"	.125"	1.50"	691C-0250	\$21.32
#0 x 90°	.031"	.031"	.125"	1.50"	691C-0310	\$21.32
#1 x 90°	.047"	.047"	.125"	1.50"	691C-0001	\$18.64
#2 x 90°	.078"	.078"	.1875"	2.00"	691C-0002	\$26.97
#3 x 90°	.109"	.109"	.250"	2.00"	691C-0003	\$29.95
#4 x 90°	.125"	.125"	.3125"	2.125"	691C-0004	\$38.58
#5 x 90°	.188"	.188"	.438"	2.75"	691C-0005	\$59.10
#6 x 90°	.219"	.219"	.500"	3.00"	691C-0006	\$97.31
#7 x 90°	.250"	.250"	.625"	3.75"	691C-0007	\$194.85
#8 x 90°	.3125"	.3125"	.750"	4.00"	691C-0008	\$258.11

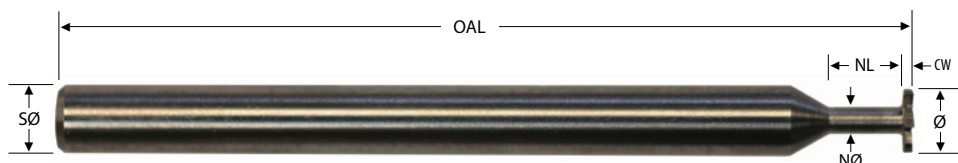


KEYSEAT CUTTERS, 6 FLUTE DECIMAL .0625" - .125"

• Keyseat Cutters can be used for milling grooves, keyseats, and slots, and are ideal for non-ferrous applications



FRONT
VIEW



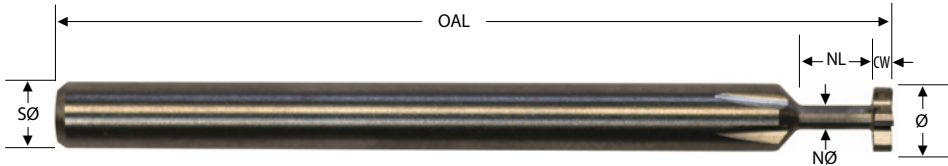
DIAMETER (Ø)	CUTTER WIDTH (CW)	NECK LENGTH (NL)	NECK Ø (NØ)	SHANK Ø (SØ)	OAL	RMT PART 6 FLUTE	LIST PRICE
.0625"	.0156"	.0937"	.0312"	.125"	2.00"	809-00-0156	\$35.80
.0625"	.0312"	.0937"	.0312"	.125"	2.00"	809-00-0312	\$35.80
.0625"	.0394"	.0937"	.0312"	.125"	2.00"	809-00-0394	\$35.80
.0625"	.0469"	.0937"	.0312"	.125"	2.00"	809-00-0469	\$35.80
.0625"	.0625"	.0937"	.0312"	.125"	2.00"	809-00-0625	\$35.80
.0781"	.0156"	.125"	.0394"	.125"	2.00"	809-01-0156	\$35.40
.0781"	.0312"	.125"	.0394"	.125"	2.00"	809-01-0312	\$35.40
.0781"	.0394"	.125"	.0394"	.125"	2.00"	809-01-0394	\$35.40
.0781"	.0469"	.125"	.0394"	.125"	2.00"	809-01-0469	\$35.40
.0781"	.0625"	.125"	.0394"	.125"	2.00"	809-01-0625	\$35.40
.0937"	.0156"	.157"	.0469"	.125"	2.00"	809-02-0156	\$35.01
.0937"	.0312"	.157"	.0469"	.125"	2.00"	809-02-0312	\$35.01
.0937"	.0394"	.157"	.0469"	.125"	2.00"	809-02-0394	\$35.01
.0937"	.0469"	.157"	.0469"	.125"	2.00"	809-02-0469	\$35.01
.0937"	.0625"	.157"	.0469"	.125"	2.00"	809-02-0625	\$35.01
.125"	.0156"	.188"	.0625"	.125"	2.00"	809-03-0156	\$33.62
.125"	.0312"	.188"	.0625"	.125"	2.00"	809-03-0312	\$33.62
.125"	.0394"	.188"	.0625"	.125"	2.00"	809-03-0394	\$33.62
.125"	.0469"	.188"	.0625"	.125"	2.00"	809-03-0469	\$33.62
.125"	.0625"	.188"	.0625"	.125"	2.00"	809-03-0625	\$33.62
.125"	.0937"	.188"	.0625"	.125"	2.00"	809-03-0937	\$33.62
.125"	.125"	.188"	.0625"	.125"	2.00"	809-03-1250	\$33.62

KEYSEAT CUTTERS, 6 FLUTE

DECIMAL .125" - .1875"



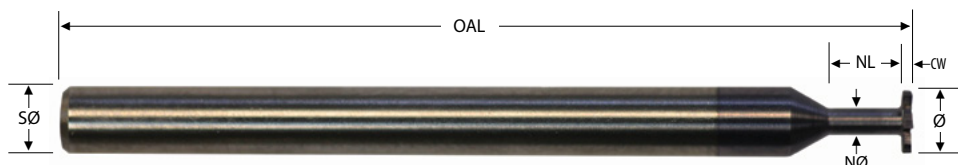
- Diameter Tolerance (+0/-.001")
- Cutter Width Tolerance (+.0005")



DIAMETER	CUTTER WIDTH	NECK LENGTH	NECK Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(CW)	(NL)	(NØ)	(SØ)		6 FLUTE	
.1875"	.0156"	.285"	.0937"	.1875"	2.00"	809-10-0156	\$34.81
.1875"	.0312"	.285"	.0937"	.1875"	2.00"	809-10-0312	\$34.81
.1875"	.0394"	.285"	.0937"	.1875"	2.00"	809-10-0394	\$34.81
.1875"	.0469"	.285"	.0937"	.1875"	2.00"	809-10-0469	\$34.81
.1875"	.0625"	.285"	.0937"	.1875"	2.00"	809-10-0625	\$34.81
.1875"	.0937"	.285"	.0937"	.1875"	2.00"	809-10-0937	\$34.81
.1875"	.125"	.285"	.0937"	.1875"	2.00"	809-10-1250	\$34.81
.1875"	.1875"	.285"	.0937"	.1875"	2.00"	809-10-1875	\$34.81
.125"	.0156"	.157"	.0625"	.250"	2.00"	809-20-0156	\$39.47
.125"	.0312"	.157"	.0625"	.250"	2.00"	809-20-0312	\$39.47
.125"	.0394"	.157"	.0625"	.250"	2.00"	809-20-0394	\$39.47
.125"	.0469"	.157"	.0625"	.250"	2.00"	809-20-0469	\$39.47
.125"	.0625"	.157"	.0625"	.250"	2.00"	809-20-0625	\$39.47
.125"	.0937"	.157"	.0625"	.250"	2.00"	809-20-0937	\$39.47
.125"	.125"	.157"	.0625"	.250"	2.00"	809-20-1250	\$39.47
.1875"	.0156"	.250"	.0937"	.250"	2.00"	809-21-0156	\$39.47
.1875"	.0312"	.250"	.0937"	.250"	2.00"	809-21-0312	\$39.47
.1875"	.0394"	.250"	.0937"	.250"	2.00"	809-21-0394	\$39.47
.1875"	.0469"	.250"	.0937"	.250"	2.00"	809-21-0469	\$39.47
.1875"	.0625"	.250"	.0937"	.250"	2.00"	809-21-0625	\$39.47
.1875"	.0937"	.250"	.0937"	.250"	2.00"	809-21-0937	\$39.47
.1875"	.125"	.250"	.0937"	.250"	2.00"	809-21-1250	\$39.47
.1875"	.1875"	.250"	.0937"	.250"	2.00"	809-21-1875	\$39.47

KEYSEAT CUTTERS, 6 FLUTE, COATED DECIMAL .0625" - .125"

- Titanium Aluminum Nitride Coated
- Diameter Tolerance (+0/-.001")
- Cutter Width Tolerance (+.0005")



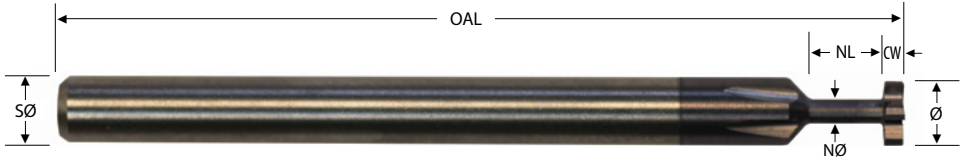
DIAMETER (Ø)	CUTTER WIDTH (CW)	NECK LENGTH (NL)	NECK Ø (NØ)	SHANK Ø (SØ)	OAL	RMT PART 6 FLUTE	LIST PRICE
.0625"	.0156"	.0937"	.0312"	.125"	2.00"	809C-00-0156	\$39.77
.0625"	.0312"	.0937"	.0312"	.125"	2.00"	809C-00-0312	\$39.77
.0625"	.0394"	.0937"	.0312"	.125"	2.00"	809C-00-0394	\$39.77
.0625"	.0469"	.0937"	.0312"	.125"	2.00"	809C-00-0469	\$39.77
.0625"	.0625"	.0937"	.0312"	.125"	2.00"	809C-00-0625	\$39.77
.0781"	.0156"	.125"	.0394"	.125"	2.00"	809C-01-0156	\$39.37
.0781"	.0312"	.125"	.0394"	.125"	2.00"	809C-01-0312	\$39.37
.0781"	.0394"	.125"	.0394"	.125"	2.00"	809C-01-0394	\$39.37
.0781"	.0469"	.125"	.0394"	.125"	2.00"	809C-01-0469	\$39.37
.0781"	.0625"	.125"	.0394"	.125"	2.00"	809C-01-0625	\$39.37
.0937"	.0156"	.157"	.0469"	.125"	2.00"	809C-02-0156	\$38.97
.0937"	.0312"	.157"	.0469"	.125"	2.00"	809C-02-0312	\$38.97
.0937"	.0394"	.157"	.0469"	.125"	2.00"	809C-02-0394	\$38.97
.0937"	.0469"	.157"	.0469"	.125"	2.00"	809C-02-0469	\$38.97
.0937"	.0625"	.157"	.0469"	.125"	2.00"	809C-02-0625	\$38.97
.125"	.0156"	.188"	.0625"	.125"	2.00"	809C-03-0156	\$37.58
.125"	.0312"	.188"	.0625"	.125"	2.00"	809C-03-0312	\$37.58
.125"	.0394"	.188"	.0625"	.125"	2.00"	809C-03-0394	\$37.58
.125"	.0469"	.188"	.0625"	.125"	2.00"	809C-03-0469	\$37.58
.125"	.0625"	.188"	.0625"	.125"	2.00"	809C-03-0625	\$37.58
.125"	.0937"	.188"	.0625"	.125"	2.00"	809C-03-0937	\$37.58
.125"	.125"	.188"	.0625"	.125"	2.00"	809C-03-1250	\$37.58

KEYSEAT CUTTERS, 6 FLUTE, COATED

DECIMAL .125" - .1875"



- Titanium Aluminum Nitride Coated
- Diameter Tolerance (+0/-.001")
- Cutter Width Tolerance (+.0005")

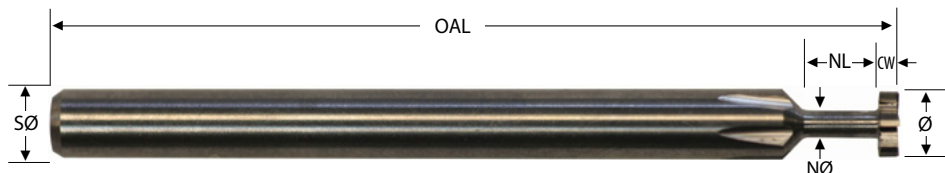


DIAMETER	CUTTER WIDTH	NECK LENGTH	NECK Ø	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(CW)	(NL)	(NØ)	(SØ)		6 FLUTE	
.1875"	.0156"	.285"	.0937"	.1875"	2.00"	809C-10-0156	\$39.07
.1875"	.0312"	.285"	.0937"	.1875"	2.00"	809C-10-0312	\$39.07
.1875"	.0394"	.285"	.0937"	.1875"	2.00"	809C-10-0394	\$39.07
.1875"	.0469"	.285"	.0937"	.1875"	2.00"	809C-10-0469	\$39.07
.1875"	.0625"	.285"	.0937"	.1875"	2.00"	809C-10-0625	\$39.07
.1875"	.0937"	.285"	.0937"	.1875"	2.00"	809C-10-0937	\$39.07
.1875"	.125"	.285"	.0937"	.1875"	2.00"	809C-10-1250	\$39.07
.1875"	.1875"	.285"	.0937"	.1875"	2.00"	809C-10-1875	\$39.07
.125"	.0156"	.157"	.0625"	.250"	2.00"	809C-20-0156	\$45.42
.125"	.0312"	.157"	.0625"	.250"	2.00"	809C-20-0312	\$45.42
.125"	.0394"	.157"	.0625"	.250"	2.00"	809C-20-0394	\$45.42
.125"	.0469"	.157"	.0625"	.250"	2.00"	809C-20-0469	\$45.42
.125"	.0625"	.157"	.0625"	.250"	2.00"	809C-20-0625	\$45.42
.125"	.0937"	.157"	.0625"	.250"	2.00"	809C-20-0937	\$45.42
.125"	.125"	.157"	.0625"	.250"	2.00"	809C-20-1250	\$45.42
.1875"	.0156"	.250"	.0937"	.250"	2.00"	809C-21-0156	\$45.42
.1875"	.0312"	.250"	.0937"	.250"	2.00"	809C-21-0312	\$45.42
.1875"	.0394"	.250"	.0937"	.250"	2.00"	809C-21-0394	\$45.42
.1875"	.0469"	.250"	.0937"	.250"	2.00"	809C-21-0469	\$45.42
.1875"	.0625"	.250"	.0937"	.250"	2.00"	809C-21-0625	\$45.42
.1875"	.0937"	.250"	.0937"	.250"	2.00"	809C-21-0937	\$45.42
.1875"	.125"	.250"	.0937"	.250"	2.00"	809C-21-1250	\$45.42
.1875"	.1875"	.250"	.0937"	.250"	2.00"	809C-21-1875	\$45.42



KEYSEAT CUTTERS, 8 FLUTE DECIMAL .250" - .375"

- Diameter Tolerance (+0/-.001")
- Cutter Width Tolerance (+.0005")



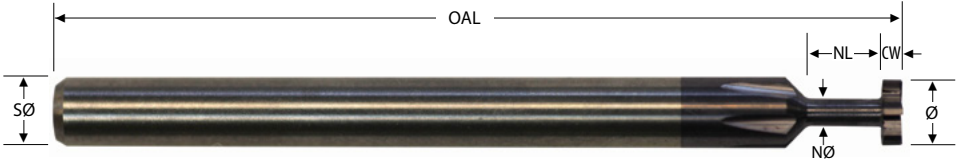
DIAMETER (Ø)	CUTTER WIDTH (CW)	NECK LENGTH (NL)	NECK Ø (NØ)	SHANK Ø (SØ)	OAL	RMT PART 8 FLUTE	LIST PRICE
.250"	.0156"	.250"	.125"	.250"	2.00"	809-22-0156	\$39.47
.250"	.0312"	.250"	.125"	.250"	2.00"	809-22-0312	\$39.47
.250"	.0394"	.250"	.125"	.250"	2.00"	809-22-0394	\$39.47
.250"	.0469"	.250"	.125"	.250"	2.00"	809-22-0469	\$39.47
.250"	.0625"	.250"	.125"	.250"	2.00"	809-22-0625	\$39.47
.250"	.125"	.250"	.125"	.250"	2.00"	809-22-1250	\$39.47
.250"	.1875"	.250"	.125"	.250"	2.00"	809-22-1875	\$39.47
.250"	.250"	.250"	.125"	.250"	2.00"	809-22-2500	\$39.47
.3125"	.0156"	.250"	.157"	.375"	2.00"	809-30-0156	\$52.76
.3125"	.0312"	.250"	.157"	.375"	2.00"	809-30-0312	\$52.76
.3125"	.0394"	.250"	.157"	.375"	2.00"	809-30-0394	\$52.76
.3125"	.0469"	.250"	.157"	.375"	2.00"	809-30-0469	\$52.76
.3125"	.0625"	.250"	.157"	.375"	2.00"	809-30-0625	\$52.76
.3125"	.0787"	.250"	.157"	.375"	2.00"	809-30-0787	\$52.76
.3125"	.0937"	.250"	.157"	.375"	2.00"	809-30-0937	\$52.76
.375"	.0156"	.250"	.188"	.375"	2.00"	809-31-0156	\$61.38
.375"	.0312"	.250"	.188"	.375"	2.00"	809-31-0312	\$59.20
.375"	.0394"	.250"	.188"	.375"	2.00"	809-31-0394	\$59.20
.375"	.0469"	.250"	.188"	.375"	2.00"	809-31-0469	\$59.20
.375"	.0625"	.250"	.188"	.375"	2.00"	809-31-0625	\$59.20
.375"	.0787"	.250"	.188"	.375"	2.00"	809-31-0787	\$59.20
.375"	.0937"	.250"	.188"	.375"	2.00"	809-31-0937	\$59.20
.375"	.125"	.250"	.188"	.375"	2.00"	809-31-1250	\$59.20

KEYSEAT CUTTERS, 8 FLUTE, COATED

DECIMAL .250" - .375"



· Titanium Aluminum Nitride Coated

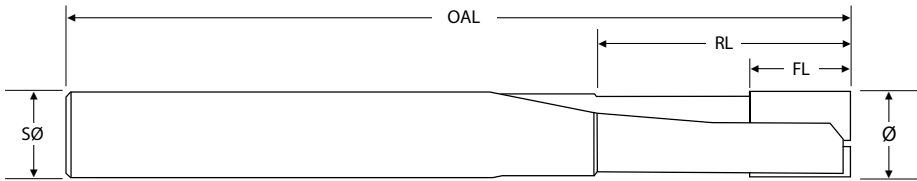


DIAMETER (Ø)	CUTTER WIDTH (CW)	NECK LENGTH (NL)	NECK Ø (NØ)	SHANK Ø (SØ)	OAL	RMT PART 8 FLUTE	LIST PRICE
.250"	.0156"	.250"	.125"	.250"	2.00"	809C-22-0156	\$45.42
.250"	.0312"	.250"	.125"	.250"	2.00"	809C-22-0312	\$45.42
.250"	.0394"	.250"	.125"	.250"	2.00"	809C-22-0394	\$45.42
.250"	.0469"	.250"	.125"	.250"	2.00"	809C-22-0469	\$45.42
.250"	.0625"	.250"	.125"	.250"	2.00"	809C-22-0625	\$45.42
.250"	.125"	.250"	.125"	.250"	2.00"	809C-22-1250	\$45.42
.250"	.1875"	.250"	.125"	.250"	2.00"	809C-22-1875	\$45.42
.250"	.250"	.250"	.125"	.250"	2.00"	809C-22-2500	\$45.42
.3125"	.0156"	.250"	.157"	.375"	2.00"	809C-30-0156	\$59.70
.3125"	.0312"	.250"	.157"	.375"	2.00"	809C-30-0312	\$59.70
.3125"	.0394"	.250"	.157"	.375"	2.00"	809C-30-0394	\$59.70
.3125"	.0469"	.250"	.157"	.375"	2.00"	809C-30-0469	\$59.70
.3125"	.0625"	.250"	.157"	.375"	2.00"	809C-30-0625	\$59.70
.3125"	.0787"	.250"	.157"	.375"	2.00"	809C-30-0787	\$59.70
.3125"	.0937"	.250"	.157"	.375"	2.00"	809C-30-0937	\$59.70
.375"	.0156"	.250"	.188"	.375"	2.00"	809C-31-0156	\$69.32
.375"	.0312"	.250"	.188"	.375"	2.00"	809C-31-0312	\$67.14
.375"	.0394"	.250"	.188"	.375"	2.00"	809C-31-0394	\$67.14
.375"	.0469"	.250"	.188"	.375"	2.00"	809C-31-0469	\$67.14
.375"	.0625"	.250"	.188"	.375"	2.00"	809C-31-0625	\$67.14
.375"	.0787"	.250"	.188"	.375"	2.00"	809C-31-0787	\$67.14
.375"	.0937"	.250"	.188"	.375"	2.00"	809C-31-0937	\$67.14
.375"	.125"	.250"	.188"	.375"	2.00"	809C-31-1250	\$67.14



PCD END MILLS
FRACTIONAL 3/32"- 3/4"

- Polycrystalline Diamond Brazed
 - Center Cutting: Yes
 - Abrasion Resistance/ Low Temp.
- Best for non-ferrous materials
 - Diameter Tolerance (+0/ .001")



SQUARE END

DIAMETER	FLUTE LENGTH	REACH LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(RL)	(SØ)		1 FLUTE	
3/32"	3/16"	3/8"	1/8"	1-1/2"	740-093	\$156.18
1/8"	1/4"	1/2"	1/8"	1-1/2"	740-125	\$156.18
(Ø)	(FL)	(RL)	(SØ)		2 FLUTE	
3/16"	1/4"	5/8"	3/16"	2"	740-187	\$174.52
1/4"	1/4"	3/4"	1/4"	2-1/2"	740-250	\$189.34
3/8"	1/4"	15/16"	3/8"	2-1/2"	740-375	\$222.21
1/2"	1/4"	1"	1/2"	3"	740-500	\$283.39
5/8"	3/8"	1"	5/8"	3-1/2"	740-625	\$349.98
3/4"	3/8"	1-1/8"	3/4"	4"	740-750	\$426.74

PCD END MILLS
FRACTIONAL 3/32"- 1/2"

X/X



BALL END

DIAMETER	FLUTE LENGTH	REACH LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(RL)	(SØ)		1 FLUTE	
3/32"	3/16"	3/8"	1/8"	1-1/2"	742-093	\$189.91
1/8"	1/4"	1/2"	1/8"	1-1/2"	742-125	\$189.91
(Ø)	(FL)	(RL)	(SØ)		2 FLUTE	
3/16"	1/4"	5/8"	3/16"	2"	742-187	\$203.40
1/4"	1/4"	3/4"	1/4"	2-1/2"	742-250	\$213.28
3/8"	1/4"	15/16"	3/8"	2-1/2"	742-375	\$263.72
1/2"	1/4"	1"	3/8"	3"	742-500	\$305.81



CORNER RADIUS

DIAMETER	FLUTE LENGTH	REACH LENGTH	SHANK Ø	CORNER RADIUS	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(RL)	(SØ)			1 FLUTE	
3/32"	3/16"	3/8"	1/8"	.010"	1-1/2"	741-093	\$189.91
1/8"	1/4"	1/2"	1/8"	.015"	1-1/2"	741-125	\$189.91
(Ø)	(FL)	(RL)	(SØ)			2 FLUTE	
3/16"	1/4"	5/8"	3/16"	.015"	2"	741-187	\$203.40
1/4"	1/4"	3/4"	1/4"	.030"	2-1/2"	741-250	\$213.28
3/8"	1/4"	15/16"	3/8"	.030"	2-1/2"	741-375	\$263.72
1/2"	1/4"	1"	1/2"	.030"	3"	741-500	\$305.81



60 DEGREE DRILL POINT MILLS FRACTIONAL 1/32" - 3/4"

- Use: General Purpose
- Helix: 30 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- End Shape: 60° Drill Point
- Cutter Type: Drill Mill
- Diameter Tolerance:
 - Up to 1/8"*: +0.000/-0.001
 - 1/8" and above*: +0.000/-0.002

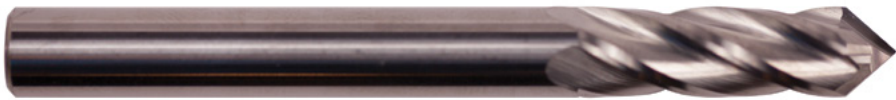
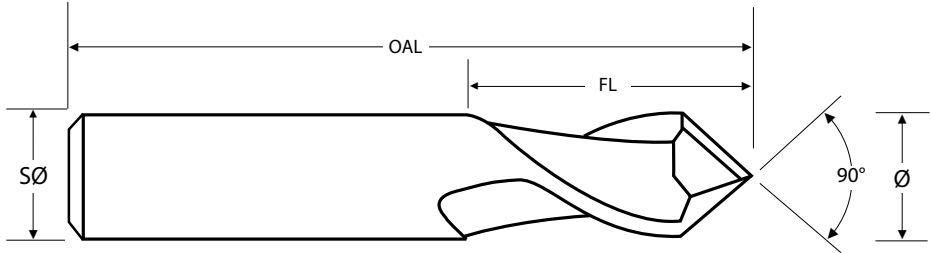


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
1/32"	.125"	.125"	1.50"	874DM60-0031	875DM60-0031	\$25.29
1/16"	.1875"	.125"	1.50"	874DM60-0062	875DM60-0062	\$25.29
3/32"	.375"	.125"	1.50"	874DM60-0093	875DM60-0093	\$25.29
1/8"	.500"	.125"	1.50"	874DM60-0125	875DM60-0125	\$25.29
3/16"	.625"	.1875"	2.00"	874DM60-0187	875DM60-0187	\$26.08
1/4"	.750"	.250"	2.50"	874DM60-0250	875DM60-0250	\$37.09
5/16"	.8125"	.3125"	2.50"	874DM60-0312	875DM60-0312	\$38.87
3/8"	1.00"	.375"	2.50"	874DM60-0375	874DM60-0375	\$46.51
7/16"	1.00"	.4375"	2.75"	874DM60-0437	875DM60-0437	\$72.00
1/2"	1.00"	.500"	3.00"	874DM60-0500	875DM60-0500	\$73.68
5/8"	1.25"	.625"	3.50"	874DM60-0625	875DM60-0625	\$112.46
3/4"	1.50"	.750"	4.00"	874DM60-0750	875DM60-0750	\$170.57

90 DEGREE DRILL POINT MILLS FRACTIONAL 1/32" - 3/4"



- End Shape: 90° Drill Point
- Cutter Type: Drill Mill
- Now Available in more sizes

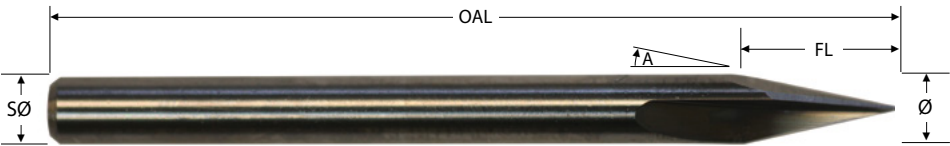


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
1/32"	.125"	.125"	1.50"	874DM90-0031	875DM90-0031	\$25.29
1/16"	.1875"	.125"	1.50"	874DM90-0062	875DM90-0062	\$25.29
3/32"	.375"	.125"	1.50"	874DM90-0093	875DM90-0093	\$25.29
1/8"	.500"	.125"	1.50"	874DM90-0125	875DM90-0125	\$25.29
3/16"	.625"	.1875"	2.00"	874DM90-0187	875DM90-0187	\$26.08
1/4"	.750"	.250"	2.50"	874DM90-0250	875DM90-0250	\$37.09
5/16"	.8125"	.3125"	2.50"	874DM90-0312	875DM90-0312	\$38.87
3/8"	1.00"	.375"	2.50"	874DM90-0375	875DM90-0375	\$46.51
7/16"	1.00"	.4375"	2.75"	874DM90-0437	875DM90-0437	\$72.00
1/2"	1.00"	.500"	3.00"	874DM90-0500	875DM90-0500	\$73.68
5/8"	1.25"	.625"	3.50"	874DM90-0625	875DM90-0625	\$112.46
3/4"	1.50"	.750"	4.00"	874DM90-0750	875DM90-0750	\$170.57



SINGLE END CHAMFER MILLS
FRACTIONAL 1/8" - 1/2"

- 15 - 25 Degree Angle: Ideal for smoothing and chamfering narrow edges and small holes
- Rake Angle: Positive
 - Diameter Tolerance: +0/ -.0005



SINGLE END 15-25 DEG. CUT 2 FLUTE

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
1/8"	.215"	1/8"	1.50"	15°	818-230-125	\$15.67
3/16"	.350"	3/16"	2.00"	15°	818-230-187	\$20.63
1/4"	.448"	1/4"	2.50"	15°	818-230-250	\$29.55
3/8"	.700"	3/8"	2.50"	15°	818-230-375	\$39.57
1/2"	.933"	1/2"	3.00"	15°	818-230-500	\$66.64
1/8"	.158"	1/8"	1.50"	20°	818-240-125	\$15.67
3/16"	.258"	3/16"	2.00"	20°	818-240-187	\$20.63
1/4"	.330"	1/4"	2.50"	20°	818-240-250	\$29.55
3/8"	.515"	3/8"	2.50"	20°	818-240-375	\$39.57
1/8"	.139"	1/8"	1.50"	22.5°	818-245-125	\$15.67
3/16"	.226"	3/16"	2.00"	22.5°	818-245-187	\$19.64
1/8"	.123"	1/8"	1.50"	25°	818-250-125	\$15.67
3/16"	.201"	3/16"	2.00"	25°	818-250-187	\$19.64

SINGLE END CHAMFER MILLS

FRACTIONAL 1/8" - 1/2"



- Use: General Purpose
- Helix: 0 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +0/ -.0005

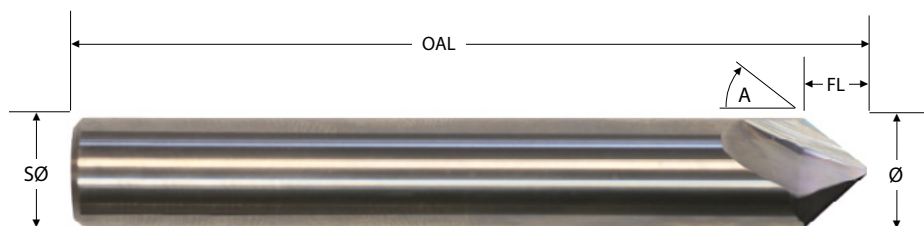


SINGLE END 30-41 DEG. CUT 2 FLUTE

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
1/8"	.100"	1/8"	1.50"	30°	818-260-125	\$15.67
3/16"	.162"	3/16"	2.00"	30°	818-260-187	\$20.63
1/4"	.208"	1/4"	2.50"	30°	818-260-250	\$29.55
3/8"	.325"	3/8"	2.50"	30°	818-260-375	\$39.57
1/2"	.433"	1/2"	3.00"	30°	818-260-500	\$62.97
1/8"	.089"	1/8"	1.50"	35°	818-270-125	\$15.67
1/8"	.074"	1/8"	1.50"	40°	818-280-125	\$15.67
1/8"	.066"	1/8"	1.50"	41°	818-282-125	\$15.67
3/16"	.108"	3/16"	2.00"	41°	818-282-187	\$19.64
1/4"	.138"	1/4"	2.50"	41°	818-282-250	\$29.55
3/8"	.210"	3/8"	2.50"	41°	818-282-375	\$39.57
1/2"	.280"	1/2"	3.00"	41°	818-282-500	\$62.97

SINGLE END CHAMFER MILLS FRACTIONAL 1/8" - 1/2"

- Larger cutting angles for larger applications.
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +0/ -.0005



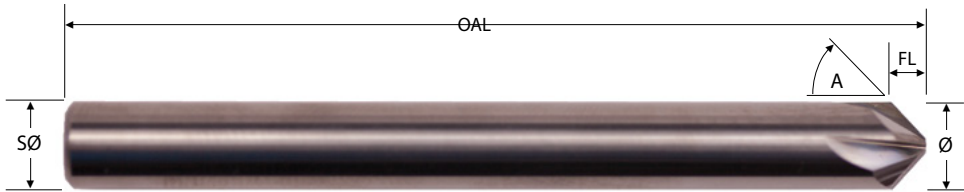
SINGLE END 45 - 75 DEG. CUT 2 FLUTE

DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	ANGLE (A)	RMT PART 2 FLUTE	LIST PRICE
1/8"	.058"	1/8"	1.50"	45°	818-290-125	\$15.67
3/16"	.094"	3/16"	2.00"	45°	818-290-187	\$20.63
1/4"	.120"	1/4"	2.50"	45°	818-290-250	\$29.55
3/8"	.188"	3/8"	2.50"	45°	818-290-375	\$39.57
1/2"	.250"	1/2"	3.00"	45°	818-290-500	\$62.97
1/8"	.048"	1/8"	1.50"	50°	818-2100-125	\$15.67
1/4"	.100"	1/4"	2.50"	50°	818-2100-250	\$29.55
3/8"	.153"	3/8"	2.50"	50°	818-2100-375	\$39.57
1/2"	.205"	1/2"	3.00"	50°	818-2100-500	\$62.97
1/8"	.044"	1/8"	1.50"	55°	818-2110-125	\$15.67
1/8"	.033"	1/8"	1.50"	60°	818-2120-125	\$15.67
3/16"	.054"	3/16"	2.00"	60°	818-2120-187	\$20.63
1/4"	.065"	1/4"	2.50"	60°	818-2120-250	\$29.55
3/8"	.105"	3/8"	2.50"	60°	818-2120-375	\$39.57
1/2"	.140"	1/2"	3.00"	60°	818-2120-500	\$62.97
1/8"	.029"	1/8"	1.50"	65°	818-2130-125	\$15.67
1/8"	.023"	1/8"	1.50"	70°	818-2140-125	\$15.67
1/8"	.015"	1/8"	1.50"	75°	818-2150-125	\$15.67
3/16"	.025"	3/16"	2.50"	75°	818-2150-187	\$20.63
3/8"	.050"	3/8"	2.50"	75°	818-2150-375	\$39.57
1/2"	.065"	1/2"	3.00"	75°	818-2150-500	\$62.97

SINGLE END CHAMFER MILLS FRACTIONAL 1/8" - 1/2"



- Use: General Purpose
- Helix: 0 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +0/ -.0005



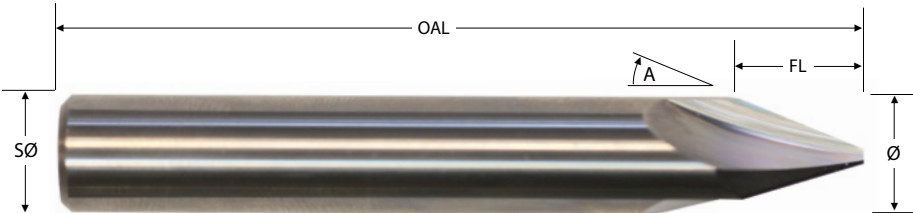
SINGLE END 30 - 60 DEG. CUT 4 FLUTE

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	4 FLUTE	
1/8"	.100"	1/8"	1.50"	30°	818-460-125	\$15.67
1/4"	.208"	1/4"	2.50"	30°	818-460-250	\$29.55
3/8"	.325"	3/8"	2.50"	30°	818-460-375	\$39.57
1/2"	.433"	1/2"	3.00"	30°	818-460-500	\$62.97
1/8"	.066"	1/8"	1.50"	41°	818-482-125	\$15.67
1/4"	.138"	1/4"	2.50"	41°	818-482-250	\$29.55
3/8"	.210"	3/8"	2.50"	41°	818-482-375	\$39.57
1/2"	.280"	1/2"	3.00"	41°	818-482-500	\$62.97
1/8"	.058"	1/8"	1.50"	45°	818-490-125	\$15.67
1/4"	.120"	1/4"	2.50"	45°	818-490-250	\$29.55
3/8"	.188"	3/8"	2.50"	45°	818-490-375	\$39.57
1/2"	.250"	1/2"	3.00"	45°	818-490-500	\$62.97
1/8"	.047"	1/8"	1.50"	50°	818-4100-125	\$15.67
1/4"	.100"	1/4"	2.50"	50°	818-4100-250	\$29.55
3/8"	.150"	3/8"	2.50"	50°	818-4100-375	\$39.57
1/2"	.205"	1/2"	3.00"	50°	818-4100-500	\$62.97
1/8"	.033"	1/8"	1.50"	60°	818-4120-125	\$15.67
1/4"	.065"	1/4"	2.50"	60°	818-4120-250	\$29.55
3/8"	.105"	3/8"	2.50"	60°	818-4120-375	\$39.57
1/2"	.140"	1/2"	3.00"	60°	818-4120-500	\$62.97



FLAT TIP SINGLE END CHAMFER MILLS
FRACTIONAL 1/4" - 3/8"

- Use: General Purpose
- Helix: 0 Degrees
- Hand: RHS/ RHC
- Flat Tip Chamfer Mills can be used for profiling and larger chamfering applications



SINGLE END 15 - 75 DEG. CUT 3 FLUTE

DIAMETER	TIP Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)		(FL)	(SØ)		(A)	3 FLUTE	
1/4"	.06"	.355"	1/4"	2.50"	15°	818-T330-250	\$29.55
3/8"	.06"	.588"	3/8"	2.50"	15°	818-T330-375	\$39.57
1/4"	.06"	.261"	1/4"	2.50"	20°	818-T340-250	\$29.55
3/8"	.06"	.433"	3/8"	2.50"	20°	818-T340-375	\$39.57
1/4"	.06"	.229"	1/4"	2.50"	22.5°	818-T345-250	\$29.55
3/8"	.06"	.386"	3/8"	2.50"	22.5°	818-T345-375	\$38.08
1/4"	.06"	.204"	1/4"	2.50"	25°	818-T350-250	\$29.55
3/8"	.06"	.343"	3/8"	2.50"	25°	818-T350-375	\$38.08
1/4"	.06"	.165"	1/4"	2.50"	30°	818-T360-250	\$29.55
3/8"	.06"	.273"	3/8"	2.50"	30°	818-T360-375	\$39.57
1/4"	.06"	.109"	1/4"	2.50"	41°	818-T382-250	\$29.55
3/8"	.06"	.184"	3/8"	2.50"	41°	818-T382-375	\$38.08
1/4"	.06"	.229"	1/4"	2.50"	45°	818-T390-250	\$29.55
3/8"	.06"	.386"	3/8"	2.50"	45°	818-T390-375	\$39.57
1/4"	.06"	.080"	1/4"	2.50"	50°	818-T3100-250	\$29.55
1/4"	.06"	.055"	1/4"	2.50"	60°	818-T3120-250	\$29.55
3/8"	.06"	.091"	3/8"	2.50"	60°	818-T3120-375	\$39.57
1/4"	.06"	.035"	1/4"	2.50"	75°	818-T3150-250	\$29.55

FLAT TIP SINGLE END CHAMFER MILLS

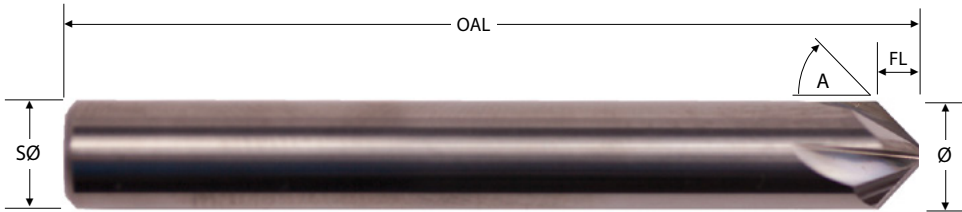
FRACTIONAL 1/2"



X/X



- Helix: 0 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Diameter Tolerance: +0/ -.0005

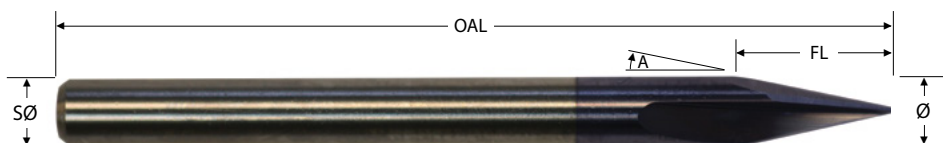


SINGLE END 15 - 75 DEG. CUT 4 FLUTE

DIAMETER	TIP Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)		(FL)	(SØ)		(A)	4 FLUTE	
1/2"	.08"	.784"	1/2"	3.00"	15°	818-T430-500	\$58.81
1/2"	.08"	.577"	1/2"	3.00"	20°	818-T440-500	\$58.81
1/2"	.08"	.513"	1/2"	3.00"	22.5°	818-T445-500	\$55.43
1/2"	.08"	.546"	1/2"	3.00"	25°	818-T450-500	\$55.43
1/2"	.08"	.364"	1/2"	3.00"	30°	818-T460-500	\$55.43
1/2"	.08"	.242"	1/2"	3.00"	41°	818-T482-500	\$55.43
1/2"	.08"	.210"	1/2"	3.00"	45°	818-T490-500	\$55.43
1/2"	.08"	.173"	1/2"	3.00"	50°	818-T4100-500	\$55.43
1/2"	.08"	.121"	1/2"	3.00"	60°	818-T4120-500	\$55.43
1/2"	.08"	.063"	1/2"	3.00"	75°	818-T4150-500	\$55.43

SINGLE END CHAMFER MILLS, COATED FRACTIONAL 1/8"- 1/2"

· Titanium Aluminum Nitride Coated



SINGLE END 15 - 41 DEG. CUT 2 FLUTE

DIAMETER (Ø)	FLUTE LENGTH (FL)	SHANK Ø (SØ)	OAL	ANGLE (A)	RMT PART 2 FLUTE	LIST PRICE
1/8"	.215"	1/8"	1.50"	15°	818C-230-125	\$19.64
3/16"	.350"	3/16"	2.00"	15°	818C-230-187	\$24.89
1/4"	.448"	1/4"	2.50"	15°	818C-230-250	\$35.50
3/8"	.700"	3/8"	2.50"	15°	818C-230-375	\$47.50
1/2"	.933"	1/2"	3.00"	15°	818C-230-500	\$77.55
1/8"	.158"	1/8"	1.50"	20°	818C-240-125	\$19.64
3/16"	.258"	3/16"	2.00"	20°	818C-240-187	\$24.89
1/4"	.330"	1/4"	2.50"	20°	818C-240-250	\$35.50
3/8"	.515"	3/8"	2.50"	20°	818C-240-375	\$47.50
1/8"	.139"	1/8"	1.50"	22.5°	818C-245-125	\$19.64
3/16"	.226"	3/16"	2.00"	22.5°	818C-245-187	\$23.90
1/8"	.123"	1/8"	1.50"	25°	818C-250-125	\$19.64
3/16"	.201"	3/16"	2.00"	25°	818C-250-187	\$23.90
1/8"	.100"	1/8"	1.50"	30°	818C-260-125	\$19.64
3/16"	.162"	3/16"	2.00"	30°	818C-260-187	\$24.89
1/4"	.208"	1/4"	2.50"	30°	818C-260-250	\$35.50
3/8"	.325"	3/8"	2.50"	30°	818C-260-375	\$47.50
1/2"	.433"	1/2"	3.00"	30°	818C-260-500	\$73.88
1/8"	.100"	1/8"	1.50"	35°	818C-270-125	\$19.64
1/4"	.208"	1/4"	2.50"	40°	818C-280-125	\$19.64
1/8"	.066"	1/8"	1.50"	41°	818C-282-125	\$19.64
3/16"	.108"	1/8"	2.00"	41°	818C-282-187	\$23.90
1/4"	.138"	1/4"	2.50"	41°	818C-282-250	\$35.50
3/8"	.210"	3/8"	2.50"	41°	818C-282-375	\$47.50
1/2"	.280"	1/2"	3.00"	41°	818C-282-500	\$73.88

SINGLE END CHAMFER MILLS, COATED

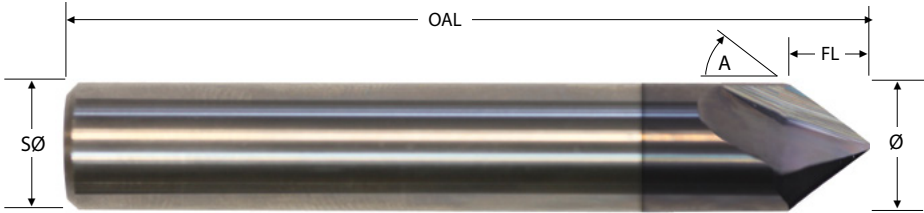
FRACTIONAL 1/8" - 1/2"

ANGLED
EDGE

X/X

TIALN

· Titanium Aluminum Nitride Coated



SINGLE END 45 - 75 DEG. CUT 2 FLUTE

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
1/8"	.058"	1/8"	1.50"	45°	818C-290-125	\$19.64
3/16"	.094"	3/16"	2.00"	45°	818C-290-187	\$24.89
1/4"	.120"	1/4"	2.50"	45°	818C-290-250	\$35.50
3/8"	.188"	3/8"	2.50"	45°	818C-290-375	\$47.50
1/2"	.25"	1/2"	3.00"	45°	818C-290-500	\$73.88
1/8"	.048"	1/8"	1.50"	50°	818C-2100-125	\$19.64
1/4"	.100"	1/4"	2.50"	50°	818C-2100-250	\$35.50
3/8"	.153"	3/8"	2.50"	50°	818C-2100-375	\$47.50
1/2"	.205"	1/2"	3.00"	50°	818C-2100-500	\$73.88
1/8"	.040"	1/8"	1.50"	55°	818C-2110-125	\$19.64
1/8"	.033"	1/8"	1.50"	60°	818C-2120-125	\$19.64
3/16"	.054"	3/16"	2.00"	60°	818C-2120-187	\$24.89
1/4"	.070"	1/4"	2.50"	60°	818C-2120-250	\$35.50
3/8"	.108"	3/8"	2.50"	60°	818C-2120-375	\$47.50
1/2"	.144"	1/2"	3.00"	60°	818C-2120-500	\$73.88
1/8"	.029"	1/8"	1.50"	65°	818C-2130-125	\$19.64
1/8"	.023"	1/8"	1.50"	70°	818C-2140-125	\$19.64
1/8"	.015"	1/8"	1.50"	75°	818C-2150-125	\$19.64
3/16"	.025"	3/16"	2.50"	75°	818C-2150-187	\$24.89
3/8"	.050"	3/8"	2.50"	75°	818C-2150-375	\$47.50
1/2"	.065"	1/2"	3.00"	75°	818C-2150-500	\$73.88

SINGLE END CHAMFER MILLS, COATED FRACTIONAL 1/8"- 1/2"

· Titanium Aluminum Nitride Coated



SINGLE END 30 - 60 DEG. CUT 4 FLUTE

DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	4 FLUTE	
1/8"	.100"	1/8"	1.50"	30°	818C-460-125	\$47.50
1/4"	.208"	1/4"	2.50"	30°	818C-460-250	\$73.88
3/8"	.325"	3/8"	2.50"	30°	818C-460-375	\$47.50
1/2"	.433"	1/2"	3.00"	30°	818C-460-500	\$73.88
1/8"	.066"	1/8"	1.50"	41°	818C-482-125	\$19.64
1/4"	.138"	1/4"	2.50"	41°	818C-482-250	\$35.50
3/8"	.210"	3/8"	2.50"	41°	818C-482-375	\$47.50
1/2"	.280"	1/2"	3.00"	41°	818C-482-500	\$73.88
1/8"	.058"	1/8"	1.50"	45°	818C-490-125	\$19.64
1/4"	.120"	1/4"	2.50"	45°	818C-490-250	\$35.50
3/8"	.188"	3/8"	2.50"	45°	818C-490-375	\$47.50
1/2"	.25"	1/2"	3.00"	45°	818C-490-500	\$73.88
1/8"	.048"	1/8"	1.50"	50°	818C-4100-125	\$19.64
1/4"	.100"	1/4"	2.50"	50°	818C-4100-250	\$35.50
3/8"	.153"	3/8"	2.50"	50°	818C-4100-375	\$47.50
1/2"	.205"	1/2"	3.00"	50°	818C-4100-500	\$73.88
1/8"	.033"	1/8"	1.50"	60°	818C-4120-125	\$19.64
1/4"	.070"	1/4"	2.50"	60°	818C-4120-250	\$35.50
3/8"	.108"	3/8"	2.50"	60°	818C-4120-375	\$47.50
1/2"	.144"	1/2"	3.00"	60°	818C-4120-500	\$73.88

FLAT TIP SINGLE END CHAMFER MILLS, COATED FRACTIONAL 1/4" - 1/2"

ANGLED
EDGE

X/X

FLAT
END

TIALN



DIAMETER	TIP Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)		(FL)	(SØ)		(A)	3 FLUTE	
1/4"	.06"	.355"	1/4"	2.50"	15°	818C-T330-250	\$41.15
3/8"	.06"	.588"	3/8"	2.50"	15°	818C-T330-375	\$47.50
1/4"	.06"	.261"	1/4"	2.50"	20°	818C-T340-250	\$35.50
3/8"	.06"	.433"	3/8"	2.50"	20°	818C-T340-375	\$47.50
1/4"	.06"	.229"	1/4"	2.50"	22.5°	818C-T345-250	\$35.50
3/8"	.06"	.386"	3/8"	2.50"	22.5°	818C-T345-375	\$38.08
1/4"	.06"	.204"	1/4"	2.50"	25°	818C-T350-250	\$35.50
3/8"	.06"	.343"	3/8"	2.50"	25°	818C-T350-375	\$46.01
1/4"	.06"	.165"	1/4"	2.50"	30°	818C-T360-250	\$35.50
3/8"	.06"	.273"	3/8"	2.50"	30°	818C-T360-375	\$47.50
1/4"	.06"	.109"	1/4"	2.50"	41°	818C-T382-250	\$35.50
3/8"	.06"	.184"	3/8"	2.50"	41°	818C-T382-375	\$46.01
1/4"	.06"	.095"	1/4"	2.50"	45°	818C-T390-250	\$35.50
3/8"	.06"	.158"	3/8"	2.50"	45°	818C-T390-375	\$47.50
1/4"	.06"	.080"	1/4"	2.50"	50°	818C-T3100-250	\$35.50
1/4"	.06"	.055"	1/4"	2.50"	60°	818C-T3120-250	\$35.50
3/8"	.06"	.091"	3/8"	2.50"	60°	818C-T3120-375	\$47.50
1/4"	.06"	.125"	1/4"	2.50"	75°	818C-T3150-250	\$35.50



DIAMETER	TIP Ø	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)		(FL)	(SØ)		(A)	4 FLUTE	
1/2"	.08"	.784"	1/2"	3.00"	15°	818C-T430-500	\$69.71
1/2"	.08"	.577"	1/2"	3.00"	20°	818C-T440-500	\$69.71
1/2"	.08"	.513"	1/2"	3.00"	22.5°	818C-T445-500	\$66.34
1/2"	.08"	.546"	1/2"	3.00"	25°	818C-T450-500	\$66.34
1/2"	.08"	.364"	1/2"	3.00"	30°	818C-T460-500	\$66.34
1/2"	.08"	.242"	1/2"	3.00"	41°	818C-T482-500	\$66.34
1/2"	.08"	.210"	1/2"	3.00"	45°	818C-T490-500	\$66.34
1/2"	.08"	.173"	1/2"	3.00"	50°	818C-T4100-500	\$66.34
1/2"	.08"	.121"	1/2"	3.00"	60°	818C-T4120-500	\$66.34
1/2"	.08"	.056"	1/2"	3.00"	75°	818C-T4150-500	\$66.34

DOUBLE END CHAMFER MILLS FRACTIONAL 1/8" - 1/2"

· Use: General Purpose

· Diameter Tolerance: +0/ -.0005



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	4 FLUTE	
1/8"	.100"	1/8"	2.00"	30°	819-260-125	819-460-125	\$30.47
3/16"	.162"	3/16"	2.50"	30°	819-260-187	819-460-187	\$41.97
1/4"	.216"	1/4"	2.50"	30°	819-260-250	819-460-250	\$53.64
5/16"	.270"	5/16"	2.50"	30°	819-260-312	819-460-312	\$68.68
3/8"	.324"	3/8"	2.50"	30°	819-260-375	819-460-375	\$83.70
1/2"	.432"	1/2"	3.00"	30°	819-260-500	819-460-500	\$122.80
1/8"	.065"	1/8"	2.00"	41°	819-282-125	819-482-125	\$30.47
3/16"	.108"	3/16"	2.50"	41°	819-282-187	819-482-187	\$41.97
1/4"	.135"	1/4"	2.50"	41°	819-282-250	819-482-250	\$53.64
5/16"	.170"	5/16"	2.50"	41°	819-282-312	819-482-312	\$68.68
3/8"	.205"	3/8"	2.50"	41°	819-282-375	819-482-375	\$83.70
1/2"	.280"	1/2"	3.00"	41°	819-282-500	819-482-500	\$122.80
1/8"	.058"	1/8"	2.00"	45°	819-290-125	819-490-125	\$30.47
3/16"	.094"	3/16"	2.50"	45°	819-290-187	819-490-187	\$41.97
1/4"	.120"	1/4"	2.50"	45°	819-290-250	819-490-250	\$53.64
5/16"	.154"	5/16"	2.50"	45°	819-290-312	819-490-312	\$68.68
3/8"	.188"	3/8"	2.50"	45°	819-290-375	819-490-375	\$83.70
1/2"	.250"	1/2"	3.00"	45°	819-290-500	819-490-500	\$122.80
1/8"	.047"	1/8"	2.00"	50°	819-2100-125	819-4100-125	\$30.47
3/16"	.073"	3/16"	2.50"	50°	819-2100-187	819-4100-187	\$41.97
1/4"	.100"	1/4"	2.50"	50°	819-2100-250	819-4100-250	\$53.64
5/16"	.125"	5/16"	2.50"	50°	819-2100-312	819-4100-312	\$68.68
3/8"	.150"	3/8"	2.50"	50°	819-2100-375	819-4100-375	\$83.70
1/2"	.205"	1/2"	3.00"	50°	819-2100-500	819-4100-500	\$122.80
1/8"	.031"	1/8"	2.00"	60°	819-2120-125	819-4120-125	\$30.47
3/16"	.050"	3/16"	2.50"	60°	819-2120-187	819-4120-187	\$41.97
1/4"	.066"	1/4"	2.50"	60°	819-2120-250	819-4120-250	\$53.64
5/16"	.085"	5/16"	2.50"	60°	819-2120-312	819-4120-312	\$68.68
3/8"	.105"	3/8"	2.50"	60°	819-2120-375	819-4120-375	\$83.70
1/2"	.140"	1/2"	3.00"	60°	819-2120-500	819-4120-500	\$122.80

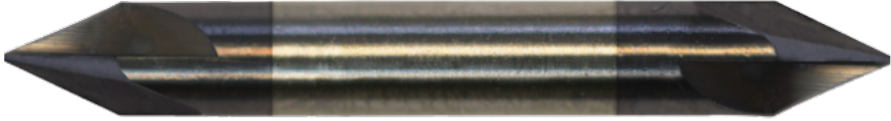
DOUBLE END CHAMFER MILLS, COATED FRACTIONAL 1/8" - 1/2"

ANGLED
EDGE

K/X

• Titanium Aluminum Nitride Coated

TIALN



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	4 FLUTE	
1/8"	.100"	1/8"	2.00"	30°	819C-260-125	819C-460-125	\$38.11
3/16"	.162"	3/16"	2.50"	30°	819C-260-187	819C-460-187	\$52.46
1/4"	.216"	1/4"	2.50"	30°	819C-260-250	819C-460-250	\$66.96
5/16"	.270"	5/16"	2.50"	30°	819C-260-312	819C-460-312	\$85.80
3/8"	.324"	3/8"	2.50"	30°	819C-260-375	819C-460-375	\$104.73
1/2"	.432"	1/2"	3.00"	30°	819C-260-500	819C-460-500	\$173.35
1/8"	.065"	1/8"	2.00"	41°	819C-282-125	819C-482-125	\$38.11
3/16"	.108"	3/16"	2.50"	41°	819C-282-187	819C-482-187	\$52.46
1/4"	.135"	1/4"	2.50"	41°	819C-282-250	819C-482-250	\$66.96
5/16"	.170"	5/16"	2.50"	41°	819C-282-312	819C-482-312	\$85.80
3/8"	.205"	3/8"	2.50"	41°	819C-282-375	819C-482-375	\$104.73
1/2"	.280"	1/2"	3.00"	41°	819C-282-500	819C-482-500	\$173.35
1/8"	.058"	1/8"	2.00"	45°	819C-290-125	819C-490-125	\$38.11
3/16"	.094"	3/16"	2.50"	45°	819C-290-187	819C-490-187	\$52.46
1/4"	.120"	1/4"	2.50"	45°	819C-290-250	819C-490-250	\$66.96
5/16"	.154"	5/16"	2.50"	45°	819C-290-312	819C-490-312	\$85.80
3/8"	.188"	3/8"	2.50"	45°	819C-290-375	819C-490-375	\$104.73
1/2"	.250"	1/2"	3.00"	45°	819C-290-500	819C-490-500	\$173.35
1/8"	.047"	1/8"	2.00"	50°	819C-2100-125	819C-4100-125	\$38.11
3/16"	.073"	3/16"	2.50"	50°	819C-2100-187	819C-4100-187	\$52.46
1/4"	.100"	1/4"	2.50"	50°	819C-2100-250	819C-4100-250	\$66.96
5/16"	.125"	5/16"	2.50"	50°	819C-2100-312	819C-4100-312	\$85.80
3/8"	.150"	3/8"	2.50"	50°	819C-2100-375	819C-4100-375	\$104.73
1/2"	.205"	1/2"	3.00"	50°	819C-2100-500	819C-4100-500	\$173.35
1/8"	.031"	1/8"	2.00"	60°	819C-2120-125	819C-4120-125	\$38.11
3/16"	.050"	3/16"	2.50"	60°	819C-2120-187	819C-4120-187	\$52.46
1/4"	.066"	1/4"	2.50"	60°	819C-2120-250	819C-4120-250	\$66.96
5/16"	.085"	5/16"	2.50"	60°	819C-2120-312	819C-4120-312	\$85.80
3/8"	.105"	3/8"	2.50"	60°	819C-2120-375	819C-4120-375	\$104.73
1/2"	.140"	1/2"	3.00"	60°	819C-2120-500	819C-4120-500	\$173.35

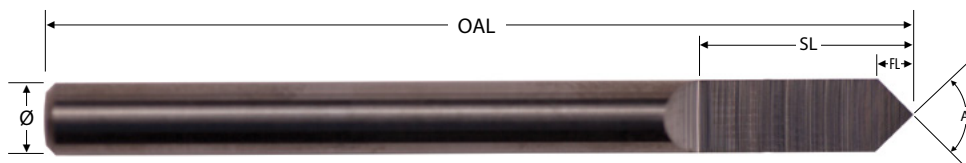


POINTED ENGRAVING CUTTERS FRACTIONAL 1/8"

- Use: Engraving labels
- Helix: 0 Degrees
- Ground to a point
- Applicable with a wide range of materials, wider angles used for metals, smaller tips used for softer materials.



DIAMETER	FLUTE LENGTH	SPLIT LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SL)	(SØ)		(A)	1 FLUTE	
1/8"	.080"	.200"	1/8"	1.50"	10°	706-110-P125	\$14.78
1/8"	.080"	.200"	1/8"	1.50"	15°	706-115-P125	\$14.78
1/8"	.080"	.200"	1/8"	1.50"	20°	706-120-P125	\$14.78



TYPE 2: 30 - 120 DEGREE ANGLE



DIAMETER	FLUTE LENGTH	SPLIT LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SL)	(SØ)		(A)	1 FLUTE	
1/8"	.233"	.375"	1/8"	1.50"	30°	706-130-P125	\$10.51
1/8"	.172"	.375"	1/8"	1.50"	40°	706-140-P125	\$10.51
1/8"	.151"	.375"	1/8"	1.50"	45°	706-145-P125	\$10.51
1/8"	.134"	.375"	1/8"	1.50"	50°	706-150-P125	\$10.51
1/8"	.108"	.375"	1/8"	1.50"	60°	706-160-P125	\$10.51
1/8"	.072"	.375"	1/8"	1.50"	82°	706-182-P125	\$10.51
1/8"	.063"	.375"	1/8"	1.50"	90°	706-190-P125	\$10.51
1/8"	.052"	.375"	1/8"	1.50"	100°	706-1100-P125	\$10.51
1/8"	.036"	.375"	1/8"	1.50"	120°	706-1120-P125	\$10.51

POINTED ENGRAVING CUTTERS, COATED FRACTIONAL 1/8"

ANGLED
EDGE

X/X

TIALN

· Titanium Aluminum Nitride Coated



DIAMETER	FLUTE LENGTH	SPLIT LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SL)	(SØ)		(A)	1 FLUTE	
1/8"	.080"	.200"	1/8"	1.50"	10°	706C-110-P125	\$18.74
1/8"	.080"	.200"	1/8"	1.50"	15°	706C-115-P125	\$18.74
1/8"	.080"	.200"	1/8"	1.50"	20°	706C-120-P125	\$18.74

TYPE 1



TYPE 2: 30 - 120 DEGREE ANGLE

DIAMETER	FLUTE LENGTH	SPLIT LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SL)	(SØ)		(A)	1 FLUTE	
1/8"	.233"	.375"	1/8"	1.50"	30°	706C-130-P125	\$14.48
1/8"	.172"	.375"	1/8"	1.50"	40°	706C-140-P125	\$14.48
1/8"	.151"	.375"	1/8"	1.50"	45°	706C-145-P125	\$14.48
1/8"	.134"	.375"	1/8"	1.50"	50°	706C-150-P125	\$14.48
1/8"	.108"	.375"	1/8"	1.50"	60°	706C-160-P125	\$14.48
1/8"	.072"	.375"	1/8"	1.50"	82°	706C-182-P125	\$14.48
1/8"	.063"	.375"	1/8"	1.50"	90°	706C-190-P125	\$14.48
1/8"	.052"	.375"	1/8"	1.50"	100°	706C-1100-P125	\$14.48
1/8"	.036"	.375"	1/8"	1.50"	120°	706C-1120-P125	\$14.48

TYPE 2

· Amorphous Diamond Coated

DIAMETER	FLUTE LENGTH	SPLIT LENGTH	SHANK Ø	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SL)	(SØ)		(A)	1 FLUTE	
1/8"	.233"	.375"	1/8"	1.50"	30°	706A-130-P125	\$20.92
1/8"	.172"	.375"	1/8"	1.50"	40°	706A-140-P125	\$20.92
1/8"	.108"	.375"	1/8"	1.50"	60°	706A-160-P125	\$20.92
1/8"	.063"	.375"	1/8"	1.50"	90°	706A-190-P125	\$20.92

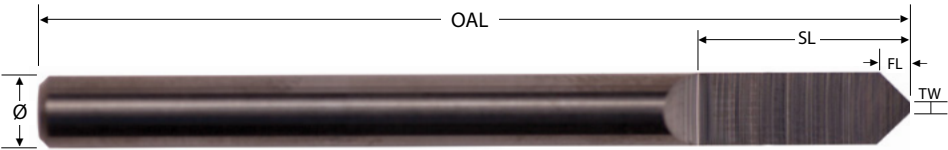
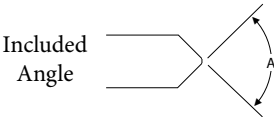
TYPE 2

AD



FLAT TIP ENGRAVING CUTTERS
FRACTIONAL 1/8"

- Produces flat bottom in grooves
- Tipped off end provides extra strength for cutting



DIAMETER	FLUTE LENGTH	SPLIT LENGTH	TIP WIDTH	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SL)	(TW)		(A)	1 FLUTE	
1/8"	.224"	.375"	.005"	1.50"	30°	706-130-F1125	\$12.40
1/8"	.165"	.375"	.005"	1.50"	40°	706-140-F1125	\$12.40
1/8"	.104"	.375"	.005"	1.50"	60°	706-160-F1125	\$12.40
1/8"	.060"	.375"	.005"	1.50"	90°	706-190-F1125	\$12.40
1/8"	.215"	.375"	.010"	1.50"	30°	706-130-F2125	\$12.40
1/8"	.158"	.375"	.010"	1.50"	40°	706-140-F2125	\$12.40
1/8"	.100"	.375"	.010"	1.50"	60°	706-160-F2125	\$12.40
1/8"	.058"	.375"	.010"	1.50"	90°	706-190-F2125	\$12.40
1/8"	.205"	.375"	.015"	1.50"	30°	706-130-F3125	\$12.40
1/8"	.151"	.375"	.015"	1.50"	40°	706-140-F3125	\$12.40
1/8"	.095"	.375"	.015"	1.50"	60°	706-160-F3125	\$12.40
1/8"	.055"	.375"	.015"	1.50"	90°	706-190-F3125	\$12.40
1/8"	.196"	.375"	.020"	1.50"	30°	706-130-F4125	\$12.40
1/8"	.144"	.375"	.020"	1.50"	40°	706-140-F4125	\$12.40
1/8"	.091"	.375"	.020"	1.50"	60°	706-160-F4125	\$12.40
1/8"	.053"	.375"	.020"	1.50"	90°	706-190-F4125	\$12.40

FLAT TIP ENGRAVING CUTTERS, COATED FRACTIONAL 1/8"

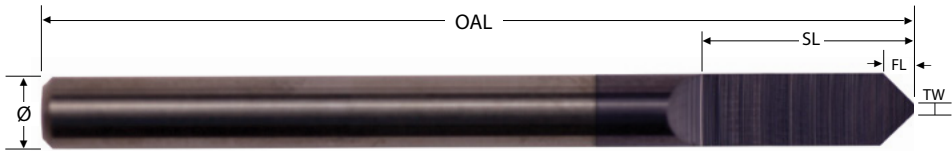
ANGLED
EDGE

X/X

FLAT
END

TIALN

· Titanium Aluminum Nitride Coated



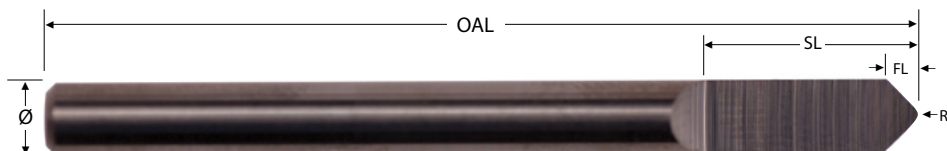
DIAMETER	FLUTE LENGTH	SPLIT LENGTH	TIP WIDTH	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SL)	(TW)		(A)	1 FLUTE	
1/8"	.224"	.375"	.005"	1.50"	30°	706C-130-F1125	\$16.36
1/8"	.165"	.375"	.005"	1.50"	40°	706C-140-F1125	\$16.36
1/8"	.104"	.375"	.005"	1.50"	60°	706C-160-F1125	\$16.36
1/8"	.060"	.375"	.005"	1.50"	90°	706C-190-F1125	\$16.36
1/8"	.215"	.375"	.010"	1.50"	30°	706C-130-F2125	\$16.36
1/8"	.158"	.375"	.010"	1.50"	40°	706C-140-F2125	\$16.36
1/8"	.100"	.375"	.010"	1.50"	60°	706C-160-F2125	\$16.36
1/8"	.058"	.375"	.010"	1.50"	90°	706C-190-F2125	\$16.36
1/8"	.205"	.375"	.015"	1.50"	30°	706C-130-F3125	\$16.36
1/8"	.151"	.375"	.015"	1.50"	40°	706C-140-F3125	\$16.36
1/8"	.095"	.375"	.015"	1.50"	60°	706C-160-F3125	\$16.36
1/8"	.055"	.375"	.015"	1.50"	90°	706C-190-F3125	\$16.36
1/8"	.196"	.375"	.020"	1.50"	30°	706C-130-F4125	\$16.36
1/8"	.144"	.375"	.020"	1.50"	40°	706C-140-F4125	\$16.36
1/8"	.091"	.375"	.020"	1.50"	60°	706C-160-F4125	\$16.36
1/8"	.053"	.375"	.020"	1.50"	90°	706C-190-F4125	\$16.36



RADIUS ENGRAVING CUTTERS FRACTIONAL 1/8"

· Designed for engraving labels on machine materials.

· Produces rounded bottom in grooves



DIAMETER	FLUTE LENGTH	SPLIT LENGTH	RADIUS	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SL)	(R)		(A)	1 FLUTE	
1/8"	.226"	.375"	.0025"	1.50"	30°	706-130-R1125	\$17.16
1/8"	.167"	.375"	.0025"	1.50"	40°	706-140-R1125	\$17.16
1/8"	.106"	.375"	.0025"	1.50"	60°	706-160-R1125	\$17.16
1/8"	.061"	.375"	.0025"	1.50"	90°	706-190-R1125	\$17.16
1/8"	.219"	.375"	.005"	1.50"	30°	706-130-R2125	\$17.16
1/8"	.162"	.375"	.005"	1.50"	40°	706-140-R2125	\$17.16
1/8"	.103"	.375"	.005"	1.50"	60°	706-160-R2125	\$17.16
1/8"	.060"	.375"	.005"	1.50"	90°	706-190-R2125	\$17.16
1/8"	.205"	.375"	.010"	1.50"	30°	706-130-R3125	\$17.16
1/8"	.152"	.375"	.010"	1.50"	40°	706-140-R3125	\$17.16
1/8"	.098"	.375"	.010"	1.50"	60°	706-160-R3125	\$17.16
1/8"	.058"	.375"	.010"	1.50"	90°	706-190-R3125	\$17.16
1/8"	.190"	.375"	.015"	1.50"	30°	706-130-R4125	\$17.16
1/8"	.143"	.375"	.015"	1.50"	40°	706-140-R4125	\$17.16
1/8"	.093"	.375"	.015"	1.50"	60°	706-160-R4125	\$17.16
1/8"	.056"	.375"	.015"	1.50"	90°	706-190-R4125	\$17.16
1/8"	.176"	.375"	.020"	1.50"	30°	706-130-R5125	\$17.16
1/8"	.128"	.375"	.020"	1.50"	40°	706-140-R5125	\$17.16
1/8"	.088"	.375"	.020"	1.50"	60°	706-160-R5125	\$17.16
1/8"	.054"	.375"	.020"	1.50"	90°	706-190-R5125	\$17.16

RADIUS ENGRAVING CUTTERS, COATED FRACTIONAL 1/8"

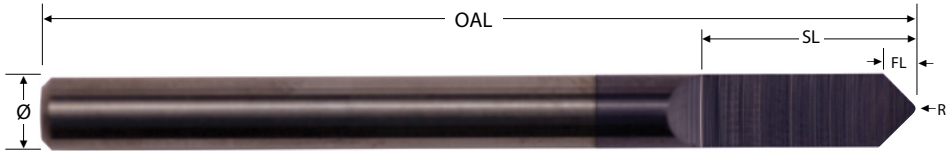
· Titanium Aluminum Nitride Coated

ANGLED
EDGE

X/X

ROUNDED
END

TIALN



DIAMETER	FLUTE LENGTH	SPLIT LENGTH	RADIUS	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SL)	(R)		(A)	1 FLUTE	
1/8"	.226"	.375"	.0025"	1.50"	30°	706C-130-R1125	\$21.12
1/8"	.167"	.375"	.0025"	1.50"	40°	706C-140-R1125	\$21.12
1/8"	.106"	.375"	.0025"	1.50"	60°	706C-160-R1125	\$21.12
1/8"	.061"	.375"	.0025"	1.50"	90°	706C-190-R1125	\$21.12
1/8"	.219"	.375"	.005"	1.50"	30°	706C-130-R2125	\$21.12
1/8"	.162"	.375"	.005"	1.50"	40°	706C-140-R2125	\$21.12
1/8"	.103"	.375"	.005"	1.50"	60°	706C-160-R2125	\$21.12
1/8"	.060"	.375"	.005"	1.50"	90°	706C-190-R2125	\$21.12
1/8"	.205"	.375"	.010"	1.50"	30°	706C-130-R3125	\$21.12
1/8"	.152"	.375"	.010"	1.50"	40°	706C-140-R3125	\$21.12
1/8"	.098"	.375"	.010"	1.50"	60°	706C-160-R3125	\$21.12
1/8"	.058"	.375"	.010"	1.50"	90°	706C-190-R3125	\$21.12
1/8"	.190"	.375"	.015"	1.50"	30°	706C-130-R4125	\$21.12
1/8"	.143"	.375"	.015"	1.50"	40°	706C-140-R4125	\$21.12
1/8"	.093"	.375"	.015"	1.50"	60°	706C-160-R4125	\$21.12
1/8"	.056"	.375"	.015"	1.50"	90°	706C-190-R4125	\$21.12
1/8"	.176"	.375"	.020"	1.50"	30°	706C-130-R5125	\$21.12
1/8"	.128"	.375"	.020"	1.50"	40°	706C-140-R5125	\$21.12
1/8"	.088"	.375"	.020"	1.50"	60°	706C-160-R5125	\$21.12
1/8"	.054"	.375"	.020"	1.50"	90°	706C-190-R5125	\$21.12



WEB MARKING CUTTERS FRACTIONAL 1/8"

- Designed for engraving labels on machine materials.
- 2 Flute design provides improved strength and durability over single point engraving mills.



DIAMETER	FLUTE LENGTH	TIP WIDTH	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)			(A)	2 FLUTE	
1/8"	.224"	.005"	1.50"	30°	706-230-F1125	\$13.78
1/8"	.165"	.005"	1.50"	40°	706-240-F1125	\$13.78
1/8"	.104"	.005"	1.50"	60°	706-260-F1125	\$13.78
1/8"	.060"	.005"	1.50"	90°	706-290-F1125	\$13.78
1/8"	.035"	.005"	1.50"	120°	706-2120-F1125	\$13.78
1/8"	.215"	.010"	1.50"	30°	706-230-F2125	\$13.78
1/8"	.158"	.010"	1.50"	40°	706-240-F2125	\$13.78
1/8"	.100"	.010"	1.50"	60°	706-260-F2125	\$13.78
1/8"	.058"	.010"	1.50"	90°	706-290-F2125	\$13.78
1/8"	.033"	.010"	1.50"	120°	706-2120-F2125	\$13.78

· For Non-Ferrous Applications

DIAMETER	FLUTE LENGTH	TIP WIDTH	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)			(A)	2 FLUTE	
1/8"	.224"	.005"	1.50"	30°	706-230-F1125NF	\$13.78
1/8"	.165"	.005"	1.50"	40°	706-240-F1125NF	\$13.78
1/8"	.104"	.005"	1.50"	60°	706-260-F1125NF	\$13.78
1/8"	.060"	.005"	1.50"	90°	706-290-F1125NF	\$13.78
1/8"	.035"	.005"	1.50"	120°	706-2120-F1125NF	\$13.78

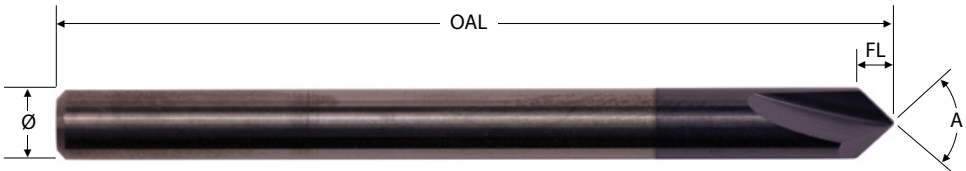
WEB MARKING CUTTERS, COATED FRACTIONAL 1/8"

ANGLED
EDGE

X/X

FLAT
END

TIALN



DIAMETER	FLUTE LENGTH	TIP WIDTH	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)			(A)	2 FLUTE	
1/8"	.224"	.005"	1.50"	30°	706C-230-F1125	\$17.75
1/8"	.165"	.005"	1.50"	40°	706C-240-F1125	\$17.75
1/8"	.104"	.005"	1.50"	60°	706C-260-F1125	\$17.75
1/8"	.060"	.005"	1.50"	90°	706C-290-F1125	\$17.75
1/8"	.035"	.005"	1.50"	120°	706C-2120-F1125	\$17.75
1/8"	.215"	.010"	1.50"	30°	706C-230-F2125	\$17.75
1/8"	.158"	.010"	1.50"	40°	706C-240-F2125	\$17.75
1/8"	.100"	.010"	1.50"	60°	706C-260-F2125	\$17.75
1/8"	.058"	.010"	1.50"	90°	706C-290-F2125	\$17.75
1/8"	.033"	.010"	1.50"	120°	706C-2120-F2125	\$17.75

- Diamond-Like Carbon Coated
- For Non-Ferrous Applications

DIAMETER	FLUTE LENGTH	TIP WIDTH	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		(A)	2 FLUTE	
1/8"	.224"	.005"	1.50"	30°	706D-230-F1125NF	\$19.73
1/8"	.165"	.005"	1.50"	40°	706D-240-F1125NF	\$19.73
1/8"	.104"	.005"	1.50"	60°	706D-260-F1125NF	\$19.73
1/8"	.060"	.005"	1.50"	90°	706D-290-F1125NF	\$19.73
1/8"	.035"	.005"	1.50"	120°	706D-2120-F1125NF	\$19.73

DLC



RADIUS MARKING CUTTERS FRACTIONAL 1/8"

- Designed for engraving labels on machine materials.
- Produces rounded bottom in grooves
- 2 Flute design provides improved strength and durability over single point engraving mills.



DIAMETER	FLUTE LENGTH	RADIUS	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(R)		(A)	2 FLUTE	
1/8"	.218"	.005"	1.50"	30°	706-230-R1125	\$17.75
1/8"	.160"	.005"	1.50"	40°	706-240-R1125	\$17.75
1/8"	.103"	.005"	1.50"	60°	706-260-R1125	\$17.75
1/8"	.060"	.005"	1.50"	90°	706-290-R1125	\$17.75
1/8"	.035"	.005"	1.50"	120°	706-2120-R1125	\$17.75
1/8"	.204"	.010"	1.50"	30°	706-230-R2125	\$17.75
1/8"	.150"	.010"	1.50"	40°	706-240-R2125	\$17.75
1/8"	.098"	.010"	1.50"	60°	706-260-R2125	\$17.75
1/8"	.058"	.010"	1.50"	90°	706-290-R2125	\$17.75
1/8"	.034"	.010"	1.50"	120°	706-2120-R2125	\$17.75



· Titanium Aluminum Nitride Coated



DIAMETER	FLUTE LENGTH	RADIUS	OAL	ANGLE	RMT PART	LIST PRICE
(Ø)	(FL)	(R)		(A)	2 FLUTE	
1/8"	.218"	.005"	1.50"	30°	706C-230-R1125	\$21.72
1/8"	.160"	.005"	1.50"	40°	706C-240-R1125	\$21.72
1/8"	.103"	.005"	1.50"	60°	706C-260-R1125	\$21.72
1/8"	.060"	.005"	1.50"	90°	706C-290-R1125	\$21.72
1/8"	.035"	.005"	1.50"	120°	706C-2120-R1125	\$21.72
1/8"	.204"	.010"	1.50"	30°	706C-230-R2125	\$21.72
1/8"	.150"	.010"	1.50"	40°	706C-240-R2125	\$21.72
1/8"	.098"	.010"	1.50"	60°	706C-260-R2125	\$21.72
1/8"	.058"	.010"	1.50"	90°	706C-290-R2125	\$21.72
1/8"	.034"	.010"	1.50"	120°	706C-2120-R2125	\$21.72

HSS / COBALT END MILLS AND MICRODRILLS

SQUARE END DECIMAL-----157-159
SINGLE END STANDARD-----157
SINGLE END STUB-----158
SINGLE END STANDARD TICN-----159

SQUARE END FRACTIONAL-----160-164
SINGLE END STANDARD-----160
SINGLE END STANDARD TICN-----160
DOUBLE END STANDARD-----161-162
DOUBLE END STUB-----163
DOUBLE END LONG-----164

BALL END DECIMAL-----165-167
SINGLE END STANDARD-----165
SINGLE END STUB-----166
SINGLE END STANDARD TICN-----167

BALL END FRACTIONAL-----168-172
SINGLE END STANDARD-----168
DOUBLE END STANDARD-----169-170
DOUBLE END STUB-----171
DOUBLE END LONG-----172

METRIC MICRO DRILLS-----173-182

DRILL AND COUNTERSINKS-----183-190
COBALT 60 DEG. DRILL AND COUNTERSINK----183
HSS 60 DEG. DRILL AND COUNTERSINK-----184
HSS 82 DEG. DRILL AND COUNTERSINK-----185
HSS 90 DEG. DRILL AND COUNTERSINK-----186
HSS DRILL AND RADIAL COUNTERSINK-----187
HSS DRILL AND 60 DEG. BELL TYPE COUNTERSINK---187
HSS DRILL AND 60 DEG. COUNTERSINK LONG--188
HSS 60 DEG. DRILL AND COUNTERSINK TICN---189
HSS 82 DEG. DRILL AND COUNTERSINK TICN---190
HSS 90 DEG. DRILL AND COUNTERSINK TICN---190

**HSS / COBALT END MILLS
& MICRO DRILLS**

SINGLE END, SQUARE END, STANDARD DECIMAL .005" - .1378"

- Use: General Purpose
- Helix: 35 - 40 Degrees
- Rake Angle: Positive

- Center Cutting: Yes
- Hand: RHS/ RHC
- Diameter Tolerance: +.000/-.001



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
.005"	.015"	.125"	1.50"	846-.005	\$18.25
.010"	.030"	.125"	1.50"	846-.010	\$18.25
.015"	.045"	.125"	1.50"	846-.015	\$15.30
.0156" (1/64")	.047"	.125"	1.50"	846-1560	\$15.30
.0197" (.5 mm)	.059"	.125"	1.50"	846-0197	\$15.30
.020"	.060"	.125"	1.50"	846-.020	\$14.85
.025"	.075"	.125"	1.50"	846-.025	\$14.85
.030"	.090"	.125"	1.50"	846-.030	\$13.90
.035"	.105"	.1875"	1.50"	846-.035	\$12.15
.0394" (1 mm)	.118"	.1875"	1.50"	846-0394	\$12.15
.040"	.120"	.1875"	1.50"	846-.040	\$12.15
.045"	.135"	.1875"	1.50"	846-.045	\$12.15
.0492" (1.25 mm)	.148"	.1875"	1.50"	846-0492	\$12.15
.050"	.150"	.1875"	1.50"	846-.050	\$12.15
.055"	.165"	.1875"	1.50"	846-.055	\$12.60
.0591" (1.5 mm)	.177"	.1875"	1.50"	846-0591	\$12.60
.060"	.180"	.1875"	1.50"	846-.060	\$12.60
.0630" (1.6 mm)	.189"	.1875"	1.50"	846-0630	\$12.60
.065"	.195"	.1875"	1.50"	846-.065	\$12.60
.070"	.210"	.1875"	1.50"	846-.070	\$12.60
.0709" (1.8 mm)	.213"	.1875"	1.50"	846-0709	\$12.60
.075"	.225"	.1875"	1.50"	846-.075	\$12.60
.0787" (2 mm)	.236"	.1875"	1.50"	846-0787	\$12.60
.080"	.240"	.1875"	1.50"	846-.080	\$12.60
.085"	.255"	.1875"	1.50"	846-.085	\$12.60
.0866" (2.2 mm)	.260"	.1875"	1.50"	846-0866	\$12.60
.090"	.270"	.1875"	1.50"	846-.090	\$13.00
.095"	.285"	.1875"	1.50"	846-.095	\$13.00
.0984" (2.5 mm)	.295"	.1875"	1.50"	846-0984	\$13.00
.100"	.300"	.1875"	1.50"	846-.100	\$13.00
.1102" (2.8 mm)	.331"	.1875"	1.50"	846-1102	\$13.00
.1181" (3 mm)	.354"	.1875"	1.50"	846-1181	\$13.00
.120"	.360"	.1875"	1.50"	846-.120	\$13.00
.1378" (3.5 mm)	.414"	.1875"	1.50"	846-1378	\$13.00

SINGLE END, SQUARE END, STUB

DECIMAL .005" - .1378"



- Use: General Purpose
- Helix: 35 - 40 Degrees
- Rake Angle: Positive

- Center Cutting: Yes
- Hand: RHS/ RHC
- Diameter Tolerance: $\pm .000/- .001$



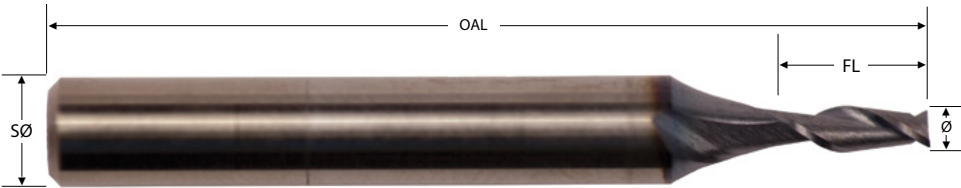
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
.005"	.008"	.125"	1.50"	856-.005	\$18.20
.010"	.015"	.125"	1.50"	856-.010	\$18.20
.015"	.023"	.125"	1.50"	856-.015	\$15.30
.0156" (1/64")	.023"	.125"	1.50"	856-1560	\$15.30
.0197" (.5 mm)	.030"	.125"	1.50"	856-0197	\$15.30
.020"	.030"	.125"	1.50"	856-.020	\$14.80
.025"	.038"	.125"	1.50"	856-.025	\$14.30
.030"	.045"	.125"	1.50"	856-.030	\$13.90
.035"	.053"	.1875"	1.50"	856-.035	\$12.10
.0394" (1 mm)	.059"	.1875"	1.50"	856-0394	\$12.10
.040"	.060"	.1875"	1.50"	856-.040	\$12.10
.045"	.068"	.1875"	1.50"	856-.045	\$12.10
.0492" (1.25 mm)	.074"	.1875"	1.50"	856-0492	\$12.10
.050"	.075"	.1875"	1.50"	856-.050	\$12.10
.055"	.083"	.1875"	1.50"	856-.055	\$12.60
.0591" (1.5 mm)	.089"	.1875"	1.50"	856-0591	\$12.60
.060"	.090"	.1875"	1.50"	856-.060	\$12.60
.0630" (1.6 mm)	.095"	.1875"	1.50"	856-0630	\$12.60
.065"	.098"	.1875"	1.50"	856-.065	\$12.60
.070"	.105"	.1875"	1.50"	856-.070	\$12.60
.0709" (1.8 mm)	.106"	.1875"	1.50"	856-0709	\$12.60
.075"	.113"	.1875"	1.50"	856-.075	\$12.60
.0787" (2 mm)	.118"	.1875"	1.50"	856-0787	\$12.60
.080"	.120"	.1875"	1.50"	856-.080	\$12.60
.085"	.128"	.1875"	1.50"	856-.085	\$12.60
.0866" (2.2 mm)	.130"	.1875"	1.50"	856-0866	\$12.60
.090"	.135"	.1875"	1.50"	856-.090	\$13.00
.095"	.143"	.1875"	1.50"	856-.095	\$13.00
.0984" (2.5 mm)	.148"	.1875"	1.50"	856-0984	\$13.00
.100"	.150"	.1875"	1.50"	856-.100	\$13.00
.1102" (2.8 mm)	.165"	.1875"	1.50"	856-1102	\$13.00
.1181" (3 mm)	.177"	.1875"	1.50"	856-1181	\$13.00
.120"	.180"	.1875"	1.50"	856-.120	\$13.00
.1378" (3.5 mm)	.207"	.1875"	1.50"	856-1378	\$13.00



SINGLE END, SQUARE END, STANDARD, COATED
DECIMAL .005"- .100"



· Titanium Carbon Nitride Coated



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
.005"	.015"	.125"	1.50"	846-T1-.005	\$20.94
.010"	.030"	.125"	1.50"	846-T1-.010	\$20.94
.015"	.045"	.125"	1.50"	846-T1-.015	\$20.94
.020"	.060"	.125"	1.50"	846-T1-.020	\$17.54
.030"	.090"	.125"	1.50"	846-T1-.030	\$16.59
.040"	.120"	.1875"	1.50"	846-T1-.040	\$15.60
.050"	.150"	.1875"	1.50"	846-T1-.050	\$15.60
.060"	.180"	.1875"	1.50"	846-T1-.060	\$16.05
.070"	.210"	.1875"	1.50"	846-T1-.070	\$16.05
.080"	.240"	.1875"	1.50"	846-T1-.080	\$16.05
.090"	.270"	.1875"	1.50"	846-T1-.090	\$16.45
.100"	.300"	.1875"	1.50"	846-T1-.100	\$16.45



American Made... In America's Hometown!
A representative is standing by to take your order!
CALL 800-233-9956

SINGLE END, SQUARE END, STANDARD FRACTIONAL 1/32"- 3/16"



- Use: General Purpose
- Helix: 35 - 40 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
2 Flute: +.000/-.002
4 Flute: +.002/-.000
** 3/16": +000/-.0025*



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
1/32"	3/32"	.1875"	1.50"	846-0031	853-0031	\$10.90
3/64"	9/64"	.1875"	1.50"	846-0046	853-0046	\$10.90
1/16"	3/16"	.1875"	1.50"	846-0062	853-0062	\$10.90
5/64"	15/64"	.1875"	1.50"	846-0078	853-0078	\$10.90
3/32"	9/32"	.1875"	1.50"	846-0093	853-0093	\$10.90
7/64"	21/64"	.1875"	1.50"	846-0109	853-0109	\$10.90
1/8"	3/8"	.1875"	1.50"	846-0125	853-0125	\$10.90
9/64"	13/32"	.1875"	1.50"	846-0140	853-0140	\$10.90
5/32"	7/16"	.1875"	1.50"	846-0156	853-0156	\$10.90
11/64"	1/2"	.1875"	1.50"	846-0171	853-0171	\$10.90
* 3/16"	1/2"	.1875"	1.50"	846-0187	853-0187	\$10.90



· Titanium Carbon Nitride Coated

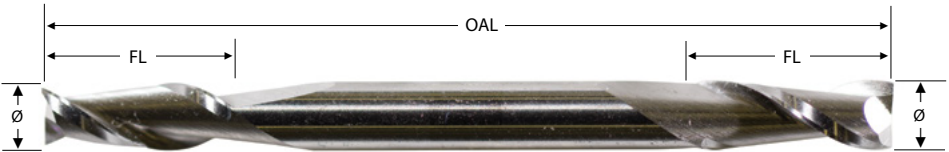
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	4 FLUTE	
1/64"	3/64"	.1875"	1.50"	846-T1-1560	--	\$20.94
1/32"	3/32"	.1875"	1.50"	846-T1-0031	853-T1-0031	\$14.35
3/64"	9/64"	.1875"	1.50"	846-T1-0046	853-T1-0046	\$14.35
1/16"	3/16"	.1875"	1.50"	846-T1-0062	853-T1-0062	\$14.35
5/64"	15/64"	.1875"	1.50"	846-T1-0078	853-T1-0078	\$14.35
3/32"	9/32"	.1875"	1.50"	846-T1-0093	853-T1-0093	\$14.35
1/8"	3/8"	.1875"	1.50"	846-T1-0125	853-T1-0125	\$14.35





DOUBLE END, SQUARE END, STANDARD
FRACTIONAL 1/32" - 3/16"

- Use: General Purpose
 - Helix: 35 - 40 Degrees
 - Hand: RHS/ RHC
 - Rake Angle: Positive
 - Center Cutting: Yes
- M42 Cobalt
 - Diameter Tolerance:
 - 2 Flute: $+0.000/-0.002$
 - * 3/16": $+0.000/-0.0025$

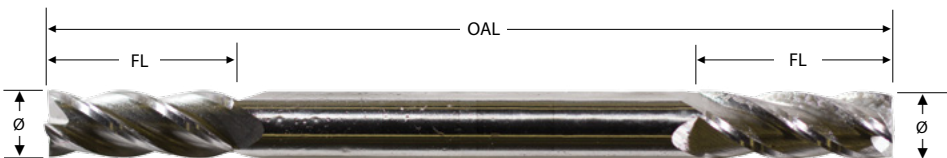


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
1/32"	3/32"	.1875"	2.50"	540-0031	\$18.70
3/64"	9/64"	.1875"	2.50"	540-0046	\$18.70
1/16"	3/16"	.1875"	2.50"	540-0062	\$16.50
5/64"	15/64"	.1875"	2.50"	540-0078	\$16.50
3/32"	9/32"	.1875"	2.50"	540-0093	\$16.50
7/64"	21/64"	.1875"	2.50"	540-0109	\$16.50
1/8"	3/8"	.1875"	2.50"	540-0125	\$16.50
9/64"	13/32"	.1875"	2.50"	540-0140	\$17.60
5/32"	7/16"	.1875"	2.50"	540-0156	\$17.60
11/64"	1/2"	.1875"	2.50"	540-0171	\$17.60
* 3/16"	1/2"	.1875"	2.50"	540-0187	\$17.60

DOUBLE END, SQUARE END, STANDARD FRACTIONAL 1/32" - 3/16"



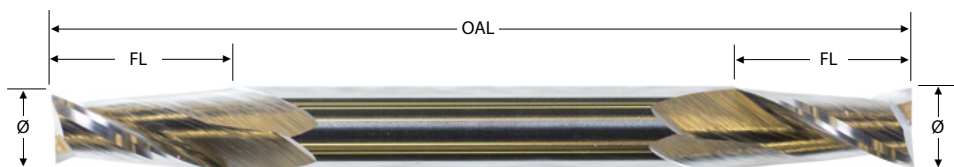
- Use: General Purpose
- Helix: 35 - 40 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- M42 Cobalt
- Diameter Tolerance:
4 Flute: +.002/-.000
** 3/16": +000/-.0025*



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
1/32"	3/32"	.1875"	2.50"	547-0031	\$18.60
3/64"	9/64"	.1875"	2.50"	547-0046	\$18.60
1/16"	3/16"	.1875"	2.50"	547-0062	\$16.90
5/64"	15/64"	.1875"	2.50"	547-0078	\$16.90
3/32"	9/32"	.1875"	2.50"	547-0093	\$16.90
7/64"	21/64"	.1875"	2.50"	547-0109	\$16.90
1/8"	3/8"	.1875"	2.50"	547-0125	\$16.90
9/64"	13/32"	.1875"	2.50"	547-0140	\$17.90
5/32"	7/16"	.1875"	2.50"	547-0156	\$17.90
11/64"	1/2"	.1875"	2.50"	547-0171	\$17.90
* 3/16"	1/2"	.1875"	2.50"	547-0187	\$17.90

DOUBLE END, SQUARE END, STUB FRACTIONAL 1/32" - 3/16"

· M42 Cobalt



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
1/32"	3/64"	.1875"	2.00"	542-0031	\$16.60
3/64"	1/16"	.1875"	2.00"	542-0046	\$16.60
1/16"	3/32"	.1875"	2.00"	542-0062	\$15.60
5/64"	1/8"	.1875"	2.00"	542-0078	\$15.60
3/32"	9/64"	.1875"	2.00"	542-0093	\$15.60
7/64"	5/32"	.1875"	2.00"	542-0109	\$15.60
1/8"	3/16"	.1875"	2.00"	542-0125	\$15.60
9/64"	7/32"	.1875"	2.00"	542-0140	\$17.50
5/32"	15/64"	.1875"	2.00"	542-0156	\$17.50
11/64"	1/4"	.1875"	2.00"	542-0171	\$17.50
* 3/16"	9/32"	.1875"	2.00"	542-0187	\$17.50

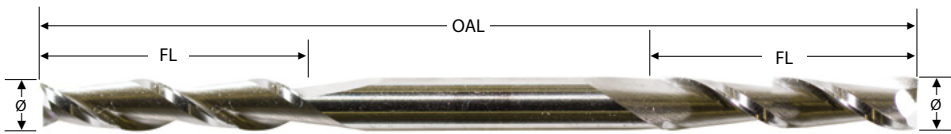


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
1/32"	3/64"	.1875"	2.00"	549-0031	\$17.60
3/64"	1/16"	.1875"	2.00"	549-0046	\$17.60
1/16"	3/32"	.1875"	2.00"	549-0062	\$16.00
5/64"	1/8"	.1875"	2.00"	549-0078	\$16.00
3/32"	9/64"	.1875"	2.00"	549-0093	\$16.00
7/64"	5/32"	.1875"	2.00"	549-0109	\$16.00
1/8"	3/16"	.1875"	2.00"	549-0125	\$16.00
9/64"	7/32"	.1875"	2.00"	549-0140	\$17.10
5/32"	15/64"	.1875"	2.00"	549-0156	\$17.10
11/64"	1/4"	.1875"	2.00"	549-0171	\$17.10
* 3/16"	9/32"	.1875"	2.00"	549-0187	\$17.10

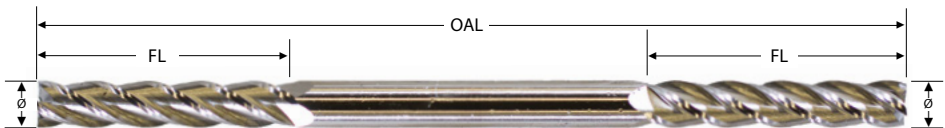
DOUBLE END, SQUARE END, LONG FRACTIONAL 1/16" - 3/16"



- Use: General Purpose
- Helix: 35 - 40 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- M42 Cobalt
- Diameter Tolerance:
 - 2 Flute: $+.000/- .002$
 - 4 Flute: $+.002/- .000$
 - * 3/16": $+.000/- .0025$



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
1/16"	7/32"	.1875"	2.50"	544-0062	\$20.00
3/32"	9/32"	.1875"	2.625"	544-0093	\$20.00
1/8"	3/4"	.1875"	3.125"	544-0125	\$20.00
5/32"	7/8"	.1875"	3.25"	544-0156	\$22.60
* 3/16"	1"	.1875"	3.375"	544-0187	\$22.60



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
1/16"	7/32"	.1875"	2.50"	551-0062	\$21.20
3/32"	9/32"	.1875"	2.625"	551-0093	\$21.20
1/8"	3/4"	.1875"	3.125"	551-0125	\$21.20
5/32"	7/8"	.1875"	3.25"	551-0156	\$23.00
* 3/16"	1"	.1875"	3.375"	551-0187	\$23.00

**.XXX**

SINGLE END, BALL END, STANDARD DECIMAL .005"-.1378"

- Use: General Purpose
- Helix: 35 - 40 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +.000-.001



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
.005"	.015"	.125"	1.50"	858-.005	\$21.25
.010"	.030"	.125"	1.50"	858-.010	\$18.75
.015"	.045"	.125"	1.50"	858-.015	\$19.10
.0156" (1/64")	.047"	.125"	1.50"	858-1560	\$19.10
.0197" (.5 mm)	.059"	.125"	1.50"	858-0197	\$18.45
.020"	.060"	.125"	1.50"	858-.020	\$18.62
.025"	.075"	.125"	1.50"	858-.025	\$17.95
.030"	.090"	.125"	1.50"	858-.030	\$17.40
.035"	.105"	.1875"	1.50"	858-.035	\$15.30
.0394" (1 mm)	.118"	.1875"	1.50"	858-0394	\$15.30
.040"	.120"	.1875"	1.50"	858-.040	\$15.30
.045"	.135"	.1875"	1.50"	858-.045	\$15.30
.0492" (1.25 mm)	.148"	.1875"	1.50"	858-0492	\$15.30
.050"	.150"	.1875"	1.50"	858-.050	\$15.30
.055"	.165"	.1875"	1.50"	858-.055	\$15.90
.0591" (1.5 mm)	.177"	.1875"	1.50"	858-0591	\$15.90
.060"	.180"	.1875"	1.50"	858-.060	\$15.90
.0630" (1.6 mm)	.189"	.1875"	1.50"	858-0630	\$15.90
.065"	.195"	.1875"	1.50"	858-.065	\$15.90
.070"	.210"	.1875"	1.50"	858-.070	\$15.90
.0709" (1.8 mm)	.213"	.1875"	1.50"	858-0709	\$15.90
.075"	.225"	.1875"	1.50"	858-.075	\$15.90
.0787" (2 mm)	.236"	.1875"	1.50"	858-0787	\$15.90
.080"	.240"	.1875"	1.50"	858-.080	\$15.90
.085"	.255"	.1875"	1.50"	858-.085	\$15.90
.0866" (2.2 mm)	.260"	.1875"	1.50"	858-0866	\$15.90
.090"	.270"	.1875"	1.50"	858-.090	\$16.30
.095"	.285"	.1875"	1.50"	858-.095	\$16.30
.0984" (2.5 mm)	.295"	.1875"	1.50"	858-0984	\$16.30
.100"	.300"	.1875"	1.50"	858-.100	\$16.30
.1102" (2.8 mm)	.331"	.1875"	1.50"	858-1102	\$16.30
.1181" (3 mm)	.354"	.1875"	1.50"	858-1181	\$16.30
.120"	.360"	.1875"	1.50"	858-.120	\$16.30
.1378" (3.5 mm)	.414"	.1875"	1.50"	858-1378	\$16.30

SINGLE END, BALL END, STUB

DECIMAL .005" - .1378"



- Use: General Purpose
- Helix: 35 - 40 Degrees
- Hand: RHS/ RHC

- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance: +.000-.001



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
.005"	.008"	.125"	1.50"	857-.005	\$22.85
.010"	.015"	.125"	1.50"	857-.010	\$22.85
.015"	.023"	.125"	1.50"	857-.015	\$19.10
.0156" (1/64")	.023"	.125"	1.50"	857-1560	\$19.10
.0197" (.5 mm)	.030"	.125"	1.50"	857-0197	\$19.10
.020"	.030"	.125"	1.50"	857-.020	\$18.60
.025"	.038"	.125"	1.50"	857-.025	\$17.95
.030"	.045"	.125"	1.50"	857-.030	\$17.40
.035"	.053"	.1875"	1.50"	857-.035	\$15.30
.0394" (1 mm)	.059"	.1875"	1.50"	857-0394	\$15.30
.040"	.060"	.1875"	1.50"	857-.040	\$15.30
.045"	.068"	.1875"	1.50"	857-.045	\$15.30
.0492" (1.25 mm)	.074"	.1875"	1.50"	857-0492	\$15.30
.050"	.075"	.1875"	1.50"	857-.050	\$15.30
.055"	.083"	.1875"	1.50"	857-.055	\$15.90
.0591" (1.5 mm)	.089"	.1875"	1.50"	857-0591	\$15.90
.060"	.090"	.1875"	1.50"	857-.060	\$15.90
.0630" (1.6 mm)	.095"	.1875"	1.50"	857-0630	\$15.90
.065"	.098"	.1875"	1.50"	857-.065	\$15.90
.070"	.105"	.1875"	1.50"	857-.070	\$15.90
.0709" (1.8 mm)	.106"	.1875"	1.50"	857-0709	\$15.90
.075"	.113"	.1875"	1.50"	857-.075	\$15.90
.0787" (2 mm)	.118"	.1875"	1.50"	857-0787	\$15.90
.080"	.120"	.1875"	1.50"	857-.080	\$15.90
.085"	.128"	.1875"	1.50"	857-.085	\$15.90
.0866" (2.2 mm)	.130"	.1875"	1.50"	857-0866	\$15.90
.090"	.135"	.1875"	1.50"	857-.090	\$16.30
.095"	.143"	.1875"	1.50"	857-.095	\$16.30
.0984" (2.5 mm)	.148"	.1875"	1.50"	857-0984	\$16.30
.100"	.150"	.1875"	1.50"	857-.100	\$16.30
.1102" (2.8 mm)	.165"	.1875"	1.50"	857-1102	\$16.30
.1181" (3 mm)	.177"	.1875"	1.50"	857-1181	\$16.30
.120"	.180"	.1875"	1.50"	857-.120	\$16.30
.1378" (3.5 mm)	.207"	.1875"	1.50"	857-1378	\$16.30

SINGLE END, BALL END, STANDARD, COATED DECIMAL .005" - .100"

· Titanium Carbon Nitride Coated



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
.005"	.015"	.125"	1.50"	858-T1-.005	\$23.94
.010"	.030"	.125"	1.50"	858-T1-.010	\$21.44
.015"	.045"	.125"	1.50"	858-T1-.015	\$21.31
.020"	.060"	.125"	1.50"	858-T1-.020	\$21.31
.030"	.090"	.125"	1.50"	858-T1-.030	\$20.85
.040"	.120"	.1875"	1.50"	858-T1-.040	\$18.75
.050"	.150"	.1875"	1.50"	858-T1-.050	\$18.75
.060"	.180"	.1875"	1.50"	858-T1-.060	\$19.35
.070"	.210"	.1875"	1.50"	858-T1-.070	\$19.35
.080"	.240"	.1875"	1.50"	858-T1-.080	\$19.35
.090"	.270"	.1875"	1.50"	858-T1-.090	\$19.75
.100"	.300"	.1875"	1.50"	858-T1-.100	\$19.75



SINGLE END, BALL END, STANDARD FRACTIONAL 1/32" - 3/16"



- Use: General Purpose
- Helix: 35 - 40 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- Diameter Tolerance:
2 Flute: +.000/-.002
* 3/16": +000/-.0025



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
1/32"	3/32"	.1875"	1.50"	858-0031	\$16.30
3/64"	9/64"	.1875"	1.50"	858-0046	\$16.30
1/16"	3/16"	.1875"	1.50"	858-0062	\$15.00
5/64"	15/64"	.1875"	1.50"	858-0078	\$15.00
3/32"	9/32"	.1875"	1.50"	858-0093	\$15.00
7/64"	21/64"	.1875"	1.50"	858-0109	\$15.00
1/8"	3/8"	.1875"	1.50"	858-0125	\$15.00
9/64"	13/32"	.1875"	1.50"	858-0140	\$15.70
5/32"	7/16"	.1875"	1.50"	858-0156	\$15.70
11/64"	1/2"	.1875"	1.50"	858-0171	\$15.70
* 3/16"	1/2"	.1875"	1.50"	858-0187	\$15.70



· Titanium Carbon Nitride Coated

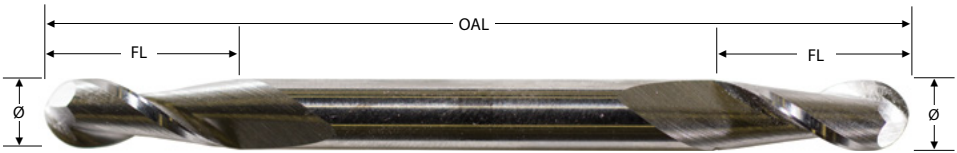
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
1/64"	3/64"	.1875"	1.50"	858-T1-1560	\$21.31
1/32"	3/32"	.1875"	1.50"	858-T1-0031	\$19.75
3/64"	9/64"	.1875"	1.50"	858-T1-0046	\$19.75
1/16"	3/16"	.1875"	1.50"	858-T1-0062	\$18.45
5/64"	15/64"	.1875"	1.50"	858-T1-0078	\$18.45
3/32"	9/32"	.1875"	1.50"	858-T1-0093	\$18.45
1/8"	3/8"	.1875"	1.50"	858-T1-0125	\$18.45

TiCN

DOUBLE END, BALL END, STANDARD FRACTIONAL 1/32" - 3/16"

- Use: General Purpose
- Helix: 35 - 40 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes

- M42 Cobalt
- Diameter Tolerance:
2 Flute: $+0.000/-0.002$
* 3/16": $+0.000/-0.0025$

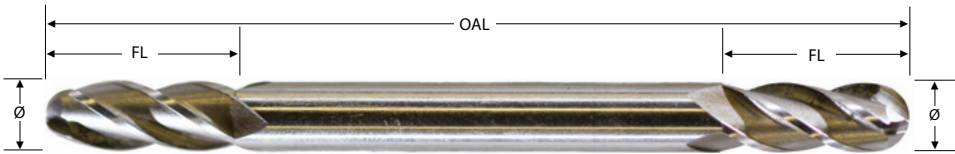


DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
1/32"	3/32"	.1875"	2.50"	541-0031	\$25.60
3/64"	9/64"	.1875"	2.50"	541-0046	\$25.60
1/16"	3/16"	.1875"	2.50"	541-0062	\$23.40
5/64"	15/64"	.1875"	2.50"	541-0078	\$23.40
3/32"	9/32"	.1875"	2.50"	541-0093	\$23.40
7/64"	21/64"	.1875"	2.50"	541-0109	\$23.40
1/8"	3/8"	.1875"	2.50"	541-0125	\$23.40
9/64"	13/32"	.1875"	2.50"	541-0140	\$24.50
5/32"	7/16"	.1875"	2.50"	541-0156	\$24.50
11/64"	1/2"	.1875"	2.50"	541-0171	\$24.50
* 3/16"	1/2"	.1875"	2.50"	541-0187	\$24.50

DOUBLE END, BALL END, STANDARD FRACTIONAL 1/32"- 3/16"



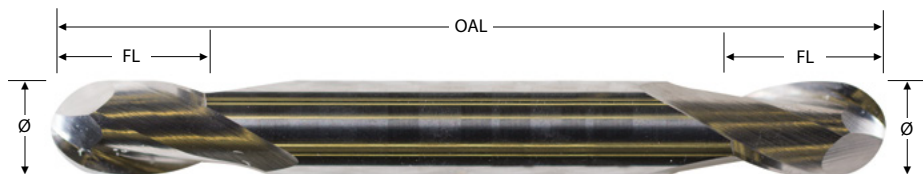
- Use: General Purpose
- Helix: 35 - 40 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- M42 Cobalt
- Diameter Tolerance:
4 Flute: +.002/-.000
** 3/16": +000/-.0025*



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
1/32"	3/32"	.1875"	2.50"	548-0031	\$33.50
3/64"	9/64"	.1875"	2.50"	548-0046	\$33.50
1/16"	3/16"	.1875"	2.50"	548-0062	\$30.50
5/64"	15/64"	.1875"	2.50"	548-0078	\$30.50
3/32"	9/32"	.1875"	2.50"	548-0093	\$30.50
7/64"	21/64"	.1875"	2.50"	548-0109	\$30.50
1/8"	3/8"	.1875"	2.50"	548-0125	\$30.50
9/64"	13/32"	.1875"	2.50"	548-0140	\$32.80
5/32"	7/16"	.1875"	2.50"	548-0156	\$32.80
11/64"	1/2"	.1875"	2.50"	548-0171	\$32.80
* 3/16"	1/2"	.1875"	2.50"	548-0187	\$32.80

DOUBLE END, BALL END, STUB FRACTIONAL 1/32" - 3/16"

· M42 Cobalt



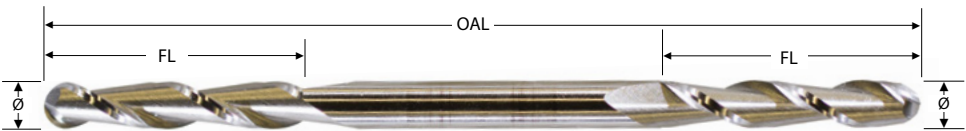
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
1/32"	3/64"	.1875"	2.00"	543-0031	\$24.50
3/64"	1/16"	.1875"	2.00"	543-0046	\$24.50
1/16"	3/32"	.1875"	2.00"	543-0062	\$22.10
5/64"	1/8"	.1875"	2.00"	543-0078	\$22.10
3/32"	9/64"	.1875"	2.00"	543-0093	\$22.10
7/64"	5/32"	.1875"	2.00"	543-0109	\$22.10
1/8"	3/16"	.1875"	2.00"	543-0125	\$22.10
9/64"	7/32"	.1875"	2.00"	543-0140	\$24.80
5/32"	15/64"	.1875"	2.00"	543-0156	\$24.80
11/64"	1/4"	.1875"	2.00"	543-0171	\$24.80
* 3/16"	9/32"	.1875"	2.00"	543-0187	\$24.80



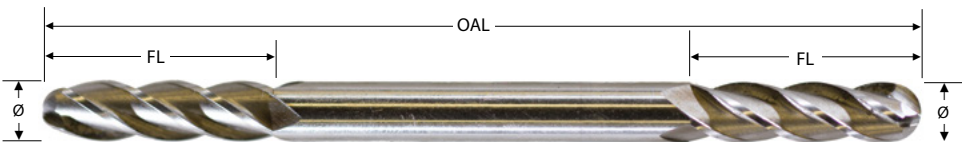
DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
1/32"	3/64"	.1875"	2.00"	550-0031	\$31.20
3/64"	1/16"	.1875"	2.00"	550-0046	\$31.20
1/16"	3/32"	.1875"	2.00"	550-0062	\$28.40
5/64"	1/8"	.1875"	2.00"	550-0078	\$28.40
3/32"	9/64"	.1875"	2.00"	550-0093	\$28.40
7/64"	5/32"	.1875"	2.00"	550-0109	\$28.40
1/8"	3/16"	.1875"	2.00"	550-0125	\$28.40
9/64"	7/32"	.1875"	2.00"	550-0140	\$29.80
5/32"	15/64"	.1875"	2.00"	550-0156	\$29.80
11/64"	1/4"	.1875"	2.00"	550-0171	\$29.80
* 3/16"	9/32"	.1875"	2.00"	550-0187	\$29.80

DOUBLE END, BALL END, LONG FRACTIONAL 1/16" - 3/16"

- Use: General Purpose
- Helix: 35 - 40 Degrees
- Hand: RHS/ RHC
- Rake Angle: Positive
- Center Cutting: Yes
- M42 Cobalt
- Diameter Tolerance:
 - 2 Flute: $+.000/- .002$
 - 4 Flute: $+.002/- .000$
 - * 3/16": $+.000/- .0025$



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		2 FLUTE	
1/16"	7/32"	.1875"	2.50"	545-0062	\$30.50
3/32"	9/32"	.1875"	2.625"	545-0093	\$30.50
1/8"	3/4"	.1875"	3.125"	545-0125	\$30.50
5/32"	7/8"	.1875"	3.25"	545-0156	\$31.80
* 3/16"	1"	.1875"	3.375"	545-0187	\$31.80



DIAMETER	FLUTE LENGTH	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)	(SØ)		4 FLUTE	
1/16"	7/32"	.1875"	2.50"	552-0062	\$31.70
3/32"	9/32"	.1875"	2.625"	552-0093	\$31.70
1/8"	3/4"	.1875"	3.125"	552-0125	\$31.70
5/32"	7/8"	.1875"	3.25"	552-0156	\$33.00
* 3/16"	1"	.1875"	3.375"	552-0187	\$33.00

METRIC MICRO DRILLS

.10 mm - .40 mm

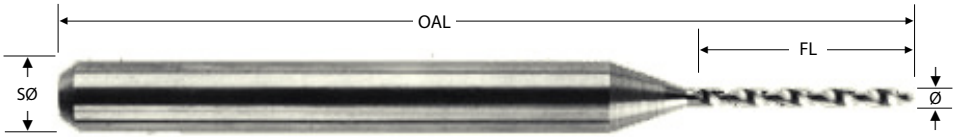
- Superior quality Twist Drills made of M42 Cobalt
- Guaranteed to meet geometry specifications
- Four facet point - Self-centering, more accurate holes, longer drill life
- Size range = 0.10 mm - 3.00 mm (.004"-.118")
- Packaged and sold in quantities of 5 pieces per size
- Left hand available by special order
- 120 Deg. Drill Point

DIAMETER	FLUTE LENGTH	WIRE SIZE	DIA (INCH)	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)		(Ø)	(SØ)		2 FLUTE	
.10 mm	.7 mm		.0039"	1 mm	25 mm	MD010	\$11.25
.11 mm	.7 mm		.0043"	1 mm	25 mm	MD011	\$11.25
.12 mm	.7 mm		.0047"	1 mm	25 mm	MD012	\$11.25
.13 mm	1 mm		.0051"	1 mm	25 mm	MD013	\$11.25
.14 mm	1 mm		.0055"	1 mm	25 mm	MD014	\$11.25
.15 mm	1 mm	# 97	.0059"	1 mm	25 mm	MD015	\$11.25
.16 mm	1.4 mm	# 96	.0063"	1 mm	25 mm	MD016	\$11.25
.17 mm	1.4 mm	# 95	.0067"	1 mm	25 mm	MD017	\$11.25
.18 mm	1.4 mm	# 94	.0071"	1 mm	25 mm	MD018	\$11.25
.19 mm	1.4 mm	# 93	.0075"	1 mm	25 mm	MD019	\$11.25
.20 mm	1.8 mm	# 92	.0079"	1 mm	25 mm	MD020	\$7.60
.21 mm	1.8 mm	# 91	.0083"	1 mm	25 mm	MD021	\$7.60
.22 mm	1.8 mm	# 90	.0087"	1 mm	25 mm	MD022	\$7.60
.23 mm	1.8 mm	# 89	.0091"	1 mm	25 mm	MD023	\$7.60
.24 mm	1.8 mm	# 88	.0094"	1 mm	25 mm	MD024	\$7.60
.25 mm	2.2 mm		.0098"	1 mm	25 mm	MD025	\$7.60
.26 mm	2.2 mm		.0102"	1 mm	25 mm	MD026	\$7.60
.27 mm	2.2 mm	# 86	.0106"	1 mm	25 mm	MD027	\$7.60
.28 mm	2.2 mm	# 85	.0110"	1 mm	25 mm	MD028	\$7.60
.29 mm	2.2 mm	# 84	.0114"	1 mm	25 mm	MD029	\$7.60
.30 mm	2.2 mm		.0118"	1 mm	25 mm	MD030	\$7.60
.31 mm	2.8 mm		.0122"	1 mm	25 mm	MD031	\$7.60
.32 mm	2.8 mm	# 82	.0126"	1 mm	25 mm	MD032	\$7.60
.33 mm	2.8 mm	# 81	.0130"	1 mm	25 mm	MD033	\$7.60
.34 mm	2.8 mm	# 80	.0134"	1 mm	25 mm	MD034	\$7.60
.35 mm	2.8 mm		.0138"	1 mm	25 mm	MD035	\$7.60
.36 mm	2.8 mm		.0142"	1 mm	25 mm	MD036	\$7.60
.37 mm	2.8 mm	# 79	.0146"	1 mm	25 mm	MD037	\$7.60
.38 mm	2.8 mm		.0150"	1 mm	25 mm	MD038	\$7.60
.39 mm	2.8 mm		.0154"	1 mm	25 mm	MD039	\$7.60
.40 mm	3.2 mm		.0157"	1 mm	25 mm	MD040	\$7.60

***SOLD IN MULTIPLES OF FIVE**

METRIC MICRO DRILLS

.41 mm - .70 mm



DIAMETER	FLUTE LENGTH	WIRE SIZE	DIA (INCH)	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)		(Ø)	(SØ)		2 FLUTE	
.41 mm	3.2 mm	# 78	.0161"	1 mm	25 mm	MD041	\$7.60
.42 mm	3.2 mm		.0165"	1 mm	25 mm	MD042	\$7.60
.43 mm	3.2 mm		.0169"	1 mm	25 mm	MD043	\$7.60
.44 mm	3.2 mm		.0173"	1 mm	25 mm	MD044	\$7.60
.45 mm	3.2 mm		.0177"	1 mm	25 mm	MD045	\$7.60
.46 mm	3.6 mm	# 77	.0181"	1 mm	25 mm	MD046	\$7.60
.47 mm	3.6 mm		.0185"	1 mm	25 mm	MD047	\$7.60
.48 mm	3.6 mm		.0189"	1 mm	25 mm	MD048	\$7.60
.49 mm	3.6 mm		.0193"	1 mm	25 mm	MD049	\$7.60
.50 mm	3.6 mm		.0197"	1 mm	25 mm	MD050	\$7.60
.51 mm	4 mm	# 76	.0201"	1.5 mm	25 mm	MD051	\$7.60
.52 mm	4 mm		.0205"	1.5 mm	25 mm	MD052	\$7.60
.53 mm	4 mm	# 75	.0209"	1.5 mm	25 mm	MD053	\$7.60
.54 mm	4 mm		.0213"	1.5 mm	25 mm	MD054	\$7.60
.55 mm	4 mm		.0217"	1.5 mm	25 mm	MD055	\$7.60
.56 mm	4.5 mm		.0220"	1.5 mm	25 mm	MD056	\$7.60
.57 mm	4.5 mm	# 74	.0224"	1.5 mm	25 mm	MD057	\$7.60
.58 mm	4.5 mm		.0228"	1.5 mm	25 mm	MD058	\$7.60
.59 mm	4.5 mm		.0232"	1.5 mm	25 mm	MD059	\$7.60
.60 mm	4.5 mm		.0236"	1.5 mm	25 mm	MD060	\$7.60
.61 mm	4.7 mm	# 73	.0240"	1.5 mm	25 mm	MD061	\$7.60
.62 mm	4.7 mm		.0244"	1.5 mm	25 mm	MD062	\$7.60
.63 mm	4.7 mm	# 72	.0248"	1.5 mm	25 mm	MD063	\$7.60
.64 mm	4.7 mm		.0252"	1.5 mm	25 mm	MD064	\$7.60
.65 mm	4.7 mm		.0256"	1.5 mm	25 mm	MD065	\$7.60
.66 mm	4.7 mm	# 71	.0260"	1.5 mm	25 mm	MD066	\$7.60
.67 mm	4.7 mm		.0264"	1.5 mm	25 mm	MD067	\$7.60
.68 mm	5.2 mm		.0268"	1.5 mm	25 mm	MD068	\$7.60
.69 mm	5.2 mm		.0272"	1.5 mm	25 mm	MD069	\$7.60
.70 mm	5.2 mm		.0276"	1.5 mm	25 mm	MD070	\$7.60

***SOLD IN MULTIPLES OF FIVE**



METRIC MICRO DRILLS

.71 mm - 1.00 mm

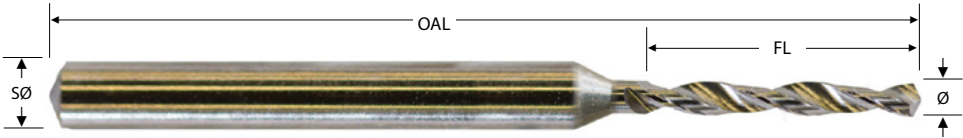
- Superior quality Twist Drills made of M42 Cobalt
- Guaranteed to meet geometry specifications
- Four facet point - Self-centering, more accurate holes, longer drill life
- Size range = 0.10 mm - 3.00 mm (.004"-.118")
- Packaged and sold in quantities of 5 pieces per size
- Left hand available by special order
- 120 Deg. Drill Point

DIAMETER	FLUTE LENGTH	WIRE SIZE	DIA (INCH)	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)		(Ø)	(SØ)		2 FLUTE	
.71 mm	5.2 mm	# 70	.0280"	1.5 mm	25 mm	MD071	\$7.60
.72 mm	5.2 mm		.0283"	1.5 mm	25 mm	MD072	\$7.60
.73 mm	5.2 mm		.0287"	1.5 mm	25 mm	MD073	\$7.60
.74 mm	5.2 mm	# 69	.0291"	1.5 mm	25 mm	MD074	\$7.60
.75 mm	5.2 mm		.0295"	1.5 mm	25 mm	MD075	\$7.60
.76 mm	5.5 mm		.0299"	1.5 mm	25 mm	MD076	\$7.60
.77 mm	5.5 mm		.0303"	1.5 mm	25 mm	MD077	\$7.60
.78 mm	5.5 mm		.0307"	1.5 mm	25 mm	MD078	\$7.60
.79 mm	5.5 mm	# 68	.0311"	1.5 mm	25 mm	MD079	\$7.60
.80 mm	5.5 mm		.0315"	1.5 mm	25 mm	MD080	\$7.60
.81 mm	5.5 mm	# 67	.0319"	1.5 mm	25 mm	MD081	\$7.60
.82 mm	5.5 mm		.0323"	1.5 mm	25 mm	MD082	\$7.60
.83 mm	5.5 mm		.0327"	1.5 mm	25 mm	MD083	\$7.60
.84 mm	5.5 mm	# 66	.0331"	1.5 mm	25 mm	MD084	\$7.60
.85 mm	5.5 mm		.0335"	1.5 mm	25 mm	MD085	\$7.60
.86 mm	6 mm		.0339"	1.5 mm	25 mm	MD086	\$7.60
.87 mm	6 mm		.0343"	1.5 mm	25 mm	MD087	\$7.60
.88 mm	6 mm		.0346"	1.5 mm	25 mm	MD088	\$7.60
.89 mm	6 mm	# 65	.0350"	1.5 mm	25 mm	MD089	\$7.60
.90 mm	6 mm		.0354"	1.5 mm	25 mm	MD090	\$7.60
.91 mm	6 mm	# 64	.0358"	1.5 mm	25 mm	MD091	\$7.60
.92 mm	6 mm		.0362"	1.5 mm	25 mm	MD092	\$7.60
.93 mm	6 mm		.0366"	1.5 mm	25 mm	MD093	\$7.60
.94 mm	6 mm	# 63	.0370"	1.5 mm	25 mm	MD094	\$7.60
.95 mm	6 mm		.0374"	1.5 mm	25 mm	MD095	\$7.60
.96 mm	6.5 mm	# 62	.0378"	1.5 mm	25 mm	MD096	\$7.60
.97 mm	6.5 mm		.0382"	1.5 mm	25 mm	MD097	\$7.60
.98 mm	6.5 mm		.0386"	1.5 mm	25 mm	MD098	\$7.60
.99 mm	6.5 mm	# 61	.0390"	1.5 mm	25 mm	MD099	\$7.60
1.00 mm	6.5 mm		.0394"	1.5 mm	25 mm	MD100	\$7.60

***SOLD IN MULTIPLES OF FIVE**

METRIC MICRO DRILLS

1.01 mm - 1.30 mm



DIAMETER	FLUTE LENGTH	WIRE SIZE	DIA (INCH)	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)		(Ø)	(SØ)		2 FLUTE	
1.01 mm	6.5 mm	# 60	.0398"	1.5 mm	25 mm	MD101	\$7.60
1.02 mm	6.5 mm		.0402"	1.5 mm	25 mm	MD102	\$7.60
1.03 mm	6.5 mm		.0406"	1.5 mm	25 mm	MD103	\$7.60
1.04 mm	6.5 mm	# 59	.0409"	1.5 mm	25 mm	MD104	\$7.60
1.05 mm	6.5 mm		.0413"	1.5 mm	25 mm	MD105	\$7.60
1.06 mm	7 mm		.0417"	1.5 mm	25 mm	MD106	\$7.60
1.07 mm	7 mm	# 58	.0421"	1.5 mm	25 mm	MD107	\$7.60
1.08 mm	7 mm		.0425"	1.5 mm	25 mm	MD108	\$7.60
1.09 mm	7 mm	# 57	.0429"	1.5 mm	25 mm	MD109	\$7.60
1.10 mm	7 mm		.0433"	1.5 mm	25 mm	MD110	\$7.60
1.11 mm	7 mm		.0437"	1.5 mm	25 mm	MD111	\$7.60
1.12 mm	7 mm		.0441"	1.5 mm	25 mm	MD112	\$7.60
1.13 mm	7 mm		.0445"	1.5 mm	25 mm	MD113	\$7.60
1.14 mm	7 mm		.0449"	1.5 mm	25 mm	MD114	\$7.60
1.15 mm	7 mm		.0453"	1.5 mm	25 mm	MD115	\$7.60
1.16 mm	7.5 mm		.0457"	1.5 mm	25 mm	MD116	\$7.60
1.17 mm	7.5 mm		.0461"	1.5 mm	25 mm	MD117	\$7.60
1.18 mm	7.5 mm	# 56	.0465"	1.5 mm	25 mm	MD118	\$7.60
1.19 mm	7.5 mm	3/64	.0469"	1.5 mm	25 mm	MD119	\$7.60
1.20 mm	7.5 mm		.0472"	1.5 mm	25 mm	MD120	\$7.60
1.21 mm	7.5 mm		.0476"	1.5 mm	25 mm	MD121	\$7.60
1.22 mm	7.5 mm		.0480"	1.5 mm	25 mm	MD122	\$7.60
1.23 mm	7.5 mm		.0484"	1.5 mm	25 mm	MD123	\$7.60
1.24 mm	7.5 mm		.0488"	1.5 mm	25 mm	MD124	\$7.60
1.25 mm	7.5 mm		.0492"	1.5 mm	25 mm	MD125	\$7.60
1.26 mm	7.5 mm		.0496"	1.5 mm	25 mm	MD126	\$7.60
1.27 mm	7.5 mm		.0500"	1.5 mm	25 mm	MD127	\$7.60
1.28 mm	7.5 mm		.0504"	1.5 mm	25 mm	MD128	\$7.60
1.29 mm	7.5 mm		.0508"	1.5 mm	25 mm	MD129	\$7.60
1.30 mm	7.5 mm		.0512"	1.5 mm	25 mm	MD130	\$7.60

***SOLD IN MULTIPLES OF FIVE**



METRIC MICRO DRILLS

1.31 mm - 1.60 mm

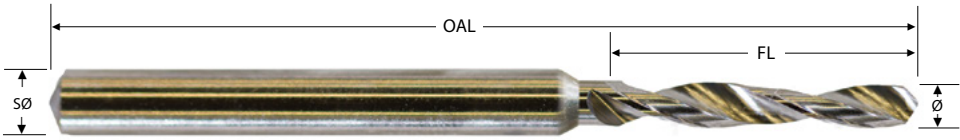
- Superior quality Twist Drills made of M42 Cobalt
- Guaranteed to meet geometry specifications
- Four facet point - Self-centering, more accurate holes, longer drill life
- Size range = 0.10 mm - 3.00 mm (.004"-.118")
- Packaged and sold in quantities of 5 pieces per size
- Left hand available by special order
- 120 Deg. Drill Point

DIAMETER	FLUTE LENGTH	WIRE SIZE	DIA (INCH)	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)		(Ø)	(SØ)		2 FLUTE	
1.31 mm	8.5 mm		.0516"	1.5 mm	25 mm	MD131	\$7.60
1.32 mm	8.5 mm	# 55	.0520"	1.5 mm	25 mm	MD132	\$7.60
1.33 mm	8.5 mm		.0524"	1.5 mm	25 mm	MD133	\$7.60
1.34 mm	8.5 mm		.0528"	1.5 mm	25 mm	MD134	\$7.60
1.35 mm	8.5 mm		.0531"	1.5 mm	25 mm	MD135	\$7.60
1.36 mm	8.5 mm		.0535"	1.5 mm	25 mm	MD136	\$7.60
1.37 mm	8.5 mm		.0539"	1.5 mm	25 mm	MD137	\$7.60
1.38 mm	8.5 mm		.0543"	1.5 mm	25 mm	MD138	\$7.60
1.39 mm	8.5 mm		.0547"	1.5 mm	25 mm	MD139	\$7.60
1.40 mm	8.5 mm	# 54	.0551"	1.5 mm	25 mm	MD140	\$7.60
1.41 mm	8.5 mm		.0555"	1.5 mm	25 mm	MD141	\$7.60
1.42 mm	8.5 mm		.0559"	1.5 mm	25 mm	MD142	\$7.60
1.43 mm	8.5 mm		.0563"	1.5 mm	25 mm	MD143	\$7.60
1.44 mm	8.5 mm		.0567"	1.5 mm	25 mm	MD144	\$7.60
1.45 mm	8.5 mm		.0571"	1.5 mm	25 mm	MD145	\$7.60
1.46 mm	8.5 mm		.0575"	1.5 mm	25 mm	MD146	\$7.60
1.47 mm	8.5 mm		.0579"	1.5 mm	25 mm	MD147	\$7.60
1.48 mm	8.5 mm		.0583"	1.5 mm	25 mm	MD148	\$7.60
1.49 mm	8.5 mm		.0587"	1.5 mm	25 mm	MD149	\$7.60
1.50 mm	10 mm		.0591"	2 mm	35 mm	MD150	\$7.60
1.51 mm	10 mm	# 53	.0594"	2 mm	35 mm	MD151	\$8.60
1.52 mm	10 mm		.0598"	2 mm	35 mm	MD152	\$8.60
1.53 mm	10 mm		.0602"	2 mm	35 mm	MD153	\$8.60
1.54 mm	10 mm		.0606"	2 mm	35 mm	MD154	\$8.60
1.55 mm	10 mm		.0610"	2 mm	35 mm	MD155	\$8.60
1.56 mm	10 mm		.0614"	2 mm	35 mm	MD156	\$8.60
1.57 mm	10 mm		.0618"	2 mm	35 mm	MD157	\$8.60
1.58 mm	10 mm		.0622"	2 mm	35 mm	MD158	\$8.60
1.59 mm	10 mm	1/16	.0626"	2 mm	35 mm	MD159	\$8.60
1.60 mm	10 mm		.0630"	2 mm	35 mm	MD160	\$8.60

***SOLD IN MULTIPLES OF FIVE**

METRIC MICRO DRILLS

1.61 mm - 1.90 mm



DIAMETER	FLUTE LENGTH	WIRE SIZE	DIA (INCH)	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)		(Ø)	(SØ)		2 FLUTE	
1.61 mm	10 mm	# 52	.0634"	2 mm	35 mm	MD161	\$8.60
1.62 mm	10 mm		.0638"	2 mm	35 mm	MD162	\$8.60
1.63 mm	10 mm		.0642"	2 mm	35 mm	MD163	\$8.60
1.64 mm	10 mm		.0646"	2 mm	35 mm	MD164	\$8.60
1.65 mm	10 mm		.0650"	2 mm	35 mm	MD165	\$8.60
1.66 mm	10 mm		.0654"	2 mm	35 mm	MD166	\$8.60
1.67 mm	10 mm		.0657"	2 mm	35 mm	MD167	\$8.60
1.68 mm	10 mm		.0661"	2 mm	35 mm	MD168	\$8.60
1.69 mm	10 mm		.0665"	2 mm	35 mm	MD169	\$8.60
1.70 mm	10 mm	# 51	.0669"	2 mm	35 mm	MD170	\$8.60
1.71 mm	10 mm		.0673"	2 mm	35 mm	MD171	\$8.60
1.72 mm	10 mm		.0677"	2 mm	35 mm	MD172	\$8.60
1.73 mm	10 mm		.0681"	2 mm	35 mm	MD173	\$8.60
1.74 mm	10 mm		.0685"	2 mm	35 mm	MD174	\$8.60
1.75 mm	10 mm		.0689"	2 mm	35 mm	MD175	\$8.60
1.76 mm	10 mm		.0693"	2 mm	35 mm	MD176	\$8.60
1.77 mm	11 mm		.0697"	2 mm	35 mm	MD177	\$8.60
1.78 mm	11 mm	# 50	.0701"	2 mm	35 mm	MD178	\$8.60
1.79 mm	11 mm		.0705"	2 mm	35 mm	MD179	\$8.60
1.80 mm	11 mm		.0709"	2 mm	35 mm	MD180	\$8.60
1.81 mm	11 mm		.0713"	2 mm	35 mm	MD181	\$8.60
1.82 mm	11 mm		.0717"	2 mm	35 mm	MD182	\$8.60
1.83 mm	11 mm		.0720"	2 mm	35 mm	MD183	\$8.60
1.84 mm	11 mm		.0724"	2 mm	35 mm	MD184	\$8.60
1.85 mm	11 mm	# 49	.0728"	2 mm	35 mm	MD185	\$8.60
1.86 mm	11 mm		.0732"	2 mm	35 mm	MD186	\$8.60
1.87 mm	11 mm		.0736"	2 mm	35 mm	MD187	\$8.60
1.88 mm	11 mm		.0740"	2 mm	35 mm	MD188	\$8.60
1.89 mm	11 mm		.0744"	2 mm	35 mm	MD189	\$8.60
1.90 mm	11 mm		.0748"	2 mm	35 mm	MD190	\$8.60

***SOLD IN MULTIPLES OF FIVE**

METRIC MICRO DRILLS

1.91 mm - 2.20 mm

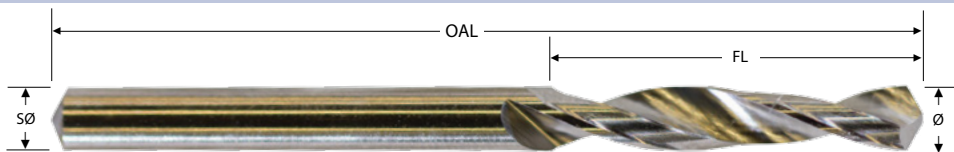
- Superior quality Twist Drills made of M42 Cobalt
- Guaranteed to meet geometry specifications
- Four facet point - Self-centering, more accurate holes, longer drill life
- Size range = 0.10 mm - 3.00 mm (.004"-.118")
- Packaged and sold in quantities of 5 pieces per size
- Left hand available by special order
- 120 Deg. Drill Point

DIAMETER	FLUTE LENGTH	WIRE SIZE	DIA (INCH)	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)		(Ø)	(SØ)		2 FLUTE	
1.91 mm	11 mm		.0752"	2 mm	35 mm	MD191	\$8.60
1.92 mm	11 mm		.0756"	2 mm	35 mm	MD192	\$8.60
1.93 mm	11 mm	# 48	.0760"	2 mm	35 mm	MD193	\$8.60
1.94 mm	11 mm		.0764"	2 mm	35 mm	MD194	\$8.60
1.95 mm	11 mm		.0768"	2 mm	35 mm	MD195	\$8.60
1.96 mm	11 mm		.0772"	2 mm	35 mm	MD196	\$8.60
1.97 mm	11 mm		.0776"	2 mm	35 mm	MD197	\$8.60
1.98 mm	11 mm	5/64	.0780"	2 mm	35 mm	MD198	\$8.60
1.99 mm	11 mm	# 47	.0783"	2 mm	35 mm	MD199	\$8.60
2.00 mm	11 mm		.0787"	2 mm	35 mm	MD200	\$8.60
2.01 mm	12 mm		.0791"	2.5 mm	35 mm	MD201	\$8.60
2.02 mm	12 mm		.0795"	2.5 mm	35 mm	MD202	\$8.60
2.03 mm	12 mm		.0799"	2.5 mm	35 mm	MD203	\$8.60
2.04 mm	12 mm		.0803"	2.5 mm	35 mm	MD204	\$8.60
2.05 mm	12 mm		.0807"	2.5 mm	35 mm	MD205	\$8.60
2.06 mm	12 mm	# 46	.0811"	2.5 mm	35 mm	MD206	\$8.60
2.07 mm	12 mm		.0815"	2.5 mm	35 mm	MD207	\$8.60
2.08 mm	12 mm	# 45	.0819"	2.5 mm	35 mm	MD208	\$8.60
2.09 mm	12 mm		.0823"	2.5 mm	35 mm	MD209	\$8.60
2.10 mm	12 mm		.0827"	2.5 mm	35 mm	MD210	\$8.60
2.11 mm	12 mm		.0831"	2.5 mm	35 mm	MD211	\$8.60
2.12 mm	12 mm		.0835"	2.5 mm	35 mm	MD212	\$8.60
2.13 mm	12 mm		.0839"	2.5 mm	35 mm	MD213	\$8.60
2.14 mm	12 mm		.0843"	2.5 mm	35 mm	MD214	\$8.60
2.15 mm	12 mm		.0846"	2.5 mm	35 mm	MD215	\$8.60
2.16 mm	12 mm		.0850"	2.5 mm	35 mm	MD216	\$8.60
2.17 mm	12 mm		.0854"	2.5 mm	35 mm	MD217	\$8.60
2.18 mm	12 mm	# 44	.0858"	2.5 mm	35 mm	MD218	\$8.60
2.19 mm	12 mm		.0862"	2.5 mm	35 mm	MD219	\$8.60
2.20 mm	12 mm		.0866"	2.5 mm	35 mm	MD220	\$8.60

***SOLD IN MULTIPLES OF FIVE**

METRIC MICRO DRILLS

2.21 mm - 2.50 mm



DIAMETER	FLUTE LENGTH	WIRE SIZE	DIA (INCH)	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)		(Ø)	(SØ)		2 FLUTE	
2.21 mm	14 mm		.0870"	2.5 mm	35 mm	MD221	\$8.60
2.22 mm	14 mm		.0874"	2.5 mm	35 mm	MD222	\$8.60
2.23 mm	14 mm		.0878"	2.5 mm	35 mm	MD223	\$8.60
2.24 mm	14 mm		.0882"	2.5 mm	35 mm	MD224	\$8.60
2.25 mm	14 mm		.0886"	2.5 mm	35 mm	MD225	\$8.60
2.26 mm	14 mm	# 43	.0890"	2.5 mm	35 mm	MD226	\$8.60
2.27 mm	14 mm		.0894"	2.5 mm	35 mm	MD227	\$8.60
2.28 mm	14 mm		.0898"	2.5 mm	35 mm	MD228	\$8.60
2.29 mm	14 mm		.0902"	2.5 mm	35 mm	MD229	\$8.60
2.30 mm	14 mm		.0906"	2.5 mm	35 mm	MD230	\$8.60
2.31 mm	14 mm		.0909"	2.5 mm	35 mm	MD231	\$8.60
2.32 mm	14 mm		.0913"	2.5 mm	35 mm	MD232	\$8.60
2.33 mm	14 mm		.0917"	2.5 mm	35 mm	MD233	\$8.60
2.34 mm	14 mm		.0921"	2.5 mm	35 mm	MD234	\$8.60
2.35 mm	14 mm		.0925"	2.5 mm	35 mm	MD235	\$8.60
2.36 mm	14 mm		.0929"	2.5 mm	35 mm	MD236	\$8.60
2.37 mm	14 mm		.0933"	2.5 mm	35 mm	MD237	\$8.60
2.38 mm	14 mm	3/32	.0937"	2.5 mm	35 mm	MD238	\$8.60
2.39 mm	14 mm		.0941"	2.5 mm	35 mm	MD239	\$8.60
2.40 mm	14 mm		.0945"	2.5 mm	35 mm	MD240	\$8.60
2.41 mm	14 mm		.0949"	2.5 mm	35 mm	MD241	\$8.60
2.42 mm	14 mm		.0953"	2.5 mm	35 mm	MD242	\$8.60
2.43 mm	14 mm		.0957"	2.5 mm	35 mm	MD243	\$8.60
2.44 mm	14 mm	# 41	.0961"	2.5 mm	35 mm	MD244	\$8.60
2.45 mm	14 mm		.0965"	2.5 mm	35 mm	MD245	\$8.60
2.46 mm	14 mm		.0969"	2.5 mm	35 mm	MD246	\$8.60
2.47 mm	14 mm		.0972"	2.5 mm	35 mm	MD247	\$8.60
2.48 mm	14 mm		.0976"	2.5 mm	35 mm	MD248	\$8.60
2.49 mm	14 mm	# 40	.0980"	2.5 mm	35 mm	MD249	\$8.60
2.50 mm	14 mm		.0984"	2.5 mm	35 mm	MD250	\$8.60

***SOLD IN MULTIPLES OF FIVE**



METRIC MICRO DRILLS

2.51 mm - 2.80 mm

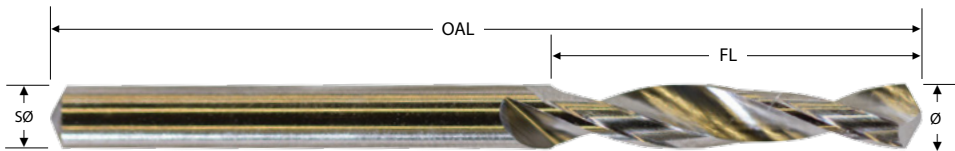
- Superior quality Twist Drills made of M42 Cobalt
- Guaranteed to meet geometry specifications
- Four facet point - Self-centering, more accurate holes, longer drill life
- Size range = 0.10 mm - 3.00 mm (.004"-.118")
- Packaged and sold in quantities of 5 pieces per size
- Left hand available by special order
- 120 Deg. Drill Point

DIAMETER	FLUTE LENGTH	WIRE SIZE	DIA (INCH)	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)		(Ø)	(SØ)		2 FLUTE	
2.51 mm	16 mm		.0988"	3 mm	40 mm	MD251	\$8.60
2.52 mm	16 mm		.0992"	3 mm	40 mm	MD252	\$8.60
2.53 mm	16 mm	# 39	.0996"	3 mm	40 mm	MD253	\$8.60
2.54 mm	16 mm		.1000"	3 mm	40 mm	MD254	\$8.60
2.55 mm	16 mm		.1004"	3 mm	40 mm	MD255	\$8.60
2.56 mm	16 mm		.1008"	3 mm	40 mm	MD256	\$8.60
2.57 mm	16 mm		.1012"	3 mm	40 mm	MD257	\$8.60
2.58 mm	16 mm	# 38	.1016"	3 mm	40 mm	MD258	\$8.60
2.59 mm	16 mm		.1020"	3 mm	40 mm	MD259	\$8.60
2.60 mm	16 mm		.1024"	3 mm	40 mm	MD260	\$8.60
2.61 mm	16 mm		.1028"	3 mm	40 mm	MD261	\$8.60
2.62 mm	16 mm		.1031"	3 mm	40 mm	MD262	\$8.60
2.63 mm	16 mm		.1035"	3 mm	40 mm	MD263	\$8.60
2.64 mm	16 mm	# 37	.1039"	3 mm	40 mm	MD264	\$8.60
2.65 mm	16 mm		.1043"	3 mm	40 mm	MD265	\$8.60
2.66 mm	16 mm		.1047"	3 mm	40 mm	MD266	\$8.60
2.67 mm	16 mm		.1051"	3 mm	40 mm	MD267	\$8.60
2.68 mm	16 mm		.1055"	3 mm	40 mm	MD268	\$8.60
2.69 mm	16 mm		.1059"	3 mm	40 mm	MD269	\$8.60
2.70 mm	16 mm	# 36	.1063"	3 mm	40 mm	MD270	\$8.60
2.71 mm	16 mm		.1067"	3 mm	40 mm	MD271	\$8.60
2.72 mm	16 mm		.1071"	3 mm	40 mm	MD272	\$8.60
2.73 mm	16 mm		.1075"	3 mm	40 mm	MD273	\$8.60
2.74 mm	16 mm		.1079"	3 mm	40 mm	MD274	\$8.60
2.75 mm	16 mm		.1083"	3 mm	40 mm	MD275	\$8.60
2.76 mm	16 mm		.1087"	3 mm	40 mm	MD276	\$8.60
2.77 mm	16 mm		.1091"	3 mm	40 mm	MD277	\$8.60
2.78 mm	18 mm	7/64	.1094"	3 mm	40 mm	MD278	\$8.60
2.79 mm	18 mm	# 35	.1098"	3 mm	40 mm	MD279	\$8.60
2.80 mm	18 mm		.1102"	3 mm	40 mm	MD280	\$8.60

***SOLD IN MULTIPLES OF FIVE**

METRIC MICRO DRILLS

2.81 mm - 3.00 mm



DIAMETER	FLUTE LENGTH	WIRE SIZE	DIA (INCH)	SHANK Ø	OAL	RMT PART	LIST PRICE
(Ø)	(FL)		(Ø)	(SØ)		2 FLUTE	
2.81 mm	18 mm		.1106"	3 mm	40 mm	MD281	\$8.60
2.82 mm	18 mm	# 34	.1110"	3 mm	40 mm	MD282	\$8.60
2.83 mm	18 mm		.1114"	3 mm	40 mm	MD283	\$8.60
2.84 mm	18 mm		.1118"	3 mm	40 mm	MD284	\$8.60
2.85 mm	18 mm		.1122"	3 mm	40 mm	MD285	\$8.60
2.86 mm	18 mm		.1126"	3 mm	40 mm	MD286	\$8.60
2.87 mm	18 mm	# 33	.1130"	3 mm	40 mm	MD287	\$8.60
2.88 mm	18 mm		.1134"	3 mm	40 mm	MD288	\$8.60
2.89 mm	18 mm		.1138"	3 mm	40 mm	MD289	\$8.60
2.90 mm	18 mm		.1142"	3 mm	40 mm	MD290	\$8.60
2.91 mm	18 mm		.1146"	3 mm	40 mm	MD291	\$8.60
2.92 mm	18 mm		.1150"	3 mm	40 mm	MD292	\$8.60
2.93 mm	18 mm		.1154"	3 mm	40 mm	MD293	\$8.60
2.94 mm	18 mm		.1157"	3 mm	40 mm	MD294	\$8.60
2.95 mm	18 mm	# 32	.1161"	3 mm	40 mm	MD295	\$8.60
2.96 mm	18 mm		.1165"	3 mm	40 mm	MD296	\$8.60
2.97 mm	18 mm		.1169"	3 mm	40 mm	MD297	\$8.60
2.98 mm	18 mm		.1173"	3 mm	40 mm	MD298	\$8.60
2.99 mm	18 mm		.1177"	3 mm	40 mm	MD299	\$8.60
3.00 mm	18 mm		.1181"	3 mm	40 mm	MD300	\$8.60

***SOLD IN MULTIPLES OF FIVE**

COBALT DRILL AND COUNTERSINK 60 DEGREE

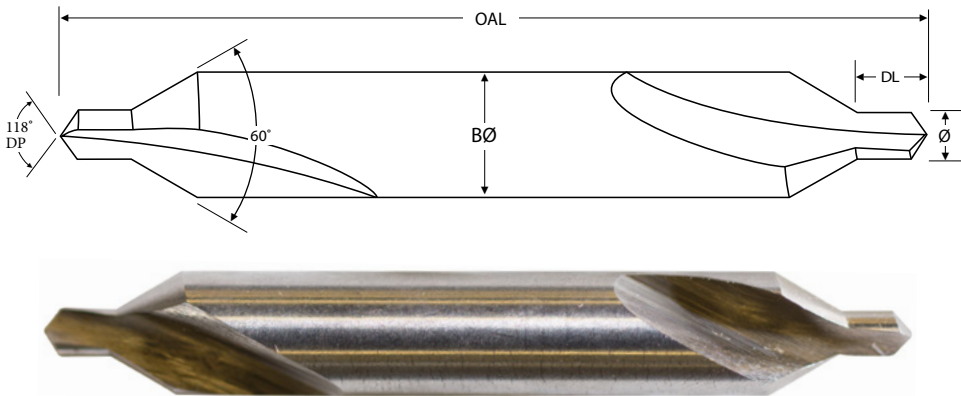
- Use: General Purpose
- Helix: 24 Degrees
- Hand: RHS/ RHC
- Center Cutting: Yes
- 118° Drill Point
- Diameter Tolerance: +/-0.0015



SIZE	DRILL DIAMETER	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 60°	Ø .010"	.010"	Ø 1/8"	1-1/4"	501-0100	\$32.88
#0000 x 60°	Ø .015"	.015"	Ø 1/8"	1-1/4"	501-0150	\$31.95
#000 x 60°	Ø .020"	.020"	Ø 1/8"	1-1/4"	501-0200	\$21.70
#00 x 60°	Ø .025"	.025"	Ø 1/8"	1-1/4"	501-0250	\$21.70
#0 x 60°	Ø .031"	.031"	Ø 1/8"	1-1/4"	501-0310	\$21.70
#1-0 x 60°	Ø .040"	.040"	Ø 1/8"	1-1/4"	501-0400	\$35.88
#1 x 60°	Ø 3/64" (.047")	3/64"	Ø 1/8"	1-1/4"	501-0001	\$11.77
#2 x 60°	Ø 5/64" (.078")	5/64"	Ø 3/16"	1-7/8"	501-0002	\$12.15
#3 x 60°	Ø 7/64" (.109")	7/64"	Ø 1/4"	2"	501-0003	\$12.54
#4 x 60°	Ø 1/8" (.125")	1/8"	Ø 5/16"	2-1/8"	501-0004	\$13.06
#4½ x 60°	Ø 9/64" (.141")	9/64"	Ø 3/8"	2-1/2"	501-0045	\$19.41
#5 x 60°	Ø 3/16" (.1875")	3/16"	Ø 7/16"	2-3/4"	501-0005	\$20.59
#6 x 60°	Ø 7/32" (.219")	7/32"	Ø 1/2"	3"	501-0006	\$31.93
#7 x 60°	Ø 1/4" (.250")	1/4"	Ø 5/8"	3-1/4"	501-0007	\$48.05
#8 x 60°	Ø 5/16" (.3125")	5/16"	Ø 3/4"	3-1/2"	501-0008	\$68.02

HSS DRILL AND COUNTERSINK

60 DEGREE



SIZE	DRILL DIAMETER	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 60°	Ø .010"	.010"	Ø 1/8"	1-1/4"	801-0100	\$8.36
#0000 x 60°	Ø .015"	.015"	Ø 1/8"	1-1/4"	801-0150	\$7.67
#000 x 60°	Ø .020"	.020"	Ø 1/8"	1-1/4"	801-0200	\$7.27
#00 x 60°	Ø .025"	.025"	Ø 1/8"	1-1/4"	801-0250	\$7.27
#0 x 60°	Ø .031"	.031"	Ø 1/8"	1-1/4"	801-0310	\$7.27
#1-0 x 60°	Ø .040"	.040"	Ø 1/8"	1-1/4"	801-0400	\$13.05
#1 x 60°	Ø 3/64" (.047")	3/64"	Ø 1/8"	1-1/4"	801-0001	\$5.07
#2 x 60°	Ø 5/64" (.078")	5/64"	Ø 3/16"	1-7/8"	801-0002	\$5.30
#3 x 60°	Ø 7/64" (.109")	7/64"	Ø 1/4"	2"	801-0003	\$5.53
#4 x 60°	Ø 1/8" (.125")	1/8"	Ø 5/16"	2-1/8"	801-0004	\$5.70
#4½ x 60°	Ø 9/64" (.141")	9/64"	Ø 3/8"	2-1/2"	801-0045	\$7.83
#5 x 60°	Ø 3/16" (.1875")	3/16"	Ø 7/16"	2-3/4"	801-0005	\$9.01
#6 x 60°	Ø 7/32" (.219")	7/32"	Ø 1/2"	3"	801-0006	\$13.57
#7 x 60°	Ø 1/4" (.250")	1/4"	Ø 5/8"	3-1/4"	801-0007	\$20.59
#8 x 60°	Ø 5/16" (.3125")	5/16"	Ø 3/4"	3-1/2"	801-0008	\$28.28

SIZE	DRILL DIAMETER	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#000 x 60°	Ø .020"	.020"	Ø 3/32"	1-1/8"	801-3200	\$8.36
#00 x 60°	Ø .025"	.025"	Ø 3/32"	1-1/8"	801-3250	\$8.36
#0 x 60°	Ø .031"	.031"	Ø 3/32"	1-1/8"	801-3310	\$8.36

HSS DRILL AND COUNTERSINK 82 DEGREE

- Use: General Purpose
- Helix: 24 Degrees
- Hand: RHS/ RHC
- Center Cutting: Yes
- 118° Drill Point
- Diameter Tolerance: +/-0.0015



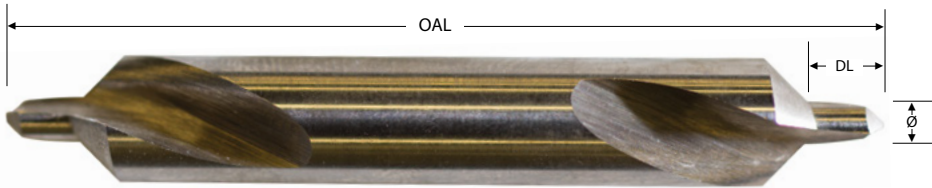
SIZE	DRILL DIAMETER	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 82°	Ø .010"	.010"	Ø 1/8"	1-1/4"	181-0100	\$28.89
#0000 x 82°	Ø .015"	.015"	Ø 1/8"	1-1/4"	181-0150	\$28.89
#000 x 82°	Ø .020"	.020"	Ø 1/8"	1-1/4"	181-0200	\$18.50
#00 x 82°	Ø .025"	.025"	Ø 1/8"	1-1/4"	181-0250	\$18.50
#0 x 82°	Ø .031"	.031"	Ø 1/8"	1-1/4"	181-0310	\$18.50
#1 x 82°	Ø 3/64" (.047")	3/64"	Ø 1/8"	1-1/4"	181-0001	\$8.29
#2 x 82°	Ø 5/64" (.078")	5/64"	Ø 3/16"	1-7/8"	181-0002	\$8.49
#3 x 82°	Ø 7/64" (.109")	7/64"	Ø 1/4"	2"	181-0003	\$8.78
#4 x 82°	Ø 1/8" (.125")	1/8"	Ø 5/16"	2-1/8"	181-0004	\$9.13
#4½ x 82°	Ø 9/64" (.141")	9/64"	Ø 3/8"	2-1/2"	181-0045	\$12.50
#5 x 82°	Ø 3/16" (.1875")	3/16"	Ø 7/16"	2-3/4"	181-0005	\$13.91
#6 x 82°	Ø 7/32" (.219")	7/32"	Ø 1/2"	3"	181-0006	\$21.07
#7 x 82°	Ø 1/4" (.250")	1/4"	Ø 5/8"	3-1/4"	181-0007	\$29.81
#8 x 82°	Ø 5/16" (.3125")	5/16"	Ø 3/4"	3-1/2"	181-0008	\$41.80

HSS DRILL AND COUNTERSINK

90 DEGREE



- Use: General Purpose
- Helix: 24 Degrees
- Hand: RHS/ RHC
- Center Cutting: Yes
- 118° Drill Point
- Diameter Tolerance: +/-0.0015



SIZE	DRILL DIAMETER	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 90°	Ø .010"	.010"	Ø 1/8"	1-1/4"	191-0100	\$28.89
#0000 x 90°	Ø .015"	.015"	Ø 1/8"	1-1/4"	191-0150	\$28.89
#000 x 90°	Ø .020"	.020"	Ø 1/8"	1-1/4"	191-0200	\$18.50
#00 x 90°	Ø .025"	.025"	Ø 1/8"	1-1/4"	191-0250	\$18.50
#0 x 90°	Ø .031"	.031"	Ø 1/8"	1-1/4"	191-0310	\$18.50
#1 x 90°	Ø 3/64" (.047")	3/64"	Ø 1/8"	1-1/4"	191-0001	\$8.29
#2 x 90°	Ø 5/64" (.078")	5/64"	Ø 3/16"	1-7/8"	191-0002	\$8.49
#3 x 90°	Ø 7/64" (.109")	7/64"	Ø 1/4"	2"	191-0003	\$8.78
#4 x 90°	Ø 1/8" (.125")	1/8"	Ø 5/16"	2-1/8"	191-0004	\$9.13
#4½ x 90°	Ø 9/64" (.141")	9/64"	Ø 3/8"	2-1/2"	191-0045	\$12.50
#5 x 90°	Ø 3/16" (.1875")	3/16"	Ø 7/16"	2-3/4"	191-0005	\$13.91
#6 x 90°	Ø 7/32" (.219")	7/32"	Ø 1/2"	3"	191-0006	\$21.07
#7 x 90°	Ø 1/4" (.250")	1/4"	Ø 5/8"	3-1/4"	191-0007	\$29.81
#8 x 90°	Ø 5/16" (.3125")	5/16"	Ø 3/4"	3-1/2"	191-0008	\$41.80

HSS DRILL AND COUNTERSINK RADIAL AND BELL TYPE

- Use: General Purpose
- Helix: 24 Degrees
- Hand: RHS/ RHC
- Center Cutting: Yes
- 118° Drill Point
- Diameter Tolerance: +/-0.0015



BELL TYPE DRILL AND COUNTERSINK

SIZE	DRILL DIAMETER	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#11 x 60°	Ø 3/64" (.047")	3/64"	Ø 1/8"	1-1/4"	802-0011	\$6.03
#12 x 60°	Ø 1/16" (.0625")	1/16"	Ø 3/16"	1-7/8"	802-0012	\$6.33
#13 x 60°	Ø 3/32" (.0938")	3/32"	Ø 1/4"	2"	802-0013	\$6.43
#14 x 60°	Ø 7/64" (.109")	7/64"	Ø 5/16"	2-1/8"	802-0014	\$6.64
#15 x 60°	Ø 5/32" (.156")	5/32"	Ø 7/16"	2-3/4"	802-0015	\$10.10
#16 x 60°	Ø 3/16" (.1875")	3/16"	Ø 1/2"	3"	802-0016	\$15.57
#17 x 60°	Ø 7/32" (.219")	7/32"	Ø 5/8"	3-1/4"	802-0017	\$24.11
#18 x 60°	Ø 1/4" (.250")	1/4"	Ø 3/4"	3-1/2"	802-0018	\$31.95



RADIAL DRILL AND COUNTERSINK

SIZE	DRILL DIAMETER	RADIUS	BODY Ø	OAL	FORM LENGTH	RMT PART	LIST PRICE
	(Ø)		(BØ)			2 FLUTE	
#00000	Ø .010"	.070"	Ø 1/8"	1-1/4"	.068"	804-0100	\$8.01
#0000	Ø .015"	.085"	Ø 1/8"	1-1/4"	.083"	804-0150	\$8.01
#000	Ø .020"	9/64"	Ø 1/8"	1-1/4"	3/32"	804-0200	\$8.01
#00	Ø .025"	9/64"	Ø 1/8"	1-1/4"	7/64"	804-0250	\$8.01
#0	Ø .031"	9/64"	Ø 1/8"	1-1/4"	1/8"	804-0310	\$8.01
#1	Ø 3/64" (.047")	9/64"	Ø 1/8"	1-1/4"	1/8"	804-0001	\$6.26
#2	Ø 5/64" (.078")	7/32"	Ø 3/16"	1-7/8"	3/16"	804-0002	\$6.64
#3	Ø 7/64" (.109")	13/64"	Ø 1/4"	2"	1/4"	804-0003	\$7.19
#4	Ø 1/8" (.125")	1/4"	Ø 5/16"	2-1/8"	9/32"	804-0004	\$8.07
#5	Ø 3/16" (.1875")	5/16"	Ø 7/16"	2-3/4"	25/64"	804-0005	\$11.23

HSS DRILL AND COUNTERSINK

60 DEGREE



- Use: General Purpose
- Helix: 24 Degrees
- Hand: RHS/ RHC
- Center Cutting: Yes
- 118° Drill Point
- Diameter Tolerance: +/-0.0015

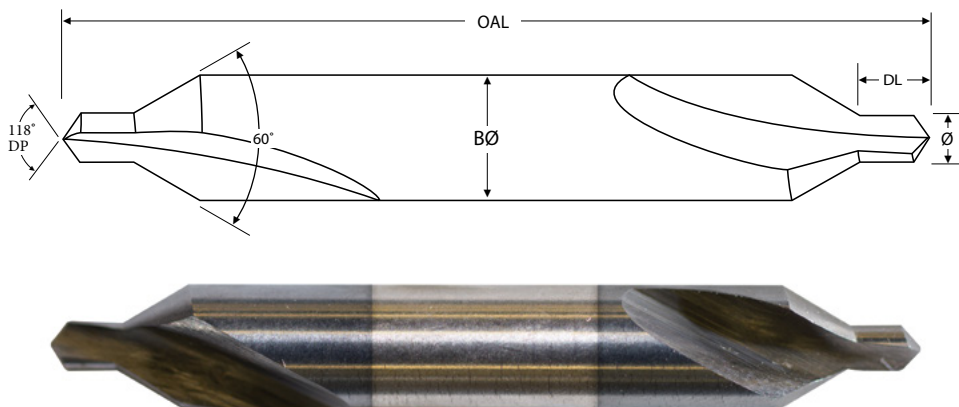


SIZE	DRILL DIAMETER (Ø)	DRILL LENGTH (DL)	BODY Ø (BØ)	OAL	RMT PART	LIST PRICE
					2 FLUTE	
#1 x 60°	Ø 3/64" (.047")	3/64"	Ø 1/8"	3"	803-0013	\$12.25
#1 x 60°	Ø 3/64" (.047")	3/64"	Ø 1/8"	4"	803-0014	\$12.79
#1 x 60°	Ø 3/64" (.047")	3/64"	Ø 1/8"	5"	803-0015	\$17.77
#1 x 60°	Ø 3/64" (.047")	3/64"	Ø 1/8"	6"	803-0016	\$23.27
#2 x 60°	Ø 5/64" (.078")	5/64"	Ø 3/16"	3"	803-0023	\$12.40
#2 x 60°	Ø 5/64" (.078")	5/64"	Ø 3/16"	4"	803-0024	\$14.02
#2 x 60°	Ø 5/64" (.078")	5/64"	Ø 3/16"	5"	803-0025	\$17.96
#2 x 60°	Ø 5/64" (.078")	5/64"	Ø 3/16"	6"	803-0026	\$23.36
#3 x 60°	Ø 7/64" (.109")	7/64"	Ø 1/4"	3"	803-0033	\$12.95
#3 x 60°	Ø 7/64" (.109")	7/64"	Ø 1/4"	4"	803-0034	\$14.76
#3 x 60°	Ø 7/64" (.109")	7/64"	Ø 1/4"	5"	803-0035	\$19.42
#3 x 60°	Ø 7/64" (.109")	7/64"	Ø 1/4"	6"	803-0036	\$23.57
#4 x 60°	Ø 1/8" (.125")	1/8"	Ø 5/16"	4"	803-0044	\$16.36
#4 x 60°	Ø 1/8" (.125")	1/8"	Ø 5/16"	5"	803-0045	\$20.92
#4 x 60°	Ø 1/8" (.125")	1/8"	Ø 5/16"	6"	803-0046	\$24.15
#4½ x 60°	Ø 9/64" (.141")	9/64"	Ø 3/8"	4"	803-0454	\$18.40
#4½ x 60°	Ø 9/64" (.141")	9/64"	Ø 3/8"	5"	803-0455	\$21.75
#4½ x 60°	Ø 9/64" (.141")	9/64"	Ø 3/8"	6"	803-0456	\$26.23
#5 x 60°	Ø 3/16" (.1875")	3/16"	Ø 7/16"	4"	803-0054	\$21.49
#5 x 60°	Ø 3/16" (.1875")	3/16"	Ø 7/16"	5"	803-0055	\$24.90
#5 x 60°	Ø 3/16" (.1875")	3/16"	Ø 7/16"	6"	803-0056	\$27.94
#6 x 60°	Ø 7/32" (.219")	7/32"	Ø 1/2"	5"	803-0065	\$26.75
#6 x 60°	Ø 7/32" (.219")	7/32"	Ø 1/2"	6"	803-0066	\$32.33
#7 x 60°	Ø 1/4" (.250")	1/4"	Ø 5/8"	6"	803-0076	\$60.24
#8 x 60°	Ø 5/16" (.3125")	5/16"	Ø 3/4"	6"	803-0086	\$65.06

HSS DRILL AND COUNTERSINK COATED 60 DEGREE

NEW!

- Use: General Purpose
- Helix: 24 Degrees
- Hand: RHS/ RHC
- 118° Drill Point
- Center Cutting: Yes
- Titanium Carbon Nitride Coated
- Diameter Tolerance: +/-0.0015



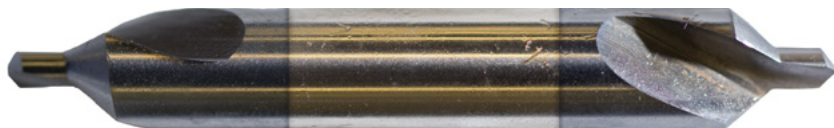
SIZE	DRILL DIAMETER	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 60°	Ø .010"	.010"	Ø 1/8"	1-1/4"	501T1-0100	\$36.40
#0000 x 60°	Ø .015"	.015"	Ø 1/8"	1-1/4"	501T1-0150	\$35.47
#000 x 60°	Ø .020"	.020"	Ø 1/8"	1-1/4"	501T1-0200	\$25.22
#00 x 60°	Ø .025"	.025"	Ø 1/8"	1-1/4"	501T1-0250	\$25.22
#0 x 60°	Ø .031"	.031"	Ø 1/8"	1-1/4"	501T1-0310	\$25.22
#1 x 60°	Ø 3/64" (.047")	3/64"	Ø 1/8"	1-1/4"	501T1-0001	\$15.29
#2 x 60°	Ø 5/64" (.078")	5/64"	Ø 3/16"	1-7/8"	501T1-0002	\$16.61
#3 x 60°	Ø 7/64" (.109")	7/64"	Ø 1/4"	2"	501T1-0003	\$19.49
#4 x 60°	Ø 1/8" (.125")	1/8"	Ø 5/16"	2-1/8"	501T1-0004	\$26.79
#5 x 60°	Ø 3/16" (.1875")	3/16"	Ø 7/16"	2-3/4"	501T1-0005	\$37.54
#6 x 60°	Ø 7/32" (.219")	7/32"	Ø 1/2"	3"	501T1-0006	\$48.88
#7 x 60°	Ø 1/4" (.250")	1/4"	Ø 5/8"	3-1/4"	501T1-0007	\$72.64
#8 x 60°	Ø 5/16" (.3125")	5/16"	Ø 3/4"	3-1/2"	501T1-0008	\$97.05

HSS DRILL AND COUNTERSINK COATED

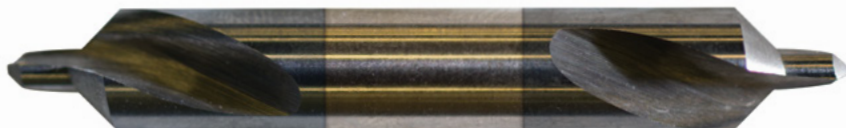
82 & 90 DEGREE

ANGLED
EDGE**.XXX**

· Titanium Carbon Nitride Coated

TICN

SIZE	DRILL DIAMETER	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 82°	Ø .010"	.010"	Ø 1/8"	1-1/4"	181T1-0100	\$32.41
#0000 x 82°	Ø .015"	.015"	Ø 1/8"	1-1/4"	181T1-0150	\$32.41
#000 x 82°	Ø .020"	.020"	Ø 1/8"	1-1/4"	181T1-0200	\$22.02
#00 x 82°	Ø .025"	.025"	Ø 1/8"	1-1/4"	181T1-0250	\$22.02
#0 x 82°	Ø .031"	.031"	Ø 1/8"	1-1/4"	181T1-0310	\$22.02
#1 x 82°	Ø 3/64" (.047")	3/64"	Ø 1/8"	1-1/4"	181T1-0001	\$11.81
#2 x 82°	Ø 5/64" (.078")	5/64"	Ø 3/16"	1-7/8"	181T1-0002	\$12.95
#3 x 82°	Ø 7/64" (.109")	7/64"	Ø 1/4"	2"	181T1-0003	\$15.73
#4 x 82°	Ø 1/8" (.125")	1/8"	Ø 5/16"	2-1/8"	181T1-0004	\$22.86
#5 x 82°	Ø 3/16" (.1875")	3/16"	Ø 7/16"	2-3/4"	181T1-0005	\$30.86
#6 x 82°	Ø 7/32" (.219")	7/32"	Ø 1/2"	3"	181T1-0006	\$38.02
#7 x 82°	Ø 1/4" (.250")	1/4"	Ø 5/8"	3-1/4"	181T1-0007	\$54.40
#8 x 82°	Ø 5/16" (.3125")	5/16"	Ø 3/4"	3-1/2"	181T1-0008	\$70.83



SIZE	DRILL DIAMETER	DRILL LENGTH	BODY Ø	OAL	RMT PART	LIST PRICE
	(Ø)	(DL)	(BØ)		2 FLUTE	
#00000 x 90°	Ø .010"	.010"	Ø 1/8"	1-1/4"	191T1-0100	\$32.41
#0000 x 90°	Ø .015"	.015"	Ø 1/8"	1-1/4"	191T1-0150	\$32.41
#000 x 90°	Ø .020"	.020"	Ø 1/8"	1-1/4"	191T1-0200	\$22.02
#00 x 90°	Ø .025"	.025"	Ø 1/8"	1-1/4"	191T1-0250	\$22.02
#0 x 90°	Ø .031"	.031"	Ø 1/8"	1-1/4"	191T1-0310	\$22.02
#1 x 90°	Ø 3/64" (.047")	3/64"	Ø 1/8"	1-1/4"	191T1-0001	\$11.81
#2 x 90°	Ø 5/64" (.078")	5/64"	Ø 3/16"	1-7/8"	191T1-0002	\$12.95
#3 x 90°	Ø 7/64" (.109")	7/64"	Ø 1/4"	2"	191T1-0003	\$15.73
#4 x 90°	Ø 1/8" (.125")	1/8"	Ø 5/16"	2-1/8"	191T1-0004	\$22.86
#5 x 90°	Ø 3/16" (.1875")	3/16"	Ø 7/16"	2-3/4"	191T1-0005	\$30.86
#6 x 90°	Ø 7/32" (.219")	7/32"	Ø 1/2"	3"	191T1-0006	\$38.02
#7 x 90°	Ø 1/4" (.250")	1/4"	Ø 5/8"	3-1/4"	191T1-0007	\$54.40
#8 x 90°	Ø 5/16" (.3125")	5/16"	Ø 3/4"	3-1/2"	191T1-0008	\$70.83

SERIES ID

SQUARE: 12000, 13000, 16000, 17000, 3-0000, 41000, 43000, 51000, 540, 542, 544, 547, 549, 551, 61000, 740, 809, 874, 875, 878, 879, 887, 888, 846, 856

BALL: 13000BN, 3-0000B, 42000, 44000, 52000, 541, 543, 545, 548, 550, 552, 62000, 742, 876, 880, 882, 883, 875XB, 887XB, 888XB

CORNER RADIUS: 12000CR, 14000CR, 875-CR, 879-CR, 741

ANGLED END: 181, 191, 501, 701, 702, 706, 802, 803, 818, 819, 839, 874DM, 875DM

COATED: -A-,AD, -C-, CVD, HM, -T1-

SERIES INDEX

12000-----63-64	549-0000-----163	706C-100-P100-----148
12000CR.000-----75	550-0000-----171	706C-100-R0000-----152
13000-----57	551-0000-----164	706C-200-F0000-----154
13000-C-----77	552-0000-----172	706C-200-R0000-----155
13000BN-----69	601-0000-----121	706D-200-F0000NF-----154
13000BN-C-----78	601C-0000-----123	740-000-----131
14000CR.000-----75	681-0000-----122	741-000-----132
16200-----61	681C-0000-----124	742-000-----132
16300-----73	691-0000-----122	801-0000-----184
17200-----61	691C-0000-----124	801-3000-----184
17300-----74	61000-----89	802-0000-----187
181-0000-----185	62000-----91	803-0000-----188
181T1-0000-----190	701-0000.82-----99	804-0000-----187
191-0000-----186	701-0000.90-----99	809-00-0000-----125
191T1-0000-----190	701-0000.100-----100	809-01-0000-----125
3-0000-----61	701-0000.120-----100	809-02-0000-----125
3-0000B-----74	701-0000.130-----100	809-03-0000-----125
3-0000RS-----58	701-0000.140-----101	809-10-0000-----126
3-0000RSB-----72	701-0000.150-----101	809-20-0000-----126
41000-----87	701-T0000.120-----102	809-21-0000-----126
42000-----88	701-T0000.140-----102	809-22-0000-----129
43000-----87	701-T0000.90-----102	809-30-0000-----129
44000-----88	701L-T0000.90-----102	809-31-0000-----129
501-0000-----183	701-000090-----103	809C-00-0000-----127
501T1-0000-----189	701-0000120-----103	809C-01-0000-----127
51000-----90	702-0000.90-----104	809C-02-0000-----127
52000-----92	702-0000.130-----104	809C-03-0000-----127
540-0000-----161	706-100-F0000-----149	809C-10-0000-----128
541-0000-----169	706-100-P100-----147	809C-20-0000-----128
542-0000-----163	706-100-R0000-----151	809C-21-0000-----128
543-0000-----171	706-200-F0000-----153	809C-22-0000-----130
544-0000-----164	706-200-R0000-----155	809C-30-0000-----130
545-0000-----172	706-200-F0000NF-----153	809C-31-0000-----130
547-0000-----162	706A-100-P100-----148	818-200-000-----135-137
548-0000-----170	706C-100-F0000-----150	818-400-000-----138

818-T300-000-----	139	875-CVD-.000-----	53	888X-.000-----	11
818-T400-000-----	140	875DM60-0000-----	134	888X-A-.000-----	48
818C-200-000-----	141-142	875DM90-0000-----	134	888XB-.000-----	25
818C-400-000-----	143	875X-LF-.000-----	18	888XB-A-.000-----	51
818C-T300-000-----	144	875X-F5R10CVD-.000----	54	888X-RL-.000-----	12-15
818C-T400-000-----	144	875XB-F5R10CVD-.000----	56	888XB-RL-.000-----	26-29
819-200-000-----	145	876-.000-----	23-24	888X-CVD-.000-----	53
819-400-000-----	145	876-0000-----	71	888XB-CVD-.000-----	55
819C-200-000-----	146	876-C-.000-----	42	888X-RCVD-.000-----	54
819C-400-000-----	146	876-C-0000-----	78	888XB-RCVD-.000-----	56
838F-2.000X.000-0----	111-112	878-.000-----	9-10	889MF-.000-----	19
838CF-2.000X.000-0----	119-120	878-0000-----	58	889MF-0000-----	62
839-2.000X.000-----	109-110	878-C-.000-----	38	AD12000-----	79
839-4.000X.000-----	110	878-C-0000-----	77	AD12000BN-----	83
839C-2.000X.000----	117-118	879-.000-----	9-10	AD14000-----	79
839C-4.000X.000-----	118	879-0000-----	58	AD14000BN-----	83
839CF-2.000X.000-----	113-115	879-C-.000-----	38	AD3-0000-----	80
839CF-4.000X.000-----	115-116	879-C-0000-----	77	AD3-0000B-----	84
839F-2.000X.000-----	105-107	879-A-.000-----	47	AD3-0000RS-----	82
839F-4.000X.000-----	107-108	879-CR-.000-----	34	AD3-0000RSB-----	86
846-.000-----	157	879C-CR-.000-----	43	AD3-0000XR-----	81
846-0000-----	160	879HM-.000-----	44	AD3-0000XRB-----	85
846-T1-.000-----	159	879HM-0000-----	76	AD3-0000XRL-----	81
846-T1-0000-----	160	880-.000-----	23-24	AD3-0000XRS-----	82
853-0000-----	160	880-0000-----	71	AD3-0000XLRS-----	82
853-T1-0000-----	160	880-A-.000-----	50	AD3-0000XLRB-----	85
856-.000-----	158	880-C-.000-----	42	AD3-0000XRSB-----	86
857-.000-----	166	880-C-0000-----	78	AD3-0000XLRSB-----	86
858-.000-----	165	882-.000-----	20-22	AD4-0000-----	80
858-0000-----	168	882-.000RL-----	30	AD4-0000B-----	84
858-T1-.000-----	167	882-0000-----	70	AD4-0000XR-----	81
858-T1-0000-----	168	882-A-.000-----	49	AD4-0000XRB-----	85
872-0000-----	59	882-C-.000-----	39-41	AD4-0000XRL-----	81
873-0000-----	60	882-C-0000-----	78	AD4-0000XLRB-----	85
874-.000-----	6-8	883-.000-----	20-22	MD000-----	173-182
874-.000RL-----	16	883-.000RL-----	30	RS3170000-----	94-98
874-0000-----	57	883-0000-----	70		
874-A-.000-----	45-46	883-A-.000-----	49		
874-C-.000-----	35-37	883-C-.000-----	39-41		
874-C-0000-----	77	883-C-0000-----	78		
874DM60-0000-----	133	883-CVD-.000-----	55		
874DM90-0000-----	133	884-SS0000-----	66		
874HH-.000-----	19	884-SS0000LBS-----	67		
874HH-0000-----	63	885-SS0000-----	65		
875-.000-----	6-8	885B-SS0000-----	68		
875-.000RL-----	16	887-.000-----	6-8		
875-0000-----	57	887-A-.000-----	45-46		
875-A-.000-----	45-46	887-C-.000-----	35-37		
875-C-.000-----	35-37	887X-FR-.000-----	17		
875-C-0000-----	77	887XB-FR-.000-----	31		
875-CR-.000-----	33	887X-LF-.000-----	18		
875A-CR-.000-----	52	887XB-LF-.000-----	32		

TERMS AND CONDITIONS

1. Buyer shall pay Richards Micro-Tool (RMT) according to terms. Standard payment terms are net 30 days from invoice date. All invoiced amounts shall be invoiced and paid in U.S. dollars via check, money order, or electronic transfer. DO NOT SEND CASH.

2. Minimum purchase is \$25.00.

Prices and specifications are subject to change without notice.

3. All shipments are F.O.B. Shipping Point with freight prepaid or collect, whichever is applicable. The title and risk of loss shall pass to the customer at shipping point upon delivery of the goods to the carrier.

4. RMT's products are warranted to be free of defects in material and workmanship. This warranty is in lieu of any and all warranties, expressed and/or implied; Seller makes no warranty of merchantability of the goods. THERE ARE NO OTHER WARRANTIES. The measure of RMT'S liability for breach of the aforesaid warranty shall be limited to a replacement of goods or return of the purchase price, THERE SHALL BE NO OTHER LIABILITY HEREUNDER, CONSEQUENTIAL OR OTHERWISE.

5. Claims for shortage in weight or count will only be honored by RMT if presented within five (5) working days after receipt of goods by the customer.

6. RMT's return policy is as follows: Authorization for all returns must first be secured from RMT Customer Service. A Return Merchandise Authorization (RMA) number will be issued to permit shipment back to RMT in Plymouth, MA. The RMA number does not constitute acceptance of the return, only that RMT has given permission for the customer to return the merchandise. Eligible items for return must have been ordered in the preceding six (6) month period. Items not listed in our catalog are considered special orders, including any modified, reached, or coated, and are not eligible for return. Orders for special items cannot be cancelled once accepted.

All products must be returned in the original boxes, tubes or packages in undamaged condition, in the current manufacturing design and in condition suitable for resale. RMT reminds our customers that returned shipments must be handled very carefully, as you are shipping precision cutting tools. Care must be taken to pack merchandise so as to avoid damage during return shipment. If, after inspection, parts are determined to be acceptable for return, a credit memo will be issued.

The credit memo will be equal to the number of approved parts returned multiplied by the unit price of the parts. All returns are subject to a 25% restocking fee. This fee covers the expense of receiving, inspection, repackaging, and other costs associated with returned goods. If replacement parts are needed, an order of the same or greater value must be placed at the time the credit memo is issued.

Richards Micro-Tool does not sell, rent, or give away any information that you provide us to other organizations, including, but is not limited to names, addresses, e-mail addresses, telephone numbers or any credit card information. This information is only used internally to process your order, track sales, and to contact customers by email with special offers.

TECHNICAL INFORMATION

We Keep You Ahead of the Technology Curve

Richards Micro Tool is where ingenuity, technology and more than 50 years of experience combine to provide the finest cutting implements.

Richards is committed to quality and conformance excellence. Rest assured whether supplying a standard cutting tool or manufacturing to an OEM's drawing, Richards understands the importance of quality and adherence to specifications.

Craftsmanship and state of the art technology go into every one of our cutting tools to provide performance that exceeds industry standards. For example take a hard look at the finish of our products, which in turn assists creating a superior product finish.

All cutting tools are produced to ISO 9001 requirements in a climate controlled manufacturing facility. In addition, Richards was certified to ISO 13485 in June 2010 for the production, and distribution of Medical & Dental rotary cutting instruments.

Richards' exclusive Design Assist Team can provide the solutions that represents the best value for you and your customer. Our team has manufactured various t-slot cutters, dovetail cutters, half-round tools, reamers, combination & piloted-type tools, counterbores, hollow mills, back-spotface cutters, boring bars, and grooving tools.

Contact your local distributor for additional information; or visit www.richardsmicrotool.com.

You can also contact us toll-free at 800-233-9956, or via fax at (508) 747-4339.

Email: info@richardsmicrotool.com for quote requests and product info, sales@richardsmicrotool.com for purchase orders.

COATINGS GUIDE

TiN

TiN (Titanium Nitride)

- General Purpose coating for machining iron based materials.
- Less expensive alternative to TiAlN and AlTiN.
- Thickness: 2 - 5 microns
- Hardness HV .05: 2,300

TiCN

TiCN (Titanium Carbon Nitride)

- High performance coating where high speeds and feed rates are desired
- Improved durability for interrupted cuts
- Works well with aluminum, brass, and bronze applications
- Thickness: 2 - 4 microns
- Hardness HV .05: 3,000

TiAlN

TiAlN (Titanium Aluminum Nitride)

- High performance coating for ferrous materials
- Excellent heat resistance and hardness
- Best results in DRY milling applications
- Works well in hardened materials, titanium alloys, stainless steels and cast irons
- Thickness: 2 - 5 microns
- Hardness HV .05: 3,300

AlTiN

AlTiN (Aluminum Titanium Nitride)

- High performance coating for ferrous materials
- Excellent heat resistance and hardness
- Best results in DRY milling applications
- Works well in hardened materials, titanium alloys, stainless steels and cast irons
- Thickness: 2 - 5 microns
- Hardness HV .05: 3,300

AD

AD (Amorphous Diamond)

- Amorphous Diamond is a smooth, hard, flexible, thin film coating
- Maintains sharper edge than CVD
- Excellent for machining graphite, carbon fiber and non-ferrous materials where machining forms a grit rather than a chip.
- Thickness: .5 - 2 microns
- Hardness HV .05: 5,000

CVD

CVD (Crystalline Diamond)

- Crystalline Diamond grown directly on the cutting tool
- Excellent for machining graphite, carbon fiber, green ceramics and non-ferrous materials where machining forms a grit rather than a chip.
- Up to 50x the tool life as AD
- Thickness: 8 - 10 microns
- Hardness HV .05: 10,000

PCD

PCD (Polycrystalline Diamond)

- Manufactured as a wafer brazed to a carbide body
- High abrasion resistance and hardness
- Best for non-ferrous applications
- Hardness HV .05: 10,000

HM

'HARDMILL'

- Proprietary coating blend designed specifically for extended life machining hardened materials
- Hardness HV .05: 3,300

DLC

DLC (Diamond Like Carbon)

- Thin carbon based amorphous coating, best for non-ferrous materials.
- Hardness HV .05: 2,800

SPEEDS & FEEDS INFO

Modern milling cutters capable of operating at higher feeds and speeds, and moving more cubic inches of metal per minute, require greater machine rigidity and more power.

Therefore it is important to determine that enough power is available to handle the desired depth and width of cut at the higher feeds and speeds.

T= Number of teeth in cutter
D= Cutter diameter in inches
RPM= Revolutions per minute
SFM= Surface feet per minute
F= Feed in inches per minute

f= Feet per tooth in inches
W= Width of cut
d= Depth of cut
HP= Motor horsepower
C= Machinability constant.

TO FIND	HAVING	FORMULA
Speed of Cutter in Surface Feet Per Minute (SFM)	Diameter of Cutter and Revolutions Per Minute D + RPM	$\text{SFM} = \frac{3.1416 \times D \times \text{RPM}}{12}$ or $\text{SFM} = D \times .26 \times \text{RPM}$
Revolutions Per Minute (RPM)	Surface Feet Per Minute and Diameter of Cutter SFM + D	$\text{RPM} = \frac{\text{SFM} \times 12}{3.1416 \times D}$ $\text{RPM} = \frac{\text{SFM} \times 3.82}{3.1416 \times D}$
Feed in Inches Per Minute (FPT) or (f)	Feed Per Tooth, Number of Teeth, and Revolutions Per Minute f + T + RPM	$F = f \times T \times \text{RPM}$
Feed per tooth in Inches (FPT) or (f)	Feed in Inches Per Minute, Number of Teeth Revolutions F + T + RPM	$f = \frac{F}{T \times \text{RPM}}$
Horsepower (HP)	Depth of cut, With of Cut, Feed Inches Per Minute and Machinability Constant d + W + F + C	$\text{HP} = \frac{d \times W \times F}{C}$ $\text{HP} = \frac{d \times W \times T \times f \times \text{RPM}}{C}$

Machinability constant values for various materials are based on removing one cubic inch of metal per minute per horsepower with 60% power efficiency at the spindle nose and a 25% allowance for cutter dulling.

Aluminum, Magnesium, Dural	4.0 plus
Brass	2.5
Soft Bronze, Coper	2.0
Cast Iron	1.5
Steel up to 150 Brinell, Malleable Iron	75
Steel, 300 Brinell, Hard Bronze	6
Steel, 400 Brinell	5

END MILL SPEEDS AND FEEDS

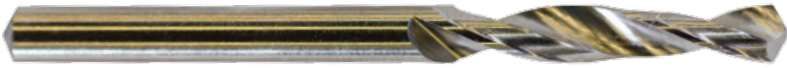


Speed: May be varied to suit conditions and type of operation in order to achieve best results.

Feed: Must consider material and depth of cut, tool diameter, number of flutes, and length. Tool material — HSS, Cobalt, and Carbide.

MATERIALS	SURFACE SPEED - SURFACE FEET/ MINUTE (SFM)		END MILL DIAMETER - INCHES PER TOOTH (IPT)		
	HSS/ Cobalt	Carbide	Up to 1/16"	1/16" - 1/8"	1/8" - 1/4"
Aluminum & Aluminum Alloys	200 - 600	600 - 1300	.0004 - .0008	.0008 - .0015	.0020 - .0060
Brass/ Bronze	100 - 200	400 - 700	.0003 - .0008	.0004 - .0012	.0010 - .0030
Cast Iron (Soft Grey)	100 - 130	200 - 500	.0004 - .001	.0008 - .002	.0015 - .0045
Cast Iron (Grey)	60 - 90	100 - 400	.0003 - .0008	.0006 - .0015	.0010 - .0040
Cast Iron (Ductile)	55 - 85	80 - 300	.0003 - .0008	.0006 - .0015	.0010 - .0030
Cast Iron (Malleable)	100 - 200	250 - 500	.0002 - .0004	.0004 - .0012	.0010 - .0030
Copper	60 - 80	200 - 500	.0002 - .0004	.0004 - .0010	.0008 - .002
Fiber	-	125 - 200	.0005 - .001	.0008 - .0015	.001 - .002
Graphite	-	125 - 200	.0005 - .001	.0008 - .0015	.001 - .002
Magnesium	125 - 250	400 - 700	.0004 - .0008	.0006 - .0015	.0015 - .0035
Nickel	15 - 20	60 - 120	.0002 - .0004	.0004 - .0010	.0008 - .0015
Plastic	150 - 450	300 - 900	.0003 - .001	.0008 - .002	.002 - .004
Plastic Glass Filled	75 - 250	150 - 600	.0005 - .001	.0008 - .0015	.001 - .002
Rubber	150 - 250	-	.0003 - .001	.0008 - .002	.002 - .003
Stainless Steel (< 25 Rc)	60 - 80	250 - 500	.0003 - .001	.0008 - .002	.002 - .003
Stainless Steel (300 Series)	30 - 60	200 - 400	.0003 - .001	.0008 - .002	.002 - .003
Stainless Steel (400 Series)	20 - 40	150 - 300	.0005 - .001	.0008 - .0015	.001 - .0025
Stainless Steel (PH)	30 - 60	50 - 200	.0005 - .001	.0008 - .0015	.001 - .0025
Steel Low Carbon	75 - 100	150 - 250	.0004 - .0008	.0006 - .0015	.0010 - .0040
Steel Med. Carbon	55 - 85	80 - 150	.0005 - .0015	.0010 - .0030	.002 - .005
Titanium	40 - 60	90 - 130	.0003 - .0006	.0004 - .0008	.0008 - .0015
Tool Steel	40 - 60	100 - 300	.0003 - .0008	.0004 - .0012	.001 - .003
Wood	80 - 100	100 - 400	.0005 - .001	.001 - .002	.002 - .003
Zinc	150 - 175	300 - 350	.0003 - .001	.0008 - .002	.002 - .003

DRILL SPEEDS AND FEEDS



Speed: Factors effecting optimum Drill speeds depend on: Depth of hole, hardness of material, coolant, drill machine type, hole finish, and hole location.

Feed: Factors effecting feed rates are drill diameters, machineability of material, and depth of hole. Small drills, harder materials, and hole depths in excess of 3 – 4 times diameter require adjustment to suggested drill feed rates.

MATERIALS	SURFACE SPEED - SURFACE FEET/ MINUTE (SFM)		DRILL DIAMETER - INCHES PER TOOTH (IPT)		
	HSS/ Cobalt	Carbide	Up to 1/16"	1/16" - 1/8"	1/8" - 1/4"
Aluminum & Aluminum Alloys	150 - 300	200 - 350	.0004 - .0008	.0008 - .0015	.0020 - .0060
Brass/ Bronze	80 - 175	125 - 300	.0003 - .0008	.0004 - .0012	.0010 - .0030
Cast Iron (Soft Grey)	100 - 130	200 - 400	.0004 - .001	.0008 - .002	.0015 - .0045
Cast Iron (Grey)	70 - 100	175 - 300	.0003 - .0008	.0006 - .0015	.0010 - .0040
Cast Iron (Ductile)	60 - 90	175 - 300	.0003 - .0008	.0006 - .0015	.0010 - .0030
Cast Iron (Malleable)	40 - 80	75 - 180	.0002 - .0004	.0004 - .0012	.0010 - .0030
Copper	80 - 175	125 - 300	.0002 - .0004	.0004 - .0010	.0008 - .002
Fiber	-	175 - 250	.0005 - .001	.0008 - .0015	.001 - .002
Graphite	-	175 - 250	.0005 - .001	.0008 - .0015	.001 - .002
Magnesium	125 - 250	200 - 300	.0004 - .0008	.0006 - .0015	.0015 - .0035
Nickel	15 - 30	100 - 150	.0002 - .0004	.0004 - .0010	.0008 - .0015
Plastic	45 - 75	150 - 300	.0003 - .001	.0008 - .002	.002 - .004
Plastic Glass Filled	40 - 80	75 - 180	.0005 - .001	.0008 - .0015	.001 - .002
Rubber	45 - 75	-	.0003 - .001	.0008 - .002	.002 - .003
Stainless Steel (< 25 Rc)	40 - 60	100 - 300	.0003 - .001	.0008 - .002	.002 - .003
Stainless Steel (300 Series)	50 - 70	50 - 100	.0003 - .001	.0008 - .002	.002 - .003
Stainless Steel (400 Series)	30 - 50	100 - 300	.0005 - .001	.0008 - .0015	.001 - .0025
Stainless Steel (PH)	20 - 40	50 - 100	.0005 - .001	.0008 - .0015	.001 - .0025
Steel Low Carbon	80 - 120	125 - 300	.0004 - .0008	.0006 - .0015	.0010 - .0040
Steel Med. Carbon	70 - 110	100 - 180	.0005 - .0015	.0010 - .0030	.002 - .005
Titanium	20 - 60	30 - 100	.0003 - .0006	.0004 - .0008	.0008 - .0015
Tool Steel	20 - 60	50 - 100	.0003 - .0008	.0004 - .0012	.001 - .003
Wood	50 - 125	100 - 300	.0005 - .001	.001 - .002	.002 - .003
Zinc	125 - 150	250 - 300	.0003 - .001	.0008 - .002	.002 - .003

TROUBLESHOOTING GUIDE

Problem/ Cause	Solution
Excessive Wear	
Speed is too fast	Decrease spindle speed, try coolant.
Hard work material	Use Coating (TiN, TiCN, TiALN).
Tool is rubbing	Determine appropriate relief for application.
Incorrect primary relief	Determine appropriate relief for application.
Recutting chips	Change feed and speed, change chip size or clear chips add coolant or air pressure.
Material defect of workpiece	Use consistent hardness material.
Improper rake or relief	Resharpen cutter to correct geometry to suit cutting conditions.
Insufficient performance of end mill	Use high-performance material end mill. Try to use coated end mill (TiN, TiCN, TiALN, etc.).
Unsuitable cutting fluid	Select proper cutting fluid. Correct lubricating system.
Improper time of resharpening	Provide timely resharpening.
Incorrect resharpening	Improve surface roughness on resharpening. Prevent overheat of cutter grinding. Remove build-up edge and weld deposit.

Unacceptable Tool Life	
Excessive friction	Regrind at earlier stage.
Hard work material	Use Coating (TiN, TiCN, TiALN, etc.).
Material too hard	Provide proper annealing. Reduce feed and use high- performance for end mill.
Incorrect feed	Define proper feed.
Insufficient coolant	Use proper cutting fluid.
Incorrect resharpening	Resharpen cutter to correct geometry to suit cutting conditions.
Less number of resharpening	Regrind relief angle smaller. Provide proper resharpening amount.
Improper time of resharpening	Provide timely resharpening (earlier).

Chipped Cutting Edges	
Feed rate excessive	Reduce feed rate
Lack of rigidity (machine & holder)	Use better machine or tool holder or change parameters.

Rough Surface Finish	
Excessive feed rate	Reduce feed rate.
Cutting speed is too slow (not shearing)	Increase RPM.
Excessive wear	Regrind at earlier stage.
Recutting chips	Change feed and speed, change chip size or clear chips add coolant or air pressure.
Chatter	Increase rigidity of workpiece fixture.
Reduce cutting speed	Consider conventional (up-cut) milling. Use Shortest possible length of tool, consider using special long reach holder.
Uneven hardness of workpiece	Use even hardness material.
Insufficient rake and relief	Resharpen cutter to correct geometry to suit cutting conditions.
Edge Build-up	Remove build-up edge and cold welding. Check deterioration of cutting fluid.
Dull cutting edge	Provide timely resharpening.
Excessive speed	Reduce cutting speed.
Improper or lack of cutting fluid	Change cutting fluid or lubricating system.

Lack of Dimensional Accuracy	
Cut is too heavy	Decrease width and depth of cut.
Lack of rigidity (machine & holder)	Repair machine or holder.
Rigidity is unacceptable (piecepart)	Change machine or tool holder or change parameters.
Too few flutes	Use multiflute end mills.

Chip Packing	
Cut is too heavy	Decrease width and depth of cut.
Not enough chip clearance	Use end mill with fewer flutes.
Not enough coolant	Use higher coolant pressure and reposition nozzle to point of cut or use air pressure.

Tool Breakage	
Excessive feed	Reduce feed rate.
Oversize chip	Decrease width and depth-of-cut.
Overhang of tool	Hold shanks deeper, use shorter end mill.

Workpiece Burrs	
Excessive wear	Regrind at earlier stage.
Incorrect feed and speed rates	Decrease width and depth-of-cut.

Squeal and Chattering	
Feed and speed too fast	Correct feed and speed.
Lack of rigidity (machine & holder)	Use better machine or tool holder or change parameters.
Piece part lacks rigidity	Improve clamping rigidity.
Excessive cut	Decrease width and depth of cut.
Overhang of tool is excessive	Hold shank deeper, use shorter end mill.
Lack of relief	Decrease relief angle, make margin; hone primary with stone.

Torn Finish	
Uneven wear on teeth	Remove wear by regrinding.
Cold welding on teeth (galling)	Remove cold welding. Change cutting fluid.
Chipped teeth	Handle end mill carefully.

Uneven Finish	
Too few flutes	Try multi flute end mill, 2 Flute, 3 Flute, 4 Flute.
Helix angle too high	Use lower helix angle mill.

Breakage	
Lack of rigidity in set-up	Check component or fixture for security and rigidity.
Dull cutting edge	Provide resharpener.
Careless handling	Handle end mill carefully.
Recutting Chips	Remove chips by air-jet cutting fluid.

Chipping or Cracking	
Chatter	Increase rigidity of workpiece fixture.
Material defect or workpiece	Use even hardness material. Remove abnormal parts such as scale, sandtumbling etc.
Feed too high	Reduce feed speed
Dull Cutting Edge	Providing resharpener
Deterioration of cutting fluid	Provide new cutting fluid



ULTRA-DEX *USA* ★



JASCO

ULTRA-DEX
TOOLING SYSTEMS



**Member of Affiliated
Distributors, USCTI, ISA**



AFFILIATED[™]
DISTRIBUTORS

Where market leaders grow

Richards Micro-Tool

Ph: (800) 233-9956

Fax: (508) 747-4339

www.richardsmicrotool.com

**Visit our website for more
info on our company and to
find a distributor near you**

**250 Cherry Street
Plymouth, MA 02360**



Together we can help you!

We are a family of American Made products and services guided by the goal to be your ultimate source for precision metalworking tools. The same strong and complimentary relationships between our companies exist with our customers. Working together, we provide the best products at the best prices with superior customer service.

Discover ARCH at www.archglobalprecision.com