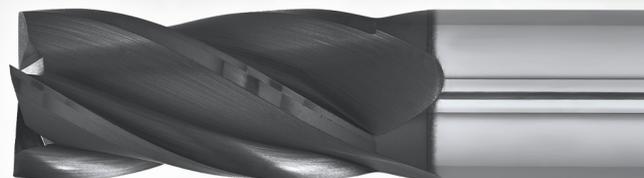
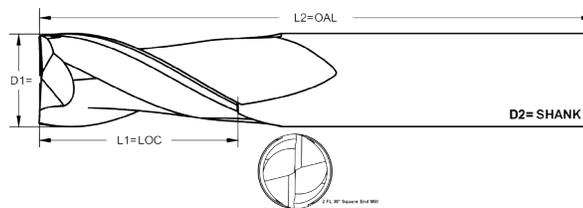
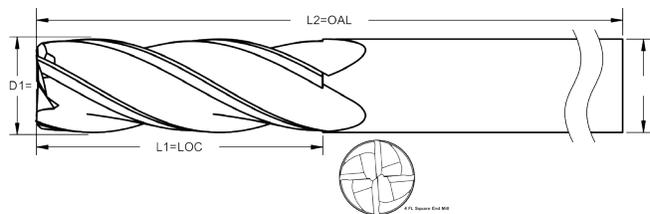


GENERAL PURPOSE

Square End



- Available with 2, 3, and 4 Flutes
- Square End, 30° Helix
- Premium Micro Grain Carbide
- General Purpose Milling
- Bright (Uncoated) and ALTiN Coating
- Special Sizes and Lengths Available Upon Request



General Purpose Standard Square End

2FL, 3FL & 4FL - Stub, Standard, Long & Extra Long Sizes

2 FL	3 FL	4 FL	DIA	SHK	LOC	OAL
220-0312	230-0312	240-0312	1/32"	1/8"	1/16"	1-1/2"
120-0312	130-0312	140-0312	1/32"	1/8"	3/32"	1-1/2"
220-0469	-	240-0469	3/64"	1/8"	3/32"	1-1/2"
120-0469	-	140-0469	3/64"	1/8"	1/8"	1-1/2"
220-0625	230-0625	240-0625	1/16"	1/8"	1/8"	1-1/2"
120-0625	130-0625	140-0625	1/16"	1/8"	3/16"	1-1/2"
120-0781	-	140-0781	5/64"	1/8"	1/4"	1-1/2"
220-0938	230-0938	240-0938	3/32"	1/8"	3/16"	1-1/2"
120-0938	130-0938	140-0938	3/32"	1/8"	3/8"	1-1/2"
120-1094	-	140-1094	7/64"	1/8"	3/8"	1-1/2"
220-1250	230-1250	240-1250	1/8"	1/8"	1/4"	1-1/2"
120-1250	130-1250	140-1250	1/8"	1/8"	1/2"	1-1/2"
720-1250	-	740-1250	1/8"	1/8"	3/4"	2-1/4"
820-1250	-	840-1250	1/8"	1/8"	1"	3"
120-1406	-	140-1406	9/64"	3/16"	1/2"	2"
220-1562	-	240-1562	5/32"	3/16"	5/16"	2"
120-1562	-	140-1562	5/32"	3/16"	1/2"	2"
120-1719	-	140-1719	11/64"	3/16"	5/8"	2"
220-1875	230-1875	240-1875	3/16"	3/16"	3/8"	2"
120-1875	130-1875	140-1875	3/16"	3/16"	5/8"	2"
720-1875	-	740-1875	3/16"	3/16"	3/4"	2-1/2"
820-1875	-	840-1875	3/16"	3/16"	1-1/8"	3"
120-2031	-	140-2031	13/64"	1/4"	5/8"	2-1/2"
220-2188	-	240-2188	7/32"	1/4"	1/2"	2"
120-2188	-	140-2188	7/32"	1/4"	5/8"	2-1/2"
120-2344	-	140-2344	15/64"	1/4"	3/4"	2-1/2"
220-2500	230-2500	240-2500	1/4"	1/4"	1/2"	2"
120-2500	130-2500	140-2500	1/4"	1/4"	3/4"	2-1/2"
720-2500	-	740-2500	1/4"	1/4"	1-1/4"	3"
820-2500	-	840-2500	1/4"	1/4"	1-1/2"	4"
120-2656	-	140-2656	17/64"	5/16"	3/4"	2-1/2"
120-2812	-	140-2812	9/32"	5/16"	3/4"	2-1/2"
120-2969	-	140-2969	19/64"	5/16"	13/16"	2-1/2"
220-3125	230-3125	240-3125	5/16"	5/16"	1/2"	2"
120-3125	130-3125	140-3125	5/16"	5/16"	13/16"	2-1/2"
720-3125	-	740-3125	5/16"	5/16"	1-3/8"	3"
820-3125	-	840-3125	5/16"	5/16"	1-3/4"	4"
120-3281	-	140-3281	21/64"	3/8"	7/8"	2-1/2"
120-3438	-	140-3438	11/32"	3/8"	7/8"	2-1/2"

2 FL	3 FL	4 FL	DIA	SHK	LOC	OAL
120-3594	-	140-3594	23/64"	3/8"	7/8"	2-1/2"
220-3750	230-3750	240-3750	3/8"	3/8"	5/8"	2"
120-3750	130-3750	140-3750	3/8"	3/8"	1"	2-1/2"
720-3750	-	740-3750	3/8"	3/8"	1-1/2"	3"
820-3750	-	840-3750	3/8"	3/8"	2"	4"
120-3905	-	140-3905	25/64"	7/16"	1"	2-3/4"
120-4062	-	140-4062	13/32"	7/16"	1"	2-3/4"
120-4219	-	140-4219	27/64"	7/16"	1"	2-3/4"
220-4375	-	240-4375	7/16"	7/16"	5/8"	2-1/2"
120-4375	-	140-4375	7/16"	7/16"	1"	2-3/4"
720-4375	-	740-4375	7/16"	7/16"	2"	4"
820-4375	-	840-4375	7/16"	7/16"	3"	6"
120-4531	-	140-4531	29/64"	1/2"	1"	3"
120-4688	-	140-4688	15/32"	1/2"	1"	3"
120-4844	-	140-4844	31/64"	1/2"	1"	3"
220-5000	230-5000	240-5000	1/2"	1/2"	5/8"	2-1/2"
120-5000	130-5000	140-5000	1/2"	1/2"	1"	3"
120-5001	130-5001	140-5001	1/2"	1/2"	1-1/4"	3"
720-5000	-	740-5000	1/2"	1/2"	2"	4"
820-5000	-	840-5000	1/2"	1/2"	3"	6"
120-5625	-	140-5625	9/16"	9/16"	1-1/4"	3-1/2"
220-6250	-	240-6250	5/8"	5/8"	3/4"	3"
120-6250	130-6250	140-6250	5/8"	5/8"	1-1/4"	3-1/2"
720-6250	-	740-6250	5/8"	5/8"	2-1/4"	5"
820-6250	-	840-6250	5/8"	5/8"	3"	6"
120-6875	-	140-6875	11/16"	3/4"	1-1/2"	4"
220-7500	-	240-7500	3/4"	3/4"	1"	3"
120-7500	130-7500	140-7500	3/4"	3/4"	1-1/2"	4"
720-7500	-	740-7500	3/4"	3/4"	2-1/4"	5"
820-7500	-	840-7500	3/4"	3/4"	3"	6"
820-7501	-	840-7501	3/4"	3/4"	4"	7"
120-8750	-	140-8750	7/8"	7/8"	1-1/2"	4"
120-1000	130-1000	140-1000	1"	1"	1-1/2"	4"
720-1000	-	740-1000	1"	1"	2-1/2"	5"
820-1000	-	840-1000	1"	1"	3"	6"
820-1001	-	840-1001	1"	1"	4"	7"
820-1002	-	840-1002	1"	1"	5"	8"
820-1003	-	840-1003	1"	1"	6"	9"

Cutting Diameter Tolerances .0312" thru .123" = (+.000)/-.001" .125" thru 1.0" = (+.000)/-.002"
Shank Diameter Tolerances +.000"/-.0005"





GENERAL PURPOSE

Metric Square End



- Available with 2 and 4 Flutes
- Square End, 30° Helix
- Premium Micro Grain Carbide

- General Purpose Milling
- Bright (Uncoated) and ALTiN Coating
- Special Sizes and Lengths Available Upon Request

General Purpose Metric Square End

2FL & 4FL - Stub, Standard, Long & Extra Long Sizes

2 FL	4 FL	DIA	SHK	LOC	OAL
M120-010	M140-010	1 mm	3 mm	3 mm	38 mm
M120-015	M140-015	1.5 mm	3 mm	4.5 mm	38 mm
M120-020	M140-020	2 mm	3 mm	6 mm	38 mm
M120-025	M140-025	2.5 mm	3 mm	7.5 mm	38 mm
-	M240-030	3 mm	3 mm	6 mm	38 mm
M120-030	M140-030	3 mm	3 mm	12 mm	38 mm
M720-030	M740-030	3 mm	3 mm	20 mm	63 mm
M820-030	M840-030	3 mm	3 mm	25 mm	75 mm
-	M240-040	4 mm	4 mm	8 mm	50 mm
M120-040	M140-040	4 mm	4 mm	14 mm	50 mm
M720-040	M740-040	4 mm	4 mm	20 mm	63 mm
M820-040	M840-040	4 mm	4 mm	28 mm	75 mm
-	M240-050	5 mm	5 mm	10 mm	50 mm
M120-050	M140-050	5 mm	5 mm	16 mm	50 mm
M720-050	M740-050	5 mm	5 mm	25 mm	75 mm
M820-050	M840-050	5 mm	5 mm	38 mm	75 mm
-	M240-060	6 mm	6 mm	12 mm	50 mm
M120-060	M140-060	6 mm	6 mm	20 mm	63 mm
M720-060	M740-060	6 mm	6 mm	28 mm	75 mm
M820-060	M840-060	6 mm	6 mm	38 mm	100 mm
-	M240-080	8 mm	8 mm	12 mm	50 mm
M120-080	M140-080	8 mm	8 mm	20 mm	63 mm
M720-080	M740-080	8 mm	8 mm	28 mm	75 mm
M820-080	M840-080	8 mm	8 mm	50 mm	100 mm
M220-100	-	10 mm	10 mm	16 mm	50 mm
M120-100	M140-100	10 mm	10 mm	25 mm	63 mm
M720-100	M740-100	10 mm	10 mm	28 mm	75 mm
M820-100	M840-100	10 mm	10 mm	50 mm	100 mm
M220-120	-	12 mm	12 mm	19 mm	63 mm
M120-120	M140-120	12 mm	12 mm	25 mm	75 mm
M720-120	M740-120	12 mm	12 mm	50 mm	100 mm
M820-120	M840-120	12 mm	12 mm	80 mm	150 mm
M120-140	M140-140	14 mm	14 mm	32 mm	88 mm
M720-140	M740-140	14 mm	14 mm	60 mm	125 mm
-	M840-140	14 mm	14 mm	80 mm	150 mm
M120-160	M140-160	16 mm	16 mm	38 mm	88 mm
-	M740-160	16 mm	16 mm	60 mm	125 mm
-	M840-160	16 mm	16 mm	85 mm	150 mm
M120-180	M140-180	18 mm	18 mm	38 mm	100 mm
-	M740-180	18 mm	18 mm	60 mm	125 mm
-	M840-180	18 mm	18 mm	85 mm	150 mm
M120-200	M140-200	20 mm	20 mm	38 mm	100 mm
-	M740-200	20 mm	20 mm	60 mm	125 mm
-	M840-200	20 mm	20 mm	85 mm	150 mm
M120-250	M140-250	25 mm	25 mm	38 mm	100 mm

Special Sizes, Lengths and Radii Available Upon Quote Request

ALTiN Coated tools: Add "ALTiN" After Each Part #

Other Coatings Available Upon Request

Cutting Diameter Tolerances 1mm thru 2.9mm = (+0/-0.025mm) 3mm thru 25mm = (+0/-0.050mm) Shank Diameter Tolerances +0/-0.0125mm

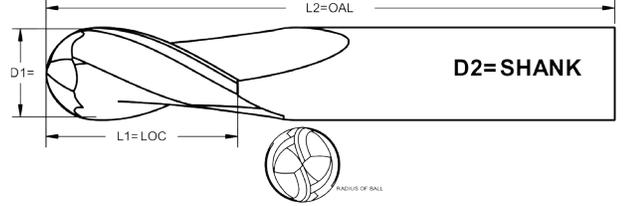
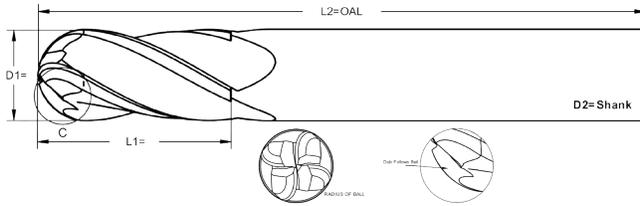


GENERAL PURPOSE

Ball End



- Available with 2 and 4 Flutes
- Ball End, 30° Helix
- Premium Micro Grain Carbide
- General Purpose Milling
- Bright (Uncoated) and AlTiN Coating
- Special Sizes and Lengths Available Upon Request



General Purpose Standard Ball End

2FL, 3FL & 4FL - Stub, Standard, Long & Extra Long Sizes

2 FL	4 FL	DIA	SHK	LOC	OAL
222-0312	242-0312	1/32"	1/8"	1/16"	1-1/2"
122-0312	142-0312	1/32"	1/8"	3/32"	1-1/2"
222-0469	242-0469	3/64"	1/8"	3/32"	1-1/2"
122-0469	142-0469	3/64"	1/8"	1/8"	1-1/2"
222-0625	242-0625	1/16"	1/8"	1/8"	1-1/2"
122-0625	142-0625	1/16"	1/8"	3/16"	1-1/2"
122-0781	142-0781	5/64"	1/8"	1/4"	1-1/2"
222-0938	242-0938	3/32"	1/8"	3/16"	1-1/2"
122-0938	142-0938	3/32"	1/8"	3/8"	1-1/2"
122-1094	142-1094	7/64"	1/8"	3/8"	1-1/2"
222-1250	242-1250	1/8"	1/8"	1/4"	1-1/2"
122-1250	142-1250	1/8"	1/8"	1/2"	1-1/2"
722-1250	742-1250	1/8"	1/8"	3/4"	2-1/4"
822-1250	842-1250	1/8"	1/8"	1"	3"
122-1406	142-1406	9/64"	3/16"	1/2"	2"
222-1562	242-1562	5/32"	3/16"	5/16"	2"
122-1562	142-1562	5/32"	3/16"	1/2"	2"
122-1719	142-1719	11/64"	3/16"	5/8"	2"
222-1875	242-1875	3/16"	3/16"	3/8"	2"
122-1875	142-1875	3/16"	3/16"	5/8"	2"
722-1875	742-1875	3/16"	3/16"	3/4"	2-1/2"
822-1875	842-1875	3/16"	3/16"	1-1/8"	3"
122-2031	142-2031	13/64"	1/4"	5/8"	2-1/2"
222-2188	242-2188	7/32"	1/4"	1/2"	2"
122-2188	142-2188	7/32"	1/4"	5/8"	2-1/2"
122-2344	142-2344	15/64"	1/4"	3/4"	2-1/2"
222-2500	242-2500	1/4"	1/4"	1/2"	2"
122-2500	142-2500	1/4"	1/4"	3/4"	2-1/2"
722-2500	742-2500	1/4"	1/4"	1-1/4"	3"
822-2500	842-2500	1/4"	1/4"	1-1/2"	4"
122-2656	142-2656	17/64"	5/16"	3/4"	2-1/2"
122-2812	142-2812	9/32"	5/16"	3/4"	2-1/2"
122-2969	142-2969	19/64"	5/16"	13/16"	2-1/2"
222-3125	242-3125	5/16"	5/16"	1/2"	2"
122-3125	142-3125	5/16"	5/16"	13/16"	2-1/2"
722-3125	742-3125	5/16"	5/16"	1-3/8"	3"
822-3125	842-3125	5/16"	5/16"	1-3/4"	4"
122-3281	142-3281	21/64"	3/8"	7/8"	2-1/2"
122-3438	142-3438	11/32"	3/8"	7/8"	2-1/2"

2 FL	4 FL	DIA	SHK	LOC	OAL
122-3594	142-3594	23/64"	3/8"	7/8"	2-1/2"
222-3750	242-3750	3/8"	3/8"	5/8"	2"
122-3750	142-3750	3/8"	3/8"	1"	2-1/2"
722-3750	742-3750	3/8"	3/8"	1-1/2"	3"
822-3750	842-3750	3/8"	3/8"	2"	4"
122-3905	142-3905	25/64"	7/16"	1"	2-3/4"
122-4062	142-4062	13/32"	7/16"	1"	2-3/4"
122-4219	142-4219	27/64"	7/16"	1"	2-3/4"
222-4375	242-4375	7/16"	7/16"	5/8"	2-1/2"
122-4375	142-4375	7/16"	7/16"	1"	2-3/4"
722-4375	742-4375	7/16"	7/16"	2"	4"
822-4375	842-4375	7/16"	7/16"	3"	6"
122-4531	142-4531	29/64"	1/2"	1"	3"
122-4688	142-4688	15/32"	1/2"	1"	3"
122-4844	142-4844	31/64"	1/2"	1"	3"
222-5000	242-5000	1/2"	1/2"	5/8"	2-1/2"
122-5000	142-5000	1/2"	1/2"	1"	3"
122-5001	142-5001	1/2"	1/2"	1-1/4"	3"
722-5000	742-5000	1/2"	1/2"	2"	4"
822-5000	842-5000	1/2"	1/2"	3"	6"
122-5625	142-5625	9/16"	9/16"	1-1/4"	3-1/2"
222-6250	242-6250	5/8"	5/8"	3/4"	3"
122-6250	142-6250	5/8"	5/8"	1-1/4"	3-1/2"
722-6250	742-6250	5/8"	5/8"	2-1/4"	5"
822-6250	842-6250	5/8"	5/8"	3"	6"
122-6875	142-6875	11/16"	3/4"	1-1/2"	4"
222-7500	242-7500	3/4"	3/4"	1"	3"
122-7500	142-7500	3/4"	3/4"	1-1/2"	4"
722-7500	742-7500	3/4"	3/4"	2-1/4"	5"
822-7500	842-7500	3/4"	3/4"	3"	6"
822-7501	842-7501	3/4"	3/4"	4"	7"
122-8750	142-8750	7/8"	7/8"	1-1/2"	4"
122-1000	142-1000	1"	1"	1-1/2"	4"
722-1000	742-1000	1"	1"	2-1/2"	5"
822-1000	842-1000	1"	1"	3"	6"
822-1001	842-1001	1"	1"	4"	7"
822-1002	842-1002	1"	1"	5"	8"
822-1003	842-1003	1"	1"	6"	9"

Cutting Diameter Tolerances .0312" thru .125" = (+.000"/-.001") .125" thru 1.0" = (+.000"/-.002")
Shank Diameter Tolerances +.000"/-.0005"



GENERAL PURPOSE

Metric Ball End



- Available with 2 and 4 Flutes
- Ball End, 30° Helix
- Premium Micro Grain Carbide

- General Purpose Milling
- Bright (Uncoated) and ALTiN Coating
- Special Sizes and Lengths Available Upon Request

General Purpose Metric Ball End

2FL & 4FL - Standard, Long & Extra Long Sizes

2 FL	4 FL	DIA	SHK	LOC	OAL
M122-010	M142-010	1 mm	3 mm	3 mm	38 mm
M122-015	M142-015	1.5 mm	3 mm	4.5 mm	38 mm
M122-020	M142-020	2 mm	3 mm	6 mm	38 mm
M122-025	M142-025	2.5 mm	3 mm	7.5 mm	38 mm
M122-030	M142-030	3 mm	3 mm	12 mm	38 mm
M722-030	M742-030	3 mm	3 mm	20 mm	63 mm
M822-030	M842-030	3 mm	3 mm	25 mm	75 mm
M122-040	M142-040	4 mm	4 mm	14 mm	50 mm
M722-040	M742-040	4 mm	4 mm	20 mm	63 mm
M822-040	M842-040	4 mm	4 mm	28 mm	75 mm
M122-050	M142-050	5 mm	5 mm	16 mm	50 mm
M722-050	M742-050	5 mm	5 mm	25 mm	75 mm
M822-050	M842-050	5 mm	5 mm	38 mm	75 mm
M122-060	M142-060	6 mm	6 mm	20 mm	63 mm
M722-060	M742-060	6 mm	6 mm	28 mm	75 mm
M822-060	M842-060	6 mm	6 mm	38 mm	100 mm
M122-080	M142-080	8 mm	8 mm	20 mm	63 mm
M722-080	M742-080	8 mm	8 mm	28 mm	75 mm
M822-080	M842-080	8 mm	8 mm	50 mm	100 mm
M122-090	M142-090	9 mm	10 mm	22 mm	63 mm
M122-100	M142-100	10 mm	10 mm	25 mm	63 mm
M722-100	M742-100	10 mm	10 mm	28 mm	75 mm
M822-100	M842-100	10 mm	10 mm	50 mm	100 mm
M122-120	M142-120	12 mm	12 mm	25 mm	75 mm
M722-120	M742-120	12 mm	12 mm	50 mm	100 mm
M822-120	M842-120	12 mm	12 mm	80 mm	150 mm
M122-140	M142-140	14 mm	14 mm	32 mm	88 mm
-	M742-140	14 mm	14 mm	60 mm	125 mm
-	M842-140	14 mm	14 mm	80 mm	150 mm
M122-160	M142-160	16 mm	16 mm	38 mm	88 mm
-	M742-160	16 mm	16 mm	60 mm	125 mm
-	M842-160	16 mm	16 mm	85 mm	150 mm
M122-180	M142-180	18 mm	18 mm	38 mm	100 mm
-	M742-180	18 mm	18 mm	60 mm	125 mm
-	M842-180	18 mm	18 mm	85 mm	150 mm
M122-200	M142-200	20 mm	20 mm	38 mm	100 mm
-	M742-200	20 mm	20 mm	60 mm	125 mm
M122-220	M142-220	22 mm	25 mm	38 mm	100 mm
M122-250	M142-250	25 mm	25 mm	38 mm	100 mm

Special Sizes, Lengths and Radii Available Upon Quote Request

ALTiN Coated tools: Add "ALTiN" After Each Part #

Other Coatings Available Upon Request

Cutting Diameter Tolerances 1mm thru 2.9mm = (+0/-0.025mm) 3mm thru 25mm = (+0/-0.050mm) Shank Diameter Tolerances +0/-0.0125mm



GENERAL PURPOSE

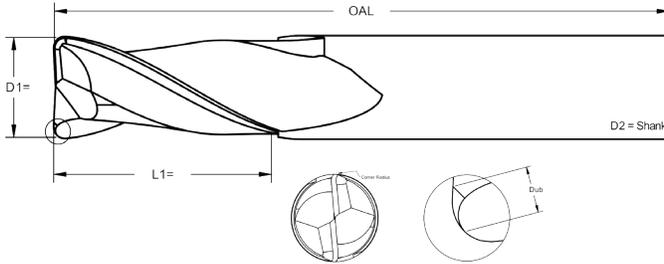
Corner Radius



- Available with 2 and 4 Flutes
- Corner Radius, 30° Helix
- Premium Micro Grain Carbide

- General Purpose Milling
- Bright (Uncoated) and ALTiN Coating
- Special Sizes and Lengths Available Upon Request

ALTiN Coated Tools: Add "ALTiN" After Each Part Number



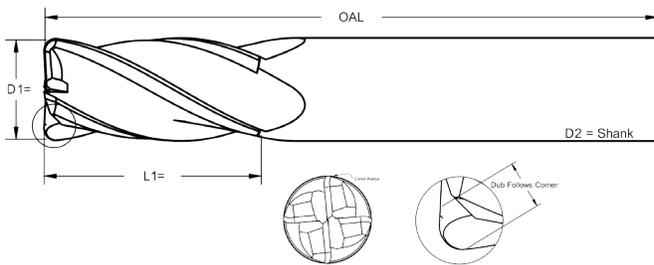
2 Flute General Purpose Corner Radius

2FL - Corner Radius - Standard Sizes

Cutting Diameter Tolerances $+0.000/-0.002$ "

Shank Diameter Tolerances $+0.000/-0.0005$ "

DIA	SHK	LOC	OAL	.010"	.015"	.020"	.030"	.060"	.125"
1/8"	1/8"	1/2"	1-1/2"	CR123-1250.010	-	-	-	-	-
3/16"	3/16"	5/8"	2"	-	CR123-1875.015	-	-	-	-
1/4"	1/4"	3/4"	2-1/2"	-	CR123-2500.015	-	CR123-2500.030	-	-
3/8"	3/8"	1"	2-1/2"	-	CR123-3750.015	-	CR123-3750.030	-	-
1/2"	1/2"	1"	3"	-	CR123-5000.015	-	CR123-5000.030	CR123-5000.060	CR123-5000.125
5/8"	5/8"	1-1/4"	3-1/2"	-	-	CR123-6250.020	-	CR123-6250.060	-
3/4"	3/4"	1-1/2"	4"	-	-	CR123-7500.020	-	CR123-7500.060	CR123-7500.125
1"	1"	1-1/2"	4"	-	-	CR123-1000.020	-	CR123-1000.060	CR123-1000.125



4 Flute General Purpose Corner Radius

4FL - Corner Radius - Standard Sizes

Cutting Diameter Tolerances $+0.000/-0.002$ "

Shank Diameter Tolerances $+0.000/-0.0005$ "

DIA	SHK	LOC	OAL	.010"	.015"	.020"	.030"	.060"	.125"
1/8"	1/8"	1/2"	1-1/2"	CR143-1250.010	CR143-1250.015	-	CR143-1250.030	-	-
3/16"	3/16"	5/8"	2"	-	CR143-1875.015	-	CR143-1875.030	-	-
1/4"	1/4"	3/4"	2-1/2"	-	CR143-2500.015	-	CR143-2500.030	CR143-2500.060	-
3/8"	3/8"	1"	2-1/2"	-	CR143-3750.015	CR143-3750.020	CR143-3750.030	CR143-3750.060	CR143-3750.125
1/2"	1/2"	1"	3"	-	CR143-5000.015	CR143-5000.020	CR143-5000.030	CR143-5000.060	CR143-5000.125
5/8"	5/8"	1-1/4"	3-1/2"	-	-	CR143-6250.020	CR143-6250.030	CR143-6250.060	-
3/4"	3/4"	1-1/2"	4"	-	-	CR143-7500.020	-	CR143-7500.060	CR143-7500.125
1"	1"	1-1/2"	4"	-	-	CR143-1000.020	-	CR143-1000.060	CR143-1000.125

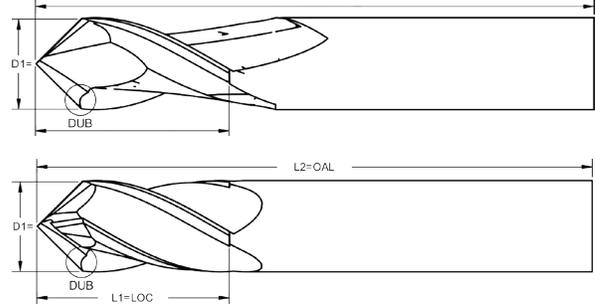
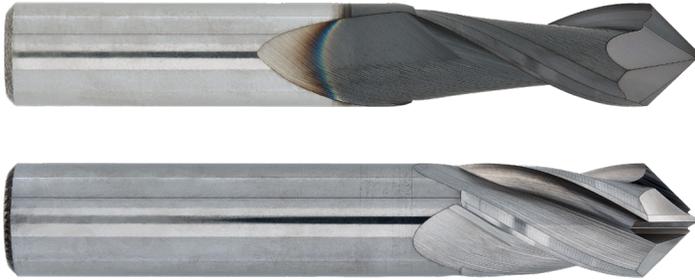


GENERAL PURPOSE

Drill Mills & Profile Mills

- 2 and 4 Flute, 90° Point
- For Spotting, Countersinking, Drilling, Chamfering and Side Milling

- Bright (Uncoated) and ALTiN Coating
- Available in other Point Angles Upon Request for Quote



Drill Mills

2FL & 4FL - 290 & 490 Series

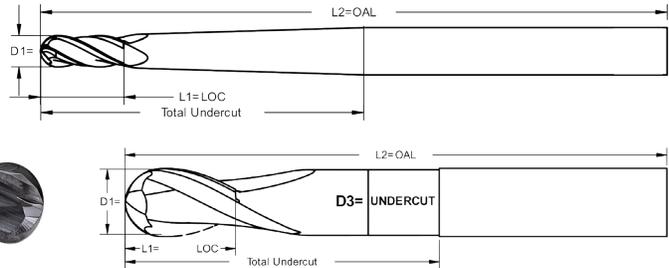
Cutting Diameter Tolerances +.000"/-.002"

Shank Diameter Tolerances +.000"/-.0005"

2 FLUTE	4 FLUTE	DIAMETER	SHANK	LOC	OAL
290-1250	490-1250	1/8"	1/8"	1/2"	1-1/2"
290-1875	490-1875	3/16"	3/16"	5/8"	2"
290-2500	490-2500	1/4"	1/4"	3/4"	2-1/2"
290-3125	490-3125	5/16"	5/16"	13/16"	2-1/2"
290-3750	490-3750	3/8"	3/8"	1"	2-1/2"
290-5000	490-5000	1/2"	1/2"	1"	3"
290-6250	490-6250	5/8"	5/8"	1-1/4"	3-1/2"
290-7500	490-7500	3/4"	3/4"	1-1/2"	4"

- 2 and 4 Flute, 30° Helix
- Profile, Deep Pocket and Contour Milling

- Bright (Uncoated) and ALTiN Coating
- Special Sizes and Lengths Available Upon Request



Profile Mills

2FL & 4FL - 7000 & 8000 Series

Cutting Diameter Tolerances +.000"/-.002"

Shank Diameter Tolerances +.000"/-.0005"

EDP #	FLUTES	DIA (D1)	SHK (D2)	UNDERCUT (D3)	LOC (L1)	OAL (L2)	REACH (L3)	TAPER (T1)
7002	2	1/8"	3/16"	.115"	1/4"	2-1/2"	1-5/8"	2°
8002	4	1/8"	3/16"	.115"	1/4"	2-1/2"	1-5/8"	2°
7003	2	3/16"	1/4"	.117"	1/4"	3"	1-3/4"	2°
8003	4	3/16"	1/4"	.117"	1/4"	3"	1-3/4"	2°
7004	2	1/4"	3/8"	.240"	3/8"	4"	2-1/2"	2°
8004	4	1/4"	3/8"	.240"	3/8"	4"	2-1/2"	2°
7005	2	1/4"	3/8"	.240"	3/8"	6"	2-1/2"	2°
8005	4	1/4"	3/8"	.240"	3/8"	6"	2-1/2"	2°
7006	2	5/16"	3/8"	.300"	1/2"	4"	2-1/2"	2°
8006	4	5/16"	3/8"	.300"	1/2"	4"	2-1/2"	2°
7007	2	3/8"	3/8"	.365"	5/8"	4"	2-1/2"	0°
8007	4	3/8"	3/8"	.365"	5/8"	4"	2-1/2"	0°
7008	2	3/8"	3/8"	.365"	5/8"	6"	2-1/2"	0°
8008	4	3/8"	3/8"	.365"	5/8"	6"	2-1/2"	0°
7009	2	1/2"	1/2"	.490"	13/16"	4"	2-1/2"	0°
8009	4	1/2"	1/2"	.490"	13/16"	4"	2-1/2"	0°
7010	2	1/2"	1/2"	.490"	13/16"	6"	2-1/2"	0°
8010	4	1/2"	1/2"	.490"	13/16"	6"	2-1/2"	0°



GENERAL PURPOSE

Double End



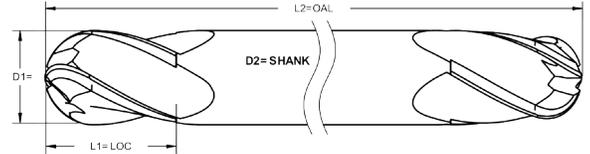
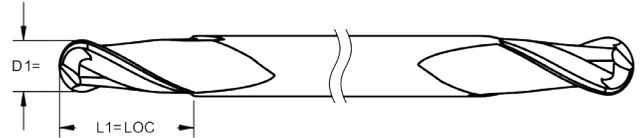
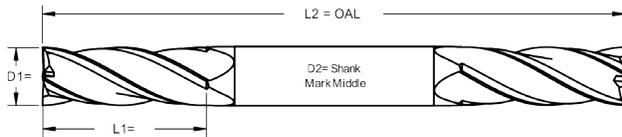
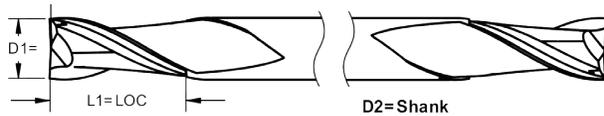
- Double End - 2 and 4 Flutes, 30° Helix
- Square End and Ball End
- Premium Micro Grain Carbide

- General Purpose Milling
- Bright (Uncoated) and ALTiN Coating
- Standard and Long Lengths

Special Sizes, Lengths
and Radii Available
Upon Quote Request

ALTiN Coated tools:
Add "ALTiN"
After Each Part #

Other Coatings
Available
Upon Request



Double End - Square

2FL & 4FL - Square Double End Sizes

2 FL	4 FL	DIA	SHK	LOC	OAL
420-0312	440-0312	1/32"	1/8"	1/16"	1-1/2"
420-0625	440-0625	1/16"	1/8"	1/8"	1-1/2"
420-0938	440-0938	3/32"	1/8"	3/16"	1-1/2"
420-1250	440-1250	1/8"	1/8"	1/4"	1-1/2"
420-1562	440-1562	5/32"	3/16"	5/16"	2"
420-1875	440-1875	3/16"	3/16"	3/8"	2"
420-2188	440-2188	7/32"	1/4"	1/2"	2-1/2"
420-2500	440-2500	1/4"	1/4"	1/2"	2-1/2"
420-3125	440-3125	5/16"	5/16"	1/2"	2-1/2"
420-3750	440-3750	3/8"	3/8"	5/8"	2-1/2"
420-4375	440-4375	7/16"	7/16"	5/8"	3"
420-5000	440-5000	1/2"	1/2"	5/8"	3"
420-6250	440-6250	5/8"	5/8"	3/4"	4"
420-7500	440-7500	3/4"	3/4"	1"	4"

Double End - Ball

2FL & 4FL - Ball Double End Sizes

2 FL	4 FL	DIA	SHK	LOC	OAL
422-0312	442-0312	1/32"	1/8"	1/16"	1-1/2"
422-0625	442-0625	1/16"	1/8"	1/8"	1-1/2"
422-0938	442-0938	3/32"	1/8"	3/16"	1-1/2"
422-1250	442-1250	1/8"	1/8"	1/4"	1-1/2"
422-1562	442-1562	5/32"	3/16"	5/16"	2"
422-1875	442-1875	3/16"	3/16"	3/8"	2"
422-2188	442-2188	7/32"	1/4"	1/2"	2-1/2"
422-2500	442-2500	1/4"	1/4"	1/2"	2-1/2"
422-3125	442-3125	5/16"	5/16"	1/2"	2-1/2"
422-3750	442-3750	3/8"	3/8"	5/8"	2-1/2"
422-4375	442-4375	7/16"	7/16"	5/8"	3"
422-5000	442-5000	1/2"	1/2"	5/8"	3"
422-6250	442-6250	5/8"	5/8"	3/4"	4"
422-7500	442-7500	3/4"	3/4"	1"	4"

Cutting Diameter Tolerances +.000"/-.002"

Shank Diameter Tolerances +.000"/-.0005"