

CATALOG  
**211**

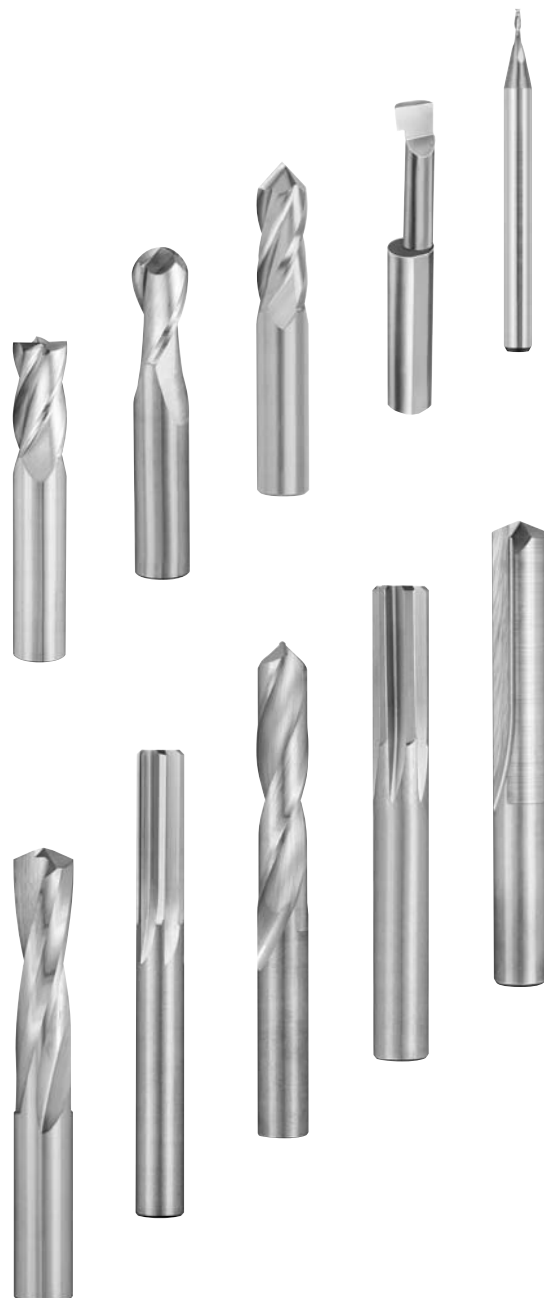


**BRUWILER**

QUALITY <sup>PLUS</sup> + TOOLS

**MICROGRAIN CARBIDE**

- **Boring Tools**
- **Burrs**
- **Countersinks**
- **Drill Mills**
- **Drills**
- **End Mills**
- **Reamers**



***MADE IN USA***



***Highest manufacturing  
efficiency, quality assured.***



***Serving industry since 1962***  
**BRUWILER**

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# Product Index

<b>Boring Tools</b> .....	5 – 7
<b>Burrs/Burs</b>	
<b>Shape A:</b> Cylindrical .....	45
<b>Shape B:</b> Cylindrical – End Cut .....	46
<b>Shape C:</b> Cylindrical – Radius End .....	47
<b>Shape D:</b> Ball .....	48
<b>Shape E:</b> Oval .....	49
<b>Shape F:</b> Tree – Radius End .....	50
<b>Shape G:</b> Tree – Pointed End .....	51
<b>Shape H:</b> Flame .....	51
<b>Shape J:</b> 60° Cone .....	52
<b>Shape K:</b> 90° Cone .....	52
<b>Shape L:</b> Taper – Radius End .....	53
<b>Shape M:</b> Cone – Pointed End .....	54
<b>Shape N:</b> Cone – Inverted .....	54
<b>Countersinks, 60°, 82°, &amp; 90°</b> .....	55
<b>Drill Mills, 2 &amp; 4 flute, 60°, &amp; 90° Drillpoint</b> .....	41
<b>Drills</b>	
Center Drills, 60°, 82°, & 90° Drillpoint .....	19
Spade Drills .....	18
Straight Flute Drills, 140° Drillpoint .....	15 – 17
Stub Drills, 135° Drillpoint .....	12 – 14
Twist Drills, 118° Drillpoint .....	8 – 11
<b>End Mills</b>	
<b>Ball Nose:</b>	
Miniature, 2 & 4 Flute .....	42, 43
Regular Length, Single End, 2 & 4 Flute .....	44
<b>Corner Radius, Regular Length, Single End, 2 &amp; 4 Flute</b> .....	39
<b>Square End:</b>	
Miniature, 2 & 4 Flute .....	36, 37
Regular Length, Single End, 2 & 4 Flute .....	38
Stub Length, Double End, 2 & 4 Flute .....	40
<b>Reamers</b> .....	20 – 35



**BPS® boring tools, burrs, countersinks, drill mills, drills, end mills, and reamers are a high quality product line made from premium micrograin carbide.**

**BPS® cutting tools are engineered to better serve the needs of modern metalworking in a wide range of applications.**

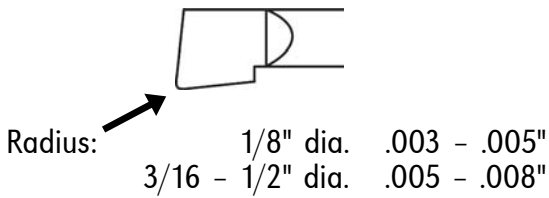
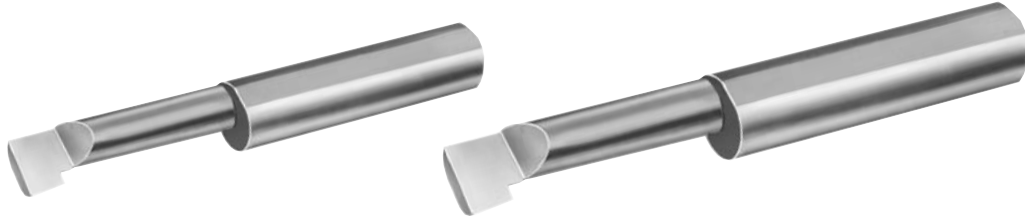
**BPS® tools provide an ideal combination in hardness and toughness for maximum productivity and application versatility.**

**BPS® carbide tools are high precision CNC ground with superior surface finishes and close tolerances.**

**Made in the USA.**



# BPS® Boring Tools



Shank Diameter:  $+.0000/-0.0005''$   
 Minimum Bore Diameter:  $+.000/-0.005''$   
 Maximum Bore Depth:  $+.050/-0.000''$   
 Overall Length:  $\pm .015''$

TOOL NUMBER	MINIMUM BORE DIAMETER	SHANK DIAMETER	OVERALL LENGTH	MAXIMUM BORE DEPTH	PROJECTION
B66-050150 B66-050200 B66-050300 B66-050400	.050	1/8	1-1/2	.150 .200 .300 .400	.013
B66-060150 B66-060200 B66-060300 B66-060400 B66-060500	.060	1/8	1-1/2	.150 .200 .300 .400 .500	.015
B66-080150 B66-080200 B66-080300 B66-080400 B66-080500 B66-080600	.080	1/8	1-1/2	.150 .200 .300 .400 .500 .600	.020
B66-100150 B66-100200 B66-100300 B66-100400 B66-100500 B66-100600 B66-100700	.100	1/8	1-1/2	.150 .200 .300 .400 .500 .600 .700	.025
B66-110150 B66-110200 B66-110300 B66-110400 B66-110500 B66-110600 B66-110700	.110	1/8	1-1/2	.150 .200 .300 .400 .500 .600 .700	.028

*TiN Coated Boring Tools Also Available*

**Premium Micrograin • Solid Carbide**



# BPS® Boring Tools

Minimum Bore Diameter: +.000/-.005"  
 Maximum Bore Depth: +.050/-.000"

TOOL NUMBER	MINIMUM BORE DIAMETER	SHANK DIAMETER	OVERALL LENGTH	MAXIMUM BORE DEPTH	PROJECTION
B66-120250 B66-120350 B66-120500 B66-120700 B66-120800	.120	3/16	2	.250 .350 .500 .700 .800	.030
B66-140250 B66-140400 B66-140500 B66-140600 B66-140700 B66-140750 B66-140800	.140	3/16	2	.250 .400 .500 .600 .700 .750 .800	.035
B66-160250 B66-160400 B66-160500 B66-160600 B66-160750 B66-160900 B66-1601000	.160	3/16	2	.250 .400 .500 .600 .750 .900 1.000	.040
B66-180350 B66-180500 B66-180600 B66-180750 B66-180900 B66-1801000 B66-1801100 B66-1801250 B66-1801500	.180	1/4	2-1/2	.350 .500 .600 .750 .900 1.000 1.100 1.200 1.500	.045
B66-200400 B66-200500 B66-200600 B66-200700 B66-200800 B66-200900 B66-2001000 B66-2001100 B66-2001200 B66-2001300	.200	1/4	2-1/2	.400 .500 .600 .700 .800 .900 1.000 1.100 1.200 1.300	.050
B66-230400 B66-230500 B66-230600 B66-230700 B66-230800 B66-230900 B66-2301000 B66-2301100 B66-2301150 B66-2301200 B66-2301250 B66-2301400 B66-2301500 B66-2301600	.230	5/16	2-1/2	.400 .500 .600 .700 .800 .900 1.000 1.100 1.150 1.200 1.250 1.400 1.500 1.600	.058

*TiN Coated Boring Tools Also Available*



QUALITY PLUS+ TOOLS

# BPS® Boring Tools

Minimum Bore Diameter: +.000/-.005"  
 Maximum Bore Depth: +.050/-.000"

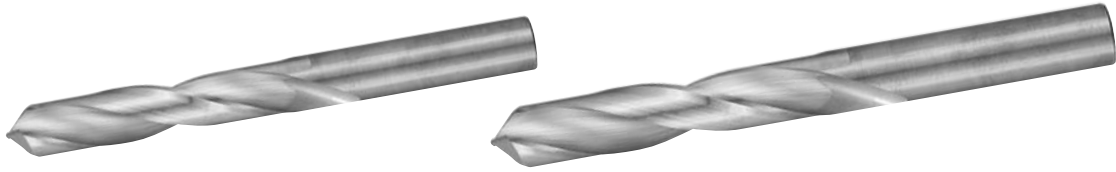
TOOL NUMBER	MINIMUM BORE DIAMETER	SHANK DIAMETER	OVERALL LENGTH	MAXIMUM BORE DEPTH	PROJECTION
B66-290500 B66-290600 B66-290750 B66-290900 B66-2901000 B66-2901100 B66-2901250 B66-2901350 B66-2901500 B66-2901600 B66-2901750	.290	5/16	2-1/2	.500 .600 .750 .900 1.000 1.100 1.250 1.350 1.500 1.600 1.750	.073
B66-320500 B66-320600 B66-320750 B66-320900 B66-3201000 B66-3201100 B66-3201250 B66-3201500 B66-3201600 B66-3201800	.320	3/8	2-1/2	.500 .600 .750 .900 1.000 1.100 1.250 1.500 1.600 1.800	.080
B66-3202000 B66-3202500 B66-3203000	.320	3/8	4	2.000 2.500 3.000	.080
B66-360500 B66-360600 B66-360750 B66-360900 B66-3601000 B66-3601150 B66-3601250 B66-3601500 B66-3601600 B66-3601800	.360	3/8	2-1/2	.500 .600 .750 .900 1.000 1.150 1.250 1.500 1.600 1.800	.090
B66-3602000 B66-3602500 B66-3603000	.360	3/8	4	2.000 2.500 3.000	.090
B66-490750 B66-4901000 B66-4901250 B66-4901500	.490	1/2	3	.750 1.000 1.250 1.500	.123
B66-4902000 B66-4902500 B66-4902600 B66-4902750	.490	1/2	4	2.000 2.500 2.600 2.750	.123
B66-4903000 B66-4903500 B66-4904000 B66-4904500	.490	1/2	4	3.000 3.500 4.000 4.500	.123

*TiN Coated Boring Tools Also Available*

**Premium Micrograin • Solid Carbide**



**Twist Drills**  
**118° Drillpoint**



Suitable for non-ferrous alloys, cast iron, plastics, aluminum, and highly abrasive materials.

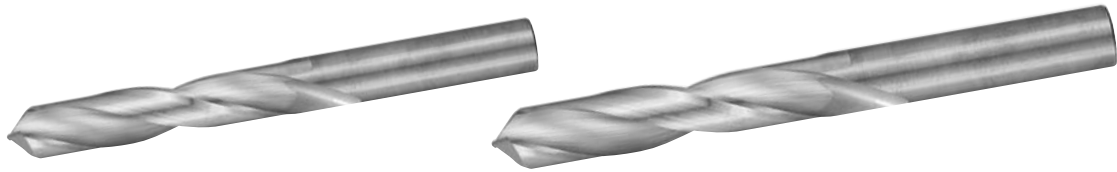
Cutting Diameter: +.0000/-.0005"

TOOL NUMBER	SIZE	DECIMAL EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH
<b>B30-0135</b> <b>B30-0145</b> <b>B30-0156</b> <b>B30-0160</b> <b>B30-0180</b>	80 79 1/64 78 77	.0135 .0145 .0156 .0160 .0180	1-1/4	3/16
<b>B30-0200</b> <b>B30-0210</b> <b>B30-0225</b> <b>B30-0240</b> <b>B30-0250</b> <b>B30-0260</b>	76 75 4 73 72 71	.0200 .0210 .0225 .0240 .0250 .0260	1-1/4	1/4 1/4 1/4 1/4 5/16 5/16
<b>B30-0280</b> <b>B30-0292</b> <b>B30-0310</b> <b>B30-0312</b> <b>B30-0320</b> <b>B30-0330</b>	70 69 68 1/32 67 66	.0280 .0292 .0310 .0312 .0320 .0330	1-1/4 1-1/4 1-1/4 1-1/2 1-1/2 1-1/2	1/2
<b>B30-0350</b> <b>B30-0360</b> <b>B30-0370</b> <b>B30-0380</b> <b>B30-0390</b> <b>B30-0394</b> <b>B30-0400</b> <b>B30-0410</b> <b>B30-0420</b> <b>B30-0430</b>	65 64 63 62 61 1.0 mm 60 59 58 57	.0350 .0360 .0370 .0380 .0390 .0394 .0400 .0410 .0420 .0430	1-1/2	5/8 5/8 5/8 5/8 5/8 5/8 3/4 3/4 3/4 3/4
<b>B30-0465</b> <b>B30-0469</b> <b>B30-0520</b> <b>B30-0550</b> <b>B30-0591</b> <b>B30-0595</b> <b>B30-0625</b> <b>B30-0635</b> <b>B30-0670</b>	56 3/64 55 54 1.5 mm 53 1/16 52 51	.0465 .0469 .0520 .0550 .0591 .0595 .0625 .0635 .0670	1-1/2	3/4

*TiN & TiAlN Coated Twist Drills Also Available*



**Twist Drills  
118° Drillpoint**



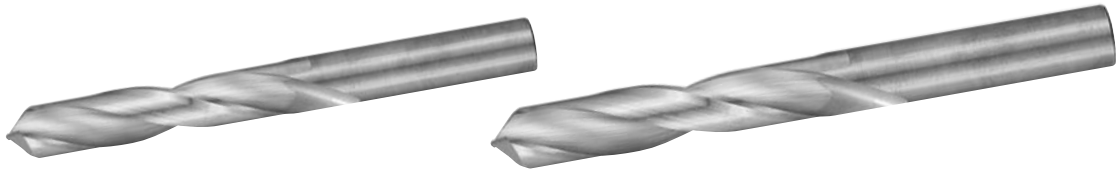
Cutting Diameter: +.0000/-.0005"

TOOL NUMBER	SIZE	DECIMAL EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH
<b>B30-0700</b>	50	.0700	1-3/4	7/8
<b>B30-0730</b>	49	.0730		
<b>B30-0760</b>	48	.0760		
<b>B30-0781</b>	5/64	.0781		
<b>B30-0785</b>	47	.0785		
<b>B30-0787</b>	2.0 mm	.0787		
<b>B30-0810</b>	46	.0810		
<b>B30-0820</b>	45	.0820		
<b>B30-0860</b>	44	.0860	2	1
<b>B30-0890</b>	43	.0890	2	
<b>B30-0935</b>	42	.0935	2	
<b>B30-0938</b>	3/32	.0938	2	
<b>B30-0960</b>	41	.0960	2	
<b>B30-0980</b>	40	.0980	2	
<b>B30-0984</b>	2.5 mm	.0984	2-1/4	
<b>B30-0995</b>	69	.0995	2-1/4	
<b>B30-1015</b>	38	.1015		
<b>B30-1040</b>	37	.1040		
<b>B30-1065</b>	36	.1065		
<b>B30-1094</b>	7/64	.1094		
<b>B30-1100</b>	35	.1100		
<b>B30-1110</b>	34	.1110		
<b>B30-1130</b>	33	.1130		
<b>B30-1160</b>	32	.1160		
<b>B30-1181</b>	3.0 mm	.1181		
<b>B30-1200</b>	31	.1200		
<b>B30-1250</b>	1/8	.1250		
<b>B30-1285</b>	30	.1285		
<b>B30-1360</b>	29	.1360		2-1/2
<b>B30-1378</b>	3.5 mm	.1378		
<b>B30-1405</b>	28	.1405		
<b>B30-1406</b>	9/64	.1406		
<b>B30-1440</b>	27	.1440		
<b>B30-1470</b>	26	.1470		
<b>B30-1495</b>	25	.1495		
<b>B30-1520</b>	24	.1520		
<b>B30-1540</b>	23	.1540		
<b>B30-1562</b>	5/32	.1562		
<b>B30-1570</b>	22	.1570		
<b>B30-1575</b>	4.0 mm	.1575		
<b>B30-1590</b>	21	.1590		
<b>B30-1610</b>	20	.1610		

*TiN & TiAlN Coated Twist Drills Also Available*



**Twist Drills**  
**118° Drillpoint**



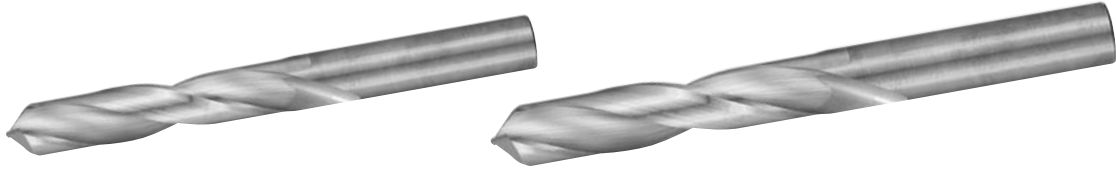
Cutting Diameter: +.0000/-.0005"

TOOL NUMBER	SIZE	DECIMAL EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH
<b>B30-1660</b>	19	.1660	2-3/4	1-5/8
<b>B30-1695</b>	18	.1695		
<b>B30-1719</b>	11/64	.1719		
<b>B30-1730</b>	17	.1730		
<b>B30-1770</b>	16	.1770		
<b>B30-1772</b>	4.5 MM	.1772		
<b>B30-1800</b>	15	.1800		
<b>B30-1820</b>	14	.1820		
<b>B30-1850</b>	13	.1850		
<b>B30-1875</b>	3/16	.1875		
<b>B30-1890</b>	12	.1890		
<b>B30-1910</b>	11	.1910		
<b>B30-1935</b>	10	.1935		
<b>B30-1960</b>	9	.1960		
<b>B30-1969</b>	5.0 mm	.1969		
<b>B30-1990</b>	8	.1990		
<b>B30-2010</b>	7	.2010		
<b>B30-2031</b>	13/64	.2031		
<b>B30-2040</b>	6	.2040		
<b>B30-2055</b>	5	.2055		
<b>B30-2090</b>	4	.2090		
<b>B30-2130</b>	3	.2130		
<b>B30-2165</b>	5.5 mm	.2165		
<b>B30-2188</b>	7/32	.2188		
<b>B30-2210</b>	2	.2210		
<b>B30-2280</b>	1	.2280		
<b>B30-2340</b>	A	.2340	3-1/4	2
<b>B30-2344</b>	15/64	.2344		
<b>B30-2362</b>	6.0 mm	.2362		
<b>B30-2380</b>	B	.2380		
<b>B30-2420</b>	C	.2420		
<b>B30-2460</b>	D	.2460		
<b>B30-2500</b>	1/4 E	.2500		
<b>B30-2559</b>	6.5 mm	.2559		
<b>B30-2570</b>	F	.2570		
<b>B30-2610</b>	G	.2610	3-1/2	2-1/4
<b>B30-2656</b>	17/64	.2656		
<b>B30-2660</b>	H	.2660		
<b>B30-2720</b>	I	.2720		
<b>B30-2756</b>	7.0 mm	.2756		
<b>B30-2770</b>	J	.2770		
<b>B30-2810</b>	K	.2810		
<b>B30-2812</b>	9/32	.2812		
<b>B30-2900</b>	L	.2900		

*TiN & TiAlN Coated Twist Drills Also Available*



**Twist Drills  
118° Drillpoint**



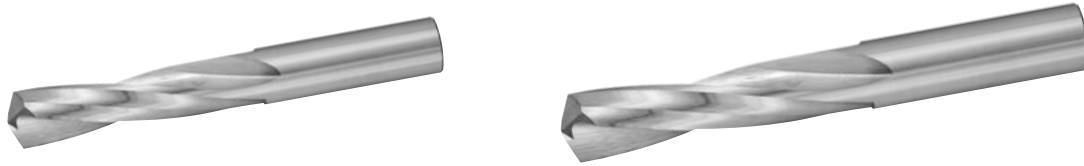
Cutting Diameter: +.0000/-.0005"

TOOL NUMBER	SIZE	DECIMAL EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH
<b>B30-2950</b> <b>B30-2953</b> <b>B30-2969</b> <b>B30-3020</b> <b>B30-3125</b> <b>B30-3150</b> <b>B30-3160</b> <b>B30-3230</b>	M 7.5 mm 19/64 N 5/16 8.0 mm O P	.2950 .2953 .2969 .3020 .3125 .3150 .3160 .3230	3-3/4	2-3/8
<b>B30-3281</b> <b>B30-3320</b> <b>B30-3346</b> <b>B30-3390</b> <b>B30-3438</b> <b>B30-3480</b> <b>B30-3543</b>	21/64 Q 8.5 mm R 11/32 S 9.0 mm	.3281 .3320 .3346 .3390 .3438 .3480 .3543	4	2-1/2
<b>B30-3580</b> <b>B30-3594</b> <b>B30-3680</b> <b>B30-3740</b> <b>B30-3750</b> <b>B30-3770</b>	T 23/64 U 9.5 mm 3/8 V	.3580 .3594 .3680 .3740 .3750 .3770	4-1/4	2-3/4
<b>B30-3860</b> <b>B30-3906</b> <b>B30-3937</b> <b>B30-3970</b> <b>B30-4040</b> <b>B30-4062</b> <b>B30-4130</b> <b>B30-4134</b> <b>B30-4219</b> <b>B30-4331</b> <b>B30-4375</b>	W 25/64 10.0 mm X Y 13/32 Z 10.5 mm 27/64 11.0 mm 7/16	.3860 .3906 .3937 .3970 .4040 .4062 .4130 .4134 .4219 .4331 .4375	4-1/2	2-7/8
<b>B30-4528</b> <b>B30-4531</b> <b>B30-4688</b> <b>B30-4724</b> <b>B30-4844</b> <b>B30-4921</b> <b>B30-5000</b>	11.5 mm 29/64 15/32 12.0 mm 31/64 12.5 mm 1/2	.4528 .4531 .4688 .4724 .4844 .4921 .5000	4-3/4	3

*TiN & TiAlN Coated Twist Drills Also Available*



**Stub Drills  
135° Drillpoint**



Suitable for stainless steel, tool steel, titanium and nickel alloys.

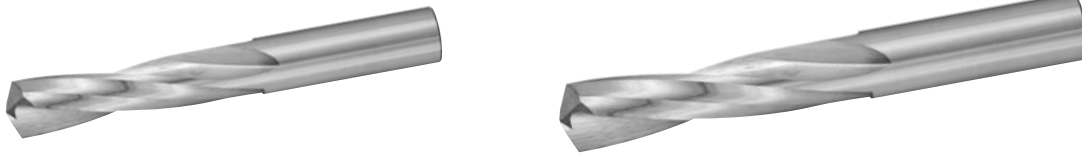
Cutting Diameter: +.0000/-.0005"

TOOL NUMBER	SIZE	DECIMAL EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH
<b>B31-0312</b>	1/32	.0312	1-1/2	1/2
<b>B31-0465</b>	56	.0465	1-1/2	1/2
<b>B31-0469</b>	3/64	.0469	1-1/2	1/2
<b>B31-0520</b>	55	.0520	1-1/2	1/2
<b>B31-0550</b>	54	.0550	1-1/2	1/2
<b>B31-0595</b>	53	.0595	1-1/2	1/2
<b>B31-0625</b>	1/16	.0625	1-5/8	5/8
<b>B31-0635</b>	52	.0635	1-11/16	11/16
<b>B31-0670</b>	51	.0670		
<b>B31-0700</b>	50	.0700		
<b>B31-0730</b>	49	.0730		
<b>B31-0760</b>	48	.0760		
<b>B31-0781</b>	5/64	.0781		
<b>B31-0785</b>	47	.0785	1-3/4	3/4
<b>B31-0810</b>	46	.0810		
<b>B31-0820</b>	45	.0820		
<b>B31-0860</b>	44	.0860		
<b>B31-0890</b>	43	.0890		
<b>B31-0935</b>	42	.0935		
<b>B31-0938</b>	3/32	.0938		
<b>B31-0960</b>	41	.0960	1-13/16	13/16
<b>B31-0980</b>	40	.0980		
<b>B31-0995</b>	39	.0995		
<b>B31-1015</b>	38	.1015		
<b>B31-1040</b>	37	.1040		
<b>B31-1065</b>	36	.1065		
<b>B31-1094</b>	7/64	.1094		
<b>B31-1100</b>	35	.1100	1-7/8	7/8
<b>B31-1110</b>	34	.1110		
<b>B31-1130</b>	33	.1130		
<b>B31-1160</b>	32	.1160		
<b>B31-1200</b>	31	.1200		
<b>B31-1250</b>	1/8	.1250		

*TiAlN Coated Stub Drills Also Available*



**Stub Drills  
135° Drillpoint**



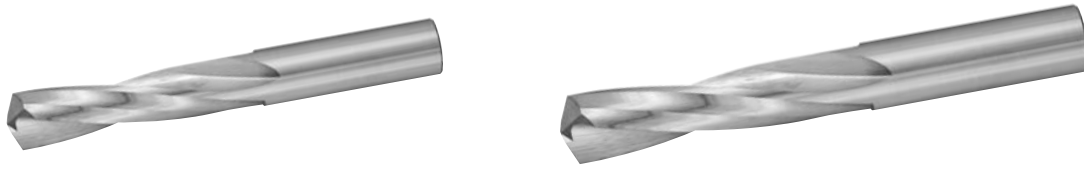
Cutting Diameter: +.0000/-.0005"

TOOL NUMBER	SIZE	DECIMAL EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH
<b>B31-1285</b> <b>B31-1360</b> <b>B31-1405</b> <b>B31-1406</b>	30 29 28 9/64	.1285 .1360 .1405 .1406	1-15/16	15/16
<b>B31-1440</b> <b>B31-1470</b> <b>B31-1495</b> <b>B31-1520</b> <b>B31-1540</b> <b>B31-1562</b>	27 26 25 24 23 5/32	.1440 .1470 .1495 .1520 .1540 .1562	2-1/16	1
<b>B31-1570</b> <b>B31-1590</b> <b>B31-1610</b> <b>B31-1660</b> <b>B31-1695</b> <b>B31-1719</b>	22 21 20 19 18 11/64	.1570 .1590 .1610 .1660 .1695 .1719	2-1/8	1-1/16
<b>B31-1730</b> <b>B31-1770</b> <b>B31-1800</b> <b>B31-1820</b> <b>B31-1850</b> <b>B31-1875</b>	17 16 15 14 13 3/16	.1730 .1770 .1800 .1820 .1850 .1875	2-3/16	1-1/8
<b>B31-1890</b> <b>B31-1910</b> <b>B31-1935</b> <b>B31-1960</b> <b>B31-1990</b> <b>B31-2010</b> <b>B31-2031</b>	12 11 10 9 8 7 13/64	.1890 .1910 .1935 .1960 .1990 .2010 .2031	2-1/4	1-3/16
<b>B31-2040</b> <b>B31-2055</b> <b>B31-2090</b> <b>B31-2130</b> <b>B31-2188</b>	6 5 4 3 7/32	.2040 .2055 .2090 .2130 .2188	2-3/8	1-1/4
<b>B31-2210</b> <b>B31-2280</b> <b>B31-2340</b> <b>B31-2344</b>	2 1 A 15/64	.2210 .2280 .2340 .2344	2-7/16	1-5/16

*TiAlN Coated Stub Drills Also Available*



**Stub Drills  
135° Drillpoint**



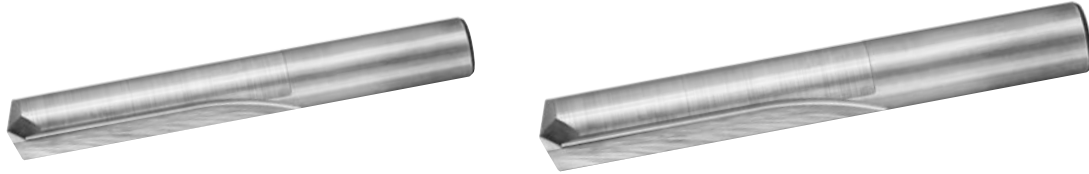
Cutting Diameter: +.0000/-.0005"

TOOL NUMBER	SIZE	DECIMAL EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH
<b>B31-2380</b> <b>B31-2420</b> <b>B31-2460</b> <b>B31-2500</b>	B C D 1/4 E	.2380 .2420 .2460 .2500	2-1/2	1-3/8
<b>B31-2570</b> <b>B31-2610</b> <b>B31-2656</b> <b>B31-2660</b> <b>B31-2720</b> <b>B31-2770</b> <b>B31-2810</b> <b>B31-2812</b>	F G 17/64 H I J K 9/32	.2570 .2610 .2656 .2660 .2720 .2770 .2810 .2812	2-5/8 2-5/8 2-5/8 2-11/16 2-11/16 2-11/16 2-11/16 2-11/16	1-7/16 1-7/16 1-7/16 1-1/2 1-1/2 1-1/2 1-1/2 1-1/2
<b>B31-2900</b> <b>B31-2950</b> <b>B31-2969</b> <b>B31-3020</b> <b>B31-3125</b>	L M 19/64 N 5/16	.2900 .2950 .2969 .3020 .3125	2-3/4 2-3/4 2-3/4 2-13/16 2-13/16	1-9/16 1-9/16 1-9/16 1-5/8 1-5/8
<b>B31-3160</b> <b>B31-3230</b> <b>B31-3281</b> <b>B31-3320</b> <b>B31-3390</b> <b>B31-3438</b>	O P 21/64 Q R 11/32	.3160 .3230 .3281 .3320 .3390 .3438	2-15/16 2-15/16 2-15/16 3 3 3	1-11/16
<b>B31-3480</b> <b>B31-3580</b> <b>B31-3594</b> <b>B31-3680</b> <b>B31-3750</b>	S T 23/64 U 3/8	.3480 .3580 .3594 .3680 .3750	3-1/16 3-1/16 3-1/16 3-1/8 3-1/8	1-3/4 1-3/4 1-3/4 1-13/16 1-13/16
<b>B31-3770</b> <b>B31-3860</b> <b>B31-3906</b> <b>B31-3970</b> <b>B31-4040</b> <b>B31-4062</b>	V W 25/64 X Y 13/32	.3770 .3860 .3906 .3970 .4040 .4062	3-1/4 3-1/4 3-1/4 3-5/16 3-5/16 3-5/16	1-7/8 1-7/8 1-7/8 1-15/16 1-15/16 1-15/16
<b>B31-4130</b> <b>B31-4219</b> <b>B31-4375</b> <b>B31-4531</b> <b>B31-4688</b> <b>B31-4844</b> <b>B31-5000</b>	Z 27/64 7/16 29/64 15/32 31/64 1/2	.4130 .4219 .4375 .4531 .4688 .4844 .5000	3-3/8 3-3/8 3-7/16 3-9/16 3-5/8 3-11/16 3-3/4	2 2 2-1/16 2-1/8 2-1/8 2-3/16 2-1/4

*TiAlN Coated Stub Drills Also Available*



**Straight Flute Drills**  
**140° Drillpoint**



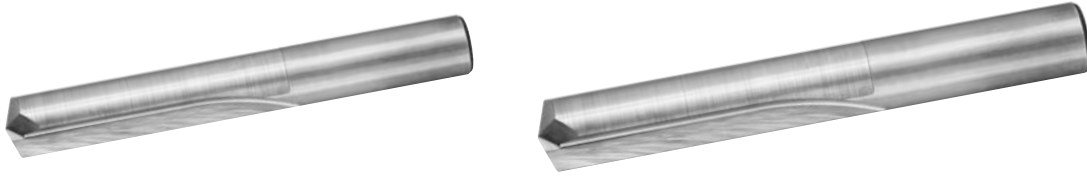
Suitable for work hardened and abrasive materials.

Cutting Diameter: +.0000/-.0005"

<b>TOOL NUMBER</b>	<b>SIZE</b>	<b>DECIMAL EQUIVALENTS</b>	<b>OVERALL LENGTH</b>	<b>FLUTE LENGTH</b>
<b>B32-0312</b>	1/32	.0312	1-1/2	1/2
<b>B32-0465</b>	56	.0465	1-1/2	1/2
<b>B32-0469</b>	3/64	.0469	1-1/2	1/2
<b>B32-0520</b>	55	.0520	1-1/2	1/2
<b>B32-0550</b>	54	.0550	1-1/2	1/2
<b>B32-0595</b>	53	.0595	1-1/2	1/2
<b>B32-0625</b>	1/16	.0625	1-5/8	5/8
<b>B32-0635</b>	52	.0635	1-11/16	11/16
<b>B32-0670</b>	51	.0670		
<b>B32-0700</b>	50	.0700		
<b>B32-0730</b>	49	.0730		
<b>B32-0760</b>	48	.0760		
<b>B32-0781</b>	5/64	.0781		
<b>B32-0785</b>	47	.0785	1-3/4	3/4
<b>B32-0810</b>	46	.0810		
<b>B32-0820</b>	45	.0820		
<b>B32-0860</b>	44	.0860		
<b>B32-0890</b>	43	.0890		
<b>B32-0935</b>	42	.0935		
<b>B32-0938</b>	3/32	.0938		
<b>B32-0960</b>	41	.0960		
<b>B32-0980</b>	40	.0980		
<b>B32-0995</b>	39	.0995		
<b>B32-1015</b>	38	.1015		
<b>B32-1040</b>	37	.1040		
<b>B32-1065</b>	36	.1065		
<b>B32-1094</b>	7/64	.1094		
<b>B32-1100</b>	35	.1100	1-7/8	7/8
<b>B32-1110</b>	34	.1110		
<b>B32-1130</b>	33	.1130		
<b>B32-1160</b>	32	.1160		
<b>B32-1200</b>	31	.1200		
<b>B32-1250</b>	1/8	.1250		



**Straight Flute Drills**  
**140° Drillpoint**

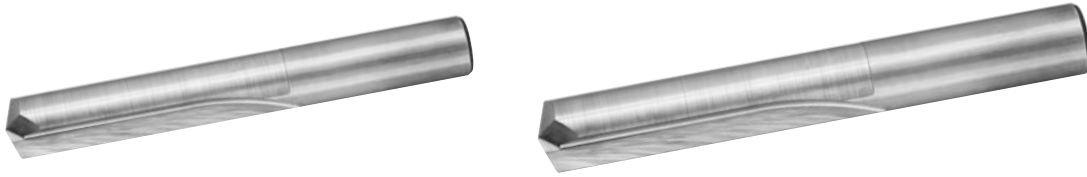


Cutting Diameter: +.0000/-.0005"

TOOL NUMBER	SIZE	DECIMAL EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH
<b>B32-1285</b> <b>B32-1360</b> <b>B32-1405</b> <b>B32-1406</b>	30 29 28 9/64	.1285 .1360 .1405 .1406	1-15/16	15/16
<b>B32-1440</b> <b>B32-1470</b> <b>B32-1495</b> <b>B32-1520</b> <b>B32-1540</b> <b>B32-1562</b>	27 26 25 24 23 5/32	.1440 .1470 .1495 .1520 .1540 .1562	2-1/16	1
<b>B32-1570</b> <b>B32-1590</b> <b>B32-1610</b> <b>B32-1660</b> <b>B32-1695</b> <b>B32-1719</b>	22 21 20 19 18 11/64	.1570 .1590 .1610 .1660 .1695 .1719	2-1/8	1-1/16
<b>B32-1730</b> <b>B32-1770</b> <b>B32-1800</b> <b>B32-1820</b> <b>B32-1850</b> <b>B32-1875</b>	17 16 15 14 13 3/16	.1730 .1770 .1800 .1820 .1850 .1875	2-3/16	1-1/8
<b>B32-1890</b> <b>B32-1910</b> <b>B32-1935</b> <b>B32-1960</b> <b>B32-1990</b> <b>B32-2010</b> <b>B32-2031</b>	12 11 10 9 8 7 13/64	.1890 .1910 .1935 .1960 .1990 .2010 .2031	2-1/4	1-3/16
<b>B32-2040</b> <b>B32-2055</b> <b>B32-2090</b> <b>B32-2130</b> <b>B32-2188</b>	6 5 4 3 7/32	.2040 .2055 .2090 .2130 .2188	2-3/8	1-1/4
<b>B32-2210</b> <b>B32-2280</b> <b>B32-2340</b> <b>B32-2344</b>	2 1 A 15/64	.2210 .2280 .2340 .2344	2-7/16	1-5/16



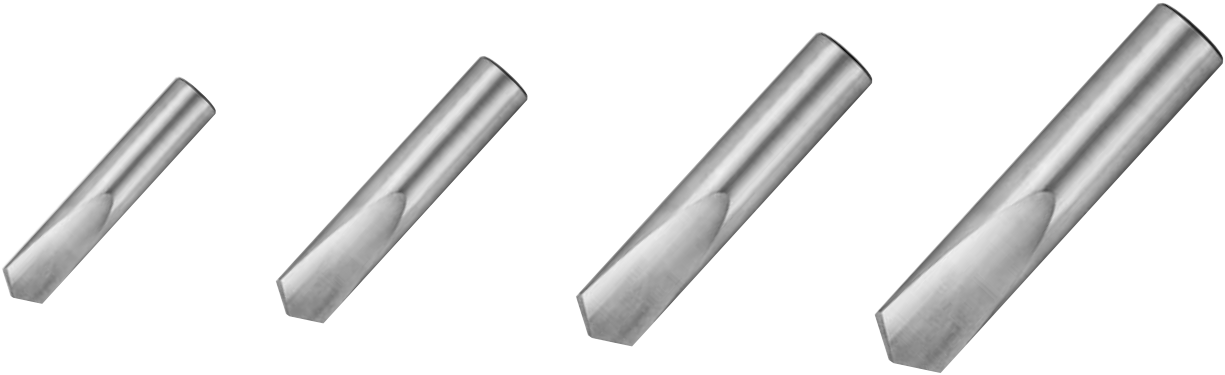
**Straight Flute Drills**  
**140° Drillpoint**



Cutting Diameter: +.0000/-.0005"

TOOL NUMBER	SIZE	DECIMAL EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH
<b>B32-2380</b> <b>B32-2420</b> <b>B32-2460</b> <b>B32-2500</b>	B C D 1/4 E	.2380 .2420 .2460 .2500	2-1/2	1-3/8
<b>B32-2570</b> <b>B32-2610</b> <b>B32-2656</b> <b>B32-2660</b> <b>B32-2720</b> <b>B32-2770</b> <b>B32-2810</b> <b>B32-2812</b>	F G 17/64 H I J K 9/32	.2570 .2610 .2656 .2660 .2720 .2770 .2810 .2812	2-5/8 2-5/8 2-5/8 2-11/16 2-11/16 2-11/16 2-11/16 2-11/16	1-7/16 1-7/16 1-7/16 1-1/2 1-1/2 1-1/2 1-1/2 1-1/2
<b>B32-2900</b> <b>B32-2950</b> <b>B32-2969</b> <b>B32-3020</b> <b>B32-3125</b>	L M 19/64 N 5/16	.2900 .2950 .2969 .3020 .3125	2-3/4 2-3/4 2-3/4 2-13/16 2-13/16	1-9/16 1-9/16 1-9/16 1-5/8 1-5/8
<b>B32-3160</b> <b>B32-3230</b> <b>B32-3281</b> <b>B32-3320</b> <b>B32-3390</b> <b>B32-3438</b>	O P 21/64 Q R 11/32	.3160 .3230 .3281 .3320 .3390 .3438	2-15/16 2-15/16 2-15/16 3 3 3	1-11/16
<b>B32-3480</b> <b>B32-3580</b> <b>B32-3594</b> <b>B32-3680</b> <b>B32-3750</b>	S T 23/64 U 3/8	.3480 .3580 .3594 .3680 .3750	3-1/16 3-1/16 3-1/16 3-1/8 3-1/8	1-3/4 1-3/4 1-3/4 1-13/16 1-13/16
<b>B32-3770</b> <b>B32-3860</b> <b>B32-3906</b> <b>B32-3970</b> <b>B32-4040</b> <b>B32-4062</b>	V W 25/64 X Y 13/32	.3770 .3860 .3906 .3970 .4040 .4062	3-1/4 3-1/4 3-1/4 3-5/16 3-5/16 3-5/16	1-7/8 1-7/8 1-7/8 1-15/16 1-15/16 1-15/16
<b>B32-4130</b> <b>B32-4219</b> <b>B32-4375</b> <b>B32-4531</b> <b>B32-4688</b> <b>B32-4844</b> <b>B32-5000</b>	Z 27/64 7/16 29/64 15/32 31/64 1/2	.4130 .4219 .4375 .4531 .4688 .4844 .5000	3-3/8 3-3/8 3-7/16 3-9/16 3-5/8 3-11/16 3-3/4	2 2 2-1/16 2-1/8 2-1/8 2-3/16 2-1/4

**Spade Drills  
118° Drillpoint**



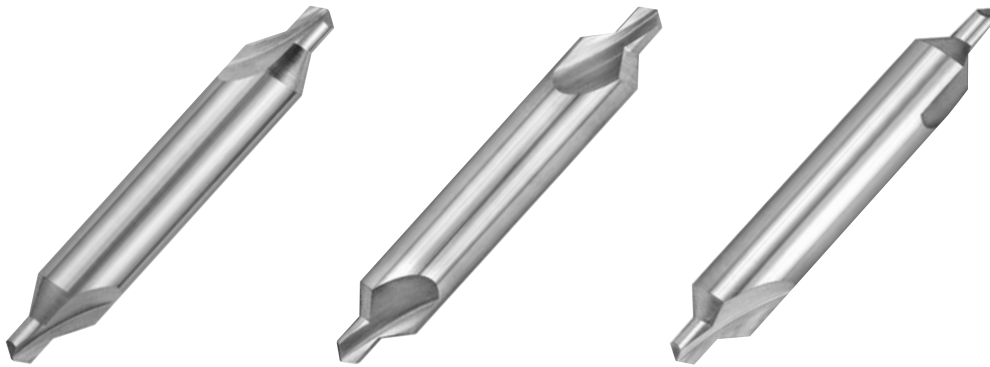
Suitable for thin sheet applications and spot drilling.

Cutting Diameter: +.0000/-.0005"

TOOL NUMBER	SIZE	OVERALL LENGTH	FLUTE LENGTH
<b>B33-031</b>	1/32	1-1/2	3/16
<b>B33-046</b>	3/64		7/32
<b>B33-062</b>	1/16		5/16
<b>B33-093</b>	3/32		7/16
<b>B33-109</b>	7/64		7/16
<b>B33-125</b>	1/8		1/2
<b>B33-140</b>	9/64	2	1/2
<b>B33-156</b>	5/32		9/16
<b>B33-171</b>	11/64		9/16
<b>B33-187</b>	3/16		11/16
<b>B33-218</b>	7/32		11/16
<b>B33-250</b>	1/4		11/16
<b>B33-281</b>	9/32	2-1/2	7/8
<b>B33-312</b>	5/16	2-1/2	7/8
<b>B33-343</b>	11/32	2-1/2	15/16
<b>B33-375</b>	3/8	2-1/2	1-1/8
<b>B33-406</b>	13/32	2-3/4	1-1/8
<b>B33-437</b>	7/16	2-3/4	1-3/16
<b>B33-468</b>	13/32	3	1-3/16
<b>B33-500</b>	1/2	3	1-3/16



**Center Drills**  
**60°, 82°, & 90°**



Cutting Diameter: Up to 7/32" +.002/-.000"  
 Over 7/32" +.003/-.000"

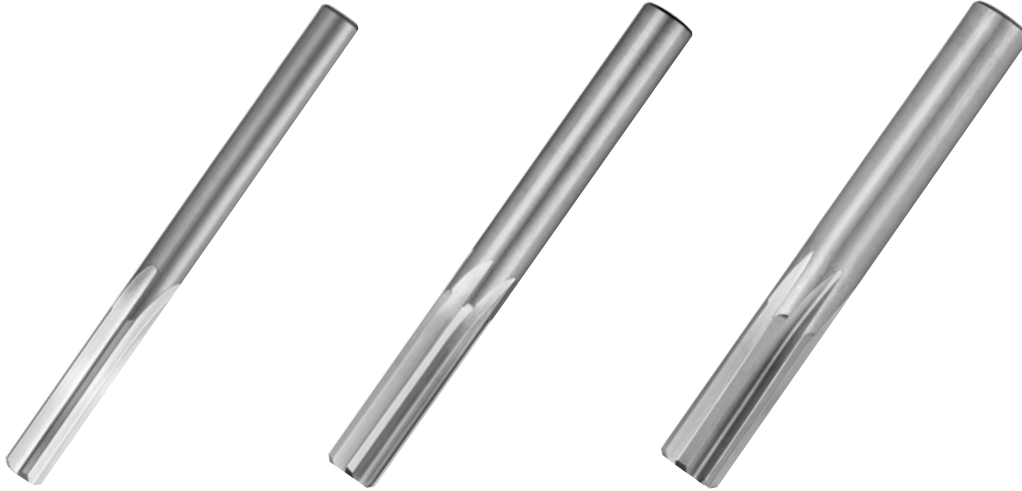
60° TOOL NUMBER	82° TOOL NUMBER	90° TOOL NUMBER	SIZE	DRILL DIAMETER	SHANK DIAMETER	OVERALL LENGTH
<b>B40-025-60</b>	<b>B40-025-82</b>	<b>B40-025-90</b>	00	.025	1/8	1-1/2
<b>B40-031-60</b>	<b>B40-031-82</b>	<b>B40-031-90</b>	0	1/32	1/8	1-1/2
<b>B40-046-60</b>	<b>B40-046-82</b>	<b>B40-046-90</b>	1	3/64	1/8	1-1/2
<b>B40-078-60</b>	<b>B40-078-82</b>	<b>B40-078-90</b>	2	5/64	3/16	1-7/8
<b>B40-109-60</b>	<b>B40-109-82</b>	<b>B40-109-90</b>	3	7/64	1/4	2
<b>B40-125-60</b>	<b>B40-125-82</b>	<b>B40-125-90</b>	4	1/8	5/16	2-1/8
<b>B40-187-60</b>	<b>B40-187-82</b>	<b>B40-187-90</b>	5	3/16	7/16	2-3/4
<b>B40-218-60</b>	<b>B40-218-82</b>	<b>B40-218-90</b>	6	7/32	1/2	3
<b>B40-250-60</b>	<b>B40-250-82</b>	<b>B40-250-90</b>	7	1/4	5/8	3-1/4
<b>B40-312-60</b>	<b>B40-312-82</b>	<b>B40-312-90</b>	8	5/16	3/4	3-1/2

*TiN Coated Center Drills Also Available*



## Chucking Reamers

### Wire, Fractional, Letter, & Metric Sizes



Cutting Diameter: Up to 1/4" +.0002/-.0000"  
Over 1/4" +.0003/-.0000"

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
<b>B46-0280-4</b>	70	.0280	1-1/2	1/4	4
<b>B46-0292-4</b>	69	.0292			
<b>B46-0300-4</b>		.0300			
<b>B46-0310-4</b>	68	.0310			
<b>B46-0312-4</b>	1/32	.0312			
<b>B46-0315-4</b>		.0315			
<b>B46-0320-4</b>	67	.0320			
<b>B46-0325-4</b>		.0325			
<b>B46-0330-4</b>	66	.0330			
<b>B46-0335-4</b>		.0335	1-1/2	1/4	4
<b>B46-0340-4</b>		.0340			
<b>B46-0345-4</b>		.0345			
<b>B46-0350-4</b>	65	.0350			
<b>B46-0355-4</b>		.0355			
<b>B46-0360-4</b>	64	.0360			
<b>B46-0365-4</b>		.0365			
<b>B46-0370-4</b>	63	.0370			
<b>B46-0375-4</b>		.0375			
<b>B46-0380-4</b>	62	.0380	1-1/2	1/4	4
<b>B46-0385-4</b>		.0385			
<b>B46-0390-4</b>	61	.0390			
<b>B46-0394-4</b>	1.0 mm	.0394			
<b>B46-0395-4</b>		.0395			
<b>B46-0400-4</b>	60	.0400			
<b>B46-0405-4</b>		.0405			
<b>B46-0410-4</b>	59	.0410			
<b>B46-0415-4</b>		.0415			



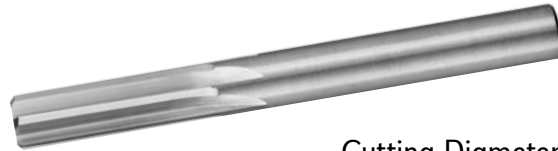
## Chucking Reamers Wire, Fractional, Letter, & Metric Sizes

Cutting Diameter: Up to 1/4" +.0002/-.0000"

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-0420-4 B46-0425-4 B46-0430-4 B46-0435-4 B46-0440-4 B46-0445-4 B46-0450-4	58  57	.0420 .0425 .0430 .0435 .0440 .0445 .0450	1-1/2	3/8	4
B46-0455-4 B46-0460-4 B46-0465-4 B46-0469-4 B46-0470-4 B46-0475-4 B46-0480-4	56 3/64	.0455 .0460 .0465 .0469 .0470 .0475 .0480	1-1/2	3/8	4
B46-0485-4 B46-0490-4 B46-0495-4 B46-0500-4 B46-0505-4 B46-0510-4 B46-0515-4		.0485 .0490 .0495 .0500 .0505 .0510 .0515	1-1/2	3/8	4
B46-0520-4 B46-0525-4 B46-0530-4 B46-0535-4 B46-0540-4 B46-0545-4 B46-0550-4	55  54	.0520 .0525 .0530 .0535 .0540 .0545 .0550	1-1/2	3/8	4
B46-0555-4 B46-0560-4 B46-0565-4 B46-0570-4 B46-0575-4 B46-0580-4 B46-0585-4		.0555 .0560 .0565 .0570 .0575 .0580 .0585	1-1/2	3/8	4
B46-0590-4 B46-0591-4 B46-0595-4 B46-0600-4 B46-0605-4 B46-0610-4 B46-0615-4	1.5 mm 53	.0590 .0591 .0595 .0600 .0605 .0610 .0615	1-1/2	3/8	4
B46-0620-4 B46-0625-4 B46-0630-4 B46-0635-4 B46-0640-4 B46-0645-4 B46-0650-4	1/16  52	.0620 .0625 .0630 .0635 .0640 .0645 .0650	1-1/2	3/8	4



# BPS® Reamers



Cutting Diameter: Up to 1/4"  $\pm 0.0002/-0.0000$ "

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
<b>B46-0655-4</b> <b>B46-0660-4</b> <b>B46-0665-4</b> <b>B46-0670-4</b> <b>B46-0675-4</b> <b>B46-0680-4</b> <b>B46-0685-4</b>	51	.0655 .0660 .0665 .0670 .0675 .0680 .0685	1-3/4	1/2	4
<b>B46-0690-4</b> <b>B46-0695-4</b> <b>B46-0700-4</b> <b>B46-0705-4</b> <b>B46-0710-4</b> <b>B46-0715-4</b> <b>B46-0720-4</b>	50	.0690 .0695 .0700 .0705 .0710 .0715 .0720	1-3/4	1/2	4
<b>B46-0725-4</b> <b>B46-0730-4</b> <b>B46-0735-4</b> <b>B46-0740-4</b> <b>B46-0745-4</b> <b>B46-0750-4</b> <b>B46-0755-4</b>	49	.0725 .0730 .0735 .0740 .0745 .0750 .0755	1-3/4	1/2	4
<b>B46-0760-4</b> <b>B46-0765-4</b> <b>B46-0770-4</b> <b>B46-0775-4</b> <b>B46-0781-4</b> <b>B46-0781-4</b> <b>B46-0785-4</b>	48    5/64 47	.0760 .0765 .0770 .0775 .0780 .0781 .0785	1-3/4	1/2	4
<b>B46-0787-4</b> <b>B46-0790-4</b> <b>B46-0795-4</b> <b>B46-0800-4</b> <b>B46-0805-4</b> <b>B46-0810-4</b> <b>B46-0815-4</b>	2.0 mm    46	.0787 .0790 .0795 .0800 .0805 .0810 .0815	1-3/4 1-3/4 1-3/4 1-3/4 1-3/4 1-3/4 2	1/2	4
<b>B46-0820-4</b> <b>B46-0825-4</b> <b>B46-0830-4</b> <b>B46-0835-4</b> <b>B46-0840-4</b> <b>B46-0845-4</b> <b>B46-0850-4</b>	45	.0820 .0825 .0830 .0835 .0840 .0845 .0850	2	1/2	4
<b>B46-0855-4</b> <b>B46-0860-4</b> <b>B46-0865-4</b> <b>B46-0870-4</b> <b>B46-0875-4</b> <b>B46-0880-4</b> <b>B46-0885-4</b>	44	.0855 .0860 .0865 .0870 .0875 .0880 .0885	2	1/2	4



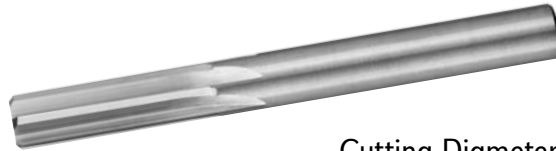
## Chucking Reamers Wire, Fractional, Letter, & Metric Sizes

Cutting Diameter: Up to 1/4" +.0002/-.0000"

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-0890-4 B46-0895-4 B46-0900-4 B46-0905-4 B46-0910-4 B46-0915-4 B46-0920-4	43	.0890 .0895 .0900 .0905 .0910 .0915 .0920	2	1/2	4
B46-0925-4 B46-0930-4 B46-0935-4 B46-0938-4 B46-0940-4 B46-0945-4 B46-0950-4	42 3/32	.0925 .0930 .0935 .0938 .0940 .0945 .0950	2	1/2	4
B46-0955-4 B46-0960-4 B46-0965-4 B46-0970-4 B46-0975-4 B46-0980-4 B46-0984-4	41  40 2.5 mm	.0955 .0960 .0965 .0970 .0975 .0980 .0984	2 2 2 2-1/4 2-1/4 2-1/4 2-1/4	1/2 1/2 1/2 5/8 5/8 5/8 5/8	4
B46-0985-4 B46-0990-4 B46-0995-4 B46-1000-4 B46-1005-4 B46-1010-4 B46-1015-4	39  38	.0985 .0990 .0995 .1000 .1005 .1010 .1015	2-1/4	5/8	4
B46-1020-4 B46-1025-4 B46-1030-4 B46-1035-4 B46-1040-4 B46-1045-4 B46-1050-4	37	.1020 .1025 .1030 .1035 .1040 .1045 .1050	2-1/4	5/8	4
B46-1055-4 B46-1060-4 B46-1065-4 B46-1070-4 B46-1075-4 B46-1080-4 B46-1085-4	36	.1055 .1060 .1065 .1070 .1075 .1080 .1085	2-1/4	5/8	4
B46-1090-4 B46-1094-4 B46-1095-4 B46-1100-4 B46-1105-4 B46-1110-4 B46-1115-4	7/16 35 34	.1090 .1094 .1095 .1100 .1105 .1110 .1115	2-1/4	5/8	4



# BPS® Reamers



Cutting Diameter: Up to 1/4"  $\pm 0.0002/-0.0000$ "

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-1120-4 B46-1125-4 B46-1130-4 B46-1135-4 B46-1140-4 B46-1145-4 B46-1150-4	33	.1120 .1125 .1130 .1135 .1140 .1145 .1150	2-1/4	5/8	4
B46-1155-4 B46-1160-4 B46-1165-4 B46-1170-4 B46-1175-4 B46-1180-4 B46-1181-4	32  3.0 mm	.1155 .1160 .1165 .1170 .1175 .1180 .1181	2-1/4	5/8	4
B46-1185-4 B46-1190-4 B46-1195-4 B46-1200-4 B46-1205-4 B46-1210-4 B46-1215-4	31	.1185 .1190 .1195 .1200 .1205 .1210 .1215	2-1/4	5/8	4
B46-1220-4 B46-1225-4 B46-1230-4 B46-1235-4 B46-1240-4 B46-1245-4 B46-1247-4		.1220 .1225 .1230 .1235 .1240 .1245 .1247	2-1/4	5/8	4
B46-1250-4 B46-1255-4 B46-1260-4 B46-1265-4 B46-1270-4 B46-1275-4 B46-1280-4	1/8	.1250 .1255 .1260 .1265 .1270 .1275 .1280	2-1/4	5/8	4
B46-1285-4 B46-1290-4 B46-1295-4 B46-1300-4 B46-1305-4 B46-1310-4 B46-1315-4	30	.1285 .1290 .1295 .1300 .1305 .1310 .1315	2-1/4 2-1/4 2-1/4 2-1/4 2-1/2 2-1/2 2-1/2	5/8 5/8 5/8 5/8 3/4 3/4 3/4	4
B46-1320-4 B46-1325-4 B46-1330-4 B46-1335-4 B46-1340-4 B46-1345-4 B46-1350-4		.1320 .1325 .1330 .1335 .1340 .1345 .1350	2-1/2	3/4	4



# Chucking Reamers

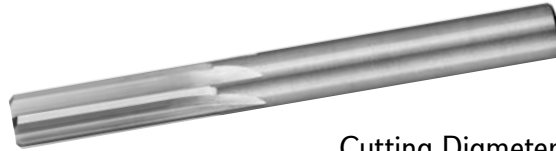
## Wire, Fractional, Letter, & Metric Sizes

Cutting Diameter: Up to 1/4"  $\pm 0.0002/-0.0000$ "

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-1355-4 B46-1360-4 B46-1365-4 B46-1370-4 B46-1375-4 B46-1378-4 B46-1380-4	29    3.5 mm	.1355 .1360 .1365 .1370 .1375 .1378 .1380	2-1/2	3/4	4
B46-1385-4 B46-1390-4 B46-1395-4 B46-1400-4 B46-1405-4 B46-1406-4 B46-1410-4	28 9/64	.1385 .1390 .1395 .1400 .1405 .1406 .1410	2-1/2	3/4	4
B46-1415-4 B46-1420-4 B46-1425-4 B46-1430-4 B46-1435-4 B46-1440-4 B46-1445-4	27	.1415 .1420 .1425 .1430 .1435 .1440 .1445	2-1/2	3/4	4
B46-1450-4 B46-1455-4 B46-1460-4 B46-1465-4 B46-1470-4 B46-1475-4 B46-1480-4	26	.1450 .1455 .1460 .1465 .1470 .1475 .1480	2-1/2	3/4	4
B46-1485-4 B46-1490-4 B46-1495-4 B46-1500-4 B46-1505-4 B46-1507-4 B46-1510-4	25	.1485 .1490 .1495 .1500 .1505 .1507 .1510	2-1/2	3/4	4
B46-1515-4 B46-1520-4 B46-1525-4 B46-1530-4 B46-1535-4 B46-1540-4 B46-1541-4	24   23	.1515 .1520 .1525 .1530 .1535 .1540 .1541	2-1/2	3/4	4
B46-1545-4 B46-1550-4 B46-1555-4 B46-1560-4 B46-1562-4 B46-1565-4 B46-1570-4	5/32  22	.1545 .1550 .1555 .1560 .1562 .1565 .1570	2-1/2	3/4	4



# BPS® Reamers



Cutting Diameter: Up to 1/4"  $\pm .0002/- .0000$ "

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
<b>B46-1575-4</b> <b>B46-1580-4</b> <b>B46-1585-4</b> <b>B46-1590-4</b> <b>B46-1595-4</b> <b>B46-1600-4</b> <b>B46-1605-4</b>	4.0 mm  21	.1575 .1580 .1585 .1590 .1595 .1600 .1605	2-1/2	3/4	4
<b>B46-1610-4</b> <b>B46-1615-4</b> <b>B46-1620-4</b> <b>B46-1625-4</b> <b>B46-1630-4</b> <b>B46-1635-4</b> <b>B46-1640-4</b>	20	.1610 .1615 .1620 .1625 .1630 .1635 .1640	2-3/4	7/8	4
<b>B46-1645-4</b> <b>B46-1650-4</b> <b>B46-1655-4</b> <b>B46-1660-4</b> <b>B46-1665-4</b> <b>B46-1670-4</b> <b>B46-1675-4</b>	19	.1645 .1650 .1655 .1660 .1665 .1670 .1675	2-3/4	7/8	4
<b>B46-1680-4</b> <b>B46-1685-4</b> <b>B46-1690-4</b> <b>B46-1695-4</b> <b>B46-1700-4</b> <b>B46-1705-4</b> <b>B46-1710-4</b>	18	.1680 .1685 .1690 .1695 .1700 .1705 .1710	2-3/4	7/8	4
<b>B46-1715-4</b> <b>B46-1719-4</b> <b>B46-1720-4</b> <b>B46-1725-4</b> <b>B46-1730-4</b> <b>B46-1735-4</b> <b>B46-1740-4</b>	11/64  17	.1715 .1719 .1720 .1725 .1730 .1735 .1740	2-3/4	7/8	4
<b>B46-1745-4</b> <b>B46-1750-4</b> <b>B46-1755-4</b> <b>B46-1760-4</b> <b>B46-1765-4</b> <b>B46-1770-4</b> <b>B46-1772-4</b>	16 4.5 mm	.1745 .1750 .1755 .1760 .1765 .1770 .1772	2-3/4	7/8	4
<b>B46-1775-4</b> <b>B46-1780-4</b> <b>B46-1785-4</b> <b>B46-1790-4</b> <b>B46-1795-4</b> <b>B46-1800-4</b> <b>B46-1805-4</b>	15	.1775 .1780 .1785 .1790 .1795 .1800 .1805	2-3/4	7/8	4



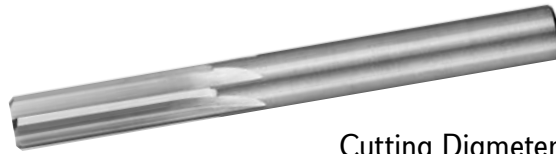
## Chucking Reamers Wire, Fractional, Letter, & Metric Sizes

Cutting Diameter: Up to 1/4" +.0002/-.0000"

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-1810-4 B46-1814-4 B46-1815-4 B46-1820-4 B46-1825-4 B46-1830-4 B46-1835-4	14	.1810 .1814 .1815 .1820 .1825 .1830 .1835	2-3/4	7/8	4
B46-1840-4 B46-1845-4 B46-1850-4 B46-1855-4 B46-1860-4 B46-1865-4 B46-1870-4	13	.1840 .1845 .1850 .1855 .1860 .1865 .1870	2-3/4	7/8	4
B46-1872-4 B46-1875-4 B46-1880-4 B46-1885-4 B46-1890-4 B46-1895-4 B46-1990-4	3/16  12	.1872 .1875 .1880 .1885 .1890 .1895 .1900	2-3/4	7/8	4
B46-1905-4 B46-1910-4 B46-1915-4 B46-1920-4 B46-1925-4 B46-1930-4 B46-1935-4	11   10	.1905 .1910 .1915 .1920 .1925 .1930 .1935	2-3/4 2-3/4 2-3/4 3 3 3 3	7/8 7/8 7/8 1 1 1 1	4
B46-1940-4 B46-1945-4 B46-1945-4 B46-1955-4 B46-1960-4 B46-1965-4 B46-1969-4	9  5.0 mm	.1940 .1945 .1950 .1955 .1960 .1965 .1969	3	1	4
B46-1970-4 B46-1975-4 B46-1980-4 B46-1985-4 B46-1990-4 B46-1995-4 B46-2000-4	8	.1970 .1975 .1980 .1985 .1990 .1995 .2000	3	1	4
B46-2005-4 B46-2010-4 B46-2015-4 B46-2020-4 B46-2025-4 B46-2030-4 B46-2031-4	7  13/64	.2005 .2010 .2015 .2020 .2025 .2030 .2031	3	1	4



# BPS® Reamers



Cutting Diameter: Up to 1/4"  $\pm 0.0002/-0.0000$ "

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-2035-4 B46-2040-4 B46-2045-4 B46-2050-4 B46-2055-4 B46-2060-4 B46-2065-4	6  5	.2035 .2040 .2045 .2050 .2055 .2060 .2065	3	1	4
B46-2070-4 B46-2075-4 B46-2080-4 B46-2085-4 B46-2090-4 B46-2095-4 B46-2100-4	4	.2070 .2075 .2080 .2085 .2090 .2095 .2100	3	1	4
B46-2105-4 B46-2110-4 B46-2115-4 B46-2120-4 B46-2125-4 B46-2130-4 B46-2135-4	3	.2105 .2110 .2115 .2120 .2125 .2130 .2135	3	1	4
B46-2140-4 B46-2145-4 B46-2150-4 B46-2155-4 B46-2160-4 B46-2165-4 B46-2170-4	5.5 mm	.2140 .2145 .2150 .2155 .2160 .2165 .2170	3	1	4
B46-2175-4 B46-2177-4 B46-2180-4 B46-2185-4 B46-2188-4 B46-2190-4 B46-2195-4	7/32	.2175 .2177 .2180 .2185 .2188 .2190 .2195	3	1	4
B46-2200-4 B46-2205-4 B46-2210-4 B46-2215-4 B46-2220-4 B46-2225-4 B46-2230-4	2	.2200 .2205 .2210 .2215 .2220 .2225 .2230	3	1	4
B46-2235-4 B46-2240-4 B46-2245-4 B46-2250-4 B46-2255-4 B46-2260-4 B46-2265-4		.2235 .2240 .2245 .2250 .2255 .2260 .2265	3	1	4



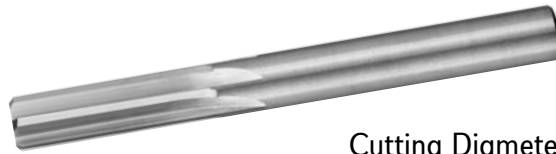
## Chucking Reamers Wire, Fractional, Letter, & Metric Sizes

Cutting Diameter: Up to 1/4"  $\pm 0.0002/-0.0000$ "

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-2270-4 B46-2275-4 B46-2280-4 B46-2285-4 B46-2290-4 B46-2295-4 B46-2300-4	1	.2270 .2275 .2280 .2285 .2290 .2295 .2300	3	1	4
B46-2305-4 B46-2310-4 B46-2315-4 B46-2320-4 B46-2325-4 B46-2330-4 B46-2335-4		.2305 .2310 .2315 .2320 .2325 .2330 .2335	3	1	4
B46-2340-4 B46-2344-4 B46-2345-4 B46-2350-4 B46-2355-4 B46-2360-4 B46-2362-4	A 15/64  6.0 mm	.2340 .2344 .2345 .2350 .2355 .2360 .2362	3	1	4
B46-2365-4 B46-2370-4 B46-2375-4 B46-2380-4 B46-2385-4 B46-2390-4 B46-2395-4	B	.2365 .2370 .2375 .2380 .2385 .2390 .2395	3	1	4
B46-2400-4 B46-2405-4 B46-2410-4 B46-2415-4 B46-2420-4 B46-2425-4 B46-2430-4	C	.2400 .2405 .2410 .2415 .2420 .2425 .2430	3	1	4
B46-2435-4 B46-2440-4 B46-2445-4 B46-2450-4 B46-2455-4 B46-2460-4 B46-2465-4	D	.2435 .2440 .2445 .2450 .2455 .2460 .2465	3	1	4
B46-2470-4 B46-2475-4 B46-2480-4 B46-2485-4 B46-2490-4 B46-2495-4 B46-2500-4	1/4 E	.2470 .2475 .2480 .2485 .2490 .2495 .2500	3	1	4



# BPS® Reamers



Cutting Diameter: Over 1/4" +.0003/-.0000"

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-2505-4 B46-2510-4 B46-2515-4 B46-2520-4 B46-2525-4 B46-2530-4 B46-2535-4		.2505 .2510 .2515 .2520 .2525 .2530 .2535	3	1	4
B46-2540-4 B46-2545-4 B46-2550-4 B46-2559-6 B46-2560-6 B46-2565-6 B46-2570-6	6.5 mm  F	.2540 .2545 .2550 .2559 .2560 .2565 .2570	3 3 3 3-1/4 3-1/4 3-1/4 3-1/4	1 1 1 1-1/8 1-1/8 1-1/8 1-1/8	4 4 4 6 6 6 6
B46-2576-6 B46-2580-6 B46-2590-6 B46-2600-6 B46-2610-6 B46-2620-6 B46-2630-6	G	.2575 .2580 .2590 .2600 .2610 .2620 .2630	3-1/4	1-1/8	6
B46-2640-6 B46-2650-6 B46-2656-6 B46-2660-6 B46-2670-6 B46-2680-6 B46-2690-6	17/64 H	.2640 .2650 .2656 .2660 .2670 .2680 .2690	3-1/4	1-1/8	6
B46-2700-6 B46-2710-6 B46-2720-6 B46-2730-6 B46-2740-6 B46-2750-6 B46-2756-6	I  7.0 mm	.2700 .2710 .2720 .2730 .2740 .2750 .2756	3-1/4	1-1/8	6
B46-2760-6 B46-2770-6 B46-2780-6 B46-2790-6 B46-2800-6 B46-2810-6 B46-2812-6	J  K 9/32	.2760 .2770 .2780 .2790 .2800 .2810 .2812	3-1/4	1-1/8	6
B46-2818-6 B46-2820-6 B46-2830-6 B46-2840-6 B46-2850-6 B46-2860-6 B46-2870-6		.2818 .2830 .2830 .2840 .2850 .2860 .2870	3-1/4	1-1/8	6



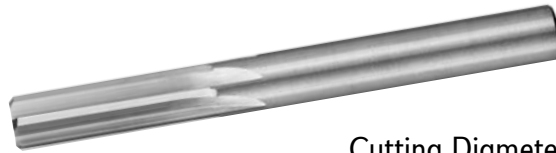
## Chucking Reamers Wire, Fractional, Letter, & Metric Sizes

Cutting Diameter: Over 1/4" +.0003/-.0000"

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-2880-6 B46-2890-6 B46-2900-6 B46-2910-6 B46-2920-6 B46-2930-6 B46-2940-6	L	.2880 .2890 .2900 .2910 .2920 .2930 .2940	3-1/4	1-1/8	6
B46-2950-6 B46-2953-6 B46-2960-6 B46-2969-6 B46-2970-6 B46-2980-6 B46-2990-6	M 7.5 mm 19/64	.2950 .2953 .2960 .2969 .2970 .2980 .2990	3-1/4	1-1/8	6
B46-3000-6 B46-3010-6 B46-3020-6 B46-3030-6 B46-3040-6 B46-3050-6 B46-3060-6	N	.3000 .3010 .3020 .3030 .3040 .3050 .3060	3-1/4	1-1/8	6
B46-3070-6 B46-3080-6 B46-3090-6 B46-3100-6 B46-3110-6 B46-3120-6 B46-3125-6	5/16	.3070 .3080 .3090 .3100 .3110 .3120 .3125	3-1/4	1-1/8	6
B46-3130-6 B46-3140-6 B46-3150-6 B46-3160-6 B46-3170-6 B46-3180-6 B46-3190-6	8.0 mm O	.3130 .3140 .3150 .3160 .3170 .3180 .3190	3-1/4 3-1/4 3-1/4 3-1/4 3-1/2 3-1/2 3-1/2	1-1/8 1-1/8 1-1/8 1-1/8 1-1/4 1-1/4 1-1/4	6
B46-3200-6 B46-3210-6 B46-3220-6 B46-3230-6 B46-3240-6 B46-3250-6 B46-3260-6	P	.3200 .3210 .3220 .3230 .3240 .3250 .3260	3-1/2	1-1/4	6
B46-3270-6 B46-3280-6 B46-3281-6 B46-3290-6 B46-3300-6 B46-3310-6 B46-3320-6	21/64 Q	.3270 .3280 .3281 .3290 .3300 .3310 .3320	3-1/2	1-1/4	6



# BPS® Reamers



Cutting Diameter: Over 1/4" +.0003/-.0000"

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-3330-6 B46-3340-6 B46-3346-6 B46-3350-6 B46-3360-6 B46-3370-6 B46-3380-6	8.5 mm	.3330 .3340 .3346 .3350 .3360 .3370 .3380	3-1/2	1-1/4	6
B46-3390-6 B46-3400-6 B46-3410-6 B46-3420-6 B46-3430-6 B46-3438-6 B46-3440-6	R  11/32	.3390 .3400 .3410 .3420 .3530 .3438 .3440	3-1/2	1-1/4	6
B46-3450-6 B46-3460-6 B46-3470-6 B46-3480-6 B46-3490-6 B46-3500-6 B46-3510-6	S	.3450 .3460 .3470 .3480 .3490 .3500 .3510	3-1/2	1-1/4	6
B46-3520-6 B46-3530-6 B46-3540-6 B46-3543-6 B46-3550-6 B46-3560-6 B46-3570-6	9.0 mm	.3520 .3530 .3540 .3543 .3550 .3560 .3570	3-1/2	1-1/4	6
B46-3580-6 B46-3590-6 B46-3594-6 B46-3600-6 B46-3610-6 B46-3620-6 B46-3630-6	T  23/64	.3580 .3590 .3594 .3600 .3610 .3620 .3630	3-1/2	1-1/4	6
B46-3640-6 B46-3650-6 B46-3660-6 B46-3670-6 B46-3680-6 B46-3690-6 B46-3700-6	U	.3640 .3650 .3660 .3670 .3680 .3690 .3700	3-1/2	1-1/4	6
B46-3710-6 B46-3720-6 B46-3730-6 B46-3740-6 B46-3745-6 B46-3750-6 B46-3755-6	9.5 mm  3/8	.3710 .3720 .3730 .3740 .3745 .3750 .3755	3-1/2	1-1/4	6



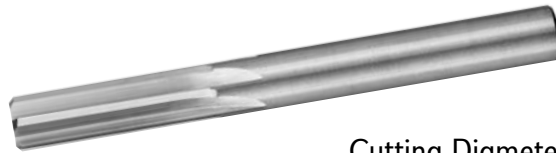
## Chucking Reamers Wire, Fractional, Letter, & Metric Sizes

Cutting Diameter: Over 1/4" +.0003/-.0000"

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-3760-6 B46-3765-6 B46-3770-6 B46-3780-6 B46-3790-6 B46-3800-6 B46-3810-6	V	.3760 .3765 .3770 .3780 .3790 .3800 .3810	3-1/2	1-1/4	6
B46-3820-6 B46-3830-6 B46-3840-6 B46-3850-6 B46-3860-6 B46-3870-6 B46-3880-6	W	.3820 .3830 .3840 .3850 .3860 .3870 .3880	3-1/2	1-1/4	6
B46-3890-6 B46-3900-6 B46-3906-6 B46-3910-6 B46-3920-6 B46-3930-6 B46-3937-6	25/64  10.0 mm	.3890 .3900 .3906 .3910 .3920 .3930 .3937	3-1/2	1-1/4	6
B46-3940-6 B46-3950-6 B46-3960-9 B46-3970-6 B46-3980-6 B46-3990-6 B46-4000-6	X	.3940 .3950 .3960 .3970 .3980 .990 .4000	3-1/2	1-1/4	6
B46-4010-6 B46-4020-6 B46-1030-6 B46-4040-6 B46-4050-6 B46-4060-6 B46-4062-6	Y  13/32	.4010 .4020 .4030 .4040 .4050 .4060 .4062	3-1/2	1-1/4	6
B46-4070-6 B46-4080-6 B46-4090-6 B46-4100-6 B46-4110-6 B46-4120-6 B46-4130-6	Z	.4070 .4080 .4090 .4100 .4110 .4120 .4130	3-1/2	1-1/4	6
B46-4134-6 B46-4140-6 B46-4150-6 B46-4160-6 B46-4170-6 B46-4180-6 B46-4190-6	10.5 mm	.4134 .4140 .4150 .4160 .4170 .4180 .4190	3-1/2 3-1/2 3-1/2 3-1/2 4 4 4	1-1/4 1-1/4 1-1/4 1-1/4 1-3/8 1-3/8 1-3/8	6



# BPS® Reamers



Cutting Diameter: Over 1/4" +.0003/-.0000"

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-4200-6 B46-4210-6 B46-4219-6 B46-4230-6 B46-4240-6 B46-4250-6 B46-4260-6	27/64	.4200 .4210 .4219 .4230 .4240 .4250 .4260	4	1-3/8	6
B46-4270-6 B46-4280-6 B46-4290-6 B46-4300-6 B46-4310-6 B46-4320-6 B46-4331-6	11.0 mm	.4270 .4280 .4290 .4300 .4310 .4320 .4331	4	1-3/8	6
B46-4340-6 B46-4350-6 B46-4360-6 B46-4370-6 B46-4375-6 B46-4380-6 B46-4390-6	7/16	.4340 .4350 .4360 .4370 .4375 .4380 .4390	4	1-3/8	6
B46-4400-6 B46-4410-6 B46-4420-6 B46-4430-6 B46-4440-6 B46-4450-6 B46-4460-6		.4400 .4410 .4420 .4430 .4440 .4450 .4460	4	1-3/8	6
B46-4470-6 B46-4480-6 B46-4490-6 B46-4500-6 B46-4510-6 B46-4520-6 B46-4528-6	11.5 mm	.4470 .4480 .4490 .4500 .4510 .4520 .4528	4	1-3/8	6
B46-4530-6 B46-4531-6 B46-4540-6 B46-4550-6 B46-4560-6 B46-4570-6 B46-4580-6	29/64	.4530 .4531 .4540 .4550 .4560 .4570 .4580	4	1-3/8	6
B46-4590-6 B46-4600-6 B46-4610-6 B46-4620-6 B46-4630-6 B46-4640-6 B46-4650-6		.4590 .4600 .4610 .4620 .4630 .4640 .4650	4	1-3/8	6



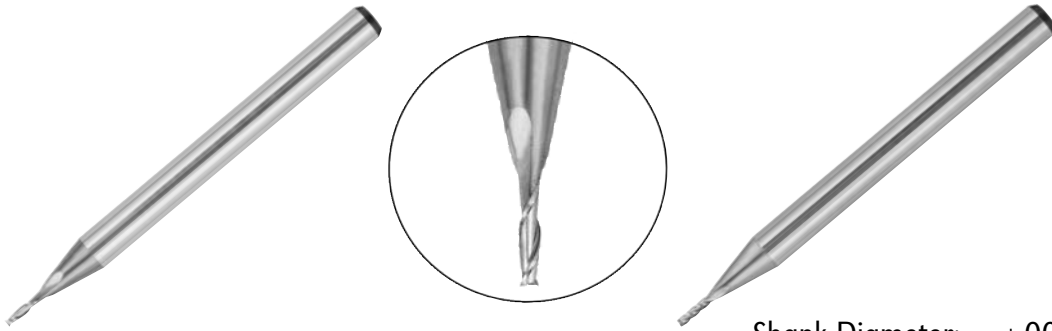
# Chucking Reamers

## Wire, Fractional, Letter, & Metric Sizes

Cutting Diameter: Over 1/4" +.0003/-0.0000"

TOOL NUMBER	SIZE	DECIMALS & EQUIVALENTS	OVERALL LENGTH	FLUTE LENGTH	NUMBER OF FLUTES
B46-4660-6 B46-4670-6 B46-4680-6 B46-4688-6 B46-4690-6 B46-4700-6 B46-4710-6	15/32	.4660 .4670 .4680 .4688 .4690 .4700 .4710	4	1-3/8	6
B46-4720-6 B46-4724-6 B46-4730-6 B46-4740-6 B46-4750-6 B46-4760-6 B46-4770-6	12.0 mm	.4720 .2724 .4730 .4740 .4750 .4760 .4770	4	1-3/8	6
B46-4780-6 B46-4790-6 B46-4800-6 B46-4805-6 B46-4810-6 B46-4820-6 B46-4830-6		.4780 .4790 .4800 .4805 .4810 .4820 .4830	4	1-3/8 1-1/2 1-1/2 1-1/2 1-1/2 1-1/2 1-1/2	6
B46-4840-6 B46-4844-6 B46-4850-6 B46-4860-6 B46-4870-6 B46-4880-6 B46-4890-6	31/64	.4840 .4844 .4850 .4860 .4870 .4880 .4890	4	1-1/2	6
B46-4900-6 B46-4910-6 B46-4921-6 B46-4930-6 B46-4940-6 B46-4950-6 B46-4960-6	12.5 mm	.4900 .4910 .4921 .4930 .4940 .4950 .4960	4	1-1/2	6
B46-4970-6 B46-4980-6 B46-4990-6 B46-4995-6 B46-5000-6 B46-5005-6 B46-5010-6	1/2	.4970 .4980 .4990 .4995 .5000 .5005 .5010	4	1-1/2	6
B46-5015-6 B46-5020-6 B46-5030-6 B46-5040-6 B46-5050-6		.5015 .5020 .5030 .5040 .5050	4	1-1/2	6

## Miniature 2 & 4 Flute, Square End

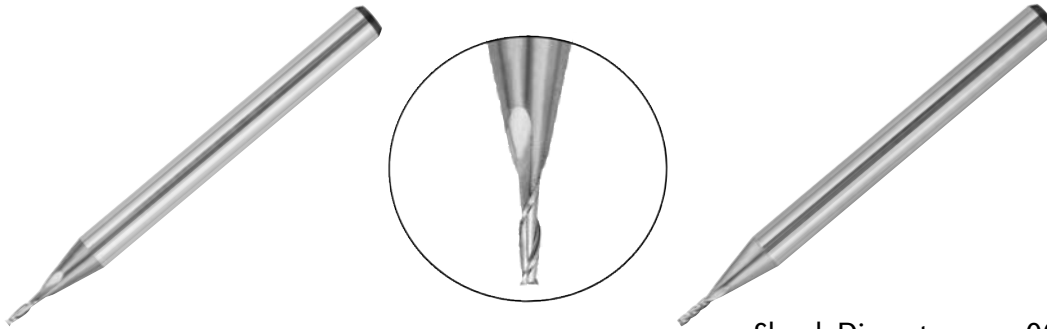


Shank Diameter:  $+0.0000/-0.0005$ "  
Cutting Diameter:  $\pm 0.0005$ "

2-FLUTE TOOL NO.	4-FLUTE TOOL NO.	CUTTING DIAMTER	SHANK DIAMTER	OVERALL LENGTH	FLUTE LENGTH
B10-005-2 B10-006-2 B10-007-2 B10-008-2 B10-009-2 B10-010-2	B10-005-4 B10-006-4 B10-007-4 B10-008-4 B10-009-4 B10-010-4	.005 .006 .007 .008 .009 .010	1/8	1-1/2	.015 .018 .021 .024 .027 .030
B10-011-2 B10-012-2 B10-013-2 B10-014-2 B10-015-2 B10-016-2	B10-011-4 B10-012-4 B10-013-4 B10-014-4 B10-015-4 B10-016-4	.011 .012 .013 .014 .015 .016	1/8	1-1/2	.033 .036 .039 .042 .045 .048
B10-017-2 B10-018-2 B10-019-2 B10-020-2 B10-021-2 B10-022-2	B10-017-4 B10-018-4 B10-019-4 B10-020-4 B10-021-4 B10-022-4	.017 .018 .019 .020 .021 .022	1/8	1-1/2	.051 .054 .057 .060 .063 .066
B10-023-2 B10-024-2 B10-025-2 B10-026-2 B10-027-2 B10-028-2	B10-023-4 B10-024-4 B10-025-4 B10-026-4 B10-027-4 B10-028-4	.023 .024 .025 .026 .027 .028	1/8	1-1/2	.069 .072 .075 .078 .081 .084
B10-029-2 B10-030-2 B10-031-2 B10-032-2 B10-033-2 B10-034-2	B10-029-4 B10-030-4 B10-031-4 B10-032-4 B10-033-4 B10-034-4	.029 .030 .031 .032 .033 .034	1/8	1-1/2	.087 .090 .093 .096 .099 .102
B10-035-2 B10-036-2 B10-037-2 B10-038-2 B10-039-2 B10-040-2	B10-035-4 B10-036-4 B10-037-4 B10-038-4 B10-039-4 B10-040-4	.035 .036 .037 .038 .039 .040	1/8	1-1/2	.105 .108 .111 .114 .117 .120



**Miniature  
2 & 4 Flute, Square End**

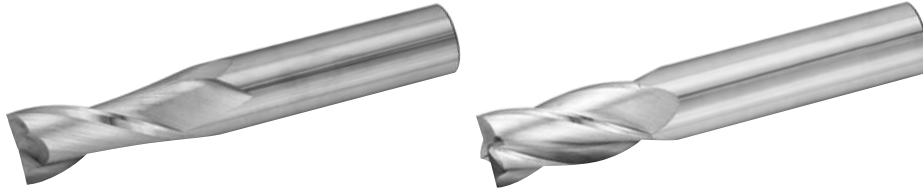


Shank Diameter:  $+0.0000/-0.0005$ "  
Cutting Diameter:  $\pm 0.0005$ "

2-FLUTE TOOL NO.	4-FLUTE TOOL NO.	CUTTING DIAMTER	SHANK DIAMTER	OVERALL LENGTH	FLUTE LENGTH
B10-041-2 B10-042-2 B10-043-2 B10-044-2 B10-045-2 B10-046-2	B10-041-4 B10-042-4 B10-043-4 B10-044-4 B10-045-4 B10-046-4	.041 .042 .043 .044 .045 .046	1/8	1-1/2	.123 .126 .129 .132 .135 .138
B10-047-2 B10-048-2 B10-049-2 B10-050-2 B10-051-2 B10-052-2	B10-047-4 B10-048-4 B10-049-4 B10-050-4 B10-051-4 B10-052-4	.047 .048 .049 .050 .051 .052	1/8	1-1/2	.141 .144 .147 .150 .153 .156
B10-053-2 B10-054-2 B10-055-2 B10-056-2 B10-057-2 B10-058-2	B10-053-4 B10-054-4 B10-055-4 B10-056-4 B10-057-4 B10-058-4	.053 .054 .055 .056 .057 .058	1/8	1-1/2	.159 .162 .165 .168 .171 .174
B10-059-2 B10-060-2 B10-061-2 B10-062-2 B10-063-2 B10-064-2	B10-059-4 B10-060-4 B10-061-4 B10-062-4 B10-063-4 B10-064-4	.059 .060 .061 .062 .063 .064	1/8	1-1/2	.177 .180 .183 .186 .189 .192
B10-065-2 B10-070-2 B10-075-2 B10-080-2 B10-085-2 B10-090-2	B10-065-4 B10-070-4 B10-075-4 B10-080-4 B10-085-4 B10-090-4	.065 .070 .075 .080 .085 .090	1/8	1-1/2	.195 .210 .225 .240 .255 .270
B10-095-2 B10-100-2 B10-105-2 B10-110-2 B10-115-2 B10-120-2	B10-095-4 B10-100-4 B10-105-4 B10-110-4 B10-115-4 B10-120-4	.095 .100 .105 .110 .115 .120	1/8	1-1/2	.285 .300 .315 .330 .345 .360



**Regular Length, Single End  
2 & 4 Flute, Square End**



Shank Diameter: +.0000/-.0005"  
 Cutting Diameter: Up to 1/2" +.000/-.002"  
 Over 1/2" +.000/-.003"

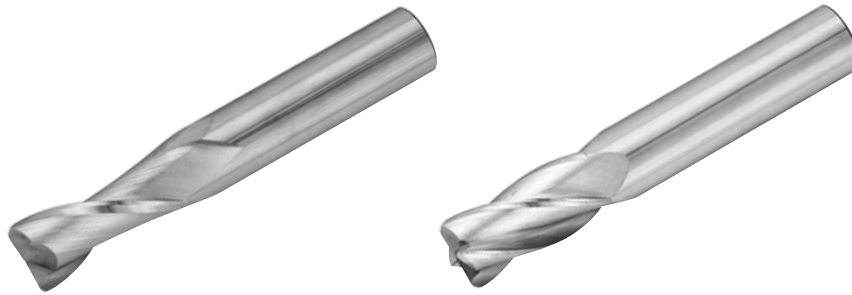
2-FLUTE TOOL NO.	4-FLUTE TOOL NO.	CUTTING DIAMTER	SHANK DIAMTER	OVERALL LENGTH	FLUTE LENGTH
B15-031-2 B15-046-2 B15-062-2 B15-078-2 B15-093-2 B15-109-2 B15-125-2	B15-031-4 B15-046-4 B15-062-4 B15-078-4 B15-093-4 B15-109-4 B15-125-4	1/32 3/64 1/16 5/64 3/32 7/64 1/8	1/8	1-1/2	1/8 1/8 1/4 1/4 3/8 3/8 1/2
B15-140-2 B15-156-2 B15-171-2 B15-187-2 B15-203-2 B15-218-2 B15-234-2 B15-250-2	B15-140-4 B15-156-4 B15-171-4 B15-187-4 B15-203-4 B15-218-4 B15-234-4 B15-250-4	9/64 5/32 11/64 3/16 13/64 7/32 15/64 1/4	3/16 3/16 3/16 3/16 1/4 1/4 1/4 1/4	2 2 2 2 2-1/2 2-1/2 2-1/2 2-1/2	9/16 9/16 9/16 5/8 5/8 5/8 3/4 3/4
B15-265-2 B15-281-2 B15-296-2 B15-312-2 B15-328-2 B15-343-2 B15-359-2 B15-375-2	B15-265-4 B15-281-4 B15-296-4 B15-312-4 B15-328-4 B15-343-4 B15-359-4 B15-375-4	17/64 9/32 19/64 5/16 21/64 11/32 23/64 3/8	5/16 5/16 5/16 5/16 3/8 3/8 3/8 3/8	2-1/2	3/4 3/4 13/16 13/16 1 1 1 1
B15-390-2 B15-406-2 B15-421-2 B15-437-2 B15-453-2 B15-468-2 B15-484-2 B15-500-2	B15-390-4 B15-406-4 B15-421-4 B15-437-4 B15-453-4 B15-468-4 B15-484-4 B15-500-4	25/64 13/32 27/64 7/16 29/64 15/32 31/64 1/2	7/16 7/16 7/16 7/16 1/2 1/2 1/2 1/2	2-3/4 2-3/4 2-3/4 2-3/4 3 3 3 3	1
B15-562-2 B15-625-2 B15-687-2 B15-750-2 B15-875-2 B15-001-2	B15-562-4 B15-625-4 B15-687-4 B15-750-4 B15-875-4 B15-001-4	9/16 5/8 11/16 3/4 7/8 1	9/16 5/8 3/4 3/4 7/8 1	3-1/2 3-1/2 4 4 4 4	1-1/4 1-1/4 1-1/2 1-1/2 1-1/2 1-1/2

*TiN, TiCN & TiAlN Coated, Long Length & Extra Long Length End Mills Also Available*



# BPS® End Mills

## Regular Length, Single End 2 & 4 Flute, Corner Radius



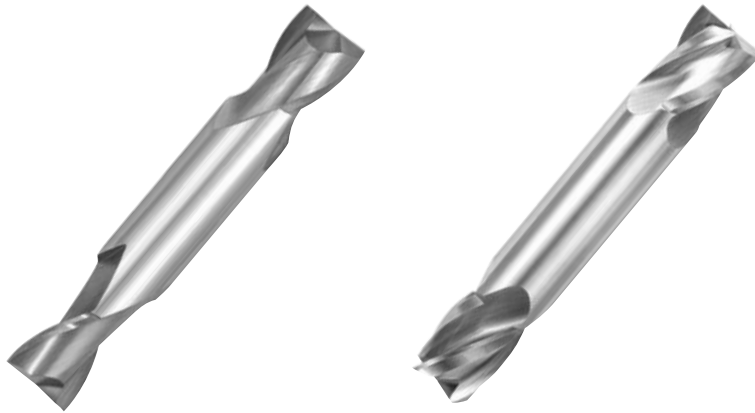
Shank Diameter: +.0000/-.0005"  
 Cutting Diameter: Up to 1/2" +.000/- .002"  
 Over 1/2" +.000/- .003"  
 Corner Radius: ±.0005"

2-FLUTE TOOL NO.	4-FLUTE TOOL NO.	CUTTING DIAMETER	SHANK DIAMETER	OVERALL LENGTH	FLUTE LENGTH	CORNER RADIUS
B12-22-015 B12-22-020	B12-24-015 B12-24-020	1/8	1/8	1-1/2	1/2	.015 .020
B12-32-015 B12-32-020 B12-32-030	B12-34-015 B12-34-020 B12-34-030	3/16	3/16	2	5/8	.015 .020 .030
B12-42-015 B12-42-020 B12-42-030 B12-42-045	B12-44-015 B12-44-020 B12-44-030 B12-44-045	1/4	1/4	2-1/2	3/4	.015 .020 .030 .045
B12-52-015 B12-52-020 B12-52-030 B12-52-045	B12-54-015 B12-54-020 B12-54-030 B12-54-045	5/16	5/16	2-1/2	13/16	.015 .020 .030 .045
B12-62-015 B12-62-020 B12-62-030 B12-62-045	B12-64-015 B12-64-020 B12-64-030 B12-64-045	3/8	3/8	2-1/2	1	.015 .020 .030 .045
B12-82-015 B12-82-020 B12-82-030 B12-82-045 B12-82-060	B12-84-015 B12-84-020 B12-84-030 B12-84-045 B12-84-060	1/2	1/2	3	1	.015 .020 .030 .045 .060

*TiN, TiCN & TiAlN Coated, Other Sizes & Radii Also Available*

**Premium Micrograin • Solid Carbide**

**Stub Length, Double End  
2 & 4 Flute, Square End**



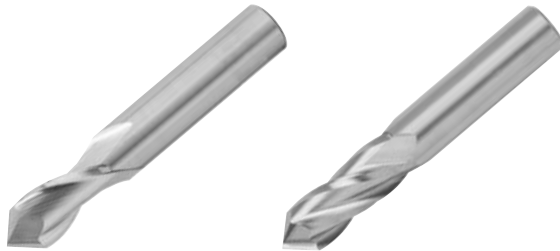
Shank Diameter: +.0000/-.0005"  
Cutting Diameter: +.000/-0.002"

2-FLUTE TOOL NO.	4-FLUTE TOOL NO.	CUTTING DIAMETER	SHANK DIAMETER	OVERALL LENGTH	FLUTE LENGTH
<b>B23-031-2</b>	<b>B23-031-4</b>	1/32			1/16
<b>B23-046-2</b>	<b>B23-046-4</b>	3/64			1/8
<b>B23-062-2</b>	<b>B23-062-4</b>	1/16			1/8
<b>B23-078-2</b>	<b>B23-078-4</b>	5/64	1/8	1-1/2	1/8
<b>B23-093-2</b>	<b>B23-093-4</b>	3/32			3/16
<b>B23-109-2</b>	<b>B23-109-4</b>	7/64			3/16
<b>B23-125-2</b>	<b>B23-125-4</b>	1/8			1/4
<b>B23-140-2</b>	<b>B23-140-4</b>	9/64	3/16	2	5/16
<b>B23-156-2</b>	<b>B23-156-4</b>	5/32	3/16	2	5/16
<b>B23-171-2</b>	<b>B23-171-4</b>	11/64	3/16	2	5/16
<b>B23-187-2</b>	<b>B23-187-4</b>	3/16	3/16	2	3/8
<b>B23-203-2</b>	<b>B23-203-4</b>	13/64	1/4	2-1/2	1/2
<b>B23-218-2</b>	<b>B23-218-4</b>	7/32	1/4	2-1/2	1/2
<b>B23-234-2</b>	<b>B23-234-4</b>	15/64	1/4	2-1/2	1/2
<b>B23-250-2</b>	<b>B23-250-4</b>	1/4	1/4	2-1/2	1/2
<b>B23-281-2</b>	<b>B23-281-4</b>	9/32	5/16	2-1/2	1/2
<b>B23-312-2</b>	<b>B23-312-4</b>	5/16	5/16	2-1/2	1/2
<b>B23-343-2</b>	<b>B23-343-4</b>	11/32	3/8	2-1/2	9/16
<b>B23-375-2</b>	<b>B23-375-4</b>	3/8	3/8	2-1/2	9/16
<b>B23-437-2</b>	<b>B23-437-4</b>	7/16	7/16	2-3/4	5/8
<b>B23-500-2</b>	<b>B23-500-4</b>	1/2	1/2	3	5/8

*TiN, TiCN & TiAlN Coated End Mills Also Available*



## Drillpoint End Mills 2 & 4 Flute, 60°, & 90° Drillpoint

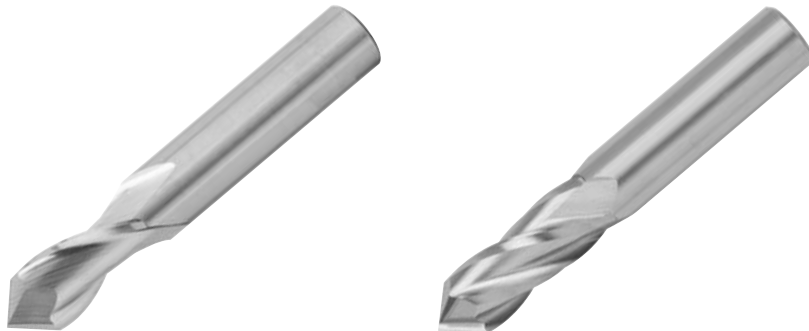


Shank Diameter: +.0000/-.0005"  
 Cutting Diameter: Up to 1/2" +.000/-.002"  
 Over 1/2" +.000/-.003"

Multipurpose tool for Drilling, Milling, Spotting, Chamfering, and Countersinking.

2-FLUTE, 60° TOOL NO.	4-FLUTE, 60° TOOL NO.	CUTTING DIAMTER	SHANK DIAMTER	OVERALL LENGTH	FLUTE LENGTH
B35-125-260 B35-187-260 B35-250-260	B35-125-460 B35-187-460 B35-250-460	1/8 3/16 1/4	1/8 3/16 1/4	1-1/2 2 2-1/2	1/2 5/8 3/4
B35-312-260 B35-375-260 B35-437-260	B35-312-460 B35-375-460 B35-437-460	5/16 3/8 7/16	5/16 3/8 7/16	2-1/2 2-1/2 2-3/4	13/16 1 1
B35-500-260 B35-625-260 B35-750-260	B35-500-460 B35-625-460 B35-750-460	1/2 5/8 3/4	1/2 5/8 3/4	3 3-1/2 4	1 1-1/4 1-1/2

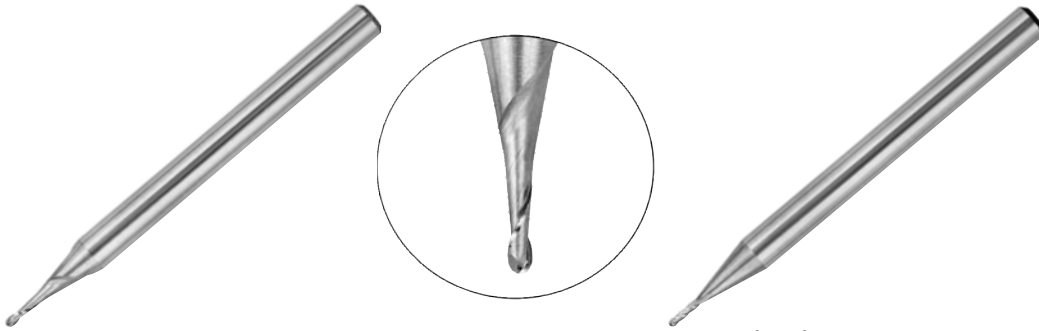
*TiAlN Coated Drill Mills Also Available*



2-FLUTE, 90° TOOL NO.	4-FLUTE, 90° TOOL NO.	CUTTING DIAMTER	SHANK DIAMTER	OVERALL LENGTH	FLUTE LENGTH
B35-125-290 B35-187-290 B35-250-290	B35-125-490 B35-187-490 B35-250-490	1/8 3/16 1/4	1/8 3/16 1/4	1-1/2 2 2-1/2	1/2 5/8 3/4
B35-312-290 B35-375-290 B35-437-290	B35-312-490 B35-375-490 B35-437-490	5/16 3/8 7/16	5/16 3/8 7/16	2-1/2 2-1/2 2-3/4	13/16 1 1
B35-500-290 B35-625-290 B35-750-290	B35-500-490 B35-625-490 B35-750-490	1/2 5/8 3/4	1/2 5/8 3/4	3 3-1/2 4	1 1-1/4 1-1/2

*TiAlN Coated Drill Mills Also Available*

**Miniature  
2 & 4 Flute, Ball End**

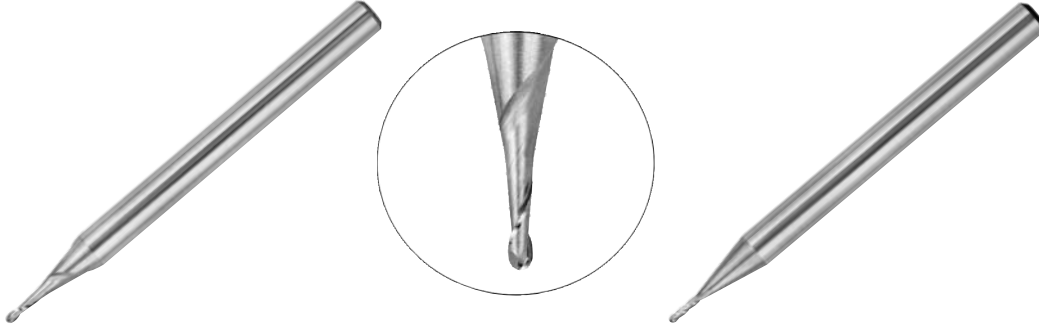


Shank Diameter:  $+0.0000/-0.0005$ "  
Cutting Diameter:  $\pm 0.0005$ "

2-FLUTE TOOL NO.	4-FLUTE TOOL NO.	CUTTING DIAMETER	SHANK DIAMETER	OVERALL LENGTH	FLUTE LENGTH
B11-010-2 B11-011-2 B11-012-2 B11-013-2 B11-014-2	B11-010-4 B11-011-4 B11-012-4 B11-013-4 B11-014-4	.010 .011 .012 .013 .014	1/8	1-1/2	.030 .033 .036 .039 .042
B11-015-2 B11-016-2 B11-017-2 B11-018-2 B11-019-2	B11-015-4 B11-016-4 B11-017-4 B11-018-4 B11-019-4	.015 .016 .017 .018 .019	1/8	1-1/2	.045 .048 .051 .054 .057
B11-020-2 B11-021-2 B11-022-2 B11-023-2 B11-024-2	B11-020-4 B11-021-4 B11-022-4 B11-023-4 B11-024-4	.020 .021 .022 .023 .024	1/8	1-1/2	.060 .063 .066 .069 .072
B11-025-2 B11-026-2 B11-027-2 B11-028-2 B11-029-2	B11-025-4 B11-026-4 B11-027-4 B11-028-4 B11-029-4	.025 .026 .027 .028 .029	1/8	1-1/2	.075 .078 .081 .084 .087
B11-030-2 B11-031-2 B11-032-2 B11-033-2 B11-034-2	B11-030-4 B11-031-4 B11-032-4 B11-033-4 B11-034-4	.030 .031 .032 .033 .034	1/8	1-1/2	.090 .093 .096 .099 .102
B11-035-2 B11-036-2 B11-037-2 B11-038-2 B11-039-2	B11-035-4 B11-036-4 B11-037-4 B11-038-4 B11-039-4	.035 .036 .037 .038 .039	1/8	1-1/2	.105 .108 .111 .114 .117
B11-040-2 B11-041-2 B11-042-2 B11-043-2 B11-044-2	B11-040-4 B11-041-4 B11-042-4 B11-043-4 B11-044-4	.040 .041 .042 .043 .044	1/8	1-1/2	.120 .123 .126 .129 .132



**Miniature  
2 & 4 Flute, Ball End**



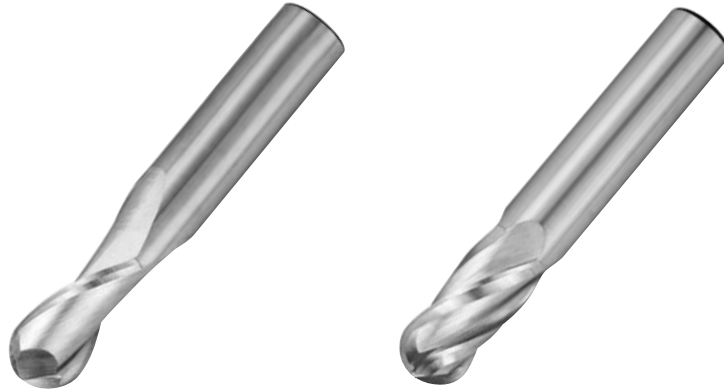
Shank Diameter: +.0000/-.0005"  
Cutting Diameter: ±.0005"

2-FLUTE TOOL NO.	4-FLUTE TOOL NO.	CUTTING DIAMTER	SHANK DIAMTER	OVERALL LENGTH	FLUTE LENGTH
B11-045-2 B11-046-2 B11-047-2 B11-048-2 B11-049-2	B11-045-4 B11-046-4 B11-047-4 B11-048-4 B11-049-4	.045 .046 .047 .048 .049	1/8	1-1/2	.135 .138 .141 .144 .147
B11-050-2 B11-051-2 B11-052-2 B11-053-2 B11-054-2	B11-050-4 B11-051-4 B11-052-4 B11-053-4 B11-054-4	.050 .051 .052 .053 .054	1/8	1-1/2	.150 .153 .156 .159 .162
B11-055-2 B11-056-2 B11-057-2 B11-058-2 B11-059-2	B11-055-4 B11-056-4 B11-057-4 B11-058-4 B11-059-4	.055 .056 .057 .058 .059	1/8	1-1/2	.165 .168 .171 .174 .177
B11-060-2 B11-061-2 B11-062-2 B11-063-2 B11-064-2	B11-060-4 B11-061-4 B11-062-4 B11-063-4 B11-064-4	.060 .061 .062 .063 .064	1/8	1-1/2	.180 .183 .186 .189 .192
B11-065-2 B11-070-2 B11-075-2 B11-080-2 B11-085-2	B11-065-4 B11-070-4 B11-075-4 B11-080-4 B11-085-4	.065 .070 .075 .080 .085	1/8	1-1/2	.195 .210 .225 .240 .255
B11-090-2 B11-095-2 B11-100-2 B11-105-2 B11-110-2 B11-115-2 B11-120-2	B11-090-4 B11-095-4 B11-100-4 B11-105-4 B11-110-4 B11-115-4 B11-120-4	.090 .095 .100 .105 .110 .115 .120	1/8	1-1/2	.270 .285 .300 .315 .330 .345 .360



# BPS® End Mills

## Regular Length, Single End 2 & 4 Flute, Ball End



Shank Diameter: +.0000/-.0005"  
 Cutting Diameter: Up to 1/2" +.000/-0.002"  
 Over 1/2" +.000/-0.003"

2-FLUTE TOOL NO.	4-FLUTE TOOL NO.	CUTTING DIAMETER	SHANK DIAMETER	OVERALL LENGTH	FLUTE LENGTH
B16-031-2	B16-031-4	1/32	1/8	1-1/2	1/8
B16-046-2	B16-046-4	3/64			1/8
B16-062-2	B16-062-4	1/16			1/4
B16-078-2	B16-078-4	5/64			1/4
B16-093-2	B16-093-4	3/32			3/8
B16-109-2	B16-109-4	7/64			3/8
B16-125-2	B16-125-4	1/8			1/2
B16-140-2	B16-140-4	9/64	3/16	2	9/16
B16-156-2	B16-156-4	5/32	3/16	2	9/16
B16-171-2	B16-171-4	11/64	3/16	2	9/16
B16-187-2	B16-187-4	3/16	3/16	2	5/8
B16-203-2	B16-203-4	13/64	1/4	2-1/2	5/8
B16-218-2	B16-218-4	7/32	1/4	2-1/2	5/8
B16-234-2	B16-234-4	15/64	1/4	2-1/2	3/4
B16-250-2	B16-250-4	1/4	1/4	2-1/2	3/4
B16-281-2	B16-281-4	9/32	5/16	2-1/2	3/4
B16-312-2	B16-312-4	5/16	5/16	2-1/2	13/16
B16-343-2	B16-343-4	11/32	3/8	2-1/2	1
B16-375-2	B16-375-4	3/8	3/8	2-1/2	1
B16-406-2	B16-406-4	13/32	7/16	2-3/4	1
B16-437-2	B16-437-4	7/16	7/16	2-3/4	1
B16-500-2	B16-500-4	1/2	1/2	3	1
B16-562-2	B16-562-4	9/16	9/16	3-1/2	1-1/4
B16-625-2	B16-625-4	5/8	5/8	3-1/2	1-1/4
B16-750-2	B16-750-4	3/4	3/4	4	1-1/2
B16-001-2	B16-001-4	1	1	4	1-1/2

*TiN, TiCN & TiAlN Coated, Long Length & Extra Long Length Ball End Mills Also Available*

## Shape A: Cylindrical



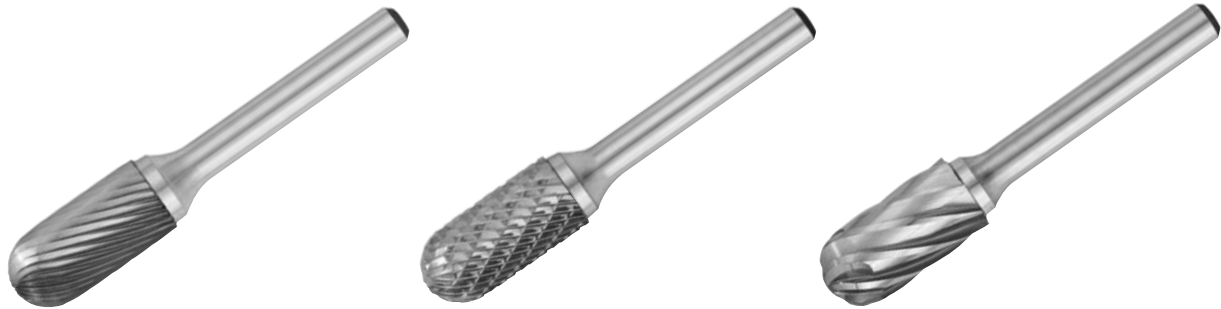
SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	NON-FERROUS TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT
B51-SA41 B51-SA41L2 B51-SA41L3 B51-SA61 B51-SA63 B51-SA42 B51-SA42L2 B51-SA42L3	B52-SA41 B52-SA41L2 B52-SA41L3 B52-SA61 B52-SA63 B52-SA42 B52-SA42L2 B52-SA42L3		SA-41 SA-41L2 SA-41L3 SA-61 SA-63 SA-42 SA-42L2 SA-42L3	1/16 1/16 1/16 1/16 3/32 3/32 3/32 3/32	1/8 1/8 1/8 3/32 3/32 1/8 1/8 1/8	1/4 1/4 1/4 1/4 3/8 7/16 7/16 7/16
B51-SA11 B51-SA43 B51-SA43L2 B51-SA43L3 B51-SA12 B51-SA52 B51-SA13	B52-SA11 B52-SA43 B52-SA43L2 B52-SA43L3 B52-SA12 B52-SA52 B52-SA13		SA-11 SA-43 SA-43L2 SA-43L3 SA-12 SA-52 SA-13	1/8 1/8 1/8 1/8 1/8 5/32 5/32	1/4 1/8 1/8 1/8 1/4 1/8 1/4	1/2 9/16 9/16 9/16 5/8 1/2 5/8
B51-SA81 B51-SA53 B51-SA14 B51-SA51 B51-SA1 B51-SA1L B51-SA1L6	B52-SA81 B52-SA53 B52-SA14 B52-SA51 B52-SA1 B52-SA1L B52-SA1L6	B53-SA1NF	SA-81 SA-53 SA-14 SA-51 SA-1 SA-1L SA-1L6 SA-1NF	3/16 3/16 3/16 1/4 1/4 1/4 1/4 1/4	3/16 1/8 1/4 1/8 1/4 1/4 1/4 1/4	5/8 1/2 5/8 1/2 5/8 1 1/2 3/4
B51-SA2 B51-SA3 B51-SA3L B51-SA3L6 B51-SA3X	B52-SA2 B52-SA3 B52-SA3L B52-SA3L6 B52-SA3X	B53-SA3NF	SA-2 SA-3 SA-3L SA-3L6 SA-3NF SA-3X	5/16 3/8 3/8 3/8 3/8 3/8	1/4	3/4 3/4 1 3/4 3/4 1-1/2
B51-SA4 B51-SA5 B51-SA5L6 B51-SA6	B52-SA4 B52-SA5 B52-SA5L6 B52-SA6	B53-SA5NF B53-SA6NF	SA-4 SA-5 SA-5L6 SA-5NF SA-6 SA-6NF	7/16 1/2 1/2 1/2 5/8 5/8	1/4	1
B51-SA16 B51-SA7 B51-SA9	B52-SA16 B52-SA7 B52-SA9	B53-SA7NF	SA-16 SA-7 SA-7NF SA-9	3/4 3/4 3/4 1	1/4 1/4 1/4 1/4	3/4 1 1 1

## Shape B: Cylindrical - End Cut



SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	NON-FERROUS TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT
<b>B51-SB41</b> <b>B51-SB41L2</b> <b>B51-SB41L3</b> <b>B51-SB42</b> <b>B51-SB42L2</b> <b>B51-SB42L3</b>	<b>B52-SB41</b> <b>B52-SB41L2</b> <b>B52-SB41L3</b> <b>B52-SB42</b> <b>B52-SB42L2</b> <b>B52-SB42L3</b>		SB-41 SB-41L2 SB-41L3 SB-42 SB-42L2 SB-42L3	1/16 1/16 1/16 3/32 3/32 3/32	1/8	1/4 1/4 1/4 7/16 7/16 7/16
<b>B51-SB11</b> <b>B51-SB12</b> <b>B51-SB43</b> <b>B51-SB43L2</b> <b>B51-SB43L3</b> <b>B51-SB13</b> <b>B51-SB14</b>	<b>B52-SB11</b> <b>B52-SB12</b> <b>B52-SB43</b> <b>B52-SB43L2</b> <b>B52-SB43L3</b> <b>B52-SB13</b> <b>B52-SB14</b>		SB-11 SB-12 SB-43 SB-43L2 SB-43L3 SB-13 SB-14	1/8 1/8 1/8 1/8 1/8 5/32 3/16	1/4 1/4 1/8 1/8 1/8 1/4 1/4	1/2 5/8 9/16 9/16 9/16 5/8 5/8
<b>B51-SB51</b> <b>B51-SB1</b> <b>B51-SB1L</b>  <b>B51-SB2</b>	<b>B52-SB51</b> <b>B52-SB1</b> <b>B52-SB1L</b>  <b>B52-SB2</b>	<b>B53-SB1NF</b>	SB-51 SB-1 SB-1L SB-1NF SB-2	1/4 1/4 1/4 1/4 5/16	1/8 1/4 1/4 1/4 1/4	1/2 5/8 1 3/4 3/4
<b>B51-SB3</b> <b>B51-SB3L</b>  <b>B51-SB3X</b> <b>B51-SB4</b>	<b>B52-SB3</b> <b>B52-SB3L</b>  <b>B52-SB3X</b> <b>B52-SB4</b>	<b>B53-SB3NF</b>	SB-3 SB-3L SB-3NF SB-3X SB-4	3/8 3/8 3/8 3/8 7/16	1/4	3/4 1 1 1-1/2 1
<b>B51-SB5</b>  <b>B51-SB6</b>	<b>B52-SB5</b>  <b>B52-SB6</b>	<b>B53-SB5NF</b>  <b>B53-SB6NF</b>	SB-5 SB-5NF SB-6 SB-6NF	1/2 1/2 5/8 5/8	1/4	1
<b>B51-SB16</b> <b>B51-SB7</b>  <b>B51-SB9</b>	<b>B52-SB16</b> <b>B52-SB7</b>  <b>B52-SB9</b>	<b>B53-SB7NF</b>	SB-16 SB-7 SB-7NF SB-9	3/4 3/4 3/4 1	1/4 1/4 1/4 1/4	3/4 1 1 1

## Shape C: Cylindrical - Radius End



SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	NON-FERROUS TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT
B51-SC61 B51-SC41 B51-SC11 B51-SC42 B51-SC42L2 B51-SC42L3 B51-SC12	B52-SC61 B52-SC41 B52-SC11 B52-SC42 B52-SC42L2 B52-SC42L3 B52-SC12		SC-61 SC-41 SC-11 SC-42 SC-42L2 SC-42L3 SC-12	3/32 3/32 1/8 1/8 1/8 1/8 1/8	3/32 1/8 1/4 1/8 1/8 1/8 1/4	3/8 7/16 1/2 9/16 9/16 9/16 5/8
B51-SC52 B51-SC13 B51-SC81 B51-SC53 B51-SC14	B52-SC52 B52-SC13 B52-SC81 B52-SC53 B52-SC14		SC-52 SC-13 SC-81 SC-53 SC-14	5/32 5/32 3/16 3/16 3/16	1/8 1/4 3/16 1/8 1/4	1/2 5/8 5/8 1/2 5/8
B51-SC51 B51-SC1 B51-SC1L B51-SC1L6  B51-SC2	B52-SC51 B52-SC1 B52-SC1L B52-SC1L6  B52-SC2	     <b>B53-SC1NF</b>	SC-51 SC-1 SC-1L SC-1L6 SC-1NF SC-2	1/4 1/4 1/4 1/4 1/4 5/16	1/8 1/4 1/4 1/4 1/4 1/4	1/2 5/8 1 1/2 3/4 3/4
B51-SC3 B51-SC3L B51-SC3L6  B51-SC3X B51-SC4	B52-SC3 B52-SC3L B52-SC3L6  B52-SC3X B52-SC4	     <b>B53-SC3NF</b>	SC-3 SC-3L SC-3L6 SC-3NF SC-3X SC-4	3/8 3/8 3/8 3/8 3/8 7/16	    1/4  	3/4 1 3/4 3/4 1-1/2 1
B51-SC5 B51-SC5L6  B51-SC6	B52-SC5 B52-SC5L6  B52-SC6	    <b>B53-SC5NF</b> <b>B53-SC6NF</b>	SC-5 SC-5L6 SC-5NF SC-6 SC-6NF	1/2 1/2 1/2 5/8 5/8	   1/4  	   1  
B51-SC15 B51-SC16 B51-SC7  B51-SC9	B52-SC15 B52-SC16 B52-SC7  B52-SC9	    <b>B53-SC7NF</b>	SC-15 SC-16 SC-7 SC-7NF SC-9	3/4 3/4 3/4 3/4 1	   1/4  	1/2 3/4 1 1 1

## Shape D: Ball



SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	NON-FERROUS TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT
B51-SD41 B51-SD61 B51-SD11 B51-SD42 B51-SD42L2 B51-SD42L3	B52-SD41 B52-SD61 B52-SD11 B52-SD42 B52-SD42L2 B52-SD42L3		SD-41 SD-61 SD-11 SD-42 SD-42L2 SD-42L3	3/32 3/32 1/8 1/8 1/8 1/8	1/8 3/32 1/4 1/8 1/8 1/8	3/32 3/32 3/32 1/8 1/8 1/8
B51-SD52 B51-SD14 B51-SD81 B51-SD53 B51-SD1 B51-SD1L6  B51-SD51	B52-SD52 B52-SD14 B52-SD81 B52-SD53 B52-SD1 B52-SD1L6  B52-SD51	       <b>B53-SD1NF</b>	SD-52 SD-14 SD-81 SD-53 SD-1 SD-1L6 SD-1NF SD-51	5/32 3/16 3/16 3/16 1/4 1/4 1/4 1/4	1/8 1/4 3/16 1/8 1/4 1/4 1/4 1/8	5/32 1/8 5/32 5/32 7/32 7/32 7/32 7/32
B51-SD2 B51-SD3 B51-SD3L6  B51-SD4	B52-SD2 B52-SD3 B52-SD3L6  B52-SD4	    <b>B53-SD3NF</b>	SD-2 SD-3 SD-3L6 SD-3NF SD-4	5/16 3/8 3/8 3/8 7/16	    1/4	1/4 5/16 5/16 5/16 3/8
B51-SD5 B51-SD5L6  B51-SD6	B52-SD5 B52-SD5L6  B52-SD6	    <b>B53-SD5NF</b>  <b>B53-SD6NF</b>	SD-5 SD-5L6 SD-5NF SD-6 SD-6NF	1/2 1/2 1/2 5/8 5/8	    1/4	7/16 7/16 7/16 9/16 9/16
B51-SD7  B51-SD9	B52-SD7  B52-SD9	   <b>B53-SD7NF</b>	SD-7 SD-7NF SD-9	3/4 3/4 1	   1/4	11/16 11/16 15/16

## Shape E: Oval



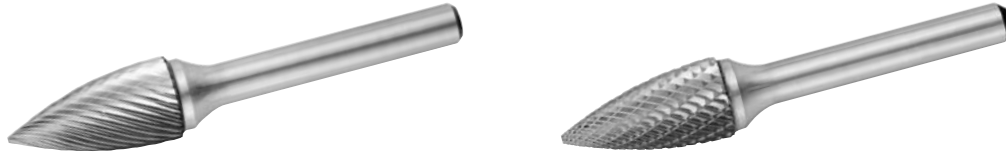
SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	NON-FERROUS TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT
<b>B51-SE61</b> <b>B51-SE41</b> <b>B51-SE41L2</b> <b>B51-SE41L3</b>	<b>B52-SE61</b> <b>B52-SE41</b> <b>B52-SE41L2</b> <b>B52-SE41L3</b>		SE-61 SE-41 SE-41L2 SE-41L3	3/32 1/8 1/8 1/8	3/32 1/8 1/8 1/8	1/8 7/32 7/32 7/32
<b>B51-SE81</b> <b>B51-SE53</b> <b>B51-SE11</b> <b>B51-SE1</b> <b>B51-SE1L6</b> <b>B51-SE51</b>	<b>B52-SE81</b> <b>B52-SE53</b> <b>B52-SE11</b> <b>B52-SE1</b> <b>B52-SE1L6</b> <b>B52-SE51</b>		SE-81 SE-53 SE-11 SE-1 SE-1L6 SE-51	3/16 3/16 3/16 1/4 1/4 1/4	3/16 1/8 1/4 1/4 1/4 1/8	9/32 9/32 5/16 3/8 3/8 3/8
<b>B51-SE3</b> <b>B51-SE3L6</b>  <b>B51-SE5</b> <b>B51-SE5L6</b>	<b>B52-SE3</b> <b>B52-SE3L6</b>  <b>B52-SE5</b> <b>B52-SE5L6</b>	<b>B53-SE3NF</b>   <b>B53-SE5NF</b>	SE-3 SE-3L6 SE-3NF SE-5 SE-5L6 SE-5NF	3/8 3/8 3/8 1/2 1/2 1/2	   1/4	5/8 5/8 5/8 7/8 7/8 7/8
<b>B51-SE6</b>  <b>B51-SE7</b>	<b>B52-SE6</b>  <b>B52-SE7</b>	<b>B53-SE6NF</b>  <b>B53-SE7NF</b>	SE-6 SE-6NF SE-7 SE-7NF	5/8 5/8 3/4 3/4	  1/4	  1

## Shape F: Tree - Radius End



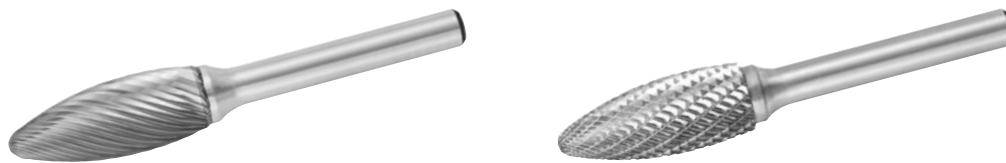
SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	NON-FERROUS TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT
<b>B51-SF61</b> <b>B51-SF41</b> <b>B51-SF11</b> <b>B51-SF42</b> <b>B51-SF42L2</b> <b>B51-SF42L3</b>	<b>B52-SF61</b> <b>B52-SF41</b> <b>B52-SF11</b> <b>B52-SF42</b> <b>B52-SF42L2</b> <b>B52-SF42L3</b>		SF-61 SF-41 SF-11 SF-42 SF-42L2 SF-42L3	3/32 1/8 1/8 1/8 1/8 1/8	3/32 1/8 1/4 1/8 1/8 1/8	1/4 1/4 1/2 1/2 1/2 1/2
<b>B51-SF81</b> <b>B51-SF53</b> <b>B51-SF51</b> <b>B51-SF1</b> <b>B51-SF1L6</b>	<b>B52-SF81</b> <b>B52-SF53</b> <b>B52-SF51</b> <b>B52-SF1</b> <b>B52-SF1L6</b>	<b>B53-SF1NF</b>	SF-81 SF-53 SF-51 SF-1 SF-1L6 SF-1NF	3/16 3/16 1/4 1/4 1/4 1/4	3/16 1/8 1/8 1/4 1/4 1/4	1/2 1/2 1/2 3/4 1/2 3/4
<b>B51-SF3</b> <b>B51-SF3L6</b>  <b>B51-SF4</b> <b>B51-SF13</b> <b>B51-SF5</b> <b>B51-SF5L6</b>	<b>B52-SF3</b> <b>B52-SF3L6</b>  <b>B52-SF4</b> <b>B52-SF13</b> <b>B52-SF5</b> <b>B52-SF5L6</b>	<b>B53-SF3NF</b>   <b>B53-SF5NF</b>	SF-3 SF-3L6 SF-3NF SF-4 SF-13 SF-5 SF-5L6 SF-5NF	3/8 3/8 3/8 7/16 1/2 1/2 1/2 1/2	1/4	3/4 3/4 3/4 1 3/4 1 1 1
<b>B51-SF6</b>  <b>B51-SF7</b> <b>B51-SF14</b>  <b>B51-SF15</b>	<b>B52-SF6</b>  <b>B52-SF7</b> <b>B52-SF14</b>  <b>B52-SF15</b>	<b>B53-SF6NF</b>   <b>B53-SF14NF</b>	SF-6 SF-6NF SF-7 SF-14 SF-14NF SF-15	5/8 5/8 3/4 3/4 3/4 3/4	1/4	1 1 1 1-1/4 1-1/4 1-1/2

# Shape G & H



**Shape G: Tree - Pointed End**

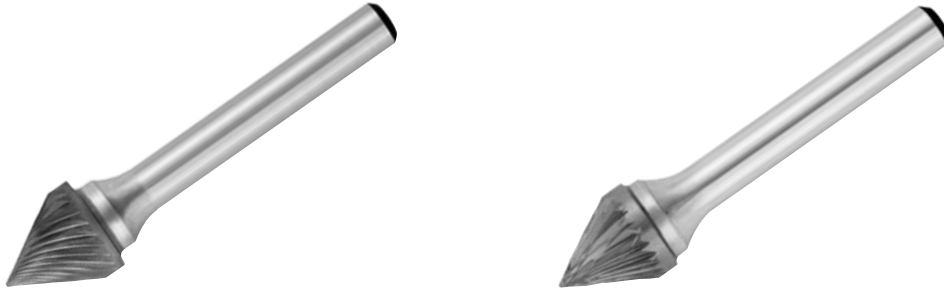
SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT
<b>B51-SG61</b>	<b>B52-SG61</b>	SG-61	3/32	3/32	1/4
<b>B51-SG41</b>	<b>B52-SG41</b>	SG-41	1/8	1/8	1/4
<b>B51-SG42</b>	<b>B52-SG42</b>	SG-42	1/8	1/8	5/16
<b>B51-SG43</b>	<b>B52-SG43</b>	SG-43	1/8	1/8	3/8
<b>B51-SG44</b>	<b>B52-SG44</b>	SG-44	1/8	1/8	1/2
<b>B51-SG44L2</b>	<b>B52-SG44L2</b>	SG-44L2	1/8	1/8	1/2
<b>B51-SG44L3</b>	<b>B52-SG44L3</b>	SG-44L3	1/8	1/8	1/2
<b>B51-SG81</b>	<b>B52-SG81</b>	SG-81	3/16	3/16	1/2
<b>B51-SG53</b>	<b>B52-SG53</b>	SG-53	3/16	1/8	1/2
<b>B51-SG1</b>	<b>B52-SG1</b>	SG-1	1/4	1/4	5/8
<b>B51-SG1L6</b>	<b>B52-SG1L6</b>	SG-1L6	1/4	1/4	1/2
<b>B51-SG51</b>	<b>B52-SG51</b>	SG-51	1/4	1/8	1/2
<b>B51-SG2</b>	<b>B52-SG2</b>	SG-2	5/16	1/4	3/4
<b>B51-SG3</b>	<b>B51-SG3</b>	SG-3	3/8	1/4	3/4
<b>B51-SG3L6</b>	<b>B51-SG3L6</b>	SG-3L6	3/8		3/4
<b>B51-SG13</b>	<b>B51-SG13</b>	SG-13	1/2		3/4
<b>B51-SG5</b>	<b>B51-SG5</b>	SG-5	1/2		1
<b>B51-SG5L6</b>	<b>B51-SG5L6</b>	SG-5L6	1/2		1
<b>B51-SG6</b>	<b>B51-SG6</b>	SG-6	5/8		1
<b>B51-SG7</b>	<b>B51-SG7</b>	SG-7	3/4		1
<b>B51-SG15</b>	<b>B51-SG15</b>	SG-15	3/4		1-1/2



**Shape H: Flame**

SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT
<b>B51-SH41</b>	<b>B52-SH41</b>	SH-41	1/8	1/8	1/4
<b>B51-SH41L2</b>	<b>B52-SH41L2</b>	SH-41L2	1/8	1/8	1/4
<b>B51-SH41L3</b>	<b>B52-SH41L3</b>	SH-41L3	1/8	1/8	1/4
<b>B51-SH53</b>	<b>B52-SH53</b>	SH-53	3/16	1/8	3/8
<b>B51-SH1</b>	<b>B52-SH1</b>	SH-1	1/4	1/4	5/8
<b>B51-SH2</b>	<b>B52-SH2</b>	SH-2	5/16	1/4	3/4
<b>B51-SH2L6</b>	<b>B52-SH2L6</b>	SH-2L6	5/16		3/4
<b>B51-SH5</b>	<b>B52-SH5</b>	SH-5	1/2		1-1/4
<b>B51-SH5L6</b>	<b>B52-SH5L6</b>	SH-5L6	1/2		1-1/4
<b>B51-SH6</b>	<b>B52-SH6</b>	SH-6	5/8		1-7/16
<b>B51-SH7</b>	<b>B52-SH7</b>	SH-7	3/4		1-5/8

## Shape J & K



### Shape J: 60° Cone

SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT
<b>B51-SJ42</b>	<b>B52-SJ42</b>	SJ-42	1/8	1/8	3/32
<b>B51-SJ1</b>	<b>B52-SJ1</b>	SJ-1	1/4	1/4	3/16
<b>B51-SJ3</b>	<b>B52-SJ3</b>	SJ-3	3/8	1/4	5/16
<b>B51-SJ5</b>	<b>B52-SJ5</b>	SJ-5	1/2	1/4	7/16
<b>B51-SJ6</b>	<b>B52-SJ6</b>	SJ-6	5/8	1/4	9/16
<b>B51-SJ7</b>	<b>B52-SJ7</b>	SJ-7	3/4	1/4	11/16
<b>B51-SJ9</b>	<b>B52-SJ9</b>	SJ-9	1	1/4	15/16



### Shape K: 90° Cone

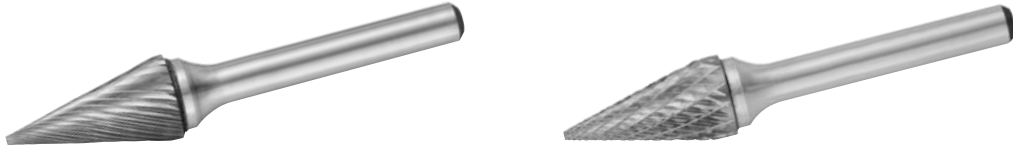
SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT
<b>B51-SK42</b>	<b>B52-SK42</b>	SK-42	1/8	1/8	1/16
<b>B51-SK1</b>	<b>B52-SK1</b>	SK-1	1/4	1/4	1/8
<b>B51-SK3</b>	<b>B52-SK3</b>	SK-3	3/8	1/4	3/16
<b>B51-SK5</b>	<b>B52-SK5</b>	SK-5	1/2	1/4	1/4
<b>B51-SK6</b>	<b>B52-SK6</b>	SK-6	5/8	1/4	5/16
<b>B51-SK7</b>	<b>B52-SK7</b>	SK-7	3/4	1/4	3/8
<b>B51-SK9</b>	<b>B52-SK9</b>	SK-9	1	1/4	1/2

## Shape L: Taper - Radius End



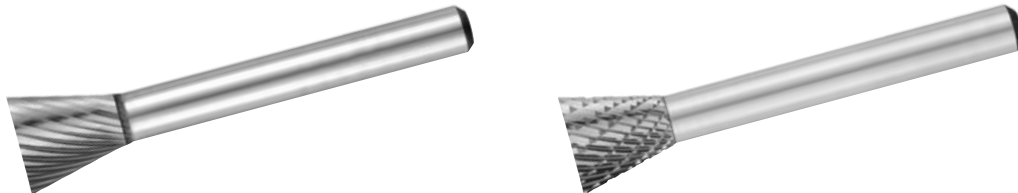
SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	NON-FERROUS TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT	INCLUDED OF CUT
B51-SL41 B51-SL42 B51-SL42L2 B51-SL42L3	B52-SL41 B52-SL42 B52-SL42L2 B52-SL42L3		SL-41 SL-42 SL-42L2 SL-42L3	1/8	1/8	3/8 1/2 1/2 1/2	8°
B51-SL81 B51-SL53 B51-SL1 B51-SL1L6 B51-SL2	B52-SL81 B52-SL53 B52-SL1 B52-SL1L6 B52-SL2		SL-81 SL-53 SL-1 SL-1L6 SL-2	3/16 3/16 1/4 1/4 5/16	3/16 1/8 1/4 1/4 1/4	7/16 1/2 5/8 5/8 7/8	14°
B51-SL3 B51-SL3L6  B51-SL4 B51-SL4L6	B52-SL3 B52-SL3L6  B52-SL4 B52-SL4L6	B53-SL3NF  B53-SL4NF	SL-3 SL-3L6 SL-3NF SL-4 SL-4L6 SL-4NF	3/8 3/8 3/8 1/2 1/2 1/2	1/4	1-1/16 1-1/16 1-1/16 1-1/8 1-1/8 1-1/8	14°
B51-SL5  B51-SL6  B51-SL7	B52-SL5  B52-SL6  B52-SL7	B53-SL5NF  B53-SL6NF  B53-SL7NF	SL-5 SL-5NF SL-6 SL-6NF SL-7 SL-7NF	5/8 5/8 5/8 5/8 3/4 3/4	1/4	1-3/16 1-3/16 1-5/16 1-5/16 1-1/2 1-1/2	14°

## Shape M & N



### Shape M: Cone - Pointed End

SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT	INCLUDED OF CUT
<b>B51-SM61</b>	<b>B52-SM61</b>	SM-61	3/32	3/32	1/4	10°
<b>B51-SM41</b>	<b>B52-SM41</b>	SM-41	1/8	1/8	11/32	12°
<b>B51-SM42</b>	<b>B52-SM42</b>	SM-42	1/8	1/8	7/16	14°
<b>B51-SM42L2</b>	<b>B52-SM42L2</b>	SM-42L2	1/8	1/8	7/16	14°
<b>B51-SM42L3</b>	<b>B52-SM42L3</b>	SM-42L3	1/8	1/8	7/16	14°
<b>B51-SM43</b>	<b>B52-SM43</b>	SM-43	1/8	1/8	5/8	7°
<b>B51-SM53</b>	<b>B52-SM53</b>	SM-53	3/16	1/8	1/2	16°
<b>B51-SM1</b>	<b>B52-SM1</b>	SM-1	1/4	1/4	1/2	22°
<b>B51-SM51</b>	<b>B52-SM51</b>	SM-51	1/4	1/8	1/2	22°
<b>B51-SM2</b>	<b>B52-SM2</b>	SM-2	1/4	1/4	3/4	14°
<b>B51-SM3</b>	<b>B52-SM3</b>	SM-3	1/4	1/4	1	10°
<b>B51-SM4</b>	<b>B52-SM4</b>	SM-4	3/8	1/4	5/8	28°
<b>B51-SM5</b>	<b>B52-SM5</b>	SM-5	1/2	1/4	4/8	28°
<b>B51-SM6</b>	<b>B52-SM6</b>	SM-6	5/8	1/4	1	31°



### Shape N: Cone - Inverted

SINGLE CUT TOOL NO.	DOUBLE CUT TOOL NO.	SHAPE NUMBER	CUTTING DIAMETER	SHANK DIAMETER	LENGTH OF CUT	INCLUDED OF CUT
<b>B51-SN41</b>	<b>B52-SN41</b>	SN-41	3/32	1/8	1/8	10°
<b>B51-SN61</b>	<b>B52-SN61</b>	SN-61	3/32	3/32	1/8	
<b>B51-SN42</b>	<b>B52-SN42</b>	SN-42	1/8	1/8	3/16	
<b>B51-SN81</b>	<b>B52-SN81</b>	SN-81	3/16	3/16	1/4	
<b>B51-SN53</b>	<b>B52-SN53</b>	SN-53	3/16	1/8	1/4	
<b>B51-SN51</b>	<b>B52-SN51</b>	SN-51	1/4	1/8	1/4	10°
<b>B51-SN1</b>	<b>B52-SN1</b>	SN-1	1/4	1/4	5/16	10°
<b>B51-SN2</b>	<b>B52-SN2</b>	SN-2	3/8	1/4	3/8	13°
<b>B51-SN4</b>	<b>B52-SN4</b>	SN-4	1/2	1/4	1/2	28°
<b>B51-SN6</b>	<b>B52-SN6</b>	SN-6	5/8	1/4	3/4	18°
<b>B51-SN7</b>	<b>B52-SN7</b>	SN-7	3/4	1/4	5/8	30°

## 60°, 82°, & 90°



### 1 Flute

60° TOOL NUMBER	82° TOOL NUMBER	90° TOOL NUMBER	CUTTING DIAMETER	SHANK DIAMETER	OVERALL LENGTH	NUMBER OF FLUTES
B42-125-60	B42-125-82	B42-125-90	1/8	1/8	1-1/2	1
B42-187-60	B42-187-82	B42-187-90	3/16	3/16	1-1/2	1
B42-250-60	B42-250-82	B42-250-90	1/4	1/4	2	1
B42-375-60	B42-375-82	B42-375-90	3/8	1/4	2-1/2	1
B42-500-60	B42-500-82	B42-500-90	1/2	1/4	2-1/2	1
B42-625-60	B42-625-82	B42-625-90	5/8	3/8	2-1/2	1
B42-750-60	B42-750-82	B42-750-90	3/4	3/8	2-3/4	1
B42-001-60	B42-001-82	B42-001-90	1	1/2	2-3/4	1



### 3 Flute

60° TOOL NUMBER	82° TOOL NUMBER	90° TOOL NUMBER	CUTTING DIAMETER	SHANK DIAMETER	OVERALL LENGTH	NUMBER OF FLUTES
B43-125-60	B43-125-82	B43-125-90	1/8	1/8	1-1/2	3
B43-187-60	B43-187-82	B43-187-90	3/16	3/16	1-1/2	3
B43-250-60	B43-250-82	B43-250-90	1/4	1/4	2	3
B43-375-60	B43-375-82	B43-375-90	3/8	1/4	2-1/2	3
B43-500-60	B43-500-82	B43-500-90	1/2	1/4	2-1/2	3
B43-625-60	B43-625-82	B43-625-90	5/8	3/8	2-1/2	3
B43-750-60	B43-750-82	B43-750-90	3/4	3/8	2-3/4	3
B43-001-60	B43-001-82	B43-001-90	1	1/2	2-3/4	3



### 6 Flute

60° TOOL NUMBER	82° TOOL NUMBER	90° TOOL NUMBER	CUTTING DIAMETER	SHANK DIAMETER	OVERALL LENGTH	NUMBER OF FLUTES
B44-250-60	B44-250-82	B44-250-90	1/4	1/4	2	6
B44-312-60	B44-312-82	B44-312-90	5/16	1/4	2-1/2	6
B44-375-60	B44-375-82	B44-375-90	3/8	1/4	2-1/2	6
B44-500-60	B44-500-82	B44-500-90	1/2	1/4	2-1/2	6
B44-625-60	B44-625-82	B44-625-90	5/8	3/8	2-3/4	6
B44-750-60	B44-750-82	B44-750-90	3/4	3/8	2-3/4	6
B44-875-60	B44-875-82	B44-875-90	7/8	1/2	2-3/4	6
B44-001-60	B44-001-82	B44-001-90	1	1/2	3	6

