



# AEROSPACE SPECIALS

MICROGRAIN CARBIDE TOOLS





**QUALITY  
 TECH TOOL**

**AIRCRAFT TOOLS MADE TO ORDER**



**Nutplate Drill/Countersink**

Carbide drill and countersink with 135 degree split point. External thread and 60 degree cone seat straight shank style with pin spanner wrench holes. Application: Nutplate and motors with nutplate pressure foot attachments.



**2 & 3 Flute Piloted Countersink**

Designed with a safe, integral piloted construction. The threaded shank style is an excellent choice for portable drill motors and its precision ground fluting geometry generates a clean, bur free accurate seat for aircraft fasteners.



**Integral Piloted PCD Countersink**

The Integral Piloted PCD Countersink is designed for customer specific applications of machining as well as assembly. They are made with a controlled fillet radius.



**Carbide Tapered Reamer**

Our carbide tapered reamers are designed for finishing hole sizes in composite materials. The geometries incorporated into the design of these tools produce excellent results; flaking, tearing, and cracking in laminate materials are minimized.



**Compression Router**

This carbide router is designed primarily for use with composite and honeycomb materials. This design with opposing flutes compresses the material to produce an excellent finish on both sides of material being routed.



**Diamond Cut Router**

The carbide diamond cut router is used in a variety of materials including graphite composite materials. Available in a four styles of end cut, depending on the specific application.



**Dagger Drill**

This carbide drill is designed to produce holes in composite materials without delamination around the hole or fraying the composite material.



**Threaded Shank Coolant Fed Straight Flute Drill**

This coolant fed straight flute drill was used to drill through a combination of aluminum and composite materials. This style of drill can also be adapted to take a PCD tip for extended tool life.



**VT58**

The VT58 offers fast feed and speed rates. This 1.5hp has an improved diameter tolerance with superior hole finish. No erosion of liquid shim or delamination in composite material.



**VT68**

The 2.5hp VT68 has a positive feed drill motor with interrupted cut feature. Our VT68 offers fast feed and speed rates and improved diameter tolerance with superior hole finish. No erosion of liquid shim or delamination in composite material.





## **AIRCRAFT TOOLS MADE TO ORDER**

### **NAS 937 Jobbers Length Double Margin Step Drill**

Carbide drill with 135 degree split point. Used for drilling close tolerance holes in low tensile strength materials. Can also be supplied in taper and screw machine lengths, or special lengths.

### **Threaded Hex Shank Adapter Drill**

Carbide adapter drill manufactured to NAS 907 construction with 135 degree split points. Used for general to medium duty drilling in low tensile strength materials in confined areas.

### **Threaded Square Shank Adapter Drill**

Carbide step adapter drills are manufactured similar to NAS 907 construction with 135 degree split points. Used for drilling hard, tough, high tensile strength materials in confined areas.

### **Kevlar Drill**

Kevlar, and similar woven materials pose many problems with quality of exit hole quality. The unique brad and spur inspired point cuts a clean hole with elimination of fraying experienced with conventional drill points.

### **Threaded Shank PCD Reamer**

This straight flute PCD "polycrystalline diamond" reamer is available with or without threaded shank and with or without a pilot diameter.

### **Spacematic Drill/Countersink**

Carbide drill and countersink with internal thread and 60 degree cone seat straight shank style with pin spanner wrench holes or optional wrench flats for slotted type drill wrenches. Application: Spacematic Drill motors with 1" stroke.

### **Drivematic Drill/Countersink**

Carbide drill and countersink with solid shank used in aerospace drivematic drill riveting machines.

### **PCD Straight Flute Router**

This polycrystalline diamond straight flute router is used for machining as well as assembly operations. Available in a various number of flutes.

### **Herringbone Router**

This carbide router is designed primarily for use with composite and honeycomb materials. This design with opposing flutes compresses the material to produce an excellent finish on both sides of material being routed.

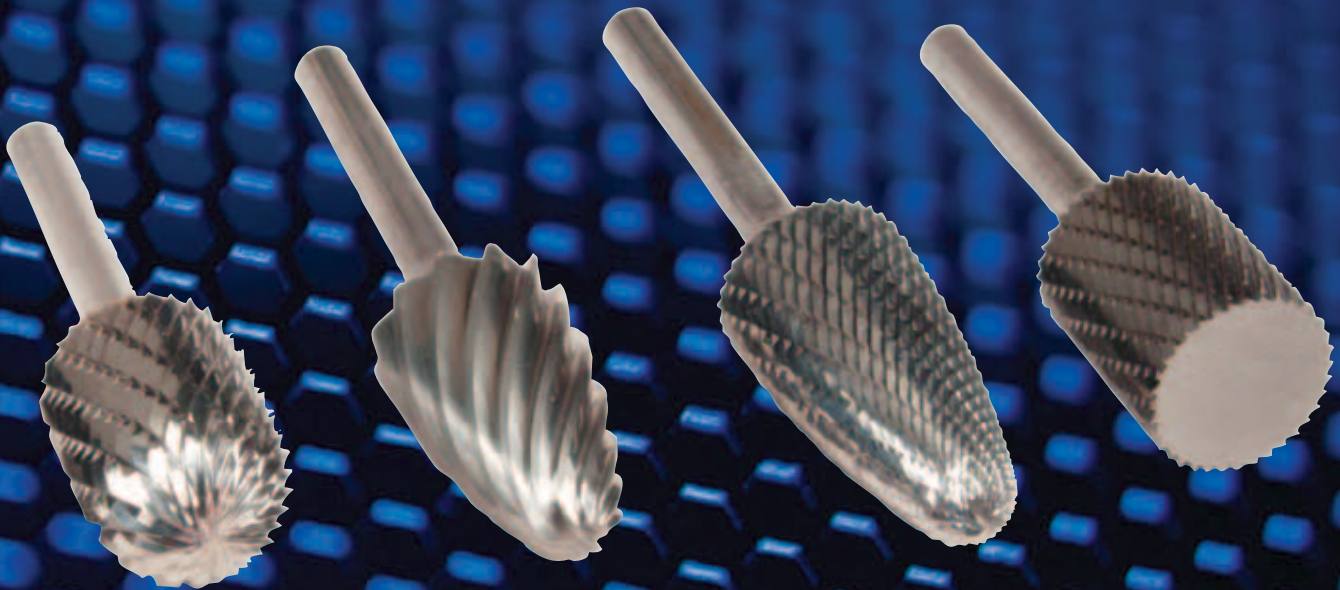




# BURS

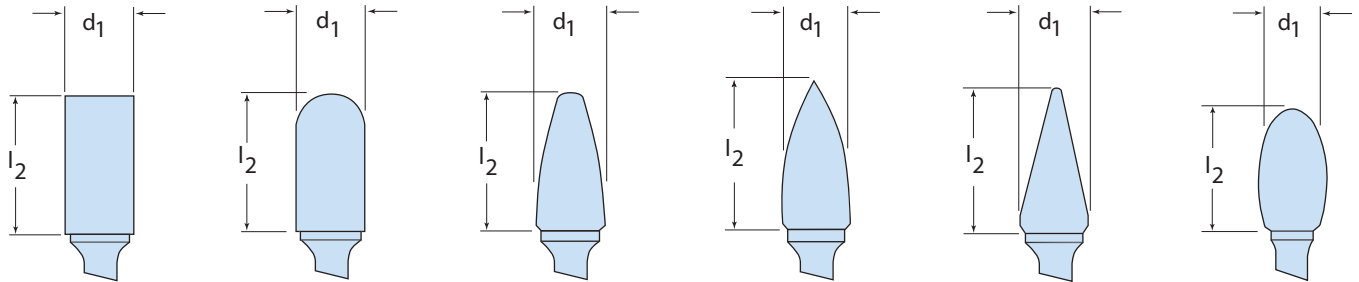
SOLID MICROGRAIN CARBIDE BURS

METRIC SIZES





## SHAPES & SCTI IDENTIFICATION



**Series SA**  
Cylindrical

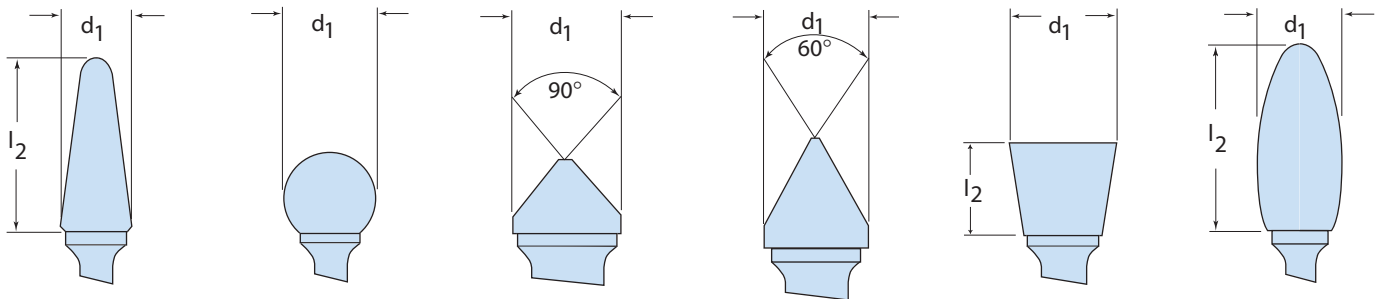
**Series SC**  
Cylindrical Ball  
Nose

**Series SF**  
Round Nose Tree

**Series SG**  
Pointed Tree

**Series SM**  
Pointed Cone

**Series SE**  
Egg Shape



**Series SL**  
14 Degree  
Included Angle

**Series SD**  
Ball Shape

**Series SK**  
90 Degree  
Included Angle

**Series SJ**  
60 Degree  
Included Angle

**Series SN**  
Inverted Taper

**Series SH**  
Flame Shape

## Styles of Cut

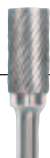
### Medium Tough Cut

Engineered specifically for tough applications. Tough cut insures faster, splinter-free cutting in weld and alloy castings with increased tool life.



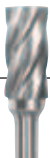
### Medium Right Hand Spiral

General purpose, recommended where fair stock removal and smooth finish are required.



### Aluminum Cut

Designed for use on aluminum, non-ferrous metals, soft steel, reinforced plastics, and other soft materials.



*Coarse and Fine Cuts are available on request.*


## Recommended Cutting Speeds for Carbide Burs

Diameter	R.P.M.	MAXIMUM R.P.M.
1.5	55,000 - 85,000	90,000
2	50,000 - 60,000	85,000
3	35,000 - 65,000	80,000
5	30,000 - 55,000	75,000
6	25,000 - 50,000	70,000
8	18,000 - 38,000	65,000
9	17,000 - 38,000	63,000
11	13,000 - 37,000	55,000
12	14,000 - 36,000	50,000
16	11,000 - 23,000	40,000
19	8,000 - 19,000	30,000
25	7,000 - 18,000	25,000


NOTE: Use Lower Speeds when cutting harder ferrous materials and Higher Speeds for softer non-ferrous materials.

**METRIC SIZES - 6MM SHANK**


**BR801 Series**  
Cylindrical

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR801-1250-60	3	SA-11*	12
	BR801-1875-60	4	SA-14*	16
	BR801-2362	6	SA-1*	16
	BR801-3125-60	8	SA-2	19
	BR801-3750-60	9	SA-3	19
	BR801-4375-60	11	SA-4	25
	BR801-5001-60	12	SA-5F	12
	BR801-5000-60	12	SA-5	25
	BR801-6250-60	16	SA-6	25
	BR801-7500-60	19	SA-16	19
	BR801-7501-60	19	SA-7	25
	BR801-1000-60	25	SA-9	25


**BR901 Series**  
Cylindrical

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR901-1250-60	3	SA-11*	12
	BR901-1875-60	5	SA-14*	16
	BR901-2362	6	SA-1*	16
	BR901-3125-60	8	SA-2	19
	BR901-3750-60	9	SA-3	19
	BR901-4375-60	11	SA-4	25
	BR901-5001-60	12	SA-5F	12
	BR901-5000-60	12	SA-5	25
	BR901-6250-60	16	SA-6	25
	BR901-7500-60	19	SA-16	19
	BR901-7501-60	19	SA-7	25
	BR901-1000-60	25	SA-9	25


**BR802 Series**  
Cylindrical Ball Nose

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR802-1250-60	3	SC-11*	12
	BR802-1875-60	4	SC-14*	16
	BR802-2362	6	SC-1*	16
	BR802-3125-60	8	SC-2	19
	BR802-3750-60	9	SC-3	19
	BR802-4375-60	11	SC-4	25
	BR802-5000-60	12	SC-5	25
	BR802-6250-60	16	SC-6	25
	BR802-7500-60	19	SC-7	25


**BR902 Series**  
Cylindrical Ball Nose

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR902-1250-60	3	SC-11*	12
	BR902-1875-60	5	SC-14*	16
	BR902-2362	6	SC-1*	16
	BR902-3125-60	8	SC-2	19
	BR902-3750-60	9	SC-3	19
	BR902-4375-60	11	SC-4	25
	BR902-5000-60	12	SC-5	25
	BR902-6250-60	16	SC-6	25
	BR902-7500-60	19	SC-7	25

**BR803 Series**  
Round Nose Tree

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR803-2362	6	SF-1*	16
	BR803-3750-60	9	SF-3	19
	BR803-5001-60	12	SF-13	19
	BR803-5000-60	12	SF-5	25
	BR803-6250-60	16	SF-6	25
	BR803-7500-60	16	SF-7	25
	BR803-7501-60	19	SF-14	31
	BR803-7502-60	19	SF-15	38

**BR903 Series**  
Round Nose Tree

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR903-2362	6	SF-1*	16
	BR903-3750-60	9	SF-3	19
	BR903-5001-60	12	SF-13	19
	BR903-5000-60	12	SF-5	25
	BR903-6250-60	16	SF-6	25
	BR903-7500-60	19	SF-7	25
	BR903-7501-60	19	SF-14	32
	BR903-7502-60	19	SF-15	38


\*Indicates solid 6mm carbide 50mm O.A.L., all others have 6mm diameter hardened steel shank. (9mm diameter shanks available).



**METRIC SIZES - 6MM SHANK**


## BR804 Series

### Pointed Tree

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR804-2362	6	SG-1*	16
	BR804-3125-60	8	SG-2	19
	BR804-3750-60	9	SG-3	19
	BR804-5001-60	12	SG-13	19
	BR804-5000-60	12	SG-5	25
	BR804-6250-60	16	SG-6	25
	BR804-7500-60	19	SG-7	25
	BR804-7501-60	19	SG-7A	38


## BR904 Series

### Pointed Tree

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR904-2362	6	SG-1*	16
	BR904-3125-60	8	SG-2	19
	BR904-3750-60	9	SG-3	19
	BR904-5001-60	12	SG-13	19
	BR904-5000-60	12	SG-5	25
	BR904-6250-60	16	SG-6	25
	BR904-7500-60	19	SG-7	25
	BR904-7501-60	19	SG-7A	38


## BR805 Series

### Pointed Cone

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )	Incl. Ang. Deg.
	BR805-2362	6	SM-1*	12	22
	BR805-2363	6	SM-2*	19	14
	BR805-2364	6	SM-3*	25	10
	BR805-3750-60	9	SM-4*	16	28
	BR805-5000-60	12	SM-5	22	28
	BR805-6250-60	16	SM-6	25	31


## BR905 Series

### Pointed Cone

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )	Incl. Ang. Deg.
	BR905-2362	6	SM-1*	12	22
	BR905-2363	6	SM-2*	19	14
	BR905-2364	6	SM-3*	25	10
	BR905-3750-60	9	SM-4	16	28
	BR905-5000-60	12	SM-5	22	28
	BR905-6250-60	16	SM-6	25	31


## BR806 Series

### Egg Shape

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR806-2362	6	SE-1*	9
	BR806-3750-60	9	SE-3	16
	BR806-5000-60	12	SE-5	22
	BR806-6250-60	16	SE-6	25
	BR806-7500-60	19	SE-7	25

## BR906 Series

### Egg Shape


Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR906-2362	6	SE-1*	3/8
	BR906-3750-60	16	SE-3	5/8
	BR906-5000-60	22	SE-5	7/8
	BR906-6250-60	25	SE-6	1
	BR906-7500-60	25	SE-7	1

\*Indicates solid 6mm carbide 50mm O.A.L., all others have 6mm diameter hardened steel shank. (9mm diameter shanks available).

**METRIC SIZES - 6MM SHANK**


## BR807 Series

14° Included Angle

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )	Incl. Ang. Deg.
	BR807-2362	6	SL-1*	16	14
	BR807-3125-60	8	SL-2	22	14
	BR807-3750-60	9	SL-3	26	14
	BR807-5000-60	12	SL-4	28	14
	BR807-6250-60	16	SL-5	33	14
	BR807-7500-60	19	SL-7	38	14


## BR907 Series

14° Included Angle

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )	Incl. Ang. Deg.
	BR907-2362	6	SL-1*	16	14
	BR907-3125-60	8	SL-2	22	14
	BR907-3750-60	9	SL-3	26	14
	BR907-5000-60	12	SL-4	28	14
	BR907-6250-60	16	SL-5	33	14
	BR907-7500-60	19	SL-7	38	14


## BR808 Series

Ball Shape

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI
	BR808-1250-60	3	SD-11*
	BR808-1875-60	4	SD-14*
	BR808-2362	6	SD-1*
	BR808-3125-60	8	SD-2
	BR808-3750-60	9	SD-3
	BR808-5000-60	12	SD-5
	BR808-6250-60	16	SD-6
	BR808-7500-60	19	SD-7
	BR808-1000-60	25	SD-9


## BR908 Series

Ball Shape

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI
	BR908-1250-60	3	SD-11*
	BR908-1875-60	4	SD-14*
	BR908-2362	6	SD-1*
	BR908-3125-60	8	SD-2
	BR908-3750-60	9	SD-3
	BR908-5000-60	12	SD-5
	BR908-6250-60	16	SD-6
	BR908-7500-60	19	SD-7
	908-1000-60	25	SD-9


## BR849 Series

90° Cone

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Incl. Ang. Deg.
	BR849-2362	6	SK-1*	90
	BR849-3750-60	9	SK-3	90
	BR849-5000-60	12	SK-5	90
	BR849-6250-60	16	SK-6	90
	BR849-7500-60	19	SK-7	90
	BR849-1000-60	25	SK-9	90

## BR949 Series

90° Cone

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Incl. Ang. Deg.
	BR949-2362	6	SK-1*	90
	BR949-3750-60	9	SK-3	90
	BR949-5000-60	12	SK-5	90
	BR949-6250-60	16	SK-6	90
	BR949-7500-60	19	SK-7	90
	BR949-1000-60	25	SK-9	90


\*Indicates solid 6mm carbide 50mm O.A.L., all others have 6mm diameter hardened steel shank. (9mm diameter shanks available).



**METRIC SIZES - 6MM SHANK**


## BR850 Series

60° Cone

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Incl. Ang. Deg.
	BR850-2362	6	SJ-1*	60
	BR850-3750-60	9	SJ-3	60
	BR850-5000-60	12	SJ-5	60
	BR850-6250-60	16	SJ-6	60
	BR850-7500-60	19	SL-7	60
	BR850-1000-60	25	SJ-9	60


## BR950 Series

60° Cone

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Incl. Ang. Deg.
	BR950-2362	6	SJ-1*	60
	BR950-3750-60	9	SJ-3	60
	BR950-5000-60	12	SJ-5	60
	BR950-6250-60	16	SJ-6	60
	BR950-7500-60	19	SJ-7	60
	BR950-1000-60	25	SJ-9	60


## BR851 Series

Flame Shape

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR851-3125-60	8	SH-2	19
	BR851-5000-60	12	SH-5	31
	BR851-6250-60	16	SH-6	36
	BR851-7500-60	19	SH-7	41


## BR951 Series

Flame Shape

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR951-3125-60	8	SH-2	19
	BR951-5000-60	12	SH-5	31
	BR951-6250-60	16	SH-6	36
	BR951-7500-60	19	SH-7	41


## BR852 Series

Inverted Taper

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )	Incl. Ang. Deg.
	BR852-2362	6	SN-1*	8	10
	BR852-3750-60	9	SN-2	9	13
	BR852-5000-60	12	SN-4	12	28
	BR852-6250-60	16	SN-6	19	18
	BR852-7500-60	19	SN-7	16	30

## BR952 Series

Inverted Taper

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )	Incl. Ang. Deg.
	BR952-2362	6	SN-1*	8	10
	BR952-3750-60	9	SN-2	9	13
	BR952-5000-60	12	SN-4	12	28
	BR952-6250-60	16	SN-6	19	18
	BR952-7500-60	19	SN-7	16	30

\*Indicates solid 6mm carbide 50mm O.A.L., all others have 6mm diameter hardened steel shank. (9mm diameter shanks available).




Solid Micrograin Carbide Burs — Metric Sizes

6MM SHANK — 152MM LONG STEEL SHANK


# BR861 Series

Cylindrical

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR861-3750-60	9	SA-3L6	19
	BR861-5000-60	12	SA-5L6	25


# BR961 Series

Cylindrical

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR961-3750-60	9	SA-3L6	19
	BR961-5000-60	12	SA-5L6	25


# BR862 Series

Cylindrical Ball Nose

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR862-3750-60	9	SC-3L6	19
	BR862-5000-60	12	SC-5L6	25


# BR962 Series

Cylindrical Ball Nose

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR962-3750-60	9	SC-3L6	
	BR962-5000-60	12	SC-5L6	


# BR863 Series

Round Nose Tree

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR863-3750-60	9	SF-3L6	19
	BR863-5000-60	12	SF-5L6	25

# BR963 Series

Round Nose Tree

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR963-3750-60	9	SF-3L6	19
	BR963-5000-60	12	SF-5L6	25


QTT 86 & 96 Series Burs feature 152mm long, 6mm diameter shanks.






6MM SHANK — 152MM LONG STEEL SHANK


**BR867** Series  
14° Included Angle

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR867-3750-60	9	SL-3L6	26
	BR867-5000-60	12	SL-5L6	28


**BR967** Series  
14° Included Angle

Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR967-3750-60	9	SL-3L6	26
	BR967-5000-60	12	SL-5L6	28

**BR868** Series  
Ball Shape

Medium Tough Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI
	BR868-3750-60	9	SD-3L6
	BR868-5000-60	12	SD-5L6

**BR968** Series  
Ball Shape


Medium Right Hand Spiral	Catalog Number	Dia. (d <sub>1</sub> )	SCTI
	BR968-3750-60	9	SD-3L6
	BR968-5000-60	12	SD-5L6




QTT 86 & 96 Series Burs feature 152mm long, 6mm diameter shanks.

6MM SHANK — ALUMINUM CUT


**BR881** Series  
Cylindrical

Alum. Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR881-2362	6	SA-1MA	16
	BR881-3125-60	8	SA-2MA	19
	BR881-3750-60	9	SA-3MA	19
	BR881-5000-60	12	SA-5MA	25
	BR881-6250-60	16	SA-6MA	25
	BR881-7500-60	19	SA-7MA	25

**BR882** Series  
Cylindrical Ball Nose

Alum. Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR882-2362	6	SC-1MA	19
	BR882-3750-60	9	SC-3MA	19
	BR882-5000-60	12	SC-5MA	25
	BR882-6250-60	16	SC-6MA	25
	BR882-7500-60	19	SC-7MA	25

**BR883** Series  
Round Nose Tree

Alum. Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR883-2362	6	SF-1MA	16
	BR883-3750-60	9	SF-3MA	19
	BR883-5000-60	12	SF-5MA	25
	BR883-6250-60	16	SF-6MA	25
	BR883-7500-60	19	SF-7MA	32

Aluminum Cut Burs are designed for use on:

- Aluminum
- Non-ferrous metals
- Soft Steel
- Reinforced plastics
- Other soft materials

Also provides excellent work finish with minimum loading when cutting soft, sticky materials.


\*Indicates solid 6mm carbide 50mm O.A.L., all others have 6mm diameter hardened steel shank. (9mm diameter shanks available).



**6MM SHANK — ALUMINUM CUT**


**BR885** Series

Flame Shape

Alum. Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR885-5000-60	12	SH-5MA	32
	BR885-6250-60	16	SH-6MA	67
	BR885-7500-60	19	SH-7MA	41


**BR886** Series

Egg Shape

Alum. Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR886-3750-60	9	SE-3MA	16
	BR886-5000-60	12	SE-5MA	22
	BR886-6250-60	16	SE-6MA	25
	BR886-7500-60	19	SE-7MA	25


**BR887** Series

14° Included Angle

Alum. Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI	Flute Length (l <sub>2</sub> )
	BR887-3750-60	9	SL-3MA	27
	BR887-5000-60	12	SL-5MA	29
	BR887-6250-60	16	SL-6MA	33
	BR887-7500-60	19	SL-7MA	38

**BR888** Series

Ball Shape

Alum. Cut	Catalog Number	Dia. (d <sub>1</sub> )	SCTI
	BR888-2362	6	SD-3MA
	BR888-3125-60	8	SD-3MA
	BR888-3750-60	9	SD-3MA
	BR888-5000-60	12	SD-5MA
	BR888-6250-60	16	SD-6MA

\*Indicates solid 6mm carbide 50mm O.A.L., all others have 6mm diameter hardened steel shank. (9mm diameter shanks available).



3MM SHANK — 38MM OVERALL LENGTH

**BR800** Series - Tough Cut



Style:	SA-42	SA-43	SB-43	SC-42	SG-44	SF-42	SC-41	SA-41	SB-ECO	SE-41
Size:	2.5 x 11	3 x 14	3 x 14	3 x 14	3 x 12	3 x 12	2.5 x 14	1.5 x 6	3	3 x 5.5

Catalog Number: BR800-8001-30 BR800-8002-30 BR800-8003-30 BR800-8004-30 BR800-8005-30 BR800-8006-30 BR800-8007-30 BR800-8008-30 BR800-8009-30 BR800-8010-30



Style:	SM-41	SM-42	SM-43	SN-42	SJ-42	SK-42	SL-42	SD-41	SD-42	SH-41
Size:	3 x 8	3 x 11	3 x 16	3 x 5	3 x 2.5	3 x 1.5	3 x 12	2.5	3	3 x 6

Taper Degrees	12	14	7	10	60	90	8			
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Catalog Number: BR800-8011-30 BR800-8012-30 BR800-8013-30 <sup>INVERTED</sup> BR800-8014-30 BR800-8015-30 BR800-8016-30 BR800-8017-30 BR800-8018-30 BR800-8019-30 BR800-8020-30

**BR900** Series - Medium Right Hand Spiral



Style:	SA-42	SA-43	SB-43	SC-42	SG-44	SF-42	SC-41	SA-41	SB-ECO	SE-41
Size:	2.5 x 11	3 x 14	3 x 14	3 x 14	3 x 12	3 x 12	2.5 x 14	1.5 x 6	3	3 x 5.5

Catalog Number: BR900-9001-30 BR900-9002-30 BR900-9003-30 BR900-9004-30 BR900-9005-30 BR900-9006-30 BR900-9007-30 BR900-9008-30 BR900-9009-30 BR900-9010-30



Style:	SM-41	SM-42	SM-43	SN-42	SJ-42	SK-42	SL-42	SD-41	SD-42	SH-41
Size:	3 x 8	3 x 11	3 x 16	3 x 5	3 x 2.5	3 x 1.5	3 x 12	2.5	3	3 x 6

Taper Degrees	12	14	7	10	60	90	8			
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Catalog Number: BR900-9011-30 BR900-9012-30 BR900-9013-30 <sup>INVERTED</sup> BR900-9014-30 BR900-9015-30 BR900-9016-30 BR900-9017-30 BR900-9018-30 BR900-9019-30 BR900-9020-30



6MM SHANK — 3MM HARDENED STEEL SHANK

# BR815 Series - Tough Cut

Cylindrical    Cylindrical Ball Nose    Round Nose Tree    Pointed Tree    Pointed Cone    End Cut    Ball Shape    Egg Shape    Inverted Taper



<b>Style:</b>	SA-51	SC-51	SF-51	SG-51	SM-51	SB-51	SD-51	SE-51	SN-51
<b>Size:</b>	6 x 12	6 x 12	6 x 12	6 x 12	6 x 12	6 x 5	6	6 x 9	6 x 6
<b>Taper Degrees</b>						22			10 INVERTED
<b>Catalog Number:</b>	815-0001-30	BR815-0002-30	BR815-0003-30	BR815-0004-30	BR815-0005-30	BR815-0006-30	BR815-0007-30	BR815-0008-30	BR815-0009-30

# BR915 Series - Medium Right Hand Spiral

Cylindrical    Cylindrical Ball Nose    Round Nose Tree    Pointed Tree    Pointed Cone    End Cut    Ball Shape    Egg Shape    Inverted Taper














<b>Style:</b>	SA-51	SC-51	SF-51	SG-51	SM-51	SB-51	SD-51	SE-51	SN-51
<b>Size:</b>	6 x 12	6 x 12	6 x 12	6 x 12	6 x 12	6 x 5	6	6 x 9	6 x 6
<b>Taper Degrees</b>						22			10 INVERTED
<b>Catalog Number:</b>	BR915-0001-30	BR915-0002-30	BR915-0003-30	BR915-0004-30	BR915-0005-30	BR915-0006-30	BR915-0007-30	BR915-0008-30	BR915-0009-30













3MM SHANK — 38MM OVERALL LENGTH

# BR820 Series - Tough Cut

						
Style:	SA-52	SA-53	SC-52	SC-53	SF-53	SG-53
Size:	4 x 12	5 x 12	4 x 12	5 x 12	5 x 12	5 x 12
Catalog Number:	BR820-0001-30	BR820-0011-30	BR820-0002-30	BR820-0012-30	BR820-0003-30	BR820-0004-30
						
Style:	SM-53	SE-53	SL-53	SD-53	SH-53	SN-53
Size:	4 x 12	5 x 12	4 x 12	5	5 x 9	5 x 6
Taper Degrees	16		14			10
Catalog Number:	BR820-0005-30	BR820-0006-30	BR820-0007-30	BR820-0008-30	BR820-0009-30	INVERTED BR820-0010-30

# BR920 Series - Medium Right Hand Spiral

						
Style:	SA-52	SA-53	SC-52	SC-53	SF-53	SG-53
Size:	4 x 12	5 x 12	4 x 12	5 x 12	5 x 12	5 x 12
Catalog Number:	BR920-0001-30	BR920-0011-30	BR920-0002-30	BR920-0012-30	BR920-0003-30	BR920-0004-30
						
Style:	SM-53	SE-53	SL-53	SD-53	SH-53	SN-53
Size:	4 x 12	5 x 12	4 x 12	5	5 x 9	5 x 6
Taper Degrees	16		14			10
Catalog Number:	BR920-0005-30	BR920-0006-30	BR920-0007-30	BR920-0008-30	BR920-0009-30	INVERTED BR920-0010-30

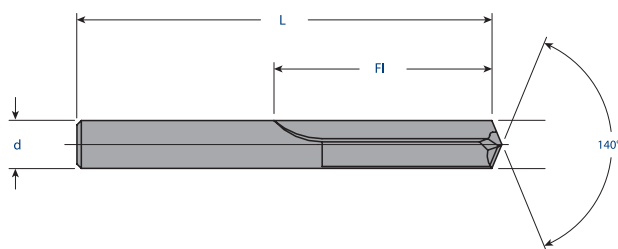


# GENERAL PURPOSE DRILLS



**2 STRAIGHT FLUTE • HEAVY DUTY CONSTRUCTION**

*140° Modified Split Point - Screw Machine Length*



Size up to 3mm over 3mm  
(D) cutting dia. +.000mm-.025mm +.000mm-.038mm  
(d) h6 Tol. shank dia. +.000mm-.006mm +.000mm-.008mm



DR200	D cutting dia.	fl flute length	d shank dia.	L overall length
DR200-0591	1.5	13	1.5	38
DR200-0787	2.0	19	2.0	44
DR200-0984	2.5	21	2.5	46
DR200-1181	3.0	22	3.0	48
DR200-1378	3.5	24	3.5	49
DR200-1575	4.0	27	4.0	54
DR200-1772	4.5	29	4.5	56
DR200-1968	5.0	30	5.0	57
DR200-2165	5.5	32	5.5	60
DR200-2362	6.0	33	6.0	62
DR200-2559	6.5	35	6.5	64
DR200-2756	7.0	38	7.0	68
DR200-2953	7.5	40	7.5	70
DR200-3150	8.0	41	8.0	71
DR200-3346	8.5	43	8.5	76
DR200-3543	9.0	44	9.0	78
DR200-3740	9.5	46	9.5	79
DR200-3937	10.0	48	10.0	83
DR200-4134	10.5	51	10.5	86
DR200-4331	11.0	52	11.0	87
DR200-4528	11.5	54	11.5	90
DR200-4724	12.0	54	12.0	92

Additional sizes available upon request.  
Coating available upon request.

WORK MATERIAL									
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



# DR215

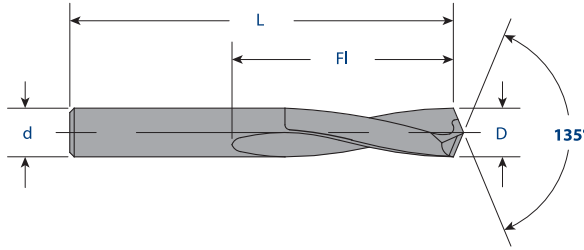
## General Purpose Drills - Sub-Micrograin Carbide

METRIC



### 2 FLUTE • 15° RIGHT HAND HELIX

135° Modified Split Point - Screw Machine Length



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



DR215	D cutting dia.	fl flute length	d shank dia.	L overall length
DR215-0591	1.5	13	1.5	38
DR215-0787	2.0	19	2.0	44
DR215-0984	2.5	21	2.5	46
DR215-1181	3.0	22	3.0	48
DR215-1378	3.5	24	3.5	49
DR215-1575	4.0	27	4.0	54
DR215-1772	4.5	29	4.5	56
DR215-1968	5.0	30	5.0	57
DR215-2165	5.5	32	5.5	60
DR215-2362	6.0	33	6.0	62
DR215-2559	6.5	35	6.5	64
DR215-2756	7.0	38	7.0	68
DR215-2953	7.5	40	7.5	70
DR215-3150	8.0	41	8.0	71
DR215-3346	8.5	43	8.5	76
DR215-3543	9.0	44	9.0	78
DR215-3740	9.5	46	9.5	79
DR215-3937	10.0	48	10.0	83
DR215-4134	10.5	51	10.5	86
DR215-4331	11.0	52	11.0	87
DR215-4528	11.5	54	11.5	90
DR215-4724	12.0	54	12.0	92

Additional sizes available upon request.  
Coating available upon request.

#### WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

# DR220

## General Purpose Drills - Sub-Micrograin Carbide

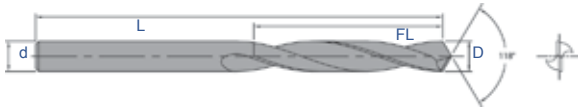
METRIC



QUALITY  
TECH TOOL

### 2 FLUTE • 20° RIGHT HAND HELIX

118° 4 Facet Point - Jobber Length



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.00mm-.025mm	+0.00mm-.006mm
over 3mm	+0.00mm-.038mm	+0.00mm-.008mm



DR220	D cutting dia.	fl flute length	d shank dia.	L overall length
DR220-0591	1.5	19	1.5	38
DR220-0787	2.0	22	2.0	44
DR220-0984	2.5	25	2.5	51
DR220-1181	3.0	32	3.0	57
DR220-1378	3.5	35	3.5	64
DR220-1575	4.0	35	4.0	64
DR220-1772	4.5	41	4.5	70
DR220-1969	5.0	44	5.0	76
DR220-2165	5.5	44	5.5	76
DR220-2362	6.0	51	6.0	83
DR220-2559	6.5	51	6.5	83
DR220-2756	7.0	54	7.0	89
DR220-2953	7.5	60	7.5	92
DR220-3150	8.0	60	8.0	92
DR220-3346	8.5	64	8.5	102
DR220-3543	9.0	64	9.0	102
DR220-3740	9.5	70	9.5	108
DR220-3937	10.0	73	10.0	114
DR220-4134	10.5	73	10.5	114
DR220-4331	11.0	73	11.0	114
DR220-4528	11.5	76	11.5	121
DR220-4724	12.0	76	12.0	121

Additional sizes available upon request.  
Coating available upon request.

#### WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

**NC DRILL • MICRO GRAIN CARBIDE**  
90° - Point - 2 Flute



Size (D) cutting dia. (d) h6 Tol. shank dia.  
up to 3mm +.000mm-.025mm +.000mm-.006mm  
over 3mm +.000mm-.038mm +.000mm-.008mm

SD221 90°	Dia.	Flute	Shank	OAL
SD221-1575-90	4.0	10	4	51
SD221-2362-90	6.0	16	6	51
SD221-3150-90	8.0	23	8	64
SD221-3937-90	10	24	10	70
SD221-4724-90	12	25	12	70

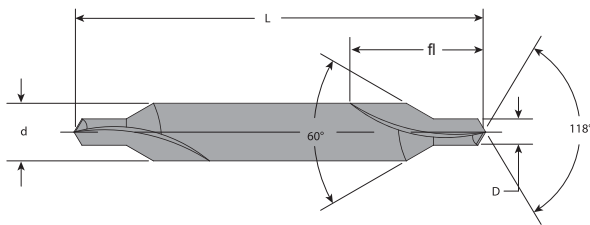
**NC DRILL • MICRO GRAIN CARBIDE**  
120° - Point - 2 Flute



Size (D) cutting dia. (d) h6 Tol. shank dia.  
up to 3mm +.000mm-.025mm +.000mm-.006mm  
over 3mm +.000mm-.038mm +.000mm-.008mm

SD221 120°	Dia.	Flute	Shank	OAL
SD221-1575-120	4.0	10	4	51
SD221-2362-120	6.0	16	6	51
SD221-3150-120	8.0	23	8	64
SD221-3937-120	10	24	10	70
SD221-4724-120	12	25	12	70

**COMBINATION DRILL COUNTERSINK**  
118° 4 Facet Point - Straight Flute - 60° C'Sink Angle



Size (D) cutting dia. (d) h6 Tol. shank dia.  
up to 3mm +.000mm-.025mm +.000mm-.006mm  
over 3mm +.000mm-.038mm +.000mm-.008mm



DR235	D cutting dia.	fl flute length	d shank dia.	L overall length
DR235-0050	0.50	19	3.0	38
DR235-0080	0.80	22	3.0	38
DR235-0100	1.00	25	3.0	38
DR235-0125	1.25	32	3.0	38
DR235-0160	1.60	35	4.0	50
DR235-0200	2.00	35	5.0	50
DR235-0250	2.50	41	6.0	64
DR235-0315	3.15	44	8.0	64
DR235-0400	4.00	50	10.0	64
DR235-0500	5.00	60	12.0	64
DR235-0630	6.30	45	16.0	76
DR235-0800	8.00	50	20.0	100
DR235-1000	10.00	55	25.0	100

Additional sizes available upon request.  
Coating available upon request.

**WORK MATERIAL**

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
+6061	+1010	+1035	1065	+4140	20HrC	6AL4V	Inconel	+300	-35HrC
+7075	1018	1045		4340		(30HrC)	Kovar	+400	35-45HrC
+Casting								17-4PH	45-50HrC
+Cast Iron									

\* Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.





# ***GENERAL PURPOSE END MILLS***



# EM400

## General Purpose End Mills - Sub-Micrograin Carbide

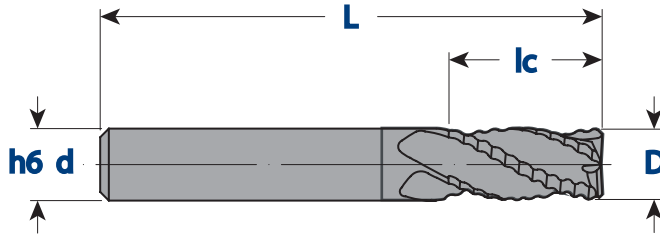
METRIC



QUALITY  
TECH TOOL

### EM400 • 4 FLUTE

Rough Style - 30° Helix



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



PC400 4 flute	D mill dia.	lc length of cut	d shank dia.	L overall length
EM400-1181	3.0	10	4	64
EM400-1575	4.0	14	6	64
EM400-1968	5.0	15	6	64
EM400-2362	6.0	19	6	64
EM400-3150	8.0	21	8	64
EM400-3937	10	25	10	70
EM400-4724	12	25	12	76
EM400-6299	16	32	16	89
EM400-7874	20	38	20	102
EM400-9843	25	38	25	102



#### WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



# EM402 · EM403 · EM404

## General Purpose End Mills - Sub-Micrograin Carbide

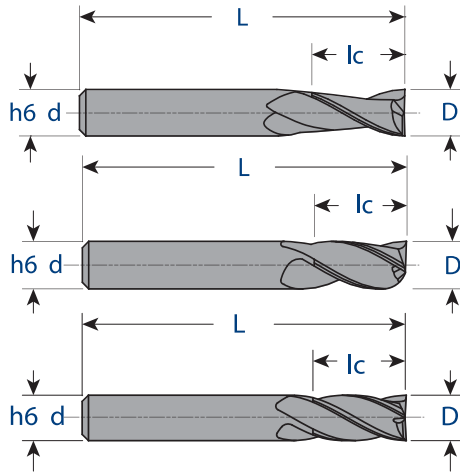
METRIC



QUALITY  
TECH TOOL

### STANDARD LENGTH · SINGLE END · SQUARE END

2, 3, and 4 Flute



Size up to 3mm over 3mm  
 (D) cutting dia. +.000mm-.025mm +.000mm-.038mm  
 (d) h6 Tol. shank dia. +.000mm-.006mm +.000mm-.008mm



EM402 EM403 EM404

			2	3	4	D	lc	d	L
			EM402 2 flute	EM403 3 flute	EM404 4 flute	mill dia.	length of cut	shank dia.	overall length
EM402-0197	EM403-0197	EM404-0197	0.5	1.5	3	39			
EM402-0394	EM403-0394	EM404-0394	1.0	3.0	3	39			
EM402-0591	EM403-0591	EM404-0591	1.5	5.0	3	39			
EM402-0787	EM403-0787	EM404-0787	2.0	7.0	3	39			
EM402-0984	EM403-0984	EM404-0984	2.5	7.0	3	39			
EM402-1181	EM403-1181	EM404-1181	3.0	9.0	3	39			
EM402-1378	EM403-1378	EM404-1378	3.5	12	4	51			
EM402-1575	EM403-1575	EM404-1575	4.0	14	4	51			
EM402-1772	EM403-1772	EM404-1772	4.5	14	5	51			
EM402-1969	EM403-1969	EM404-1969	5.0	16	5	51			
EM402-2362	EM403-2362	EM404-2362	6.0	19	6	64			
EM402-2756	EM403-2756	EM404-2756	7.0	19	8	64			
EM402-3150	EM403-3150	EM404-3150	8.0	21	8	64			
EM402-3543	EM403-3543	EM404-3543	9.0	22	10	70			
EM402-3937	EM403-3937	EM404-3937	10	22	10	70			
EM402-4331	EM403-4331	EM404-4331	11	25	11	70			
EM402-4724	EM403-4724	EM404-4724	12	25	12	76			
EM402-5512	EM403-5512	EM404-5512	14	30	14	89			
EM402-6299	EM403-6299	EM404-6299	16	32	16	89			
EM402-7087	EM403-7087	EM404-7087	18	35	18	102			
EM402-7874	EM403-7874	EM404-7874	20	38	20	102			
EM402-8661	EM403-8661	EM404-8661	22	38	22	102			
EM402-9843	EM403-9843	EM404-9843	25	38	25	102			

WORK MATERIAL									
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

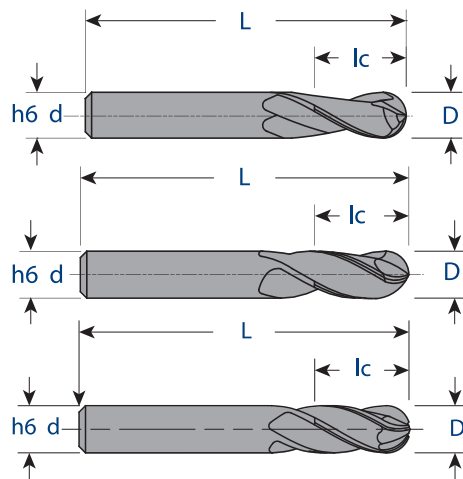
• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.





STANDARD LENGTH · SINGLE END · BALL NOSE

2, 3, and 4 Flute



Size up to 3mm over 3mm  
(D) cutting dia. +.000mm-.025mm +.000mm-.038mm  
(d) h6 Tol. shank dia. +.000mm-.006mm +.000mm-.008mm



EM402BN EM403BN EM404BN

			2	3	4	D	lc	d	L
			EM402BN 2 flute	EM403BN 3 flute	EM404BN 4 flute	mill dia.	length of cut	shank length	overall length
EM402-0197-BN	EM403-0197-BN	EM404-0197-BN	0.5	1.5	3	39			
EM402-0394-BN	EM403-0394-BN	EM404-0394-BN	1.0	3.0	3	39			
EM402-0591-BN	EM403-0591-BN	EM404-0591-BN	1.5	5.0	3	39			
EM402-0787-BN	EM403-0787-BN	EM404-0787-BN	2.0	7.0	3	39			
EM402-0984-BN	EM403-0984-BN	EM404-0984-BN	2.5	7.0	3	39			
EM402-1181-BN	EM403-1181-BN	EM404-1181-BN	3.0	9.0	3	39			
EM402-1378-BN	EM403-1378-BN	EM404-1378-BN	3.5	12	4	51			
EM402-1575-BN	EM403-1575-BN	EM404-1575-BN	4.0	14	4	51			
EM402-1772-BN	EM403-1772-BN	EM404-1772-BN	4.5	14	5	51			
EM402-1969-BN	EM403-1969-BN	EM404-1969-BN	5.0	16	5	51			
EM402-2362-BN	EM403-2362-BN	EM404-2362-BN	6.0	19	6	64			
EM402-2756-BN	EM403-2756-BN	EM404-2756-BN	7.0	19	8	64			
EM402-3150-BN	EM403-3150-BN	EM404-3150-BN	8.0	21	8	64			
EM402-3543-BN	EM403-3543-BN	EM404-3543-BN	9.0	22	10	70			
EM402-3937-BN	EM403-3937-BN	EM404-3937-BN	10	22	10	70			
EM402-4331-BN	EM403-4331-BN	EM404-4331-BN	11	25	11	70			
EM402-4724-BN	EM403-4724-BN	EM404-4724-BN	12	25	12	76			
EM402-5512-BN	EM403-5512-BN	EM404-5512-BN	14	30	14	89			
EM402-6299-BN	EM403-6299-BN	EM404-6299-BN	16	32	16	89			
EM402-7087-BN	EM403-7087-BN	EM404-7087-BN	18	35	18	102			
EM402-7874-BN	EM403-7874-BN	EM404-7874-BN	20	38	20	102			
EM402-8661-BN	EM403-8661-BN	EM404-8661-BN	22	38	22	102			
EM402-9843-BN	EM403-9843-BN	EM404-9843-BN	25	38	25	102			

WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
+6061	+1010	+1035	1065	+4140	20HrC	6AL4V	Inconel	+300	-35HrC
+7075	1018	1045		4340		(30HrC)	Kovar	+400	35-45HrC
+Casting								17-4PH	45-50HrC
+Cast Iron									

\* Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

# EM440

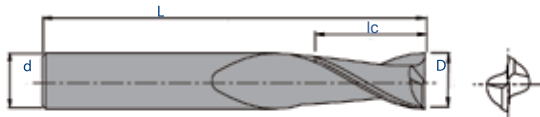
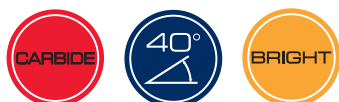
## General Purpose End Mills - Sub-Micrograin Carbide

METRIC



QUALITY  
TECH TOOL

### FAST CUT • 2 FLUTE



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



EM440 2 flute	D mill dia.	lc length of cut	d shank dia.	L overall length
EM440-2362	6.0	19	6	63
EM440-2363	6.0	38	6	102
EM440-3150	8.0	21	8	63
EM440-3151	8.0	41	8	102
EM440-3937	10	25	10	70
EM440-3938	10	51	10	102
EM440-4724	12	26	12	76
EM440-4725	12	51	12	102
EM440-6299	16	32	16	89
EM440-6300	16	57	16	127
EM440-7874	20	38	20	102
EM440-7875	20	57	20	127
EM440-9843	25	57	25	127
EM440-9844	25	76	25	152

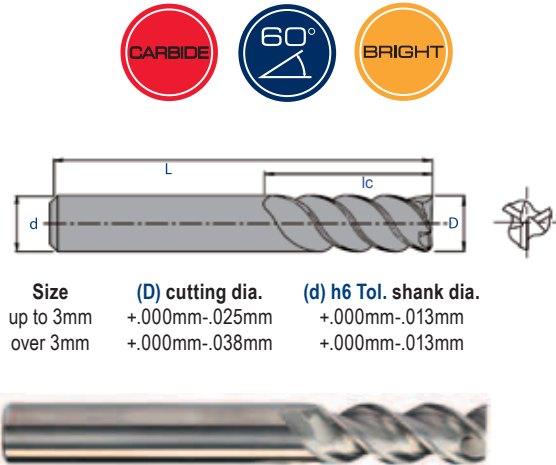


#### WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

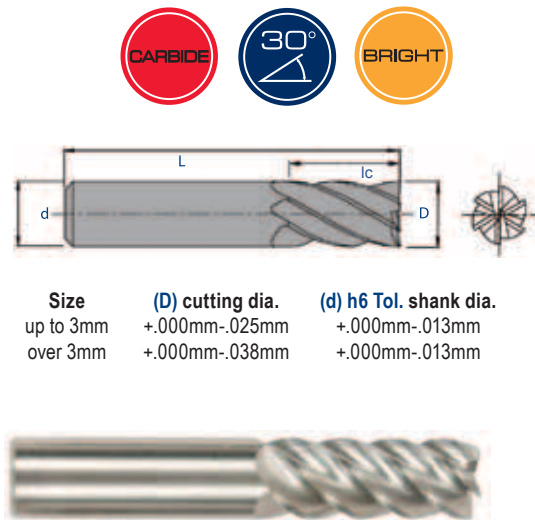
• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

### EM460 • HIGH HELIX • 3 FLUTE



EM460 3 flute	D mill dia.	lc length of cut	d shank dia.	L overall length
EM460-2362	6.0	19	6	19
EM460-3150	8.0	21	8	21
EM460-3937	10	25	10	25
EM460-4724	12	25	12	25
EM460-5512	14	29	14	29
EM460-6299	16	32	16	32
EM460-7087	18	38	18	38
EM460-7874	20	38	20	38
EM460-9843	25	38	25	38

### EM461 - RHS/RHC - 6 FLUTE



EM461 6 flute	D mill dia.	lc length of cut	d shank dia.	L overall length
EM461-1181	3.0	10	3	39
EM461-1575	4.0	14	4	51
EM461-1968	5.0	16	5	51
EM461-2362	6.0	19	6	64
EM461-2756	7.0	19	8	64
EM461-3150	8.0	21	8	64
EM461-3543	9.0	22	10	70
EM461-3937	10	25	10	70
EM461-4331	11	25	11	70
EM461-4724	12	25	12	76
EM461-5512	14	30	14	89
EM461-6299	16	32	16	89
EM461-7087	18	35	18	102
EM461-7874	20	38	20	102
EM461-8661	22	38	22	102
EM461-9843	25	38	25	102

#### WORK MATERIAL

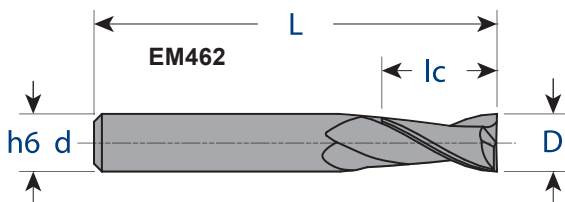
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

\* Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



**LONG LENGTH • SINGLE END • SQUARE END**

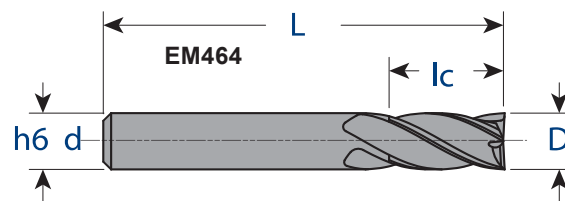
2 and 4 Flute



Size (D) cutting dia. (d) h6 Tol. shank dia.  
up to 3mm +.000mm-.025mm +.000mm-.013mm  
over 3mm +.000mm-.038mm +.000mm-.013mm



EM462 2 flute	EM464 4 flute	D mill dia.	lc length of cut	d shank dia.	L overall length
EM462-1181	EM464-1181	3.0	19	3	57
EM462-1575	EM464-1575	4.0	19	4	57
EM462-1969	EM464-1969	5.0	25	5	64
EM462-2362	EM464-2362	6.0	28	6	76
EM462-3150	EM464-3150	8.0	29	8	76
EM462-3937	EM464-3937	10	32	10	76
EM462-4724	EM464-4724	12	51	12	102
EM462-5512	EM464-5512	14	57	14	127
EM462-6299	EM464-6299	16	57	16	127
EM462-7087	EM464-7087	18	57	18	127
EM462-7874	EM464-7874	20	57	20	127
EM462-9843	EM464-9843	25	57	25	127



Size (D) cutting dia. (d) h6 Tol. shank dia.  
up to 3mm +.000mm-.025mm +.000mm-.013mm  
over 3mm +.000mm-.038mm +.000mm-.013mm



WORK MATERIAL									
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

# EM462BN • EM464BN

## General Purpose End Mills - Sub-Micrograin Carbide

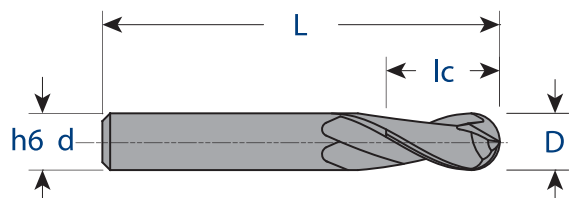
METRIC



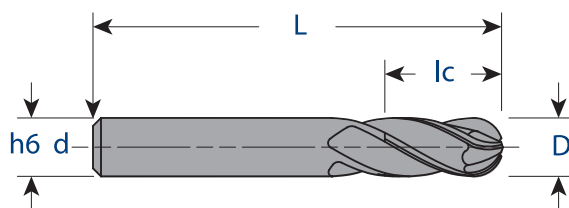
QUALITY  
TECH TOOL

### LONG LENGTH • SINGLE END • BALL NOSE

2 and 4 Flute



Size (D) cutting dia. (d) h6 Tol. shank dia.  
 up to 3mm +.000mm-.025mm +.000mm-.013mm  
 over 3mm +.000mm-.038mm +.000mm-.013mm



Size (D) cutting dia. (d) h6 Tol. shank dia.  
 up to 3mm +.000mm-.025mm +.000mm-.013mm  
 over 3mm +.000mm-.038mm +.000mm-.013mm



		2	4	D	lc	d	L
		EM462BN	EM464BN	mill	length	shank	overall
		2 flute	4 flute	dia.	of cut	dia.	length
EM462-1181-BN	EM464-1181-BN	3.0	19	3	57		
EM462-1575-BN	EM464-1575-BN	4.0	19	4	57		
EM462-1969-BN	EM464-1969-BN	5.0	25	5	64		
EM462-2362-BN	EM464-2362-BN	6.0	28	6	76		
EM462-3150-BN	EM464-3150-BN	8.0	28	8	76		
EM462-3937-BN	EM464-3937-BN	10	32	10	76		
EM462-4724-BN	EM464-4724-BN	12	51	12	102		
EM462-5512-BN	EM464-5512-BN	14	57	14	127		
EM462-6299-BN	EM464-6299-BN	16	57	16	127		
EM462-7087-BN	EM464-7087-BN	18	57	18	127		
EM462-7874-BN	EM464-7874-BN	20	57	20	127		
EM462-9843-BN	EM464-9843-BN	25	57	25	127		



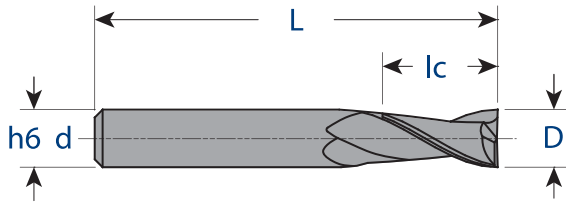
#### WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



**EM470 WITH BRIGHT FINISH • 2 FLUTE**  
*Standard Length For Cutting Aluminum*

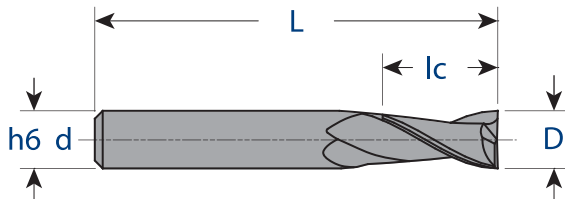


Size (D) cutting dia. (d) h6 Tol. shank dia.  
up to 3mm +.000mm-.025mm +.000mm-.013mm  
over 3mm +.000mm-.038mm +.000mm-.013mm



EM470 2 flute	D mill dia.	lc length of cut	d shank dia.	L overall length
EM470-1181	3.0	4.5	6	38
EM470-1575	4.0	6.0	6	51
EM470-2362	6.0	9.0	6	64
EM470-3150	8.0	12	8	64
EM470-3937	10	15	10	64
EM470-4724	12	18	12	76
EM470-6299	16	24	16	89
EM470-7874	20	30	20	102
EM470-9843	25	37.5	25	102

**EM471 WITH BRIGHT FINISH 2 FLUTE**  
*Long Length For Cutting Aluminum*



Size (D) cutting dia. (d) h6 Tol. shank dia.  
up to 3mm +.000mm-.025mm +.000mm-.013mm  
over 3mm +.000mm-.038mm +.000mm-.013mm



EM471 2 flute	D mill dia.	lc length of cut	d shank dia.	L overall length
EM471-1181	3.0	7.5	6	38
EM471-1575	4.0	10	6	51
EM471-2362	6.0	15	6	64
EM471-3150	8.0	20	8	64
EM471-3937	10	25	10	64
EM471-4724	12	30	12	76
EM471-6299	16	40	16	89
EM471-7874	20	50	20	102
EM471-9843	25	62.5	25	127

**WORK MATERIAL**

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



# EM475 • EM476

General Purpose End Mills - Sub-Micrograin Carbide

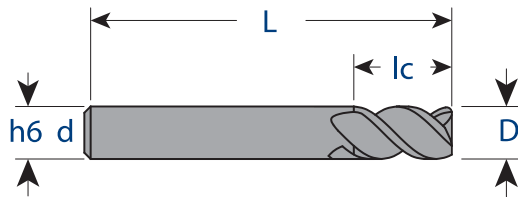
METRIC



QUALITY  
TECH TOOL

## EM475 WITH BRIGHT FINISH • 3 FLUTE

Standard Length For Cutting Aluminum



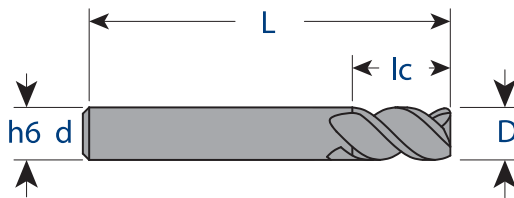
Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.013mm
over 3mm	+0.000mm-.038mm	+0.000mm-.013mm



EM475 3 flute	D mill dia.	lc length of cut	d shank dia.	L overall length
EM475-1181	3.0	4.5	6	38
EM475-1575	4.0	6.0	6	51
EM475-2362	6.0	9.0	6	64
EM475-3150	8.0	12	8	64
EM475-3937	10	15	10	64
EM475-4724	12	18	12	76
EM475-6299	16	24	16	89
EM475-7874	20	30	20	102
EM475-9843	25	37.5	25	102

## EM476 WITH BRIGHT FINISH • 3 FLUTE

Long Length For Cutting Aluminum



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.013mm
over 3mm	+0.000mm-.038mm	+0.000mm-.013mm



EM476 3 flute	D mill dia.	lc length of cut	d shank dia.	L overall length
EM476-1181	3.0	7.5	6	38
EM476-1575	4.0	10	6	51
EM476-2362	6.0	15	6	64
EM476-3150	8.0	20	8	64
EM476-3937	10	25	10	64
EM476-4724	12	30	12	76
EM476-6299	16	40	16	89
EM476-7874	20	50	20	102
EM476-9843	25	62.5	25	127

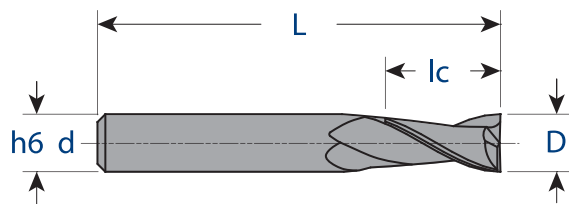
### WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

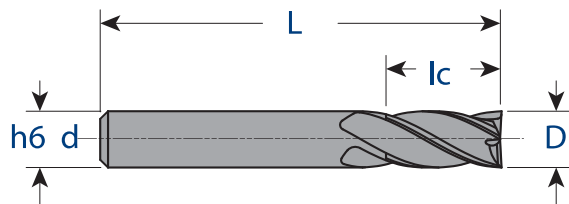
• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

**EXTRA LONG LENGTH • SINGLE END • SQUARE END**

2 and 4 Flute



Size up to 3mm over 3mm  
(D) cutting dia. +.000mm-.025mm over 3mm +.000mm-.038mm  
(d) h6 Tol. shank dia. +.000mm-.013mm over 3mm +.000mm-.013mm



Size up to 3mm over 3mm  
(D) cutting dia. +.000mm-.025mm over 3mm +.000mm-.038mm  
(d) h6 Tol. shank dia. +.000mm-.013mm over 3mm +.000mm-.013mm

EM482 2 flute	EM484 4 flute	D mill dia.	lc length of cut	d shank dia.	L overall length
EM482-1181	EM484-1181	3.0	25	3	76
EM482-1575	EM484-1575	4.0	28	4	76
EM482-1969	EM484-1969	5.0	32	5	76
EM482-2362	EM484-2362	6.0	38	6	102
EM482-3150	EM484-3150	8.0	42	8	102
EM482-3937	EM484-3937	10	45	10	102
EM482-4724	EM484-4724	12	76	12	153
EM482-5512	EM484-5512	14	76	14	153
EM482-6299	EM484-6299	16	76	16	153
EM482-7087	EM484-7087	18	76	18	153
EM482-7874	EM484-7874	20	76	20	153
EM482-9843	EM484-9843	25	76	25	153



**WORK MATERIAL**

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

# EM482BN • EM484BN

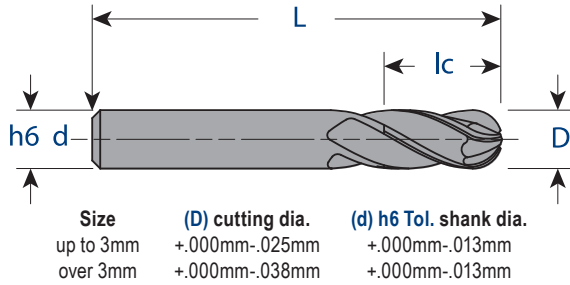
## General Purpose End Mills - Sub-Micrograin Carbide

METRIC

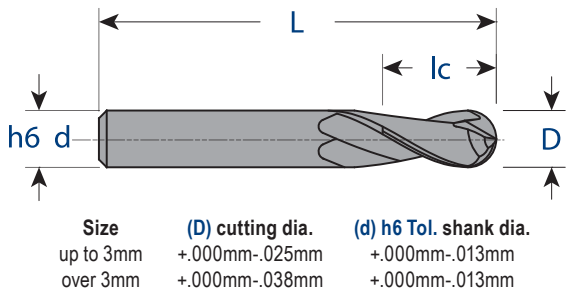


### EXTRA LONG LENGTH • SINGLE END • BALL NOSE

2 and 4 Flute



EM482BN      EM484BN



		D mill dia.	lc length of cut	d shank dia.	L overall length
	<b>EM482BN</b> 2 flute				
	<b>EM484BN</b> 4 flute				
	EM482-1181-BN	3.0	25	3	76
	EM482-1575-BN	4.0	28	4	76
	EM482-1968-BN	5.0	32	5	76
	EM482-2362-BN	6.0	38	6	102
	EM482-3150-BN	8.0	42	8	102
	EM482-3937-BN	10	45	10	102
	EM482-4724-BN	12	76	12	153
	EM482-5512-BN	14	76	14	153
	EM482-6299-BN	16	76	16	153
	EM482-7087-BN	18	76	18	153
	EM482-7874-BN	20	76	20	153
	EM482-9843-BN	25	76	25	153



#### WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.





**LONG LENGTH • BALL NOSE**  
2 Flute



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.013mm
over 3mm	+0.000mm-.038mm	+0.000mm-.013mm



EM497 2 flute	D mill dia.	lc length of cut	d shank dia.	L overall length
EM497-1181	3.0	4.5	3	63
EM497-1575	4.0	6.0	4	63
EM497-1969	5.0	8.0	5	63
EM497-2362	6.0	9.0	6	100
EM497-3150	8.0	12	8	100
EM497-3937	10	15	10	100
EM497-4331	11	17	12	127
EM497-4724	12	18	12	127
EM497-5512	14	21	14	127
EM497-6299	16	24	16	152
EM497-7087	18	27	18	152
EM497-7874	20	30	20	152
EM497-8661*	22	33	22	152
EM497-9843*	25	38	25	152

\*Available upon request.



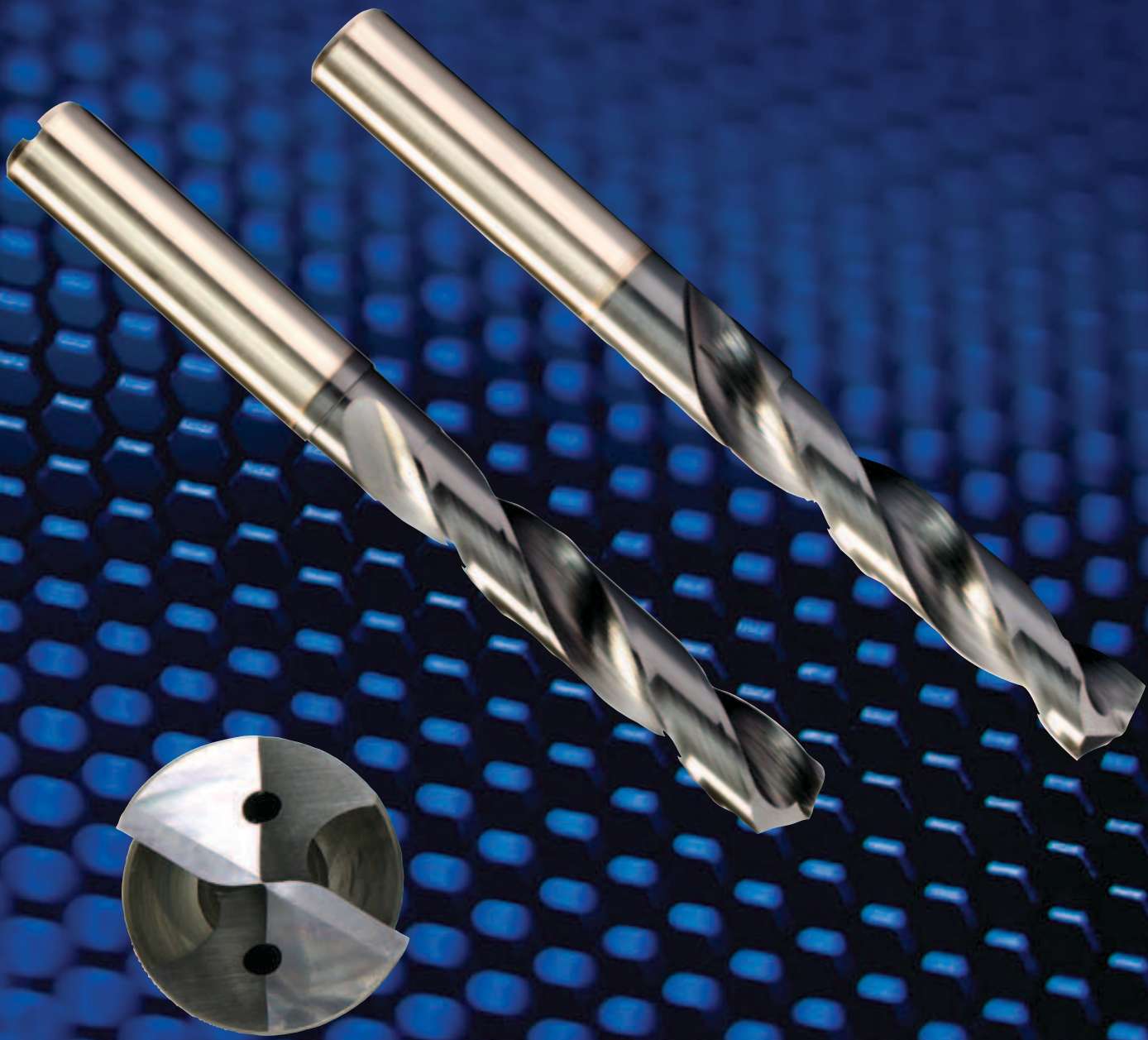
**WORK MATERIAL**

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



# *PREMIUM CLASS DRILLS*



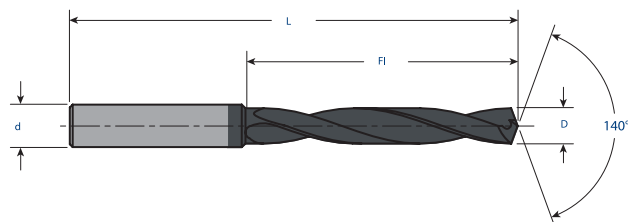




**QUALITY  
TECH TOOL**

**3 X D DRILLING CAPABILITY 25°-30° HELIX**

2 Flute - TiAlN Coating



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



PC243	D cutting dia.	FI flute length	d shank dia.	L overall Length
PC243-1181	3.0	20	6	62
PC243-1220	3.1	20	6	62
PC243-1260	3.2	20	6	62
PC243-1299	3.3	20	6	62
PC243-1339	3.4	20	6	62
PC243-1378	3.5	20	6	62
PC243-1417	3.6	20	6	62
PC243-1457	3.7	24	6	62
PC243-1496	3.8	24	6	66
PC243-1535	3.9	24	6	66
PC243-1575	4.0	24	6	66
PC243-1614	4.1	24	6	66
PC243-1654	4.2	24	6	66
PC243-1693	4.3	24	6	66
PC243-1732	4.4	24	6	66
PC243-1772	4.5	24	6	66
PC243-1811	4.6	24	6	66
PC243-1850	4.7	24	6	66
PC243-1890	4.8	28	6	66
PC243-1929	4.9	28	6	66
PC243-1969	5.0	28	6	66
PC243-2008	5.1	28	6	66
PC243-2047	5.2	28	6	66
PC243-2087	5.3	28	6	66
PC243-2126	5.4	28	6	66
PC243-2165	5.5	28	6	66
PC243-2205	5.6	28	6	66
PC243-2244	5.7	28	6	66
PC243-2283	5.8	28	6	66
PC243-2323	5.9	28	6	66
PC243-2362	6.0	28	6	66
PC243-2402	6.1	34	8	79

**WORK MATERIAL**

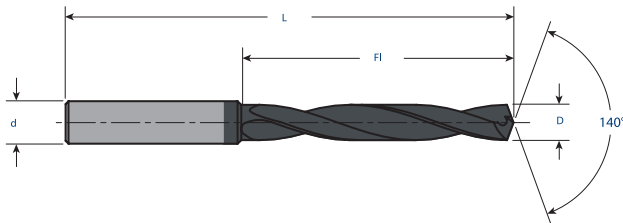
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



**3 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.**

2 Flute - TiAlN Coating



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.00mm-.025mm	+0.00mm-.006mm
over 3mm	+0.00mm-.038mm	+0.00mm-.008mm



PC243	D cutting dia.	FI flute length	d shank dia.	L overall Length
PC243-2441	6.2	34	8	79
PC243-2480	6.3	34	8	79
PC243-2520	6.4	34	8	79
PC243-2559	6.5	34	8	79
PC243-2598	6.6	34	8	79
PC243-2638	6.7	34	8	79
PC243-2677	6.8	34	8	79
PC243-2717	6.9	34	8	79
PC243-2756	7.0	34	8	79
PC243-2795	7.1	41	8	79
PC243-2835	7.2	41	8	79
PC243-2874	7.3	41	8	79
PC243-2913	7.4	41	8	79
PC243-2953	7.5	41	8	79
PC243-2992	7.6	41	8	79
PC243-3031	7.7	41	8	79
PC243-3071	7.8	41	8	79
PC243-3110	7.9	41	8	79
PC243-3150	8.0	41	8	79
PC243-3189	8.1	47	10	89
PC243-3228	8.2	47	10	89
PC243-3268	8.3	47	10	89
PC243-3307	8.4	47	10	89
PC243-3346	8.5	47	10	89
PC243-3386	8.6	47	10	89
PC243-3425	8.7	47	10	89
PC243-3465	8.8	47	10	89
PC243-3504	8.9	47	10	89
PC243-3543	9.0	47	10	89
PC243-3583	9.1	47	10	89
PC243-3622	9.2	47	10	89
PC243-3661	9.3	47	10	89

**WORK MATERIAL**

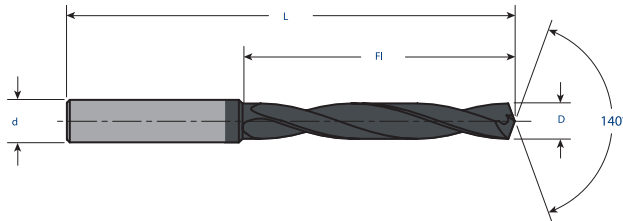
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



**3 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.**

2 Flute - TiAlN Coating



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



PC243	D cutting dia.	FI flute length	d shank dia.	L overall length
PC243-3701	9.4	47	10	89
PC243-3740	9.5	47	10	89
PC243-3780	9.6	47	10	89
PC243-3819	9.7	47	10	89
PC243-3858	9.8	47	10	89
PC243-3898	9.9	47	10	89
PC243-3937	10.0	47	10	89
PC243-3976	10.1	55	12	102
PC243-4016	10.2	55	12	102
PC243-4055	10.3	55	12	102
PC243-4094	10.4	55	12	102
PC243-4134	10.5	55	12	102
PC243-4173	10.6	55	12	102
PC243-4213	10.7	55	12	102
PC243-4252	10.8	55	12	102
PC243-4291	10.9	55	12	102
PC243-4331	11.0	55	12	102
PC243-4370	11.1	55	12	102
PC243-4409	11.2	55	12	102
PC243-4449	11.3	55	12	102
PC243-4488	11.4	55	12	102
PC243-4528	11.5	55	12	102
PC243-4567	11.6	55	12	102
PC243-4606	11.7	55	12	102
PC243-4646	11.8	55	12	102
PC243-4685	11.9	55	12	102
PC243-4724	12.0	55	12	102
PC243-4764	12.1	60	14	107
PC243-4803	12.2	60	14	107
PC243-4843	12.3	60	14	107
PC243-4882	12.4	60	14	107
PC243-4921	12.5	60	14	107

**WORK MATERIAL**

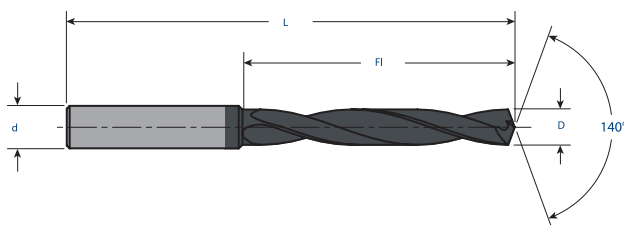
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



**3 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.**

2 Flute - TiAlN Coating



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



PC243	D cutting dia.	Fl flute length	d shank dia.	L overall length
PC243-4961	12.6	60	14	107
PC243-5000	12.7	60	14	107
PC243-5039	12.8	60	14	107
PC243-5079	12.9	60	14	107
PC243-5118	13.0	60	14	107
PC243-5157	13.1	60	14	107
PC243-5197	13.2	60	14	107
PC243-5236	13.3	60	14	107
PC243-5276	13.4	60	14	107
PC243-5315	13.5	60	14	107
PC243-5512	14.0	60	14	107
PC243-5709	14.5	65	16	115
PC243-5906	15.0	65	16	115
PC243-6102	15.5	65	16	115
PC243-6299	16.0	65	16	115
PC243-6496	16.5	73	18	123
PC243-6693	17.0	73	18	123
PC243-6890	17.5	73	18	123
PC243-7087	18.0	73	18	123
PC243-7283	18.5	79	20	131
PC243-7480	19.0	79	20	131
PC243-7677	19.5	79	20	131
PC243-7874	20.0	79	20	131

**WORK MATERIAL**

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

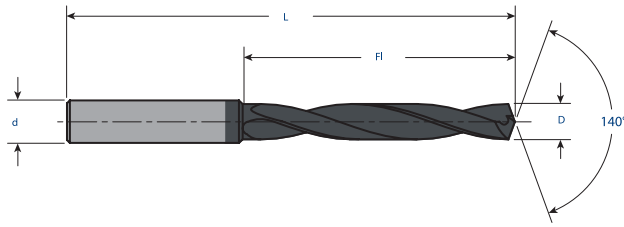
• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.





5 X D DRILLING CAPABILITY 25°-30° HELIX

2 Flute - TiAlN Coating



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



PC245	D cutting dia.	Fl flute length	d shank dia.	L overall Length
PC245-1181	3.0	28	6	66
PC245-1220	3.1	28	6	66
PC245-1260	3.2	28	6	66
PC245-1299	3.3	28	6	66
PC245-1339	3.4	28	6	66
PC245-1378	3.5	28	6	66
PC245-1417	3.6	28	6	66
PC245-1457	3.7	28	6	66
PC245-1496	3.8	36	6	74
PC245-1535	3.9	36	6	74
PC245-1575	4.0	36	6	74
PC245-1614	4.1	36	6	74
PC245-1654	4.2	36	6	74
PC245-1693	4.3	36	6	74
PC245-1732	4.4	36	6	74
PC245-1772	4.5	36	6	74
PC245-1811	4.6	36	6	74
PC245-1850	4.7	44	6	82
PC245-1890	4.8	44	6	82
PC245-1929	4.9	44	6	82
PC245-1969	5.0	44	6	82
PC245-2008	5.1	44	6	82
PC245-2047	5.2	44	6	82
PC245-2087	5.3	44	6	82
PC245-2126	5.4	44	6	82
PC245-2165	5.5	44	6	82
PC245-2205	5.6	44	6	82
PC245-2244	5.7	44	6	82
PC245-2283	5.8	44	6	82
PC245-2323	5.9	44	6	82
PC245-2362	6.0	44	6	82
PC245-2402	6.1	53	8	91

WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
+6061	+1010	+1035	1065	+4140	20HrC	6AL4V	Inconel	+300	-35HrC
+7075	1018	1045		4340		(30HrC)	Kovar	+400	35-45HrC
+Casting								17-4PH	45-50HrC
+Cast Iron									

\* Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

**PC245**

Premium Class Drills - Sub-Micrograin Carbide

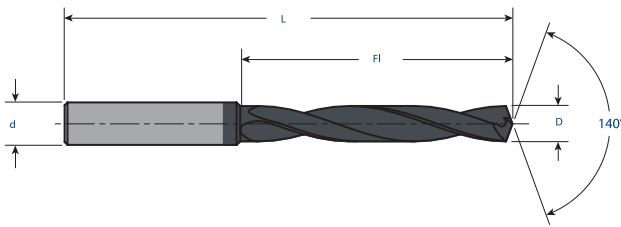
METRIC



**QUALITY  
TECH TOOL**

**5 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.**

2 Flute - TiAlN Coating



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



PC245	D cutting dia.	Fl flute length	d shank dia.	L overall Length
PC245-2441	6.2	53	8	91
PC245-2480	6.3	53	8	91
PC245-2520	6.4	53	8	91
PC245-2559	6.5	53	8	91
PC245-2598	6.6	53	8	91
PC245-2638	6.7	53	8	91
PC245-2677	6.8	53	8	91
PC245-2717	6.9	53	8	91
PC245-2756	7.0	53	8	91
PC245-2795	7.1	53	8	91
PC245-2835	7.2	53	8	91
PC245-2874	7.3	53	8	91
PC245-2913	7.4	53	8	91
PC245-2953	7.5	53	8	91
PC245-2992	7.6	53	8	91
PC245-3031	7.7	53	8	91
PC245-3071	7.8	53	8	91
PC245-3110	7.9	53	8	91
PC245-3150	8.0	53	8	91
PC245-3189	8.1	61	10	103
PC245-3228	8.2	61	10	103
PC245-3268	8.3	61	10	103
PC245-3307	8.4	61	10	103
PC245-3346	8.5	61	10	103
PC245-3386	8.6	61	10	103
PC245-3425	8.7	61	10	103
PC245-3465	8.8	61	10	103
PC245-3504	8.9	61	10	103
PC245-3543	9.0	61	10	103
PC245-3583	9.1	61	10	103
PC245-3622	9.2	61	10	103
PC245-3661	9.3	61	10	103

**WORK MATERIAL**

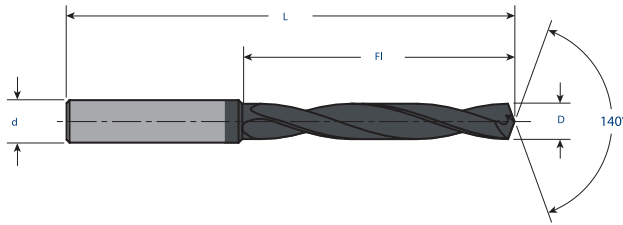
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



### 5 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.

2 Flute - TiAlN Coating



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



PC245	D cutting dia.	FI flute length	d shank dia.	L overall Length
PC245-3701	9.4	61	10	103
PC245-3740	9.5	61	10	103
PC245-3780	9.6	61	10	103
PC245-3819	9.7	61	10	103
PC245-3858	9.8	61	10	103
PC245-3898	9.9	61	10	103
PC245-3937	10.0	61	10	103
PC245-3976	10.1	71	12	118
PC245-4016	10.2	71	12	118
PC245-4055	10.3	71	12	118
PC245-4094	10.4	71	12	118
PC245-4134	10.5	71	12	118
PC245-4173	10.6	71	12	118
PC245-4213	10.7	71	12	118
PC245-4252	10.8	71	12	118
PC245-4291	10.9	71	12	118
PC245-4331	11.0	71	12	118
PC245-4370	11.1	71	12	118
PC245-4409	11.2	71	12	118
PC245-4449	11.3	71	12	118
PC245-4488	11.4	71	12	118
PC245-4528	11.5	71	12	118
PC245-4567	11.6	71	12	118
PC245-4606	11.7	71	12	118
PC245-4646	11.8	71	12	118
PC245-4685	11.9	71	12	118
PC245-4724	12.0	71	12	118
PC245-4764	12.1	77	14	124
PC245-4803	12.2	77	14	124
PC245-4843	12.3	77	14	124
PC245-4882	12.4	77	14	124
PC245-4921	12.5	77	14	124

#### WORK MATERIAL

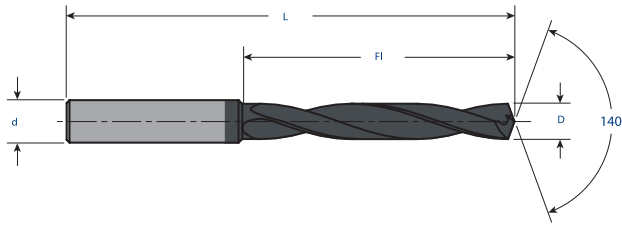
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



5 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.

2 Flute - TiAlN Coating



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.00mm-.025mm	+0.00mm-.006mm
over 3mm	+0.00mm-.038mm	+0.00mm-.008mm



PC245	D cutting dia.	FI flute length	d shank dia.	L overall Length
PC245-4961	12.6	77	14	124
PC245-5000	12.7	77	14	124
PC245-5039	12.8	77	14	124
PC245-5079	12.9	77	14	124
PC245-5118	13.0	77	14	124
PC245-5157	13.1	77	14	124
PC245-5197	13.2	77	14	124
PC245-5236	13.3	77	14	124
PC245-5276	13.4	77	14	124
PC245-5315	13.5	77	14	124
PC245-5512	14.0	77	14	124
PC245-5709	14.5	83	16	133
PC245-5906	15.0	83	16	133
PC245-6102	15.5	83	16	133
PC245-6299	16.0	83	16	133
PC245-6496	16.5	93	18	143
PC245-6693	17.0	93	18	143
PC245-6890	17.5	93	18	143
PC245-7087	18.0	93	18	143
PC245-7283	18.5	101	20	153
PC245-7480	19.0	101	20	153
PC245-7677	19.5	101	20	153
PC245-7874	20.0	101	20	153

WORK MATERIAL

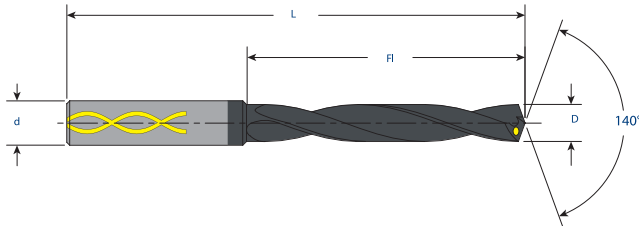
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



### 3 X D DRILLING CAPABILITY 25°-30° HELIX

2 Flute - TiAlN Coating - Coolant Fed



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



PC253	D cutting dia.	fl flute length	d shank dia.	L overall Length
PC253-1181	3.0	20	6	62
PC253-1220	3.1	20	6	62
PC253-1260	3.2	20	6	62
PC253-1299	3.3	20	6	62
PC253-1339	3.4	20	6	62
PC253-1378	3.5	20	6	62
PC253-1417	3.6	20	6	62
PC253-1457	3.7	24	6	62
PC253-1496	3.8	24	6	66
PC253-1535	3.9	24	6	66
PC253-1575	4.0	24	6	66
PC253-1614	4.1	24	6	66
PC253-1654	4.2	24	6	66
PC253-1693	4.3	24	6	66
PC253-1732	4.4	24	6	66
PC253-1772	4.5	24	6	66
PC253-1811	4.6	24	6	66
PC253-1850	4.7	24	6	66
PC253-1890	4.8	28	6	66
PC253-1929	4.9	28	6	66
PC253-1969	5.0	28	6	66
PC253-2008	5.1	28	6	66
PC253-2047	5.2	28	6	66
PC253-2087	5.3	28	6	66
PC253-2126	5.4	28	6	66
PC253-2165	5.5	28	6	66
PC253-2205	5.6	28	6	66
PC253-2244	5.7	28	6	66
PC253-2283	5.8	28	6	66
PC253-2323	5.9	28	6	66
PC253-2362	6.0	28	6	66
PC253-2402	6.1	34	8	79

#### WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

**PC253**

Premium Class Drills - Sub-Micrograin Carbide

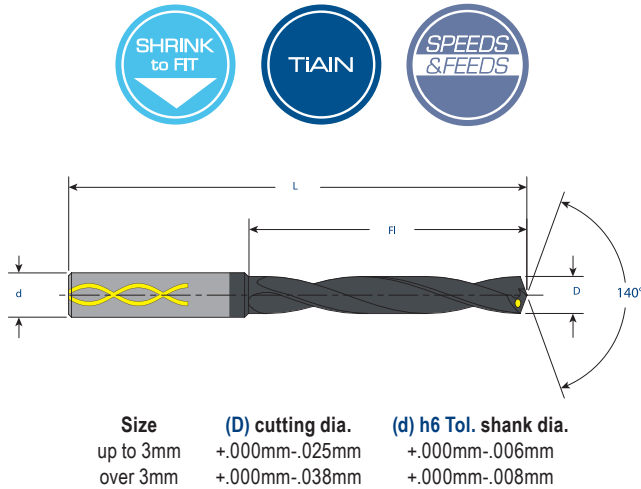
METRIC



**QUALITY  
TECH TOOL**

**3 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.**

2 Flute - TiAlN Coating - Coolant Fed



PC253	D cutting dia.	fl flute length	d shank dia.	L overall Length
PC253-2441	6.2	34	8	79
PC253-2480	6.3	34	8	79
PC253-2520	6.4	34	8	79
PC253-2559	6.5	34	8	79
PC253-2598	6.6	34	8	79
PC253-2638	6.7	34	8	79
PC253-2677	6.8	34	8	79
PC253-2717	6.9	34	8	79
PC253-2756	7.0	34	8	79
PC253-2795	7.1	41	8	79
PC253-2835	7.2	41	8	79
PC253-2874	7.3	41	8	79
PC253-2913	7.4	41	8	79
PC253-2953	7.5	41	8	79
PC253-2992	7.6	41	8	79
PC253-3031	7.7	41	8	79
PC253-3071	7.8	41	8	79
PC253-3110	7.9	41	8	79
PC253-3150	8.0	41	8	79
PC253-3189	8.1	47	10	89
PC253-3228	8.2	47	10	89
PC253-3268	8.3	47	10	89
PC253-3307	8.4	47	10	89
PC253-3346	8.5	47	10	89
PC253-3386	8.6	47	10	89
PC253-3425	8.7	47	10	89
PC253-3465	8.8	47	10	89
PC253-3504	8.9	47	10	89
PC253-3543	9.0	47	10	89
PC253-3583	9.1	47	10	89
PC253-3622	9.2	47	10	89
PC253-3661	9.3	47	10	89

**WORK MATERIAL**

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

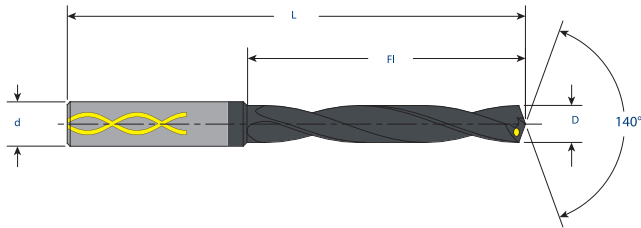




**QUALITY  
TECH TOOL**

**3 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.**

*2 Flute - TiAlN Coating - Coolant Fed*



**Size**  
up to 3mm  
over 3mm

**(D) cutting dia.**  
+.000mm-.025mm  
+.000mm-.038mm

**(d) h6 Tol. shank dia.**  
+.000mm-.006mm  
+.000mm-.008mm



PC253	D cutting dia.	Fl flute length	d shank dia.	L overall length
PC253-3701	9.4	47	10	89
PC253-3740	9.5	47	10	89
PC253-3780	9.6	47	10	89
PC253-3819	9.7	47	10	89
PC253-3858	9.8	47	10	89
PC253-3898	9.9	47	10	89
PC253-3937	10.0	47	10	89
PC253-3976	10.1	55	12	102
PC253-4016	10.2	55	12	102
PC253-4055	10.3	55	12	102
PC253-4094	10.4	55	12	102
PC253-4134	10.5	55	12	102
PC253-4173	10.6	55	12	102
PC253-4213	10.7	55	12	102
PC253-4252	10.8	55	12	102
PC253-4291	10.9	55	12	102
PC253-4331	11.0	55	12	102
PC253-4370	11.1	55	12	102
PC253-4409	11.2	55	12	102
PC253-4449	11.3	55	12	102
PC253-4488	11.4	55	12	102
PC253-4528	11.5	55	12	102
PC253-4567	11.6	55	12	102
PC253-4606	11.7	55	12	102
PC253-4646	11.8	55	12	102
PC253-4685	11.9	55	12	102
PC253-4724	12.0	55	12	102
PC253-4764	12.1	60	14	107
PC253-4803	12.2	60	14	107
PC253-4843	12.3	60	14	107
PC253-4882	12.4	60	14	107
PC253-4921	12.5	60	14	107

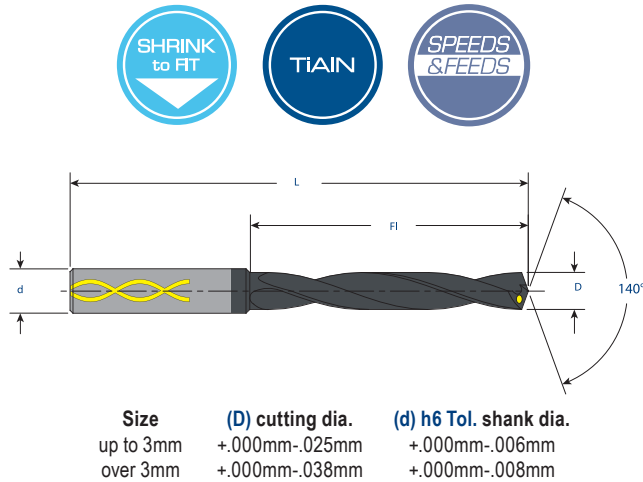
**WORK MATERIAL**

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
+6061	+1010	+1035	1065	+4140	20HrC	6AL4V	Inconel	+300	-35HrC
+7075	1018	1045		4340		(30HrC)	Kovar	+400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

**3 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.**

2 Flute - TiAlN Coating - Coolant Fed



PC253	D cutting dia.	FI flute length	d shank dia.	L overall length
PC253-4961	12.6	60	14	107
PC253-5000	12.7	60	14	107
PC253-5039	12.8	60	14	107
PC253-5079	12.9	60	14	107
PC253-5118	13.0	60	14	107
PC253-5157	13.1	60	14	107
PC253-5197	13.2	60	14	107
PC253-5236	13.3	60	14	107
PC253-5276	13.4	60	14	107
PC253-5315	13.5	60	14	107
PC253-5512	14.0	60	14	107
PC253-5709	14.5	65	16	115
PC253-5906	15.0	65	16	115
PC253-6102	15.5	65	16	115
PC253-6299	16.0	65	16	115
PC253-6496	16.5	73	18	123
PC253-6693	17.0	73	18	123
PC253-6890	17.5	73	18	123
PC253-7087	18.0	73	18	123
PC253-7283	18.5	79	18	131
PC253-7480	19.0	79	18	131
PC253-7677	19.5	79	18	131
PC253-7874	20.0	79	18	131

**WORK MATERIAL**

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

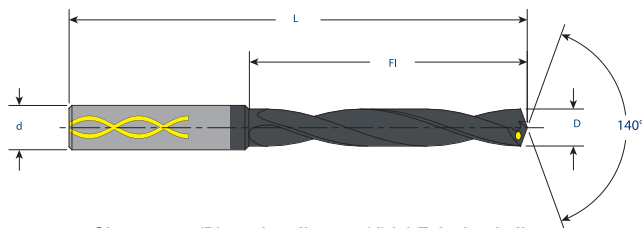
• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



**QUALITY  
TECH TOOL**

**5 X D DRILLING CAPABILITY 25°-30° HELIX**

*2 Flute - TiAlN Coating - Coolant Fed*



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



PC255	D cutting dia.	FI flute length	d shank dia.	L overall Length
PC255-1181	3.0	28	6	66
PC255-1220	3.1	28	6	66
PC255-1260	3.2	28	6	66
PC255-1299	3.3	28	6	66
PC255-1339	3.4	28	6	66
PC255-1378	3.5	28	6	66
PC255-1417	3.6	28	6	66
PC255-1457	3.7	28	6	66
PC255-1496	3.8	36	6	74
PC255-1535	3.9	36	6	74
PC255-1575	4.0	36	6	74
PC255-1614	4.1	36	6	74
PC255-1654	4.2	36	6	74
PC255-1693	4.3	36	6	74
PC255-1732	4.4	36	6	74
PC255-1772	4.5	36	6	74
PC255-1811	4.6	36	6	74
PC255-1850	4.7	44	6	82
PC255-1890	4.8	44	6	82
PC255-1929	4.9	44	6	82
PC255-1969	5.0	44	6	82
PC255-2008	5.1	44	6	82
PC255-2047	5.2	44	6	82
PC255-2087	5.3	44	6	82
PC255-2126	5.4	44	6	82
PC255-2165	5.5	44	6	82
PC255-2205	5.6	44	6	82
PC255-2244	5.7	44	6	82
PC255-2283	5.8	44	6	82
PC255-2323	5.9	44	6	82
PC255-2362	6.0	44	6	82
PC255-2402	6.1	53	8	91

**WORK MATERIAL**

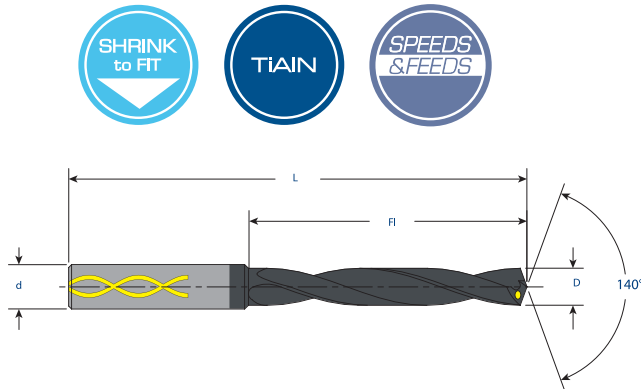
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



### 5 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.

2 Flute - TiAlN Coating - Coolant Fed



<b>Size</b>	<b>(D) cutting dia.</b>	<b>(d) h6 Tol. shank dia.</b>
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



PC255	D cutting dia.	Fl flute length	d shank dia.	L overall Length
PC255-2441	6.2	53	8	91
PC255-2480	6.3	53	8	91
PC255-2520	6.4	53	8	91
PC255-2559	6.5	53	8	91
PC255-2598	6.6	53	8	91
PC255-2638	6.7	53	8	91
PC255-2677	6.8	53	8	91
PC255-2717	6.9	53	8	91
PC255-2756	7.0	53	8	91
PC255-2795	7.1	53	8	91
PC255-2835	7.2	53	8	91
PC255-2874	7.3	53	8	91
PC255-2913	7.4	53	8	91
PC255-2953	7.5	53	8	91
PC255-2992	7.6	53	8	91
PC255-3031	7.7	53	8	91
PC255-3071	7.8	53	8	91
PC255-3110	7.9	53	8	91
PC255-3150	8.0	53	8	91
PC255-3189	8.1	61	10	103
PC255-3228	8.2	61	10	103
PC255-3268	8.3	61	10	103
PC255-3307	8.4	61	10	103
PC255-3346	8.5	61	10	103
PC255-3386	8.6	61	10	103
PC255-3425	8.7	61	10	103
PC255-3465	8.8	61	10	103
PC255-3504	8.9	61	10	103
PC255-3543	9.0	61	10	103
PC255-3583	9.1	61	10	103
PC255-3622	9.2	61	10	103
PC255-3661	9.3	61	10	103

#### WORK MATERIAL

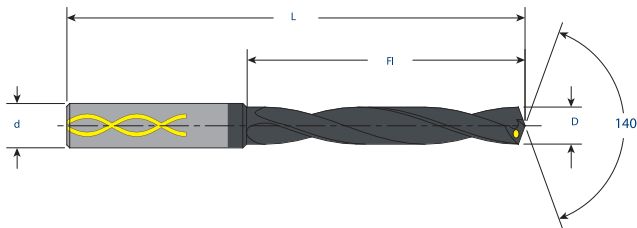
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	+300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	+400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



5 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.

2 Flute - TiAlN Coating - Coolant Fed



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



PC255	D cutting dia.	Fl flute length	d shank dia.	L overall Length
PC255-3701	9.4	61	10	103
PC255-3740	9.5	61	10	103
PC255-3780	9.6	61	10	103
PC255-3819	9.7	61	10	103
PC255-3858	9.8	61	10	103
PC255-3898	9.9	61	10	103
PC255-3937	10.0	61	10	103
PC255-3976	10.1	71	12	118
PC255-4016	10.2	71	12	118
PC255-4055	10.3	71	12	118
PC255-4094	10.4	71	12	118
PC255-4134	10.5	71	12	118
PC255-4173	10.6	71	12	118
PC255-4213	10.7	71	12	118
PC255-4252	10.8	71	12	118
PC255-4291	10.9	71	12	118
PC255-4331	11.0	71	12	118
PC255-4370	11.1	71	12	118
PC255-4409	11.2	71	12	118
PC255-4449	11.3	71	12	118
PC255-4488	11.4	71	12	118
PC255-4528	11.5	71	12	118
PC255-4567	11.6	71	12	118
PC255-4606	11.7	71	12	118
PC255-4646	11.8	71	12	118
PC255-4685	11.9	71	12	118
PC255-4724	12.0	71	12	118
PC255-4764	12.1	77	14	124
PC255-4803	12.2	77	14	124
PC255-4843	12.3	77	14	124
PC255-4882	12.4	77	14	124
PC255-4921	12.5	77	14	124

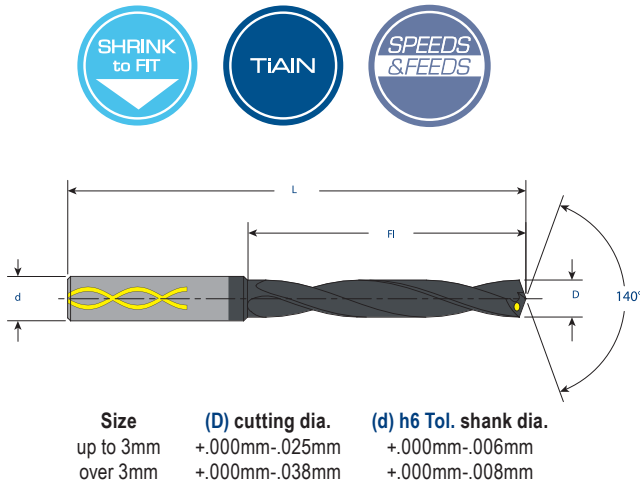
WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

**5 X D DRILLING CAPABILITY 25°-30° HELIX - CONT.**

2 Flute - TiAlN Coating - Coolant Fed



PC255	D cutting dia.	Fl flute length	d shank dia.	L overall Length
PC255-4961	12.6	77	14	124
PC255-5000	12.7	77	14	124
PC255-5039	12.8	77	14	124
PC255-5079	12.9	77	14	124
PC255-5118	13.0	77	14	124
PC255-5157	13.1	77	14	124
PC255-5197	13.2	77	14	124
PC255-5236	13.3	77	14	124
PC255-5276	13.4	77	14	124
PC255-5315	13.5	77	14	124
PC255-5512	14.0	77	14	124
PC255-5709	14.5	83	16	133
PC255-5906	15.0	83	16	133
PC255-6102	15.5	83	16	133
PC255-6299	16.0	83	16	133
PC255-6496	16.5	93	18	143
PC255-6693	17.0	93	18	143
PC255-6890	17.5	93	18	143
PC255-7087	18.0	93	18	143
PC255-7283	18.5	101	20	153
PC255-7480	19.0	101	20	153
PC255-7677	19.5	101	20	153
PC255-7874	20.0	101	20	153

**WORK MATERIAL**

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

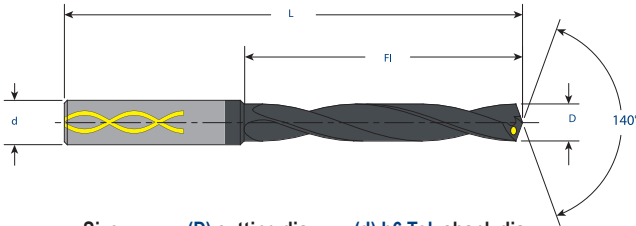
• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.





8 X D DRILLING CAPABILITY 25°-30° HELIX

2 Flute - TiAlN Coating · Coolant Fed



Size up to 3mm over 3mm  
 (D) cutting dia. +.000mm-.025mm over 3mm  
 (d) h6 Tol. shank dia. +.000mm-.006mm over 3mm +.000mm-.008mm

PC258	D cutting dia.	fl flute length	d shank dia.	L overall length
PC258-1181	3.0	50	6	95
PC258-1220	3.1	50	6	95
PC258-1260	3.2	50	6	95
PC258-1299	3.3	50	6	95
PC258-1339	3.4	50	6	95
PC258-1378	3.5	50	6	95
PC258-1417	3.6	50	6	95
PC258-1457	3.7	50	6	95
PC258-1496	3.8	50	6	95
PC258-1535	3.9	50	6	95
PC258-1575	4.0	50	6	95
PC258-1614	4.1	50	6	95
PC258-1654	4.2	50	6	95
PC258-1693	4.3	50	6	95
PC258-1732	4.4	50	6	95
PC258-1772	4.5	50	6	95
PC258-1811	4.6	50	6	95
PC258-1850	4.7	50	6	95
PC258-1890	4.8	50	6	95
PC258-1929	4.9	50	6	95



PC258	D cutting dia.	fl flute length	d shank dia.	L overall length
PC258-1969	5.0	50	6	90
PC258-2165	5.5	57	6	97
PC258-2362	6.0	57	6	97
PC258-2559	6.5	66	8	106
PC258-2756	7.0	76	8	116
PC258-2953	7.5	76	8	116
PC258-3150	8.0	76	8	116
PC258-3346	8.5	87	10	131
PC258-3543	9.0	87	10	131
PC258-3740	9.5	95	10	139
PC258-3937	10.0	95	10	139
PC258-4134	10.5	106	12	155
PC258-4331	11.0	106	12	155
PC258-4528	11.5	114	12	163
PC258-4724	12.0	114	12	163
PC258-4921	12.5	133	14	182
PC258-5118	13.0	133	14	182
PC258-5315	13.5	133	14	182
PC258-5512	14.0	133	14	182
PC258-5709	14.5	152	16	204
PC258-5906	15.0	152	16	204
PC258-6102	15.5	152	16	204
PC258-6299	16.0	152	16	204
PC258-6496	16.5	171	18	223
PC258-6693	17.0	171	18	223
PC258-6890	17.5	171	18	223
PC258-7087	18.0	171	18	223
PC258-7283	18.5	190	20	244
PC258-7480	19.0	190	20	244
PC258-7677	19.5	190	20	244
PC258-7874	20.0	190	20	244

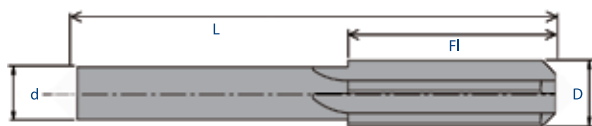
WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
+6061	+1010	+1035	1065	+4140	20HrC	6AL4V	Inconel	+300	-35HrC
+7075	1018	1045		4340		(30HrC)	Kovar	+400	35-45HrC
+Casting								17-4PH	45-50HrC
+Cast Iron									

\* Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

### STRAIGHT FLUTE • RIGHT HAND CUTTING

4 and 6 flute



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



RM300 4-6 flute	D cutting dia.	FI flute length	d shank dia.	L overall length
RM300-0630	1.6	10	1.32	38
RM300-0669	1.7	12	1.59	44
RM300-0709	1.8	12	1.59	44
RM300-0748	1.9	12	1.59	44
RM300-0787	2.0	12	1.59	44
RM300-0827	2.1	12	1.98	50
RM300-0866	2.2	12	1.98	50
RM300-0906	2.3	12	1.98	50
RM300-0945	2.4	12	1.98	50
RM300-1063	2.7	16	2.38	57
RM300-1181	3.0	16	2.78	57
RM300-1260	3.2	16	2.78	57
RM300-1417	3.6	19	3.57	64
RM300-1535	3.9	19	3.57	64
RM300-1614	4.1	22	3.97	70
RM300-1732	4.4	22	3.97	70
RM300-1929	4.9	22	4.76	70
RM300-2008	5.1	25	4.76	76
RM300-2047	5.2	25	4.76	76
RM300-2087	5.3	25	4.76	76
RM300-2126	5.4	25	4.76	76
RM300-2165	5.5	25	4.76	76
RM300-2205	5.6	25	4.76	76
RM300-2244	5.7	25	5.56	76
RM300-2283	5.8	25	5.56	76
RM300-2323	5.9	25	5.56	76
RM300-2362	6.0	25	5.56	76

Right hand spiral and left hand spiral, available upon request.  
Dia. 1.6 mm up to 6.3 mm - 4 flutes. 6.4 mm and over - 6 flutes.

#### WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

# RM300

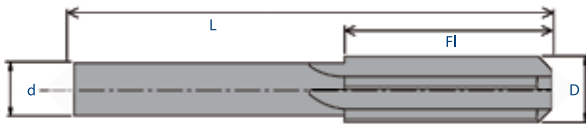
## General Purpose Drills - Sub-Micrograin Carbide

METRIC



### STRAIGHT FLUTE • RIGHT HAND CUTTING - CONT.

4 and 6 flute



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.000mm-.025mm	+0.000mm-.006mm
over 3mm	+0.000mm-.038mm	+0.000mm-.008mm



RM300 4-6 flute	D cutting dia.	FI flute length	d shank dia.	L overall length
RM300-2402	6.1	25	5.56	76
RM300-2441	6.2	25	5.56	76
RM300-2480	6.3	25	5.56	76
RM300-2520	6.4	29	6.35	83
RM300-2559	6.5	29	6.35	83
RM300-2598	6.6	29	6.35	83
RM300-2638	6.7	29	6.35	83
RM300-2677	6.8	29	6.35	83
RM300-2717	6.9	29	6.35	83
RM300-2756	7.0	29	6.35	83
RM300-2795	7.1	29	6.35	83
RM300-2835	7.2	29	6.35	83
RM300-2874	7.3	29	7.14	83
RM300-2913	7.4	29	7.14	83
RM300-2953	7.5	29	7.14	83
RM300-2992	7.6	29	7.14	83
RM300-3031	7.7	29	7.14	83
RM300-3071	7.8	29	7.14	83
RM300-3110	7.9	29	7.14	83
RM300-3150	8.0	29	7.14	83
RM300-3189	8.1	32	7.94	89
RM300-3228	8.2	32	7.94	89
RM300-3268	8.3	32	7.94	89
RM300-3307	8.4	32	7.94	89
RM300-3346	8.5	32	7.94	89
RM300-3386	8.6	32	7.94	89
RM300-3425	8.7	32	7.94	89

Right hand spiral and left hand spiral, available upon request.  
Dia. 1.6 mm up to 6.3 mm - 4 flutes. 6.4 mm and over - 6 flutes.

#### WORK MATERIAL

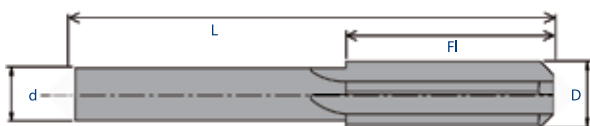
Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.



### STRAIGHT FLUTE · RIGHT HAND CUTTING - CONT.

4 and 6 flute



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.00mm-.025mm	+0.00mm-.006mm
over 3mm	+0.00mm-.038mm	+0.00mm-.008mm



RM300 6 flute	D cutting dia.	FI flute length.	d shank dia.	L overall length
RM300-3465	8.8	32	7.94	89
RM300-3504	8.9	32	7.94	89
RM300-3543	9.0	32	7.94	89
RM300-3583	9.1	32	7.94	89
RM300-3622	9.2	32	9.13	89
RM300-3661	9.3	32	9.13	89
RM300-3701	9.4	32	9.13	89
RM300-3740	9.5	32	9.13	89
RM300-3780	9.6	32	9.13	89
RM300-3819	9.7	32	9.13	89
RM300-3858	9.8	32	9.13	89
RM300-3898	9.9	32	9.53	89
RM300-3937	10.0	32	9.53	89
RM300-3976	10.1	32	9.53	89
RM300-4016	10.2	32	9.53	89
RM300-4055	10.3	32	9.53	89
RM300-4094	10.4	32	9.53	89
RM300-4134	10.5	32	9.53	89
RM300-4173	10.6	35	9.53	95
RM300-4213	10.7	35	9.53	95
RM300-4252	10.8	35	9.53	95
RM300-4291	10.9	35	9.53	95
RM300-4331	11.0	35	9.53	95
RM300-4370	11.1	35	9.53	95
RM300-4409	11.2	35	9.53	95
RM300-4449	11.3	35	9.53	95
RM300-4488	11.4	35	9.53	95

Right hand spiral and left hand spiral, available upon request.  
Dia. 1.6 mm up to 6.3 mm - 4 flutes. 6.4 mm and over - 6 flutes.

#### WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickel Alloy	Stainless Steel	Hardened Steel
•6061	•1010	•1035	1065	•4140	20HrC	6AL4V	Inconel	•300	-35HrC
•7075	1018	1045		4340		(30HrC)	Kovar	•400	35-45HrC
•Casting								17-4PH	45-50HrC
•Cast Iron									

• Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.

# RM300

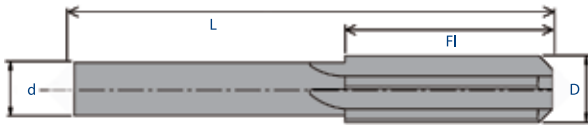
## General Purpose Drills - Sub-Micrograin Carbide

METRIC



### STRAIGHT FLUTE • RIGHT HAND CUTTING - CONT.

4 and 6 flute



Size	(D) cutting dia.	(d) h6 Tol. shank dia.
up to 3mm	+0.00mm-.025mm	+0.00mm-.006mm
over 3mm	+0.00mm-.038mm	+0.00mm-.008mm



RM300 6 flute	D cutting dia.	Fl flute length.	d shank dia.	L overall length
RM300-4528	11.5	35	9.53	95
RM300-4567	11.6	35	11.11	95
RM300-4606	11.7	35	11.11	95
RM300-4646	11.8	35	11.11	95
RM300-4685	11.9	35	11.11	95
RM300-4724	12.0	38	11.11	102
RM300-4764	12.1	38	11.11	102
RM300-4803	12.2	38	11.11	102
RM300-4843	12.3	38	11.11	102
RM300-4882	12.4	38	11.11	102
RM300-4921	12.5	38	11.11	102
RM300-4961	12.6	38	11.11	102
RM300-5039	12.8	38	11.11	102
RM300-5079	12.9	38	11.11	102
RM300-5118	13.0	38	11.11	102

Right hand spiral and left hand spiral, available upon request.  
Dia. 1.6 mm up to 6.3 mm - 4 flutes. 6.4 mm and over - 6 flutes.



#### WORK MATERIAL

Aluminum	Low Carbon Steel	Med. Carbon Steel	High Carbon Steel	Alloy Steel	Die Steel	Titanium	High Nickle Alloy	Stainless Steel	Hardened Steel
*6061	*1010	*1035	1065	*4140	20HrC	6AL4V	Inconel	*300	-35HrC
*7075	1018	1045		4340		(30HrC)	Kovar	*400	35-45HrC
*Casting								17-4PH	45-50HrC
*Cast Iron									

\* Recommended. Coatings, Set Screw, Weldon Flat, or Special Tolerances available.