

BB5000 Drilling and Blind Hole Boring Accessories

The BB5000 Boring Bar makes a powerful drilling system. Mounting options include cantilevered single arm or double arm bearing mounts and our Right Angle Drill Base. For larger diameter holes you can step drill, use hydraulic or servo motors, or use 120V or 230V single phase power by substituting the 4th generation Heavy Duty 12:1 Rotational Drive Unit which is normally bundled with the BB5000 Servo Motor.

To extend the life of drill inserts, we highly recommend using cooling mist from our 60283 Coolant Mister and the RCA (Rotary Coolant Adapters) with either Super Drills or AMEC drills.

We recommend the #4 Morse taper bars for most drilling and blind hole boring applications. The majority of our drilling and blind hole boring tools are supplied with #4 Morse taper. For increased versatility, order Morse taper bars with 1- $\frac{1}{4}$ inch (31.8 mm) straight shank bore on the opposite end.

Tooling options include the Showa Super Drill, Allied Machine & Engineering (AMEC) Gen 2 T-A Spade Drills, and Criterion Boring Heads. Mounting options include cantilever bearing mounts, the Right Angle Drill Stand or customer fabricated mounts for BB5000 Bearings.



BORING BARS

Morse Taper and Straight Shank Bars

2-¼ inch (57.2 mm) diameter boring bars are manufactured from 1045 CPO, hard chrome centerless ground and polished steel with a hardness of Rc 67-72, and a surface finish of 16 Ra maximum.

Bars have a full-length keyway and are straightened to within 0.001 inch/ft after machining. Bars are packaged in fitted steel boxes with quick release latches and include a Morse taper drift key.

Table 1: Part numbers for 2-¼ Inch (57.2 mm) diameter Bars for Drilling & Blind Hole Boring				
Bar Length Inch (mm)	#4 Morse Taper only	#4 Morse Taper and Straight Shank	#5 Morse Taper only	#5 Morse Taper and Straight Shank
24 (609.6)	58828		19282	18715
36 (914.4)	36114	61459	19283	18716
48 (1219.2)	38277	61502	19284	18717
60 (1524.0)	58827		19285	18718
72 (1828.8)	36113	61503	21131	58820
96 (2438.4)	38278	61504	19286	58821
144 (3657.6)	34200			

End Slot Boring Bars

End Slot Boring Bars, like standard CLIMAX Boring Bars, are manufactured from 1045 CPO, hard chrome centerless ground and polished steel.

Bars have full length keyway and are straightened to within 0.001 inch/ft after machining, and are packaged in fitted steel boxes with quick release latches.

End slot Boring Bars have ½ inch or 12 mm Square Broached Holes on 6 inch (152.4 mm) centers starting 1 inch (25.4 mm) from the end of the bar, and at the opposite end is a ½ inch or 12 mm tool slot machined into the end of the bar. The end slots have two tool bit clamping screws for additional clamping force.

Bar Overall Length Inch (mm)	Bars with ½ Inch End Slot	Bars with 12 mm End Slot
36 (914.4)	61600	61547
48 (1219.2)	61548	61587
72 (1828.8)	44769	61588

SUPER DRILLS

With one drill kit that covers the full range, Showa Super Drills provide the ultimate in adjustability.

With an integrated center drill for easy and accurate starting, Super Drill kits are adjustable for diameter and drill any hole size within the range.

The roughing bit is butted against the center drill and the finish bit can be easily set to drill a specified diameter using calipers.

5 kits will cover every hole size from 1.95 to 4.72 inches (49.5 to 119.9 mm) diameter.

The kit also includes an RCA (Rotary Coolant Adapter) which can be used to apply coolant or cooling mist directly to the cutting edge of the drill, keeping the tool from overheating and prolonging tool life. We highly recommend the optional surface grinding fixture which allows the roughing and finish inserts to be easily resharpened.

All of the Super drills from A1 through D size have a #4 Morse taper shank.

The larger B, C & D sized drills include drill guides that help prevent insert breakage when the drill breaks through the back side of a through hole. The Super Drill kits are packaged in a rugged compartmentalized Pelican case which includes storage for the grinding fixture.



- 64213 Super Drill Kit A1 1.968 - 2.165 inches (50 - 55 mm) #4 Morse taper
- 64214 Super Drill Kit A2 2.165 - 2.559 inches (55 - 65 mm) #4 Morse taper
- 64215 Super Drill Kit B 2.559 - 3.149 inches (65 - 80 mm) #4 Morse taper
- 64216 Super Drill Kit C 3.149 - 3.937 inches (80 - 100 mm) #4 Morse taper
- 64217 Super Drill Kit D 3.397 - 4.724 inches (100 - 120 mm) #4 Morse taper
- 96338 SBG Sharpening Fixture



CRITERION BORING HEADS

Criterion 3 and 4 inch (76.2 and 101.6 mm)diameter boring heads for blind hole boring with the BB5000 Boring Bar

Criterion 3 (76.2 mm) Boring Head Kit - #4 Morse Taper

The 3 inch (76.2 mm) Boring Head set uses $\frac{3}{4}$ inch (19.1 mm) diameter Boring Bars in both the cross-hole and the two vertical holes and can bore blind holes from 1 to 5- $\frac{1}{2}$ inch (25.4 to 130.2 mm) diameter with the CFX Vertical Hole Boring Bar, and from 4- $\frac{15}{16}$ to 11 inches (125.4 to 279.4 mm) with the CHB Cross-Hole Boring Bar.

The standard $\frac{3}{4}$ inch (19.1 mm) CFX Vertical Hole Boring Bar is 8 inches (203.2 mm) long and can bore as deep as 6- $\frac{1}{4}$ inches (158.8 mm). The special order short $\frac{3}{4}$ inch (19.1 mm) CFX Vertical Boring Bar is 4- $\frac{3}{4}$ inches (120.7 mm) long and can bore as deep as 3 inches (76.2 mm) (Holes over 3- $\frac{1}{4}$ inches (82.6 mm) in diameter are only limited by the rigidity of the boring set up, as the boring head can follow the tool into the bore.)

59767 3 inch (76.2 mm) Diameter Criterion CB-203D Boring Head Kit	
59759	Additional CFX- 750 $\frac{3}{4}$ x 8 inch (19.1 x 177.8 mm) Long Vertical Hole Boring Bar to cut to length
60244	Optional special order CFX- 750 $\frac{3}{4}$ X 4.75" Long Vertical Hole Boring Bar
59765	Insert CPMT- 3 (2.5) 1-1A C6 80 inches (2032.0 mm)

Criterion 4 inch (101.6 mm) Boring Head Kit #4 Morse Taper

The 4 inch (101.6 mm) Boring Head set uses 1 inch (25.4 mm) diameter Boring Bars in both the cross-hole and the two vertical holes and can bore blind holes from 1- $\frac{1}{4}$ to 7 inches (31.8 to 177.8 mm) in diameter with the CFX Vertical Hole Boring Bar, and from 5- $\frac{5}{8}$ to 13- $\frac{7}{16}$ inches (142.9 to 341.3 mm) with the CHB Cross-Hole Boring Bar.

The standard 1 inch (25.4 mm) CFX Vertical Hole Boring Bar is 10 inches (254.0) long and can bore as deep as 7- $\frac{1}{4}$ inches (184.2 mm).

The special order short 1 inch (25.4 mm) CFX Vertical Boring Bar is 5.31 inches (134.9 mm) long and can bore as deep as 2- $\frac{1}{2}$ inches (63.5 mm). (Holes over 4- $\frac{1}{4}$ inches (108.0 mm) in diameter are only limited by the rigidity of the boring set up, as the boring head can follow the tool into the bore.)



59768 4 inch (101.6 mm) Diameter Criterion CB-204D Boring Head Kit	
59760	Additional CFX- 1000 1 X 10 inch (25.4 x 254 mm) Long Vertical Boring Bar to cut to length
60245	Optional special order CFX-1000 1 X 5.31 inch (25.4 x 134.9 mm) Long Vertical Hole Boring Bar
59765	Insert CPMT-3 (2.5) 1-1A C6 80 inches (2032.0 mm)

CRITERION BORING HEADS & OTHER ACCESSORIES

Criterion 3 and 4 inch (76.2 and 101.6 mm)diameter boring heads for blind hole boring with the BB5000 Boring Bar

The CLIMAX Portable Machine Tool Criterion Boring Heads can be used to bore to the bottom of a blind hole (no thru hole). The Boring Head Kits include the 3 inch (76.2 mm) CB-203 Boring Head or 4 inch (101.6 mm) CB-204 Boring Heads, Morse Taper Shank, Cross-Hole and Vertical Hole Boring Bars and (10) Carbide Inserts that work for both CFX and CHB Boring Bars. The complete kit is packaged in a rugged, compartmentalized Pelican case.

The standard Boring Head Kits includes one long CFX Vertical Boring Bars which we recommend cutting to length to maximize rigidity, minimize bore taper and provide the optimum surface finish.

We also sell special-order short-bars.

The Pelican case has slots for (2) vertical hole boring bars

You can order an extra long bar and cut it to fit your needs,

or you can order the special short bar and the foam insert will fill the gap.



OTHER ACCESSORIES:

Coolant Mister

60283 New-Lube Coolant Mister supplies cooling mist directly to the cutting edge through the Super Drill or Allied Machine & Tool RCA (Rotary Coolant Adapter). This kit includes magnetic back mount, flexible coolant nozzle and fittings to adapt coolant hose to rotary coolant adapters for AMEC and Super Drills.

59804 New-Lube Coolant, 1 gallon

Right Angle Drill Base

57140 Right Angle Drill Base

Includes drill stand with pillow block bearing, tack weld spacers and all hardware.

Customer will need to order #4 or #5 Morse Taper or straight shank bar, (1) single arm bearing mount and drill tooling as well as BB5000 drive system to make a complete drill package.

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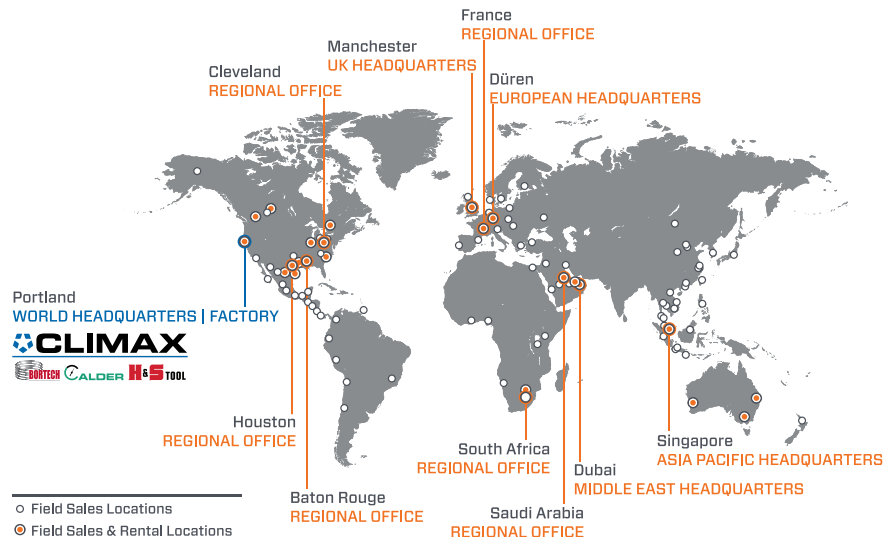
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