

The proven technology of the CLIMAX BB5000 Boring Machine now available in this smaller, affordable package.

Quick and Easy Setup

- Modular components make setup quick and easy.
- Fast and easy setup using high quality cast-iron set-up cones and spherical bearing mounts.
- Typical set-up time for an experienced operator is 30 minutes or less.

Powerful

- Over 100 ft lbs (135 N•m) of torque at the bar.
- Specially-designed rotational drive unit provides a 4:1 worm gear reduction for increased torque at all speeds.

Compact

- Extremely compact, and can be used easily in cramped, tight work spaces.
- Compact design completes jobs where other machines won't fit.

Affordable and Flexible

- The CLIMAX BB4500 Portable Boring Machine is your "best-value" portable boring machine.
- Through-bar design allows the rotational drive and feed unit to be mounted anywhere along the bar, even separate from one another.
- CLIMAX-patented mounting components provide the flexibility to handle challenging boring jobs even when space is limited.



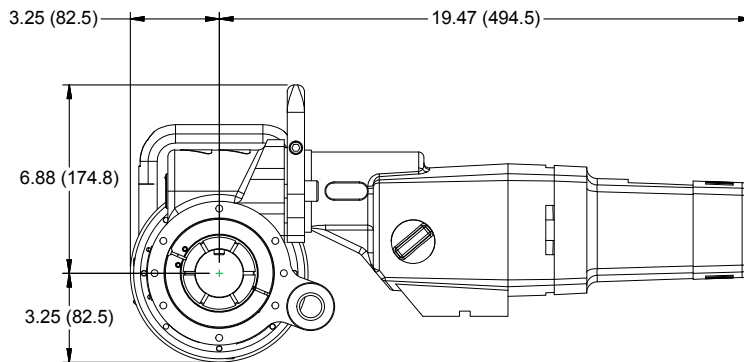
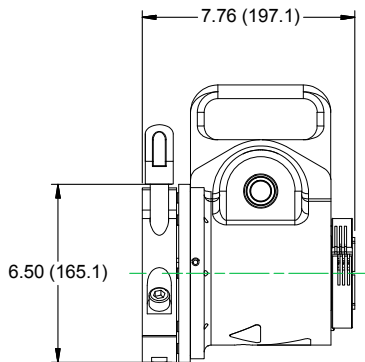
Versatile

- Available with electric, hydraulic, or pneumatic motor options.
- Reversible electric motor.
- Fast, easy two-bolt change-out process to switch motors.
- Available in a variety of bar lengths, from 4 to 20 feet (1219.2 to 6096 mm) Bars are straightened, and have ½ inch or 12 mm square-broached tooling holes.
- Many accessories available, including small bore kit, facing and grooving head options, and bore measuring tool.

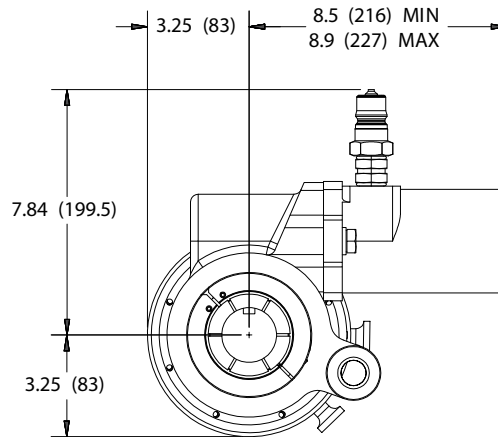
Quality Components

- Keyed, chromed 1-¾ inch (44.5 mm) bar.
- World's best rotational drive and axial feed unit.
- Patented mounting system.
- High-quality components provide smooth, reliable operation to get the job done.

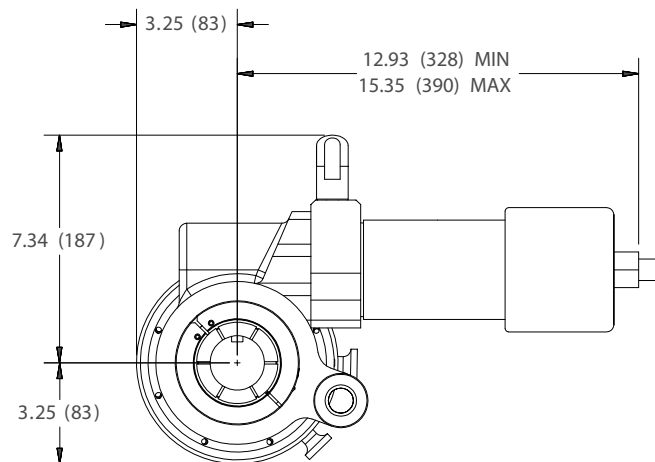
Dimensions in inch (mm)



Rotational drive unit with electric motor



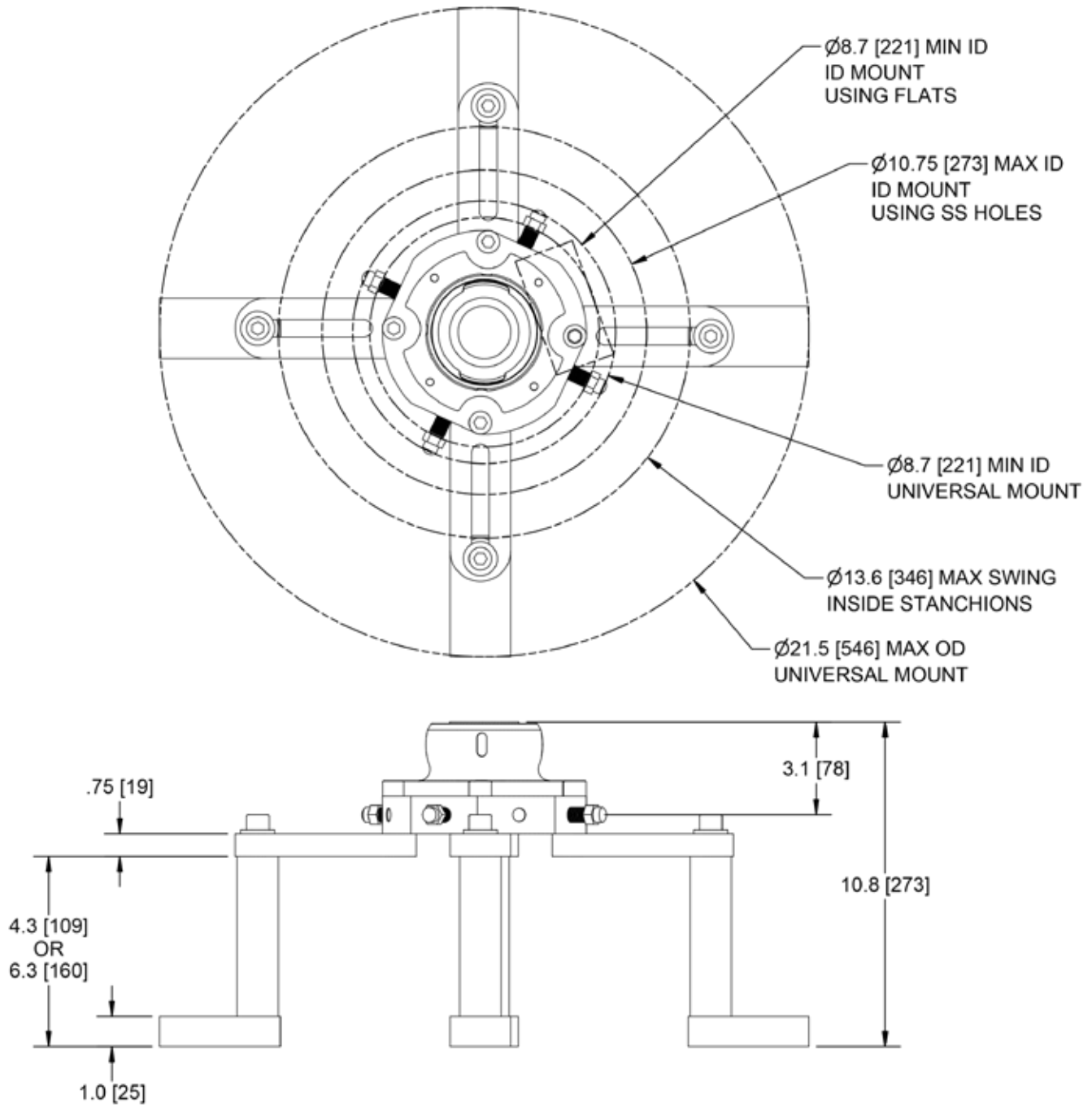
Rotational drive unit with hydraulic motor



Rotational drive unit with pneumatic motor



Dimensions in inch (mm)



Universal bearing mount

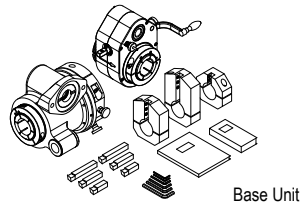
Configure your BB4500 in 8 easy steps:

To configure your BB4500 Boring Machine, you will need to:

- 1 Select a Base Unit
- 2 Select a Boring Bar
- 3 Select a Drive Motor Option
- 4 Select a Speed Control
- 5 Select Additional Lead Screws
- 6 Select Setup Cones
- 7 Select a Mounting Option
- 8 Select Optional Small Bore Kit

To generate the correct part number for the boring machine you require, simply select the part number needed in each step, and contact your CLIMAX representative.

The Base Unit includes the RDU and AFU, tool kit, tool head, packaging, and instruction manual. The unit comes packed in a durable metal container.

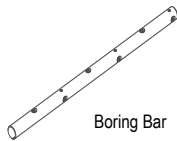


1 Select a Base Unit

- Standard Inch Unit 49056
- Standard Metric Unit 49057

**2 Select a Boring Bar, 1-3/4 inch diameter
Holes spaced every 6 inches (152.4 mm)**

- 48 inch bar, 1/2 inch holes 43311
- 72 inch bar, 1/2 inch holes 43313
- 96 inch bar, 1/2 inch holes 43314
- 120 inch bar, 1/2 inch holes 43315
- 144 inch bar, 1/2 inch holes 43316
- 48 inch (1219.2 mm) bar, 12 mm holes 43298
- 72 inch (1828.8 mm) bar, 12 mm holes 43300
- 96 inch (2438.4 mm) bar, 12 mm holes 43301
- 120 inch (3048.0 mm) bar, 12 mm holes 43302
- 144 inch (3657.6 mm) bar, 12 mm holes 43303

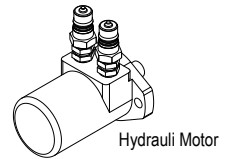
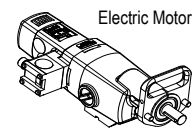
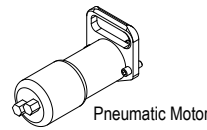


*Multiple units may be ordered.

**Select a Boring Bar, 1-3/4 inch diameter
Holes spaced every 10 inches (254.0 mm)**

- 48 inch bar, 1/2 inch tooling holes spaced 43318
- 72 inch bar, 1/2 inch tooling holes spaced 43320
- 96 inch bar, 1/2 inch tooling holes spaced 43321
- 120 inch bar, 1/2 inch tooling holes spaced 43322
- 144 inch bar, 1/2 inch tooling holes spaced 43323
- 48 inch (1219.2 mm) bar, 12 mm holes 43305
- 72 inch (1828.8 mm) bar, 12 mm holes 43307
- 96 inch (2438.4 mm) bar, 12 mm holes 43308
- 120 inch (3048.0 mm) bar, 12 mm holes 43309
- 144 inch (3657.6 mm) bar, 12 mm holes 43310

*Multiple units may be ordered.



3 Select a Drive Motor

Electric:

- 120 VAC, 50/60 Hz, 8/160 bar rpm, 4 speed reversible, CE 88008
- 230 VAC, 50/60 Hz, 8/160 bar rpm, 4 speed reversible, CE 88009

Hydraulic:

Motor Capacity		Max Bar RPM at		Torque at Bar, - Calculated - ft-lbs, (N·m)	Part No. Motors with 60 Series QD Fittings	Part No. Motors with ISO 16028 QD Fittings
in ³	cm ³	8.3 gpm (31.5 L/min) with 50 Hz mains power	10 gpm (37.9 L/min) with 60 Hz mains power			
2.2	36	204	246	92 (124.7)	39837	65384
3.6	59	124	150	159 (215.6)	39843	63425
5.7	93.4	76	92	270 (367)	39844	63429
7.3	119.6	60	73	342 (463.7)	39845	69434
8.9	145.8	49	60	417 (565.4)	39846	69435
11.3	185.2	40	49	478 (648.1)	43451	69436
14.1	231.1	31	38	652 (884.0)	39847	69438
17.9	293.3	24	30	764 (1035.8)	43452	69439

Minimum speed is 20% of the maximum speed

Pneumatic:

- Pneumatic, 3 Hp (2.2 kW) 57 rpm (includes air cond. unit) 37498
- Pneumatic, 3 Hp (2.2 kW) 120 rpm (includes air cond. unit) 39112
- * Multiple units may be ordered.

4 Select a Controller (all are CE compliant)

- 120V Controller, NEMA L5-30P ** 88037
- 120V Controller, 150 309/CEE 17 ** 88038
- 230V Controller, CEE 7/7 SCHUKO ** 88035
- 230V Controller, NEMA L6-15P ** 88036

***If a different type of electrical plug is required, the end user must replace these standard plugs in the field.*

5 Select Additional Leadscrews

- 12 inch (304.8 mm) leadscrew 28654
- 24 inch (609.6 mm) leadscrew 28687
- 36 inch (914.4 mm) leadscrew 28688

6 Select Setup Cones

- Small setup cones, 2-6 inch (50.8-151.4 mm) bore ID, set of 2 each 43383
- Large setup cones, 6-10 inch (151.4-254 mm) bore ID, set of 2 each 43384
- Full set of setup cones 49060

7 Select a Mounting Option

- Single arm mount 43262
- Double arm mount 43279
- Universal mount 43267

* Multiple units may be ordered.

8 For boring smaller bores, please select from the following items.

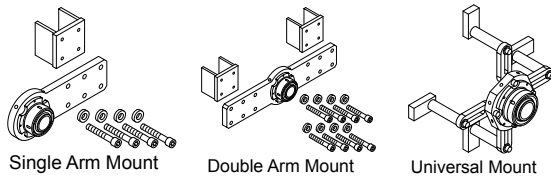
Select Small Bore Kit AFU & RDU Collets

- 1-¼ inch collets (inch) 49058
- 31.8 mm collets (metric) 49059

1-¼ inch Boring Bars for the Small Bore Kit holes spaced every 6 inches (152.4 mm)

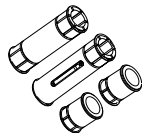
- 36 inch bar, 3/8 inch holes 40925
- 48 inch bar, 3/8 inch holes 39308
- 72 inch bar, 3/8 inch holes 43693
- 96 inch bar, 3/8 inch holes 39447
- 36 inch (914.4 mm) bar, 10 mm holes 43688
- 48 inch (1219.2 mm) bar, 10 mm holes 43687
- 72 inch (1828.8 mm) bar, 10 mm holes 43686
- 96 inch (2438.4 mm) bar, 10 mm holes 43685

* Multiple units may be ordered.



Select 1-¼ inch Boring Bars for the Small Bore Kit Holes spaced every 10 inches (254.0 mm)

- 48 inch bar, 3/8 inch holes 37337
- 72 inch bar, 3/8 inch holes 37338
- 96 inch bar, 3/8 inch holes 37339
- 120 inch bar, 3/8 inch holes 37340
- 144 inch bar, 3/8 inch holes 37341
- 48 inch (1219.2 mm) bar, 10 mm holes 37327
- 72 inch (1828.8 mm) bar, 10 mm holes 37328
- 96 inch (2438.4 mm) bar, 10 mm holes 37329
- 120 inch (3048.0 mm) bar, 10 mm holes 37330
- 144 inch (3657.6 mm) bar, 10 mm holes 37331



* Multiple units may be ordered.

Select 3/8 inch Tooling Kits

- HSS 0 degree and 15 degree lead angles (3 lengths) 37502
- HSS 15 degree lead angle (3 lengths) 49008
- Cemented carbide 0 degree and 15 degree lead angle 49009
- Cemented carbide 15 degree lead angle (3 lengths) 49010

Select 10 mm Tooling Kits

- HSS 0 degree and 15 degree lead angles (3 lengths) 49011
- HSS 15 degree lead angle (3 lengths) 49012

Select Small Bore Kit Bearing Collets

- 1-¼ inch (31.8 mm) bearing collets 35714

Select Small Bore Kit Setup Cones

- Setup cones, 1-½ to 3-¼ inch (38.1 to 82.6 mm) aluminum 26263

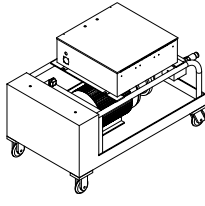
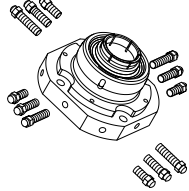
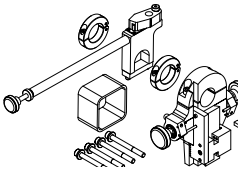
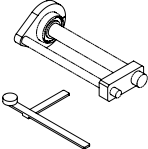
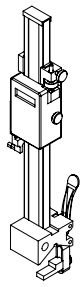
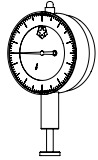
Other Small Bore Adapter Kits and Accessories:

- 43648 Set of adapter sleeves: 1 for RDU, 1 for AFU, 2 for bearings.
- 43828 Set of adapter sleeves: 1 for RDU, 1 for AFU, 2 for bearings
Includes 1-¼ inch (31.8 mm) diameter, 48 inch (1219.2 mm) long boring bar with 3/8 inch square tooling holes spaced 10 inches (254.0 mm) apart, HSS cutting tools, and set of 2 set-up cones.
- 43829 Set of adapter sleeves: 1 for RDU, 1 for AFU, 4 for bearings.
Includes 1-¼ inch (31.8 mm) diameter, 72 inch (1828.8 mm) long boring bar with 3/8 inch square tooling holes spaced 10 inches (254.0 mm) apart, HSS cutting tools, and set of 2 set-up cones.
- 46337 Set of adapter sleeves: 1 for RDU, 1 for AFU, 2 for bearings
Includes 1-¼ inch (31.8 mm) diameter, 48 inch (1219.2 mm) long boring bar with 10 mm tooling holes spaced 6 inches (152.4 mm) apart, HSS cutting tools, and set of 2 set-up cones.
- 46340 Set of adapter sleeves: 1 for RDU, 1 for AFU, 4 for bearings
Includes 1-¼ inch (31.8 mm) diameter, 48 inch (1219.2 mm) long boring bar with 10 mm tooling holes spaced 6 inches (152.4 mm) apart, HSS cutting tools, and set of 2 set-up cones.
- 46339 Set of adapter sleeves: 1 for RDU, 1 for AFU, 4 for bearings
Includes 1-¼ inch (31.8 mm) diameter, 72 inch (1828.8 mm) long boring bar with 10 mm tooling holes spaced 10 inches (254.0 mm) apart, HSS cutting tools, and set of 2 set-up cones.
- 26656 Borewelder Alignment Tool for 1-1/4" Diameter Bar

Further customize your BB4500 Boring Machine with these boring bar options. Order separately.

(special customized bars available upon request. All options shown below are 1-¾ diameter bars.)

Part No.	Bar Length	Hole Size	Hole Spacing
43288	36 inch (914.4 mm)	½ inch	every 6 inches (152.4 mm)
43312	60 inch (1524.0 mm)	½ inch	every 6 inches (152.4 mm)
43317	36 inch (914.4 mm)	½ inch	every 10 inches (254.0 mm)
43319	60 inch (1524.0 mm)	½ inch	every 10 inches (254.0 mm)
43297	36 inch (914.4 mm)	12 mm	every 6 inches (152.4 mm)
43299	60 inch (1524.0 mm)	12 mm	every 6 inches (152.4 mm)
43304	36 inch (914.4 mm)	12 mm	every 10 inches (254.0 mm)
43306	60 inch (1524.0 mm)	12 mm	every 10 inches (254.0 mm)

	NO. DESCRIPTION		NO. DESCRIPTION
	<p>Hydraulic Power Unit The popular 10 Hp (7.5 kW) 10 gpm (37.9 L/min) unit comes with a 3-phase electric motor with variable displacement pump, allowing speed control even while running without sacrificing torque. Many models available. Please ask a CLIMAX representative for details.</p>		<p>Digital Bore Measuring Caliper Get an accurate reading of the bore without removing the bar. Features locking, micro-adjust slide.</p> <p>61707 Measures up to 10 inches (254.0 mm) ID/OD</p> <p>63330 Measures up to 24 inches (609.6 mm) ID/OD</p> <p>Dool Kits (included in base unit)</p> <p>43580 Tool Kit (inch)</p> <p>Tools Bits for Single Point Machining</p> <p>1 HSS ½ inch square x 4 inch (101.6 mm) LH Roughing</p>
	<p>ID Spherical Bearings Mount inside the bore to provide extra rigidity when other mounting options are not possible. ID mounting range is 7.6 - 10.7 inches (193.1 - 271.7 mm).</p> <p>43931 ID Bearing Mount and Jacking Bolts.</p> <p>37621 Jacking Bolt Set which turns a Universal Bearing Mount into an ID Bearing Mount.</p> <p>55907 Face adjust ID bearing mount</p> <p>55828 Extension Kit</p>		<p>1 HSS ½ inch square x 4 inch (101.6 mm) LH Finishing</p> <p>1 HSS ½ inch square x 2.5 inch (63.5 mm) LH Roughing</p> <p>1 HSS ½ inch square x 2.5 inch (63.5 mm) LH Finishing</p> <p>1 HSS ½ inch square x 1.8 inch (45.7 mm) LH Roughing</p> <p>1 HSS ½ inch square x 1.8 inch (45.7 mm) LH Finishing</p> <p>Tools</p> <p>Torx wrench, T-27.</p> <p>End wrench, long, ½ inch.</p> <p>Hex wrench set, .050-3/8 inch.</p> <p>End wrench, 1-1/2 inch.</p> <p>43582 Tool Kit (metric)</p> <p>Tools Bits for Single Point Machining</p> <p>1 HSS 12 mm square x 4.0 inch (101.6 mm) LH Roughing.</p> <p>1 HSS 12 mm square x 4.0 inch (101.6 mm) LH Finishing.</p> <p>1 HSS 12 mm square x 2.5 inch (63.5 mm) LH Roughing.</p> <p>1 HSS 12 mm square x 2.5 inch (63.5 mm) LH Finishing.</p> <p>1 HSS 12 mm square x 1.8 inch (45.7 mm) LH Roughing.</p> <p>1 HSS 12 mm square x 1.8 inch (45.7 mm) LH Finishing.</p> <p>Tools</p> <p>Torx wrench, T-27.</p> <p>End wrench, long, ½ inch.</p> <p>Hex wrench set, .050-3/8 inch.</p> <p>End wrench, 1-1/2 inch.</p> <p>Hex wrench set, 1.5 - 10 mm.</p>
	<p>Facing and Grooving Head Assembly 35858 Mounts anywhere on the bar to face 3 - 12 inches (76.2 - 304.8 mm), and cut grooves from 3.5 - 12 inches (88.9 - 304.8 mm) in diameter. Radial feed rate: 0 to .050 in/rev (1.27 mm/rev).</p>		
	<p>Automatic Bore Welding Accessories 43731 The BoreWelding interface kit allows you to attach and quickly align the CLIMAX AutoBoreWelders for efficient bore welding. Includes adapter plate, alignment tool, and spherical bearing removal wrench.</p>		
 	<p>Bore Measuring Tool Features a fine adjustment feature which allows precision bore measurement and sets tool bit height while the bar is still mounted in the work piece.</p> <p>70645 Mounts on any bar from 1-¼ to 2-¼ inches (31.8 to 57.2 mm) in diameter. Measures up to 12 inches (304.8 mm) diameter bores.</p> <p>67487 Mounts on any bar from 1-¼ to 2-¼ inches (31.8 to 57.2 mm) in diameter. Measures up to 24 inches (609.6 mm) diameter bores.</p> <p>Magnetic Back Dial Indicator Top quality travel dial indicator with magnetic back, made by Starrett® for CLIMAX. Useful for many things including:</p> <ul style="list-style-type: none"> • Precisely setting depth of cut. • Measuring and setting boring bar travel when cutting to a shoulder. • Facing operations, precision alignment of boring bar to larger bores. <p>45396 0 - .500 inch range (.001 increment) - white face</p> <p>45397 0 - 10 mm range (.01 mm increment) - yellow face</p>	<p>Please note: Drawings are for reference only, are not to scale, and may not represent actual product.</p>	

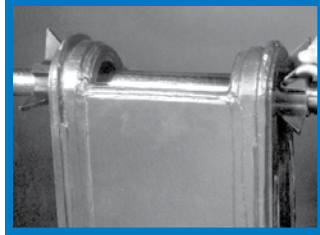
A Fast Six-Step Process

Setup of the BB4500 Portable Boring Machine is quick and easy. An experienced operator can set up the machine in most typical two-bore line boring applications in about half an hour (depending on alignment tolerances).

The three main ingredients of the quick setup system are:

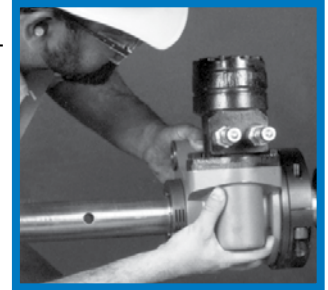
- Setup cones to roughly center the bar in the bore.
- Spherical mounts that can be quickly tack-welded in place.
- Quick-mount rotational drive unit, attaches to spherical mount in seconds

1 Slide the bar through the two holes to be bored and roughly center it with the set-up cones. The set-up cones are forced into the bore with the clamp ring jacking screw and locked onto the bar with a set screw.



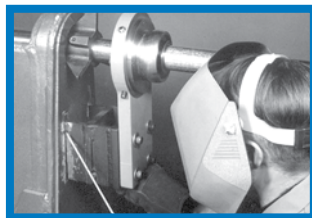
Elapsed time: 4 minutes.

4 Slide the rotational drive onto the bar until the self-aligning mounting collar is firmly seated on the mounting bracket, and lock it in place with one screw.



Elapsed time: 2 minutes.

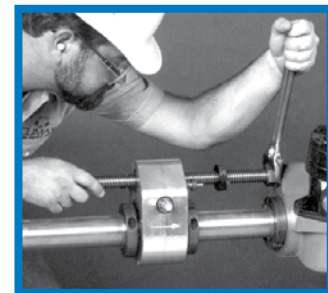
2 Slide on spherical mounts with tack weld plates, and tack weld them to the workpiece.



These mounts have spherical bearings so they can be mounted up to 5° out of perpendicular alignment.

Elapsed time: 10 minutes.

5 The axial feed unit is slipped onto the bar and the feedscrew is screwed into the pocket on the rotational drive unit. Tightening two clamping collars locks the axial feed unit to the bar.



Elapsed time: 2 minutes.

3 Remove the set-up cones and replace the bar. The set-up cones will adequately center the bar, unless you have very precise tolerances, or need to move the center line of the bore slightly. Final centering adjustments are made with the jacking screws.



Elapsed time: 5 minutes.

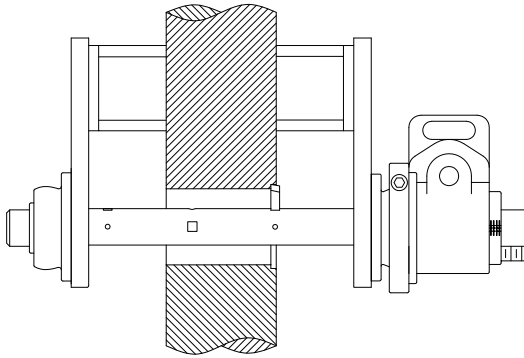
6 Insert a properly ground tool bit into the tool hole in the bar, adjust for depth of cut, and lock in place with the set screw.



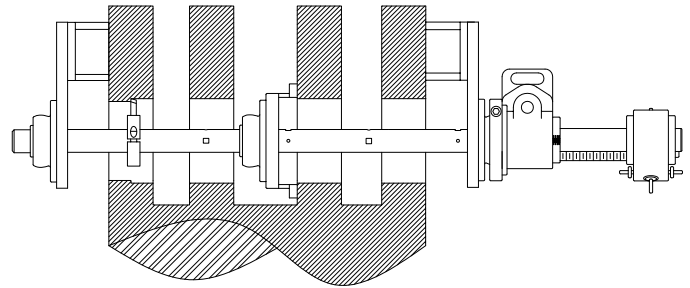
Elapsed time: 4 minutes.

Setup is complete, you are ready to begin the first pass.

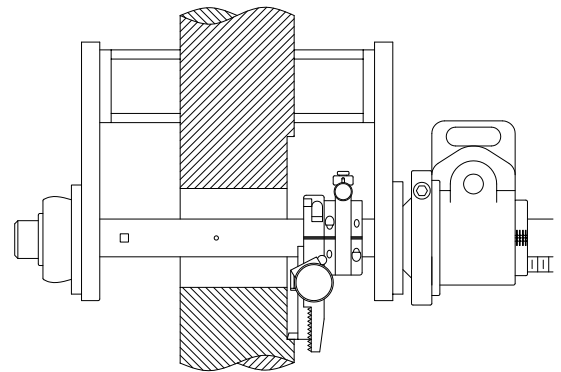
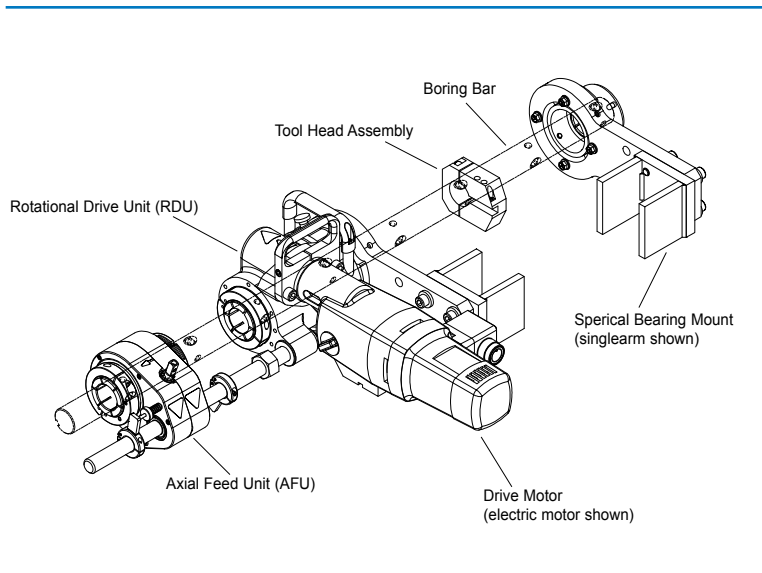
Total elapsed time: 27 minutes.



Conventional Boring



Line Boring



Facing/Grooving

Please note: Drawings are for reference only and may not represent actual product.

Machining Ability Example

Bore ID	3.875 inches (98.5 mm)
Bar RPM	40 rpm
Depth of Cut	0.1 inches
Feed Rate per revolution	0.019 inches/rev (0.48 mm/rev)
Material	mild steel
Cutter spec	HSS, ½ inch square
Distance between bearings	28.5 inches (724 mm)
Bar diameter	1.75 inches (44.5 mm)
Motor	42874 - 1.3 Hp (1 kW) electric 120 VAC
Speed Control	43241 - speed control
Distance from bearing to start of cut	6.75 inches (171.5 mm)
Length of cut	3.5 inches (88.9 mm)

CLIMAX has been teaching the fundamentals and finer points of portable machine tool operation for more than 50 years.

Whether it's a regularly scheduled course at one of our seven Global Training Centers or a custom curriculum conducted with your team, at your facility, your technicians will benefit from courses developed by the most experienced and respected professionals in the business.

Regularly scheduled courses in basic and advanced tool operation are available. A vast majority of every program is devoted to hands-on activities, skills development, and OEM Certification covering the following subject matters: operator safety, tool component review, setup and mounting, standard and advanced operational techniques, overview of cutting tools and recommended usage, and maintenance procedures.



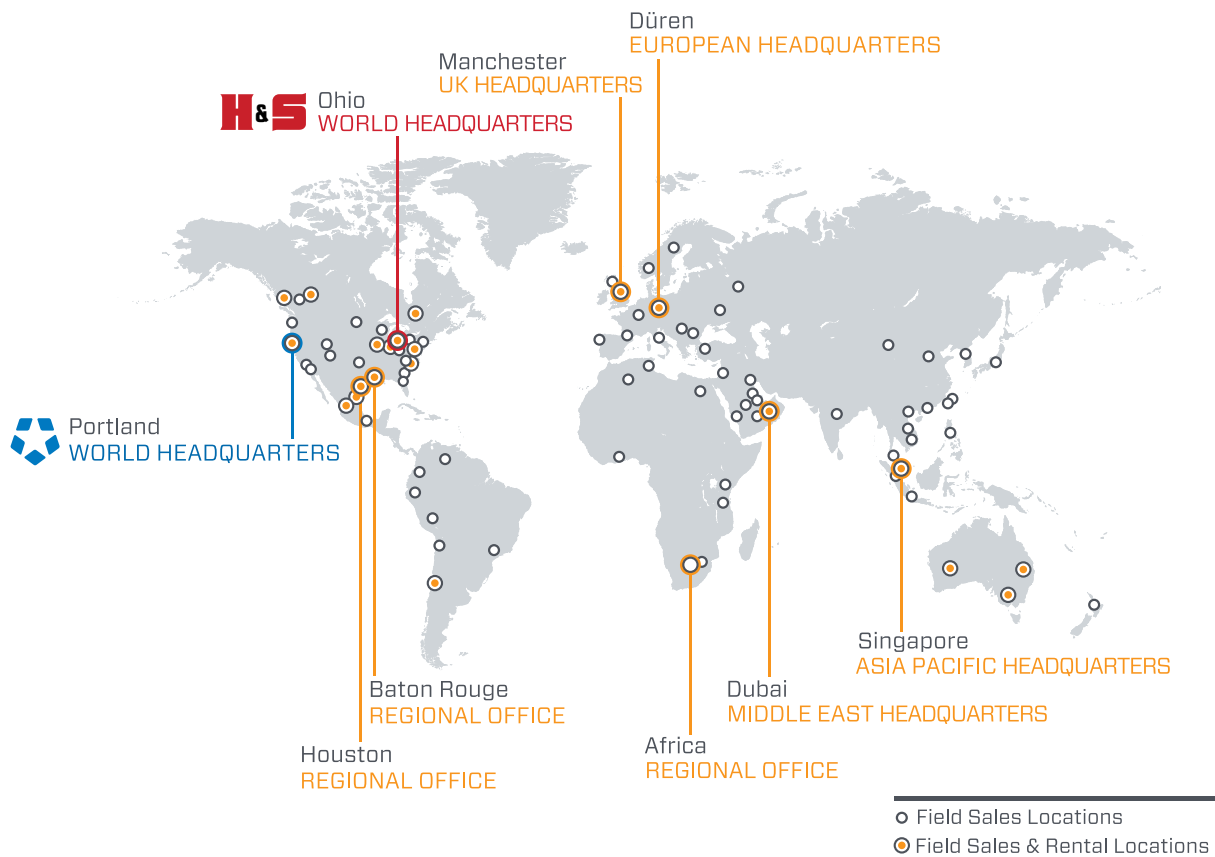
Training is available at the following seven Global Training Centers:

- Portland, Oregon
- Houston, Texas
- Gonzales, Louisiana
- Wadsworth, Ohio
- Manchester, United Kingdom
- Düren, Germany
- Dubai, United Arab Emirates

Call us today to schedule training for your team!



CLIMAX GLOBAL LOCATIONS



Call CLIMAX for:

RENTALS

With 20+ worldwide rental depot locations, you are never far away from a CLIMAX tool.

ON-SITE TRAINING

If you need training or on-site consultation, we're famous for it!

CUSTOM PROJECTS

Custom turn-key system design services from the most experienced engineers and portable machining and welding experts!

Connect with us:    

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