BB6100 LINE BORING MACHINE

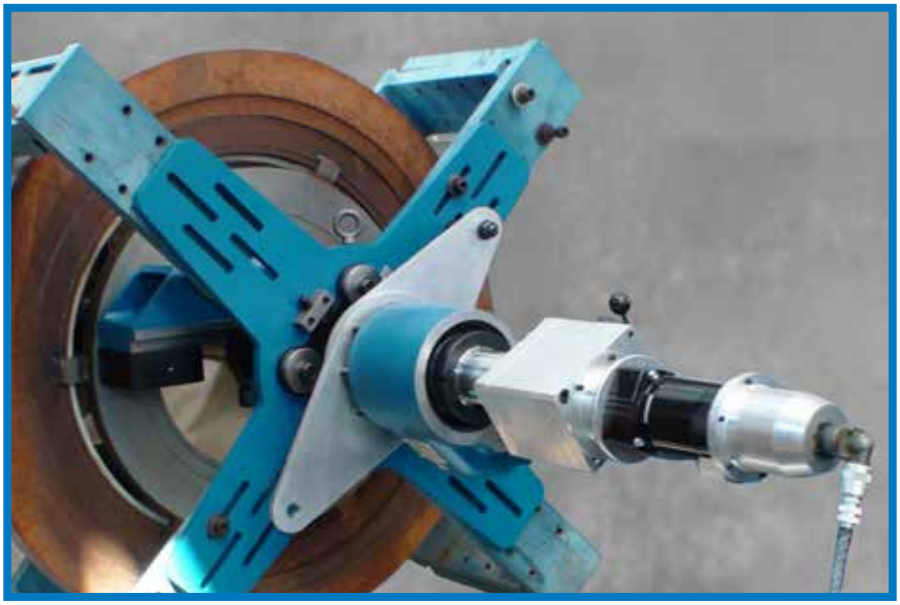
Packing big boring capability into a compact, modular machine, maximizing efficiency and minimizing downtime.

Powerful Yet Compact

- Take the power of a stationary machine to the job site to solve tough machining challenges in record time.
- Using the 11.3 in^3 (185.3 cm^3) Hydraulic motor, it produces 1435 ft•lb (1945.6 N•m) of torque at the bar, at 33 rpm.
- Compact, modular components allow fast, easy setup, maximizing efficiencies, and minimizing downtime.

Versatile and Flexible

- Huge machining range bores from 8.8 - 40.8 inches (223.5 - 1036.3 mm) in diameter, and faces from 7.5 - 42.1 inches (190.5 - 1069.3 mm) with various facing attachments.
- ID and End Mount Bearings feature spherical taper-lock roller bearings for easy setup and removal of the bar, and allow for up to 1.5 degrees of misalignment when setting up bearings.
- End mount bearings can be fine adjusted by +/- 0.625 inches (15.9 mm) to center the bar.
- Optional dual action boring/facing arms increase facing range, and allow for both boring and facing without switching equipment. Full-length square ways on boring/facing arms allow for quick positioning anywhere along the arm. Attaches to the net fit tool carrier by compression-clamping, to provide maximum tool stability.
- Net fit tool carrier can be clamped to bar for facing operations. For boring operations, carrier can be adjusted to remove clearance between carrier and the bar. This flexibility also ensures maximum rigidity for either operation.
- For even greater facing range and longer continuous stroke, the new boring/facing arms



are available. Setup is quick & easy for both boring and facing operations.

- Net fit tool carrier is designed with a split frame to simplify installation on the boring bar. It can be configured to use either the boring head set for boring, the mechanical facing head for facing, or the new boring/facing arm assembly for both boring and facing operations.
- With leading & trailing boring head configuration, 2 boring heads can be used simultaneously.
- Highly versatile tool holder block accepts industry standard tooling with a nominal ¾ inch (19.1 mm) square shank.
- Tool post on the boring/facing arm can be rotated to provide maximum flexibility in machining setup (including some cantilevered configurations).

High Quality Design

- Features a uniquely-designed modular tool carrier which provides a new level of strength and rigidity by channeling machining forces directly to the boring bar through strategically-located adjustable guide shoes.
- Durable chromed bars, straight to within 0.001 inch per foot (0.0254 per 304.8 mm) ensure accurate machining.
- Adjustable, removable half nut increases net fit tool carrier flexibility. Easy removal of tool carrier allows for machining of multiple bores.
- Backlash adjustment nut allows in-the-field adjustment to eliminate backlash in the tool carrier, and extend the life of the machine.

SPECIFICATIONS

	US	Metric
Boring and Facing Ranges:		
Boring diameter range, standard stack block assembly:	8.8 - 40.8 inches	223.5 - 1036.3 mm
Boring diameter range, boring/facing arm assembly:		
with 18 inch (457.2 mm) boring/facing arm	19.9 - 32.1 inches	505.5 - 815.3 mm
with 23 inch (584.2 mm) boring/facing arm	24.8 - 42.1 inches	629.9 - 1069.3 mm
Recommended facing diameter range, using mechanical facing head assy:	10.6 - 38.0 inches	269.2 - 965.2 mm
Facing diameter range, boring/facing arm assembly:		
with 18 inch (457.2 mm) boring/facing arm	17.5 - 32.1 inches	444.5 - 815.3 mm
with 23 inch (584.2 mm) boring/facing arm	17.5 - 42.1 inches	444.5 - 1069.3 mm
Facing diameter range, boring/facing arm assembly, tool post reversed: ("tool post reversed" refers to rotating the tool post so that the tool is on the bar side of the tool post.)		
with 18 inch (457.2 mm) boring/facing arm	7.5 - 20.1 inches	190.5 - 510.5 mm
with 23 inch (584.2 mm) boring/facing arm	7.5 - 30.1 inches	190.5 - 765.5 mm
Performance Data		
Rotational Drive Unit (RDU) gear ratio:	6:1 gear reduction	6:1 gear reduction
Hydraulic motor size affects torque and speed		
Theoretical values calculated using a 10 Hp hydraulic power unit producing 2000 psi (13790 kPa) continuous, [normal operation is 1200 psi (8270 kPa)] and pumping 10 gpm (37.9 l/min).		
Hydraulic motor size range:	3.6 - 17.9 in^3	59.9 - 293.3 cm^3
Boring Bar Torque:	470 - 1820 ft•lb	637.2 - 2467.6 N•m
Max boring rpm:	107 - 21 rpm	107 - 21 rpm
For example, with 11.3 in^3 (185.3 cm^3) hydraulic motor (43457):		
Boring Bar Torque:	1435 ft•lb	1945.6 N•m
Max boring rpm:	33 rpm	33 rpm
Feed Rate of mechanical Axial Feed Unit (AFU):	0.003 - 0.020 inches/rev	0.076 - 0.508 mm/rev
Feed Rate of electric Axial Feed Unit (AFU):	0 - 0.3 inches/min	0 - 7.62 mm/min
Measures		
Shipping Weights (estimated):		
Machine includes Rotational Drive Unit (RDU), Axial Feed Unit (AFU), boring head set, tool carrier, tool kit, and hydraulic motor.		
for machine (wood crate)	640 lbs	290.3 kg
for machine (metal crate)	740 lbs	335.7 kg
for one 4 arm bearing assembly	160 lbs	72.6 kg
for one 3 arm bearing assembly	80 lbs	36.3 kg
for boring bar	2.5 lbs/inch	0.04 kg/mm
for 10 Hp Hydraulic Power Unit	500 lbs	226.8 kg
Shipping dimensions:		
Machine, in wood crate, W, D, H	18.5 x 34 x 24 inches	469.9 x 863.6 x 609.6 mm
Machine, in steel crate, W, D, H	43.3 x 29.5 x 22.5 inches	1099.8 x 749.3 x 571.5 mm
Bearing (each bearing shipped separately) W, D, H	32 x 32 x 11 inches	812.8 x 812.8 x 279.4 mm
12 foot (3657.6 mm) bar W, D, H	11 x 13 x 154 inches	279.4 x 330.2 x 3911.6 mm
10 Hp Hydraulic Power Unit W, D, H	27 x 33 x 48 inches	685.8 x 838.2 x 1219.2 mm

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TOOL CONFIGURATIONS

Configure your BB6100 in nine easy steps.

To configure your BB6100 Boring Machine:
1 Select a Base Unit
2 Select an Axial Feed Assembly
3 Select Bearing Assemblies
4 Select a Boring Bar
5 Select Boring Diameter Ranges
6 Select a Boring Heads
7 Select a Hydraulic Motor
8 Select a Facing Assembly
9 Select a Shipping Container

To configure the boring machine you require, simply select the option you need in each step, then contact your Climax representative.

1 Base Unit

Rotational drive unit, net fit tool carrier assembly, tool kit, and instruction manual.	**54398**

2 Axial Feed Assembly

Mechanical axial feed assembly	**23299**
Electrical axial feed with mechanical rapid return, 120V	**43735**
Electrical axial feed with mechanical rapid return, 230V	**41071**

3 Bearing Assemblies

Spider assembly 3 arm end bearing support Mounting range: 12 - 20 inches (304.8 - 508.0 mm)	**53840**
Spider assembly 4 arm end bearing support Mounting range: 18 - 38 inches (457.2 - 965.2 mm)	**53710**
ID Bearing mount assembly, for ID diameters of 11.25 - 47 inches (285.8 - 1193.8 mm)	**54355**

* Multiple units may be ordered.

4 Boring Bar (3.5 inch (88.9 mm) dia,)

Boring bar assembly, 4 feet (121.9 cm)	**25221**
Boring bar assembly, 5 feet (152.4 cm)	**22107**
Boring bar assembly, 6 feet (182.9 cm)	**22108**
Boring bar assembly, 7 feet (213.4 cm)	**22109**
Boring bar assembly, 8 feet (243.8 cm)	**22110**
Boring bar assembly, 9 feet (274.3 cm)	**22111**
Boring bar assembly, 10 feet (304.8 cm)	**22112**
Boring bar assembly, 11 feet (335.28 cm)	**22113**
Boring bar assembly, 12 feet (365.76 cm)	**22114**
Boring bar assembly, 13 feet (396.24 cm)	**22777**
Boring bar assembly, 14 feet (426.72 cm)	**22770**
Boring bar assembly, 16 feet (487.68 cm)	**22789**
Boring bar assembly, 17 feet (518.16 cm)	**30248**
Boring bar assembly, 20 feet (609.6 cm)	**36485**

* Multiple units may be ordered.

5 Boring Diameter Ranges (select tooling in next step)

Stack up blocks, boring diameter range 8.8 - 24.8 inches (223.5 - 629.9 mm)	**81248**
Stack up blocks, boring diameter range 8.8 - 40.8 inches (223.5 - 1036.3 mm)	**81249**

6 Boring Heads

Micro adjust boring head, ¾ inch tooling (½ inch ready)*	**79020**
Solid tooling boring head, leading & trailing	**81246**

* Multiple units may be ordered for leading & trailing

7 Hydraulic Motor Assembly

Hydraulic motor assembly, 3.6 CIR (59 cm^3/rev) 85.5 bar rpm @ 10 gpm (37.9 l/min)**	**4343**
Hydraulic motor assembly, 5.9 CIR (97 cm^3/rev) 52 bar rpm @ 10 gpm (37.9 l/min)**	**43439**
Hydraulic motor assembly, 7.3 CIR (120 cm^3/rev) 42 bar rpm @ 10 gpm (37.9 l/min)**	**43440**
Hydraulic motor assembly, 8.9 CIR (146 cm^3/rev) 34 bar rpm @ 10 gpm (37.9 l/min)**	**43441**
Hydraulic motor assembly, 11.3 CIR (185 cm^3/rev) 27 bar rpm @ 10 gpm (37.9 l/min)**	**43442**
Hydraulic motor assembly, 14.1 CIR (231 cm^3/rev) 22 bar rpm @ 10 gpm (37.9 l/min)**	**43443**
Hydraulic motor assembly, 17.9 CIR (293 cm^3/rev) 17 bar rpm @ 10 gpm (37.9 l/min)**	**43444**

* Multiple units may be ordered.
** Theoretical, calculated values shown

8 Boring/Facing Assemblies

Mechanical facing head assy, 4 inch (101.6 mm)	**22680**
Mechanical facing head assy, 6 inch (152.4 mm)	**49753**
Mechanical facing head assy, 8 inch (203.2 mm)	**49754**
Boring/facing arm assembly, 18 inch (457.2 mm)	**54385**
Boring/facing arm assembly, 23 inch (584.2 mm)	**54386**

* Additional arms may be purchased separately.

9 Shipping Container

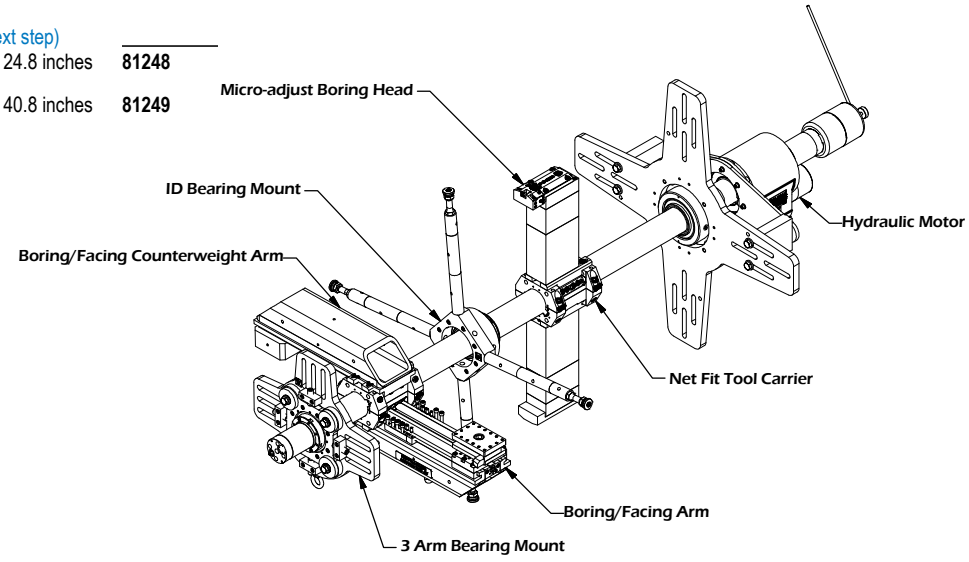
Plywood hinged crate, 24 x 37 x 20-5/8 (610 x 940 x 524 mm)	**28560**
Metal shipping container 43 x 30 x 23* (1092 x 762 x 584 mm)	**54352**

* Machine components only.

Bars and bearings available in wood only.

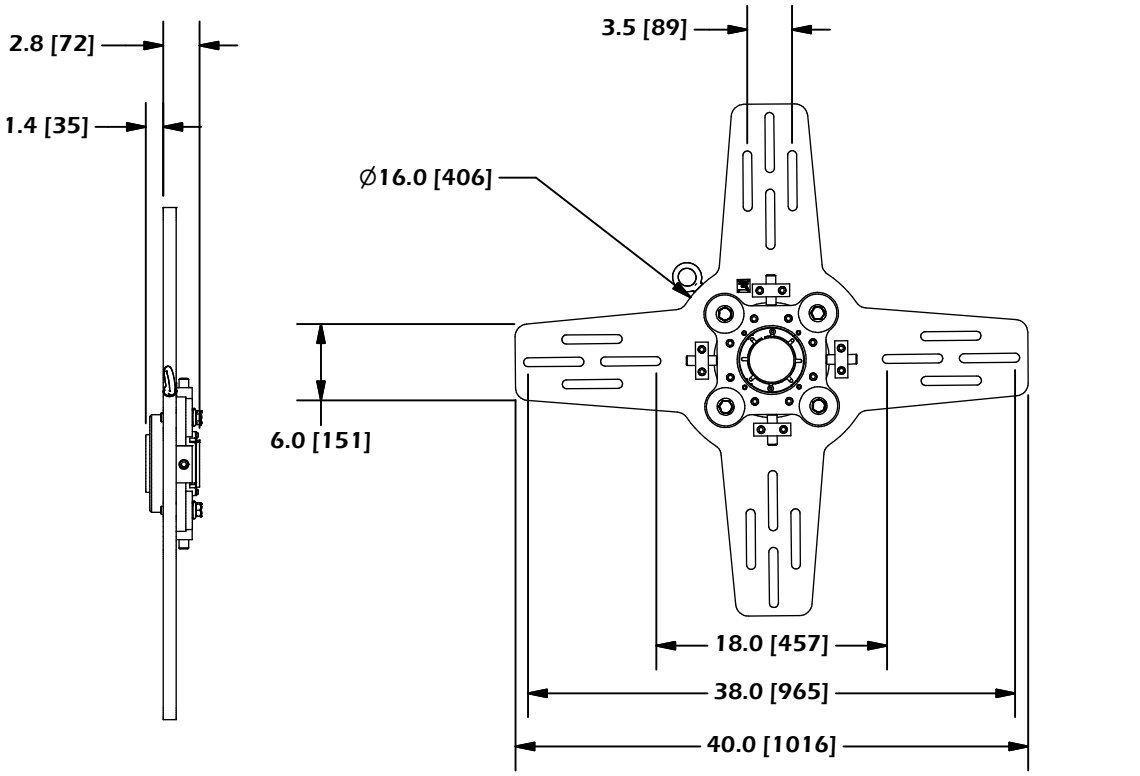
Further Customize your BB6100 with these options (order separately):

Small bore kit for 6 - 10 inch (152.4 - 254 mm) diameters	**55198**
Rotational Drive Unit	**22221**
Net Fit Tool Carrier	**54224**
Tool Kit	**54262**

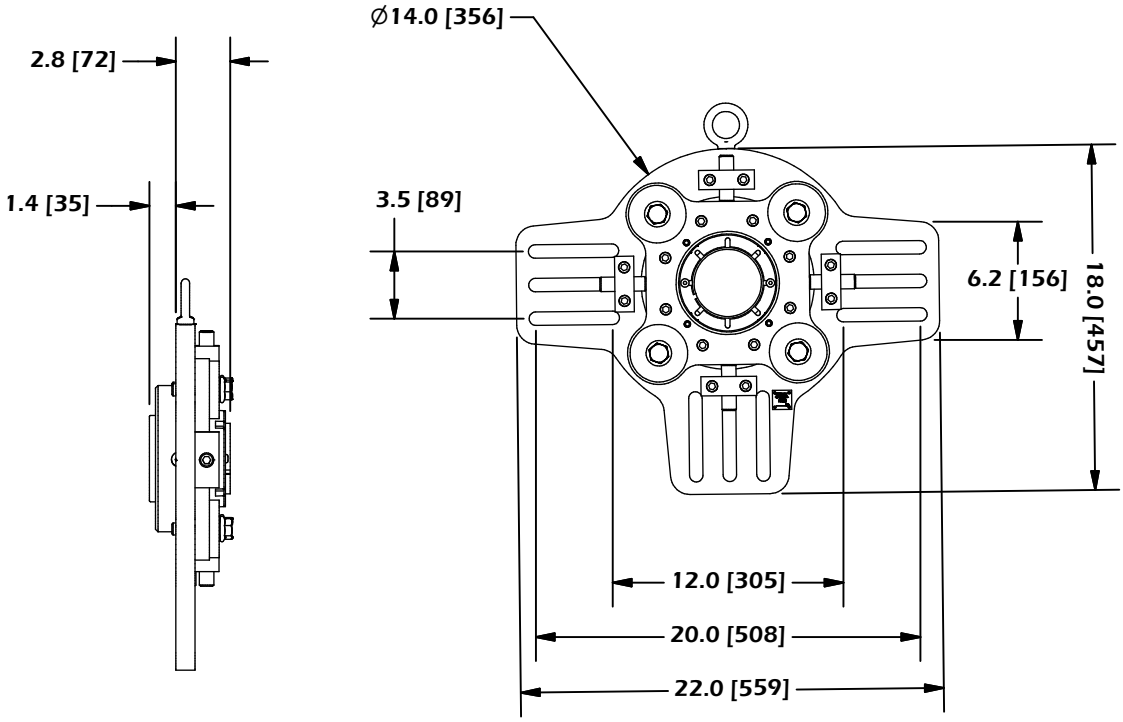


OPERATIONAL DIMENSIONS

Dimensions in Inch (mm)



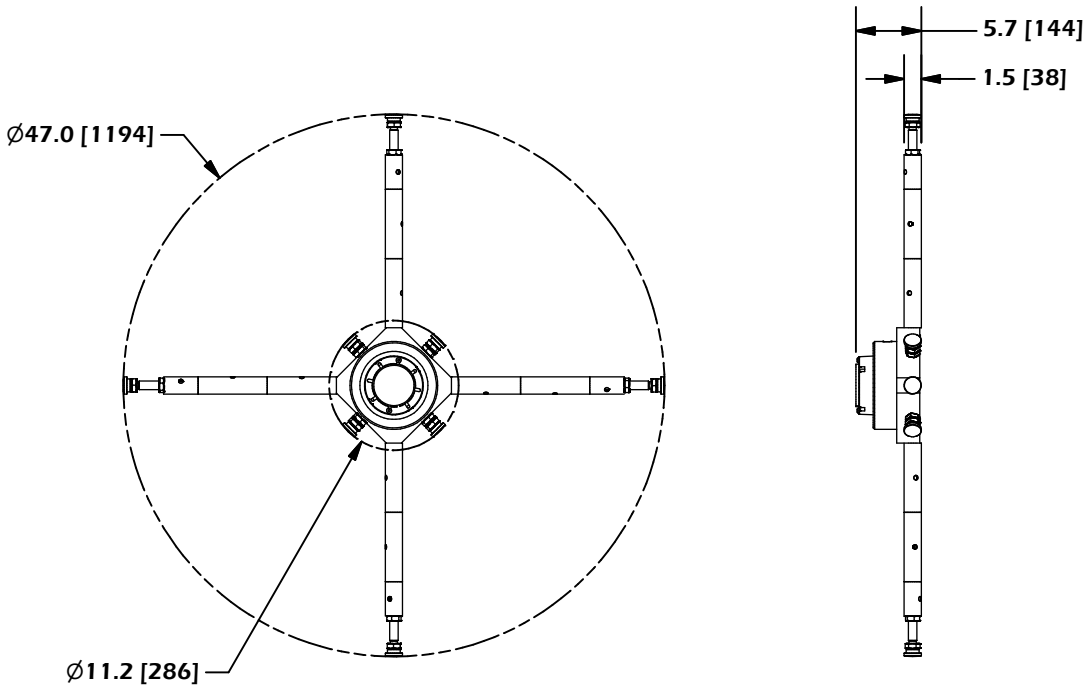
Spider Assembly 4-Arm End Bearing Support



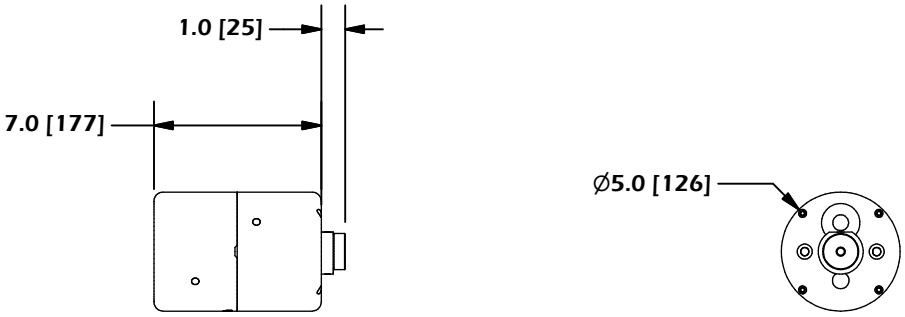
Spider Assembly 3-Arm End Bearing Support

OPERATIONAL DIMENSIONS

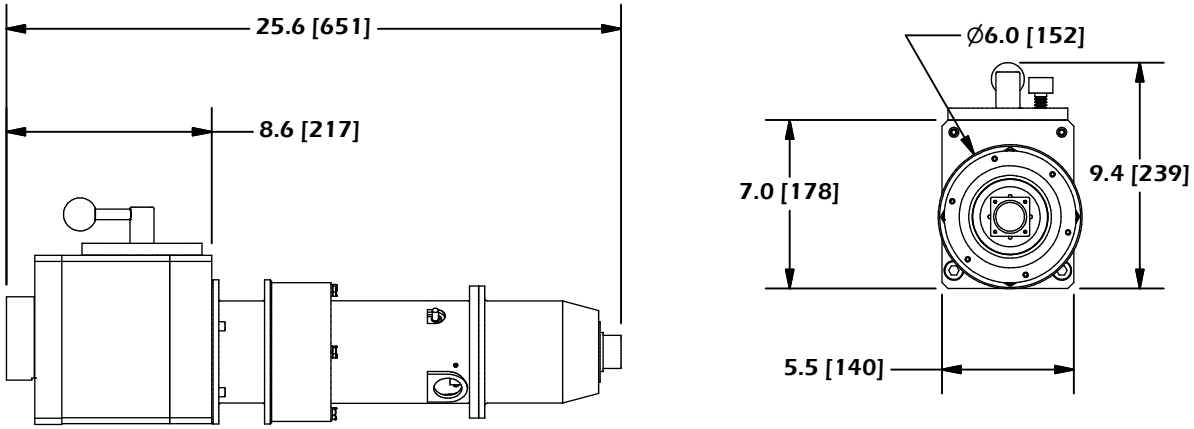
Dimensions in Inch (mm)



ID Bearing Mount Assembly
For ID diameters of 11.25 - 47 inches (285.8 - 1193.8 mm)



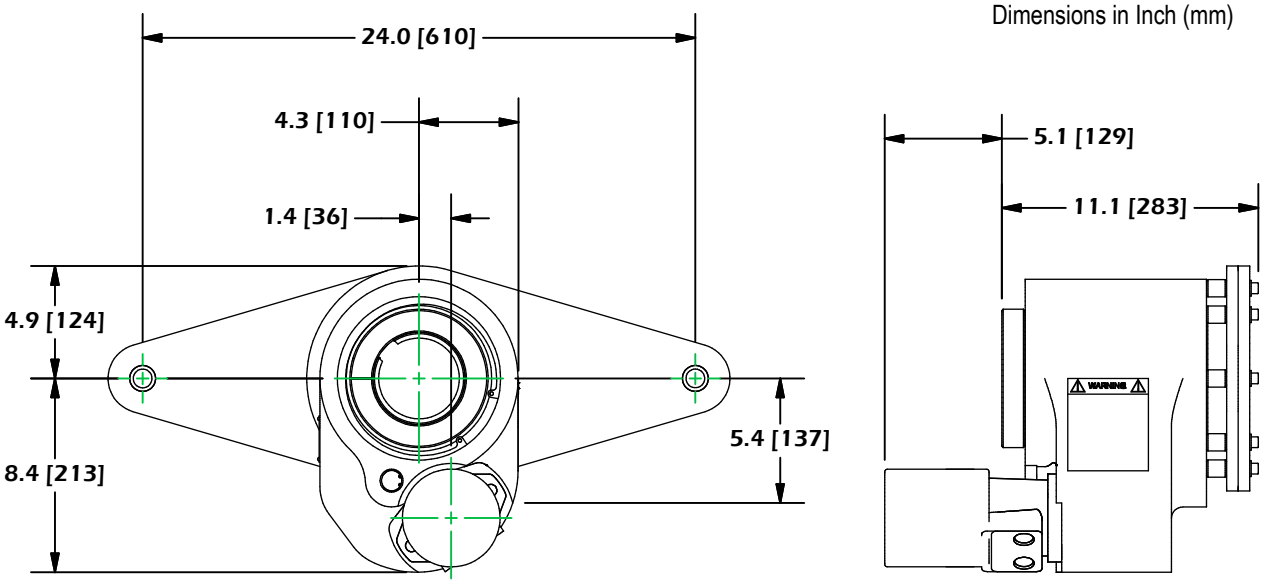
Mechanical Axial Feed Assembly



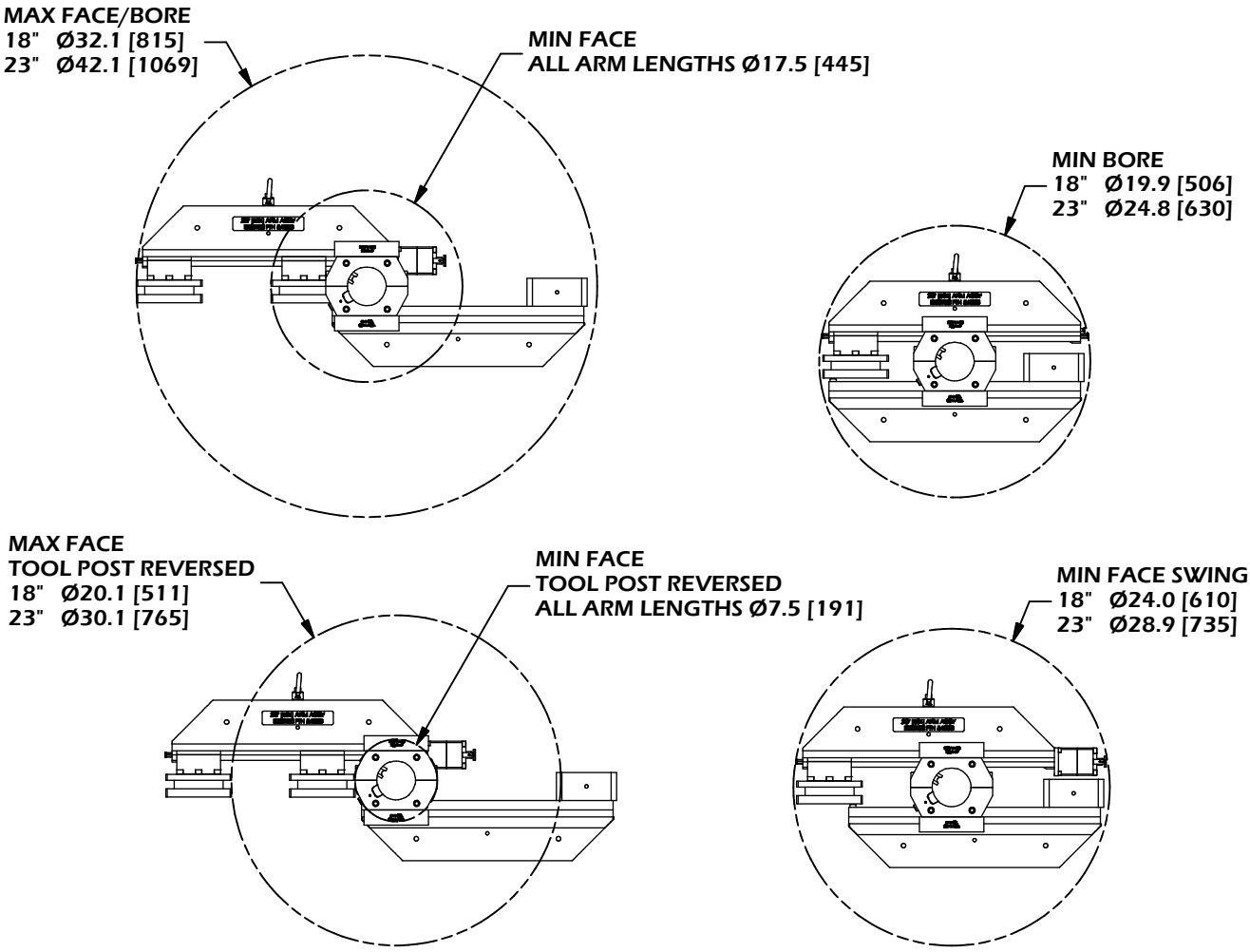
Electrical Axial Feed Assembly

OPERATIONAL DIMENSIONS

Dimensions in Inch (mm)



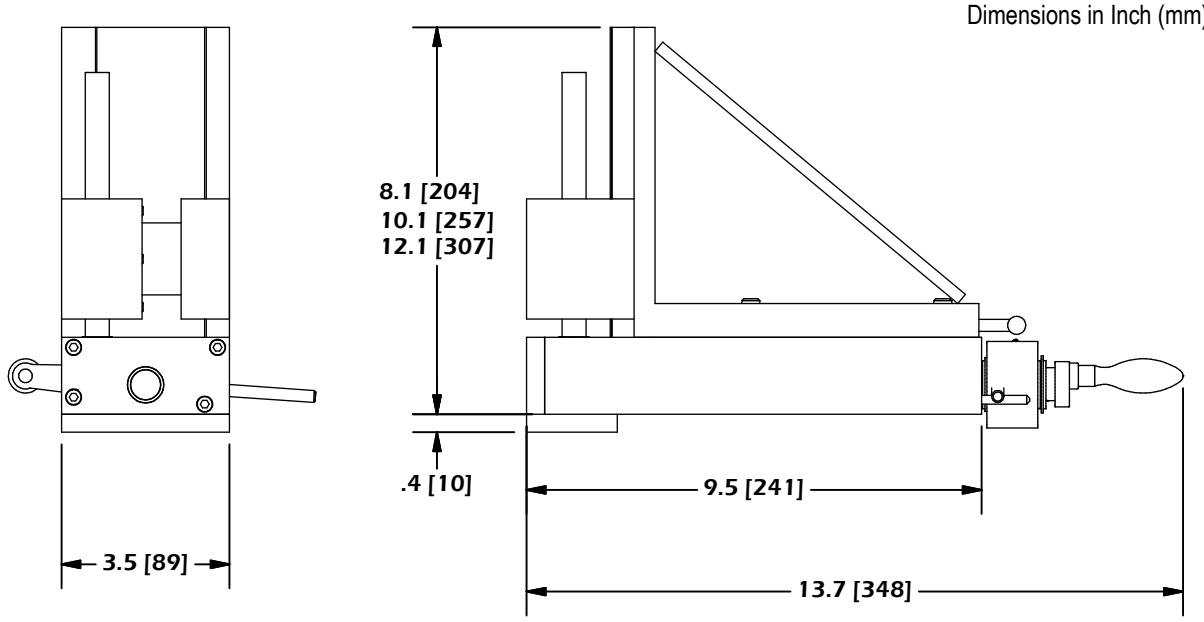
Rotational Drive Unit



Boring/facing arm configurations

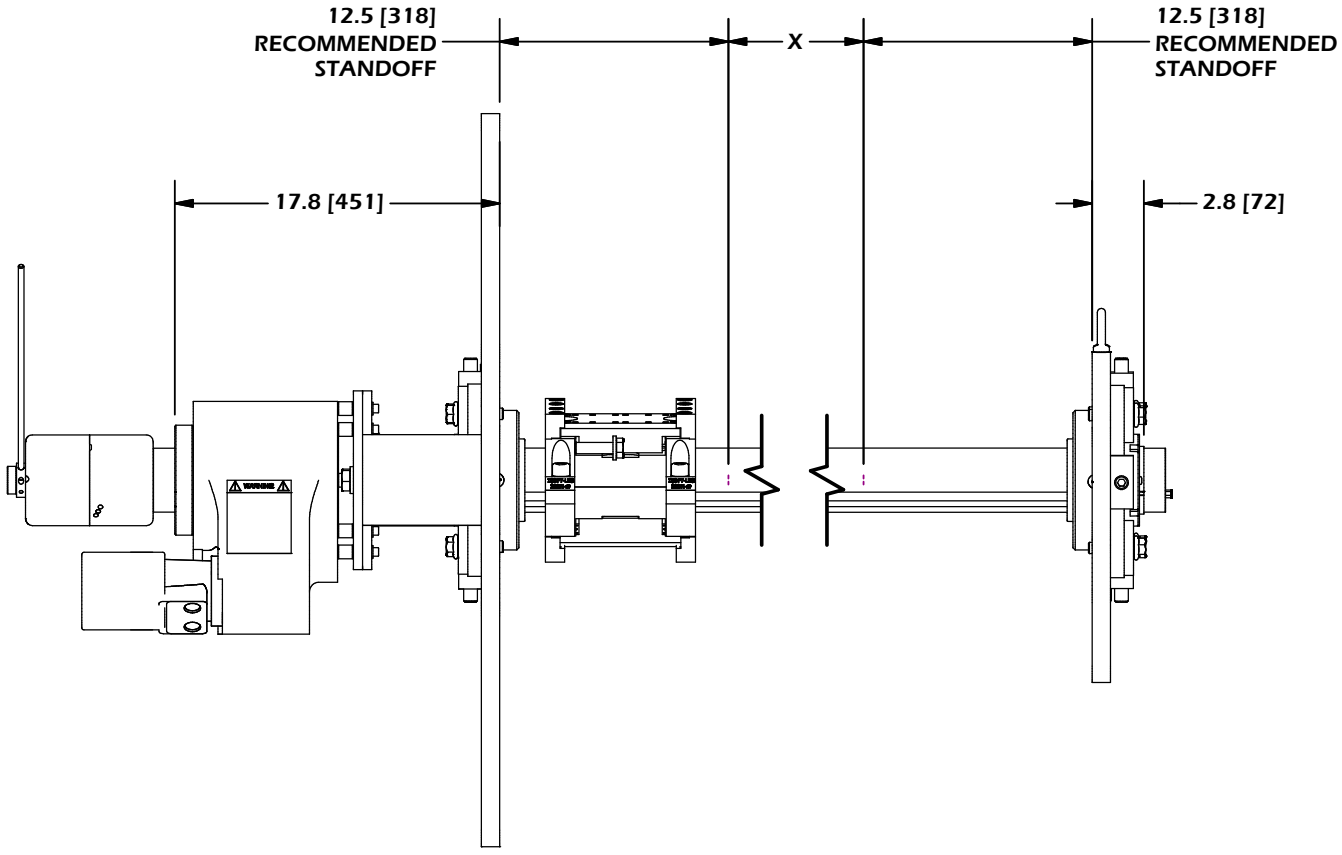
OPERATIONAL DIMENSIONS

Dimensions in Inch (mm)



Mechanical Facing Assembly

Determining the Proper Bar Length for your BB6100



Bar Length = x (Bore Length) + 17.8 (451) + 2.8 (72) + Standoff

CLIMAX TRAINING AND SUPPORT

CLIMAX has been teaching the fundamentals and fine points of portable machine tool operation for practically as long as we've been inventing and building the tools.

We offer several training facilities across the United States - the Global Learning Center, situated in our corporate headquarters near Portland, Oregon, our Amherst, New Hampshire Training Facility, and our Houston, Texas Training Facility. All facilities offer training for machine tool operators on safety and machine setup and operation. Trainees also receive technical tips and tools to improve operational efficiencies, with the vast majority of every program devoted to hands-on activities and skill development.

The CLIMAX instructional team includes specialists in shipbuilding, power generation, civil engineering, bridge re-building, petrochemical and other industries.

Whether it's a regularly scheduled course at one of our training facilities, or custom curriculum conducted at your facility, your machinists will benefit from courses developed by some of the most respected authorities in the business.

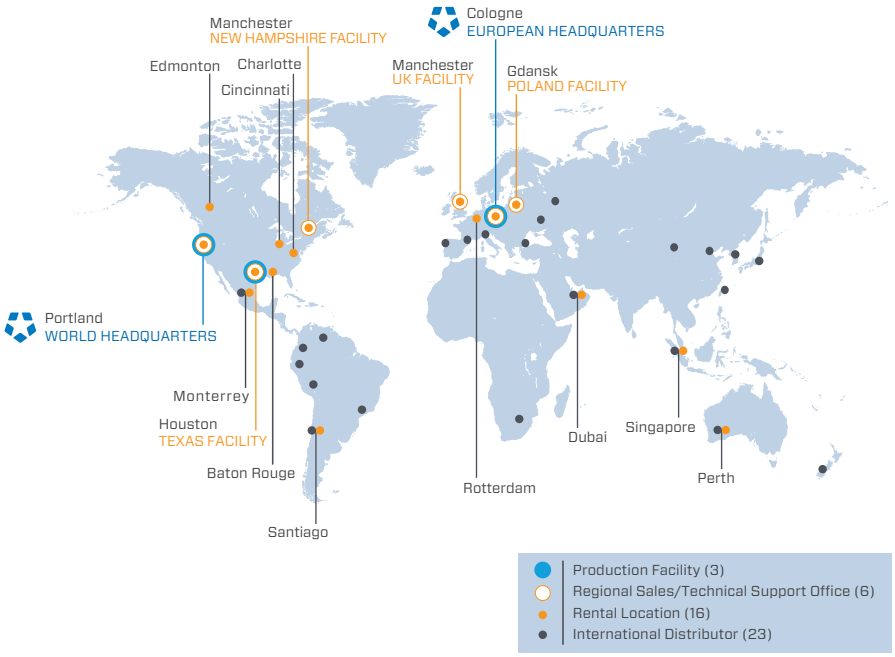
Call us today to register for a regularly scheduled class, or talk to us about how we can customize a training program for your specialized application.

Call CLIMAX for:

Rentals
With 16 worldwide rental depot locations, you are never far away from a CLIMAX tool.

On-site Training
Need some refresher courses in setting up and operating your CLIMAX machine tool?

Special Projects
CLIMAX has been solving complicated machining, welding and valve testing problems for our customers since 1964.



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