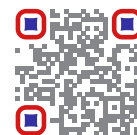
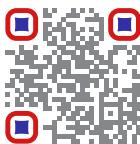


BB3100 BOREMAX™ - MODULAR LINE BORING & WELDING MACHINE

0.87 - 15.75" / 22 - 400 mm



SCAN QR CODE
TO WATCH VIDEO





The **Specialized Fabrication Equipment Group** (in short: **S.F.E. Group**) was founded in 2019 after the merger of three world leading OEM's in the field of pipe fabrication tooling and machinery: B&B Pipe and Industrial Tools LLC (USA), Mathey Dearman Inc. (USA) and TAG Pipe Equipment Specialists (UK). In a time span of 5 years, another 4 renowned and market leading companies were acquired and added to the **S.F.E. Group** portfolio: Axxair (France, 2022), Magnatech (USA, 2023), CLIMAX (USA, 2023) and Sumner (USA, 2025).

The vision and philosophy of the **S.F.E. Group** is to offer globally a comprehensive innovative and cost-effective range of specialized fabrication, welding and machining equipment and derived rental solutions, for a wide range of applications within all critical industries, while optimizing performance, efficiency and safety.

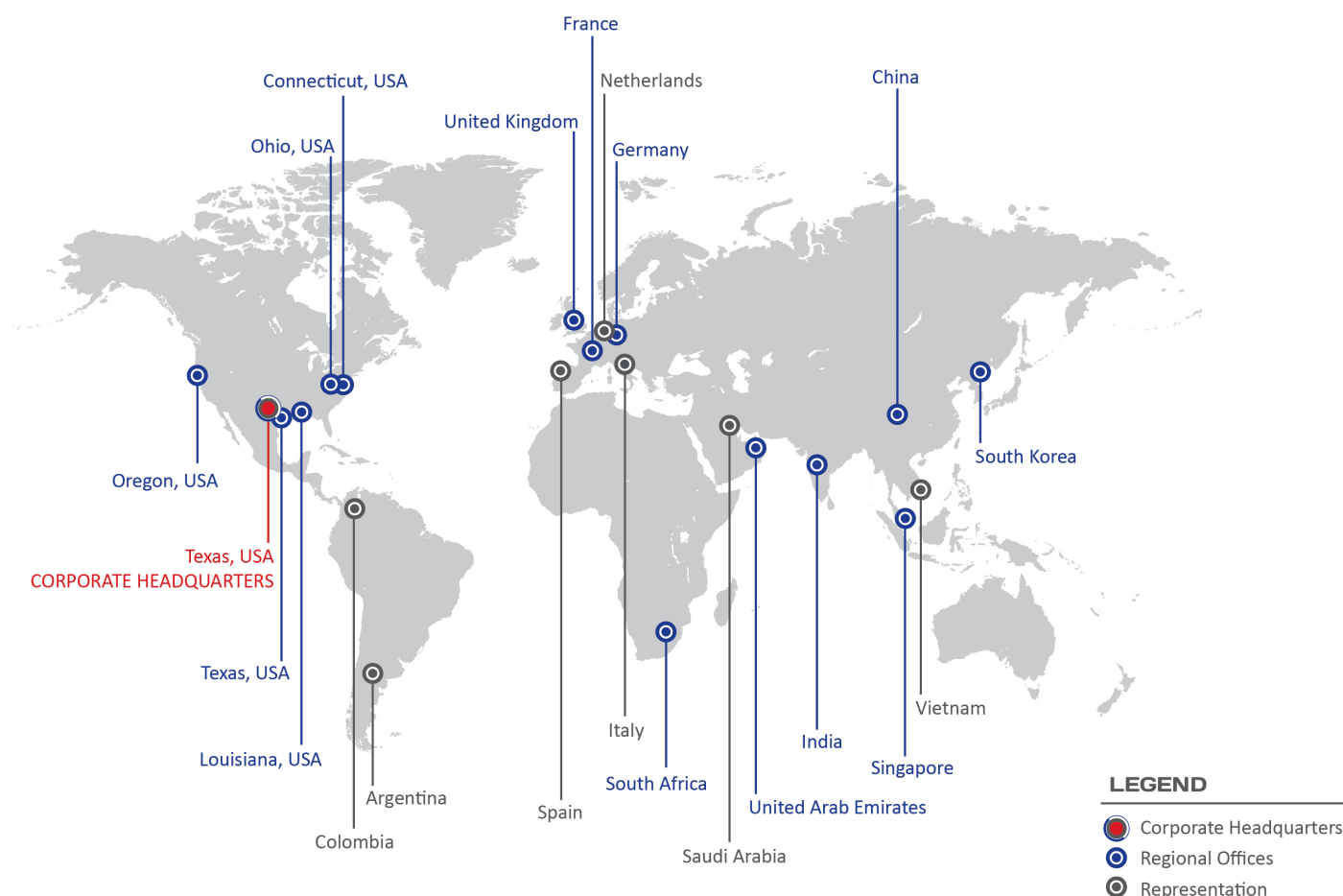
Leveraging over 200 years of combined experience in engineering, manufacturing, and field applications, the **S.F.E. Group** is committed to driving innovation. Through continuous product development and strategic acquisitions, the **S.F.E. Group** is actively growing its portfolio and expanding its global presence to meet the demands of industries around the world. Currently, the **S.F.E. Group** consists of 12 complimentary brands, each supporting the others in delivering cutting-edge solutions.

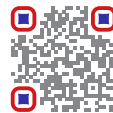
With offices and warehousing on 5 continents, 400+ employees and more than 500 partnerships and distributors worldwide, **S.F.E. Group** prides itself on consistently offering the highest standards of both product quality and service locally to all its customers.

S.F.E. Group looks forward to welcoming you into its global network as a partner, distributor or end user customer and remains at your disposal at any time.

Contact Americas: sales@sfe-brands.com
Contact International: sales-int@sfe-brands.com

S.F.E. GROUP GLOBAL PRESENCE





The S.F.E. Group's brand **CLIMAX** has been the pioneer and foremost global manufacturer of portable machine tools since 1966, setting the standard with innovative, mission-critical solutions for nearly 60 years. As the original technology leader in portable machining, **CLIMAX** offers an unmatched range of equipment, including line boring, bore welding, flange facing, portable milling, plate bevelling and lathes. With this unrivalled suite of equipment and end-to-end solutions for mission-critical manufacturing and repair work, **CLIMAX** empowers solutions for a wide variety of industries such as Oil & Gas, Mining, Power Generation, Nuclear, Renewable Energy, Transport, Maritime, Aerospace, and Defense.

Embedded within and supported by the strength of 12 complementary brands, S.F.E. Group's global reach, innovative product portfolio, and over 200 years of combined expertise, **CLIMAX** continues to advance the portable machine tool industry with cutting-edge solutions. As the only global OEM that never competes with its customers, **CLIMAX** remains committed to offering the best value while upholding the highest standards of safety and quality. **CLIMAX** is driving innovation, ensuring its continued future global leadership in portable machining.

Known for delivering the highest quality tools and an exceptional customer experience, **CLIMAX** is always nearby and offered via the global S.F.E. Group network with offices and warehousing on five continents and a network of over 350 sales locations and distributors worldwide. The complete **CLIMAX** portfolio can be consulted on the dedicated website: www.CLIMAXPORTABLE.com.

INDUSTRIES SERVED



OUR BRANDS



Our group policy is one of continuous improvements and acquisitions. Products and data tables are subject to change and may vary from those illustrated. Copyright © 2025 Specialized Fabrication Equipment Group, All rights reserved.



- **Functions:** in-situ line boring, grooving & welding applications
- **Materials:** Carbon steel, stainless steel and exotic alloys
- **Power:** 3.1 kW Servo Electric (220 V) 50/60Hz single phase

The BB3100 BOREMAX™ is a compact, high-performance line boring and welding system built for precision in tight spaces. Its through-bar design allows flexible placement of the drive and feed unit along the bar, enabling it to handle jobs where other machines cannot fit. Lightweight, portable, and durable, it is ideal for both shop and field applications.

Designed for versatility, the BB3100 supports line boring, drilling, facing, threading, valve repair, and more. A wide range of accessories enables fast setup, easy operation, and reliable accuracy for demanding on-site machining applications.



“Compact. Capable. Configurable. BOREMAX™ brings high-end boring and welding capabilities to your most constrained workspaces - where performance and portability matter.”

KEY FEATURES

Performance & Precision

- **Closed-loop servo control:** Maintains consistent RPM for stable tool speeds and improved machining accuracy
- **Automated speed calculation:** Input bore size and desired surface speed, and the system calculates optimal RPM to eliminate guesswork and ensure accurate setup
- **High-speed performance:** Up to 290 RPM bar speed for enhanced carbide cutting and faster material removal
- **Precision feed control:** Ball screw positioning delivers accurate, repeatable machining performance
- **Motor load indicator:** Real-time load feedback allows operators to maximize performance or prevent overload

Control, Setup & Flexibility

- **Direct axial feed input:** Set feed rate (in/rev or mm/rev) and make on-the-fly adjustments at the push of a button
- **Intuitive touchscreen controls:** Visual pictograms guide the operator for easier, more user-friendly operation
- **Precision control pendant:** Compact hand-held pendant provides real-time variable speed adjustment, directional control, and simple start/stop operation
- **Modular bar system:** Available in 1.2 m, 1.8 m, and 2.4 m lengths to adapt to a wide range of bore sizes and applications

- **Field-ready design:** Rugged yet simple construction optimized for durability, quick setup, and ease of use in demanding environments
- **Complete system delivery:** Supplied in a transport-friendly container with pallet footprint for easy handling and deployment

Welding Capability

- **Multi-mode weld control:** Supports step, spiral, and programmed skip functions for precise weld deposition
- **Adjustable axial feed:** Touchscreen-controlled feed rates ensure consistent, high-quality weld builds
- **Stable wire performance:** Designed for 0.03" welding wire to ensure smooth feed and consistent arc quality
- **Extended travel capability:** 12 inches (304.8 mm) of axial travel allows efficient repair of longer bore sections
- **Extended reach capability:** Includes three direct thread-on torch extensions with built-in liners for easy installation in hard-to-access bores
- **Long reach flexibility:** Provides up to 40 inches (1,016 mm) of unsupported reach for expanded application range
- **Wide bore coverage:** Handles 1.3–5" (33–127 mm) with the standard torch and up to 15.75" (400 mm) with extended configurations

APPLICATIONS

- Line boring of worn pivot points, bearing housings, and mounting bores
- Repair of construction, mining, and heavy industrial equipment
- Bore re-machining in confined or remote field conditions
- Integration with bore welding systems for combined weld and bore operations

INDUSTRIES

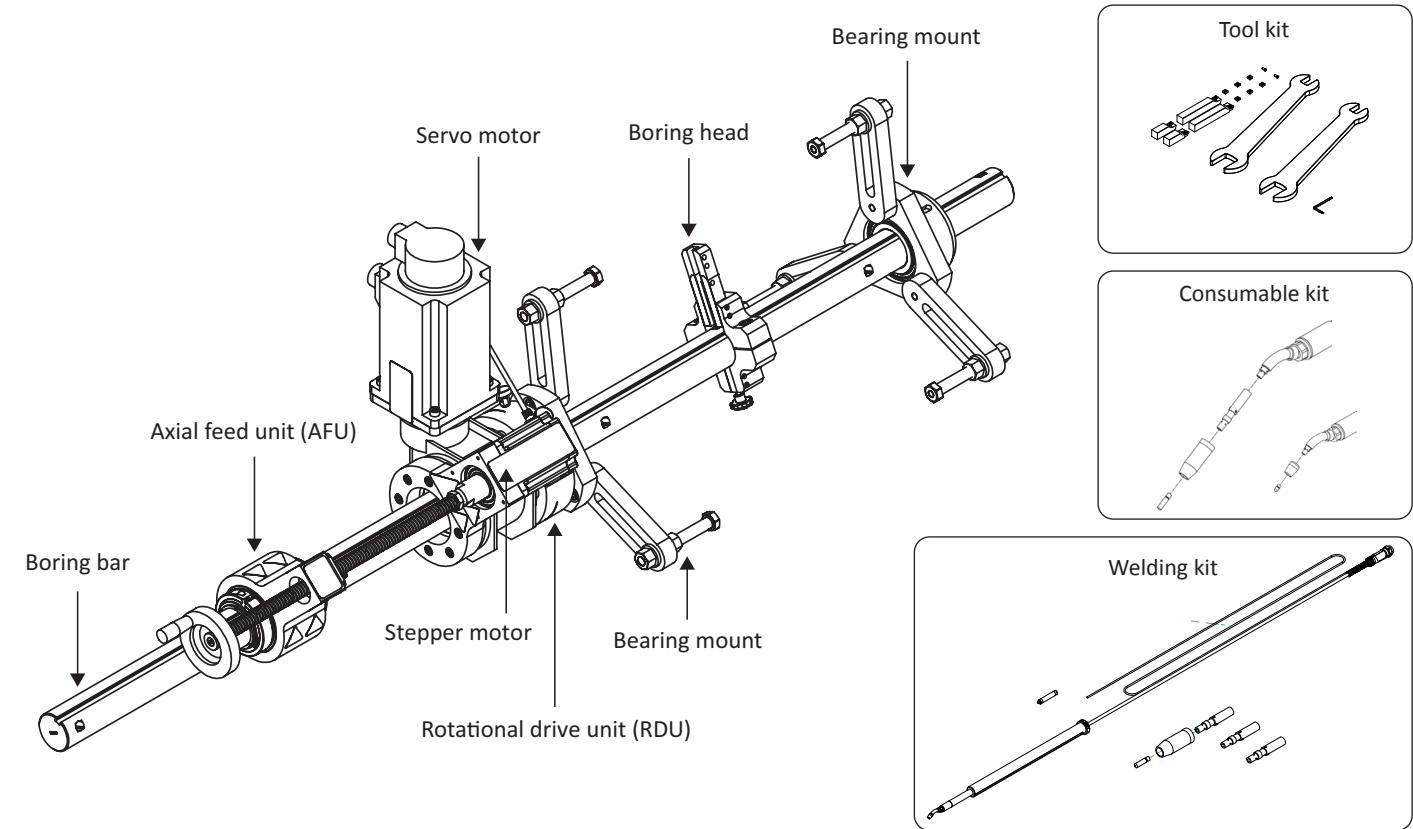
- Mining & earthmoving
- Construction equipment Servicing
- Heavy industry and manufacturing
- Oil & gas field maintenance
- Marine & offshore fabrication
- General maintenance, repair & overhaul (MRO)

MODELS

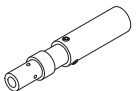
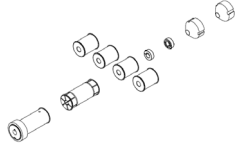
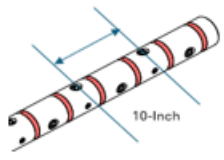
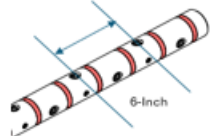
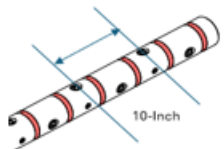
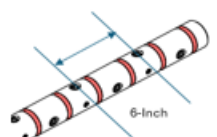
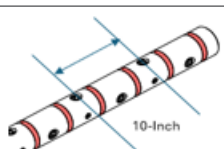


The **BB3100 BOREMAX™** includes the 3.1 kW servo motor, control box and pendant, rotational drive unit, axial feed unit, ball screw, tool head set, boring bar, bearing mounts, bar and tool setup kit, welding kit, tool kit, consumable kit, metal shipping container with inserts, and quick start guide.

PART NO	UNITS	BORING BAR	WELD CONDUIT CONNECTION
107889	Metric	2¼" / 57.2 mm dia. × 72" / 1,828.8 mm long, with 12 mm holes spaced every 10" / 254 mm	ELBB weld torch Euro
108707	Metric	2¼" / 57.2 mm dia. × 72" / 1,828.8 mm long, with 12 mm holes spaced every 10" / 254 mm	ELBB weld torch Miller
108708	Metric	2¼" / 57.2 mm dia. × 72" / 1,828.8 mm long, with 12 mm holes spaced every 10" / 254 mm	ELBB weld torch Lincoln
108618	Inch	2¼" / 57.2 mm dia. × 72" / 1,828.8 mm long, with 1/2" holes spaced every 6" / 152.4 mm	ELBB weld torch Miller
108619	Inch	2¼" / 57.2 mm dia. × 72" / 1,828.8 mm long, with 1/2" holes spaced every 6" / 152.4 mm	ELBB weld torch Lincoln



OPTIONAL ACCESSORIES

PART NO	DESCRIPTION				
107383*	Bearing mount				
107932	24-inch (609.6 mm) AFU stroke kit				
WELD EXTENSIONS					
102822*	Weld torch extension				
107771*	Weld tube extension*				
SMALL BORE KITS					
107804	1¼" diameter small bore kit includes				
	RDU collet with drive key & AFU collet				
	(4) bearing collets				
	Set up cones for 1¼" bar				
BORING BARS					
PART NO	DIAMETER	LENGTH	HOLE SPACING	HOLE SIZE	
METRIC STANDARD BORING BARS 1¼" (WITH THREADED TOOLING HOLES)					
37327	1¼" / 31.8 mm	48" / 1219.2 mm	10" / 254 mm	10 mm	
37328	1¼" / 31.8 mm	72" / 1828.8 mm	10" / 254 mm	10 mm	
37329	1¼" / 31.8 mm	96" / 2438.4 mm	10" / 254 mm	10 mm	
METRIC STANDARD BORING BARS 2¼" (WITH THREADED TOOLING HOLES)					
43740	2¼" / 57.2 mm	48" / 1219.2 mm	6" / 152.4 mm	12 mm	
43741	2¼" / 57.2 mm	72" / 1828.8 mm	6" / 152.4 mm	12 mm	
43742	2¼" / 57.2 mm	96" / 2438.4 mm	6" / 152.4 mm	12 mm	
34635	2¼" / 57.2 mm	48" / 1219.2 mm	10" / 254 mm	12 mm	
34636**	2¼" / 57.2 mm	72" / 1828.8 mm	10" / 254 mm	12 mm	
34637	2¼" / 57.2 mm	96" / 2438.4 mm	10" / 254 mm	12 mm	
INCH STANDARD BORING BARS 2¼" (WITH THREADED TOOLING HOLES)					
39309	2¼" / 57.2 mm	48" / 1219.2 mm	6" / 152.4 mm	½"	
39310***	2¼" / 57.2 mm	72" / 1828.8 mm	6" / 152.4 mm	½"	
41552	2¼" / 57.2 mm	96" / 2438.4 mm	6" / 152.4 mm	½"	
34626	2¼" / 57.2 mm	48" / 1219.2 mm	10" / 254 mm	½"	
34627	2¼" / 57.2 mm	72" / 1828.8 mm	10" / 254 mm	½"	
34628	2¼" / 57.2 mm	96" / 2438.4 mm	10" / 254 mm	½"	

*Included with all models

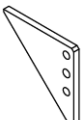
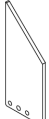
**Included with metric models

***Included with inch models

OPTIONAL ACCESSORIES

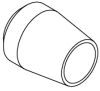
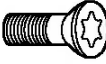
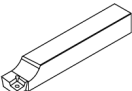
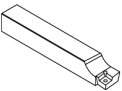
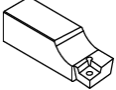
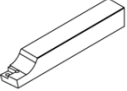
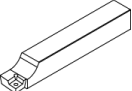
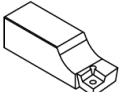
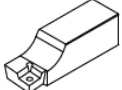
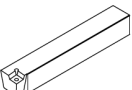
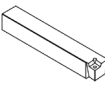
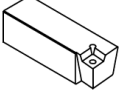
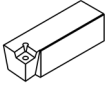
PART NO	DESCRIPTION	
DIAL INDICATOR AND ACCESSORIES		
102255*	Dial indicator	
107931	Lever dial indicator	
102104*	Indicator rod tool setup	
102259*	Dial indicator mount	
107407*	Clamp-on indicator holder	
107530*	Dial indicator plunger bell	
107541*	Alignment tensioning clamp	

CONSUMABLES

PART NO	DESCRIPTION	
107408*	Alignment fin, 3.5–8.5" / 88.9–215.9 mm (qty 1)	
107409*	Alignment fin, 7.8–12.5" / 198.1–317.5 mm (qty 1)	
107745*	Alignment fin, 10.8–15.75" / 274.3–400 mm (qty 1)	
107736*	Mounting bolt	
102216*	Alignment tab	

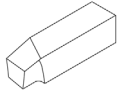
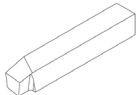
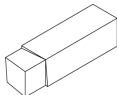
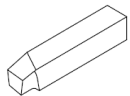
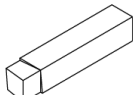
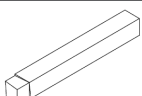
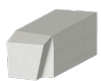
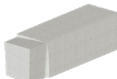
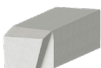
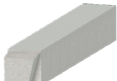
*Included with all models

CONSUMABLES

PART NO	DESCRIPTION	
102559*	Welding tip for 1-1/2" bore	
70150*	Contact welding tip .030 dia.	
107767*	Nozzle for 1-1/2" bore	
67958*	Nozzle 1/2" bore	
102281*	Carbide insert 80 deg 1/64 nose radius	
41889*	Insert bolt M2.5 X 0.45 X 6.5 mm	
TOOL HOLDERS		
107380*	80° tool holder, 12 mm × 80 mm, RH, negative rake	
107381*	80° tool holder, 12 mm × 80 mm, LH, negative rake	
107379*	80° tool holder, 12 mm × 40 mm, LH, negative rake	
107915	80° tool holder, 12 mm × 80 mm, LH, neutral rake	
107916	80° tool holder, 12 mm × 80 mm, RH, neutral rake	
107917	80° tool holder, 12 mm × 40 mm, LH, neutral rake	
107918	80° tool holder, 12 mm × 40 mm, RH, neutral rake	
107919	80° roughing tool holder, 12 mm × 80 mm, RH, negative rake	
107922	80° roughing tool holder, 12 mm × 80 mm, LH, negative rake	
107923	80° roughing tool holder, 12 mm × 40 mm, LH, negative rake	
107924	80° roughing tool holder, 12 mm × 40 mm, RH, neutral rake	

*Included with all models

CONSUMABLES

PART NO	DESCRIPTION	
HSS TOOL BITS (METRIC)		
34574	12 mm × 1" / 25.4 mm, LH, 0° lead, finishing, top cutting	
34578	12 mm × 1.8" / 45.7 mm, LH, 15° lead, roughing	
34579	12 mm × 1" / 25.4 mm, LH, 15° lead, roughing	
34573	12 mm × 1.8" / 45.7 mm, LH, 0° lead, finishing, top cutting	
34577	12 mm × 2.5" / 63.5 mm, LH, 15° lead, roughing	
34572	12 mm × 2.5" / 63.5 mm, LH, 0° lead, finishing, top cutting	
34576	12 mm × 4" / 101.6 mm, LH, 15° lead, roughing	
34571	12 mm × 4" / 101.6 mm, LH, 0° lead, finishing, top cutting	
HSS TOOL BITS (INCH)		
31866	1/2" × 1" / 25.4 mm, LH, 5° lead, roughing	
31857	1/2" × 1" / 25.4 mm, LH, 0° lead, finishing	
31867	1/2" × 1.8" / 45.7 mm, LH, 15° lead, roughing	
31858	1/2" × 1.8" / 45.7 mm, LH, 0° lead, finishing, top cutting	
32344	1/2" × 2.5" / 63.5 mm, LH, 15° lead, roughing	
32342	1/2" × 2.5" / 63.5 mm, LH, 0° lead, finishing, top cutting	
31868	1/2" × 4" / 101.6 mm, LH, 15° lead, roughing	
31859	1/2" × 4" / 101.6 mm, LH, 0° lead, finishing, top cutting	

CONSUMABLES

PART NO	DESCRIPTION	
HSS TOOL BITS (INCH)		
25710	1/2" × 4" / 101.6 mm, LH/RH, pre-ground	
31848	1/2" × 1" / 25.4 mm, RH, 15° lead, roughing	
31830	1/2" × 1" / 25.4 mm, RH, 0° lead, finishing	
32103	1/2" × 1" / 25.4 mm, RH, 0° lead, finishing	
32114	1/2" × 1" / 25.4 mm, LH, 0° lead, finishing, side cutting	
31831	1/2" × 1.8" / 45.7 mm, RH, 0° lead, finishing	
32104	1/2" × 1.8" / 45.7 mm, RH, 0° lead, finishing	
32115	1/2" × 1.8" / 45.7 mm, LH, 0° lead, finishing, side cutting	
32345	1/2" × 2.5" / 63.5 mm, RH, 15° lead, roughing	
32343	1/2" × 2.5" / 63.5 mm, RH, 0° lead, finishing	
32341	1/2" × 2.5" / 63.5 mm, RH, 0° lead, finishing	
32340	1/2" × 2.5" / 63.5 mm, LH, 0° lead, finishing, side cutting	
31850	1/2" × 4" / 101.6 mm, LH, 5° lead, roughing	
31841	1/2" × 4" / 101.6 mm, LH, 5° lead, finishing	
32105	1/2" × 4" / 101.6 mm, RH, 5° lead, finishing	
32116	1/2" × 4" / 101.6 mm, LH, 0° lead, finishing, side cutting	
34348	1/2" × 4" / 101.6 mm, LH, 15° lead, double roughing	

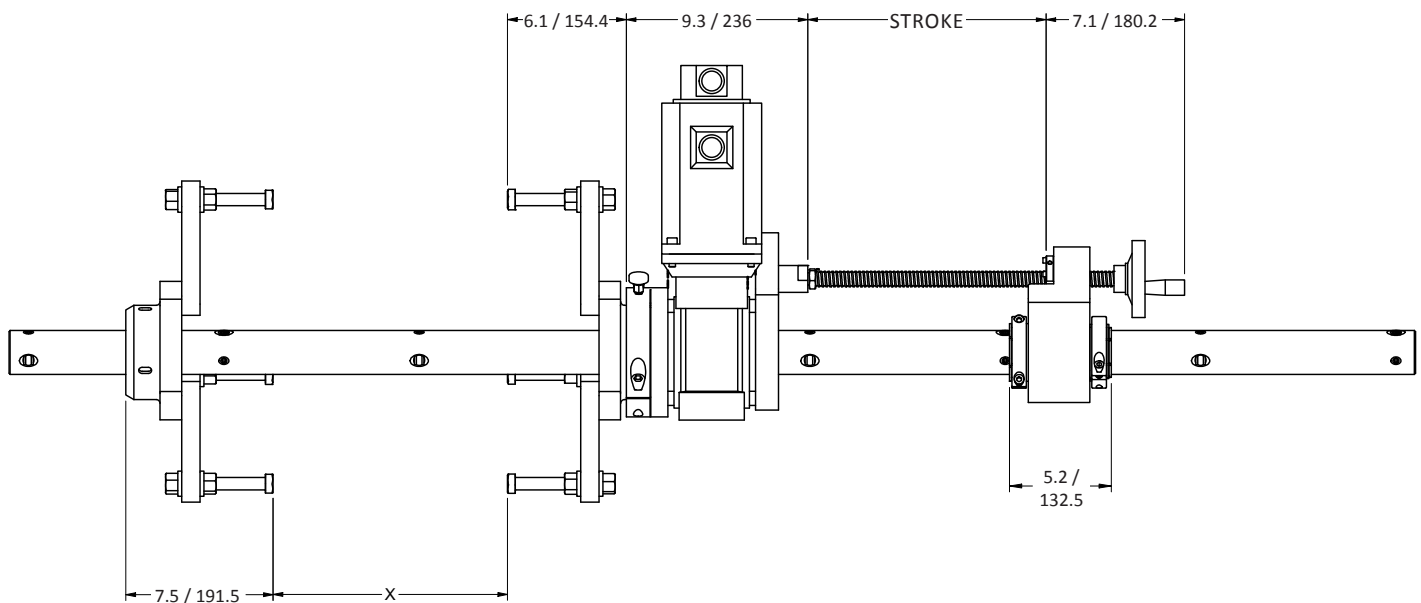
TECHNICAL SPECIFICATIONS

MODEL	BB3100 BOREMAX™
Drive types	3.1 kW Servo electric 220 V 50/60Hz single phase
Mounting option	Direct bearing mount
Set up cones	2 included with additional fins to cover full range
Rotational Drive Unit	10:1 gear ratio reduction

MACHINING	
Boring diameter range	0.87 - 15.75" / 22 - 400 mm
Bar diameters	Standard 2.25" / 57.2 mm; with small bore kit: 0.75 & 1.25" / 19 & 31.8 mm
Bar stroke, max	12" / 304.8 mm
Feed Type	Variable set by touch screen
Feed rate	Adjustable 0 - 0.018 in/rev (0-0.457 mm/rev) stepper electric
Bar lengths	1.2, 1.8, & 2.4 m / 47.2, 70.9, & 94.5" (additional lengths available)

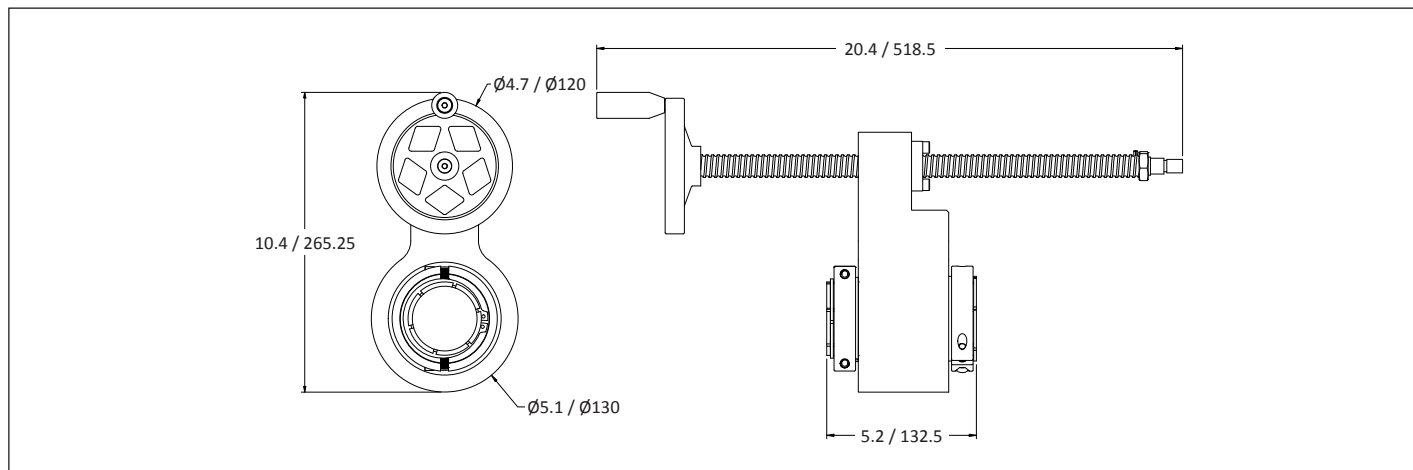
WELDING	
Welding Process	Step, spiral, and programmed skip
Axial Feed Per Revolution	Variable set by touch screen
Axial Travel	12" / 304.8 mm
Wire diameter range	0.03" / 0.8 mm
Amperage rating	120 AMPs
Torch extension arm	3 direct threads on extensions included
Standard torches	1.3 - 5" / 33 - 127 mm
Torch range	1.3 - 15.75" / 33 - 400 mm

MEASUREMENTS	
Shipping weight	
Machine (does not include bar)	600 lbs / 272 kg
Boring bar (Includes metal shipping container)	1.48 lbs/in. / 0.264 kg/cm
Shipping dimensions	
Machine W, D, H	48.3 x 40.2 x 20.5" / 1226 x 1021 x 520 mm
Bar 72" / 1828.8 mm W, D, H	74.5 x 6.5 x 7" / 1892 x 165 x 178 mm



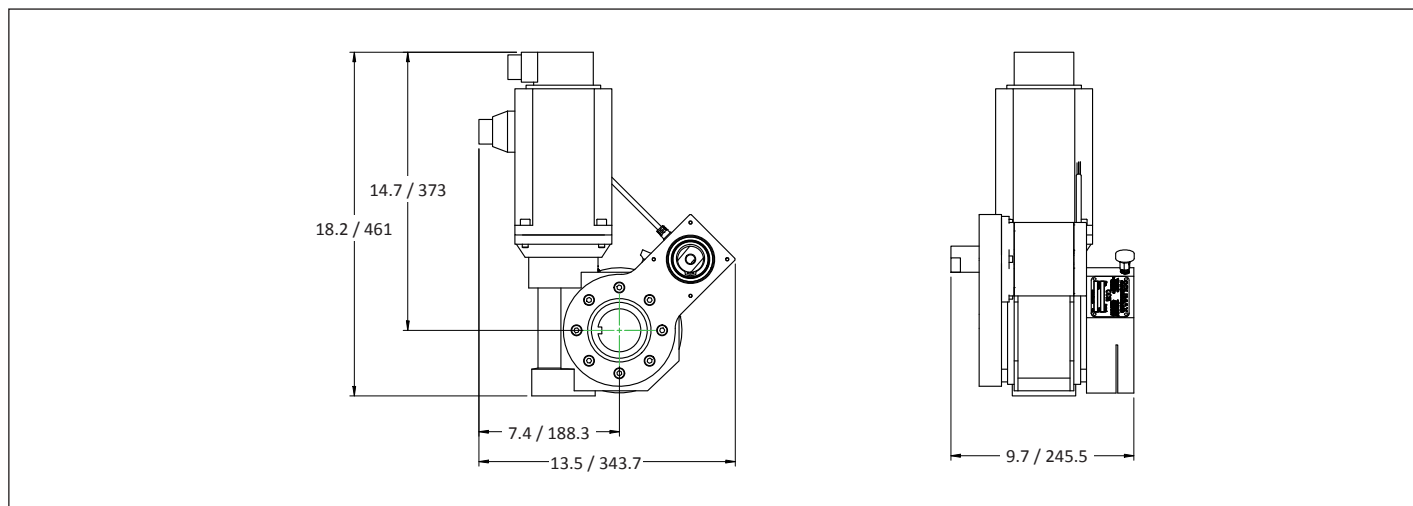
AXIAL FEED UNIT

Secured by dual clamp collars, the AFU travels axially with the bar and tool head along a fixed ball screw.



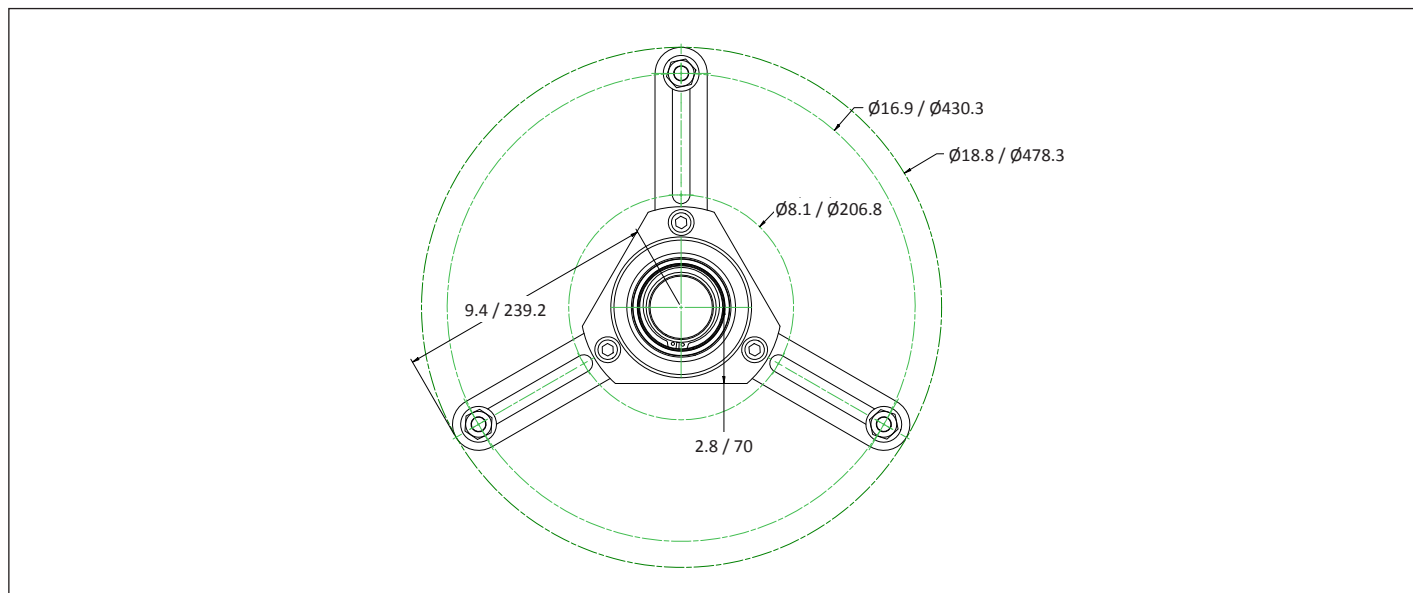
ROTATIONAL DRIVE UNIT

Sealed and lubricated worm gear drive delivers smooth, reliable power. Securely mounts to the bearing assembly with an adjustable fit for both precision boring and rigid facing operations.



BEARING MOUNTS

Provide stable support for the bar and machine during operation. Each mount includes three support arms with securely welded bolts for reliable positioning.



SET UP & OPERATION

Each machine is securely packaged in a custom-built protective metal container and includes a single-page quick reference guide to simplify and accelerate the setup process.

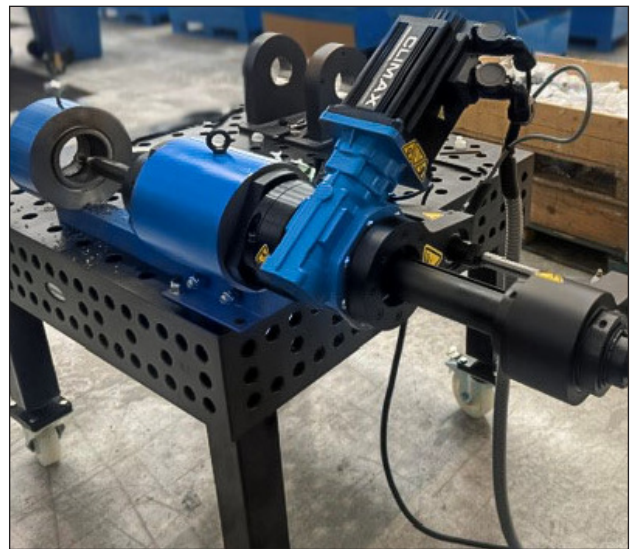
Machining

1. **Rough Alignment** – Install the 2.25" boring bar with alignment cones, clamp, and jacking collar; adjust for initial alignment.
2. **Weld Outer Bearing Mounts** – Position, tack, verify alignment, then complete welds on each side.
3. **Fine Adjustment** – Install adjustment mounts, reinstall bar, and center using the threaded collar.
4. **Install Inner Bearings** – Install and adjust bearings until the bar moves smoothly without binding.
5. **Mount RDU & AFU** – Secure RDU to the bar; install AFU and connect the ball screw to the motor.
6. **Connect Power System** – Attach all cables and power components; verify secure connections.
7. **Set Parameters** – Adjust feed direction, rate, and tool depth as required.
8. **Begin Operation** – Start machining using onboard or remote controls.



Welding

1. **Remove AFU & Bar** – Remove the AFU, then remove the boring bar from the setup.
2. **Install Weld Collet & Head** – Install the weld collet and mount the weld head to the system.
3. **Reinstall AFU & Position Weld Head** – Reinstall the AFU and position the weld head at the desired starting point inside the bore.
4. **Connect & Configure Welder** – Connect power, control, and gas leads; set welding parameters including wire feed, amperage, and voltage.
5. **Select Weld Program** – Choose the weld program on the pendant, then enter bore diameter and step size.
6. **Feed Wire & Purge Gas** – Feed wire to the weld head and purge shielding gas to confirm proper flow.
7. **Adjust During Operation** – Fine-tune step size and rotation speed as needed while welding.



PERFORMANCE DATA

- Torque: 90 ft-lbs
- Repeatable accuracy: $\pm 0.001"$ / 0.025 mm
- Integrated with digital depth measurement for tool carrier
- Operates continuously under load with drive compensation and precision gearing

CERTIFICATION & COMPLIANCE

- CE compliant for international operation
- Designed with operator safety in mind - low noise and minimal exposure to rotating parts



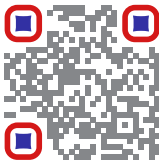


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