

## Advanced Automated Step Welding System for Bore, Flange, and Valve Repair.

The Climax BW3000 AutoBoreWelder is an automated step welding system that provides a new degree of welding performance and precision. Weld time is dramatically reduced while producing precise, uniform, high quality welds as compared to hand welding techniques.

### Unmatched Weld Quality and Precision

- Provides complete weld coverage at the start and finish of the bore
- Reaches up to 5 feet (152.4 cm) into the bore. Using torch extension support, can extend upward using extended reach torch options.
- Lays up to 5 lbs (2.27 kg) of metal per hour.
- Arc time increases 50 - 100% over hand-welding, cutting weld time in half.

### Built-In Cost Savings

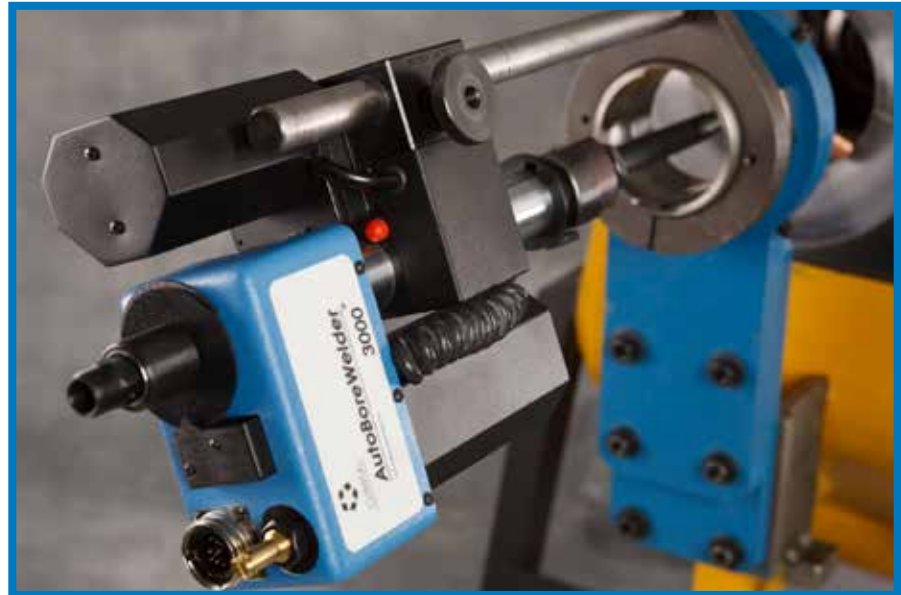
- Precise, uniform welds means less wire is consumed, reducing cost.
- All configurations come ready for a push-pull wire feeder which prevents wire buckling and waste when using low column-strength wire.
- Consistent and uniform weld reduces cutting tool wear, reducing cutting time by up to 50%.

### Single Point PLC-Based Control System Enhances Operator Safety and Control of Welding Process

- Adjust all welding functions from one central location.
- Weld operator safety is enhanced by allowing operator to stand back from the weld as it is being laid.
- Quickly adjust "step" size and direction, rotation speed and direction, wire feed rate, arc voltage, arc interrupt, contractor control, gas purge and extended utilization of Auto-Skip function.

### Flexible and Versatile

- Welds in any orientation: vertical, horizontal, or inverted.
- Allows alternating of uphill and downhill welds in a horizontal bore when welding multiple passes
- "Offset head" provides radial adjustments of the torch while maintaining proper torch angle in relation to the work piece.



- Wide range of travel speeds and amperage for challenging in-field conditions or working with exotic metals.
- With proper options, can weld with any wire - stellite, nickel, exotic metals.
- Can be configured to perform clad overlay with nickel alloys, bronze, and exotic metals.
- Four operating modes available: Auto-Skip, Pie, Carriage Return, and Continuous Weld.
- Step process outperforms spiral welding by providing complete weld coverage with infinitely adjustable step, allowing bead placement from 0.40 - 0.220 inches (1.0 - 5.6 mm).
- Auto-skip feature allows "weld only" or "skip only" areas to be designated.
- Allows rapid completion of work on out-of-round bores, bores with keyways.
- Precisely welds conical valve seats.
- Interface kit makes it easy to switch between bore welding and line boring without losing bearing alignment.
- Interface kit ensures perfect alignment for both welding and machining.
- One setup for both welding and boring saves time and gets the job done quickly.

### Weld & Bore at the Same Time

- Weld one section while boring out another, using multiple bearing mounts.
- Simultaneous operation cuts work time in half!

### Rugged, Fitted Protective Case for Easy, Safe Transport:

- Packaged in heavy-duty, shock-resistant case for safe, dust and water-proof storage, convenient organization and easy transport of the BW3000 AutoBoreWelder and its components.
- Select from shop-style wire feeder, or enclosed field-style wire feeder in shock-resistant waterproof case.

### One Setup for Welding & Boring

- Climax BoreWelder Interface Kit simplifies the boring & welding setup process.
- Quickly attach the BW3000 AutoBoreWelder directly to the Climax BB3000, BB4500 or BB5000 Boring Machine mounting fixtures.

# SPECIFICATIONS, APPLICATIONS

	US	Metric
Welding Process	MIG (GMAW)	
Axial Travel	6 or 12 inches (longer reach requires torch extension)	152.4 or 304.8 mm
Step Range	0.040 - 0.220 inches	1.0 - 5.6 mm
Wire Diameter Range	0.023 - 0.045 inches	0.58 - 1.14 mm
Amperage Rating	175A Continuous	
Total Extended Reach	39 inches	990.6 mm
Torch Welding Diameter Ranges		
ID Bores #00 through #13 & #24	0.88 - 54 inches	22.4 - 1371.6 mm
OD Torches, max dia.	14, 28, or 56 inches	355.6, 711.2 or 1422.4 mm
Face Torch	1.0 - 20.0 inches	25.4 - 508.0 mm
Torch Extensions	3, 6, 12, and 18 inches	76.2, 152.4, 304.8 and 457.2 mm
Unsupported Torch Reach	60 inches	1524.0 mm
Control Box Voltages	120 VAC 50/60Hz or 230 VAC 50/60 Hz	
Wire feeder		
4-roll drive system accepts standard spools	30 lb spools	13.6 kg spools
Power Supply Requirements:	Recommended 300 Amp Rating CV power source with remote voltage control capability (power supply not included in BW3000 AutoBoreWelder Package)	

## Weights and Dimensions

Weights and Dimensions vary for each package. Final weights will be determined at the time of your order;

**Standard BW3000 is shipped in 3 boxes:**  
(Weights and Dimensions are approximate)

Box #1	8 x 16 x 19 Inches (203 x 407 x 483 mm)
Weight:	21 Lbs (9.53 kg)
Box #2	9 x 18 x 21 (229 x 457 x 533 mm)
Weight:	27 Lbs (12.25 kg)
Box #3	20 x 30 x 13 Inches (508 x 762 x 330 mm)
Weight:	106 Lbs (48 kg)

## APPLICATIONS

**The BW3000 is widely used by these industries:**

Mining & Heavy Construction  
Power Generation  
Pulp & Paper

### Typical Applications:

- Bores, pivot points, buckets and hitches
- Valve and pump repairs
- Gears and gear boxes
- Motor housings and shafts
- Electric motor repair
- Loader bucket & hitch repair
- Nozzles on pressure vessels and heat exchangers
- Compressors and turbines
- Shaft OD repair
- Mud pumps
- Hydraulic cylinder eyes
- Presses
- Castings and injection molds
- Continuous miners and drag lines
- Rotary crushers
- Jaw crusher pitman arms
- Whole tree chippers



All dimensions should be considered reference. Contact your Climax Representative for precision dimensions. Specifications are subject to change without notice. There are no systems or components on this machine that are capable of producing hazardous EMC, UV or other radiation hazards. The machine does not use lasers nor does it create hazardous materials such as gasses or dust.

# TOOL CONFIGURATIONS

Configure your BW3000 in 15 easy steps.

To configure your BW3000 Boring Machine:

- 1 Select a Base Unit
- 2 Select a Connector
- 3 Select Controls
- 4 Select Control Cables
- 5 Select Power Supply Cables
- 6 Select a Wire Feeder
- 7 Select Wire Feed Accessories
- 8 Select a Top Mount Feeder
- 9 Select Wire Feed Conduits
- 10 Select Torches
- 11 Select Specialty Torches
- 12 Select Mounting Options
- 13 Select Torch Extensions
- 14 Select Consumables
- 15 Select Miscellaneous Accessories

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

## 1 Base Unit (All machines are AutoSkip and Push/Pull Ready. All wire feeders are also Push/Pull Ready)

Tool Kit (Wrenches, Manual, Gloves), Packaging, Rod, Collar, Torch Extension Kit, Consumables Package, Positive Weld Cable, Shield Gas Hose, and Extra Liner.	<b>69970</b>
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## 2 Connectors

### Metal

Welding Head 6 inch (152.4 mm) Auto Skip Push/Pull Ready	<b>54421</b>
Welding Head 12 inch (304.8 mm) Auto Skip Push/Pull Ready	<b>54425</b>

### Plastic

Welding Head 6 inch (152.4 mm) Auto Skip Push/Pull Ready	<b>54419</b>
Welding Head 12 inch (304.8 mm) Auto Skip Push/Pull Ready	<b>54423</b>

## 3 Controls

### Metal

120V Controller	<b>70462</b>
230V Controller	<b>70463</b>

### Plastic

120V Controller	<b>70464</b>
230V Controller	<b>70465</b>

## 4 Control Cables

### Metal

Control Cable 8 foot (2.4 m)	<b>58276</b>
Control Cable 15 foot (4.6 m)	<b>58615</b>

### Plastic

Control Cable 8 foot (2.4 m)	<b>29866</b>
Control Cable 15 foot (4.6 m)	<b>35400</b>
Control Cable 20 foot (6.1 m)	<b>61429</b>

## 5 Power Supply Cables

### Metal Connectors

Power Supply Cable Assembly, 19 PIN ESAB, 25 foot (7.6 m)	<b>58679</b>
Power Supply Cable Assembly, Eutectic Pulsarc 6000 or ESAB LAI 550P, 25 foot (7.6 m)	<b>69915</b>
Power Supply Cable Assembly, Lincoln Multiweld 350 6 Pin, 25 foot (7.6 m)	<b>53985</b>
Power Supply Cable Assembly, Lincoln 14 Pin, 25 foot (7.6 m)	<b>53991</b>
Power Supply Cable Assembly, Lincoln 14 Pin, 50 foot (15.2 m)	<b>53988</b>
Power Supply Cable Assembly, Milleratic Welders 10-Pin, 25 foot (7.6 m)	<b>68227</b>
Power Supply Cable Assembly, Miller 14 Pin, 25 foot (7.6 m)	<b>53249</b>
Power Supply Cable Assembly, Miller 14 Pin, 50 foot (15.2 m)	<b>58564</b>
Power Supply Cable Assembly, Blank End	<b>53990</b>

### Plastic Connectors

Power Supply Cable Assembly, ESAB 350MPI 14 Pin, 25 foot (7.6 m)	<b>69916</b>
Power Supply Cable Assembly, Eutectic Pulsarc 6000 or ESAB LAI 550P, 25 foot (7.6 m)	<b>45490</b>
Power Supply Cable Assembly, Lincoln Multi Weld 6 Pin, 25 foot (7.6 m)	<b>55327</b>
Power Supply Cable Assembly, Lincoln 14 Pin, 25 foot (7.6 m)	<b>32042</b>
Power Supply Cable Assembly, Miller Milleratic 10 Pin, 25 foot (7.6 m)	<b>46670</b>
Power Supply Cable Assembly, Miller X mT 14 Pin, 25 foot (7.6 m)	<b>34217</b>
Power Supply Cable Assembly, Miller 14 Pin W/ 100V Pigtail, 25 foot (7.6 m)	<b>29824</b>
Power Supply Cable Assembly, Miller Deltaweld 5 Pin, 25 foot (7.6 m)	<b>69918</b>
Power Supply Cable Assembly, Blank One End, 25 foot (7.6 m)	<b>36874</b>

## 6 Wire Feeders, Push/Pull Ready

### Metal

Wire Feeder, Shop Style, Push/Pull Ready 24 VAC	<b>65054</b>
Wire Feeder, Enclosed, Push/Pull Ready 24 VAC	<b>66946</b>

### Plastic

Wire Feeder, Shop Style, Push/Pull Ready 24 VAC	<b>69812</b>
Wire Feeder, Enclosed, Push/Pull Ready 24 VAC	<b>44993</b>

## 7 Wire Feed Accessories

(recommended when using push/pull wire feeder) Wire Straightener	<b>35357</b>
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## 8 Top Mount Feeder

### Metal

# TOOL CONFIGURATIONS

Top Mount Feeder	64288
Plastic	
Top Mount Feeder	44992

## 9 Wire Feed Conduits

Wire Feed Conduit 2 foot (0.6 m)	31894
Wire Feed Conduit 3 foot (0.9 m)	31895
Wire Feed Conduit 4 foot (1.2 m)	35574
Wire Feed Conduit 5 foot (1.5 m)	34813
Wire Feed Conduit 6 foot (1.8 m)	69889
Wire Feed Conduit 8 foot (2.4 m)	69890
Wire Feed Conduit 10 foot (3.0 m)	34043
Wire Feed Conduit 12 foot (3.7 m)	55707
Wire Feed Conduit 15 foot (4.6 m)	45256

## 10 Torches

#00 to #5 Torch Kit	69896
0.88 to 13 inch (22.4 to 330.2 mm)	
#00 to #5 Torch & Bearing Clearance Kit	70197
0.88 to 27 inch (22.4 to 685.8 mm)	
Torch Bearing Clearance Package	63916
12 to 27 inch (304.8 to 685.8 mm)	
#00 Torch, 0.88 - 1.8 inch (22.4 - 45.7 mm) dia.	29063
#0 Torch, 1.75 - 3 inch (44.5 - 76.2 mm) dia.	28448
#1 Torch, 2.75 - 5.5 inch (69.9 - 139.7 mm) dia.	29064
#2 Torch, 4.5 - 7.5 inch (114.3 - 190.5 mm) dia.	29032
#3 Torch, 6 - 9 inch (152.4 - 228.6 mm) dia.	29033
#4 Torch, 8 - 11 inch (203.2 - 279.4 mm) dia.	29034
#5 Torch, 10 - 13 inch (254.0 - 330.2 mm) dia.	29035
*** NOTE: #6 - #12 Torches Require Counterbalance ***	
#6 Torch, 12 - 15 inch (304.8 - 381.0 mm) dia.	30345
#7 Torch, 14 - 17 inch (355.6 - 431.8 mm) dia.	31792
#8 Torch, 16 - 19 inch (406.4 - 482.6 mm) dia.	30346
#9 Torch, 18 - 21 inch (457.2 - 533.4 mm) dia.	30710
#10 Torch, 20 - 23 inch (508.0 - 584.2 mm) dia.	30711
#11 Torch, 22 - 25 inch (558.8 - 635.0 mm) dia.	30712
#12 Torch, 24 - 27 inch (609.6 - 685.8 mm) dia.	30713
#13/24 Torch Kit	70196
with Belt Pulley & 10 inch (254.0 mm) Radial Mount	

## 11 Specialty Torches

Trammel OD Torch Package	27013
- up to 14 inch (355.6 mm) Dia.	
Trammel Torch 28 inch (711.2 mm)	38506
Maximum OD Capability	
Extended Trammel Torch Dia. to 56 OD	53004
Face Torch 8 inch (203.2 mm)	28186
Conical Seat Torch	28020
Compact Face Torch 6 inch (152.4 mm) Swing	48013
Torch Counterbalance	30756

## 12 Mounting Options

Adjustable Base	29037
Adapter Kit to BB3000 1-1/4 inch (31.8 mm) Bar	26795
Adapter Kit to BB4500 1-3/4 inch (44.5 mm) Bar	43731
Adapter Kit to BB5000 2-1/4 inch (57.2 mm) Bar	26518
Tool Alignment for BB3000 1-1/4 inch (31.8 mm) Bar	26656
Tool Alignment for BB4500 1-3/4 inch (44.5 mm) Bar	36062
Radial Mount 5 inch (127.0 mm), Radius Standard Spacer	28208
Radial Mount 10 inch (254.0 mm), Radius Spacer	35006
Weld Head Support Rod	30773
Mounting Rod Extender	30831

## 13 Additional Torch Extensions

Torch Extensions 3 to 12 inch (76.2 - 304.8 mm)	69895
Includes 1 each 3, 6, & 12 inch (76.2, 152.4, & 304.8 mm)	

Torch Extension 3 inch (76.2 mm)	29038
Torch Extension 6 inch (152.4 mm)	29039
Torch Extension 12 inch (304.8 mm)	29040
Torch Extension 18 inch (457.2 mm)	29065
Torch Extension Support Kit	33256

## 14 Additional Consumables

Welding Tip #00, 0.035 inch (0.9 mm) (Each)	69521
Welding Tip #00, SPEZ Feed 0.045 inch (1.2 mm)	69554
Welding Tip #0, Standard 0.035 inch (0.9 mm)	69520
Welding Tip #0, Large Radius 0.035 inch (0.9 mm)	67997
Welding Tip #0, Standard Radius 0.045 inch (1.2 mm)	68622
Welding Tip #0, SPEZ Feed 0.045 inch (1.2 mm)	69555
Welding Tip, 0.035 inch (0.9 mm)	69865
Welding Tip, 0.045 inch (1.2 mm) Dia.	70149
Welding Tip, 0.030 inch (0.8 mm) For 11-30	70150
Welding Tip, 0.035 inch (0.9 mm) (11-35)	62642
Chromium/Zirconium	
Welding Tip #00, 0.035 inch (0.9 mm)	69891
Chromium/Zirconium	
Welding Tip #0, Standard 0.035 inch (0.9 mm)	70204
Chromium/Zirconium	
Welding Tip 0.045 inch (1.2 mm) Dia.	70205
Chromium/Zirconium	
Welding Nozzle	69866
(For All Torches Except #00 & #0) (1 Ea) Standard 21-62)	

## 15 Miscellaneous Accessories

Remote Arc Interrupt Cable	53184
Stick Electrode Holder	36169



# ACCESSORIES, WELD RANGE INFO

## Tips

Welding Tip (Each) 0.030 (fits all standard torches)	<b>70150</b>
Welding Tip (Each) 0.035 (fits all standard torches)	<b>69865</b>
Welding Tip (Each) 0.045 (fits all standard torches)	<b>70149</b>
Welding Tip (Each) #00 .035 (fits #00 torch)	<b>69521</b>
Welding Tip (Each) #00 .045 (fits #00 torch)	<b>69554</b>
Welding Tip (Each) #0 .035 (fits #0 torch)	<b>69520</b>
Welding Tip (Each) #0 .045 (fits #0 torch)	<b>69555</b>

## Welder Power Supply

Power supply, 208 - 575V, Miller XMT 350 CC/CV 50/60 Hz	<b>42707</b>
Power supply, 208 - 575V, 50/60 Hz as above but with Aux 120V\ Outlet	<b>41615</b>

## Mounting Hardware

Adjustable base (included in select packages)	<b>29037</b>
Radial mount 5 inches (127 mm) (included in select packages)	<b>28208</b>
Radial mount 10 inches (254 mm)	<b>35006</b>
Mounting rod (included in all packages)	<b>30773</b>
Mounting rod extender	<b>30831</b>

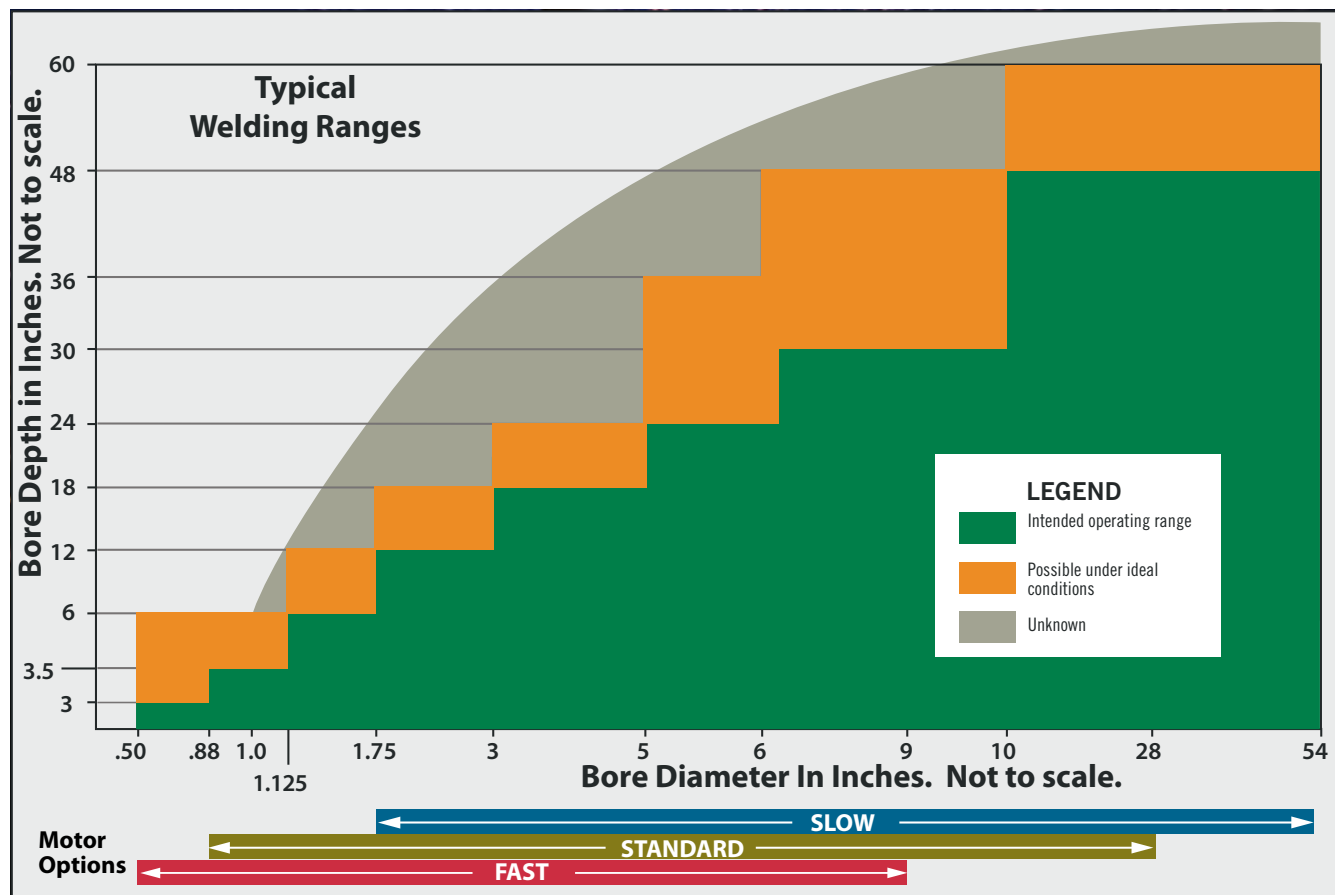
## Other Accessories

Welding wire, cast controlled, 0.035, 33 lb (15 Kg) Spool National Standard –ER70-S6	<b>30792</b>
Diffusers (each)	<b>69778</b>
Liner 0.023/0.045, 16 feet (4.9 m) long	<b>40424</b>
Set-up & operations video CD	<b>40439</b>
Welding ground wire with clamp, 37 feet (11.3 m)	<b>38276</b>
Push/pull power feed system	<b>44992</b>
Gas regulator	<b>34397</b>



Some BW3000 parts ship in sturdy Pelican™ cases (Case sizes and types vary by model)

## WELD RANGE INFORMATION



# 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

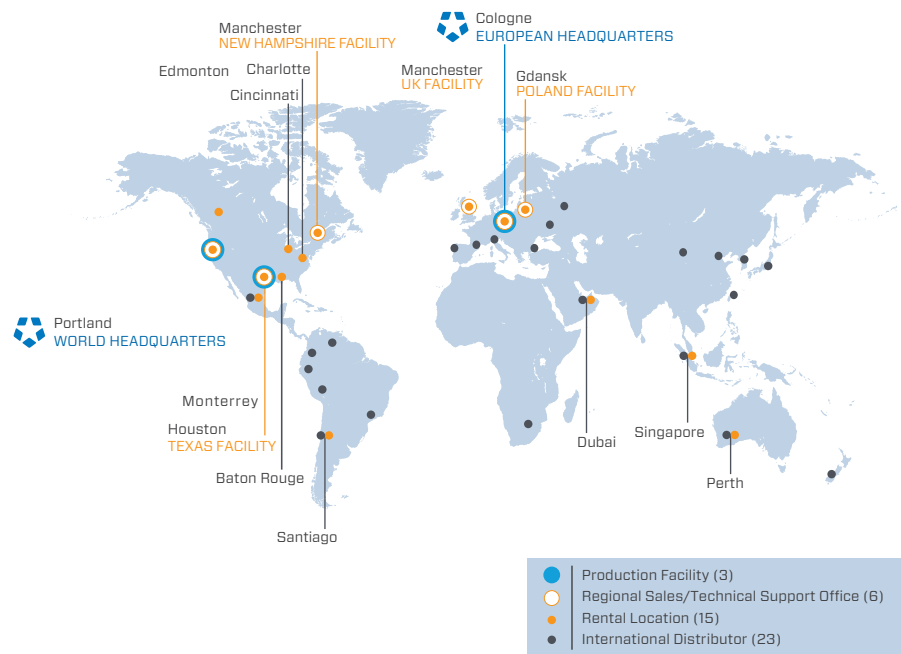
With 15 worldwide rental depot locations, you are never far away from a CLIMAX tool.

### 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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