

BG22 BOILER GUN™

PIPE RANGE: 0.500" ID - 2.500" OD (12.7 ID - 63.5 OD mm)

09 | 2022
BG22

The **BG22 BOILER GUN™** is a combination of ease of use, power, and versatility in a compact and lightweight package. Designed to perform on-site machining on boiler tubes or other pipe applications with speed and accuracy, delivering the optimal speed and torque combination to make short work of your tube prep projects.



POWERFUL PERFORMANCE

Powerful drive motors make quick work of light-wall tubing and provide the torque needed for heavy-wall alloy tubes.

Heavy duty gearset increases machine longevity and provides the torque and speed required to perform a wide variety of end prep work.

Heavy duty tapered roller bearings for very rigid and smooth operation.

VERSATILITY

Pneumatic and Cordless Electric motor options allow for machine use in any environment or facility.

Narrow head width enables use in tight spaces such as boiler water walls.

Two different locking systems available - Collet or Wedge, giving you the best clamping capability for any application.

Enhanced wedge design with an integrated wedge system and captured retaining springs allows quick change of wedge extensions and prevents loss of spring

'Speed Wheel' allows wedge expansion using a star-wheel, which is faster in confined spaces.

Anchor Grip™ collet system provides superior gripping for applications such as stub removal, light wall tubing that cannot be deformed and tubing that cannot be contaminated with falling debris.

Patented Multi-Prep® Tool Holder combines multiple machining operations into a single operation.

Corrosion resistant finish applied to all external components prevents machine weathering and extends the life of the components.

EASY TO USE

Lightweight Titanium housing combines strength and low weight for durability and easy handling.

Finer feed screws make it easier to advance the feed, putting less burden on the operator and the machine.

Drop Swivel Air Fittings extend the life of the machine by reducing hose kinks and damage.

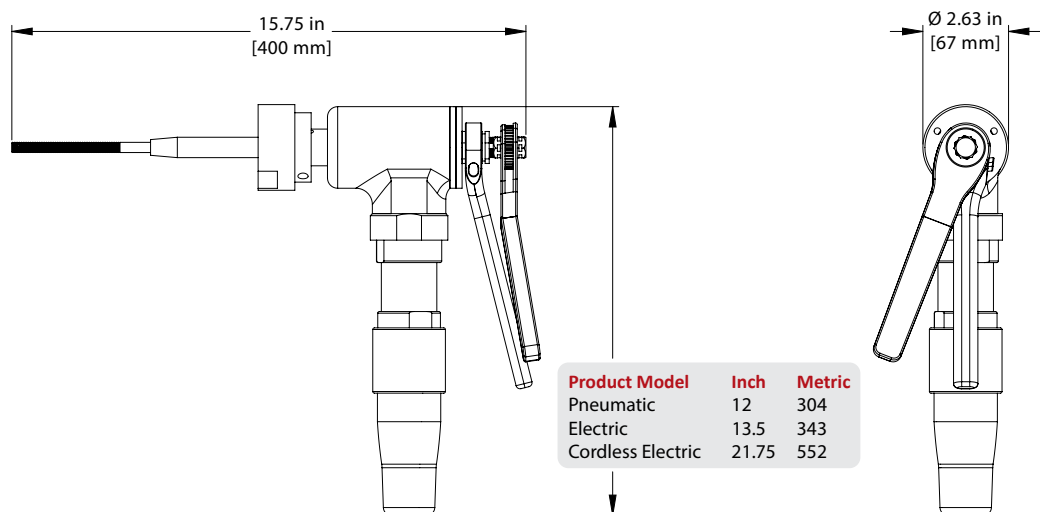
Air Lock option dramatically saves time on high-volume jobs by locking and unlocking the tool instantly with the flip of a valve.

Heavy-duty storage case with foam inserts protects the machine from damage on-site or in transit.

SPECIFICATIONS

	INCH	METRIC
Machine Performance Ranges		
Working range inside diameter to outside diameter	0.500 ID – 2.500 OD	12.7 ID – 63.5 OD
Radial tool clearance	0.8	20.3
Head width	1.6	40.6
Travel	2.0	50.8
Rotational Drive System		
Pneumatic motor	1.3 Hp	0.97 kW
Recommended air pressure	90 PSI	6.2 Bar
Recommended volume	38 CFM	1.1 m ³ /min.
Speed	110 RPM	110 RPM
Electric motor	1 Hp, 110V / 6.7A or 220V / 3.4A	0.75 kW, 110V / 6.7A or 220V / 3.4A
Speed	0 - 180 RPM	0 - 180 RPM
Cordless electric (rechargeable Lithium Ion)	5.2 amp/hr	18720 coulomb
Speed	0 - 180 RPM	0 - 180 RPM
Measures		
Machine weight		
Pneumatic	14 lbs	6.4 kg
Electric	11 lbs	5 kg
Cordless Electric	16 lbs	7.3 kg
Shipping weight		
Pneumatic	40 lbs	18.1 kg
Electric	37 lbs	11.3 kg
Electric cordless	42 lbs	19 kg
Dimensions		
Length (L x W x H)	Refer to dimensional drawing below	
Crate dimensions (L x W x H)	23 x 19 x 7	584.2 x 482.6 x 177.8

DIMENSIONAL DRAWING



All dimensions should be considered reference. Contact your H&S Tool Representative for precision dimensions. Specifications are subject to change without notice. Actual results for test data may vary depending on setup, machining conditions and machine maintenance. 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 CONFIGURATION

To order your **BG22 BOILER GUN™**, simply select from the options below.

To configure your machine, please follow these steps.

1. Select base model
2. Select mounting system
3. Select tool holder
4. Select optional tool holder bits

1. Base model

Pneumatic motor units *include: pneumatic motor, wrench feed, hose with oiler, filter & swivel, tool kit, operator manual and storage case.*

Pneumatic 110 RPM motor BG22-R
- w/drive wrench feed

Electric motor units *include: electric motor, wrench feed, tool kit, operator manual and storage case.*

120V Electric, 0 - 180 RPM motor BG22E120-R
 220V Electric, 0 - 180 RPM motor BG22E220-R
 120V Cordless Electric, 0 - 180 RPM BG22C120-R
 - (battery powered)
 220V Cordless Electric, 0 - 180 RPM BG22C220-R
 - (battery powered)

2. Mounting system

Includes center shafts, draw rod, and wedges or collets for full range

Wedge set, 0.625 - 2.5 inches BG22WSET
- (15.9 - 63.5 mm)

Small wedge set (includes centershaft), TI007900
- 0.500 - 0.688 (12.7 - 17.5 mm)

Collet set, 0.625 - 2.5 inches BG22CCP
- (15.9 - 63.5 mm)

Collet mount kit, 0.625 - 1.625 inches ID 100600
- (15.88 - 41.28 mm)

Collet mount kit, 1.625 - 2 inches ID 100602
- (41.25 - 50.8 mm)

Collet mount kit, 2 - 2.5 inches ID 100601
- (50.8 - 63.5 mm)

3. Tool holder

Sliding tool holders (2 flute)
Full set 1.6, 2 & 2.5 inches BG22THS
- (40.4, 50.8, & 63.5 mm)

1.6 inches (40.5 mm) 97960

2 inches (50.8 mm) 98884

2.5 inches (63.5 mm) 98891

4. Tool holder bits (optional)

Sliding Tool Holder Bits
S-37 Blade, 1/2 inch (12.7 mm) BLS37

- wide 37° bevel

S-37 Wide Blade, 3/4 inch (19.1 mm) BLS37W

- wide 37° bevel

SF Blade, 1/2 inch (12.7 mm) BLSF

- wide facing/0° bevel

SF Wide Blade, 3/4 inch (19.1 mm) BLSFW

- wide facing/0° bevel

SI-10 Blade, 1/2 inch (12.7 mm) BLSI

- wide 10° ID counter bore

SI-10 Wide Blade, 3/4 inch (19.1 mm) HS-BLSIW

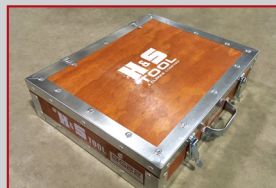
- wide 10° ID counter bore



The **BG22 BOILER GUN'S** enhanced wedge design comes with an integrated wedge system and captured retaining springs which allows for quick change of wedge extensions and prevents loss of spring.



Everything you need comes complete in a custom designed shipping container.



Sliding tool holder

Attachments

Air Lok for wrench feed AL
 Carbide triangular insert bevel head INS38N
 Carbide round insert bevel head INSR

Small ID wedge mounting system

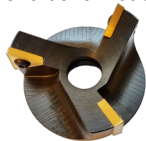
Toolholder, 1.6 x 0.5 inches 100249
 - (40.6 x 12.7 mm)
 Centershaft wedge, 0.5 inch (12.7 mm) T007850
 Wedge rod, 0.5 inch (12.7 mm) T007851
 AA Wedge set, 1/2 - 9/16 inch T007870
 - (12.7 - 14.3 mm)
 BB Wedge set, 9/16 - 5/8 inch T007871
 - (14.3 - 15.9 mm)
 CC Wedge set, 5/8 - 11/16 inch T007868
 - (15.9 - 17.5 mm)

Standard collet system

Centershaft collet B002520L
 Collet rod, 3/8 inch (9.5 mm) B002550L
 Collet, 5/8 inches (15.9 mm) BC58
 Collet, 3/4 inches (19.1 mm) BC34
 Collet, 7/8 inches (22.2 mm) BC78
 Collet, 1 inches (25.4 mm) BC1
 Collet, 1-1/8 inches (28.6 mm) BC1-18
 Collet, 1-1/4 inches (31.8 mm) BC1-14
 Collet, 1-3/8 inches (34.9 mm) BC1-38
 Collet, 1-1/2 inches (38.1 mm) BC1-12
 Collet, 1-5/8 inches (41.3 mm) BC1-58
 Collet, 1-3/4 inches (44.5 mm) BC1-34
 Collet, 1-7/8 inches (47.6 mm) BC1-78
 Collet, 2 inches (50.8 mm) BC2
 Collet, 2-1/8 inches (54 mm) BC2-18
 Collet, 2-1/4 inches (57.2 mm) BC2-14
 Collet, 2-3/8 inches (60.3 mm) BC2-38

Bevel head

Carbide insert bevel head, 1.5° x 37° T007858
 Carbide insert, 3/8 in (9.5 mm) INS38N
 - use with above bevel head, 1.5° x 37°
 Carbide insert bevel head, 2° x 37° T007861
 Carbide insert, 1/2 in (12.7 mm) INS12N
 - use with above bevel head, 2° x 37°



Bevel head with inserts

Sliding tool holder carbide insert holders

S-37 Insert Holder, 37° bevel INSH
 SF Insert Holder, facing/0° bevel INSHSF
 Carbide insert INSJ



Collet set

Standard wedge mounting system

Centershaft wedge, 0.625 inch (15.9 mm) 100215
 Wedge guide & rod, 0.625 inch (15.9 mm) 100278
 Wedge guide & rod, 1.200 inch (30.5 mm) 100279
 Speed Wheel 100211

Centershaft		Wedge Set	ID Range		Wedge Guide		PN
Inch	MM		Inch	MM	Inch	MM	
0.625	15.9	B-01	0.625 - 0.750	15.9 - 19.1	0.625	15.9	100216
		B-02	0.750 - 0.875	19.1 - 22.2			100217
		B-03	0.875 - 1.000	22.2 - 25.4			100218
		B-04	1.000 - 1.125	25.4 - 28.5			100219
		B-05	1.125 - 1.250	28.5 - 31.7	1.200	30.5	100220
		B-06	1.250 - 1.375	31.7 - 34.9			100221
		B-07	1.375 - 1.500	34.9 - 38.1			100222
		B-08	1.500 - 1.625	38.1 - 41.2			100223
		B-09	1.625 - 1.750	41.2 - 44.4			100224
		B-10	1.750 - 1.875	44.4 - 47.6			100225
Centershaft		Wedge Extension	ID Range		Wedge Guide		PN
Inch	MM	Requires B-04	Inch	MM	Inch	MM	
0.625	15.9	B-11 + B-04	1.875 - 2.000	47.6 - 50.8	1.200	30.5	100226
		B-12 + B-04	2.000 - 2.125	50.8 - 53.9			100227
		B-13 + B-04	2.125 - 2.250	53.9 - 57.1			100228
		B-14 + B-04	2.250 - 2.375	57.1 - 60.3			100229
		B-15 + B-04	2.375 - 2.500	60.3 - 63.5			100229



Wedge extensions

Membrane Multi-Prep head, round inserts (Removes membrane and bevels tube end at 37°)

Center shaft 1/2 inch (12.7 mm)

1.000 inches (25.4 mm) TM/MP1.00R
 1.125 inches (28.8 mm) TM/MP1.125R
 1.250 inches (31.8 mm) TM/MP1.250R
 1.375 inches (34.9 mm) TM/MP1.375R
 1.500 inches (38.1 mm) TM/MP1.500R
 1.625 inches (41.3 mm) TM/MP1.625R
 1.750 inches (44.5 mm) TM/MP1.750R
 1.875 inches (47.6 mm) TM/MP1.875R
 2.000 inches (50.8 mm) TM/MP2.000R

Center shaft 5/8 inch (15.9 mm)

1.000 inches (25.4 mm) TM/MP1.00R58
 1.062 inches (27 mm) TM/MP1.062R58
 1.125 inches (28.8 mm) TM/MP1.125R58
 1.180 inches (30 mm) TM/MP1.187R58
 1.250 inches (31.8 mm) TM/MP1.250R58
 1.375 inches (34.9 mm) TM/MP1.375R58
 1.500 inches (38.1 mm) TM/MP1.500R58
 1.625 inches (41.3 mm) TM/MP1.625R58
 1.750 inches (44.5 mm) TM/MP1.750R58
 1.875 inches (47.6 mm) TM/MP1.875R58
 2.000 inches (50.8 mm) TM/MP2.000R58

Membrane head, round inserts (*Removes membrane only, does not bevel*)

Center shaft 1/2 inch (12.7 mm)

0.875 inches (22.2 mm)	TM.875R
0.9375 inches (23.8 mm)	TM.9375R
1.000 inches (25.4 mm)	TM1.000R
1.062 inches (27 mm)	TM1.062R
1.125 inches (28.8 mm)	TM1.125R
1.250 inches (31.8 mm)	TM1.250R
1.375 inches (34.9 mm)	TM1.375R
1.500 inches (38.1 mm)	TM1.500R
1.625 inches (41.3 mm)	TM1.625R
1.750 inches (44.5 mm)	TM1.750R
1.875 inches (47.6 mm)	TM1.875R
2.000 inches (50.8 mm)	TM2.000R

Center shaft 5/8 inch (15.9 mm)

0.875 inches (22.2 mm)	TM.875R58
0.9375 inches (23.8 mm)	TM.937R58
0.970 inches (24.6 mm)	TM.970R58
1.000 inches (25.4 mm)	TM1.000R58
1.062 inches (27 mm)	TM1.062R58
1.125 inches (28.8 mm)	TM1.125R58
1.250 inches (31.8 mm)	TM1.250R58
1.375 inches (34.9 mm)	TM1.375R58
1.500 inches (38.1 mm)	TM1.500R58
1.625 inches (41.3 mm)	TM1.625R58
1.750 inches (44.5 mm)	TM1.750R58
1.875 inches (47.6 mm)	TM1.875R58
2.000 inches (50.8 mm)	TM2.000R58

Membrane head, round inserts (*Removes membrane only, does not bevel.*)

Center shaft 1/2 inch (12.7 mm)

1.000 inches (25.4 mm)	TDC/MP1.000R1/2
1.062 inches (27 mm)	TDC/MP1.062R1/2
1.125 inches (28.8 mm)	TDC/MP1.125R1/2
1.870 inches (47.5 mm)	TDC/MP1.87R1/2

Center shaft 5/8 inch (15.9 mm)

0.875 inches (22.2 mm)	TM.875R
0.9375 inches (23.8 mm)	TM.9375R
1.000 inches (25.4 mm)	TM1.000R
1.062 inches (27 mm)	TM1.062R
1.125 inches (28.8 mm)	TM1.125R
1.250 inches (31.8 mm)	TM1.250R
1.375 inches (34.9 mm)	TM1.375R
1.500 inches (38.1 mm)	TM1.500R
1.625 inches (41.3 mm)	TM1.625R
1.750 inches (44.5 mm)	TM1.750R
1.875 inches (47.6 mm)	TM1.875R
2.000 inches (50.8 mm)	TM2.000R

Diameter Clean-Up Multi-Prep head, round inserts (*Lightly machines the OD of the tube and bevels tube end at 37°*)

Center shaft 1/2 inch (12.7 mm)

1.000 inches (25.4 mm)	TDC/MP1.000R1/2
1.062 inches (27 mm)	TDC/MP1.062R1/2
1.125 inches (28.8 mm)	TDC/MP1.125R1/2
1.870 inches (47.5 mm)	TDC/MP1.87R1/2

Center shaft 5/8 inch (15.9 mm)

1.000 inches (25.4 mm)	TDC/MP1.000R
1.062 inches (27 mm)	TDC/MP1.062R
1.125 inches (28.8 mm)	TDC/MP1.125R
1.220 inches (31 mm)	TDC/MP1.220R
1.250 inches (31.8 mm)	TDC/MP1.250R
1.375 inches (34.9 mm)	TDC/MP1.375R
1.500 inches (38.1 mm)	TDC/MP1.500R
1.625 inches (41.3 mm)	TDC/MP1.625R
1.750 inches (44.5 mm)	TDC/MP1.750R
1.875 inches (47.6 mm)	TDC/MP1.875R
2.000 inches (50.8 mm)	TDC/MP2.000R

Diameter Clean-Up head, round inserts (*lightly machines the OD of the tube only, does not bevel*)

Center shaft 1/2 inch (12.7 mm)

0.875 inches (22.2 mm)	TDC.875R1/2
0.9375 inches (23.8 mm)	TDC.9375R1/2
1.000 inches (25.4 mm)	TDC1.000R1/2
1.062 inches (27 mm)	TDC1.062R1/2
1.125 inches (28.8 mm)	TDC1.125R1/2
1.125 inches (28.8 mm), deep diameter	TDC1.125R1/2S
1.250 inches (31.8 mm)	TDC1.250R1/2
1.250 inches (31.8 mm), deep diameter	TDC1.250R1/2S

Center shaft 5/8 inch (15.9 mm)

0.875 inches (22.2 mm)	TDC.875R
1.000 inches (25.4 mm)	TDC1.00R
1.125 inches (28.8 mm)	TDC1.125R
1.250 inches (31.8 mm)	TDC1.250R
1.375 inches (34.9 mm)	TDC1.375R
1.500 inches (38.1 mm)	TDC1.500R
1.625 inches (41.3 mm)	TDC1.625R
1.750 inches (44.5 mm)	TDC1.750R
1.875 inches (47.6 mm)	TDC1.875R
2.000 inches (50.8 mm)	TDC2.000R

APPLICATIONS

The Boiler Guns are used by these industries

- Power Generation
- Fossil-Fuel Power Stations
- Gas Turbine Power Plants
- Pulp and Paper Plants
- Chemical Processing Plants
- Oil Refineries
- Ship Yards
- Water and Wastewater Treatment

Typical Applications

- Boiler tube repair
- Stud removal
- Pipe lines
- Seal weld removal

Multi-Prep®



The patented Multi-Prep tool holder has proven to be effective in improving productivity and quality. It combines multiple machining operations into a single operation. With the Multi-Prep you can accurately clean the tube OD and remove membrane from panel tubes, while performing an outside bevel on the tube end..

A Fast Three-Step Process

Ready to bevel in 7 minutes or less!

1

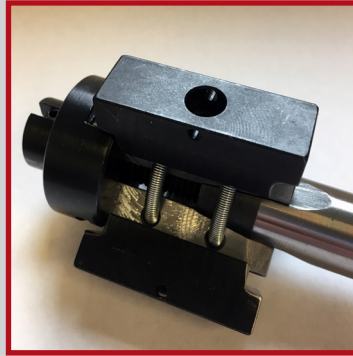
WEDGE SYSTEM

Thread the base wedge set onto the locking rod and install extensions as required. Install the locking rod wrench and nut on the locking rod.

or

COLLET SYSTEM

Slide the locking rod through the center shaft. Thread the required collet set onto the locking rod and install the cotter pin in the end of the locking rod end.



2

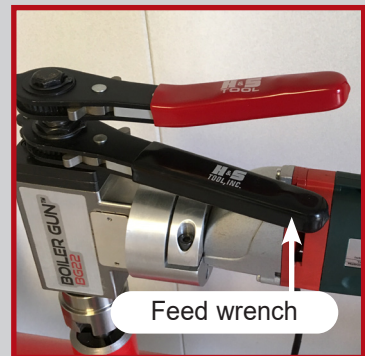
Mount the machine on the work piece. Be aware of the position of locking system in the work piece; allow approximately 1/2" (12.7mm) of material for machining. Tighten the locking system by turning the locking rod wrench.



Rod wrench

3

Install the blades in the tool holder 180° apart. Position the blades for cutting by turning the feed wrench.



Feed wrench



Backed by Over 50 Years of Experience

CLIMAX pioneered the concept of portable machine tools in 1964. Since that time, CLIMAX has grown to become the world's largest provider of innovative on-site machining solutions.

Professional, Experienced Instructors

All training programs are taught by experienced OEM CLIMAX trainers. Your instructor will provide valuable information on operator safety, tool set-up, mounting, and operation that will help you complete your on-site machining tasks quickly and to the highest quality standards.

Typical Courses Include:

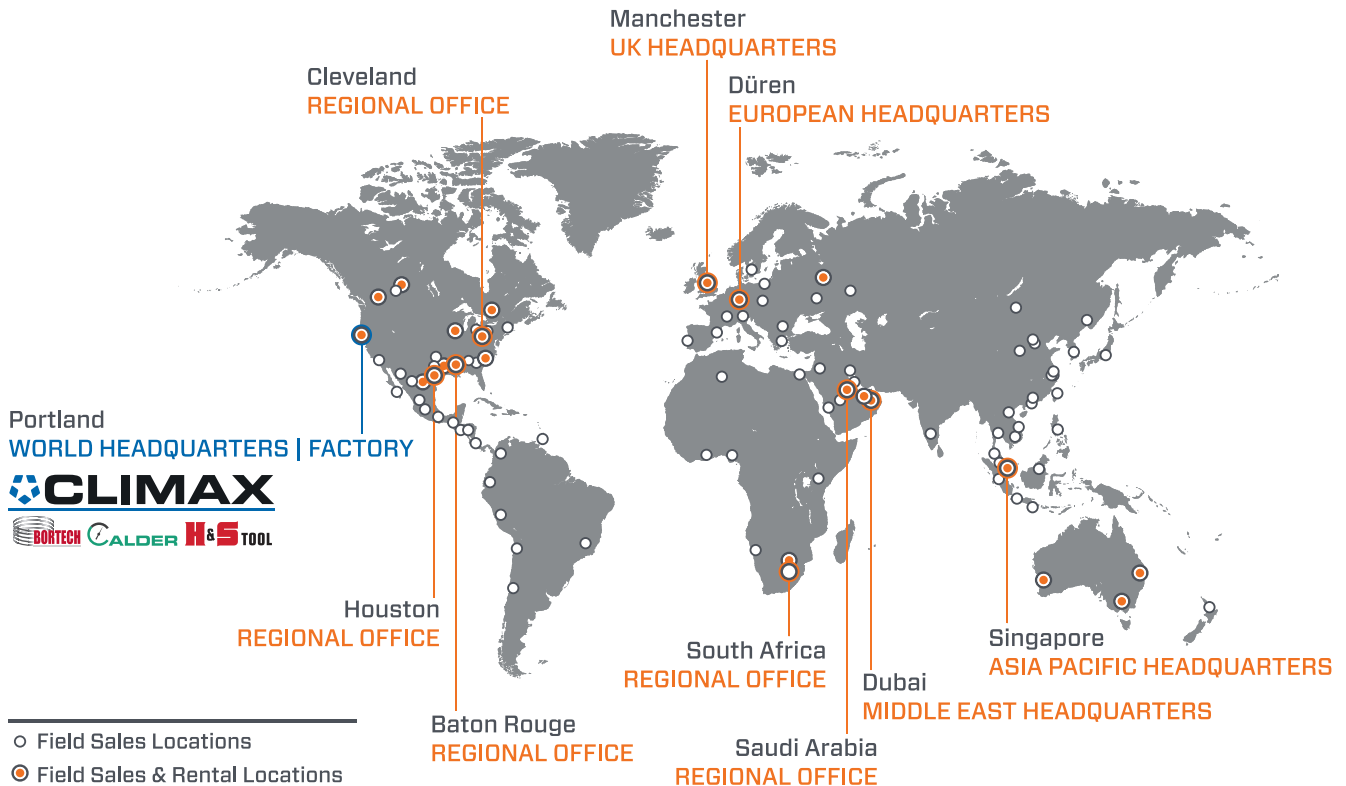
- ✓ Operator safety
- ✓ Tool component review and setup
- ✓ Standard operational techniques
- ✓ Overview of cutting tools and recommend usage
- ✓ Maintenance procedures
- ✓ A certificate of achievement - issued to each student immediately following course completion

Sign up today for training at one of our **seven** Global CLIMAX training centers.

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