

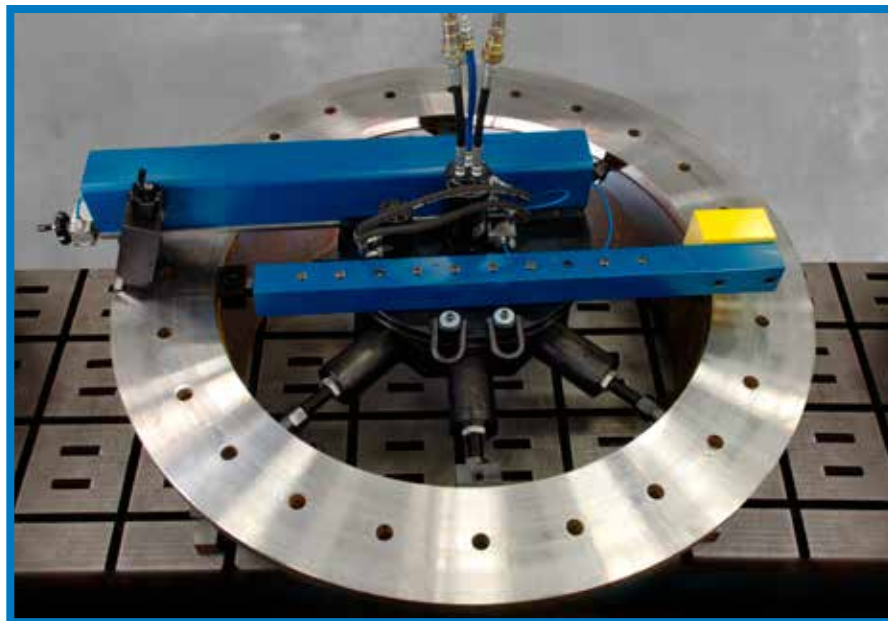
## Rugged, Heavy-Duty Flange Facers

### Rugged Machine Design

- Large, heavy-duty construction-grade bearings provide powerful, rigid performance throughout the entire machine facing range, even machining over bolt hole patterns.
- Oversized ring gear accommodates extremely high torque levels for challenging flange repair applications, and these machines are able to generate a phonographic finish.

### Flexible and Versatile

- Both radial and axial feed is achieved with a pneumatic feedbox. Manual feeding for rapid positioning is also possible.
- Feed rate is adjusted remotely at the pneumatic conditioning unit, providing the ultimate in operator safety and the flexibility for feed rate adjustments even during machining operations.
- Infinitely variable feed rates from 0.002-0.035 in. (0.05 - 0.89 mm)/rev provides operational flexibility.
- Reversible feed box can be mounted to provide either radial or axial feed.
- Turning and counterweight arms can both be adjusted for the desired swing clearance and machining range.
- Pneumatic & hydraulic drive options available.
- Chucking system can be removed to allow the flange facer to be face-mounted.
- Tool head can be rotated a full 360° providing the ability to create a variety of



chamfers, O-Ring grooves, lens rings and other angular surfaces as needed.

- Can be mounted ID or surface-mounted. Call for custom OD mounting options.
- Grinding option available for fine finish work.
- Back facing attachment available for heat exchanger repair.

- Unique chucking system minimizes parts to greatly simplify machine setup and tear down.

- Quick-adjust leveling feet make setup quick and easy.

### Quick and Easy Setup

- Modular design allows many of the machine components to be removed to facilitate easier setup and storage.



**FF6300 Flange Facer**  
Range 12-60" (304-1524mm)



**FF7200 Flange Facer**  
Range 30-72" (762-1829mm)



**FF8200 Flange Facer**  
Range 45-120" (1143-3048mm)

# SPECIFICATIONS

	US	Metric
<b>Machine Performance Ranges</b>		
ID: Mounting range	30 - 72 inches	762.0 - 1828.8 mm
Facing diameter range	30 - 72 inches	762.0 - 1828.8 mm
Grinding diameter range	30 - 72 inches	762.0 - 1828.8 mm
Swing diameter @ minimum with feedbox on end of arm	55.8 inches	1417.3 mm
Radial tool slide travel	12 inches	304.8 mm
Axial tool head travel	4 inches	101.6 mm
Depth required inside bore for ID chuck (± 0.25 inches (± 6.4 mm) is travel of leveling foot)	4.03 ± 0.25 inches	102.4 ± 6.4 mm
Feed Rate	0.002 - 0.035 in/rev	0.051 - 0.889 mm/rev
Surface Mount: minimum machining diameter	28.0 inches	711.2 mm
Milling Option: Vertical Stroke, milling head	8 inches	203.2 mm
<b>Rotational Drive System</b>		
Drive type	Pneumatic or hydraulic drive with pinion and internal ring gear	
Pinion gear to ring gear reduction	5.143:1	
Single point turning speed range:		
Pneumatic	12 - 31 RPM	
Hydraulic (based on motor choice)	2.4 - 20 RPM	
Milling and grinding speed ranges (with 150:1 reducer):		
Pneumatic	0.006 - 0.25 RPM	
Feed rate at 72 inch (1828.8 mm) diameter	1.4 - 58 inches/minute	35.6 - 1473.2 mm/minute
Hydraulic (based on motor choice)	0.01 - 0.54 RPM	
Power input requirements		
Pneumatic - 3.5 Hp (2.6 kW)	95 ft <sup>3</sup> /min @ 90 psi	2.69 m <sup>3</sup> /min @ 620 kPa
Hydraulic	10 gpm @ 1200 psi	37.9 L/min @ 8273 kPa
<b>Measures</b>		
For machine dimensions, please refer to dimensional drawings		
ID machine weight, approximate	1500 lbs	680.4 kg
Shipping weight, approximate	2140 lbs	970.7 kg
ID Crate dimensions (WxDxH)		
Wood, approx.	80.5 x 37 x 32 in	2045 x 940 x 813 mm
Metal, approx.	90 x 40 x 35 in	2286 x 1016 x 889 mm

## Testing Data

Flatness at 72 inch (1829 mm) diameter: 0.006 inches (0.15 mm)

On a dedicated fixture made of A-36 steel in a controlled environment with single point machine, after warm-up.

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

The FF7200 can be configured in several ways to meet your specific machining needs.

Select **OPTION 1** for **single-point machining only**

Select **OPTION 2** for **milling only**

Select **OPTION 3** for **BOTH milling and single pointing**

## **OPTION 1:** To configure your FF7200 for **Single-Point Machining Only**

Please follow these steps, select:

1. Base Package
2. Feed Assembly
3. Drive Motor Assembly
4. Hydraulic Motor
5. Turning Arm Assembly
6. Counterweight Assembly
7. Chuck Assembly
8. Shipping Container

<b>1. Base Package</b>		
Rotary table, tool kit, operator's manual		<b>58184</b>
<b>2. Feed Assembly</b>		
Pneumatic Feed Assembly w/ Remote Air Control		<b>58671</b>
<b>3. Drive Motor Assembly</b>		
Pneumatic Motor and Drive Assembly (Pneumatic drive system includes: Pneumatic motor w/fittings and mount, rotary union, hoses, feed trip valve, cam, and pneumatic conditioning unit with low pressure drop out.)		<b>58186</b>
Hydraulic Drive Assy w/ Feed Conditioning Unit for <b>60 Series QD</b> - DOES NOT INCLUDE MOTOR (Hydraulic drive system includes: Hyd motor mount, hoses, fittings, rotary union, feed trip valve, cam, and feed pneumatic conditioning unit.)		<b>58180</b>
Hydraulic Drive Assy w/ Feed Conditioning Unit for <b>ISO 16028 QD</b> - DOES NOT INCLUDE MOTOR (Hydraulic drive system includes: Hyd motor mount, hoses, fittings, rotary union, feed trip valve, cam, and feed pneumatic conditioning unit.)		<b>84105</b>

## **4. Hydraulic Motor for Rotary Table Drive (If Hydraulic drive is selected in step 3). Rated at 10 gpm, 1200 PSI**

<b>11.9 cu in</b> (195.0 cu cm), 6 - 31 RPM	<b>67730</b>
<b>14.9 cu in</b> (244.2 cu cm), 3.6 - 18 RPM	<b>69216</b>
<b>18.7 cu in</b> (306.4 cu cm), 2.8 - 14 RPM	<b>69217</b>
<b>24.0 cu in</b> (393.3 cu cm), 2.2 - 11 RPM	<b>69218</b>
<b>29.8 cu in</b> (488.3 cu cm), 1.8 - 9 RPM	<b>69219</b>
* Multiple units may be ordered.	

## **5. Turning Arm Assembly**

Turning Arm Assembly with Single Point Tool Head	<b>57873</b>
Milling Arm Assembly with Single Point Tool Head	<b>62577</b>

## **6. Counterweight Assembly**

Counterweight Assembly	<b>58063</b>
Counterweight Milling Arm Assembly	<b>62514</b>

## **7. Chuck Assembly**

ID Chuck Assembly	<b>57877</b>
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## **8. Shipping Container**

Wooden Crate for ID Mount Machine	<b>58358</b>
Metal Container for ID Mount Machine	<b>59304</b>

## **Hydraulic Power Units (for single pointing)**

<b>HP1000, 208 - 230 Volts</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		93687
50	15	✓		93724
100	30	✓		94021
20	6		✓	94022
50	15		✓	94023
100	30		✓	93980
<b>HP1000, 380 - 415 Volts</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		94024
50	15	✓		93725
100	30	✓		94025
20	6		✓	94026
50	15		✓	94027
100	30		✓	94028

<b>HP1000, 460 Volts (440 - 480 volts)</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		94029
50	15	✓		93770
100	30	✓		94030
20	6		✓	94031
50	15		✓	94032
100	30		✓	94033
<b>HP1000, 575 Volts</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		94034
50	15	✓		93744
100	30	✓		94035
20	6		✓	94036
50	15		✓	93745
100	30		✓	94037

# TOOL CONFIGURATIONS

## **OPTION 2:** To configure your FF7200 for **Milling Only**

Please follow these steps, select:

1. Base Package
2. Drive Motor Assembly
3. Hydraulic Motor
4. Turning Arm Assembly
5. Counterweight Assembly
6. Milling Head
7. Tooling
8. Milling Head Swivel Assembly
9. Hydraulic Motor for Milling Head
10. Chuck Assembly
11. Shipping Container

<b>1. Base Package</b>	
Rotary table, tool kit, drag brake assembly, operator's manual	<b>62569</b>
<b>2. Drive Motor Assembly</b>	
Pneumatic Motor and Drive Assembly (Pneumatic drive system includes: Pneumatic motor w/fittings and mount, gearbox, rotary union, hoses, feed trip valve, and pneumatic conditioning unit with low pressure drop out.)	<b>62571</b>
Hydraulic Drive Assy w/Gearbox & Feed Conditioning Unit for <b>60 Series QD</b> - DOES NOT INCLUDE MOTOR (Hydraulic drive system includes: Hyd motor mount, gearbox, hoses, fittings, and rotary union.)	<b>62585</b>
Hydraulic Drive Assy w/Gearbox & Feed Conditioning Unit for <b>ISO 16028 QD</b> - DOES NOT INCLUDE MOTOR (Hydraulic drive system includes: Hyd motor mount, gearbox, hoses, fittings, and rotary union.)	<b>84107</b>
<b>3. Hydraulic Motor for Rotary Table Drive (If Hydraulic drive is selected in step 2). Rated at 10 gpm, 1200 PSI (Multiple units may be ordered)</b>	
<b>8.0 cu in</b> (131.1 cu cm), 0.05 - 0.20 RPM (Milling Only at < 38 in. (965.2 mm) diameter)	<b>69214</b>
<b>11.9 cu in</b> (195.0 cu cm), 0.04 - 0.19 RPM	<b>67730</b>
<b>14.9 cu in</b> (244.2 cu cm), 0.02 - 0.11 RPM	<b>69216</b>
<b>18.7 cu in</b> (306.4 cu cm), 0.018 - 0.09 RPM	<b>69217</b>
<b>24.0 cu in</b> (393.3 cu cm), 0.014 - 0.07 RPM	<b>69218</b>
<b>4. Turning Arm Assembly</b>	
Milling Arm Assembly (does not include tool head)	<b>72697</b>

5. Counterweight Assembly			
Counterweight Milling Arm Assembly			62414
6. Milling Head			
Milling Head Assembly Inch #50 Taper NMTB			62282
Milling Head Assembly Inch #50 Taper CATV			62734
Milling Head Assembly Metric #50 Taper NMTB			62644
Milling Head Assembly Metric #50 Taper CATV			62735
7. Tooling (for inch CATV milling head assembly only)			
CAT50 4 in (101.6 mm) Face Mill w/ Inserts			103034
CAT50 5 in (127.0 mm) Face Mill w/ Inserts			103035
CAT50 6 in (152.4 mm) Face Mill w/ Inserts			103036
CAT50 8 in (203.2 mm) Face Mill w/ Inserts			103038
CAT50 10 in (254.0 mm) Face Mill w/ Inserts			103040
Carbide Inserts			47229
8. Milling Head Swivel Assembly			
Milling Head Swivel Plate Assembly Kit			63250
9. Hydraulic Motor for Milling Head			
Cubic in	Cubic cm	60 Series QD	ISO 16028 QD
8.0	131.1	53459	69498
9.6	157.3	53458	69499
11.9	195.0	46950	69500
14.9	244.2	46375	69501
18.7	24.0	46549	69502
24.0	393.3	46550	69503
10. Chuck Assembly			
ID Chuck Assembly			57877
11. Shipping Container			
Wooden Crate for ID Mount Machine			58358
Metal Container for ID Mount Machine			59304

## **Hydraulic Power Units (for milling only)**

<b>HP2500, Dual Pump, 208 - 230 Volts</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		90274
50	15	✓		90976
100	30	✓		90977
20	6		✓	90987
50	15		✓	90988
100	30		✓	90989
<b>HP2500, Dual Pump, 380 - 415 Volts</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		90978
50	15	✓		90979
100	30	✓		90980
20	6		✓	90990
50	15		✓	90991
100	30		✓	90992

<b>HP2500, Dual Pump, 460 Volts (440 - 480 volts)</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		90981
50	15	✓		90982
100	30	✓		90983
20	6		✓	90993
50	15		✓	90994
100	30		✓	90995
<b>HP2500, Dual Pump, 575 Volts</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		90984
50	15	✓		90985
100	30	✓		90986
20	6		✓	90996
50	15		✓	90997
100	30		✓	90998



# TOOL CONFIGURATIONS

## **OPTION 3:** To configure your FF7200 for **Milling AND Single-Point Machining**

Please follow these steps, select:

- |                           |                                      |
|---------------------------|--------------------------------------|
| 1. Base Package           | 7. Milling Head                      |
| 2. Feed Assembly          | 8. Tooling                           |
| 3. Drive Motor Assembly   | 9. Milling Head Swivel Assembly      |
| 4. Hydraulic Motor        | 10. Hydraulic Motor for Milling Head |
| 5. Turning Arm Assembly   | 11. Chuck Assembly                   |
| 6. Counterweight Assembly | 12. Shipping Container               |

<b>1. Base Package</b>	
Rotary table, tool kit, drag brake assembly, operator's manual	<b>62623</b>
<b>2. Feed Assembly</b>	
Pneumatic Feed Assembly w/ Remote Air Control	<b>58671</b>
<b>3. Drive Motor Assembly</b>	
Pneumatic Motor and Drive Assembly (Pneumatic drive system includes: Pneumatic motor w/fittings and mount, gearbox, rotary union, hoses, feed trip valve, and pneumatic conditioning unit with low pressure drop out.)	<b>62591</b>
Hydraulic Drive Assy w/Gearbox & Feed Conditioning Unit for <b>60 Series QD</b> - DOES NOT INCLUDE MOTOR (Hydraulic drive system includes: Hydraulic motor mount, gearbox, hoses, fittings, feed trip valve, cam, and feed pneumatic conditioning unit.)	<b>62594</b>
Hydraulic Drive Assy w/Gearbox & Feed Conditioning Unit for <b>ISO 16028 QD</b> - DOES NOT INCLUDE MOTOR (Hydraulic drive system includes: Hydraulic motor mount, gearbox, hoses, fittings, feed trip valve, cam, and feed pneumatic conditioning unit.)	<b>84109</b>
<b>4. Hydraulic Motor for Rotary Table Drive (If Hydraulic drive is selected in step 3). Rated at 10 gpm, 1200 PSI (Multiple units may be ordered)</b>	
<b>8.0 cu in</b> (131.1 cu cm), 0.05 - 0.20 RPM (Milling Only at < 38 in. (965.2 mm) diameter)	<b>69214</b>
<b>11.9 cu in</b> (195.0 cu cm), 6 - 31 RPM / 0.04 - 0.19 RPM	<b>67730</b>
<b>14.9 cu in</b> (244.2 cu cm), 3.6 - 18 RPM / 0.02 - 0.11 RPM	<b>69216</b>
<b>18.7 cu in</b> (306.4 cu cm), 2.8 - 14 RPM / 0.018 - 0.09 RPM	<b>69217</b>
<b>24.0 cu in</b> (393.3 cu cm), 2.2 - 11 RPM / 0.014 - 0.07 RPM	<b>69218</b>
<b>29.8 cu in</b> (488.3 cu cm), 1.8 - 9 RPM / 0.012 - 0.06 RPM	<b>69219</b>

5. Turning Arm Assembly			
Milling Arm Assembly with Single Point Tool Head			62577
6. Counterweight Assembly			
Counterweight Milling Arm Assembly			62526
7. Milling Head			
Milling Head Assembly Inch #50 Taper NMTB			62282
Milling Head Assembly Inch #50 Taper CATV			62734
Milling Head Assembly Metric #50 Taper NMTB			62644
Milling Head Assembly Metric #50 Taper CATV			62735
8. Tooling (for inch CATV milling head assembly only)			
CAT50 4 in (101.6 mm) Face Mill w/ Inserts			103034
CAT50 5 in (127.0 mm) Face Mill w/ Inserts			103035
CAT50 6 in (152.4 mm) Face Mill w/ Inserts			103036
CAT50 8 in (203.2 mm) Face Mill w/ Inserts			103038
CAT50 10 in (254.0 mm) Face Mill w/ Inserts			103040
Carbide Inserts			47229
9. Milling Head Swivel Assembly			
Milling Head Swivel Plate Assembly			63250
10. Hydraulic Motor for Milling Head			
Cubic in	Cubic cm	60 Series QD	ISO 16028 QD
8.0	131.1	53459	69498
9.6	157.3	53458	69499
11.9	195.0	46950	69500
14.9	244.2	46375	69501
18.7	24.0	46549	69502
24.0	393.3	46550	69503
11. Chuck Assembly			
ID Chuck Assembly			57877
12. Shipping Container			
Wooden Crate for ID Mount Machine			58358
Metal Container for ID Mount Machine			59304

## **Hydraulic Power Units (milling with single pointing) for milling only see page 4**

<b>HP2500, 208 - 230 Volts</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		93743
50	15	✓		93748
100	30	✓		94039
20	6		✓	93897
50	15		✓	94040
100	30		✓	94041
<b>HP2500, 380 - 415 Volts</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		93810
50	15	✓		93811
100	30	✓		94042
20	6		✓	94043
50	15		✓	93719
100	30		✓	94044

<b>HP2500, 460 Volts (440 - 480 volts)</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		94045
50	15	✓		93761
100	30	✓		94046
20	6		✓	94047
50	15		✓	94048
100	30		✓	94049
<b>HP2500, 575 Volts</b>				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		94050
50	15	✓		94051
100	30	✓		94052
20	6		✓	94053
50	15		✓	94054
100	30		✓	93696

# ACCESSORIES, MACHINE OVERVIEW

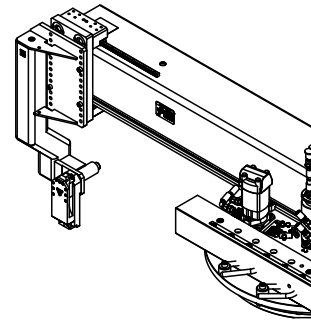
Get even more out of your Flange Facer with these accessories:

Surface mount PN 79550

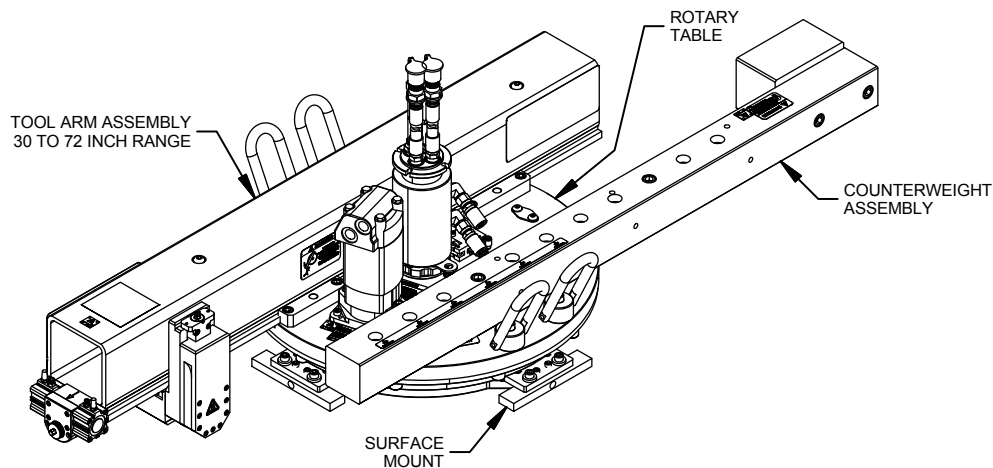
Backfacing attachment PN 69711  
(requires milling arm PN 62577 and counterweight arm PN 62526)

Surface mount retrofit kit PN 80045  
(for existing machines)

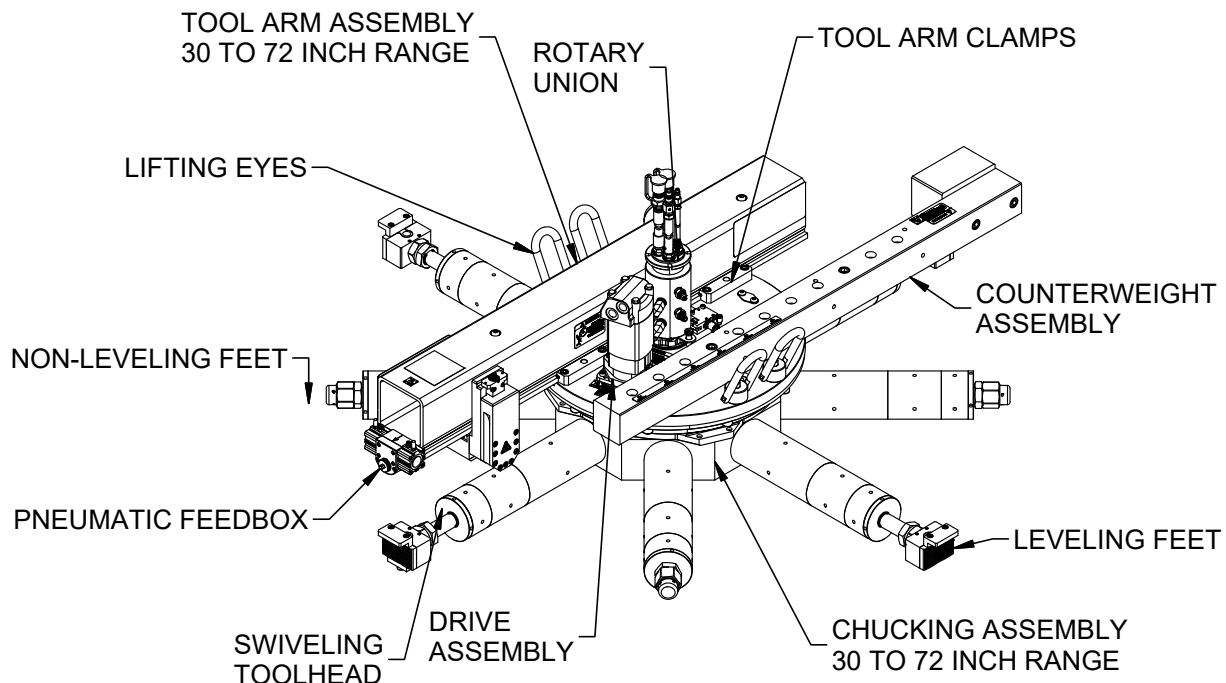
## Backfacing Attachment



## Machine Overview, Surface Mount Configuration



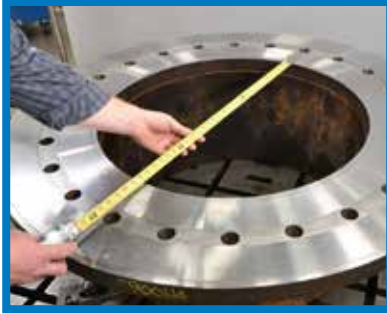
## Machine Overview, ID-Mount Configuration



## A Fast Eight-Step Process

This model is so fast and easy to set up that an experienced operator can usually mount the machine into the flange bore, align it, and start cutting in less than an hour. ID-mounting steps shown.

- 1** Measure the bore diameter. This will be used to determine the leg length.



- 5** Set machine onto flange using setup fingers. Lightly tighten leveling feet in the flange.



- 2** Select the appropriate leg length and foot.



- 6** Extend feet into flange. Indicate, level and tighten leveling feet and stationary feet.



- 3** Install setup fingers.



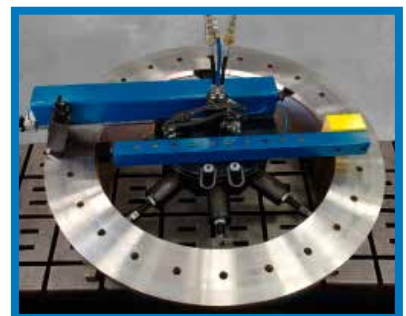
- 7** Install tool bit. Connect to power.



- 4** Tighten legs.

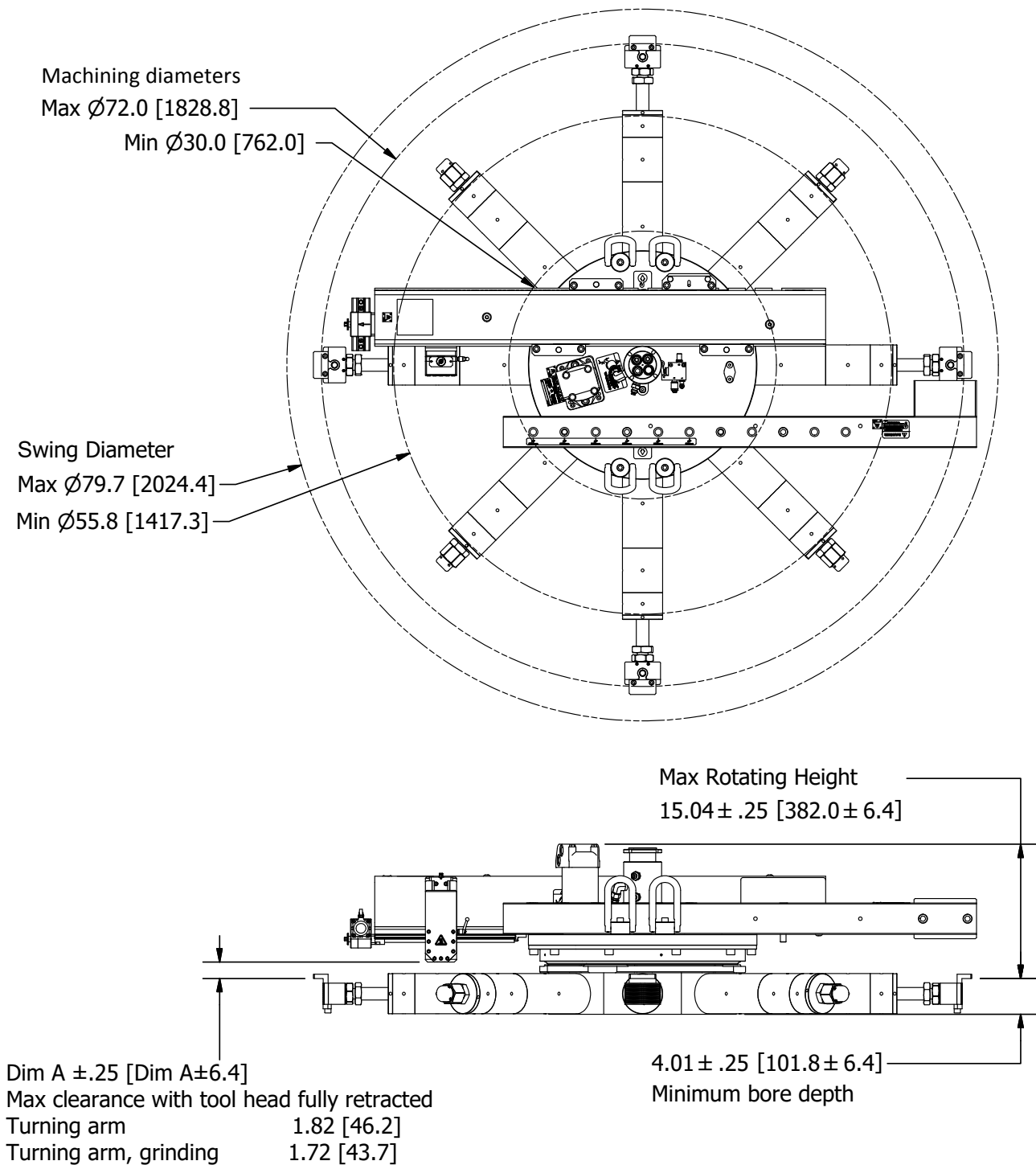


- 8** You are ready to begin machining!



Dimensions in Inch (mm)

## ID Chuck Assembly, ID-Mount Configuration, Single-Point Machining



NOTE:  $\pm .25$  is travel of leveling foot



Dimensions in Inch (mm)

## ID Chuck Assembly, ID-Mount Configuration, Milling

Machining diameters (CL of spindle)

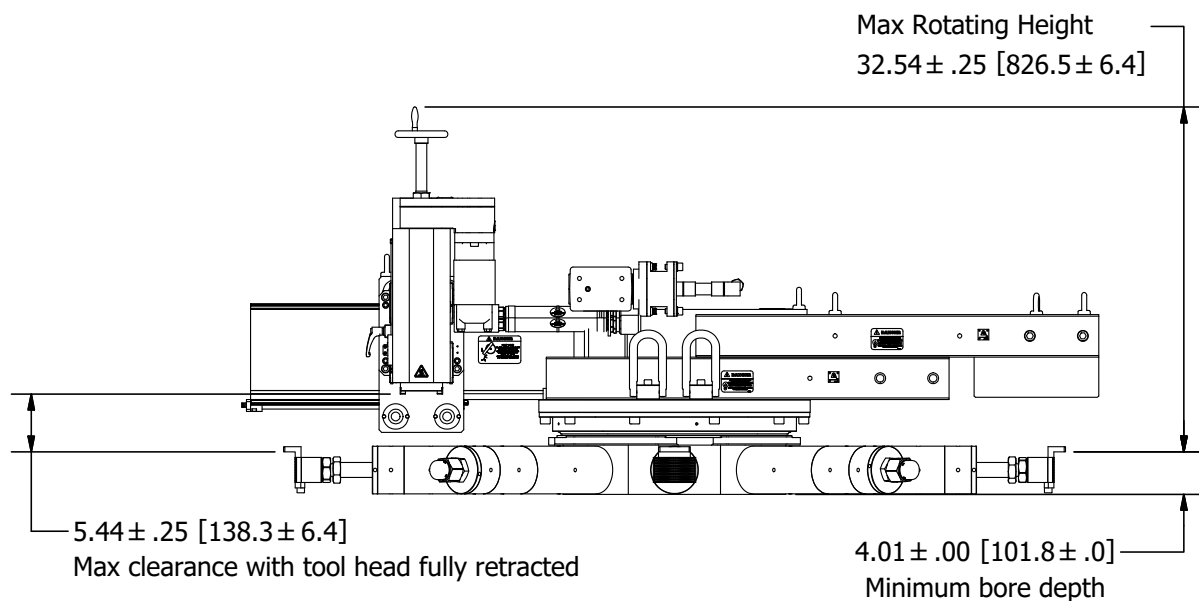
Max  $\varnothing 72.2$  [1833.9]

Min  $\varnothing 33.6$  [853.4]

Swing Diameter

Max  $\varnothing 82.2$  [2087.9]

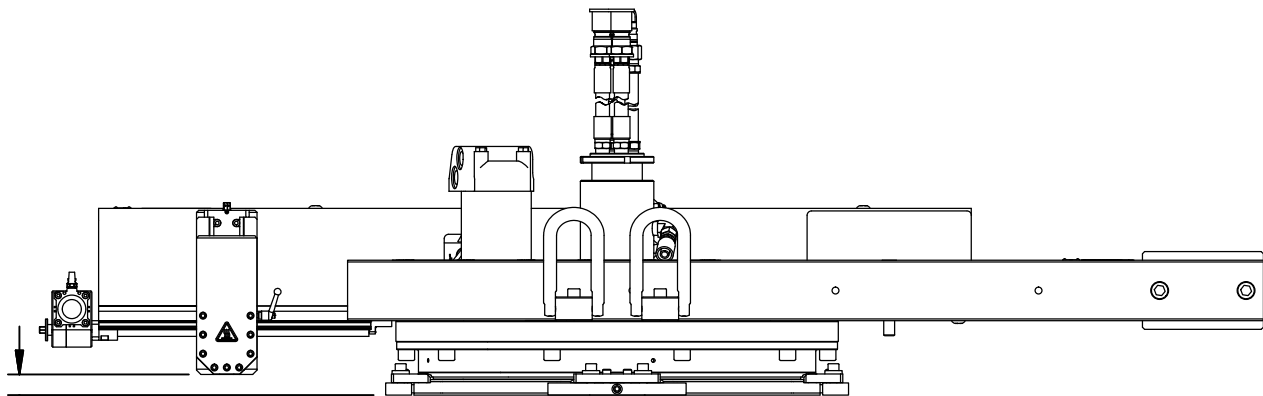
Min  $\varnothing 54.1$  [1374.1]



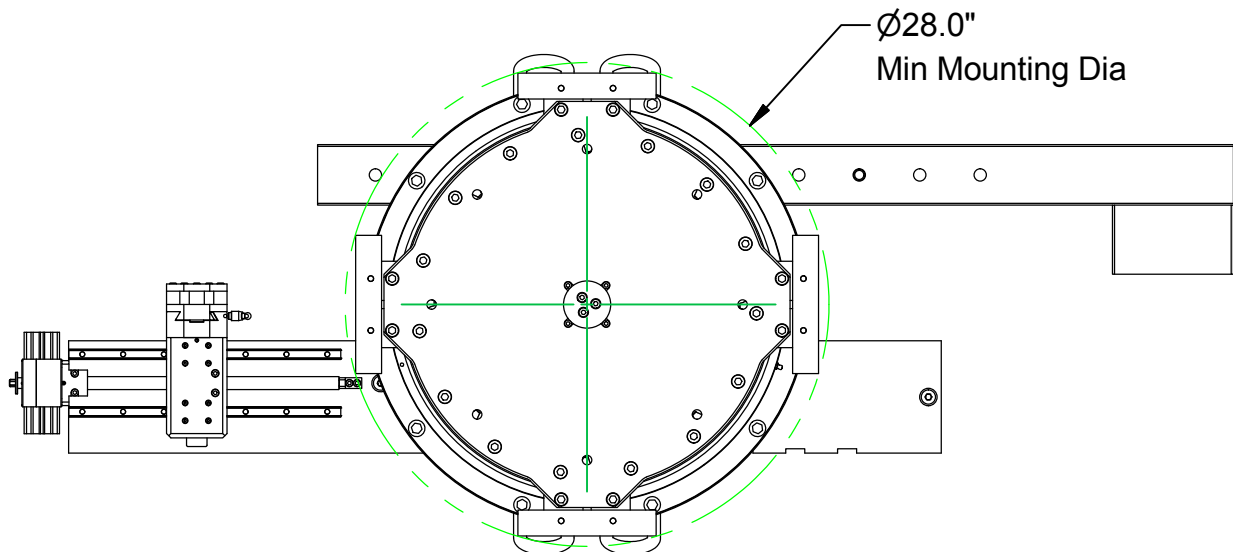
NOTE: ±.25 is travel of leveling foot

Dimensions in Inch (mm)

## Surface Mount Configuration



Clearance with tool head fully retracted  
 1.2" with turning arm, single point only  
 1.2" with milling arm with milling head or single point head  
 1.1" with milling arm or turning arm and grinder



# OEM PROFESSIONAL OPERATIONAL TRAINING



## 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:

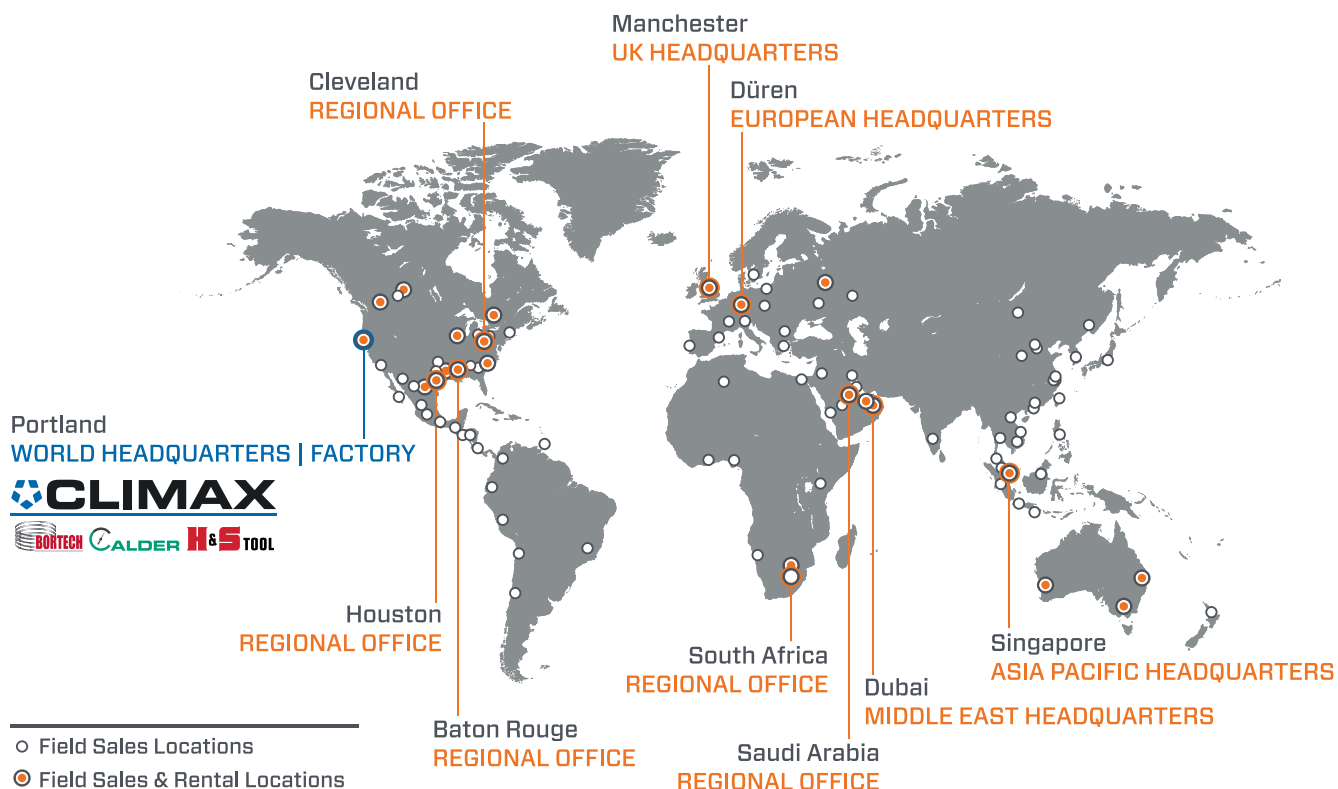
- ✓ Operator safety
- ✓ Tool component review and setup
- ✓ Standard operational techniques
- ✓ Overview of cutting tools and recommend usage
- ✓ Maintenance procedures
- ✓ A certificate of achievement - is-sued to each student immediately following course completion

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

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- Baton Rouge, Louisiana
- Cleveland, Ohio
- Manchester, United Kingdom
- Düren, Germany
- Dubai, United Arab Emirates
- Dammam, Saudi Arabia



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Tel: +1 503 538 2185  
Fax: +1 503 538 7600  
Email: [info@cpmt.com](mailto:info@cpmt.com)

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Tel: +65 6801 0662  
Fax: +65 6801 0699  
Email: [ClimaxAsia@cpmt.com](mailto:ClimaxAsia@cpmt.com)

#### European

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Tel: (+49) (0) 2421 9177 0  
Fax: (+49) (0) 2421 9177 29  
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