

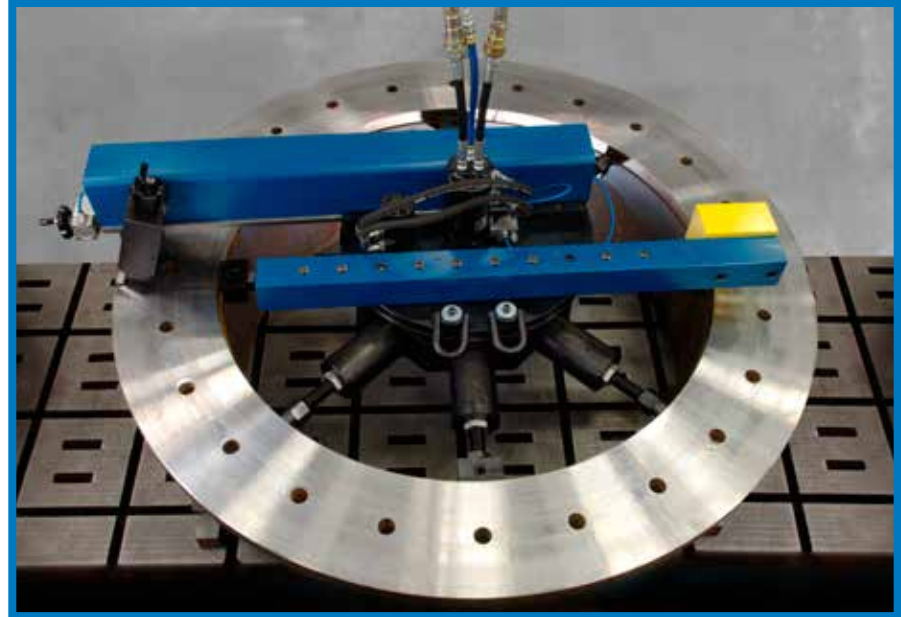
Rugged, Heavy-Duty Flange Facers

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.



SPECIFICATIONS

	US	Metric
Machine Performance Ranges		
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
Rotational Drive System		
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 ³ /min @ 90 psi	2.69 m ³ /min @ 620 kPa
Hydraulic	10 gpm @ 1200 psi	37.9 L/min @ 8273 kPa
Measures		
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

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

4. Hydraulic Motor for Rotary Table Drive (If Hydraulic drive is selected in step 3). Rated at 10 gpm, 1200 PSI	
11.9 cu in (195.0 cu cm), 6 - 31 RPM	67730
14.9 cu in (244.2 cu cm), 3.6 - 18 RPM	69216
18.7 cu in (306.4 cu cm), 2.8 - 14 RPM	69217
24.0 cu in (393.3 cu cm), 2.2 - 11 RPM	69218
29.8 cu in (488.3 cu cm), 1.8 - 9 RPM	69219
* Multiple units may be ordered.	
5. Turning Arm Assembly	
Turning Arm Assembly with Single Point Tool Head	57873
Milling Arm Assembly with Single Point Tool Head	62577
6. Counterweight Assembly	
Counterweight Assembly	58063
Counterweight Milling Arm Assembly	62514
7. Chuck Assembly	
ID Chuck Assembly	57877
8. Shipping Container	
Wooden Crate for ID Mount Machine	58358
Metal Container for ID Mount Machine	59304

Hydraulic Power Units (for single pointing)

HP1000, 208 - 230 Volts				
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
HP1000, 380 - 415 Volts				
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

HP1000, 460 Volts (440 - 480 volts)				
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
HP1000, 575 Volts				
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 | 7. Tooling |
| 2. Drive Motor Assembly | 8. Milling Head Swivel Assembly |
| 3. Hydraulic Motor | 9. Hydraulic Motor for Milling Head |
| 4. Turning Arm Assembly | 10. Chuck Assembly |
| 5. Counterweight Assembly | 11. Shipping Container |
| 6. Milling Head | |

1. Base Package		
Rotary table, tool kit, drag brake assembly, operator's manual		62569
2. Drive Motor Assembly		
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.)		62571
Hydraulic Drive Assy w/Gearbox & Feed Conditioning Unit for 60 Series QD - DOES NOT INCLUDE MOTOR (Hydraulic drive system includes: Hyd motor mount, gearbox, hoses, fittings, and rotary union.)		62585
Hydraulic Drive Assy w/Gearbox & Feed Conditioning Unit for ISO 16028 QD - DOES NOT INCLUDE MOTOR (Hydraulic drive system includes: Hyd motor mount, gearbox, hoses, fittings, and rotary union.)		84107
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)		
8.0 cu in (131.1 cu cm), 0.05 - 0.20 RPM (Milling Only at < 38 in. (965.2 mm) diameter)		69214
11.9 cu in (195.0 cu cm), 0.04 - 0.19 RPM		67730
14.9 cu in (244.2 cu cm), 0.02 - 0.11 RPM		69216
18.7 cu in (306.4 cu cm), 0.018 - 0.09 RPM		69217
24.0 cu in (393.3 cu cm), 0.014 - 0.07 RPM		69218
4. Turning Arm Assembly		
Milling Arm Assembly (does not include tool head)		72697

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)

HP2500, Dual Pump, 208 - 230 Volts				
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
HP2500, Dual Pump, 380 - 415 Volts				
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

HP2500, Dual Pump, 460 Volts (440 - 480 volts)				
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
HP2500, Dual Pump, 575 Volts				
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 |

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

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

HP2500, 208 - 230 Volts				
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
HP2500, 380 - 415 Volts				
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

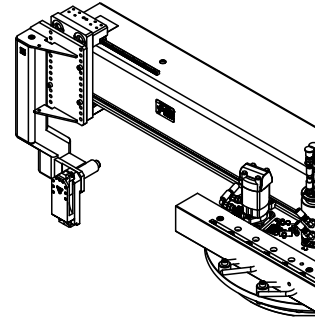
HP2500, 460 Volts (440 - 480 volts)				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series QD	ISO 16028 CE	
20	6	✓		94045
50	15	✓		93761
100	30	✓		94046
20	6		✓	94047
50	15		✓	94048
100	30		✓	94049
HP2500, 575 Volts				
Cordset/hose length		Quick Connect Style		P/N
Feet	Meters	60 Series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

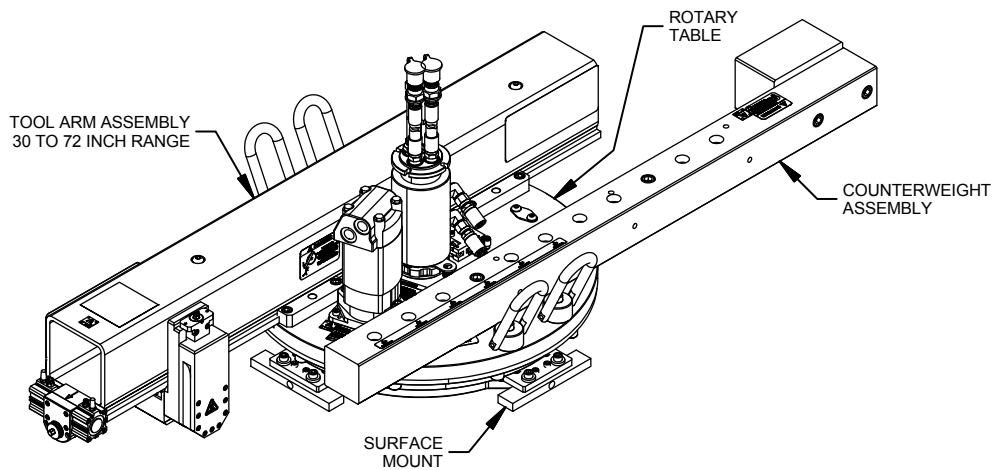
Get even more out of your Flange Facer with these accessories:

- 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)

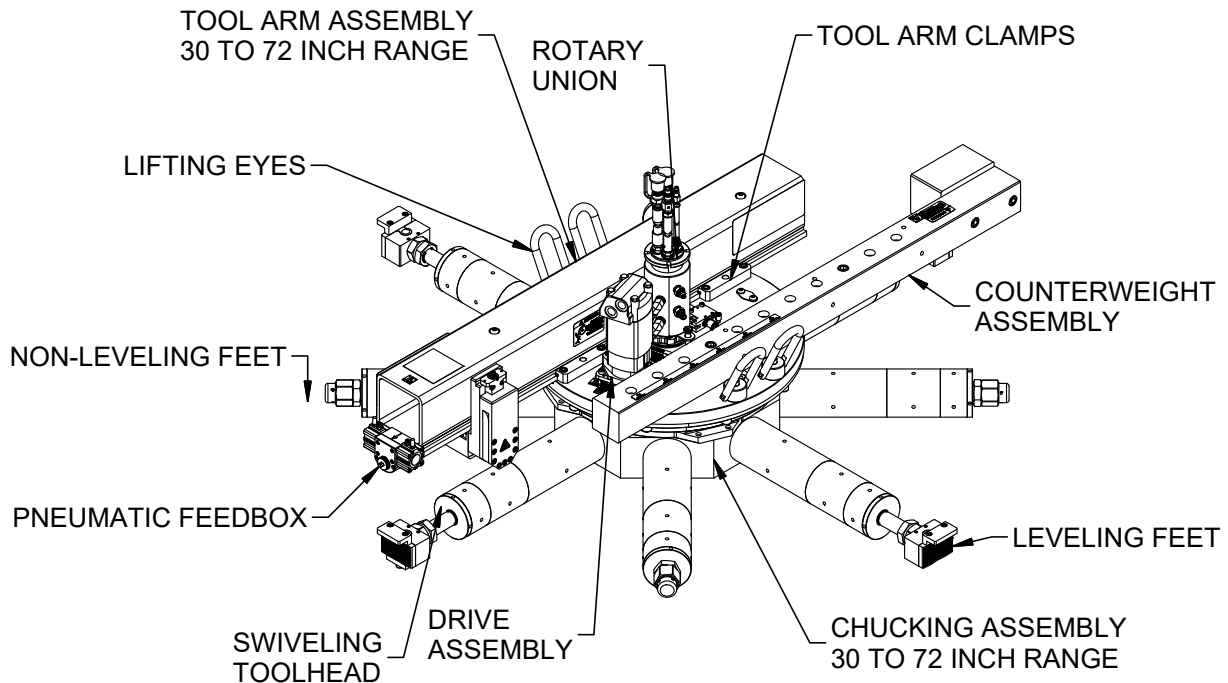
Backfacing Attachment



Machine Overview, Surface Mount Configuration



Machine Overview, ID-Mount Configuration

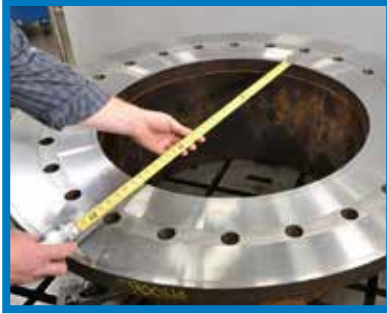


SETUP AND OPERATION

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.



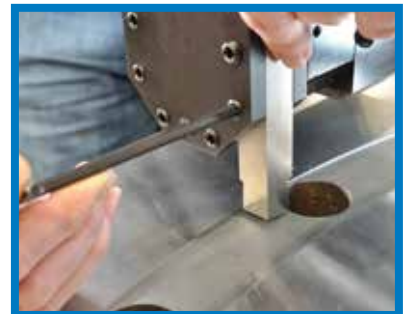
- 6** Extend feet into flange. Indicate, level and tighten leveling feet and stationary feet.



- 3** Install setup fingers.



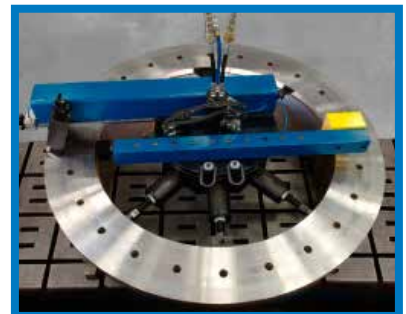
- 7** Install tool bit. Connect to power.



- 4** Tighten legs.



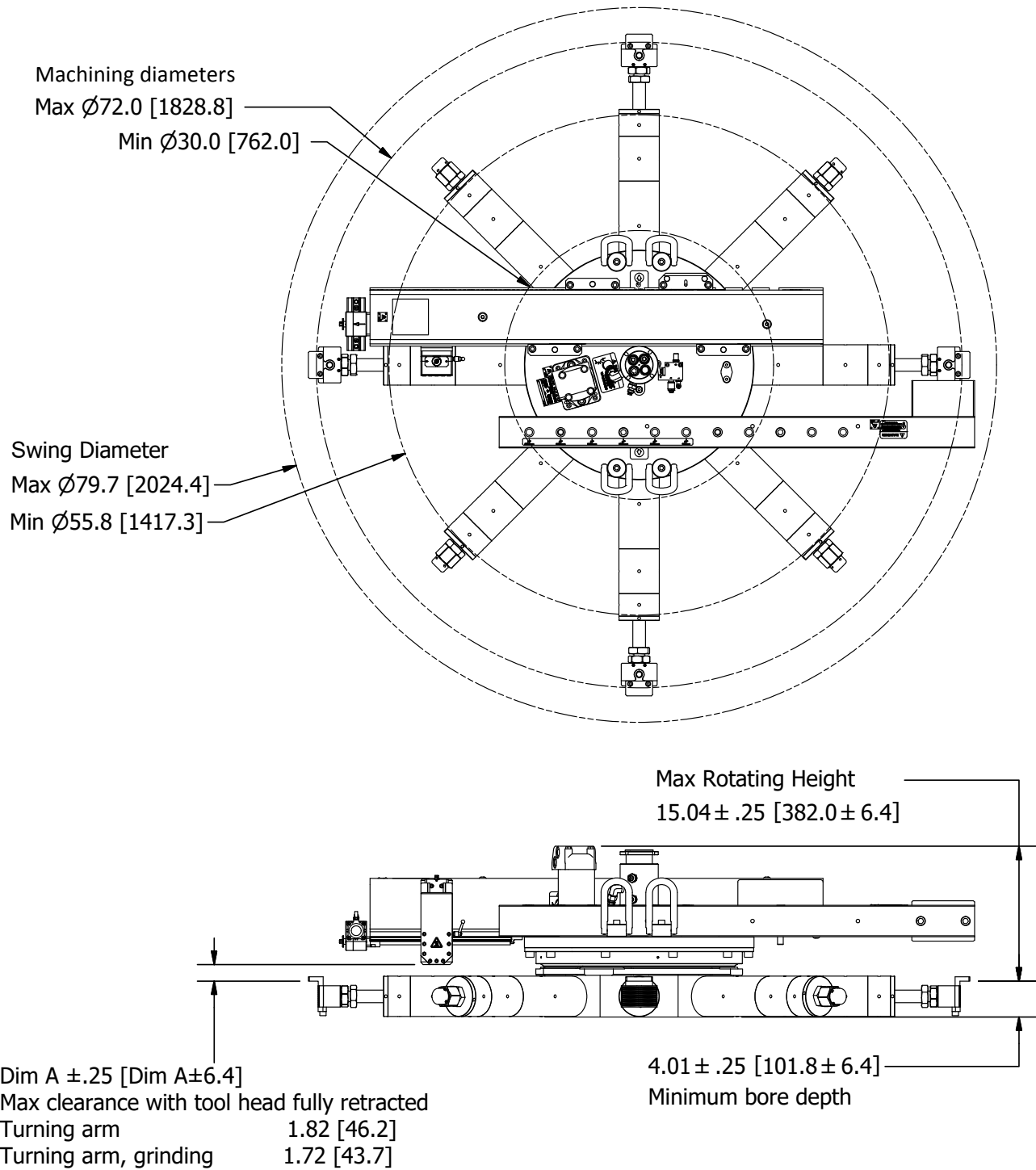
- 8** You are ready to begin machining!



OPERATIONAL DIMENSIONS

Dimensions in Inch (mm)

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



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

OPERATIONAL DIMENSIONS

Dimensions in Inch (mm)

ID Chuck Assembly, ID-Mount Configuration, Milling

Machining diameters (CL of spindle)

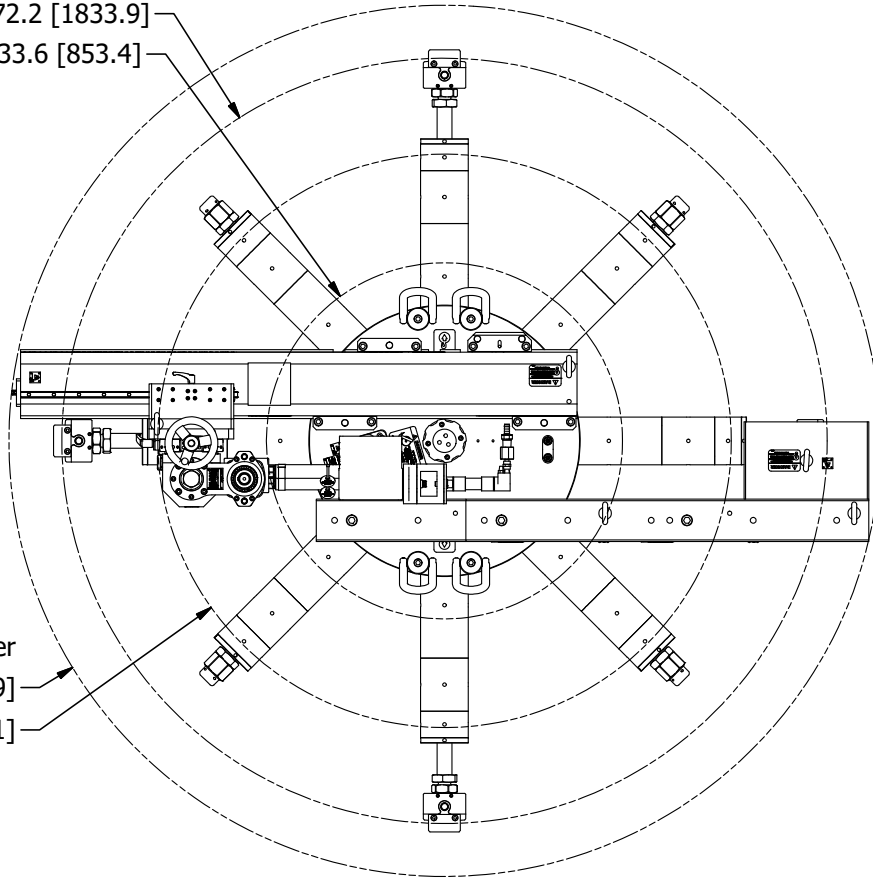
Max $\varnothing 72.2$ [1833.9]

Min $\varnothing 33.6$ [853.4]

Swing Diameter

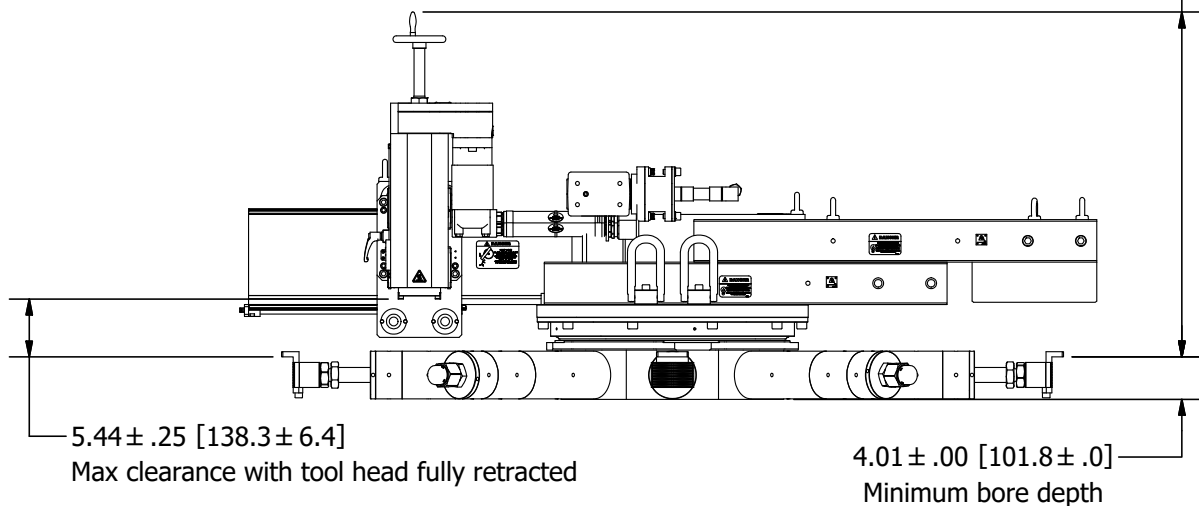
Max $\varnothing 82.2$ [2087.9]

Min $\varnothing 54.1$ [1374.1]



Max Rotating Height

$32.54 \pm .25$ [826.5 \pm 6.4]

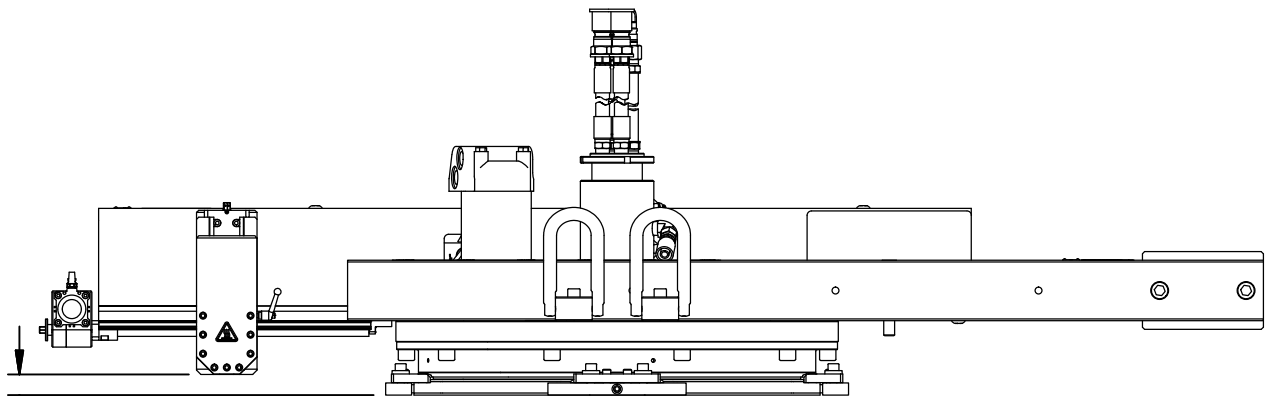


NOTE: $\pm .25$ is travel of leveling foot

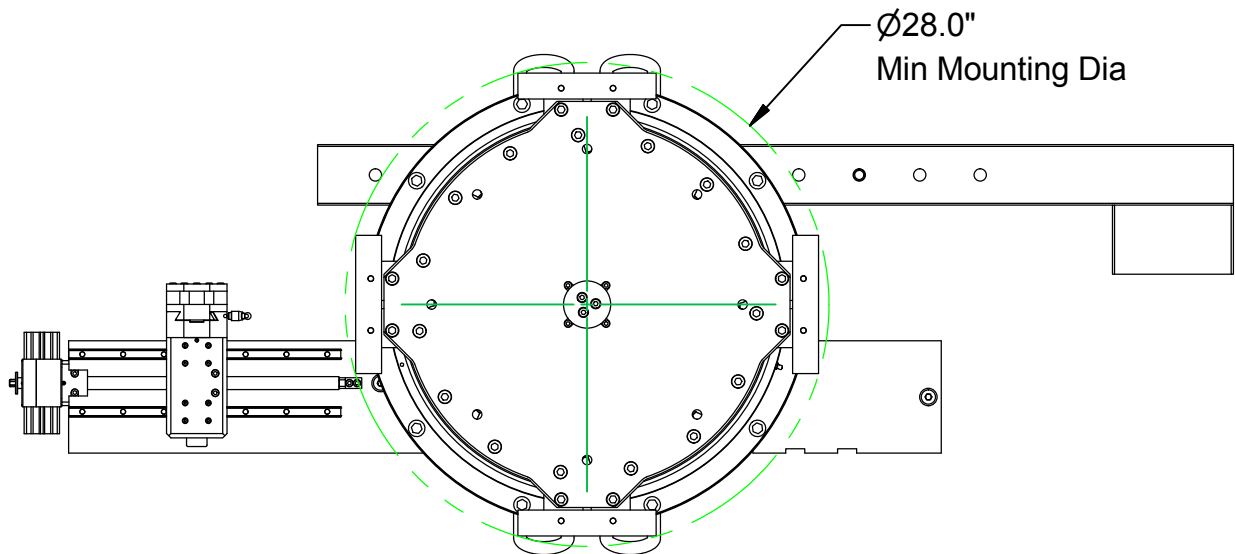
OPERATIONAL DIMENSIONS

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:

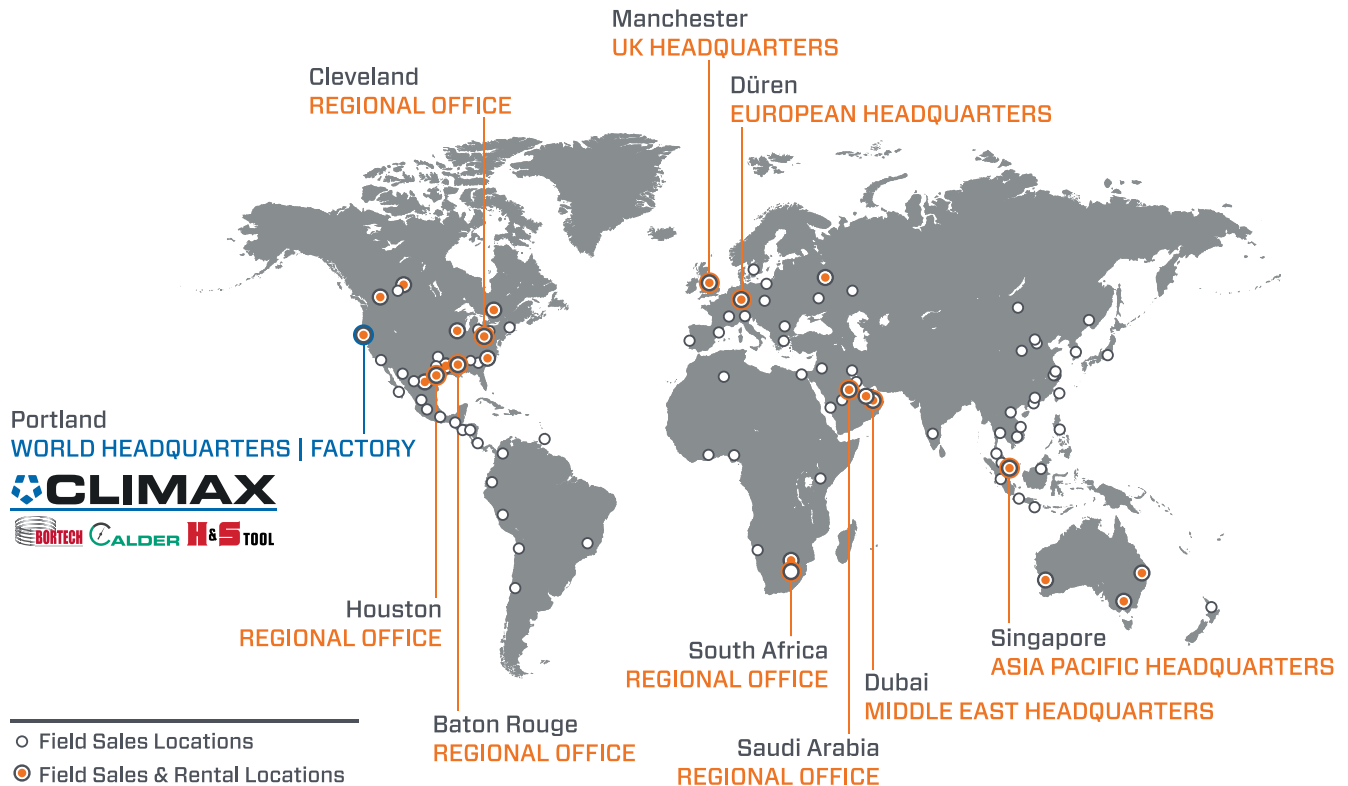
- ✓ Operator safety
- ✓ Tool component review and setup
- ✓ Standard operational techniques
- ✓ Overview of cutting tools and recommend usage
- ✓ Maintenance procedures
- ✓ A certificate of achievement - issued to each student immediately following course completion

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