

## HIGH-PERFORMANCE MACHINING, IN A COMPACT PACKAGE

The rigid and versatile FF5300 Flange Facer delivers high-torque performance to quickly face pipe and valve flanges as well as repair sealing and bearing surfaces efficiently and cost-effectively.



### POWERFUL, PRECISE MACHINING PERFORMANCE

**Heavy-duty machining arms** provide rigid performance and reliable results, ensuring high-quality cutting performance throughout the full range of the machine.

**2.4 HP pneumatic motor** provides more power and speed resulting in higher metal removal rates to get the job done fast.

**ISO 9001 certified manufacturing** ensures all CLIMAX products are manufactured to the highest quality standards.

### VERSATILITY

**Interchangeable machining arms are quick and easy to replace** allowing for work in confined spaces or unique environments without having to buy a completely new machine.

**Extended machining range**, from 5.7 - 40 inches (144.8 - 1016 mm) provides more flexibility - just one machine for a range of applications that typically requires two.

**Variable axial and radial feed rate control** allows operators to easily adjust and set the feed rate of the cutting tool for consistent performance.

**Tool head and tool bit rotate 360°**, which allows for machining and positioning at an angle. This provides flexibility to create a variety of cuts including chamfers, o-ring grooves, RTJ grooves, lens rings and other angled surfaces.

**Cutting tools** available upon request eliminates outsourcing. Tool holder accepts up to 0.5 inches (12.7 mm) square shank tooling for use with HSS or carbide.

**Adjustable chucking system and quick-connect chuck feet** allow for quick and easy setup.

**Machining and counterweight arms** can both be adjusted for the desired swing clearance and machining range. The counterweight can be adjusted easily to achieve near-perfect rotational balance.

**Extensive operating manual** contains easy to follow tips and includes step-by-step setup instructions for flange facing operations.

### SAFETY

**Auto-feed system** keeps operators hands safe from moving parts and keeps the job running smoothly.

**Low-pressure safety interlock system** prevents unintended re-starts after the loss of supplied air pressure.

**E-stop** for quick stops & controlled re-starts.

**Modular components are lightweight, easy-to-use, and easy-to-transport** reducing the potential for worker fatigue, the number one source of accidents on many work sites. The FF5300 Flange Facer is 45% lighter than similar flange facers on the market today.

**CE certified and available worldwide!** All FF5300 Flange Facers are available for sale worldwide, including in the European Union and other locations where CE certification is required.

# FF5300 FLANGE FACER

## SPECIFICATIONS

	FF5300 with 32 inch Machining Arm (5.7 - 32 inch cutting range)	FF5300 with 40 inch Machining Arm (5.7 - 40 inch cutting range)
<b>Machine Performance Ranges</b>		
ID Mounting range	5.7 - 35.8 inches (144.8 - 909.3 mm)	5.7 - 35.8 inches (144.8 - 909.3 mm)
Facing diameter range	5.7 - 32 inches (144.8 - 812.8 mm)	5.7 - 40 inches (144.8 - 1016 mm)
Minimum Swing diameter	22.75 inches (577.9 mm)	26.25 inches (666.8 mm)
Radial tool slide travel (full length of machining arm)	21.2 inches (538.5 mm) max	
Axial tool head travel	4 inches (101.6 mm)	
Depth required inside bore for ID chuck - single plane	2.6 inches (66 mm)	
Radial adjustment stroke of chuck foot	1.8 inches (45.5 mm)	
<b>Drive System</b>		
Drive type	Pneumatic	
Worm gear reduction	10:1	
Machining arm speed range	6 - 40 RPM	
Power input requirements (Pneumatic (2.4 Hp, 1.8kW))	90 psi @ 71ft <sup>3</sup> /min (620kPa @ 2.01m <sup>3</sup> /min)	
<b>Air Feed System</b>		
Drive type	Feed system engaged by machine rotation, remote on/off control of the feed by turning the air supply on/off	
Feed power requirements	90 psi @ 1ft <sup>3</sup> /min (620kPa @ 0.028m <sup>3</sup> /min)	
Radial feed rate	0.002 - 0.032 inches/rev (0.05 - 0.81 mm/rev)	
Axial feed rate	0.005 - 0.040 inches/rev (0.13 - 1.02 mm/rev)	
<b>Measurements</b>		
ID machine weight, max approx	192 lbs (87 kg)	196.7 lbs (89.2 kg)
ID machine height with fittings (± for leveling)	14 ± 0.25 inches (355.6 ± 6.4 mm)	
ID crate dimensions (WxDxH)	48 x 26 x 15.5 inches (1219.2 x 660.4 x 393.7 mm)	

### Internal Testing Performance Results

Test 1 Metal Removal	30 - 40 inch (762 - 1016 mm) Diameter HSS	25 - 32 inch (635 - 812.8 mm) Diameter Carbide	25-32 inch (635 - 812.8 mm) Diameter HSS
Depth of Cut	0.04 (1.016 mm)	0.020 (0.508 mm)	0.080 (2.032 mm)
RPM	10 RPM Pneumatic	16 RPM Pneumatic	12 RPM Pneumatic
Feed	0.012 in/rev (0.3 mm)	0.032 in/rev (0.812 mm)	0.024 in/rev (0.609mm)
Diameter of Cut	40 in (1016 mm)	32 in (812.8 mm)	32 in (812.8 mm)
Type of Tool	HSS (PN 91572)	Carbide (PN 91573)	HSS (PN 91572)
Finish	200	Phonographic	220 Ra
MRR	0.60 in <sup>3</sup> /min (9.88 mm <sup>3</sup> /min)	1.03 in <sup>3</sup> /min (16.87 mm <sup>3</sup> /min)	2.32 in <sup>3</sup> /min (37.96 mm <sup>3</sup> /min)

Test 2 Surface Finish	30 - 40 inch (762 - 1016 mm) Diameter Carbide	25 - 32 inch (635 - 812.8 mm) Diameter Carbide	25-32 inch (635 - 812.8 mm) Diameter HSS
Depth of Cut	0.015 (0.381 mm)	0.007 (0.177 mm)	0.015 (0.381 mm)
RPM	10 RPM Pneumatic	36 RPM Pneumatic	10 RPM Pneumatic
Feed	0.005 in/rev (0.127 mm)	0.003 in/rev (0.076 mm)	0.005 in/rev (0.127 mm)
Diameter of Cut	40 in (1016 mm)	32 in (812.8 mm)	32 in (812.8 mm)
Type of Tool	Carbide (PN 91573)	Carbide (PN 63543)	HSS (PN 91572)
Finish	180	63 Ra	160 Ra
MRR	0.09 in <sup>3</sup> /min (1.54 mm <sup>3</sup> /min)	0.08 in <sup>3</sup> /min (1.25 mm <sup>3</sup> /min)	0.08 in <sup>3</sup> /min (1.24 mm <sup>3</sup> /min)

Test Material: A36 Steel

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.

# FF5300 FLANGE FACER

## TOOL CONFIGURATIONS

To order your FF5300 Flange Facer, simply select your cutting range you need and contact your CLIMAX sales representative.

The FF5300 Flange Facers come standard with a machining arm assembly, ID mounting chucks, tool holder, metal shipping container, tool kit, counterweight arm, and operators manual.

### FF5300 Flange Facer

Part Number	Cutting Range	
	5.7 - 32 inches (144.8 - 812.8 mm)	5.7 - 40 inches (144.8 - 1016 mm)
90791	✓	
90792		✓
91789*	✓	✓

\*comes with two machining arms

### Accessories for use with the FF5300 Flange Facer

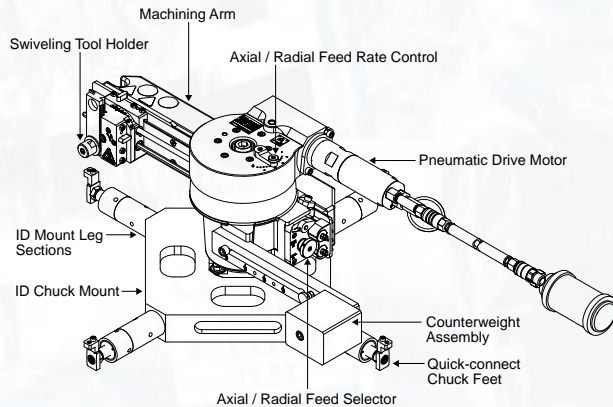
#### Machining arm assembly, cutting range\*

5.7 - 32 (144.8 - 812.8 mm)	90030
5.7 - 40 (144.8 - 1016 mm)	89920

\* Custom length machining arms available. Contact your sales representative for more information.

**Spare parts kit:** Includes an assortment of recommended spare parts needed over the the next 2 years **91597**

Tooling	Part Number
<b>HSS Tooling</b>	
RH roughing HSS tool bits 1/2 X 4.0 inches (12.7 x 101.6 mm)	91572
LH & RH pre-ground HSS tool bits 1/2 X 4.0 inches (12.7 x 101.6 mm)	25710
<b>Carbide Tooling</b>	
Carbide insert starter kit: Includes 3 holders (left, right, neutral). Recommended carbide inserts: (5 ea) PN 91573 & PN 63543	91578
Insert holder 40° LEAD 1/2 X 3 1/2 inch (12.7 x 88.9 mm) 80° diamond 3/8 inch (9.5 mm) IC	47667
Insert holder RH 1/2 X 3 1/2 (12.7 x 88.9 mm) 80° diamond 3/8 inch (9.5 mm) IC	52862
Insert holder LH 1/2 X 3-1/2 (12.7 x 88.9 mm) 80° diamond 3/8 inch (9.5 mm) IC	52863
Carbide insert replacement kit: Includes (5 ea) PN 91573 & (5) PN 63543	91588
Insert 80° diamond 3/8 inch (9.5 mm) IC 0.0079 inch (0.20 mm) nose radius KC5410	91573
Insert 80° diamond 3/8 inch (9.5 mm) IC 1/64 inch (0.40 mm) nose radius KC5010	63543



The **Adjustable Leveling Feet Kit** expedites leveling of the base machine without impacting the center position of the machine. An adjusting screw located within the leveling foot moves each foot up or down for faster set-up and leveling adjustment. These feet are also quick-connect style so that they are easily installed in place of the standard FF5300 chuck feet.

**Adjustable leveling feet kit:** Includes four adjustable feet for bores 8 - 35.8 inches (203.2 - 909.3 mm) **91590**

**Surface finish comparator,** 2 - 500 micro inches, 22 samples, w/ case. **91591**

**Alignment kit:** Includes dial indicator & magnetic base  
Metric **83242**  
Imperial **83241**

### The FF5300 Flange Facer is widely used by these industries:

- Oil, Gas and Chemical
- Power Generation
- Heavy Equipment
- Ship building & repair

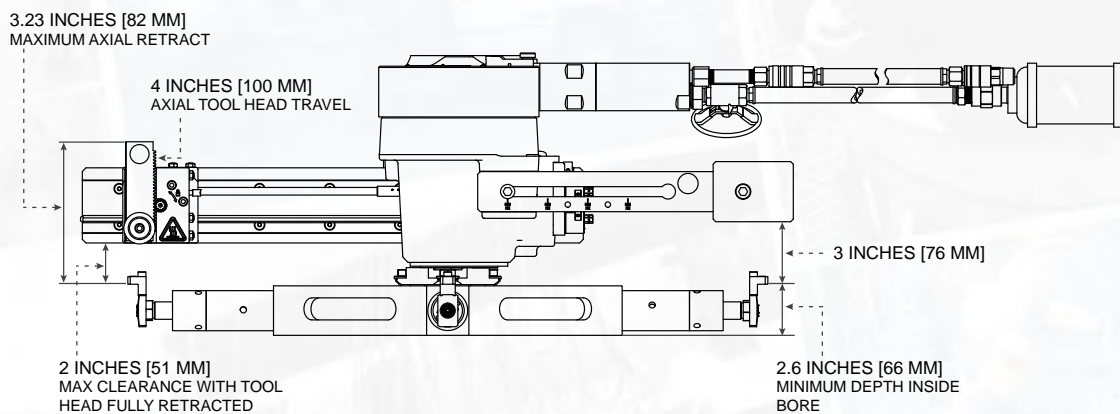
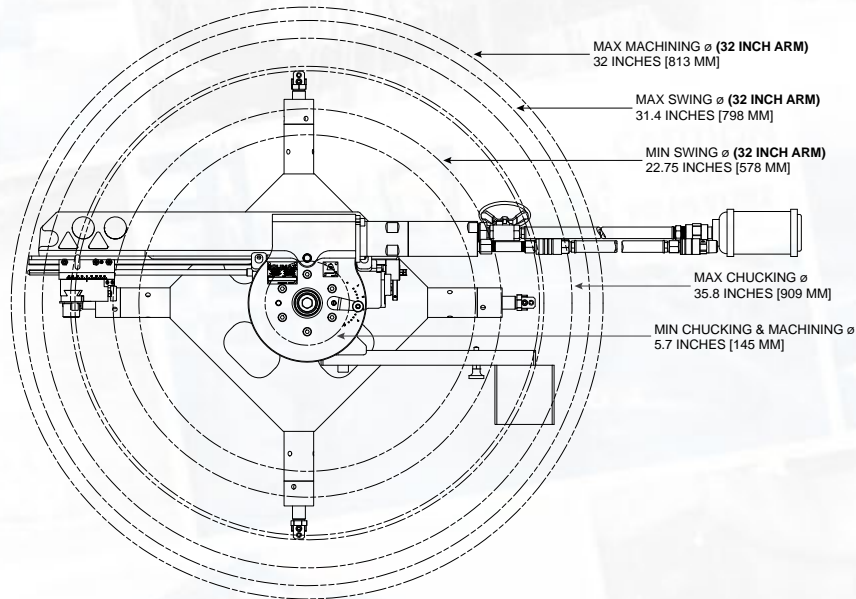
### Typical applications:

- Piping system flanges
- Valve flanges and bonnet flanges
- Vessel flanges
- Weld preps
- Flange sealing grooves (O-ring and RTJ)
- Bearing mounting bases
- Counterbores, and slew ring

# FF5300 FLANGE FACER

## OPERATIONAL DIMENSIONS

FF5300 with 32 inch Machining Arm  
5.7 - 32 inch (144.8 - 812.8 mm) cutting range

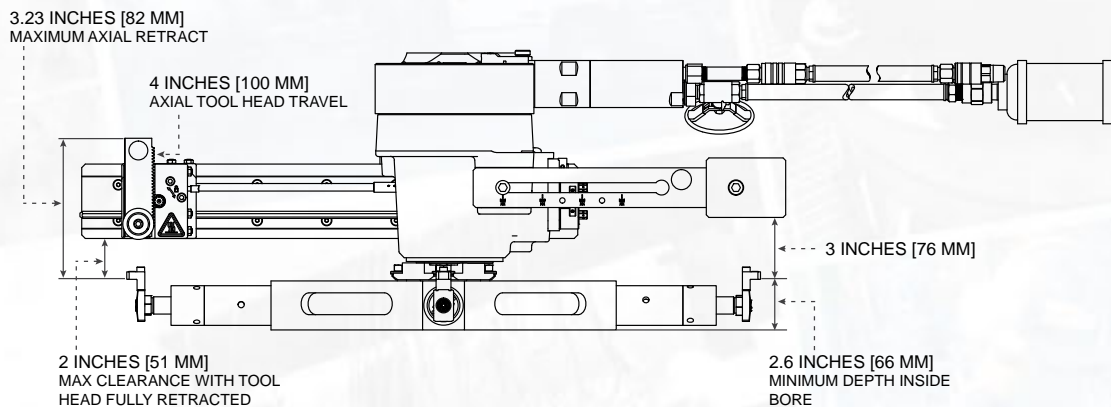
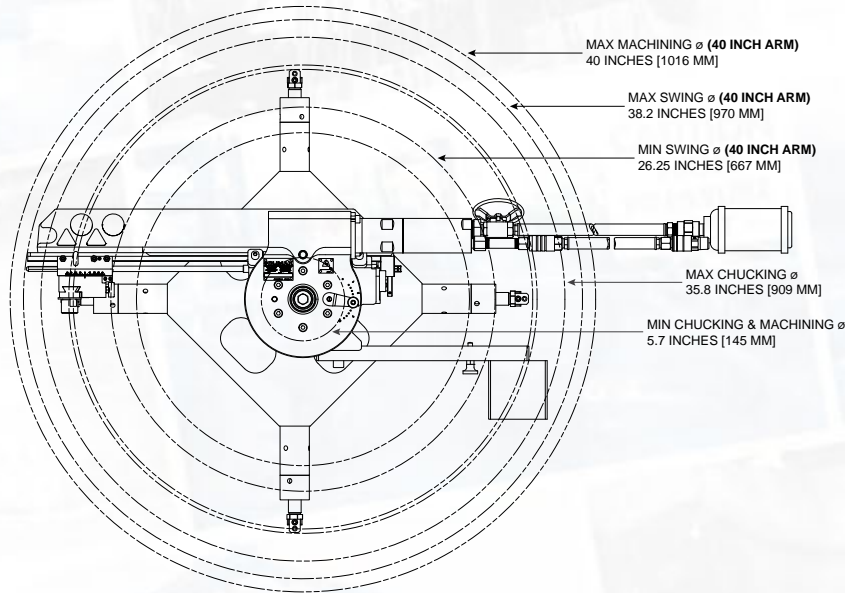


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# FF5300 FLANGE FACER

## OPERATIONAL DIMENSIONS

FF5300 with 40 inch Machining Arm  
5.7 - 40 inch (144.8 - 1016 mm) cutting range



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.

## SETUP AND OPERATION

### Crate to Cut in 30 minutes

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 30 minutes.

- 1** Measure the bore diameter to determine chuck configuration.



- 5** Install counterweight and slide arm to desired location.



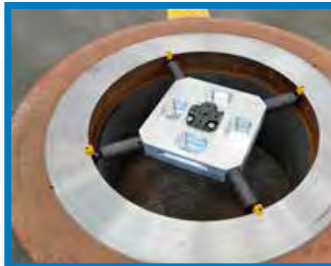
- 2** Assemble the ID chuck and install appropriate leg spacers.



- 6** Center and level the machine.



- 3** Set the machine onto the flange.



- 7** Install tool bit.



- 4** Install the machining arm and slide to desired location.



- 8** Connect to motor and go!

