

SMG F1000P

Pneumatic Flange Facing Machine

Operating & Maintenance Manual



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1. Introduction

This manual covers the operation, installation, and maintenance of the Capital Machinery Sales SMG F1000P Pneumatic Flange Facing Machine. The machine provides both facing (radial feed) and boring (vertical feed) functions, with automatic feed in each mode.

Capital Machinery Sales Pty Ltd has made every effort to ensure that the information in this manual is correct and easy to follow. However, errors or omissions may be present. Capital Machinery Sales reserves the right to modify its products without notice, and consequently to supply machines that may differ from the descriptions in this publication. Capital Machinery Sales will endeavour to keep customers informed of any changes affecting machine operation or safety.

2. Safety Information

2.1 Warning Definitions

The following signal words are used throughout this manual:

DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or damage to the machine.

NOTE: Provides additional information to assist the operator.

2.2 Health and Safety

For maximum safety and performance, read and understand this entire manual and all other safety instructions before using this equipment. Failure to follow the instructions and guidelines in this manual could result in property damage and personal injury.

Workplace health and safety legislation requires manufacturers and suppliers to advise customers of the safety and handling precautions to be observed when installing, operating, maintaining, and servicing their products. Accordingly, the following points should be noted:

1. The relevant sections of these instructions should be read carefully before proceeding.
2. Installation, maintenance, and servicing should only be carried out by suitably trained and competent personnel.
3. Normal safety procedures must be observed at all times to avoid the possibility of an accident.
4. Any safety equipment necessary for the maintenance or use of the equipment is the responsibility of the customer. Capital Machinery Sales Pty Ltd accepts no responsibility for accidents that may occur due to incorrect installation, maintenance, or use.

2.3 General Operation

The following procedures will help ensure the machine is installed and operated correctly and safely. Please read before proceeding:

1. All safety procedures must be observed before operating the equipment.
2. Operators must wear appropriate personal protective equipment while operating this machine.

3. Do not attempt to machine outside the size range specified for the machine. Doing so will invalidate the warranty.
4. Do not operate the machine if the clamping/locking arrangement is suspect or below the recommended standard.
5. Ensure the feed gearbox is set to neutral and the air supply is isolated before leaving the machine on completion of work.
6. Never leave the machine running unattended.
7. Ensure all personnel are fully trained in both the operation of the machine and all relevant safety aspects.
8. Keep air hoses, electrical cords, cables, rags, and rigging straps clear of rotating equipment.

CAUTION: Do not attempt to alter the feed settings while the machine is rotating.

3. Product Overview & Specifications

3.1 Technical Details

Specification	Value
Minimum facing diameter	160 mm (6.3")
Maximum facing diameter	1000 mm (34")
Minimum clamping diameter	158 mm (6.3")
Maximum clamping diameter	820 mm (32")
Tool post travel	102 mm (4")
R.P.M.	Min. 0 rpm — Max. 32 rpm
Air consumption	1.798 m ³ /min
Drive (pneumatic)	1.7 kW
Air pressure	0.63 MPa

3.2 Overall Dimensions

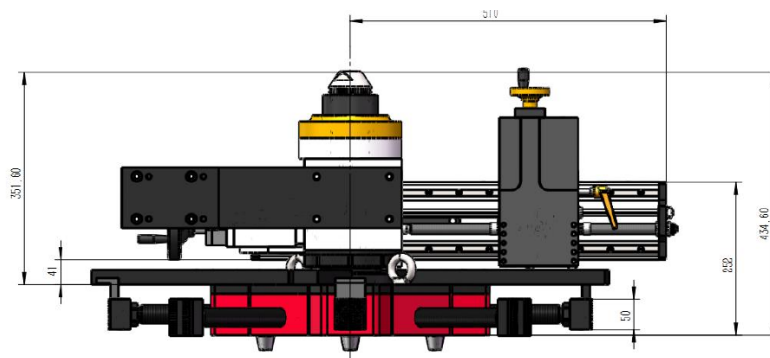


Figure 3.1 — Overall machine dimensions (mm)

3.3 Pneumatic Motor

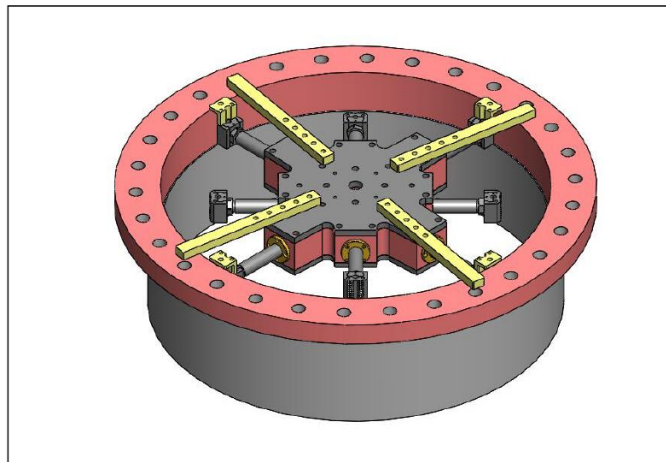
Parameter	Value
Power	1.7 kW
Torque	155 Nm
R.P.M.	150 rpm
Working pressure	0.6 MPa
Air consumption	32 L/s
Recommended lubricant	FUCHS VG/ISO 22

Lubrication: set the lubricator to deliver oil at a rate of one drop every 7 seconds. A filtering and lubricating unit is supplied with the equipment and is pre-set before leaving the factory. Before using the equipment, check the dripping speed of the lubricant. The dripping speed can be adjusted with the ball valve.

WARNING: Failure to maintain correct lubrication as described above will invalidate the air motor warranty.

4. Installation

4.1 Base Assembly Installation



1. Measure the mounting bore of the flange to be machined and ensure it is within the working parameters of the machine.
2. Select the required components and screw the base components into the correct base until they measure 6 mm (0.25") below the bore mounting dimension, equally on all sides.
3. Bolt the setting straps onto the base, ensuring they overlap the bore dimension by at least 25 mm (1").
4. Position the base into the flange bore and screw out the jacking bolts. Check centralisation by measuring, and adjust as necessary.
5. Adjustments can be made by tightening and loosening opposing jacking bolts. It is recommended that the setting straps remain in place until the base unit is fully installed.

4.2 Base Assembly Dimensions

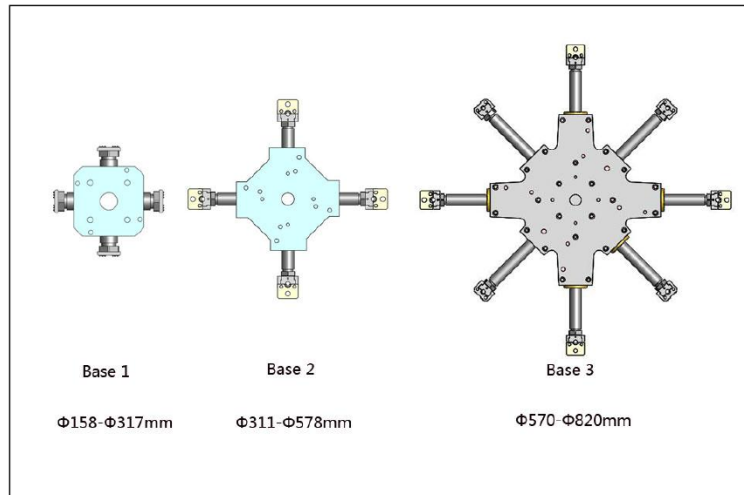
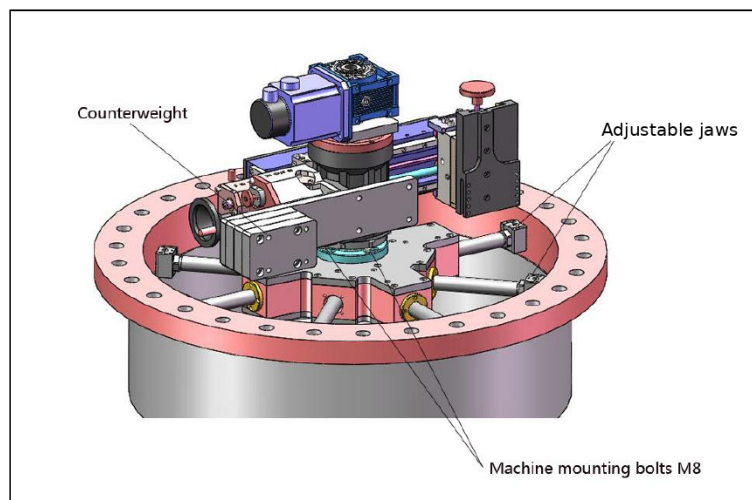


Figure 4.1 — Base 1: Φ158–Φ317 mm · Base 2: Φ311–Φ578 mm · Base 3: Φ570–Φ820 mm

Once the correct base is selected and fitted, the machine is mounted to the base and final centralisation is carried out using a dial indicator.

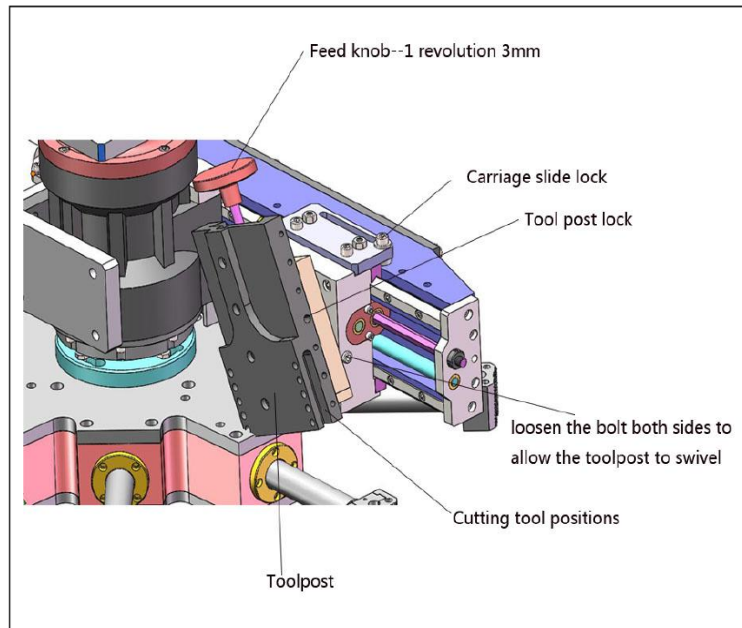
4.3 Machine Installation



1. Install 4 × M8 bolts on the base, with the bolts protruding 20 mm from the base surface.
2. Ensure the tool post is fully retracted and the cutting tool has been removed.
3. Install the machine on the base and tighten the mounting bolts. A central location spigot is provided for exact positioning of the machine on the base.
4. For vertical installation, the counterweight plates must be fitted to the main body.
5. A magnetic-base dial indicator is provided for precise adjustment of the machine.
6. Check all bolts to ensure they are correctly locked.

5. Operation

5.1 Tool Post Setting



The tool post has 102 mm (4") of travel. Loosening the bolts on both sides allows the tool post to swivel; tighten both bolts to lock the required angle.

WARNING: When facing, ensure the carriage slide lock bolt is removed and the tool post lock bolt is tightened. When boring, tighten the carriage slide lock bolt and loosen the tool post lock bolt.

5.2 Facing / Boring Selector

The SMG F1000P Pneumatic Flange Facing Machine provides a facing function (radial feed) and a boring function (vertical feed); both are automatic feed. Push the selector to **【F】** for facing, or to **【B】** for boring.

5.2.1 Facing Feed Setting

1. Push the direction selector to the **【N】** (neutral) position on the feed gearbox.
2. Remove the carriage slide lock.

WARNING: The carriage slide lock must be removed in facing mode. Failure to do so could result in damage to the machine.

3. Push the selector to **【F】** while rotating the radial feed handwheel, ensuring the selector engages fully.
4. When facing, tighten the tool post lock.

5.2.2 Boring Feed Setting

1. Push the direction selector to the **【N】** (neutral) position on the feed gearbox.
2. Loosen the tool post lock.
3. Push the selector to **【B】** while rotating the tool post feed knob, ensuring the selector engages fully.

WARNING: Pay close attention to the position of the pin when pushing the selector — make sure the pin is seated in the slot.

4. When using the tool post in boring mode, remember to fit the carriage slide lock to position the tool post.

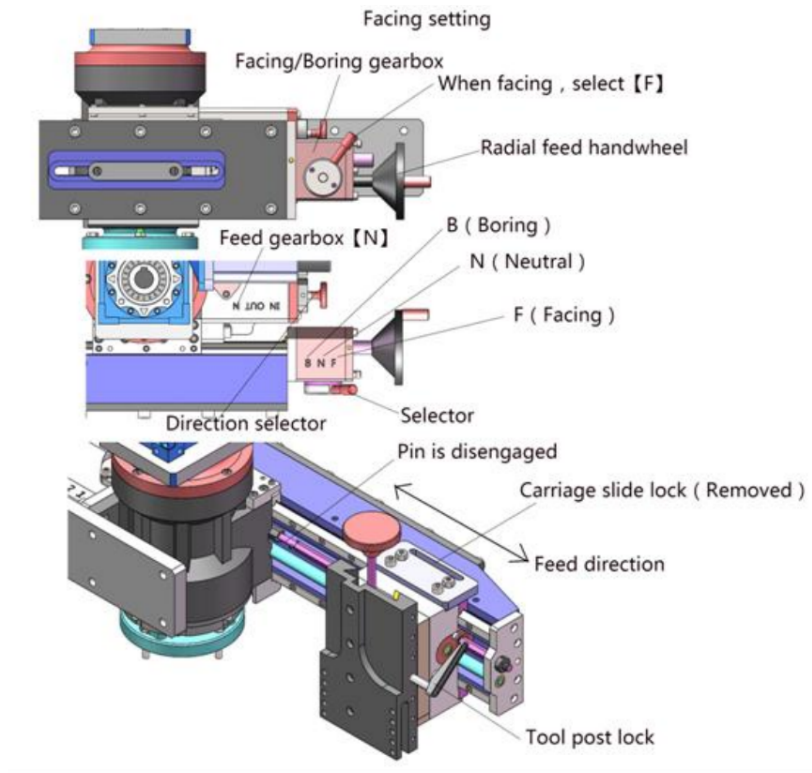


Figure 5.1 — Facing setting

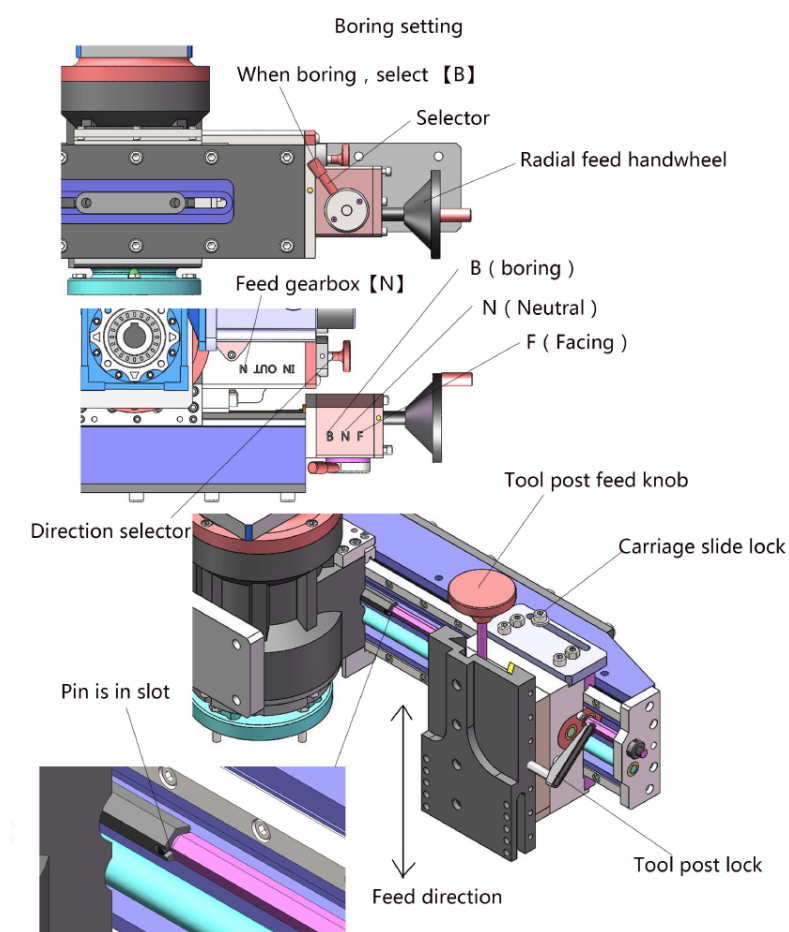


Figure 5.2 — Boring setting

5.3 Facing / Boring Speed & Direction

Facing feed rate:

Feed direction	Feed gear	Feed rate
IN	1	0.128 mm/rev
IN	2	0.191 mm/rev
IN	3	0.383 mm/rev
OUT	1	0.164 mm/rev
OUT	2	0.246 mm/rev
OUT	3	0.492 mm/rev

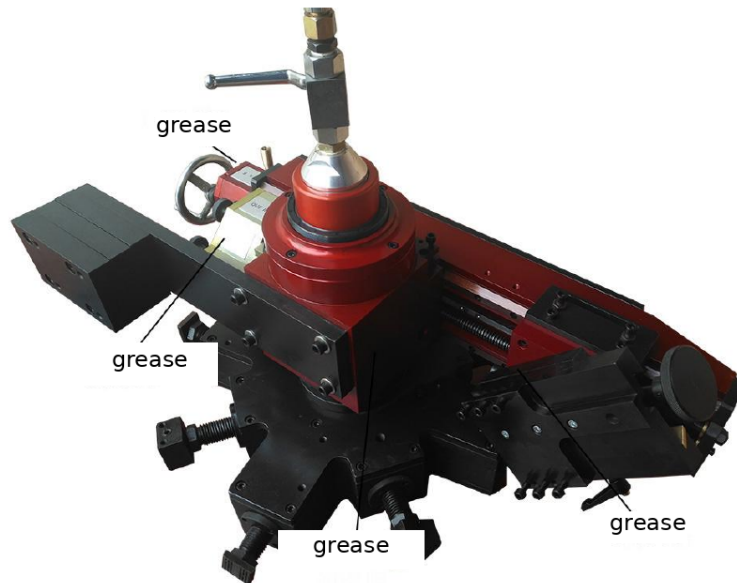
Boring feed rate:

Feed direction	Feed gear	Feed rate
IN	1	0.090 mm/rev
IN	2	0.138 mm/rev
IN	3	0.277 mm/rev

Feed direction	Feed gear	Feed rate
OUT	1	0.119 mm/rev
OUT	2	0.178 mm/rev
OUT	3	0.356 mm/rev

6. Maintenance

6.1 General Lubrication & Maintenance



Period	Action	Lubricant
After use	Clean rails, carriage feedscrew, tool post, tool post feedscrew, and the machine in general.	Lightly oil, or spray with WD-40 or equivalent.
Weekly	Grease linear guides (2 strokes maximum). Grease jaw screws.	Silkolene G39 semi-fluid, Elf TL, or equivalent.
Storage	If the machine is to be stored for any length of time, clean thoroughly and spray WD-40 into the motor inlet and seal. Spray the machine with WD-40 or equivalent.	WD-40 or equivalent.

7. Troubleshooting

The following chart will help the operator locate possible faults arising from operation of the machine. If a fault persists, or falls outside the scope of this chart, please contact Capital Machinery Sales technical support.

7.1 Machine will not rotate

Possible cause	Action
Lack of air supply	Check the air supply.
Pneumatic motor fault	Check the drive motor. Contact technical support.
Air valve closed	Check the valve.
Hoses incorrectly connected	Ensure hoses are correctly connected and the valve is open.

7.2 Machine will not traverse

Possible cause	Action
Feed selector not correctly engaged	Check gear engagement — see the gear selection procedure in this manual.
Direction lever not correctly engaged	Check the direction lever.
Facing/boring lever not correctly engaged	Check the facing/boring lever.

7.3 Poor surface finish on flange

Possible cause	Action
Tool tip worn	Replace or regrind the tip.
Machine not correctly clamped in flange	Check and tighten all mounting bolts and base legs.
Depth of cut too deep	Reduce the depth of the cut.
Tool loose	Tighten the tool.
Tool post / swivel loose	Check swivel screws are correctly tightened.
Surfacing arm clamps loose	Re-tighten clamps — see surfacing arm procedure.
Excessive play in tool post gib strip or carriage	Adjust tool post and carriage.
Machine installation bolts not tightened	Check bolts.
Worn linear guides	Check and contact technical support.
Incorrect balancing	Check machine balance.