

PREP 4 PORTABLE PIPE BEVELLING MACHINE

0.9 - 4.40 " i/d / 23 - 112 mm i/d



ORIGINAL INSTRUCTIONS / NOTICE ORIGINAL



PIPE EQUIPMENT SPECIALISTS

INSTRUCTION MANUAL

www.TAG-PIPE.com



The **Specialized Fabrication Equipment Group** (in short: **S.F.E. Group**) was founded in 2019 after the merger of three world leading OEM's in the field of pipe fabrication tooling and machinery: B&B Pipe and Industrial Tools LLC (USA), Mathey Dearman Inc. (USA) and TAG Pipe Equipment Specialists (UK). In a time span of 5 years, another 4 renowned and market leading companies were acquired and added to the **S.F.E. Group** portfolio: Axxair (France, 2022), Magnatech (USA, 2023), Climax (USA, 2023) and Sumner (USA, 2025).

The vision and philosophy of the **S.F.E. Group** is to offer globally a comprehensive innovative and cost-effective range of specialized fabrication, welding and machining equipment and derived rental solutions, for a wide range of applications within all critical industries, while optimizing performance, efficiency and safety.

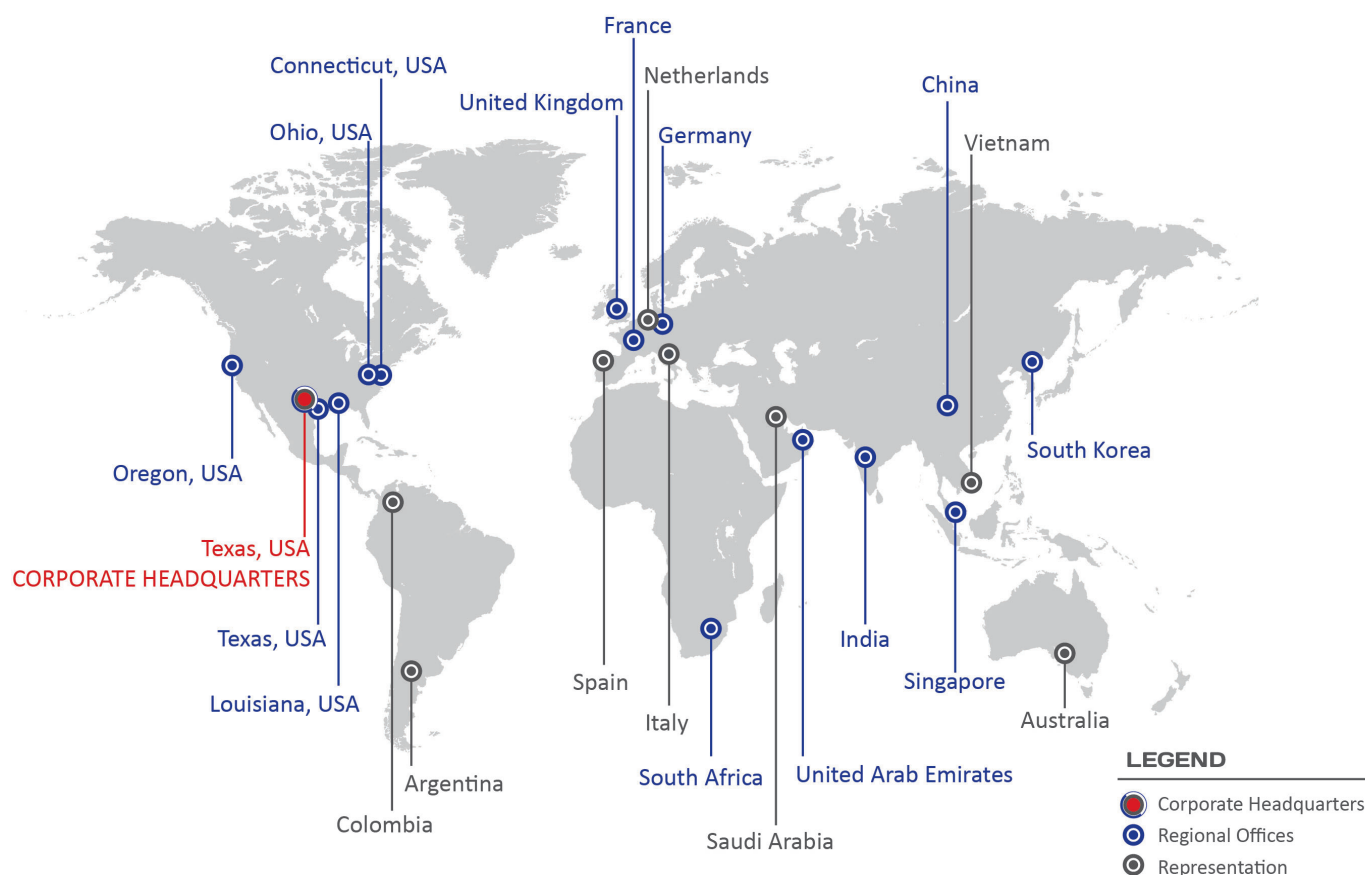
Leveraging over 200 years of combined experience in engineering, manufacturing, and field applications, the **S.F.E. Group** is committed to driving innovation. Through continuous product development and strategic acquisitions, the **S.F.E. Group** is actively growing its portfolio and expanding its global presence to meet the demands of industries around the world. Currently, the **S.F.E. Group** consists of 12 complimentary brands, each supporting the others in delivering cutting-edge solutions.

With offices and warehousing on 5 continents, 400+ employees and more than 500 partnerships and distributors worldwide, **S.F.E. Group** prides itself on consistently offering the highest standards of both product quality and service locally to all its customers.

S.F.E. Group looks forward to welcoming you into its global network as a partner, distributor or end user customer and remains at your disposal at any time.

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S.F.E. GROUP GLOBAL PRESENCE





The **S.F.E. Group's** brand **TAG Pipe Equipment Specialists LTD** (in short: **TAG PIPE**) has its roots in the 1980's in the United Kingdom with the manufacturing and supplying of pipework fabrication tools and machinery. Over the years **TAG PIPE** became internationally one of the foremost leaders in its field, and today **S.F.E. Group's** unrivalled TAG PIPE range of cold cutting and bevelling machines is established and recognized as a world class leading brand.

Backed by more than 40 years of development, **TAG PIPE** not only offers the highest quality heavy duty machines utilizing the latest technology, but also stands for an emphasis on continuous R&D and tailor made solutions. As an OEM, **S.F.E. Group** prides itself being renowned for its innovations, ground-breaking developments and patented designs within the **TAG PIPE** range. With its engineering capabilities, customer-oriented focus and flexibility, the TAG PIPE brand provides the possibility to design out-of-the-box machining applications and solutions to fulfil customers' projects' specific needs in particular, and to cater for an ever-evolving industry in general.

The **TAG PIPE** brand portfolio consists of a complete range of portable pipe bevel machines (PREP machines covering 1 - 24"), the **TAG PIPE** cutting and bevelling splitframe clamshell machines (1 - 120"), as well as the stationary, yet moveable E-Z FAB machines (2 - 16") for pipe cutting and bevelling, the E-Z pipe saws and finally the PMM plate bevel machines.

TAG PIPE machines are always nearby available within the **S.F.E. Group** global network and can be consulted on the dedicated website: www.TAG-PIPE.com.

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OUR BRANDS

CLIMAX



H&S TOOL

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SUMNER MATERIAL LIFTS

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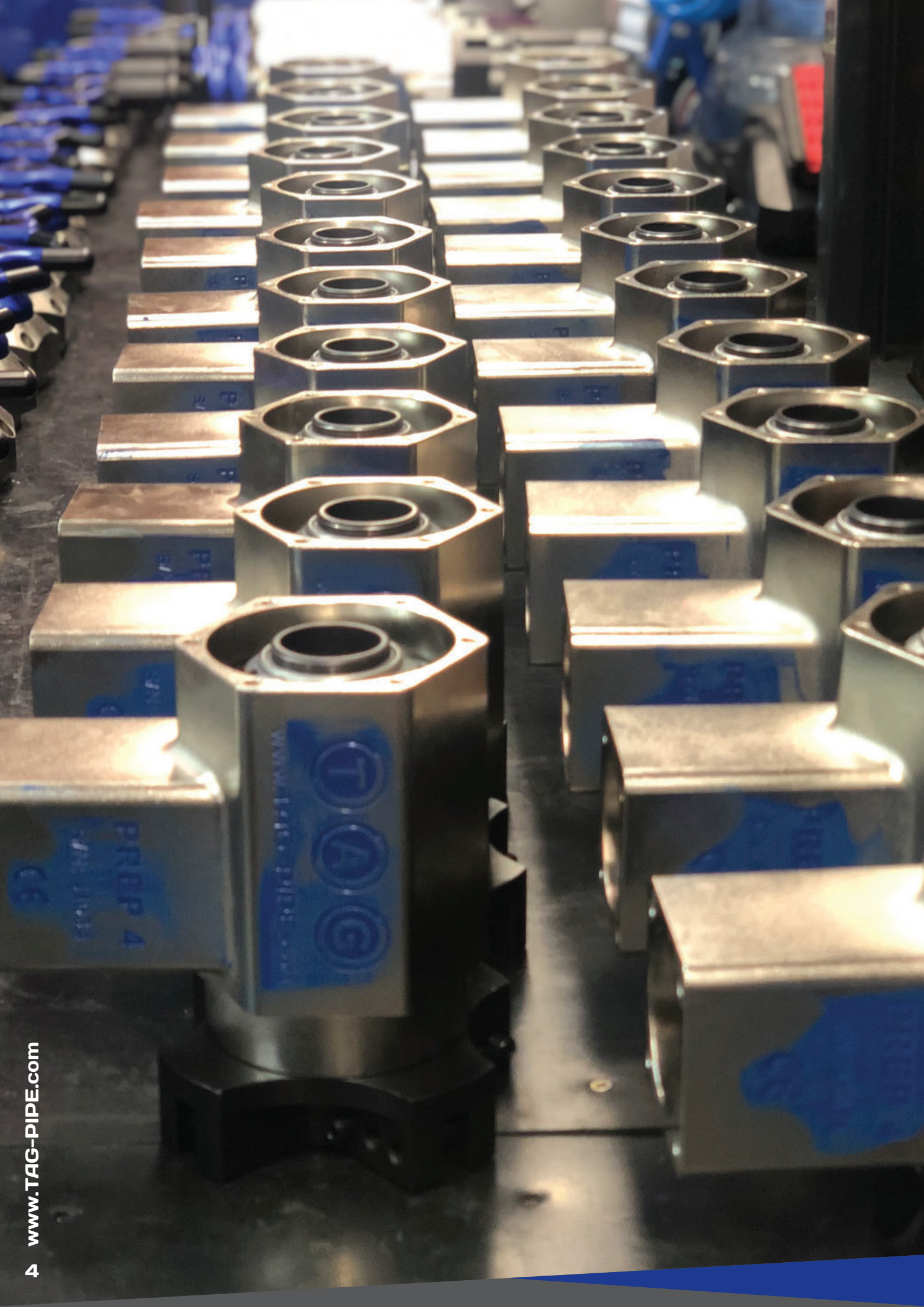
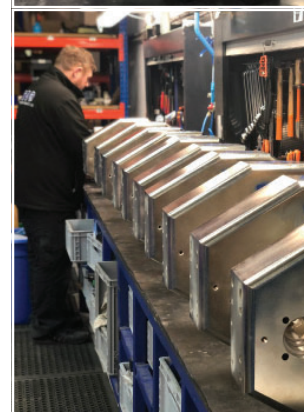


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1. INTRODUCTION

1.1 HOW TO USE THIS MANUAL

This manual describes information necessary for the setup, operation, maintenance, storage, shipping, and decommissioning of the S.F.E. Group's TAG PREP 4 machine model (in short: S.F.E. Group, TAG PREP, or PREP). The TAG PREP models are high-tech portable inside diameter locking cold pipe bevelling machine. The basic functions of the PREP models are the facing, external bevelling, internal bevelling and counterboring of pipes within the selected model's working range (inside diameter)

Read this entire manual to familiarize yourself with the TAG PREP 4 before attempting to set it up or operate it.

NOTE:

In the event of queries on installation, commissioning, operation or special conditions at the operation's site, or on usage, please contact your nearest S.F.E. Group authorised partner or our France International Head Office - customer service department: **+33 4 75 57 50 79**. You can also email us: **sales-int@sfe-brands.com**.

DISCLAIMER

AXXAIR SAS – S.F.E. Group's liability related to the operation of the PREP models is restricted solely to the function of the equipment. No other form of liability, regardless of type, shall be accepted. This exclusion of liability shall be deemed accepted by the user on commissioning of the equipment. S.F.E. Group is unable to monitor whether or not the instructions in this manual or the conditions and methods are observed during installation, operation, usage and maintenance of the PREP. An incorrectly performed installation can result in material damage and injure persons as a result. For this reason, S.F.E. Group does not accept any responsibility or liability for losses, damages or costs arising from incorrect installation, improper operation or incorrect usage and maintenance or any actions connected to this in any way possible.

1.2 SAFETY ALERTS

Pay careful attention to the safety alerts printed throughout this manual. Safety alerts will call your attention to specific hazardous situations that may be encountered when operating this machine.

Examples of safety alerts used in this manual are defined below¹:



Indicates a hazardous situation which, if not avoided, **WILL** result in death or severe injury.



Indicates a hazardous situation which, if not avoided, **COULD** result in death or severe injury.



Indicates a hazardous situation which, if not avoided, **COULD** result in minor or moderate injury.



Indicates a hazardous situation which, if not avoided, **COULD** result in property damage, equipment failure, or undesired work results.

1. For more information on safety alerts, refer to ANSI/NEMA Z535.6-2011, Product Safety Information in Product Manuals, Instructions, and Other Collateral Materials.

1.3 GENERAL SAFETY PRECAUTIONS

The S.F.E. Group leads the way in promoting the safe use of portable machine tools and valve testers. Safety is a joint effort. You, the end user, must do your part by being aware of your work environment and closely following the operating procedures and safety precautions contained in this manual, as well as your employer's safety guidelines.

Observe the following safety precautions when operating or working around the machine.

Training – Before operating this or any machine tool, you should receive instruction from a qualified trainer. Contact the S.F.E. Group for machine-specific training information.

Risk assessment – Working with and around this machine poses risks to your safety. You, the end user, are responsible for conducting a risk assessment of each job site before setting up and operating this machine.

Intended use – Use this machine in accordance with the instructions and precautions in this manual. Do not use this machine for any purpose other than its intended use as described in this manual.

Personal protective equipment – Always wear appropriate personal protective gear when operating this or any other machine tool. Flame-resistant clothing with long sleeves and legs is recommended when operating the machine. Hot chips from the workpiece may burn or cut bare skin.

Work area – Keep the work area around the machine clear of clutter. Restrain cords and hoses connected to the machine. Keep other cords and hoses away from the work area.

1.4 MACHINE-SPECIFIC SAFETY PRECAUTIONS

Electrical connection – Make sure the grounding is connected properly and electrical cabinets are closed. Do not operate the electric switch, or button, or cables with wet hands, as this may result in electrical shock. Use only the foreseen earth connection. Do not ground to this equipment as it is possible to short-circuit the motor and/or control box when grounding to this equipment. Improper grounding poses a risk of electrical shock.

Power supply – Make sure the power supply is disconnected when not operating or executing maintenance on the equipment. Do not make any modifications to existing or original electrical circuits, cabinets, safety stops and other related original components. Do not operate the equipment before closing all equipment covers.

Power cables – Make sure all power cables are in good condition. In case of wear or damage, replace immediately. Don't pull the equipment by its cable(s) and don't disconnect the power cable from the equipment to cut off power. The cable(s) should be kept away from heat, power, oil, dirt and sharp-pointed tools or debris. Check the cable(s) before, during and after every operation.

Moving parts – S.F.E. Group machines have numerous exposed moving parts and interfaces that can cause severe impact, pinching, cutting, and other injuries. Except for stationary operating controls, avoid contact with moving parts by hands or tools during machine operation. Remove gloves and secure hair, clothing, jewelry, and pocket items to prevent them from becoming entangled in moving parts.

Sharp edges – Cutting tools and workpieces have sharp edges that can easily cut skin. Wear protective gloves and exercise caution when handling a cutting tool or workpiece.

Hot surfaces – During operation, motors, hydraulic equipment and cutting tools can generate enough heat to cause severe burns. Pay attention to hot surface labels, and avoid contact with bare skin until the machine has cooled.

Dust and toxic fumes – Protect yourself from toxic fumes that may be produced. Make sure there is appropriate ventilation and/or fume extraction in the working area. If a large amount of dust or fumes are produced, wear a dust-proof respirator or mask.

Eye hazard – This machine produces metal chips during operation. Always wear impact-resistant eye and ear protection when operating the machine.

Hazardous environments – Do not operate the machine in environments where potentially explosive materials, toxic chemicals, or radiation may be present. Do not operate the machine in wet or overly humid environments.

1.5 RISK ASSESSMENT AND HAZARD MITIGATION

Machine Tools are specifically designed to perform precise material-removal operations.

Stationary Machine Tools include lathes and milling machines and are typically found in a machine shop. They are mounted in a fixed location during operation and are considered to be a complete, self-contained machine. Stationary Machine Tools achieve the rigidity needed to accomplish material-removal operations from the structure that is an integral part of the machine tool.

In contrast, Portable Machine Tools are designed for on-site machining applications. They typically attach directly to the workpiece itself, or to an adjacent structure, and achieve their rigidity from the structure to which it is attached. The design intent is that the Portable Machine Tool and the structure to which it is attached become one complete machine during the material-removal process.

To achieve the intended results and to promote safety, the operator must understand and follow the design intent, set-up, and operation practices that are unique to Portable Machine Tools.

The operator must perform an overall review and on-site risk assessment of the intended application. Due to the unique nature of portable machining applications, identifying one or more hazards that must be addressed is typical.

When performing the on-site risk assessment, it is important to consider the Portable Machine Tool and the workpiece as a whole.

1.6 RISK ASSESSMENT CHECKLIST

The following checklist is not intended to be an all inclusive list of things to watch out for when setting up and operating this portable machine tool. However, these checklists are typical of the types of risks the assembler and operator should consider. Use these checklists as part of your risk assessment.

Table 1-1 Risk Assessment Checklist Before Set-up

☐	I took note of all the warning labels on the machine.
☐	I removed or mitigated all identified risks (such as tripping, cutting, crushing, entanglement, shearing, or falling objects).
☐	I considered the need for personnel safety guarding and installed any necessary guards.
☐	I read the machine assembly instructions.
☐	I considered how this machine operates and identified the best placement for the controls, cabling, and the operator.
☐	I evaluated and mitigated any other potential risks specific to my work area.

Table 1-2 Risk Assessment Checklist After Set-up

☐	I identified all possible pinch points, such as those caused by rotating parts, and informed the affected personnel.
☐	I planned for containment of any chips or swarf produced by the machine.
☐	I followed the required maintenance checklist with the recommended lubricants.
☐	I checked that all affected personnel have the recommended personal protective equipment, as well as any site-required or regulatory equipment.
☐	I evaluated and mitigated any other potential risks specific to my work area.

2. OVERVIEW

The TAG PREP 4 is a high-tech portable inside diameter locking cold pipe bevelling machine. This bevelling machine can be used for a wide range of applications, including facing, external bevelling, internal bevelling, elbow and fittings bevelling, J-prepping, and counterboring of pipes within the selected model's working range (inside diameter or i/d). The machine is inserted and locked into the i/d of the pipe while working.

TAG PREP models can be used on any type of steel, as well as exotic alloys, and can be used on site or in a workshop environment. They offer an unmatched performance-to-weight ratio, delivering high power while remaining lightweight and ideal for demanding weld prep, bevelling, and elbow beveller applications.

2.1 MACHINE DIMENSIONS AND TECHNICAL SPECIFICATIONS

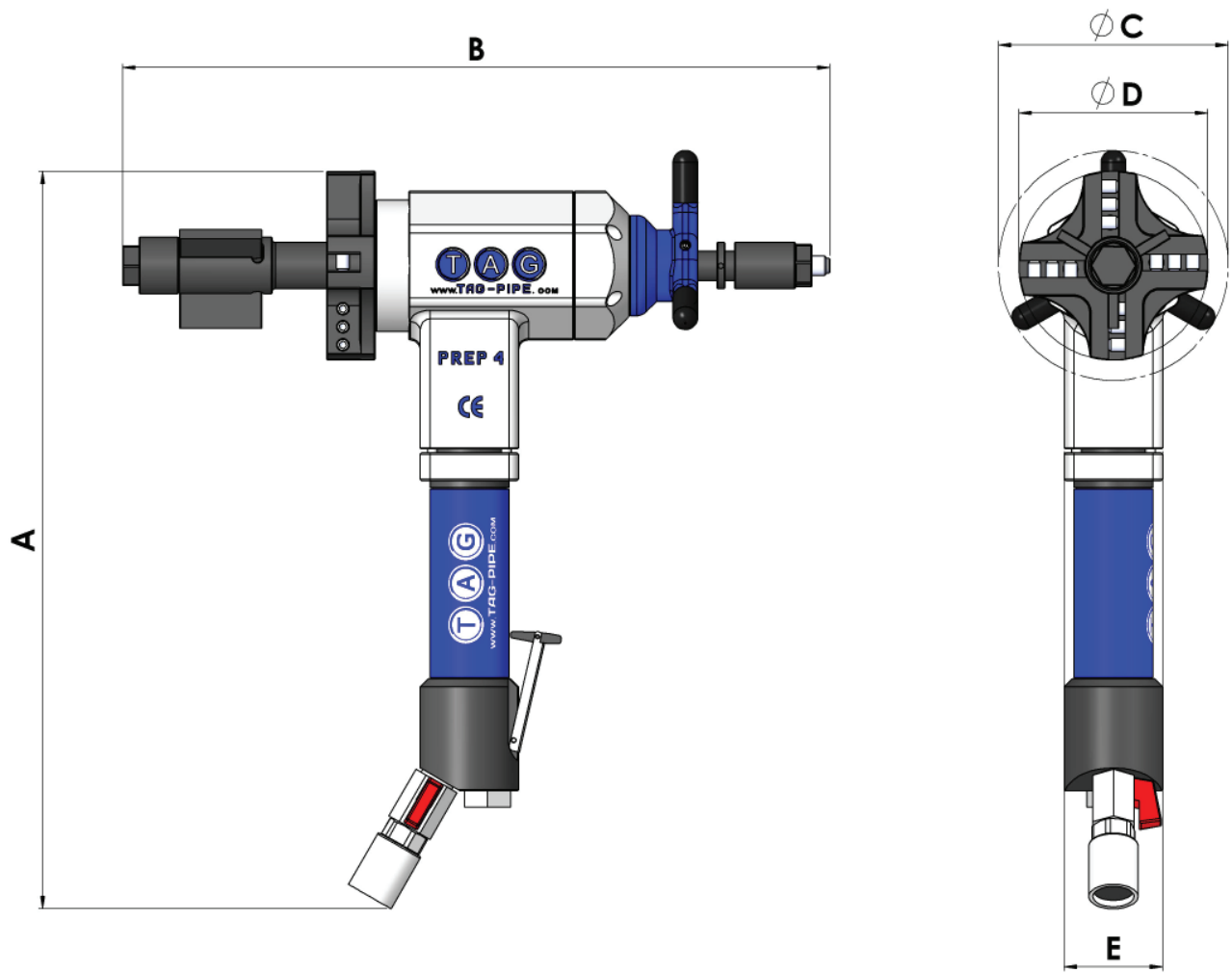


Figure 2-1 PREP 4 machine dimensions

Table 2-1 PREP 4 dimensions - by machine type

DIMENSION	PNEUMATIC	ELECTRIC	BATTERY
A	455 mm	510 mm	540 mm
B	434 mm	434 mm	434 mm
Ø C	140 mm	140 mm	140 mm
Ø D	115 mm	115 mm	115 mm
E	60 mm	90 mm	90 mm

Table 2-2 Technical specifications

DESCRIPTION	UNIT	PNEUMATIC	ELECTRIC	BATTERY
PART NO.	n/a	TP4P	TP4E110 / TP4E220	TP4B110 / TP4B220
Locking tube range	mm (inch) (i/d)	23 - 112mm (1 - 4")	23 - 112 (1 - 4")	23 - 112 (1 - 4")
Idle speed	rpm	5 - 100	5 - 82	23 / 37 / 50
Torque	N m	176	152	140
Length of axial feed	mm	40.5	40.5	40.5
Max operating temperature	°C	55	55	55
Max acoustic radiation	dB	75	75	75
Pneumatic motor power	hp	1.3	n/a	n/a
Air consumption	cfm / l/min.	36 / 1020	n/a	n/a
Air working pressure	psi / bar	90 / 6.5	n/a	n/a
Air hose connection	inches	½"	n/a	n/a
Electric motor power	watt	n/a	1300	800
Voltage	volt	n/a	110 or 220	Charger 110 or 220
Frequency	Hz	n/a	50 / 60	Charger 50/60
Unit weight	kg / lbs	9.4 / 20.7	10.4 / 23	11.1 / 24.5
Packing dimensions	mm	640 x 500 x 140	640 x 500 x 140	640 x 640 x 140
Packing weight	kg / lbs	28.5 / 63	29.5 / 65	30.5 / 67

2.2 ACCESSORIES AND OPTIONS

2.2.1 AVAILABLE POWER OPTIONS

A variety of power options are available for the TAG PREP 4, which is a modular machine in the sense that any of the motor types shown below (electric, pneumatic, or either 110v or 220v battery) can be mounted. This increases the machine's overall user friendliness and flexibility. The motors can be installed and / or exchanged rapidly on the same motor mounting for added versatility at the worksite. Motors can also be upgraded and replaced as needed to extend tool service life. For information on how to switch between power options or replace a drive kit, see Section 3.8. For further information on pneumatic operation, see Section 5.1.1.



2.2.2 STANDARD ACCESSORIES

The TAG PREP 4 comes with a metal storage case, service tool kit, standard shaft, reduced shaft, and instruction manual. 23 different sizes of locking jaws are included inside the storage case.



2.2.3 OPTIONAL ACCESSORIES

Several optional accessories are also available for the TAG PREP 4. The elbow / fittings shaft (shown in Figure 2-2) can be used on elbow-shaped workpieces with an i/d of 56 - 215 mm (2.20" - 8.46"). For further information on attaching and using the elbow fittings shaft, see Section 3.5.

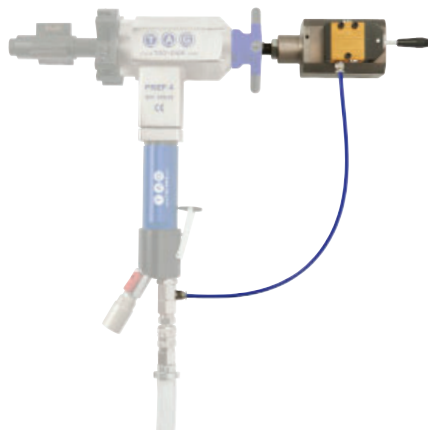


Figure 2-3 Auto locking device



Figure 2-5 Filter lubricator

The bench attachment is used to affix the TAG PREP 4 to a workbench for use as a stationary unit. Use of the bench attachment is described in more detail in Section 3.7.

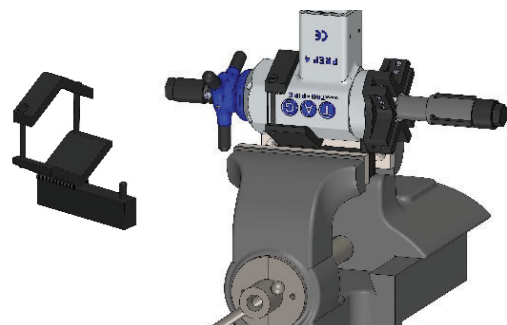


Figure 2-6 Bench attachment

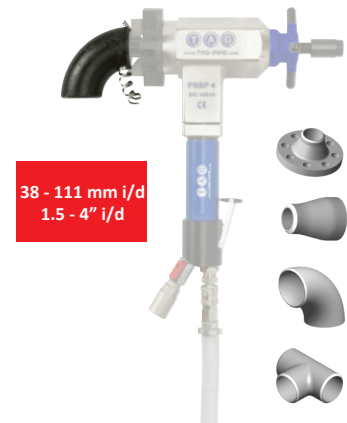


Figure 2-2 Elbow / fittings shaft

The auto locking device (shown in Figure 2-3) is used only with pneumatically powered machines.

For further information on installing the auto locking device, see Section 3.6.

Ratchet handles (shown in Figure 2-4) and a filter lubricator (shown in Figure 2-5) are also available for the TAG PREP 4.

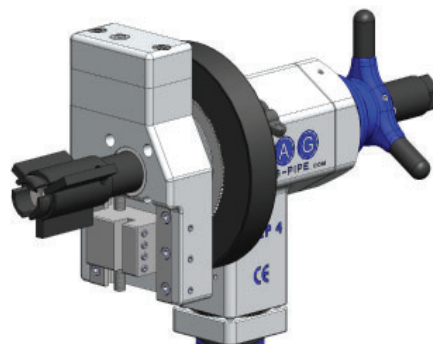


Figure 2-4 Ratchet handles

2.2.4 FLANGE FACING KIT (TAG TP4 FFM)

A kit is available for converting the TAG PREP 4 for use as an i/d mounted facing machine. In this configuration, the TP4 FFM can be used for all types of flange machining, spot facing, and weld preparation with any of the standard TAG PREP 4 modular power options.

The Flange Facing Kit consists of a positioner, feed screw, threaded bushing, tool kit, tool holder assembly, ring gear, protector, and flange assembly. For information on assembling the Flange Facing Kit to the TAG PREP 4, see Section 4.1 on page 24.



Dimensions for the TAG TP4 FFM configuration are shown below. The working flange range for all power options is 30 - 180 mm (1.18 - 7").

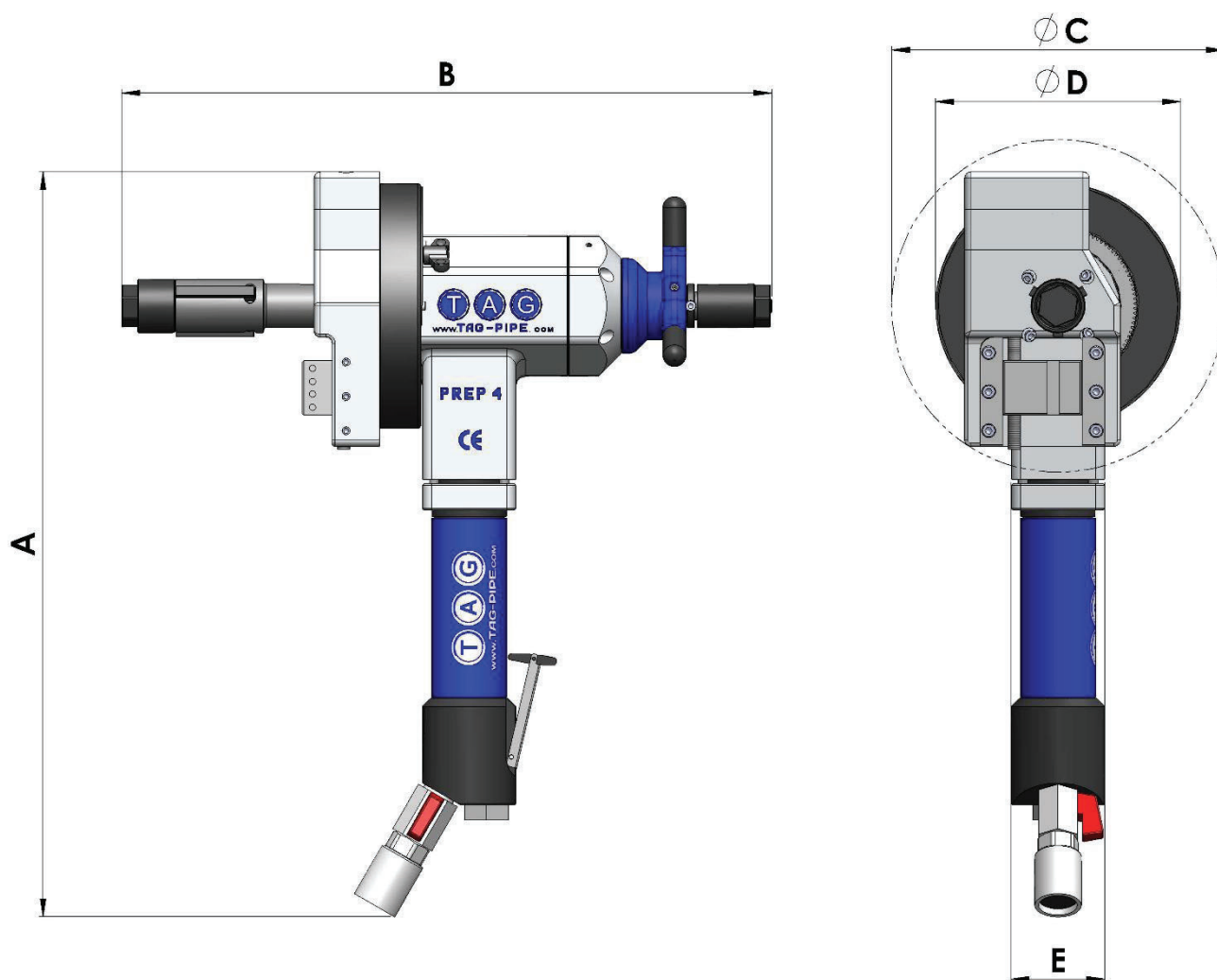


Figure 2-7 TP4 FFM Machine dimensions

Table 2-3 TP4 FFM dimensions - by machine type

DIMENSION	PNEUMATIC	ELECTRIC	BATTERY
A	478 mm	533 mm	573 mm
B	434 mm	434 mm	434 mm
Ø C	214 mm	214 mm	214 mm
Ø D	157 mm	157 mm	157 mm
E	60 mm	90 mm	90 mm

2.2.5 TOOLING OPTIONS

The TAG Pipe PREP's HSS Co (high speed steel with cobalt) range of tooling includes facing, bevel, double-bevel, compound bevel and counter bore tools. TAG tooling is available in a range of different lengths and sizes in order to precisely match the required application.

All shapes, sizes and angles of tooling are available.

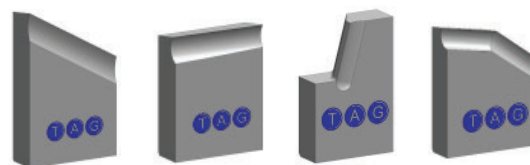


Figure 2-8 Formed tools: Examples of bevel, facing, internal, and compound tools



Figure 2-9 Holder / insert

TAG Pipe also offers special tool steel, coatings, and inserts for applications not covered by the standard range of tooling. For greater versatility and convenience, one holder (shown at the bottom of Figure 2-9) is designed to fit all insert types.

The TAG PREP 4 uses an offset 4-jaw tool holder (chuck) which allows for the use of 4 insert or formed tools to enable simultaneous external and internal bevelling.

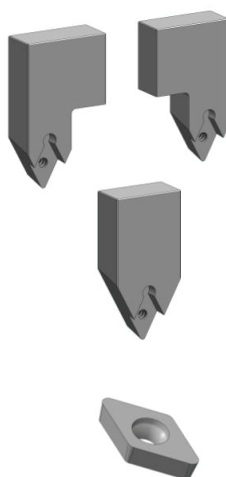


Figure 2-10 Holder and inserts for flange facing

3. SETUP

The following section describes the basic setup procedure for the TAG PREP 4, followed by the setup procedures for several machine accessories.

Prior to mounting the TAG PREP 4, measure the inside diameter (i/d) of the workpiece. The TAG PREP 4 will be mounted in the i/d with the appropriate shaft and locking jaws for the i/d size. The machine comes with two shafts and 23 different sizes of locking jaws.

The reduced shaft covers inside diameters from 23 - 36 mm (0.9 - 1.41"), and the standard shaft covers inside diameters from 35 - 112 mm (1.38 - 4.40"). There are 4 different sizes of locking jaws to fit the reduced shaft, and 19 different sizes of locking jaws to fit the standard shaft.

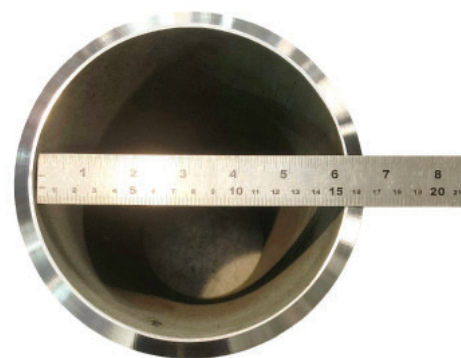


Figure 3-1 Measuring inside diameter

3.1 INSTALLING THE STANDARD OR REDUCED SHAFT

Once you have determined the i/d of your workpiece, follow the steps below to install either the standard or reduced shaft as required. The procedure for removing the standard shaft and installing the reduced shaft is described. Complete the steps in reverse order to switch back to the standard shaft.

1. First unscrew the shaft end nut and shaft ring, then remove the locking jaws (if installed).

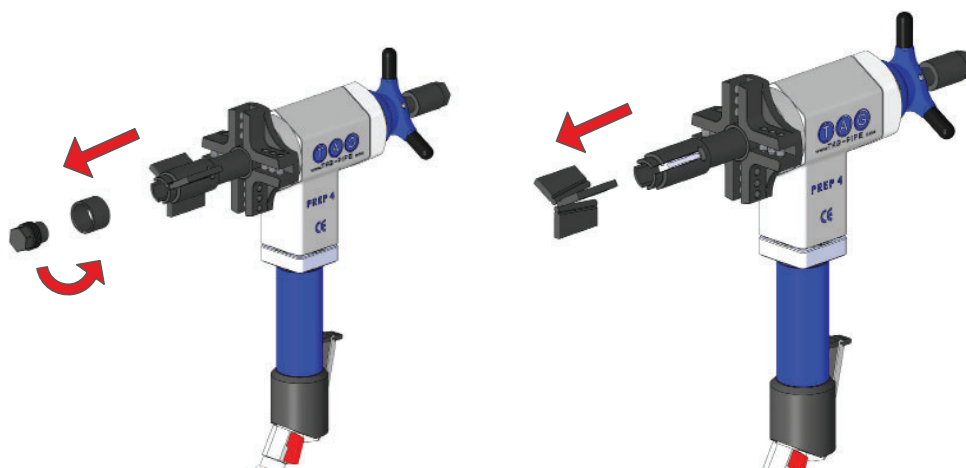


Figure 3-2 Removing shaft end nut, shaft ring and locking jaws

2. Then remove the inside shaft. To do so, rotate the lock nut on the rear of the machine clockwise, then use long nose pliers to rotate the inside shaft clockwise until it comes out.

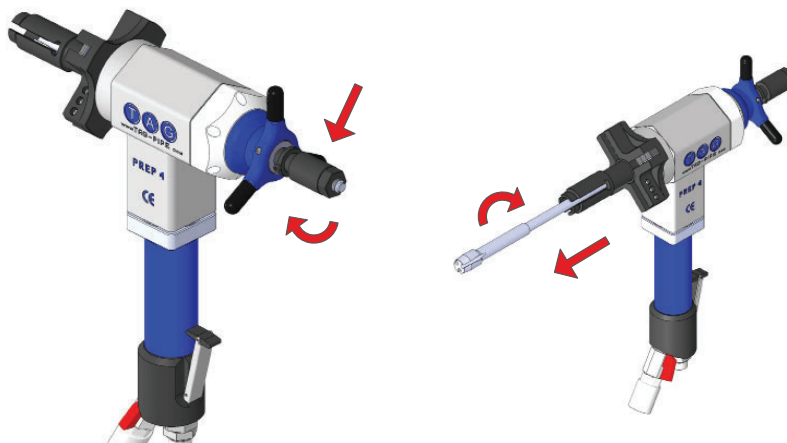


Figure 3-3 Removing the inside shaft

3. Next, rotate the lock nut anti-clockwise and remove it.
4. Unscrew the Allen screw from the stop ring, then remove the stop ring.

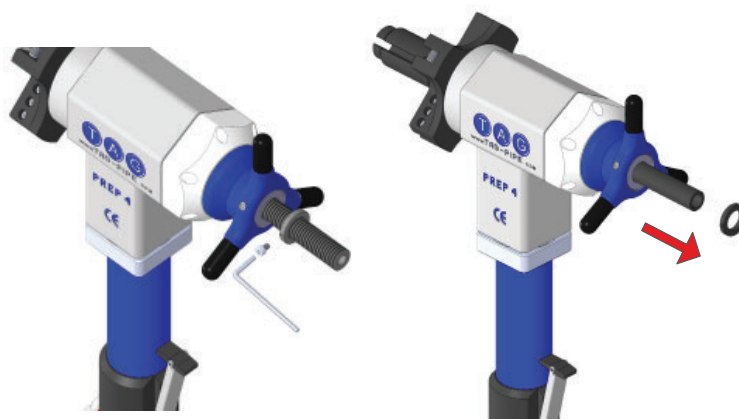


Figure 3-4 Removing the stop ring

5. Remove the standard outside shaft by rotating the feed wheel anti-clockwise, then install the reduced outside shaft and screw it on.

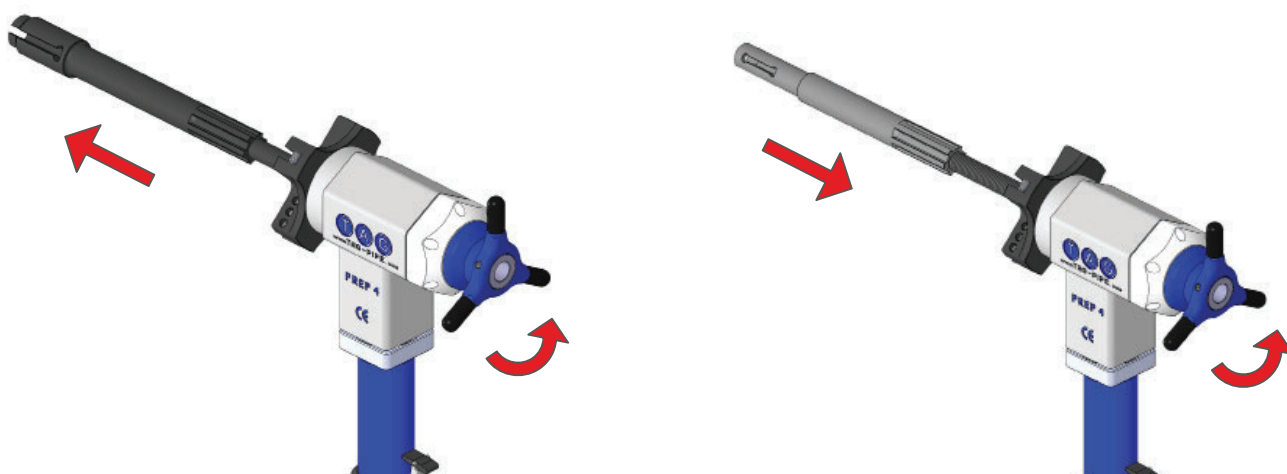
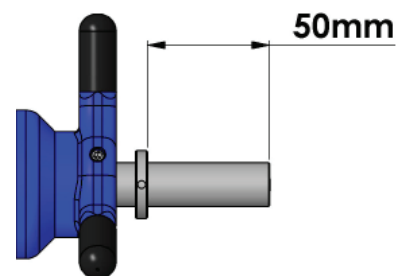


Figure 3-5 Replacing the outside shaft

6. Screw the stop ring back on by turning it clockwise to a distance of 50 mm as shown.
7. Reinstall the Allen screw on the stop ring and screw the lock nut back on, referring to Figure 3-3 and Figure 3-4. Tighten the lock nut all the way down.



8. Finally, insert the reduced inside shaft. Use long nose pliers to screw the inside shaft (reverse threaded) anti-clockwise until it is positioned 2 mm from the end of the outside shaft as shown in Figure 3-6.

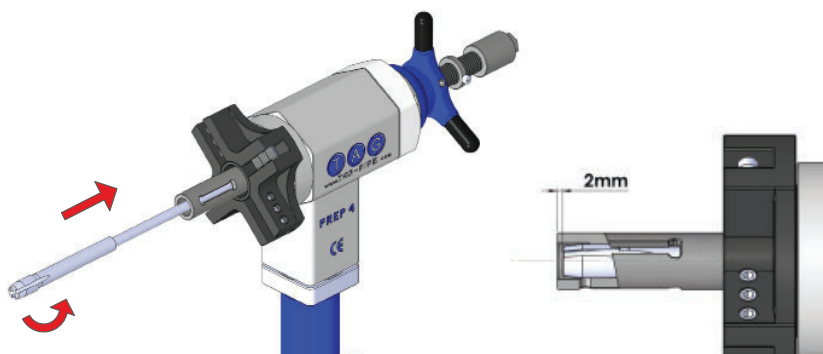


Figure 3-6 Installing the inside shaft

3.2 ASSEMBLING THE LOCKING JAWS

The TAG PREP 4 is mounted inside the i/d of the workpiece using a jaw system consisting of 3 equilaterally positioned machined jaw segments. These are retained and locked on an inner grooved expansion shaft. Select the appropriate set of locking jaws for the workpiece i/d and complete the steps below to assemble the locking jaws to the shaft.

1. First, remove the shaft end nut and shaft ring as shown in Figure 3-2. Then insert the appropriate locking jaws in the shaft as shown in Figure 3-7. Hold the jaws and unscrew the lock nut on the rear of the machine to allow the jaws to enter their seat. If this is done correctly, the locking jaws should have a little play.



Figure 3-7 Installing the locking jaws

2. Then, screw the lock nut on the rear of the machine back in to secure the locking jaws, and reinstall the shaft end nut and shaft ring as shown.

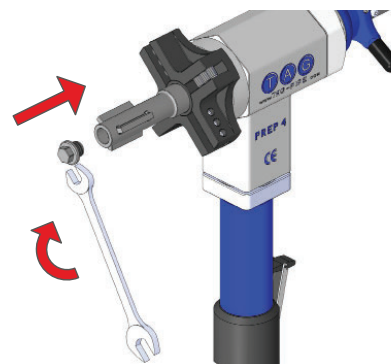


Figure 3-8 Re-installing the shaft end nut and shaft ring

3.3 MOUNTING THE MACHINE

The TAG PREP 4 offers a self-centering 3-leg i/d locking system. This system automatically centers the tool in the pipe to ensure accurate and reliable machining. To mount the machine in the workpiece, insert the locking jaws at least 15 - 20 mm and use the wrench to tighten the lock nut by turning it clockwise.

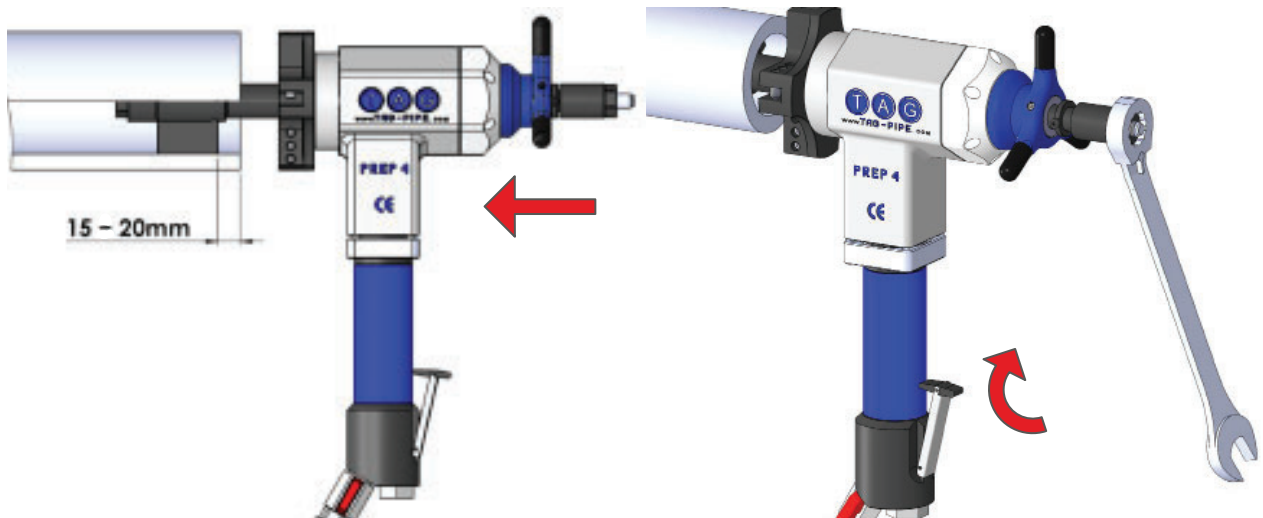


Figure 3-9 Machine mounting

NOTICE

The jaws must be inserted at least 15 - 20 mm to ensure proper positioning and locking.

3.4 TOOL SETUP

Select the proper tool for the bevel or facing operation required, then insert it into the chuck. Use an Allen wrench to lock the tool in place by turning the grub screws clockwise, as shown in below. If necessary, pair a cutting tool and facing tool to carry out both operations simultaneously.

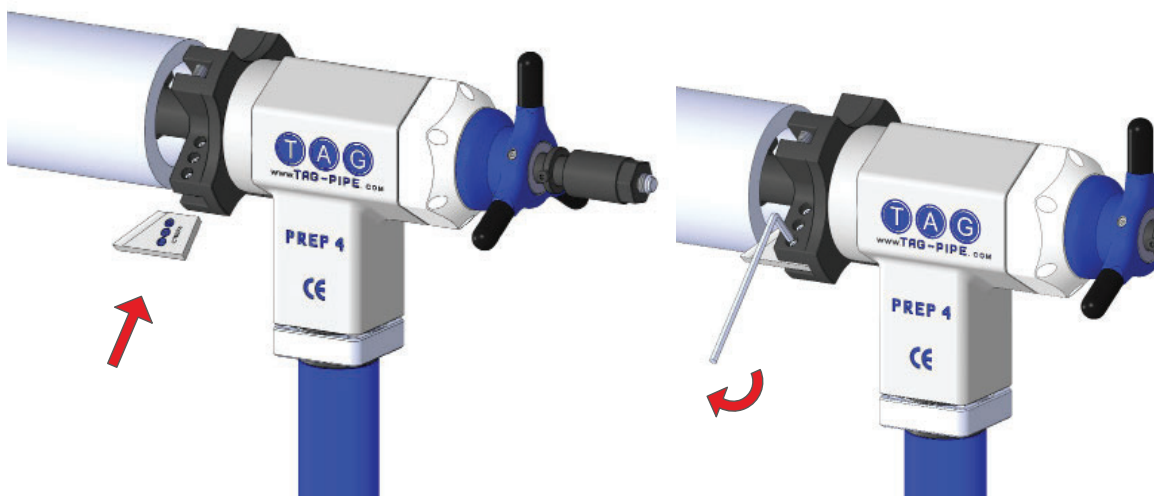


Figure 3-10 Tool installation

NOTICE

The tool must be installed perpendicular to the chuck. Installing the tool at an angle will result in undesired work results.

3.5 ELBOW SHAFT ASSEMBLY

When working with elbow-shaped workpieces, use the following steps to install the elbow / fittings shaft. To switch back to the standard or reduced shaft, complete the steps in reverse order.

Begin by following the same disassembly procedure used to switch between the standard and reduced shafts. Disassemble the shaft end nut, shaft ring, locking jaws, inside shaft, lock nut on the rear of the machine, Allen screw, stop ring, and outside shaft, as described in steps 1 through 5 in Section 3.1 on page 15 through 16.

Next, install the elbow shaft as follows:

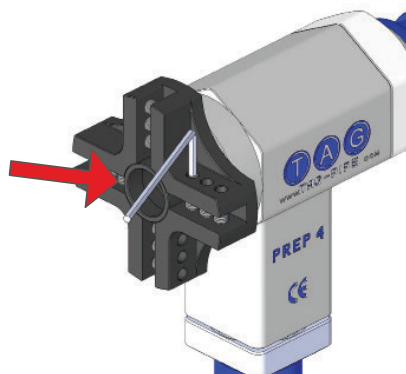


Figure 3-11 Bush removal

1. Screw in all grub screws tight using the Allen wrench.
2. Remove the bush (indicated by the red arrow in Figure 3-11), and replace it with the new bush from the elbow kit.

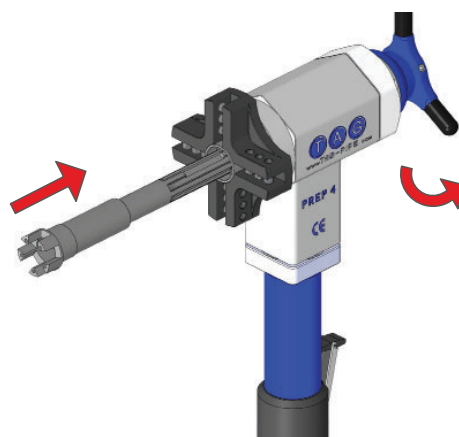


Figure 3-12 Outside elbow shaft installation

3. Insert the outside elbow shaft from the elbow kit and rotate the feed wheel clockwise, as shown in Figure 3-12.

4. Screw the stop ring back on and lock the ring in place using the Allen key to tighten the screw. The stop ring must be locked at a distance of 30 mm as shown.

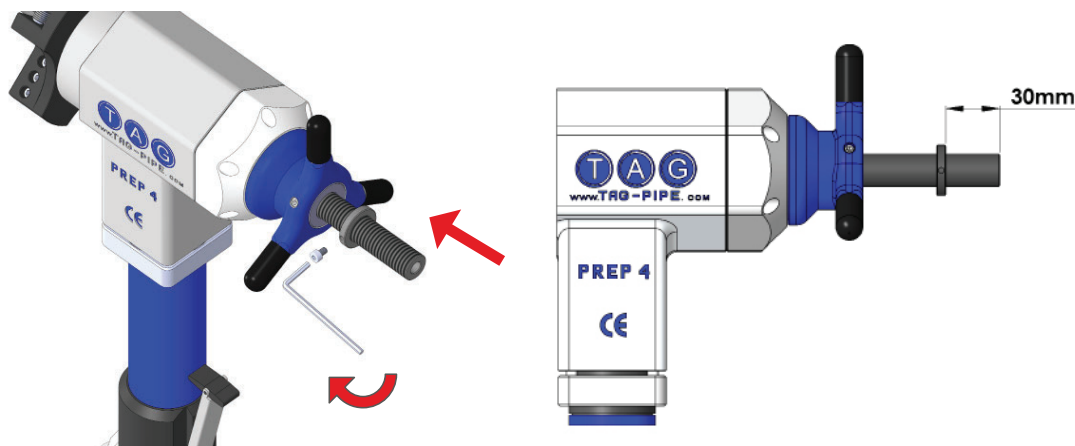


Figure 3-13 Lock ring installation

5. Screw the lock nut back on by turning it clockwise (refer to Figure 3-3 on page 16).
6. Insert the inside elbow shaft from the kit (reverse threaded), turning it anti-clockwise until it is positioned 20 mm from the end of the outside shaft.

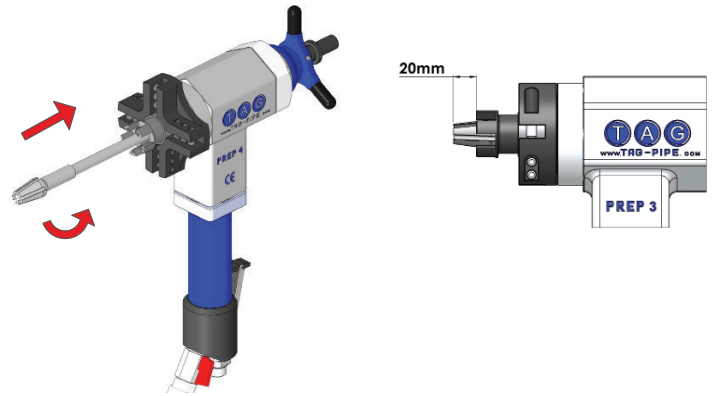


Figure 3-14 Elbow shaft positioning

7. Insert the size of locking jaws required by sliding them into the grooves on the inside elbow shaft.
8. Finally, place the securing cap on the locking jaws and tighten it using the 5 screws.

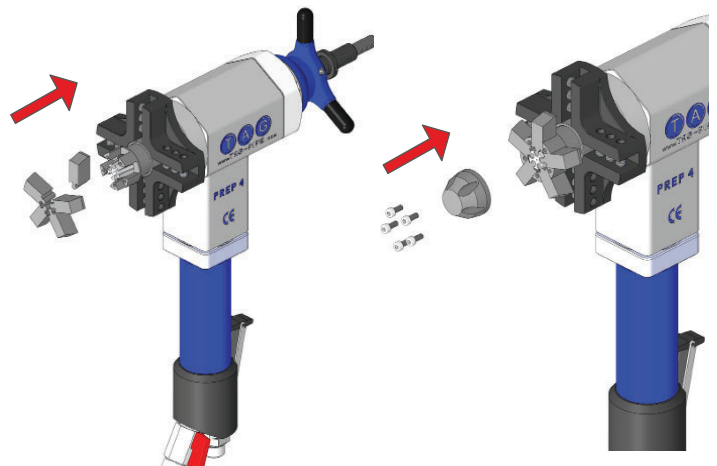


Figure 3-15 Securing the locking jaws

3.5.1 MOUNTING THE MACHINE WITH ELBOW SHAFT INSTALLED

To mount the machine to the workpiece with the elbow shaft installed, insert the machine into the elbow and lock it loosely with the lock nut (see Figure 3-9 on page 18). Then insert the elbow positioner (indicated by a red arrow in Figure 3-16) between the elbow and chuck.

Turn the feed wheel clockwise to straighten the elbow in the locking jaws, then remove the elbow positioner. Cutting tools can now be installed as described in Section 3.4.

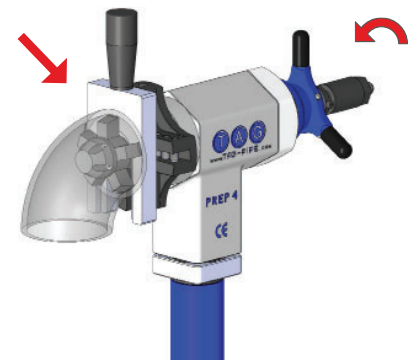


Figure 3-16 Mounting to elbow shaped workpiece

3.6 INSTALLING THE AUTOMATIC LOCKING DEVICE KIT

The automatic locking device kit can be installed as an option on pneumatic machines. It is used to automatically lock the device to the workpiece before beginning work.

Begin by following the same disassembly procedure used to switch between the standard and reduced shafts. Disassemble the shaft end nut, shaft ring, locking jaws, inside shaft, lock nut on the rear of the machine, Allen screw and stop ring as described in steps 1 through 4 in Section 3.1 on page 15 and 14. **Note:** The outside shaft does not need to be removed.

You are then ready to begin installing the automatic locking device.

1. First, screw on the locking device nut and locking device by tightening them clockwise to the stop. Turn them to the correct position and lock the nut against the locking device, as shown in Figure 3-17.

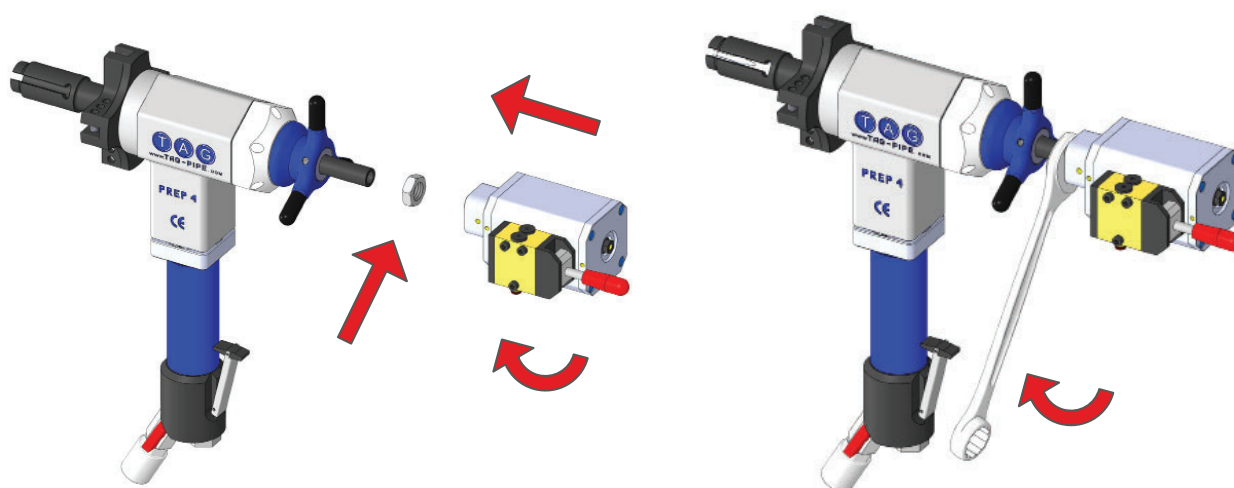


Figure 3-17 Automatic locking device installation

2. Next, screw in the bottom connector and connect the hose from the bottom connector to the locking device.

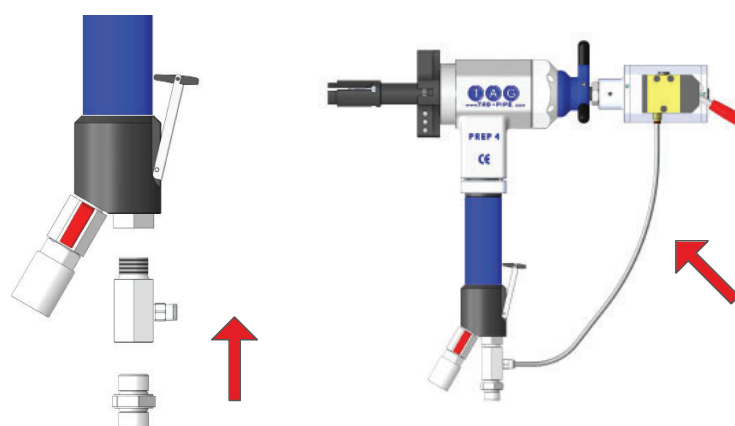


Figure 3-18 Connecting the automatic locking device

3. Then connect the air and move the red lever on the rear of the locking device down (as shown at right in Figure 3-19) to move the inside shaft to the max. forward position.
4. Insert the inside shaft and screw in anti-clockwise until there is a 0.5 - 1 mm gap between the shafts. Use the shaft end nut to measure the gap.

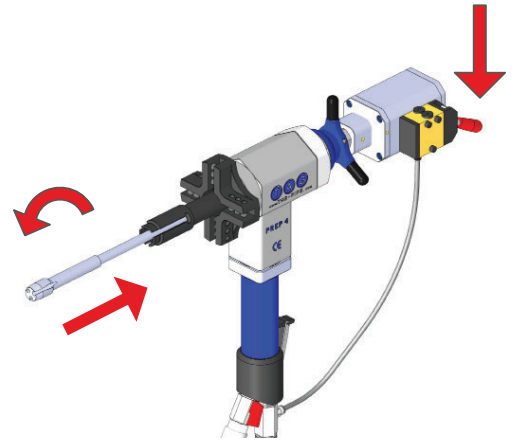
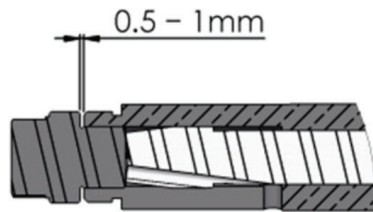


Figure 3-19 Inside shaft installation

5. Select and install the proper locking jaws for the pipe diameter. Hold the jaws in position with your hand and move the red lever (indicated in Figure 3-19 above) upward to retract the inside shaft.
6. Re-install the shaft ring by screwing it on clockwise, then re-install the shaft end nut in the same manner.

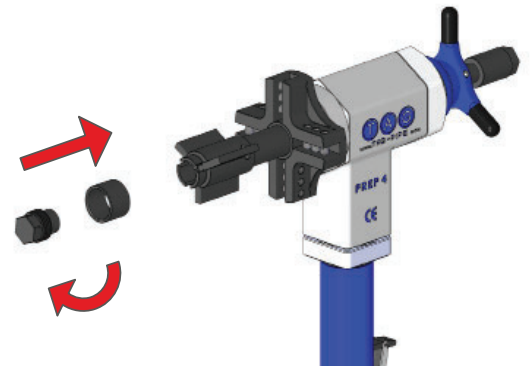


Figure 3-20 Shaft ring and end nut installation

7. Finally, insert the pin into the locking device and lock with the first grub screw as shown in Figure 3-21, followed by the second grub screw.

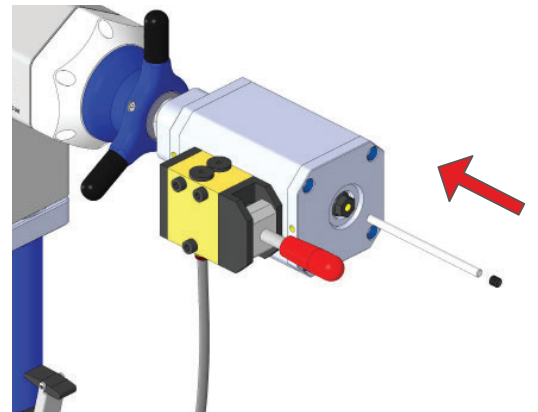


Figure 3-21 Pin installation

3.7 INSTALLING THE BENCH ATTACHMENT

To operate the TAG PREP 4 as a stationary unit, install the optional bench attachment kit.

WARNING

Before installing the bench attachment, ensure that all connections which may accidentally activate the machine have been disconnected.

The bench attachment kit consists of two pieces installed on the top and bottom of the machine and held together using screws. Assemble the kit as shown in Figure 3-22.

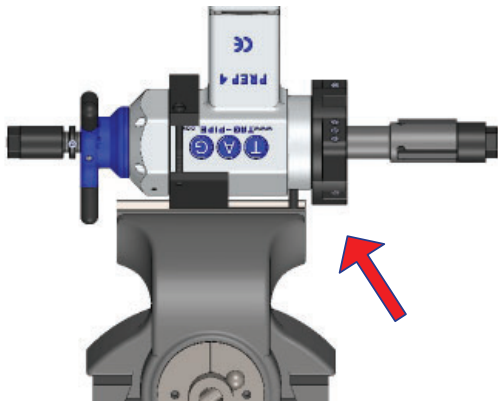


Figure 3-23 Machine installed on bench

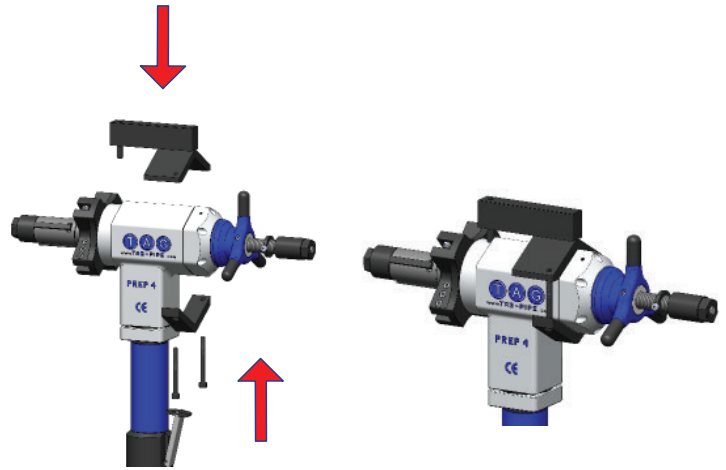


Figure 3-22 Installing the bench attachment

Rotate the machine as shown and insert it into the bench. Leave sufficient clearance to turn the spindle (as indicated by the red arrow in Figure 3-23).

3.8 DRIVE KIT REPLACEMENT



WARNING

Before replacing the drive kit, ensure that all connections which may accidentally activate the machine have been disconnected.

To switch between the pneumatic drive kit and electric or battery operation, unscrew the 4 screws as shown in Figure 3-24, then insert the electric drive kit and reinstall the 4 screws.

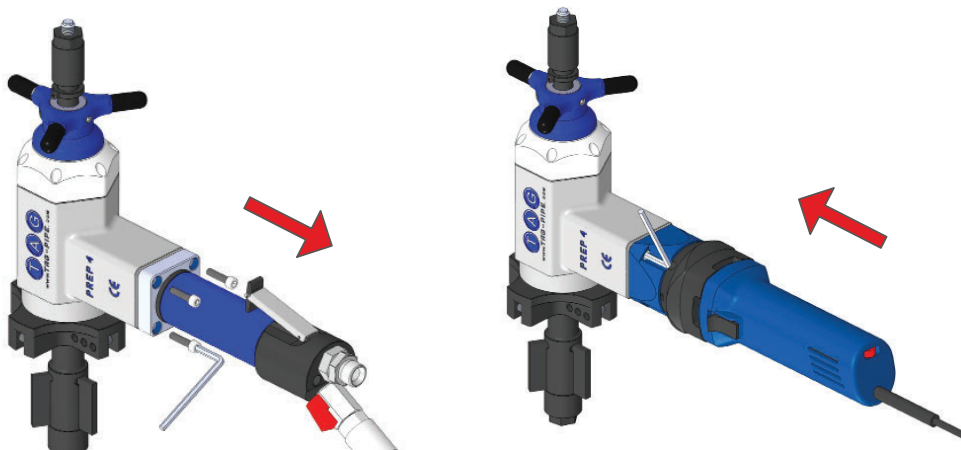


Figure 3-24 Drive kit replacement

4. TAG TP4 FFM FOR FLANGE FACING

4.1 ASSEMBLING THE FLANGE FACING KIT

To convert the TAG PREP 4 for flange facing, begin by following the same disassembly procedure used to switch between the standard and reduced shafts or elbow shaft. Disassemble the shaft end nut, shaft ring, locking jaws, inside shaft, lock nut on the rear of the machine, Allen screw, stop ring, and outside shaft, as described in steps 1 through 5 in Section 3.1 on page 15 through 16. Also remove the screws and tool holder to leave only the machine body.

To install the Flange Facing Kit, first insert the protector and then the ring gear, ensuring that the fixing holes on the protector are properly aligned.



Figure 4-1 Installing the protector and ring gear

Lock the ring gear and protector in place by tightening 4 dowels on each of the components as shown.

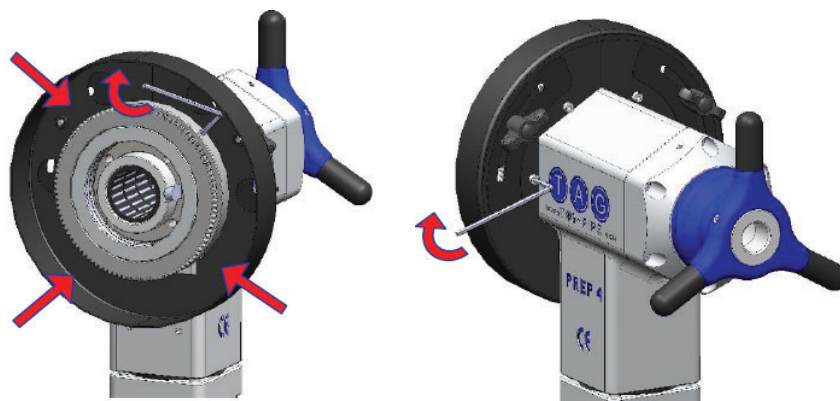


Figure 4-2 Locking the protector and ring gear

Next, install the flange assembly and screw it onto the machine body.

Once the Flange Facing Kit is installed, install the outside shaft, stop ring, Allen screw, and lock nut on the rear of the machine as described in Steps 3, 4 and 5 in Section 3.5 on page 19.

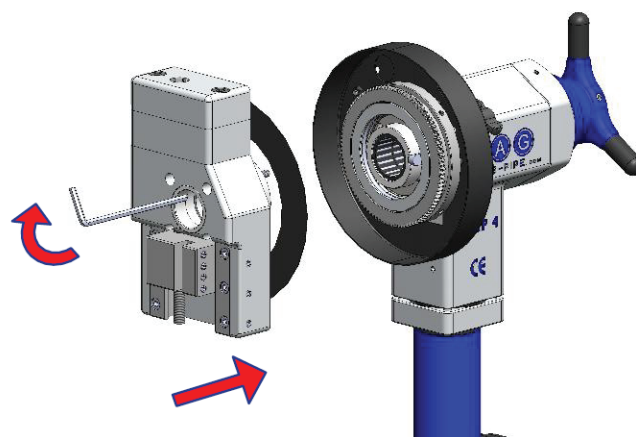


Figure 4-3 Installing the flange assembly

Then insert the inside shaft, screwing it in anti-clockwise until there is a 0.5 - 1 mm gap between the shafts as shown on page 21. Use the shaft end nut to measure the gap.

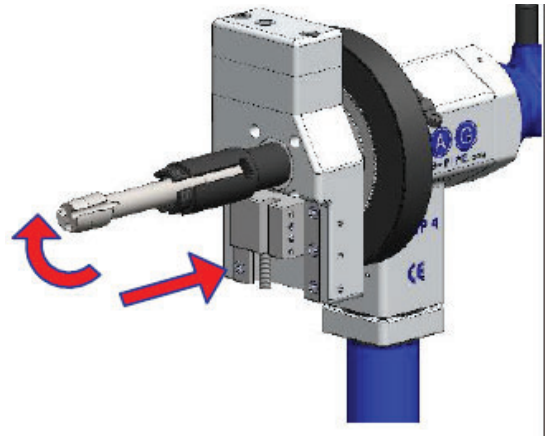


Figure 4-4 Installing the inside shaft

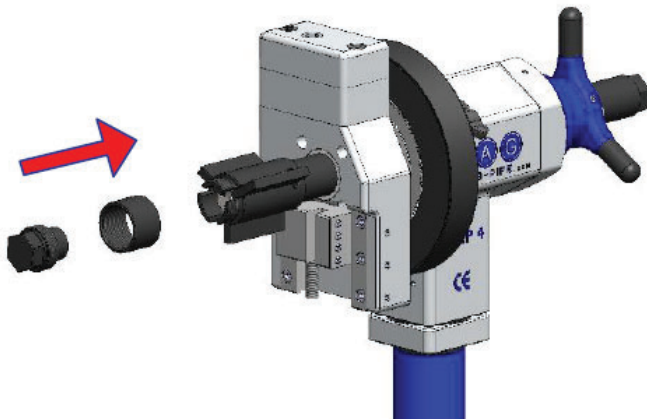


Figure 4-5 Installing the shaft ring nut and shaft end nut

Finally, select the locking jaws according to the pipe i/d and install them on the inside shaft as shown. Then hold the jaws and unscrew the lock nut on the rear of the machine to allow the jaws to enter their seat. If this is done correctly, the locking jaws should have a little play. The final step is to screw the shaft ring nut back on clockwise all the way, followed by the shaft end nut.

4.2 SELECTING A SURFACE FINISH - REPLACING THE FEED SCREW

Replace the feed screw and threaded bushing to change the surface finish you want to achieve on the flange.

Table 4-1 Feed screw selection

RMS FINISH	RA	TAG FEED SCREW CODE	TAG THREADED BUSHING CODE
63 RMS	1.6 μm	TP4FFKP-P23	TP4FFKP-P24
125 RMS	3.2 μm	TP4FFKP-P13	TP4FFKP-P12
250 RMS	6.3 μm	TP4FFKP-P25	TP4FFKP-P26

First, use an Allen wrench to hold the installed feed screw in place while you unscrew the Allen screw on the top of the flange facing assembly as shown.

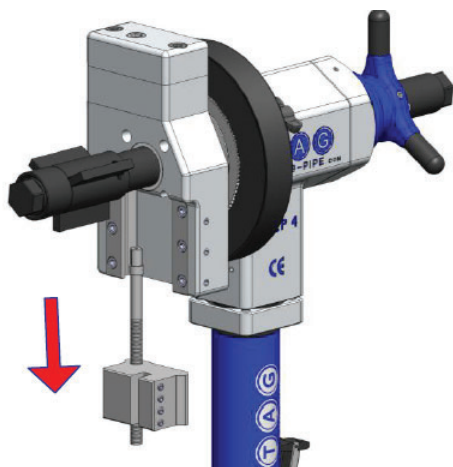


Figure 4-7 Removing the tool holder base and feed screw

Remove the feed screw, then the threaded bushing. Then re-install the selected feed screw, checking that it is hooked correctly.

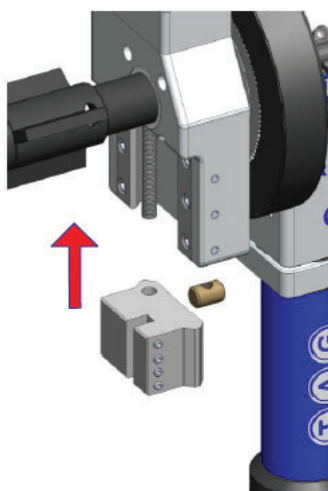


Figure 4-9 Inserting the tool holder base

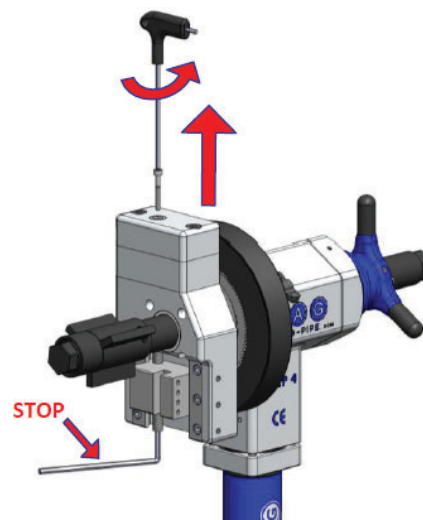


Figure 4-6 Removing the feed screw

Then, remove the tool holder base and feed screw.

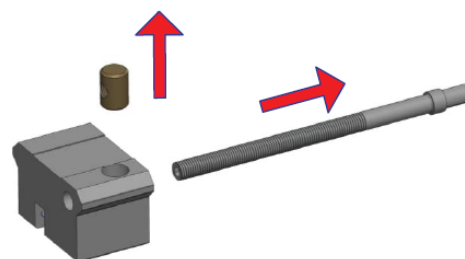
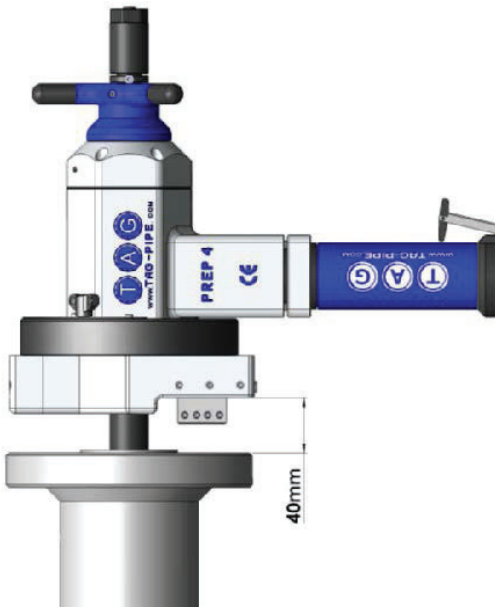


Figure 4-8 Removing the screw and threaded bushing

Finally, insert the selected threaded bushing into the tool holder base. Insert the tool holder base onto the feed screw and screw in the Allen screw on top of the flange facing assembly.

4.2.1 MOUNTING THE MACHINE TO THE WORKPIECE



The procedure for mounting the TAG TP4 FFM to the workpiece with the flange facing kit installed is the same as the standard mounting procedure (see Figure 3-9 on page 18). However, to achieve perfect positioning and alignment, the machine must be 40 mm from the machining face as shown here.

Figure 4-10 Mounting with flange facing kit installed

4.3 TOOL SETUP AND ALIGNMENT

Select the tool and insert depending on the material and application, and insert the tool into the tool holder base by sliding it into the seat. Then lock the tool in place by tightening it with the Allen wrench.

Finally, use the feed wheel to bring the tool into contact with the workpiece.

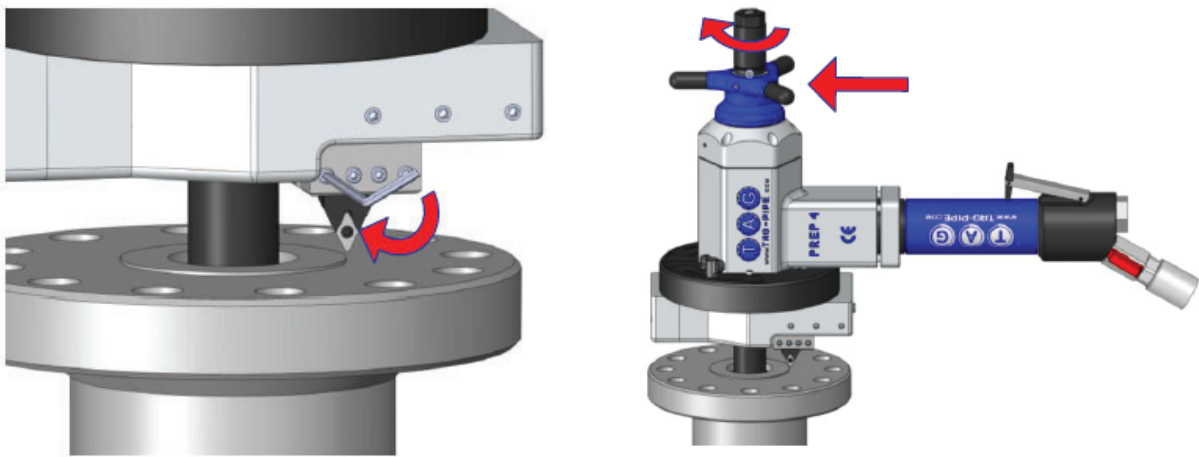


Figure 4-11 Tool setup

4.3.1 REPOSITIONING THE TOOL

Following setup, the tool can be repositioned as follows:

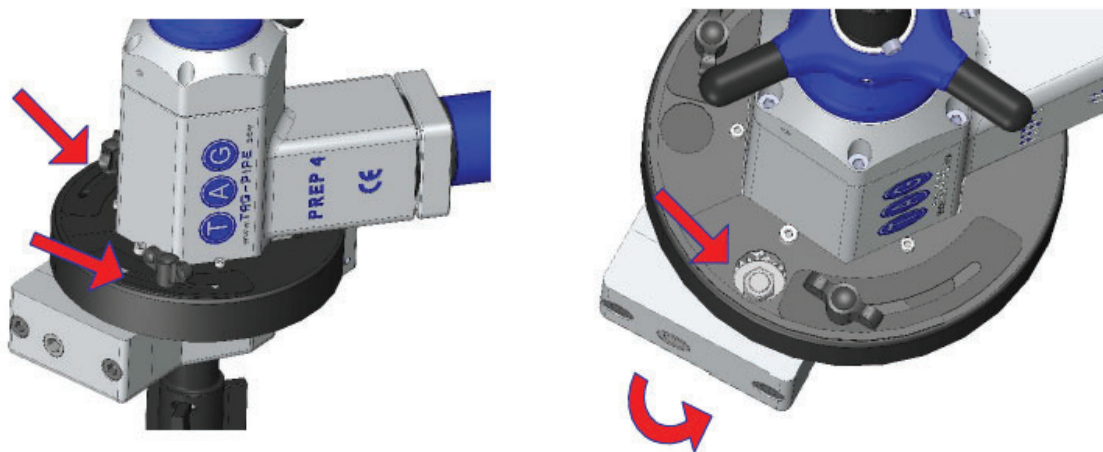


Figure 4-12 Accessing the release nut

1. Unscrew one of the 2 knobs indicated to open the access window to the release nut.
2. Rotate the flange assembly until the nut aligns with the window.

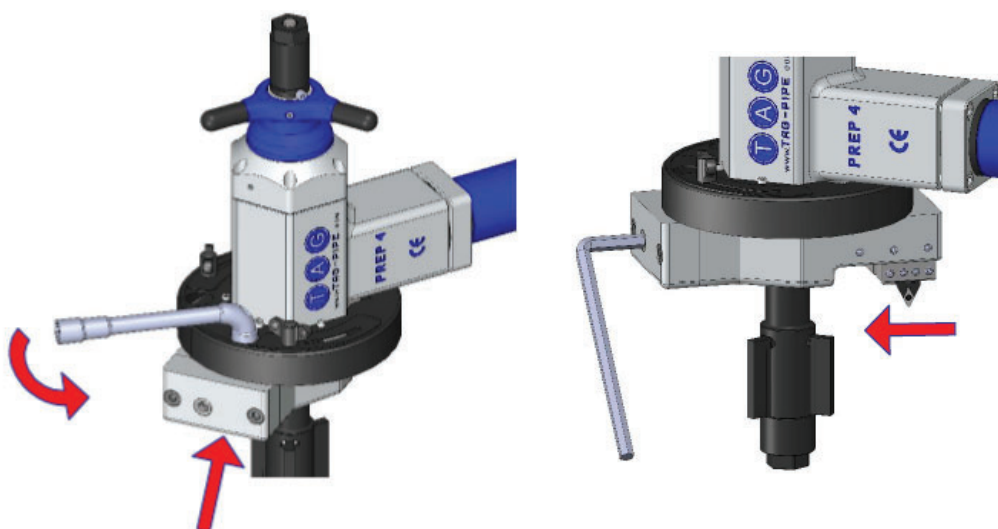


Figure 4-13 Removing the release nut

3. Using the supplied key, unscrew the nut (about 4 turns) until it comes off the wheel. Hold the flange assembly still while doing so.
4. Rotate the screw with the supplied key to position the tool holder as needed.
5. Once it is in place, screw the release nut back in, taking care to mesh the teeth between the pinion and crown.
6. Close the window by sliding the plate and turn the knob to lock it.

4.4 INSTALLING ELBOW JAWS

Elbow jaws can also be used with the TAG TP4 FFM, similar to the standard machine configuration. Elbow jaws are installed on an inside and outside elbow shaft, which are inserted in place of the standard outside shaft and inside shaft. Follow the procedure in Section 3.5 on page 19 to remove the standard inside and outside shaft and install the elbow shafts on the flange facing assembly.

The elbow fittings shaft can be used on workpieces with an i/d of 38 - 111 mm (1.5 - 4").

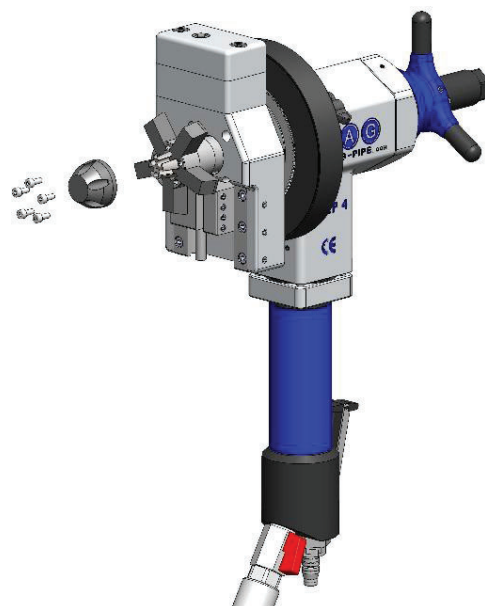


Figure 4-14 Installing the elbow shaft

WARNING

When exchanging the locking jaws, do not move the inside shaft. The inside shaft can be moved by the vane expansion nut after replacing the locking jaws.

4.4.1 MOUNTING THE TAG TP4 FFM WITH ELBOW JAWS INSTALLED

The TP4 FFM uses a positioner for mounting when the elbow jaws and shaft are installed. To mount the machine to the workpiece, first insert the machine and lock it slightly.

Then insert the positioner between the machine and the flange and check to ensure it is perfectly positioned. You will have to follow the rotation body profile perfectly.

Use the feed wheel to bring the flange, positioner, and machine into contact as shown below.

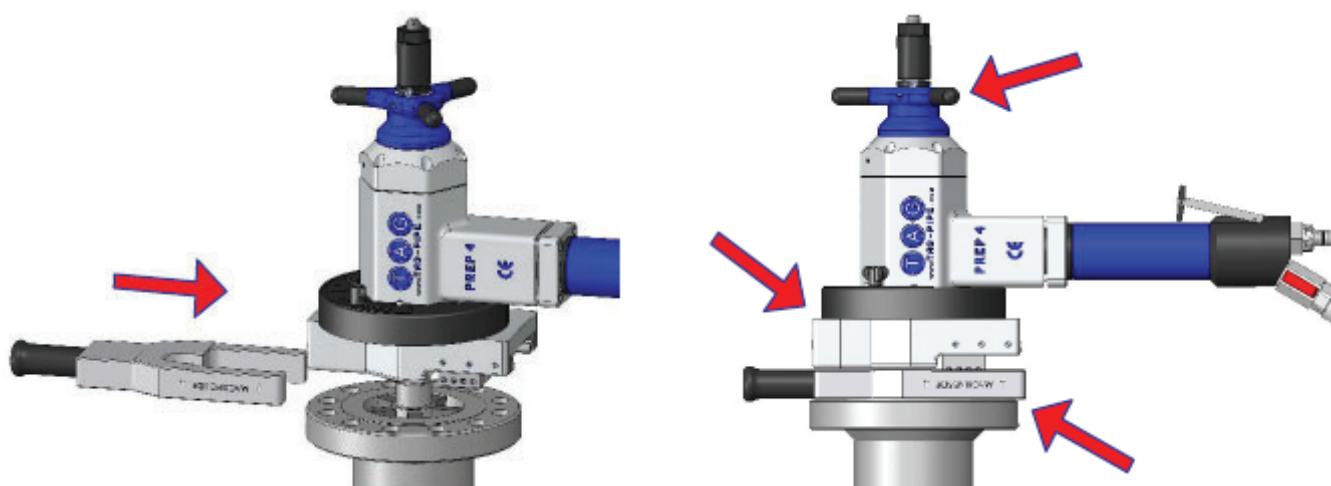


Figure 4-15 Aligning the positioner

After tightening the lock nut on the rear of the machine to secure the machine in place, loosen the feed wheel to remove the positioner. Tools can now be installed as described in Section 4.3 on page 27.

5. OPERATION

5.1 STARTING THE MACHINE

5.1.1 PNEUMATIC OPERATION

When operating the TAG PREP 4 pneumatically, observe the specifications indicated below.

Table 5-1 Pneumatic specifications

VALUE	SPECIFICATION
Air hole size	1/2"
Air consumption	36 cfm (1020 l/min)
Working pressure	90 psi (6.5 bar)

After connecting the air hose to the machine and the machine to the air system, actuate the machine by depressing the actuation lever indicated by the red arrow in Figure 5-1. The red valve beside the exhaust is used to regulate the rpm on the chuck.



Figure 5-1 Pneumatic actuation lever

5.1.2 ELECTRIC OPERATION

After connecting the cable to the 220V/110V supply (for corded operation), actuate the machine by depressing the switch indicated by the red arrow in Figure 5-2. The red button on the bottom of the electric motor is the speed control, used to regulate the rpm on the chuck.



Figure 5-2 Electric actuation button

The battery-operated model is actuated the same way, however the battery motor will have either a speed control touchscreen or a speed control wheel on the bottom for regulating the rpm on the chuck.



Figure 5-4 Speed control wheel



Figure 5-3 Speed control touchscreen

5.2 OPERATING THE MACHINE

Feed the machine using the feed wheel indicated at right. For the best machining results, maintain a constant feed rate.

When machining is complete, release the pneumatic actuation lever or electric actuation button, depending on the drive type used, and the machine will stop automatically.



Figure 5-5 Feed wheel

To remove the machine from the workpiece, unscrew the lock nut on the rear of the machine anti-clockwise using the wrench supplied with the machine.

NOTICE

During operation, the bevelling tool should never come into contact with the locking jaws as they may be damaged.

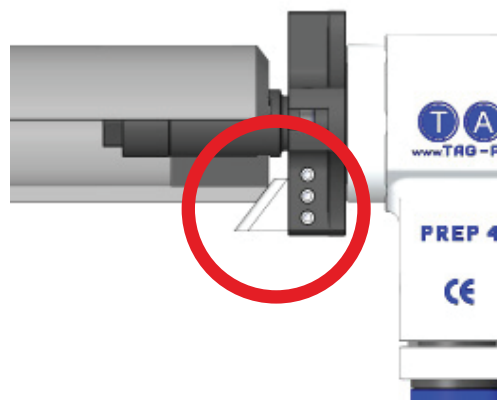


Figure 5-6 Bevelling tool contacting locking jaw

6. MAINTENANCE AND STORAGE

Continued safe operation of the equipment depends on regular maintenance and testing of its operating and protective controls. The equipment should only be inspected, tested and maintained by qualified trained personnel. Should any test indicate that the equipment being tested or observed is not in good operating condition, it should be repaired immediately. Record and maintain records of repairs or changes so that a complete record will be available for review at any time.

It is advisable to regularly check the machine for any deficiencies; in case of non-conformities, do not use the equipment and initiate repair activities. Any repair should be conducted by the S.F.E. Group or an S.F.E. Group authorised partner. All spare parts used during repair activities should be genuine TAG PREP original spare parts. The warranty on the equipment will be void if any form of repair is conducted by any unauthorised individual or service provider and/or in case non-genuine spare parts are used during any form of repair activity.

6.1 STORAGE

When not in use, clean the machine and secure it in the provided storage case.

Do not store the equipment in a humid or wet storage area.

Keep the equipment clean at all times to ensure optimal working conditions and performance.



6.2 PERIODIC MAINTENANCE

WARNING

Before conducting maintenance of any kind, ensure that the equipment is not powered.

NOTICE

Do not clean the equipment using compressed air.

Table 6-1 Maintenance tasks and intervals

INTERVAL	TASK
Before and after each use	Inspect all components, in particular the power cords, as well as connecting hoses on pneumatically powered devices to check for damage.
	Ensure the proper tension and precision of the tool. A precise feed and tolerance (0.1 mm feed per revolution) are critical for performance of the equipment.
After use	Ensure no metal particles or swarf remain on any part of the equipment.
	Thoroughly clean the equipment with a brush and apply anti-rust spray or grease.
Annually	It is advised to have an annual inspection and formal maintenance check conducted by the S.F.E. Group or an S.F.E. Group authorised partner.

7. DECLARATION OF CONFORMITY



PIPE EQUIPMENT SPECIALISTS



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SPECIALIST EQUIPMENT

Declaration of conformity

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Standard : +33 (0)4 75 57 50 70

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Numéro de série: Series number: Seriennummer: Número de serie: Numero di serie:		XXXXX

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 Persona facultada para compilar el expediente técnico:
 Persona autorizzata a costituire il Fascicolo Tecnico.

Francesco TANTIMONACO
TAG
 26800 - Etoile Sur Rhône,
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At Etoile Sur Rhône
The 04/10/2023


Francesco TANTIMONACO
 Technical Manager



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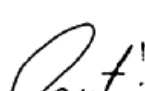
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At Etoile Sur Rhône
The 04/10/2023


Francesco TANTIMONACO
 Technical Manager

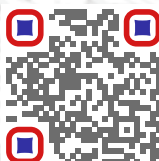


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