

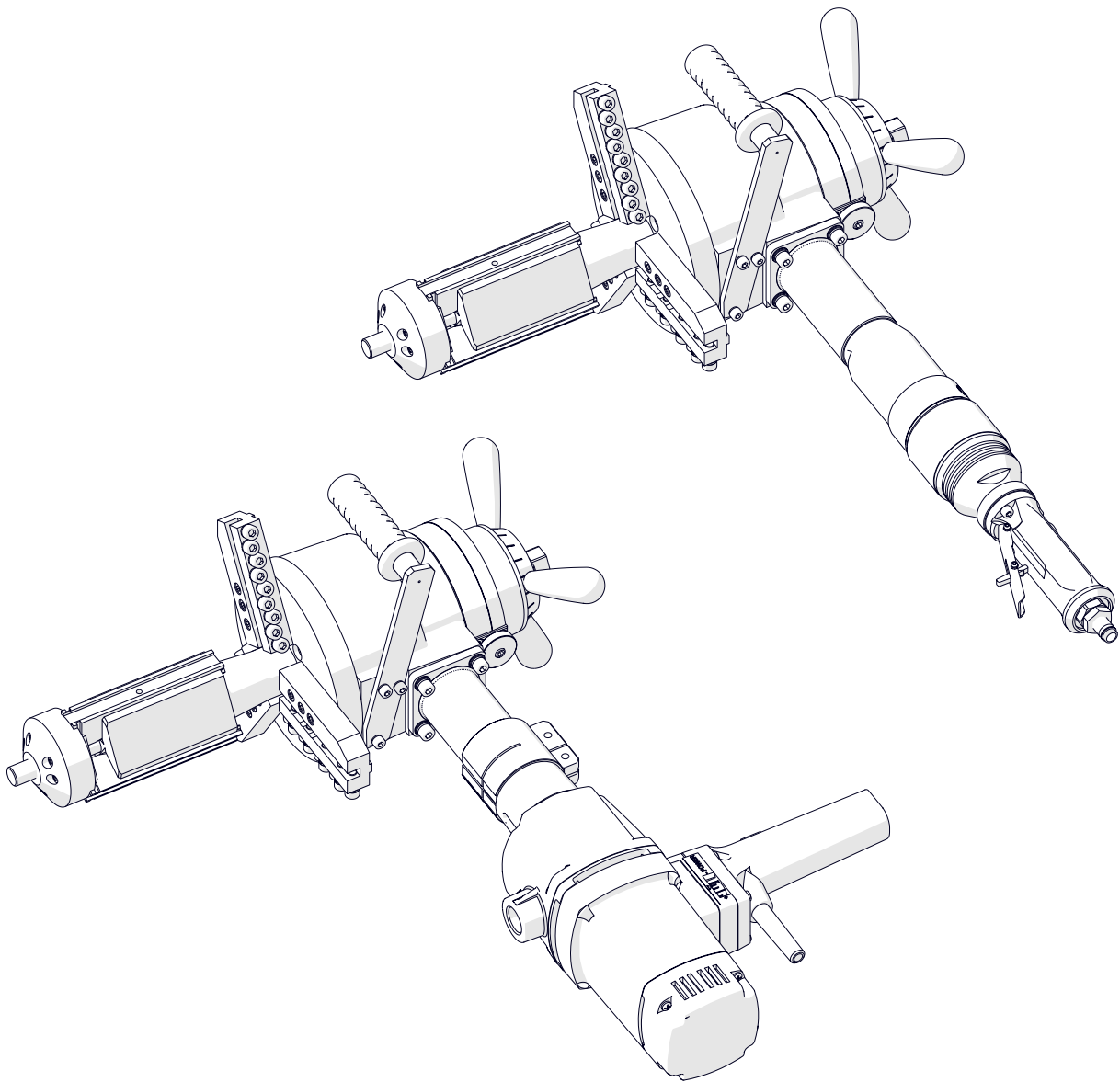


The tools of innovation.

## OPERATOR'S MANUAL

### **PB-10 (PBE-10)**

### PIPE BEVELING MACHINE



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# Contents

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1. GENERAL INFORMATION .....	3
1.1. Application .....	3
1.2. Technical data.....	3
1.3. Equipment included .....	4
1.4. Dimensions .....	5
1.5. Design .....	6
2. SAFETY PRECAUTIONS.....	7
3. STARTUP AND OPERATION .....	9
3.1. Installing the jaw blocks, adapters, tool holders, and tool bits.....	9
3.2. Installing (removing) the mandrel and adjusting the clearance .....	10
3.3. Installing the motor.....	11
3.4. Clamping the machine into the pipe .....	12
3.5. Preparing the air (for machine with air motor) .....	13
3.6. Operating.....	13
3.7. Facing and beveling at the same time.....	15
4. ACCESSORIES .....	17
4.1. Small expanding mandrel set .....	17
4.2. Extension set .....	18
4.3. Large expanding mandrel .....	19
4.4. Flange facing attachment.....	20
4.4.1. General information .....	20
4.4.2. Equipment included .....	20
4.4.3. Installing .....	21
4.4.4. Operating .....	23
4.4.5. Adjusting the slider clearance .....	24
4.5. Oval attachment.....	25
4.5.1. General information .....	25
4.5.2. Equipment included .....	25
4.5.3. Optional equipment .....	25
4.5.4. Installing .....	26
4.5.5. Operating .....	27
4.5.6. Adjusting the slider clearance.....	28
4.6. Tool bits .....	29
4.7. Air preparation unit.....	31
4.8. Coolant .....	31
5. PARTS LIST AND EXPLODED DRAWINGS.....	32
6. DECLARATIONS OF CONFORMITY.....	36
7. QUALITY CERTIFICATE.....	38
8. WARRANTY CARD.....	39

# 1. GENERAL INFORMATION

## 1.1. Application

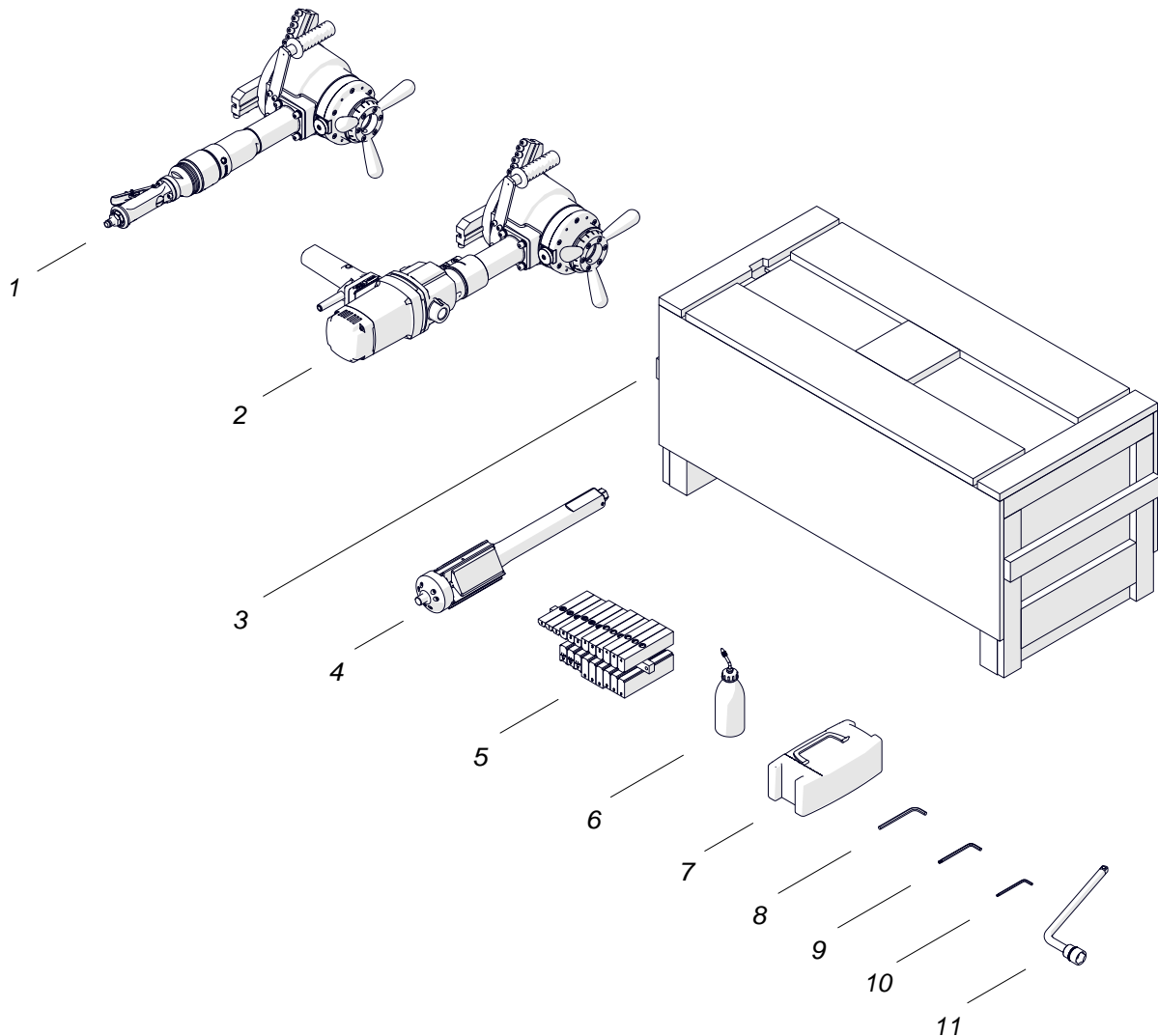
The PB-10 (PBE-10) is a pipe beveling machine designed to mill pipes made of carbon and stainless steel, aluminum alloys, and copper-nickels. Depending on the tool bit used, the machine can perform external and internal beveling, J-beveling, internal calibration, and facing pipes with inner diameters of 84–269 mm (3.31–10.59"). Up to three tool bits can be installed at the same time.

An optional small expanding mandrel allows milling pipes with inner diameters from 38 mm to 86 mm (1.50–3.39"). An extension set allows milling pipes with diameters from 192 mm to 349 mm (7.56–13.74"). Attachments allow facing pipe flanges with diameters from 90 to 508 mm (3.54–20.00") and milling oval pipes from 126 mm to 296 mm (4.96–11.65").

## 1.2. Technical data

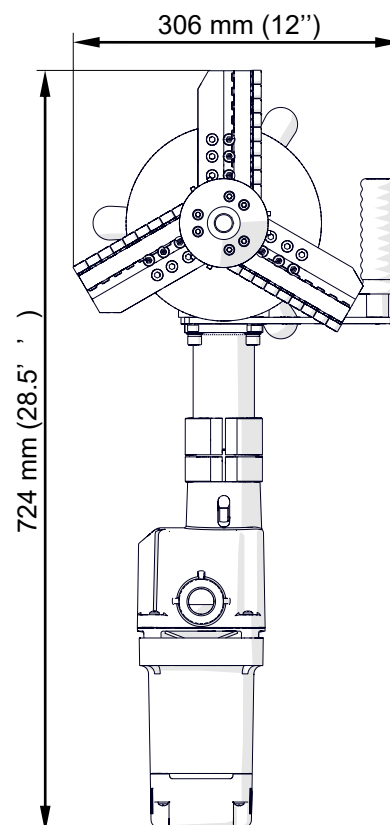
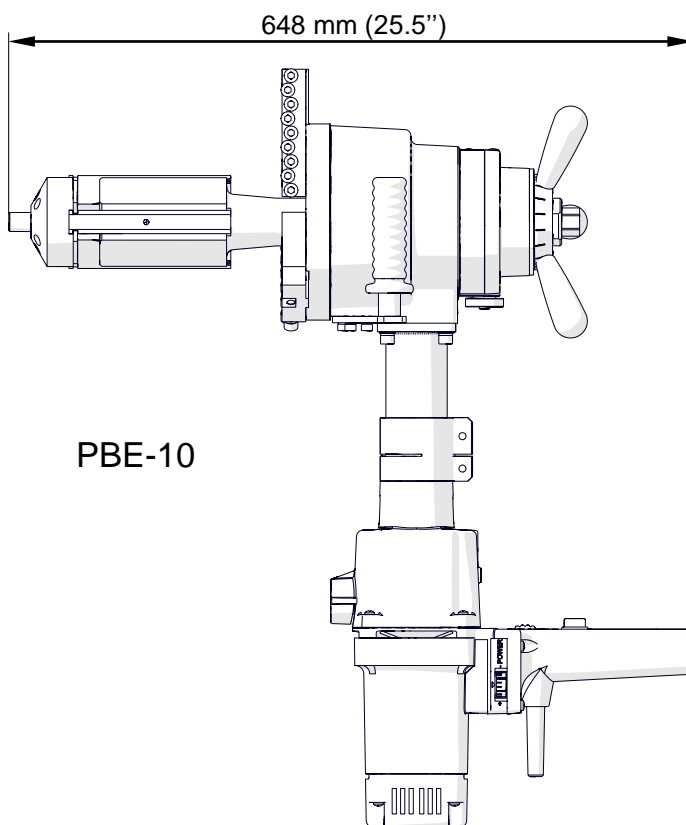
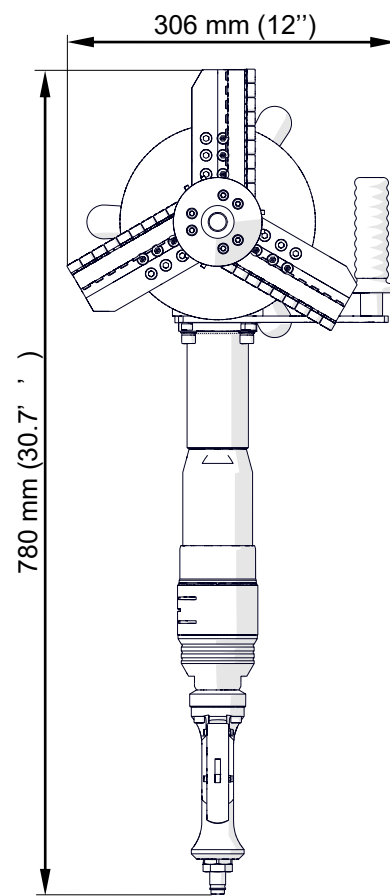
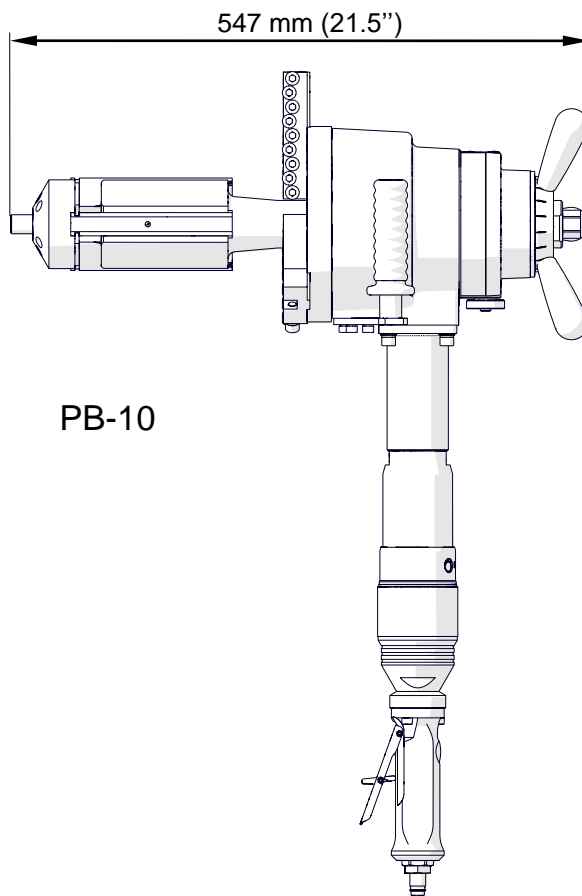
	<b>PB-10</b>	<b>PBE-10</b>
Pressure	0.6 MPa (87 psi)	–
Voltage	–	1~ 110–120 V, 50–60 Hz 1~ 220–240 V, 50–60 Hz
Connection	CEJN 410 DN 10.4 R 1/2" BSPT fitting for quick-coupling	Electrical plug
Air consumption	1750 l/min (62 CFM)	–
Power	1800 W	1800 W
Pipe inner diameter	84–269 mm (3.31–10.59")	84–269 mm (3.31–10.59")
Maximum pipe wall thickness	15 mm (0.59")	15 mm (0.59")
Rotational speed without load	17 rpm	–
Nominal rotational speed	9 rpm	12–29 rpm (gear I) 41–96 rpm (gear II)
Protection class	–	II
Required ambient temperature	0–40°C (34–104°F)	0–40°C (34–104°F)
Noise level	More than 70 dB	Less than 70 dB
Weight (with motor)	33 kg (73 lbs)	35.9 kg (79 lbs)

### 1.3. Equipment included

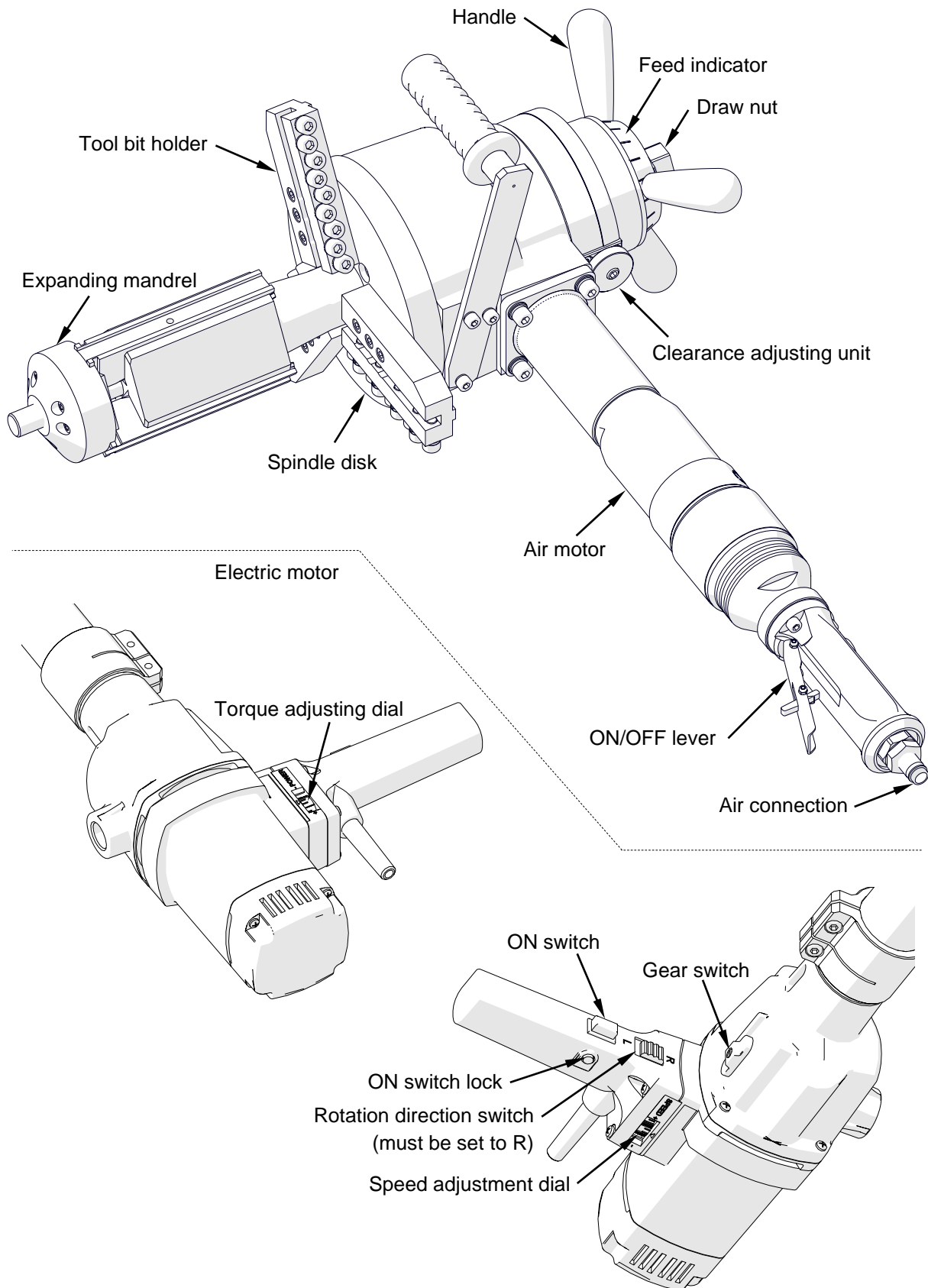


		<b>PB-10</b>	<b>PBE-10</b>
1	Beveling machine with air motor (without tool bits)	1 unit	—
2	Beveling machine with electric motor (without tool bits)	—	1 unit
3	Wooden box with three safety straps	1 unit	1 unit
4	Standard expanding mandrel	1 unit	1 unit
5	Jaw blocks (number 1, 2, 3, 4, 5, 6) and adapter	3 sets	3 sets
6	Coolant container	1 unit	1 unit
7	Tool container	1 unit	1 unit
8	6 mm hex wrench	1 unit	1 unit
9	5 mm hex wrench with ball	1 unit	1 unit
10	4 mm hex wrench with ball	1 unit	1 unit
11	24 mm socket wrench with handle	1 unit	1 unit
—	Operator's Manual	1 unit	1 unit

## 1.4. Dimensions



## 1.5. Design



**Fig. 1.** View of the PRO 10 PB and of the PRO 10 PBE electric motor

## **2. SAFETY PRECAUTIONS**

1. Before starting, read this Operator's Manual and complete proper occupational safety and health training.
2. Use the machine only in applications specified in this Operator's Manual.
3. The machine must be complete and all parts must be genuine and fully functional.
4. The specifications of the air (power) source must conform to those specified on the rating plate.
5. Supply the machine with air motor only with clean and lubricated air. The air source must be equipped with an air preparation unit that contains a filter, regulator, and lubricator.
6. Never pull the hose (cord) because this may damage it and result in serious injury.
7. Untrained bystanders must not be present near the machine.
8. Before starting, ensure the correct condition of the machine, air (power) source, supply hose (cord), coupling (plug), control components, and milling tools.
9. Avoid unintentional starts. Do not lay the machine so that the motor will start and never carry the machine with air motor by using the ON/OFF lever.
10. Keep the machine dry and never expose it to rain, snow, or frost.
11. Keep the work area well lit, clean, and free of obstacles.
12. Never use machine near flammable liquids or gases, or in explosive environments.
13. Secure the pipe to prevent it from falling or rolling.
14. Use only tools specified in this Operator's Manual.
15. Never use tools that are dull or damaged.
16. Install tools securely. Install each tool bit with two screws. Remove wrenches from the work area before connecting the machine to the air (power) source.
17. Before every use, inspect the machine to ensure it is not damaged. Check whether any part is cracked or improperly fitted. Make sure to maintain proper conditions that may affect the operation of the machine.
18. Always use eye and hearing protection, protective footwear, and protective clothing during work. Do not wear loose clothing.
19. Use electric motor only when the rotation direction switch is set to 'R'. Using left rotation (rotation direction switch set to 'L') may damage the machine.
20. Do not touch chips or moving parts. Prevent anything from being caught in moving parts.

21. After every use, remove chips and excess coolant from the machine. Never remove chips with bare hands. Clean the machine with a cotton cloth without using any chemical agents.
22. Cover steel parts with a thin anti-corrosion coating to protect the machine from rust when not in use for any extended period.
23. Maintain the machine and install/remove parts and tools only when the machine is unplugged from the air (power) source.
24. Repair only in a service center appointed by the seller.
25. If the machine falls from any height, is wet, or has any other damage that could affect the technical state of the machine, stop the work and promptly send the machine to the service center for inspection and repair.
26. Never leave the machine unattended during work.
27. Remove from the worksite and store in a secure and dry place when not in use, previously removing the tools from holders.



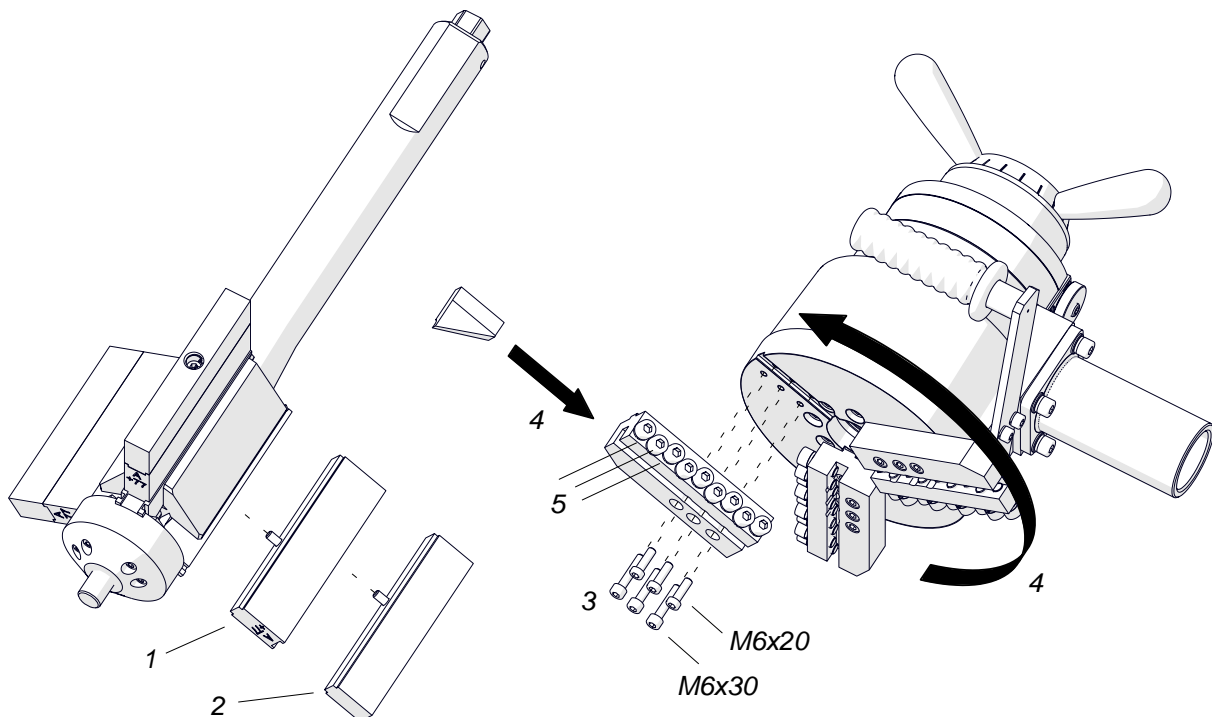
### 3. STARTUP AND OPERATION

#### 3.1. Installing the jaw blocks, adapters, tool holders, and tool bits

Use the following table to select jaw blocks and adapters suitable for the diameter of the pipe to be machined.

Pipe inner diameter		Jaw block number	Adapter
[mm]	[inch]		
84–100	3.31–3.94	–	–
99–115	3.90–4.53	1	–
115–131	4.53–5.16	2	–
130–146	5.12–5.75	3	–
146–162	5.75–6.38	4	–
161–177	6.34–6.97	5	–
176–192	6.93–7.56	6	–
192–208	7.56–8.19	2	+
207–223	8.15–8.78	3	+
223–239	8.78–9.41	4	+
238–254	9.37–10.00	5	+
253–269	9.96–10.59	6	+

Use the 5 mm hex wrench to fix the adapters (1, Fig. 2) and jaw blocks (2) to the expanding mandrel.

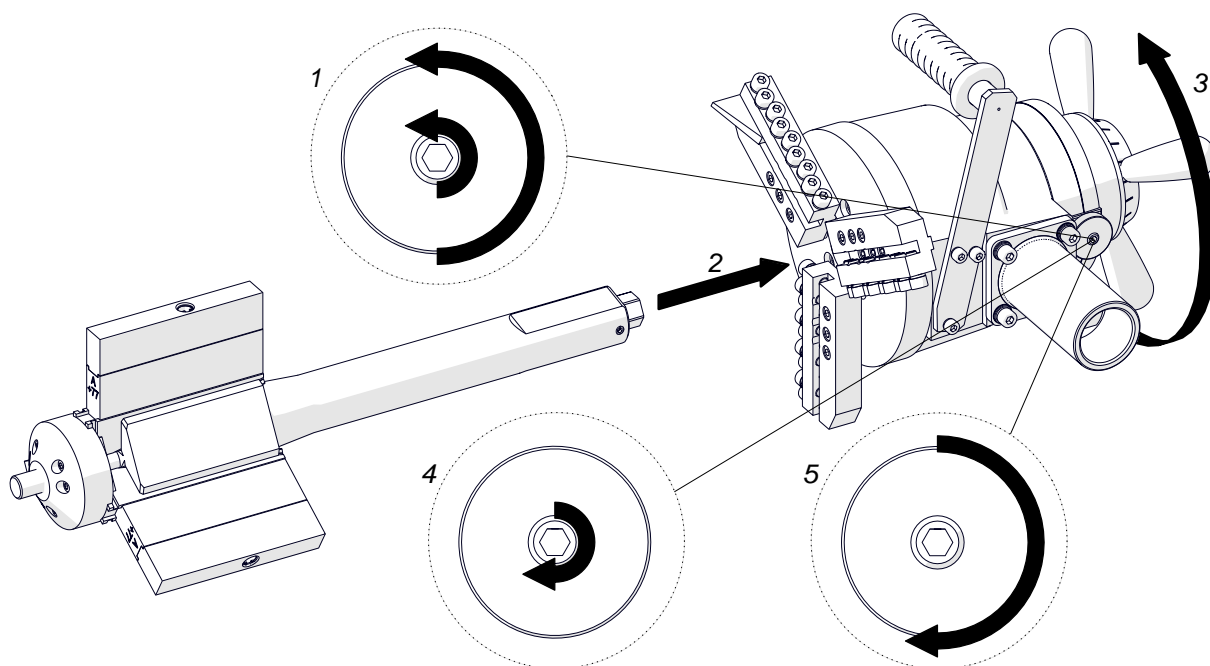


**Fig. 2.** Installing the jaw blocks, adapters, tool holders, and tool bits

Use the same 5 mm hex wrench and six screws to fix the tool holders to the spindle disk (3). Then, select up to three tool bits suitable to planned use and place them in the holders, with blades directed according to the rotation direction (4). Next, use the 4 mm hex wrench and two of the screws (5) to tighten each tool bit. The whole pressing surface of the screws must be in full contact with the tool bits.

### 3.2. Installing (removing) the mandrel and adjusting the clearance

Loosen the nut and use the 5 mm hex wrench to loosen the set screw (1, Fig. 3), and insert the mandrel into the machine (2). Make sure that tool bits installed are not in contact with the mandrel. Next, rotate the handles to the right (3) by at least 10 turns until the mandrel engages with the machine fully. Then, tighten the set screw (4) and check whether the handles can be rotated in both directions easily. If the screw is too tight, readjust it. Finally, tighten the lock nut (5).



**Fig. 3.** Installing the mandrel into the machine

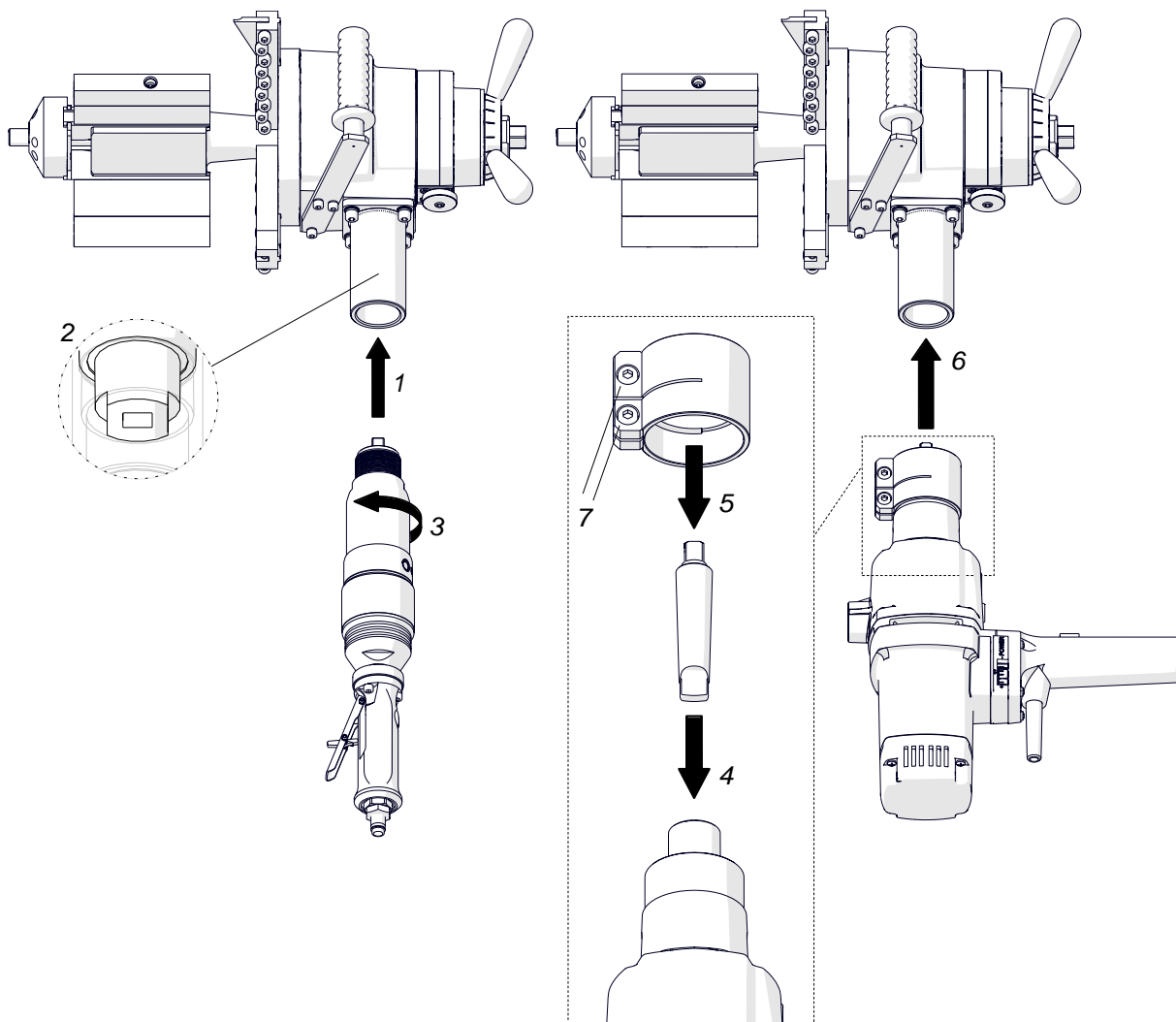
If the expanding mandrel becomes loose causing vibrations of the tool bits during machining, perform the above actions without removing the mandrel from the machine.

To remove the mandrel, loosen the nut and use the 5 mm hex wrench to loosen the set screw (1, Fig. 3) by at least one turn. Then, rotate the handles to the left to remove the mandrel.

### 3.3. Installing the motor

When using air motor, insert it into the machine (1, Fig. 4) so that the arbor is placed in the socket (2). Then, rotate the motor to the left (3) to tighten it.

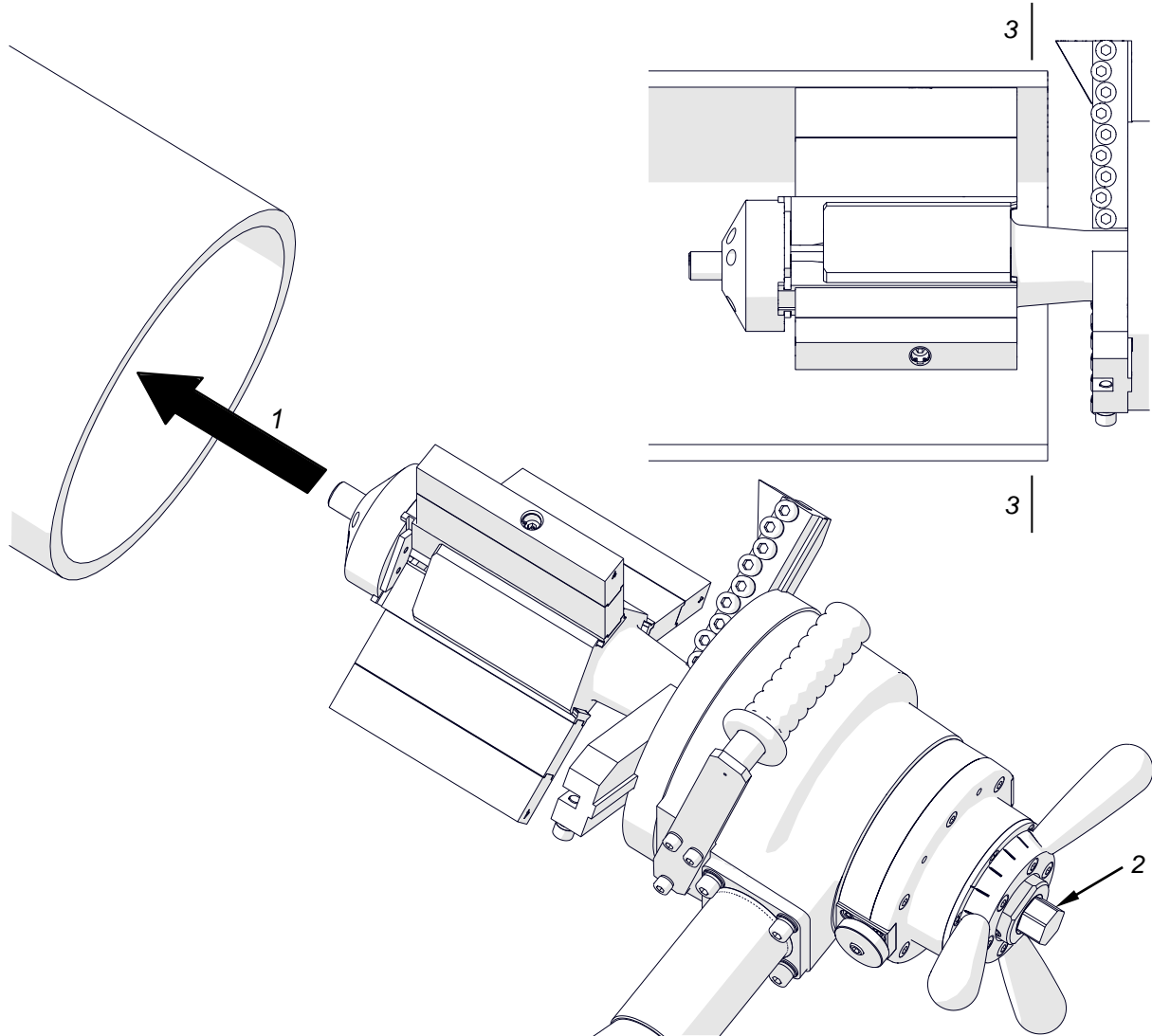
To install electric motor, insert and press the MT3 arbor into the motor (4). Slide the clamping ring (5) onto the motor, and then insert the motor into the machine (6) by placing the arbor in the socket (2). Next, use the 6 mm hex wrench to tighten the clamping ring (7). Finally, set the rotation direction switch to the position R as shown in Fig. 1.



**Fig. 4.** Installing the air and electric motor

### 3.4. Clamping the machine into the pipe

Insert the machine into the pipe (1, Fig. 5) so that the tool bits are placed at least 3 mm (0.12") from the pipe end. Then, use the 24 mm socket wrench to rotate the draw nut (2) to the right to expand the jaw blocks and clamp the machine into the pipe. The jaw blocks must be installed beyond the end preparation location (3).



**Fig. 5.** Clamping the machine into the pipe

### **3.5. Preparing the air (for machine with air motor)**

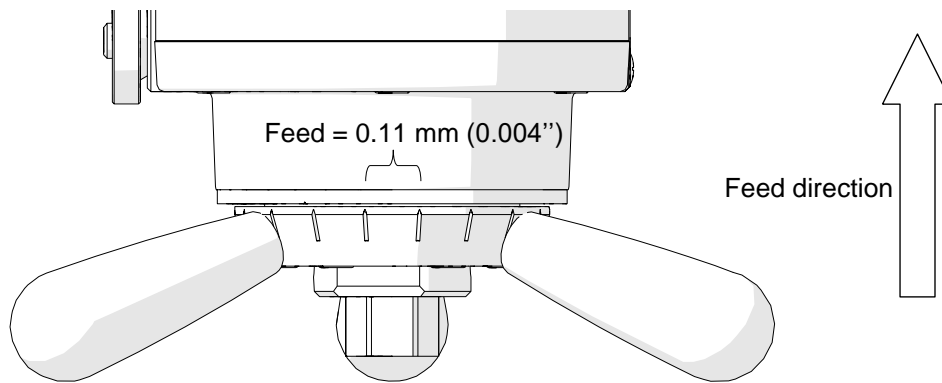
Connect the machine to a correctly prepared air source of sufficient purity. All inner diameters of the air source (including the supply hose and fittings) must be at least 12 mm (0.5"). The air source must be equipped with an air preparation unit that contains a filter, regulator, and lubricator (FRL).

Maintain the FRL unit as required to keep the water trap drained, filter cleaned, and the lubricator oil reservoir filled so that there is a drop of oil every 2–5 seconds. Use only oil which ignition temperature is more than 260°C (500°F). If the machine is to be left idle for at least 24 hours after the work is finished, increase the delivery of oil and run the motor for 2–3 seconds, which will prevent rusting and degrading of the rotor vanes.

### **3.6. Operating**

After the machine is connected to a proper supply, use the torque adjusting dial to set the maximum torque. In electric motor, use the gear switch to select gear I. To start, press the ON/OFF lever (air motor) or press and hold the ON switch (electric motor). To lock the switch in the position ON, press the ON switch lock before using the switch.

Spread the coolant on the working edge. Then, rotate the handles to the right to bring the tool bits close to the pipe. If the pipe end is not perpendicular to the pipe axis, the tool bit will machine only a small pipe segment during initial rotations. Thus, use a low feed rate until the tool bit is contacting the pipe continually during at least one rotation. The feed is 0.11 mm (0.004") per graduation (Fig. 6) or 2 mm (0.08") per one full turn of the handles. The machine with electric motor allows changing the gears between I and II after the rotation stops, and adjusting the rotational speed.



**Fig. 6.** View of the feed indicator

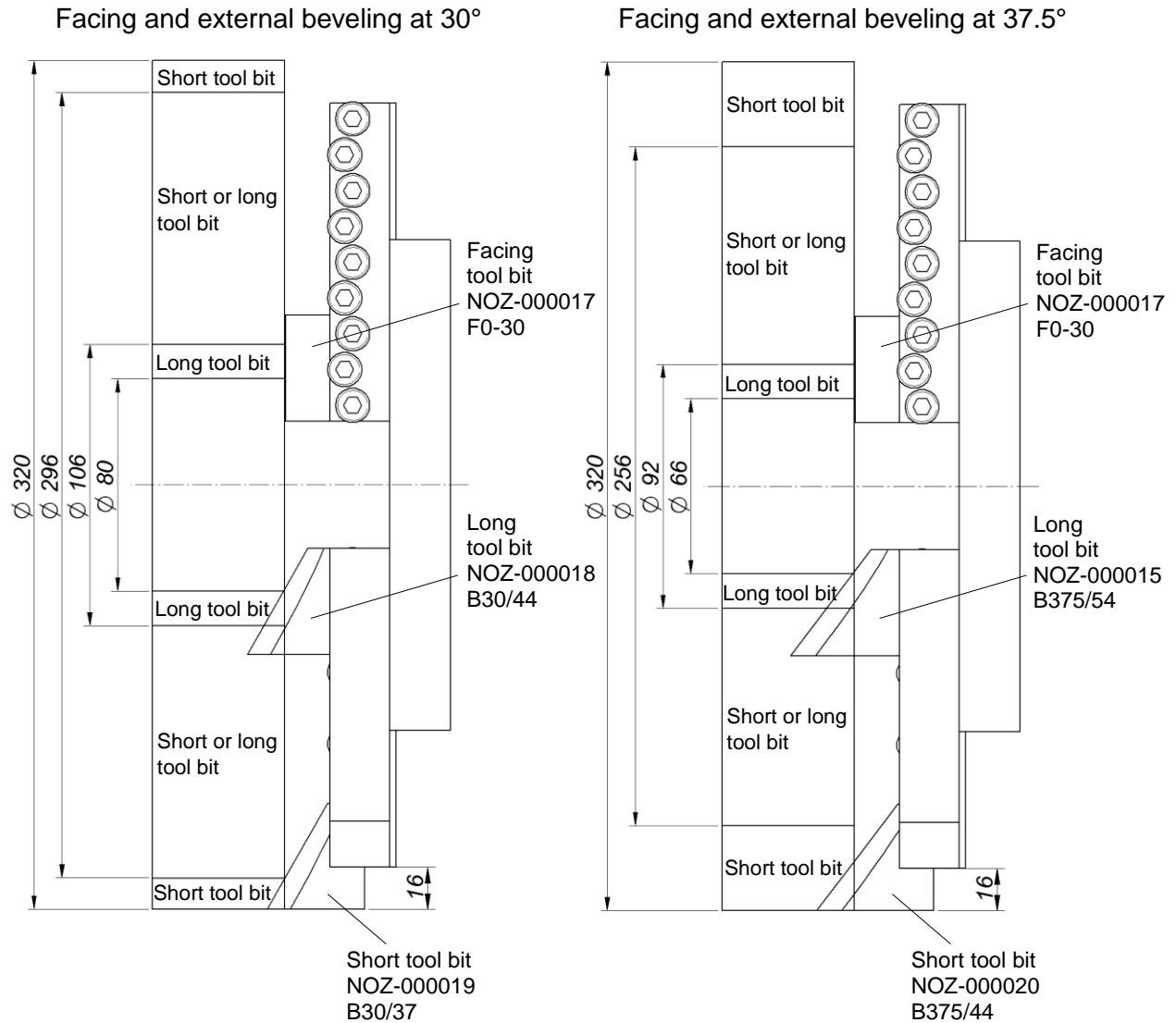
Rotate the handles to the right to continue machining. Use such a feed rate that allows a continuous chip cut. If the feed rate is too low, only light stringer chips are removed. If the feed rate is too high, machining is difficult and the chips are rough or torn. Never allow the tool bit to burnish the surface. If chatter problems occur, change the feed rate. Stainless steel, which work hardens, must be worked with a high enough feed, 0.08–0.15 mm (0.003–0.006”) per rotation, to stay under the work hardened surface.

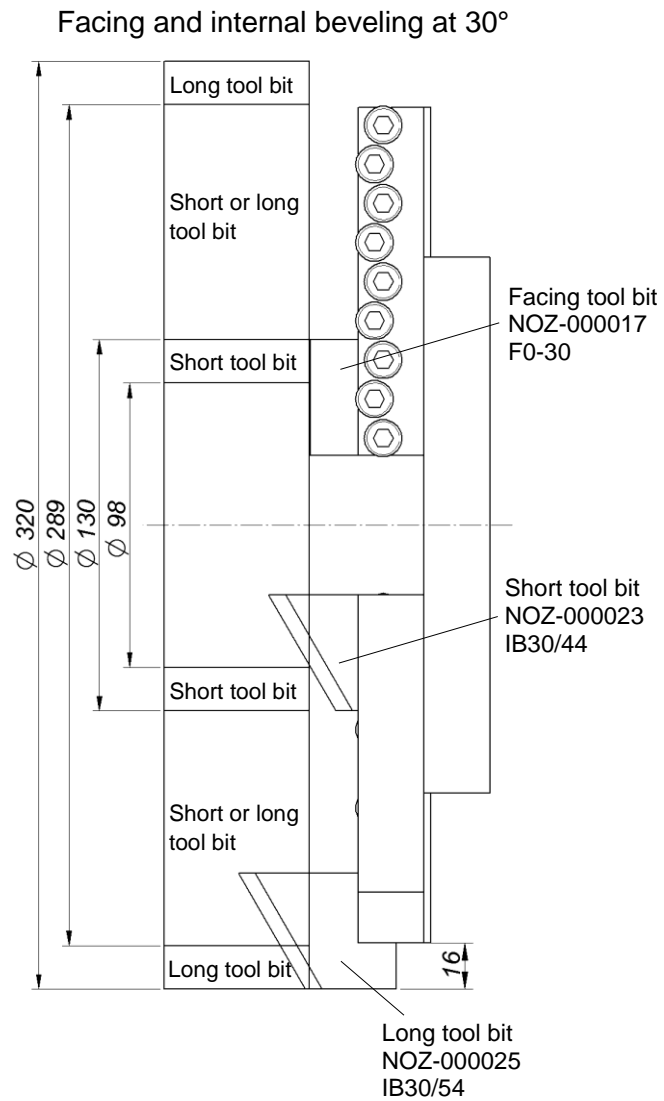
After the pipe end is machined fully, stop rotating the handles and allow several more turns of the spindle to improve the finish of the surface. Then, use the ON/OFF lever, or the ON switch in the machine with electric motor, to turn off the motor, and wait until the rotation stops. Next, rotate the handles to the left to separate the tool bits from the pipe end to at least 3 mm (0.12”). Then, rotate the 24 mm socket wrench to the left to loosen the draw nut and release the clamping, and remove the machine from the pipe.

Use petroleum ether to clean the pipe from excess coolant. Clean the machine with a cotton cloth without using any chemical agents.

### 3.7. Facing and beveling at the same time

When facing and beveling is done at the same time, use short or long beveling tool bit depending on the pipe diameter as shown in Fig. 7.





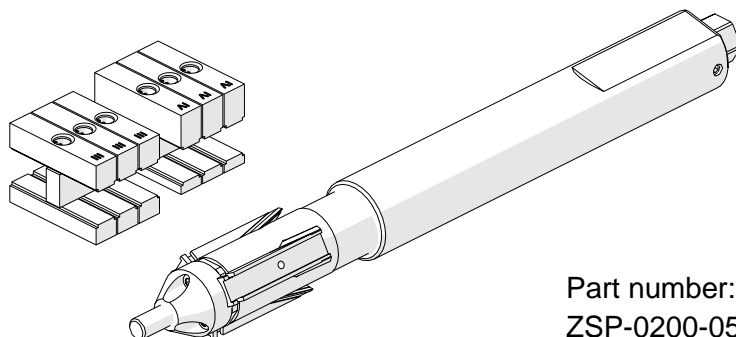
**Fig. 7.** Positioning the facing tool bit and a short or long beveling tool bit



## 4. ACCESSORIES

### 4.1. Small expanding mandrel set

Allows machining pipes with inner diameters from 38 to 86 mm (1.50–3.39”).



Part number:  
ZSP-0200-05-00-00-2

Included equipment consists of the following elements.

Small expanding mandrel	1 unit
Jaw blocks (number I, II, III, IV)	3 sets
3 mm hex wrench	1 unit

Install the mandrel after previously removing the existing expanding mandrel. To do this, loosen the nut and use the 5 mm hex wrench to loosen the set screw (1, Fig. 3) to at least one turn. Then, rotate the handles to the left to remove the mandrel.

Use the following table to select jaw blocks of the small expanding mandrel set suitable to the inner diameter of the pipe to be machined. Next, use the 3 mm hex wrench to tighten them to the small expanding mandrel as shown in Fig. 2, and insert the mandrel into the machine (2, 3, 4, 5, Fig. 3).

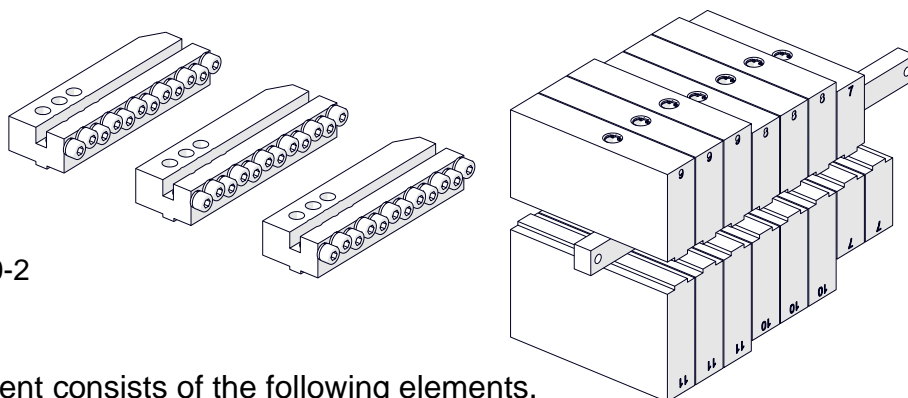
Pipe inner diameter with small expanding mandrel		Jaw block number
[mm]	[inch]	
38–47.5	1.50–1.87	–
47.5–57.5	1.87–2.26	I
57–67	2.24–2.64	II
66.5–76.5	2.62–3.01	III
76–86	2.99–3.39	IV

## 4.2. Extension set

Allows machining pipes with inner diameters from 192 to 349 mm (7.56–13.74”) in combination with the standard expanding mandrel. Clamping inside a pipe with diameter of 349 mm will enable machining up to 8 mm (0.31”) of pipe wall.

Part number:

ZST-0200-13-00-00-2



Included equipment consists of the following elements.

Tool holder of extension set	3 units
Jaw blocks (number 7, 8, 9, 10, 11)	3 sets
Metal box	1 unit
5 mm hex wrench	1 unit
4 mm hex wrench	1 unit

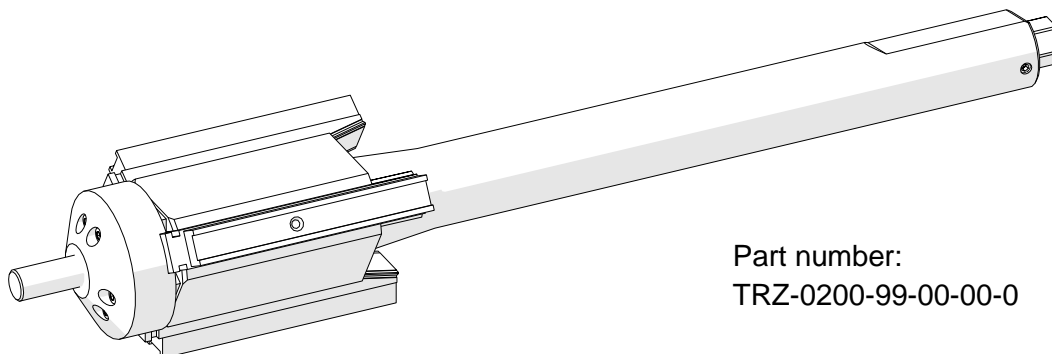
Install the set after previously removing the existing tool holders. To do this, use the 5 mm hex wrench to unscrew the screws (3, Fig. 2) and use them to install the tool holders of the extension set.

Use the following table to select jaw blocks of the extension set suitable to the inner diameter of the pipe to be machined. Next, use the 5 mm hex wrench to tighten them to the standard expanding mandrel as shown in Fig. 2. Then, use the 4 mm hex wrench to tighten the tool bits (5, Fig. 2).

Pipe inner diameter with standard expanding mandrel and jaw blocks of extension set		Jaw block number	Adapter
[mm]	[inch]		
192–208	7.56–8.19	7	–
208–224	8.19–8.82	8	–
224–240	8.82–9.45	9	–
240–256	9.45–10.08	10	–
256–272	10.08–10.71	11	–
269–285	10.59–11.22	7	+
285–301	11.22–11.85	8	+
301–317	11.85–12.48	9	+
317–333	12.48–13.11	10	+
333–349	13.11–13.74	11	+

### 4.3. Large expanding mandrel

Allows machining pipes with inner diameters from 126 to 296 mm (4.96–11.65”) when used with standard jaw blocks. Additionally, when used with jaw blocks of the extension set, the large expanding mandrel enables the machine to be installed inside pipes with diameters from 219 to 376 mm (8.62–14.80”) for flange facing.



Part number:  
TRZ-0200-99-00-00-0

Install the mandrel after previously removing the existing expanding mandrel. To do this, loosen the nut and use the 5 mm hex wrench to loosen the set screw (1, Fig. 3) to at least one turn. Then, rotate the handles to the left to remove the mandrel.

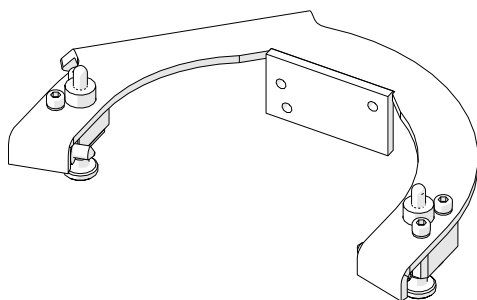
Use the following table to select either standard jaw blocks suitable to the inner diameter of the pipe to be machined or jaws blocks of the extension set for flange facing. Then, use the 5 mm hex wrench to tighten them to the large expanding mandrel as shown in Fig. 2, and insert the mandrel into the machine (2, 3, 4, 5, Fig. 3).

Pipe inner diameter with large expanding mandrel and standard jaw blocks		Jaw block number	Adapter	Pipe inner diameter with large expanding mandrel and jaw blocks of extension set		Jaw block number	Adapter
[mm]	[inch]			[mm]	[inch]		
126–142	4.96–5.59	1	–	219–235	8.62–9.25	7	–
142–158	5.59–6.22	2	–	235–251	9.25–9.88	8	–
157–173	6.18–6.81	3	–	251–267	9.88–10.51	9	–
173–189	6.81–7.44	4	–	267–283	10.51–11.14	10	–
188–204	7.40–8.03	5	–	283–299	11.14–11.77	11	–
203–219	7.99–8.62	6	–	296–312	11.65–12.28	7	+
219–235	8.62–9.25	2	+	312–328	12.28–12.91	8	+
234–250	9.21–9.84	3	+	328–344	12.91–13.54	9	+
250–266	9.84–10.47	4	+	344–360	13.54–14.17	10	+
265–281	10.43–11.06	5	+	360–376	14.17–14.80	11	+
280–296	11.02–11.65	6	+				

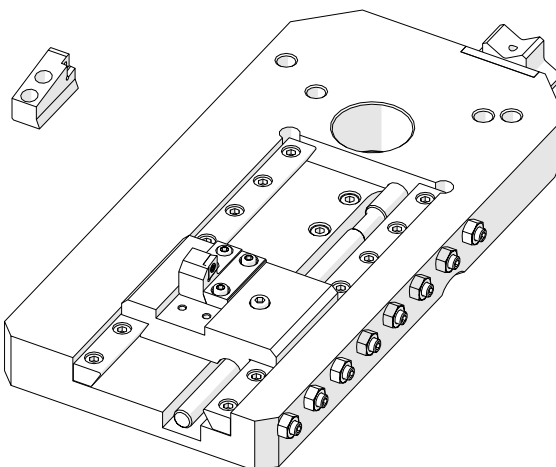
## 4.4. Flange facing attachment

### 4.4.1. General information

Allows facing flanges with diameters from 90 to 508 mm (3.54–20") with the machine clamped inside a pipe with inner diameter either of 84–269 mm (3.31–10.59") by using the standard expanding mandrel or of 219–376 mm (8.62–14.8") by using the large expanding mandrel.



Part number:  
PRK-0447-00-00-00-2



Flange diameter	90–508 mm (3.54–20")
Automatic feed range	180.5 mm (7.11")
Diameter of rotating parts	569.4 mm (22.42")
Feed per rotation	0.33 mm (0.013", with one tripper block engaged) 0.66 mm (0.026", with two tripper blocks engaged)

### 4.4.2. Equipment included

Equipment of the flange facing attachment consists of the following elements.

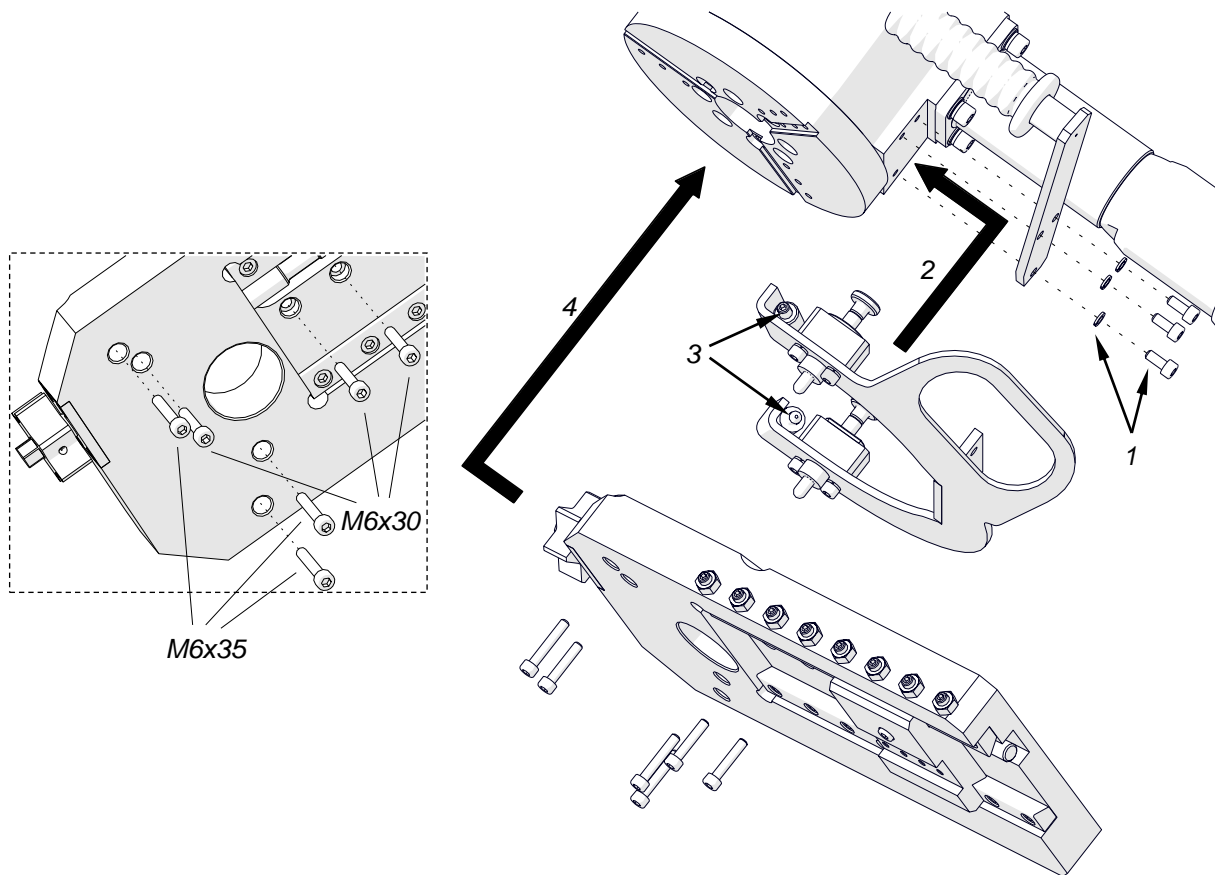
Milling unit for flanges	1 unit
Holder with two tripper blocks	1 unit
Cutting insert	8 units
Fixing screw for cutting insert	2 units
Internal insert holder	1 unit
External insert holder	1 unit
Metal box	1 unit
M6x35 screw	3 units
M6x30 screw	3 units
M6x14 screw	3 units
5 mm hex wrench	1 unit
4 mm hex wrench	1 unit
3 mm hex wrench	1 unit
13 mm combination wrench	1 unit
T15 screwdriver	1 unit
Tool container	1 unit

### 4.4.3. Installing

Remove the existing expanding mandrel. To do this, loosen the nut and use the 5 mm hex wrench to loosen the set screw (1, Fig. 3) to at least one turn. Then, rotate the handles to the left to remove the mandrel.

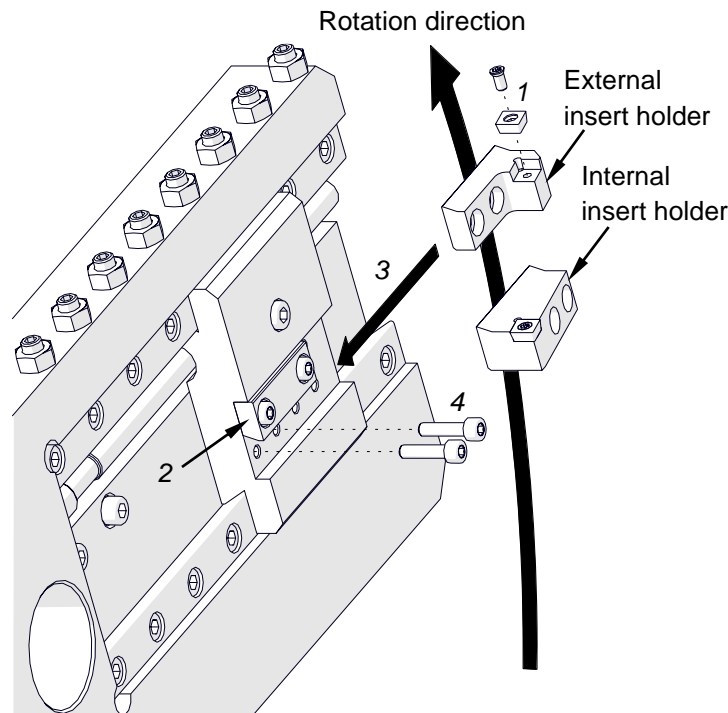
Use the same 5 mm hex wrench to unscrew the screws (3, Fig. 2) and remove the existing tool holders.

Next, remove the machine handle by unscrewing three screws with washers (1, Fig. 8), and use them to install the holder with two tripper blocks (2). Then, use the 4 mm hex wrench to tighten the set screws (3) at both sides of the holder. Next, use the 5 mm hex wrench and six screws to fix the milling unit to the spindle disk (4).



**Fig. 8.** Installing the flange facing attachment

Depending on the diameter of the flange to be machined, select either the internal ( $\varnothing 90-451$ , 3.54–17.76") or external insert holder ( $\varnothing 147-508$ , 5.79–20.00"). Then, use the supplied screwdriver to install a cutting insert onto the insert holder (1, Fig. 9). Next, use the 4 mm hex wrench to tighten the clamp (2), and then slide the insert holder under the clamp (3) and tighten with the screws (4).



**Fig. 9.** Installing the tool

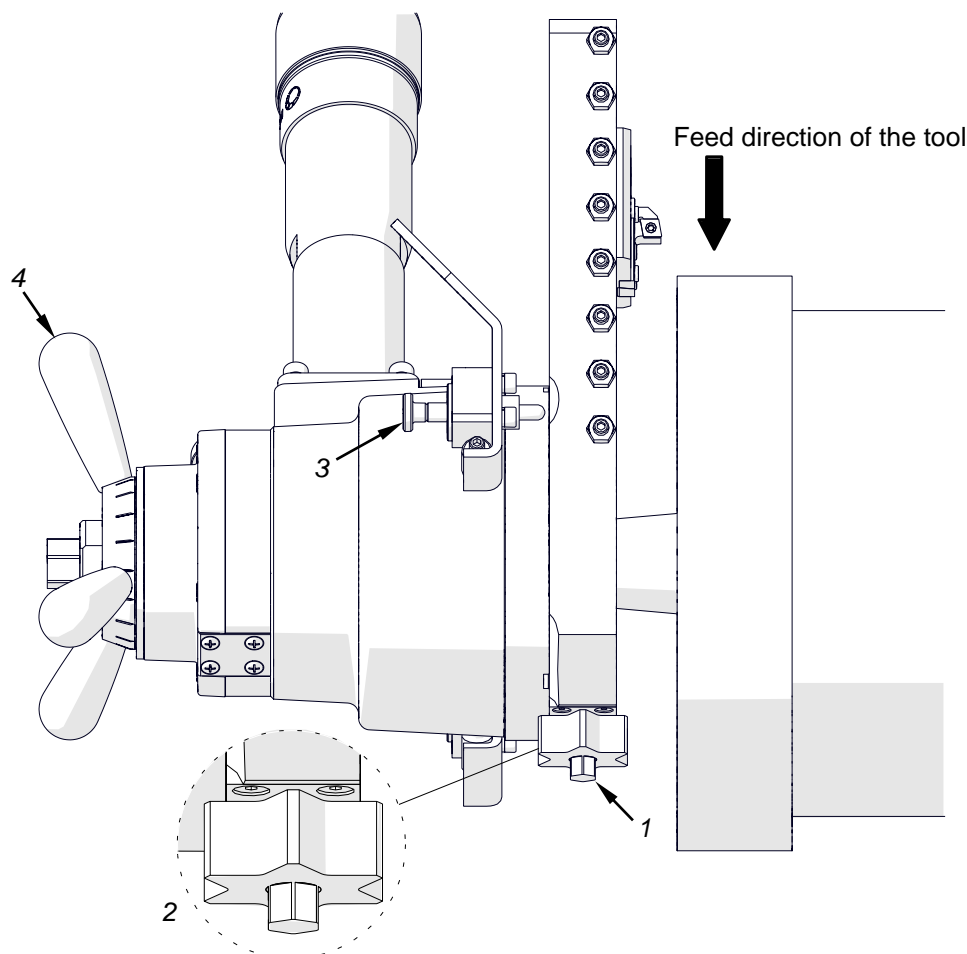
Use the following table to either select standard jaw blocks suitable to the inner diameter of the flange to be machined. Then, screw them to the standard expanding mandrel or select jaw blocks of the extension set and attach them to the large expanding mandrel (Fig. 2).

Pipe inner diameter with standard expanding mandrel and standard jaw blocks		Jaw block number	Adapter	Pipe inner diameter with large expanding mandrel and jaw blocks of extension set		Jaw block number	Adapter
[mm]	[inch]			[mm]	[inch]		
84–100	3.31–3.94	–	–	219–235	8.62–9.25	7	–
99–115	3.90–4.53	1	–	235–251	9.25–9.88	8	–
115–131	4.53–5.16	2	–	251–267	9.88–10.51	9	–
130–146	5.12–5.75	3	–	267–283	10.51–11.14	10	–
146–162	5.75–6.38	4	–	283–299	11.14–11.77	11	–
161–177	6.34–6.97	5	–	296–312	11.65–12.28	7	+
176–192	6.93–7.56	6	–	312–328	12.28–12.91	8	+
192–208	7.56–8.19	2	+	328–344	12.91–13.54	9	+
207–223	8.15–8.78	3	+	344–360	13.54–14.17	10	+
223–239	8.78–9.41	4	+	360–376	14.17–14.80	11	+
238–254	9.37–10.00	5	+				
253–269	9.96–10.59	6	+				

Finally, insert the mandrel into the machine (2, 3, 4, 5, Fig. 3) and clamp the machine into the pipe as shown in Fig. 5.

#### 4.4.4. Operating

After the machine with the attachment is clamped inside the pipe, use the 13 mm combination wrench to rotate the draw nut (1) so that the cutting edge of the tool is moved out of the flange outer diameter. Then, set the sprocket (2) to the position shown in Fig. 10, and push out both pins of the tripper blocks (3) to engage them with the attachment. Rotate the handles (4) to the right to set the machining depth to up to 0.5 mm (0.02") from the pipe end, and start the motor.

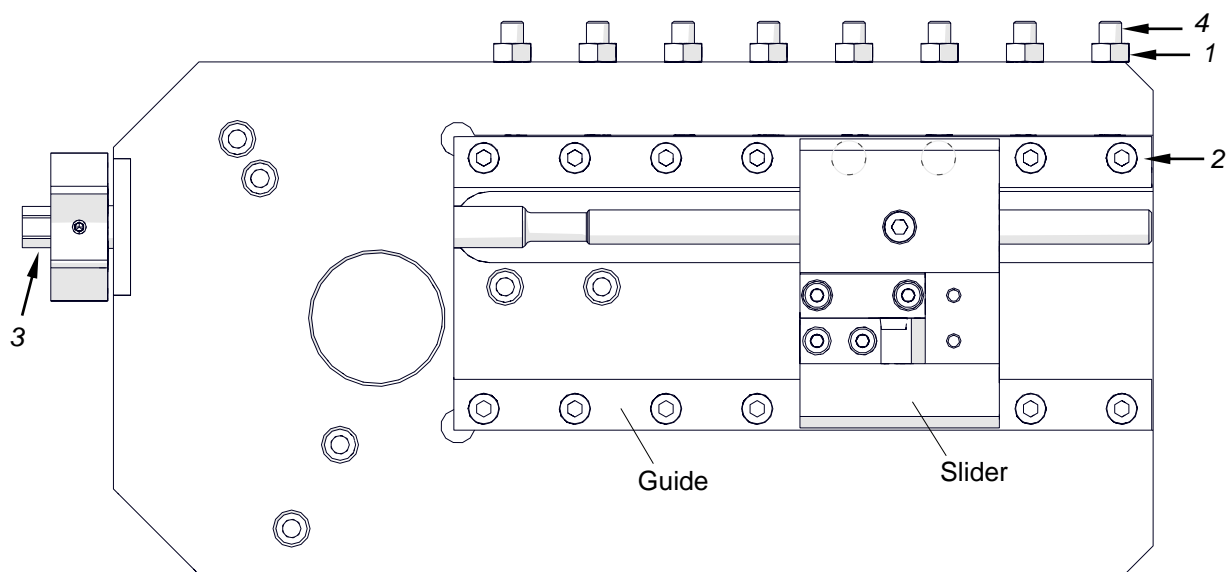


**Fig. 10.** Proper positioning of the flange facing attachment

After facing of the flange end is finished, turn off the motor and wait until the rotation stops. Then, rotate the handles to the left to retract the tool from the workpiece, and clean the whole surface of the flange end. Next, for finishing machining, retract the pin of one tripper block to leave only one tripper block engaged. Then, set the machining depth to up to 0.25 mm (0.01") and turn on the motor to allow several more turns of the spindle.

#### 4.4.5. Adjusting the slider clearance

Use the 13 mm combination wrench to loosen the lock nuts (1, Fig. 11). Then, use the 5 mm hex wrench to loosen eight screws 2. To access the screws, change the slider position by rotating the draw nut 3 with the 13 mm combination wrench. Next, move the slider to the most outward position and tighten the adjusting screw (4) to gently press the guide to the slider. Moving the slider to the most inward position, tighten the screws (2) lightly to 1.5–2.5 Nm (13–22 in-lbs) and the screws (4) placed at the current position of the slider. Move the slider through the whole length and if it moves smoothly and uniformly, maximally tighten the nuts (1).



**Fig. 11.** Adjusting the slider clearance

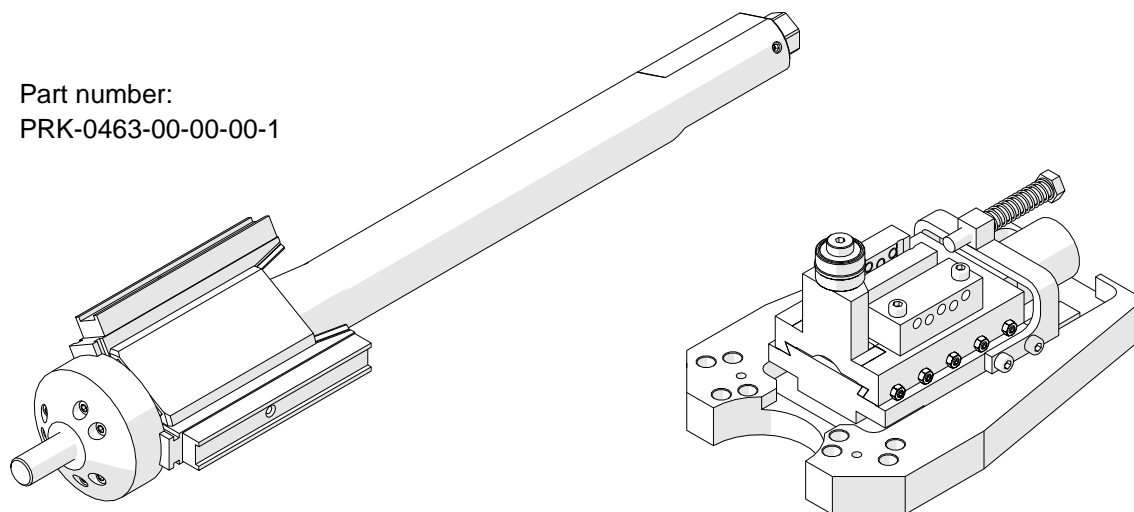


## 4.5. Oval attachment

### 4.5.1. General information

Allows facing and beveling oval pipes with diameters from 126 to 296 mm (4.96–11.65”) with the use of the large expanding mandrel.

Part number:  
PRK-0463-00-00-00-1



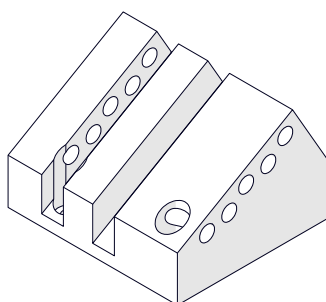
### 4.5.2. Equipment included

Equipment of the oval attachment consists of the following elements.

Milling unit for oval pipes (including 0° tool holder; without tool bits)	1 unit
Large expanding mandrel	1 unit
Metal box	1 unit
1/2" ratchet wrench	1 unit
8 mm flat wrench	1 unit
6 mm hex wrench	1 unit
5 mm hex wrench	1 unit
4 mm hex wrench	1 unit
2.5 mm hex wrench	1 unit
Tool container	1 unit

### 4.5.3. Optional equipment

Part number (30° tool holder):  
IMK-0463-02-10-00-0

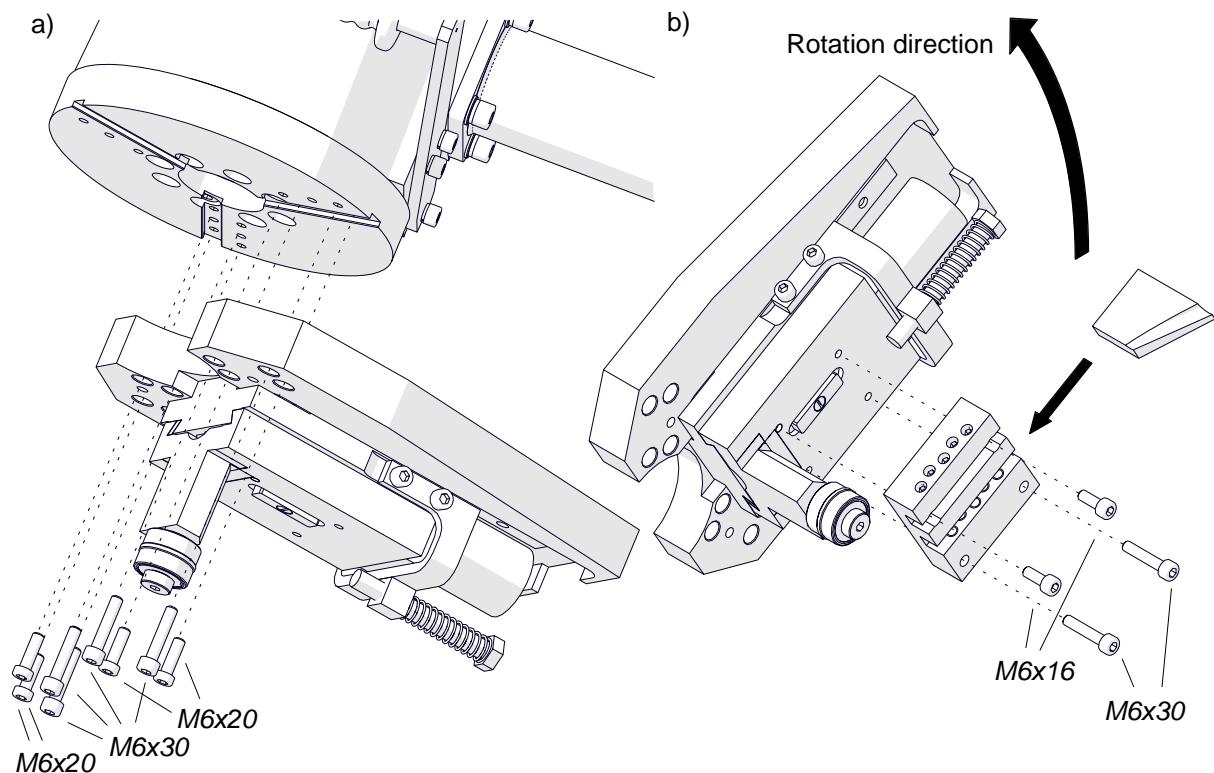


#### 4.5.4. Installing

Remove the existing expanding mandrel. To do this, loosen the nut and use the 5 mm hex wrench to loosen the set screw (1, Fig. 3) to at least one turn. Then, rotate the handles to the left to remove the mandrel.

Use the same 5 mm hex wrench to unscrew the screws (3, Fig. 2) and remove the existing tool holders.

Then, use eight screws to fix the milling unit for oval pipes to the spindle disk (Fig. 12a). Next, use the 5 mm hex wrench to install the tool holder (Fig. 12b), and insert a tool bit into the holder according to the rotation direction. Use the 4 mm hex wrench to tighten the tool bit.



**Fig. 12.** Installing the attachment for oval pipes

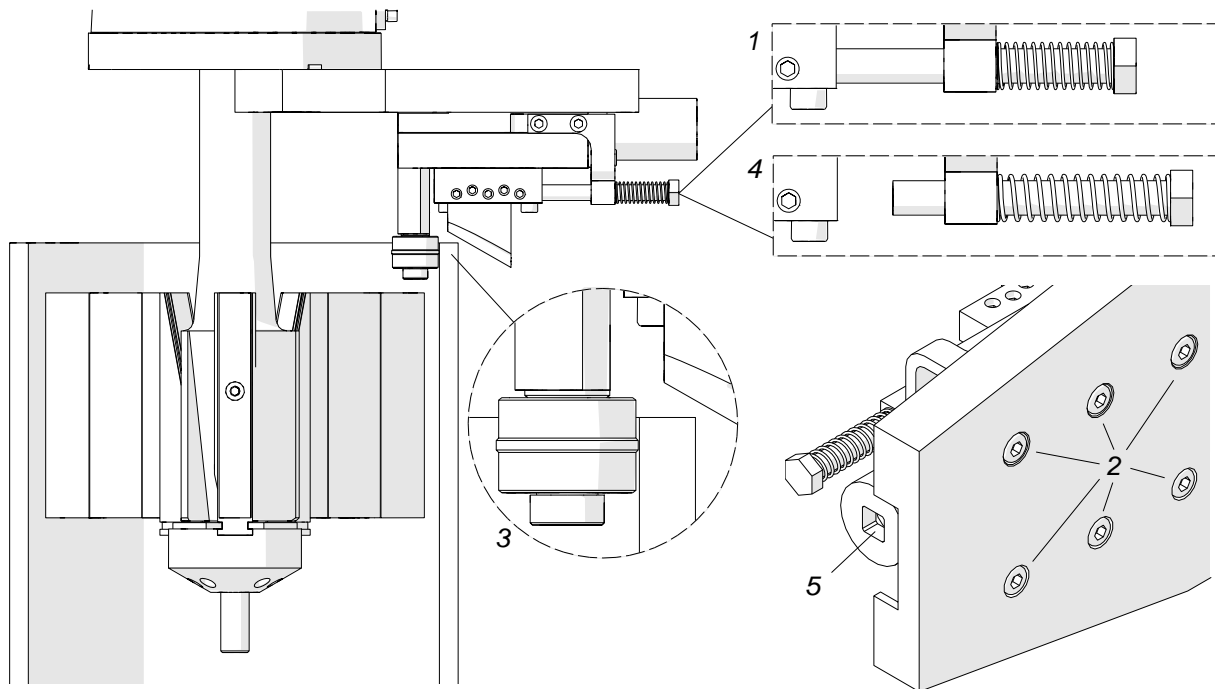
Then, use the following table to select suitable standard jaw blocks and adapters, and screw them to the large expanding mandrel (Fig. 2).

Pipe inner diameter with large expanding mandrel and standard jaw blocks		Jaw block number	Adapter
[mm]	[inch]		
126–142	4.96–5.59	1	–
142–158	5.59–6.22	2	–
157–173	6.18–6.81	3	–
173–189	6.81–7.44	4	–
188–204	7.40–8.03	5	–
203–219	7.99–8.62	6	–
219–235	8.62–9.25	2	+
234–250	9.21–9.84	3	+
250–266	9.84–10.47	4	+
265–281	10.43–11.06	5	+
280–296	11.02–11.65	6	+

Finally, insert the mandrel into the machine (2, 3, 4, 5, Fig. 3) and clamp the machine into the pipe as shown in Fig. 5.

#### 4.5.5. Operating

After the machine with the attachment is clamped inside the pipe, tighten the bumper screw to immobilize the tool bit holder (1, Fig. 13). Use the 6 mm hex wrench to loosen the guide screws (2). Place the attachment so that the roller is in contact with the pipe at the lowest inner diameter (3). Then, tighten the guide screws (2), unscrew the bumper screw (4), and use the 1/2" ratchet wrench to initially tighten the spring (5).



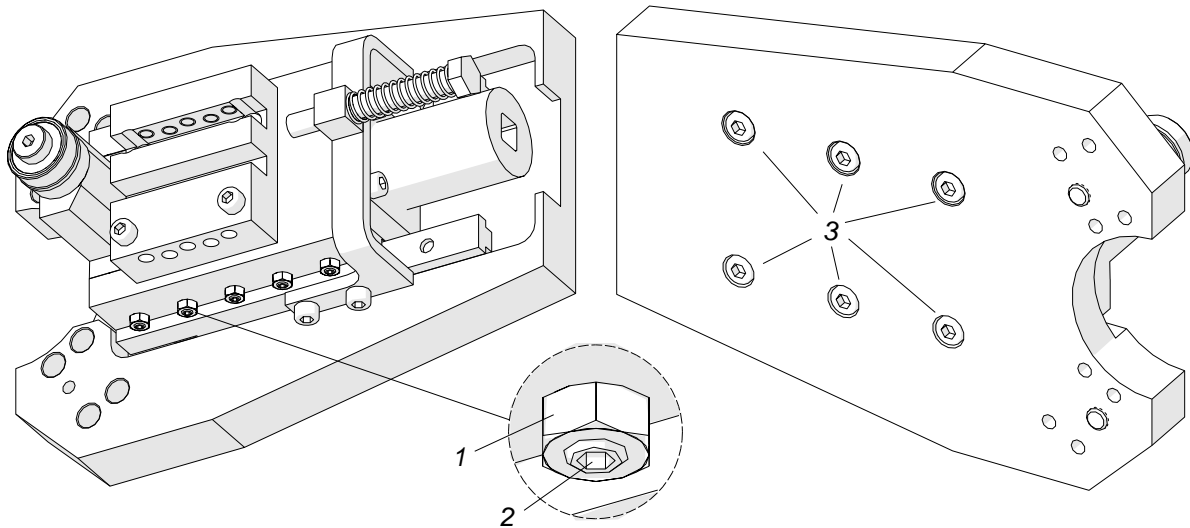
**Fig. 13.** Proper positioning of the oval attachment

Start the motor and rotate the handles to the right. If the machining is difficult, stop the rotation and tighten the bumper spring (5) more.

After the pipe end is machined fully, stop rotating the handles and allow several more turns of the spindle to improve the finish of the surface. Then, stop the machine, separate the tool bits from the pipe end, release the clamping, and then remove the machine from the pipe.

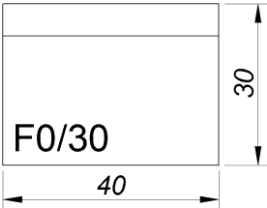
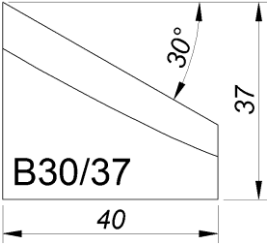
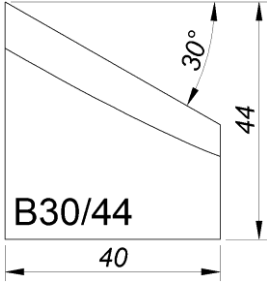
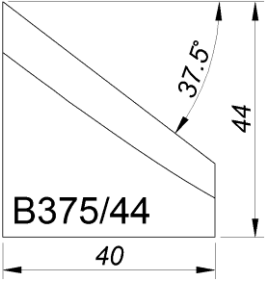
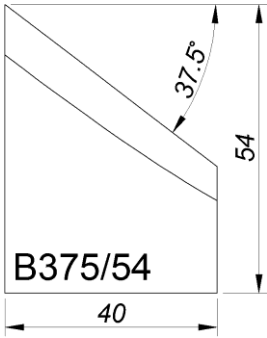
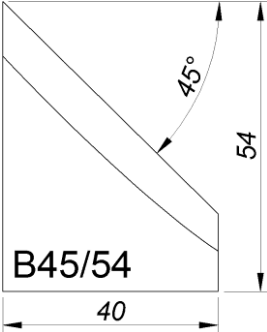
#### **4.5.6. Adjusting the slider clearance**

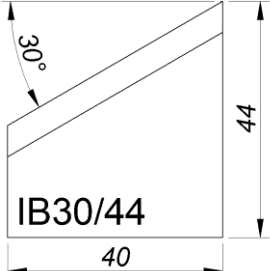
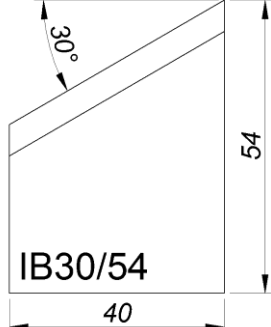
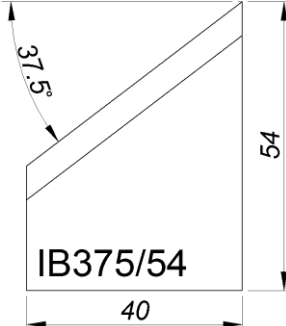
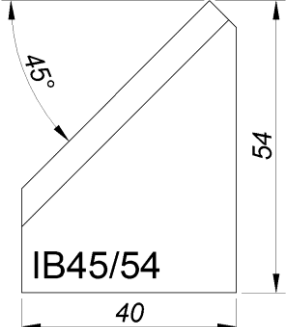
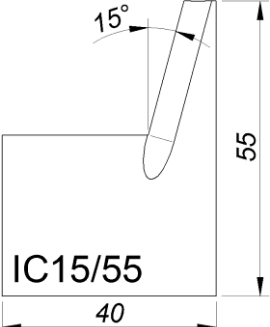
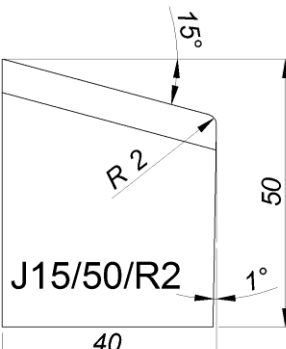
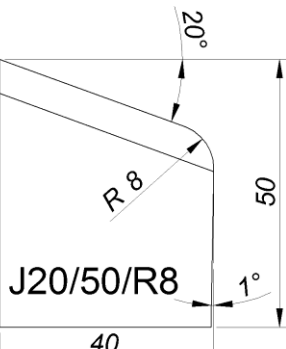
Use the 8 mm flat wrench to loosen the lock nuts (1, Fig. 14) and lightly tighten the screws (2) with the 2.5 mm hex wrench. If, after loosening the screws (3), the slider moves smoothly and uniformly, tighten the lock nuts (1).



**Fig. 14.** Adjusting the slider clearance

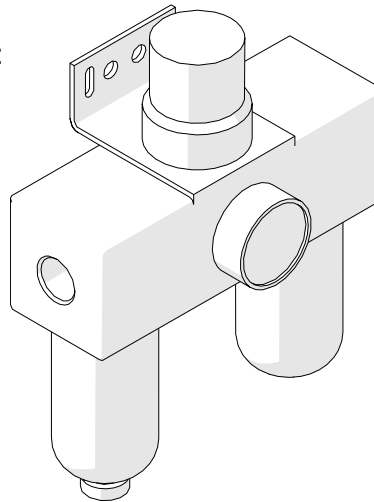
#### 4.6. Tool bits

NOZ-000017	F0-30 0° facing tool bit	
NOZ-000019	B30/37 30° beveling tool bit (for diameters over 106 mm, if works together with 0° facing tool bit)	 
NOZ-000018	B30/44 30° beveling tool bit (for diameters under 296 mm, if works together with 0° facing tool bit)	
NOZ-000020	B375/44 37.5° beveling tool bit (for diameters over 92 mm, if works together with 0° facing tool bit)	 
NOZ-000015	B375/54 37.5° beveling tool bit (for diameters under 256 mm, if works together with 0° facing tool bit)	
NOZ-000021	B45/54 45° beveling tool bit	

NOZ-000023	IB30/44 30° internal beveling tool bit (for diameters under 289 mm, if works together with 0° facing tool bit)		
NOZ-000025	IB30/54 30° internal beveling tool bit (for diameters over 130 mm, if works together with 0° facing tool bit)		
NOZ-000024	IB375/54 37.5° internal beveling tool bit		
NOZ-000026	IB45/54 45° internal beveling tool bit		
NOZ-000001	IC15/55 15° internal calibration tool bit (for inner diameters up to 345 mm)		
NOZ-000022	J15/50/R2 15° J-bevelling tool bit (for outer diameters up to 315 mm)		
NOZ-000016	J20/50/R8 20° J-bevelling tool bit (for outer diameters up to 315 mm)		

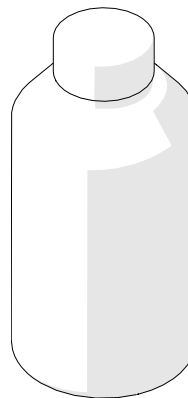
#### 4.7. Air preparation unit

Part number (filter, regulator, lubricator):  
ZST-000021



#### 4.8. Coolant

Part number:  
OLJ-0505-09-00-00-0 (0.5 kg, 1.1 lbs)  
OLJ-0505-10-00-00-0 (1 kg, 2.2 lbs)  
OLJ-0505-11-00-00-0 (5 kg, 11 lbs)

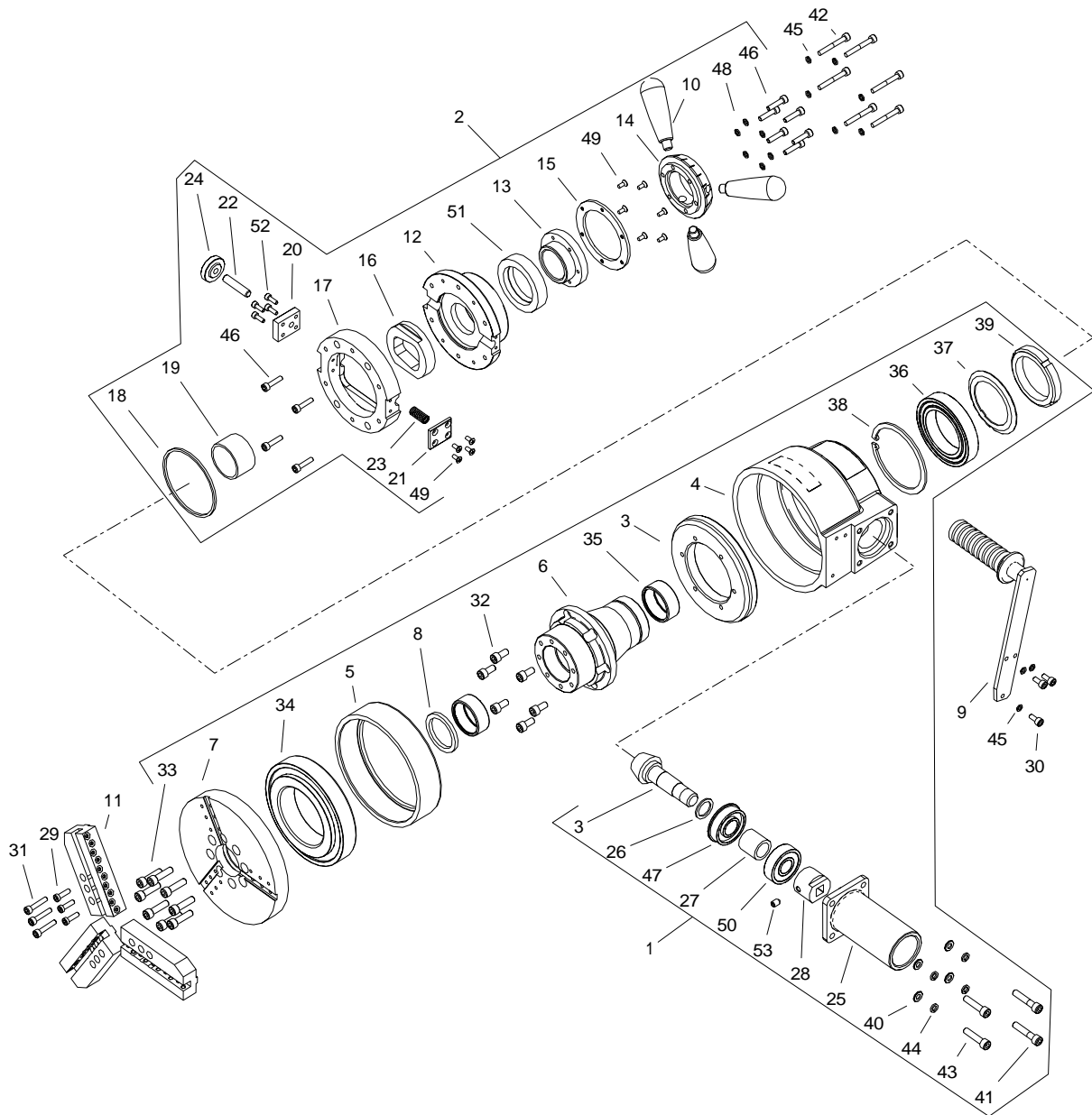


This exploded view diagram illustrates the assembly of a table saw. The main components are shown in their relative positions: the table top (1) with its extension (2), the motor (26) with its base (27) and mounting bracket (28), the blade guard assembly (3) with its handle (9), and the blade (7) with its arbor (8). The diagram also shows the blade guard's internal components (4, 5, 6) and the blade's mounting hardware (30, 31, 32). The table's support structure (34, 35) is shown at the bottom right. The diagram is labeled with numbers 1 through 35, corresponding to the parts list.

ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	TRZ-0200-04-01-00-2	STANDARD EXPANDING MANDREL ASSY	1
2	ZST-0200-20-00-00-0	JAW BLOCKS AND ADAPTERS SET	1
3	SKR-0200-90-00-00-0	WOODEN BOX	1
4	KLC-000056	4 MM HEX WRENCH WITH BALL END	1
5	KLC-000057	5 MM HEX WRENCH WITH BALL END	1
6	KLC-000009	6 MM HEX WRENCH	1
7	KLC-000001	24 MM SOCKET WRENCH	1
8	PJM-000003	COOLANT CONTAINER	1
9	PJM-000010	TOOL CONTAINER	1
10	TRZ-0200-04-01-00-1	MANDREL	1
11	SRB-0200-04-02-00-1	MANDREL SCREW	1
12	NKR-0200-04-03-00-0	MANDREL NUT	1
13	PDK-000045	SPRING WASHER 5.1	6
14	PLY-0200-04-04-00-0	NUT PLATE	3
15	SZC-0200-04-05-00-0	JAW	3
16	SRB-000089	HEX SOCKET HEAD CAP SCREW M5x30	6



ITEM	PART NUMBER	DESCRIPTION	Q-TY
17	WKR-000023	HEX SOCKET SET SCREW WITH DOG POINT M8x8	2
18	PLY-0200-20-08-00-0	STANDARD BLOCK BAR	1
19	KPL-0200-20-07-00-0	ADAPTER SET	1
20	KPL-0200-20-01-00-0	BLOCK SET L=11.5	1
21	KPL-0200-20-02-00-0	BLOCK SET L=19.2	1
22	KPL-0200-20-03-00-0	BLOCK SET L=26.9	1
23	KPL-0200-20-04-00-0	BLOCK SET L=34.6	1
24	KPL-0200-20-05-00-0	BLOCK SET L=42.3	1
25	KPL-0200-20-06-00-0	BLOCK SET L=49.5	1
26	SLN-0200-15-00-00-0	AIR MOTOR ASSY	1
27	SLN-000195	AIR MOTOR	1
28	KRC-000010	MALE PLUG, G1/2" 10.4 mm	1
29	ZST-0200-99-01-00-0	ELECTRIC MOTOR CONNECTING SET	1
30	TRZ-0200-00-02-00-0	MOTOR ARBOR	1
31	OBJ-0200-00-01-00-0	CLAMPING RING	1
32	SRB-000142	HEX SOCKET HEAD CAP SCREW M8x16	2
33	SLN-000094	MOTOR ASSY 1800W – 230V (CEE)	1
33	SLN-000102	MOTOR ASSY 1800W – 115V (US)	1
33	SLN-000120	MOTOR ASSY 1800W – 115V (UK)	1
34	PAS-0200-90-04-00-0	SAFETY STRAP L=500	1
35	PAS-0200-90-03-00-0	SAFETY STRAP L=380	2



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	ZSP-0200-01-00-00-3	SPINDLE ASSY	1
2	ZSP-0200-02-00-00-1	FEED ASSY	1
3	PKL-0200-09-00-00-0	BEVEL GEAR SET	1
4	KRP-0200-01-01-00-4	SPINDLE BODY	1
5	TLJ-0200-01-02-00-2	BEARING BUSH	1
6	WRZ-0200-01-03-00-1	SPINDLE	1
7	TRC-0200-01-04-00-1	SPINDLE DISK	1
8	USZ-0200-01-05-00-0	FELT SEAL	1
9	UCW-0200-07-00-00-0	HANDLE ASSY	1
10	DZW-0200-02-07-00-0	LEVER	3
11	OBS-0200-01-06-00-2	ALUMINIUM TOOL HOLDER	2
11	OBS-0200-01-06-00-3	STEEL TOOL HOLDER	1
12	KRP-0200-02-01-00-2	FEED BODY	1
13	NKR-0200-02-02-00-0	DRIVE NUT	1

ITEM	PART NUMBER	DESCRIPTION	Q-TY
14	TRC-0200-02-03-00-0	NUT DISK	1
15	OGR-0200-02-04-00-0	NUT LIMITER	1
16	OBJ-0200-02-08-00-0	LOCKING CLASP	1
17	BLD-0200-02-09-00-0	CLASP LOCK	1
18	PRS-0200-02-10-00-0	BEARING STOPPER RING	1
19	TLJ-0200-02-11-00-0	DISTANCE BUSH	1
20	PLY-0200-02-12-00-0	SCREW STOPPER PLATE	1
21	PLY-0200-02-13-00-0	SPRING STOPPER PLATE	1
22	SRB-0200-02-14-00-0	SET SCREW	1
23	SPR-0200-02-15-00-0	SPRING	1
24	NKR-0200-02-16-00-0	KNURLED NUT	1
25	KRP-0200-03-01-00-1	DRIVE BODY	1
26	PRS-0200-03-02-00-0	DISTANCE RING	1
27	TLJ-0200-03-04-00-0	DISTANCE BUSH	1
28	ZBI-0200-03-05-00-0	DRIVER	1
29	SRB-000304	LOW HEAD SOCKET CAP SCREW M6x20	9
30	SRB-000105	HEX SOCKET HEAD CAP SCREW M6x14	3
31	SRB-000118	HEX SOCKET HEAD CAP SCREW M6x30	9
32	SRB-000142	HEX SOCKET HEAD CAP SCREW M8x16	6
33	SRB-000155	HEX SOCKET HEAD CAP SCREW M8x30	8
34	LOZ-000078	CONE BEARING 85x150x30	1
35	LOZ-000011	NEEDLE BEARING 45x52x20	2
36	LOZ-000021	ANGULAR BALL BEARING 65x100x18	1
37	PDK-000069	BEARING TOOTHED WASHER MB-3	1
38	PRS-000001	INTERNAL RETAINING RING 100w	1
39	NKR-000048	BEARING NUT KM-13	1
40	PDK-000202	SMALL ROUND WASHER 8.4	4
41	SRB-000157	HEX SOCKET HEAD CAP SCREW M8x40	2
42	SRB-000126	HEX SOCKET HEAD CAP SCREW M6x45	6
43	SRB-000156	HEX SOCKET HEAD CAP SCREW M8x35	2
44	PDK-000051	SPRING WASHER 8.2	4
45	PDK-000046	SPRING WASHER 6.1	9
46	SRB-000115	HEX SOCKET HEAD CAP SCREW M6x25	10
47	LOZ-000077	BEARING 22x52x15	1
48	PDK-000046	SPRING WASHER 6.1	6
49	WKR-000431	CROSS RECESSED OVAL COUNTERSUNK HEAD SCREW M5x12	10
50	LOZ-000074	BALL BEARING 20x52x15	1
51	LOZ-000033	THRUST BALL BEARING 55x78x16	1
52	SRB-000082	HEX SOCKET HEAD CAP SCREW M5x14	4
53	WKR-000069	HEX SOCKET SET SCREW WITH CONE POINT M8x12	1

## 6. DECLARATIONS OF CONFORMITY

### ***EC Declaration of Conformity***

We

***PROMOTECH sp. z o.o.  
ul. Elewatorska 23/1  
15-620 Białystok  
Poland***

declare with full responsibility that:

### **PB-10 PIPE BEVELING MACHINE**

is manufactured in accordance with the following standards:

- EN ISO 12100-1
- EN ISO 12100-2

and satisfies safety regulations of the guideline 2006/42/EC.

Białystok, 9 May 2013



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Marek Siergiej  
CEO

## ***EC Declaration of Conformity***

We

***PROMOTECH sp. z o.o.  
ul. Elewatorska 23/1  
15-620 Białystok  
Poland***

declare with full responsibility that:

### **PBE-10 PIPE BEVELING MACHINE**

is manufactured in accordance with the following standards:

- EN 60745-1
- EN 55014
- EN ISO 12100-1
- EN ISO 12100-2

and satisfies safety regulations of the guidelines: 2004/108/EC, 2006/95/EC, 2006/42/EC.

Białystok, 9 May 2013



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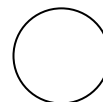
Marek Siergiej  
CEO

**7. QUALITY CERTIFICATE**

**Machine control card**  
**PB-10 (PBE-10) PIPE BEVELING MACHINE**

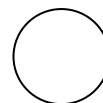
Serial number .....

Quality control .....



**Adjustments, inspections**

Quality control .....



## **8. WARRANTY CARD**

**WARRANTY CARD No.....**

..... in the name of Manufacturer warrants the PB-10 (PBE-10) Pipe Beveling Machine to be free of defects in material and workmanship under normal use for a period of 12 months from the date of sale.

This warranty does not cover tool bits as well as damage or wear that arise from misuse, accident, tempering, or any other causes not related to defects in workmanship or material.

Date of production .....

Serial number .....

Date of sale .....

Signature of seller.....

**1.09 / 3 January 2019**

***WE RESERVE THE RIGHT TO MAKE CHANGES IN THIS MANUAL WITHOUT NOTICE***