

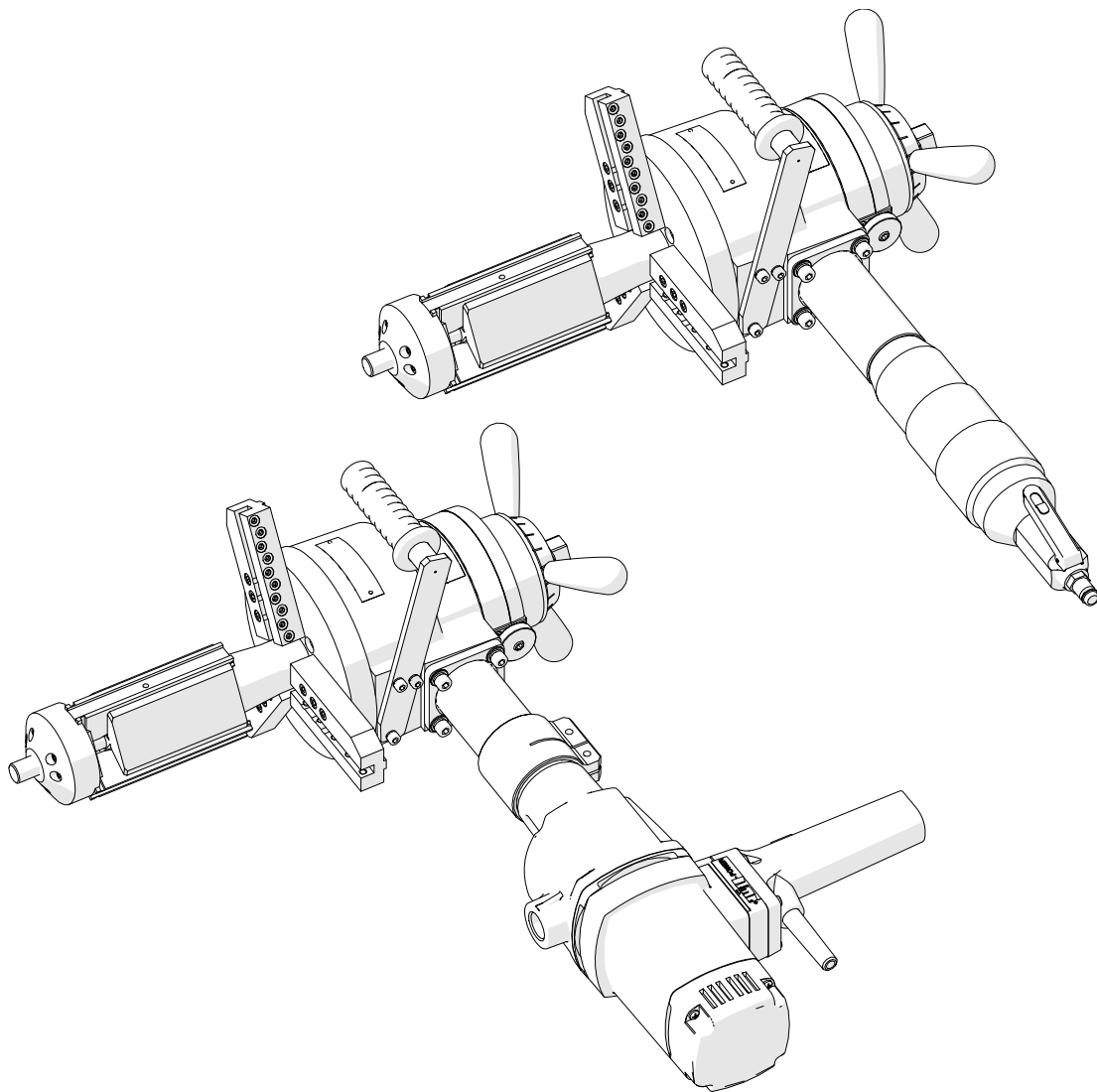


The tools of innovation.

OPERATOR'S MANUAL

PB-10 (PBE-10)

PIPE BEVELING MACHINE



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1. GENERAL INFORMATION

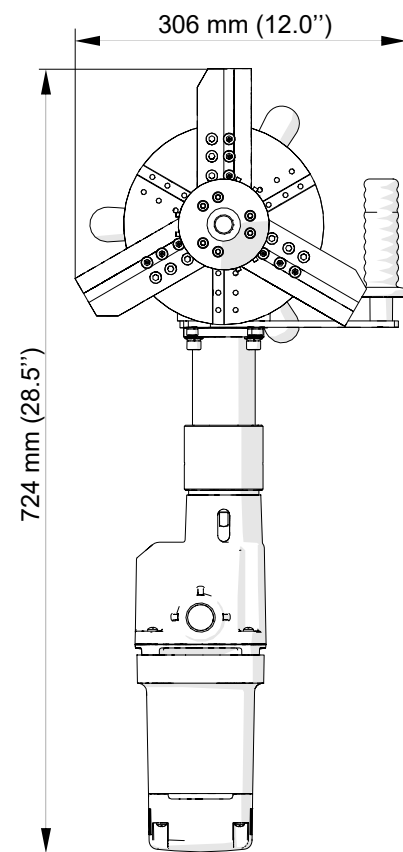
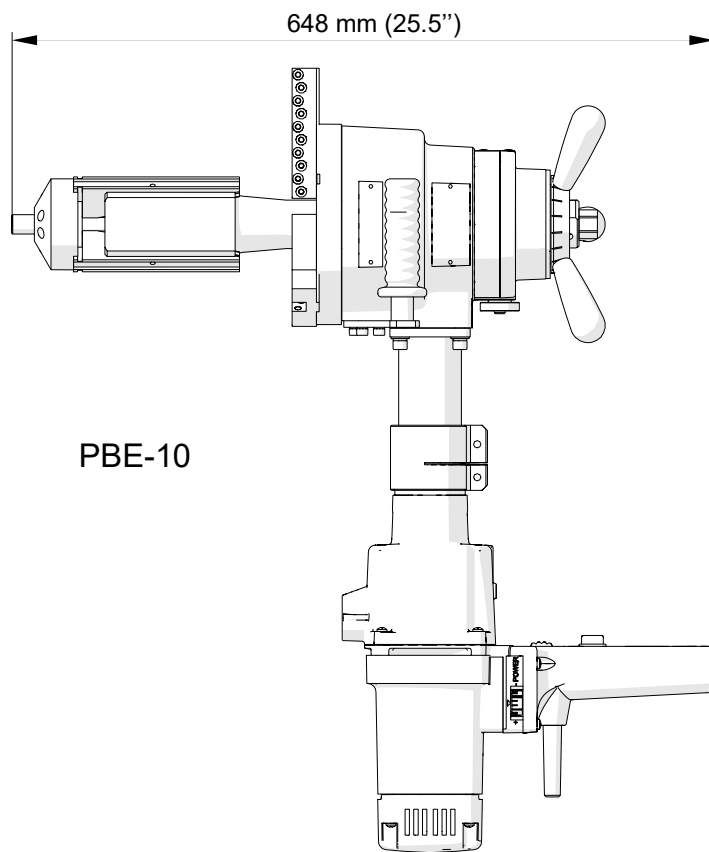
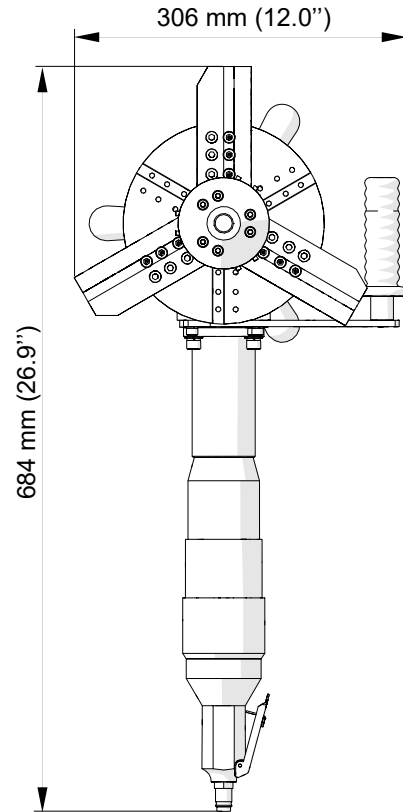
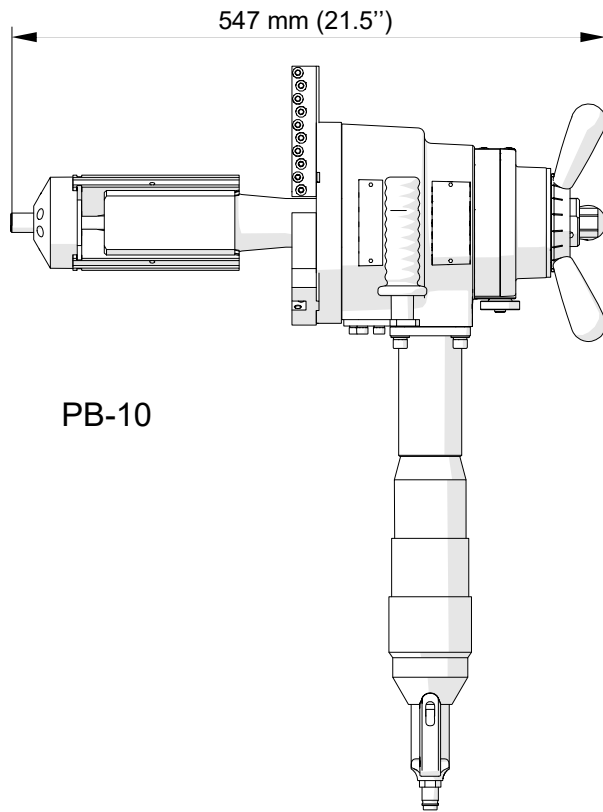
1.1. Application

The PB-10 (PBE-10) is a pipe beveling machine designed to mill edges of 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 internal diameters of 84–269 mm (3.31–10.59”). Up to three operations can be performed simultaneously.

Using an optional small expanding mandrel will allow milling pipes with internal diameters from 38 mm to 86 mm (1.50–3.39”), while using an extension set will allow milling pipes with diameters from 192 mm to 349 mm (7.56–13.74”). Attachments will 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

	PB-10	PBE-10
Pressure	0.6 MPa	–
Voltage	–	1~ 110–120 V, 50–60 Hz 1~ 220–240 V, 50–60 Hz
Connection	CEJN 410 DN 10.4 GZ 3/8” BSPT coupling	electrical plug
Air consumption	1750 NI/min (62 CFM)	–
Power	1800 W	1800 W
Pipe internal 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	above 70 dB	below 70 dB
Weight	33 kg (73 lbs)	35.9 kg (79 lbs)



1.3. Design

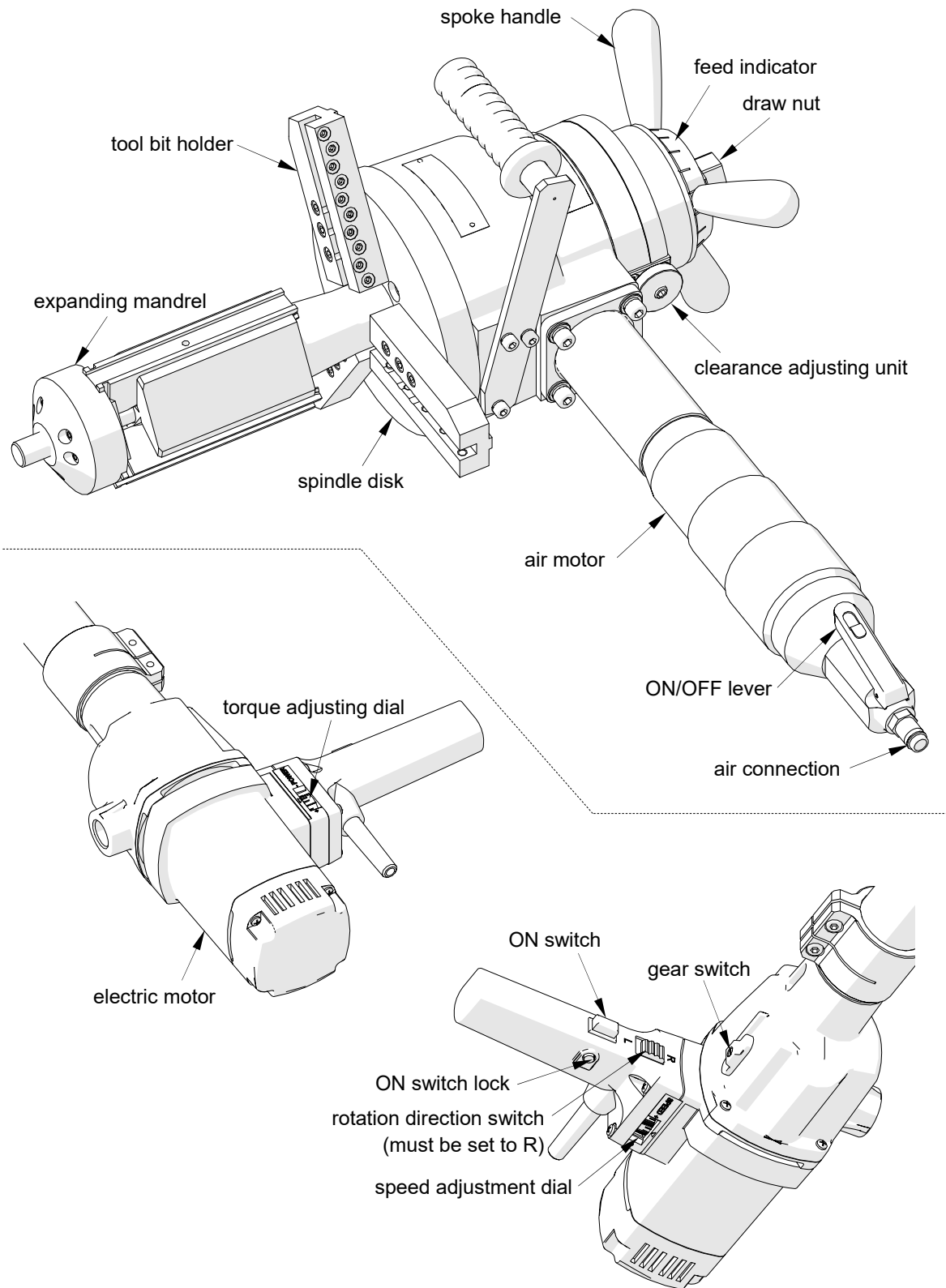


Fig. 1. Design of PB-10 and of PBE-10 electric motor

1.4. Equipment included

The PB-10 (PBE-10) pipe beveling machine is supplied in a metal box with complete standard equipment. The included equipment consists of:

	PB-10	PBE-10
Beveling machine (without tool bits)	1 unit	1 unit
Standard expanding mandrel	1 unit	1 unit
Metal box	1 unit	1 unit
Jaw blocks (number 1, 2, 3, 4, 5, 6) and adapter	3 sets	3 sets
Coolant container	1 unit	1 unit
Tool container	1 unit	1 unit
6 mm hex wrench	1 unit	1 unit
5 mm hex wrench	1 unit	1 unit
4 mm hex wrench	1 unit	1 unit
24 mm socket wrench with handle	1 unit	1 unit
Operator's Manual	1 unit	1 unit

2. SAFETY PRECAUTIONS

1. Before beginning, read this Operator's Manual and complete proper occupational safety and health training.
2. The machine must be used only in applications specified in this Operator's Manual.
3. The machine must be complete and all parts must be genuine and fully operational.
4. The supply specifications must conform to those specified on the rating plate.
5. Supply the machine with air motor only with clean and lubricated air. The air installation must be equipped with a filter, regulator, and lubricator.
6. Never pull the hose (cord) as this may cause its damage and result in serious injury.
7. Untrained bystanders must not be present in the vicinity of the machine.
8. Before beginning, check the condition of the machine and air (electrical) installation, including the supply hose (cord), coupling (plug), control components, and milling tools.
9. Avoid unintentional starts. Do not lay the machine down in such a manner that will start the motor and never carry the machine with air motor using the ON/OFF lever.
10. Keep the machine dry. Exposure to rain, snow, or frost is prohibited.
11. Keep the work area well lit, clean, and free of obstacles.
12. Never use the machine in the vicinity of flammable liquids or gases, or in explosive environments.
13. Secure the pipe to prevent it from dropping or rolling.
14. Never use dull or damaged tools.
15. Use only tools specified in this Operator's Manual.
16. Mount tools securely. Remove adjusting keys and wrenches from the work area before connecting the machine to the supply.
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 operation. Do not wear loose clothing.
19. Operate the machine with electric motor only with the rotation direction switch set to position 'R'. Using left rotation (rotation direction switch set to 'L') may damage the machine.

20. Do not touch moving parts or metal chips formed during milling. Prevent objects from being caught in moving parts.
21. After every use, remove metal chips and coolant remainder from the machine. Never remove chips with bare hands. Clean the machine with a cotton cloth without using any agents.
22. Maintain the machine and tools with care. Cover steel parts with a thin grease layer to protect them against rust when not in use for any extended period.
23. Maintain the machine and replace parts and tools only with the machine unplugged from the air (electric) installation.
24. Repair only in a service center appointed by the seller.
25. If the machine falls on a hard surface, from height, is wet, or has any other damage that could affect the technical state of the machine, stop the operation and immediately send the machine to the service center for inspection and repair.
26. Never leave the machine unattended during operation.
27. Remove from the worksite and store in a secure and dry location when not in use, previously removing the tools from holders.

3. STARTUP AND OPERATION



All safety precautions must be closely observed.

3.1. Mounting jaw blocks, adapters, tool holders, and tool bits

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

Pipe internal 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 screw the adapters (1, Fig. 2) and the jaw blocks 2 to the expanding mandrel.

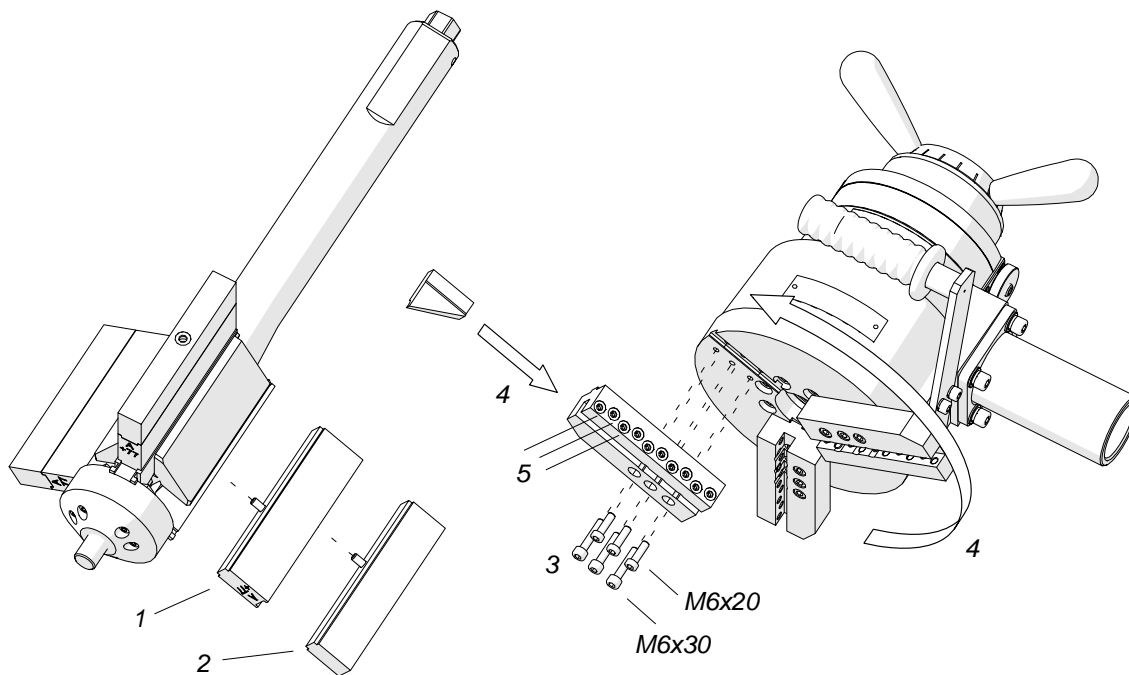


Fig. 2. Mounting the jaw blocks, adapters, tool holders, and tool bits

Use the same 5 mm hex wrench to mount the tool holders to the spindle disk using six screws (3). Then, select up to three tool bits suitable to planned use and attach them to the holders according to the rotation direction 4. Next, tighten the screws 5 using the 4 mm hex wrench.

3.2. Mounting (dismounting) the mandrel and adjusting 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). Rotate the spoke handles clockwise (3) by at least 10 turns until the mandrel engages with the machine completely. Then, tighten the set screw (4) and check whether the spoke handles can be rotated in both directions easily. If the screw is too tight, readjust it. Finally, tighten the lock nut (5).

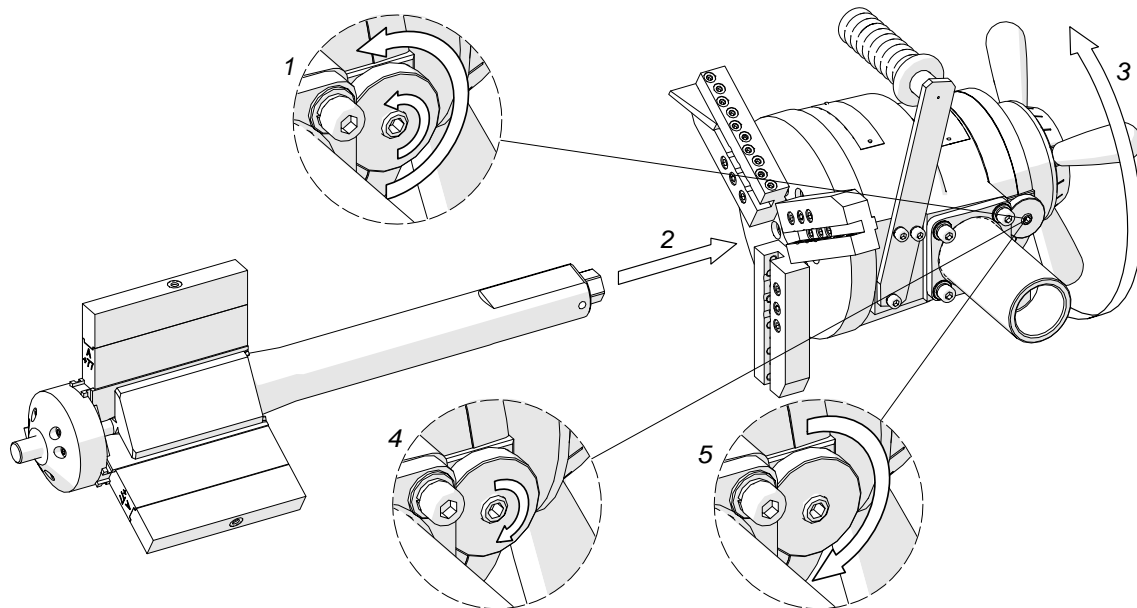


Fig. 3. Mounting the mandrel into the machine

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 dismount the mandrel, 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 spoke handles counterclockwise to disengage the mandrel from the machine.

3.3. Mounting the motor

Insert the air motor into the machine (1, Fig. 4a) in such a way to place the arbor in the socket 2, and tighten the motor by rotating it counterclockwise (3).

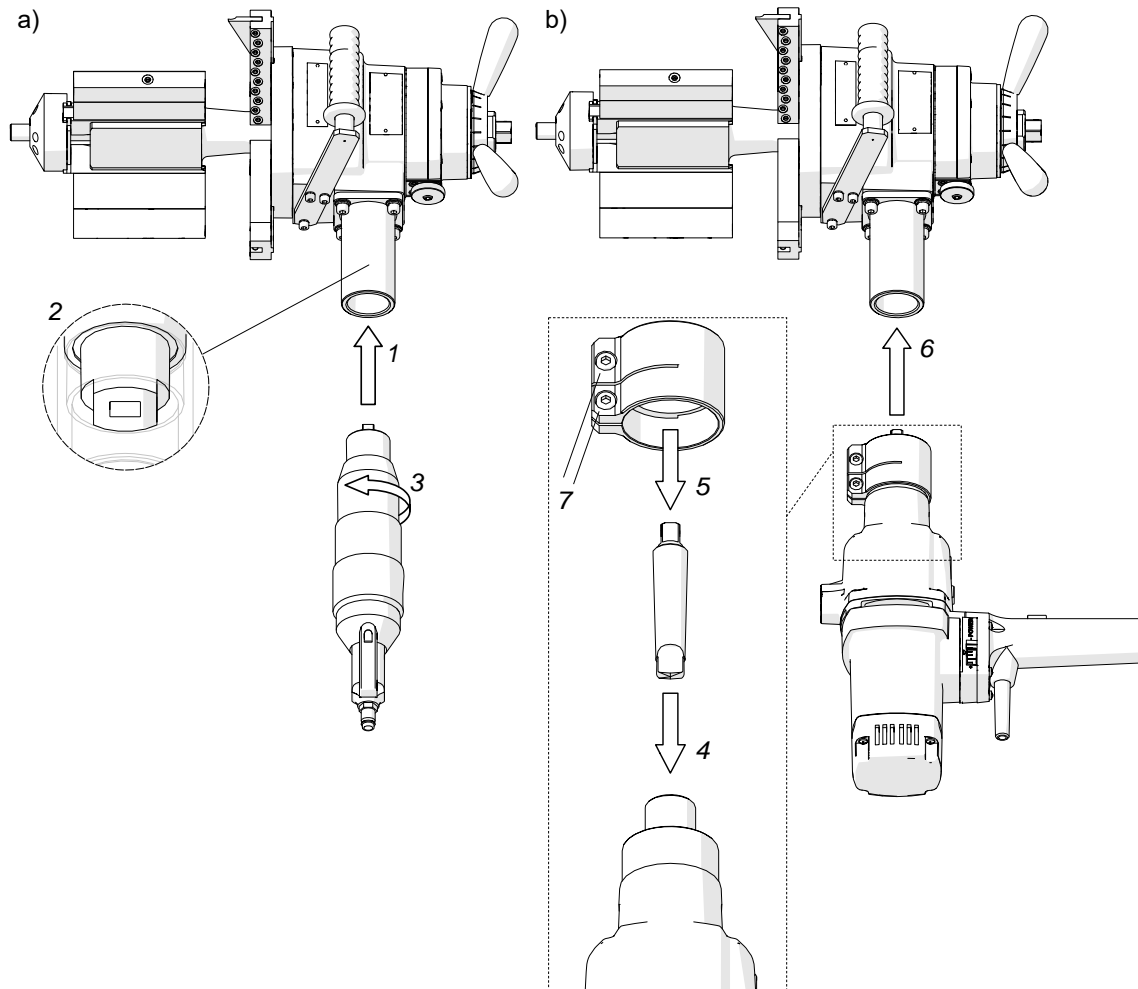


Fig. 4. Mounting the air motor (a) and the electric motor (b)

To mount the electric motor, insert the MT3 arbor into the motor (4, Fig. 4b), and hit the arbor to position it tightly using a mallet. Put the clamping ring (5) onto the motor, then mount entirety into the machine (6) by placing the arbor in the socket 2, and tighten the clamping ring using the 6 mm hex wrench (7). Finally, set the rotation direction switch in position R as in Fig. 1.

3.4. Clamping the machine into the pipe

Insert the assembled machine into the pipe (1, Fig. 5) in such a way to place the tool bit(s) at the distance of at least 3 mm (0.12") from the pipe end. Then, expand the jaw blocks to the inside diameter of the pipe by rotating the draw nut 2 clockwise using the 24 mm socket wrench. The jaw blocks must be installed beyond the end preparation location 3.

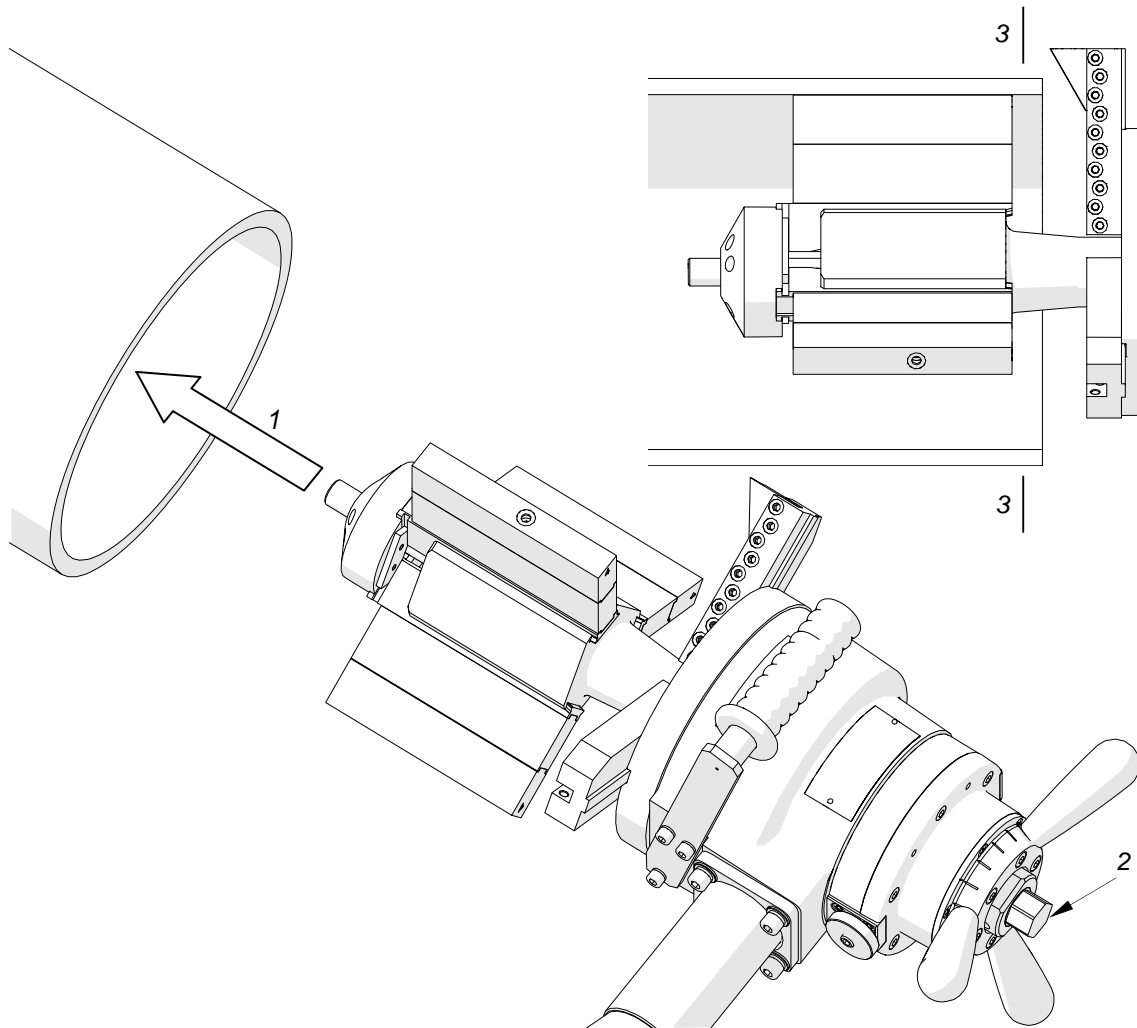


Fig. 5. Clamping the machine into the pipe

3.5. Preparing air (for machine with air motor)

Connect the machine to a correctly prepared air supply of sufficient purity using a hose with the internal diameter of at least 12 mm (0.5"). The air installation must be equipped with an air preparation unit: 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 exceeds 260°C (500°F). If the machine is to be left idle for at least 24 hours, 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

Once the machine is connected to a proper supply, set the maximum torque using the torque adjusting dial and select gear I using the gear switch (only for machine with electric motor). To start the operation, press the ON/OFF lever (air machine) or press and hold the ON switch (electric machine). To lock the switch in position ON, press the ON switch lock first.

Bring the tool bit(s) close to the pipe by rotating the spoke handles clockwise. If the face of the pipe is not perpendicular to the pipe axis, the tool bit will machine only a small segment of the pipe during initial rotations. Thus, the feed rate should be chosen low until the tool bit is contacting the pipe continually during at least one rotation. The axial feed is 0.11 mm (0.004") per graduation (Fig. 6) or 2 mm (0.08") per one complete turn of the spoke handles. The machine with electric motor allows toggling the speed between gear I and II after stopping the rotation, and adjusting the rotational speed.

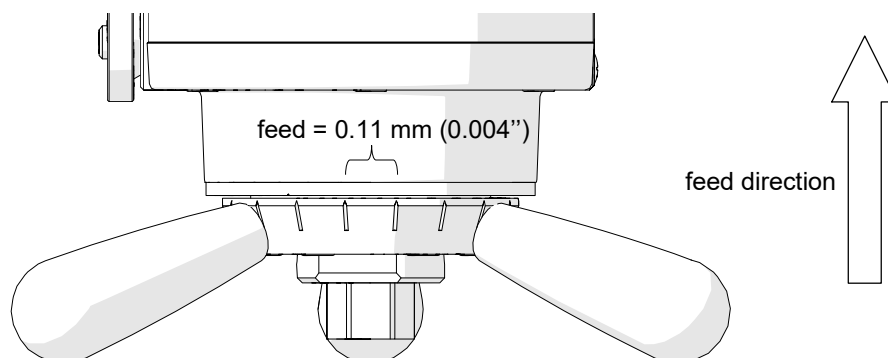


Fig. 6. View of the feed indicator

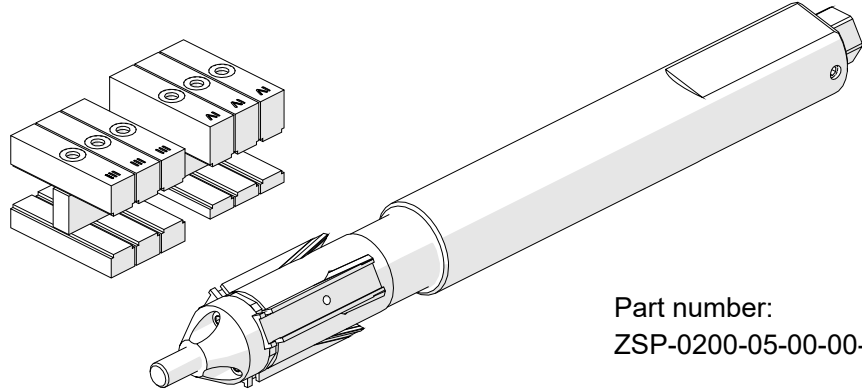
Continue machining by rotating the spoke handles clockwise. Use adequate feed rate to establish a continuous chip cut. If the feed rate is too low, only light stringer chips will be removed, while too high feed will make machining difficult and the chip will start to have a rough or torn appearance. Never allow the tool bit to burnish the surface. Change the feed rate to minimize chatter problems if they occur. 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.

Once the pipe end is machined completely, discontinue rotating the spoke handles and allow the spindle to rotate several more turns to improve the finish of the surface. Then, turn off the motor by releasing the ON/OFF lever, or the ON switch in the machine with electric motor, and wait until the rotation stops. Separate the tool bit(s) from the pipe end to at least 3 mm (0.12”) by rotating the spoke handles counterclockwise. Finally, loosen the draw nut using the 24 mm socket wrench to release the clamping, and remove the machine from the pipe. Use petroleum ether to clean the pipe from coolant remainder. Clean the machine with a cotton cloth without using any agents.

4. ACCESSORIES

4.1. Small expanding mandrel set

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



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

Included equipment consists of:

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 spoke handles counterclockwise to disengage the mandrel from the machine.

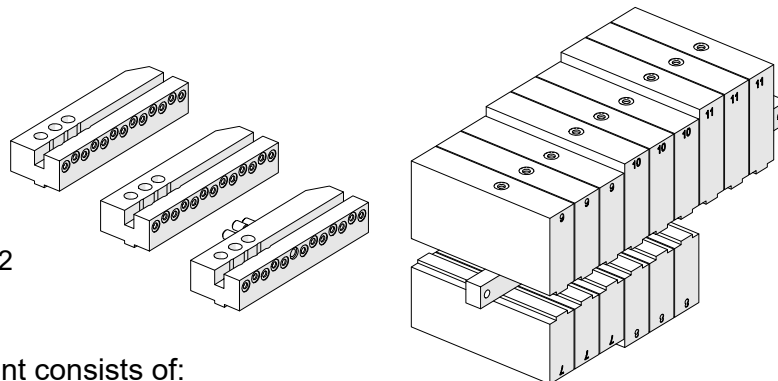
Then, use the following table to select jaw blocks of the small expanding mandrel set suitable to the inside diameter of the pipe to be machined, use the 3 mm hex wrench to tighten them to the small expanding mandrel as shown in Fig. 2, and mount the mandrel into the machine (2, 3, 4, 5, Fig. 3).

Pipe internal 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 internal 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:

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

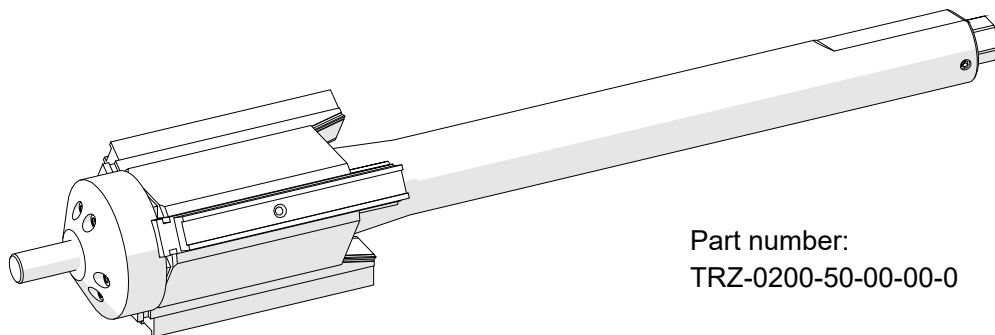
Install the set after previously removing the existing tool holders. To do this, use the 5 mm hex wrench to unscrew the screws (3, Fig. 2) and use them to mount the tool holders of the extension set.

Use the following table to select jaw blocks of the extension set suitable to the inside diameter of the pipe to be machined, and use the same 5 mm hex wrench to tighten them to the standard expanding mandrel as shown in Fig. 2. Then, mount tool bits in holders by tightening the screws (5, Fig. 2) using the 4 mm hex wrench.

Pipe internal 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 internal 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 mounted inside pipes with diameters from 219 to 376 mm (8.62–14.80”) for flange facing.



Part number:
TRZ-0200-50-00-00-0

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 spoke handles counterclockwise to disengage the mandrel from the machine.

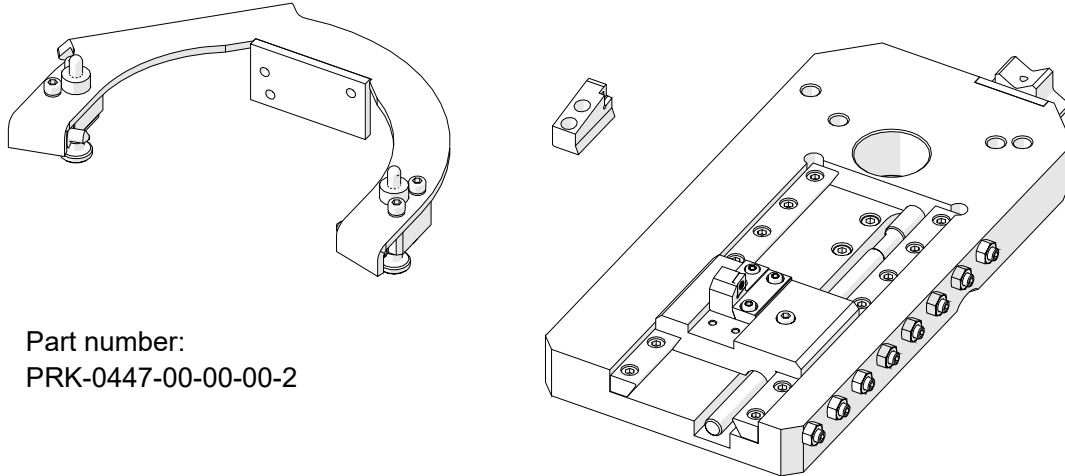
Use the following table to select either standard jaw blocks suitable to the inside diameter of the pipe to be machined or jaws blocks of the extension set for flange facing. Then, use the 5 mm hex wrench to tighten them to the large expanding mandrel as shown in Fig. 2, and mount the mandrel into the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

Pipe internal diameter with large expanding mandrel and standard jaw blocks		Jaw block number	Adapter	Pipe internal 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 internal diameter either of 84–269 mm (3.31–10.59”) using the standard expanding mandrel or of 219–376 mm (8.62–13.74”) 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:

Milling unit for flanges	1 unit
Holder with two tripper blocks	1 unit
Cutting insert	8 units
Mounting 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. Mounting

Dismount 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 spoke handles counterclockwise to disengage the mandrel from the machine.

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

Next, dismount the machine handle by unscrewing three screws with washers (1, Fig. 7), and use them to mount 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, and mount the milling unit to the spindle disk (4) with six screws using the 5 mm hex wrench.

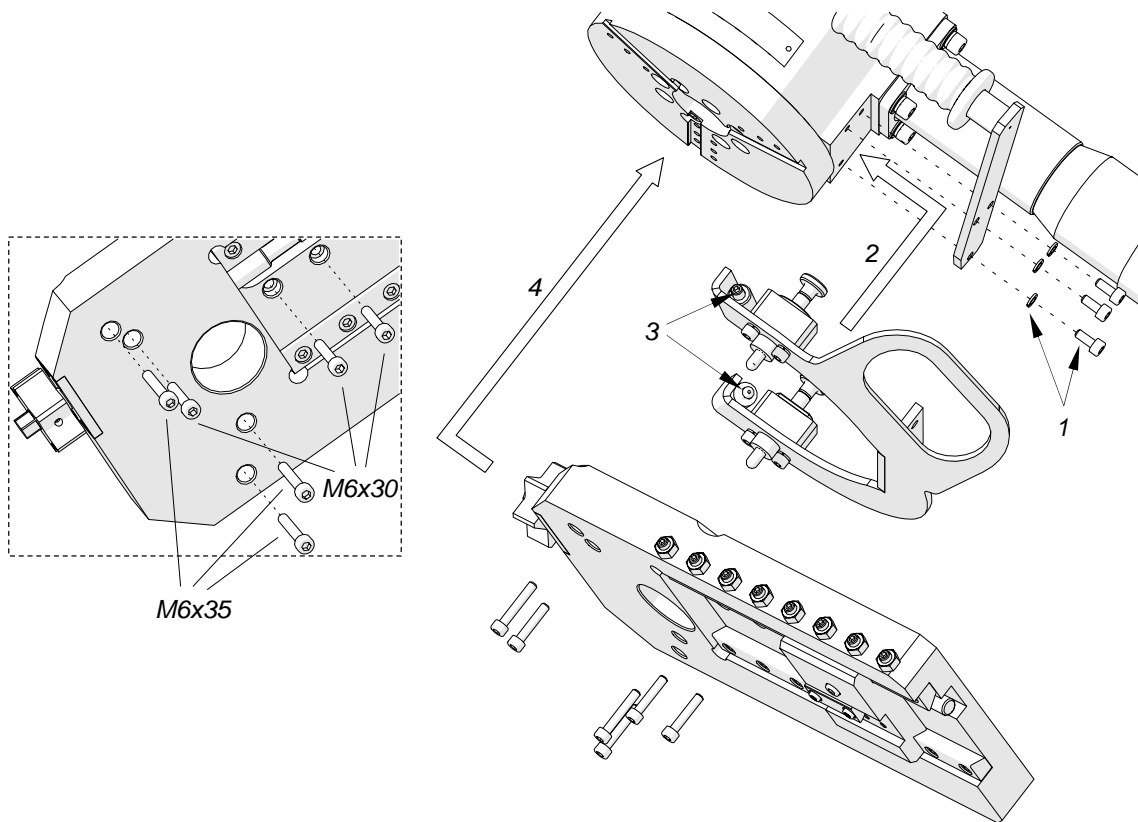


Fig. 7. Mounting the flange facing attachment

Depending on the diameter of the flange to be machined, select either the internal ($\text{Ø}90\text{--}451$, 3.54–17.76”) or external insert holder ($\text{Ø}147\text{--}508$, 5.79–20.00”), onto which mount a cutting insert using the supplied screwdriver (1, Fig. 8). Then, use the 4 mm hex wrench to tighten the clamp 2, and slide the insert holder under the clamp (3) and tighten with the screws 4.

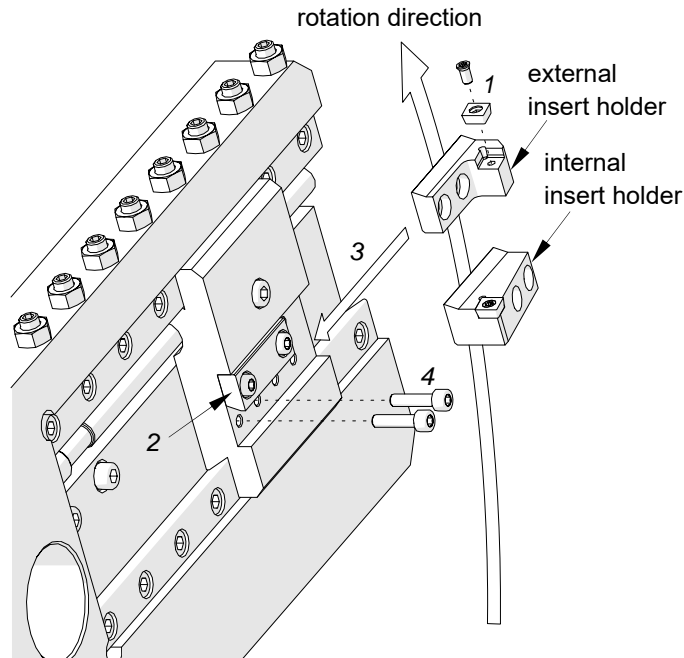


Fig. 8. Mounting the tool

Next, use the following table to either select standard jaw blocks suitable to the inside diameter of the flange to be machined and 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 internal diameter with standard expanding mandrel and standard jaw blocks		Jaw block number	Adapter	Pipe internal 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, mount 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

Once the machine with the attachment is clamped inside the pipe, use the 13 mm combination wrench to rotate the draw nut 1 in such a way to move the cutting edge of the tool outside the flange outer diameter. Then, set the sprocket 2 in the position shown in Fig. 9, and push out both pivots of the tripper blocks 3 to engage them with the attachment. Rotate the spoke handles 4 clockwise to set machining depth to not more than 0.5 mm (0.02") from the pipe end, and start the motor.

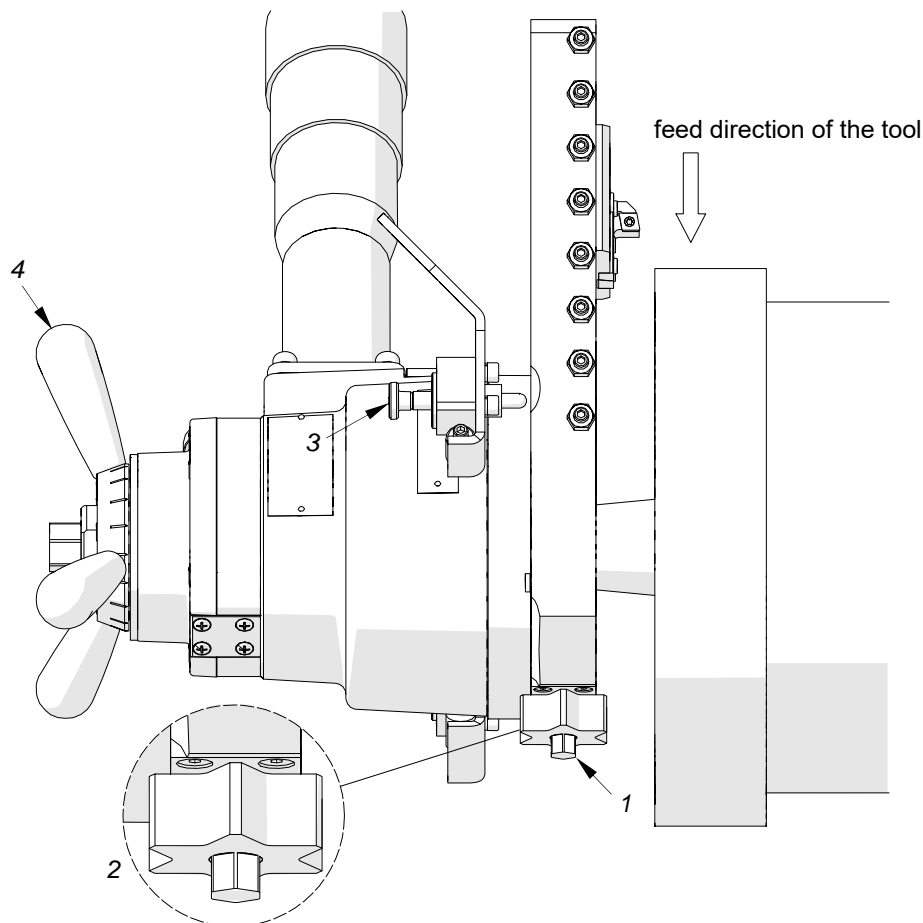


Fig. 9. Proper positioning of the flange facing attachment

Once facing of the flange end is finished, turn off the motor and wait until the rotation stops. Then, rotate the spoke handles counterclockwise to retract the tool from the workpiece. Clean the entire surface of the flange end, and perform several more rotations to improve the finish of the surface with one tripper block engaged (retract the pivot of the second tripper block) and with machining depth not more than 0.25 mm (0.01").

4.4.5. Adjusting slider clearance

Use the 13 mm combination wrench to loosen the lock nuts (1, Fig. 10). Then, use the 5 mm hex wrench to loosen eight screws 2 mounting the guide. To access the screws, change the slider position by rotating the draw nut 3 using 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 located opposite the current position of the slider. Move the slider through the entire length and if its movement is smooth and uniform, maximally tighten the nuts 1.

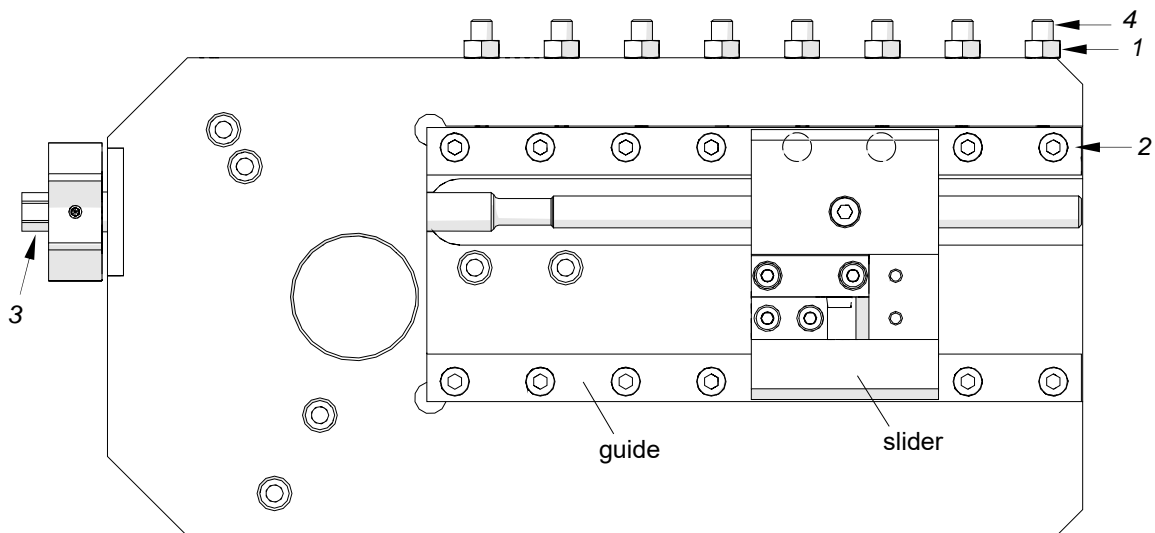


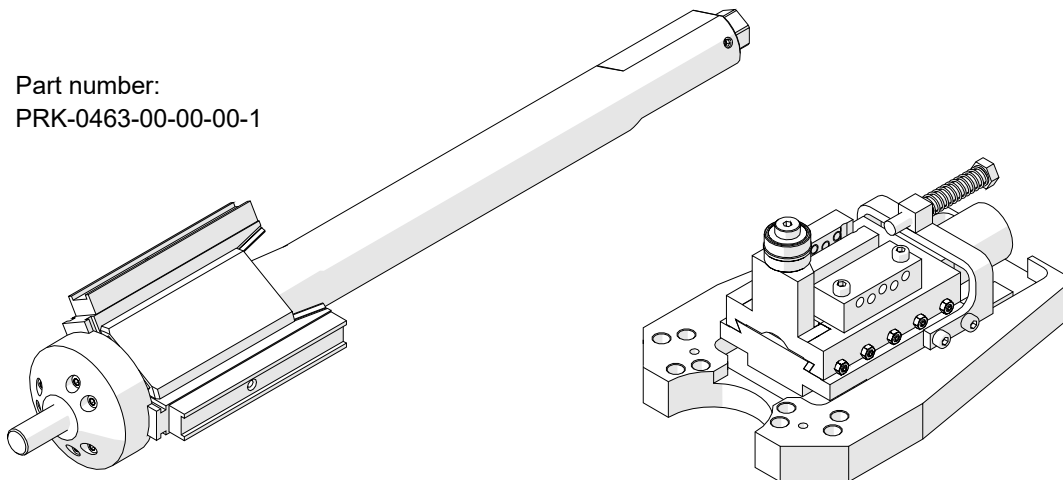
Fig. 10. Adjusting the slider clearance

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:

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. Mounting

Dismount 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 spoke handles counterclockwise to disengage the mandrel from the machine.

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 mount the milling unit for oval pipes to the spindle disk (Fig. 11a). Next, mount the tool holder using the 5 mm hex wrench (Fig. 11b), and insert a tool bit into the holder according to the rotation direction. Tighten the tool bit with the 4 mm hex wrench.

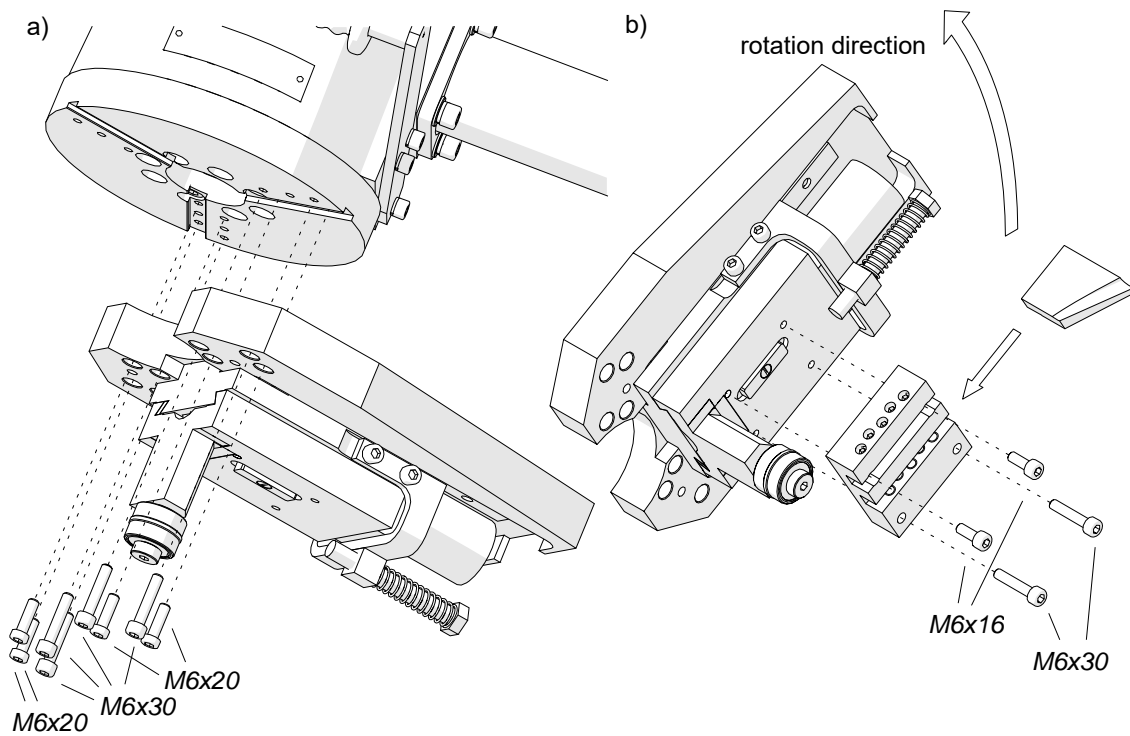


Fig. 11. Mounting the attachment for oval pipes

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

Pipe internal 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, mount the mandrel into the machine (2, 3, 4, 5, Fig. 3) and clamp the machine into the pipe as shown in Fig. 5.

4.5.4. Operating

Once the machine with the attachment is clamped inside the pipe, tighten the bumper screw to immobilize the tool bit holder (1, Fig. 12). Use the 6 mm hex wrench to loosen the guide screws 2. Place the attachment in such a way to bring the roller close to the lowest inside diameter of the pipe (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.

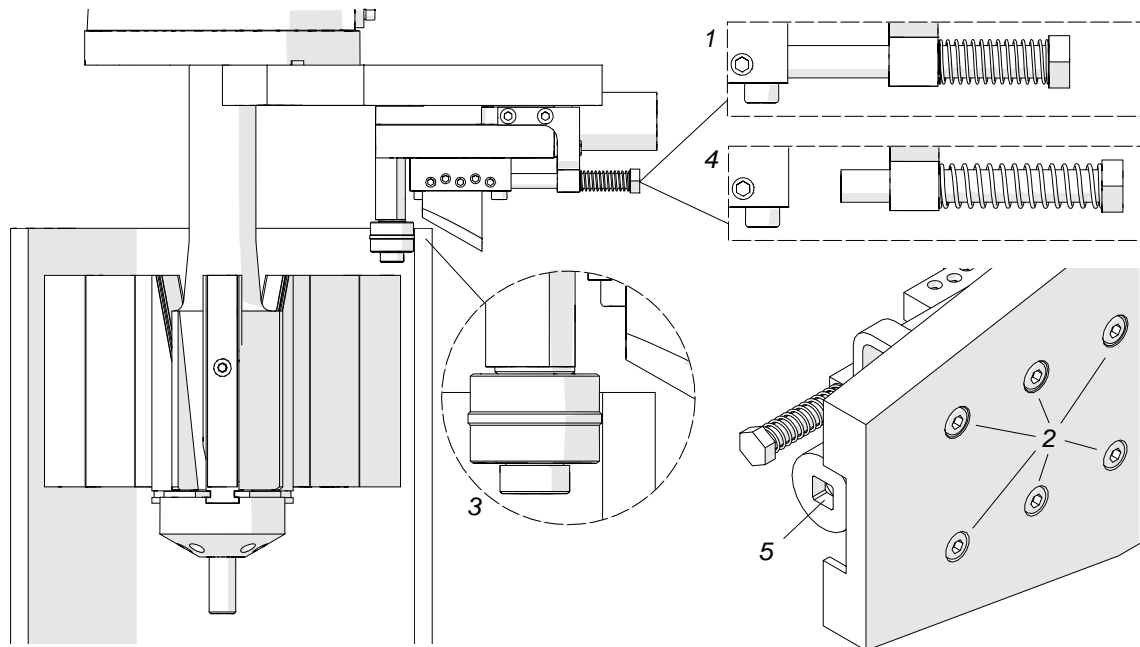


Fig. 12. Proper positioning of the oval attachment

Start the motor and operate by rotating the spoke handles clockwise. If the machining proceeds with difficulties, stop the rotation and tighten the bumper spring 5 more.

Once the pipe end is machined completely, discontinue rotating the spoke handles and allow the spindle to rotate several more rotations to improve the finish of the surface. Then, stop the machine, separate the tool bit(s) from the pipe end, release the clamping, and remove the machine from the pipe.

4.5.5. Adjusting slider clearance

Use the 8 mm flat wrench to loosen the lock nuts (1, Fig. 13) and lightly tighten the screws 2 using the 2.5 mm hex wrench. If, after loosening the screws 3, the movement of the slider is smooth and uniform, tighten the lock nuts 1.

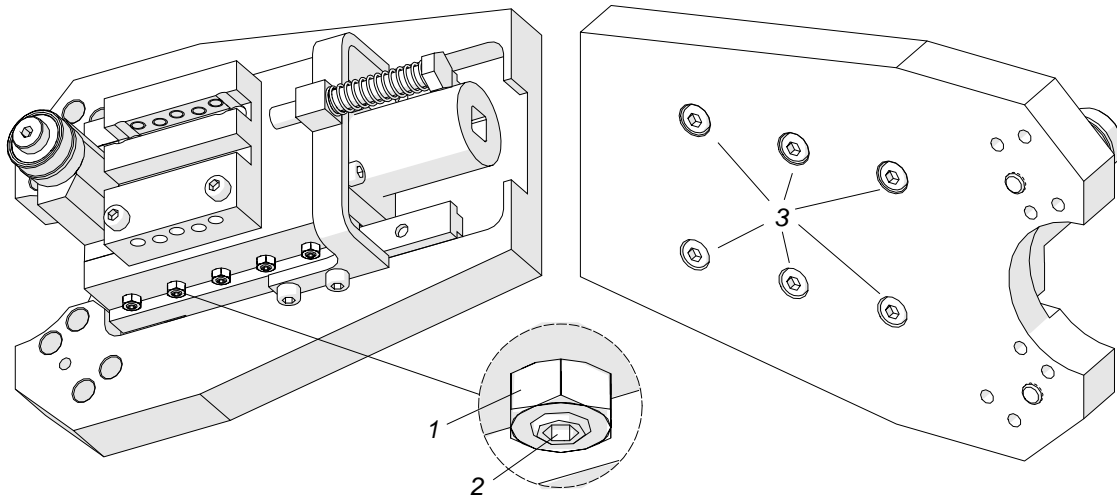
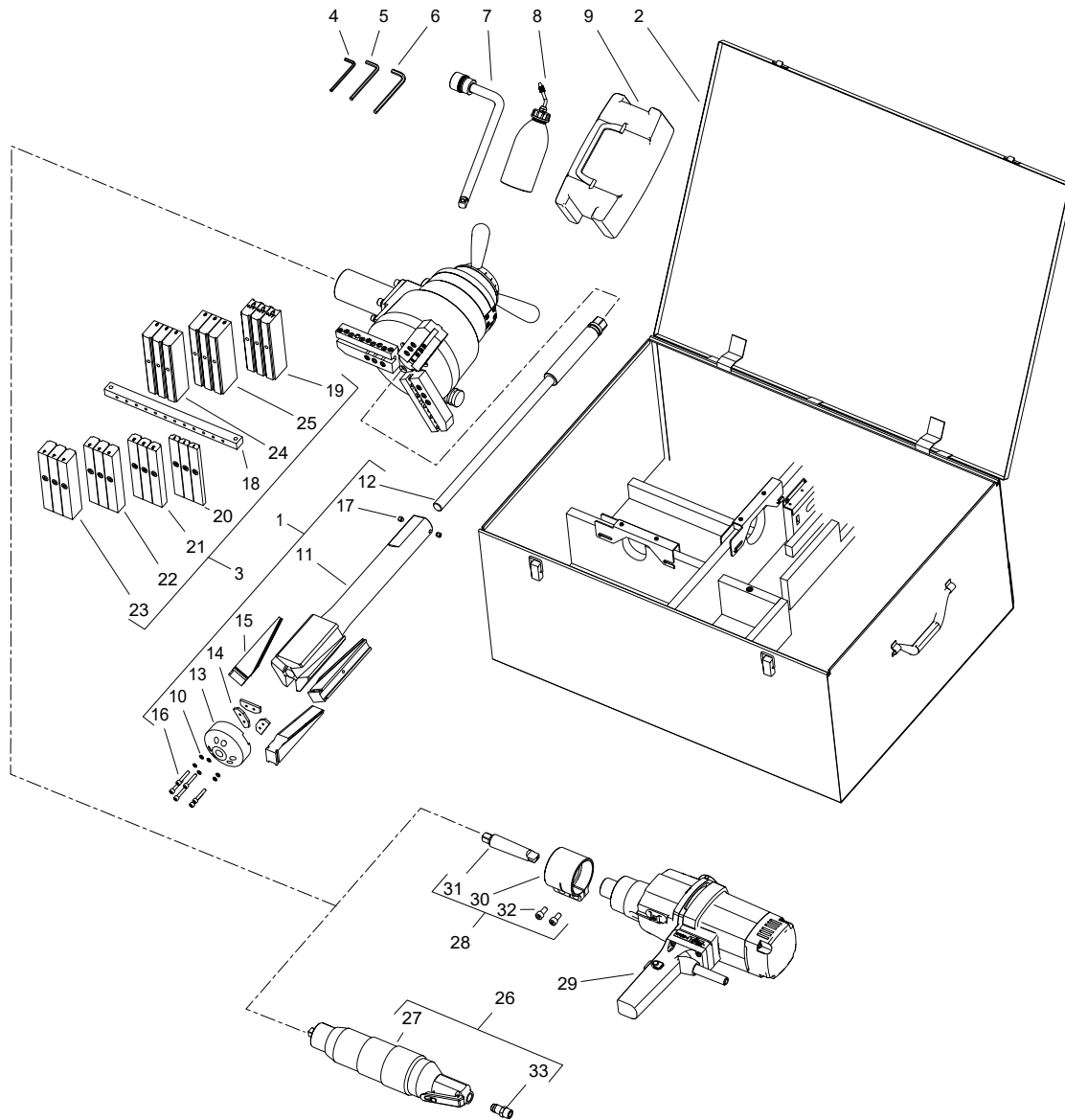


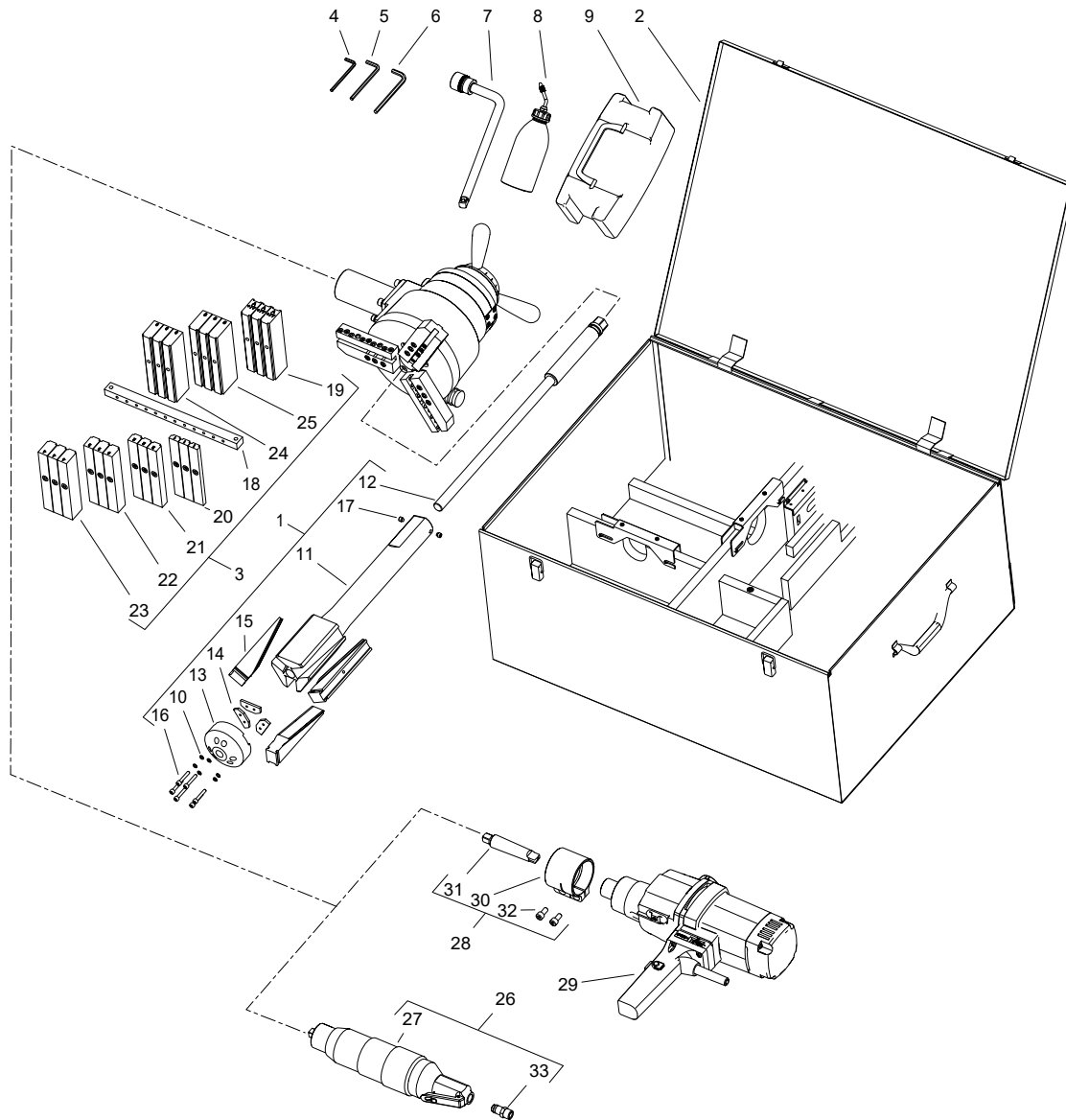
Fig. 13. Adjusting slider clearance

5. ADDITIONAL EQUIPMENT AND WEARING PARTS

Part number	Name
ZST-000021	Air preparation unit (FRL)
OLJ-000004	Cutting fluid 0.5 kg (1.1 lbs)
NOZ-000021	45° beveling tool bit, height 54 mm
NOZ-000015	37.5° beveling tool bit, height 54 mm
NOZ-000020	37.5° beveling tool bit, height 44 mm
NOZ-000018	30° beveling tool bit, height 44 mm
NOZ-000019	30° beveling tool bit, height 37 mm
NOZ-000017	0° facing tool bit, height 30 mm
NOZ-000026	45° internal beveling tool bit, height 54 mm
NOZ-000024	37.5° internal beveling tool bit, height 54 mm
NOZ-000025	30° internal beveling tool bit, height 54 mm
NOZ-000023	30° internal beveling tool bit, height 44 mm
NOZ-000001	15° internal calibration tool bit, height 55 mm
NOZ-000016	20° J-beveling tool bit, height 50 mm, radius 8 mm
NOZ-000022	15° J-beveling tool bit, height 50 mm, radius 2 mm
IMK-0463-02-10-00-0	30° tool holder for oval attachment

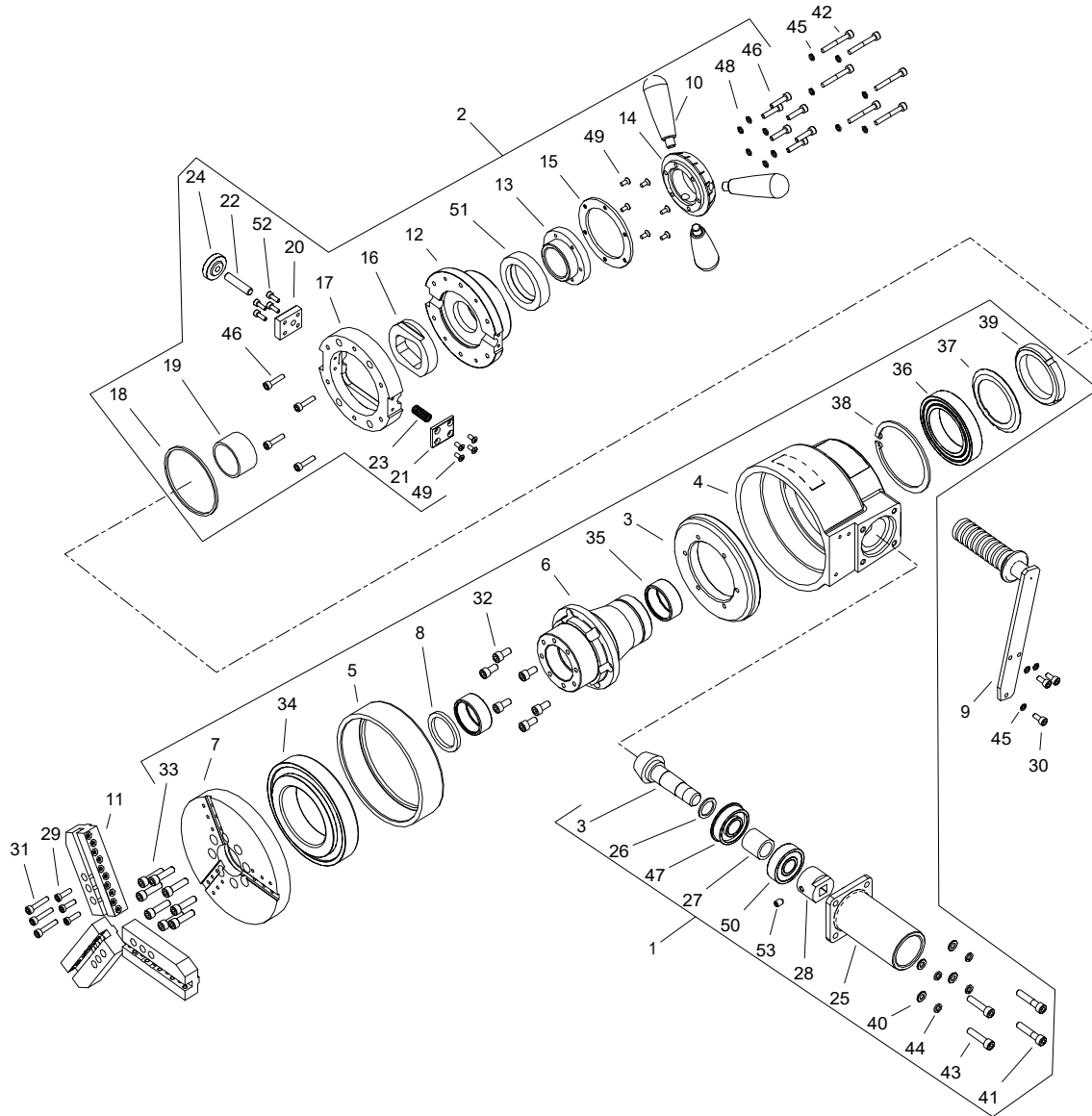
6. PARTS LIST AND EXPLODED DRAWINGS





ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	TRZ-0200-04-01-00-2	STANDARD EXPANDING MANDREL ASSY	1
2	SKR-0200-08-00-00-1	METAL BOX	1
3	ZST-0200-20-00-00-0	JAW BLOCKS AND ADAPTERS SET	1
4	KLC-000007	4 MM HEX WRENCH	1
5	KLC-000008	5 MM HEX WRENCH	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	PDK-000045	SPRING WASHER 5.1	6
11	TRZ-0200-04-01-00-1	MANDREL	1
12	SRB-0200-04-02-00-1	DRIVE SCREW	1
13	NKR-0200-04-03-00-0	NUT	1
14	PLY-0200-04-04-00-0	NUT PLATE	3

ITEM	PART NUMBER	DESCRIPTION	Q-TY
15	SZC-0200-04-05-00-0	PILE	3
16	SRB-000089	HEX SOCKET HEAD CAP SCREW M5x30	6
17	WKR-000023	HEX SOCKET SET SCREW WITH DOG POINT M8x8	2
18	PLY-0200-20-08-00-0	STANDARD BLOCK MOUNTING BAR	1
19	KPL-0200-20-07-00-0	LAP DISTANCE SET	1
20	KPL-0200-20-01-00-0	BLOCK SET No. 1 L=11.5	1
21	KPL-0200-20-02-00-0	BLOCK SET No. 2 L=19.2	1
22	KPL-0200-20-03-00-0	BLOCK SET No. 3 L=26.9	1
23	KPL-0200-20-04-00-0	BLOCK SET No. 4 L=34.6	1
24	KPL-0200-20-05-00-0	BLOCK SET No. 5 L=42.3	1
25	KPL-0200-20-06-00-0	BLOCK SET No. 6 L=49.5	1
26	SLN-0200-15-00-00-0	AIR MOTOR ASSY	1
27	SLN-000047	AIR MOTOR	1
28	ZST-0200-12-01-00-0	ELECTRIC MOTOR CONNECTING SET	1
29	SLN-000094	MOTOR ASSY 1800W – 230V (CEE)	1
29	SLN-000102	MOTOR ASSY 1800W – 115V (US)	1
29	SLN-000120	MOTOR ASSY 1800W – 115V (UK)	1
30	OBJ-0200-00-01-00-0	CLAMPING RING	1
31	TRZ-0200-00-02-00-0	MOTOR ARBOR	1
32	SRB-000142	HEX SOCKET HEAD CAP SCREW M8x16	2
33	KRC-000005	MALE PLUG, G3/8" 10 mm	1



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

7. DECLARATION 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 product:

PB-10 PIPE BEVELING MACHINE

which the declaration applies to is 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



Marek Siergiej
Chairman

EC Declaration of Conformity

We

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

declare with full responsibility that product:

PBE-10 PIPE BEVELING MACHINE

which the declaration applies to is 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.

Bialystok, 9 May 2013



Marek Siergiej
Chairman

8. QUALITY CERTIFICATE

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

Serial number

Quality control



Adjustments, inspections

Quality control



9. 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.....

1.04 / 24 September 2014

***WE RESERVE THE RIGHT TO MAKE CORRECTIONS
AND MODIFICATIONS IN THIS MANUAL WITHOUT PRIOR NOTICE***