

TONISCO® B30

OPERATION MANUAL
DN40(1 1/2") - DN200 (8") Hot tapping machine
for TONISCO Hot Tapping Valves





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2. Safety Instructions

The user is well advised to follow the safety instructions given in this manual. No warranty is given for incorrect usage of the equipment or applications outside the scope of the TONISCO user manuals !

If any questions occur or if you are unsure about certain aspects regarding the TONISCO hot tapping machines, please don't hesitate to contact TONISCO System Oy for support. It is recommended to limit the pressure in the system to 6-8 bar during the operation.

2.1. General Safety Requirements

In the following user manual, the general and specific safety instructions for the TONISCO B30 hot tapping machine are given and explained. The user is well advised to read, understand and follow these instructions carefully.

Generally, only qualified and trained personal is allowed to execute hot tapping works with TONISCO hot tapping machines. Among the operators there should be a control system to ensure that the skills and knowledge of the right operation procedures are known and respected by all the working personnel taking part in hot tapping works. This user manual consists of 24 pages and has to always be available during the drilling works.

It is **NOT** allowed to use the device outside the application area described in this user manual without the permission of drilling device manufacturer TONISCO System Oy.

Be aware that additional requirements can be given at the specific worksite !

For a safe usage of the equipment is essential to take the following general points into account:

- Never use the machine without being aware of the hazards. Take all the aspects from this user manual and additional requirements into account !
- The staff must have adequate skills and training in all the necessary phases of the hot tapping work as well as in handling the equipment in question.
- Make sure that you always have a copy of this user manual with you which is available during the **WHOLE** hot tapping process ! The Instruction may be downloaded from the manufacturers www-site (<http://www.tonisco.com>).
- The application area for this device is limited to water based liquid fluids of fluid group 2 according to PED 97/23/EG. The system parameters shall never exceed 200 °C and/or 40 bar of pressure. See chapter 3 at what temperature and pressure the TONISCO B30 device can be used. It is recommended to reduce the pressure in the system to 6-8 bar during the operation.
- Make sure that the chosen adapter including sealings is suitable for the system pressure, fluid type and temperature.
- Always make sure that the equipment is not damaged before starting the hot tapping process. Only equipment in excellent condition shall be used. **NEVER** use the equipment if significant damages are observed !
- Handle the device carefully. Don't drop the machine and keep the tools clean
- Only use original TONISCO spare parts for your own safety
- Wear ear protection and a helmet
- Do not change the two body parts or the body joint screws in the device



- Any technical change at the hot tapping machine is **NOT** permitted !
- Wear suitable work clothes. Do not wear loose clothing or jewelry as they can be caught in moving parts. For the protection from hot fluid, wear heat resistant clothes, gloves and safety glasses !
- Use common sense all the time in what you do - do not use the machines if you cannot fully concentrate on the work in question !
- Read and follow the instruction manual for using the chain block. Be careful not to squeeze your hand during the work.
- Take the general accident prevention regulations into account.
- Take the instructions for motor driven machines into account. Consider especially the hazards from electric current and moving parts (attachment 1). The electric drive shall NEVER get wet.

2.2. Safety Requirements at the Workside

The following aspects have to **ALWAYS** be checked at the worksite **BEFORE** using the TONISCO B30 drilling device ! For drillings in district heating pipelines in Germany, the AGFW directive 432 has to be considered.

- **ALWAYS** make sure that it is possible to close the chosen valve for the hot tapping! If the shutting mechanism cannot be closed, the only way to remove the drilling device is to empty the main line.
- Double check the size of the used hole saw and pilot drill! Check that the valve closes after the machine is assembled !
- Familiarize yourself with the TONISCO B30 user manual for the chosen valve type.
- Make again sure that the technical parameters (pressure, temperature, fluid) in the system are not exceeding the allowed values given in this user manual for the specific application.
- Check that the device is assembled correctly as shown in this user manual.
- Always make a pressure test to discover possible leakages at the shut-off valve and/or the drilling device.
- Make sure that all the rotating parts move freely.
- Inspect the device according to the inspection plan given in chapter 4.6 of this user manual.
- Tell unauthorized personell to leave the worksite.
- Check the location of the closest network shut-off valve at the worksite.
- Make sure you know all emergency contacts. This concerns the contact persons on site, the contact to the device manufacturer TONISCO System Oy and the local emergency services.
- Visual check the worksite and take all the necessary measurements. Clean the work environment from all unnecessary objects. Consider especially the distance for removing the shaft.
- Make all the necessary tools and equipment is available while drilling (e.g. chain block at high pressures)



2.3. Special Risks

Release of Hot Water or Steam

Due mishandling or leaks, hot water or steam may escape and can possibly cause a severe risk of burns or other personal damage - Always wear a proper personal safety equipment when working with hot tapping machines !

When relasing the pressure from the drilling device, make sure to keep a sufficient distance between you and the release hose! Always wear heat resistant safety gloves when removing the drilling machine from the valve !

Hazards from Rotating Parts

Note that the drill shaft and drive components rotate during drilling. Be aware of the changes in the torque at the shaft due to the varying cutting forces. Take a fixed stand and very feed slowly !

When the hole saw sticks during the drilling, reduce the feeding speed or turn the wheel a bit backwards until the hole saw starts rotating again.

Hazards Caused by the Pressure in the Pipeline

Note that when operating a hot tapping machine there is almost always a pressure inside the mainline that is been drilled. Always familiarize yourself with the safety rules of the worksite and this user manual before starting the hot tapping process.

When the pressure in the mainline is **> 6 bar** it is highly recommended to use the chain block for a safe release of the drilling shaft and for adjusting the feed. The chain block is usually not included in the TONISCO toolbox but can be purchased from the TONISCO System Oy. Only use chain blocks with a maximum allowable weight > 500 kg !

Requirements for the Operator

The hot tapping device may only be operated by persons who are trained, instructed and authorized to use it.

Operator must know the operating instructions and act accordingly.



2.4. The Significance of the Symbols used Safety



WARNING: Warns of possible serious injury or death if instructions are not monitored

CAUTION: Displays possible personal injury or damage, if the instructions are not monitored.

NOTICE: Provides useful information





3. Description TONISCO B30 Hot Tapping Machine

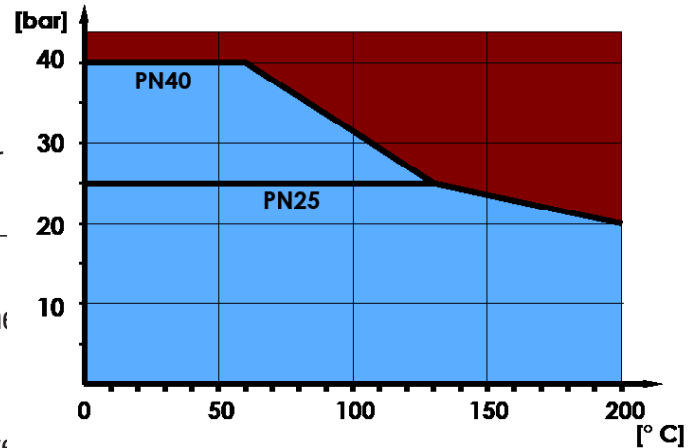
3.1 Area of Use

The TONISCO B30 hot tapping device is intended to accomplish new pipeline branches under pressure in water based heating and cooling systems at branch dimensions DN40 - DN200.

The TONISCO B30 drilling device body is designed for a maximum pressure of 40 bar and can be used as described in the table on the right for the class PN40.

However, for a pressure >6 bar additional safety requirements have to be considered when releasing the shaft or adjusting the feed.

Please keep in mind the specifications given in the detailed instructions of the TONISCO Hot Tapping valve.



3.2 Specifications of the TONISCO B30 Drilling Device

In the following table the specifications of the TONISCO B30 drilling device are given. Please keep in mind, that it is obligatory to follow the restrictions given in the instructions of the TONISCO Hot Tapping valve as well.

All the equipment in the standard TONISCO B30 box usually contain EDPM sealings. VITON Sealings can only be delivered when inquired additionally.

In most of the cases and also in the TONISCO B30 toolbox, an electric drive is delivered. This user manual focuses therefore on the instructions using the electric drive unit Metabo BE1100. For instructions concerning other driving alternative, please contact the manufacturer TONISCO System Oy.

Name of the Device:	TONISCO B30
Pressure Class:	PN40
Body Material:	S355J2
Product Number:	1400.0000
Marking:	Cxx xx= Id. for Month, Year
Category acc. PED 97/23/EG:	1
Branch Dimension:	DN 40 to DN200
Agregate State of the Fluid:	liquid
Area of Use:	Water Based Heating and Cooling Systems
Max. Working Pressure:	40 bar
Recommended max. Pressure	8 bar
Test Pressure:	60 bar
Max. Working Temperature:	160 °C (with VITON sealings up to 200°C)
Min Working Temperature:	0 °C
Sealings:	EPDM or VITON
Drill Shaft:	hardened steel Ø30 mm
Weight Without Drive and Shaft:	9,8 kg
Feed Distance Feed Wheel:	65 mm
Maximum Feed Distance:	175 mm
Driving Unit Aternatives	electric, pneumatic, hydraulic



Feed Unit: Consists of adjusting socket and the actual feed socket, which together are used to adjust the starting position for the drilling and while machining create the movement towards the main pipe.

Feed

Wing Screw:

Device Body: A part containing the sealings and bearings. Contains locking screws to adjust the starting position of the drilling

Pressure Gauge: For carrying out the pressure test. Can be used as a pressure monitoring during the drilling

Control Cock: Necessary for the pressure test and the release of pressure after the drilling.

Gear Fastening Screw

Drive Unit: Rotates the drilling shaft. Can be chosen to be electric, pneumatic or manual powered drive.

Feed Extension Socket

Drilling Shaft:

Transfers the torque from the driving unit to the pilot drill and hole saw. The length can be adjusted by shaft extensions.

Chain Block

Recommended for high pressures >6 bar for a safe release of the drilling shaft after the drilling.

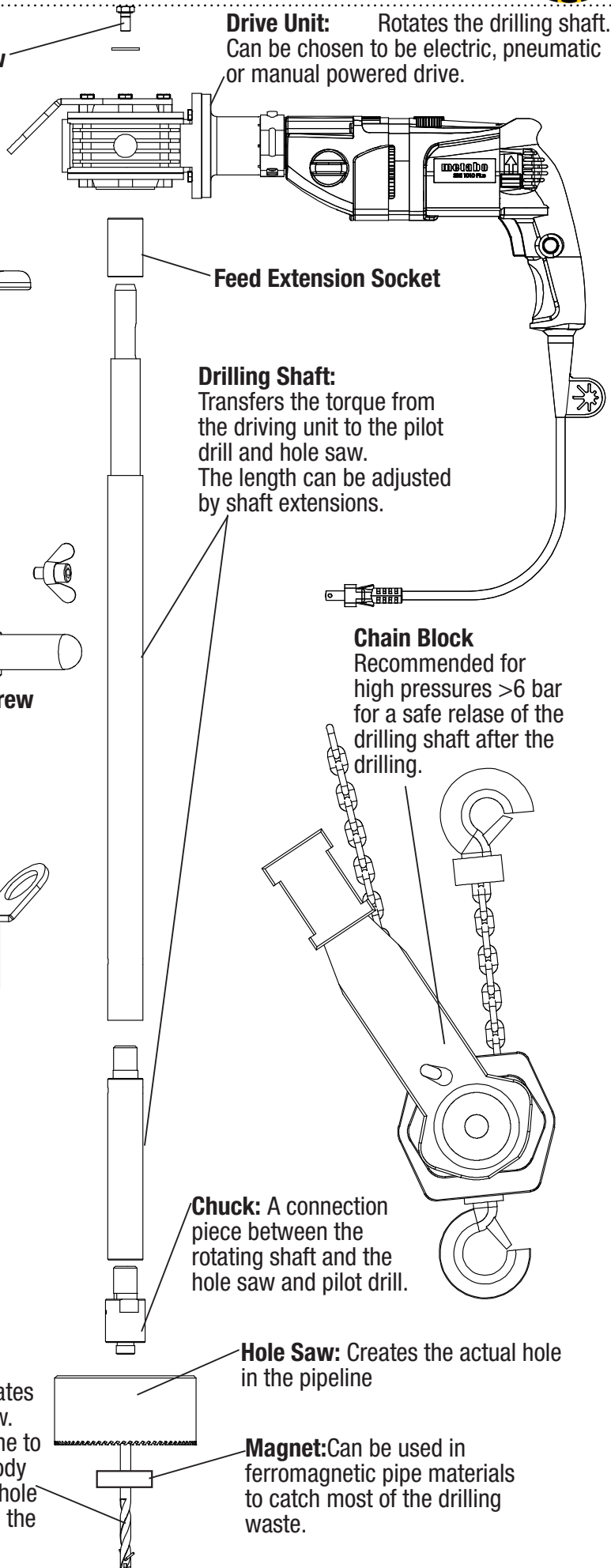
Locking Screw

Chuck: A connection piece between the rotating shaft and the hole saw and pilot drill.

Hole Saw: Creates the actual hole in the pipeline

Pilot Drill: Cuts first and creates a center hole for the hole saw. Allows the fluid in the mainline to enter the valve, the device body and the adapters to cool the hole saw. The wire inside catches the coupon cut by the hole saw.

Magnet: Can be used in ferromagnetic pipe materials to catch most of the drilling waste.





3.3 The TONISCO B30 in Combination with TONISCO Hot Tapping Valves

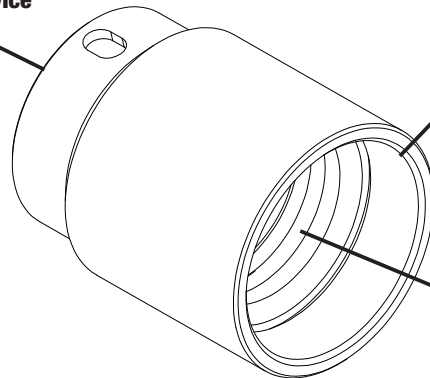
The TONISCO B30 drilling device can be used for TONISCO Hot Tapping Valves in a range from DN40 to DN200 and in water based heating and cooling systems. All other forms of use shall be deemed to be contrary to the instructions. A connection between the machine body and the valve is realized by threaded adapter pieces. Some adapter piece are used for more than one nominal size. The adapters are designed to be used ONLY for the TONISCO Hot Tapping Valves which set the area of application and the design parameters.

Adapter Number	Branch Dimension	Pressure Class	Valve Product number
1218.0400	DN 40	PN25	1220.0400
1218.0500	DN 50	PN25	1220.0500
1218.0650	DN 65	PN25	1220.0650
1218.0800	DN 80	PN25	1220.0800
1218.1000	DN 100	PN25	1220.1000
1418.1250	DN 125	PN25	1624.1250UK
1418.1500	DN 150	PN25	1624.1500SK
1418.2000	DN 200	PN25	1624.2000SK

Thread Connection to the drilling device

Thread Connection to the Valve

EDPM / VITON Sealing



The hole saw diameter and thus the size of the hole of specific branch size is given in the following table:

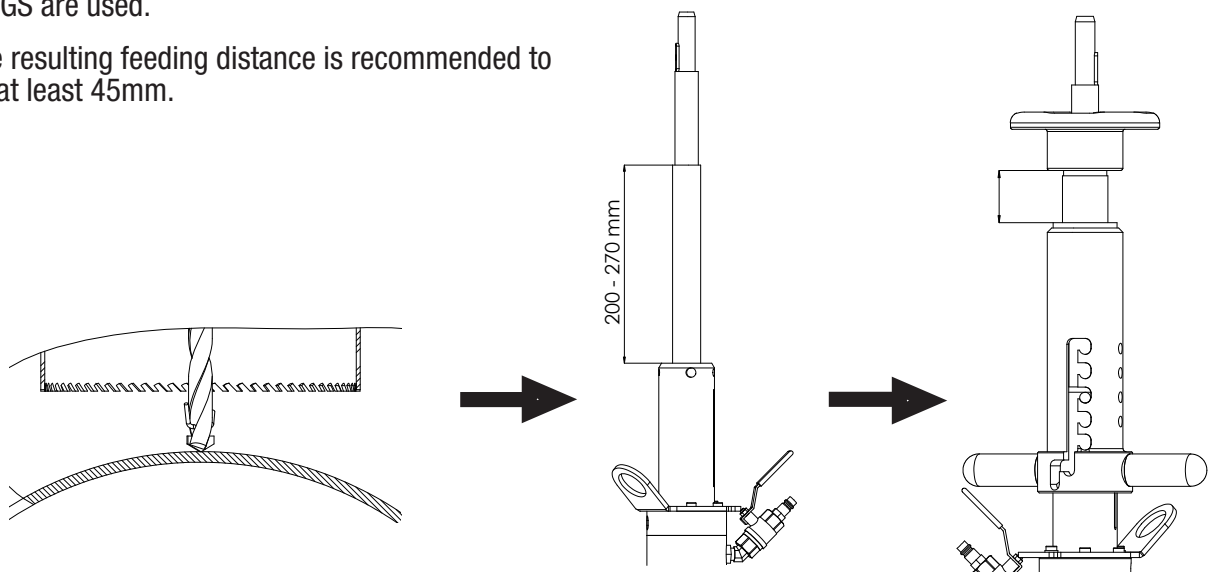
	DN40	DN50	DN65	DN80	DN100	DN 125	DN 150	DN 200
Hole Saw Diameter [mm]	38	44	57	70	89	121	140	180

Depending on the valve length the shaft has to be adjusted. The recommended way to find the correct shaft lengths is shown in the pictures below.

- At first, push the shaft forward so that the pilot drill touches the pipe surface.
- Measure the lengths between the lower shoulder of the shaft and the upper device body.
- The measured distance should be between 200 - 270 mm.
- Adjust the length of the shaft if necessary as shown in chapter 4.2.1 and 4.2.2

When using TONISCO Valves, it is usually not necessary to add shaft or feed extensions if NO WELDING RINGS are used.

The resulting feeding distance is recommended to be at least 45mm.





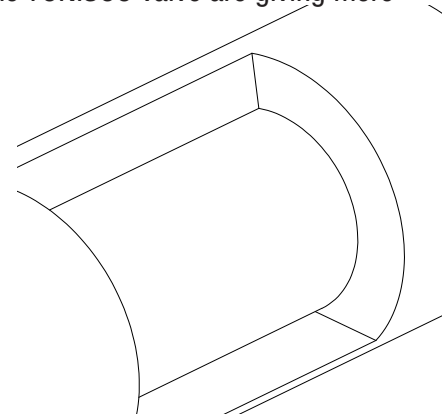
4. Operational Instructions

4.1 Branch Preparations before the Hot Tapping

Before the drilling process can start, the branch of the decided dimension has to be prepared on side. Keep in mind that the branch size should be at least one nominal size smaller than the main line. The following instructions are just giving an overview. The user instructions of the TONISCO valve are giving more detailed instructions.

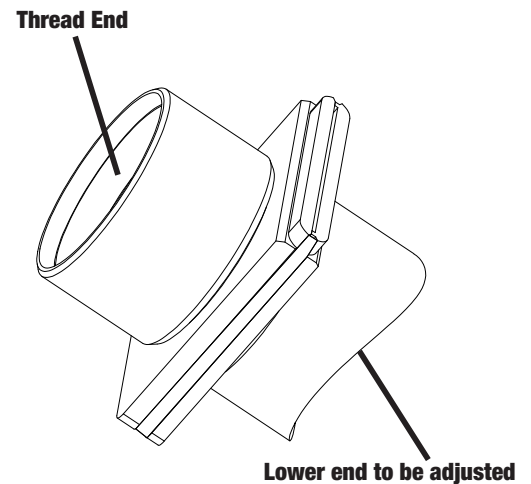
4.1.1 Removing the insulation

- If the main line is insulated, remove the insulation and clean the pipe surface.
- Remove the insulation far enough in order to have sufficient space for the welding.



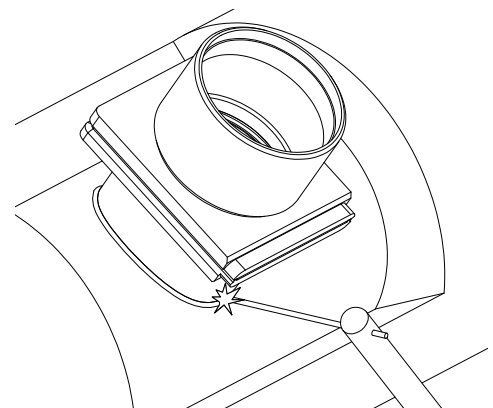
4.1.2 Adjusting the Hot Tapping Valve

- Adjust the lower end (NOT the thread end) of the TONISCO Valve by means of a grinding machine to the rounding of the main pipe.
- It is important that the valve is handled in a proper way to prevent grind or other foreign particles to get into the sluice plate notch.
- The sluice plate has to be OUT while adjusting the valve.



4.1.3 Welding of the Hot Tap Valve to the Main Line

- The hot tap valve can be welded on to the pipe in whatever direction you wish, but with an angle of 90° on the center line of the main pipe.
- During welding the sluice plate MUST be out.
- The valve has to be welded on by electric arc welding.
- Since you are going to drill through the valve, it is very important to make sure that no welding material enters the valve.





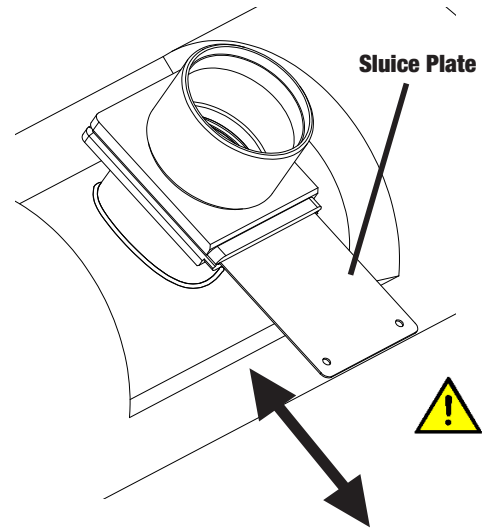
4.1.4 Test the Valve

- Before starting the drilling it HAS TO BE tested that the sluice plate can be pushed into the notch and that the sealings are in a good condition.

- Use TONISCO Sealant for the lubrication of the plate.

-Push the sluice plate completely into the groove and take it out again. Clean the groove if necessary.

- Remove the sluice plate COMPLETELY after the test.



WARNING: NEVER start drilling if the valve doesn't close or open COMPLETELY

4.2 Assembly of the Drilling Device

4.2.1 Drilling Shaft Assembly for Hole Saws < 100mm

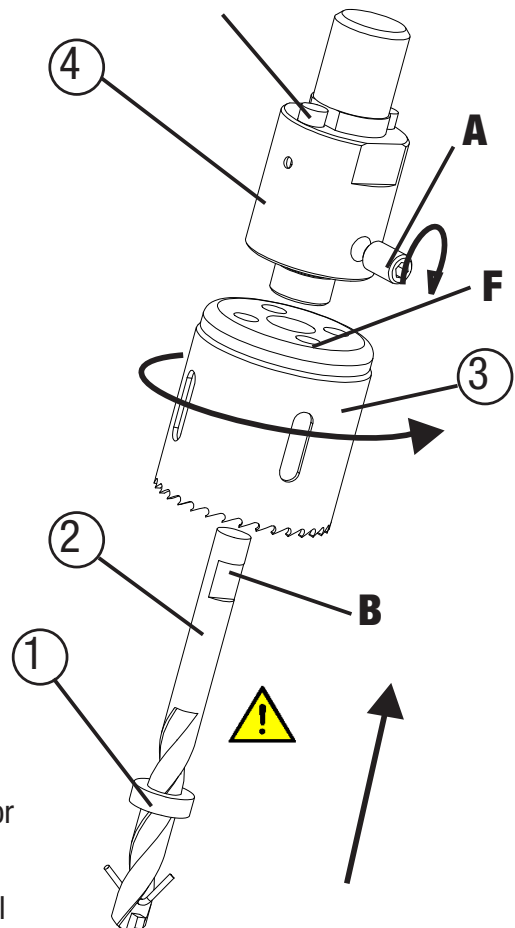
- A proper hole saw ③ for the dimension according to the table in 3.3 shall be chosen.

-It shall be connected winding it clockwise to the drill chuck ④.

-When connected, it shall be unwinded so much that the closest turning pins **E** can be pushed through the holes **F** at the bottom of the hole saw.

- The drill chip magnet ① can be put around the pilot drill ② the drill is pushed to the hole of the chuck aligning the groove **B** and the screw **A**.

- Finally, the drill is locked by tightening the screw **A**.



WARNING: If the pilot drill it too long it might be impossible to close the valve !



NOTICE: Check that the pilot drill is neither too big nor too small for the used hole saw. A too long pilot drill increases the feeding distance unnecessarily while a too short drill doesn't provide the guidance for the hole saw.



-The drill chuck shall be connected on the top of the drilling shaft ⑤.

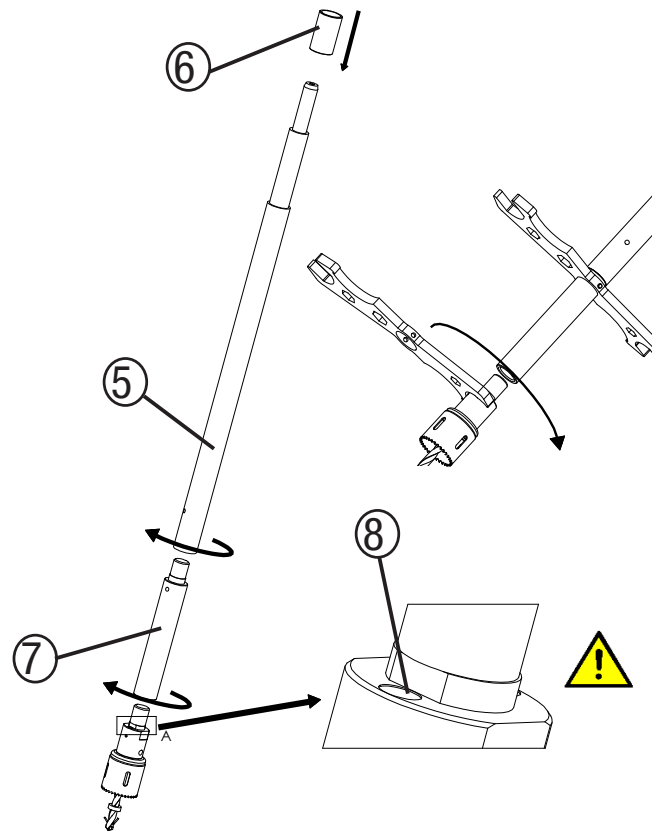
-If valve should be so long that the shaft length would not be enough to enable the drilling, the useable shaft length can be extended by setting the extension socket ⑥ at the end of the shaft or by adding shaft extensions ⑦ at top of the drilling shaft ⑤.

-It is possible to use more than one shaft extension socket if necessary.

- You can check the correct shaft length as described in chapter 3.4

! WARNING: Make sure that the drilling shaft is screwed in completely so that chuck pins ⑧ are alining with the chuck bottom.

! WARNING: If the pilot drill it too long it might be impossible to close the valve !



4.2.2 Drilling Shaft Assembly for Hole Saws >100mm

- The assembly of the drill chuck for hole saws >100 mm is done in a similar way as the small chuck described in chapter 4.2.1.

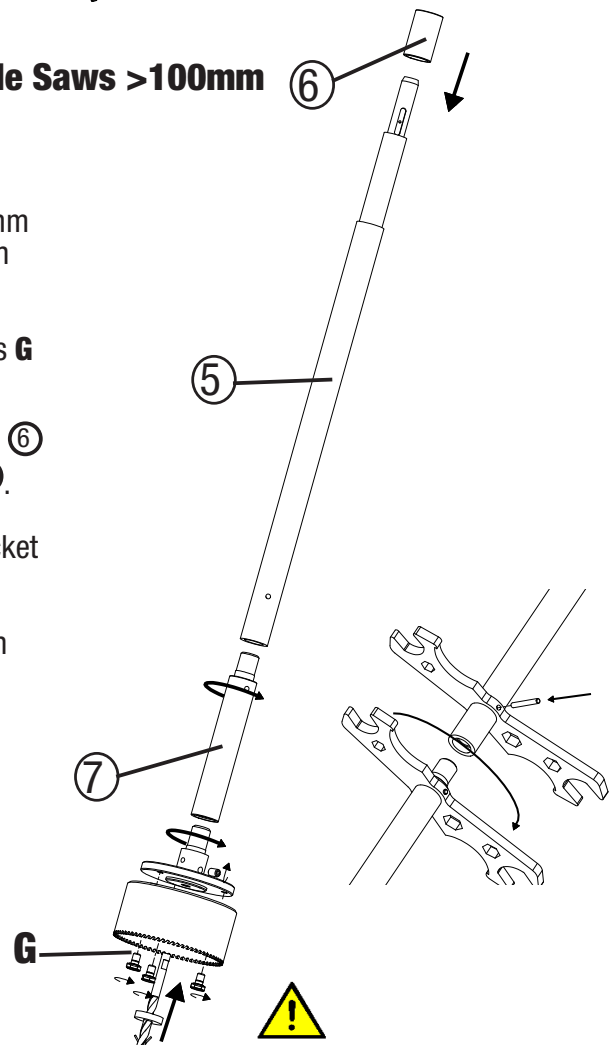
- Instead of the locking pins, use the 3 hole saw screws **G** to tighten the hole saw to the chuck.

- If more feed is needed, add the feed extension socket ⑥ or the shaft extension socket ⑦ to the drilling shaft ⑤.

-It is possible to use more than one shaft extension socket if necessary.

- You can check the correct shaft length as described in chapter 3.4

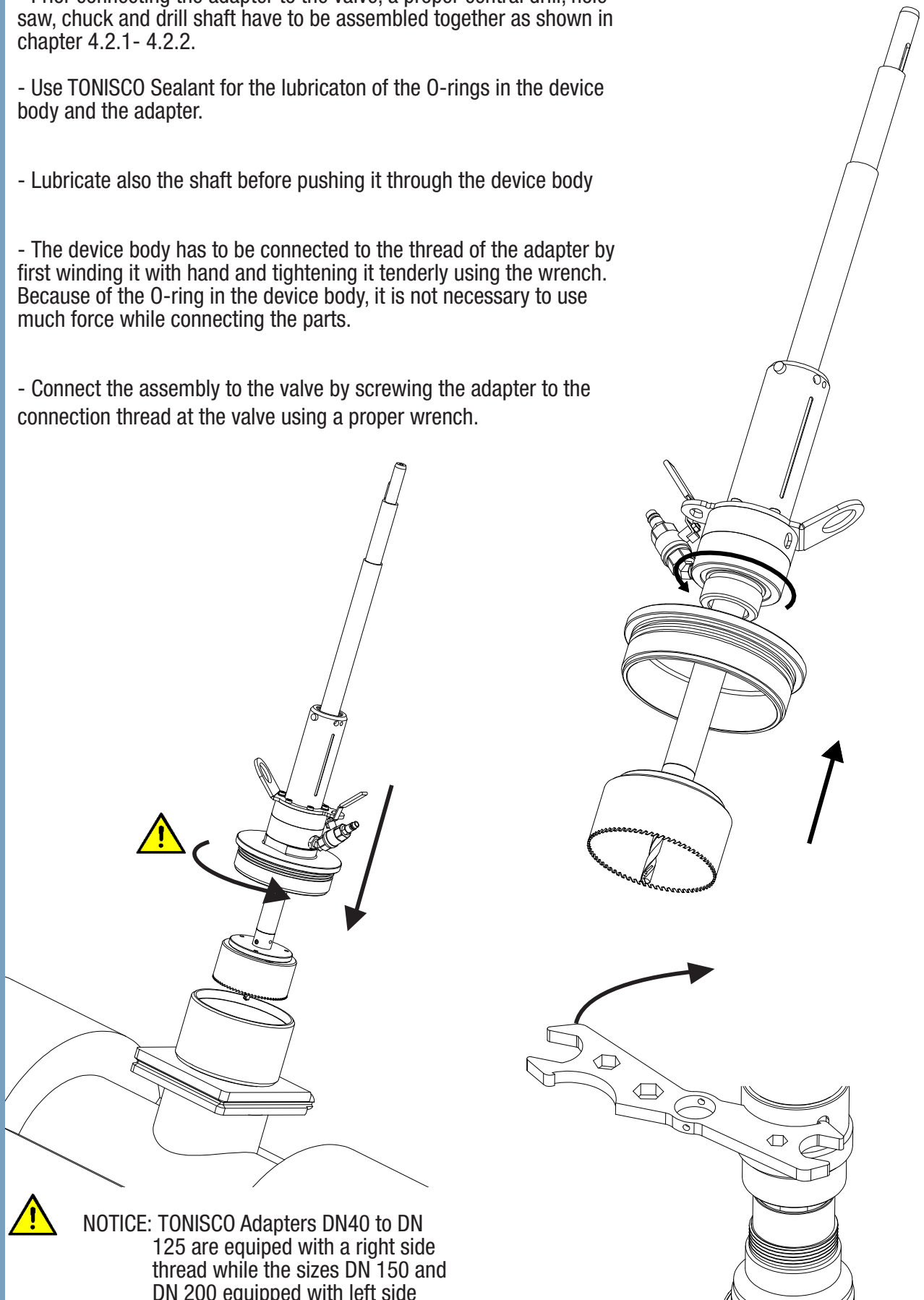
! NOTICE: Check that the pilot drill is neither too big nor too small for the used hole saw. A too long pilot drill increases the feeding distance unnecessarily while a too short drill doesn't provide the guidance for the hole saw.





4.2.3 Assembly of the Device to TONISCO Valve

- Prior connecting the adapter to the valve, a proper central drill, hole saw, chuck and drill shaft have to be assembled together as shown in chapter 4.2.1- 4.2.2.
- Use TONISCO Sealant for the lubrication of the O-rings in the device body and the adapter.
- Lubricate also the shaft before pushing it through the device body
- The device body has to be connected to the thread of the adapter by first winding it with hand and tightening it tenderly using the wrench. Because of the O-ring in the device body, it is not necessary to use much force while connecting the parts.
- Connect the assembly to the valve by screwing the adapter to the connection thread at the valve using a proper wrench.



NOTICE: TONISCO Adapters DN40 to DN 125 are equipped with a right side thread while the sizes DN 150 and DN 200 equipped with left side threads.



4.2.4 Installing the Feed Unit

- The feed device is used to create a feed force for the drilling.

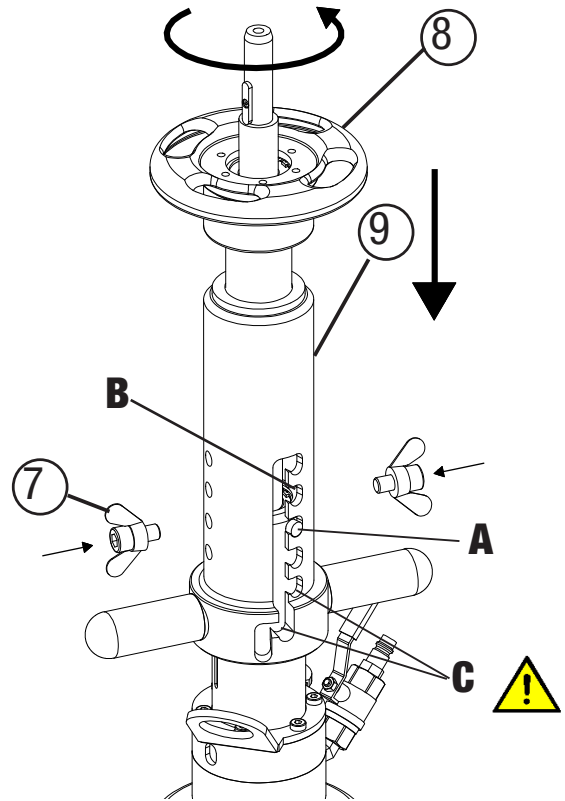
- The feed thread has to be winded to back position completely by turning the feed wheel ⑧ counter-clockwise.

-The adjusting socket ⑨ shall be connected by first aligning the grooves and the guide screws **A** and thereafter slid to the closest locking groove **B** at the machine body.

-The excessive clearance is removed by turning the feed wheel ⑧ clockwise.

- For higher pressures >16 bar, use the wing screws ⑦

 **WARNING:** The lowest 2 grooves **C** shall only be used at pressures <16 bar.




4.2.5 Installing the Electrical Drive Unit

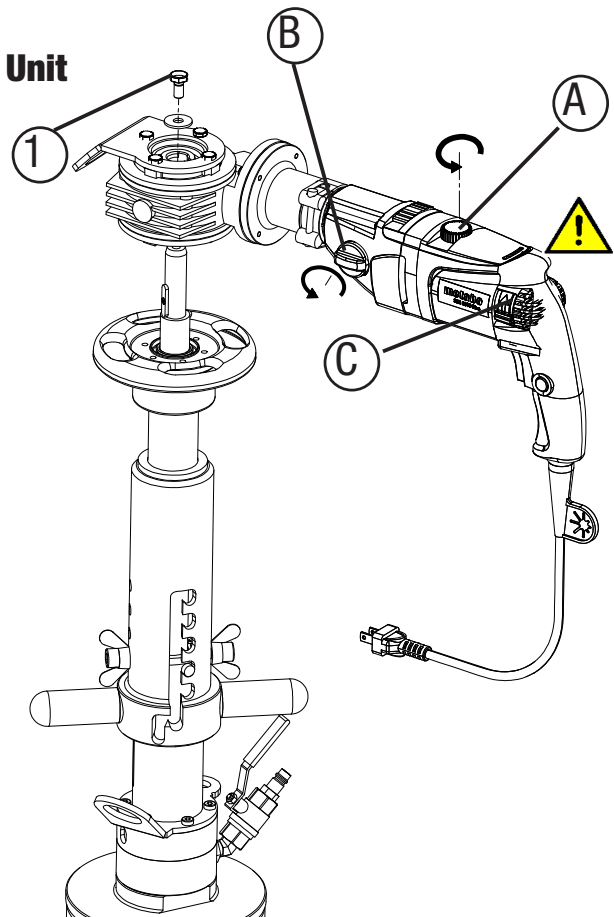
- Align the groove of the gear box with the shaft chock and fasten it with the gear fastening screw ①.

-The right rotating speed can be adjusted with the switches **A** and **B**.

- Chose the correct turning speed from the table below.

-An arrow on the left side of the machine **C** pointing upwards indicates the proper **CLOCKWISE** rotating direction.

 **WARNING:** The drive must NEVER run counter-clockwise since the drill shaft connecting thread may open and the drill chuck can be lost causing a severe hazard of hot water leaking from the shaft opening.





Turning Speeds for Drilling in Steel Pipes

The following tables are showing the recommended turning speeds based on the manufacturers long term experience. When using a pneumatic or hydraulic drive, try to reach similar values for the shaft turning speed.

The normally delivered Metabo BE 1100 drilling machine according to the settings shown in the table.

Valve size	Turning speed drilling shaft [rpm]	Turning speed electric drive [rpm]	Setting A	Setting B
DN40	115	1600	D	2
DN50	80	1100	C	2
DN65	80	1100	C	2
DN80	65	900	G	1
DN100	55	750	F	1
DN125	55	750	F	1
DN150	55	750	F	1
DN200	55	750	F	1
Pilot Drill	200	2800	G	2

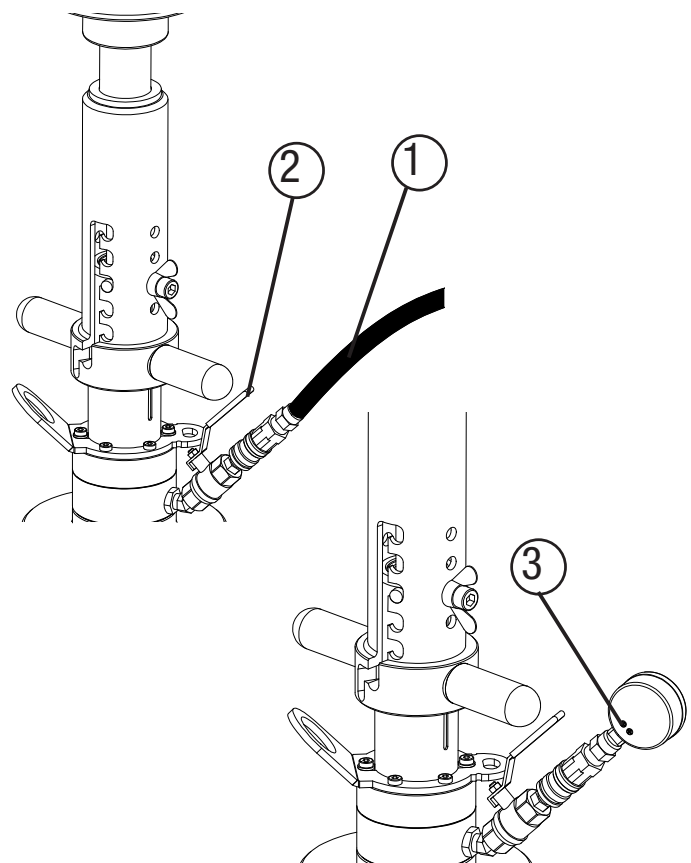
4.3 The Hot Tapping Process

After the machine is assembled, all the connections shall be checked a controlled. The user can continue with the following steps after that.

4.3.1 Pressure Test

Prior the actual branching a pressure test must be conducted to ensure the tightness of both the welding seams of the valve and the drilling equipment assembly.

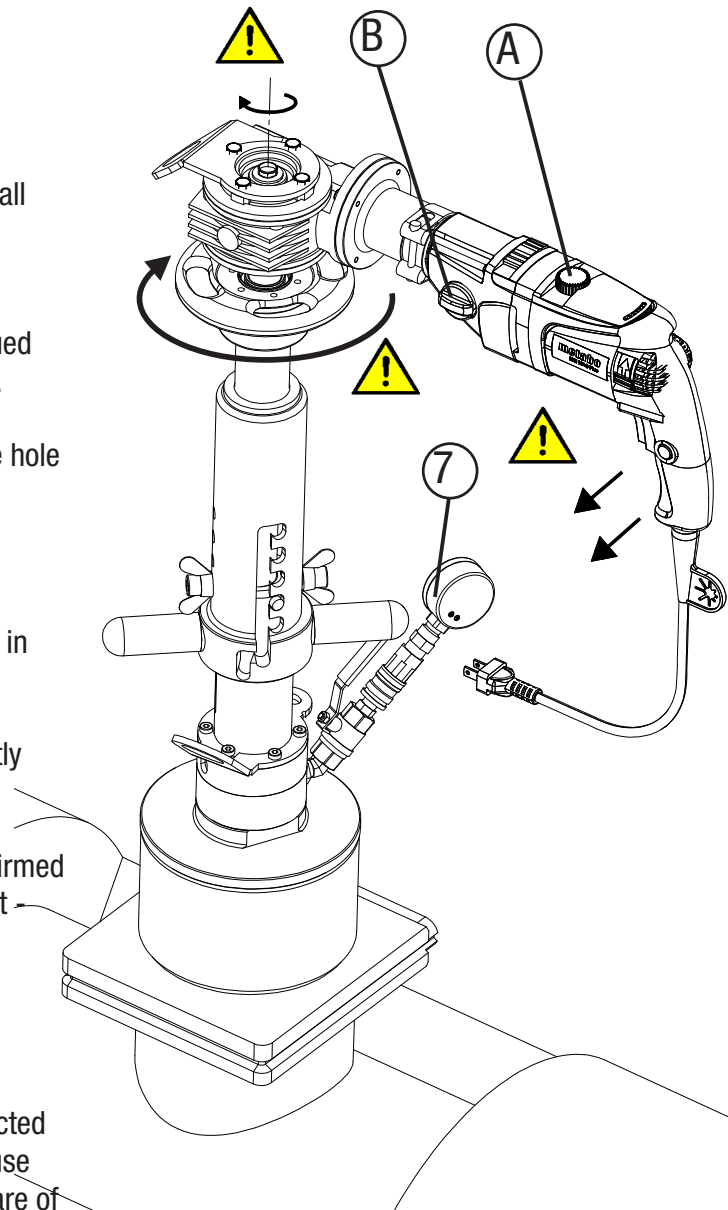
- A hose ① of cold water or pressurized air is connected to the coupler of the body.
- The control cock ② is opened to let the pressure in.
- If desired, the control cock ② can be closed and the pressure gauge ③ mounted to the connector to monitor a possible fall of pressure.
- The test fluid is released through the same control cock afterwards.
- In case of an occurring leakage, it is not allowed to start the drilling process until the failure is eliminated.





4.3.2 Starting the Drilling Process

- The drilling process starts by creating a center hole with the pilot drill
- The maximum rpm is chosen from switches (A) and (B) .
- The feed is started lightly by very slowly turning the feed wheel clockwise.
- Feed very slowly in the beginning to ensure a good centering of the central drill.
- A penetration of the pilot drill through the main pipe wall can be observed by observing the pressure meter (7) . Raising of the needle indicates the penetration.
- An adequate feed using the max. rpm must be continued until the pilot drill gets through the wall of the main line.
- After the pilot drill is through, the turning speed for the hole saw has to be adjusted as described in chapter 4.2.5
- Start the feeding with the hole saw carefully and keep a fixed stand. Extra caution must be pointed to cope the reaction forces. Pull the machine in the direction shown in the picture to compensate the force.
- When the drilling advances, the feed rate can be slightly accelerated until at the end of the drilling.
- The final penetration of the main pipe wall can be confirmed by pushing the shaft forward firmly without turning shaft . When it advances, the hole must be free.



! WARNING: The drive must never be locked to continuous run, since the variations of machining forces may cause a unexpected lost of control of the drive and thus cause severe damage to the operator. Be aware of the reactionforces from the cutting.

! WARNING: The drive and the shaft must always turn CLOCKWISE. Accidental opening of the connecting threads of the shaft may cause severe damage to the operator.

! WARNING: NEVER use lever tools at the feeding wheel and feed very carefully ! When the hole saw gets stucked, stop feeding or turn the saw a little bit backwards. Continue feeding slowly !



4.3.3 Adjusting the Feed

If the feed extent runs out and feed wheel ① can not be turned anymore, the adjusting socket ② must be released and locked to a lower groove.

- If the pressure is > 6 bar, use the chain block for this operation. You can find the instructions how to use the chain block in chapter 4.5.

- At first, switch of the driving unit.

- Take out the wing screws ④.

- Screw the feed wheel ① counter clockwise.

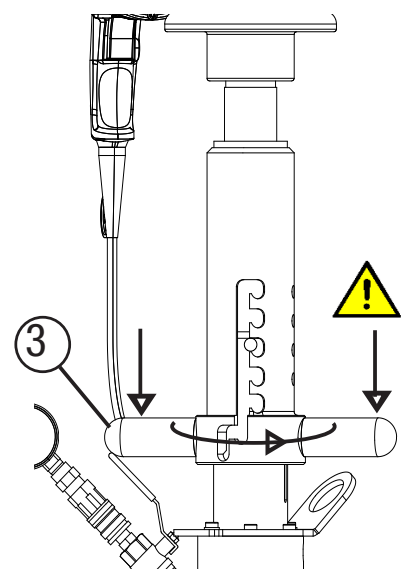
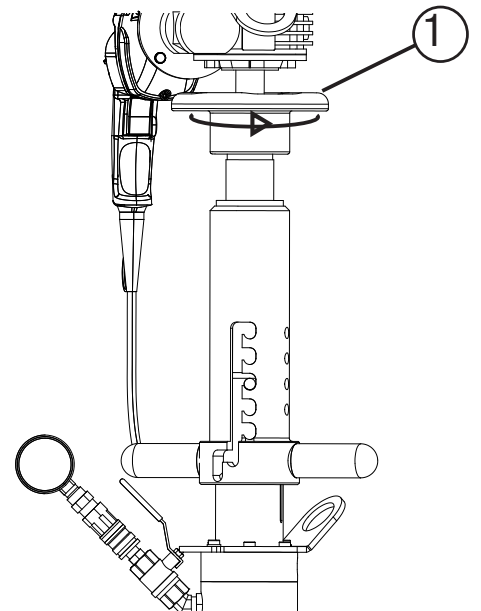
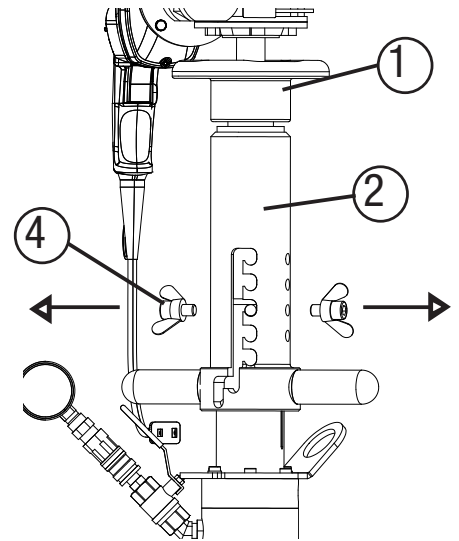
- Don't unscrew it too much as the hook of the pilot drill might break. Keep a minimum distance depending on the wall thickness of the pipe.

- Grip the adjusting handles ③ and push them firmly forward. Turn the adjusting socket ② until it can be released.

- For high pressures, push the adjusting socket down with the chain block.



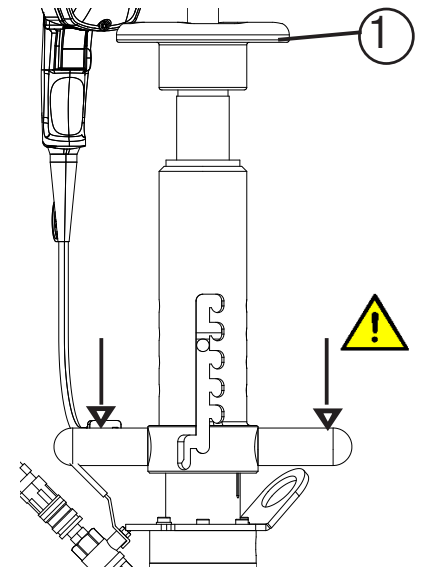
WARNING: If you are unsure about the forces acting on the shaft while adjusting it, use the chain block for this operation. From the manufacturers experience, it is advisable to use it at a pressure > 6 bar. See chapter 4.5 how to use the chain block.



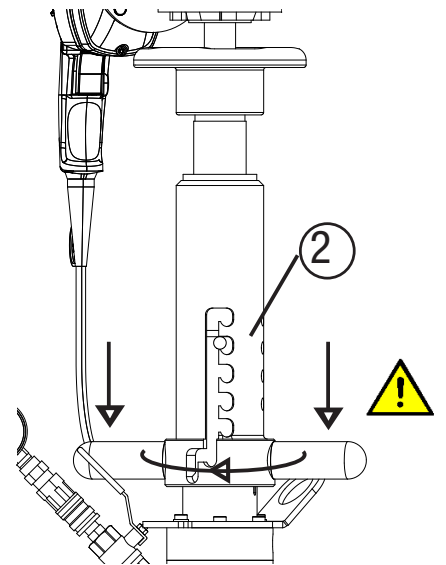


-Push the adjusting socket down in the direction of the next groove.

-Continue to turn the feed wheel ① counter clockwise until the next groove can be reached.

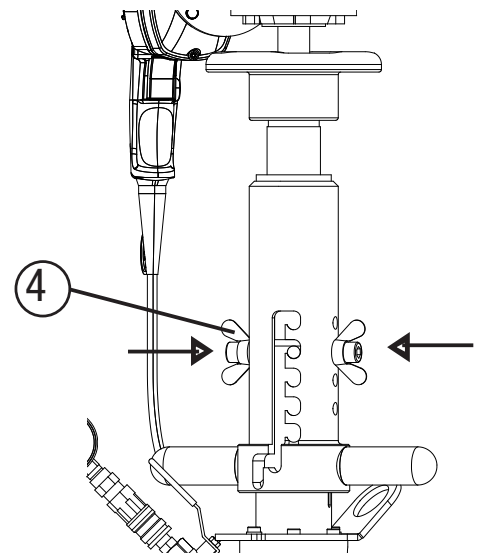



- Lock the adjusting socket ② to the next groove by turning it clockwise.



- At last, screw in the wing screws ④.

- The drilling process can now be continued.



 **WARNING:** If you are unsure about the forces acting on the shaft while adjusting it, use the chain block for this operation. From the manufacturers experience, it is advisable to use it at a pressure > 6 bar. See chapter 4.5 how to use the chain block.


4.3.4 Releasing the Feed Unit

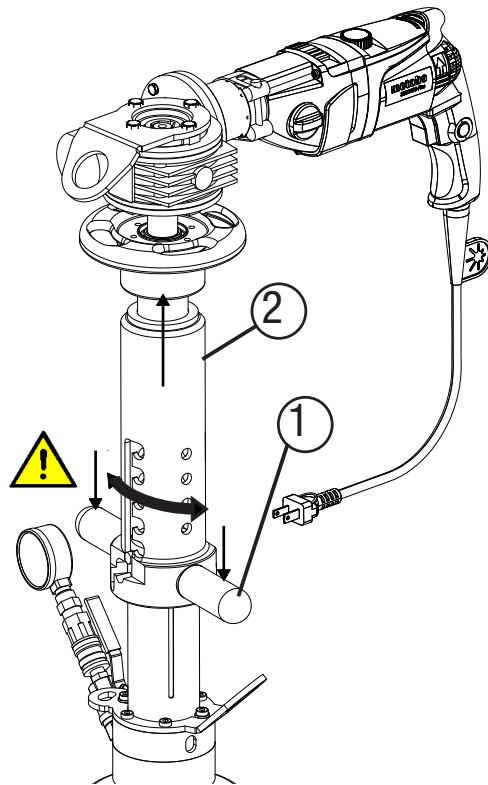
- For pressures >6 bar, it is highly recommended to use the chain block for this operation. You can find the instructions how to use the chain block in chapter 4.5.

- Both of the the adjusting handles ① shall be gripped, pushed forward and simultaneously turned counter-clockwise to release the adusting socket ②.

- The socket ② can now be reversed by sliding the power screws completely off from the drill body.

- Release the shaft completely. The chuck inside the drilling chamber stops the shaft from coming out.

 **WARNING:** If you are unsure about the forces acting on the shaft while releasing it, use the chain block for this operation. From the manufacturers experience, it is advisable to use it at a pressure >6 bar.



4.3.5 Closing the Valve and Releasing the Pressure


The TONISCO Valve has to be closed in order to dismantle the machine and to connect the new branch.

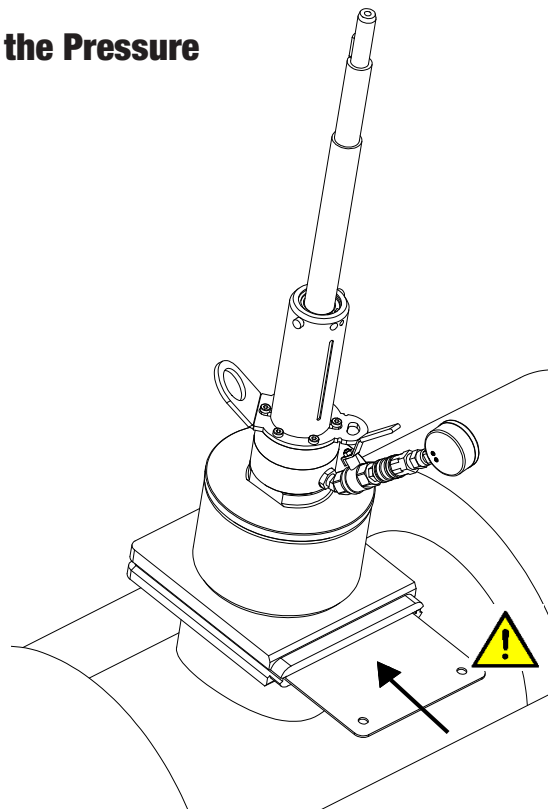
- First, clean the sluice plate from properly from particles and dust .

- Lubricate the sluice plate with TONISCO Sealant.

- Push the sluice plate in completely.

- The tightness can be controlled by opening the control cock.

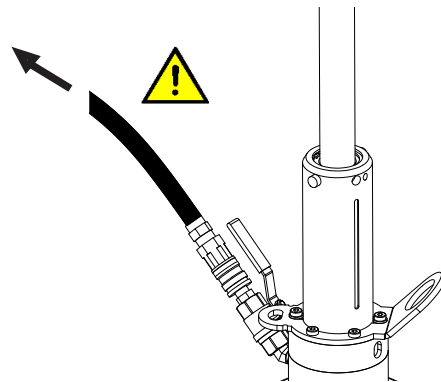
 **CAUTION:** Wear heat resistant gloves as small amounts of hot fluid can escape while pushing the sluice plate in.





- Connect the hose to the control cock and open it to release the pressure.

! CAUTION: Keep enough distance to the hose while nreleasing the pressure to protect yourself

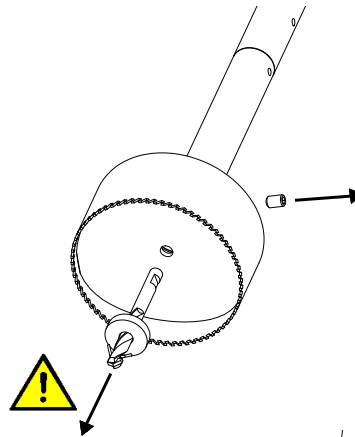


4.3.6 Disassembling of the Machine

The machine is dissassembled in the oposite order as shown in chapter 4.2. At the end, the coupon shall be removed.

- Loose the retainer screw by using the proper allen key
- Pull out the pilot drill and remove the coupon around the stem.
- Take out the magnet

! CAUTION: Be aware of the sharp edges and metall pieces



4.4 Creating the New Branch

- When the Hot Tapping has been acomplished, the new line can be connected to the TONISCO Valve by electric arc welding. Follow the the valve user instructions for a more detailed description.

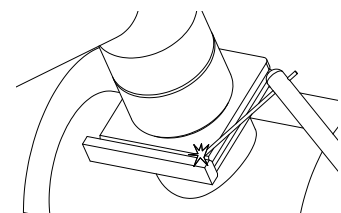
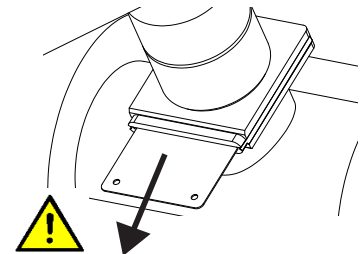
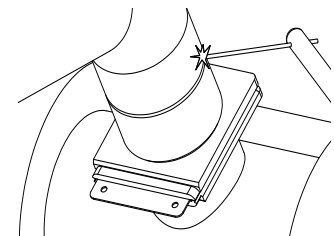
- Make sure that the sealings inside the valve are not overheating.

-After the welding and when the line is approved to start operating, pull out the sluice plate very slowly until the fluid in the pipe starts flowing.

- Remove the plate completely afterwards.

- After the sluice plate is removed completely, weld the groove cover to the valve from all sides for valves >DN125 or the sluice plate groove shut for valves up to DN100

! CAUTION: Wear heat resistant gloves as small amounts of water can escape while removing the sluice plate.





4.5 Using the Chain Block

For higher pressures >6 bar it is highly recommended to use the chain block for adjusting the feed (see chapter 4.3.3) or for a safe release of the feed unit (see chapter 4.3.4).

- For a pressure between 6-12 bar, align the shaft break connection plates ① and ② and hang in the hooks of the chain block as shown in the picture.

- At pressures >12 bar, do not use the lower shaft break connection plate ② but hang the hook to a stable element at the worksite (e.g. around the main pipe).

- Tighten the chain by first pulling the other end of the chain ④ and after that by turning the wheel ⑤ clockwise.

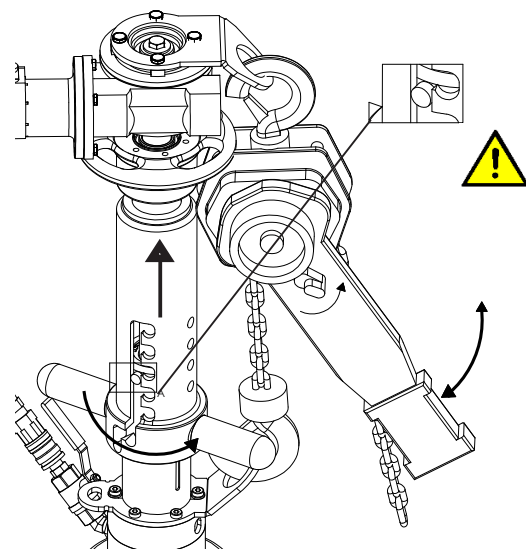
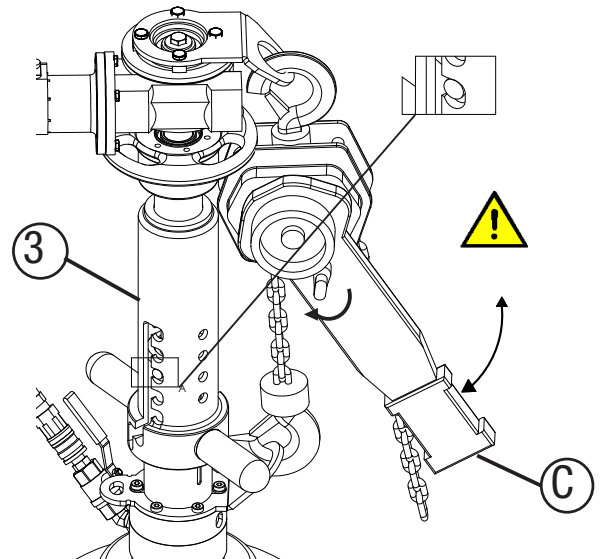
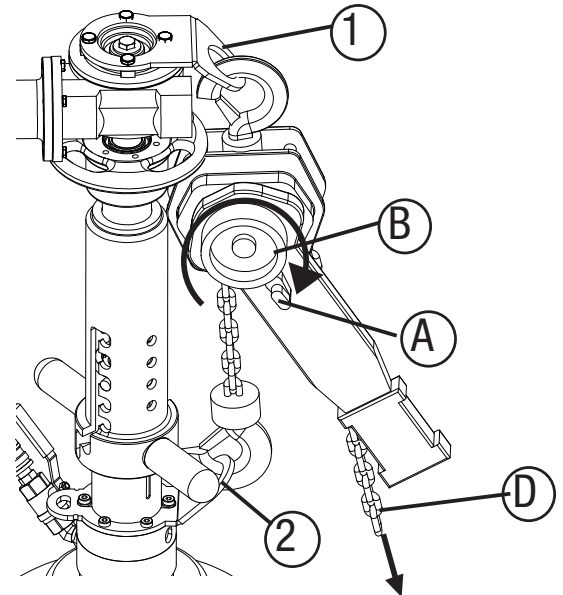
- Adjust the switch ⑥ to the UP position

- Lift the adjusting socket ⑦ by moving the lever ⑧ back and forward

- BEFORE releasing the locking screw from the groove in the adjusting socket ⑦, adjust the switch ⑥ to the DOWN position if you want to RELEASE THE FEED UNIT.

- If you want to ADJUST THE FEED, leave the switch ⑥ in the UP position.

- Turn the adjusting socket ⑦ counterclockwise to release the feed unit or or adjust the feed.



⚠ CAUTION: Be careful to not squeeze your hand in the chain. Read the instruction manual from the chain block manufacturer.

⚠ WARNING: Do not change the switch ⑥ to the middle position when the chain is under tension.



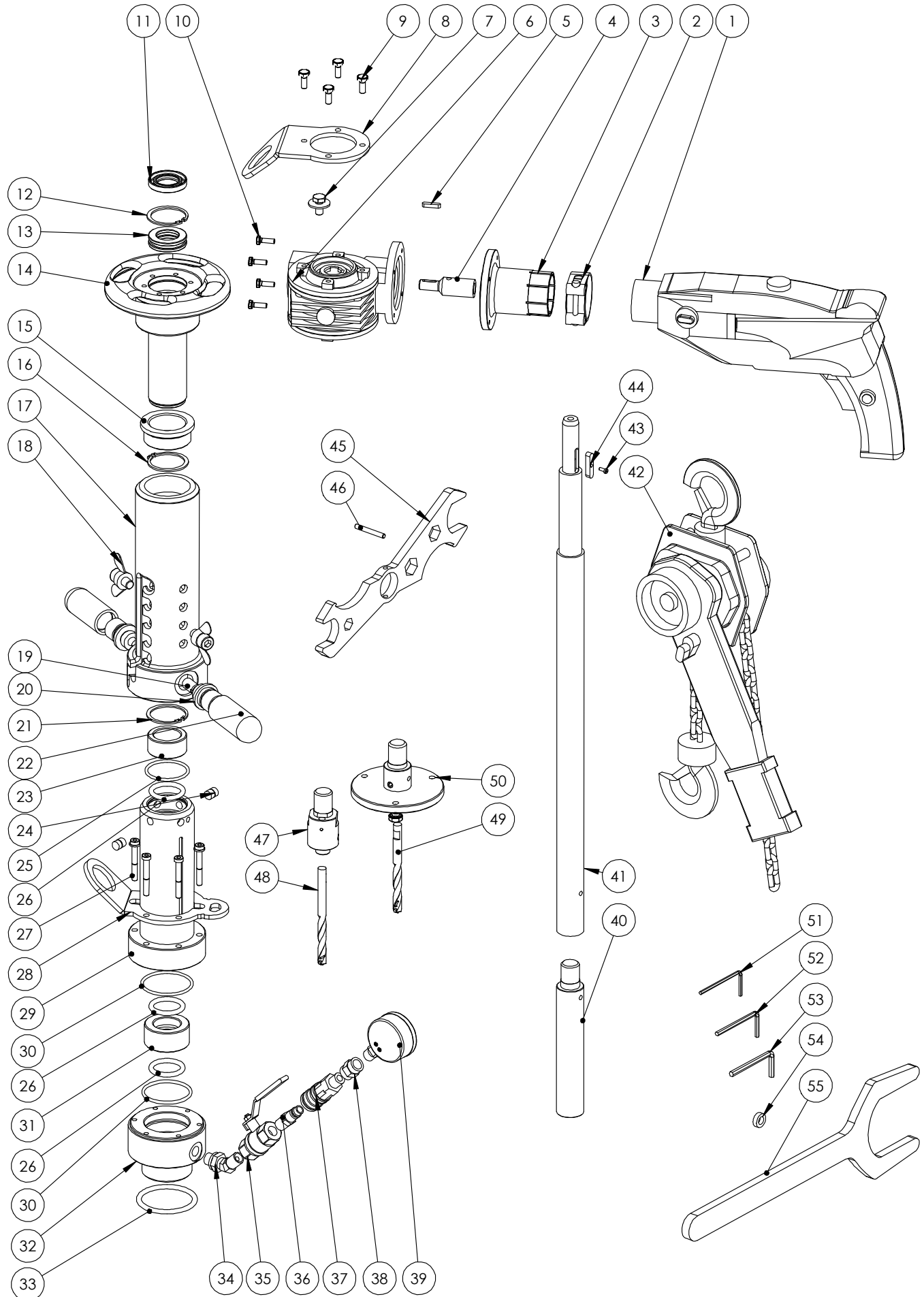
4.6 Maintenance Plan

Before and after every hot tapping, the whole device should be visually inspected and maintained. DON'T start the drilling work without inspecting the device before. NEVER start the drilling if any damages are observed. If any technical problems occur don't hesitate to contact the device manufacturer TONISCO System Oy.

The following parts have to be inspected regarding their condition before every drilling:

Central Drill	Inspect the central drill regarding its ability to cut .Change the drill if necessary.
Sealings	Clean the sealings and and inspect them regarding damages. Lubricate them before using the device with TONISCO sealant
Hole Saw	Inspect the hole saw regarding its ability to cut .Change the hole saw if necessary.
Shaft	Inspect the shaft concerning surface damages. Check the connection threads. Store the shaft properly and avoid dropping it.
Bearings	Visual check the condition of inner bearing surface
Threads of the feed wheel	Check that the feeding wheel is going smoothly. Clean or lubricate it if necessary.
Whole Device	Clean the device after each use inspect it regarding visual damages

In case that major damages of the device are observed, please contact the manufacturer TONISCO System Oy. Never change or produce main spare parts yourself.





Position	Part	Quantity	Art. Nr.
1	Electric motor	1	1211.0010
2	Binding ring 43 mm	1	1211.0020
3	Coupling casing	1	1211.0150
4	Coupling	1	1211.0160
5	Primary Chock	1	1211.0170
6	Worm Gear 14/1	1	1411.0290
7	Shaft fasting screw	1	1446.0070
8	Shaft break connection plate	1	1211.0210
9	Connecting screws	4	1211.0220
10	Connecting Screws gearbox	4	1211.0180
11	Thrust Bearing Sealing	1	1455.0020
12	Thrust Bearing Retaining Ring	1	1455.0030
13	Thrust Bearing	1	1455.0040
14	Feed Wheel	1	1455.0100
15	Feed Nut	1	1436.0020
16	Feed thread retaining ring	1	1455.0050
17	Feed sleeve body	1	1436.0010
18	M10 x 12	2	1436.0030
19	Force Screw	2	1437.0011
20	Ball Point Screw	2	1227.0030
21	Support journal nipple	2	1436.0040
22	Bearing retaining ring	1	1437.0030
23	Feed sleeve support journal	2	1415.0020
24	Upper bearing	1	1437.0040
25	Bearing Sealing	1	1437.0060
26	Shaft Sealing	3	1437.0050
27	Body Joint Screw	6	1437.0070
28	Shaft break connecting plate low	1	1437.0200
29	Upper body	1	1437.0010
30	Groove sealing	2	1437.0080
31	Lower bearing	1	1437.0090
32	Lower body	1	1437.0020
33	Body sealing	1	1216.0040
34	Nipple Angle 45 degree	1	1228.0081
35	Control Valve	1	1228.0060
36	Quick Connector male	1	1228.0100
37	Quick Connector female	1	1273.0020
38	Socket for Pressure Gauge	1	1273.0030
39	Manometer 0 - 40 bar	1	1273.0011
40	Shaft Extension	2	1446.0020
41	Base shaft	1	1446.0010
42	Chain Block	1	1447.0121
43	Shaft chock locking screw	1	1446.0110
44	Shaft Chock	1	1446.0100
45	TONISCO Special Wrench	2	1450.0170
46	Opening Pin	1	1213.0040
47	Chuck for hole saws < 102 mm	1	1446.0030
48	Pilot Drill long	1	1446.0050
49	Pilot Drill normal	1	1446.0060
50	Chuck for hole saws > 102 mm	1	1446.0040
51	Allen Key 3 mm	1	1250.0010
52	Allen Key 4 mm	1	1213.0110
53	Allen Key 5 mm	1	1250.0020
54	Magnet	1	1213.0240
55	Adapter Wrench	1	1218.0020



Safety Instructions in Regards to the Electrical Driving Unit

-Warning: When using electric tools, basic safety precautions should always be followed to reduce the risk of electric shock, personal injury and fire, including the following:

-Read all these instructions before operating the power tools. Save these safety instructions.

-Keep work area clean. Cluttered areas and benches invite injuries.

-Consider work area environment. Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep work area well lit. Don't use power tools in presence of flammable liquids or gases.

-Protect yourself from electric shock. When working with electric power tools, avoid body contact with earthed parts (e.g. Pipes, radiators, hobs, refrigerators) If you use electrically conductive coolers or lubricants or if there are extreme conditions for use (e.g. A high degree of humidity , development or metal dust, etc.) When working with electric power tools, use the (FI, DI, PRDC) residual current protection devices at any power outlet point.

-Keep children away. Do not let onlookers contact tool or power lead. All onlookers should be kept away from work area.

-Store idle power tool for the job. When not in use keep tools in dry place, either locked up or high up, out of the reach of children.

-Never force a power tool. It will do the job better and safer at the rate for which it was intended.

-Use the right power tools for the job. Don't force small power tools to do the job of a heavy duty tool. Don't use power tools for purpose not intended. Don't for example , use a circular saw for cutting tree limbs or logs.

-Dress properly. Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.

-Wear safety goggles and a face mask or dust mask if work is dusty. Don't abuse lead. Never carry power tool by lead or yank lead to disconnect tool from receptacle. Keep the lead away from heat, oil and sharp edges. Secure work piece. Use clamps or a vice to hold work piece. It's safer than using your hand and it frees both hands to operate.

-Don't overreach. Keep proper footing and balance at all times.

Maintain tools with care. Keep tools sharp and clean for better and safer performance. Follow instructions for servicing changing tools. Inspect power tools leads periodically and if damaged, have them repaired by an authorized service facility. Inspect extension leads periodically and replace them if damaged. Keep handles dry, clean and free from oil and grease.

-Disconnect power tools, when not in use, before servicing and when adjusting accessories such as blades, bits and cutters.

-Remove keys and spanners. Form habit of checking to see that keys and adjusting tools are removed from power tool before turning them on.

-Avoid unintentional starting. Don't carry plugged-in power tool with finger on switch trigger. Be sure switch is turned off when plugging in.

-Outdoor use extension leads. When power tools is used outdoors, use only extension lead intended for use outdoors and so marked.

-Stay alert. Watch what you are doing. Use common sense. Do not operate power tool when you are tired.

-Check power tool for damaged parts. Before further use of the power tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding or moving parts, breakage of parts, mounting , and any other condition that may affect the power tool's operation.

-A guard or other part that is damaged should be properly repaired or replaced by an authorized service facility unless otherwise indicated in the operating instructions.

-Have defective switches replaced by an authorized service facility. Do not use the power tool if the switch does not turn it on and off.

-Warning!. For your own safety, use only accessories and attachments which are described in the operating instructions or are provided or recommended by the tool manufacturer. The use of tools other than those described in the operating instructions or in the catalog of recommended tool inserts or accessories can result in a risk of personal injury.

-Have your power tool repaired by an authorized service facility. Repairs should be carried out only by an authorized service facility.



Warranty Terms & Coverage of the TONISCO Pipeline Hot Tapping Devices

1. Warranty Coverage

TONISCO SYSTEM provides a full warranty described below for all the new equipment that it manufactures and sells. The warranty applies to all the material and manufacturing errors that may occur during the warranty period. Warranty does not apply to issues mentioned in section 8.

2. Beginning of the Warranty

Warranty time starts from the approved delivery date of the equipment. Delivery is approved when the equipment reaches the subscriber and the subscriber verifies the receiving of the delivery or when the equipment is deployed for the first time. If the subscriber has any complaints regarding the delivered equipment it should be mentioned in reasonable time from the delivery in order to extend the warranty time

3. Duration of the Warranty

TONISCO SYSTEM admits a full warranty of one year to all the equipment that it manufactures and sells. Warranty is valid when all the requirements mentioned in this document are applied. For all the repairing work performed within the warranty period TONISCO SYSTEM admits an extra half a year warranty including the installation work.

4. Maintenance included in the Warranty

On the basis of the warranty all the Warranty reparations are done without any extra charges over the work or materials used in the reparation. The reparation is done by professionals approved by the supplier within the normal working hours.

5. Terms of the delivery after the Warranty reparation

The terms of the delivery after the warranty reparation has been carried out shall be settled between the subscriber and the supplier. If there has been no such discussion about the delivery the equipment will stay in the supplier's storage waiting for the delivery without delivery package.

If the subscriber wants that the reparations shall be carried out in some other location than the suppliers will the supplier charge for extra expenses due to the onsite reparation.

6. Terms of the Warranty reparation

The terms of the warranty reparation are settled between the subscriber and supplier according current the situation. In order for the reparation to be included in to the warranty it must state the following;

- a) The damage in the equipment has occurred at the normal using circumstances of the equipment,
- b) The equipment has been used according the instructions for installation, operation and maintenance of the equipment given by the manufacturer or the supplier

- c) Only the original and approved spare parts and materials has been used during the maintenance or reparation of the equipment
- d) The demand for the warranty reparation comes from the subscriber or from approved representative of the subscriber
- e) The subscriber or the approved representative of the subscriber will deliver the damaged equipment to the service location immediately after the damage has been notified. The delivery of the equipment should be carried out in a way that no extra damage will occur to the equipment

At the delivery the subscriber must give a formal report about the user environment and the circumstances where and when the current damage took place. If it can be declared that the damage in the equipment is not in the limitations of the warranty the service provider charge according its normal service fees from the time it spent searching for the problem in the equipment

7. Warranty of the warranty repaired device

The warranty of the warranty repaired equipment be valid until the end of the original warranty period

8. Limitations of the Warranty

The warranty does not apply to;

- a) Fixing faults that are caused by natural wearing, misuse, service of not approved operator, wrong usage environment or the usage of equipment in not appropriate circumstances
- b) Cover the direct or indirect expenses due to the usage of a damaged equipment
- c) Fixing the damages if the equipment have been serviced by not approved operator in the past or if there are any not approved changes made to the equipment
- d) Fixing the devices or faults in parts that have no warranty from their manufacturer such as hoses, measurement devices, sensors and probes etc.

9. Settling of disagreements

Disagreements between the supplier and the subscriber shall be solved by common negotiations. If the agreement cannot be reached shall the decision be made according the laws of the commercial that apply to both parties.

In a compliance with the requirements for warranty terms and conditions of the union of technical commerce of Finland 2005.



EC-Declaration of Conformity *Konformitätserklärung*

The Manufacturer in the Area of European Community
Der im Bereich der Europäischen Gemeinschaft anlässige Hersteller:

TONISCO SYSTEM OY
Kalkun kehätie 19
33330 TAMPERE FINLAND
Tel: +358 3 2611724 Fax: +358 3 2614145

declares that the pipeline hot tapping equipment described here below,
erklärt hiermit, dass das nachfolgend beschriebene Anbohrgerät

TONISCO B30 hot tapping equipment for branch drilling of steel pipe lines
TONISCO B30 Anbohrgerät zum Abzweigen von Stahlrohrleitungen

the requirements
den Vorschriften

97/23/EG	Druckgeräterichtlinie (Kategorie 1) Konformitätsbewertung: Modul A	PED (category 1) Confimity assesment: Module A
2006/42/EG	Maschinenrichtlinie	Machine directive
2004/108/EG	EMV-Richtlinie	EMC directive
2011/65/EU		

and with the following standards:
das obengenannte Erzeugnis mit folgenden Normen:

EN 60745
EN 12516
EN 12100

complies.
entspricht.

Tampere

TONISCO System Oy

Kari Nisso