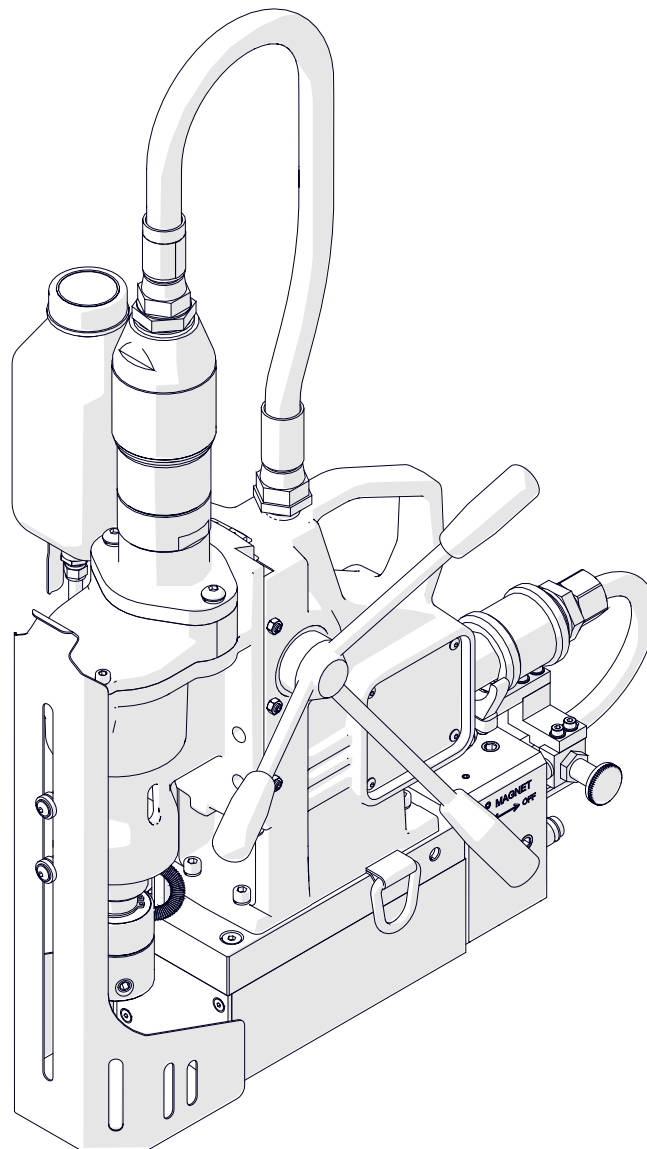


# OPERATOR'S MANUAL

## HOLEMAKER PNEUMATIC MAGNETIC BASE DRILLING MACHINE **HMP50-ATEX**



# Contents

---

|                                                                     |    |
|---------------------------------------------------------------------|----|
| 1. LIMITED WARRANTY .....                                           | 3  |
| 2. GENERAL INFORMATION .....                                        | 4  |
| 2.1. Application .....                                              | 4  |
| 2.2. Technical data .....                                           | 5  |
| 2.3. Equipment included .....                                       | 6  |
| 2.4. Dimensions .....                                               | 7  |
| 2.5. Design .....                                                   | 8  |
| 3. SAFETY PRECAUTIONS .....                                         | 9  |
| 4. STARTUP AND OPERATION .....                                      | 12 |
| 4.1. Installing and removing the arbor or MT2 twist drill bit ..... | 12 |
| 4.2. Installing and removing the annular cutter .....               | 14 |
| 4.3. Installing and removing the cooling system .....               | 15 |
| 4.4. Preparing .....                                                | 16 |
| 4.5. Drilling .....                                                 | 20 |
| 4.6. Maintaining the air preparation unit .....                     | 22 |
| 4.7. Adjusting the gibs .....                                       | 23 |
| 5. ACCESSORIES .....                                                | 24 |
| 5.1. Air preparation unit .....                                     | 24 |
| 5.2. Pressure cooling system .....                                  | 24 |
| 6. PARTS LIST .....                                                 | 25 |

## **1. LIMITED WARRANTY**

Industrial Tool & Machinery Sales (hereinafter referred to as ITMS) will, within twenty four (24) months from the original date of purchase, repair or replace any goods found to be defective in materials or workmanship.

This warranty is void if the item has been damaged by accident, neglect, improper service or other causes not arising out of defects in materials or workmanship. This warranty does not apply to machines and/or components which have been altered, changed, or modified in any way, or subjected to overloading or use beyond recommended capacities and specifications. Worn componentry due to normal wear and tear is not a warranty claim. Goods returned defective shall be returned prepaid freight to ITMS or agreed repair agent, which shall be the buyer's sole and exclusive remedy for defective goods. ITMS accepts no additional liability pursuant to this guarantee for the costs of travelling or transportation of the product or parts to and from ITMS or the service agent or dealer, such costs are not included in this warranty.

Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

THE MANUFACTURER RESERVES THE RIGHT TO MAKE IMPROVEMENTS AND MODIFICATIONS TO DESIGN WITHOUT PRIOR NOTICE.

PRODUCTS IMPORTED AND DISTRIBUTED NATIONALLY BY:

INDUSTRIAL TOOL & MACHINERY SALES

11 EASTERN SERVICE ROAD, STAPYLTON, QLD, 4207

T: 07 3287 1114 E: [sales@itmtools.com.au](mailto:sales@itmtools.com.au) W: [www.itmtools.com.au](http://www.itmtools.com.au)

## **2. GENERAL INFORMATION**

### **2.1. Application**

The HMP50-ATEX is a pneumatic magnetic base no. 2 morse taper drilling machine designed to drill holes of diameters up to 50 mm (1 31/32") by using annular cutters. The machine can also drill holes of diameters up to 23 mm (29/32") by using twist drill bits.

It is allowed to drill outside pipes of a minimum diameter of 250 mm (9 27/32") after checking the clamping of the magnetic base using the indicator.

The machine is II 2G Ex h IIC 135°C (T4) Gb II 2D Ex h IIIB T135°C Db certified to allow work in potentially explosive atmospheres.

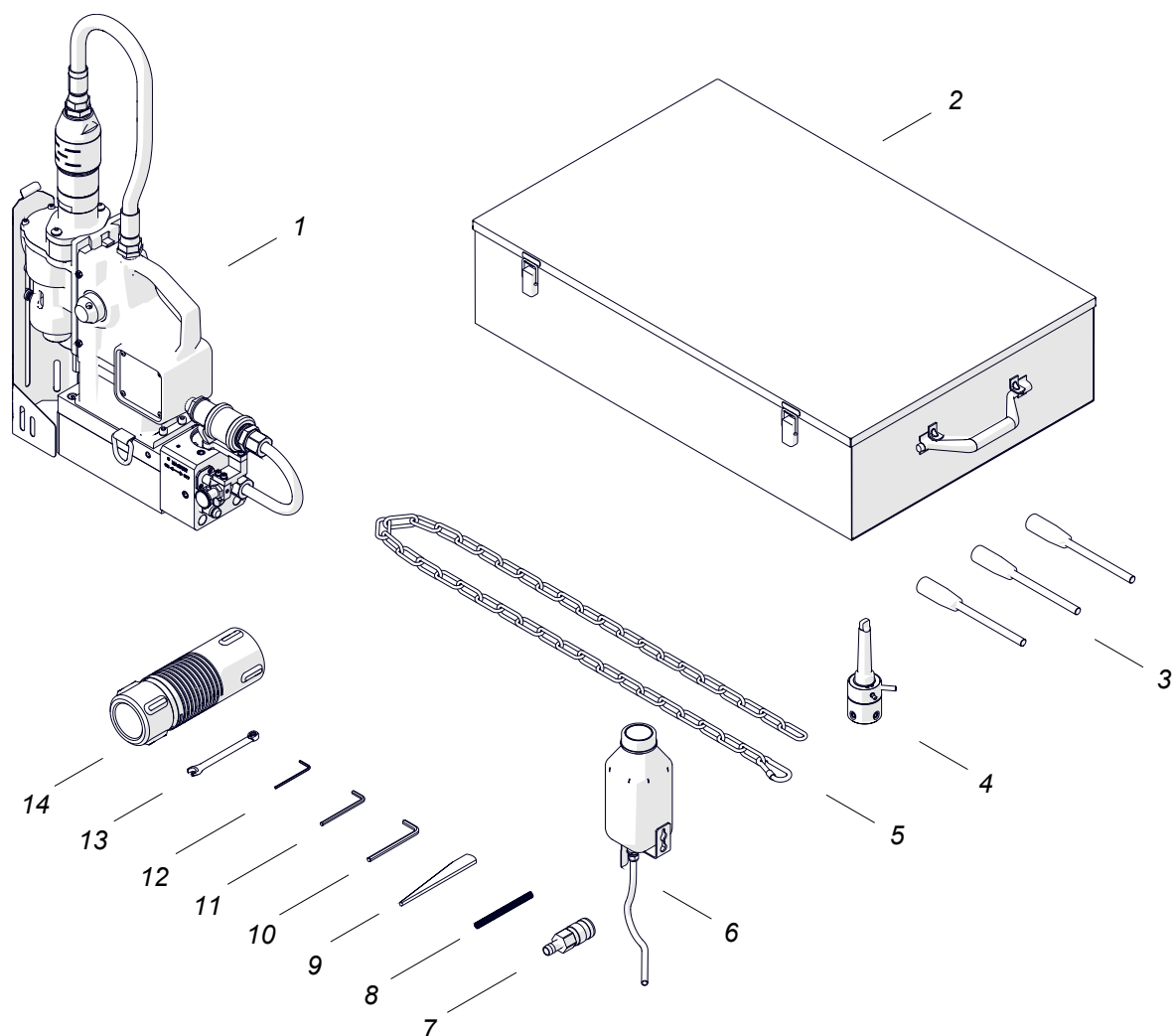
The magnetic base clamps the machine to ferromagnetic surfaces. This assures that the operator is safe and the machine works correctly. A safety chain protects the machine from falling in case of clamping loss.

## 2.2. Technical data

|                                                                                              |                                                              |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Pressure                                                                                     | 6 bar (87 psi)                                               |
| Air connection                                                                               | CEJN 410 DN 10.4 R 3/8" BSPT fitting for quick coupling      |
| Power                                                                                        | 800 W                                                        |
| Air consumption                                                                              | 1400 l/min (49,4 CFM)                                        |
| Spindle shank                                                                                | MT2                                                          |
| Tool holder                                                                                  | 19 mm (3/4") Weldon                                          |
| Maximum drilling diameter with a TCT annular cutter                                          | 50 mm (1 31/32")                                             |
| Maximum drilling diameter with a HSS annular cutter                                          | 45 mm (1 49/64")                                             |
| Maximum drilling diameter with a twist drill bit                                             | 23 mm (29/32")                                               |
| Maximum drilling depth                                                                       | 51 mm (2 1/64")                                              |
| Stroke                                                                                       | 150 mm (5 29/32")                                            |
| Clamping force<br>(surface with the thickness of 25 mm (63/64") and roughness $R_a = 1.25$ ) | 9500 N                                                       |
| Magnetic base dimensions                                                                     | 66.5 mm x 90 mm x 192.5 mm<br>(2 5/8" x 3 35/64" x 7 37/64") |
| Rotational speed with load                                                                   | 190 rpm (I gear)<br>290 rpm (II gear)                        |
| Rotational speed without load                                                                | 330 rpm (I gear)<br>500 rpm (II gear)                        |
| Minimum workpiece thickness*                                                                 | 8 mm (5/16")                                                 |
| Minimum pipe diameter*                                                                       | 250 mm (9 27/32")                                            |
| Noise level                                                                                  | More than 70 dB                                              |
| Required ambient temperature                                                                 | 0–40°C (32–104°F)                                            |
| Weight                                                                                       | 24.5 kg (54 lbs)                                             |

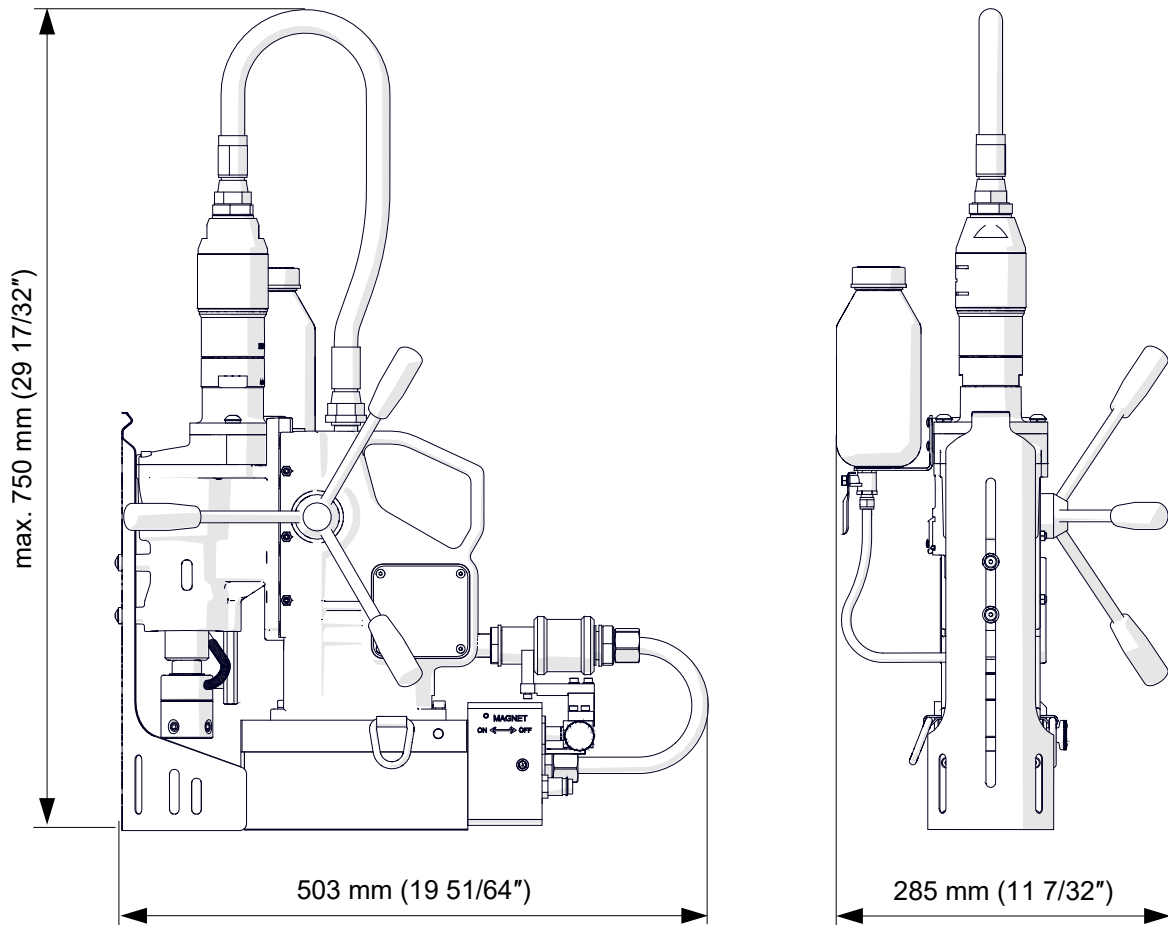
\* always check the clamping of the magnetic base using the indicator

## 2.3. Equipment included

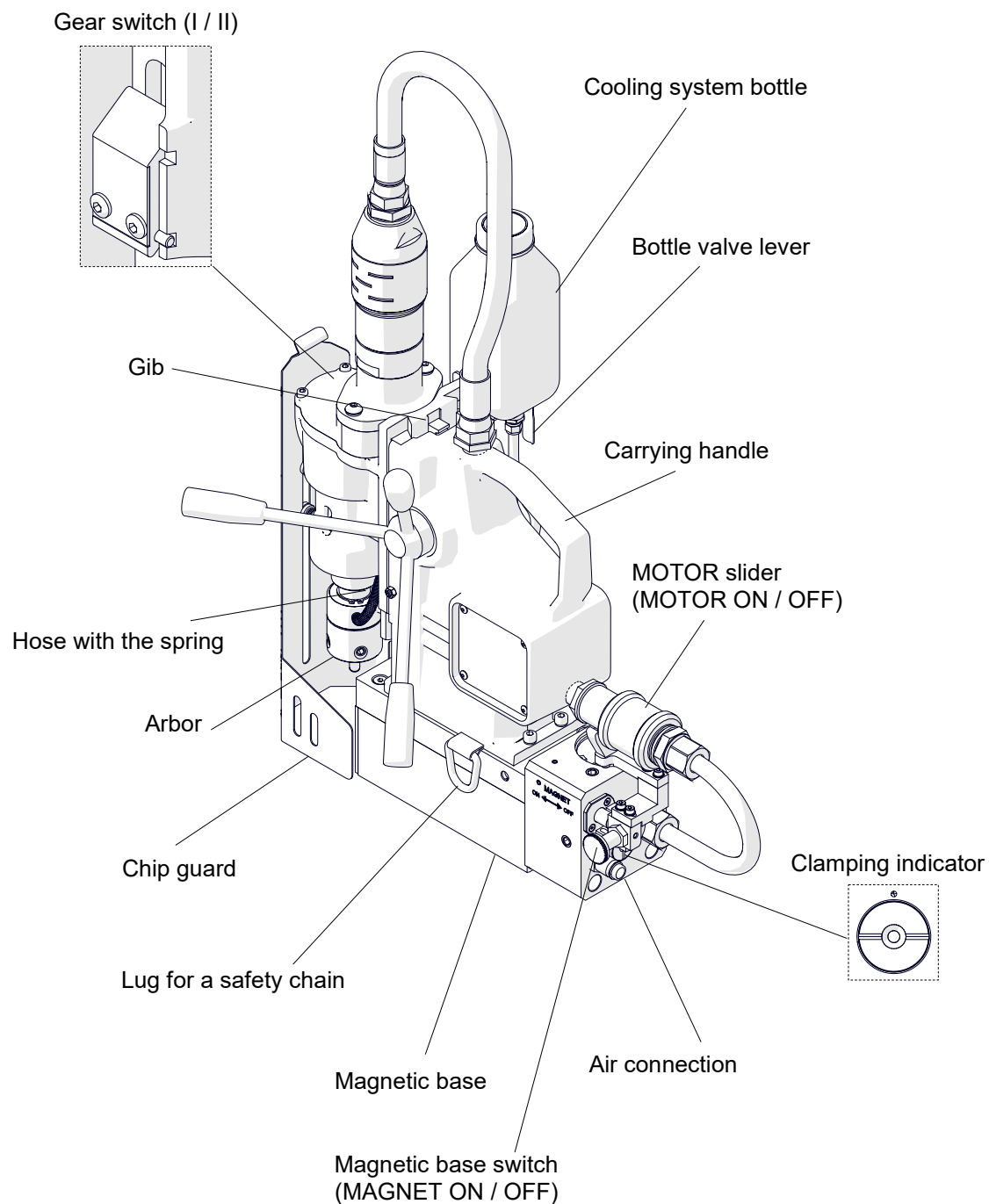


|    |                                       |         |
|----|---------------------------------------|---------|
| 1  | Drilling machine                      | 1 unit  |
| 2  | Box                                   | 1 unit  |
| 3  | Handle                                | 3 units |
| 4  | Arbor MT2                             | 1 unit  |
| 5  | Chain with a snap hook                | 1 unit  |
| 6  | Cooling system                        | 1 unit  |
| 7  | Quick coupling                        | 1 unit  |
| 8  | Cooling system hose protective spring | 1 unit  |
| 9  | MT2 drift                             | 1 unit  |
| 10 | 5 mm hex wrench                       | 1 unit  |
| 11 | 4 mm hex wrench                       | 1 unit  |
| 12 | 2.5 mm hex wrench                     | 1 unit  |
| 13 | 8 mm combination wrench               | 1 unit  |
| 14 | Equipment box                         | 1 unit  |
| –  | Operator's Manual                     | 1 unit  |

## 2.4. Dimensions



## 2.5. Design



### 3. SAFETY PRECAUTIONS



Read the Operator's Manual



Wear ear protection



Wear eye protection

1. Before use, read this Operator's Manual and complete training in occupational health and safety.
2. Use only in applications specified in this Operator's Manual.
3. Make sure that the machine has all parts and they are genuine and not damaged.
4. Make sure that the specifications of the power source are the same as those specified on the rating plate.
5. Supply only with clean and lubricated air. Make sure that the air source has an air preparation unit (filter, regulator, and lubricator). Do not supply air by using a hose without a quick coupling.
6. Do not carry the machine by the hoses and do not pull the hoses. This can cause damage and serious injury.
7. Set the MAGNET switch to OFF before you move the machine. Use carrying handle to move the machine.
8. Keep untrained persons away from the machine.
9. Before each use, ensure the correct condition of the machine, air source, supply hose, air connection, quick coupling and tools.
10. Before each use, make sure that no part is cracked or loose. Make sure to maintain correct conditions that can have an effect on the operation of the machine.
11. Keep the machine dry. Do not expose the machine to rain, snow, or frost. Protect the supply hose from the sun.
12. Do not stay below the machine that is put at heights.
13. Keep the work area well lit, clean, and free of obstacles.
14. Use the set screws to tighten the annular cutter. Remove wrenches from the work area before you connect the machine to the power source.
15. Do not use tools that are dull or damaged.

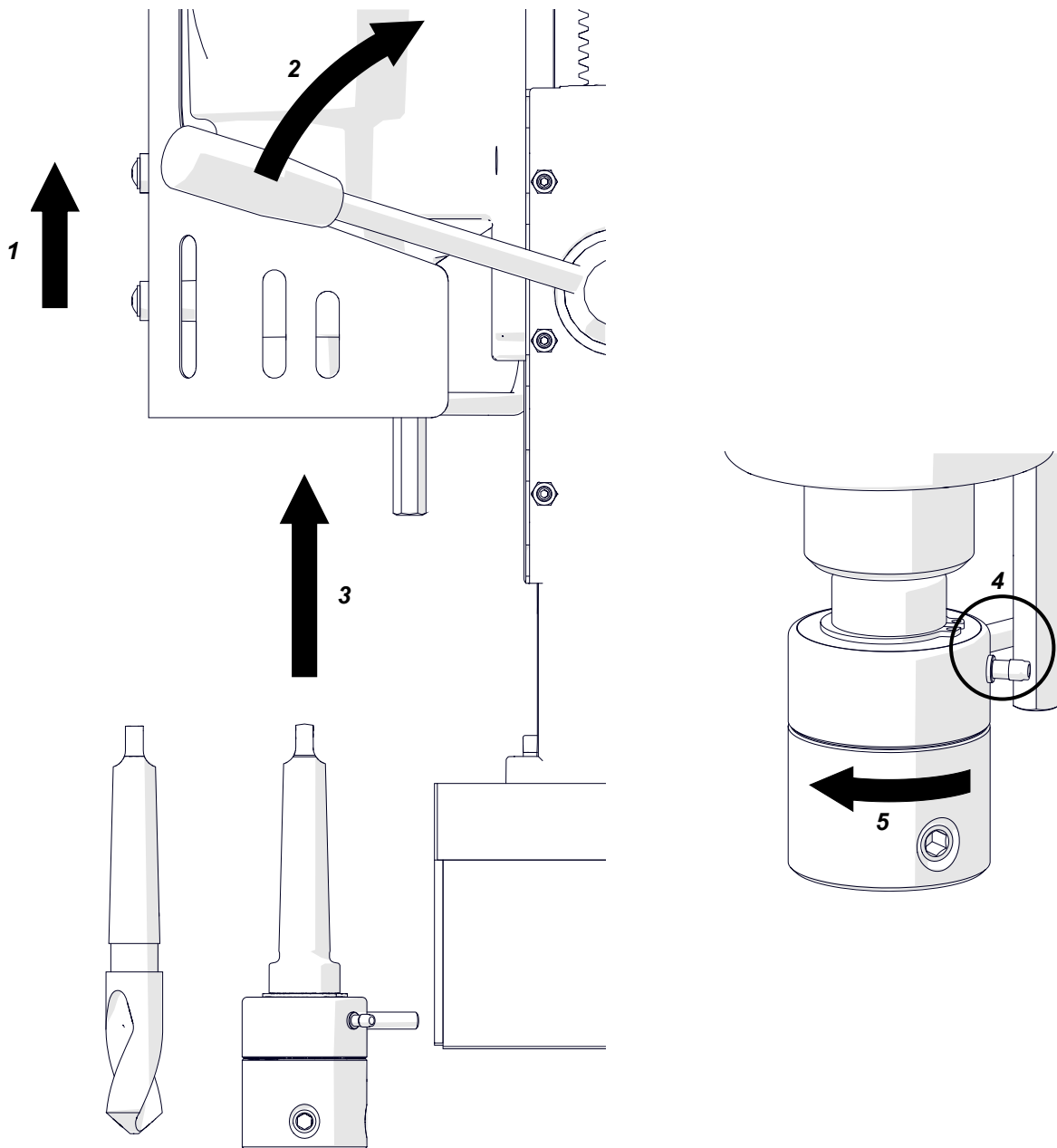
16. Unplug the supply hose before you install and remove tools. Install and remove tools by using protective gloves.
17. Use annular cutters without the pilot pin only when you drill incomplete through holes. Do not use arbors without a spring.
18. Do not drill holes whose diameter or depth differ from those specified in the technical data.
19. Do not use on surfaces that are rough, not flat, not rigid, or have rust, paint, chips, or dirt.
20. Use the safety chain to attach the machine to a stable structure. Attach the chain by the drill lugs or by the carrying handle. The chain must not be loose. If possible, wrap the chain around the workpiece.
21. Do not use if the gibs are adjusted incorrectly.
22. Do not use if there is no grease on the gibs.
23. We do not recommend work on workpieces thinner than 8 mm (5/16"). The clamping force depends on the workpiece thickness and is much lower for thin plates.
24. Each time before you put the machine on the workpiece, rub the workpiece with coarse-grained sandpaper. Make sure that the full bottom of the base touches the workpiece.
25. Ensure that the machine is correctly attached to the surface by checking the position of clamping indicator.
26. Use eye and ear protection and protective clothing. Do not use loose clothing.
27. Do not touch chips or moving parts. Do not let anything to be caught in moving parts.
28. After each use, clean the machine and the tool. Do not remove chips with bare hands.
29. Unplug the supply hose before you do maintenance or install/remove parts.
30. Repair only in a service center appointed by the seller.
31. If the machine falls, is wet, or has any damage, stop the work and immediately send the machine to the service center for check and repair.
32. Do not leave the machine when it operates.
33. If you are not going to use the machine, remove the tool from the holder. Then, remove the machine from the work area and keep it in a safe and dry place.

34. If you are not going to use the machine for an extended period, put anti-corrosion material on the steel parts.

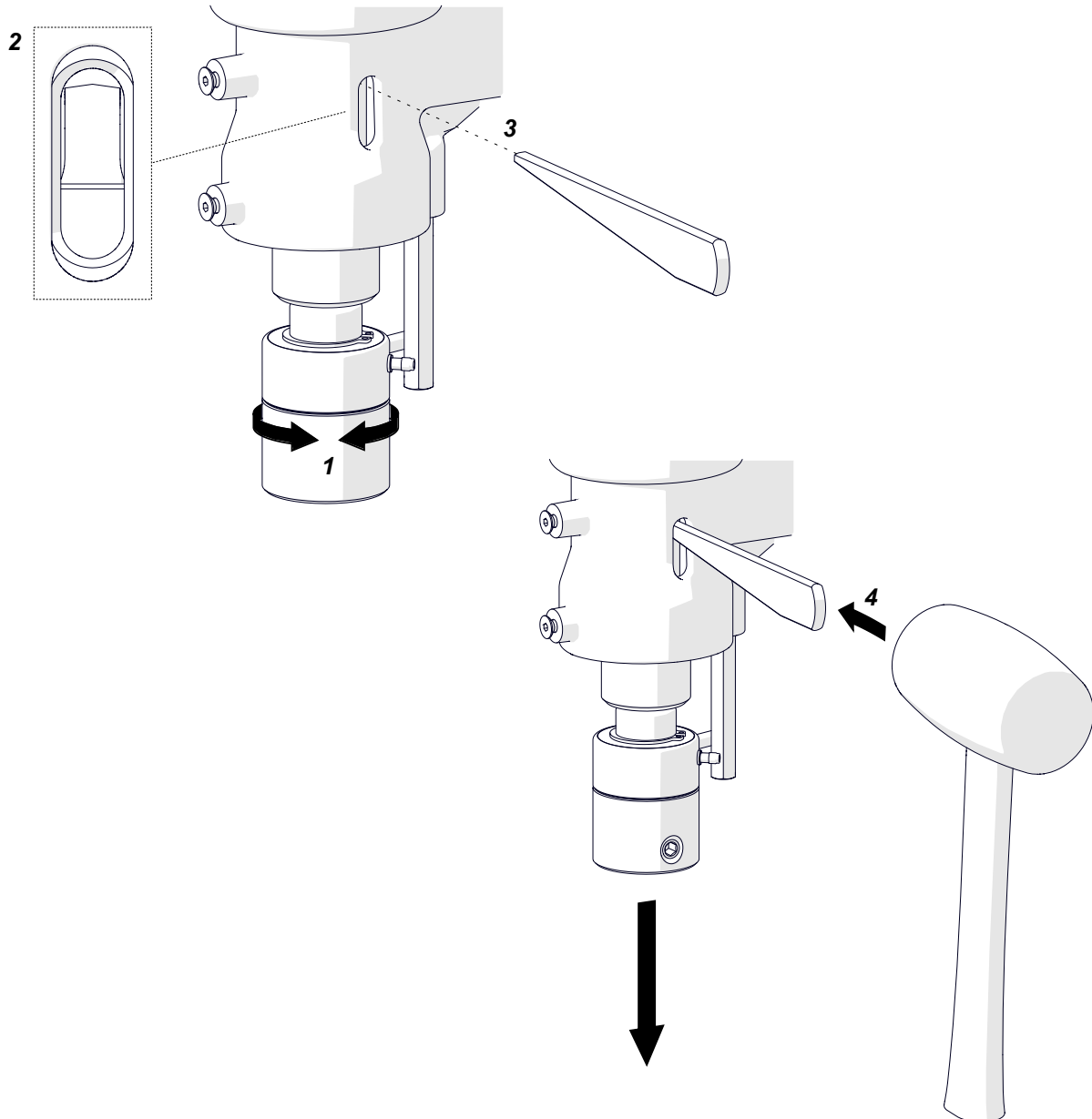
## 4. STARTUP AND OPERATION

### 4.1. Installing and removing the arbor or MT2 twist drill bit

Unplug the supply hose and lift the chip guard (1). Turn the handles to the right (2) to lift the motor. Use a dry cloth to clean the spindle and the arbor (twist drill bit). Use gloves to put the arbor (drill bit) into the spindle (3). Make sure that the stop rod is between the pin and the fitting (4). Next, turn the arbor (drill bit) to the right (5) until it snaps into place.



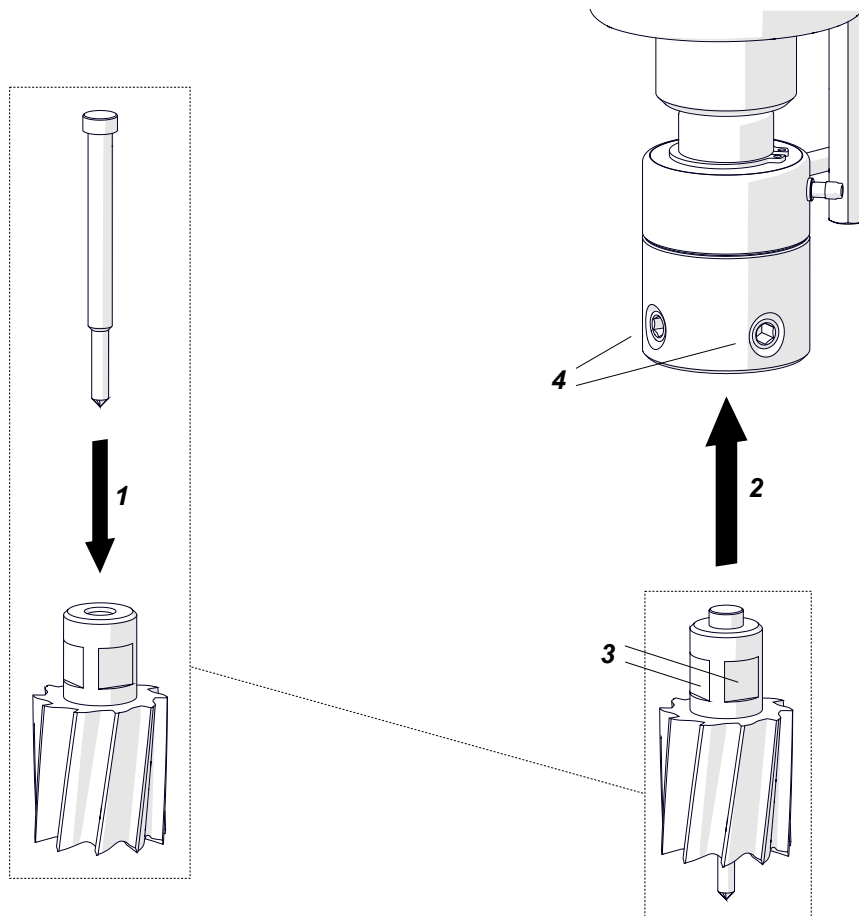
To remove the arbor (drill bit), continue as follows. Lift the motor and turn the spindle (1) to align the holes in the spindle and gearbox (2). Put the drift into the hole (3). Next, hold the carrying handle with one hand and hit the drift with a mallet (4).



## 4.2. Installing and removing the annular cutter

Install the arbor as described before. Use gloves to put the correct pilot pin into the annular cutter (1). Clean the cutter with a dry cloth. Put the cutter into the arbor (2) to align the flat surfaces (3) with the screws (4). Use the 5 mm hex wrench to tighten the screws.

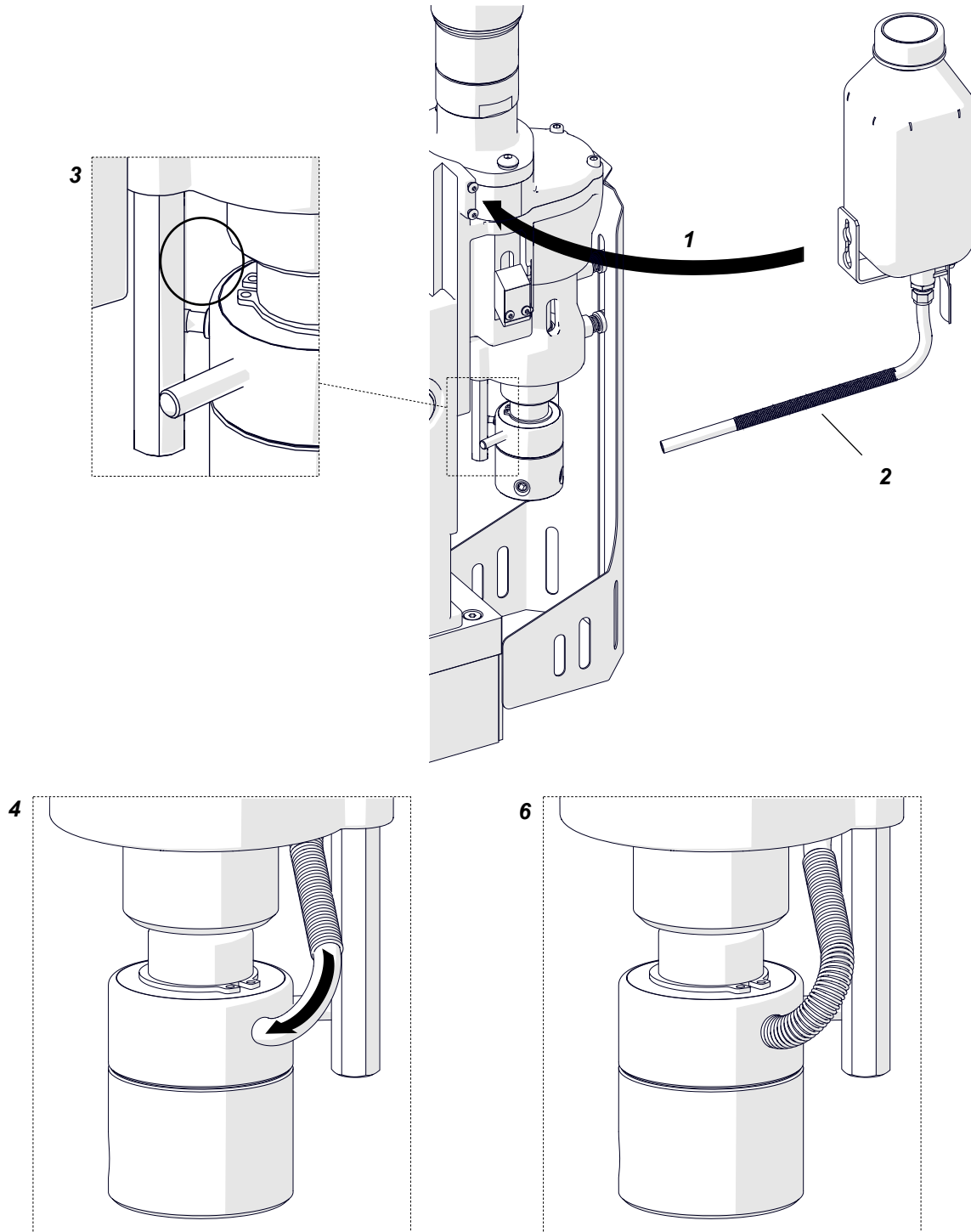
To remove the cutter, loosen the screws (4) with the 5 mm hex wrench.



### 4.3. Installing and removing the cooling system

Hang the bottle on the screws (1). Put the hose with the spring (2) between the stop rod and the arbor (3). Then, attach the hose to the fitting and move the spring to the arbor (5, 6).

To remove the bottle, continue in reverse sequence.



---

## 4.4. Preparing

---

The motor is at its full power after one hour of operation. Before the first use or after a long period of storage, put 3–5 drops of oil into the air connection. Then, connect the machine to a 6 bar air source and let the machine operate for 5–10 minutes.

---

Before use, clean steel parts, including the MT2 socket, from anti-corrosion material used to preserve the machine for storage and transport.

Attach the handles to the feed shaft. You can install the shaft so that the handles are on the opposite side of the machine.

Apply a thin layer of grease to the gibs.

Select the cutter that matches the required hole diameter.

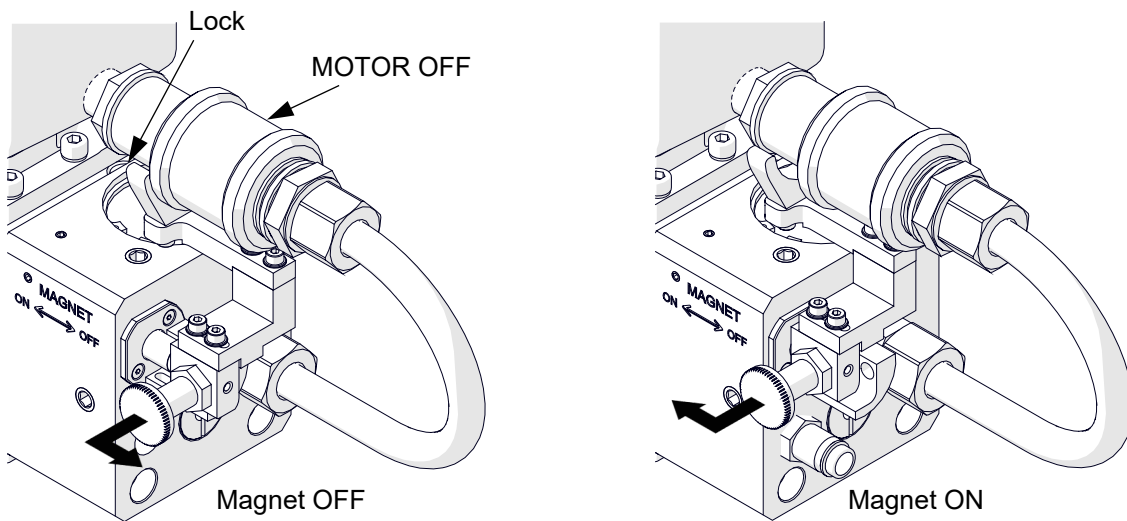
When you drill holes with diameters of 15–23 mm (19/32"–29/32") by using twist drill bits, select two bits: with 70% and 100% of the required diameter.

Use a dry cloth to clean the spindle, arbor (drill bit), and cutter. Then, as described before, install the arbor (and then the cutter) or twist drill bit with the smaller diameter.

Connect the machine to a correctly prepared air source of sufficient purity. Use a supply hose with a quick coupling. Make sure that all inner diameters of the air source (including the supply hose and fittings) are of at least 13 mm (33/64"). Use an air preparation unit that has a filter, regulator, and lubricator.

Put the machine on a flat ferromagnetic workpiece with the thickness of at least 8 mm (5/16"). Drilling on cylindrical surfaces is allowed only after checking the clamping of the magnetic base using the indicator. Make sure that there is no rust, paint, chips, or dirt on the surface. They decrease the clamping force. The force will be lower also if the surface is thin, rough, not flat, not rigid, or the bottom of the base is worn. Some types of steel (non-ferromagnetic) do not conduct magnetic flux so the machine cannot clamp onto them.

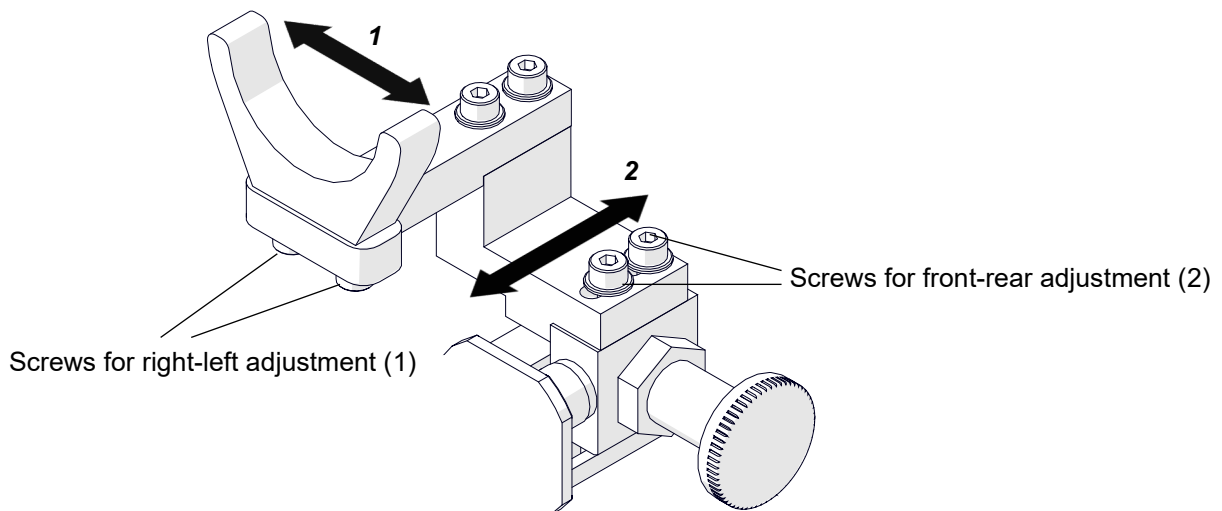
Set the MAGNET switch to ON to turn on the clamping.



**Turning off the magnet will move the lock and disable the motor!**

If the position of the lock has become loose during operation, use a 3 mm hex wrench to loosen the screws, adjust the lock (1, 2) and tighten the screws.

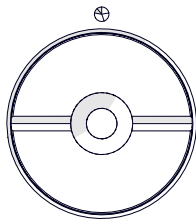
**CAUTION: Removing the lock is forbidden!**



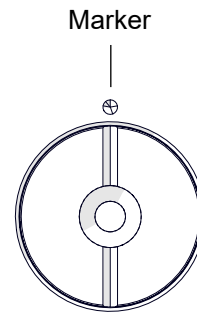
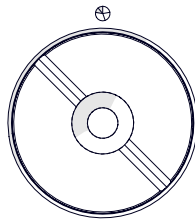
Then ensure that the machine is clamped to the surface by checking the position of clamping indicator.



**Drilling is allowed only when the clamping indicator matches the marker.**



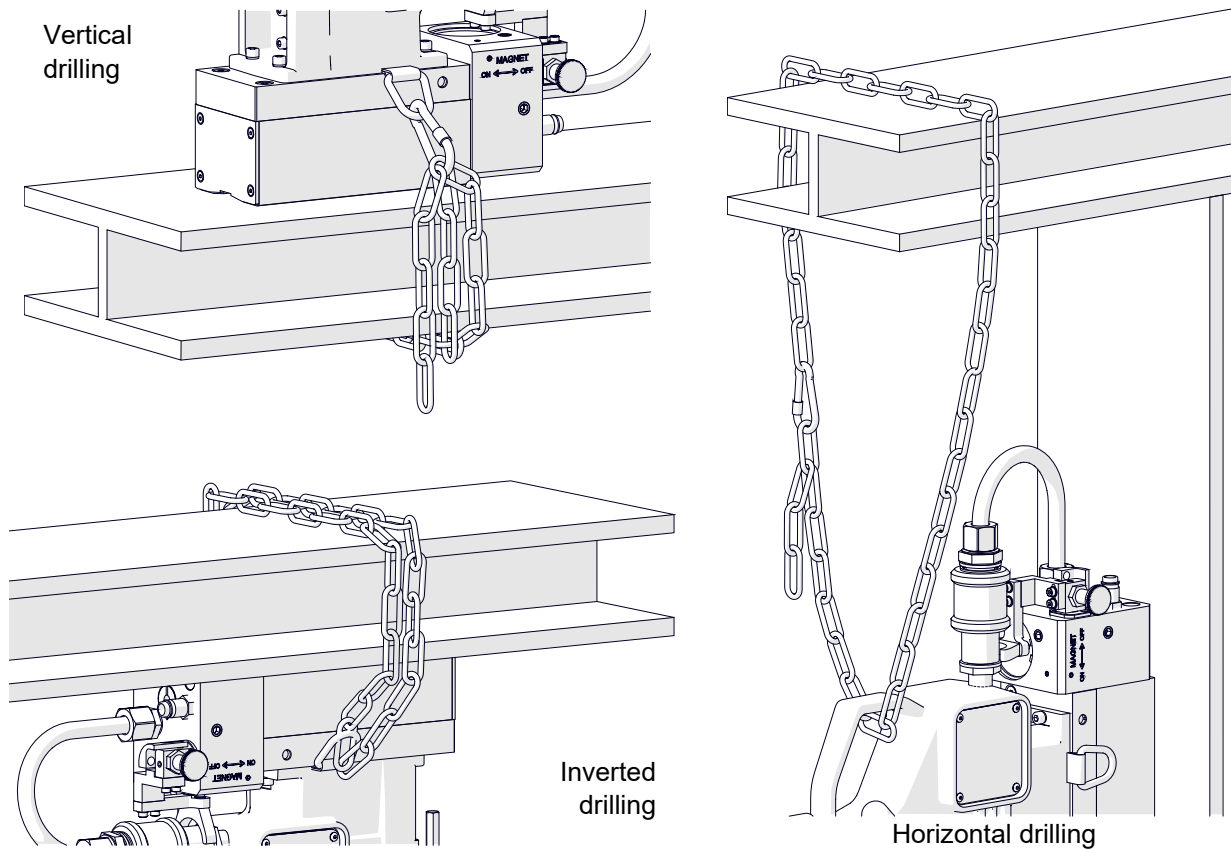
Unclamped ✗



Clamped ✓

Marker

Use the safety chain to prevent fall and injury if the machine loses the clamping. Attach the machine to a stable structure by fastening the chain to the lugs or the carrying handle. The chain must not be loose. If possible, wrap the chain around the workpiece.



Turn the handles to the left to put the tool above the workpiece.

When you use an annular cutter in the vertical position, install the cooling system and fill it with coolant. Do not use only water as the coolant. You can use a mixture of water and drilling oil. Then, make sure that the cooling system works correctly. To do this, loosen the bottle cap and use the lever to open the valve. Then, turn the handles to the left to apply a light pressure on the pilot pin. The coolant should fill the system and start flowing from the cutter.

The cooling system works by gravity. Thus, in the inverted or horizontal position, use coolants under pressure or in the form of spray or paste.

## 4.5. Drilling

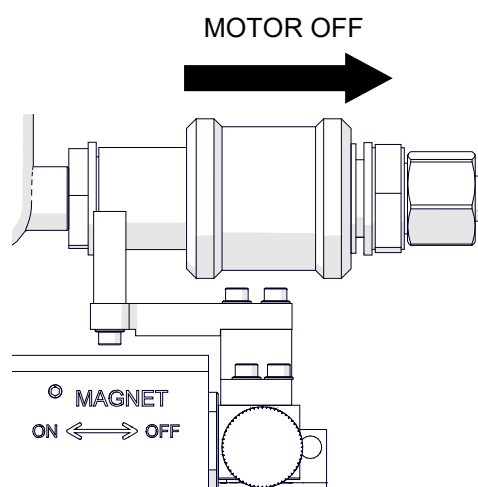
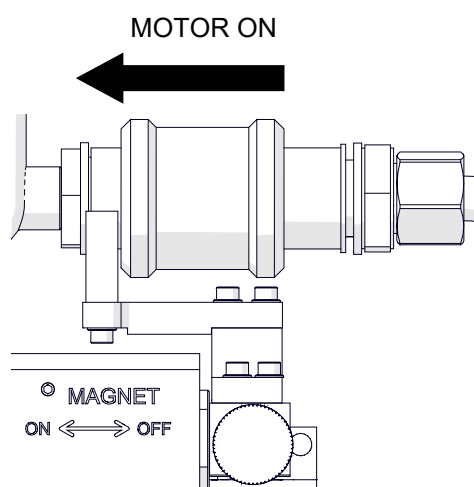
Use the gear switch to set the gear based on the table that follows.

| Tool            | Hole diameter<br>[mm] | Rotational speed*<br>[rpm] |
|-----------------|-----------------------|----------------------------|
| Annular cutter  | 12–30                 | 290 (gear II)              |
|                 | 31–50                 | 190 (gear I)               |
| Twist drill bit | 3,5–13                | 290 (gear II)              |
|                 | 14–23                 | 190 (gear I)               |

\* For a sharp tool and mild steel with a strength  $R_m < 500 \text{ N/mm}^2$  (70,000 psi), such as St0 (S185), St3S (S235JR), or St4W (S275JO).

Steel with a strength  $R_m \geq 500 \text{ N/mm}^2$  (70,000 psi), such as St5 (E295), 18G2A (S355N), or 45 (C45), requires lower speed. If the speed is too high or too low for the workpiece strength and the type/diameter of the tool, the tool will wear faster or be unable to drill the hole.

Set the MOTOR slider to ON to start the motor.

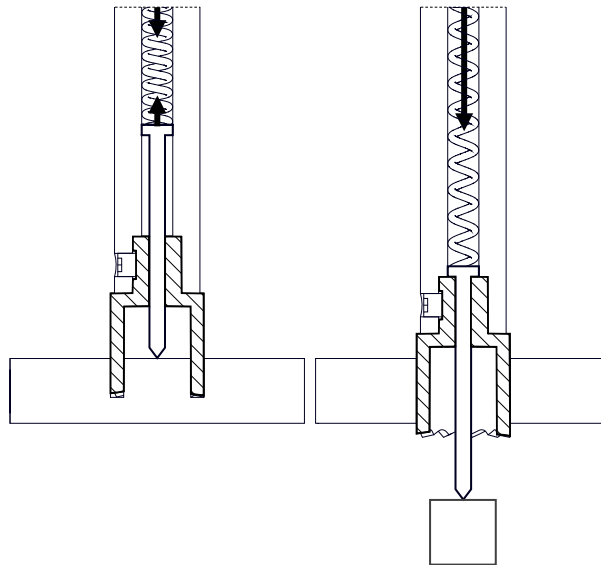


Turn the handles to the left to put the tool into the workpiece.

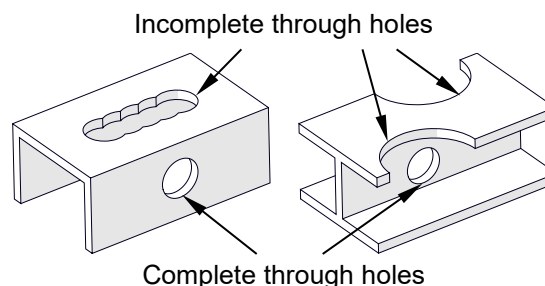
Keep the machine in the same position until the hole is made.



**When the annular cutter goes through the workpiece, the slug core is pushed out with a large force.**



When you use an annular cutter, drill only through holes. For incomplete through holes do not use the pilot pin.



When you use a drill bit, drill holes with diameters of 15–23 mm (19/32"–29/32") in two steps. First, use the drill bit with the 70% diameter of the required diameter to drill a hole. Then, keep the machine in the same position, and drill again with the drill bit that matches the required diameter.

After you get to the depth of 40 mm (1 37/64"), retract the tool above the workpiece as often as possible. Then, manually apply the coolant from the bottle into the drilling area.

After the hole is made, retract the tool from the workpiece. Then vigorously set the MOTOR slider to OFF to turn off the engine. Before you move the machine, set the MAGNET switch to OFF to turn off the base.

After the work is finished and the motor turned off, set the gear switches to the opposite position. Then turn on the motor and let it operate for a while with no load to improve lubrication. Next, turn off the motor and the base, and then unplug the supply hose. Clean the machine and the tool, and then remove the machine from the work area.

Tighten the bottle cap, close the valve, and then press the pilot pin to remove the coolant that remains in the cooling system. Before you put the machine into the box, remove the bottle, and use gloves to remove the tool from the holder.

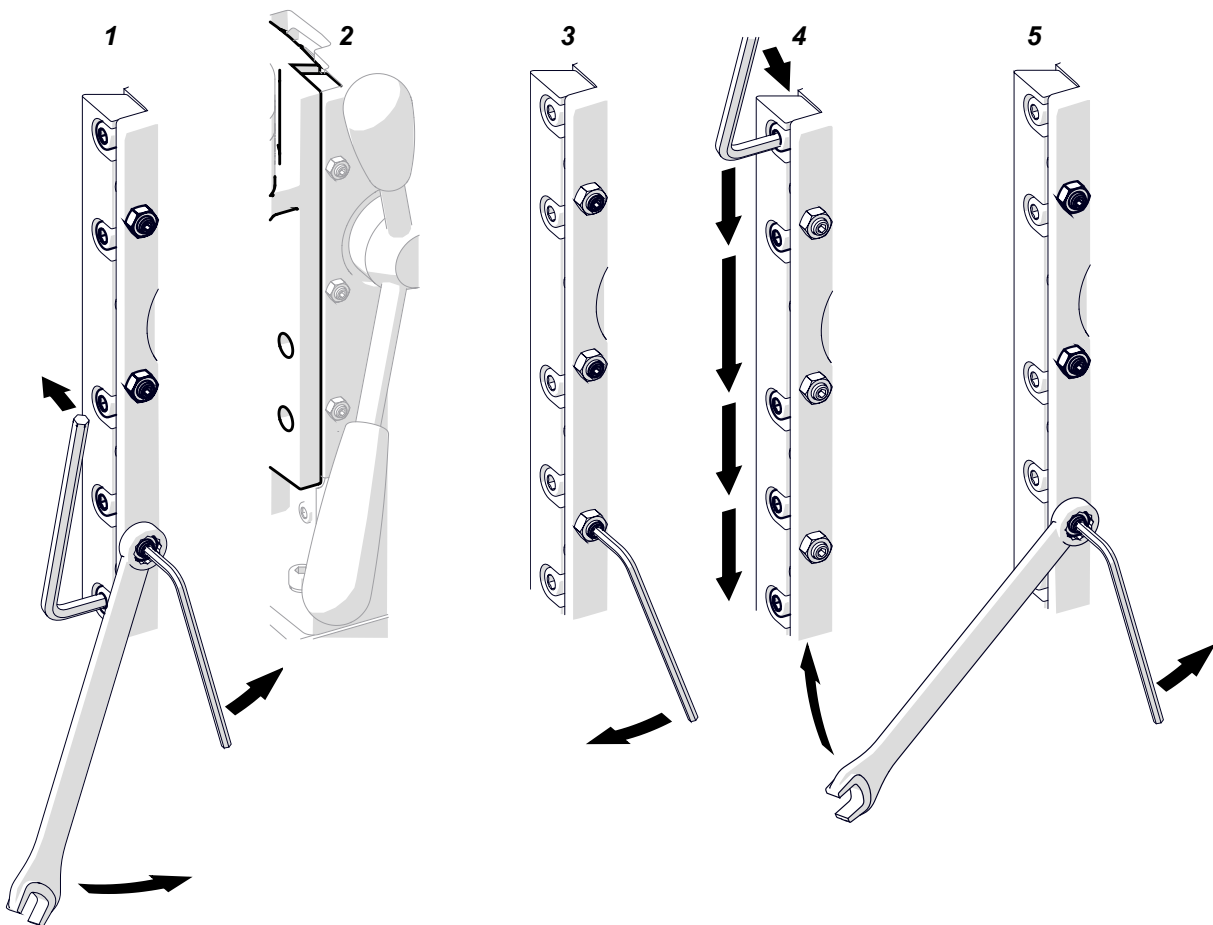
#### **4.6. Maintaining the air preparation unit**

Maintain the air preparation unit as required. Keep the water trap drained, filter cleaned, and oil reservoir filled so that there is a drop of oil every 2–5 seconds. Use only oil of ignition temperature over 260°C (500°F). If you are not going to use the machine for at least 24 hours, increase the supply of oil and let the motor operate for 2–3 seconds. This will prevent rusting and degrading of the rotor vanes.

## 4.7. Adjusting the gibs

Every 50 work hours, make sure that the gibs are correctly adjusted. To do this, move the motor up and down and make sure that it moves smoothly.

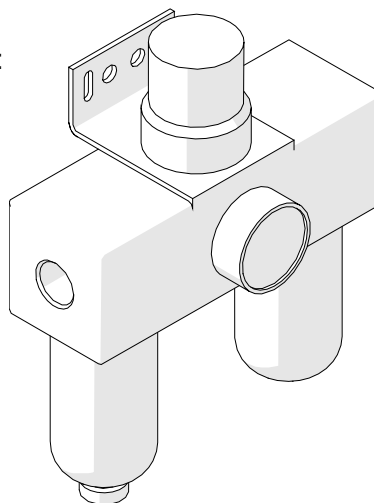
To adjust the gibs, apply a thin layer of grease on them. Then, use the 8 mm combination wrench, the 2.5 mm hex wrench, and the 4 mm hex wrench to loosen the nuts and screws (1). Put the motor as shown (2). Then, lightly tighten the screws (3) so that they touch the gib. Move the motor up and down and adjust the screws (3) so that the travel is smooth. Next, tighten the screws (4) and then tighten the nuts (5).



## 5. ACCESSORIES

### 5.1. Air preparation unit

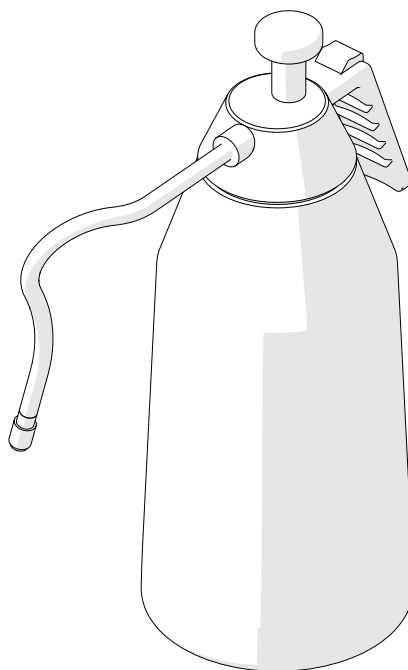
Part number (filter, regulator, lubricator):  
ZST-000021



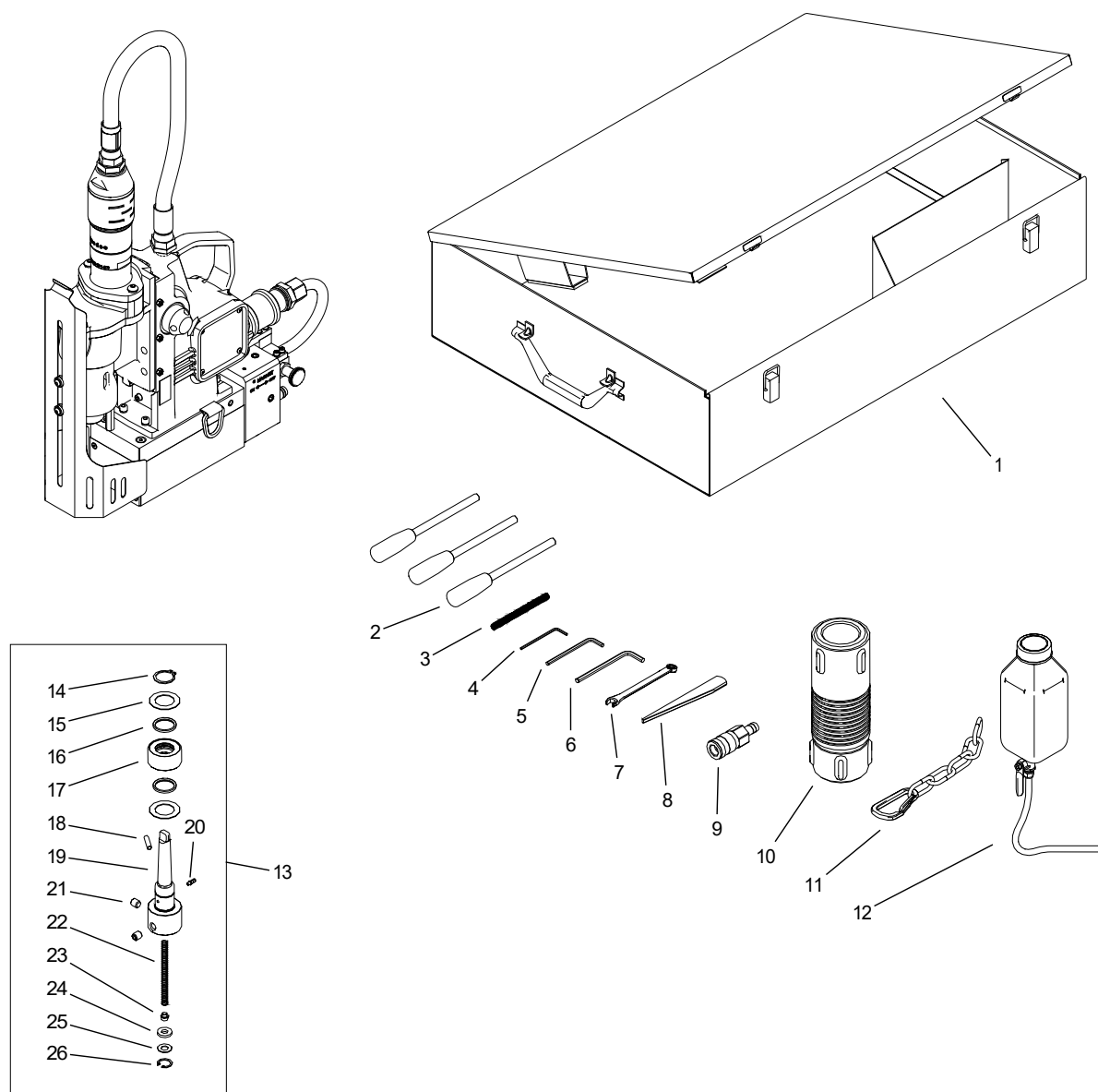
### 5.2. Pressure cooling system

Capacity: 2 liters.

Part number:  
UKL-0440-16-00-00-0

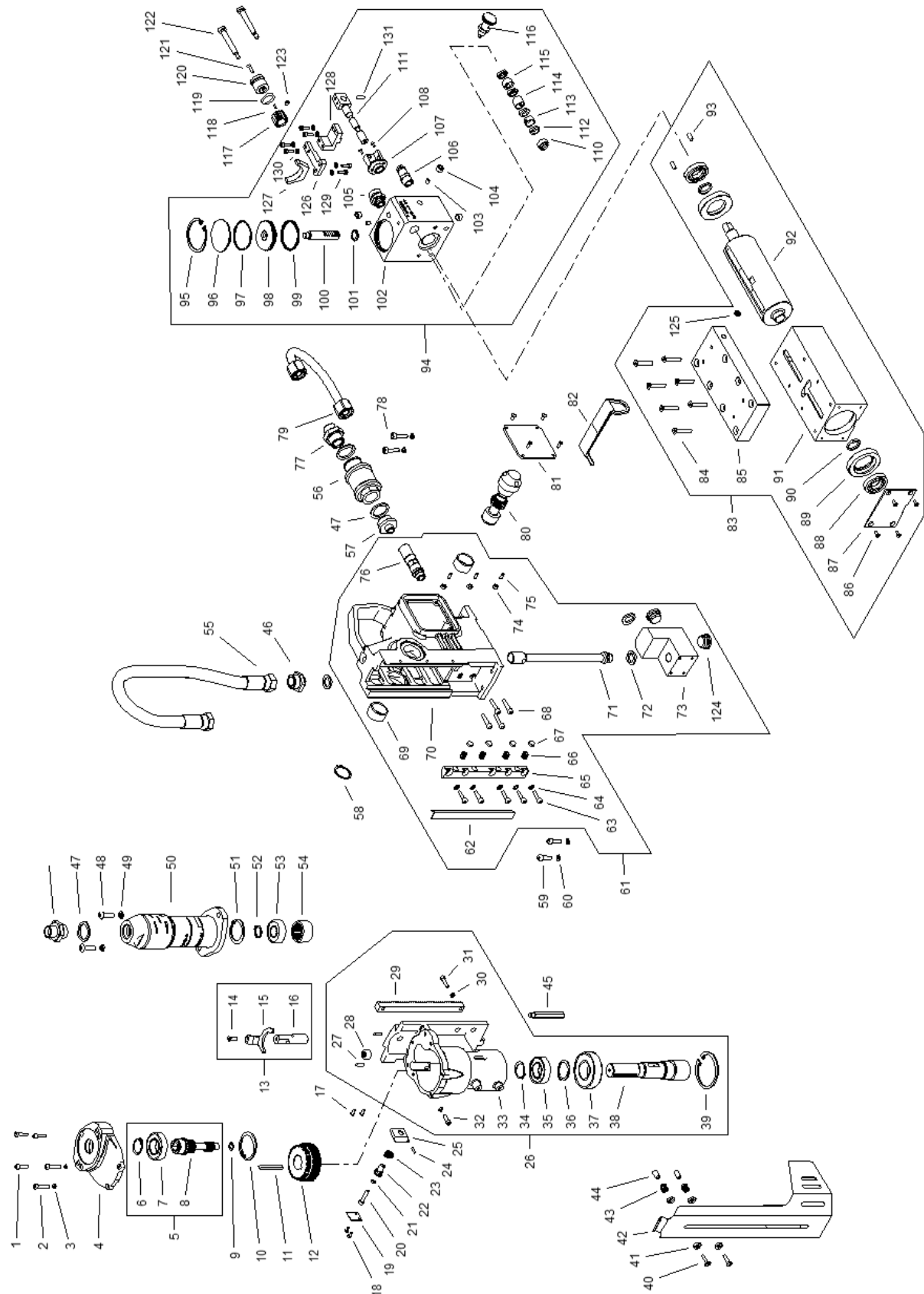


## 6. PARTS LIST



| ITEM | PART NUMBER         | DESCRIPTION                   | Q-TY |
|------|---------------------|-------------------------------|------|
| 1    | SKR-0818-09-00-00-0 | BOX ASSY                      | 1    |
| 2    | DZW-0802-06-00-00-0 | LEVER ASSY                    | 3    |
| 3    | OSL-0399-17-00-00-0 | SAFETY SPRING                 | 1    |
| 4    | KLC-000005          | HEX WRENCH 2.5 MM             | 1    |
| 5    | KLC-000007          | HEX WRENCH 4 MM               | 1    |
| 6    | KLC-000008          | HEX WRENCH 5 MM               | 1    |
| 7    | KLC-000003          | COMBINATION WRENCH 8 MM       | 1    |
| 8    | KLN-0103-01-00-00-0 | WEDGE MT2                     | 1    |
| 9    | SZB-000019          | QUICK COUPLING FOR 13 MM HOSE | 1    |

| ITEM | PART NUMBER         | DESCRIPTION                                 | Q-TY |
|------|---------------------|---------------------------------------------|------|
| 10   | OPK-000001          | TOOL CAN                                    | 1    |
| 11   | LNC-0223-00-01-00-0 | SAFETY CHAIN                                | 1    |
| 12   | UKL-0399-11-00-00-0 | COOLING SYSTEM                              | 1    |
| 13   | UCW-0220-00-00-01-0 | ARBOR AMT2-C19/2-2                          | 1    |
| 14   | PRS-000017          | EXTERNAL RETAINING RING 25z                 | 1    |
| 15   | PDK-0234-00-09-00-0 | WASHER II                                   | 2    |
| 16   | PRS-000105          | SEAL RING 25.2x3                            | 2    |
| 17   | TLJ-0284-00-07-00-3 | COOLANT RING                                | 1    |
| 18   | PRT-0151-06-13-00-7 | ROD L=25                                    | 1    |
| 19   | KRP-0220-00-02-00-0 | ARBOR BODY                                  | 1    |
| 20   | KNC-0257-05-03-04-1 | CONNECTOR 4x11,5                            | 1    |
| 21   | WKR-000032          | HEX SOCKET SET SCREW WITH FLAT POINT M10x10 | 2    |
| 22   | SPR-000002          | SPRING 2x2 MT2                              | 1    |
| 23   | WYP-0203-06-02-00-0 | PLUNGER                                     | 1    |
| 24   | USZ-0203-06-03-00-0 | SEAL                                        | 1    |
| 25   | PDK-0139-00-04-00-0 | WASHER 18.8x10x1                            | 1    |
| 26   | PRS-000009          | INTERNAL RETAINING RING 19w                 | 1    |



| ITEM | PART NUMBER         | DESCRIPTION                             | Q-TY |
|------|---------------------|-----------------------------------------|------|
| 1    | SRB-000086          | HEX SOCKET HEAD CAP SCREW M5x20         | 3    |
| 2    | SRB-000087          | HEX SOCKET HEAD CAP SCREW M5x25         | 2    |
| 3    | PDK-000045          | SPRING WASHER 5.1                       | 2    |
| 4    | PKR-0459-03-07-00-2 | GEARBOX COVER                           | 1    |
| 5    | WLK-0459-03-03-00-0 | PINION SHAFT                            | 1    |
| 6    | PRS-000017          | EXTERNAL RETAINING RING 25z             | 1    |
| 7    | LOZ-000047          | BALL BEARING 25x47x12                   | 1    |
| 8    | WLK-0459-03-03-01-0 | PINION SHAFT                            | 1    |
| 9    | PDK-0211-00-15-00-0 | WASHER 10.1x15x1                        | 1    |
| 10   | PRS-000030          | INTERNAL RETAINING RING 47w             | 1    |
| 11   | WPS-0459-03-05-00-0 | KEY 5X5X50                              | 1    |
| 12   | KOL-0459-03-02-00-0 | GEAR                                    | 1    |
| 13   | PSW-0459-03-04-00-1 | SHIFT FORK ASSY                         | 1    |
| 14   | WKR-000136          | HEX SOCKET COUNTERSUNK HEAD SCREW M5x16 | 1    |
| 15   | WDL-0459-03-04-02-1 | SHIFT FORK                              | 1    |
| 16   | WLK-0459-03-04-01-0 | SHAFT                                   | 1    |
| 17   | WKR-000092          | HEX SOCKET BUTTON HEAD SCREW M4x10      | 6    |
| 18   | WKR-000313          | HEX SOCKET BUTTON HEAD SCREW M3x8       | 2    |
| 19   | TBL-0202-00-30-00-0 | GEAR PLATE                              | 1    |
| 20   | SRB-000087          | HEX SOCKET HEAD CAP SCREW M5x25         | 1    |
| 21   | PDK-000045          | SPRING WASHER 5.1                       | 1    |
| 22   | TLJ-0171-00-22-00-0 | SWITCH SLEEVE                           | 1    |
| 23   | SPR-0171-00-23-00-0 | SWITCH SPRING                           | 1    |
| 24   | KLK-000004          | SPRING PIN 3x12                         | 1    |
| 25   | DZW-0171-00-24-00-0 | SHIFT LEVER                             | 1    |
| 26   | KRP-0459-03-01-00-1 | GEARBOX BODY                            | 1    |
| 27   | KLK-000046          | DOWEL PIN 5n6x14                        | 2    |
| 28   | LOZ-000009          | NEEDLE BEARING 10x16x10                 | 1    |
| 29   | LST-0399-02-02-03-0 | TOOTH STRIP                             | 1    |
| 30   | PDK-000045          | SPRING WASHER 5.1                       | 2    |
| 31   | SRB-000086          | HEX SOCKET HEAD CAP SCREW M5x20         | 1    |
| 32   | SRB-000082          | HEX SOCKET HEAD CAP SCREW M5x14         | 1    |
| 33   | KRP-0459-03-01-01-2 | GEARBOX BODY                            | 1    |
| 34   | PRS-000017          | EXTERNAL RETAINING RING 25z             | 1    |
| 35   | LOZ-000028          | BALL BEARING 25x47x12                   | 1    |
| 36   | PRS-000021          | EXTERNAL RETAINING RING 30z             | 1    |
| 37   | LOZ-000075          | BALL BEARING 30x62x16                   | 1    |
| 38   | WRZ-0459-03-01-02-1 | SPINDLE                                 | 1    |

| ITEM | PART NUMBER         | DESCRIPTION                                   | Q-TY |
|------|---------------------|-----------------------------------------------|------|
| 39   | PRS-000035          | INTERNAL RETAINING RING 62w                   | 1    |
| 40   | WKR-000395          | HEX SOCKET ROUND HEAD SCREW WITH FLANGE M5x20 | 2    |
| 41   | PDK-000151          | NYLON WASHER 8.1x14x3                         | 4    |
| 42   | OSL-0684-06-00-00-0 | GUARD ASSY                                    | 1    |
| 43   | SPR-000030          | PRESSURE SPRING                               | 2    |
| 44   | TLJ-0399-06-00-00-0 | BOTTOM SLEEVE                                 | 2    |
| 45   | PLC-0143-03-06-00-2 | STOP PIN L=70                                 | 1    |
| 46   | ADT-000010          | ADAPTER GZ BSP 3-8 GZ BSP 1-2                 | 1    |
| 47   | USZ-000017          | SEAL 3/4                                      | 2    |
| 48   | WKR-000107          | HEX SOCKET BUTTON HEAD SCREW M8x25            | 2    |
| 49   | PDK-000051          | SPRING WASHER 8.2                             | 2    |
| 50   | SLN-000182          | PNEUMATIC MOTOR                               | 1    |
| 51   | PRS-000138          | INTERNAL RETAINING RING 40w                   | 1    |
| 52   | PRS-000007          | EXTERNAL RETAINING RING 17z                   | 1    |
| 53   | LOZ-000064          | BALL BEARING 17x40x12                         | 1    |
| 54   | LOZ-000099          | NEEDLE BEARING 30x37x20                       | 1    |
| 55   | PWD-0818-03-00-00-0 | MOTOR HOSE ASSY                               | 1    |
| 56   | ZWR-000049          | PNEUMATIC VALVE                               | 1    |
| 57   | LCZ-000105          | COUPLING 3/8 - 3/4                            | 1    |
| 58   | PRS-000019          | EXTERNAL RETAINING RING 28z                   | 1    |
| 59   | SRB-000114          | HEX SOCKET HEAD CAP SCREW M6x20               | 2    |
| 60   | PDK-000046          | SPRING WASHER 6.1                             | 4    |
| 61   | KRP-0818-01-00-00-0 | BODY ASSY                                     | 1    |
| 62   | LST-0257-01-03-00-0 | BENT GIB                                      | 1    |
| 63   | SRB-000086          | HEX SOCKET HEAD CAP SCREW M5x20               | 5    |
| 64   | PDK-000017          | ROUND WASHER 5.3                              | 5    |
| 65   | LST-0399-01-01-02-1 | ADJUSTABLE GIB                                | 1    |
| 66   | SPR-000043          | PRESSURE SPRING                               | 4    |
| 67   | PDK-0257-08-00-00-0 | SPRING WASHER                                 | 4    |
| 68   | SRB-000087          | HEX SOCKET HEAD CAP SCREW M5x25               | 4    |
| 69   | TLJ-000010          | SELF-LUBRICATING SLEEVE 28.05H7x32x16         | 2    |
| 70   | KRP-0818-01-01-00-0 | BODY                                          | 1    |
| 71   | RRA-0459-02-02-00-0 | MAIN FRAME BODY PIPE I                        | 1    |
| 72   | USZ-000016          | SEAL WASHER 3/8                               | 3    |
| 73   | KST-0818-01-03-00-0 | MAIN FRAME BODY BLOCK                         | 1    |
| 74   | NKR-000016          | HEX NUT M5                                    | 3    |
| 75   | WKR-000043          | HEX SOCKET SET SCREW WITH FLAT POINT M5x10    | 3    |
| 76   | RRA-0818-01-02-00-0 | PIPE                                          | 1    |

| ITEM | PART NUMBER         | DESCRIPTION                                | Q-TY |
|------|---------------------|--------------------------------------------|------|
| 77   | PAC-000020          | CONNECTOR DIN 2353 GE 15L 3/4" BSP         | 1    |
| 78   | SRB-000115          | HEX SOCKET HEAD CAP SCREW M6x25            | 2    |
| 79   | PWD-0818-06-00-00-0 | VALVE HOSE ASSY                            | 1    |
| 80   | WLK-0212-00-07-00-1 | PINION SHAFT                               | 1    |
| 81   | MSK-0818-08-00-00-0 | PANEL PLATE ASSY                           | 1    |
| 82   | PAS-0212-00-23-00-0 | D-RING STRAP - BLUE                        | 1    |
| 83   | PDS-0818-05-00-00-0 | MAGNETIC BASE                              | 1    |
| 84   | WKR-000144          | HEX SOCKET COUNTERSUNK HEAD SCREW M6x35    | 7    |
| 85   | PLY-0818-05-03-00-0 | TOP PLATE                                  | 1    |
| 86   | WKR-000130          | HEX SOCKET COUNTERSUNK HEAD SCREW M4x10    | 4    |
| 87   | PKR-0818-05-05-00-0 | COVER                                      | 1    |
| 88   | LOZ-000240          | BALL BEARING 20x42x8                       | 2    |
| 89   | PRS-0818-05-04-00-0 | SPACER                                     | 2    |
| 90   | PRS-0818-05-06-00-0 | RING                                       | 2    |
| 91   | KRP-0818-05-01-00-0 | MAGNETIC BASE BODY                         | 1    |
| 92   | MGT-0818-05-02-00-0 | ROTARY MAGNET PLATE                        | 1    |
| 93   | KLK-000058          | DOWEL PIN 6n6x14                           | 2    |
| 94   | ZSP-0818-04-00-00-0 | VALVE ASSY                                 | 1    |
| 95   | PRS-000442          | INTERNAL RETAINING RING 56w                | 1    |
| 96   | ZLP-0818-04-06-00-0 | PISTON PLUG                                | 1    |
| 97   | PRS-000438          | SEAL RING 48x2                             | 1    |
| 98   | TLK-0818-04-03-01-0 | PISTON                                     | 1    |
| 99   | PRS-000439          | SEAL RING 52x3                             | 1    |
| 100  | LST-0418-10-02-02-0 | TOOTH STRIP                                | 1    |
| 101  | PRS-000233          | SEAL RING 15.3x2.4                         | 1    |
| 102  | KRP-0818-04-01-00-0 | VALVE BODY                                 | 1    |
| 103  | WKR-000026          | HEX SOCKET SET SCREW WITH FLAT POINT M5x8  | 2    |
| 104  | WKR-000040          | HEX SOCKET SET SCREW WITH FLAT POINT M12x8 | 3    |
| 105  | ZLC-0418-18-00-00-0 | COUPLING 1/2 - 3/8                         | 1    |
| 106  | KRC-000005          | MALE PLUG G3/8                             | 1    |
| 107  | PKR-0818-04-04-00-1 | COVER                                      | 1    |
| 108  | WKR-000398          | HEX SOCKET COUNTERSUNK HEAD SCREW M3x8     | 2    |
| 109  |                     |                                            |      |
| 110  | PRS-0818-04-05-00-0 | SHAFT RING                                 | 1    |
| 111  | WLK-0818-04-02-00-0 | VALVE SHAFT                                | 1    |
| 112  | PRS-000125          | SEAL RING U2 12x18.4                       | 4    |
| 113  | TLJ-0215-00-29-00-0 | SLEEVE I                                   | 1    |
| 114  | TLJ-0418-10-16-00-0 | CENTER SLEEVE                              | 1    |

| ITEM | PART NUMBER         | DESCRIPTION                               | Q-TY |
|------|---------------------|-------------------------------------------|------|
| 115  | TLJ-0418-10-17-00-0 | SLEEVE II                                 | 1    |
| 116  | TRZ-000006          | INDEXING PLUNGER                          | 1    |
| 117  | ZBT-0418-11-00-00-0 | TURN ON/OFF GEAR                          | 1    |
| 118  | KLK-000168          | CYLINDRICAL PIN                           | 1    |
| 119  | PRS-000349          | SEAL RING 19x3                            | 1    |
| 120  | WSK-0818-07-00-00-0 | ON/OFF GAUGE                              | 1    |
| 121  | WKR-000132          | HEX SOCKET COUNTERSUNK HEAD SCREW M4x16   | 1    |
| 122  | SRB-000542          | HEX SOCKET HEAD SHOULDER SCREW M6x55      | 2    |
| 123  | WKR-000029          | HEX SOCKET SET SCREW WITH FLAT POINT M6x6 | 1    |
| 124  | KRK-000015          | Threaded plug with o-ring                 | 2    |
| 125  | TLM-000004          | Screw-in silencer                         | 1    |
| 126  | PDS-0818-11-00-00-0 | Locking base                              | 1    |
| 127  | WDL-0802-02-07-00-0 | Locking fork                              | 1    |
| 128  | ELM-0818-11-01-00-0 | Distance element                          | 1    |
| 129  | SRB-000063          | HEX SOCKET HEAD CAP SCREW M4x14           | 6    |
| 130  | PDK-000015          | ROUND WASHER 4.3                          | 6    |
| 131  | KLK-000032          | DOWEL PIN 4n6x10                          | 1    |