Pneumatic Pistol Drills

For Underwater working

2 1266 0010
2 1267 0010
2 1268 0010
Operating Instructions

Handling and use are described here

Safety Precautions

Use

Danger Zones

Maintenance and Assembly Instructions

Contains basic information on pneumatic machines, technical specification, notes on maintenance, wear and tear plus disassembly and assembly procedures

Troubleshooting

Spare Parts Documentation

Consisting of parts lists and sectional drawings

Supplementary Sheet

Maintenance of pneumatic tools
Note on oiler setting
Operating Instructions

General
The performance / output power of this machine is designed for drilling of different workpieces and materials. The machine must be held tight against rotation. Make use of the second handle during hammer drilling.

Before operation
- Check the oil level. If necessary add oil to fill up the oiler. (Line oiler or Service Unit).
- Clamp the drill into three-jaw chuck.
- Connect air hose. (In order to remove contaminants, blow out the air hose before connecting).
  Actuate valve and begin the drilling operation. (Speed can be regulated by opening the valve more or less).

After finishing the operation
- Shut the valve.
- Turn off compressed air and disconnect the air hose.
- Unclamp the drill if necessary.
- Check the oiler.

Safety Precautions

Any power tool can be dangerous. Please follow these simple safety procedures - they are for your protection.

- Do not use this machine in any other way than as directed by these operating instructions.
- Hold the machine tight during operation. When operating with the hammer drill also use the second handle.
- Regular maintenance is essential - check all screws, fittings etc. for tightness.
- Check air hose for damage.
- Make sure the unit is lubricated.
- Never use dull tools or drills.
- Avoid sparks in hazardous environment - created by the drill. Always flush material and drill for cooling with sufficient water.
- Wear protective clothing.
- Wear safety glasses, non-slip gloves and ear protectors.
• Ensure that you maintain a safe working position.
• Never work under the influence of alcohol, drugs or stronger medication.
• Always disconnect machine from the air line for changing drills or working on the machine.
• Remove rings, watches, ties etc. that could be torn by the machine.
• Follow the general current and appropriate Accident Prevention and Safety Procedures.

WARNING! Never use the flexible hose as a lifting handle!

Your safety is in your hands!
Observe these instructions!

Noise and vibration levels
Typically the A-weighted noise level of the machine is:
• Sound pressure level: 84,2 dB(A)
Wear ear protection.
The typical weighted acceleration is 1.89 m/s².

Use

Intended use
The machine is designed for drilling of different workpieces and materials.
Any use, deviating from the above is not an intended use.

Wrong use
Drive for lifting goods or people.
Working without using safety equipment.
## Danger Zones

<table>
<thead>
<tr>
<th>Operational condition</th>
<th>Normal function</th>
<th>Malfunction</th>
<th>Improper use</th>
<th>Expected use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Life phase</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>Transport of the machine in an inoperable condition</td>
<td>Drop of the machine</td>
<td>Transport of the machine in an operable condition</td>
<td>unknown</td>
</tr>
<tr>
<td>Start-up</td>
<td>Operating with the machine with designated tools</td>
<td>unknown</td>
<td>Operating with not approved tools</td>
<td>unknown</td>
</tr>
<tr>
<td>Operation</td>
<td>The machine is only working when valve is actuated</td>
<td>Machine runs without intended actuating</td>
<td>Valve is blocked while open</td>
<td>unknown</td>
</tr>
<tr>
<td></td>
<td>Machine moves tool</td>
<td>Tool blocks</td>
<td>unknown</td>
<td>unknown</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Reglar change of vanes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operation on a Service Unit</td>
<td>Failure of the machine</td>
<td>unknown</td>
<td>unknown</td>
</tr>
</tbody>
</table>
Maintenance and Assembly Instructions

Technical Specification

<table>
<thead>
<tr>
<th>Model No.</th>
<th>2 1267 0010</th>
<th>2 1268 0010</th>
<th>2 1266 0010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating/Flow pressure</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Motor power</td>
<td>0,5</td>
<td>0,5</td>
<td>0,5</td>
</tr>
<tr>
<td>Free speed</td>
<td>1550</td>
<td>850</td>
<td>950</td>
</tr>
<tr>
<td>Drill chuck</td>
<td>10</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Drilling in steel</td>
<td>max. 10</td>
<td>max. 13</td>
<td>max. 13</td>
</tr>
<tr>
<td>in masonry</td>
<td>-</td>
<td>-</td>
<td>max. 20</td>
</tr>
<tr>
<td>Reversible to</td>
<td>-</td>
<td>-</td>
<td>hammer drilling</td>
</tr>
<tr>
<td>Air connection</td>
<td>R ¼“</td>
<td>R ¼“</td>
<td>R ¼“</td>
</tr>
<tr>
<td>Hose - ID</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Air consumption</td>
<td>0,6</td>
<td>0,6</td>
<td>0,6</td>
</tr>
<tr>
<td>Weight</td>
<td>2,1</td>
<td>2,1</td>
<td>3,3</td>
</tr>
<tr>
<td>Length with drill chuck</td>
<td>235</td>
<td>245</td>
<td>300</td>
</tr>
<tr>
<td>Noise (in 1m distance)</td>
<td>84,2</td>
<td>84,2</td>
<td>84,2</td>
</tr>
<tr>
<td>Vibration at free speed</td>
<td>1,89</td>
<td>1,89</td>
<td>1,89</td>
</tr>
</tbody>
</table>

Hammer Drilling

Type 2 1266 0010 is designed as Hammer Drill. Switch to hammer drilling by turning the adjusting ring in position of hammer drilling. Only Drilling: Turn backward adjusting ring and let it click into place.

Maintenance of the Pneumatic Motor

The service life and the performance of this motor are decisively determined by:

a) the air purity
b) the lubrication conditions and maintenance

to a):
Blow out the air hose before connecting it to the machine.
Install dirt and water separator upstream of the motor, if it is not possible to prevent the formation of rust and water condensation in the air distribution lines.

to b):
Use only resin- and acid-free lubricating oils SAE 5W - SAE 10W.
Oils of higher viscosity cause vane sticking (difficult start-up and lower performance).
Optimal lubrication will increase the service life.
We thus particularly recommend to install a service unit and line oiler upstream of the motor.
Observe the comments on the supplementary sheet

"MAINTENANCE OF PNEUMATIC TOOLS"

Do not wash out sealed and greased ball bearings and do not rinse the machine with petroleum or similar cleaning fluids.
Use anti-freeze lubricants, such as „BP-Energol AX 10“, „Killfrost“ or „Kompranol N 74“ in wintertime or if the compressed air is very moist.

Air connection:
Line, fitting and hose must have the required cross-section to obtain sufficient air (600 litres per minute).
Regularly check and clean the air inlet screen (item 78).
Operating pressure must not exceed 6 bar.

Cleaning the motor:
Rins the motor with cleansing oil after approx. 10 working hours. (Cleansing and oil-ampoule Part Number Nr. 9 9902 0100). Fill the oil into the air connection. Connect air and start the motor (approx. 20 seconds at free speed).

Wear of vanes:
Vanes are main wear parts. Replace them in due time. They are considered to be worn when the height "H" is less than 7 mm.

<table>
<thead>
<tr>
<th>Greases (free of resins and acids)</th>
<th>Multi-purpose greases for antifriction bearings and gears</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designation according to DIN 51502</td>
<td>KL 2 k</td>
</tr>
<tr>
<td>Consistency class (DIN 51818)</td>
<td>2</td>
</tr>
<tr>
<td>Saponification type</td>
<td>lithium</td>
</tr>
<tr>
<td>Dripping point</td>
<td>185°C</td>
</tr>
<tr>
<td>Worked penetration</td>
<td>265 - 295</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-25°C bis +125°C</td>
</tr>
</tbody>
</table>
Disassembly
Disassembly and assembly should only be performed with the assistance of the sectional drawing. All parts can be dismantled by light pushing or knocking (wooden base / rubber hammer).

Motor
Clamp the machine at the gearbox housing (itm 40) into the vice. Use plastic jaws that enclose the gearbox housing as far as possible and unscrew the handle (item 1). Pull out the motor. Open the motor on the toothed side for changing the vanes (item 8), the front end plate (item 9), the cylinder bushing (item 6) or the grooved ball bearings (items 3 and 11). This will be done by holding the motor on the cylinder bushing and knocking the toothed side of the rotor (item 7) against a wooden base. During installation of new vanes take care that the vanes do not jut out of the rotor.

Gearbox  2 1267 0010 / 2 1268 0010
Attention! The planetary gear can be completely removed from the gearbox housing. Lever up the three-jaw chuck (item 100) with the help of two levers (or special tool) from the planet carrier output shaft. Lightly knock the edge of the gearbox housing (on the thread) on a wooden base. The gearbox comes off and can be drawn out of the housing easily. Grease the gearbox at reassembly.

Gearbox  2 1266 0010
Screw off the three-jaw chuck (item 100) from the output shaft (item 113).

Remove the additional handle. Knock the gearbox housing (item 40) with the inner thread side lightly on a wooden base. The gearbox stages come off and can be drawn out of the housing easily. Remove snap rings (items 44 and 126) and pull out bearing ring (item 110) with bearings. At this light pushing or knocking on a wooden base could be helpful. Clamp the gearbox housing and turn the bushing with adjusting ring (items 129, 128) left-hand till to the stop. To screw off the bushing from the adjusting ring warm up the bushing with a hot air blower before. Remove steel rollers (item 127). Remove snap ring (item 123) and draw out the complete output shaft (item 113). If necessary, continue to disassemble.

Handle
Screw out connecting nipple (item 78) and nipple (item 82). Loosen screws (item 76) and take off the air and damper connection (item 75) as well as the intermediate washer (item 71). Pull the guide sleeve (item 70) out of the seat.

Assembly hints
Repairs should be executed by authorized professionals only and with assistance of the sectional drawing.
Reassembly

After checking and replacing worn parts perform reassembly. It will be done essentially in the reverse order than the disassembly. Lightly grease all parts to avoid falling apart during reassembly. Remove any oil and resin residue from the rotor slots. The vanes should fit easily into the rotor slots.

Motor running

If motor to be turned, does not at all of heavily after reassembly, light tapping with a rubber hammer on motor housing is helpful. The rotor places and comes into a free-wheel position between the end plates. If not, check lengths of the rotor, cylinder bushing and vanes.

a. the vanes shall not jut out lateral of the rotor slots, but not project on the rotor.
b. cylinder bushing has to be 0.08 mm to 0.10 mm longer than the rotor.

After finishing of reassembly make functional gauging by checking free speed and air consumption as specified in "TECHNICAL SPECIFICATION".

Use only original SPITZNAS spare parts for repairs!
## Trouble / Probable Cause / Solution

<table>
<thead>
<tr>
<th>Trouble</th>
<th>Probable cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine does not start</td>
<td>- Air not connected - Rotor rusted by humidity - Vanes jam (worn) - Gearbox blocks</td>
<td>- Connecting and open air line - Disassemble and clean motor, check and test service unit for function - Disassemble motor, clean it and replace worn parts - Disassemble and clean gearbox and replace worn parts</td>
</tr>
<tr>
<td>Trigger clamps</td>
<td>- Contaminates in valve</td>
<td>- Clean sit</td>
</tr>
<tr>
<td>Machine rotates too slowly</td>
<td>- Operating pressure too low</td>
<td>- Increase operating pressure (on the machine) to 6 bar</td>
</tr>
<tr>
<td>Motor sticks / jams</td>
<td>- Rotor grinds on end plates / cylinder bushing</td>
<td>- Disassemble and clean motor, replace worn or damaged parts</td>
</tr>
<tr>
<td>Gearbox makes loud noises</td>
<td>- Vanes worn or broken, broken parts stick between rotor and cylinder bushing</td>
<td>- Disassemble and clean motor, replace worn parts</td>
</tr>
<tr>
<td>Tool not able to be clamped</td>
<td>- No lubrication - ball bearings have run dry, rotor has rubbed on end plates</td>
<td>- Gear parts jam</td>
</tr>
<tr>
<td>Reversing &quot;drilling / hammering&quot; clamps</td>
<td>- Coarse impurities in motor area jams between rotor and cylinder bushing</td>
<td>- Gear parts jam</td>
</tr>
<tr>
<td>Drill chuck defective diameter of tool too small</td>
<td>- Needlescages defective</td>
<td>- Gear parts jam</td>
</tr>
<tr>
<td>Tool not able to be clamped</td>
<td>- Tool not able to be clamped</td>
<td>- Gear parts jam</td>
</tr>
<tr>
<td>Reversing &quot;drilling / hammering&quot; clamps</td>
<td>- Tool not able to be clamped</td>
<td>- Gear parts jam</td>
</tr>
<tr>
<td>Dirt in reversing area</td>
<td>- Tool not able to be clamped</td>
<td>- Gear parts jam</td>
</tr>
<tr>
<td>Steel rollers clamps</td>
<td>- Tool not able to be clamped</td>
<td>- Gear parts jam</td>
</tr>
</tbody>
</table>

Spitznas Maschinenfabrik GmbH, Fellerstr.4, D-42555 Velbert, Tel: +49(0)2052 605 0, Fax: +49(0)2052 605 29