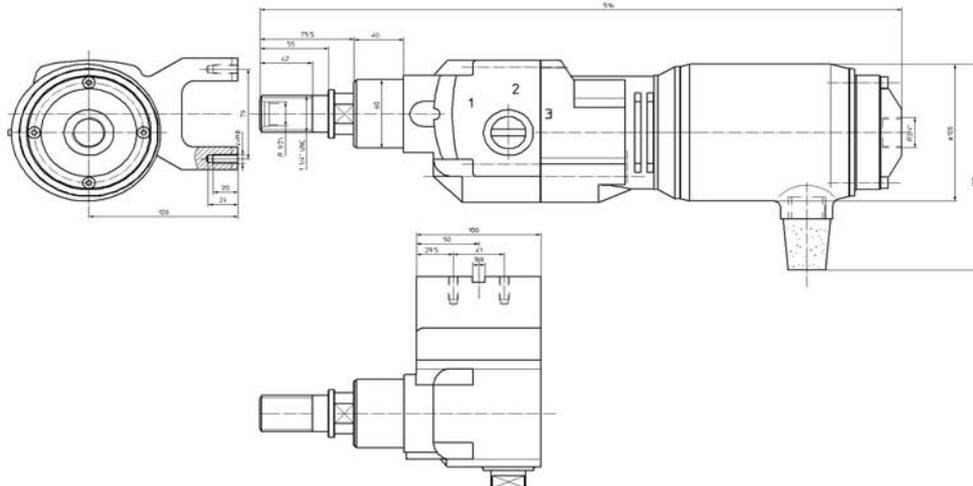


# Pneumatic Core Drill Unit

## 2 1328 0050



Operating- / Flow Pressure		p	6 bar	90 Psi
Power		P	2.8 KW	3.75 hp
Air consumption		V	3.5 m <sup>3</sup> / min.	123 cfm
Free speed	1st gear	n1	300 1/ min.	300 rpm
	2nd gear	n2	700 1/min.	700 rpm
	3rd gear	n3	1350 1/ min.	1350 rpm
Air connection		inches	R 3/4"	R 3/4"
Hose, ID minimum		dia.	19 mm	3/4 in
Output torque (at nominal rating)		Mt		
	1st gear	Mt1	90 Nm	67 lb- ft
	2nd gear	Mt2	56 Nm	41,5 lb- ft
	3rd gear	Mt3	29 Nm	21,5 lb- ft
Drill bit connection				
	male	inches	1 1/4" UNC male	1 1/4" UNC male
	female		R1/2" female	R1/2" female
Water connection		inches	( R 1/4" female ) – Gardena- System	
Centering diameter		dia.	60 mm	<b>2 23/64 in</b>
Weight			12,7 kgs	29 lb

Output torque values depend on screwing, flow pressure and used accessories.

## **CONTENTS:**

### **Operating Instructions**

Explain how to handle the machine and how to change tools.

### **Maintenance and Assembly Instructions**

This section contains basic information on pneumatic tools, notes on maintenance, wear and tear plus disassembly and reassembly procedures.

### **Spare Parts Documentation**

Consists of parts lists and sectional drawings and/or exploded views.

### **Supplement**

Information sheet "Maintenance of Pneumatic Tools"

Information on oiler adjustment.

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## Operating Instructions

### General

The machine comes along with a set of accessories which may be customized for each specific purchaser, so as to facilitate performance of all works occurring within the scope of his specific application situation. The full scope of supplies includes also tools needed for disassembly and reassembly, such as:

- |                         |       |
|-------------------------|-------|
| - single-end wrench     | SW 24 |
| - single-end wrench     | SW 32 |
| - single-end wrench     | SW 41 |
| - hexagon socket wrench | SW 5  |

### Drill Bit Change

Before you start changing the drill bit, make sure that the machine is disconnected from compressed air supply, in order to avoid unintentionally starting of the machine and to prevent injuries.

Use a single-end wrench SW 24 (small drill bits) or SW 41 (large drill bits) and a single-end wrench SW 32 to manually unscrew the drill bit to be removed and to screw on the new one. There is no need to use additional tools.

### Stand-Aided Drilling

- First, fix the stand at the point where you wish to drill the opening or hole. To do so, drill a hole matching the size of the corresponding plug and screw the stand onto the surface. Align the stand such that the drill bit will make contact with the surface precisely at the point where you want to drill the opening or hole.
  - Insert the drill from above into the corresponding seat and fasten the core drill by means of the hexagon socket wrench SW 5.
- or**
- Fix the machine onto the appropriate drilling device (foot-mounting).
  - Now, manually screw the corresponding drill bit from below onto the drill bit adapter. Manual tightening is sufficient because the drill bit will automatically fasten during drilling operation.
  - If necessary, to attain an angled drill hole, adjust the stand position by swivelling the arm of the stand.
  - Connect the machine to the water supply. For this purpose the machine comes with a 10 litres pump barrel, which has to be pressurized first. Alternately you may connect the machine to a water tap, using "Gardena" hose couplings.
  - Finally connect the machine to the compressed air supply.
  - With the so prepared machine, you may now proceed to carry out work.
  - To operate the machine regulate check valve to adjust water supply flow as desired.
  - Actuate air valve trigger to switch on the motor and to start the drilling.

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- Monitor continuously the water supply to ensure that sufficient water is supplied to the cut surface to avoid unnecessary wear of drilling equipment.
- You may continuously control the advance motion of the machine by adjusting the star knob at the side of the drill stand.
- To switch off the machine, unlock the valve trigger fixing key. Then, shut off the water supply.
- To change drill bits, proceed as described above.
- For disassembling the machine upon completion of drilling work, follow the Assembly Instructions in reverse order.

## Maintenance and Assembly Instructions

Our Pneumatic Machines are designed for an operating pressure of 4-6 bar (60 - 90 psi). Service life and performance of the machines are decisively determined by:

### a) the air purity

### b) the lubrication conditions and maintenance

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

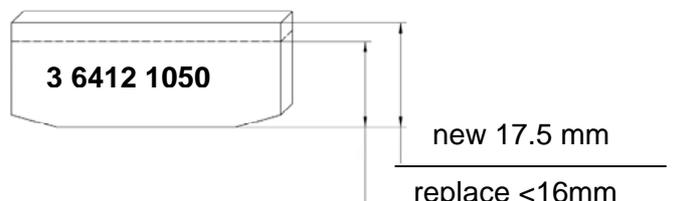
zu b) Use always acid- and resin-free SAE 5 W to SAE 10 W oil. Oils of higher viscosity cause vane sticking (difficult start-up and lower performance). Optimal lubrication will increase the service life of the machine. We thus particularly recommend to install a service unit and/or line oiler upstream, of the machine.

Observe the comments in the information sheet

### "Maintenance of Pneumatic Tools"

Use anti-freeze lubricants, such as „BP Energol AX 10“, „Kilfrost“ or „Kompranol N 74“ in wintertime or if the compressed air is very moist.

Replace wear parts – in particular the vanes – in due time. Vanes are considered to be worn **when the width is less than 16 mm.**



## **Disassembly and Reassembly**

Refer to the sectional drawing and spare parts list when disassembling and reassembling.

### **Disassembly:**

Disassemble into main components: **1. Motor, 2. Gearbox**

Separate gearbox from motor after loosening screws (item 441).

Continue to disassemble.

### **Motor**

Remove motor cover (item 19) after loosening screws (item 21) with cover (item 20) from motor housing (item 1). Remove shaft (item 36) with pinion assembly (item 51) if they are still sitting on the shaft butt of rotor (item 13). Loosen screws (item 34) and take bearing housing (item 33) with bearing (item 35) out of motor housing. Remove feather key (item 32). Pull out inner motor parts and carry on to disassemble. If necessary, draw off rotary sleeve (item 5) from motor housing (item 1) and take out sound absorber (item 4).

### **Gearbox**

Unscrew complete water connection (items 211-218). Loosen screws (item 429) and remove gearbox casing (item 401) from intermediate housing (item 417). If necessary, disassemble inner gearbox parts. After removing snap ring (item 433) draw off gearshift lever (item 431). Take off snap ring (item 427) and draw off spur gear (item 406) and notched wheel (item 405). Take ball (item 418), compression spring (item 419) and feather key (item 426) out of output shaft (item 402). Remove snap ring (item 425) and draw off spur gear (item 404). Loosen snap ring (item 421) from gearbox casing (item 401) and pull out output shaft (item 402). Take out intermediate washer (item 422), remove snap ring (item 423) and draw off grooved ball bearing (item 420). Press out shaft seals (items 435 and 436) of gearbox casing. Draw assembled countershaft (item 403, 407-414 and 416) out of intermediate housing (item 417) after removing snap ring (item 437). If spur gear (item 407) has to be exchanged, loosen nut (item 410). After that remove Belleville springs (item 409), thrust washer with bore hole (item 411) and spur gear (item 407). After removing thrust washer (item 408) and snap ring (item 413) grooved ball bearing (item 412) can be drawn from the seat.

### **Pay attention to torque adjustment!**

If necessary, pull needle bearings (items 415) out of housings (items 401 and 417) .

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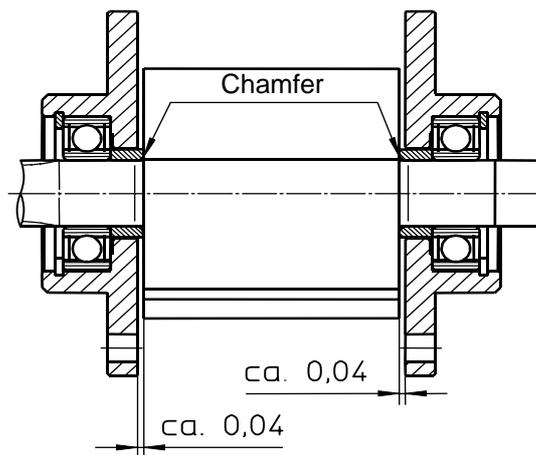
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## Reassembly

Before starting reassembly check all parts for wear and replace them if necessary. Wear parts are in particular vanes, radial shaft seals, O-rings and end plates.

## Motor

Reassembly is done essentially in reverse order than disassembly. Remove any oil and resin residue from the rotor slots. The vanes should fit easily into the slots. When assembling the inner motor parts ensure correct spacing. The axial play between rotor (item 13) and end plates (items 7 and 15) should be 0.04 mm per side. The chamfered edges of the spacers (items 10 and 18) should point towards the centre of the rotor. Direction of rotation of motor: counter-clockwise looking at driven side (shaft butt / pinion).



## Gearbox

After installing new radial shaft seals into gearbox casing (item 401) intermediate washer (item 422) and output shaft (item 402) - pre-assembled with bearing (item 420) - have to be pushed-in and completed. If countershaft assembly was disassembled and reassembled the nut (item 410) has to be tightened with a torque wrench to 35 Nm for adjusting the sliding clutch.

At installing the gearshift lever (item 431) take care that positioning is correct. After inserting the countershaft assembly pour in approx. 0.2 litres grease / lubricating oil and bolt the gearbox casing and intermediate housing.

Subsequently assembly of the main components can be done.

After completion of reassembly make functional gauging. If the motor does not run (rotor jams), light tapping on motor housing is helpful to bring the rotor into a free-wheel position.

### Grease:

Use sodium saponified semi-fluid grease GP 000 M-30 DIN 51502, approx. 100g (e.g. „Remolit SO-D 8024“ from Fuchs).

**Use only ORIGINAL SPARE PARTS for repairs!**