

Test valve

for testing the function of the TB, TB2 or TP pneumatic front-end chucks

Assembly and operating manual

Translation of the original manual

Imprint

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Please read the operating manual in full and keep it close to the product.

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1 General

1.1 About this manual

This manual contains important information for the safe, correct use of the product.

It is an integral part of the product and must be kept accessible for personnel at all times.

Personnel must have read and understood this manual before beginning any work. The observance of all safety notes in this manual is a prerequisite to ensure safe work processes.

The illustrations are intended to provide a basic understanding and may deviate from the actual version.

Besides this manual, other documents which apply are those listed under ▶ 1.1.2 [5]

1.1.1 Illustration of warnings

To make risks clear, the following signal words and symbols are used for safety notes.



⚠ DANGER

Denotes a hazard with a high degree of risk that, if not avoided, will result in death or serious injury.



⚠ WARNING

Denotes a hazard with a medium degree of risk that, if not avoided, could result in death or serious injury.



⚠ CAUTION

Denotes a hazard with a low degree of risk that, if not avoided, could result in a minor or moderate injury.

CAUTION

Information about avoiding material damage.

1.1.2 Applicable documents

- General Terms and Conditions *

The documents labeled with an asterisk (*) can be downloaded from **schunk.com**.

1.2 Scope of delivery

- 1 **Test valve** with pressure gauge and one NPT 1/4" connection
- 1 **Adapter** NPT 1/4" to G1/4
- 1 **Sleeve** for ROTA TB2 470, 520 (LH) test (test valve size 3)
- 1 **Assembly and operating manual**

2 Technical data

The test valve is available in three sizes.

It is therefore possible to check pressure loss on Schunk TB, TB-LH, TBS, TP, TP-LH, TPS, EP, EP-LH type pneumatic front-end chucks within a pressure range of 3 to 10 bar.

Size 1 – Diameter 12 mm, ID number **8702678** For TP 125–26 chucks and TP special chucks including a check valve 12 mm in diameter.

Size 2 – Diameter 20 mm, ID number **8702679** For TP 200–52, TP 250–68, TP 315–90, TP 315–105 type chucks and TP special chucks including a check valve 20 mm in diameter.

Size 3 – Diameter 24 mm, ID number **8702680** For TB 400–115, TB 400–140, TB 500–160, TB 500–205, TB 500–230, TB 630–265, TB 630–275, TB 630–310, TB 800–365, TB 800–410, TB 1000–534, TB 400–140-LH, TB 500–205-LH, TB 500–230-LH, TB 630–265-LH, TB 630–275-LH, TB 630–325-LH, TB 850–375-LH, TB 1000–560-LH type chucks and TB special chucks including a check valve 24 mm in diameter.

For EP 380–127, EP 460–165, EP 460–185, EP 460–165-LH, EP 460–185-LH.

For ROTA TB2 chuck sizes 470–185, TB2 520–191, TB2 570–230, TB2 600–230, TB630–275, TB2 685–325, TB2 850–375, TB2 1000–560, TB2 470–185 LH, TB2 520–191 LH, TB2 570–230 LH, TB2 600–230 LH, TB630–275 LH, TB2 685–325 LH, TB2 850–375 LH, TB2 1000–560 LH.

3 Function and handling

3.1 Function

The tightness of the area surrounding the double-acting cylinder can be tested using the test valve. The assembly group includes a check valve with pressure gauge. One side of the double-acting pneumatic cylinder is pressurized with the working pressure. This pressure is no longer applied when the piston cover reaches a stop. A check valve saves this pressure and a pressure gauge displays the pressure applied. The pressure will gradually drop if there is a leak in the corresponding cylinder chamber.

3.2 Handling

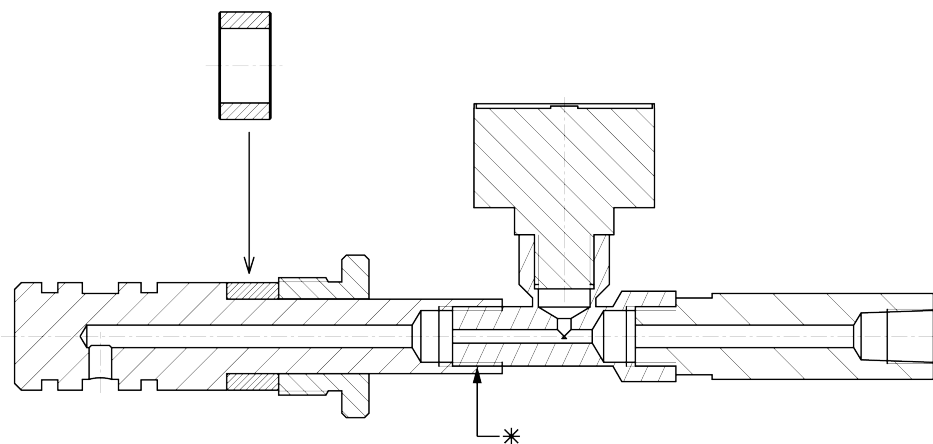


Fig. 1: TB2 470-185 (LH) & TB2 520-191 (LH)

Preparation: When testing a ROTA TB2 470-185 (LH) or ROTA TB2 520-191 (LH) with the test valve size 3 (ID number 8702680), the enclosed ring must be integrated. To do this, remove the test valve at the point marked with *, insert the ring supplied and refit it. The threaded connection must be sealed with liquid Teflon or similar. All other chucks are tested without this ring. If the connection is to be tested with a G1/4 Witworth thread, this adapter must be fitted to the connection thread of the check valve.

First remove the double check valve that can be unlocked by carefully unscrewing the locking screw with O-ring. Then screw the test valve into the bore, shown in Figure 1, using the knurled screw (Item 2).

The valve fitted with the pressure gauge can, as shown in Figure 2 and 3, be used on the left or right stop. The base jaws move radially outward and inward correspondingly. Apply the working pressure to the connection thread (NPT 1/4" or G1/4 Whitworth) via an adapter. When the stop is reached, stop applying the pressure. You may no longer move the test valve.

Note or mark the pressure displayed on the pressure gauge. The pressure should remain the same after approx. 15 minutes. The pressure chamber is sealed when the pressure remains the same after approx. 12 hours. The stops illustrated in Figures 2 and 3 must be examined. If there are leaks, exchange the corresponding chuck O-rings and investigate pressure loss again.

CAUTION

The test valve tests all chuck seals are tested with exception of the check valve seals.

These seals must in addition be inspected visually.

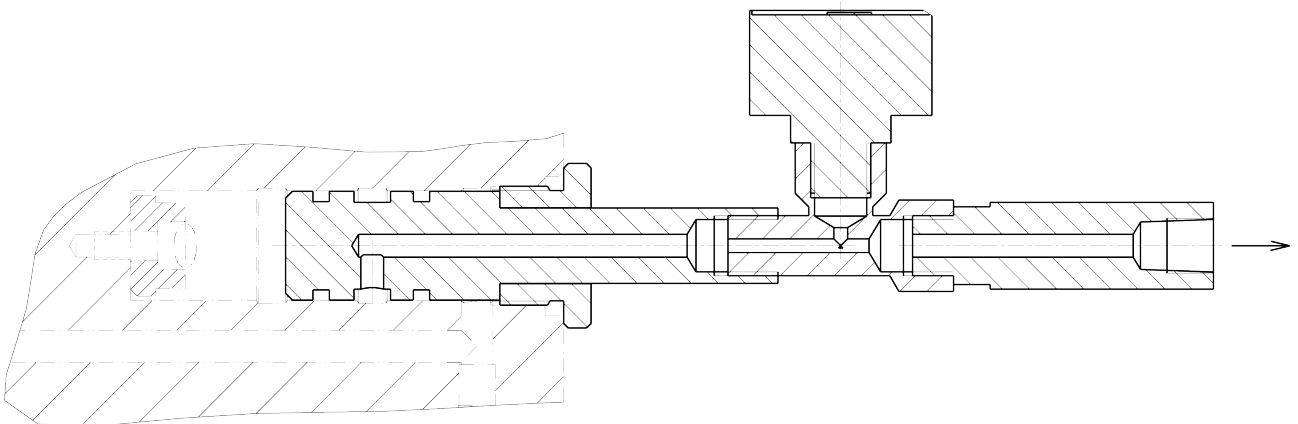


Fig. 2

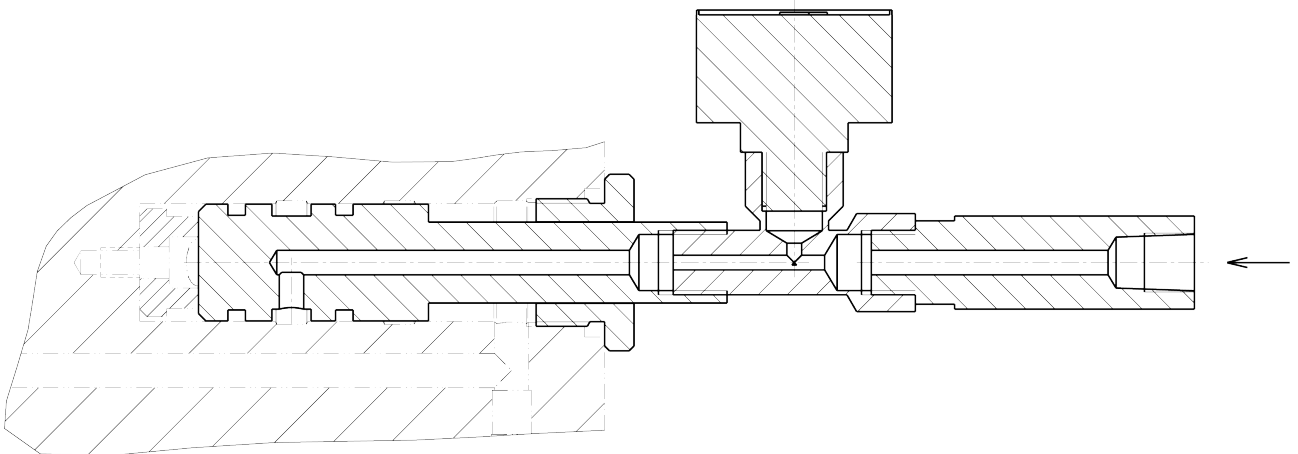


Fig. 3

4 Parts list

Item	Designation	Quantity
1	Test valve shaft	1
2	Threaded knurled screw	1
3	Pressure gauge	1
4	L-piece	1
5	Check valve	1
6	O-Ring	2
7	Adapter (Size 1)	1
8	Adapter (Size 1)	1
9	Adapter NPT 1/4" - G 1/4 Whitworth	1
10	Sleeve ROTA TB 470 (LH) and 520 (LH) (Size 3)	1

5 Assembly drawings

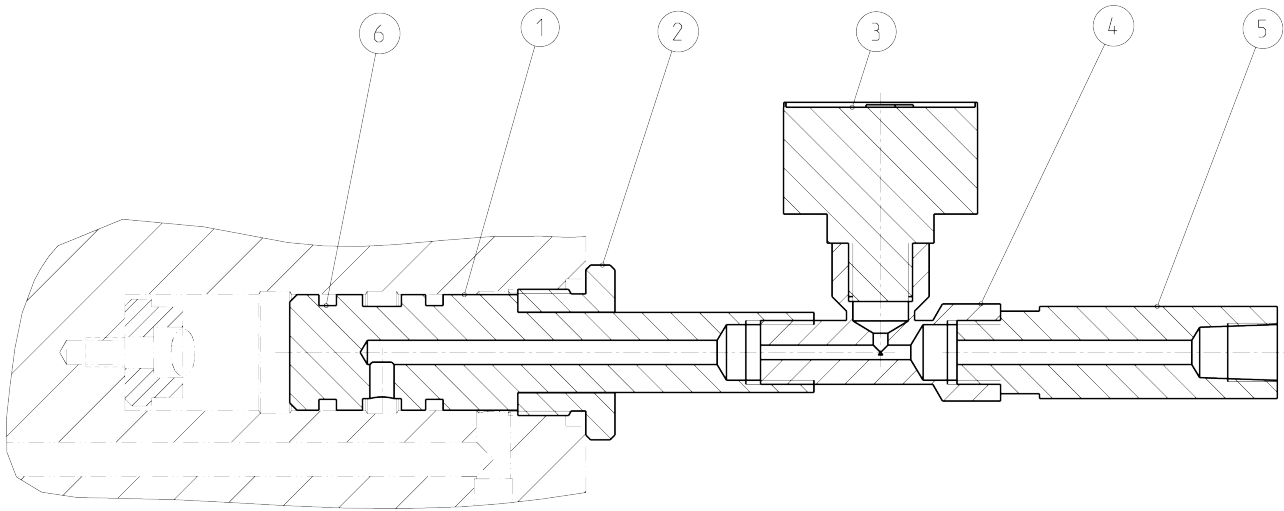


Fig. 4

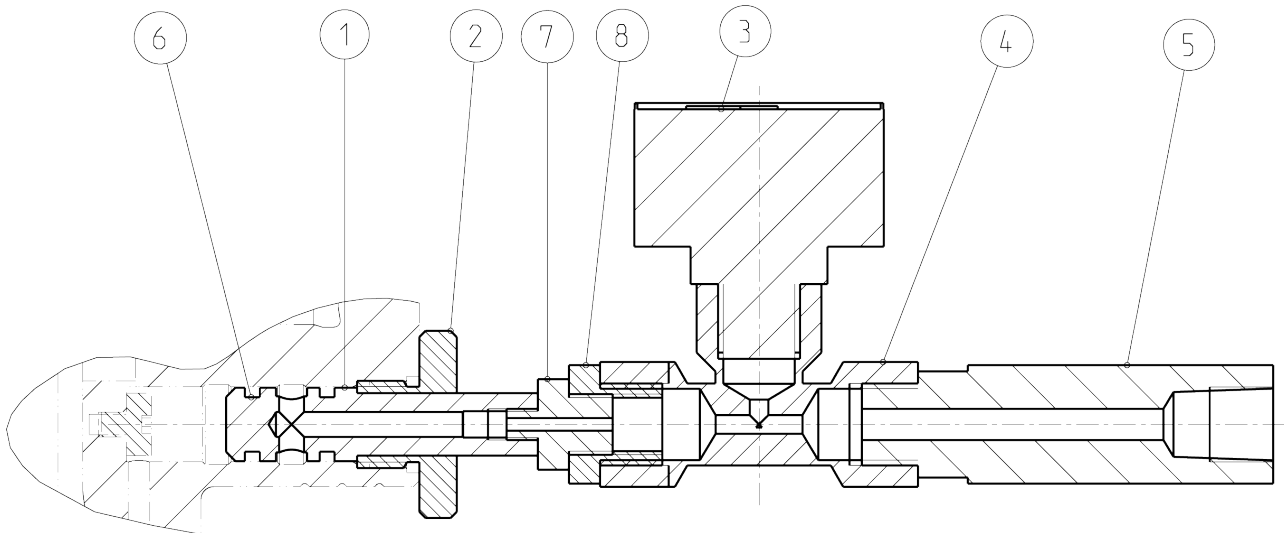
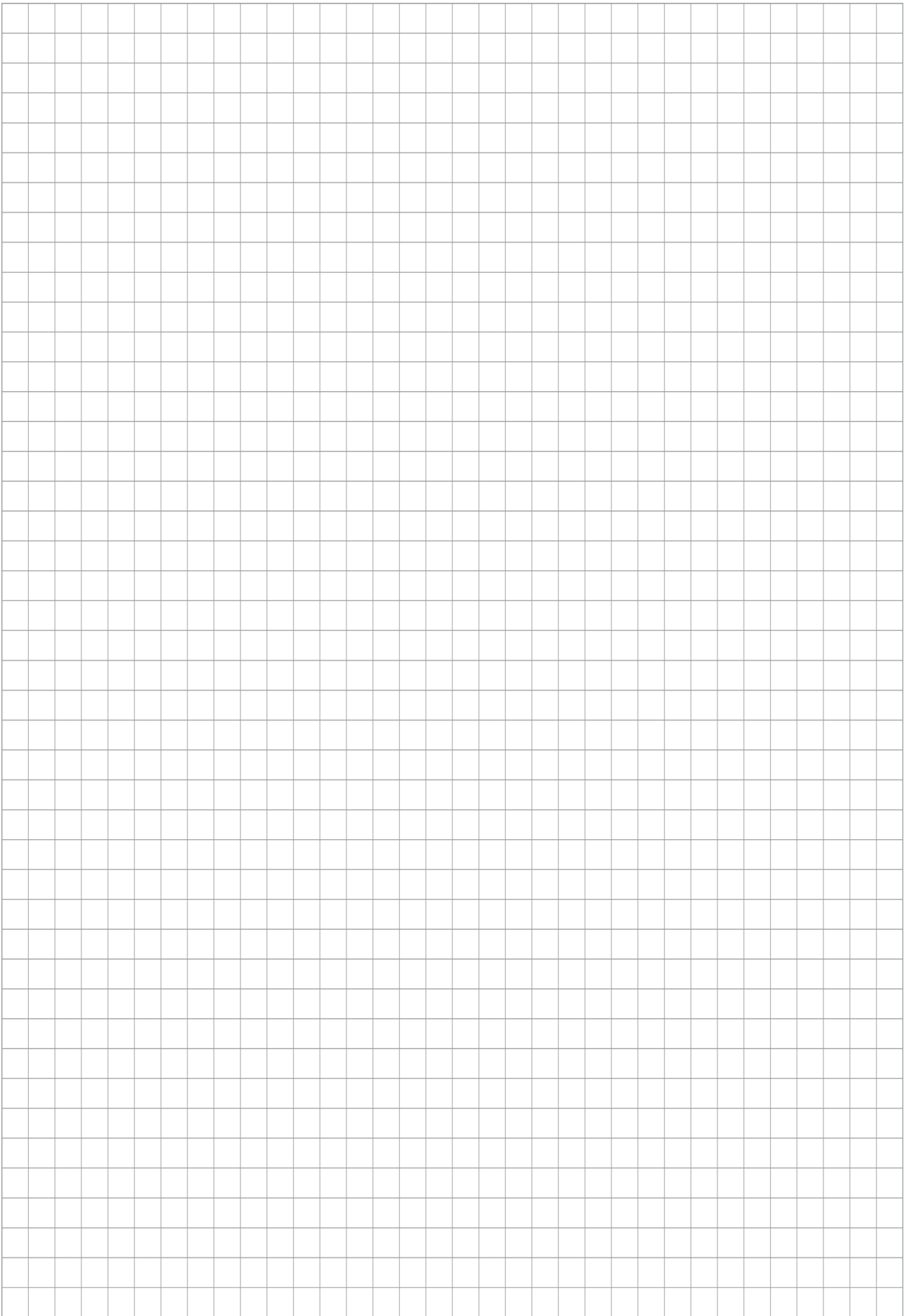


Fig. 5





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