

Hydraulically Operated Change-over Valve Model MHY1

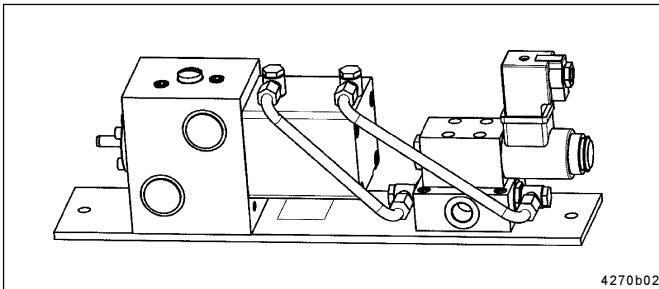


Fig1.: Change-over valve MHY1

Maintenance and Repairs

- Before executing maintenance and repair work at the change-over valve read the Owner's Manual and the Safety Instructions.
- The Owner's Manual must be available at the place where the unit is in operation.
- Alterations or modifications of the change-over valve are only allowed if approved by the manufacturer.
- Use only original spare parts for repair work.
- If other parts are used, the manufacturer may be released from his liability for the resulting damage.

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Structure and Mode of Operation

The change-over valve operates like a hydraulically operated 4/2-way valve which alternately discharges the lubricant fed by the pump into one of both main lines, while the other main line is connected to the return line connection of the pump.

Safety Instructions

Appropriate Use

- The change-over valve is exclusively designed for use in centralized lubrication systems.
- Do not exceed the maximum ratings mentioned in the Technical Data, particularly the maximum operating pressure.
- Any other use will not be conform.
- The manufacturer is not responsible for damage resulting from incorrect use.

Operation of the Change-over valve

- The change-over valve should be used only if it is in a good state.
- Defects which impair the function and the safety must be remedied to immediately.
- The function of the change-over valve is only guaranteed if clean hydraulic oil and lubricant are used.
- If you require more information than mentioned in this Owner's Manual, Please contact us (see address at the bottom of the page).

Subject to change without notice

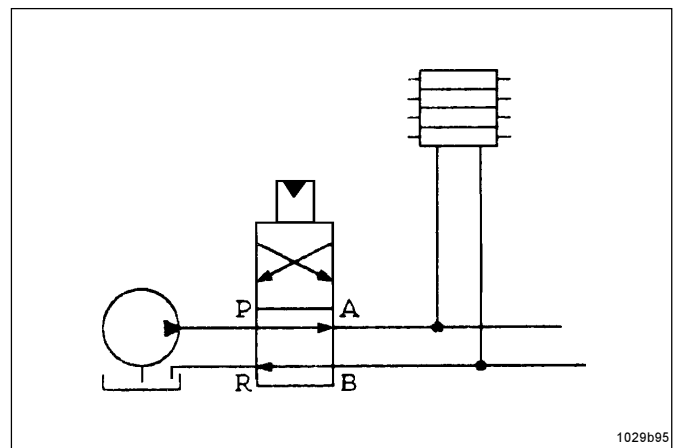


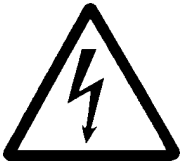
Fig. 2: MHY1 used as a change-over valve for two-line systems

Erection and Assembly

Requirements on the installation site:

- even, solid and vibration-free installation site
- protected from dust and dirt
- safe from atmospheric influences
- position of installation: any

Electric connection



- Before connecting the unit, disconnect the system from the power supply.
- The assembly and installation of electrical devices should be carried out only by an electrician!
- Observe the relevant rules of engineering and the respective safety provisions (rules, standards).
- Perform the electrical connection of the solenoid in accordance with the connection diagram.

CAUTION

The supply voltage and the voltage of the solenoid valve must agree.

Operating Instructions

Putting into operation

- After connection of the tube lines and the electric lines, the change-over valve is ready for operation.

Maintenance and repairs

- Repair work should be carried out only by qualified personnel using original replacement parts. Provided that only clean lubricant is used, the change-over valve does not need any particular maintenance. The reversing piston is subject to natural wear which depends on the operating time and the adjusted operating pressure. For repairs, the complete reversing block must be replaced because the piston is fit to precise tolerances in the factory.



Before carrying out electrical repair work at the change-over valve, please observe the following:

- * Disconnect the system from the power supply and take the necessary measures to avoid it being switched on again by accident.
- * Reduce the system pressure to zero
- * Risk of lubricant or hydraulic oil splashing off

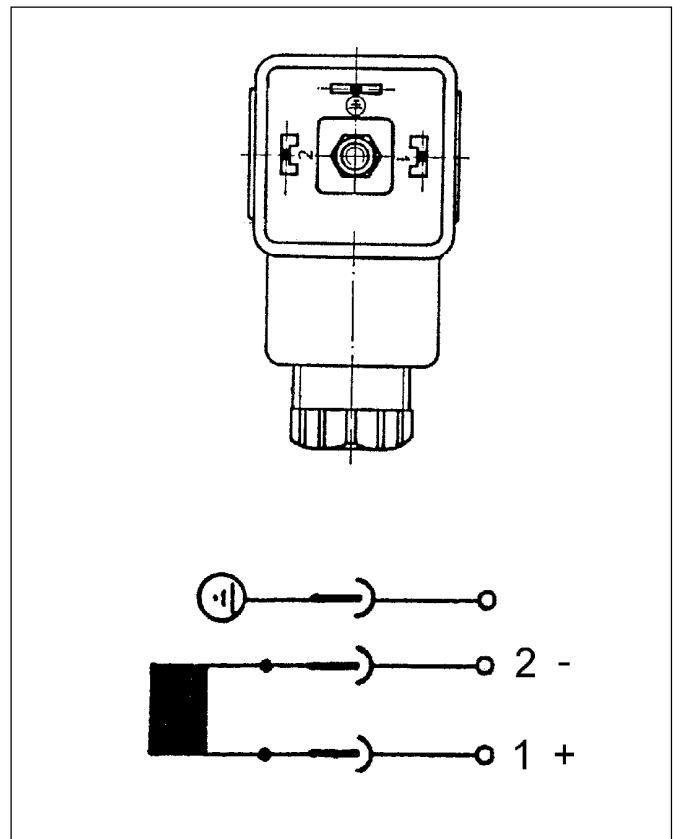
Technical Data

Threaded connection:	G 3/4
Flow rate:	$Q_{max} = 65 \text{ dm}^3\text{h}^{-1}$
Operating pressure, lubricant:	$p_{max} = 400 \text{ bar}$
Operating pressure, hydraulic:	$p_{max} = 60 \text{ bar}$
Quantity of hydraulic oil:	approx. $35 \text{ cm}^3/\text{stroke}$
Operating temperature:	-20°C up to $+70^\circ\text{C}$
Sound pressure level:	$< 70 \text{ dBA}$
Weight:	9,3 kg
Position of installation:	any

Data for solenoid valve:

Supply voltage:	24VDC
Max. power consumption:	1,16 A
Type of protection:	IP 65
Number of cycles:	10^7
Cyclic duration:	100 % ED

Diagram for Socket Connection



Troubleshooting

In case of defects, first check whether the pump operates with full pressure.

<ul style="list-style-type: none"> • Fault: No changing-over is initiated 	
<ul style="list-style-type: none"> • Cause 	<ul style="list-style-type: none"> • Remedy
<ul style="list-style-type: none"> • Solenoid valve defective • No hydraulic pressure available • No voltage supply or voltage supply too low • End-of-line pressure switch does not transmit signal 	<ul style="list-style-type: none"> • Replace solenoid valve • Check the hydraulic supply • Check the voltage supply and the coil • Check function, adjustment and electric cable of end-of-line pressure switch
<ul style="list-style-type: none"> • Fault: no pressure build-up or pressure build-up too slow 	
<ul style="list-style-type: none"> • Cause 	<ul style="list-style-type: none"> • Remedy
<ul style="list-style-type: none"> • Leakage in the line system or in the two-line metering devices • Piston in reversing housing worn 	<ul style="list-style-type: none"> • Check the main lines and the two-line metering devices • Replace the complete reversing housing (item 1, fig.4)

Single Parts of the Change-over Valve

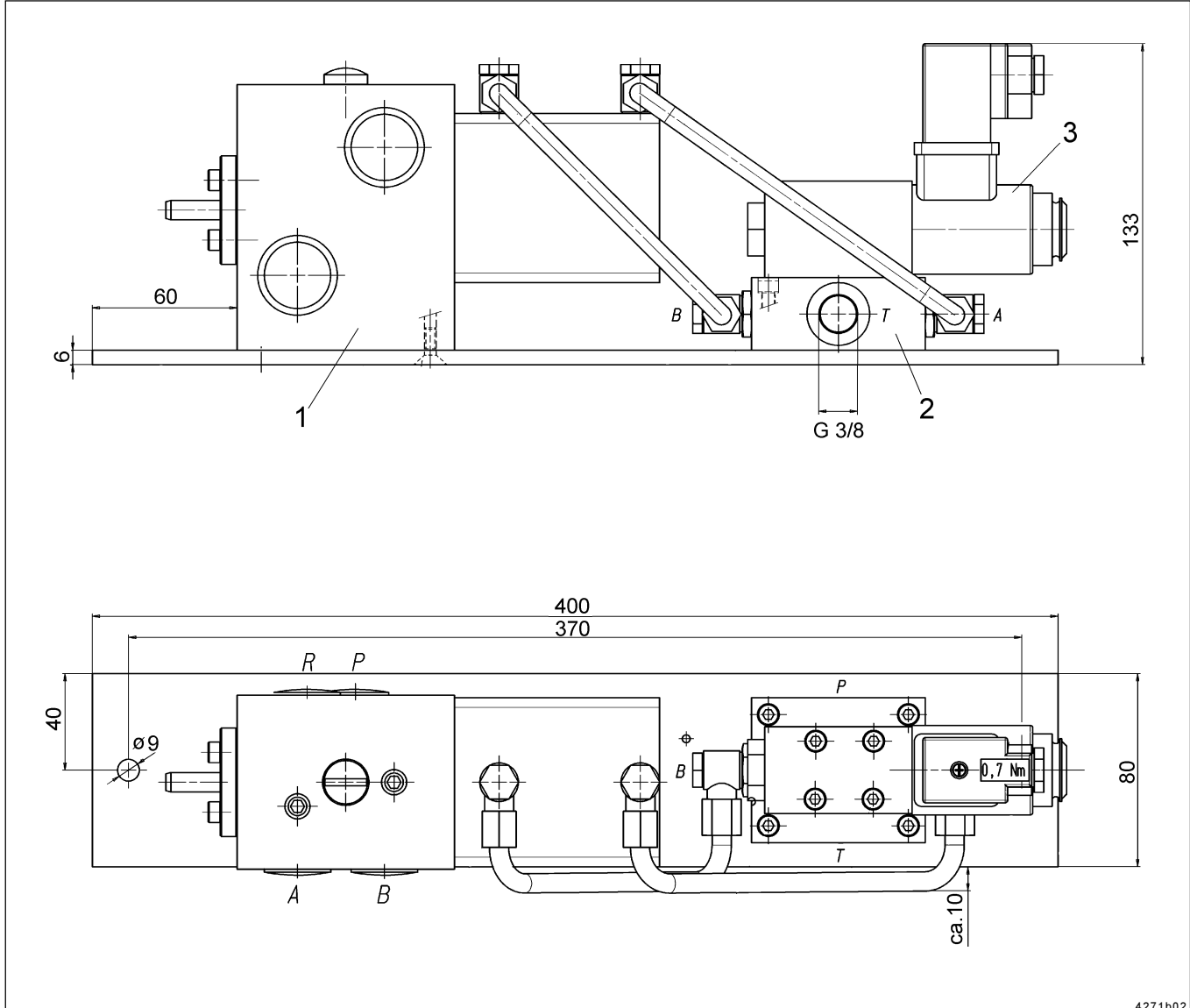


Fig.3: Structure of the MHY1 change-over valve

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Item	Designation	Qty.	Part no.
1	Reversing housing assy. with cylinder	1	518-32294-1
2	Connecting plate NG4 G 3/8	1	235-13181-9
3	4/2-way solenoid valve 24VDC	1	235-13150-3

**Single Parts of Reversing Housing with Cylinder
518-32294-1**

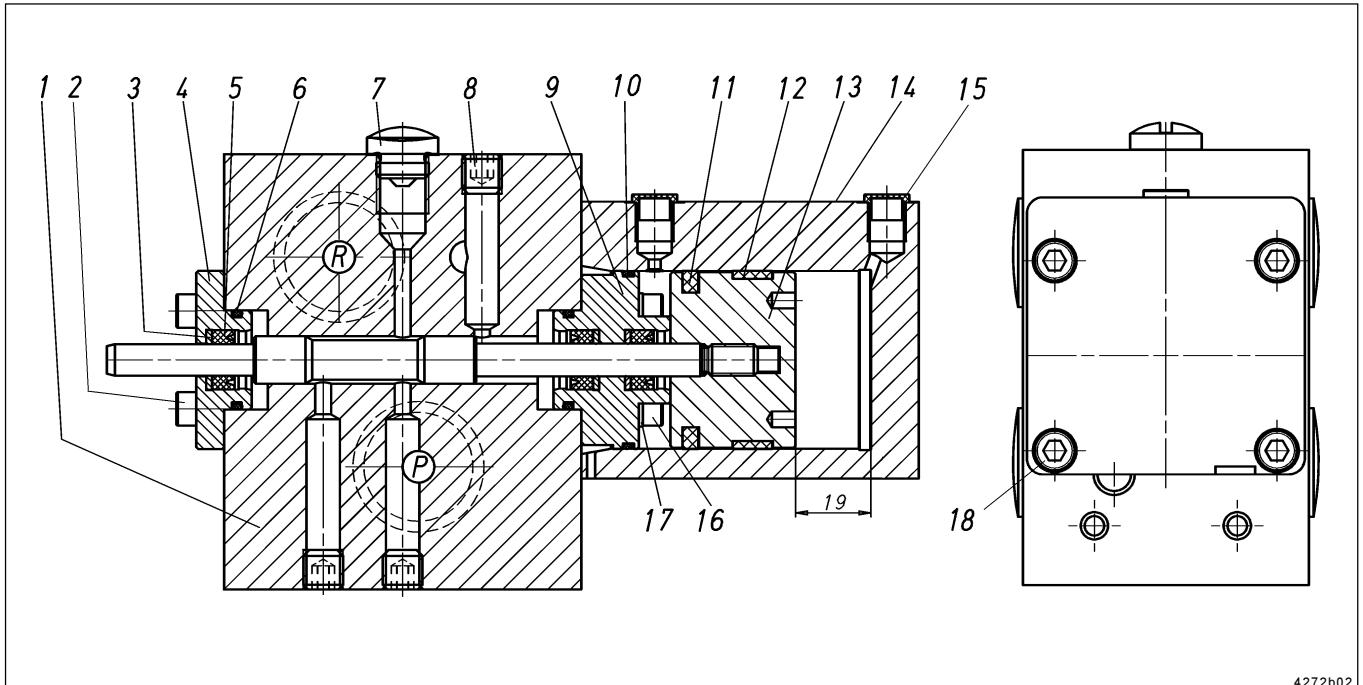


Fig. 4: Single parts of reversing housing

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Item	Description	Qty.	Part no.
1	Reversing housing assy. with piston	1	525-31478-1
2	Hexagon socket head screw M 5 x 16C	4	201-12546-4
3	Sealing ring, leather 7,8x15,3x1,53		306-17805-1
4	Sealing flange, housing	1	418-24847-1
5	U-cup sealing ring 8x15x5,7x3,83		220-12236-9
6	O-ring 21x2	2	219-12224-1
7	Closure plug R 1/4x8	1	303-17476-1
8*	Set screw M10	4	204-12112-2
9	Sealing flange, cylinder	1	418-24846-1
10	O-ring 41x1,78	1	219-14138-4
11	Compact seal	1	220-13782-2
12	Piston guiding ring EKF 45	1	220-13782-3
13	Piston D45	1	310-19802-1
14	Cylinder	1	314-19804-1
15	Closure plug	2	233-13100-8
16	Hexagon socket head screw M 5x25C	4	201-12017-8
17	Screw head sealing ring	4	220-14101-2
18	Hexagon socket head screw M 6 x 90	4	201-10010-2
	Set of sealing rings consisting of items 3, 5, 6, 10	1	518-31019-1
	blocked with Loctite 270		

Note:

A pressure gauge (option) can be connected to item 6 (closure plug).

Tightening torques:

Item 6: 30 Nm
Item 15: 6 Nm

Subject to change without notice

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Declaration by the manufacturer as defined by machinery directive 98/37/EEC Annex II B

We hereby declare that the supplied model

Change-over Valve Type MHY1 ...

is intended to be incorporated into machinery covered by this directive and must not be put into service until the machinery into which it is to be incorporated has been declared in conformity with the provisions of the above mentioned directive – including all modifications of this directive valid at the time of the declaration.

Applied harmonized standards, in particular:

- | | |
|------------|---|
| EN 292-1 | Safety of machinery, part 1
Basic terminology, methodology |
| EN 292-2 | Safety of machinery, part 2
Technical guiding principles and specifications |
| EN 809 | Pumps and pump units for liquids,
safety requirements |
| EN 60204-1 | Safety of machinery
Electric equipment of machines
Part 1: General requirements |



Walldorf, June, 2002 , Dr. Ing. Z. Paluncic