DRUMAG
SPECKEN

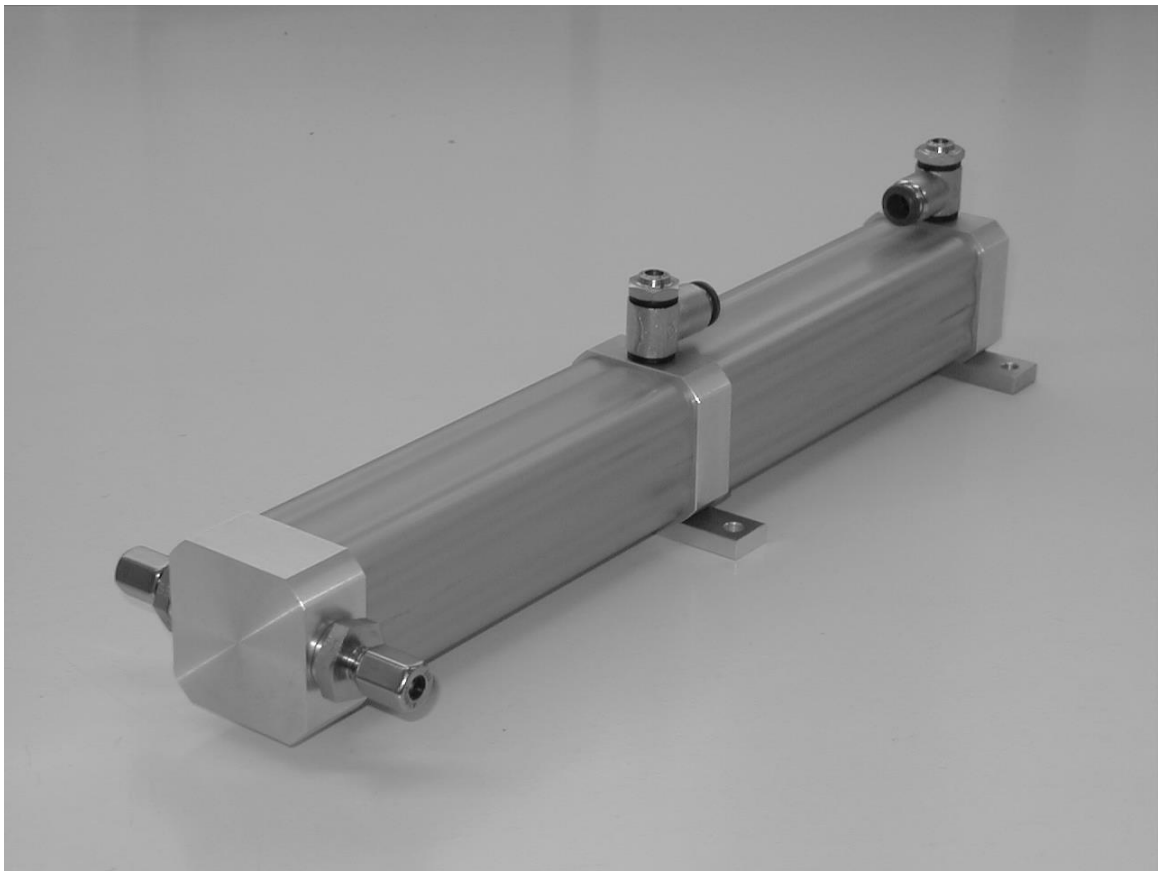
Operating instructions

for

Pump cylinder

ZHS - A 36 / 110 - D - N - 3099689

Art. No. 0 6 4 4 5 0 0 5 3



Contents

1. Technical data

Maximum operating pressure	up to 6 bar max.
Pump volume	110 cm^3 per stroke
Operating medium	Compressed air, filtered, lubricated or non-lubricated
Operating temperature range	-10°C to +60 °C
Installation position	vertical, fluid connectors on top
Connectors	pneumatic: Push-in fitting for hose ø6 hydraulic: Compression fitting for hose ø6

Caution ! Observe the permissible temperature range of the medium to be transported!

Intended use

The pump cylinder is used for the transportation of fluids in the specified pressure range within the application range released by Michelin Karlsruhe.

Employment of the unit for any other purpose shall not be deemed the intended use. The manufacturers will not assume any liability for damage resulting from any other use than the intended use.

2. Safety

Safety symbol

Caution !	This **Caution !** is to be found at those places in these operating instructions which are to be given particular attention.

Operational safety notes

- The pump cylinder is designed and manufactured according to the state of the art, and is operationally safe when properly installed. The operational safety of the overall system is subject to the assessment of the manufacturer of the overall system.
- Any person involved with the installation of and maintenance of the pump cylinder must have read and understood these operation instructions and, in particular, these safety instructions.
- The manufacturers will not assume any liability for arbitrary alterations and modifications to the unit.

3. General

The EU machine directive does not apply to the ZHS pump cylinder. Therefore, it is also not provided with the CE marking according to the machine guideline.

The pump cylinder in the version supplied by us is intended for installation in a machine. It is forbidden to put the cylinder into operation until it has been ascertained that the machine in which the cylinder is to be installed complies with the regulations of the EU machine directive.

These operating instructions are intended to enable the manufacturer of the overall operational system to properly install the pump cylinder and instruct the user about any necessary maintenance.

These operating instructions are intended for engineers of the manufacturer providing the overall system, and not for the user of the system.

It is assumed that the fundamentals of pneumatics and hydraulics are known.

Only if these operating instructions are understood and complied with can installation mistakes can be avoided and trouble-free operation be guaranteed.

However, if you do encounter problems please contact our company, field staff or agencies.

We reserve the right to make technical modifications.

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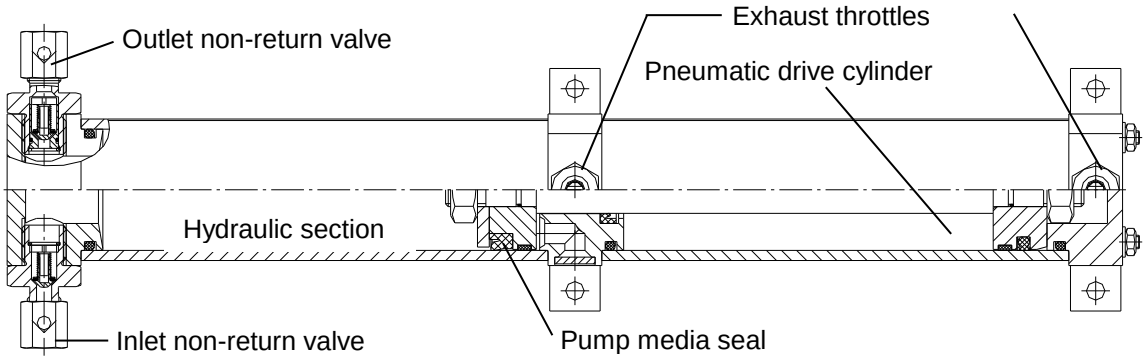
4. Design and operation



5. Installation

The pump cylinder is fitted to the two brackets. Avoid any transverse forces on the pump cylinder. For best pump results, install the pump cylinder in vertical orientation with fluid connectors on top. You must ensure, however, that the reservoir from which the medium is delivered is located above the threaded inlet connector. The height difference between the reservoir and the inlet restricts the possible pump speed. The pump cylinder cannot prime itself, so you must ensure that the medium to be transported can flow freely. If the feed is restricted there is a risk of air being sucked in through the hydraulic seal.

6. Servicing

Maintenance

The pump cylinder operates practically maintenance-free.

Replacement of seals and gaskets

Replacement of the pump medium piston seal

- Extend the cylinder pneumatically to its full extent.
- Undo hex nuts, item 22
- Remove cylinder head # 2, and tube # 14, while pressing against the centre section # 1 in order not to disassemble the pneumatic section.
- Remove lip seal # 19 and guiding band # 6.
- Clean the tube and piston with petroleum ether.
- Fit new lip seal onto the piston as in the drawing.
- Lightly grease tube and seal.
- Apply the guiding band around the piston and hold in place.
- Carefully slide the tube onto the piston.
- **Caution: Ensure that the guiding band is correctly positioned; do not fold over or damage the seal lip.**
- Push on the cylinder head # 2 using tension rods, making sure that the suction and pressure sides are correctly positioned.
- Evenly tighten hex nuts # 22.

Always check the condition of the sliding faces when changing seals and gaskets, and replace worn or damaged parts.

Assembly lubrication

"Autol TOP 2000" (Manufacturer: eni Schmiertechnik) or any other usual grease for pneumatic cylinders is used for assembly lubrication purposes. For conservation reasons the hydraulic section is also protected with a special grease compound.

To ensure the unit's operational safety, the above *"Autol TOP"* grease, or greases compatible with it, should be used for maintenance work requiring any relubrication.

7. Spares

When ordering spare parts please indicate the model designation and serial number of the device in question. Replacement seals and gaskets are available in complete sets only. Inlet and outlet non-return valves are available as complete units.

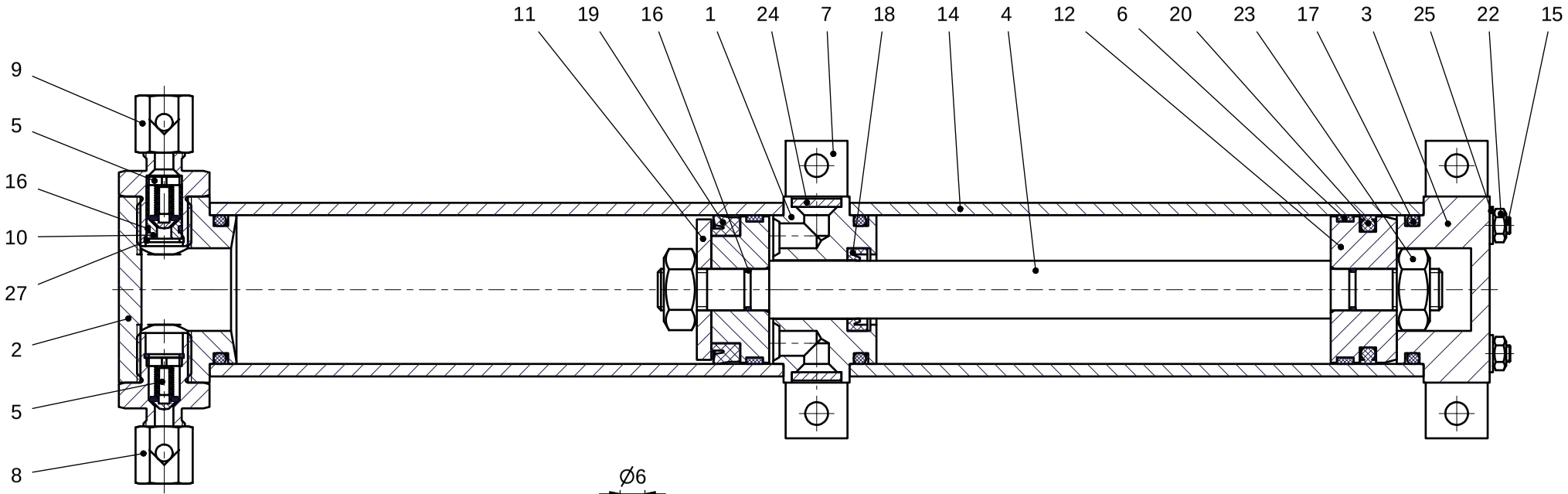
8. Disposal

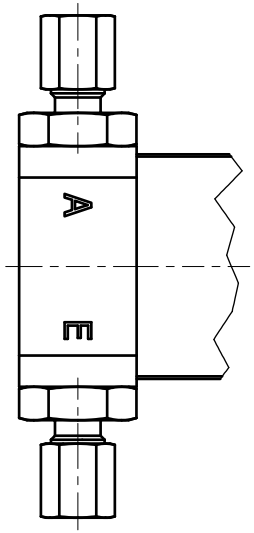
Caution !	Any lubricant residues from maintenance operations, e.g. cleaning rags, sealing materials and all other waste, must be disposed of in compliance with the applicable regulations of the user's country.

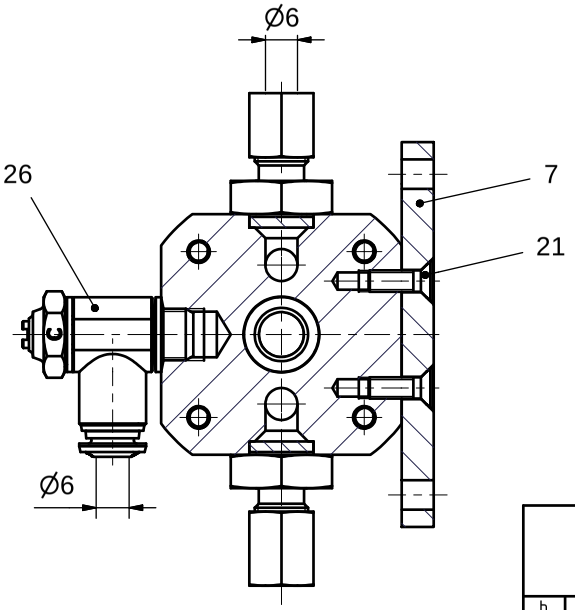
9. Parts list

	0 6 4 4 5 0 0 5 3	**Pump cylinder** ZHS-A 36 / 110 -D-N - 3099689	
#	**ID no.**	**Designation**	**No. of items**
1	003499102	Centre section	1
2	003499101	Adapter foot	1
3	003499100	Connector lid	1
4	003499099	Connecting rod	1
6	004448364	Guiding band*	2
7	004498748	Bracket	2
8	064485014	Non-return valve - inlet, complete	1
9	064485015	Non-return valve - outlet, complete	1
11	004498744	Piston	1
12	004498743	Piston	1
14	004498617	Cylinder tube	2
15	004498741	Tie rod	4
16	005001051	O-ring*	1
17	005001028	O-ring*	3
18	005010005	Lipped ring*	1
19	005014089	Lip seal*	1
20	005030004	Piston lube ring*	1
21	005122009	Countersunk screw	4
22	005150005	Hex nut	4
23	005150018	Hex nut	2
24	005720011	Filter disc	2
25	005180002	Disc	4
26	080200248	Screw-in threaded joint	2
	064485013	Set of seals and gaskets	1

*included in seal and gasket set 064485013







Betriebsdruck max. 6 bar
Pumpvolumen 110 ccm/DH

Art.-Nr.	Ausführung
064450053	Standard
064435001	ATEX

h					Datum	Name
g				Bearb.	26.04.2013	M.Wagner
f				Gepr.		
e				Norm		
d				© Copyright DRUMAG GmbH, 2013		
c						
b						
a	Mittelteil Entl.-Bohrung	26.03.2015	Wa			
Status	Änderung	Datum	Name			

Art.-Nr.:

Maßstab: 1 : 1 | ersetzt : | ersetzt durch :

Werkstoff:

Pumpzylinder

ZHS-A 36/110-D-N-3098638

DRUMAG SPECKEN

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Blatt 1/3

DIN A3

Datei: 003099689 ZHS-A 36_110-D-N-X.idw