Pneumatic oil pump 5:1



PRESSOL

87 744 A405 GB

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1. General details

1.1 Intended use

This oil pump can be used to deliver lubricating oil and similar neutral fluids.

Never use it to deliver explosive fluids such as petrol, or other fluids with similar flashpoints!

To ensure that usage stipulations are met, read through the operating instructions completely before using the pump and observe all stipulations.

Any departure from the usage stipulations (other fluid media, use of force) or user modifications (changes, use of non-original parts) can be dangerous and are considered as non-stipulated usage.

The user is liable for any damage resulting from non-stipulated use.

Before commencing any repair or maintenance work, release the pressure from the installation.

Repairs and maintenance are only to be carried out by qualified specialists.

Only original replacement parts are to be used for any repairs, otherwise the warranty will be invalidated.

1.2 Design and functional description

The oil pump can be fitted with a variety of PRESSOL accessories.

The Pump casing is manufactured from die-cast zinc with a hardened stainless steel piston rod and high quality durable synthetic control components.

The polyurethane or Buna N o-rings and washers are designed to meet the operating requirements of the pump.

1.3 Area of application

This pump was specially developed for use in connection with long pipes and for oils with a higher viscosity. With a transmission ratio of 5:1, the pump achieves the necessary pressure for a good delivery rate – even for greater distances. The delivery rate is dependent upon the viscosity of the oil, the temperature as well as the length and the cross-section of the piping. The pump also works in a non-vertical position.

1.4 Technical data

Typ		5:1
Ratio		5:1
Max. air pressure	bar	10
Recommended air pressure	bar	8
Min. air pressure	bar	2
Max. oil pressure	bar	40
Max. delivery performance*	l/min	20
Max. air consumption	l/min	470
Air inlet	G	¼" i
Oil outlet	G	½" a
Piston diameter	mm	80
Piston stroke	mm	44
Motor displacement	cm^3	220
Pump displacement	cm^3	70
Max. sound level at 2 m	db (A)	78
Weight	kg	7,2
* under free discharge		

Tab. 1-1: Technical data

1.5 Operational area requirements

The oil pump is intended for use within a building. The installation area must be selected such that correct operation is ensured.

The pneumatic pump must be used with a maintenance unit otherwise the warranty will be invalid! It is also important to ensure that a pressure control valve is used when the pump is operated. Set the pressure to 8 bar to achieve the recommended operating pressure of the pump. This will prevent possible damage to equipment, pipe leakage and protect the pump.

New installation lines should be cleaned to avoid any residual metal filings damaging individual components within the pump. When changing containers protect the suction tube properly to make sure that the suction tube will not be contaminated by dirt particles, such as metal parts, splinters etc. which will additionally contaminate the lubricant in a new container.

To make service and maintaining work easier we recommend the installation of a lever ball valve placed between the oil connecting hose and the fixed oil distribution pipe work

The operator of such an installation is, according to § 19i WHG (Germany) responsible for continuous monitoring to ensure compliance with the above stated requirements at the installation.

1.6 Adjustment of the maintenance unit



Item-Nr: 20 218 950 (old version):

With this maintenance unit the adjusting dial must be set to Position 1 as shown in the diagram.

Screw the brass screw completely in, then unscrew one turn.



Item-Nr: 20 218 950 (new version):

With this maintenance unit the brass screw must be screwed in as explained in the diagram.

2. General safety instructions

2.1 Information on safety at work

The oil pump has been designed and manufactured according to the health and safety requirements of the relevant EC guidelines.

Nevertheless, there can still be risks if the product is not set up or operated as stipulated.

Therefore, before using the oil pump, read these operating instructions and pass them on to other users of the pump.

When operating the oil pump, the local safety and accident prevention rules and regulations always apply, as well as the safety advice in the operating instructions.

Only approved PRESSOL maintenance personnel should open or repair pumps within the guarantee period.

WARNING! The compressed air line must be disconnected and the discharge pistol actuated to ensure that the pump is depressurised before the pump unit is opened or inspected. For safety reasons the compressed air line should be disconnected when the pump is not in use otherwise the pump will remain pressurised. Please also observe the general rules of the GAA and the environment protection authorities with regard to the handling of lubricants.

Caution!

If the oil pump is incorrectly installed, or used for a purpose other than that originally intended for, it can result in personal injury or damage to equipment!

Before starting to use the oil pump, read through these operating instructions carefully and completely.

2.2 Signs and symbols used in the safety instructions

The safety instructions used in these operating instructions are divided into various levels of hazard. Various levels of hazard are indicated in the instructions with the following keywords and pictograms:

Pictogram	Keyword	Result if the safety requirements are not observed or applied
	Warning	Possible death or serious injury
	Caution	Possible slight or not serious injury or material damage

In addition, another symbol is used to indicate general tips about using the product.

Pictogram	Keyword	Meaning
	Tip	Background information or tips about how to use the product

2.3 Hazards when handling the oil pump

Warning!

Never work on a pump that is running!

- Mount or remove attachments and accessories only when the pump is switched off.

Warning!

Do not pump contaminated fluids!

- Take special care to ensure that there is no contaminant in the fluid to be pumped.
- Install a strainer on the suction pipe.

Warning!

Damaged attachments and accessories can lead to personal injury and material damage!

- Suction and pressure pipes must not be kinked, twisted or stretched.
- An overflow valve must be installed on the pressure side of the installation (see accessories).
- Attachments and accessories must be checked for wear, splits or other damage at all times.
- Damaged attachments and accessories must be replaced immediately.
- With reference to the period of use, please note the details in ZH 1/A45.4.2 or DIN 20066 Part 5.3.2.

Caution!

Spilled fuel can result in environmental damage!

- Local and country rules and regulations relating to domestic water supplies and fuel storage must be obeyed.

3. Assembly

The oil pump can be used to supply from original containers (e.g. drums) or from storage tanks.

Tip

According to European regulations, the suction line must run upward from the tank to the pump. Therefore, before assembly consider the height of the container and, if necessary, mount it on a container storage unit.

3.1 Barrel and Tank mounting

Fix pump and suction tube using the G 2“ drum retention adapter on the container or on the storage tank.

Connect the discharge hose to the pump connecting adapter G ½“.

Connect the discharge valve or the manual flow meter to the discharge hose.

3.2 Wall mounting

Tip

When wall mounting the 5:1 oil pump with a long distribution line, a foot valve should be included.

To mount the pump, 2 screws with a diameter of 10 or 12 mm are required (not included in the delivered shipment). Select screws according to the wall material on which the pump is to be mounted.

Ensure that the pump is mounted securely. Select a secure location, (protected from water spray, damage and theft.

Fix suction tube using the G 2“ drum retention adapter on the container or on the storage tank.

Connect suction tube and pump with suction hose (hose connection G ¾“).

Connect oil pump with pressure pipe and nozzle valve.

Installation material for discharge pipe work:

- Length of discharge pipe work up to 15 m: Pipe work tube DN 20 (R ¾“) DIN 2448 or bigger; St 37 acc. to DIN 1629.
- Length of discharge pipe work exceeding 15 m: Pipe work tube DN 32 (R 1 ¼“) DIN 2448 or bigger; St 37 acc. to DIN 1629.

Tip

Ensure cleanliness during assembly and that all accessories are correctly connected to the pump. Use suitable sealing material (e.g. Teflon tape).

The pump is now ready for operation.

4. Preparing for operation

4.1 Venting the pump and installation

Connect pump to compressed air (8 bar recommended).

Operate the nozzle valve at the dispensing position farthest away from the installation, over a suitable collecting tray. Continue until the oil flows air free.

Repeat this procedure at each dispensing position of the installation.

5. Operation

Tip

To ensure that the tank can be completely emptied, the suction hose must reach to the bottom of the tank.

Caution!

Never operate the pump without delivery fluid. There is a danger of your oil pump being damaged if operated dry.

Caution!

Shut off the compressed air line, when the oil supply system is not needed for a long period of time (in any case, at night, weekends etc.) so that the pump is not left under pressure.

As soon as compressed air is provided, the pump system is ready for operation.

The pump switches on and starts to discharge whenever a nozzle valve is opened.

When the nozzle valve is closed, the pressure in the system increases and the pump stops operating.

5.1 Changing a barrel

You can avoid contamination by inserting the suction line directly into the new oil container.

6. Maintenance

The muffler and air inlet filter should be cleaned regularly to maintain the trouble free performance of the pump. If the pump is operated without a maintenance unit then, depending on usage, a few drops of oil must regularly be injected into the air inlet connector.

The oil pump is very easy to maintain and service.

Due to the operator responsibilities according to § 19i WHG (German rules), the following components must be regularly checked and replaced as necessary, to minimise the possibility of environmental or equipment damage, or personal injury:

- Pump housing
- Delivery hose
- Nozzle valve
- Connection lines

7. Accessories

Designation	**Prod. no.**
Dual suction pipe, 2 m	19 511
Suction pipe, for oil, 2 m, G ¾ " i, G ¾" a	19 512
Suction tube, G ¾" i, G 2" o, SRL 860, for 200/220 l container	19 522
Suction tube, G ¾" i, G 2" o, SRL 860, for 200/220 l container, with foot valve	19 523
Suction tube, G ¾" i, G 2" o, SRL 860, for 200/220 l container, with foot valve	19 523 001
Conversion set, SRL 860, for 200/220 l container	19 513 950
Conversion set, SRL 1600, for tank mounting	19 513 952
Conversion set, SRL 1600, for tank mounting, 90° connector for connecting to pneumatic pump	19 513 954
Suction tube, G ¾" i, G 2" o, SRL 2100, for tank mounting, with foot valve	19 523 954
Wall mounting bracket	19 521
Maintenance unit	20 218 950
Coiled hose, 5 m	20 185
Lever ball valve G ¾" i - G ¾" i	19 763
Lever ball valve G ¾" i - G ¾" i	19 762
Discharge hose 0,5 m G ½" i - G ½" i	19 580 001
Foot valve G ¾" i	03 337
Discharge hose 1,5 m G ½" i - G ½" i	19 580
Overflow valve 16 bar	19 648
Overflow valve 20 bar	19 506

Tip

Only with original-PRESSOL spare parts is perfect operation of your oil pump guaranteed! To avoid faulty operation and danger, please use only original spare parts.

8. Troubleshooting

Problem	Cause	Solution
The pneumatic unit runs slowly or not at all.	The air pressure is too low.	Set the air supply to a minimum pressure of 3 bar.
	The muffler (pos. 20) or the filter (pos. 11) is obstructed or dirty.	Clean the muffler and filter.
The pneumatic unit is running but the pump is operating too slow or not at all.	Leak in the suction pipe.	Repair the leak.
	Air in the delivery pipe.	Remove the air by: ■ Pressing the discharge pistol after removing the anti-drip-nozzle. ■ Slightly opening the delivery pipe immediately behind the pump.
	Oil is too cold.	Only use oil with a temperature over 15 °C.
	Friction loss in the delivery hose.	Choose (as far as possible) large cross sections and short pipe distances. Place the pump in a central position.
The pneumatic unit is running but no pressure is generated.	The o-rings, washers or valves of the pump are damaged or dirty.	Clean or replace the relevant components.
Air escapes from the muffler when the pump is not operating.	The plunger (pos. 5) is damaged.	Replace the plunger.
	The o-rings or the distributor seal (pos. 19.6) are damaged.	Replace the components utilising the complete repair kit.

Tab. 8-1: Trobleshooting

If the solutions given in Tab. 8-1 for solving faults do not solve the problem, please contact our customer service (Address, See Chap. 9).

9. Repairs/Service

The oil pump was developed and produced according to the highest quality standards.

Should a problem develop, despite all quality controls, please contact our customer service:

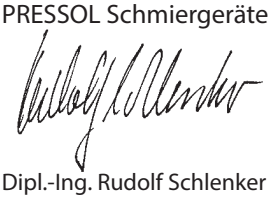
PRESSOL Schmiergeräte GmbH
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Fax +49 9462 1063
service@pressol.com

10. EC Declaration of Conformity

We hereby declare that the product described here, its concept and construction, including this particular model, complies with the EC requirements. Any change to the product, not approved by us, will invalidate the declaration.

Designation of the appliance	**Pneumatic pump 5:1**
Appliance type	Pneumatic pump
Year built	see maker's plate
Applicable EU Directives	EU directive machines annex 1 89/392/ EEC-Directive dated June, 14th. 1989 91/368/ EEC-Directive dated June, 20th. 1991 93/68/ EEC-Directive dated August, 30th. 1993
Applicable national standards	DIN EN 292, part 1, part 2 DIN EN 45014

21.01.2013 PRESSOL Schmiergeräte GmbH



Dipl.-Ing. Rudolf Schlenker

11. Exploded view

No.	Designation	Prod. no.
1	Upper casing	03 268
2	O-ring	03 316
3	Locking nut	03 311
4	Washer	87 116
5	Plunger	03 324
6	Compensating washer	03 250
7	Screw	87 221
8	Washer	87 212
9	O-ring	02 380
10	Intermediate casing	87 211
11	Filter	87 228
12	Reducing connector	03 319
13	Control lever	87 210
14	Sleeve	87 209
15	Compression spring	87 215
16	O-ring	87 223
17	Insert	87 206
18	Screw	87 220
19	Distributor repair kit	87 351
19.1	Clamp	87 214
19.2	Sliding disc	87 213
19.3	O-ring	87 225
19.4	O-ring	87 224
19.5	O-ring	87 223
19.6	Distributor	87 204
20	Muffler	87 227
21	Retainer	87 207
22	Piston rod repair kit	87 655
22.1	O-ring	03 262
22.2	Piston rod	87 205
22.3	Slider	87 208
22.4	Piston rod	87 633
23	O-ring	87 226
24	Connecting flange	87 642
25	Screw	87 222
26	Support washer	87 648
27	Sleeve	87 632
28	Circlip	82 934
29	Connecting flange repair kit	87 656
29.1	O-ring	88 164
29.2	O-ring	88 165

No.	Designation	Prod. no.
29.3	Adapter	88 152
29.4	O-ring	02 380
29.5	Lip washer	03 387
29.6	Circlip	03 264
30	Double piston repair kit	87 127
30.1	Piston tube	88 168
30.2	Washer	88 113
30.3	Lip washer	03 387
30.4	O-ring	87 521
30.5	Piston	87 645
31	Locking pin	87 630
32	Spring	02 851
33	Ball	03 263
34	O-ring	87 521
35	Valve screw	87 646
36	Sleeve	03 390
37	Circlip	03 328
38	Safety pin	87 746
39	Ball	87 631
40	O-ring	87 629
41	Pump cylinder	87 643

Tab. 11-1: Index to illustration 11-1

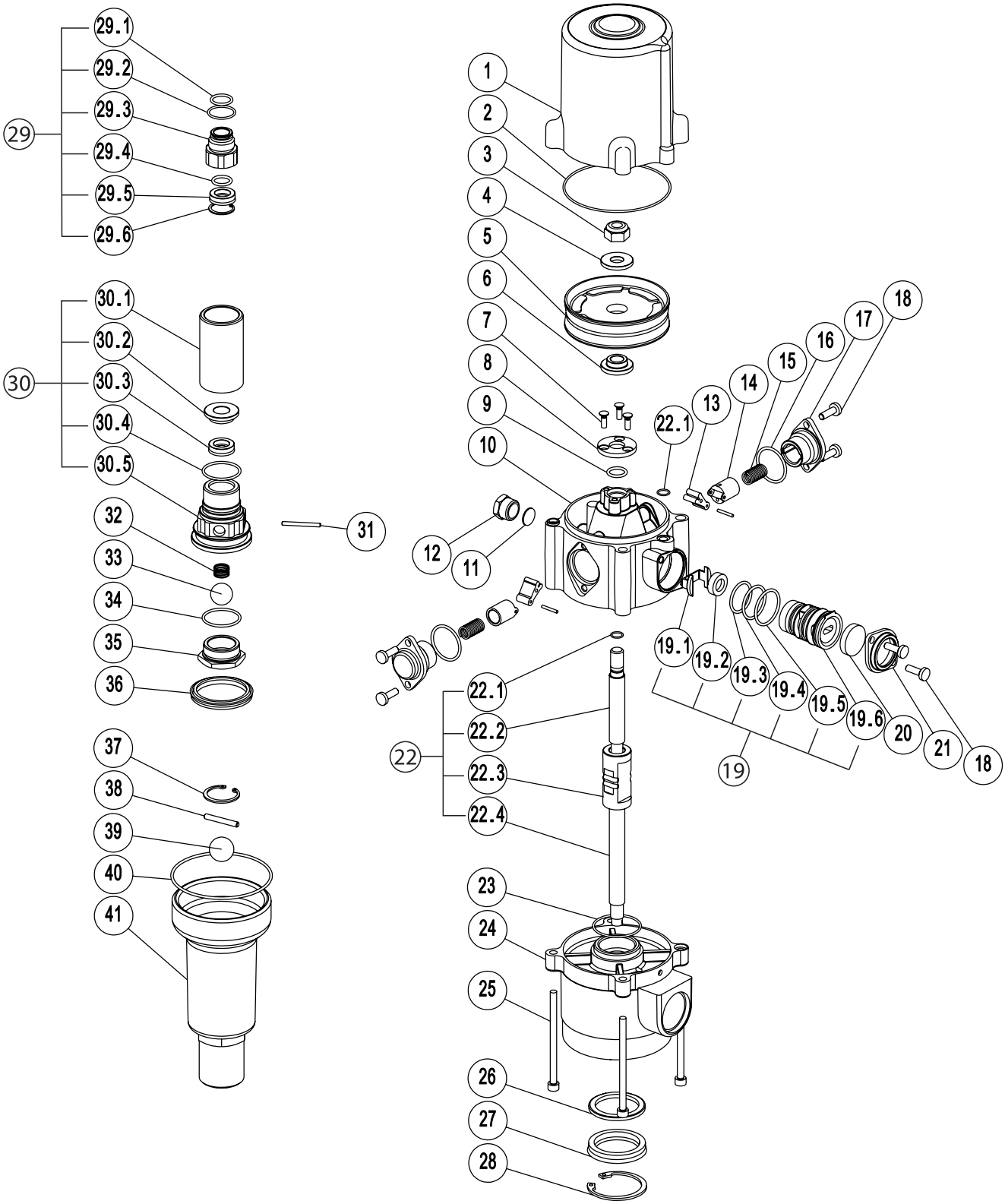


Fig. 11-1: Exploded View of the Pneumatic Oil Pump

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