

Quicklub Grease Pump Model PPG

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Safety Instructions

The Operating Manual contains important instructions regarding safe, proper and economical operation of the pump/system.

Keeping to these instructions will avoid risks, reduce repair costs and down time and improve reliability and pump life. The Operating Manual has to be completed by instructions which are part of the existing national safety and environmental regulations. The Operating Manual must always be available on site where the pump/system is erected.

If persons engaged with the pump operation are not fully in command of the German language, the user of the pump must see to it that his operating staff, prior to commencement of working, is instructed of the contents of the Operating Manual, especially of all safety instructions. Any persons engaged with pump operation must read and follow the Operating Manual, e. g.

- operation including setting-up elimination of faults in the working procedure, removal of production chips, dumping of auxiliary and working material
- servicing (maintenance, inspection, repair) and/or
- transportation

Notes directly fixed to the pump must be observed and kept in legible condition.

Staff Qualification and Training

The staff responsible for operation, maintenance, inspection and installation must be adequately qualified for these jobs. The user must properly regulate the field responsibility and supervision of the personnel. If the personnel has not the necessary expertise, then they must be adequately trained and instructed. If necessary, this can be done by the manufacture (supplier) on behalf of the machine user. Furthermore, the user must ensure that the contents of the Operating Manual are fully understood by the personnel.

Hazards resulting from ignoring the safety notes

Failure to heed the safety warnings may result in equipment and environment damage and/or personal injury. Ignoring the safety notes may result in the disqualification from damage claim.

Safety instructions for user/operator

- Protection devices against accidental contact for moving parts must not be removed from a pump in operation
- Leakages of harmful materials must be dumped without jeopardizing human beings or environment. The requirements of the Law must be satisfied.
- Danger caused by electric energy must be excluded (for details refer to the applicable specifications of VDE and the local power supply companies).

Safety instructions for maintenance, inspection and installation services

The user make sure that all maintenance, inspection and installation work will be executed by authorized and qualified experts who have thoroughly read the Operating Manual.

Generally, any work on the machine must be done while the machine is out of operation. Pumps and pump units delivering harmful materials, must be decontaminated, Immediately after completion of

the cleaning procedure, all safety and protection devices must be reassembled. Materials harmful to the environment must be disposed of in accordance with the applicable official regulations. Before putting the pump/pump unit into operation all items given in the Operating Manual must be observed.

Unauthorized modifications and spare part production

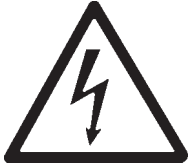
Alteration and modification of the machine are only allowed if agreed upon by the manufacture. Original spare parts and accessory authorized by the manufacture serve the purpose of safety. When other parts are used, the manufacture may be released from liability for the resulting consequences.

Application as agreed

The pump has been designed to be exclusively used in centralized lubrication systems. The maximum values given in the Data Sheet must not be exceeded. Any application other than the one described above is not covered by warranty. The product (pump/pump unit) is not allowed to be put to operation in the European Community unless it has been stated that the machine in question complies with the CE guidelines.

The following items must be considered:

Electrical connections



All operations on electrical equipment must be out by qualified staff only.

Electrical connection of level controls

- in accordance with terminal diagrams in Annex or with circuit diagram

Putting into operation

To fill the lubricant reservoir

The grease reservoir must be filled with clean lubricant via the filling connection or the opened cover.



- be careful that no particles of dirt or other foreign matter will enter the reservoir while the reservoir is being filled.
- refill the reservoir well in time
- keep the environment of the reservoir clean



During the process of venting do not stay in the vicinity of the pump directly before the vent-plug. Risk of lubricant squirting out of the vent hole!

Maintenance and repair



All repair work must be executed only by authorized and qualified personnel using original spare parts.

Prior to any pump repair, the following instructions must be complied with:

- disconnect air supply to pump and protect it against accidental restart.
- relieve pump and system pressure to zero bar. For this purpose loosen the pressure connection on the pump.
- For grease pumps: The spring of the follower plate in the reservoir is reloaded. For disassembly only use appropriate tools.

All repair work beyond the expertise of the user must be carried out by LINCOLN qualified experts. For this purpose either the defective pump can be returned to the Repair Department of the Walldorf factory or an experts can be requested to execute the repair on site.

Service address:

LINCOLN GmbH Customer Service
Postfach 1263
D-69183 Walldorf
Tel +49 (6227) 33-0
Fax +49 (6227) 33-259

All system components in the downstream system (lubricant metering devices, tube lines, tube fittings, hoses) must at least be designed for the maximum system pressure.

Subject to modifications

Quicklub Grease Pump Model PPG

Model	Part No.
PPG 4	604-25110-2
PPG 4-K	604-25129-2
PPG 15	604-25111-3
PPG 15-K	604-25130-3

Filling of reservoir

It is advisable to fill the reservoir via hydraulic lubrication fitting 251-14045-1 located at the base of the pump reservoir. Either use a pneumatic or a manual grease pump. Reservoir must be filled until the recessed ring appears on the follower rod at the top of the reservoir. The above applies exclusively to pumps of the model PPG 15. For pumps of model PPG 4 refer to fillings instructions on page 4 (folded page).

Technical Data

Pump pressure ratio	40:1
Air pressure	min. 4 bar
	max. 10 bar
Maximum operating pressure	250 bar
Air inlet	G1/8"
Lube outlets	see outlet fittings
Reservoir capacities	PPG 15 1,5 litre
	PPG 4 0,4 litre
Lubricant output per pump stroke	2,6 cm ³
Lubricant output per outlet	0,2 cm ³

Important: Avoid air inclusions.

Important: Since one stroke corresponds to approximately 1,6 cycles of the eight outlet progressive metering device, the average lubricant output is **0,3 cm³ outlet and per pump stroke**.

Description

The QUICKLUB pump model PPG is used in a progressive type centralized lubrication system. It is an air operated, single stroke pump with spring-loaded follower plate requiring a 3/2-way air valve for the activation of the air cylinder. It has a tribrik rod for the lubricant level.

Operation

When the solenoid is energized, compressed air enters the bottom of the air cylinder and moves the piston upwards. As the piston moves upward, the ball seat of the suction valve prevents lubricant from returning to the reservoir. Lubricant is therefore distributed to the eight outlets by the integrated progressive metering device.

When the solenoid is de-energized, compressed air leaves the air cylinder. The piston spring moves the piston downward. The check valve ball unseats allowing lubricant from reservoir to refill the discharge cavity in the pump body for the next lubrication cycle.

Important: Pump must be installed in vertical position.

Commissioning of the system

Pump and main lines

After the reservoir has been filled with recommended lubricant, loosen counter vent screw counter nut and open vent screw approximately one turn (DO NOT REMOVE).

Also, loosen main line fittings. Operate pump until lubricant flows from vent screw, then tighten vent screw and counter nut. Continue to operate pump until lubricant flows loosened main lines, then tighten fitting. Repeat procedure until all main lines are filled.

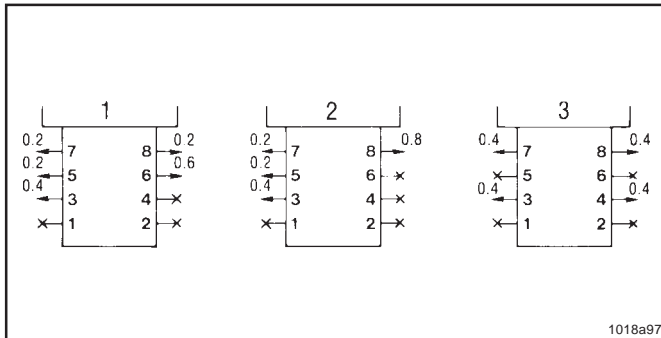
Feed lines

It is advisable to fill each feed line with lubricant before connecting to outlet of metering device and bearing. This will prevent having to cycle each metering device to fill line between metering device and bearing.

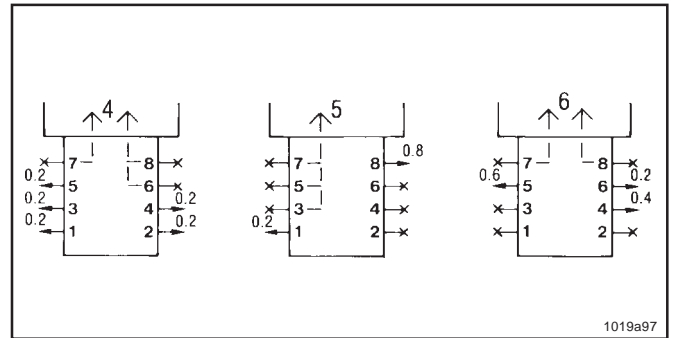
Outlet combinations

The lubricant output of one outlet is 0,2 cm³. When an outlet is closed using a closure plug., the lubricant output si automatically redirected internally and combined to the output of the next adjacent outlet in ascending numerical order (see example 1; outlets 2 and 4 to outlet 6 and outlet 1 to outlet 3); except when either outlet 7 and/or 8 closed.

Example:



Example:

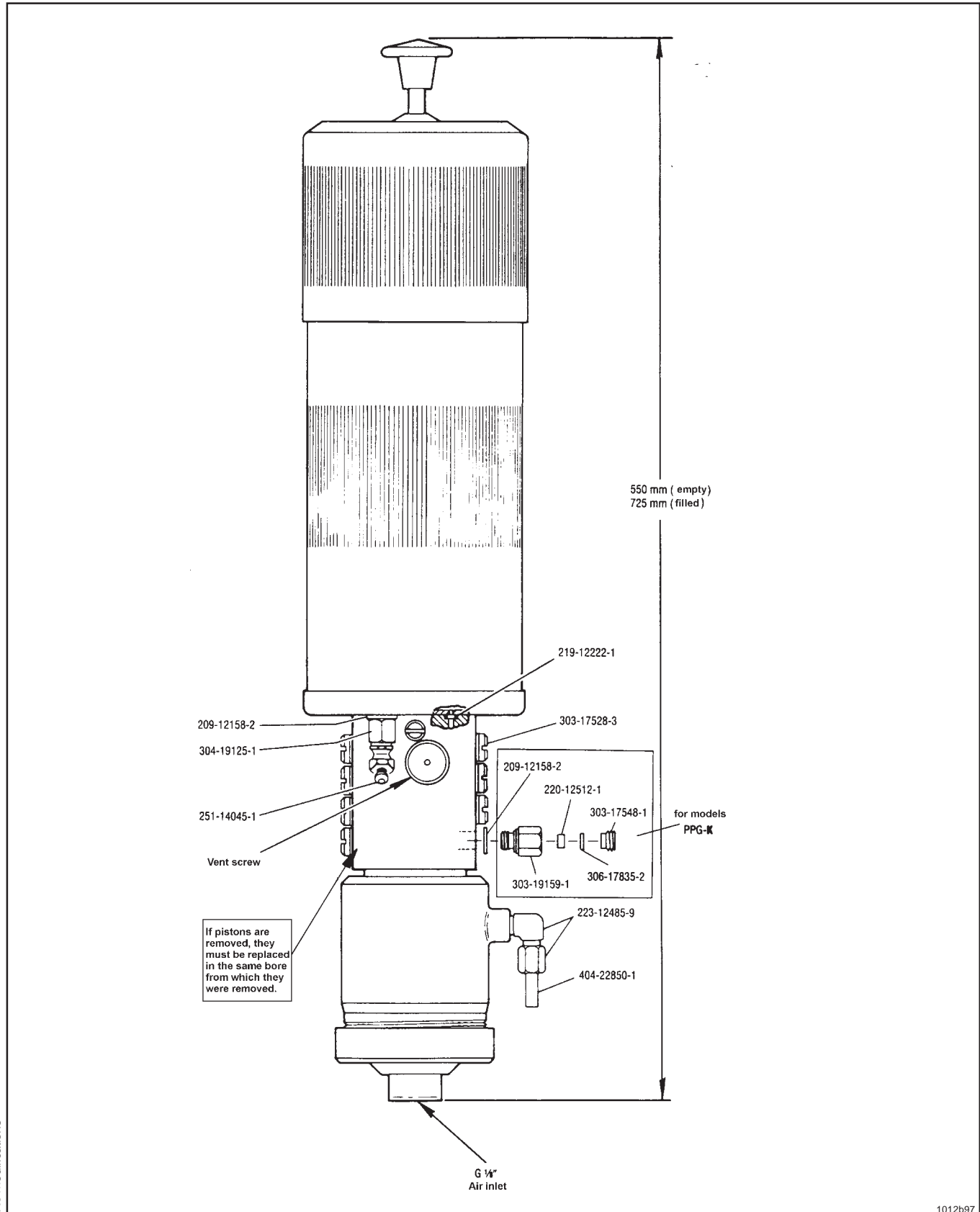


When outlet 7 and/or 8 closed, the output from either or both of these outlets, plus that of the immediately adjacent closed outlet 6 (see ex. 4) is redirected internally to the pump reservoir.

← Delivering outlet (lubricant output in cm³ per piston stroke)
 ← Closed outlet

Note: The outlet combination procedure for the Quicklub pump is different from that for the Quicklub metering devices. Refer to „Technical Description“ for progressive plunger metering devices, page 6.

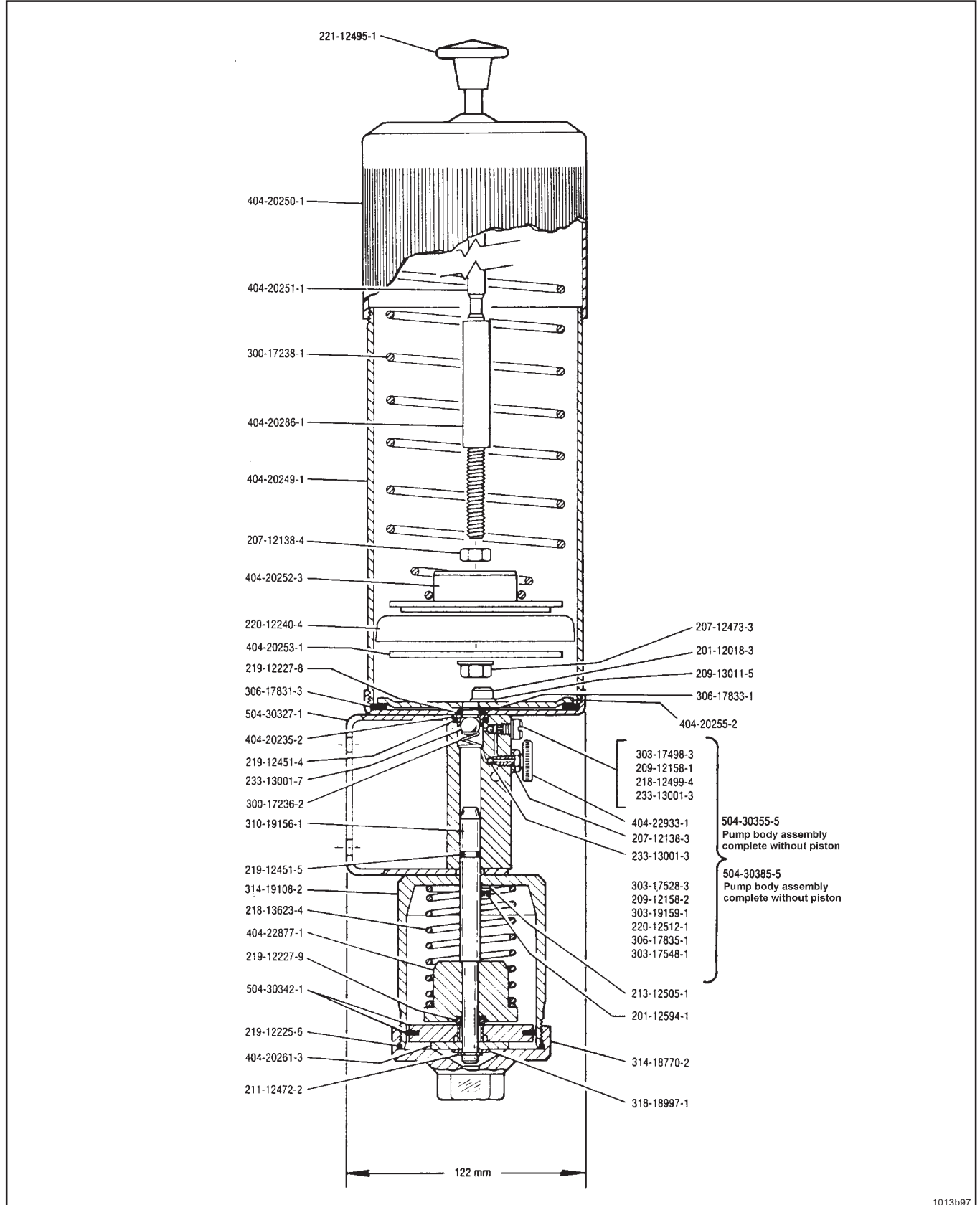
PPG with 1,5-litre reservoir (Front view)



Subject to modifications

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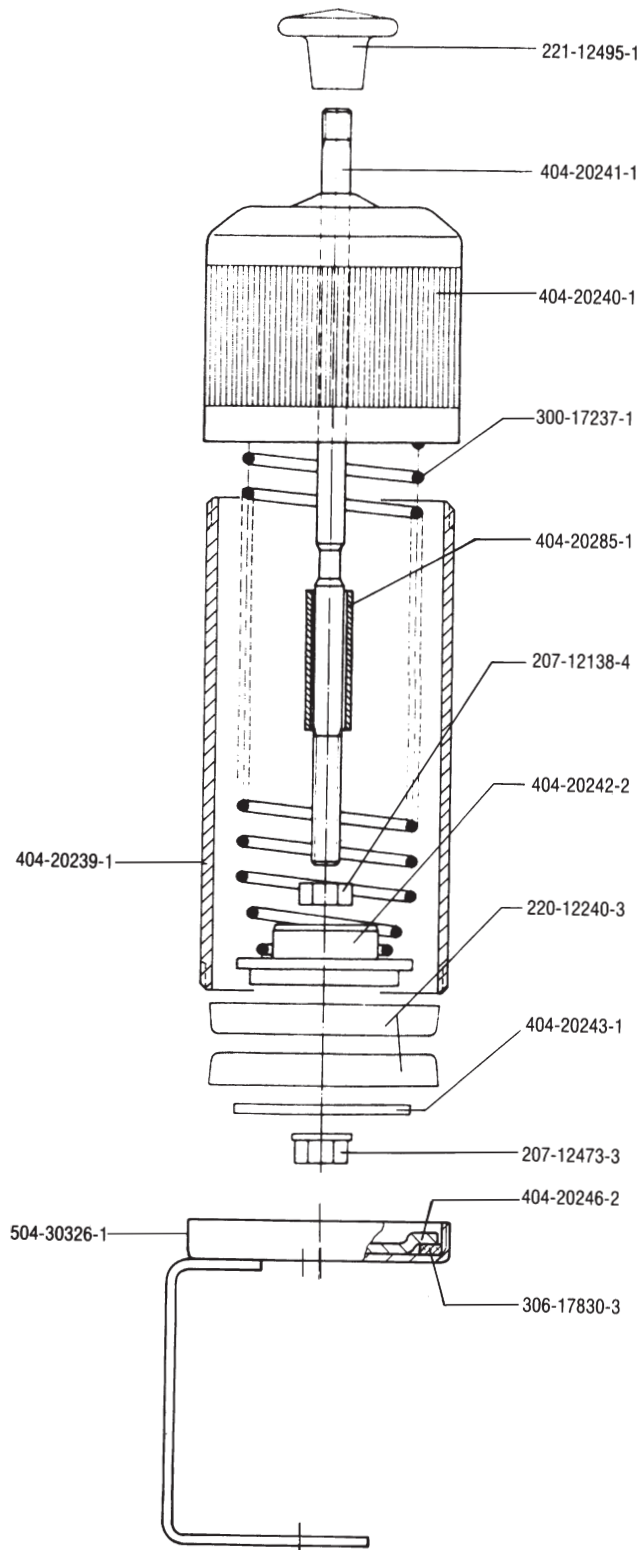
PPG with 1,5-litre reservoir (Side view)



Subject to modifications

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PPG with 0,4-litre reservoir (Side view)



Pump body
 same as PPG with 1.5-litre reservoir

1014b97

Subject to modifications

Spare parts list

PPG with 1,5-litre reservoir

Description	Qty.	Part No.
1 Hex. socket head screw	2	201-12018-3
2 Hex. socket head screw	2	201-12594-1
3 Hex. nut	1	207-12138-3
4 Hex. nut	1	207-12138-4
5 Self-locking hex. nut	1	207-12473-3
6 Gasket	1	209-12158-1
7 Gasket	9	209-12158-2
8 Washer	2	209-13011-5
9 Retaining ring	1	211-12472-2
10 Spring washer	2	213-12505-1
11 Compression spring	1	218-12499-4
12 O-ring	1	219-12222-1
13 O-ring	1	219-12225-6
14 O-ring	1	219-12227-8
15 O-ring	1	219-12227-9
16 O-ring	1	219-12451-4
17 O-ring	1	219-12451-5
18 Axial cup	1	220-12240-4
19 U-cup sealing ring	1	220-12512-1
20 Switching knob	1	221-12495-1
21 WE6-LLR1/8 KC	1	223-12485-9
22 Steel ball	2	233-13001-3
23 Steel ball	1	233-13001-7
24 Hydraulic lubrication fitting	1	251-14045-1
25 Compression spring	1	300-17236-2
26 Compression spring	1	300-17238-1
27 Closure plug	1	303-17498-3
28 Closure plug	8	303-17528-3
29 Gewinding	1	303-17548-1
30 Closure plug	1	303-19159-1
31 Adapter	1	304-19125-1
32 Gasket	1	306-17831-3
33 Gasket	2	306-17833-1
34 Gasket	1	306-17835-2
35 Piston	1	310-19156-1
36 Bottom	1	314-18770-2
37 Cylinder	1	314-19108-2
38 Washer	1	318-18997-1
39 Ball seat	1	404-20235-2
40 Reservoir 1,5-litre	1	404-20249-1
41 Cover	1	404-20250-1
42 Piston guide rod	1	404-20251-1
43 Piston plate 1	1	404-20252-3
44 Piston plate 2	1	404-20253-1
45 Gasket support	1	404-20255-2
46 Washer	1	404-20261-3
47 Stop sleeve, long	1	404-20286-1
48 Vent tube	1	404-22850-1
49 Stop	1	404-22877-1
50 Vent screw	1	404-22933-1
51 Bottom with bracket	1	504-30327-1
52 Pneumatic piston dia. 63	1	504-30342-1
53 Pump body assembly complete without piston model PPG	1	504-30355-5
54 Pump body assembly complete without piston model PPG-K	1	504-30385-5

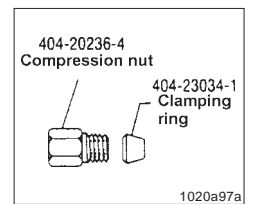
Subject to modifications

PPG with 0,4-litre reservoir

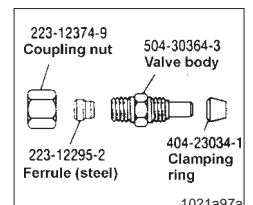
Description	Qty.	Part No.
1 Hex. nut	1	207-12138-4
2 Self-locking hex. nut	1	207-12473-3
3 Axial cup seal	1	220-12240-3
4 Switching knob	1	221-12495-1
5 Compression spring	1	300-17237-1
6 Gasket	1	306-17830-3
7 Reservoir 0,4-litre	1	404-20239-1
8 Cover	1	404-20240-1
9 Piston guide rod	1	404-20241-1
10 Piston plate 1	1	404-20242-2
11 Piston plate 2	1	404-20243-1
12 Gasket support	1	404-20246-2
13 Stop sleeve, short	1	404-20285-1
14 Bottom with bracket	1	50430326-1

Outlet fittings

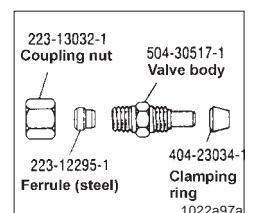
for tube O.D. 6 mm



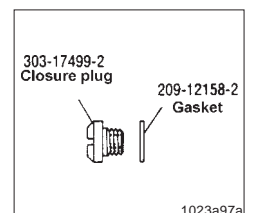
for tube O.D. 6 mm - check valve



for tube O.D. 4mm - check valve



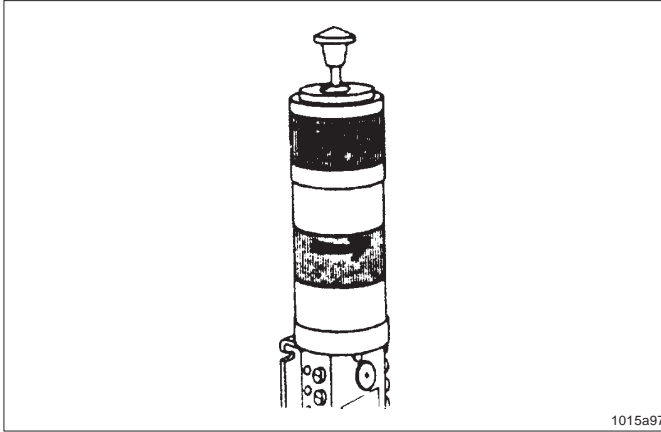
Closure plug



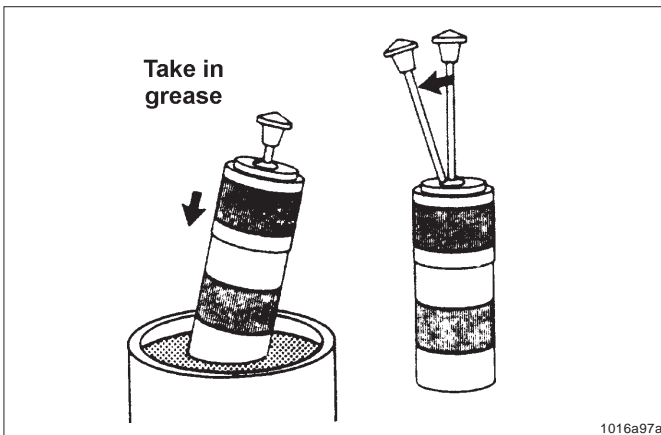
Note:

1. **All** tube fittings **must** be original QUICKLUB fittings to assure proper operation of pump.
2. **All** outlets fittings **must** be selected and ordered separately.

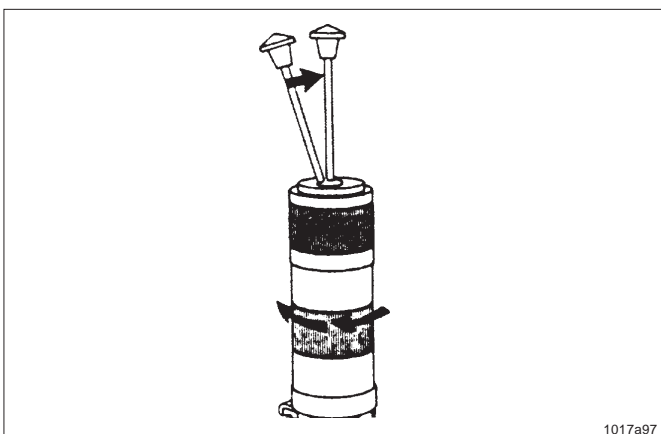
Filling instructions for model PPG 4



Remove pump reservoir with cover.



Immerse open part of pump reservoir into grease. Pull piston guide rod vigorously upwards and lock it into groove. Avoid air inclusions.



Screw reservoir onto pump. Release guide rod (central position).

Troubleshooting

<ul style="list-style-type: none"> • Fault: actuates without delivering lubricant 	
<ul style="list-style-type: none"> • Cause 	<ul style="list-style-type: none"> • Remedy
<ul style="list-style-type: none"> • Lubricant reservoir empty. • Air pockets in lubricant. 	<ul style="list-style-type: none"> • Check lubricant level in reservoir and fill, if necessary. • Vent air from pump; see instructions „Commissioning of the pump“. If applicable, renew lubricant.
<ul style="list-style-type: none"> • Fault: No compressed air on pump air cylinder 	
<ul style="list-style-type: none"> • Cause 	<ul style="list-style-type: none"> • Remedy
<ul style="list-style-type: none"> • 3/2 - way solenoid valve, defective. 	<ul style="list-style-type: none"> • Check solenoid valve, repair or replace, if necessary.
<ul style="list-style-type: none"> • Fault: Although compressed air available at air cylinder, piston does not complete its stroke (indicator pin does not move) 	
<ul style="list-style-type: none"> • Cause 	<ul style="list-style-type: none"> • Remedy
<ul style="list-style-type: none"> • Clogged feed line. 	<ul style="list-style-type: none"> • Pressurize the pump. Loosen fitting on pump body and check for lubricant delivery. Then loosen fittings at metering devices or at lubrication points until lubricant emerges from outlet and pump actuates. This will indicate in which line the blockage has occurred. Clear blockage. Tighten all loose fittings.
<ul style="list-style-type: none"> • Fault: Air escapes from cylinder vent tube. The air cylinder is activated and piston is at top of stroke 	
<ul style="list-style-type: none"> • Cause 	<ul style="list-style-type: none"> • Remedy
<ul style="list-style-type: none"> • O-ring 219-13043-6 or pneumatic piston 504-30342-1 worn or damaged. 	<ul style="list-style-type: none"> • Disconnect air supply. Unscrew air cylinder bottom. Remove piston and disassemble all parts. O-ring 219-12451-5, O-ring 219-13043-6, pneumatic piston with gasket 504-30342-1 and retaining ring 211-12472-2 have to be replaced. Reassemble piston and lubricate lightly with oil. Loosen vent screw counter nut, open vent screw approximately one turn (DO NOT REMOVE) and install pneumatic piston. Replace O-ring 219-12225-6 and reassemble air cylinder bottom. Reconnect air supply. Operate pump until lubricant flows from vent screw, then tighten vent screw and counter nut.
<ul style="list-style-type: none"> • Fault: Lubricant discharged from vent tube 	
<ul style="list-style-type: none"> • Cause 	<ul style="list-style-type: none"> • Remedy
<ul style="list-style-type: none"> • O-ring 219-12451-5 worn or damaged. 	<ul style="list-style-type: none"> • Disconnect air supply. Unscrew bottom 314-18770-2. Remove piston and replace O-ring 219-12451-5. Lightly lubricate piston with oil. Loosen vent screw counter nut and open vent screw approximately one turn (DO NOT REMOVE) and install piston. Replace O-ring 219-12225-6 and reassemble air cylinder bottom. Reconnect air supply. Operate pump until lubricant flows from vent screw, then tighten vent screw and counter nut.

Subject to modifications

<ul style="list-style-type: none"> • Fault: Lubricant leaking at reservoir thread 	
<ul style="list-style-type: none"> • Cause 	<ul style="list-style-type: none"> • Remedy
<ul style="list-style-type: none"> • Gasket 306-17831-3 either worn or damaged. 	<ul style="list-style-type: none"> • By means of grip pliers withdraw piston guide rod from top of reservoir and latch. Unscrew reservoir from reservoir base and remove. Unscrew two hex. socket screws 201-12018-3. Remove gasket support 404-20255-2. Replace gasket 306-17831-3 and two paper gaskets 306-17833-1. To reassemble, reverse disassembly procedure.
<ul style="list-style-type: none"> • Fault: Lubricant leaking between pump body and reservoir base 	
<ul style="list-style-type: none"> • Cause 	<ul style="list-style-type: none"> • Remedy
<ul style="list-style-type: none"> • O-ring 219-12451-4 or O-ring 219-12227-8 worn or damaged. 	
<ul style="list-style-type: none"> • Fault: Pump actuates without delivery lubricant 	
<ul style="list-style-type: none"> • Cause 	<ul style="list-style-type: none"> • Remedy
<ul style="list-style-type: none"> • Ball of check valve 233-13001-7 and ball seat 404-20253-2 dirty, worn damaged. 	<ul style="list-style-type: none"> • Disconnect air supply. Unscrew air cylinder bottom and remove piston. Unscrew two hex. socket screws 201-12594-1 and remove air cylinder 314-19108-2. Withdraw the piston guide rod from top of reservoir and latch. Unscrew reservoir from reservoir base. Unscrew two hex. socket screws 201-12018-3 and remove pump body. Remove ball seat 404-20235-2 and replace O-ring 219-12451-4. Clean and inspect check valve ball and ball seat, replace if worn or damaged. Replace O-ring 219-12227-8 in reservoir base. Replace paper gasket 306-17833-1. To reassemble reverse disassembly procedures. When installing piston, loosen piston and vent screw counter nut and open vent screw approximately one turn (DO NOT REMOVE), replace O-ring 219-12225-6 and reassemble bottom of air cylinder. Reconnect air supply. Operate the pump until lubricant flows from vent screw, then tighten vent screw and counter nut. <p>Important: Pump body must be flush with reservoir base.</p>

**Declaration by the manufacture
as defined by machinery derective 89/392/EEC,
Annex II B**

Herewhich we declare that the supplied model of

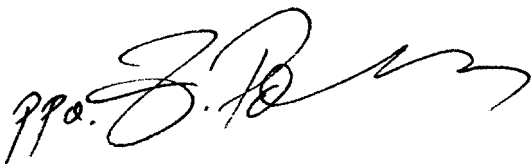
Pump Model PP.; PPG.;...

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 confirmity with the provisions of the directive.

Applied harmonized standards in particulare

EN 292 T1/T2

prEN 809



Walldorf, 29.12.1994 , ppa. Z.Paluncic