BIJUR DELIMON INTERNATIONAL

Operating instructions

Electric Lubrication pump Dynamis Maxx

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1. General

Before installing and operating this equipment, we highly recommend that you become thoroughly familiar with these instructions. DELIMON does not accept liability, expressed or implied, for any direct or inconsequential injuries to personnel or damage to equipment, including process interruption, arising from the misuse or misapplication of its products. Application and / or modification of product beyond its intended purpose is strictly prohibited.

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2. Safety

These instructions provide basic guidance which must be followed during installation, operation and maintenance. It is assumed that personnel performing required tasks are skilled in the areas of electrical and mechanical millwright trades plus all local and federal safety requirements. These instructions should be kept near the point of use and made available for reference at all times.

2.1 Identification of safety warnings in the operating instructions

To minimize risk to people working with this equipment, safety warnings included within these instructions must be observed. Potential safety issues are identified through use of the following general danger symbols:



Safety Sign, per DIN 4844, provides warning of potential general danger.



Safety Sign, per DIN 4844, provides warning of potential electrical danger.

ATTENTION

Caution designation utilized to signify that damage to machinery and function may result if guidance is not properly followed.

Instructions affixed directly to machines and equipment must always be observed and maintained to ensure that they are fully legible. Examples of such instructions would be:

- Rotational direction arrows for shafts and couplings.
- Identification of fluid connections, direction of flow and substance contained in pipes.

Important Note: There is always increased risk of slipping or falling whenever spilled or leaking lubricants are present. In all cases, they should be properly removed and disposed of.



Safety Sign, per DIN 4844, provides warning of an increased risk of slipping and falling due to the presence of water, oil, grease or other foreign substances on pavements, floors and walkways.

2. Safety (continuation)

2.2 Personnel qualification and training

Personnel performing work required to install, operate, maintain or inspect this equipment must be adequately trained and qualified. In this regard, determination of competency, understanding and supervision levels required for individual assignment is left to the purchaser of the equipment. However, should assistance with on-site training be desired, please contact your local DELIMON office for assistance.

2.3 Dangers in case of nonobservance of the safety instructions

Failure to properly follow all safety instructions may result in hazard to personnel, the environment or to machinery and equipment. Failure to follow these instructions may also additionally void warranties and nullify claims for damages. Examples of such instances follow:

- Failure of machinery or operating systems to function properly
- Failure to observe proper methods of maintenance and repair
- Unnecessary creation of hazards to personnel by means of electrical shock, mechanical injury or exposure to potentially hazardous chemicals
- Unnecessary creation of environmental hazards through chemical leaks

2.4 Safety conscious working

All Safety Instructions resulting from National, Local or User mandated regulations, as well as those contained within this instruction, must be observed at all times.

2.5 Safety instructions for the user/operator

- Users should always take care that only authorized and skilled personnel are allowed to perform installation, maintenance and inspection work.
- Installation, maintenance and inspection of lubrication systems should only be performed while machinery and equipment being serviced is in “Shut-Down Mode”.
- Protective covers and guards, provided to ensure that contact with moving parts is eliminated during machine operation, (e.g. couplings, pulleys, gears, etc.), must be replaced following maintenance and repair.
- Use “Common Sense”! When hot or cold machine parts can lead to potential dangers, those parts must be handled in such manner so as to avoid human touch; i.e. shielding is required.
- Leaks from shaft seals, reservoirs, piping or fittings should be repaired so as to not cause potentially hazardous materials from escaping to the work area. In instances where such leaks have occurred, all local and National rules and regulations for their recovery and disposition must be followed.
- All potential hazards resulting from exposure to electrical sources must be eliminated. Please refer to VDE and local power company rules and regulations for guidance.
- Before restarting system and equipment, refer to instruction in Section 7; Start-Up Procedure.

2.6 Safety instructions for maintenance, inspection and installation work

Before installing or servicing lubrication equipment and machinery, management should insure that only persons who are fully trained, skilled and authorized to perform such work are assigned to such tasks.



Danger zone:

Reservoir and follower plate spring for repair at the pump DYNAMIS MAXX.
The reservoir is connected to the housing with 4 nuts via tie rods. If you open these connections the pre-load of the compression spring 66 (Picture 5 – assemblies) will release, which can lead to injuries.
Therefore the disassembly of the pump must only be done by only qualified personnel.

Major installation or modification work should only be performed during shut-downs. It is also imperative that shut-down procedures recommended by equipment manufacturers be followed. Pumps, lubricators and distribution systems which deliver potentially hazardous materials to the environment must be thoroughly cleaned.

2. Safety (continuation)

All safety devices and protective equipment, disabled or removed during cleaning, must be immediately reinstalled and reactivated prior to machine use.



Safety Sign, per DIN 4844, Use Safety Glasses or Goggles.
Advice: Whenever working with compressed air, wear safety glasses



Safety Sign, per DIN 4844, Use Breathing Mask.
Advice: Observe EC-Safety Data Sheet for materials of consumption and additives used and use personal protective equipment.

2.7 Unauthorized conversion and manufacture of spare parts

The modification and/or manufacturing of parts for use as spare or replacement parts in DELIMON lubrication equipment, without the written consent and approval of DELIMON Engineering, is strictly prohibited. Any such modification and/or manufacture of component parts shall immediately render any and all warranties as null and void.

2.8 Unacceptable modes of operation

The operational integrity and reliability of all equipment supplied is warranted only when said equipment is utilized in strict accordance with parameters established in Section 1; Introduction. Maximum operating parameters outlined in Engineering Data Sheets must never be exceeded.

2.9 Guidelines & standards

1., 2. and 3. guideline (see data sheet: R&N_2009_X_GB)

3.0 Notes on environmental protection and waste disposal

During proper operation, various component parts of lubricating systems are subject to special requirements as set forth by Environmental Legislation.
General requirements for handling lubricants are specified in their respective safety data sheets.
Used lubricants are hazardous forms of waste and therefore require special handling and supervision with regard to § 41 paragraph 1, sentence 1 and paragraph 3 no. 1 of KrW-/AbfG (Closed-Loop Waste Management Act).
Used oils must be handled in compliance with AltölV (Waste Oil Ordinance).
Any devices or components which become contaminated with lubricant must be disposed of by a certified waste management company. Additionally, records indicating proper conformance to waste management practice and law must be filed according to NachwV (Ordinance on Waste Recovery and Disposal Records).

GENERAL PRODUCT CHARACTERISTICS

- Pump for single-line, progressive and spray systems in wind power stations and for industrial applications
- Lubricant: grease, liquid grease up to NLGI class 2, oil from 68 cSt
- Discharge pressure max. 160 and 300 bar
- Internal electric control (optional)
- Max. 16 outlets with flanged progressive distributor (optional)
- Filling connection
- Discharge volume: 2.9 cm^3/min per pump element

A. PUMP TYPE DYX

B. LUBRICATION SYSTEM

Multi-line / version with free outlet (outlets)
Version for single line system (selection in separate sheet)
Version for progressive system (selection in separate sheet)
Version for spraying lubrication system (selection in separate sheet)
Version for air-oil system (selection in separate sheet)

C. REVISION

Status A

D. VERSION OF PUMP ELEMENT 1

without pump element
with pump element, without relief valve
with pump element, with relief valve 160 bar
with pump element, with relief valve 300 bar
with pump element, without relief valve; connected with other pump elements
with pump element, with relief valve 160 bar; connected with other pump elements
with pump element, with relief valve 300 bar; connected with other pump elements

E. VERSION OF PUMP ELEMENT 2

without pump element
with pump element, without relief valve
with pump element, with relief valve 160 bar
with pump element, with relief valve 300 bar
with pump element, without relief valve; connected with pump element 1
with pump element, without relief valve; connected with pump element 1 + 3

F. VERSION OF PUMP ELEMENT 3

without pump element
with pump element, without relief valve
with pump element, with relief valve 160 bar
with pump element, with relief valve 300 bar
with pump element, without relief valve; connected with pump element 1
with pump element, without relief valve; connected with pump element 2

G. RESERVOIR SIZE

4 liter with follower plate; without level control
8 liter with follower plate; without level control
12 liter with follower plate; without level control
15 liter with follower plate; without level control
20 liter with follower plate; without level control
4 liter with follower plate; with level control EMPTY
8 liter with follower plate; with level control EMPTY
12 liter with follower plate; with level control EMPTY
15 liter with follower plate; with level control EMPTY
20 liter with follower plate; with level control EMPTY
4 liter without follower plate; without level control
8 liter without follower plate; without level control
12 liter without follower plate; without level control
15 liter without follower plate; without level control
20 liter without follower plate; without level control
4 liter without follower plate; with level control EMPTY
8 liter without follower plate; with level control EMPTY
12 liter without follower plate; with level control EMPTY
15 liter without follower plate; with level control EMPTY
20 liter without follower plate; with level control EMPTY

H. OPERATING VOLTAGE

12 V DC
24 V DC
115 V AC ± 15 % / 50 - 60 Hz
230 V AC ± 15 % / 50 - 60 Hz

I. CONTROLLER / INTERFACE

internal controller, 1 x plug DIN 43650, 3-pole
internal controller, 1 x plug DIN 43650, 3-pole + 1 x plug M 12x1, 8-pole
internal controller, 1 x plug DIN 43650, 3-pole + cable gland M 20x1.5
internal controller, 1 x plug DIN 43650, 3-pole + 1 x plug M 12x1, 8-pole + cable gland M 20x1,5

Advice: Plug DIN 43650, 3-pole – for power supply
Plug M12x1, 8-pole - for status signals
Cable gland M 20x1.5 for connection of sensors/pressure switches within the pump

without controller, 1 x plug DIN43650, 3-pole
without controller, 1 x plug DIN43650, 3-pole + 1x plug M12x1, 4-pole
without controller, 1 x plug DIN 43650, 3-pole + 1x plug M12x1, 4-pole + cable gland M 20x1.5
without controller, 1 x plug DIN 43650, 3-pole + 1x plug M12x1, 8-pole + cable gland M 20x1.5
without controller, 1 x plug DIN43650, 3-pole + 1x plug DIN 43650, 4-pole

Advice: Plug DIN 43650, 3-pole - to connect the motor
Plug DIN 43650, 4-pole - for level switch
Plug M12x1, 4-pole - for up to 2 switching signals (e.g. level switch)
Plug M12x1, 8-pole - for up to 5 switching signals (e.g. level switch)
Cable gland M 20x1.5 for connection of sensors/valves within the pump

J. ACCESSORIES

without
1x cable connector DIN43650, 3-pole
1x cable connector DIN43650, 3-pole + 1x cable connector M12x1, 8-pole
1x cable connector DIN43650, 3-pole + 1x cable connector M12x1, 4-pole
2x cable connector DIN43650, 4-pole

RECOMMENDED ACCESSORIES (must be ordered separately)

1. Connection to voltage supply
   Suitable cable: PVC NYSLYÖ-J 3 x 1 mm^2 769212643
2. Connection of signals
   Suitable cable: UNITRONIC® PUR CP control line 7x0.25 mm^2 769217027

   If the pump is ordered without internal control, the attached electrical devices (valves, pressure switch, monitoring switches) must be wired by the user.
   The factory offers the valves as standard with line sockets without any protection circuit. At 230 V AC supply voltage, the standard line sockets can be used without a protection circuit; for 24V DC supply voltage we offer you the following line sockets with protection circuit:
3. Connection for valves
   a. Line socket DIN 43650 with protection circuit and status LED 769289233
   b. Suitable cable: PVC NYSLYÖ-J 3 x 1 mm^2 769212643
4. Connection of pressure switch for a single-line system
   a. Line socket 4-pole, angular, M 12x1 with 2 m cable 76928E042
5. Connection of monitoring switch 669251311 (relief valve)
   a. Selection as per data sheet 669251311
6. Counterpart of the filling connection 734142583

3. Application

The DYNAMIS MAXX pump was designed and developed to serve as a multi-function automatic lubricant pump. Due to its compact size and modular design, the pump can easily be modified for use in wind turbine power stations, general industry, commercial vehicle and spraying applications.

4. Design and Dimensions

The unit consists of a pump housing (1), a reservoir (2), a guide rod module with spring loaded piston (3), gear motor module (4) and a drive shaft module (5). A compact electronic control module (6) is optional. A filling junction (7) is provided. Adaption of the unit for a variety of applications is accomplished by means of a connection module (8) consisting of a base plate and one or two pressure relief valves.

A proximity sensor (9), located on the top side of the housing, provides a signal to the control just prior to the follower piston reaching its low end position; (minimum filling level). By varying the modules, the pump may be utilized with internal or external progressive distributor(s), single-line injectors with electric reversing, or in spray lubrication applications.

Many combinations are possible through mix and match utilization of various functional plates, pump elements and pressure relief valves; making this an extensively flexible modular system.

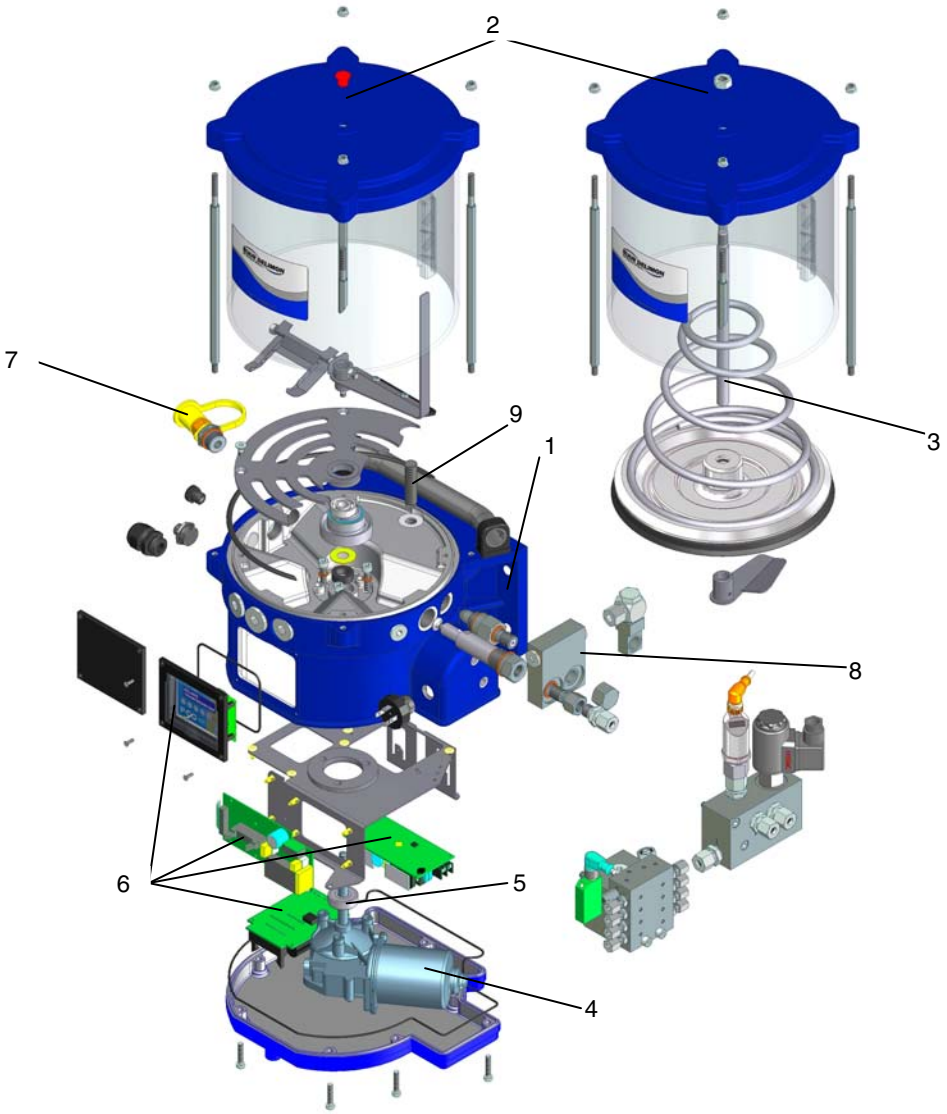


Fig. 1 (Pump design

4. Design and Dimensions (continued)

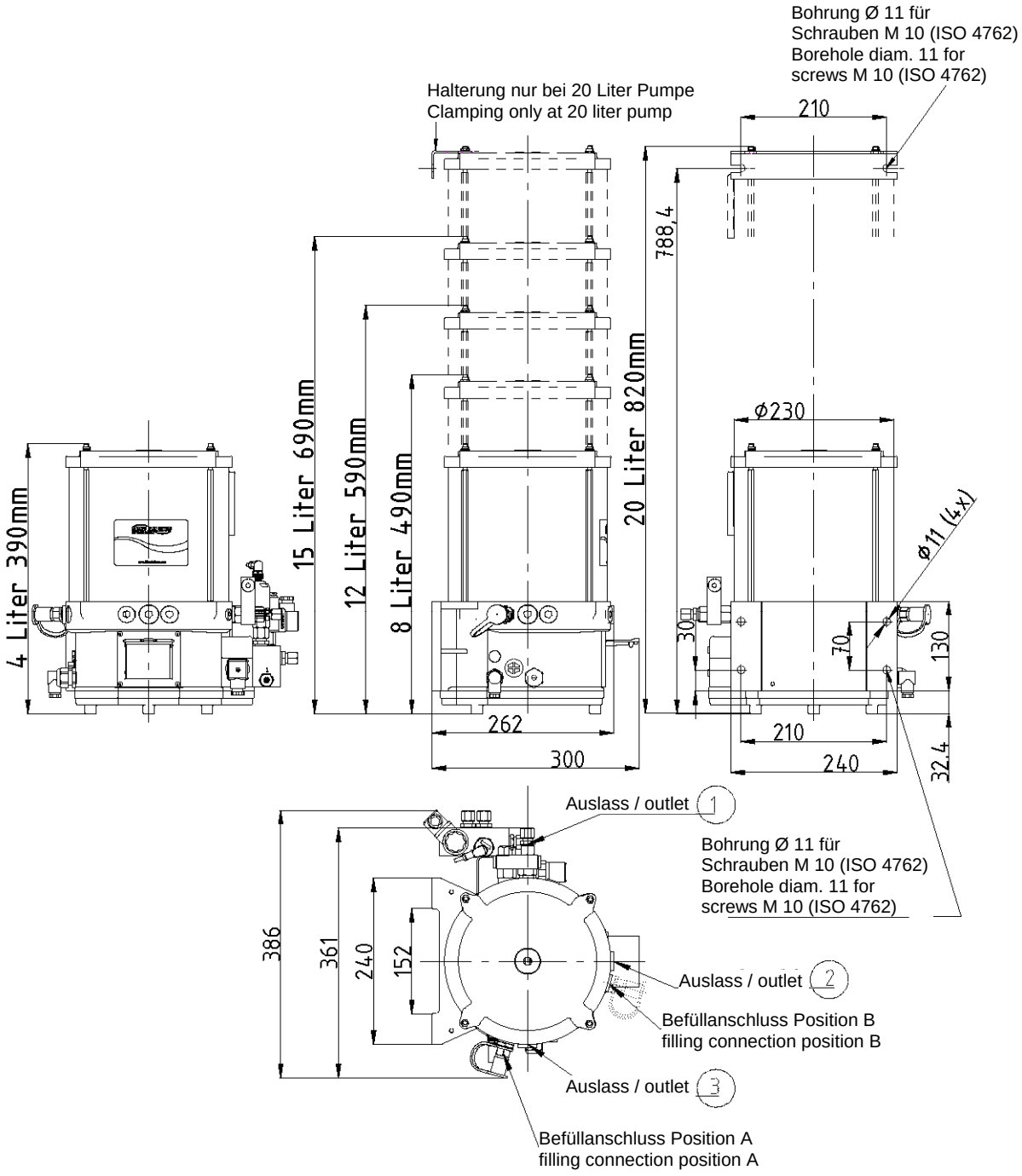


Fig. 2 (Main and connection dimensions)

5. Sub-assemblies, Function and Filling

In the pump housing, the gear motor (52) is fastened on with a spacing washer and it drives an eccentric (54), which is placed directly onto the motor shaft (54). The eccentric is supported on 2 ball bearings (55) in the housing. Positioned on the eccentric is a needle roller bearing (56) with a retraction ring (57) with which the piston (58) in the pump element (59) is reset after the eccentric stroke.

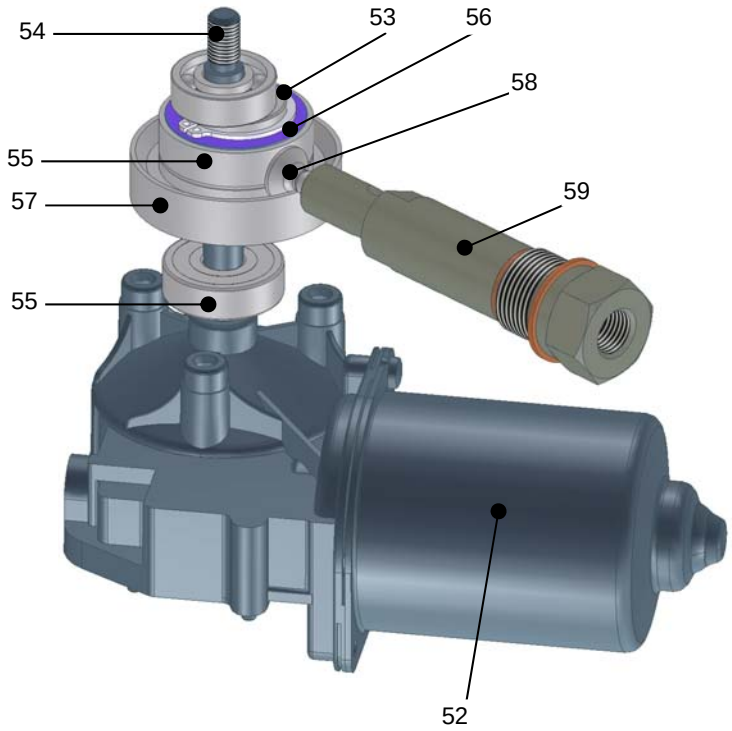


Fig. 3 (Pump mechanism – gear motor and eccentric component assembly)

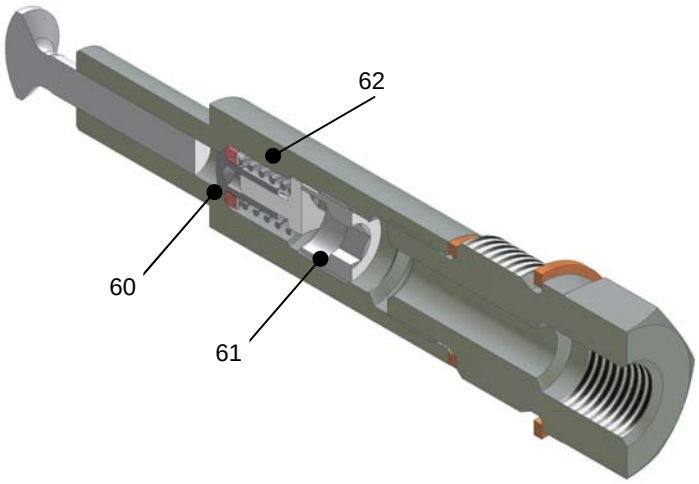


Fig. 4 (Pump element with non-return valve)

The pump element contains a non-return valve (60), which prevents any reverse flow of the delivered lubricant. The non-return valve is secured with a fastening screw (61) in the pump element housing (62).

5. Sub-assemblies, Function and Filling (continued)

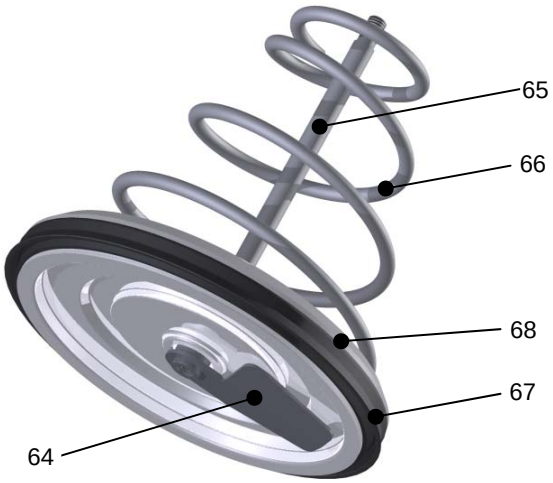


Fig. 5 (guiding rod with follower piston and spreading blade)

At the end of the motor shaft there is a spreading blade (64), which helps move the lubricant to the pump chamber. The follower piston (68) also helps to supply the lubricant and it is absolutely essential when the pump is operated in any position other than the normal one. The preloading force of a conical compression spring (66) moves the follower piston on the guiding rod (65). Along the tank wall, it is sealed by means of a groove ring (67) and at the guiding rod by means of a special annular lip seal.

The follower piston with spring can be dispensed with in the pump's normal position and a spreading blade with a switching element is used for checking the contents. If the filling level drops to empty, the switching element (69) triggers a signal by means of the sensor.

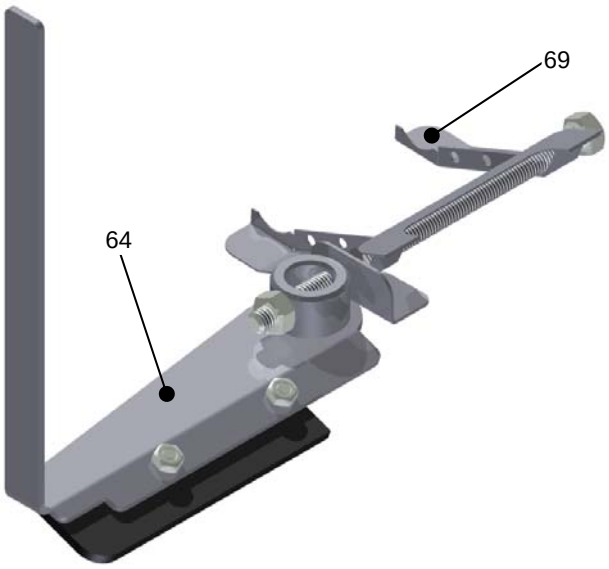


Fig. 6 (Spreading blade with switching element for checking the contents with a sensor)

5. Sub-assemblies, Function and Filling (continued)

The pump components in the high-pressure range are protected by means of pressure relief values. The pressure relief valves for 160 und 300 bar are identical in construction and must be set to the respective pressure before installation. If the set maximum pressure is exceeded, a spring-loaded piston with ball (63) opens and the lubricant is diverted back into the lubricant tank.

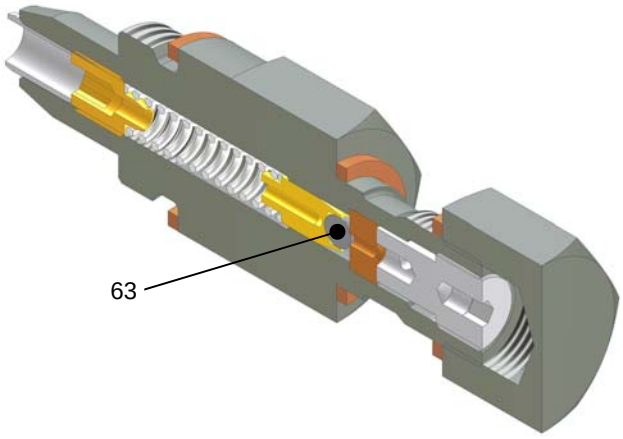


Fig. 7 (Pressure-relief valve 160 und 300 bar)

The Dynamis Maxx pump can be supplied with the lubricant tank sizes: 4 - 8 - 12 - 15 - 20 litres. A channel attached to the side of the tank is connected to the interior of the tank by means of 2 boreholes near the top of the tank. The lower borehole is provided as protection against overfilling. If the grease tank is filled beyond its capacity, the excessive quantity can escape through this channel. The upper borehole allows air into and out of the chamber by means of the follower piston when filling and operating the pump.



Fig. 8 (lubricant tank 4 - 8 -12 - 15 - 20 litres)

5. Sub-assemblies, Function and Filling (continued)

Reservoirs are secured to the unit by the guide rod, utilizing a mounting bushing, and are sealed with the pump housing by means of an O ring. A spring loaded lubricant follower plate moves along the guide rod assuring lubricant delivery to the pump. (see fig. 1 and fig. 5). Sealing between the rod and tank is accomplished using a special lip seal on the rod and a ring groove in the wall of the tank. An atmospheric vent hole, located above the top of the channel and near the guide rod, facilitates air movement in and out of the reservoir.

The guide rod also serves to support compression springs on the tank side of the assembly. The significance of this design affords increased flexibility in applications since the pump may be mounted in any position and in rotation around any axis.

For the purpose of filling the lubricant tank, the Dynamis Maxx pump is equipped as standard with the filling connection consisting of a reducing nipple (19), G1/4" connector (20) and dust cap (21). Filling is therefore easy by using a filling pump and a rapid-action coupling. The filling procedure must be supervised because the DYNAMIS Maxx pump's filling level cannot activate an automatic disconnection.

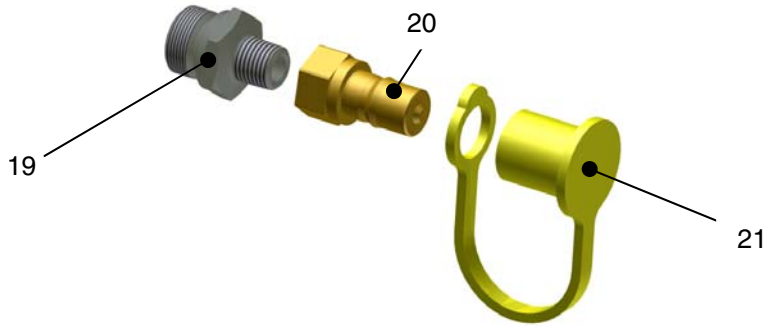


Fig. 9 (Standard filling connection)

5. Sub-assemblies, Function and Filling (continued)

1. Until further notice, the pumps should always be in the normal position for the first filling. The normal position means here that when the pump is being attached to the mounting foot on the pump housing the lubricant container must be placed in an upright position.
2. When the lubricant is introduced through the filling connection, it will first fill up the capacity of the pump chamber, thereby pressing the existing volume of air under the follower piston. In the course of further filling this quantity of air will be trapped between the piston and the further flowing lubricant.
3. To remove the cushion of air, the lubricant must be topped up until the sealing lip of the follower piston groove ring frees the lower pressure-relief borehole in the grease container wall in the overflow channel.
4. If air escapes, lubricant must be filled in until the complete cavity under the piston is filled. The discharge of lubricant from the pressure-relief borehole, mentioned above, can be used as a visible indication of when the cavity has been filled completely with lubricant. To minimise the quantity of overflowing lubricant, be careful about how much lubricant you fill in towards the end of the filling procedure.
5. This procedure will not need to be considered any more in subsequent refilling processes because as long as the level sensor is functioning, the pump will be turned off when it reaches the minimum filling level. This prevents another air cushion being sucked onto the underside of the piston. Whenever you are refilling the grease container, top up just as much lubricant as is needed to avoid to overfill the maximum level (see check mark at the reservoir). Otherwise a very small quantity of lubricant will escape in each filling process and this escaping lubricant will be conducted along the channel and contaminate the exterior of the pump accordingly.
6. For pumps which operate exclusively in the overhead position, the pump should not be set up at its place of use until it has been filled as described in the above.
7. In pumps which operate in an overhead position the functional efficiency of the minimum level sensor is particularly important because air sucked onto the underside of the piston will settle in the pumping chamber in the pump housing. When installed, it is no longer possible to remove this quantity of air through the housing and once a certain quantity of air accumulates, the functional efficiency of the pump elements and in the end the entire pump will be impaired or rendered completely impossible.
8. Special care is needed when refilling pumps that work in the overhead position. Each discharge of lubricant from the relief borehole is conducted through the channel, as already described. However, in this mounting position this means that the escaping lubricant collects at the closed end of the channel and in the end oozes through the ventilation borehole in the upper piston air out onto the top of the piston. The only way to be able to clean the components contaminated in this way is to take off the grease container.
9. In general, care should be taken not to let any air enter the pump through the filling fittings during the refilling process. In pumps that work in the overhead position this would have the fatal consequences described in point 7. For pumps that operate in the normal position the first filling procedure must be conducted again.

6. System versions and Examples

6.1 Pump version with free outlet

In this version the lubricating points are supplied from one, two or three pump elements. The pump elements can also be combined to one outlet. The pump elements can be equipped individually with one pressure-relief valve each or when combined together with just one common pressure-relief valve. The maximum pressure can be set to 160 or 300 bar. The pump version with a free outlet (outlets) can be used e.g. for spraying lubrication or when externally positioned progressive distributors are used.



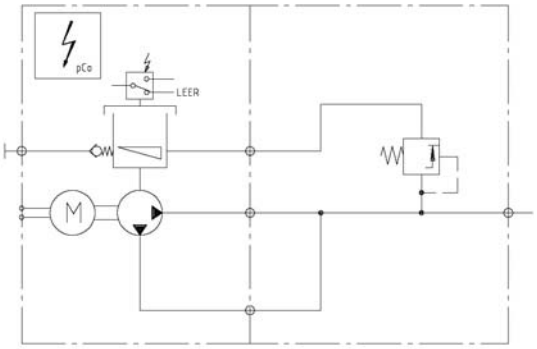
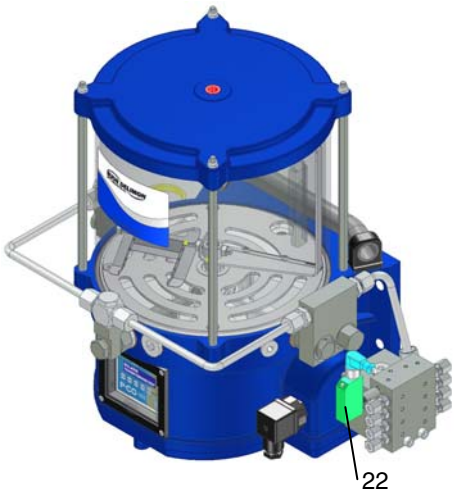


Fig. 10 (pump version with free outlet)

However, it is also possible to arrange for the individual discharge volumes to be delivered separately and to use separate pressure relief valves for setting maximum pressures.
The free outlet pump version quite suitable for use with externally mounted progressive distributors or in a variety of spraying applications.

6.2 Pump version for progressive systems (integrated progressive distributor)

In the pump variant with an integrated progressive distributor the volumes fed from one, two or three pump elements are brought together into the functional plate and protected by means of a common pressure-relief valve. All familiar versions of the PVB progressive distributor can be used. The proper functioning of the progressive distributor is monitored by means of a proximity sensor. These signals can be processed by the pump control. It is possible to use angular connection screw joints with a non-return valve.



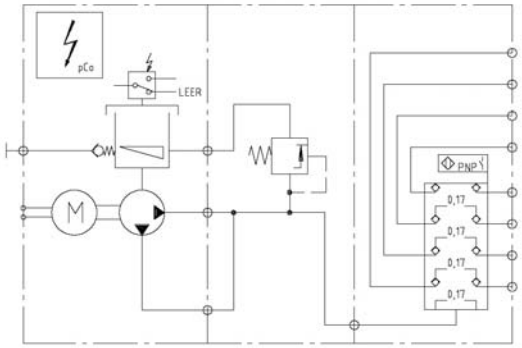


Fig. 11 (pump version with progressive distributor integrated in the connection module)

Progressive distributor function is monitored through use of a proximity sensor (22). Signals generated are also processed by the controller. When necessary, it is possible to use angular connection screw joints with a non-return valve.

6. System versions and Examples (continued)

6.3 Pump version for progressive systems (externally located progressive distributor)

In the pump variant for externally located progressive distributors, one, two or three pump elements can be connected individually or combined (for larger quantities of lubricant) to up to two external lubricant distributors. A pressure-relief valve (item 23, 160 bar and 300 bar maximum pressure) can be located in each pump element. If the set pressure is exceeded, the pressure relief valve opens and the lubricant is diverted directly back into the pump chamber.
The monitoring signal from one or two external distributors can be evaluated in the pump control in the Dynamis Maxx.

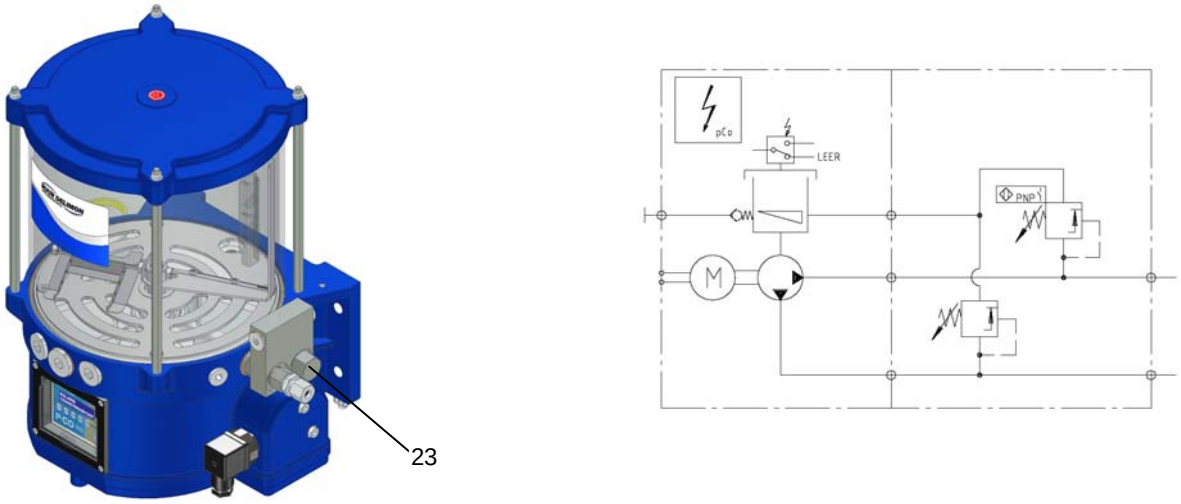


Fig. 12 (Pump version with externally connectable progressive distributors)

When the pressure relief valve is actuated, lubricant is brought back directly into the pump chamber through the pressure relief valve and functional plate. It is also possible to use external pressure relief valves for this purpose. They can be connected to a free port on the functional plate to divert lubricant back into the pump.

6.4 Pump design for single line systems

In the pump variant for single-line systems, one, two or three pump elements are brought together and protected by means of a pressure-relief valve (maximum pressure 160 or 300 bar). The lubricant is then conveyed into a functional plate (24), into which a 3/2-way solenoid valve (25) and a pressure switch are screwed in. The pressure switch (26) has two separately set switching points for controlling the process. The main lubricant feeding line to a downstream single-line distributor is switched over to pressure relief by the 3/2-way solenoid valve. A further pressure relief valve (27) is screwed into the return line in the functional plate and this maintains a residual pressure and accordingly prevents the main line emptying.

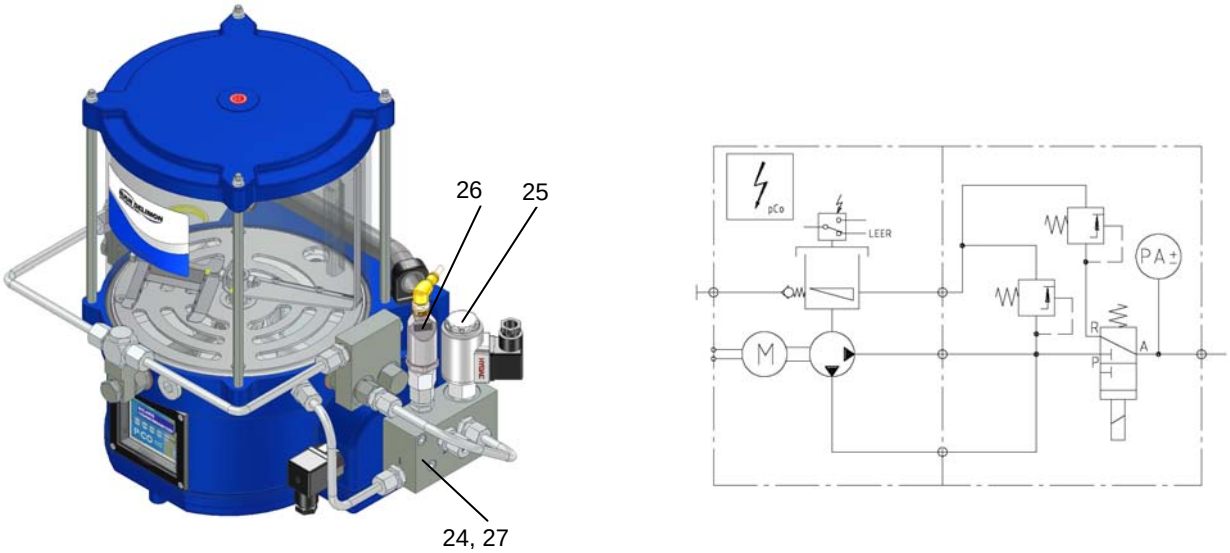


Fig 13 (Version for single-line system with electric reversing gear)

6. System versions and Examples (continued)

6.5 Example of an application use with the SDU spray nozzle

In the system version of free outlet with an external progressive distributor (progressive system), another possible application is a combination with the SDU spray nozzle. The compact construction of the Dynamis Maxx lubricant pump makes it possible to spray onto the lubricating pinions' drive pinions and tooth flanks in an easy and economical way.

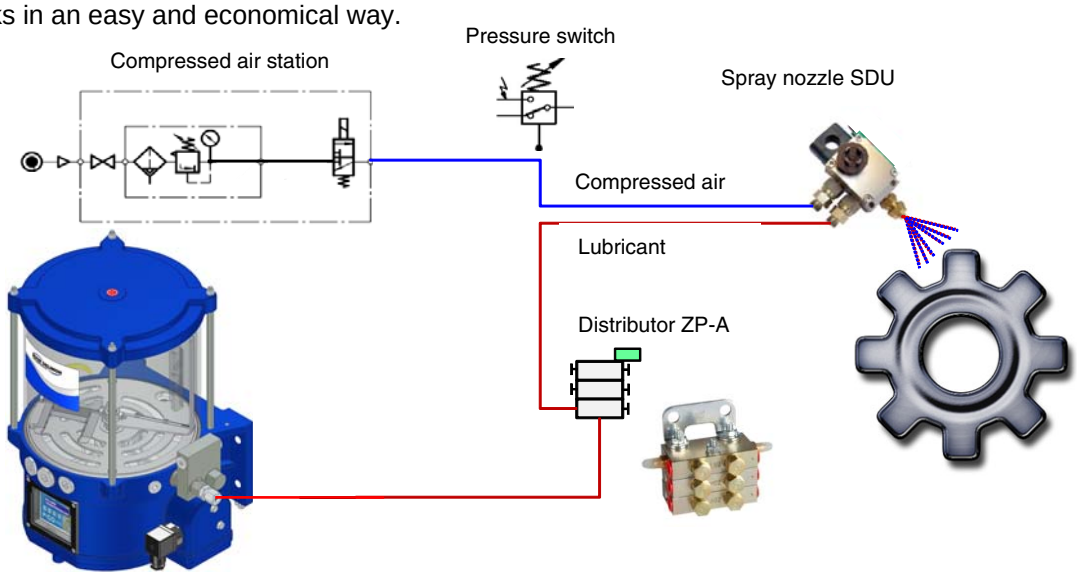


Fig. 14 (Example of an application use with the SDU spray nozzle)

7. Funktion

The lubricant conveyed from the pump through 1, 2 or 3 pump elements is fed to the point(s) of lubricant use through the functional plate (Fig. 1, item 8).
A pressure relief valve can be used at every pump element in order to protect the pump. If a fault arises (e.g. due to dirt in the lubricant) in the downstream lubricant distribution system (distributors, pipelines, screw joints etc.), the pressure relief valve is actuated once the set maximum pressure (160/300 bar) is reached and the lubricant is then fed back into the pump.
As the pump continues to run in that case without the relevant lubricating points being supplied with lubricant, the owner/managing operator of the system is obliged to conduct regular checks to ensure that all lubrication points are supplied properly. When integrated or separate progressive distributors are mounted with function monitoring by means of a proximity sensor, the pump (in the version with a control) can be controlled with this signal.

The lubricant tank's proximity sensor (Fig. 1, item 9) evaluates the pump's "Contents monitoring - Empty" by means of the pump control or as a signal output (in the version without a control).

8. Maintenance and Troubleshooting

8.1 Maintenance

The ball bearings used in the drive shaft (Fig. 1, item 5) assembly do not require any separate lubrication because the pump lubricant flows around them.
The gear and the ball bearings in the gear motor (Fig. 1, item 4) assembly are lubricated for life.
The pump assemblies are sealed by means of O rings and copper washers (mostly in the high-pressure range). If lubricant does escape at these points, these sealings must be replaced by new ones.

8.2 Troubleshooting

If the pump was put out of operation by the control (in the event of fault, please refer to the Control Operating Instructions) or if the pressure relief valves return the lubricant, the owner/managing operator must first determine and eliminate the cause of the overloading (e.g. an obstruction or a blockage in the distributor) in the lubrication system.
The control can then be reset (in accordance with the instructions); the pressure relief valves close automatically at normal working pressure.

9. Specification

General details

Operating pressure max. ..... 160 and 300 bar
Motor voltage : ..... 12 / 24 V DC or 115 / 230 V AC
Motor power : ..... 50 W
Lubrication outlet : ..... G 1/4
Rated single-piston delivery rate (also in combination): ..... 2.9 cm^3/min
Temperature range: ..... - 30° to + 75°C
Acceptable lubricants : ..... NLGI 000 class 2
..... (if operated at low temperature, select low temperature lubricant)
Available reservoir capacities : ..... 4 l, 8 l, 12 l, 15 l or 20 l
Discharge element output port (optional): ..... Quick connector Rc1/4
Protection system : IP67

Notes:

1. Lubricants should be selected according to specific operating temperatures.
   Contact BIJUR DELIMON should you require additional assistance.

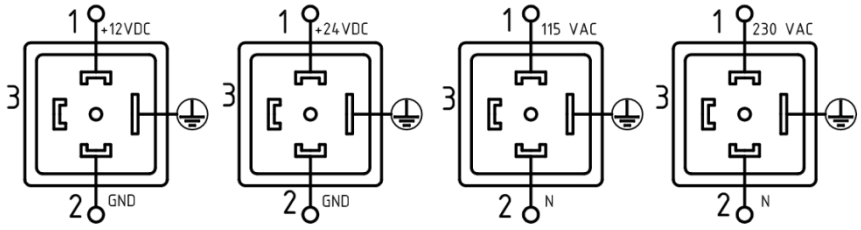
2. Electrical specification
   Number of connections : ..... 3 + PE
   Specification of power cable : ..... AWG20 -14
   Diameter of power cable : ..... 6 – 9,5 mm
   Protection system : IP67

10. Electrical connections

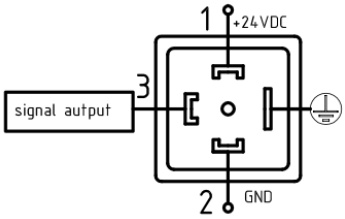
The DYNAMIS MAXX pump is designed only for intermittent duty - S3 – with a 30% duty cycle!
The electric voltage supply (12VDC/24VDC/115VAC/230VAC) must be externally protected by a fuse (2.5 A T).
In the pump versions without a control, the rotational direction is assured by a diode fitted into the pump, i.e. the motor will not start if the polarity of the connections is incorrect.

Electrical connection plan Dynamis MAXX

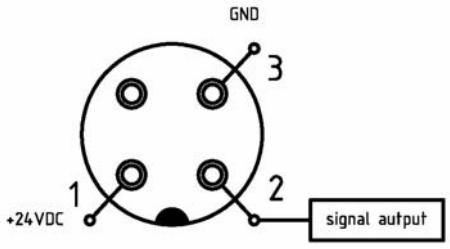
Power supply
Male connector DIN 43650 3-pole



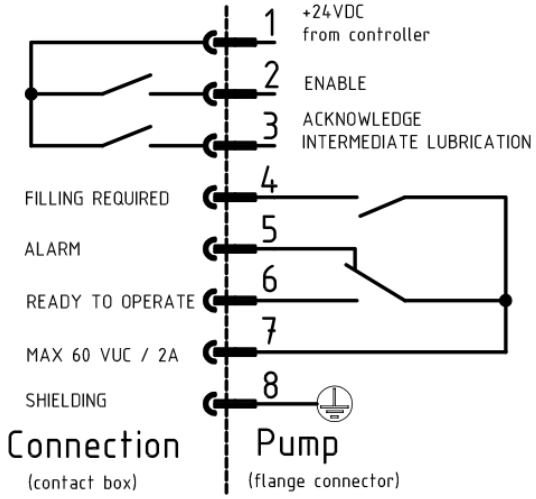
Signal interface level monitoring, pump without controller
Male connector DIN 43650 3-pole



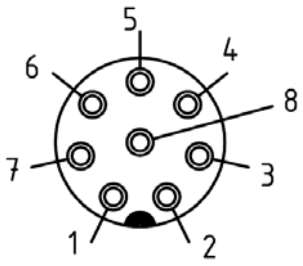
Male connector M12x1 4-pole (A coding)



Signal interface, pump with controller



Male connector M12x1
8-pole (A coding)



11. Schilder (Beispiele)

Firmenschild



Typenschild

