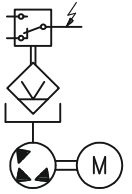




Illustration shows example

Piston pump GMK-B

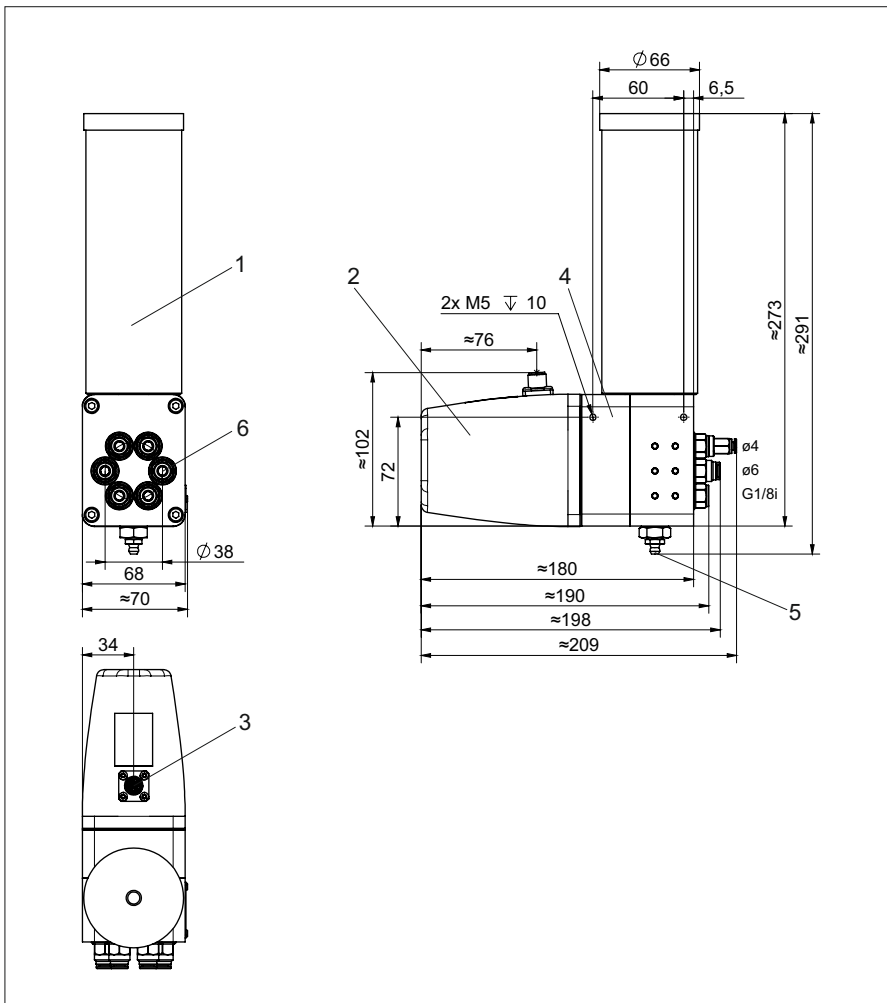


- Compact dosing pump
- up to 6 outlets
- Outlets can be subsequently closed
- Reservoir can be filled with grease nipple
- Function monitoring as standard
- Level monitoring as standard
- Reservoir cartridge control as standard
- Low current consumption

Available in S2C version with intelligent control:

- Dual-cycle lubrication
- Overpressure shut-off
- Level prewarning
- Temperature monitoring

- Subject to modifications -



Technical data:

Delivery volume	
per outlet and stroke:	40 mm ³
Delivery pressure:	max. 80 bar
Speed:	approx. 6 min ⁻¹
Medium:	Grease NLGI-class 000 ... 2
	Oil from operating viscosity 150 mm ² /s
Ambient temperature:	+10 ... +80 °C
Material outer parts:	Steel galvanised
	Aluminium anodized
	Synthetic
Sealings:	NBR / FPM / HNBR
Weight without reservoir:	approx. 1,5 kg
Mounting position:	depending on the reservoir
Protection class:	DIN EN 60529 IP44 ¹⁾

(Depending on type of construction, the DC gear motor should only be used in pulse mode. For other modes of operation, e. g. drives with three-phase current or pneumatics are of advantage).

¹⁾ only with mounted reservoir

Note on the dimensioned drawing:

- 1 - 380 ml reservoir
- 2 - Drive
- 3 - Electrical plug connection
- 4 - Pump body with level monitoring
- 5 - Grease nipple connection
- 6 - Outlet plug connection
- ø4 or ø6
- without plug connection
- Outlet G 1/8



Note on the outlets:

The pump is delivered with 6 open outlet bores. These can be completed with non-return valve cartridges to form a fully functional outlet, or they can be closed using the screw plugs supplied.

If not all outlets are required, up to 5 outlets can be deactivated. For this purpose, the outlets must be closed. A fully functional outlet can subsequently be made from a closed outlet by exchanging the screw plug for a non-return valve cartridge. The outlet is subsequently closed by unscrewing the non-return valve cartridge from the pump body and then closing the outlet using a G 1/4 screw plug with sealing ring.

The lubricant from a closed outlet is pumped back into the suction line.

Electrical data:

Motor:

Voltage: 24 VDC
Current consumption: max. 0,5A

Level monitoring for reservoir 380, 250, 125 (minimum):

Voltage: 10 ... 30 VUC
Switching current: max. 0,25 A
Switching capacity: max. 5 W/VA
Switching function: NC contact

Function monitoring:

Voltage: 10 ... 30 VUC
Switching current: max. 0,5 A
Switching capacity: max. 10 W/VA
Switching function: NO contact
1 signal per revolution

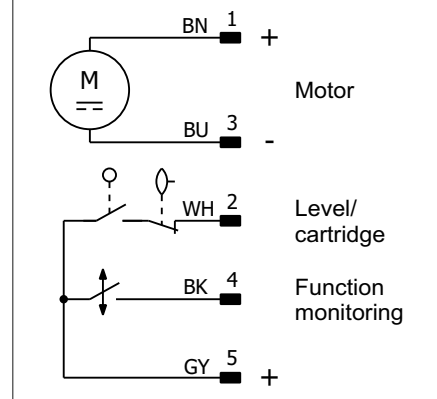
Reservoir cartridge control button:

Voltage: 0,1 ... 50 VUC
Switching current: max. 0,2 A
Switching function: NO contact

Type of connection:

Electrical connection of the pump: Male
M12x1, 5-pin

Electrical connection diagram Standard version



Note on the connection diagram:

The connection diagram is only valid for the reservoir variants with integrated level monitoring.

The level monitoring of the reservoirs 40, 04 and 05 are connected separately (see also technical data of the respective reservoir variant).

Function description:

The rotational movement of an electric motor 1 is converted via a swash plate 2 into a lifting movement of the delivery pistons 3 and 4. In the suction position (piston 4) the medium is drawn in from the reservoir 5, in the pressure position (piston 3) the medium is pumped towards the outlet.

At flow the medium flows through the integrated non-return valve 6 to the outlet. The lubricant is discharged in the numbered sequence (see illustration). Lubricant lines can be connected to plug connection 7. An empty reservoir 5 can be refilled via the grease nipple 8.

Outlets:

Any number of non-return valve cartridges 6 or screw plugs 9 can be retrofitted to outlets. If a screw plug is used, the lubricant is pumped back into the suction line.

Function monitoring:

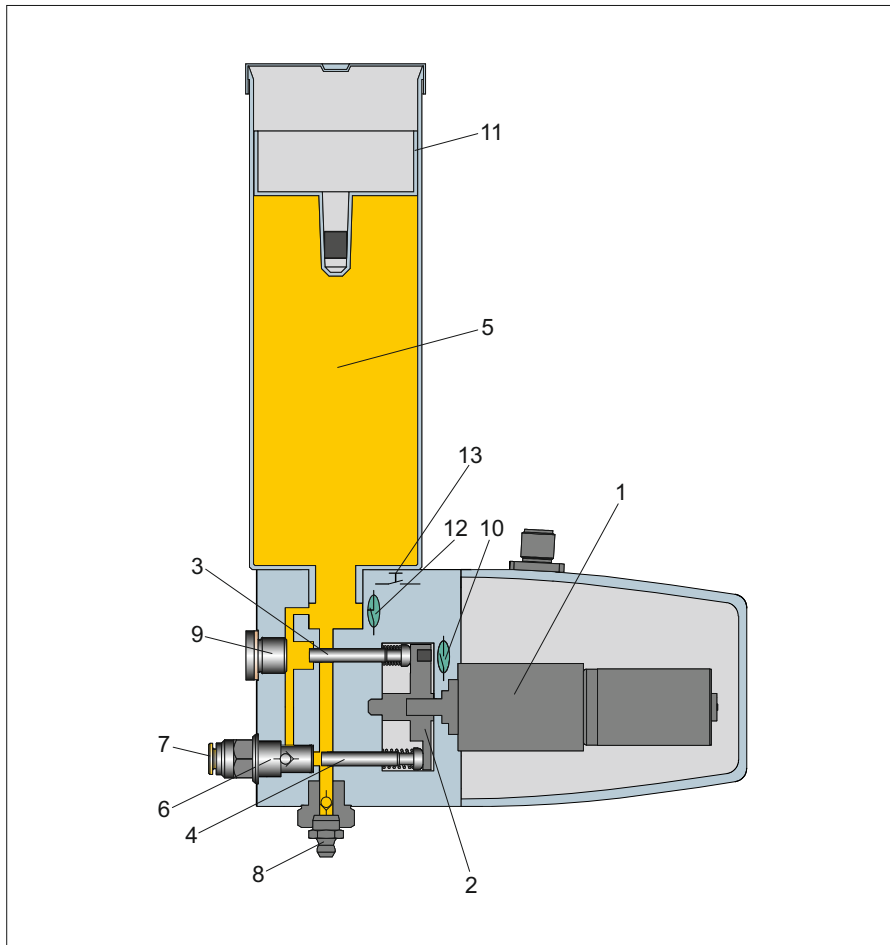
The rotational movement of swash plate 2 is detected by a monitoring element 10. A signal is emitted at each rotation.

Level monitoring:

A further monitoring element 12 detects the follower piston or float 11 when the reservoir 5 is empty and outputs a corresponding signal.

Cartridge control:

A pushbutton 13 integrated in the pump body serves as a control whether the reservoir cartridge is fully screwed in.





Version Smart 2 Cycle

- Dual-cycle lubrication
- Overpressure shut-off
- Level prewarning (Depending on reservoir)
- Temperature monitoring

The Smart 2 Cycle (S2C) version is equipped with an intelligent control.

With this control, the lubricant supply of two separate lubrication cycles is possible independently of each other. Depending on the control signal of the pump (see table), either lubrication cycle 1 or lubrication cycle 2 is activated. By using a dual-cycle system, variable quantity ratios, even with large differences, can be provided at the lubrication points without having to connect the outlets externally. Changing the lubrication quantity for the respective lubrication cycles is also very easy to do at a later time.

The pump has an integrated overpressure shut-off. This prevents the maximum permissible operating pressure being harmfully exceeded.

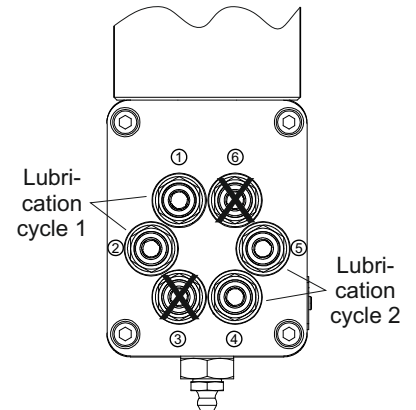
The pump is equipped with a temperature monitoring system that prevents it from being used outside the permissible operating temperature range.

Note:

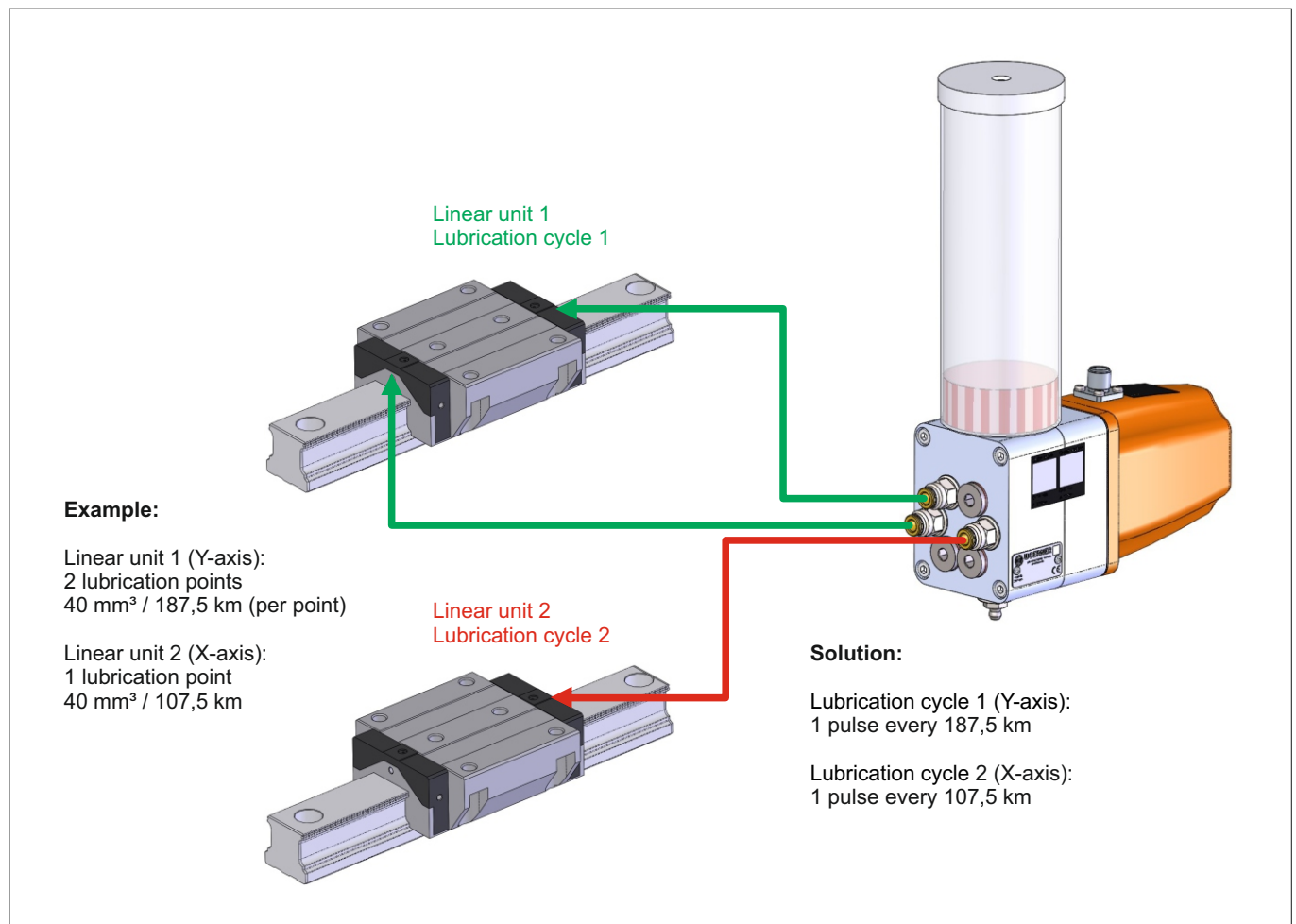
Outlets 1 and / or 2 can be used for lubrication cycle 1.
Outlets 4 and / or 5 can be used for lubrication cycle 2.

When actuated with a continuous signal, the pump operates as in the standard version, but still has overpressure and temperature monitoring. All 6 outlets can be used and the pump provides a function monitoring signal for each rotation (see page 2 "Function monitoring").

For the use of the dual-cycle lubrication the outlets 3 and 6 have to be deactivated!



- Subject to modifications -





Control signal at pin 2 during operation (no alarm → pin 4 = 1 or pulse 1 Hz)		
Signal length	Function	Operating mode
300 ... 700 ms *	Conveying lubrication cycle 1	S2C
800 ... 1200 ms *	Conveying lubrication cycle 2	
>1500 ms	Conveying at all outlets, as long as the input signal is present. If the input signal is removed, the current conveying process is completed.	Standard

*: Number of input signals corresponds to the number of doses at the respective lubrication cycle

Output at pin 5		
Signal length	Description	Operating mode
500 ms	Conveying lubrication cycle 1 occurs	SC2
1000 ms	Conveying lubrication cycle 2 occurs	
1000 ms	Conveying at all outlets occurs	Standard

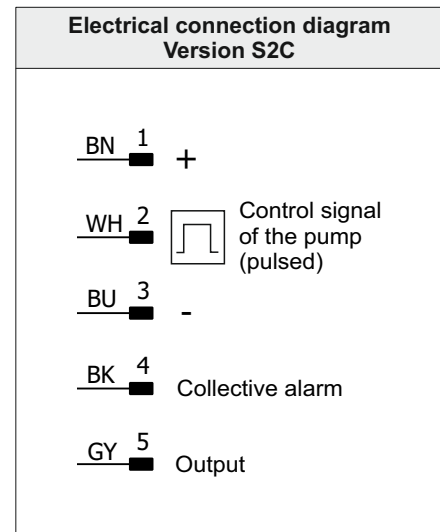
Alarm signal at pin 4	
Signal	Description
1 (continuous)	no alarm
Pulse 1 Hz	Level prewarning ¹⁾
0 (continuous)	Alarm → see error signal at pin 5 In the event of a pending alarm, conveying is interrupted at the outlets. After the error has been corrected, the alarm can be acknowledged via a falling edge at pin. The alarm output is reset and the pump performs a reference run.

Error signal at pin 5 with frequency 1 Hz (alarm → pin 4 = 0)		
Error	Number of signals per 30 s	Description
Level ¹⁾	1	Min switching point reached
Cartridge monitoring	2	Cartridge control is not actuated
Function	3	Function monitoring not carried out within the necessary time
Maximum pressure	4	Maximum pressure of 80 bar exceeded on at least one outlet
Operating temperature	5	Pump outside the permissible operating temperature
Other errors	6	Internal error, unit defective

¹⁾ not for reservoir 40, 04, 05

Note:

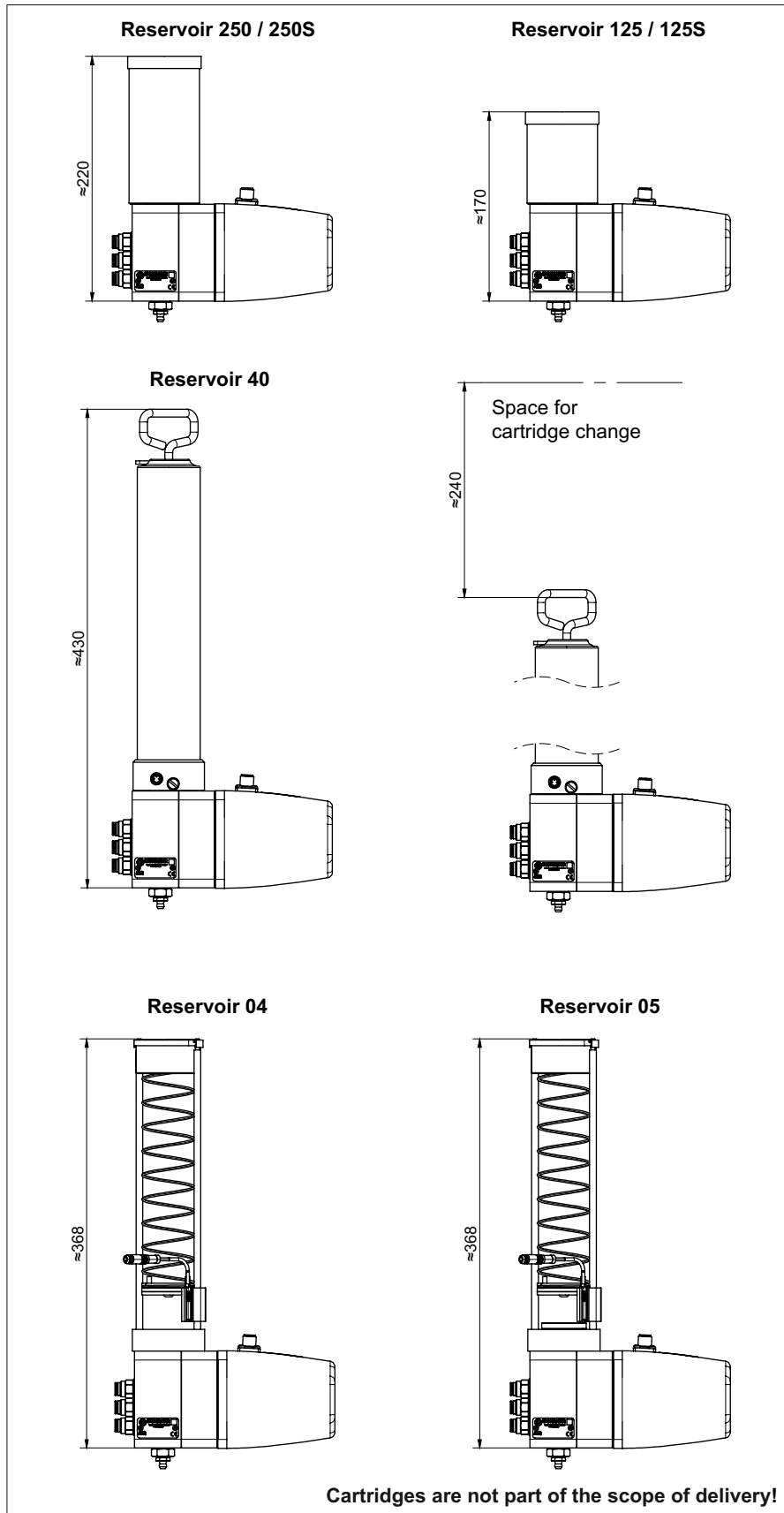
Further suggestions for detailed error evaluation can be found in the operating instruction.



- Subject to modifications -



- Subject to modifications -



Reservoir 380, 250, 125 (with follower piston):

max. filling quantity	380:	450 ml
	250:	300 ml
	125:	160 ml

Weight: approx. 0,1 kg
 Mounting position: Grease: user-defined
 Oil: preferably vertical

Reservoir 380S, 250S, 125S (with float):

max. filling quantity	380S:	470 ml
	250S:	330 ml
	125S:	190 ml

Weight: approx. 0,1 kg
 Medium: Oil
 Mounting position: vertical
 Residual filling quantity at min signal approx. 70 ml. Filling from above possible

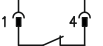
Reservoir 40: for grease cartridges 400 g acc. to DIN 1284

Medium: Grease NLGI-class 0 ... 2
 other NLGI-classes upon request

Material: St and Al
 Sealings: NBR / FPM
 Weight without cartridge: approx. 0,9 kg
 Mounting position: user-defined

Level monitoring:

Voltage: 10 ... 30 VUC
 Switching current: max. 250 mA
 Connection type: Male M8x1, 3-pin
 Protection class: DIN EN 60529 IP67
 Switching function: NC contact at min
 Connection diagram:



Reservoir 04: Equipment for cartridges 400 g System Lube Shuttle

Reservoir 05: Equipment for cartridges 500 g System Reiner

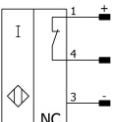
(the following piston must be at least 25 mm away from the edge of the cartridge)

Medium: Grease NLGI-class 0 ... 2
 other NLGI-classes upon request

Material: St, Al and PA
 Sealings: FPM
 Weight without cartridge: approx. 0,5 kg
 Mounting position: depending on cartridge version and lubricant, or user-defined
 for cartridges: 400 or 500 g

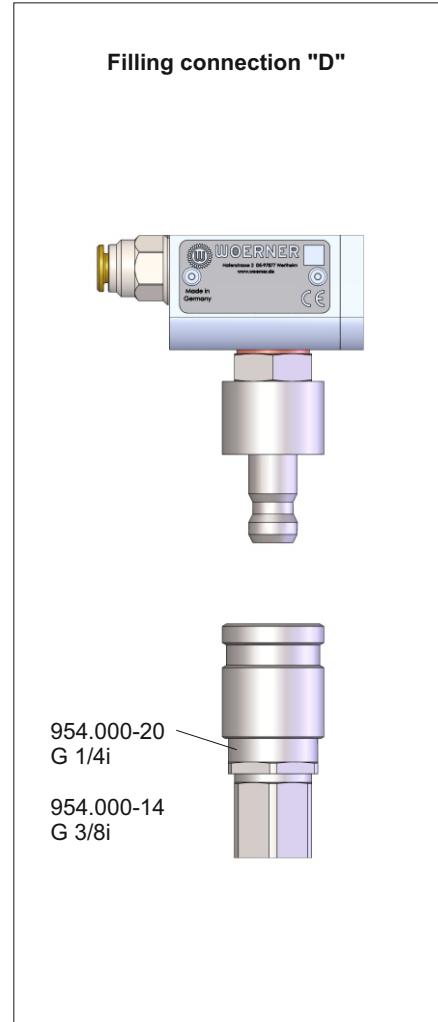
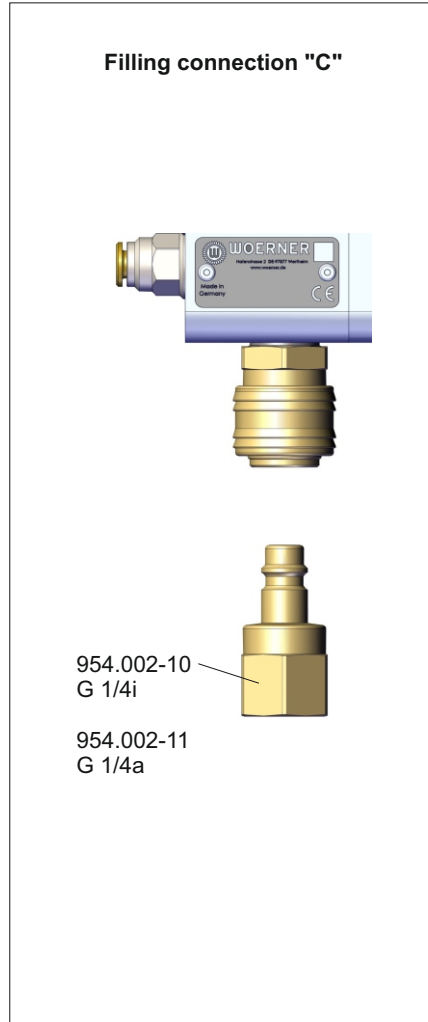
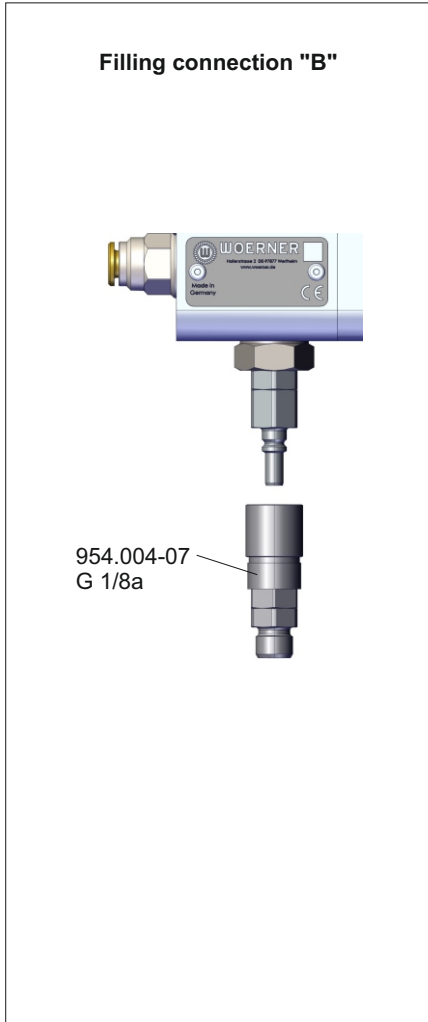
Level monitoring:

Voltage: 10 ... 30 VUC
 Switching current: max. 0,1 A
 Protection class: DIN EN 60529 IP67
 Connection type: Cable with male M8x1, 3-pin
 Switching function: NC contact at min
 Connection diagram:





When using the device with oil as medium, filling connection "B", "C" or "D" is necessary.



- Subject to modifications -

Filling connection "B":

Locking nipple on the device

Material:	Brass, nickel-plated
Sealings:	NBR
Weight:	approx. 0,018 kg
Qmax:	2,0 l/min

Filling connection "C":

Locking coupling on the device

Material:	Brass
Sealings:	NBR
Weight:	approx. 0,072 kg

Filling connection "D":

Locking nipple on the device

Material:	Steel, galvanized partly burnished
Sealings:	NBR
Weight:	approx. 0,085 kg
Qmax:	10,43 l/min

Accessories for filling connection "B":

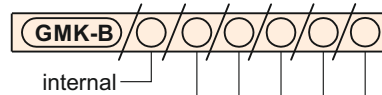
Locking coupling with threaded connection G 1/8a available separately (see accessories).

Accessories for filling connection "C":

Locking nipple with threaded connection G 1/4i or G 1/4a available separately (see accessories).

Accessories for filling connection "D":

Locking coupling with threaded connection G 1/4i or G 3/8i available separately (see accessories).

**Order designation:**

Number of open outlets	Reservoir	Filling connection	Outlet	Version / design
①	Cartridge reservoir ③⑧⑦ / ③⑧⑦S	Cone grease nipple DIN 71412	Threaded connection G 1/8	Standard not specified
②	Cartridge reservoir ②⑤⑦ / ②⑤⑦S	①	①	
③	Cartridge reservoir ①②⑤ / ①②⑤S	Locking nipple ②	Push-in connector for ø4	
④	for grease cartridges 400 g DIN 1284 ④⑦	Locking couple ③	④	Smart 2 Cycle ②C
⑤	Equipment for cartridge 400 g System Lube Shuttle ④④	Locking nipple ④	Push-in connector for ø6	
⑥	Equipment for cartridge 500 g System Reiner ④⑤	Locking screw ① ²⁾	⑥	

¹⁾ Not suitable for oil.²⁾ Proper venting of the pump during commissioning must be ensured.

- Subject to modifications -

Order example 1:

Piston pump with 6 open outlet bores, cartridge reservoir 380, cone grease nipple DIN 71412, 6 check valve cartridges with push-in connector ø6.

Order designation:

GMK-B/00/6/380/A/6

is delivered:

GMK-B/00/without/without/A/0
incl. mounted cone grease nipple DIN 71412
380 ml cartridge reservoir
5 locking screws
6 check valve cartridges
with push-in connector ø6

Order example 2:

Piston pump with 4 open outlet bores, for grease cartridges 400 g DIN 1284, locking nipple, 4 check valve cartridges with thread connection G 1/8.

Order designation:

GMK-B/00/4/40/B/0

is delivered:

GMK-B/00/without/without/A/0
incl. mounted cone grease nipple DIN 71412
Reservoir 40 incl. fixing material
Locking nipple
5 locking screws
4 check valve cartridges
with thread connection G 1/8

Storable variant:

GMK-B/00/without/without/A
GMK-B/00/without/without/A/S2C
incl. mounted cone grease nipple DIN 71412

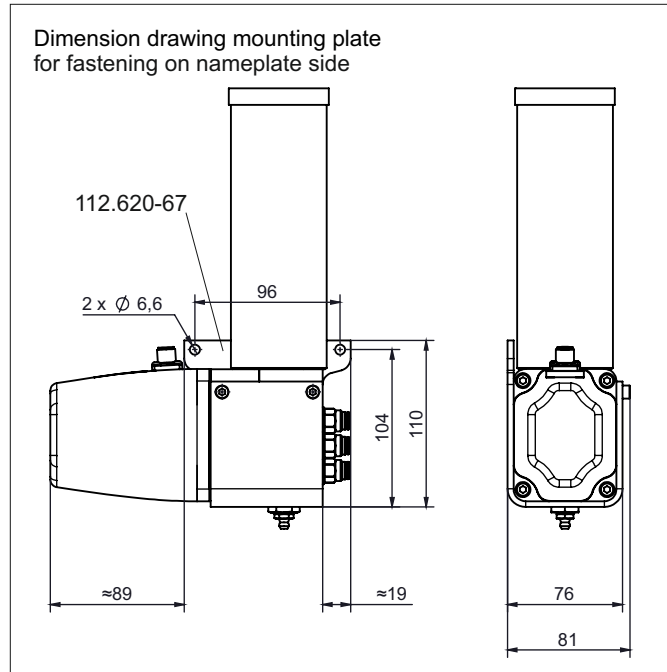
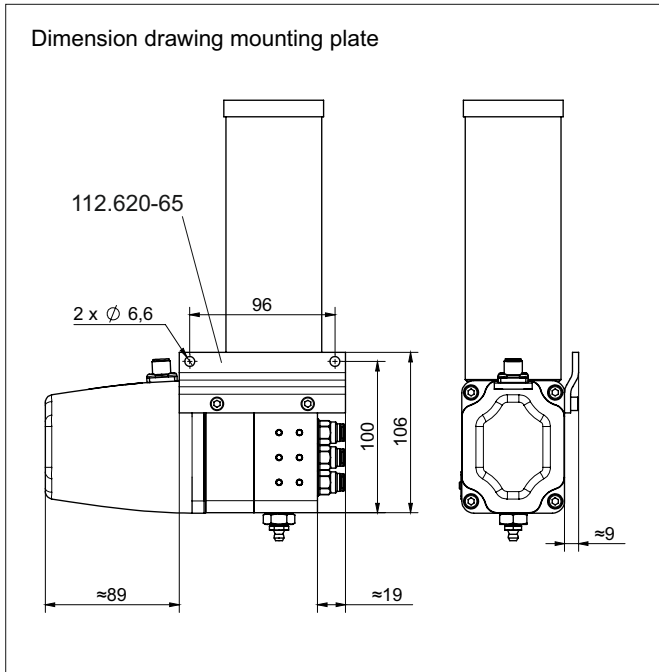
All other variants consist of this device and the corresponding components for retrofitting. Retrofitting (outlet configuration, installing the reservoir, changing the filling connection) must be carried out by the customer himself using the operating instructions supplied.

Note:

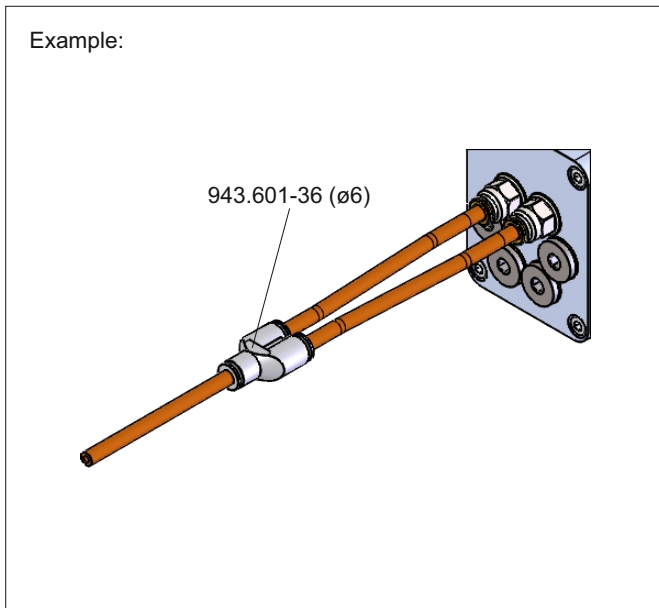
The reservoir is packed loose with the delivery.
5 screw plugs with sealing ring are supplied with each unit.



Mounting plate (accessories):



Combining separate outlets using Y-connectors (accessories):



Accessories:

	Order no.
Check valve cartridge G 1/8	112.626-45
Check valve cartridge AD4	112.627-47
Check valve cartridge AD6	112.625-47
Mounting plate	112.620-65
Mounting plate for fastening on nameplate side	112.620-67
Locking coupling G 1/8a	954.004-07
Locking nipple G 1/4i	954.002-10
Locking nipple G 1/4a	954.002-11
Locking coupling G 1/4i	954.000-20
Locking coupling G 3/8i	954.000-14
Y-connector Ø6	943.601-36
Control see data sheet P0889	
Connecting cable M12x1, 5-pin Length 5 m / 0°	913.406-13
Connecting cable M8x1, 3-pin, straight Length 5 m / 0°	913.405-77
Connecting cable M8x1, 3-pin Length 5 m / 90°	913.405-79

further cable lengths on request

Flow divider see data sheet S0607

Technical documents also valid for this product:

B0916 EN Operating instruction GMK-B

Piston pump GMK-B

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