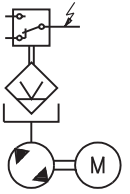




- Subject to modifications -



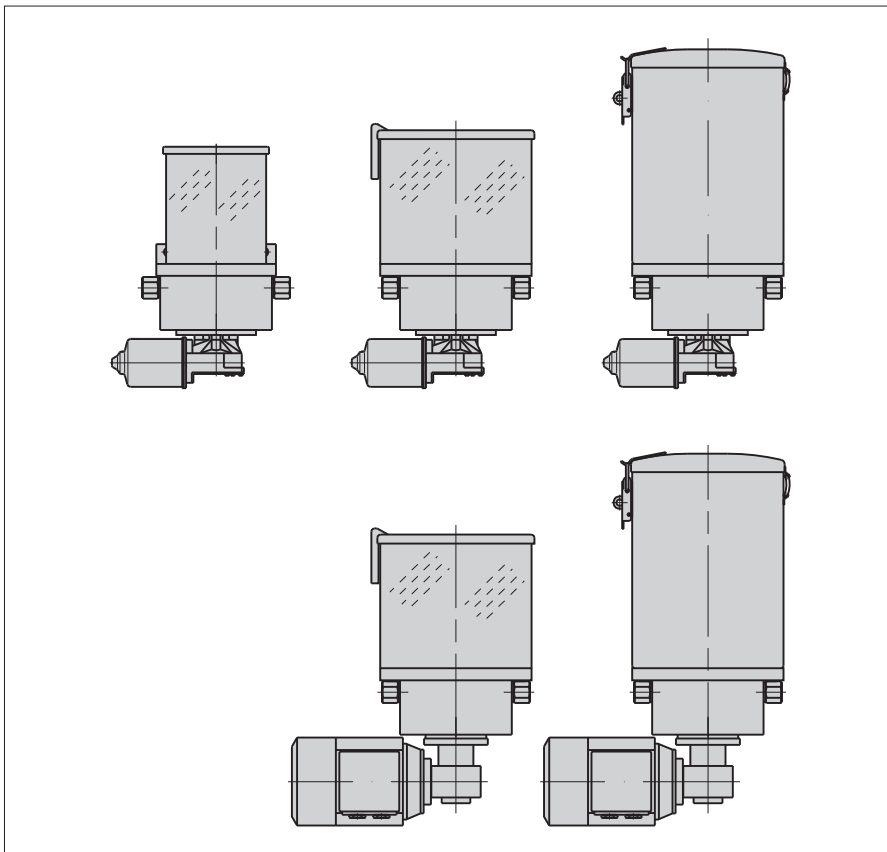
### Pump aggregate GMG-A



#### Use:

This unit is used as a pump aggregate in central lubrication systems

- with level monitoring
- with up to 2 pump elements
- usable for the delivery of oil, fluid grease, or grease
- up to 20 outlets with progressive distributors flanged on



#### Technical data:

allow. delivery pressure: at max. 250 bar

Number of pump elements: at max. 2

Delivery volume per stroke and element

- with pump element 08: 0,08 cm<sup>3</sup>
- with pump element 16: 0,16 cm<sup>3</sup>

Temperature range: -30 ... +60 °C  
 In case of low temperatures, grease penetration should be taken into account.

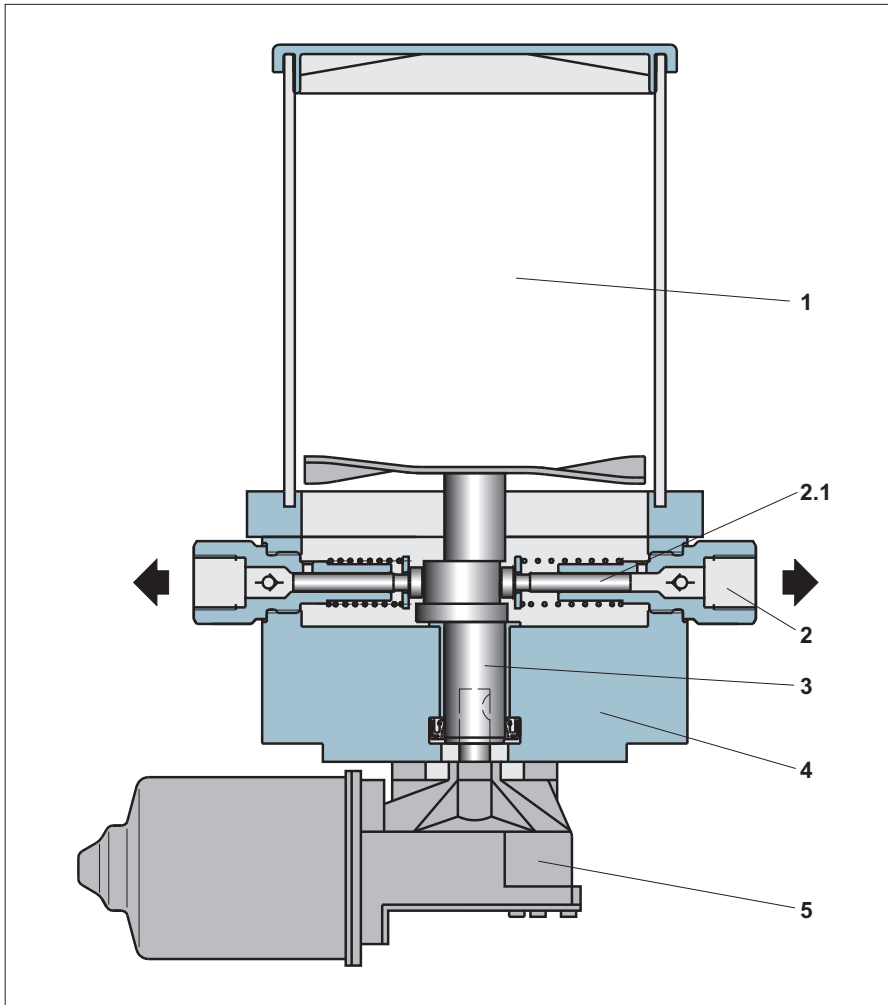
Installation position: vertically

#### Material

Casing: Aluminium  
 Pump element: Steel, galvanised  
 Reservoir: Polycarbonate or steel, galvanised  
 Gaskets: NBR (Perbunan)

Medium: Oil and grease up to NLGI-class 2 (Mind conditions of use of reservoir and level monitoring facility!)

For electrical data see pages 4 and 5



**Description:**

**Drive:**

The pump aggregate GMG-A is driven by a geared motor **5** being flanged to the pump casing **4** from downside.

**Pump:**

When the eccentric shaft **3** is rotating, the delivery piston **2.1** of every pump element **2** performs a suction and delivery stroke per rotation each, whilst delivering the lubricant from the reservoir **1** to the lubrication points.

Depending on the case of application (lubricant, lubricant volume required, etc.), the pump aggregate can be fitted with different pump elements, reservoirs, and monitoring elements.

**Pump elements:**

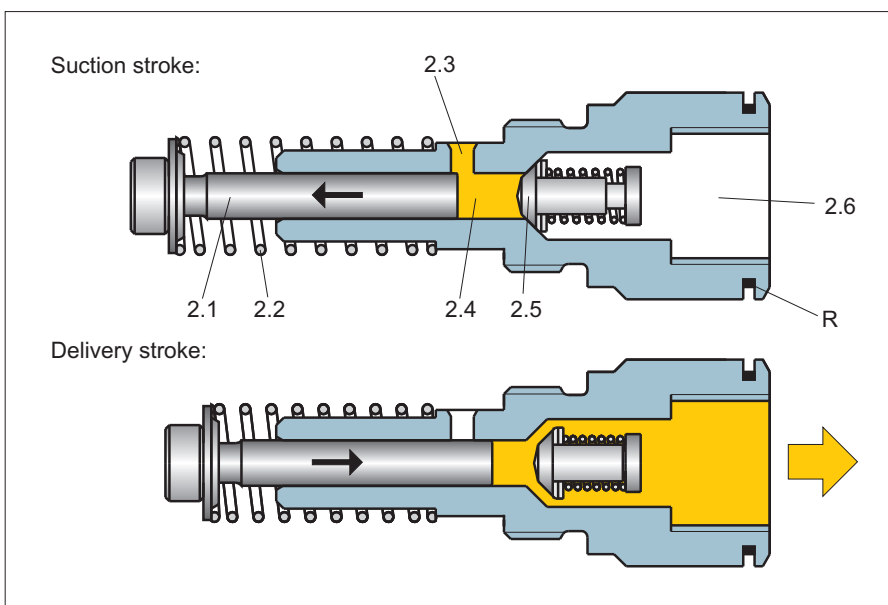
In case of **suction stroke**, the pressure spring **2.2** shifts the delivery piston **2.1** against the eccentric shaft **3**. In this operation, the lubricant contained in reservoir **1** is drawn through the suction hole **2.3** into the metering chamber **2.4**.

In case of **delivery stroke**, the eccentric shaft **3** displaces the delivery piston **2.1**. Concurrently, the suction hole **2.3** is closed and the lubricant volume available in metering chamber **2.4** discharged through the check valve **2.5** to the outlet **2.6**.

The 0,16 cm<sup>3</sup> delivery volume pump element is marked by a black ring **R**.

**Notes on operation:**

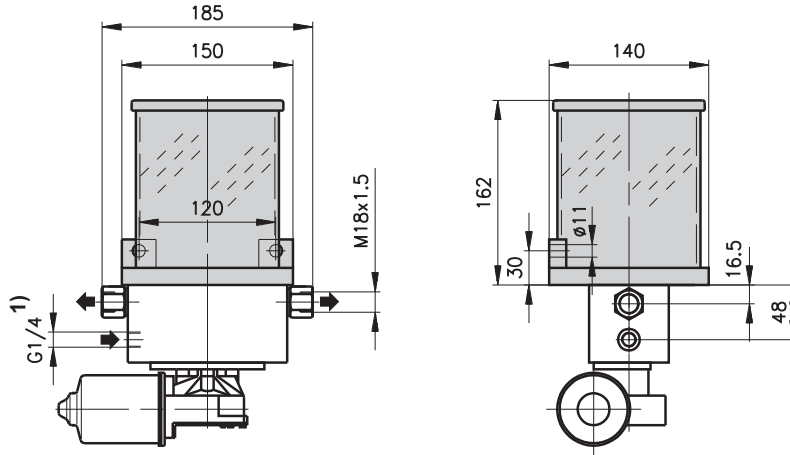
The pump aggregates must be operated with clean oil or grease taken from original packaging drums only. Upon commissioning, the pump, when filled initially, needs to be filled with gear oil up to agitator's level. This way, good venting is ensured. The lines to the lubricants must be cleaned and have free throughput. They should not be connected to the lubrication points unless the lubricant comes out free of air. All connections of the delivery line should be checked for leakage.



- Subject to modifications -



### Reservoir "1,5":

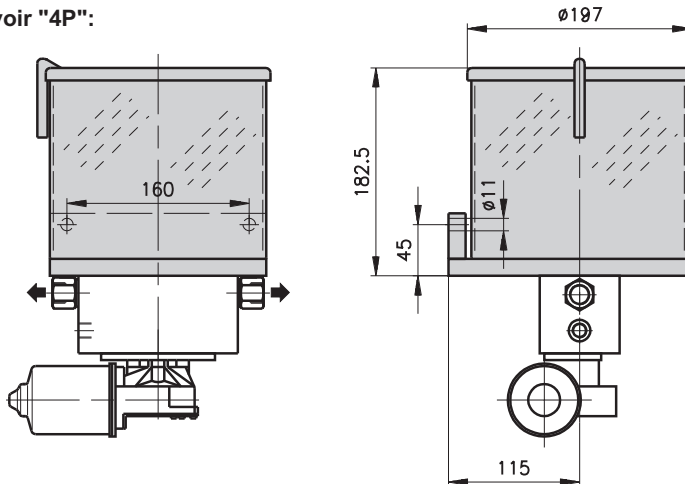


### Reservoir:

#### Reservoir "1,5":

Capacity: 1,5l  
Material:  
Reservoir: Polycarbonate transparent (Macrolon)  
Lid: Polyamide

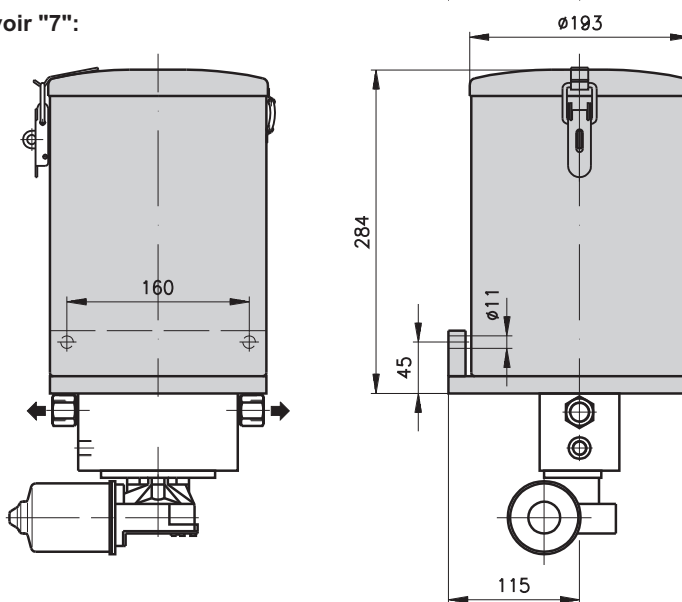
### Reservoir "4P":



### Reservoir "4P":

Capacity: 4l  
Material:  
Reservoir: Polyamide transparent  
Lid: Polyamide

### Reservoir "7":



### Reservoir "7":

Capacity: 7l  
Material: Steel, galvanised

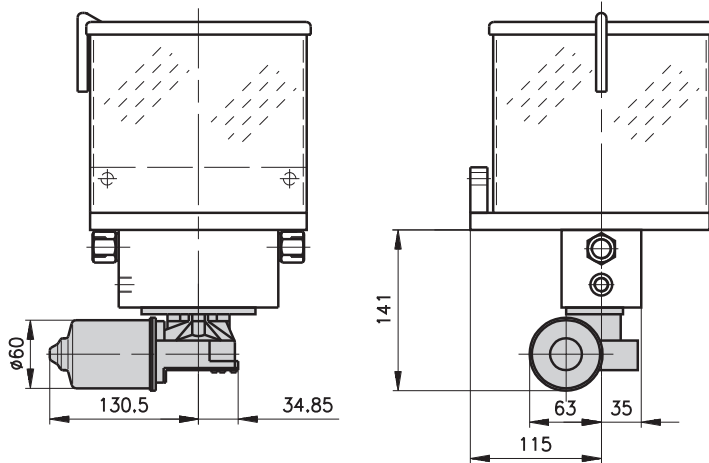
Remark to dimensional drawing:

1) Connection for filling or return connection

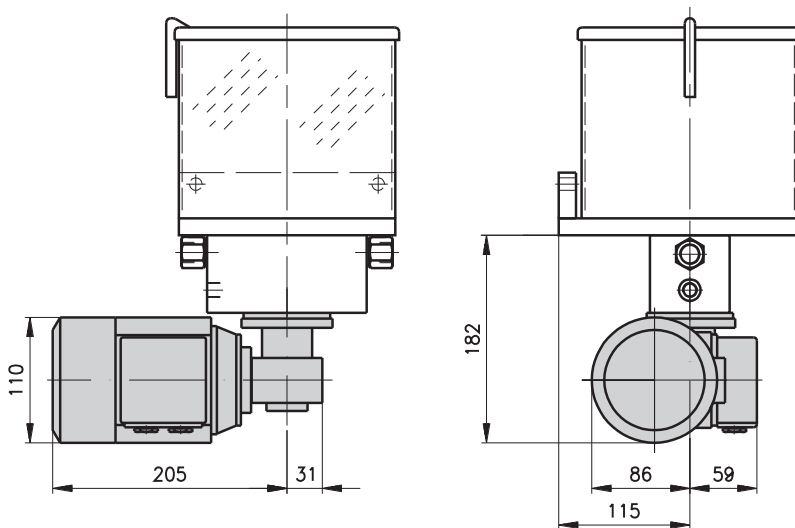
- Subject to modifications -



**Drive "1", "2":**



**Drive "D1", "D2", "D3":**



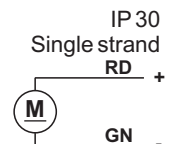
Remark:  
No drive "D1", "D2", "D3" possible for reservoir "1,5".

**Drive "1" and "2" (24V):**

Supply voltage: 24 VDC  
Current at max.: 2,5A  
Speed (load-dependent): approx. 30 min<sup>-1</sup>

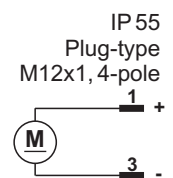
**Drive "1":**

System of protection:  
Connection type:  
Connection diagram:



**Drive "2":**

System of protection:  
Connection type:  
Connection diagram:



(for appropriate cable jack see auxiliaries)

**Drive "D1", "D2", "D3" (230/400V):**

Supply voltage: 230/400 V (Δ/λ)  
Special voltage available on request  
Supply frequency: 50 Hz  
System of protection: IP 55  
Insulation class: F

**Drive "D1":**

Rated current: 0,74/0,43 A  
Rated power: 90 W  
Speed: 25 min<sup>-1</sup>

**Drive "D2":**

Rated current: 0,38/0,22 A  
Rated power: 45 W  
Speed: 4,5 min<sup>-1</sup>

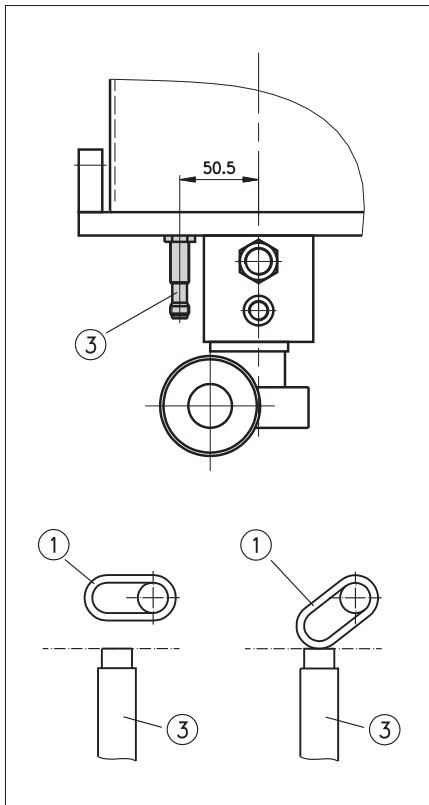
**Drive "D3":**

Rated current: 0,38/0,22 A  
Rated power: 45 W  
Speed: 1 min<sup>-1</sup>

- Subject to modifications -



- Subject to modifications -



**Level control:**

**Level control "C":  
min. level monitoring  
for grease NLGI-class 1 and 2**

The grease inside the reservoir causes to lift up the actuating flap (1) upon rotation of the pump driving shaft. No signal will be given.

In case of an empty reservoir and a rotating pump driving shaft the actuating flap (1) will intermittently attenuate the sensor (3).

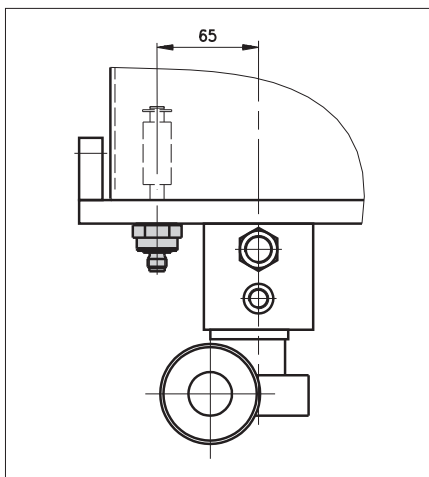
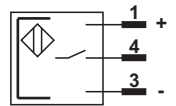
In case of full reservoir, the actuating flap, depending on grease penetration, may fall during standstill and attenuate the sensor (3). Therefore, when evaluating the sensor signal, it should be ensured that the sensor signal is evaluated delayed (by approx. 10 sec).

**Technical data:**

Temperature range:	-25 ... 75 °C
Casing material:	Brass nickled
Operating voltage:	10 ... 30 VDC
Residual ripple:	≤ 10 %
Constant current:	≤ 300 mA
Induced current consumption:	≤ 10 mA
Voltage drop:	≤ 1,5 V
System of protection:	IP 67
Connection type:	Plug-type M12x1, 4-pole (for appropriate cable jack see auxiliaries)

**The empty-signal is intermittent.**

Connection diagram:



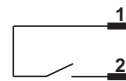
**Level control "F":  
min. level monitoring for oil**

When the float, at decreasing oil level, exceeds the switching point, the contact will be made. The contact's switching position is kept until the float, at increasing oil level, leaves the switching range again.

**Technical data:**

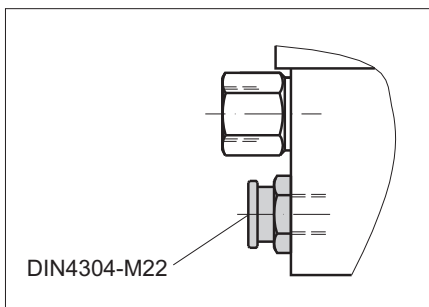
Temperature range:	0 ... 90 °C
Material	
Pipe:	Copper alloy
Float:	PUR-hard foam
Flange:	Copper alloy
Gasket:	NBR
System of protection:	IP 65
Connection type:	Plug-type M12x1, 4-pole (for appropriate cable jack see auxiliaries)
Switching voltage at max.:	30 VDC
Switching current at max.:	0,5 A
Switching power at max.:	10/30 W/WA
For inductive and capacitive loads, protective switches (diode, RC-element, varistor) should be provided for.	

Connection diagram:

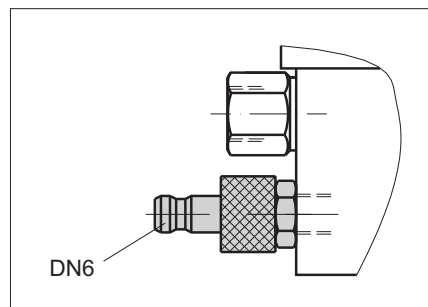


**Filling connection:**

Filling connection "C" flat lubrication nipple:

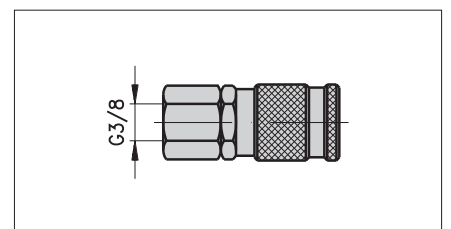


Filling connection "D" locking nipple:



Auxiliary to filling connection "D":

Lock coupling 110.135-65  
(state purchase-no., please)



**Purchase-designation:**

 Pump aggregate **GMG-A**


Reservoir	Level control	Flow-up piston	Filling connection	Pump element		Drive <sup>1)</sup>
				left	right	
1,5l Polycarbonate (1,5)	<b>For grease:</b> Intermittent min. monitoring (C)		Flat lubrication nipple (C)	0,08cm <sup>3</sup> (08)	0,08cm <sup>3</sup> (08)	<b>24VDC:</b> IP 30 (1) IP 55 (2)
4l Polyamide (4P)	<b>For oil:</b> min. monitoring (F)	without (0)	Lock nipple (D)	0,16cm <sup>3</sup> (16)	0,16cm <sup>3</sup> (16)	<b>230/400V:</b> n = 25min <sup>-1</sup> (D1) n = 4,5min <sup>-1</sup> (D2) n = 1min <sup>-1</sup> (D3)
7l Steel sheet (7)	without (0)		without (0)	without (0)	without (0)	

**Purchase-example:**

 Pump aggregate GMG-A with reservoir 1,5l; with level control "C"; without flow-up piston; with filling connection "C"; pump element 0,16cm<sup>3</sup> delivery stroke on left side and 0,08cm<sup>3</sup> delivery stroke on right side; drive 24V with unit plug.

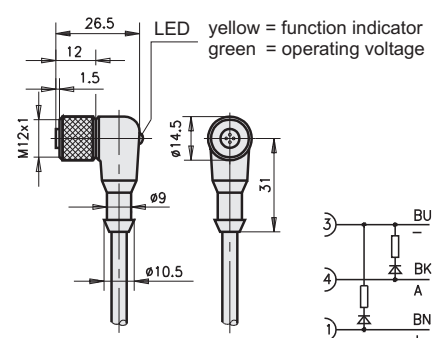
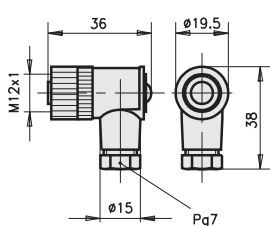
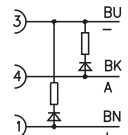
**Purchase-designation:**
**GMG-A/1,5/C/0/C/16/08/2**
<sup>1)</sup> No drive "D1", "D2", "D3" possible for reservoir "1,5"

**Spare parts:**

Designation	Purchase-no.
Pump element "08"	752.480-92
Pump element "16"	752.480-91
Magnetic field sensor "C"	913.900-27
Level switch "F"	477.504-60
Geared motor "1"	752.480-65
Geared motor IP55 "2"	752.480-69

**Auxiliaries:**

(state purchase-no., please)

Cable jack with LED and cable	Cable jack with terminals
 <p>26.5 12 1.5 M12x1 LED yellow = function indicator green = operating voltage ø14.5 ø9 31 ø10.5</p>	 <p>36 ø19.5 38 M12x1 ø15 Pg7</p>
 <p>BU BK A BN +</p>	

**Cable jack with LED and cable:**

 Purchase-no.: **913.404-19**  
 Operating voltage: 10 ... 30 VDC  
 Cable  
 Cross section: 3x0,34 mm<sup>2</sup>  
 Length: 5 m  
 System of protection: IP 68

**Cable jack with terminals:  
(without LED)**

 Purchase-no.: **913.404-24**  
 Connection type: Screws  
 Connection cross section: at max. 0,75 mm<sup>2</sup>  
 Cable diameter: 4 ... 6 mm  
 System of protection: IP 67