Technical Data Sheet

DLS-Pump 4xx-i

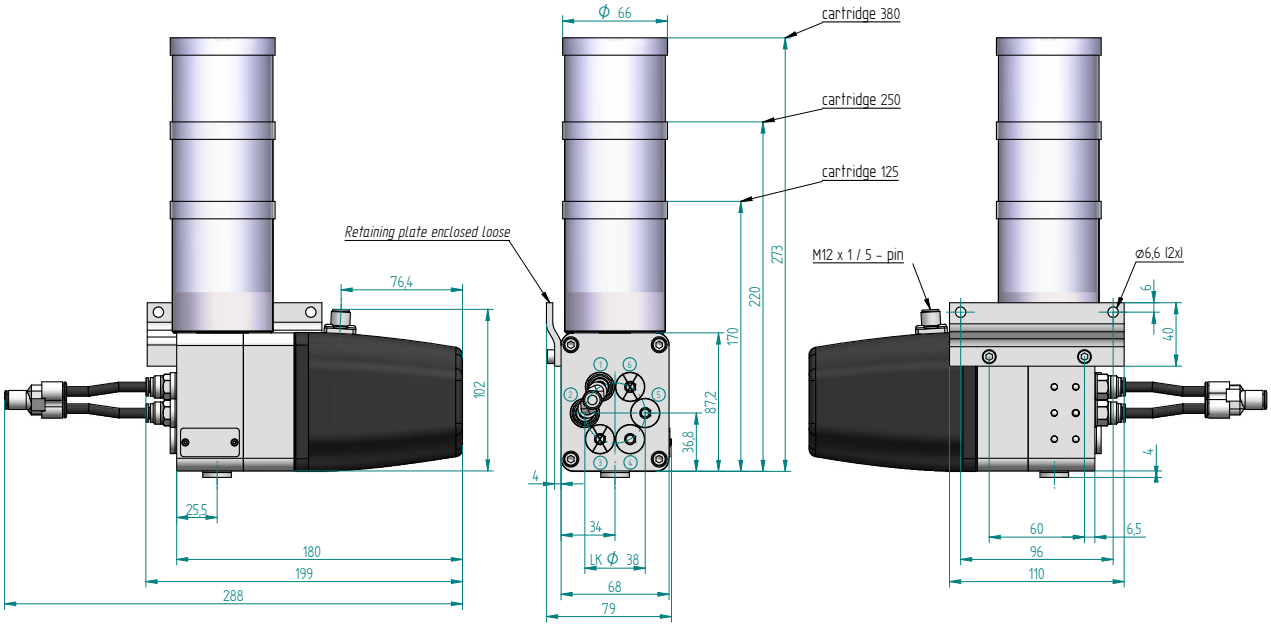
Picture shows DLS-424-i

Pump type:
DLS-4xx-i

- **Compact dosing pump PLC controlled**
- **up to 4 outlets**
- **1 - 2 lubrication circuits**
- **Level control as standard**
- **Cartridge control as standard**
- **Low power consumption**

Technical specifications:

delivery volume per outlet and signal:	0,16 cm^3
discharge pressure:	max. 70 bar
Medium:	grease NLGI-class 000 ... 2 Oil from operating viscosity 150 mm^2/s
Ambient temperature:	+10 ... +80 °C
Material outer parts:	galvanized steel aluminum plastic
Seals:	NBR / FPM / HNBR
Weight without cartridge:	ca. 1,5 kg
Mounting position:	Vertical (other positions on request)
Protection class:	DIN EN 60529 IP44
Power supply:	24 VDC (+/-10%)
Max. current consumption:	0,5 A
Plug:	M12x1, 5-pin (4-pole assignment)



electrical data:
Motor:

voltage:	24 VDC
power consumption:	max. 0,5 A

level control by Container 380, 250, 125 (Minimum):

voltage:	10 ... 30 VUC
switching current:	max. 0,25 A
switching capacity:	max. 5 W/VA
switching function:	opener

functional check:

voltage:	10 ... 30 VUC
switching current:	max. 0,5 A
switching capacity:	max. 10 W/VA
switching function:	closer
	1 signal per revolution

Cartridge control button:

voltage:	0,1 ... 50 VUC
switching current:	max. 0,2 A
switching function:	closer

connection type:
Electrical connection of the pump:
pin
M12x1, 5-pin (4-pole assignment)

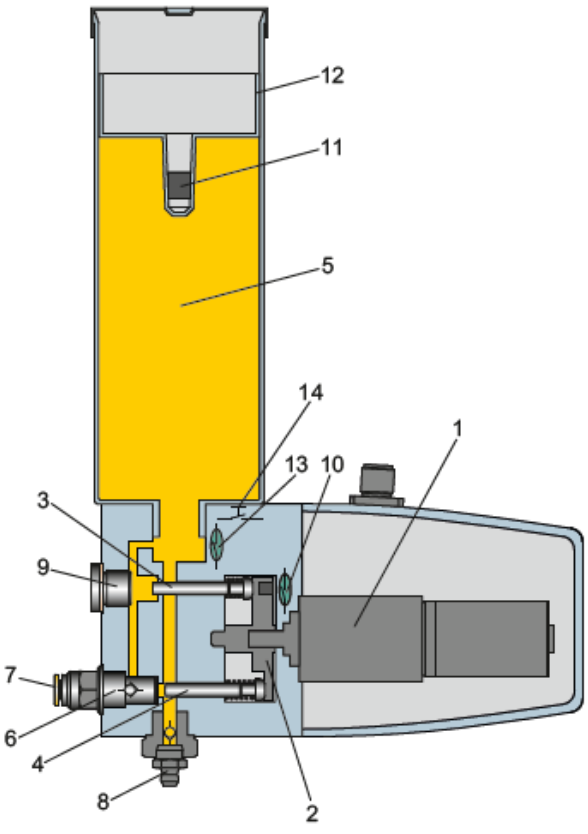
Note on the connection diagram:
The connection diagram is only valid for the container variants 380, 250 and 125. The level control of the containers 40, 04 and 05 are connected separately (see technical data of the respective container variant).

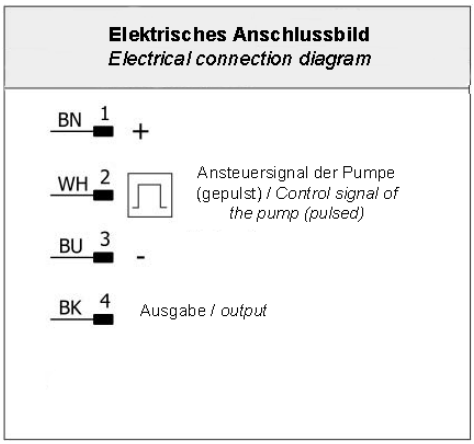
Function description:
The rotary movement of an electric motor **1** is converted into a lifting movement of the delivery pistons **3** and **4** via a swash plate **2** . In the suction position (piston **4**), the medium is sucked out of the container **5**, in the pressure position (piston **3**), the medium is conveyed in the direction of the outlet.
During flow, the medium is conveyed through the integrated non-return valve **6** to the outlet. The lubricant is ejected in the numbered sequence (see figure). Lubricant lines can be connected to plug-in connection **7**.
Optionally: An empty container **5** can be refilled via the lubricating nipple **8**.

functional check:
The rotary movement of the swash plate **2** is detected by means of a reed contact **10** . A signal is emitted with each revolution.

level control:
A bar magnet **11** in the follower piston **12** of the container **5** dampens an integrated reed contact **13** when the container is empty.

Cartridge control:
A button **14** integrated in the pump body is used to check whether the cartridge is fully screwed in.



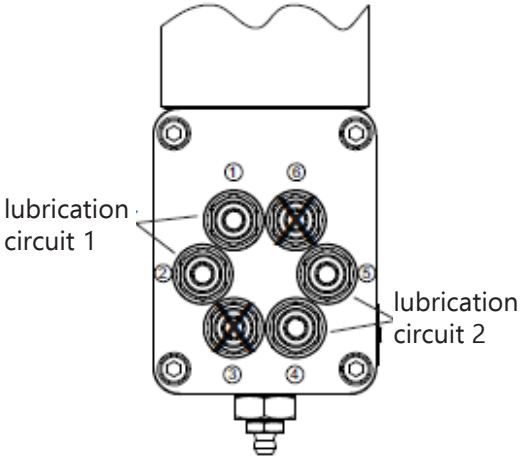


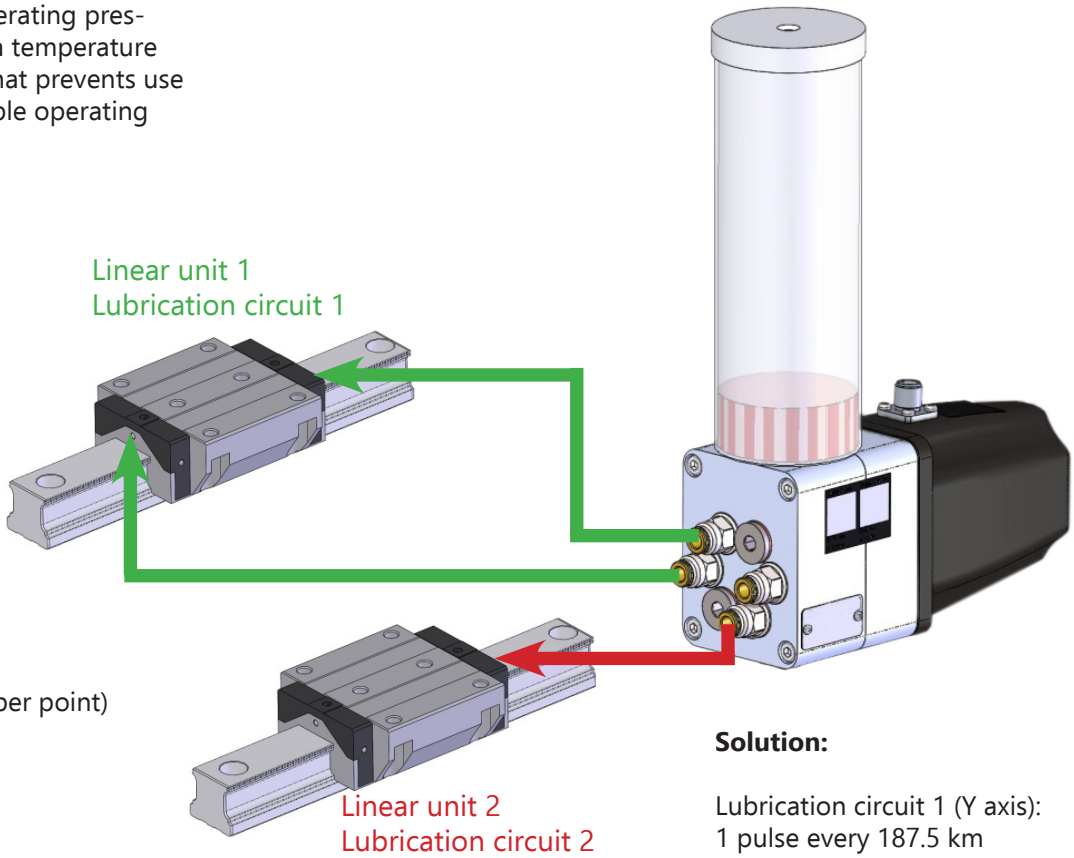
Special features
Pulse controlled version

+ Dual circuit lubrication
+ Overpressure shut-off

With this control, the lubricant supply of two separate lubrication circuits is possible independently of each other. Depending on the control signal of the pump (see table), either lubrication circuit 1 or lubrication circuit 2 is actuated. By using the system as a two-circuit system, variable quantity ratios, even with large differences, can be mapped at the lubrication points without having to combine the outlets externally. A change of the lubrication quantity for the respective lubrication circuits is also very easily possible at a later date. The pump has an integrated overpressure shut-off. This prevents damaging exceeding of the maximum permissible operating pressure. The pump has a temperature monitoring system that prevents use outside the permissible operating temperature range.

Note:
Outlets 1 and / or 2 can be used for lubrication circuit 1. Outlets 4 and / or 5 can be used for lubrication circuit 2.





Example:

Linear unit 1 (Y axis):
2 lubrication points
40 mm³ / 187.5 km (per point)

Linear unit 2 (X-axis):
1 lubrication point
40 mm³ / 107.5 km

Solution:

Lubrication circuit 1 (Y axis):
1 pulse every 187.5 km

Lubrication circuit 2 (X axis):
1 pulse every 107.5 km

Control signal at pin 2 during operation (no alarm → pin 4 = 1)	
Signal length	**Function**
2 Seconds*	Conveying lubrication circuit 1
5 Seconds*	Conveying lubrication circuit 2
8 Seconds*	Conveying at all outlets as long as the input signal is present
10 Seconds	Error acknowledgement
12 Seconds	Filling function
14 Seconds	Error acknowledgement
*: Number of input signals corresponds to the number of doses at the respective lubrication circuit	
Alarmsignal at Pin 4	
Signal	**Description**
1 (continuous)	no alarm
Puls 1 Hz	Cartridge empty
0 (continuous)	Alarm

Important information about this data sheet

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All products from DLS Schmiersysteme GmbH may only be used as intended, in accordance with the information in this data sheet.
For products that are supplied with operating instructions, the additional provisions and information contained in these must be observed.

Substances that deviate from the substances mentioned in this data sheet and the applicable technical documents may only be used and processed in the devices and systems manufactured and supplied by us after consultation with DLS Schmiersysteme GmbH and after written approval by DLS Schmiersysteme GmbH.
The safety and hazard information listed in the safety data sheets for the materials used must be observed.

The pumping of gases, liquefied gases, gases dissolved under pressure, vapors and liquids whose vapor pressure at the permissible maximum temperature is more than 0.5 bar above normal atmospheric pressure (1013 mbar), of highly flammable or explosive media and the pumping of Food is prohibited.

Note on EU Directive 2011/65/EU (RoHS)

DLS Schmiersysteme GmbH only uses materials in its controls and switching devices that meet the criteria of EU Directive 2011/65/EU. Insofar as chromium VI was used as corrosion protection in our in-house production parts, this has already been replaced by other environmentally friendly protective measures.

The mechanical devices supplied by DLS Schmiersysteme GmbH do not fall under the EU Directive 2011/65/EU.

However, since DLS Schmiersysteme GmbH is aware of its responsibility towards the environment, we will also use materials for the devices that do not fall under the EU Directive 2011/65/EU that meet the requirements of the directive as soon as they are generally available and the use is technical is possible.