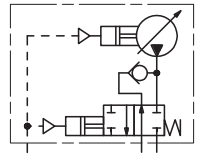




- Subject to modifications -



**Metering unit
PFD-C**



Use:

This unit is used as a metering pump, preferably in central lubrication systems.

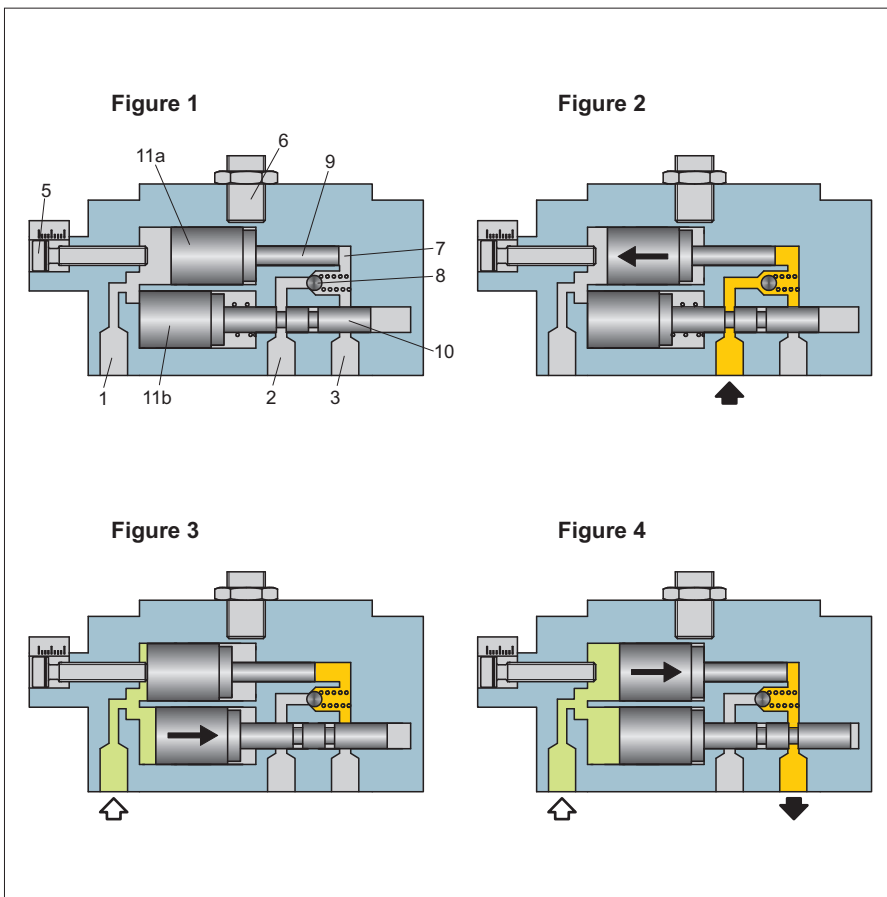
Mode of operation:

The medium will be supplied under pressure at the filling connection 2 through the check valve 8 to the metering chamber 7. Thereby, the delivery piston 9 and the upper drive piston 11a are shifted into the left home position. (Figure 2)

When pressurising the compressed air connector 1, the lower drive piston 11b and the control piston 10 are shifted into the right home position first. (Figure 3)

In such action, the metering chamber 7 is connected with outlet 3 and the lubricant displaced by both the upper drive piston 11a and metering piston 9 delivered to outlet 3. (Figure 4)

The metering volume can continuously be adjusted by using a size 5 hex key at volume adjustment screw 5. The initiator 6 can be used to monitor the filling process electrically.

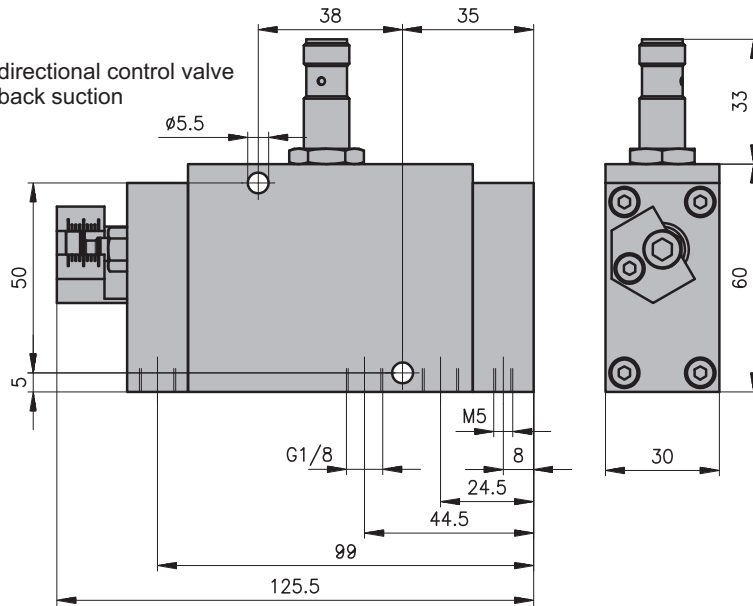


Functional diagram legend:

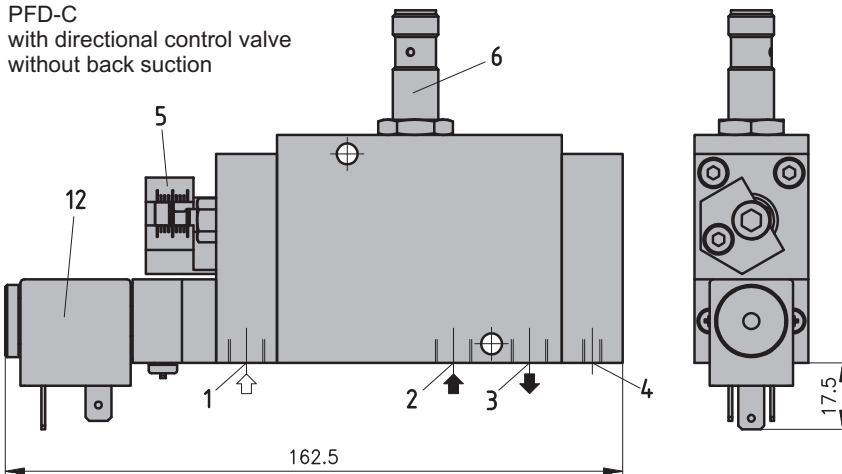
- 1 = Compressed air connector
- 2 = Filling connector
- 3 = Outlet
- 5 = Volume adjustment screw
- 6 = Initiator
- 7 = Metering chamber
- 8 = Check valve
- 9 = Metering piston
- 10 = Control piston
- 11 = Drive piston



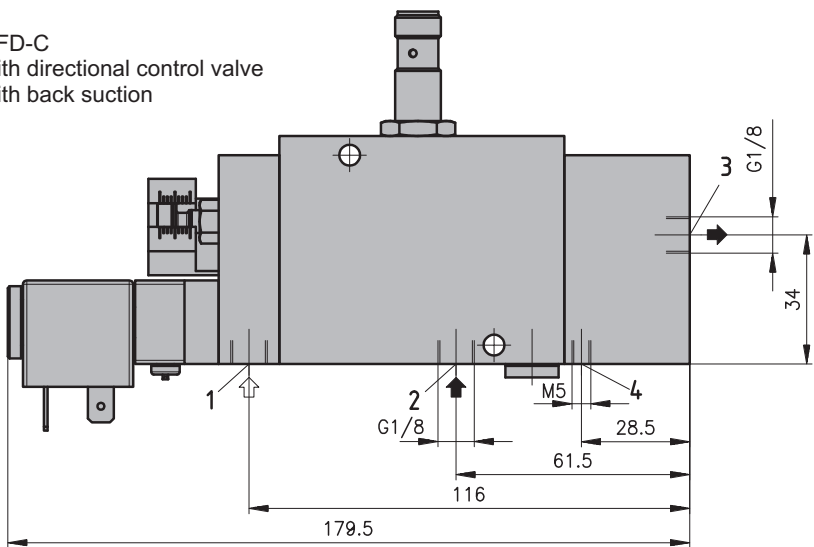
PFD-C
without directional control valve
without back suction



PFD-C
with directional control valve
without back suction



PFD-C
with directional control valve
with back suction



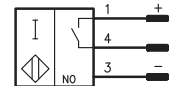
Technical data:

Metering volume: 0,04 ... 0,28 cm³/stroke
 Drive: Compressed-air
 Air quality quality class 4 according to DIN ISO 8573-1
 Compressed air consumption: 4,1 cm³/Hub
 Drive pressure p₂: at min. 3 bar at max. 10 bar
 Filling pressure: at min. 2 bar at max. 50 bar
 Delivery pressure p₁: approx. p₂ x 9 - 5 bar
 max. stroke number: 100 min⁻¹ depending on lubricant, temperature, air pressure, and line lengths.
 Medium: Grease up to consistency class 3
 At low temperatures, grease penetration needs to be observed.
 Weight: 1 kg
 Mounting position: Venting connector down

Initiator:

Operating voltage: 8 ... 30 VDC
 Residual ripple: ≤ 10%
 Output: NOC, plus-switching PNP
 Load current at max.: 400 mA
 Type of protection: Ip65
 Connection: 4-pin male connector (M12)

Connection diagram:



Directional control valve:

Power consumption: 5 W
 Relative on-time: 100% ED
 Type of protection: IP65 acc. to DIN 40050
 Plug connection: DIN 46350-B
 Voltage: see purchase-designation
 Special voltages and frequency: enquire, please

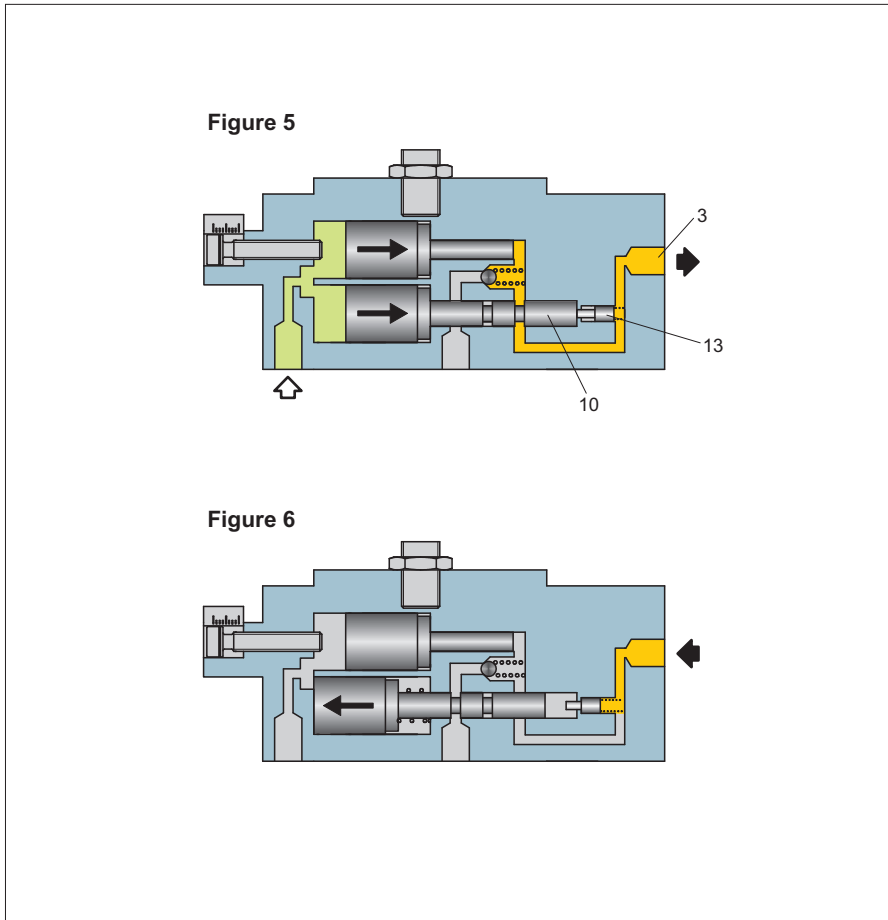
Notes to dimensional drawing:

- 1 = Compressed air connector G 1/8
- 2 = Filling connector G 1/8
- 3 = Outlet G 1/8
- 4 = Leak oil bore M5
- 5 = Volume adjustment screw
- 6 = Initiator

- Subject to modifications -



- Subject to modifications -



Back suction at the outlet:

In order to prevent the medium from "dripping" at the point of lubrication, the metering unit can be provided with a back suction device.

With such function, a certain medium volume will be sucked back from the outlet into the metering unit after every delivery cycle and resupplied to the outlet during the next delivery stroke.

Mode of operation:

When control piston **10** is shifted into its right home position during delivery stroke, it will move back suction piston **13** against its pressure spring. (Figure 5)

After completion of the delivery process, control piston **10** moves back into its left home position whilst releasing back suction piston **13** (figure 6). The pressure spring of that piston moves it into its left home position as well. In such move, the lubricant is sucked back from outlet **3**.

During the next delivery stroke, control piston **10** moves back suction piston **13** into its right home position. The lubricant drawn back will be moved to outlet **3** again. (Figure 5)

Note to functional scheme:

- 3** = Outlet
- 10** = Control piston
- 13** = Back suction piston

Purchase-designation:



| Drive (directional control valve) | | Delivery volume | Electric fill monitoring | | Back suction at outlet | |
|-----------------------------------|------|-------------------------|--------------------------|----|----------------------------|-----|
| 24 VDC | ○24 | continuously adjustable | with initiator | ○E | without | ○0 |
| 230 VAC | ○230 | 0,28 cm³/stroke | without | ○0 | Back suction volume 20 mm³ | ○20 |
| without | ○0 | | | | | |

Purchase-example:

Metering unit with directional control valve 24 VDC, delivery volume continuously adjustable, with electric fill monitoring, without back suction.

Purchase-designation:

PFD-C / 24 / E / N / 0

Spare parts and accessories:

| | |
|--|------------|
| 3/2-directional control valve 24 VDC | 943.200-49 |
| 3/2-directional control valve 230 VAC | 943.200-47 |
| Cable jack for directional control valve | 913.400-31 |
| Proximity switch | 913.900-45 |
| Sealing set | 101.410-64 |

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