PRODUCT MANUAL

ALPB Progressive Lubrication Pump

- Bayonet Connector Version
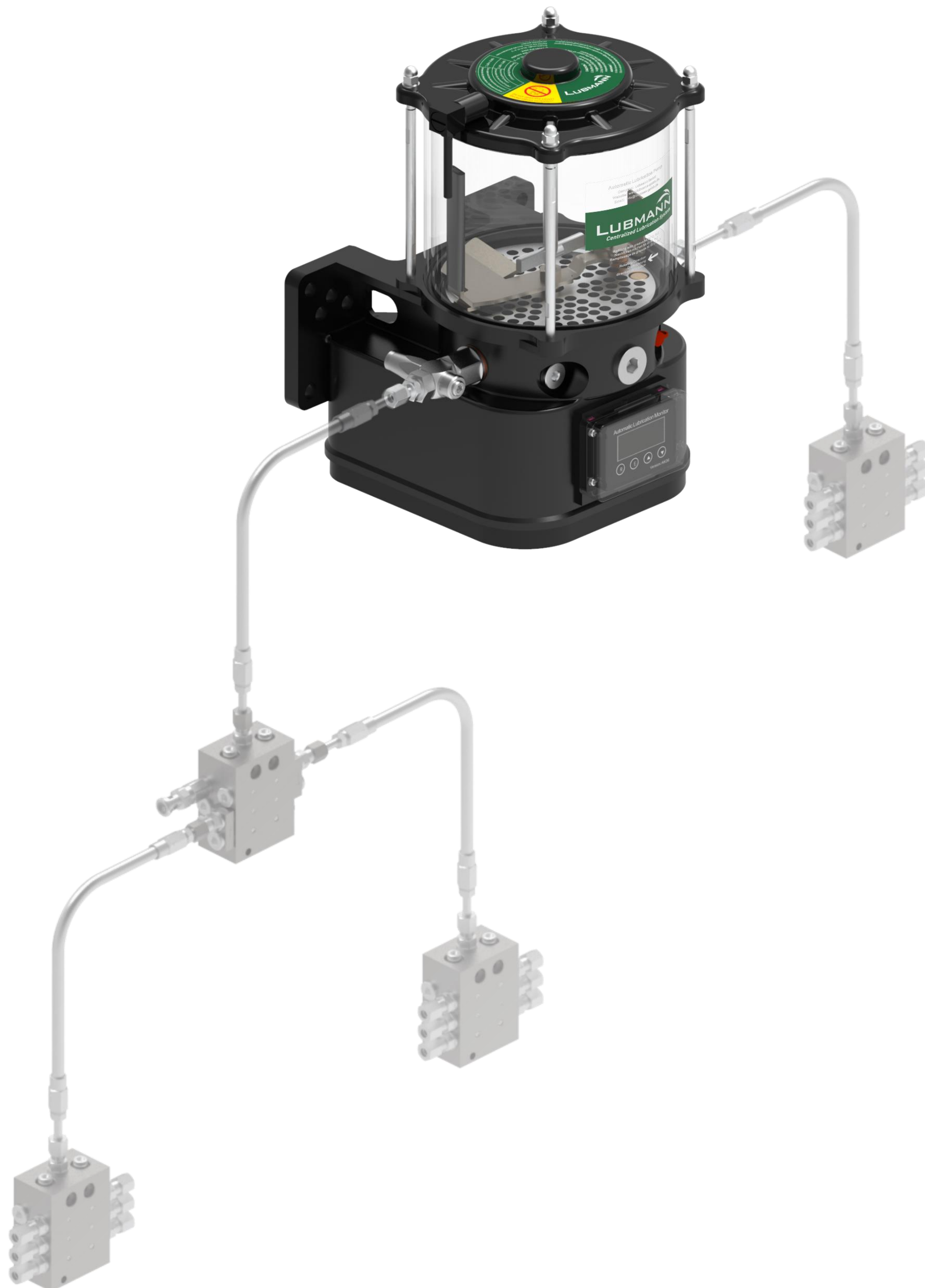

LUBMANN
Centralized Lubrication System

Index

Product Catalog - Progressive Lubrication Pump

Overview

Lubmann progressive centralized lubrication pump type - ALPB has been widely used in industries like wind power, mining, metallurgy, machine tools, textiles, food, ports, commercial vehicles, construction machinery, and heavy mechanical equipment, etc.

Our Lubmann automatic lubrication system lubricates all lube points as required through progressive lubrication system. It can reduce the friction resistance, reduce contact wear and decrease the friction surface temperature. Meanwhile, it plays a supporting role of anti-rust, shock absorption and sealing.

Dia. 3.1 System Layout for
ALPB Progressive Lubrication Pump + JPQ1 Progressive Dividers

Overview

The Lubmann progressive central lubrication pump type - ALPB is electrically operated and has up to a max. 4 independently operating lubricant outlets, which can be engaged by bypasses. A separate pump element PE is required for each outlet. Three different delivery rates are available. This allows the grease quantity to be metered precisely for the requirements of the individual progressive distributor layouts.

These pumps enable the delivery of lubricants up to NLGI- Class 2 at a working pressure of maximum 300 bar (adjusting of Safety Valve SV).

The ALPB series pumps differ in reservoir size and control type. It can be controlled by the standard integrated controller with current version AK06*, or externally by PLC, board computer or external controller from Lubmann.

The standard integrated controller's version might be upgraded by Lubmann, please check with us for the latest version if necessary.

Dia. 4.1 Pump with 2/4/6 liter - Outside Diameter. of Reservoir : 170 mm

Technical data:

Motor:

Operating Voltage:	12V DC ±10%	24V DC ±10%
Revolutions:		20 rpm
Relative duty cycle:		30% ED S3 30 minutes
Current consumption at +20°C:		
Idling:	1A	0.6A
Full load:	5A	3A
Fuse:	10A	6A

Pump:

|	
Max. number of pump elements:	4
Max. Operating pressure:	350 bar
Adjusting of pressure relief valve till:	300 bar
Permissible operating temperature:	-35°C to +70°C
Sound pressure level	<70 dB
Reservoir size:	2/4/6/8/15/20 L
Mounting position:	Vertical
Protection type:	IP65 as per ISO
Lubricant:	Greases up to NLGI- Cl.2 No grease with solids, no oil

Dia. 4.2 Pump with 8/15/20 liter - Outside Diameter. of Reservoir : 230 mm

Working Principle

A gear DC motor ⑨ continually operates eccentric pressure disc ⑤. This eccentricity effects the suction and pressure strokes of the delivery piston ⑥, whereby the integrated non-return valve ⑦ prevents the delivery media from being sucked back out of the main line.

The stirrer ② pushes the lubricant out of the grease reservoir ① through a screen ④, which reduces any air bubbles, to the suction area in the pump body ③. The stirrer ② enables a visual check of the lubricant volume still present in the transparent supply container ①.

The safety valve (8) is pre-set to 300 bar.
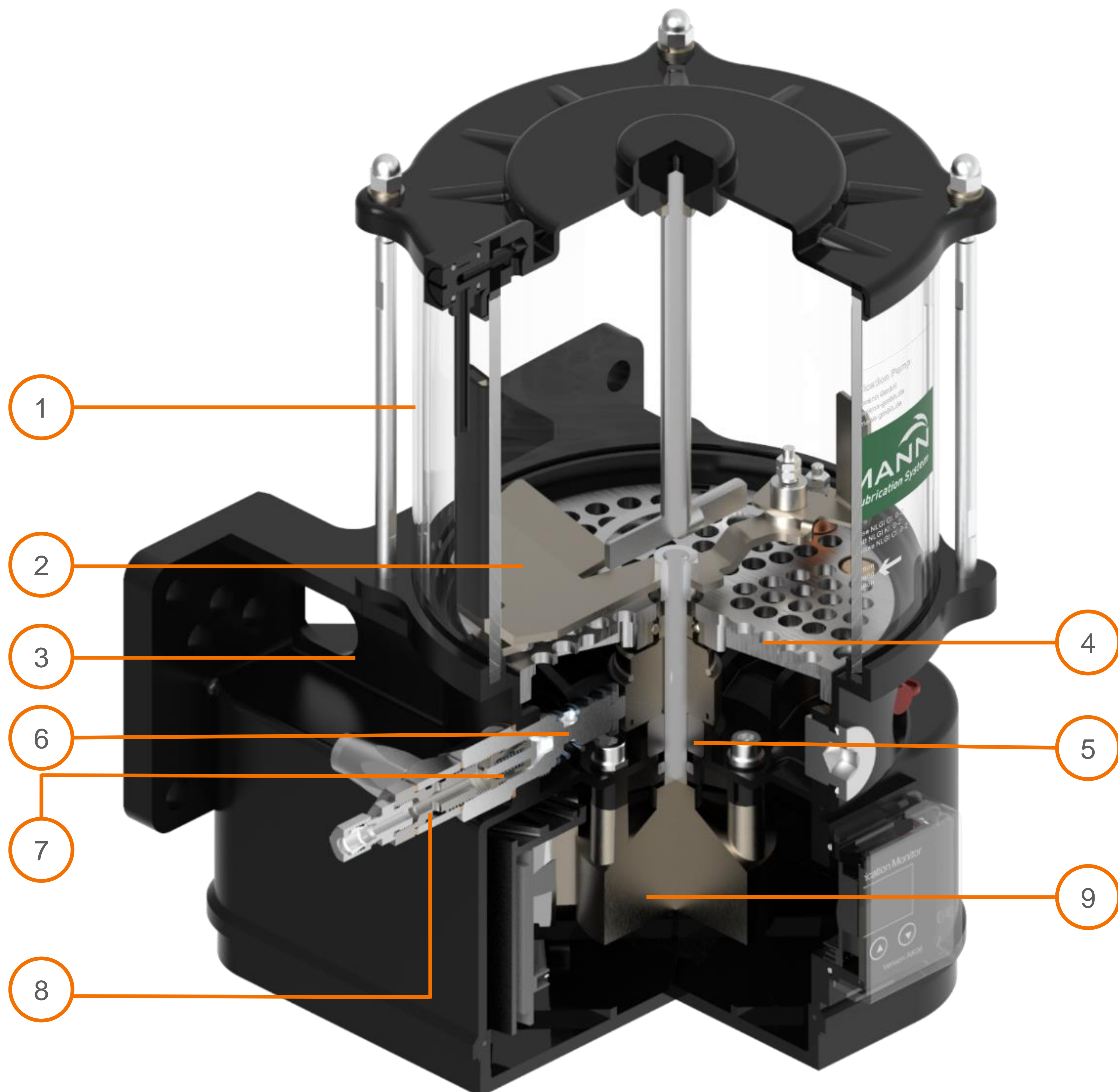
Dia. 5.1 Pump working principle
1. PC Grease reservoir 2. Stirrer 3. Aluminium Pump body 4. Screen 5. Eccentric pressure disc 6. Delivery piston 7. Non-return valve 8. Safety valve 9. Motor

Pump Element

ALPB series pumps can be installed -

max. 3 pump elements with type C safety valve (SV-C without bypass) on the pump outlet position 1/2/3
or
max. 2 pump elements with type A safety valve (SV-A with bypass) on the pump outlet position 1/3*.

* More possibilities for customized Pump Elements setting please contact us.

Pump elements can deliver the grease separately with the flow rate range between 1.5-4.5 cm³/min or bridge with each other to achieve a higher flow rate
till 13.5 cm³/min with SV-A safety valve
or
till 18 cm³/min with SV-C safety valve*.

* For more information of pump elements bridge please contact us.

A-A
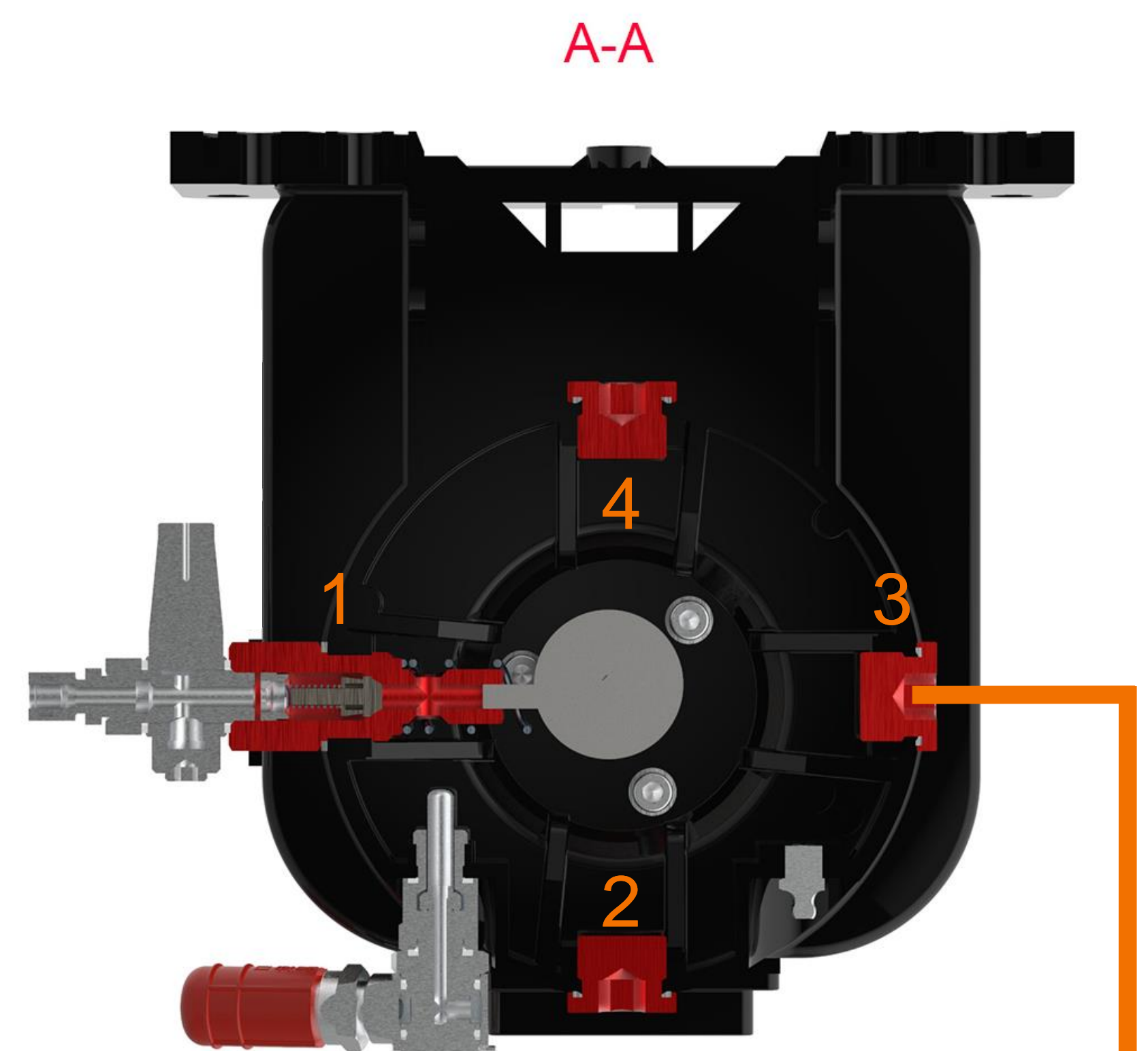

Dia. 6.1 Pump outlets position

Pump outlet blind plug

Order No. 3050102550
(seal ring included)

Technical Data Pump Element (without safety valve):

	Fixed delivery quantity (cm³/min)	Order No.	Connecting thread
PE 1.5	1.5	2070011689*	M22x1.5
PE 2.5	2.5	2070011690*	M22x1.5
PE 4.5	4.5	2070011691*	M22x1.5

* Order No. for PE1.5/2.5/4.5 includes Copper Ring already, but without safety valve.

Piston

Spring

Copper Ring

Non-return Valve

Pump Element Housing
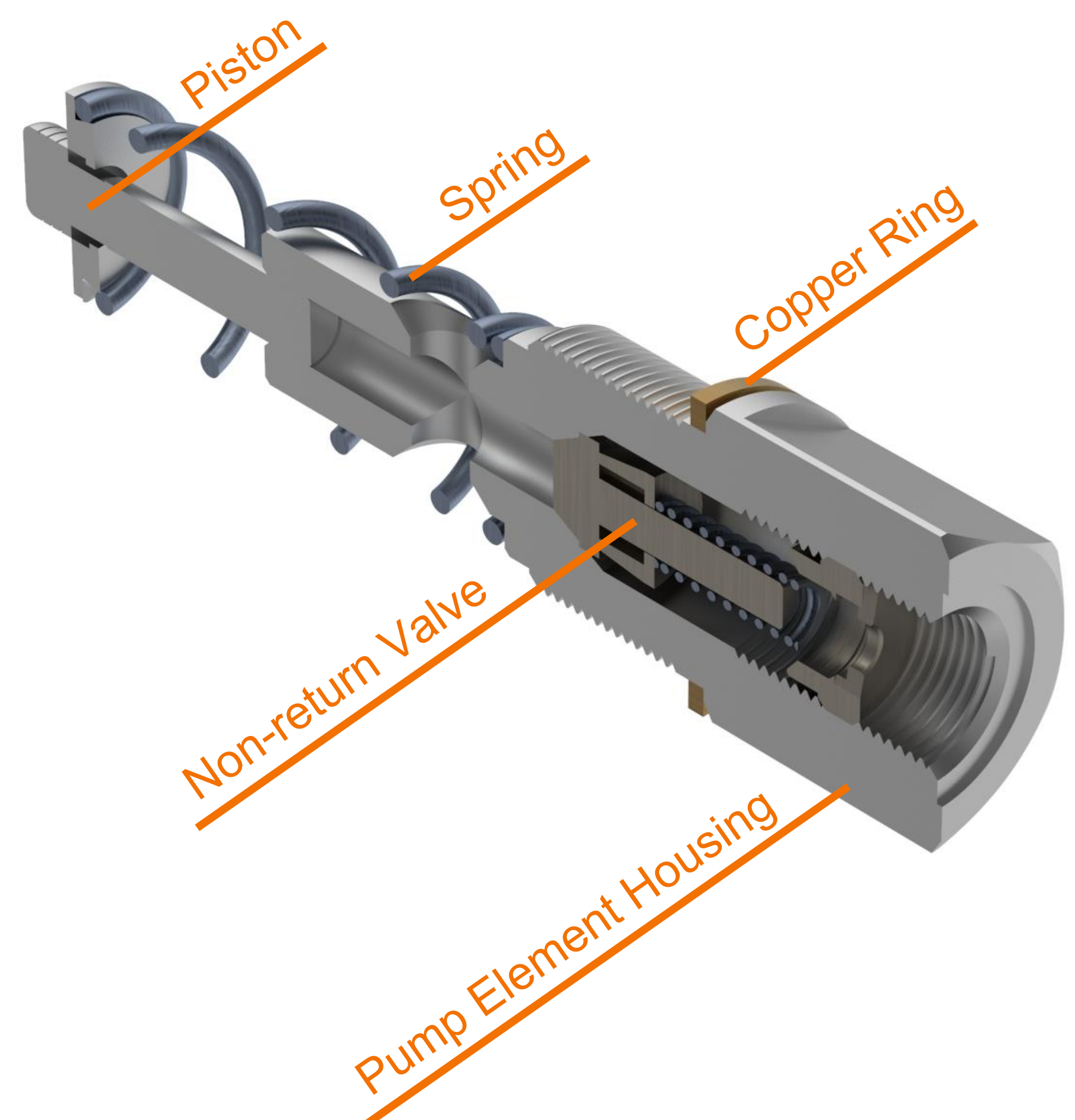
Dia. 6.2 Pump Element structure

Pump Element

Function of Pump Element

On the vertical shaft of the geared DC motor a eccentric pressure disc EPD with eccentric hole in the centre is mounted. When the pump starts running the EPD will make a back-and-forth movement (X_1, X_2, X_3). The pump element is mounted in the pump body the piston of the pump element will run against the EPD.

When the EDP is moving away from the piston (**Dia. 7.1-1**) the spring on the pump element will push the piston against the EPD. In this suctionstroke grease is sucked into the pump element through the 2 suction holes.

See the 2 arrows in (**Dia. 7.1-1**).The vertical shaft will continue rotating and the EPD will push the piston into the other direction (**Dia. 7.1-2**). In this pump stroke the piston will close the 2 suction holes and pushes the suctioned grease to the non-return valve.

The pressure created by the piston and grease will open the non-return valve (**Dia 7.1-3**) and the grease flows to the outlet of the pump element further into the lubrication system.

7.1-1

7.1-2

7.1-3

Suction Hole

Suction Hole
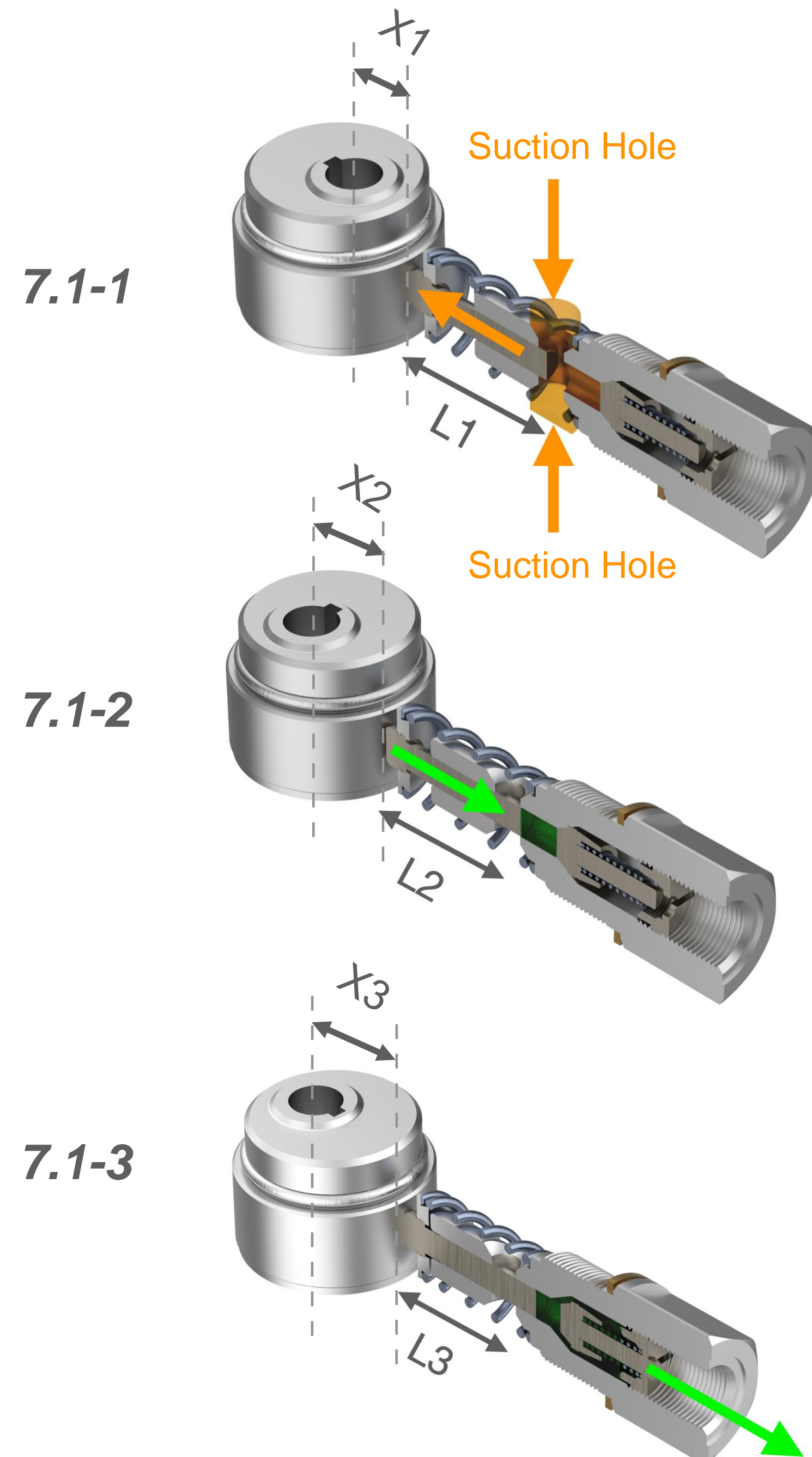
Dia. 7.1 Pump Element Working Principle

Pump Element Installation and Removal

1. Insert the pump element vertically into the pump outlet housing drilling (**Dia. 7.2**).

2. Tighten the pump element clockwise with a torque wrench, the preset value of the torque wrench can not be less than 25 N/m (**Dia. 7.2**).

3. For removal, reserve above sequence.

Only install or remove the pump element when pump power OFF!!!
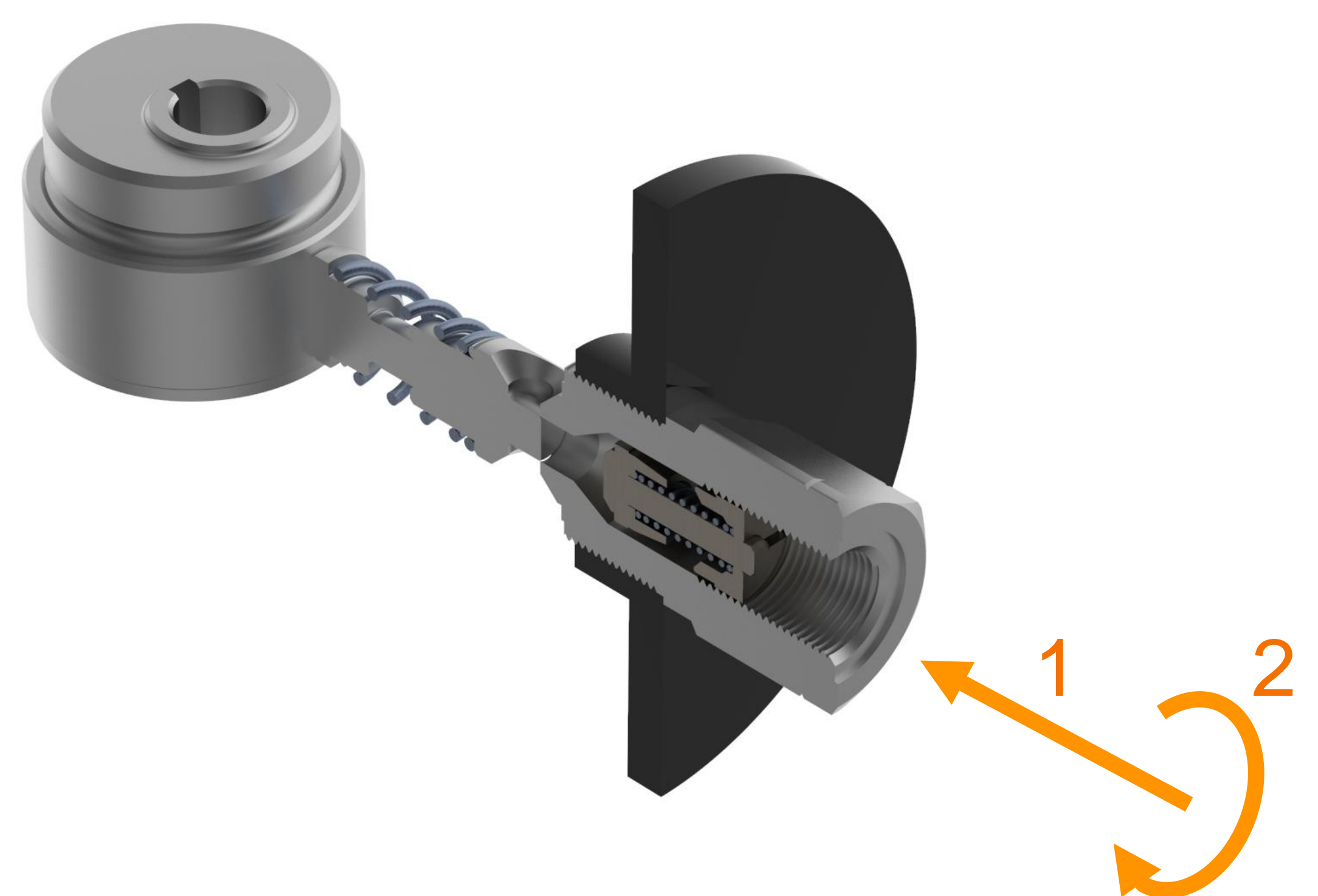
Dia. 7.2 Pump Element installation and removal

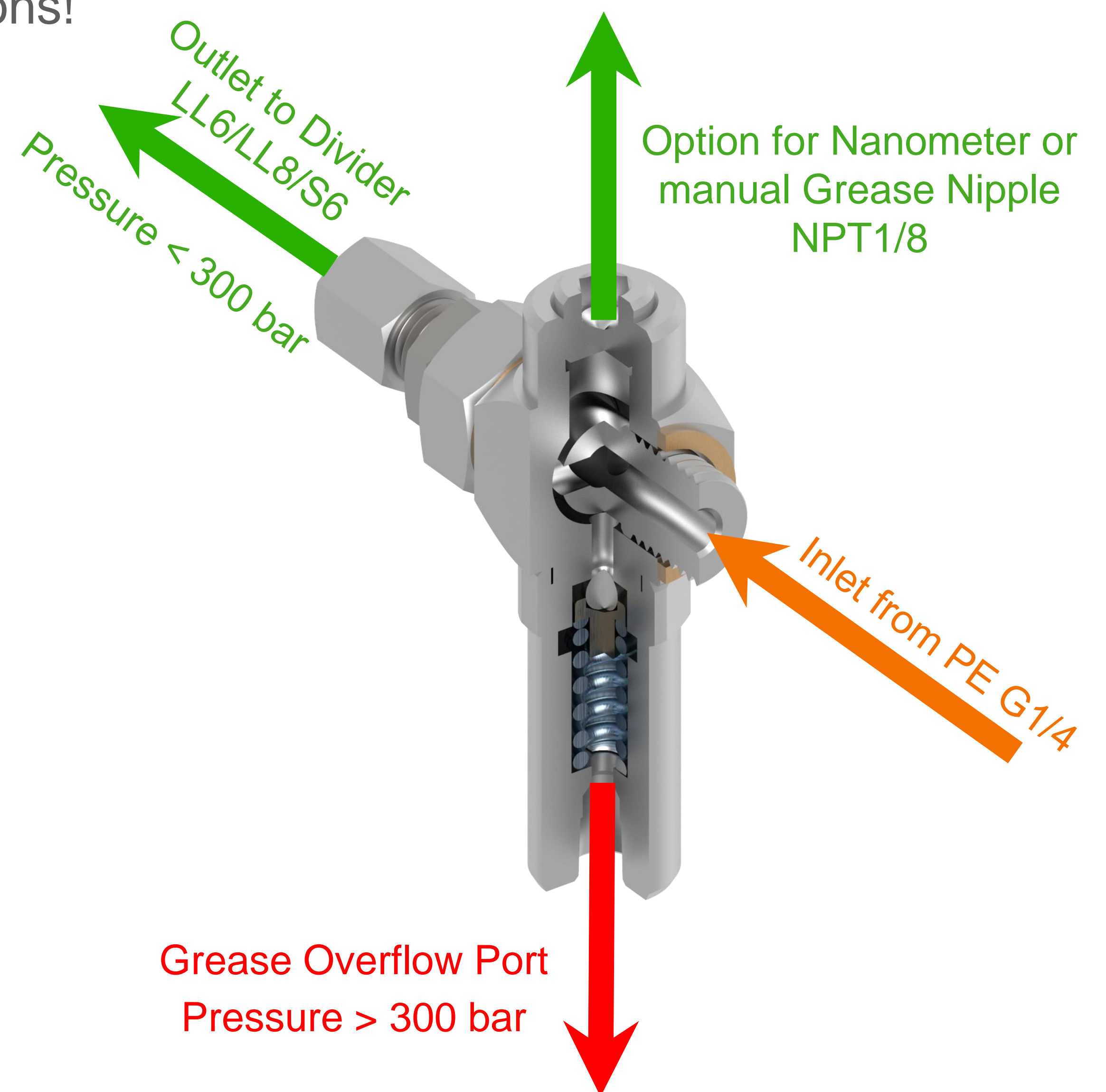# Safety Valve Type C: SV-C for PE (Standard Version)

Safety valve Type C: without bypass function
Safety valve Type C: Preset to 300 bar

When the system pressure is higher than the pre-set valve (300 bar), the safety valve opens, lubricant flows from the safety valve overflow port out.
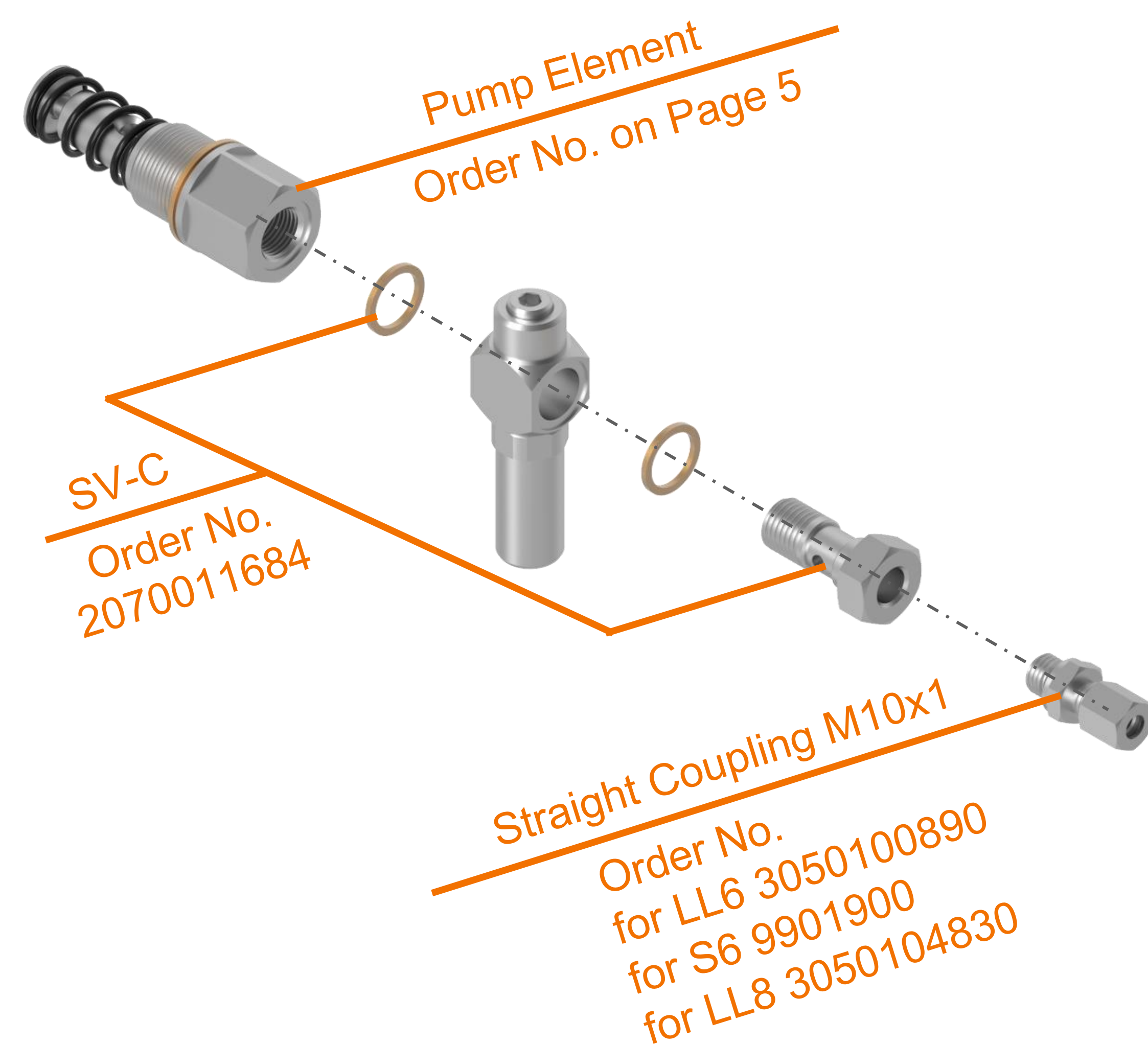
Please consider the relevant environmental conditions!

Order No. with Safety Valve Type C		
	Option	Order No.
SV-C*	/	2070011684
Straight Coupling*	LL6	3050100890
	LL8	3050104830
	S6	9901900
Copper Ring	/	3040200510
SV-C with PE + Straight Coupling + Copper Ring	PE 1.5 + LL6	9901630
	PE 2.5 + LL6	9901631
	PE 4.5 + LL6	9901632
	PE 1.5 + LL8	9901633
	PE 2.5 + LL8	9901634
	PE 4.5 + LL8	9901635

Outlet to Divider LL6/LL8/S6
Pressure < 300 bar

Option for Nanometer or manual Grease Nipple NPT1/8

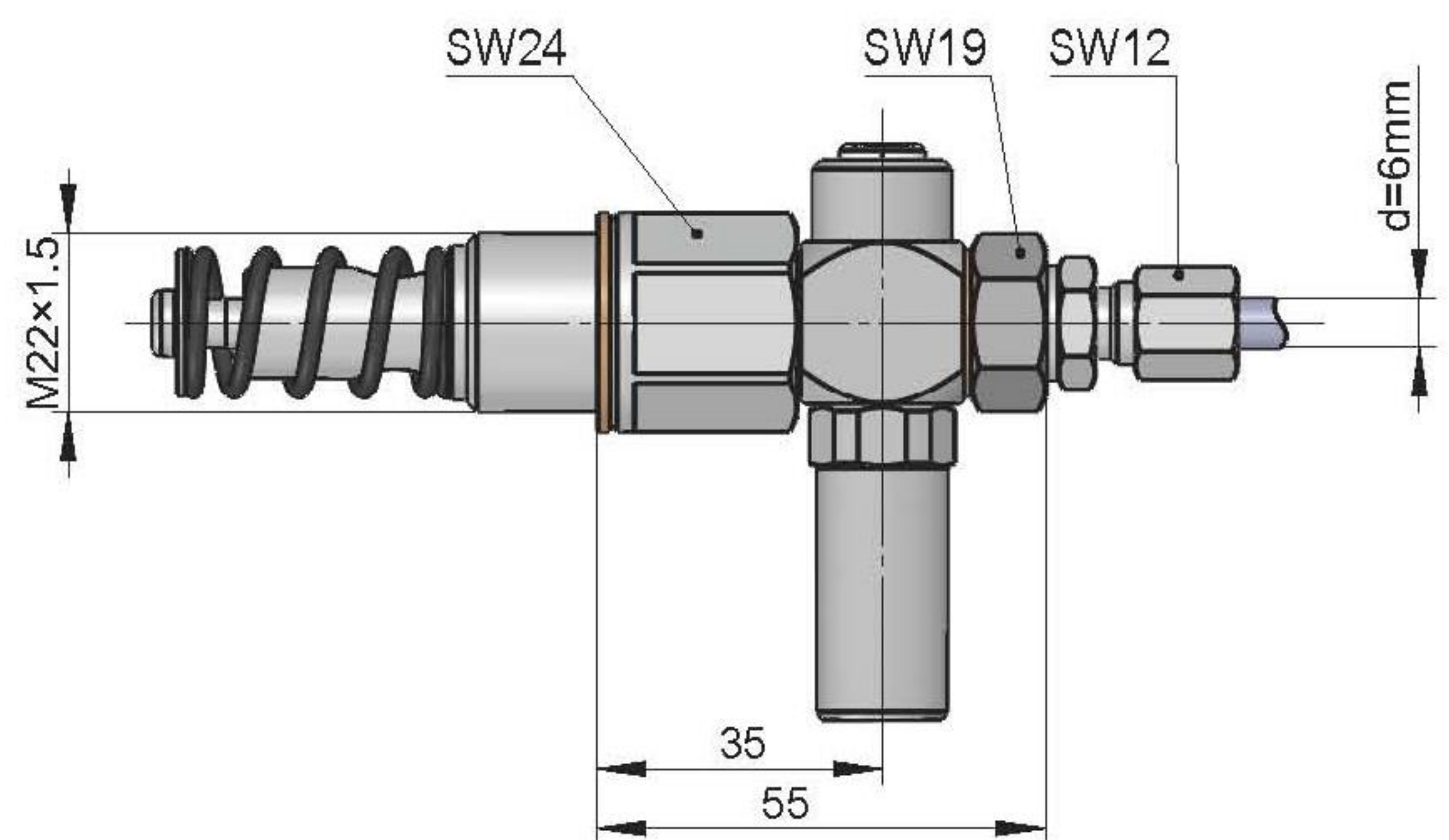Inlet from PE G1/4

Grease Overflow Port
Pressure > 300 bar

* For SV-C Order No. 2070011684 already includes the copper rings. For extra Copper Ring Order No. is 3040200510.

* For further information to hose couplings like swivel type or elbow type please check our accessories catalog or contact us.

Pump Element
Order No. on Page 5

SV-C
Order No.
2070011684

Straight Coupling M10x1
Order No.
for LL6 3050100890
for S6 9901900
for LL8 3050104830

Dia. 8.2 Explosion for SV-C with PE + Straight Coupling

SW24   SW19   SW12

M22×1.5

d=6mm

35
55

Dia. 8.3 Installation Dimensions for SV-C + PE

Safety Valve Type A: SV-A for PE

Safety valve Type A/B (SV-A, SV-B): with bypass function
Safety valve Type A/B (SV-A, SV-B): Preset to 300 bar

When the system pressure is higher than the pre-set valve (300 bar), the safety valve opens, lubricant flows from the bypass of the safety valve and back to pump reservoir.
Safety valve Type A: single bypass function
Safety valve Type B: dual bypass function*

*For more information of Safety valve Type B please contact us.*

Order No. with Safety Valve Type A

|	Option	Order No.
SV-A*	/	2011221370
Bypass	Single bypass	2011222820
	Dual bypass	2011026510
Straight Coupling*	LL6	3050100890
	LL8	3050104830
	S6	9901900
Copper Ring	/	3040200510
SV-A with PE + Straight Coupling + Copper Ring +Single bypass	PE 1.5 + LL6	9901636
	PE 2.5 + LL6	9901637
	PE 4.5 + LL6	9901638
	PE 1.5 + LL8	9901639
	PE 2.5 + LL8	9901640
	PE 4.5 + LL8	9901641
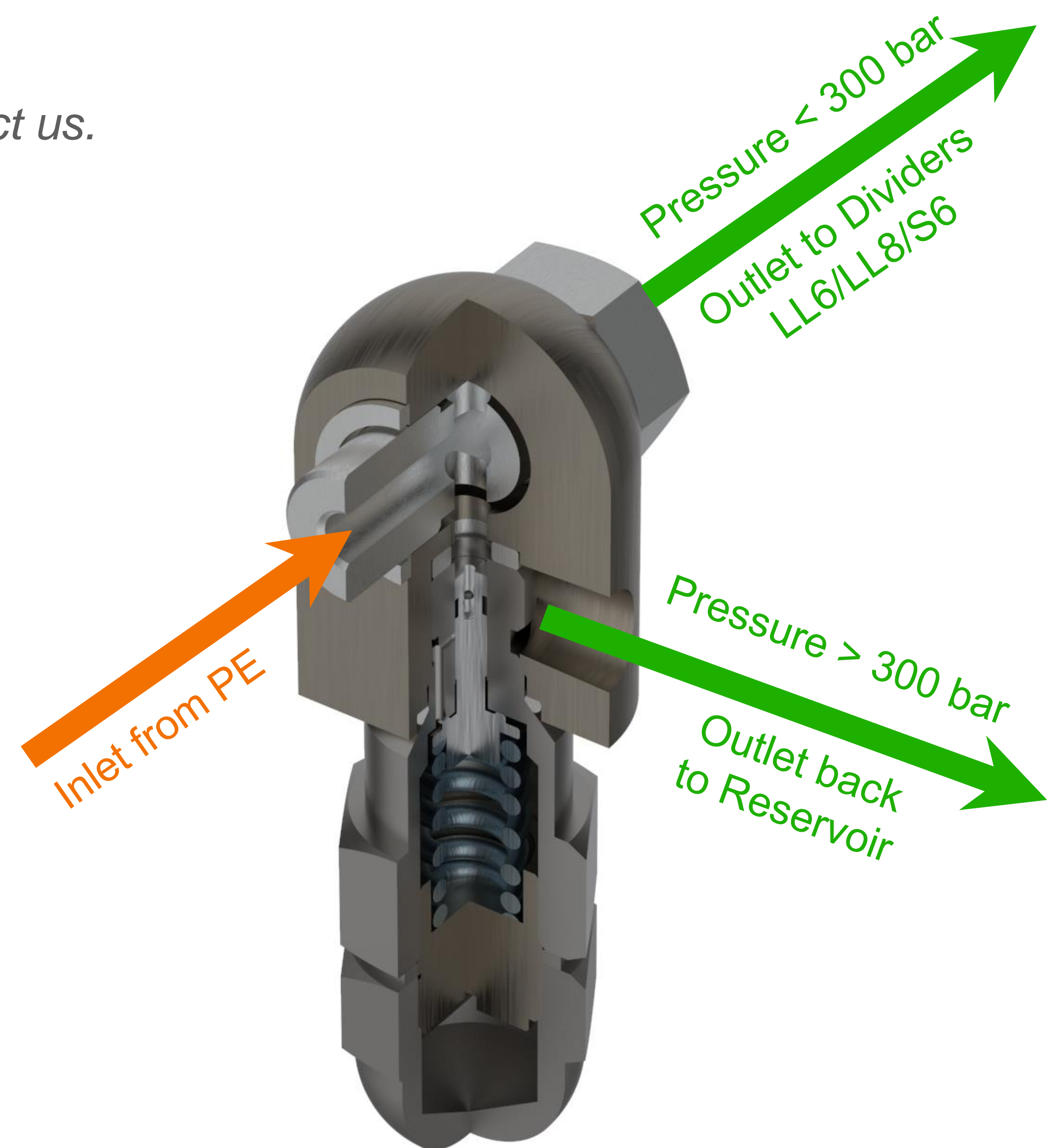
Dia. 9.1 Safety valve A working principle

For SV-A Order No. 2011221370 already includes the copper rings. For extra Copper Ring Order No. is 3040200510.
For further information to hose couplings like swivel type or elbow type please check our accessories catalog or contact us.
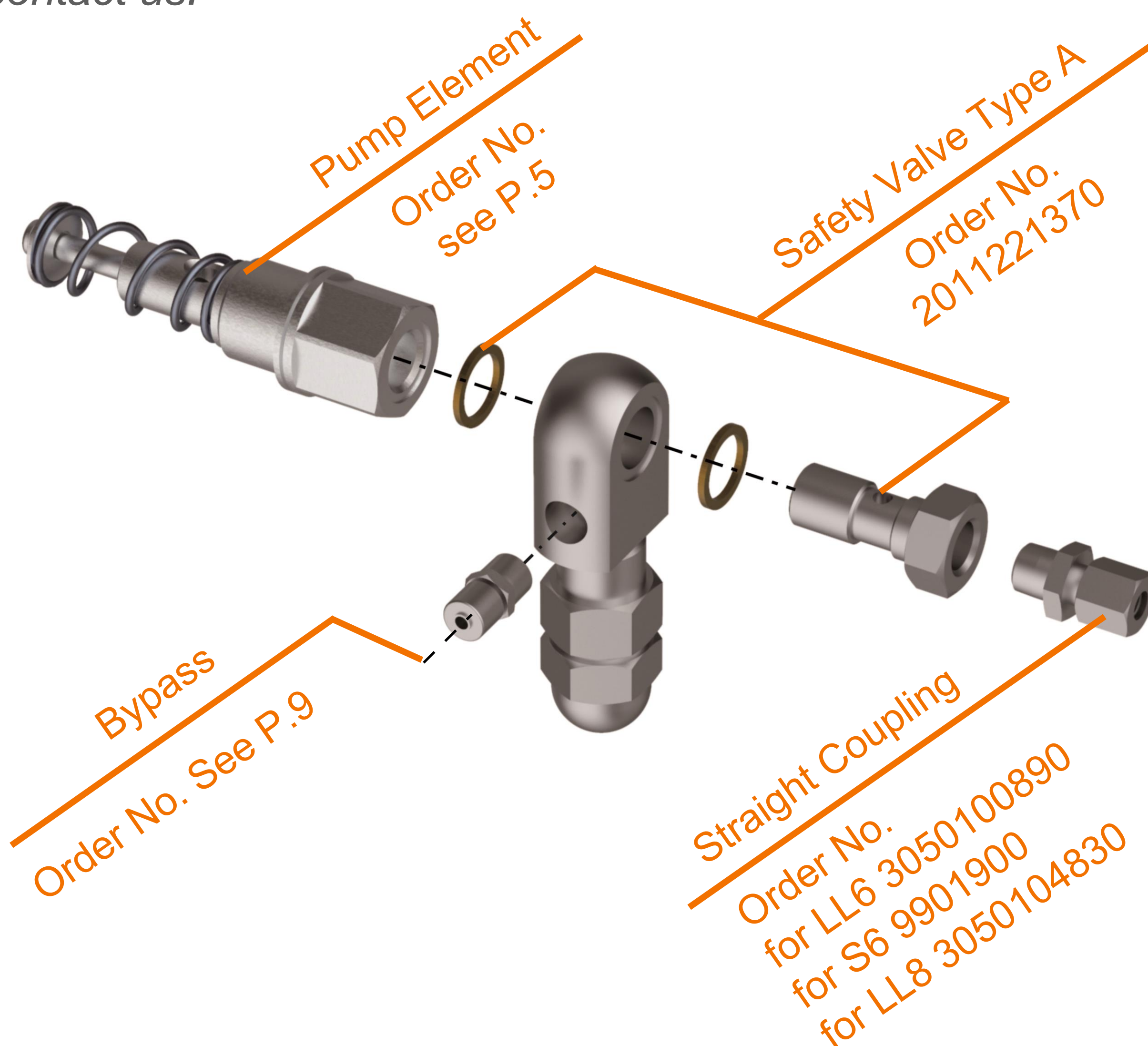
**Dia. 9.2** Explosion for SV-A with PE + Straight Coupling + Bypass
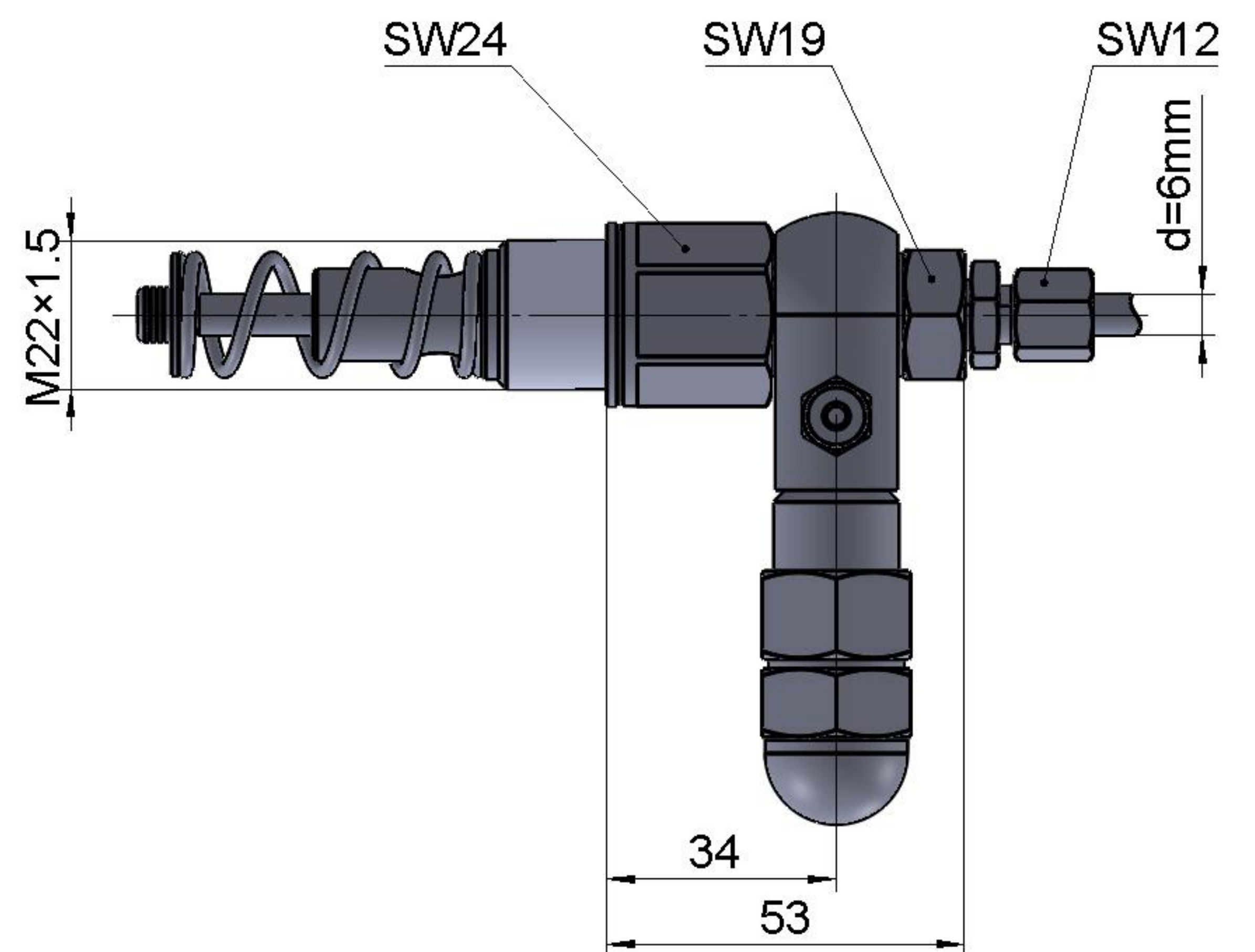
Dia. 9.3 Installation Dimensions for SV-A + PE
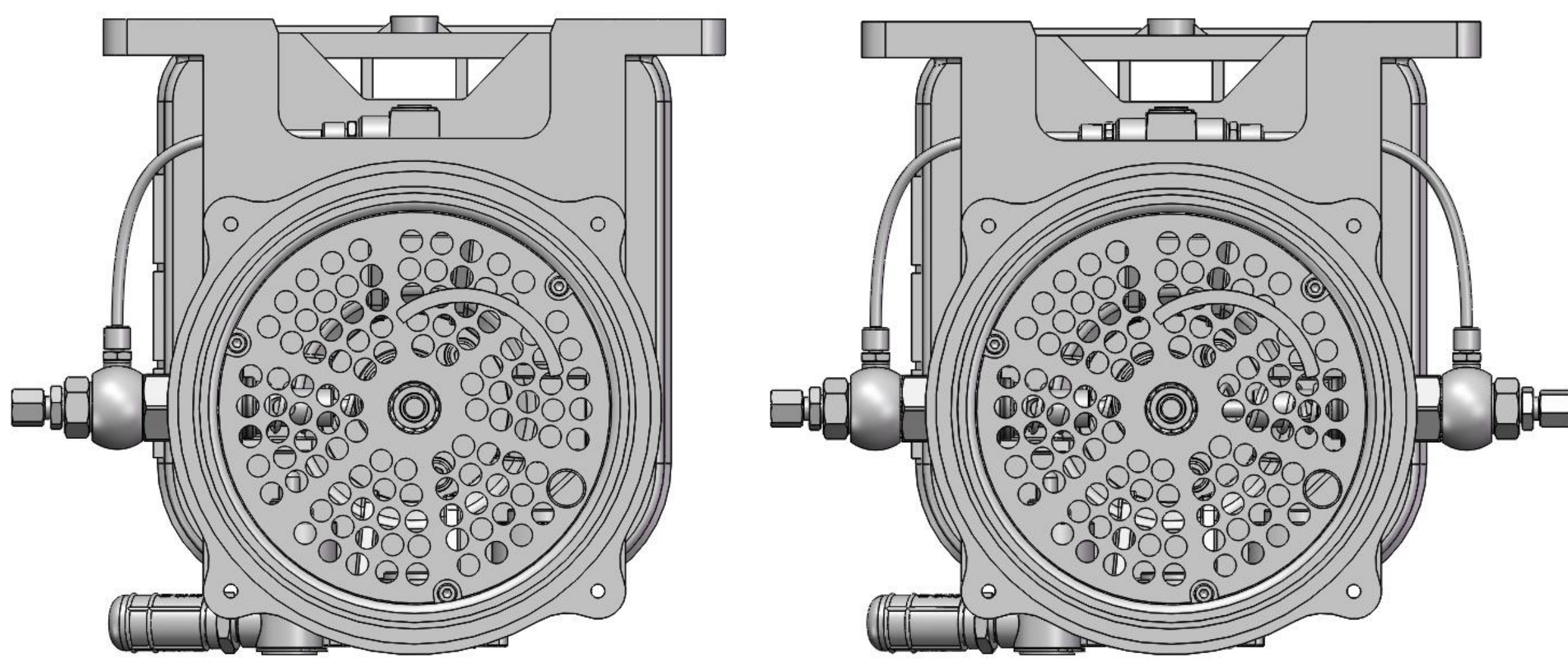
Grease Bypass Kit for Safety Valve Type A

Single Bypass （Order No. 2011222820）

In *Dia. 10.2* shows the pump with safety valve type A and single bypass, which mainly used for Windmill application.

When the pressure is higher than the preset max. value of the safety valve, the grease flows back through the pump element - safety valve - single bypass - pump reservoir.
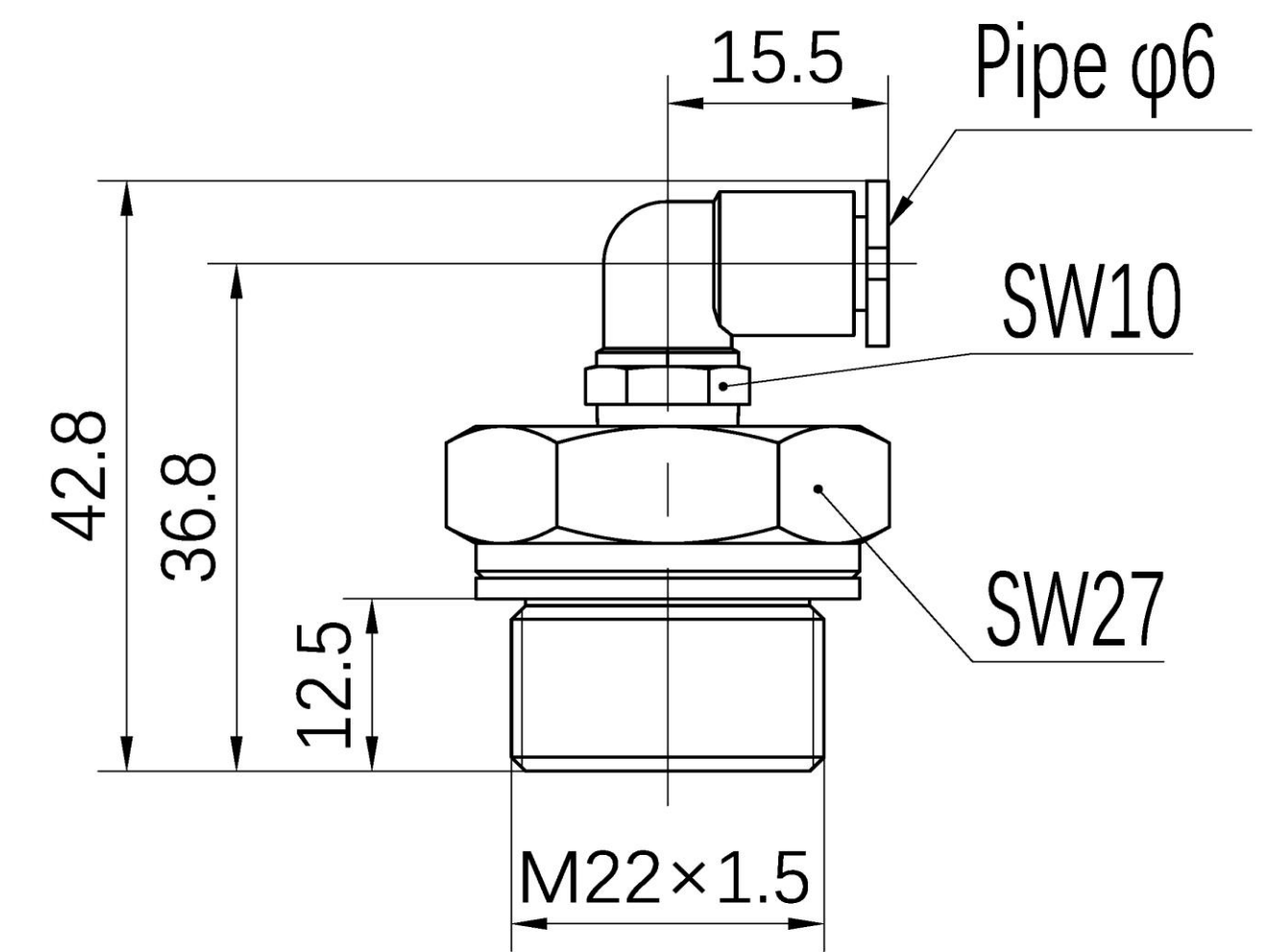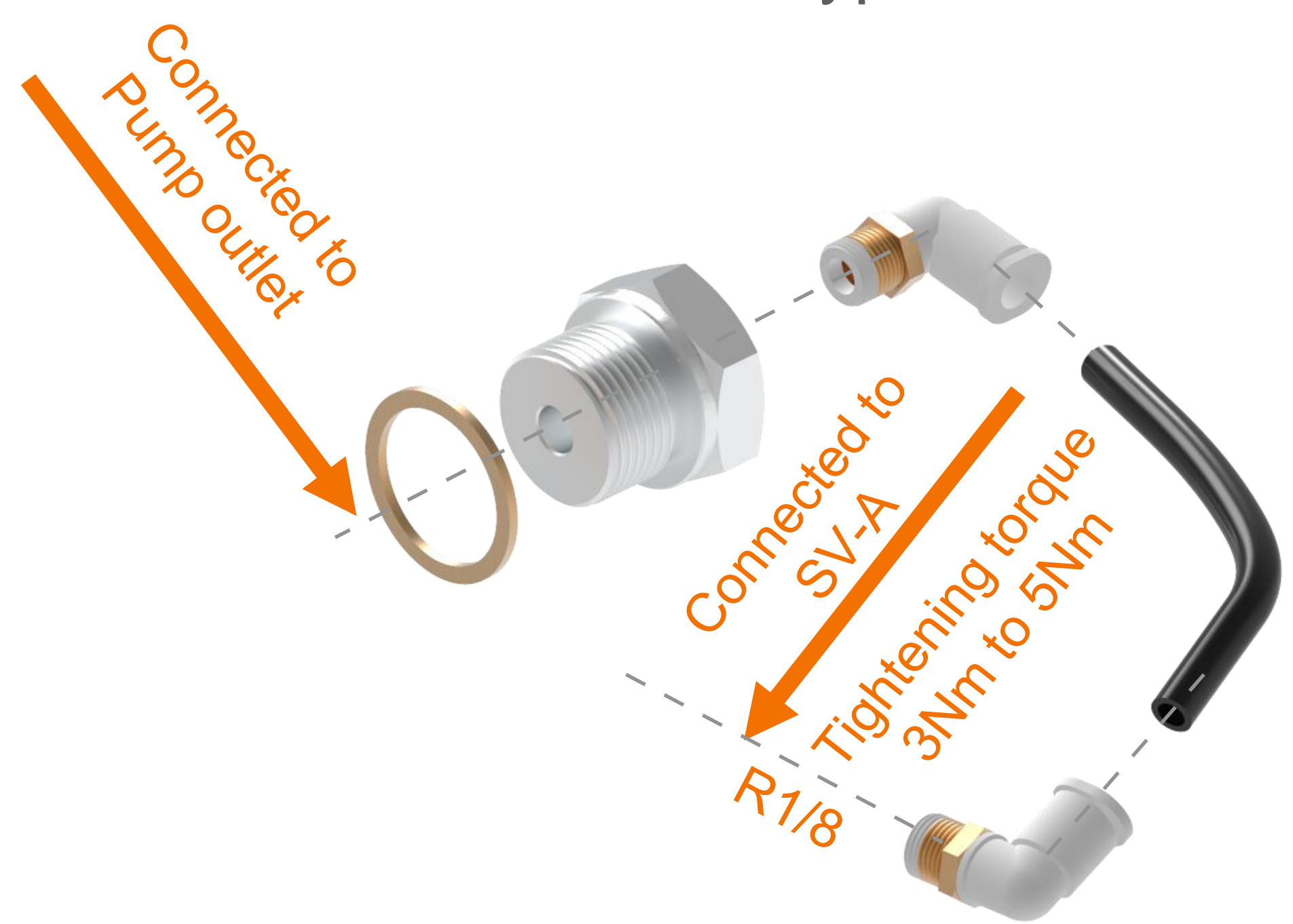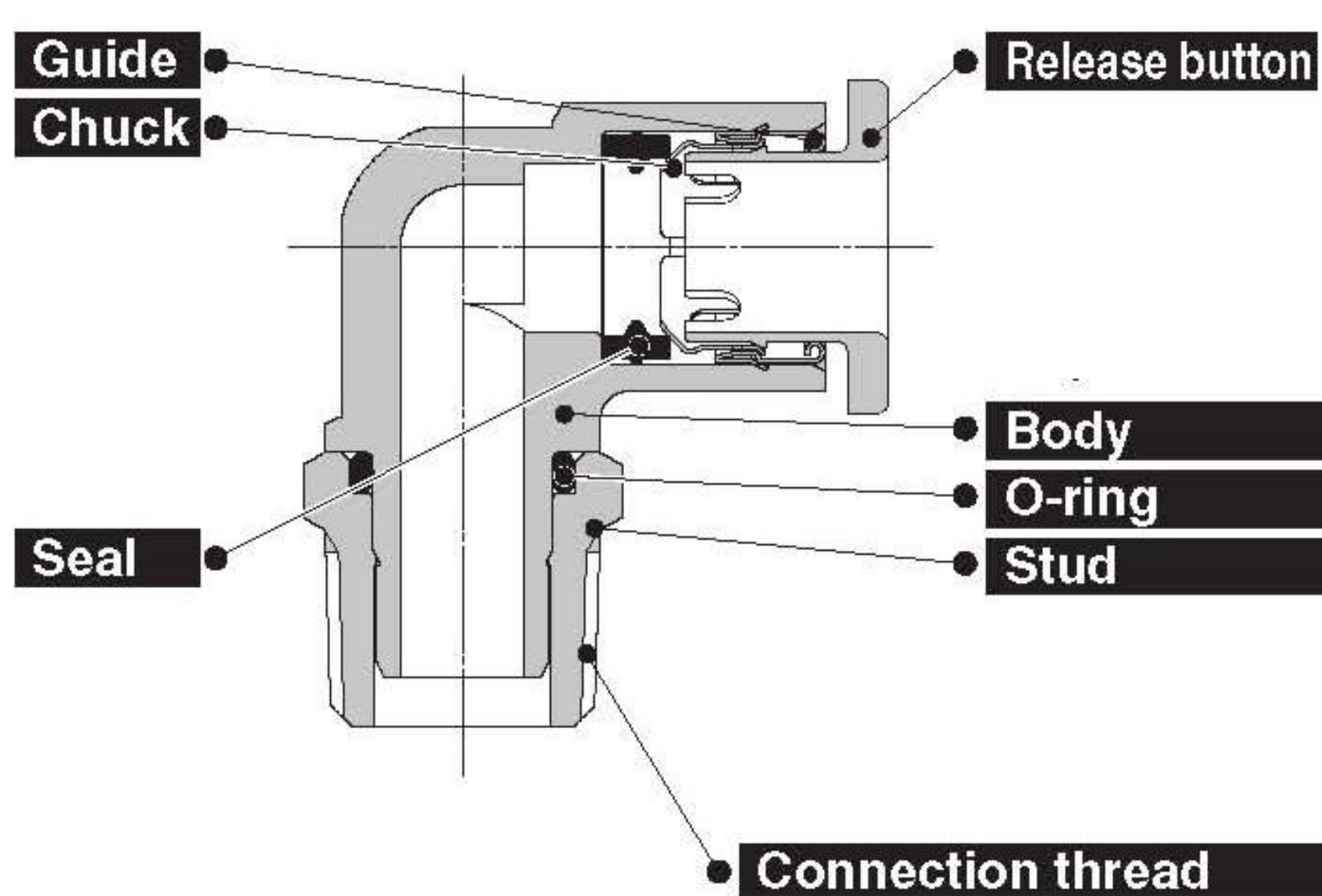

Dia. 10.1 Installation Dimensions of Single Bypass

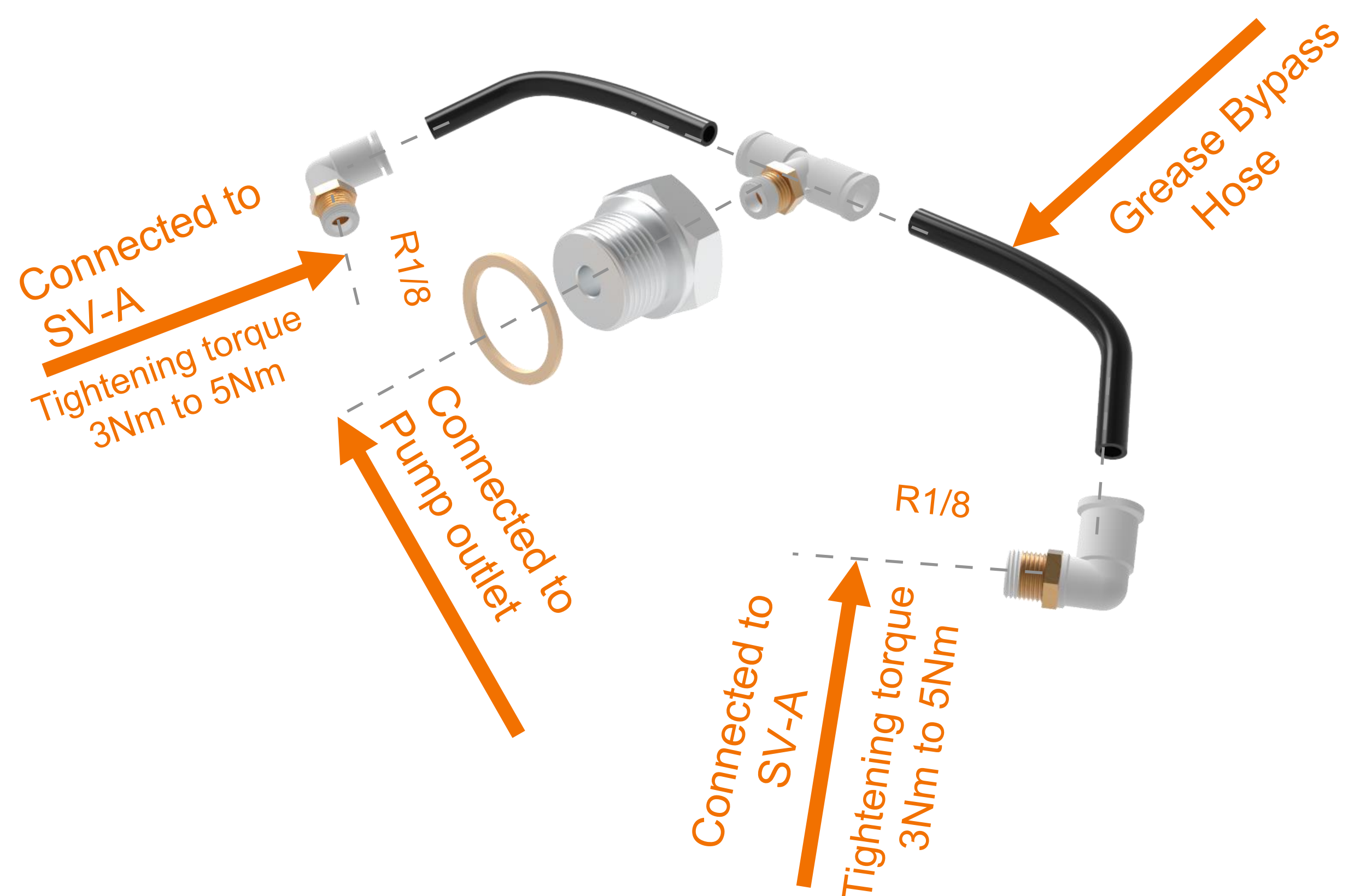*Dia. 10.2* Pump with 1 safety valve type A + Single Bypass

Dia. 10.3 Pump with 2 safety valve type A + Dual Bypass

Dia. 10.4 Explosion of Single Bypass

Dia. 10.5 One-touch Fitting for Single Bypass

Dia. 10.6 Explosion of Dual Bypass

Dual Bypass (Order No. 2011026510)

In *Dia. 10.3* shows the pump with safety valve type A and dual bypass, which mainly used for Wind mill, heavy metal industry application.

When the pressure is higher than the preset max. value of the safety valve, the grease from the 2 pump outlets flows back through the pump element - safety valve - dual bypass and combined back to pump reservoir.
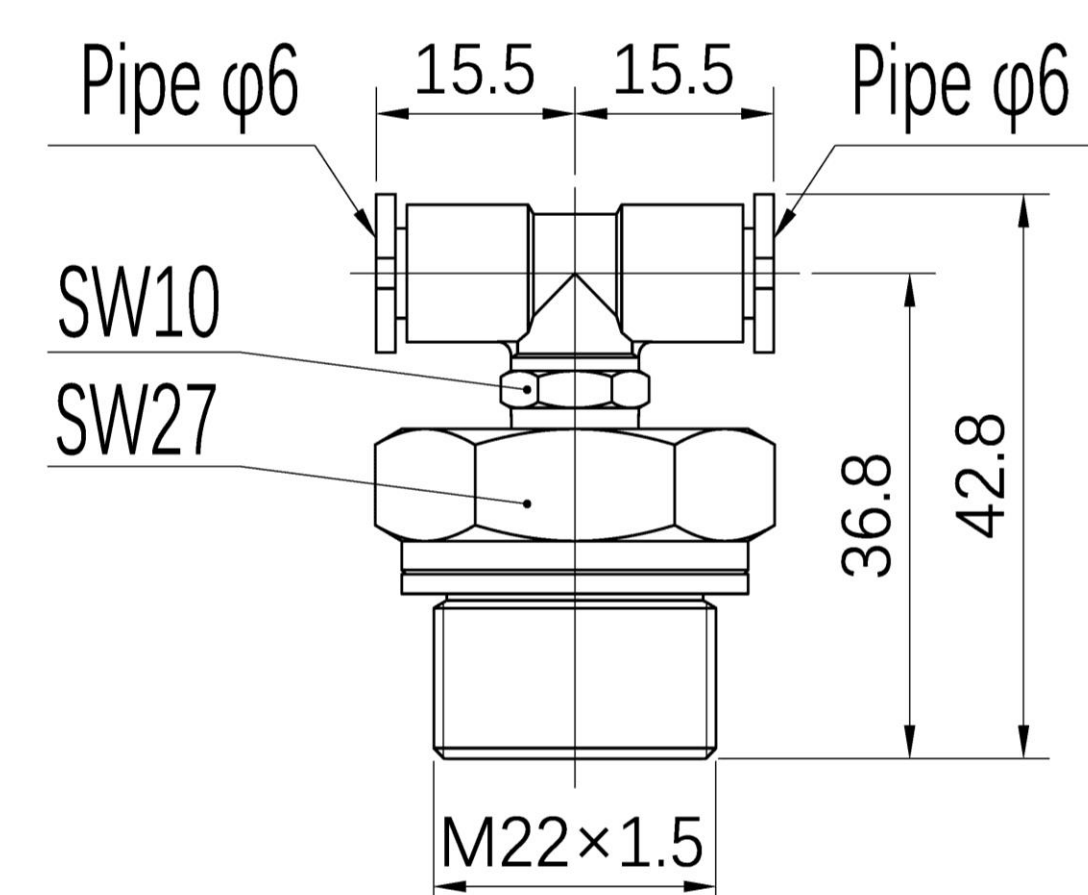
Dia. 10.7 Installation Dimensions of Dual Bypass

Installation Dimensions

Dia. 11.1 Installation dimensions for ALPB pump *reservoir, 2 to 6 Liter D170mm, 8 to 20 D230mm*

Installation Dimensions for ALPB Pump 12/24V DC (Stirring Paddle Type)

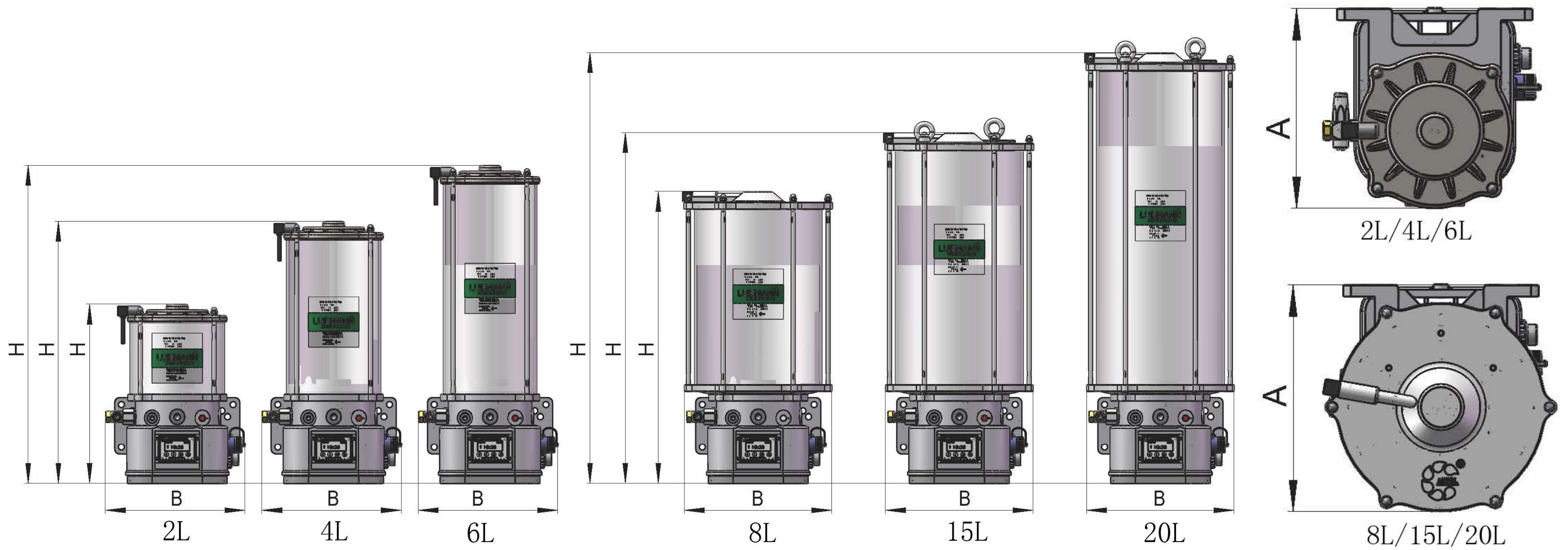| Capacity	2L	4L	6L	8L	15L	20L
A (mm)	242	242	242	259	259	259
B (mm)	245	245	245	265	265	265
H (mm)	317	462	562	521	626	769
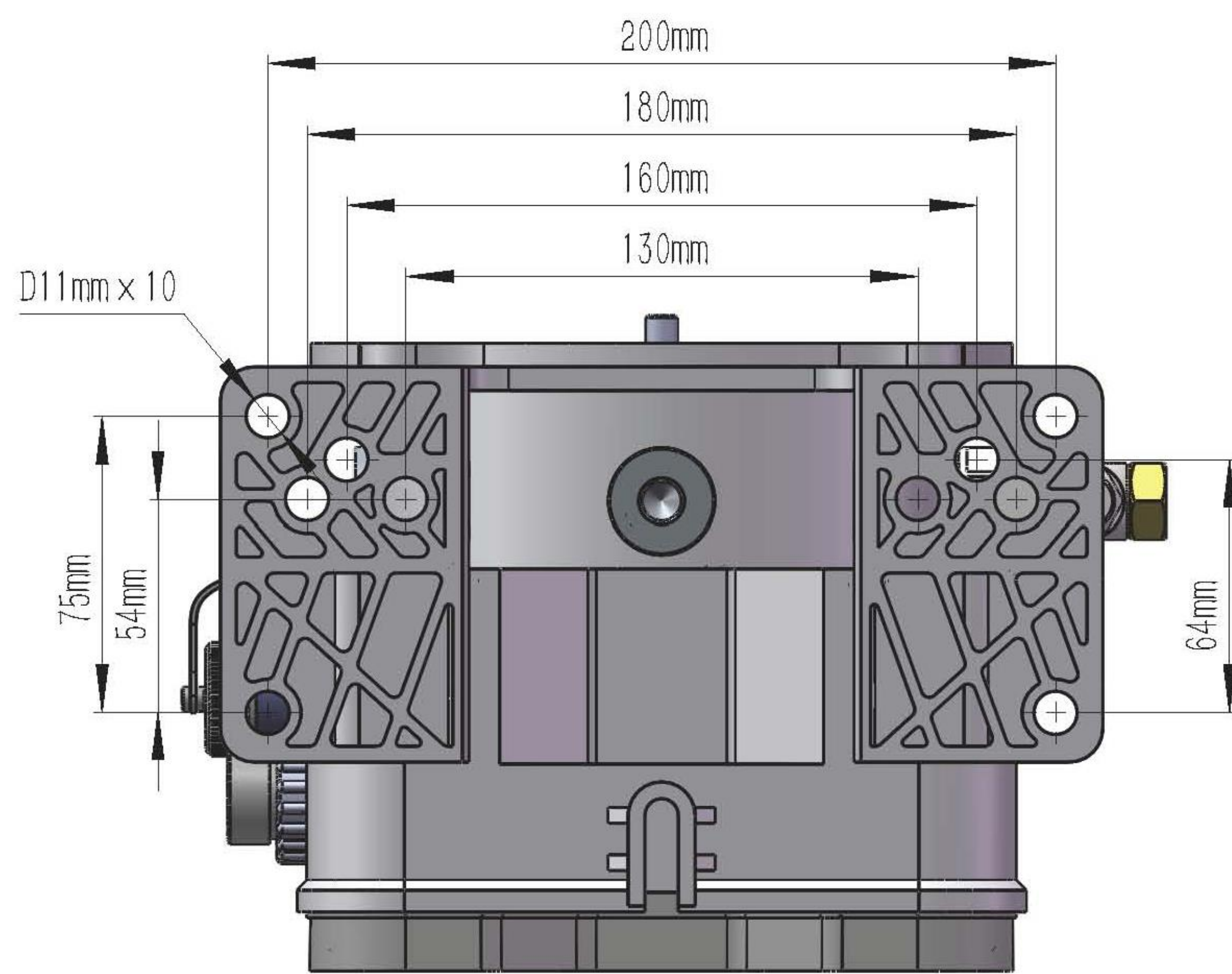
Dia. 11.2 Mounting dimensions for ALPB pump
(Stirring paddle type) - on Bottom

Mounting Dimensions for ALPB Pump (Stirring Paddle Type)

Capacity	15L	20L
H1 (mm)	402	545
C (mm)	160	160

Dia. 11.3 Mounting dimensions for ALPB pump (Stirring paddle type) on Top for Pump 15L and 20L

Low-level Indication

Functioning principle of the intermittent low-level indication

The intermittent low-level indication operates of contact. Its main components are the following:
1. firmly positioned magnetic switch **C** inside of the reservoir bottom

2. flexible guide plate **E** connected to the stirring paddle **B** with a magnet **A**

3.A control curved track **D** fixed on the perforated base plate

If the reservoir is filled with a lubrication grease suitable for the intermittent low-level indication and the pump is operating, then the guide plate **E** is deflected by the resistance of the lubrication grease. As a consequence, the magnet **C** connected to the guide plate **E** is moved on it's inner circuit and can trigger a pulse at the magnetic switch **C** with its magnetic field. A control curved track **D** positively guides the magnet together with the pivoted guide plate towards the outside during each revolution. As soon as the guide plate leaves the control curved track, the lubricant's resistance pushes the guide plate together with the magnet to the inside again.

As soon as the lubricant inside the reservoir has fallen to that level that the lubricant's resistance is no more sufficient to further deflect the guide plate **E**, the magnet **A** remains on the outer circuit and cannot trigger a pulse at the magnetic switch **C** with its magnetic field.

The magnetic switch will send out a pulse signal every time it is triggered. If the magnet **A** slides across the magnetic switch **C** more than six times in an operating cycle, The integrated controller of the pump will consider that the amount of grease in the pump is sufficient, otherwise, it is considered that the amount of grease in the pump is insufficient. For the programming of the external control of the pump, see the corresponding chapters in these instructions.
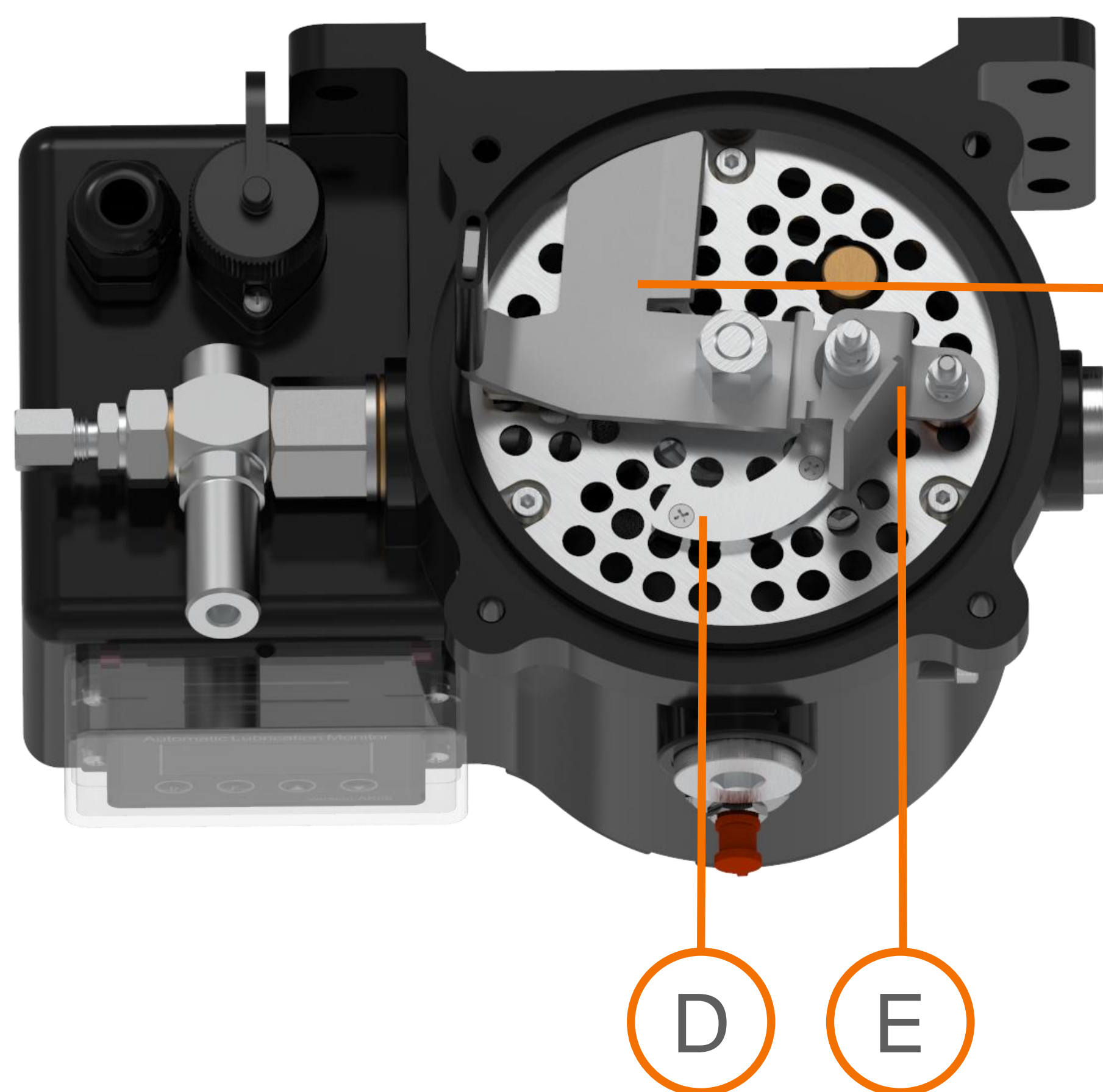
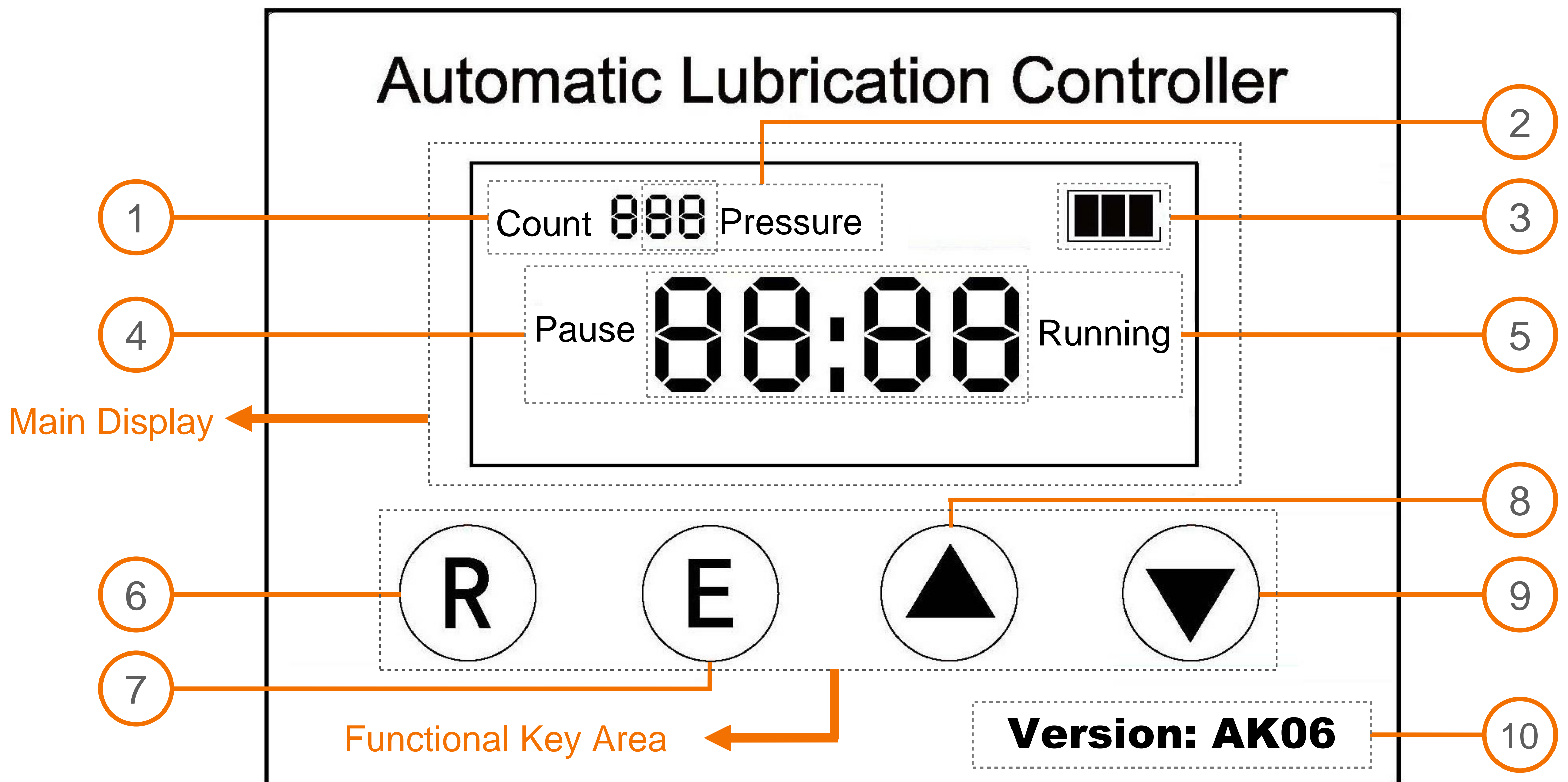**Dia. 12.1** Low-level Indication - Perspective representation

A – Magnet, B – Stirring Paddle, C – Magnet Switch, D – Control Curved Track, E – Guide Plate
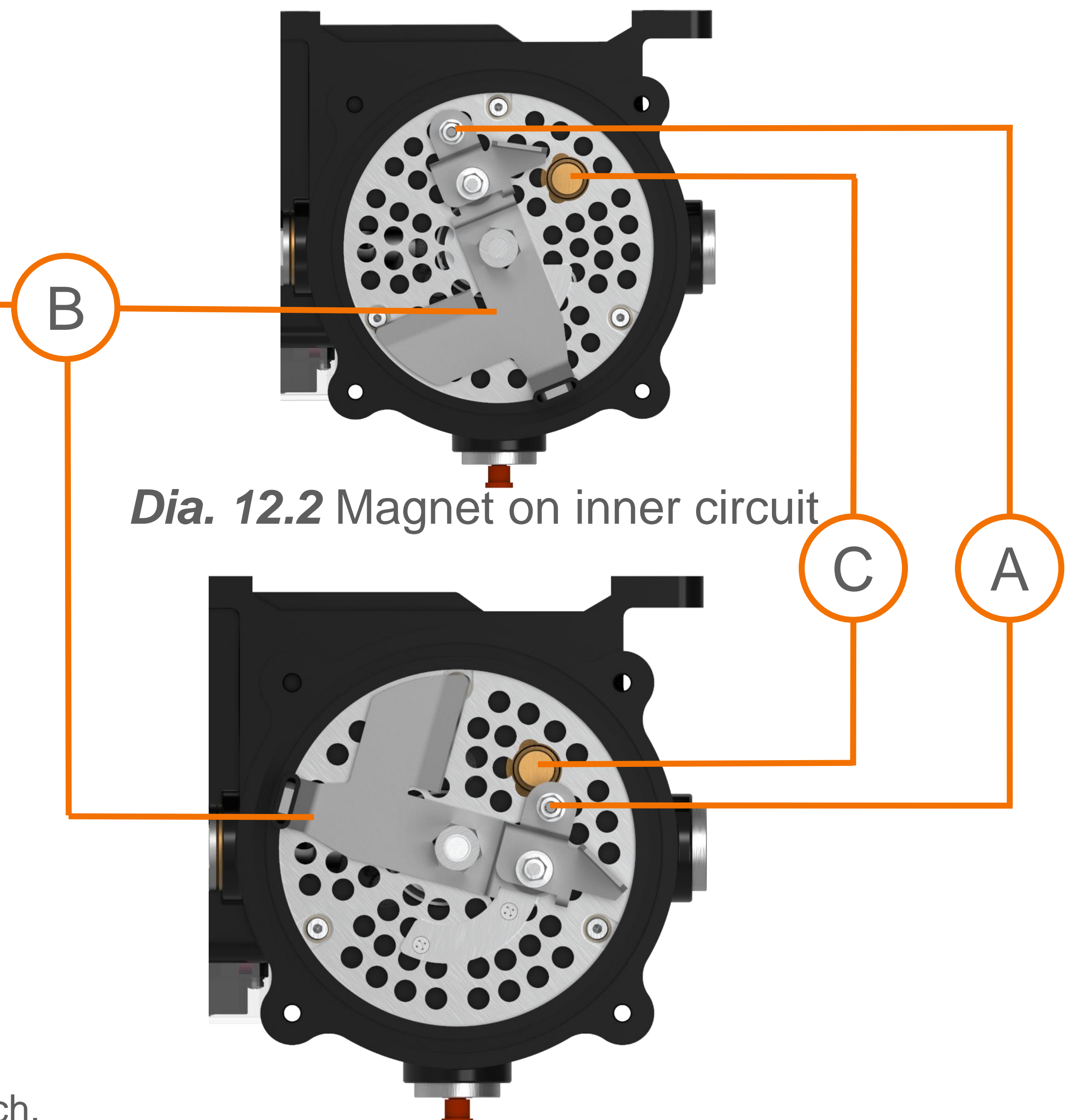
Dia. 12.2 Magnet on inner circuit

Dia. 12.3 Magnet on outer circuit

Integrated Controller

Dia. 13.1 AK06 *LED- Display*

Our AK06 controller is the integrated programmable controller for ALPB & 811 pumps series. The AK06 LED- Display Universal (Works only in combination with the AK09 programmable controller (board) which is factory programmed with different program codes depending on the version (e.g., d-56 or d-61).(*Dia. 13.1*).

Main display: shows system status like the number of finished lubrication cycles ①, divider monitoring status ②, grease level status ③, counting down pause time ④ and counting upwards lube time ⑤. If a failure is detected by the controller, the display shows the Error Code instead of pause time or lube time in main display area.

Error Code:

EE-1 Low grease level or no grease in pump reservoir, pump is under risk of empty running

EE-2 Divider monitoring status - "Failure", pump is under risk of over pressure

* *Very Important!* - *The controller has* **Fault Tolerance Program**, *the error code only starts during the second cycle after the controller gets a failure signal. After the failure has been fixed, the controller needs 2 cycles as well to reset the failure signal automatically.*
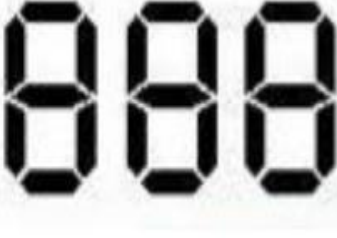
Functional keys area: can adjust the pump parameters which shows on main display area, reset the lubrication cycle and clear the warning alarm.

Parameter Setting - Definition

Pos.	Parameter Description	Adjustable Range / Unit
1P	Pause Time	0 to 99 hrs and 0 to 59 mins Min. 1 min / Max. 99 hrs and 59 mins
2P	Divider Monitoring - Impulse cycles	0 to 99 impulses cycles, 0 means system does not detect the impulse
3P	Lube Time	0 to 99 mins and 0 to 59 secs Min. 1 sec / Max. 99 mins and 59 secs
4P	Low Temperature setup	From -50 to 0 Celsius Degrees adjustable

Integrated Controller AK 09 with LED Display AK06

Functions and Display

Pos.	Sign	Description
1	Count 888	**Cycles Counting:** During the pause time 1P, Pos. 1 shows the number of finished lubrication cycles. The value of Count adds 1 after a full lube time. E. g., **Count 168** means the system finished 168 lubrication cycles.
2	88 Pressure	**Divider Monitoring:** During the running time 3P, Pos. 2 shows the impulse of the divider monitoring. **OFF Pressure** means controller is counting the detected impulse cycles from the divider monitoring. The Sign turns into **ON Pressure** after the preset value of impulse cycles from the divider has been detected. Main display turns into **EE-2** if the controller has not detected the preset value of impulse cycles during the lube time.
3	▮▮▮	**Grease Level:** ▮▮▮ Grease level - Full. Pump grease level is safe, the pump can at least work with more than 6 lubrication cycles. ▮▮ Grease level - warning. Pump works under low grease level, pump can work max. 6 more lubrication cycles (includes the current cycle). An immediately grease refilling is recommended here. ▮ Grease level - warning. Pump works under low grease level status; system can work max. 4 more lubrication cycles (includes the current cycle). ☐ You will read the error message EE-1 in the display and you will hear a warning signal. The pump stops for the set pause time. Then the pump runs again for 8 seconds and the error message EE-1 with the warning signal sounds again. This is repeated until the grease tank is filled! Push ❸ to clear the warning alarm.
4	Pause 88:88	**Pause Time:** During the system pause time 1P, the main display shows e.g. ^{Pause} **10:28** for the remained actual pause time - 10 hours and 28 minutes and the time continue counting down to 00:00 and switch automatically to lube time.
5	88:88 Running	**Lube Time:** During the system lube time, the main display shows e.g. **01:28** ^{Running} for the actual finished lube time - 1 minute and 28 seconds and the time continue counting upwards till the preset lube time then switch automatically to pause time.
6	®	**Reset button (Test button):** Push ® during the pause time, main display stops counting down the remained pause time immediately and starts a new cycle with preset lube time. Push ® during the lube time, main display stops counting lube time immediately and starts a new cycle with preset pause time.
7	❸	**Setting "Enter" button / Warning alarm clear button:** For "Enter" function, please check the details in parameter setting. Push ❸ during the system warning or error alarm (**EE-1** or **EE-2**) to clear the alarm.
8	△	**Parameter setting "+":** Please check the details in parameter setting.
9	▽	**Parameter setting "-":** Please check the details in parameter setting. Click **Down Arrow** no matter during the pause time or lube time, can enter the status checking interface to check the following data: **D-XX**: Program Code of the pump (for ALPB Pump regular program, XX=56) **EE-X**: Error Code in the last cycle X (X= 0, 1, or 2) **t XX**: Environment Temperature is XX° C **- XX**: Total Cycles is XX
10	**Version: AK06**	**AK06 LED- Display Version:** AK06 is the actual LED Display version*. * For more details for ALPB external controller please contact us.

Integrated Controller

Parameter Setting - First connecting to power

For first time connecting the power on the pump, the display shows the program code "**d-61**" up like **Dia. 15.1** or other pump preset program code, depends on pump and software type.

The program code can NOT be changed! The controller has preset parameters which can be changed under needs by following the setup steps. Otherwise, the pump runs with the default preset parameter.

After program code "**d-61**" the controller shows 1P Pause Time and is counting down, system cycle is 0 (**Dia. 15.2**).

Parameter Setting - Setup new parameter

Press △ and ▽ button together with two fingers at the same time over 4 seconds, then release and press ❷ to enter **Parameter Editing Mode**.

Press △ or ▽ button to adjust the 1P Pause Time value for hour (**Dia. 15.3**). Then press ❷ button again to enter -1 (Pause Time minute parameter) setting. Press △ or ▽ button to adjust the -1 value for minutes (**Dia. 15.4**)*.

* 1P and -1 can not set as 00 in the same time. If 1P is set as 00, -1 starts with 01.

Press ❷ button to switch to 2P divider monitoring parameter setting - impulse cycles from 0 to 99. (**Dia. 15.5**)*.

* For system without divider monitoring sensor (proximity switch), set 2P always as 0.

Press ❷ button to switch to 3P Lubricating Time setting. 3P in minutes and -3 in seconds (the same way of setting the parameters we describe for 1P Pause Time and -1 setting) (**Dia. 15.6** and **Dia. 15.7**)*.

* 3P and -3 can not set as 00 in the same time. If 3P is set as 00, -3 starts with 01.
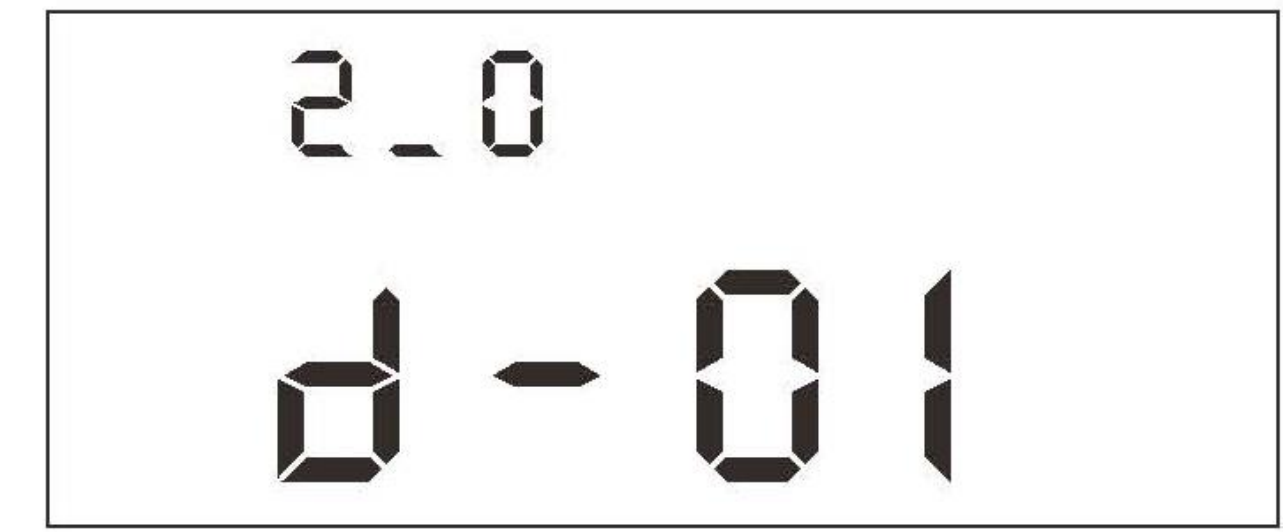
Dia. 15.1 Controller program code

Dia. 15.2 "Pause time" display after first power connection
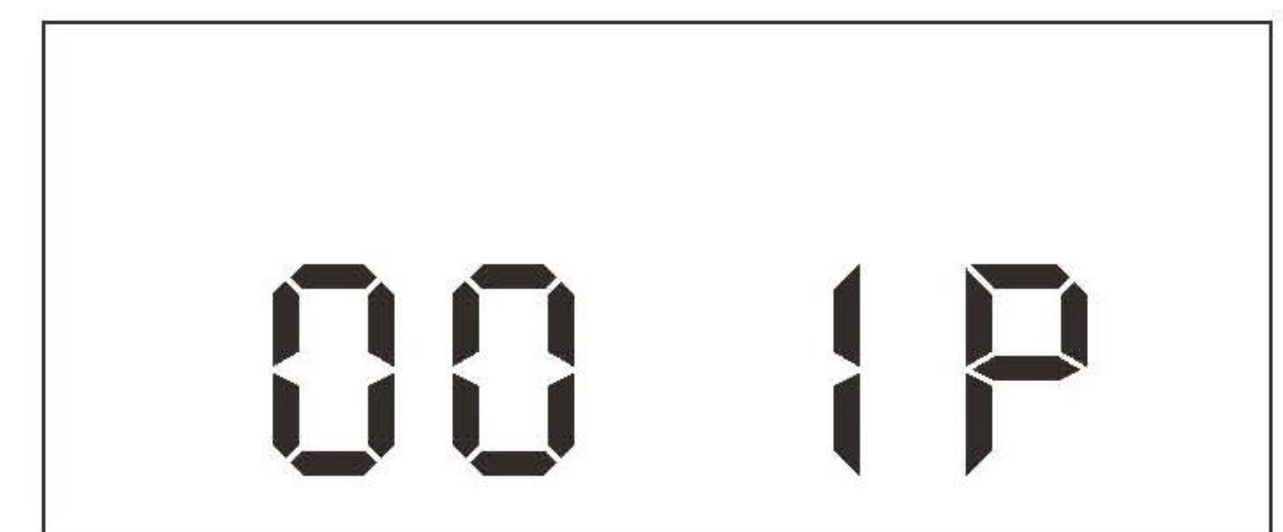
Dia. 15.3 Setting of 1P - Pause Time in Hour
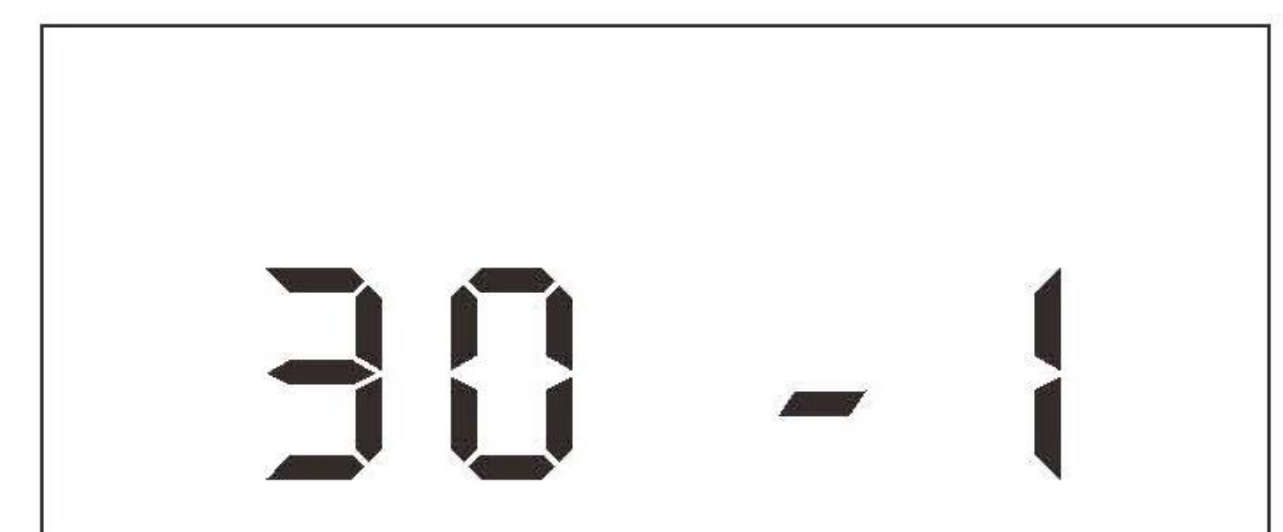
Dia. 15.4 Setting of 1P - Pause Time in Minute

Dia. 15.5 Setting of 2P - Impulse cycles
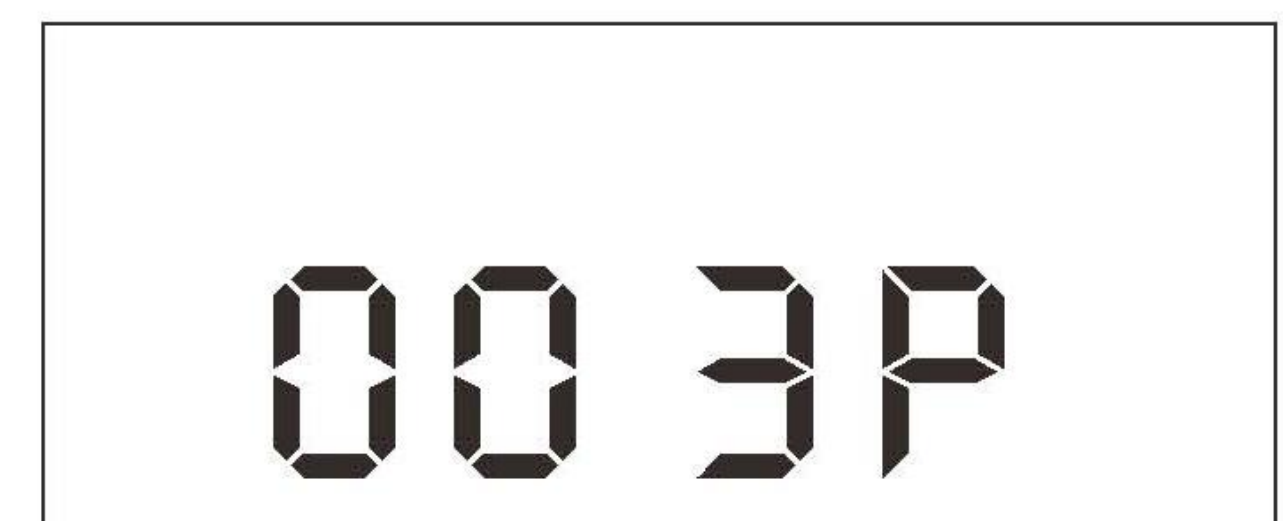
Dia. 15.6 Setting of 3P - Lube Time in Minute
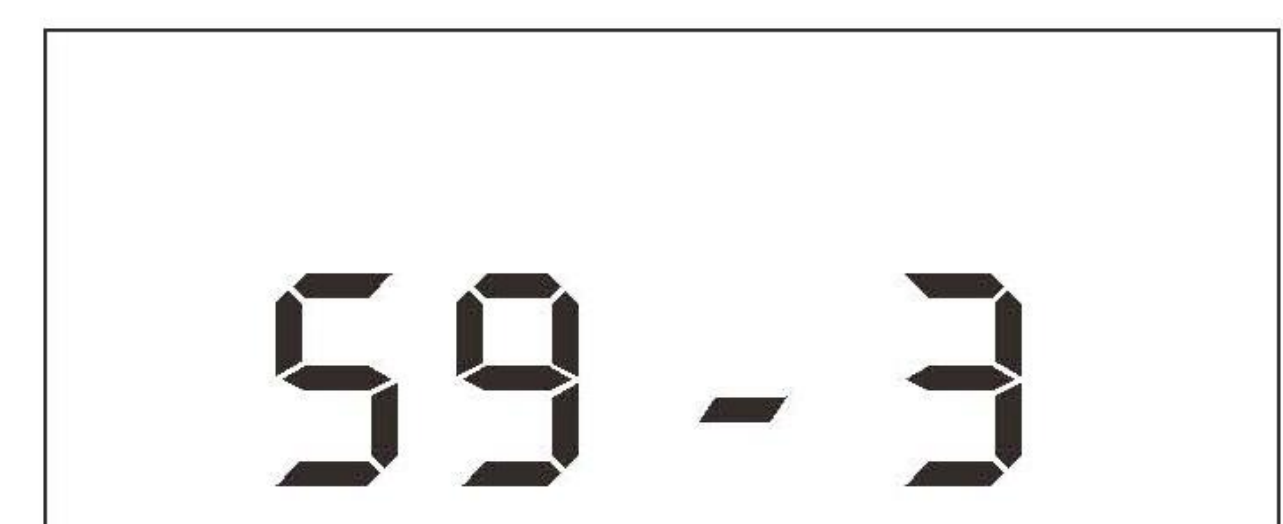
Dia. 15.7 Setting of 3P - Lube Time in Second

Product Catalog - Progressive Lubrication Pump

Integrated Controller

Parameter Setting - Setup new parameter

Press ❸ button to switch to 4P Low temperature setting. With this parameter you can stop the pump working at low temperatures. Pre-set temperature is – 15° C. Press △ or ▽ button to adjust the 4P low temperature setup. Press ❸ button to confirm your new low temperature setting (**Dia. 16.1**)*.

* System has a temperature sensor. In case the real temperature is under the preset value, the pump stops automatically to avoid the damage of motor.

Push ❸ to quit editing mode New parameter setting is done!

Display of controller during lubrication cycles

During 1P Pause Time - e.g. ᴾᵃᵘˢᵉ **10:28**, means pause time is 10 hours and 30 minutes. The Pause time is counting down wards in hours and minutes till 00:00 (**Dia. 16.2**), then 3P Lube Time starts counting upwards.

During 3P Lube Time -The 3P Lube Time starts counting upwards in minutes and seconds. E.g. **01:28** ᴿᵘⁿⁿⁱⁿᵍ, you set up 1 min and 28 seconds as lube time. it is counting upwards from 0 sec to 01 min 28 seconds (**Dia. 16.3**).

A complete lubrication cycles = 1 full pause time + 1 full lube time, only after a complete lubrication cycle, the count of cycles +1 on pos. 1 in **Dia. 13.1**.

Reset of Lubrication cycle

Push ® during the pause time, main display stops counting down the remained pause time immediately and starts a new cycle with preset lube time (**Dia. 16.4**).

Push ® during the lube time, main display stops counting lube time immediately and starts a new cycle with preset pause time. (**Dia. 16.5**)

Push ® always means skipping the current pause/lube time and enter into a new lube/pause time.
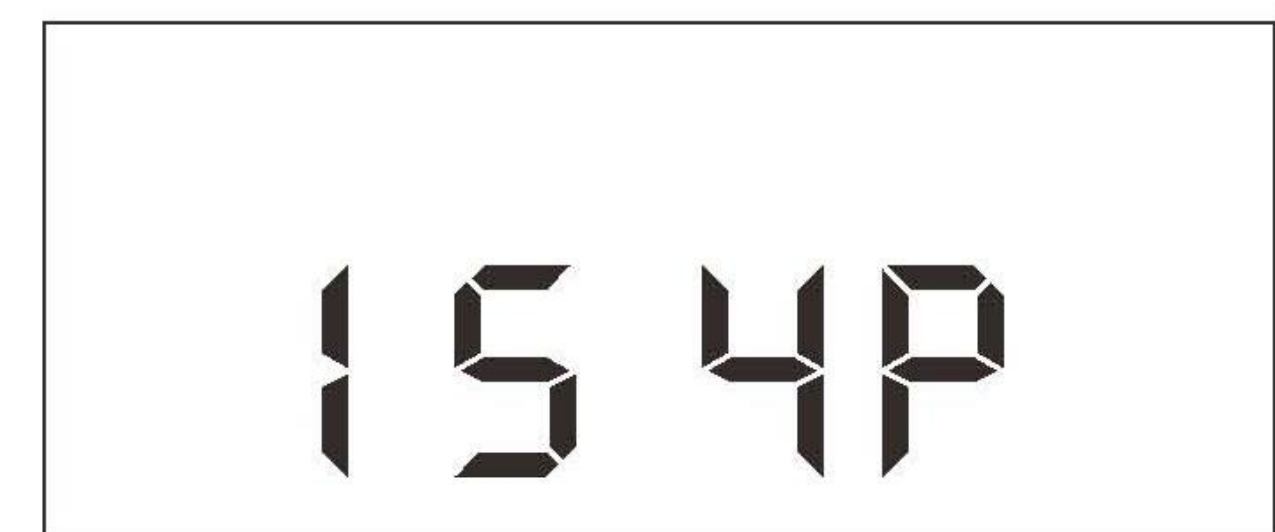
Dia. 16.1 Setting of 4P - Low Temperature

Dia. 16.2 Display for counting down Pause time 1P
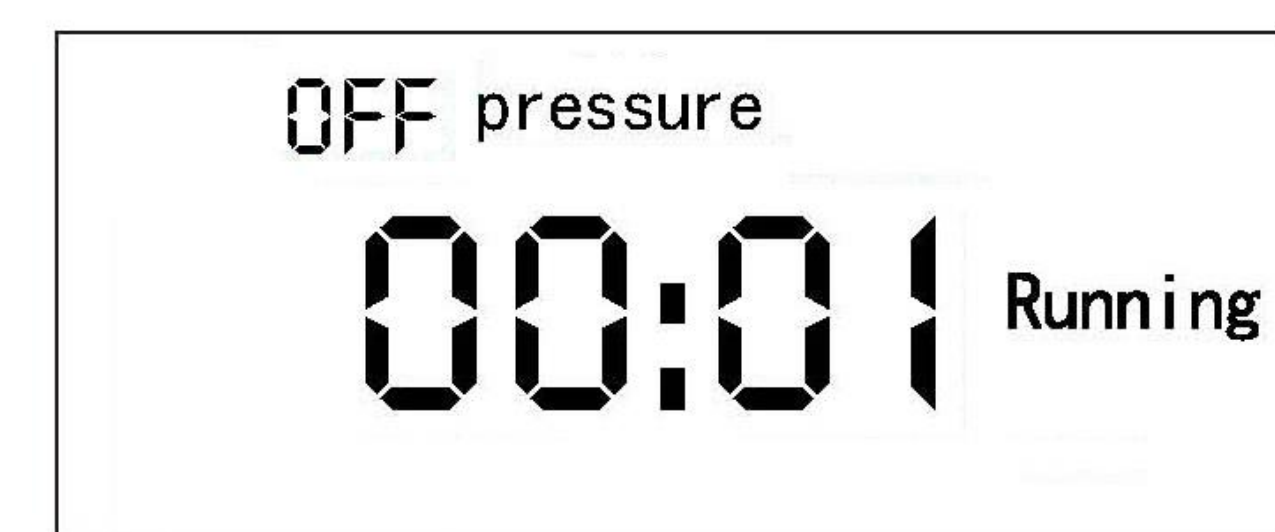
Dia. 16.3 Display for counting up Lube time 3P
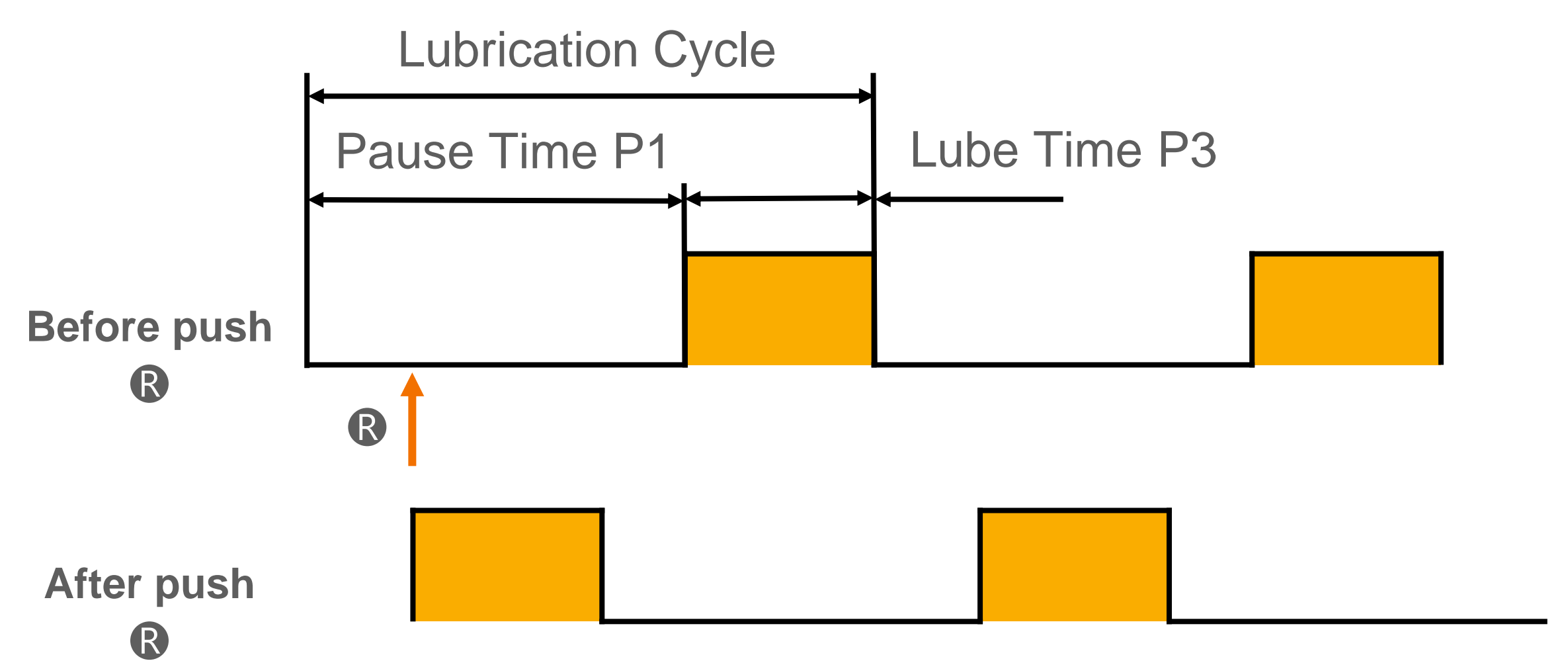
Dia. 16.4 Cycle changing when push ® during Pause time
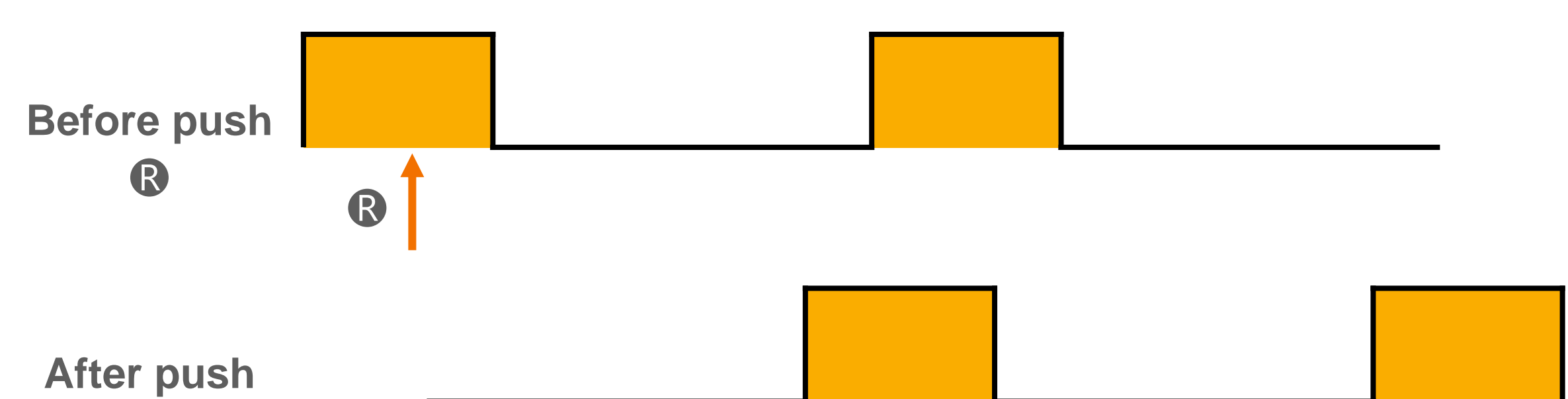
Dia. 16.5 Cycle changing when push ® during Lube time

Integrated Controller

Restart of controller by switching off the machine

In case power/machine is switched off during a lube time P1 or pause time P3 following happens:

Switching machine on during 1P Pause Time, the 1P Pause time is counting down from the rest pause time where the machine was switched off (**Dia. 17.1**).

In case power / machine is switched off during a 3P Lubrication Time, the Lubrication time starts the full new Lubrication time which you setup (**Dia. 17.2**).

More information for 2P - Impulse cycles setting with cycles sensor

2P divider monitoring, impulse cycles sensor on the divider, 2P can NOT be set as 0.

In case, the Detecting time T1, which is needed to detect the preset value of impulse cycles, is shorter than preset lube time 3P, Display turns from "OFF Pressure" to "ON Pressure" at the end of T1, Controller continues the rest lube time. After the lube time is finished, count of lubrication cycles +1. (Dia. 17.3).

In case the theoretical Detecting time T1, which is needed to detect the preset value of impulse cycles, is longer than preset lube time 3P, Display remains ""OFF Pressure", and shows EE-2 error massage in the end of 3P and lasts for 30 secs. Lubrication cycles will not be counted. (Dia. 17.4).

For preset value of 3P - lube time less than 5 mins, the preset value of 2P less than 3 is recommended.

For preset value of 3P - lube time less than 10 mins, the preset value of 2P less than 5 is recommended.

The volume of grease for each greasing point only decided by 3P - lube time, not by 2P - impulse cycles.
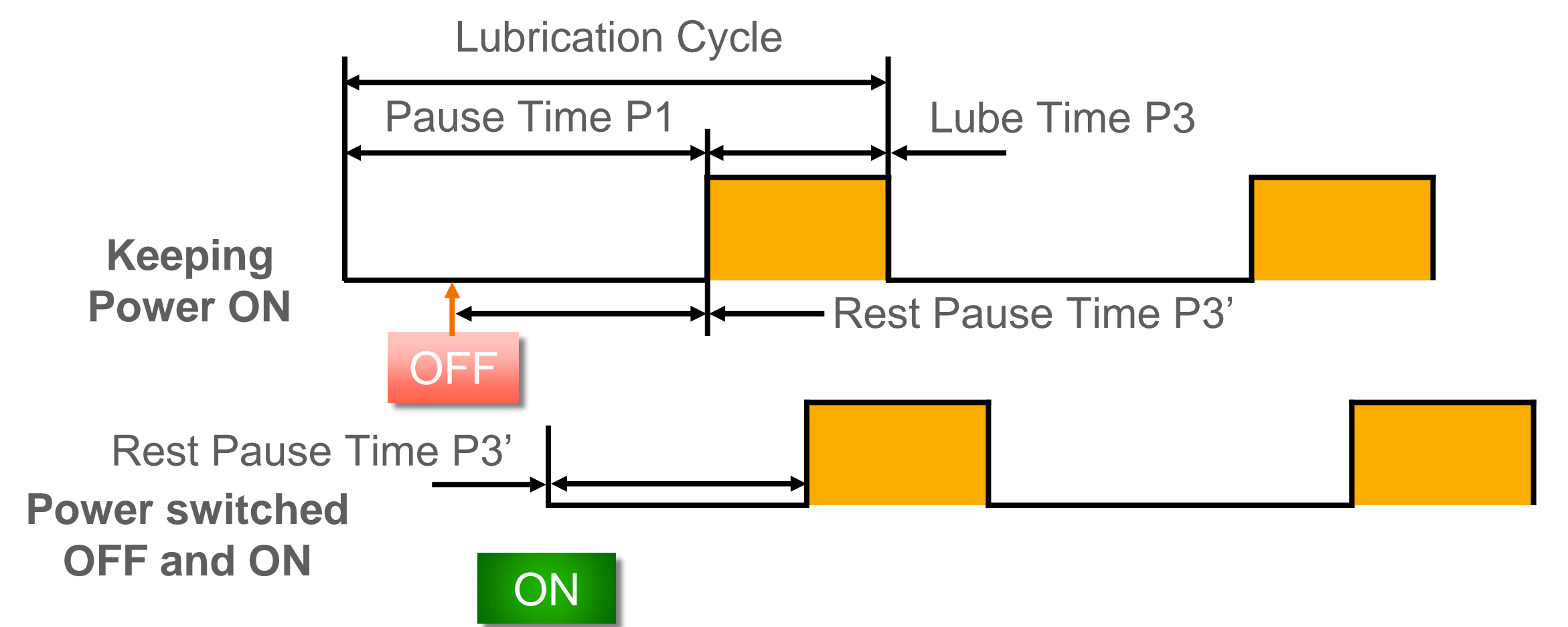
Dia. 17.1 Cycle changing when power switch ON and OFF during Pause time
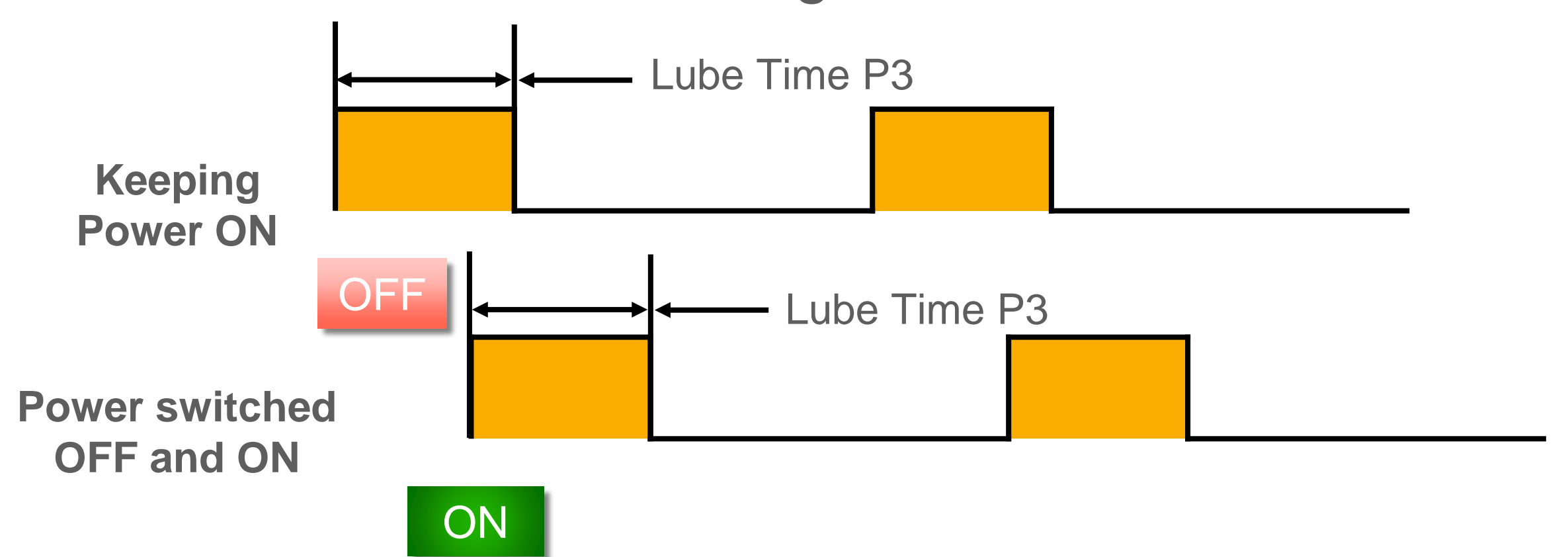
Dia. 17.2 Cycle changing when power switch ON and OFF during Lube time
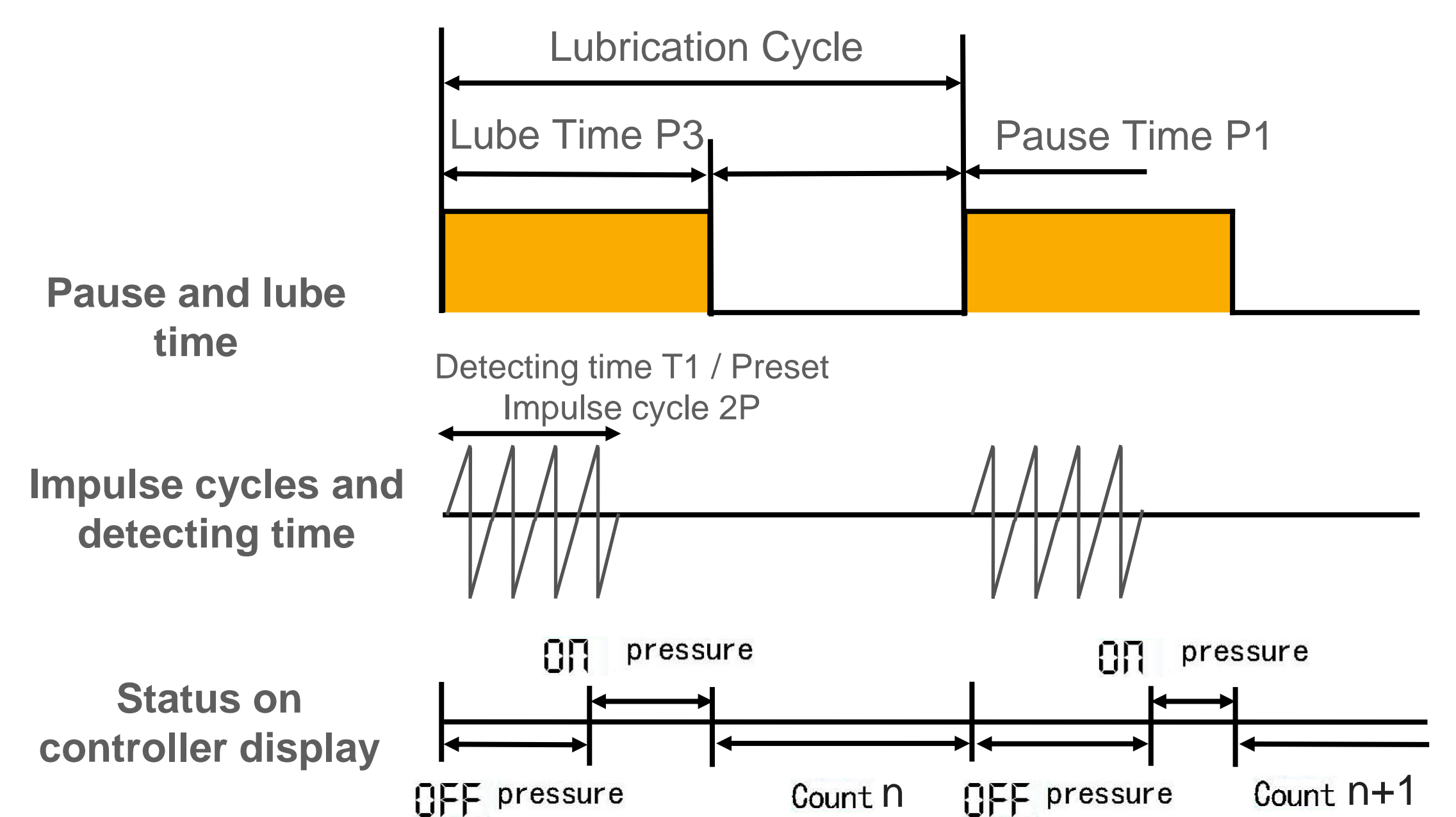
Dia. 17.3 T1 < 3P
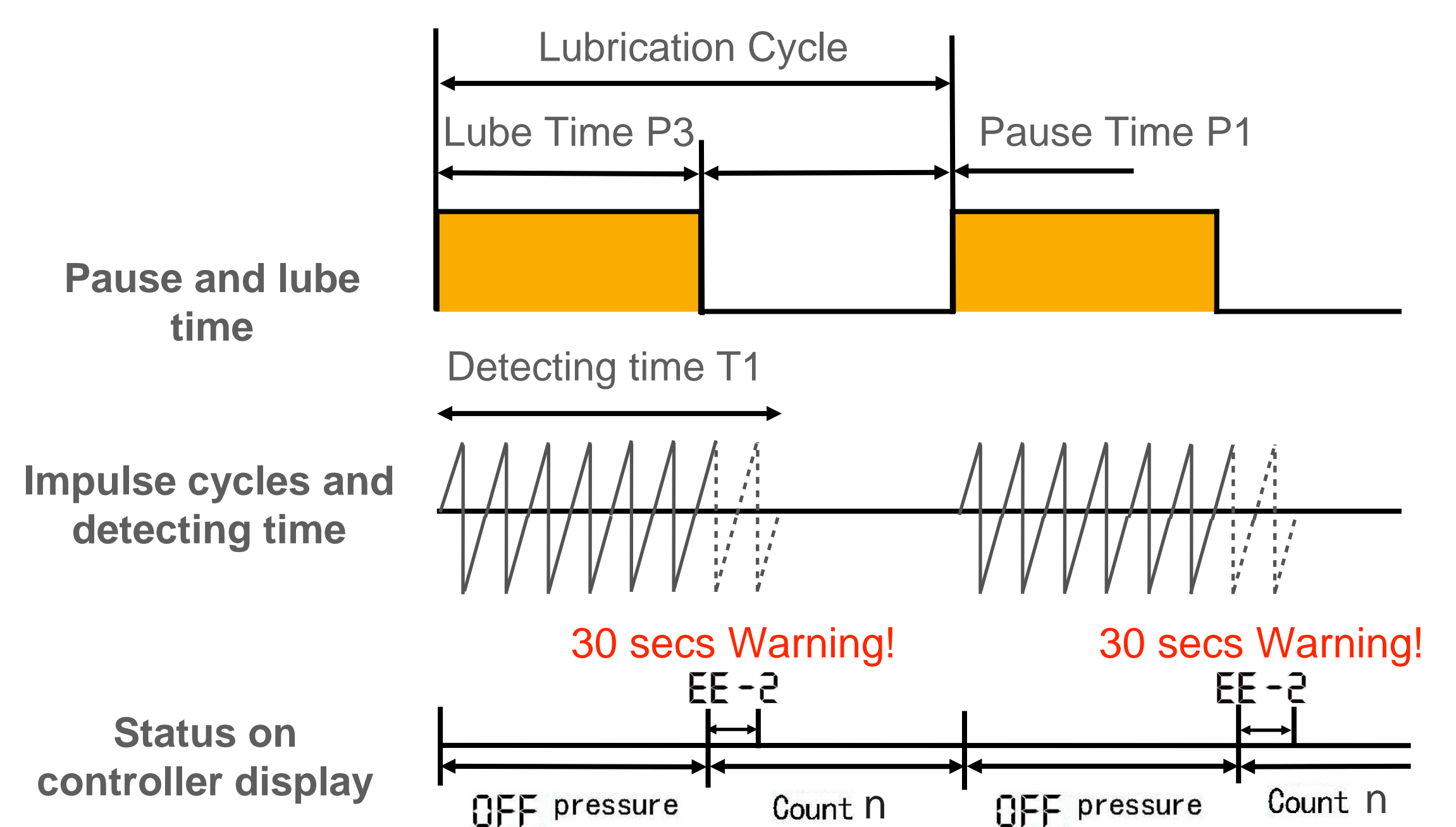
Dia. 17.4 T1 > 3P

Wiring Connection (DC Power/With Controller)

ALPB pump with Bayonet 7 Pin connectors - Solution for Divider Monitoring and External Test Button and Indication Light*

The pump is supplied with 12/24V DC via the Bayonet 7-pin plug via Pos. A. An intermediate lubrication "Reset" function can be triggered by pressing a pushbutton which is installed in the cabin. During the lube time - 3P, pushbutton lights "green". Button turns on "red" when the pump gets an error signal (Error code on Page xx). Button turns on "yellow" when a Reset cycle is trigged under error status.

Via Pos. B the distributor monitoring 2P (proximity switch) is connected to the pump by a Binder 4-pin connector.

For more information about other solutions please contact us.

Layout of Circuit Board in Pump

B   A
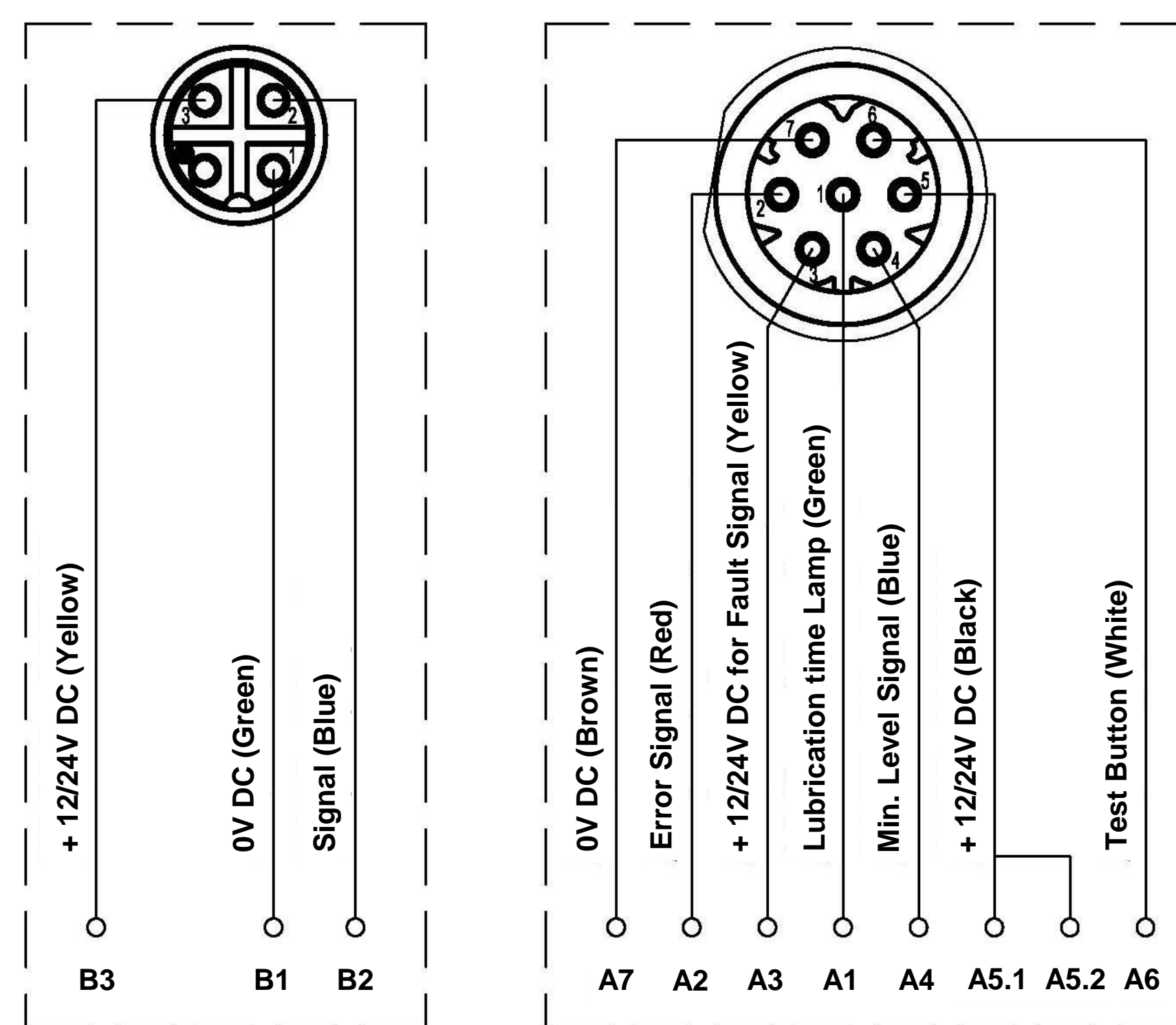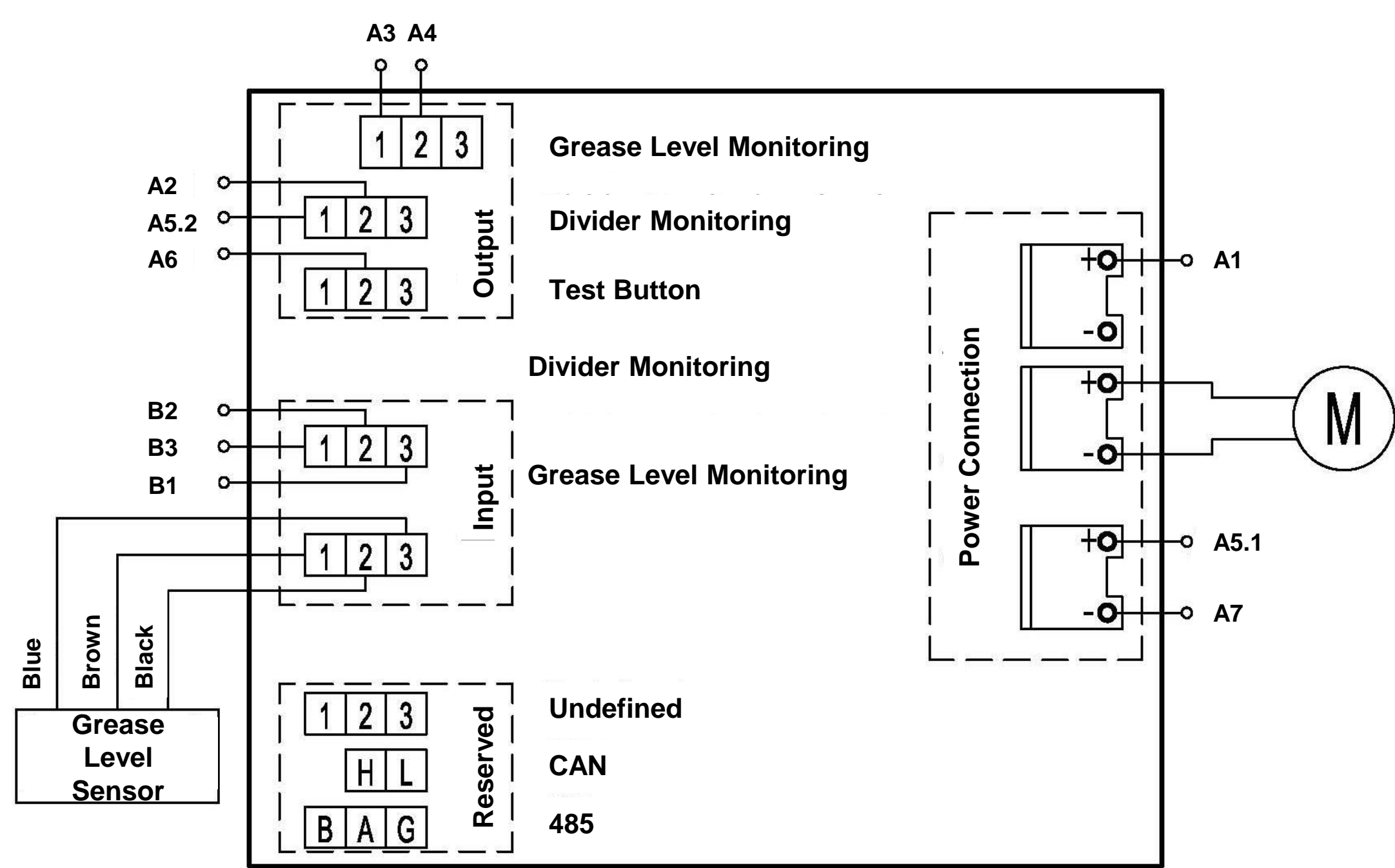
Order No. for Cables and relative Components*

Description	Order No.
Power Cable 7.5 meters - ALPB Bayonet Elbow Connector 5/7 Pin (12/24V DC)	2110012451
Divider Monitoring Signal Input Cable 7.5 meters	2110012409
Power Cable 5 meters - ALPB Bayonet Elbow Connector 5/7 Pin (12/24V DC)	2110012452
Divider Monitoring Signal Input Cable 5 meters	2110012410
Test Button and Indication Light Green/Red 12V DC	3030600340
Test Button and Indication Light Green/Red 24V DC	3030600350

Divider Monitoring (Input)
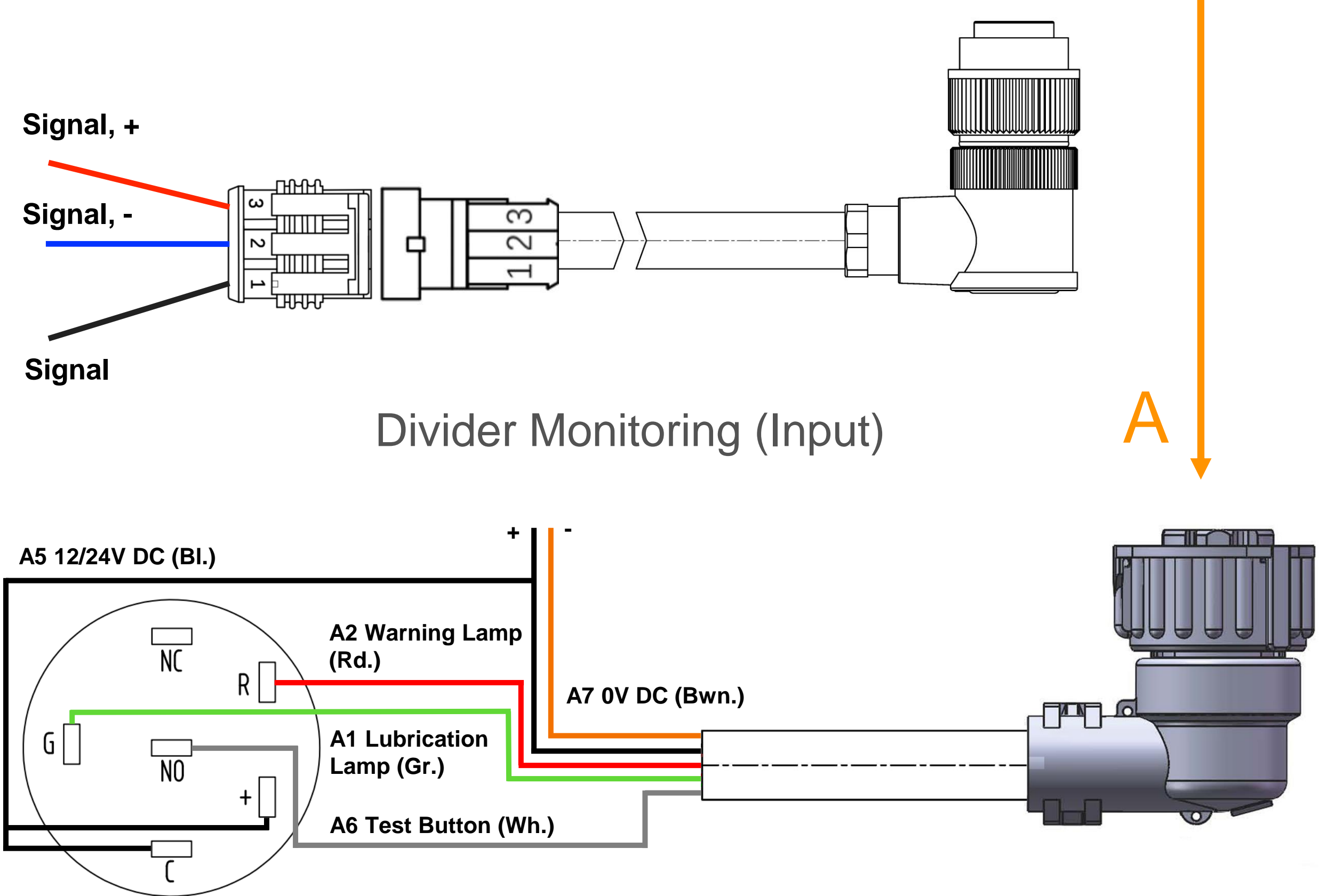
Power Connection and Test Button with Lamps (Output)

Dia. 18.1 Wiring connection

Filling of the Pump

1. Lubricant: NLGI Cl.0-Cl.2, it is strongly recommend using the different special grease under the following temperature:

  a) -10℃～70℃, normal grease can be used,

  b) -20℃～-10℃, low temperature grease -30℃～120℃ is recommended,

  c) -30℃～-20℃, low temperature grease -40℃～120℃ is recommended.

2. Keep the pump being vertical during the filling process.

3. The refilled grease level can not be higher than the "Grease Level Max". Keep watching the grease level when an electrical filling machine is working, stop the engine of electrical filling machine before the grease level 5-10mm lower than the "Grease Level Max" position.

4. It is strictly forbidden to remove the top cover of the pump for filling lubricants!

5. Only fill in clean lubricants! The service life of the pump elements highly depends on the quality of the used lubricants.

Standard

Grease Nipple with Dust CapM10x1k
(standard part of ALPB)

Standard filling via lubrication nipple with manual or pneumatic filling device

Hand Press Adapter Straight M22x1,5
Part No. 2010821140

Optional

Hand Press Adapter Elbow 90° M22x1,5
Part No. 2010821150

Hand Press Adapter 45° M22x1.5
Part No. 2010821160

Hand Press for 400 Pull-off cartridge or 500 loose grease
Order No. 9900053

Optional

Elbow Quick Filling Connector with Dust Cap
ISO 7241-1 6.3B
Order No. 2011022120

Quick Filling Female Coupling G1/4
Order No. 3050101270

Straight Quick Filling Connector with Dust Cap
ISO 7241-1 6.3B
Order No. 2011220670

Electrical Filling Machine*
Multiple types depends on the applications, please contact us for more order info.

Dia. 19.1 Wiring connection

Explosion Drawing Pump BYN 7 Pin Connector 12/24 VDC Power & AK09 Controller 2 – 6 Litre Reservoir
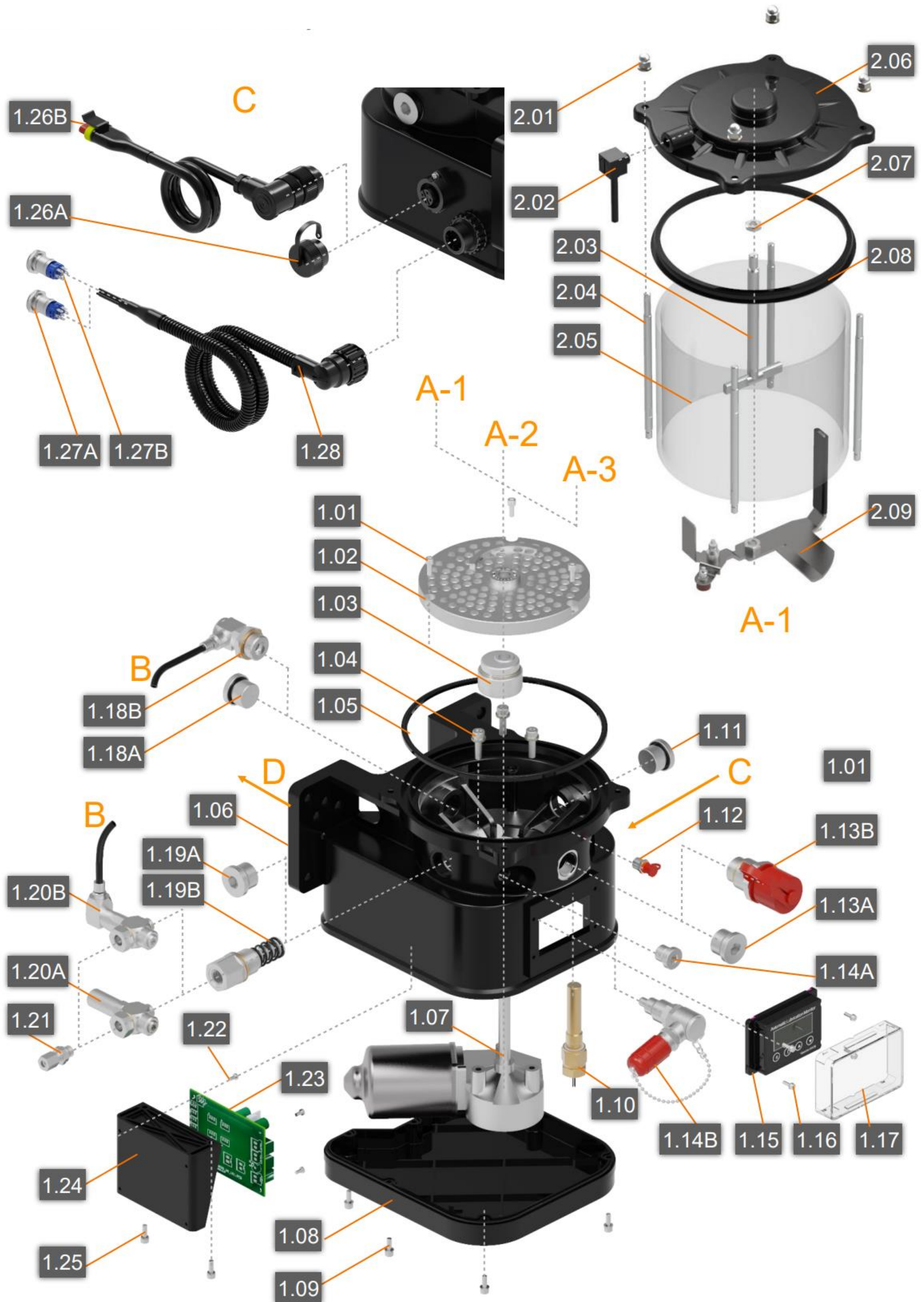
Explosion Drawing: ALPB Reservoir 8 – 20 Litre Kit

D

5.01

3.01
3.02
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A-2

A-3
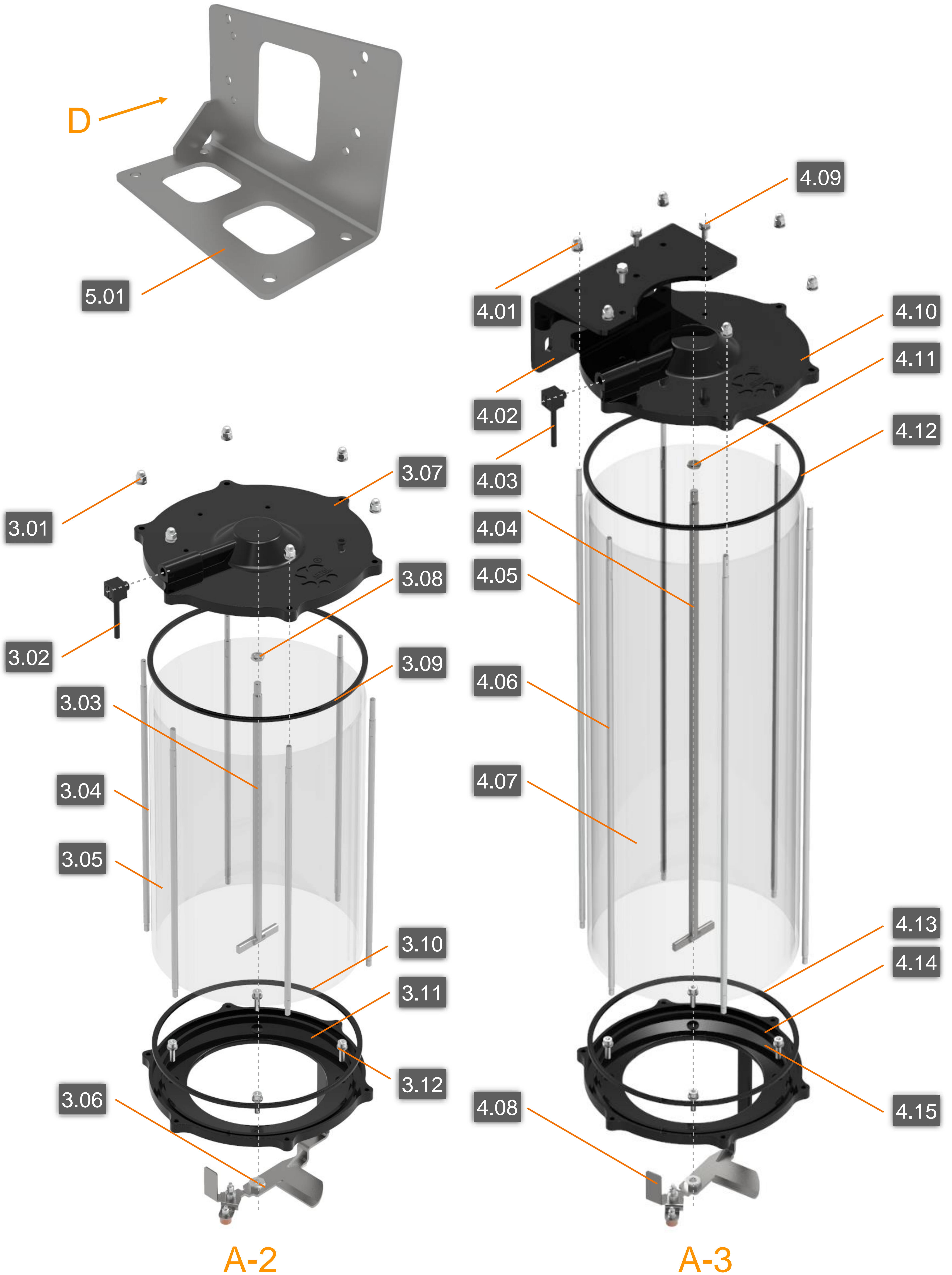
General BOM - ALPB Pump Body (BYN Ver. with DC Power & Controller)

Pos.	Qty.	Description	Part No.
1.01	3	Set - Cylinder Screw with inner Hex M4 L12 with Flat Washer	3040102800
1.02	1	Perforated Base Plate D142 H12	2011230610
1.03	1	Eccentric Unit	2011223160
1.04-1	3	Cylinder Screw with inner Hex M6 L25	3040102100
1.04-2	3	Flat Washer Set D6	3040200830
1.05	1	Seal Ring D160 - 170x3	3020200220
1.06	1	Aluminium Pump Body Housing - ALPB	2011031461
1.07A	0-1	Gear Motor 12V DC	3010404000
1.07B	0-1	Gear Motor 24V DC	3010404170
1.08-1	1	Pump Bottom Cover - ALPB 201x180x23.5	3020101200
1.08-2	1	Seal Ring - ALPB Bottom Cover	3020200420
1.09	7	Set - Cylinder Screw with inner HexM4 L20 with Flat and Spring Washer	3040104370
1.10	1	Grease Level Sensor Unit - ALPB SP	2011220570
1.11	1	Pump Outlet Blind Plug (with ED Seal) M22x1.5	3050102550
1.12	1	Grease Refilling Nipple M10x1	5010000080
1.13A	0-1	Pump Outlet Blind Plug (with ED Seal) M22x1.5	3050102550
1.13B	0-1	Hand Press Adapter Straight M22x1.5	2010821140
1.14A	0-1	Blind Plug (with ED Seal) M14x1.5	3050101760
1.14B	0-1	Elbow Quick Filling Connector	2011022120
1.15	1	AK06 universal LED Display - only for AK09 programable Controller/Print board	2011223180
1.16	4	Set - Cylinder Screw with Cross Groove M3 L10 with Flat and Spring Washer	3040103720
1.17	1	Protective cover	3020102130
1.18A	0-1	Pump Outlet Blind Plug (with ED Seal) M22x1.5	3050102550
1.18B	0-1	Single Bypass Unit with quick Connector	2011222820
1.19A	0-1	Pump Outlet Blind Plug (with ED Seal) M22x1.5	3050102550
1.19B-A	0-1	Pump Element - ALPB/ALP811 1.5cm3/Min M22x1.5	2070011689
1.19B-B	0-1	Pump Element - ALPB/ALP811 2.5cm3/Min M22x1.5	2070011690
1.19B-C	0-1	Pump Element - ALPB/ALP811 4.5cm3/Min M22x1.5	2070011691
1.20A	0-1	Safety Valve Type A Unit SV-C	2070011684
1.20B	0-1	Safety Valve Type C Unit SV-A	2011221370
1.21	1	Straight Screw Coupling GE-ZN M10 D6	3050100890
1.22	4	Cylinder Screw with Cross Groove M3 L6	3040101630
1.23	1	AK09 V5.3 – Programable Controller/Print board with Program Code d-56	2040120790
1.24	1	Fixing Bracket of Circuit Board - ALPB Version	3020101210
1.25	4	Set - Cylinder Screw with inner Hex M4 L14 with Flat and Spring Washer	3040102910
1.26A	0-1	Blind Plug Unit for Pump Connector - Binder 4 Pin	3030502160
1.26B-A	0-1	Divider Monitoring Signal Input 7.5m - ALP811/ALPB Elbow Binder 4 Pin	2110012409
1.26B-B	0-1	Divider Monitoring Signal Input 5m - ALP811/ALPB Elbow Binder 4 Pin	2110012410
1.27A	0-1	Test Button with Indication Light Green / Red 12V DC	3030600340
1.27B	0-1	Test Button with Indication Light Green / Red 24V DC	3030600350
1.28-A	0-1	Power Cable 7.5 meters - ALPB Bayonet Elbow Connector 7 Pin	2110012451
1.28-B	0-1	Power Cable 5 meters - ALPB Bayonet Elbow Connector 7 Pin	2110012452

General BOM - ALPB Reservoir Kit - 1

Pos.	Qty.	Description	Part No.
2.00A	0-1	**Set** - ALPB 2 Liter Reservoir Unit (full Package from 2.01-2.09)	2011025480
2.00A-1	0-1	**Set** - ALPB 2 Liter Reservoir Unit with 1.05, 2.03A, 2.04A, 2.05A, 2.08	9901669
2.00B	0-1	**Set** - ALPB 4 Liter Reservoir Unit (full Package from 2.01-2.09)	2011025490
2.00B-1	0-1	**Set** - ALPB 4 Liter Reservoir Unit with 1.05, 2.03B, 2.04B, 2.05B, 2.08	9901670
2.00C	0-1	**Set** - ALPB 6 Liter Reservoir Unit (full Package from 2.01-2.09)	2011025500
2.00C-1	0-1	**Set** - ALPB 6 Liter Reservoir Unit with 1.05, 2.03C, 2.04C, 2.05C, 2.08	9901671
2.01-1	4	Acorn Nut M6	3040102200
2.01-2	4	Flat Washer D6	3040101080
2.01-3	4	Spring Washer D6	3040101090
2.02	1	Ventilation Unit	2011025130
2.03A	0-1	T-Type Rod for Grease Mixing (ALPB 2L) D10 L132	3010105470
2.03B	0-1	T-Type Rod for Grease Mixing (ALPB 4L) D10 L277	3010104120
2.03C	0-1	T-Type Rod for Grease Mixing (ALPB 6L) D10 L377	3010104130
2.04A	0 or 4	Connecting Rods (ALPB 2L) D7 M6 L161	3010403060
2.04B	0 or 4	Connecting Rods (ALPB 4L) D7 M6 L306	3010403780
2.04C	0 or 4	Connecting Rods (ALPB 6L) D7 M6 L406	3010404020
2.05A	0-1	Transparent PC Reservoir (ALPB 2L) D160-170 L140	2011025120
2.05B	0-1	Transparent PC Reservoir (ALPB 4L) D160-170 L285	2011025110
2.05C	0-1	Transparent PC Reservoir (ALPB 6L) D160-170 L385	2011025100
2.06	1	Reservoir Top Cover (for Reservoir D170)	3010403680
2.07	1	Hex Nut M8	3040102510
2.08	1	Z-Type Seal Ring D160-170x3 (for Reservoir D170)	3020200730
2.09	1	Agitator Blade Unit (ALPB 2-6L) incl. fixing parts	2011025540
3.00	0-1	**Set** - ALPB 8 Liter Reservoir Unit (full Package from 3.01-3.12)	2011223000
3.01-1	6	Acorn Nut M6	3040102200
3.01-2	6	Flat Washer D6	3040101080
3.01-3	6	Spring Washer D6	3040101090
3.02	1	Ventilation Unit	2011025130
3.03	1	T-Type Rod for Grease Mixing (ALPB 8L) D10 L334	3010104060
3.04	6	Connecting Rods (ALPB 8L) D7 M6 L348	3010403711
3.05	1	Transparent PC Reservoir (ALPB 8L) D220-230 L322	2011230250
3.06	1	Agitator Blade Unit (ALPB 8-20L) incl. fixing parts	2011223130
3.07	1	Reservoir Top Cover (for Reservoir D230)	2011430270
3.08	1	Hex Nut M8	3040102510
3.09	1	Seal Ring D220-232x3 (for Reservoir D230)	3020200290
3.10	1	Seal Ring D220-232x3 (for Reservoir D230)	3020200290
3.11	1	Intermediate Flange (ALPB 8-20L) D240x22	2011230510
3.12-1	4	Cylinder Screw with inner Hex M6 L20	3040102080
3.12-2	4	Flat Washer Set D6	3040200830
4.00A	0-1	**Set** - ALPB 15 Liter Reservoir Unit (full Package from 4.01-4.15)	2011223010
4.00B	0-1	**Set** - ALPB 20 Liter Reservoir Unit (full Package from 4.01-4.15)	2011223020
4.01-1	6	Acorn Nut M6	3040102200
4.01-2	6	Flat Washer D6	3040101080
4.01-3	6	Spring Washer D6	3040101090
4.02	1	Reservoir Top Cover Fixing Plate (for Reservoir D230)	3010102041

General BOM - ALPB Reservoir Kit - 2

Pos.	Qty.	Description	Part No.
4.03	1	Ventilation Unit	2011025130
4.04A	0-1	T-Type Rod for Grease Mixing (ALPB 15L) D10 L582	3010404560
4.04B	0-1	T-Type Rod for Grease Mixing (ALPB 20L) D10 L792	3010404570
4.05A	0 or 4	Connecting Rods A (ALPB 15L) D7 M6 L595	3010403641
4.05B	0 or 4	Connecting Rods A (ALPB 20L) D7 M6 L805	3010404580
4.06A	0 or 2	Connecting Rods B (ALPB 15L) D7 M6 L601	3010403651
4.06B	0 or 2	Connecting Rods B (ALPB 20L) D7 M6 L811	3010404590
4.07A	0-1	Transparent PC Reservoir (ALPB 15L) D220-230 L570	2011230790
4.07B	0-1	Transparent PC Reservoir (ALPB 20L) D220-230 L780	2011230800
4.08	1	Agitator Blade Unit (ALPB 8-20L) incl. fixing parts	2011223130
4.09-1	3	Hex Head Screw M6 L15	3040102050
4.09-2	3	Flat Washer D6	3040101080
4.09-3	3	Spring Washer D6	3040101090
4.10	1	Reservoir Top Cover (for Reservoir D230)	2011430270
4.11	1	Hex Nut M8	3040102510
4.12	1	Seal Ring D220-232x3 (for Reservoir D230)	3020200290
4.13	1	Seal Ring D220-232x3 (for Reservoir D230)	3020200290
4.14	1	Intermediate Flange (ALPB 8-20L) D240x22	2011230510
4.15-1	4	Cylinder Screw with inner Hex M6 L20	3040102080
4.15-2	4	Flat Washer Set D6	3040200830
5.01	1	Pump Bracket (ALPB 2-8L)	3010102772

Order Key

**ALPB** - **2** . **2** . PE **2.5C** - **0** - **0** - **0** . **1** . **0** . **1** . **0000**

Pos. 1   Pos. 2   Pos. 3   Pos. 4

Motor Voltage	
12V	1
24V	2
230V	3

Size of Reservoir (kg)	
2L	2
4L	4
6L	6
8L	8
15L	15
20L	20

Pump Outlet M22 Configuration - Pos. 1/2/3/4	Pos. 1	Pos. 2	Pos. 3	Pos. 4
Blind Plug	0	0	0	0
PE 1.5 without Bypass	1.5C	1.5C	1.5C	1.5C
PE 1.5 with Bypass	1.5A	1.5A	1.5A	1.5A
PE 2.5 without Bypass	2.5C	2.5C	2.5C	2.5C
PE 2.5 with Bypass	2.5A	2.5A	2.5A	2.5A
PE 4.5 without Bypass	4.5C	4.5C	4.5C	4.5C
PE 4.5 with Bypass	4.5A	4.5A	4.5A	4.5A
Hand Press Adapter Straight		HP	HP	
Bypass Inlet				BP
Customised Setting	X	X	X	X

Standard PE Position 1
For pump element at least with 1 safty valve with bypass must have a bypass inlet on Pos. 4

Hirschmann Ver.   Bayonet Ver.
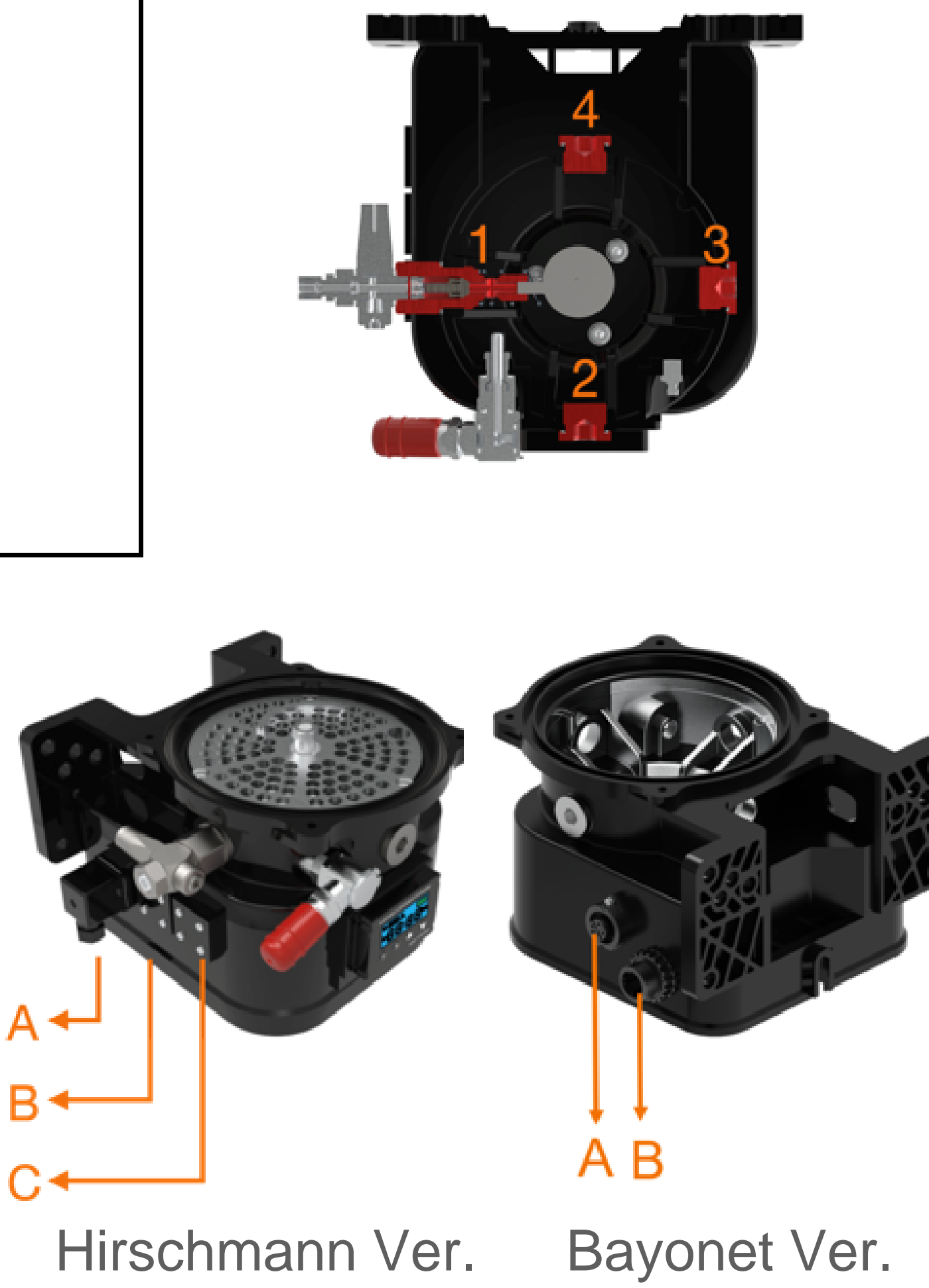
Pos. A - Power Connector	
Without any Power Cable (Bayonet Ver.)	0
With Hirschmann 2/4Pin Cable 7.5m	1
With Bayonet 5/7Pin Cable 7.5m (incl. Test Button and Status Light Function)	2

Pos. B - Divider monitoring Connector (Signal input)	

Please check our Divider manual and order with divider

Pos. C - Other Connector (Signal output)	
Without any other cable (for Bayonet Ver. please keep Pos.C as	0
With Test Button and Status Light cable 5m (Hirschmann Ver.)	1
With Test Button and Status Light cable 7.5m (Hirschmann Ver.)	2
With Grease Lvl. Monitoring Output Cable 5m (Hirschmann Ver.)	3
With Grease Lvl. Monitoring Output Cable 7.5m (Hirschmann Ver.)	4

Controller	
Without integrated Controller	0
With standard integrated Controller AK06	1

Special Models	
Standard Version	0000
Customized Version	XXXX

* For more information about Lubmann ALPB Hirschmann Version Pump, please check our ALPB Hirschmann Version Pump Manual.