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1090200388

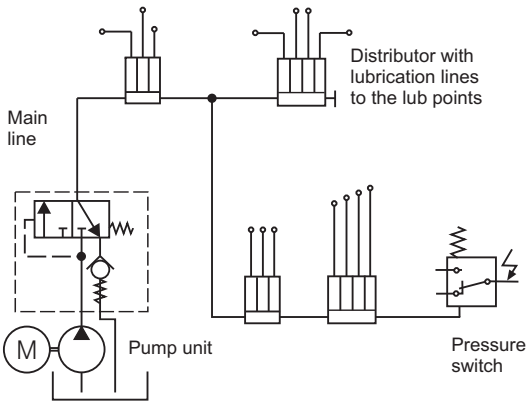
System description

With the single line system, the lubricant (oil or fluid grease) is supplied by intermittent pressure via a main line to the metering elements and from there it is metered out and passed to the lubrication points.

Single line systems can provide several friction points with lubricant. The distribution of the lubricant is carried out at all lub points at the same time.

Arrangement

In principle, a single line system consists of a central lubrication pump and a main line, which can optionally be branched off.



Application

Typical applications for single line systems are machines such as machine tools, printing-presses, paper converting machines, packing machines, textile machines, presses as well as plastic-, wood- or metalworking machinery.

Advantages

- simple arrangement of the system
- easy set-up, easy assembly
- extension or modification of the system as required
- easy maintenance
- economic supply of many lubrication points with only one pump
- exact metering due to a wide range of types

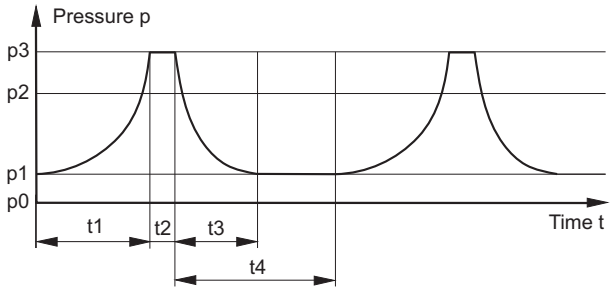
Function

After switching-on the system, the pump builds up the initial pressure p1 in the main line. During pressurization time t1 the metering elements deliver measured amounts of lubricant.

When the necessary system pressure p2 has been reached, the pressure switch indicates the end of the metering process and possibly starts the relubrication time t2.

The pressure rises up to the opening pressure p3 of the pressure limitation valve at the pump. After the relubrication time t2 is the pump switched off and the break time t4 follows.

During the break time t4 the pressure in the main line is within the time t3 relieved by a residual pressure valve in the pump down to original pressure p1.



The residual pressure prevents the main line from running empty during the break time.

When the pressure switch is at the pump, the relubrication time t2 helps to ensure that also at more remotely installed metering elements enough pressure is build up. When the pressure switch is installed at the end of the pressure line (or at the most remote point), the relubrication time is not necessary.

The relief time t3 has to be shorter than break time t4 as the piston do not return into their original position when the pressure is not relieved down to original pressure p1. The consequence would be no or insufficient metering by the metering elements.

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System design

When the components for a single line system are selected, the choice of the pump, the size of the system and the lubricant type are important.

You can choose between manual, hydraulic, pneumatic or electric drive actuation.

The lubricant metering is differentiated between the dynamic metering system and the static metering system.

At the dynamic system is the delivery piston fitted into the valve drilling. With pressurization is then the delivery piston shifted against a spring and the lubricant which is on the opposite side of the piston is delivered to the lubrication point. The delivery volume of the pump has to be big enough that the shifting speed of the delivery piston is higher than the speed of the lubricant flow to the drilling.

After the lubricant metering, the main line is relieved. The lubricant is then restacked via the annular gap into the metering chamber by the reset of the delivery piston. filled in the chamber. The necessary fast pressurization of the metering valves requires a

Reference values for the installation of the dynamic system

An exact lubricant metering is only possible, when there are no losses at the annular gap during the metering. Therefore keep to the following limit values for the installtion:
Effective volume[1)] of manually, hydraulically and pneumatically operated pumps:
Max. 60 % of the pump's output rate.
Effective volume[1)] of gear pumps: Output rate of the pump in 0,2 sec . Example: Delivery rate of the pump 1 l/min =>effective volume 3,3 cm³.
Length of the main line from the pump to the most distant lub point: Max. 10 m.
The total lengths of the main, as well as the secondary-lines: Max. 15 m.

Reference values for the installation of a static system

In the static system control and re-stacking of the metering piston is done via the control sleeves. The static system allows a slow pressurization provided the metering is exact. However, when measuring out the effective volume, limit values for the static system have to be observed, too:
For manually, hydraulically and pneumatically operated pumps: Max. 60 % of the pump's delivery rate so that a sufficient reserve for the pressurization is ensured.
Effective volume[1)] for gear pump units: Delivery rate of the pump in 10 sec. Example: Pump output rate 0,4 l/min, effective volume = 66 cm³
Length of the main line from the pump to the most distant metering valve: Max. 50 m.

1) Effective volume = the volume per lubrication cycle used by the metering elements and used as expansion volume of the pipes and tubes.

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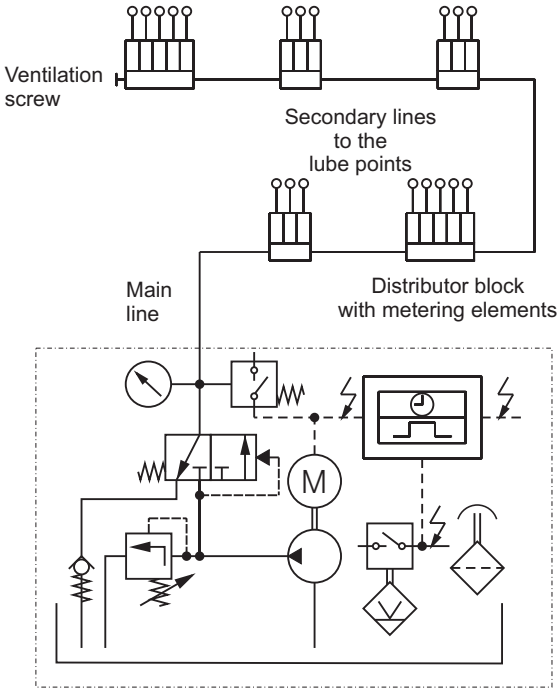
Set-up and installation of single line systems

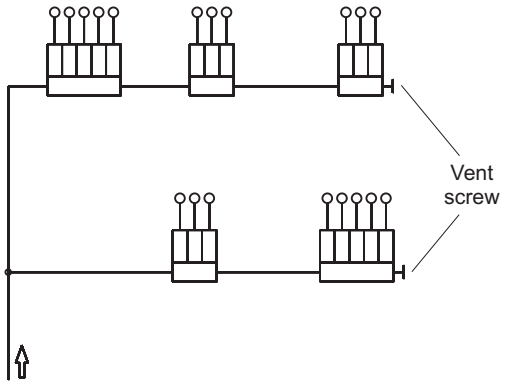
Corresponding to the number and arrange-ment of the lube points and the pump's drive, a scheme is made first.

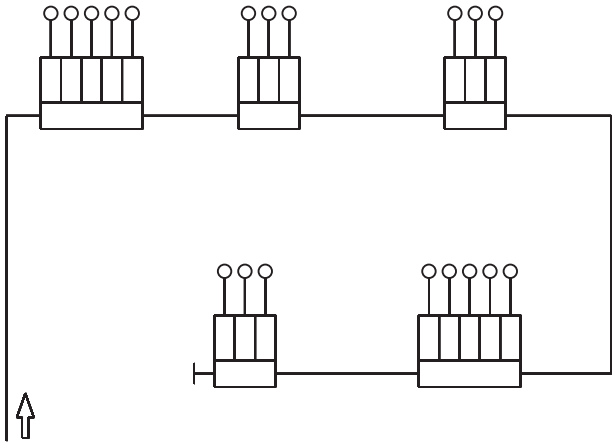
The following example shows a single line unit with integrated control and pressure switch:



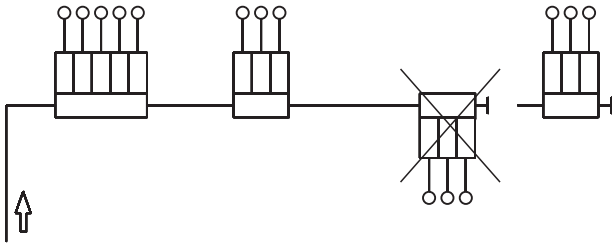
When the metering elements are installed, take care that air which is possibly in the main line, can be ventilated with a screw at the end of the main line, when the system is put into operation.

For secondary lines, you have to provide a vent screw at the end of each branch after the metering elements.





The main line(s) should always be installed rising. When the metering elements are installed as shown above, there is no possibility to bleed the main line completely after start-up.



The outlets of the metering elements at the end of a main line should not be installed sloping or directly downwards, for the case that air gets into the system and the metering elements cannot deliver.

The main line of a single line system has to be laid out in a way that the air can evade towards the ventilation screw. Please never lay out the main line falling from the ventilation screw.

The ventilation screw directly after the last metering element makes it possible that air inclusions can be transported out by this element.

If outlets at the distributo block are locked, a metering element in the last connection before the

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Calculating the system

Once the system has been installed, the next step is to calculate the necessary output rate of the. The line expansions are subject to the specific materials (see below).

Reference values for the volume con-sumption:

Steel pipe	approx. 0,05 cm³/m
Polyamide pipe 6 x 1	approx. 0,4 cm³/m
Polyamide pipe 6 x 1,2	approx. 0,15 cm³/m
Hoses	approx. 0,1 cm³/m

Example of a system calculation:

Main line:
8 m steel pipe (0,05 cm³/m)
Volume intake: 0,40 cm³
2 m polyamide pipe 6 x 1,2 (0,15 cm³/m)
Volume intake: 0,30 cm³

Metering valves:

10 metering valves with 0,02 cm³/cycle
Total metering volume: 0,20 cm³
12 metering valves with 0,03 cm³/cycle
Total metering volume: 0,36 cm³

Complete consumption of the system per

Selection of the pump

When choosing a pump, take into consideration:
A manual, hydraulic or pneumatic pump needs an output rate of at least 2,1 cm^3/per piston stroke for the lubrication system (as per above sample), at a permitted volume of 60% of the pump delivery rate.

For gear pump units the necessary delivery rate has to be determined according to the lubrication system.

Dynamic single line system

Effective volume for gear pump units:
Delivery rate of the pump in 0,2 sec., according to example: = 0,378 l/min
Note: The viscosity of a lubricant for a gear pump has not been considered in this calculation. The effective volume of gear pump units might be exceeded considerably. However ask in our company for the current values for your case.

Static single line system

Effective volume of gear pump units: Delivery rate of the pump in 10 sec. according to example: = 0,008 l/min
Note: This calculation shows that, with all our single line gear pump units pf our program, systems with several handred metering valves can be operated with the static system.

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1090200388

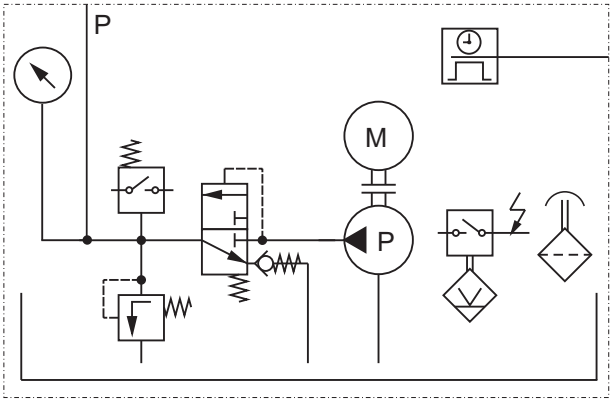
Technical description

The single line unit Super 3 EA-tronic (series 2805) supplies the lubrication points by dynamic metering valves or static metering valves.

Drive unit and electronic control with monitoring are arranged compactly and with a cover predected against ambient influences.

The Super 3 EA-tronic can be operated with an internal (BEKA EA-tronic) or external control.

Hydraulic diagram



Connection diagram (without control)

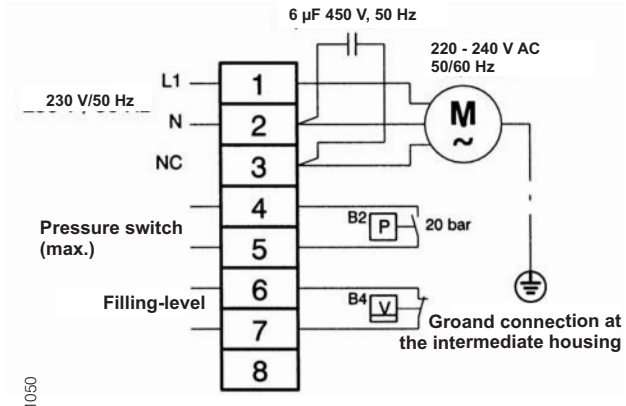


Diagram: standard design, 230 V AC, oil

Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 35 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70 °C ambient 0 - 40 °C
Reservoir capacity:	3 l
Reservoir material:	plastic , transparent
Predection class:	IP 54
Drive:	electric motor
Power:	185/210 W
Operating voltage Nominal current:	115 V AC 50/60 Hz, 1,6/1,9 A 230 V AC 50/60 Hz, 0,8/1,0 A 24 V DC, 3,9 A

Three-phase current:
200-240/345-420 V; 50 Hz, 0,44/0,25 A
254-277/440-480 V; 60 Hz, 0,44/0,25 A

Float switch (oil)

Voltage:	250 V AC/DC
Starting current:	0,5 A
Capacity:	10 VA
Switch:	standard NO contact (Opening contact by turning of the float)

Level switch (fluid grease)

Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switching current:	200 mA
Predection class:	switch IP 67, plug IP 54

Pressure switch

Voltage:	42 V
Capacity:	100 VA
Connection	AMP 6,3 x 0,8

Subject to alterations!

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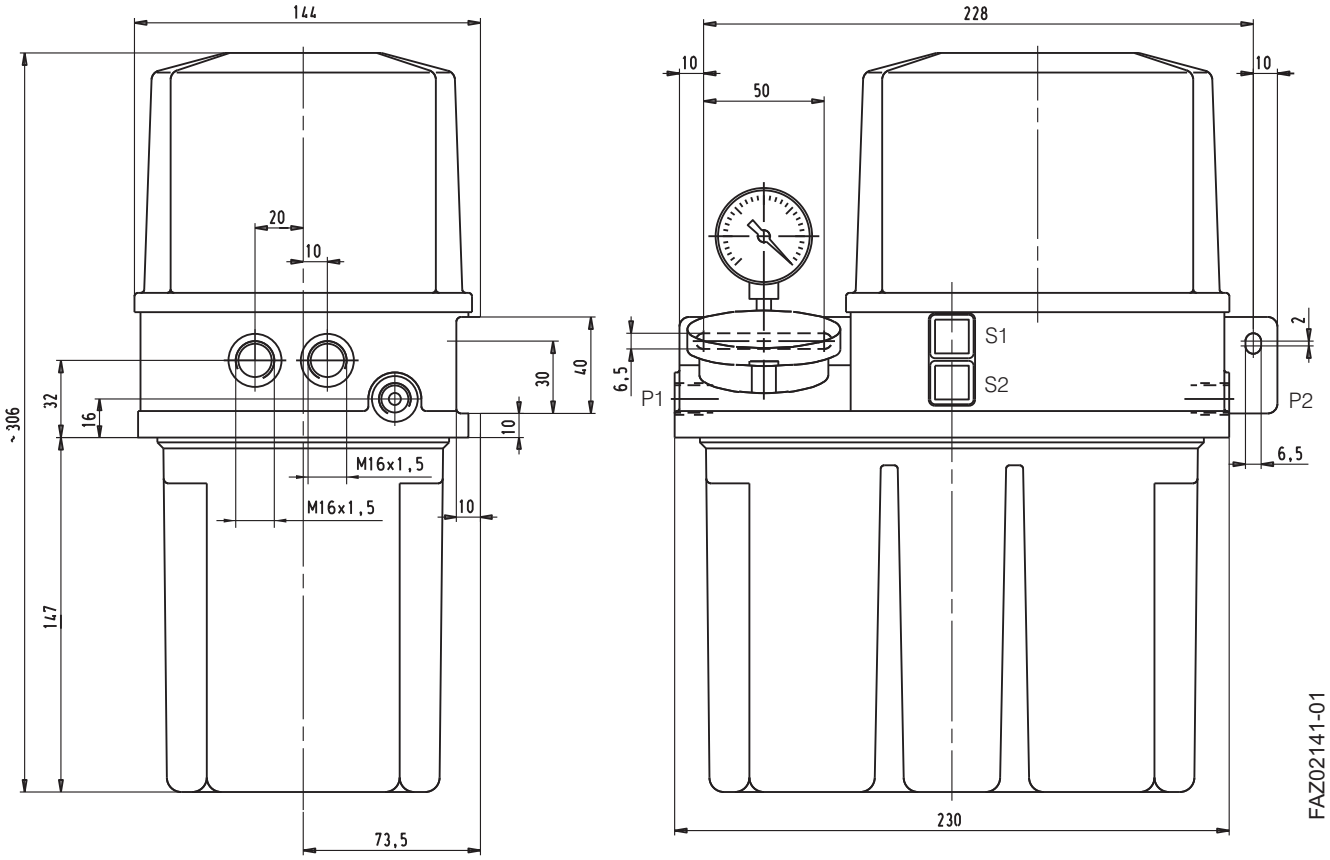
Super 3 EA-tronic left



P1: Pressure connection R 1/4 left
P2: Pressure connection R 1/4 right

S1: Signal lamp red
S2: Signal lamp green resp. reset- or intermediate lubrication button
(without control only if desired)

Order key type-no. 2805 (left)

2805.A.1.9.1.2.00.000

Model	oil	fluid grease		
Code-no.	A	B		
Level monitoring	without	with, for oil	with, for fluid grease	
Code-no.	0	1	2	
Control unit	without	standard		
Code-no.	0	9		
Pressure gauge	without	with		
Code-no.	0	1		
Voltage	115 V AC	230 V AC	24 V DC	3~/400 V
Code-no.	1	2	4	6*
Pressure connection	left	right		
Code-no.	00	01		
Special type				

* not available with control unit!

Subject to alterations!

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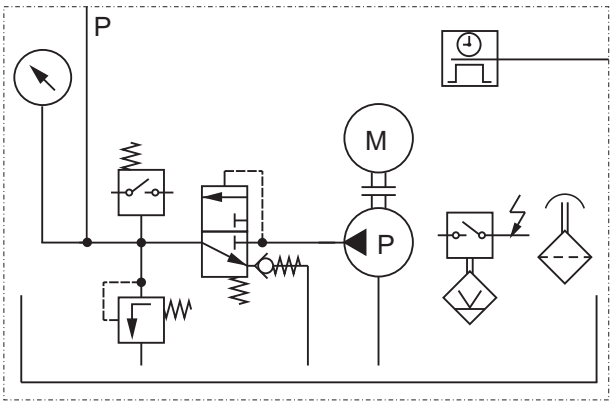
Technical description

The single line unit Super 3 EA-tronic series 2806 supplies the lubrication points by dynamic metering valves or static metering valves.

Drive unit and electronic control with monitoring are arranged compactly and with a cover predected against ambient influences.

The Super 3 EA-tronic can be operated with an internal (BEKA EA-tronic) or external control.

Hydraulic plan



Connection plan (without Control unit)

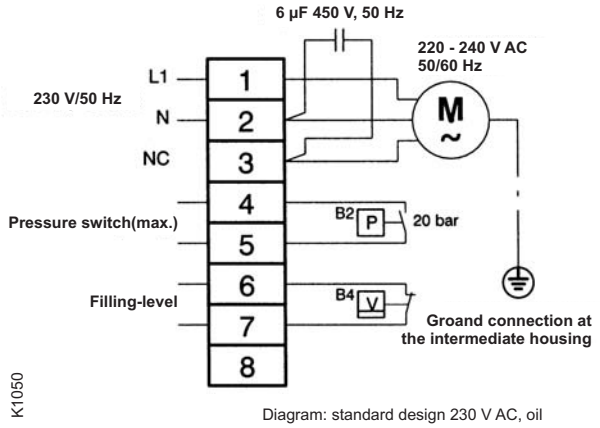


Diagram: standard design 230 V AC, oil

Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 35 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70 °C ambient 0 - 40 °C
Reservoir capacity:	3l
Reservoir material:	plastic , transparent
Predection class:	IP 54
Drive:	electric motor
Power:	185/210 W
Operating voltage Nominal current:	115 V AC 50/60 Hz, 1,6/1,9 A 230 V AC 50/60 Hz, 0,8/1,0 A 24 V DC, 3,9 A

Three-phase current:
200-240/345-420 V; 50 Hz, 0,44/0,25 A
254-277/440-480 V; 60 Hz, 0,44/0,25 A

Float switch (oil)

Voltage:	250 V AC/DC
Starting current:	0,5 A
Capacity:	10 VA
Switch:	standard NO contact (opening contact by turning of the float)

Level switch (fluid grease)

Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switching current:	200 mA
Predection class:	switch IP 67, plug IP 54

Pressure switch

Voltage:	42 V
Capacity:	100 VA
Connection:	AMP 6,3 x 0,8

Subject to alterations!

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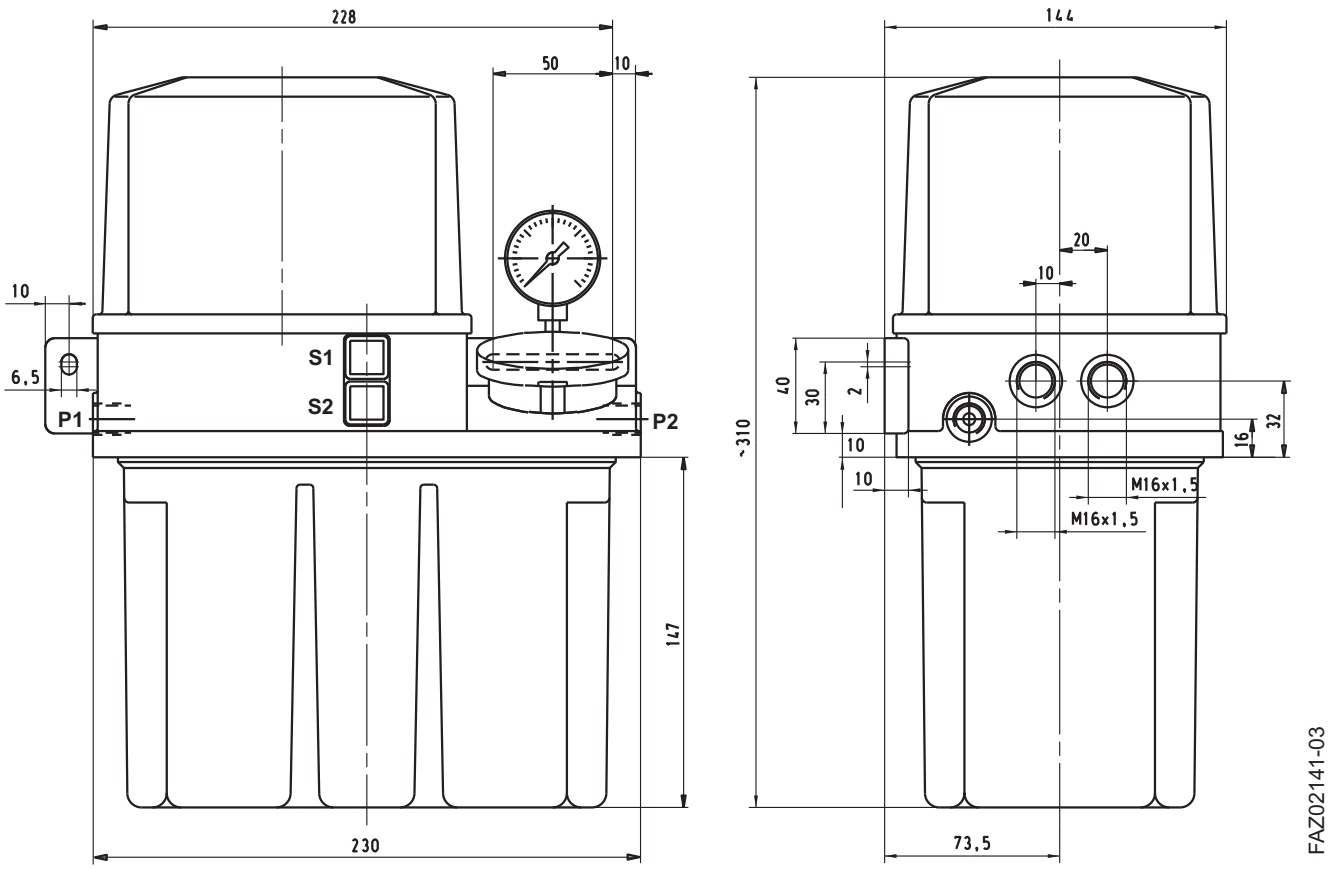

P1: Pressure connection R 1/4 left
P2: Pressure connection R 1/4 right

S1: Signal lamp red
S2: Signal lamp green resp. reset- or intermediate lubrication button
(without control only if desired)

Order key type-no. 2806 (right)

2806.A.1.9.1.2.00.000

Model	oil	fluid grease		
Code-no.	A	B		
Level monitoring	without	with,for oil	with,for fluid grease	
Code-no.	0	1	2	
Control unit	without	standard		
Code-no.	0	9		
Pressure gauge	without	mit		
Code-no.	0	1		
Voltage	115 V AC	230 V AC	24 V DC	3~/400 V
Code-no.	1	2	4	6*
Pressure connection	left	right		
Code-no.	00	01		
Special type				

* not available with control unit!

Subject to alterations!

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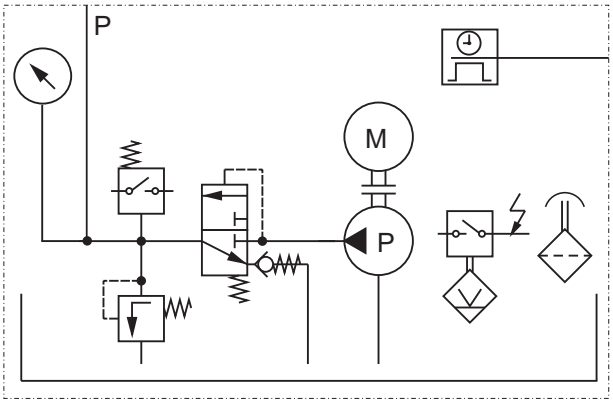
Technical description

The single line unit Super EA-tronic series 2800 supplies the lubrication points by dynamic metering valves or static metering valves.

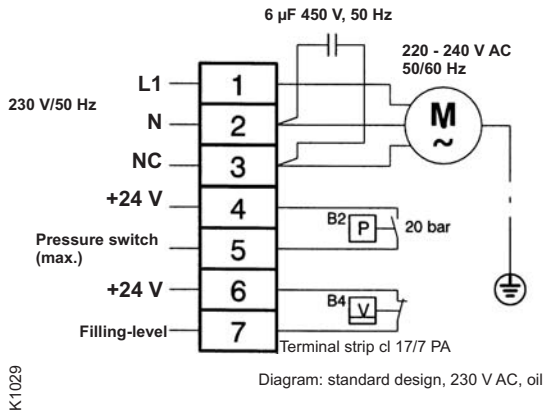
Drive unit and electronic control with monitoring are arranged compactly and with a cover predected against ambient influences.

The Super EA-tronic can be operated with an internal (BEKA EA-tronic) or external control.

Hydraulic diagram



Connection diagram (without control unit)



K1029

Diagram: standard design, 230 V AC, oil

Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 35 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	4 l
Reservoir material:	aluminum
Predection class:	IP54
Drive:	electric motor
Power:	185/210 W
Operating voltage Nominal current:	115 V AC 50/60 Hz, 1,6/1,9 A 230 V AC 50/60 Hz, 0,8/1,0 A 24 V DC, 3,9 A
Three-phase current:	200-240/345-420 V; 50 Hz, 0,44/0,25 A 254-277/440-480 V; 60 Hz, 0,44/0,25 A

Float switch (oil)

Voltage:	250 V AC/DC
Starting current:	0,5 A
Capacity:	10 VA
Switch:	standard NO contact (opening contact by turning of the float)

Level switch (fluid grease)

Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switching current:	200 mA
Predection class:	switch IP 67, plug IP 54

Pressure switch

Voltage:	42 V
Capacity:	100 VA
Connection:	AMP 6,3 x 0,8

Subject to alterations!

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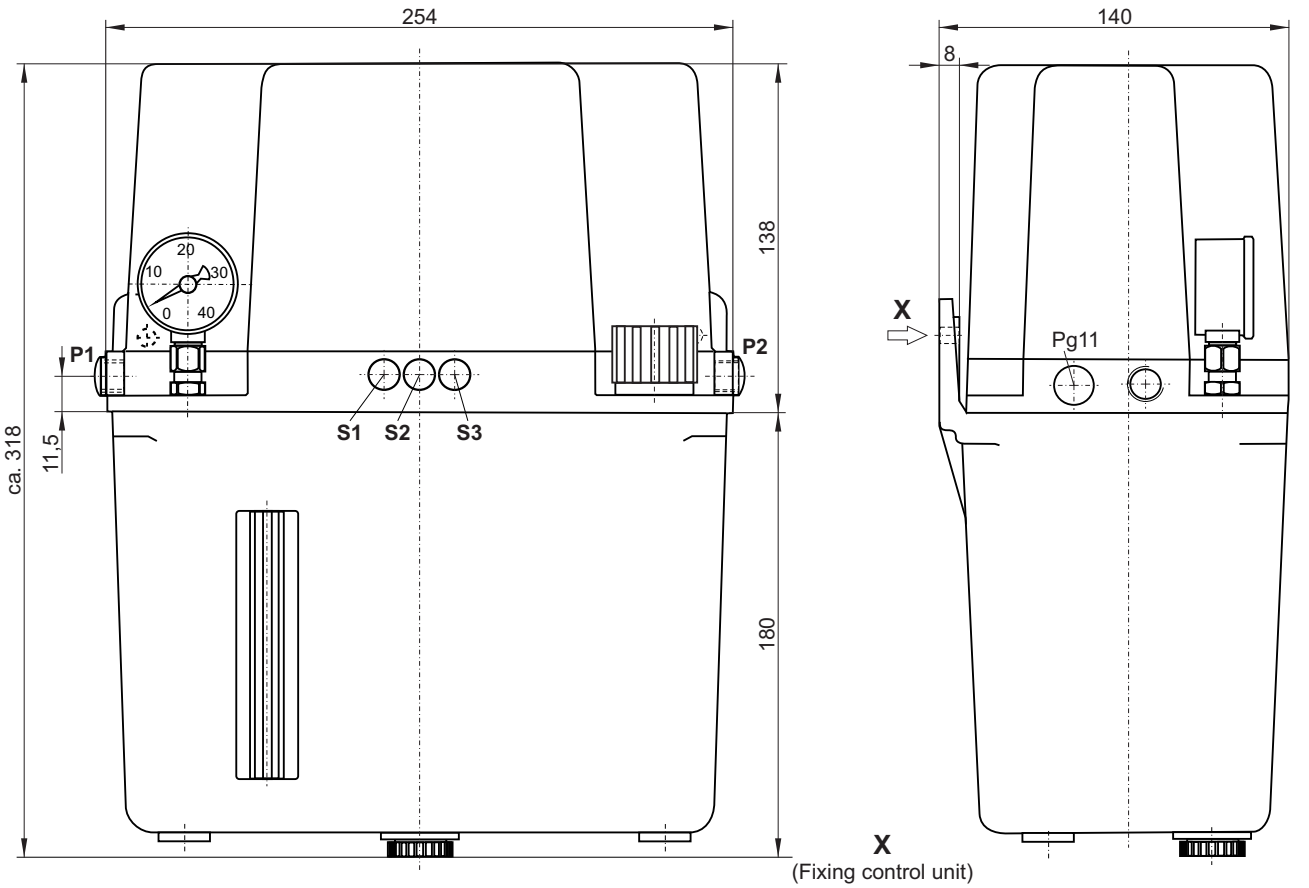
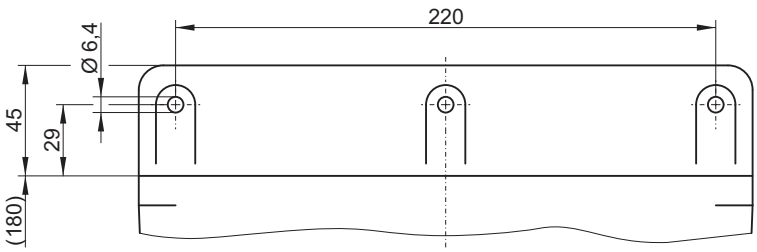
Super EA-tronic with 4 l-reservoir



P1: Pressure connection R 1/4 left
P2: Pressure connection R 1/4 right

S1: Signal lamp red
S2: Signal lamp green
S3: Intermediate lubrication button



Order key type-no. 2800 (Super)

2800.02.1.9.1.2.000

Content	4 l			
Code-no.	02			
Level monitoring	without	with, for oil	with, for fluid grease	
Code-no.	0	1	2	
Control unit	without	standard	special function pressure red. monitoring	
Code-no.	0	9	A	
Pressure gauge	without	with		
Code-no.	0	1		
Voltage	115 V AC	230 V AC	24 V DC	3~/400 V
Code-no.	1	2	3	4
Special model				

Subject to alterations!

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Technical description

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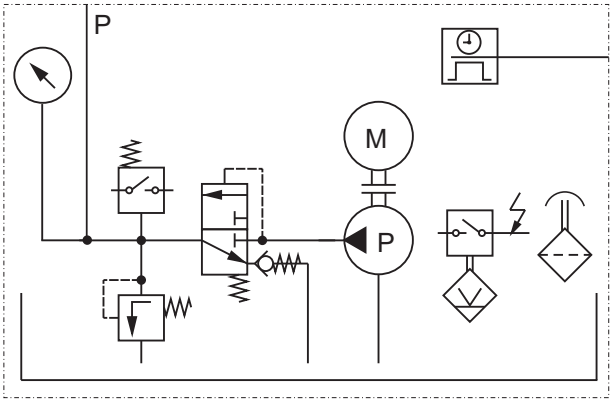
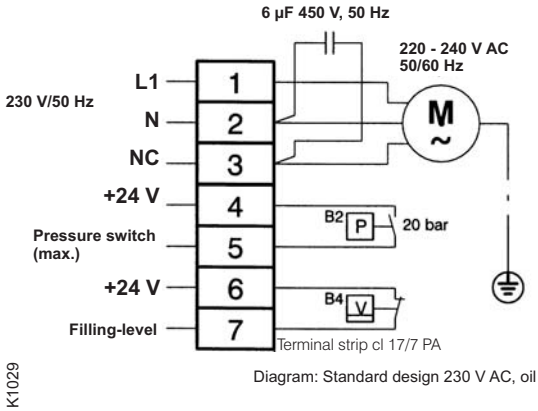
Drive unit and electronic control with monitoring are arranged compactly and with a cover predected against ambient influences.

The Super EA-tronic can be operated with an internal (BEKA EA-tronic) or an external control.

Hydraulic diagram



Connection diagram (without control unit)



K1029

Diagram: Standard design 230 V AC, oil

Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 35 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	6 l
Reservoir material:	steel sheet
Predection class:	IP 54
Drive:	electric motor
Power:	185/210 W
Operating voltage Nominal current:	115 V AC 50/60 Hz, 1,6/1,9 A 230 V AC 50/60 Hz, 0,8/1,0 A 24 V DC, 3,9 A
Three-phase current:	200-240/345-420 V; 50 Hz, 0,44/0,25 A 254-277/440-480 V; 60 Hz, 0,44/0,25 A

Float switch (oil)

Voltage:	250 V AC/DC
Starting current:	0,5 A
Capacity:	10 VA
Switch:	standard NO contact (opening contact by turning of the float)

Level switch (fluid grease)

Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switching current:	200 mA
Predection class:	switch IP 67, plug IP 54

Pressure switch

Voltage:	42 V
Capacity:	100 VA
Connection:	AMP 6,3 x 0,8

Subject to alterations!

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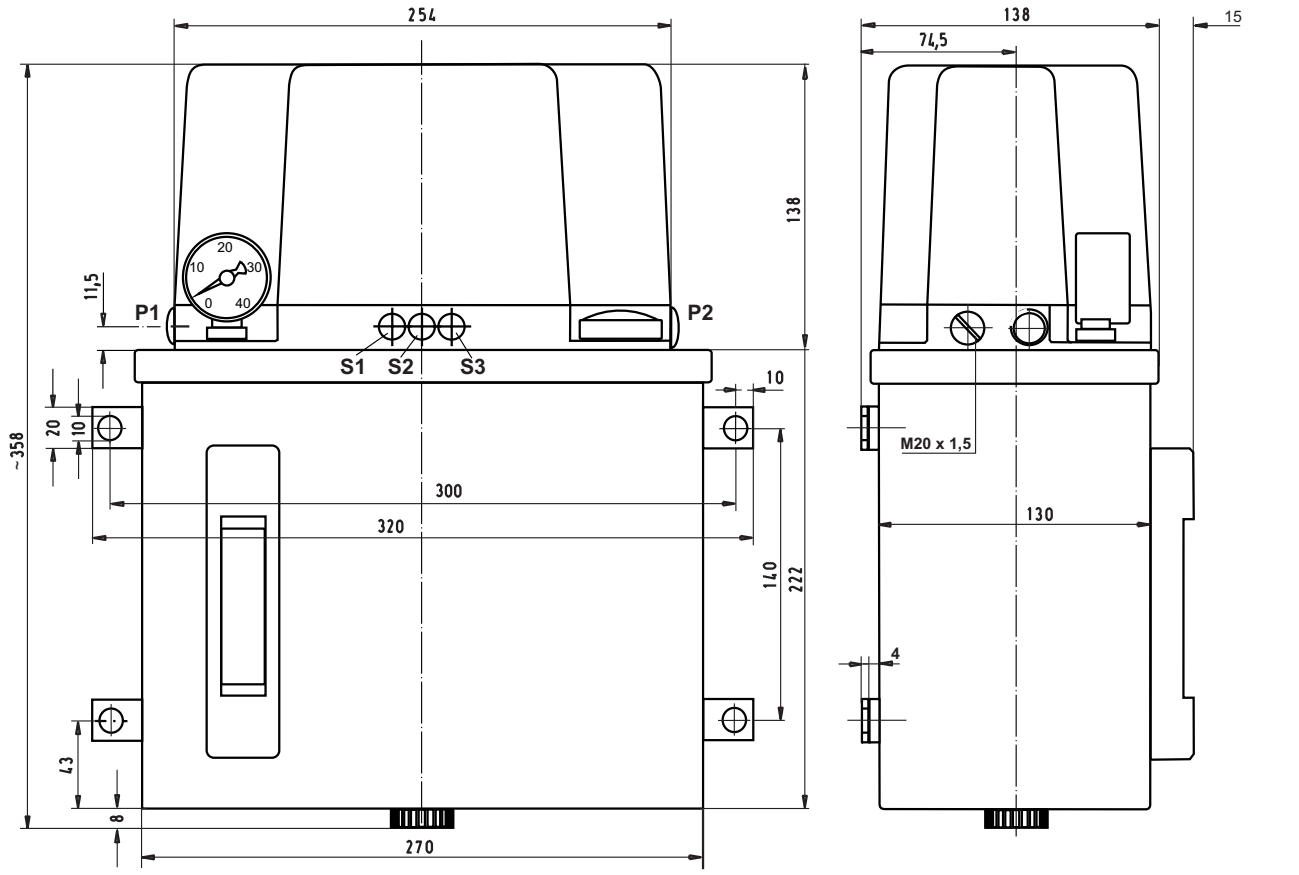
Super EA-tronic with 6 l-reservoir



P1: Pressure connection R 1/4 left
P2: Pressure connection R 1/4 right
S1: Signal lamp red
S2: Signal lamp green
S3: Intermediate lubrication button

Order key type-no. 2800 (Super)

2800.03.1.9.1.2.000

Content	6 l			
Code-no.	03			
Level monitoring	without	with, for oil	with, for fluid grease	
Code-no.	0	1	2	
Control unit	without	standard	special function pressure red. monitoring	
Code-no.	0	9	A	
Pressure gauge	without	with		
Code-no.	0	1		
Voltage	115 V AC	230 V AC	24 V DC	3~/400 V
Code-no.	1	2	3	4
Special model				

Subject to alterations!

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1090200388

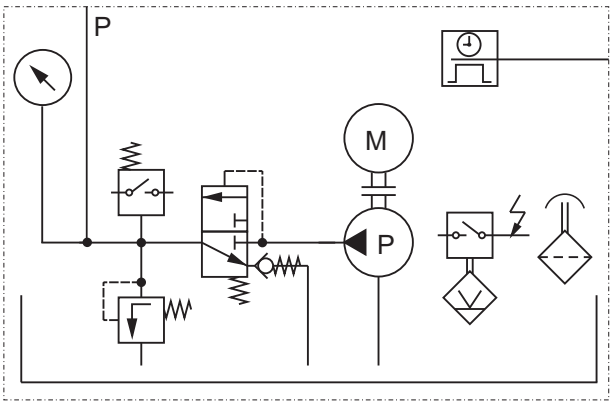
Technical description

The single line unit Mini EA-tronic series 2800 supplies the lubrication points by dynamic metering valves or static metering valves.

Drive unit and electronic control with monitoring are arranged compactly and with a cover protected against ambient influences.

The Mini EA-tronic can be operated with an internal (BEKA EA-tronic) or an external control.

Hydraulic diagram



Connection diagram (without control unit)

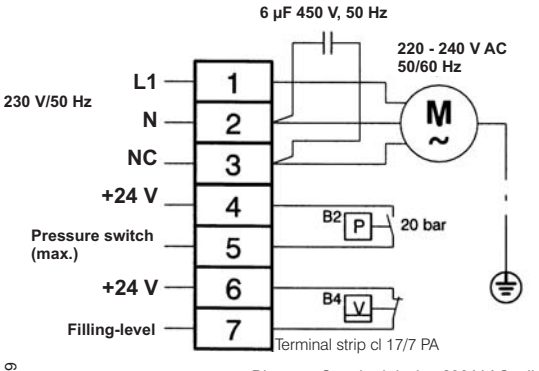


Diagram: Standard design 230 V AC, oil

K1029

Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 35 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	3 l
Reservoir material:	plastic, transparent
Protection class:	IP 54
Drive:	electric motor
Power:	185/210 W
Operating voltage Nominal current:	115 V AC 50/60 Hz, 1,6/1,9 A 230 V AC 50/60 Hz, 0,8/1,0 A 24 V DC, 3,9 A
Three-phase current:	200-240/345-420 V; 50 Hz, 0,44/0,25 A 254-277/440-480 V; 60 Hz, 0,44/0,25 A

Float switch (oil)

Voltage:	250 V AC/DC
Starting current:	0,5 A
Capacity:	10 VA
Switch:	standard NO contact (opening contact by turning of the float)

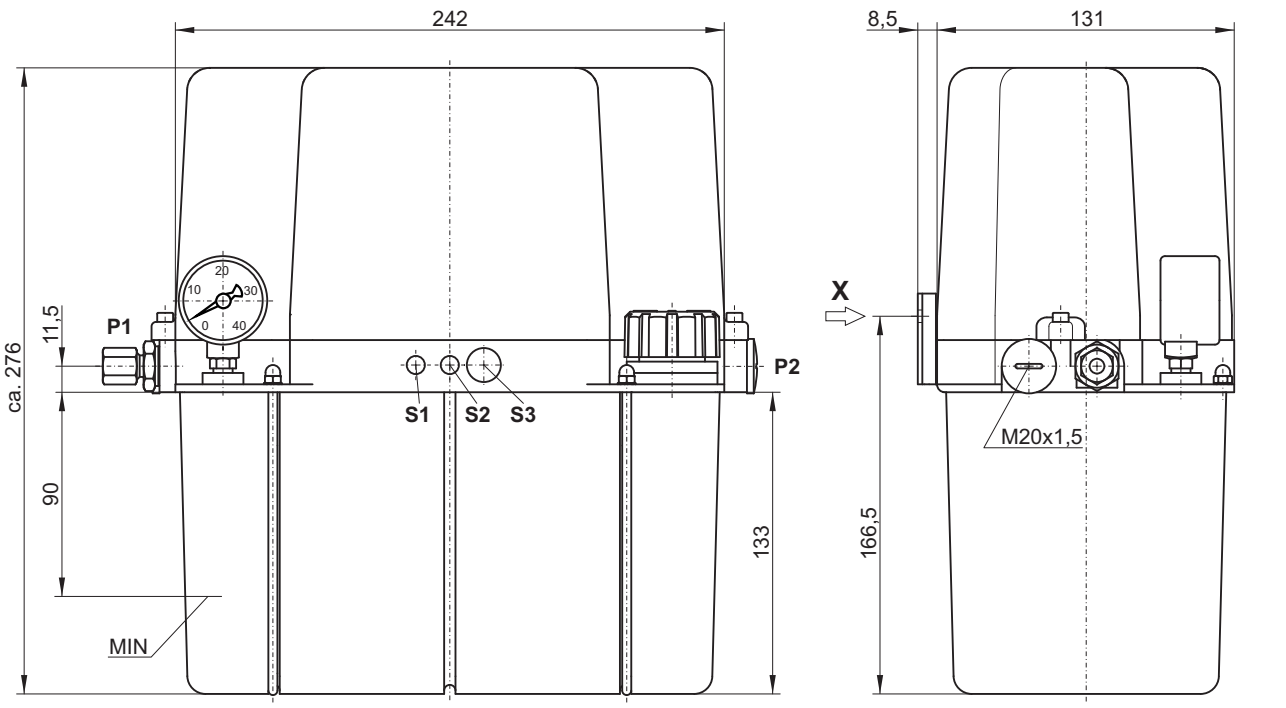
Level switch (fluid grease)

Voltage:	10 - 60 V
Switching type:	pos. switch NC/NO
Switching current:	200 mA
Protection class:	switch IP 67, plug IP 54

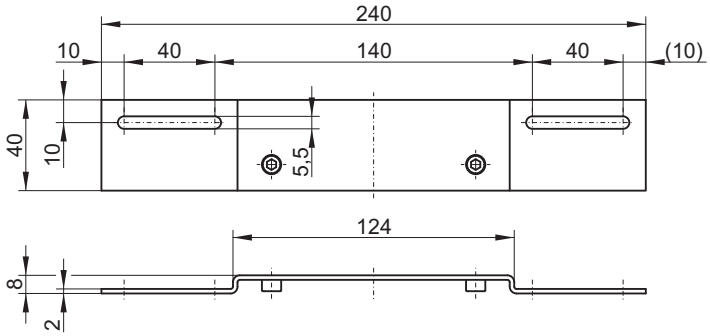
Pressure switch

Voltage:	42 V
Capacity:	100 VA
Connection:	AMP 6,3 x 0,8

Subject to alterations!



X
(fastening)



P1: Pressure connection R 1/4 left = standard
P2: Pressure connection R 1/4 right

S1: Signal lamp red
S2: Signal lamp green
S3: Intermediate lubrication button

Order key type-no. 2800 (Mini)

2800.01.1.9.1.2.000

Content	3 l			
Code-no.	01			
Level monitoring	without	with, for oil	with, for fluid grease	
Code-no.	0	1	2	
Control unit	without	standard	special function pressure red. monitoring	
Code-no.	0	9	A	
Pressure gauge	without	with		
Code-no.	0	1		
Voltage	115 V AC	230 V AC	24 V DC	3~/400 V
Code-no.	1	2	3	4
Special model				

Subject to alterations!

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1090200388

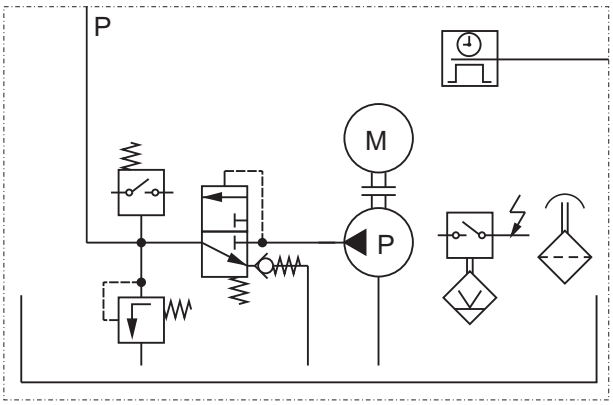
Technical description

The single line unit Mini 2 EA-tronic series 2810 supplies the lubrication points by dynamic metering valves or static metering valves.

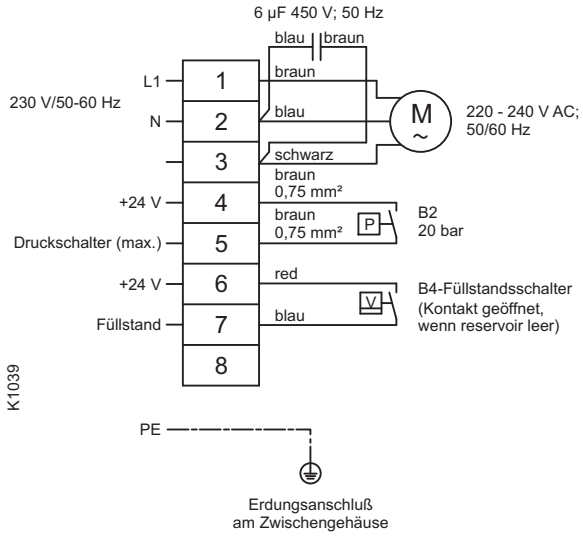
Drive unit and electronic control with monitoring are arranged compactly and with a cover protected against ambient influences.

The Mini 2 EA-tronic can be operated with an internal

Hydraulic diagram



Connection diagram (without control unit)



Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 35 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	1,5 l
Reservoir material:	plastic, transparent
Protection class:	IP 54
Drive:	electric motor
Power:	185/210 W
Operating voltage Nominal current:	115 V AC 50/60 Hz, 1,6/1,9 A 230 V AC 50/60 Hz, 0,8/1,0 A

Float switch (oil)

Voltage:	250 V AC/DC
Starting current:	0,5 A
Capacity:	10 VA
Switch:	standard NO contact (Opening contact by turning of the float)

Level switch (fluid grease)

Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switching current:	200 mA
Protection class:	switch IP 67, plug IP 54

Pressure switch

Voltage:	42 V
Capacity:	100 VA
Connection:	AMP 6,3 x 0,8

Subject to alterations!

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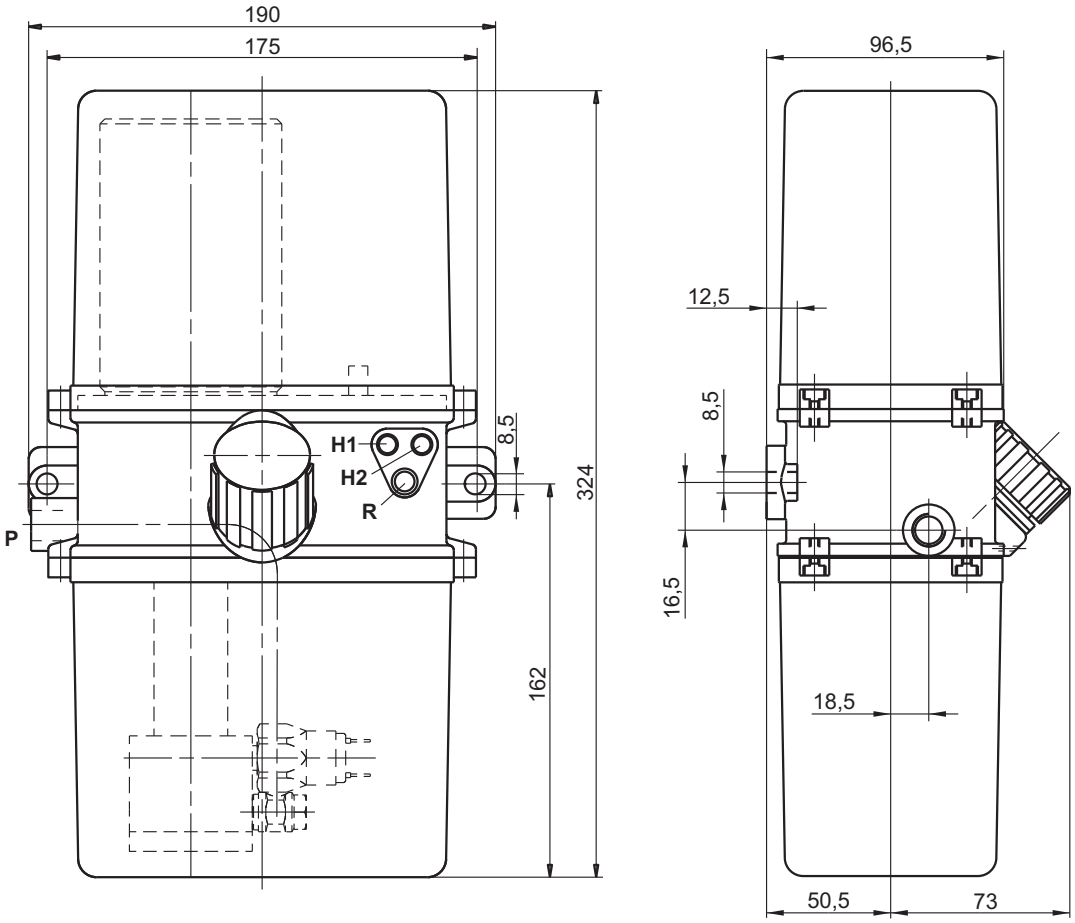

P: Pressure connection R 1/4
R: Reset- and lubrication pulse button

H1: Signal lamp white (network)
H2: Signal lamp red (error)

Order key type-no. 2810

2810.1.91.1.2.000

Level monitoring	without	with, for oil mit control unit (NC)		with, for fluid grease (NC)	with, for oil without control unit (NO)	
Code-no.	0	1		2	3	
Control unit	without control unit without pressure switch			without control unit, with pressure switch also for external control units		
Code-no.	00			01		
EA-tronic**	without pressure switch * without memory	with pressure switch without memory		without pressure switch * mit memory	with pressure switch with memory	
Code-no.	90	91		B0	B1	
PA-tronic***	without pressure switch without memory			without pressure switch with memory		
Code-no.	D0			E0		
Tableau	without H1/H2/R	with H1/H2/R	with H1/H2	with R	with H1/R	with H1
Code-no.	0	1	2	3	4	5
Voltage	115 V AC	230 V AC		24 V DC		
Code-no.	1	2		4		
Special models						

* external pressure switch necessary
** break: time- or cycle dependent (machine cycle); lubrication: Switching off via pressurization
*** break: time-or cycle dependent (machine cycle); lubrication: Switching off via time or distributor circulations

Subject to alterations!

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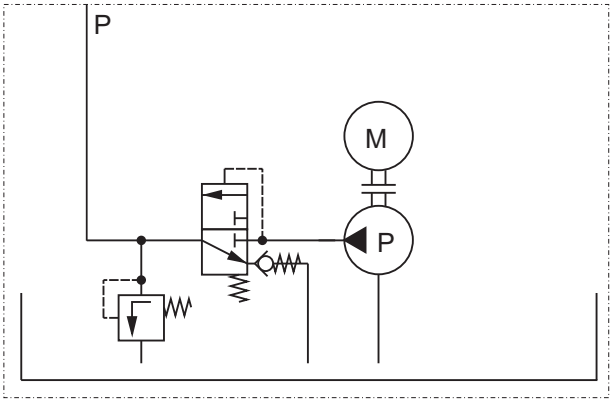
Technical description

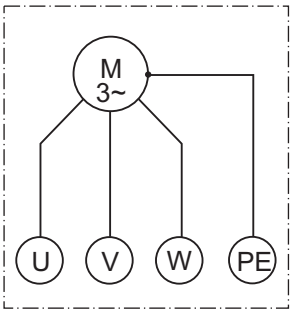
The single line unit S95 supplies the lubrication points by dynamic metering valves or static metering valves.

The single line pump S95 has no reservoir and can be controlled with an external control.

Hydraulic diagram



Connection diagram (without control unit)



Technical Data

Unit

Pump Type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	30 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C

Motor

Drive:	three-phase motor
Power:	0,1 kW
Operating mode:	S1
Protection class:	IP 54
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,44/0,25 A 254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

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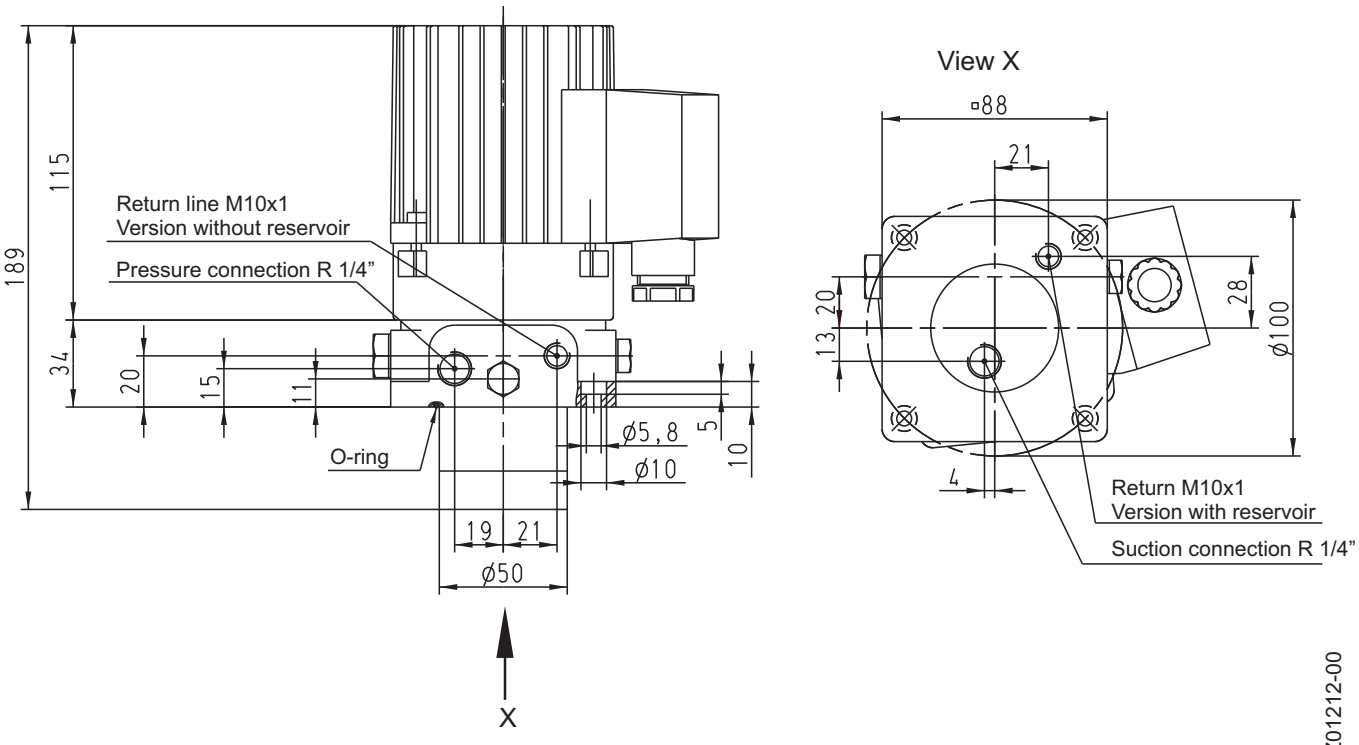

FAZ01212-00

Order key type-no. 2710

2710.150001

Subject to alterations!

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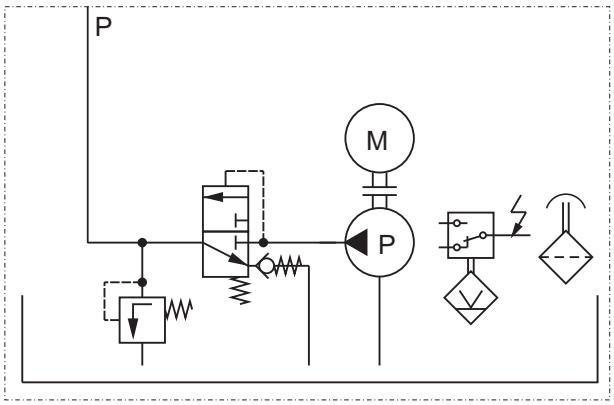
Technical description

The single line unit ES 2711 supplies the lubrication points by dynamic metering valves or static metering valves.

The single line unit ES 2711 can be controlled with an external control.

Hydraulic diagram



Connection diagram (without control unit)

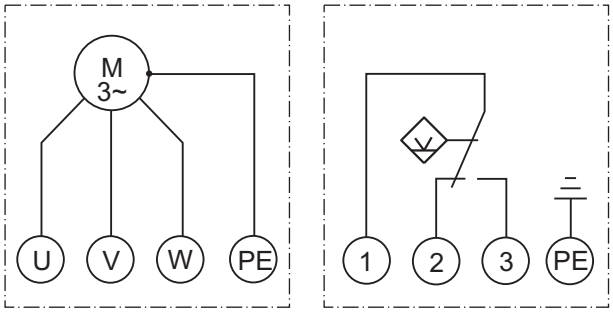


Diagram of the filling-level switch (model oil):
Reservoir not empty

Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 35 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	4 l
Reservoir material:	aluminum
Protection class:	IP 54

Motor

Drive:	three-phase motor
Power:	0,1 kW
Operating mode:	S1
Protection class:	IP 54
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,44/0,25 A 254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

Float switch (oil)

Voltage:	250 V AC/DC
Starting current:	1 A
Capacity:	60 VA
Protection class:	IP 65
Electric connection:	DIN 43 650
Switch:	changeover contact

Level switch (fluid grease)

Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switching current:	200 mA
Protection class:	switch IP 67, plug IP 54
Connection:	compact plug 3-pol. + PE

Subject to alterations!

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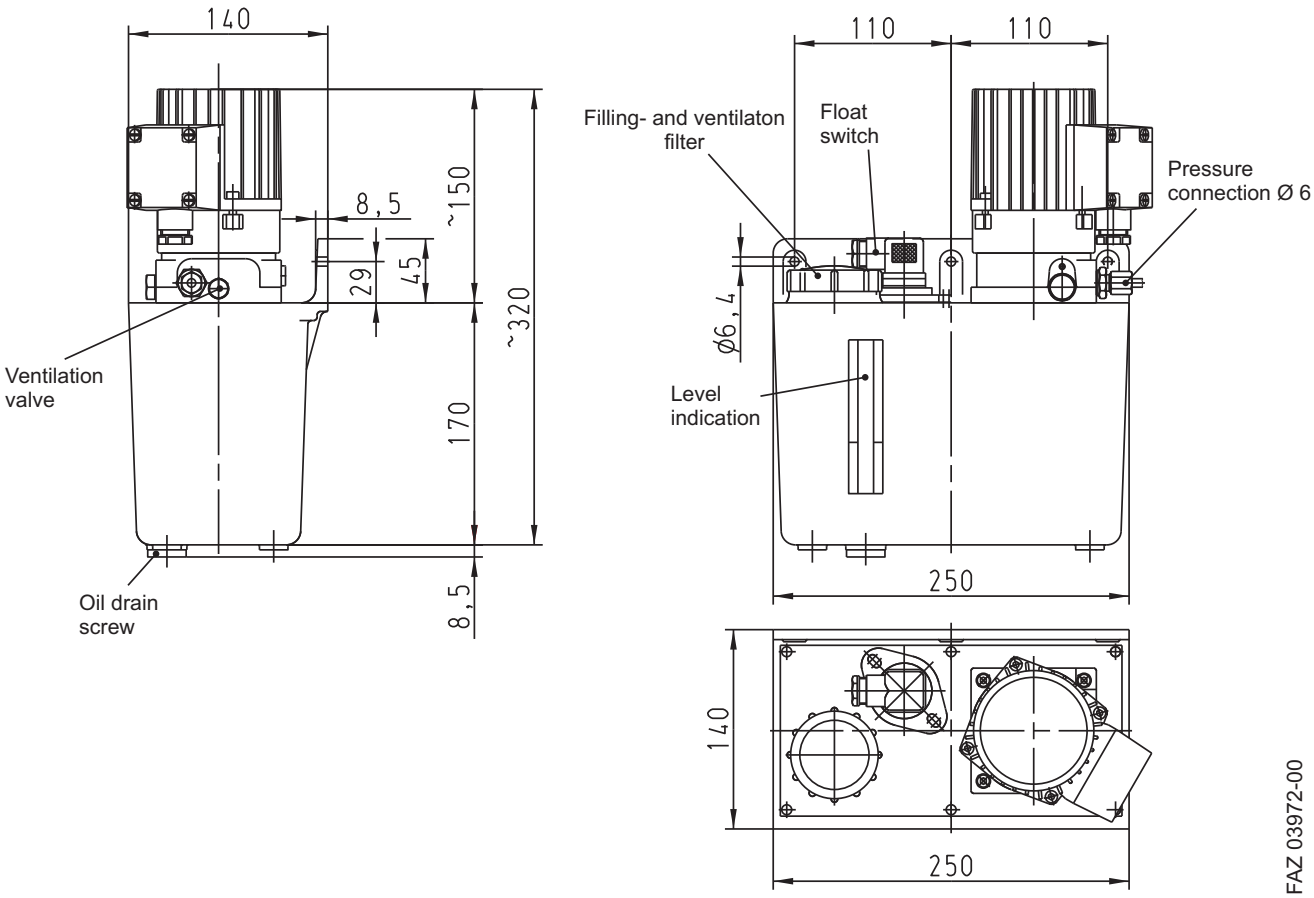
ES 2711 with 3 l-reservoir



FAZ 03972-00

Order key type-no. 2711

2711.01.1.1.000

Content	3 l		
Code-no.	01		
Level monitoring	without	with,for oil	with,for fluid grease
Code-no.	0	1	2
Pressure connection	Ø 6 mm		
Code-no.	1		
Special model			

Subject to alterations!

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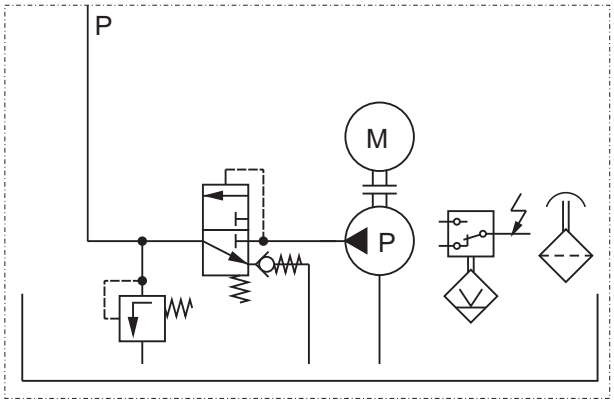
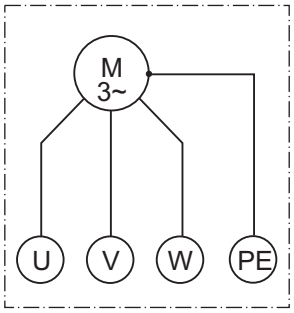
Technical description

The single line pump ES 2711 supplies the lubrication points via dynamic metering valves or static metering valves.
The single line pump ES 2711 can be controlled with an external control unit.

Hydraulic diagram



Connection diagram (without Control unit)



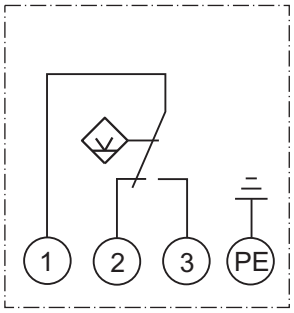


Diagram of the filling-level switch (model oil):
Reservoir not empty

Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 35 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	6 l
Reservoir material:	steel sheet
Protection class:	IP 54

Motor

Drive:	three-phase motor
Power:	0,1 kW
Operating mode:	S1
Protection class:	IP 54
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,44/0,25 A 254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

Float switch (oil)

Voltage:	250 V AC/DC
Starting current:	1 A
Power supply:	60 VA
Protection class:	IP 65
Electric connection:	DIN 43 650
Switch:	alternate switch

Level switch (fluid grease)

Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switch current:	200 mA
Protection class:	switch IP 67, plug IP 54
Connection:	plug acc. to DIN 43 650, 3-pol. + PE

03-1-21-03 State: 01.12EN

Subject to alterations!

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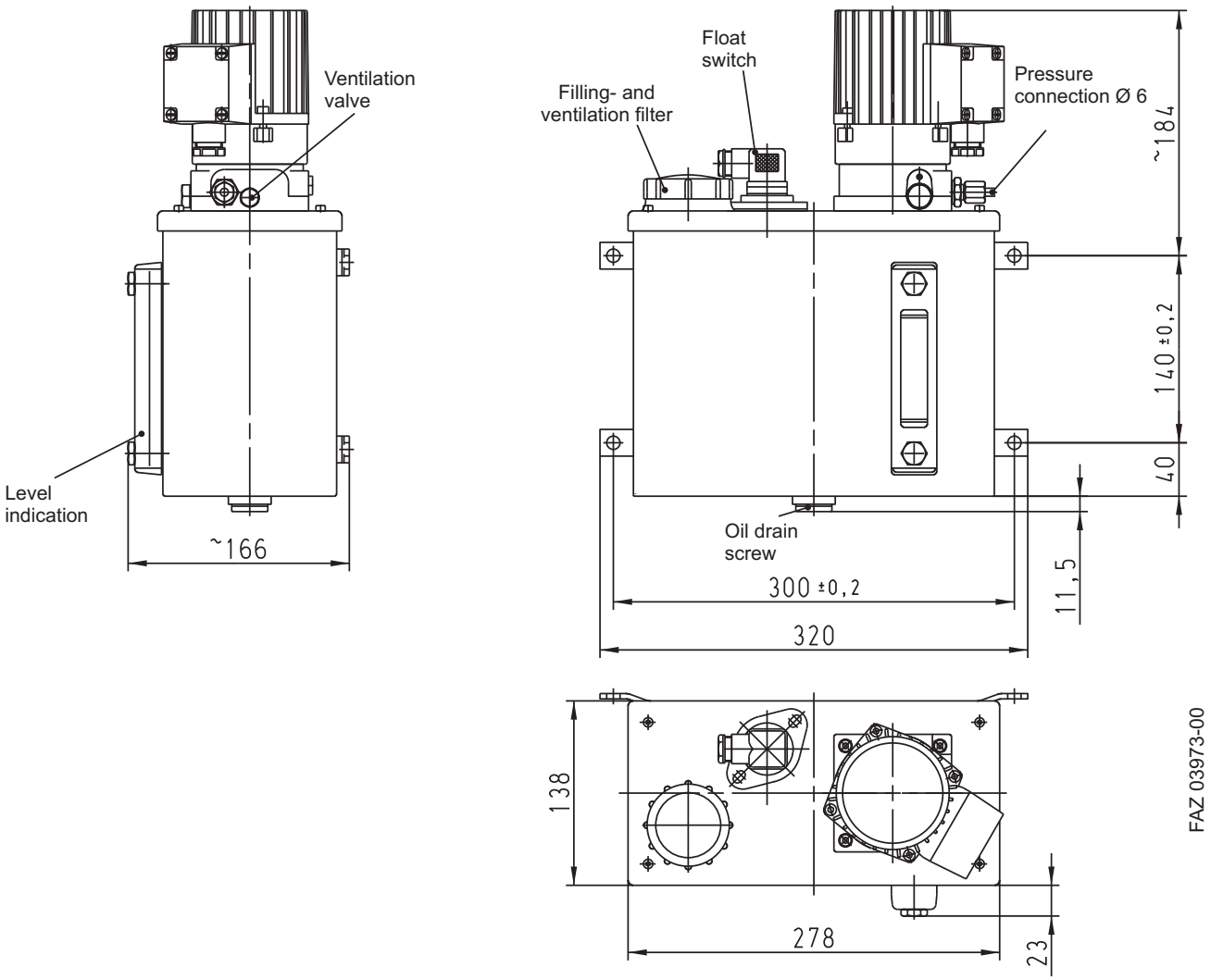
ES 2711 with 6 l-reservoir



Order key type-no. 2711

2711.02.1.1.000

Content	6 l		
Code-no.	02		
Level monitoring	without	with,for oil	with,for fluid grease
Code-no.	0	1	2
Pressure connection	Ø 6 mm		
Code-no.	1		
Special model			

Subject to alterations!

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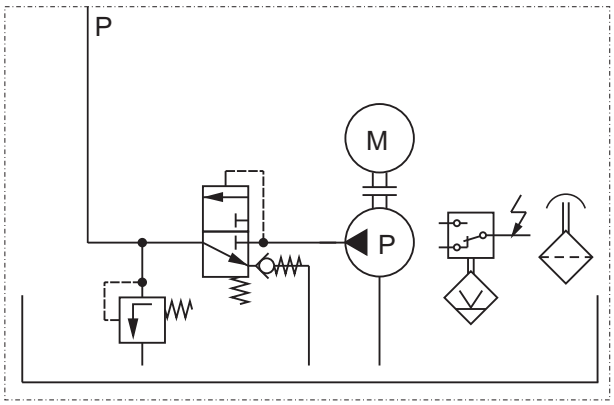
1090200388

Technical description

The single line pump ES 2711 supplies the lubrication points by dynamic metering valves or static metering valves.

The single line pump ES 2711 can be controlled with

Hydraulic diagram



Connection diagram (without control unit)

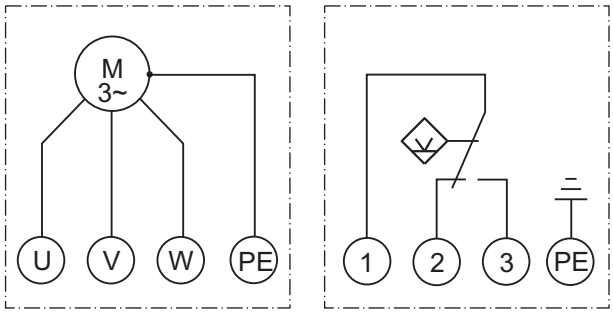


Diagram of the filling-level switch (model oil):
Reservoir not empty

Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 35 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0-70 °C ambient 0 - 40°C
Reservoir capacity:	13 l
Reservoir material:	aluminum
Protection class:	IP 54

Motor

Drive:	three-phase motor
Power:	0,1 kW
Operating mode:	S1
Protection class:	IP 54
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,44/0,25 A 254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

Float switch (oil)

Voltage:	250 V AC/DC
Starting current:	1 A
Capacity:	60 VA
Protection class:	IP 65
Electric connection:	DIN 43 650
Switch:	changeover contact

Level switch (fluid grease)

Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switching current:	200 mA
Protection class:	switch IP 67, plug IP 54

Subject to alterations!

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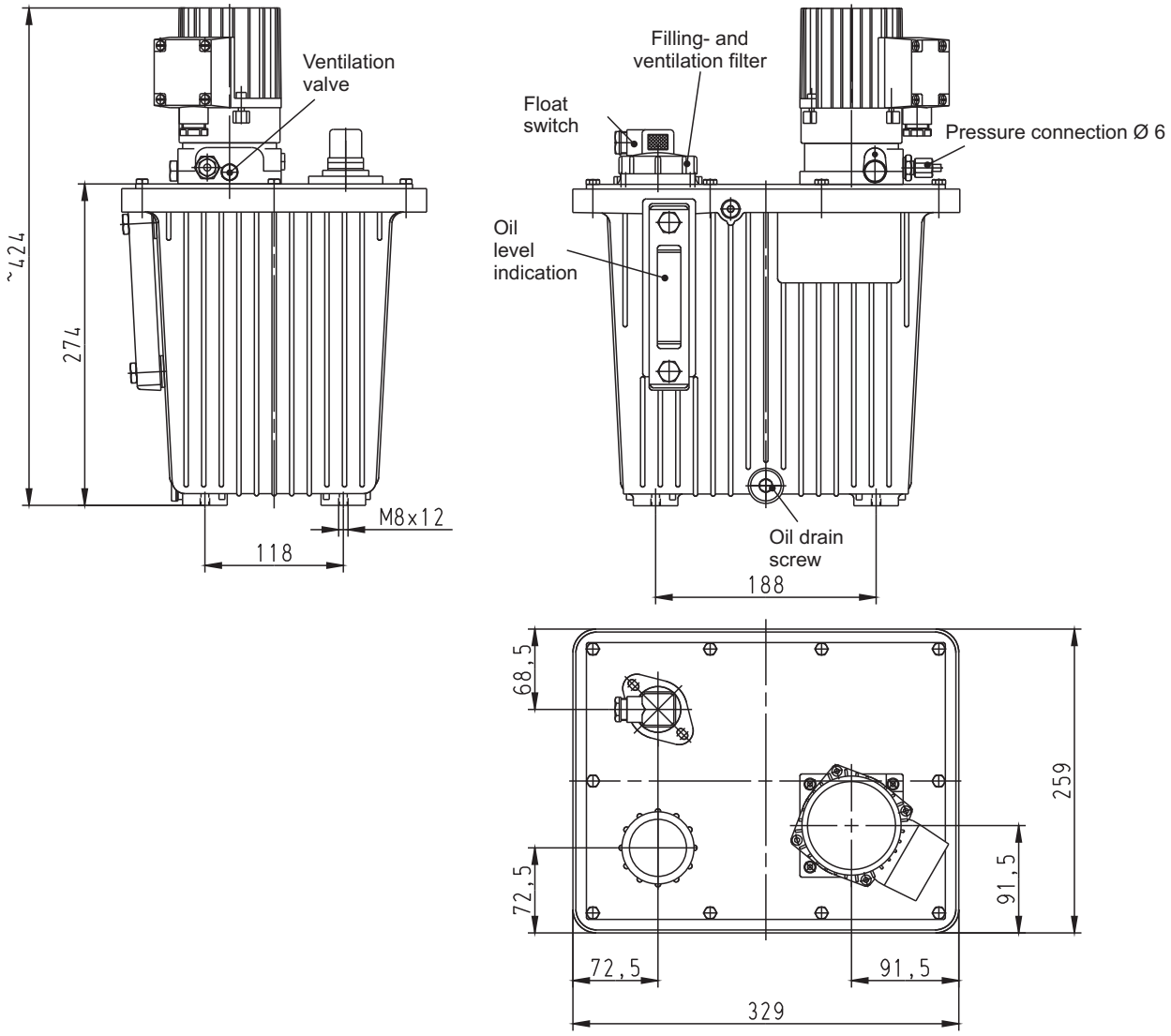
1090200388

ES 2711 with 13 l-reservoir



FAZ 03974-00

Order key type-no. 2711

2711.03.1.1.000

Content	13 l		
Code-no.	03		
Level monitoring	without	with,for oil	with,for fluid grease
Code-no.	0	1	2
Pressure connection	Ø 6 mm		
Code-no.	1		
Special model			

Subject to alterations!

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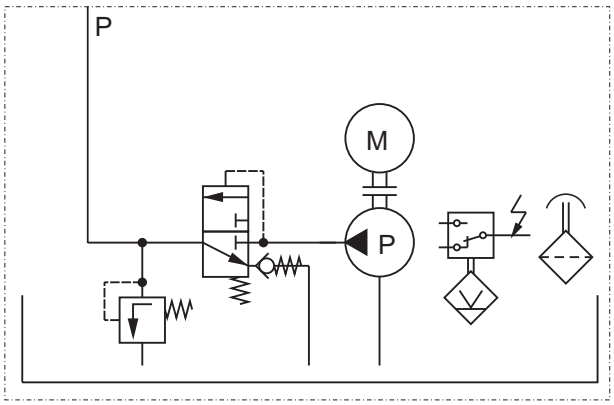
Technical description

The single line pump ES 2711 supplies the lubrication points by dynamic metering valves or static metering valves.

The single line pump ES 2711 can be controlled with an external control unit.

Hydraulic diagram



Connection diagram (without control unit)

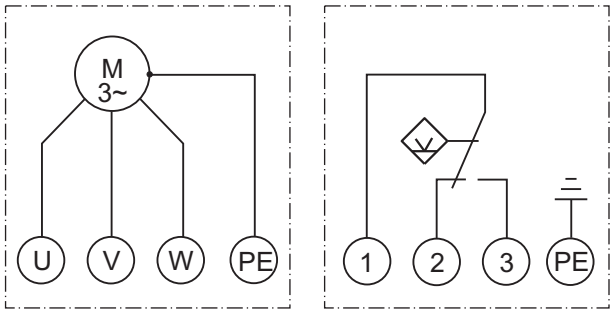


Diagram of the filling-level switch (model oil):
Reservoir not empty

Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 35 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	16 l
Reservoir material:	steel sheet
Protection class:	IP 54

Motor

Drive:	three-phase motor
Power:	0,1 kW
Operating mode:	S1
Protection class:	IP 54
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,44/0,25 A 254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

Float switch (oil)

Voltage:	250 V AC/DC
Starting current:	1 A
Capacity:	60 VA
Protection class:	IP 65
Electric connection:	DIN 43 650
Switch:	changeover contact

Level switch (fluid grease)

Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switching current:	200 mA
Protection class:	switch IP 67, plug IP 54
Connection:	plug acc. to DIN 43 650; 3-pol. + PE

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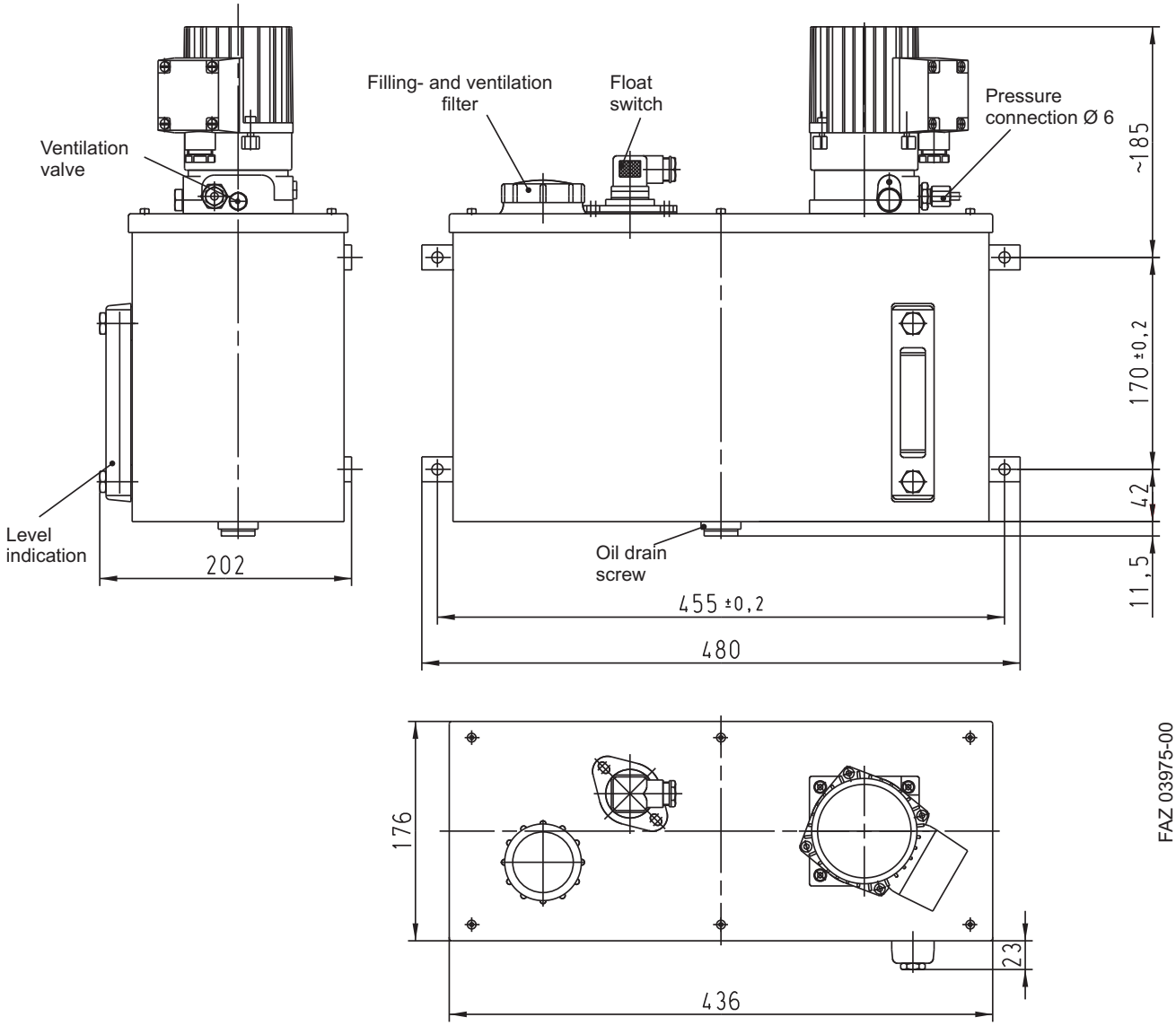
ES 2711 with 16 l-reservoir



FAZ 03975-00

Order key type-no. 2711

2711.04.1.1.000

Content	16 l (wall fastening)		
Code-no.	04		
Level monitoring	without	with,for oil	with, for fluid grease
Code-no.	0	1	2
Pressure connection	Ø 6 mm		
Code-no.	1		
Special model			

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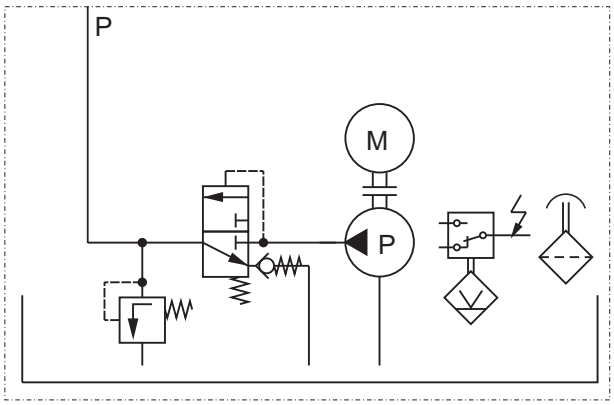
Technical description

The single line pump ES 2711 supplies the lubrication points by dynamic metering valves or static metering valves.

The single line pump ES 2711 can be controlled with an external control unit.

Hydraulic diagram



Connection diagram (without control unit)

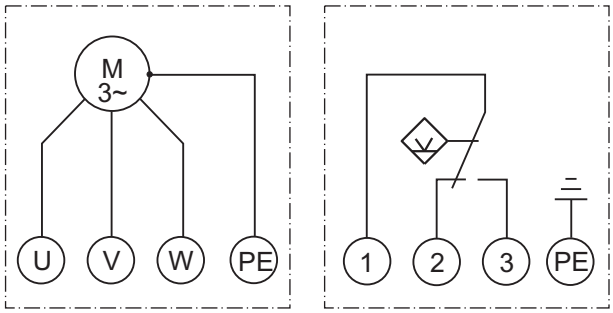


Diagram of the filling-level switch (model oil):
Reservoir not empty

Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 35 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	30 l
Reservoir material:	aluminum
Protection class:	IP 54

Motor

Drive:	three-phase motor
Power:	0,1 kW
Operating mode:	S1
Protection class:	IP 54
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,44/0,25 A 254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

Float switch (oil)

Voltage:	250 V AC/DC
Starting current:	1 A
Capacity:	60 VA
Protection class:	IP 65
Electric connection:	DIN 43 650
Switch:	changeover contact

Level switch (fluid grease)

Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switching current:	200 mA
Protection class:	switch IP 67, plug IP 54
Connection:	plug acc. to DIN 43 650; 3-pol. + PE

Subject to alterations!

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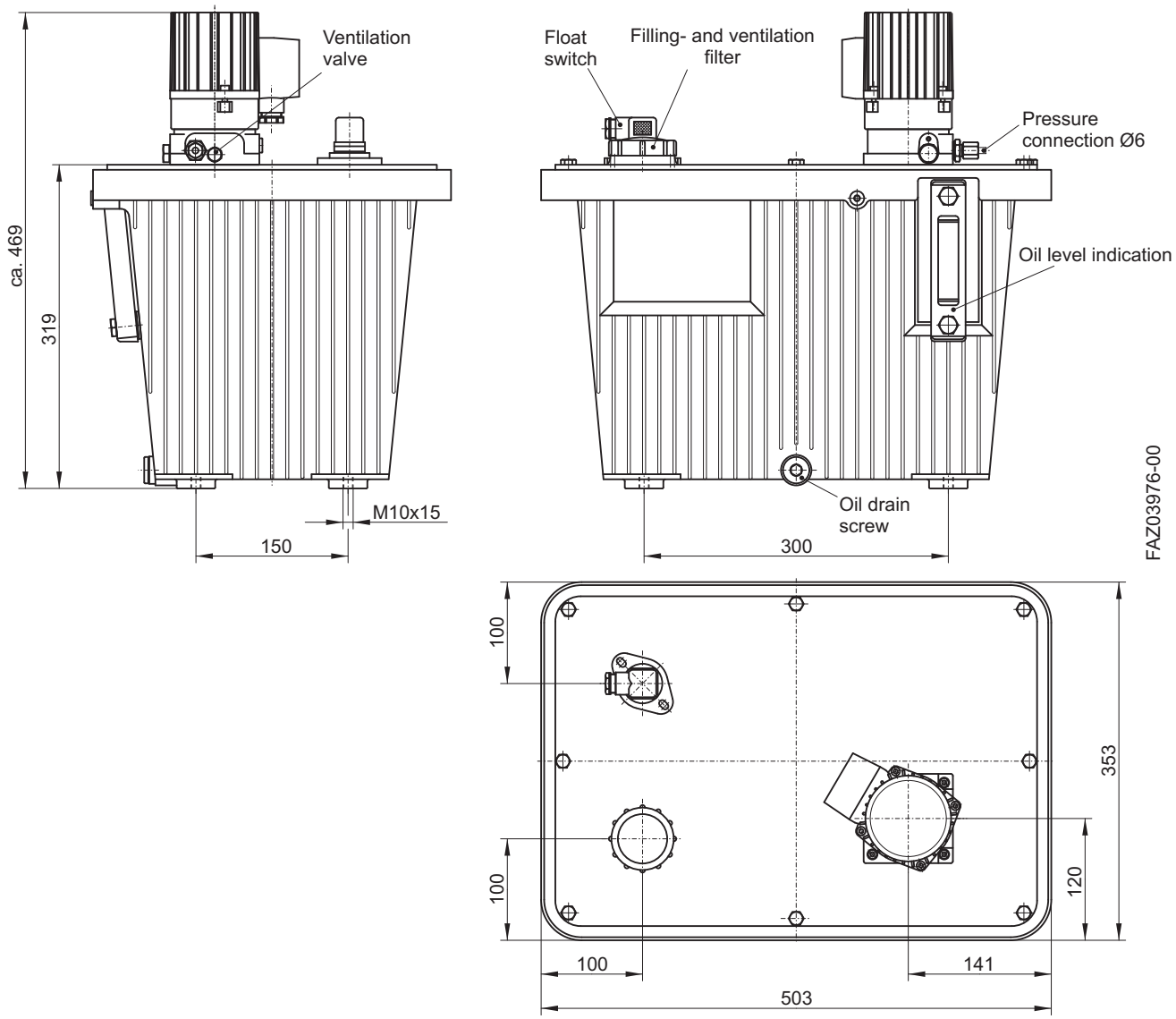
ES 2711 with 30 l-reservoir



Order key type-no. 2711

2711.06.1.1.000

Content	30 l		
Code-no.	06		
Level monitoring	without	with, for oil	with, for fluid grease
Code-no.	0	1	2
Pressure connection	Ø 6 mm		
Code-no.	1		
Special model			

Subject to alterations!

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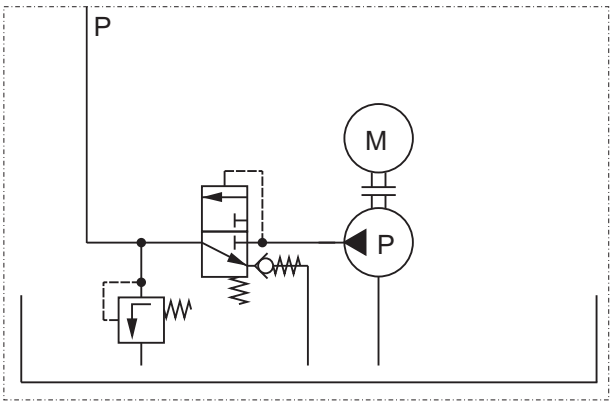
Technical description

The single line units EA3 and EA6 supply the lubrication points by dynamic metering valves or static metering valves.

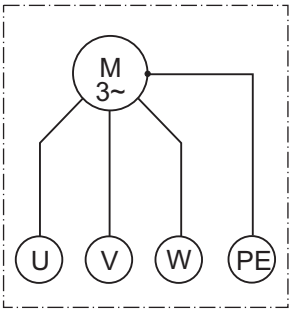
The single line units EA3 and EA6 have no own reservoir.

The EA3 unit should be used for system with metering valves for a total metering quantity of max. 3 cm^3/per lubrication pulse (the EA6 accordingly up to 6 cm^3/pulse).

Hydraulic diagram



Connection diagram (without control unit)



Technical Data

Pump

Type:	gear pump
Output rate:	EA3: 3 cm^3/pulse or 1 l/min * EA6: 6 cm^3/pulse or 2 l/min**
Operating pressure:	35 bar
Lubricant:	oil
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C

Motor

Drive:	three-phase motor
Power:	
EA3	0,17 kW S1
EA6	0,27 kW S3
Protection class:	IP 54
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,76/0,44 A 254-277/440-480 V, 60 Hz, 0,76/0,44 A
Revolutions:	2700/3200 r/min

* for dynamic metering valves with a total delivery rate of max. 3 cm^3/pulse

**for dynamic metering valves with a total delivery rate of max. 6 cm^3/pulse

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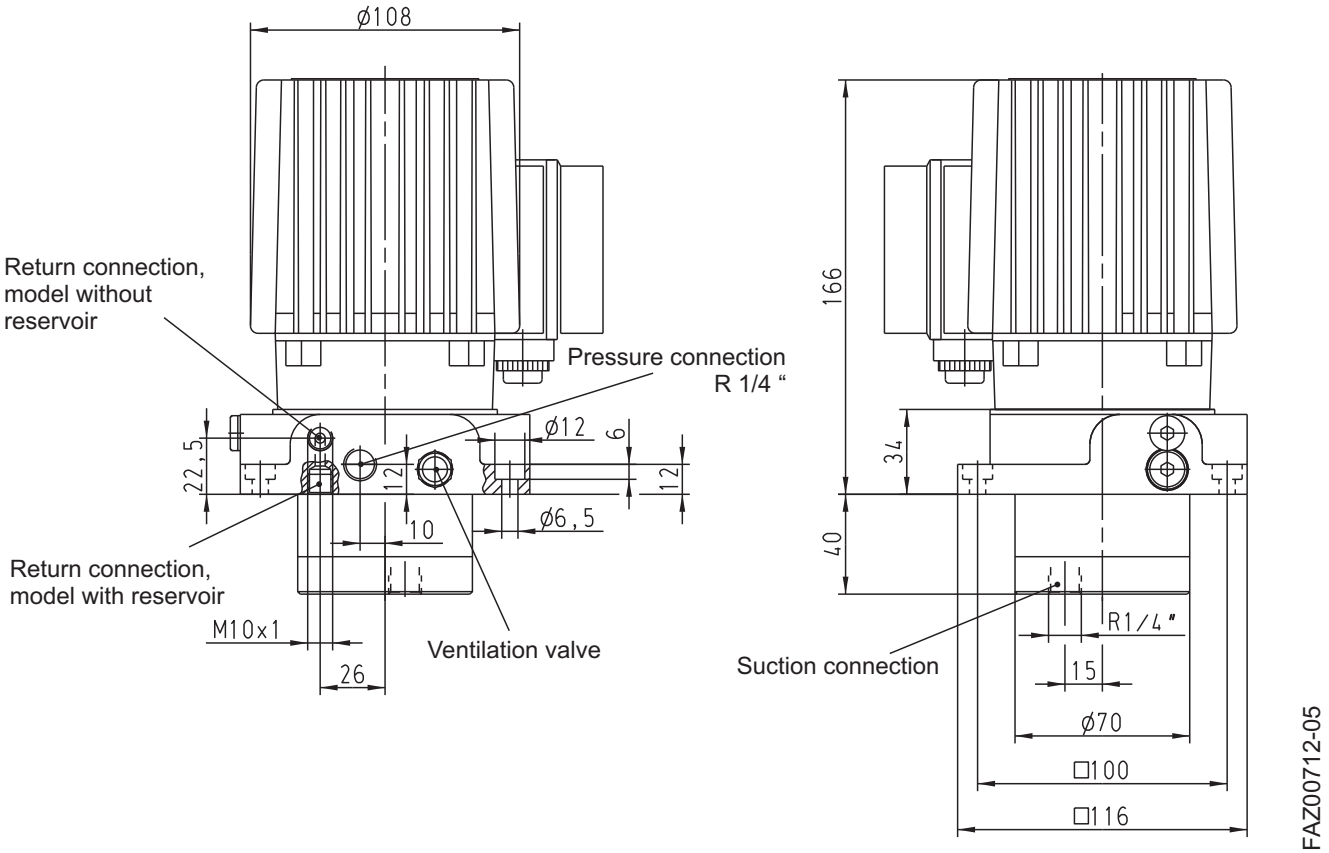

Order key type-no. 2700

2700.30.0000

Delivery rate	3 cm³/pulse (1 l/min)	6 cm³/pulse (2 l/min)
Code-no.	30	60
Special model		

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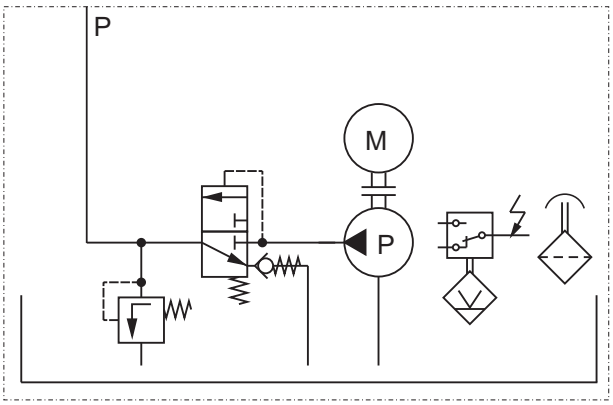
Technical description

The single line unit EA 3 / EA 6 with reservoir supplies the lubrication points by dynamic metering valves or static metering valves.

The single line pump EA 3 can be controlled with an

Hydraulic diagram



Connection diagram (without control unit)

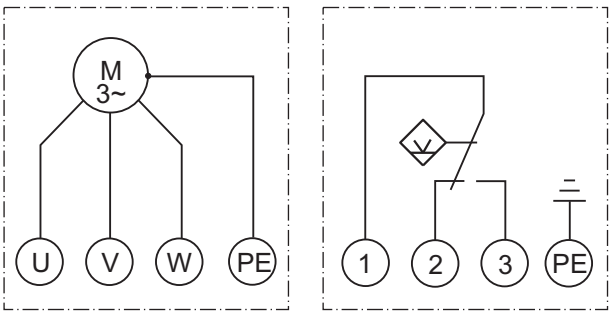


Diagram of the filling-level switch (model oil):
Reservoir not empty

Technical Data

Pump

Type:	gear pump
Output rate:	EA3: 3 cm^3/pulse or 1 l/min * EA6: 6 cm^3/pulse or 2 l/min**
Operating pressure:	35 bar
Lubricant:	oil
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	3 l
Reservoir material:	aluminium

Motor

Drive:	three-phase motor
Power:	
EA3:	0,17 kW S1
EA6:	0,27 kW S3
Protection class:	IP 54
Operating mode:	S1
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,44/0,25 A 254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

Float switch

Voltage:	250 V AC/DC
Starting current:	1 A
Capacity:	60 VA
Protection class:	IP 65
Electric connection:	DIN 43 650
Switch:	changeover contact

* for dynamic metering valves with a total delivery rate of max. 3 cm^3/pulse

** for dynamic metering valves with a total delivery rate of max. 6 cm^3/pulse

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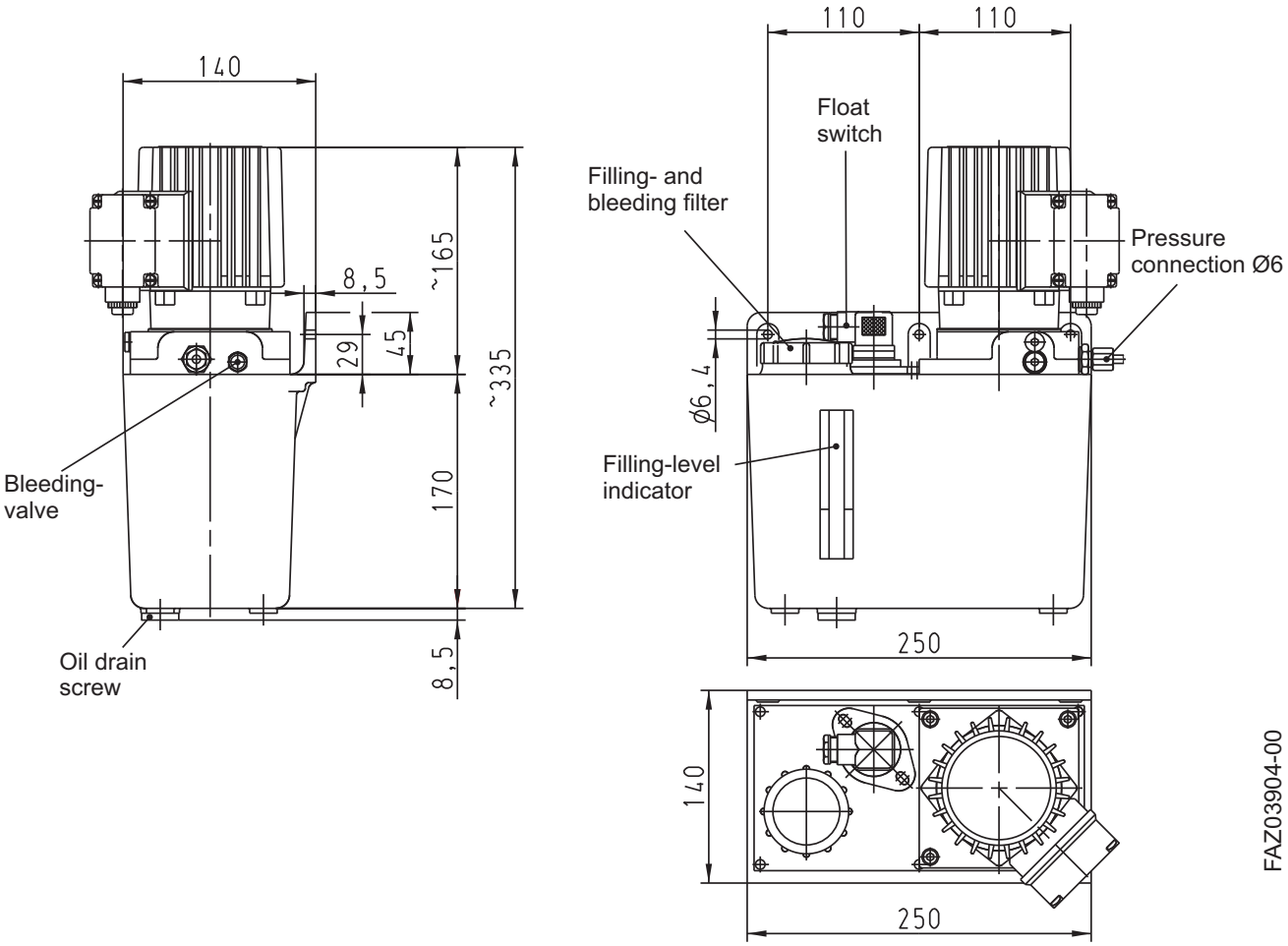
EA 3 / EA 6 with 3 l-reservoir



Order key type-no. 2705

2705.30.03.0.0000

Delivery rate	3 cm³/pulse (1 l/min)	6 cm³/pulse (2 l/min)
Code-no.	30	60
Content	3 l	
Code-no.	03	
Level monitoring	without	with,for oil
Code-no.	0	1
Special model		

Subject to alterations!

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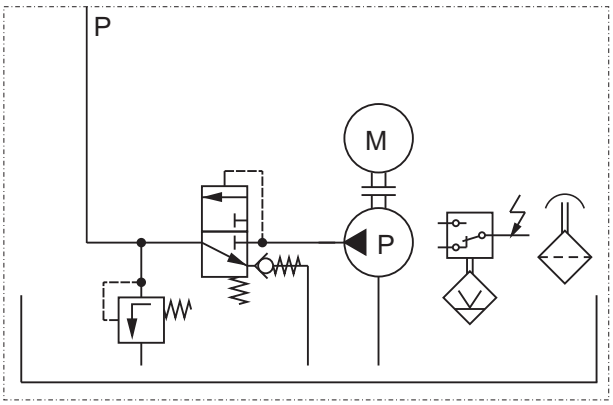
1090200388

Technical description

The single line unit EA 3 / EA 6 with reservoir supplies the lubrication points by dynamic metering valves or static metering valves.

The single line unit EA 6 can be controlled with an external control device.

Hydraulic diagram



Connection diagram (without control unit)

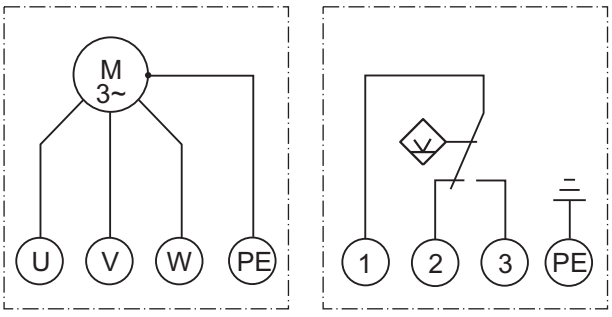


Diagram of the filling-level switch (model oil):
Reservoir not empty

Technical Data

Pump

Type:	gear pump
Output rate:	EA3: 3 cm^3/pulse or 1 l/min * EA6: 6 cm^3/pulse or 2 l/min**
Operating pressure:	35 bar
Lubricant:	oil
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	6 l
Reservoir material:	steel sheet

Motor

Drive:	three-phase motor
Power:	
EA3:	0,17 kW S1
EA6:	0,27 kW S3
Protection class:	IP 54
Operating mode:	S1
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,44/0,25 A 254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

Float switch

Voltage:	250 V AC/DC
Starting current:	1 A
Capacity:	60 VA
Protection class:	IP 65
Electric connection:	DIN 43 650
Switch:	changeover contact

* for dynamic metering valves with a total delivery rate of max. 3 cm^3/pulse

** for dynamic metering valves with a total delivery rate of max. 6 cm^3/pulse

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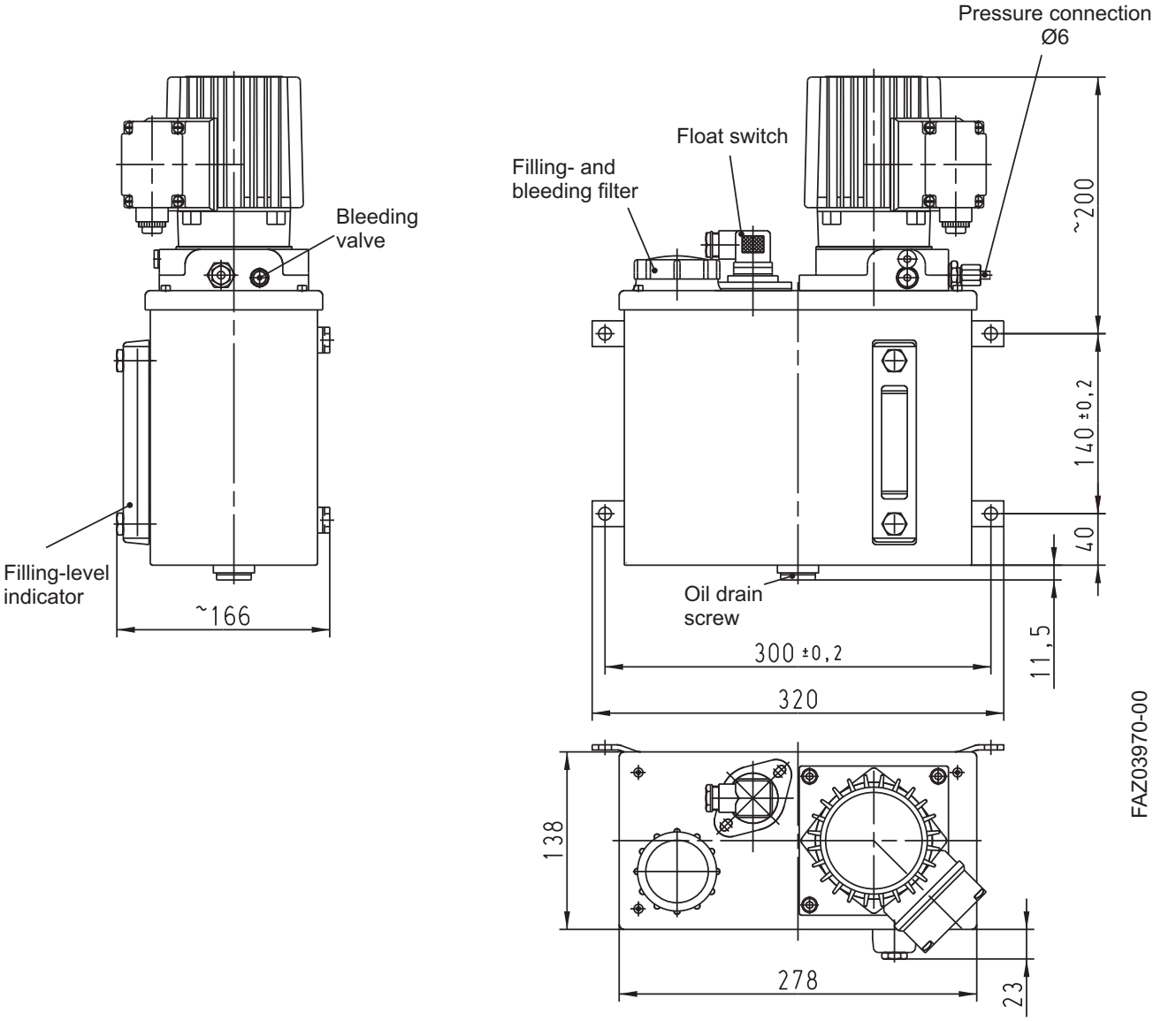
1090200388



Order key type-no. 2705

2705.30.04.0.0000

Delivery rate	3 cm³/pulse (1 l/min)	6 cm³/pulse (2 l/min)
Code-no.	30	60
Content	6 l	
Code-no.	04	
Level monitoring	without	with,for oil
Code-no.	0	1
Special model		

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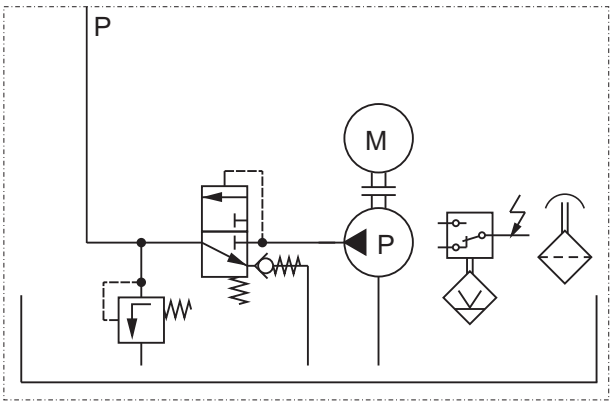
1090200388

Technical description

The single line unit EA 3 / EA 6 with reservoir supplies the lubrication points by dynamic metering valves or static metering valves.

The single line pump EA 6 can be controlled with an external control unit.

Hydraulic diagram



Connection diagram (without control unit)

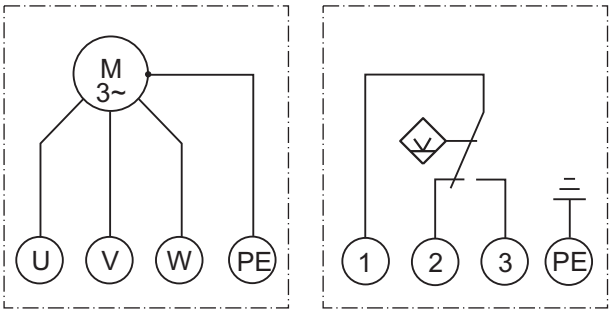


Diagram of the filling-level switch (model oil):
Reservoir is not empty

Technical Data

Pump

Type:	gear pump
Output rate:	EA3: 3 cm^3/pulse or 1 l/min * EA6: 6 cm^3/pulse or 2 l/min**
Operating pressure:	35 bar
Lubricant:	oil
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	13 l
Reservoir material:	aluminum

Motor

Drive:	three-phase motor
Power:	
EA3:	0,17 kW S1
EA6:	0,27 kW S3
Protection class:	IP 54
Operating mode:	S1
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,44/0,25 A 254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

Float switch

Voltage:	250 V AC/DC
Starting current:	1 A
Capacity:	60 VA
Protection class:	IP 65
Electric connection:	DIN 43 650
Switch:	changeover contact

* for dynamic metering valves with a total delivery rate of max. 3 cm^3/pulse

**for dynamic metering valves with a total delivery rate of max. 6 cm^3/pulse

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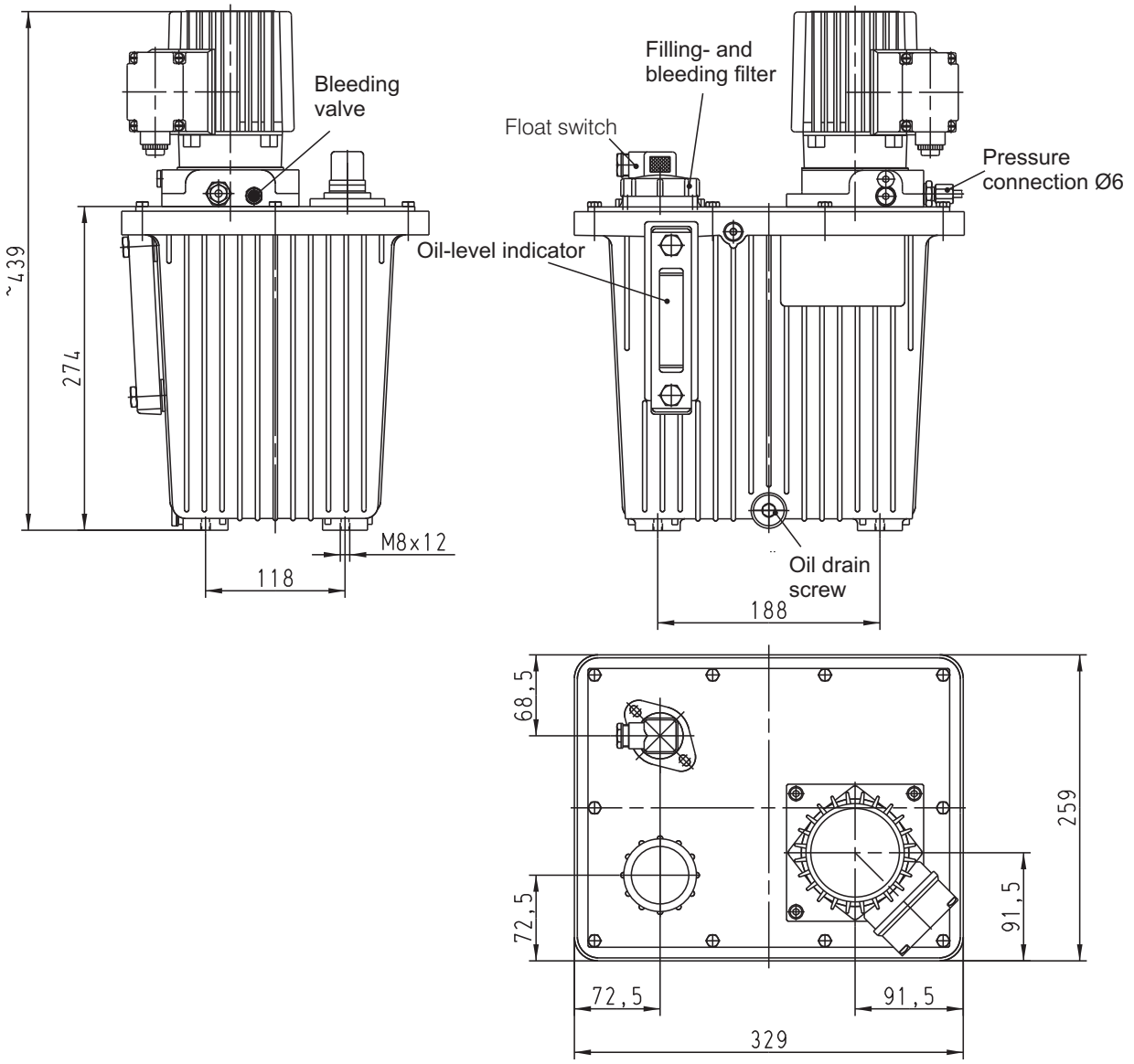
1090200388

EA 3 / **EA 6** with 13 l-reservoir



FAZ03971-00

Order key type-no. 2705

2705.30.05.0.0000

Delivery rate	3 cm³/pulse (1 l/min)	6 cm³/pulse (2 l/min)
Code-no.	30	60
Content	13 l	
Code-no.	05	
Level monitoring	without	with,for oil
Code-no.	0	1
Special model		

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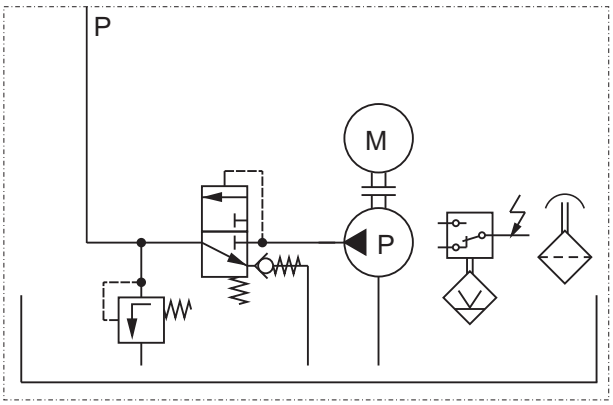
Technical description

The single line unit EA 3 / EA 6 with reservoir supplies the lubrication points by dynamic metering valves or static metering valves.

The single line pump EA 6 can be controlled with an external control device.

Hydraulic diagram



Connection diagram (without control unit)

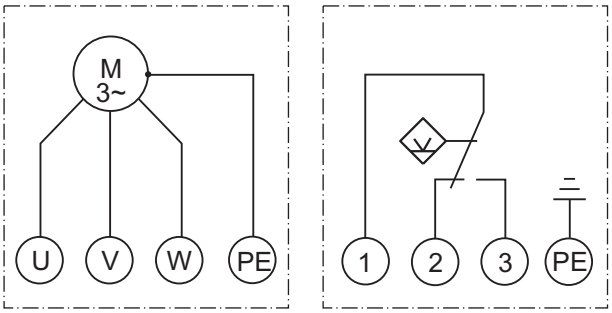


Diagram of the filling-level switch (model oil):
Reservoir is not empty

Technical Data

Pump

Type:	gear pump
Output rate:	EA3: 3 cm^3/pulse or 1 l/min *
	EA6: 6 cm^3/pulse or 2 l/min**
Operating pressure:	35 bar
Lubricant:	oil
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C
	ambient 0 - 40°C
Reservoir capacity:	16 l
Reservoir material:	steel sheet

Motor

Drive:	three-phase motor
Power:	
EA3:	0,17 kW S1
EA6:	0,27 kW S3
Protection class:	IP 54
Operating mode:	S1
Operating voltage and nominal current:	
	200-240/345-420 V, 50 Hz, 0,44/0,25 A
	254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

Float switch

Voltage:	250 V AC/DC
Starting current:	1 A
Capacity:	60 VA
Protection class:	IP 65
Electric connection:	DIN 43 650
Switch:	changeover contact

* for dynamic metering valves with a total metering quantity of max. 3 cm^3/pulse

** for dynamic metering valves with a total metering quantity of max. 6 cm^3/pulse

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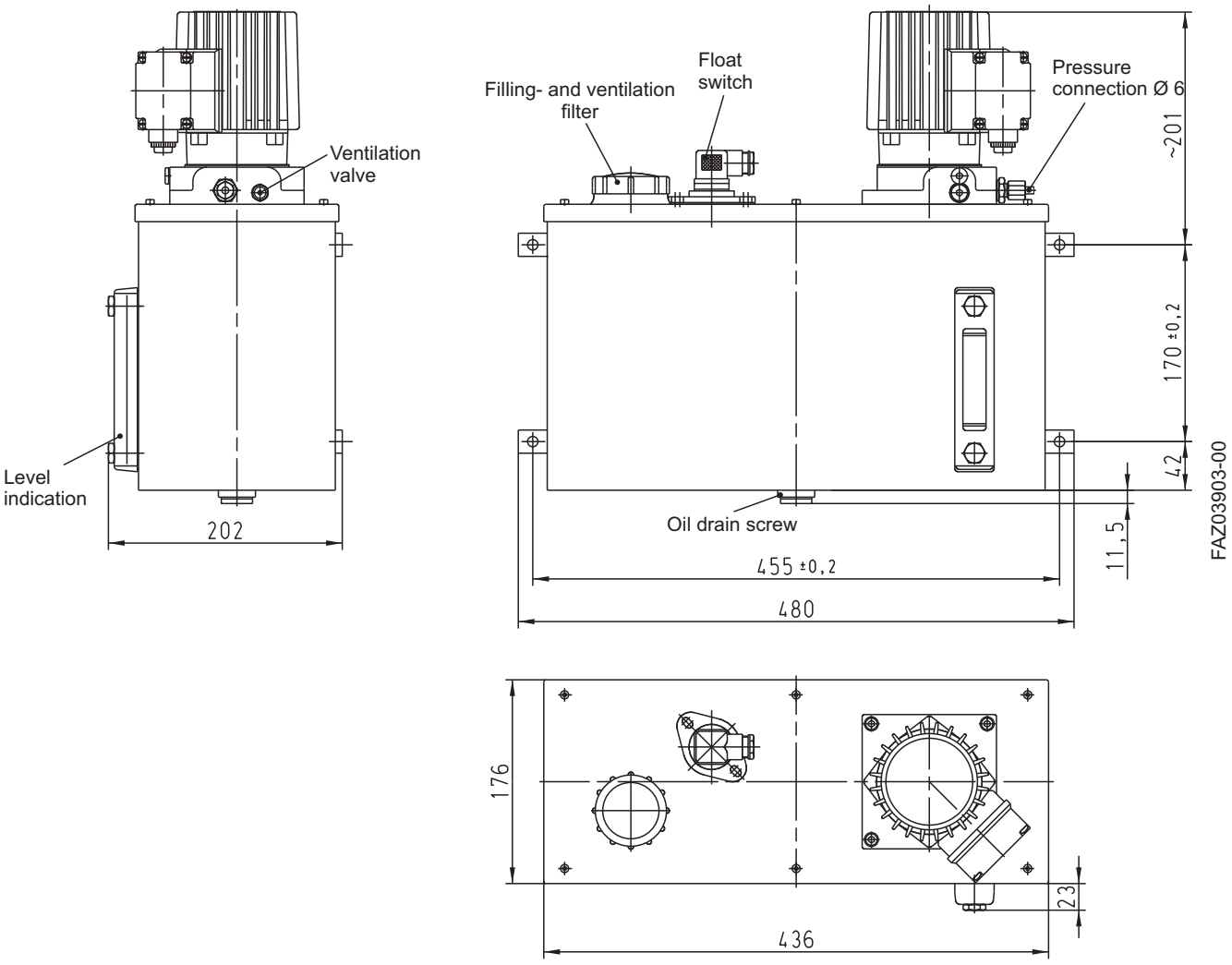
EA 3 / EA 6 with 16 l-reservoir



Order key type-no. 2705

2705.30.07.0.0000

Delivery rate	3 cm³/pulse (1 l/min)	6 cm³/pulse (2 l/min)
Code-no.	30	60
Content	16 l	
Code-no.	07	
Level monitoring	without	with,for oil
Code-no.	0	1
Special model		

Subject to alterations!

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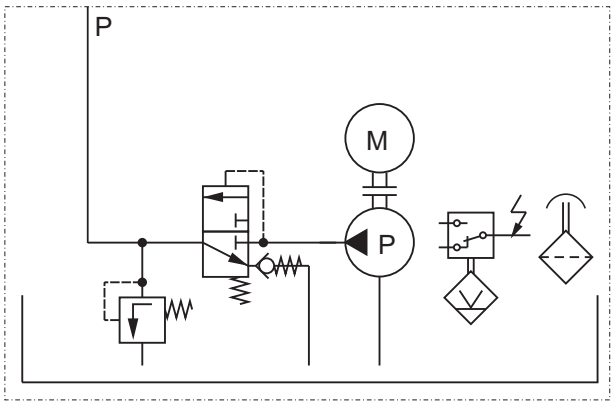
Technical description

The single line unit EA 3 / EA 6 with reservoir supplies the lubrication points by dynamic metering valves or static metering valves.
The single line pump EA 6 can be controlled with an external control device.

Hydraulic diagram



Connection diagram (without control unit)

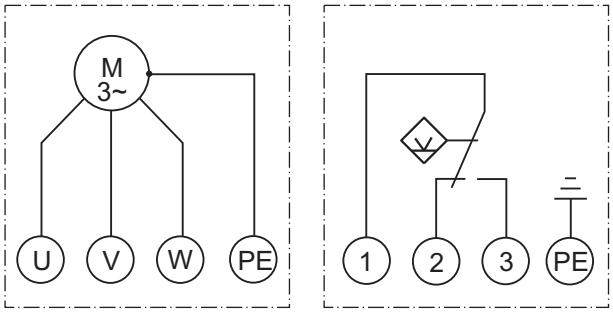


Diagram of the filling-level switch (model oil):
Reservoir is not empty

Technical Data

Pump

Type:	gear pump
Output rate:	
	EA3: 3 cm^3/pulse or 1 l/min at 2800 r/min *
	EA6: 6 cm^3/pulse or 2 l/min at 2800 r/min**
Operating pressure:	35 bar
Lubricant:	oil
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70 °C ambient 0 - 40 °C
Reservoir capacity:	30 l
Reservoir material:	aluminum

Motor

Drive:	three-phase current
Power:	
EA3:	0,17 kW S1
EA6:	0,27 kW S3
Protection class:	IP 54
Operating mode:	S1
Operating voltage and nominal current:	
	200-240/345-420 V, 50 Hz, 0,44/0,25 A
	254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

Float switch

Voltage:	250 V AC/DC
Starting current:	1 A
Capacity:	60 VA
Protection class:	IP 65
Electric connection:	DIN 43 650
Switch:	changeover contact

* for dynamic metering valves with a total delivery rate of max. 3 cm^3/pulse

** for dynamic metering valves with a total delivery rate of max. 6 cm^3/pulse

03-1-31-09 State: 01.12EN

1090200388

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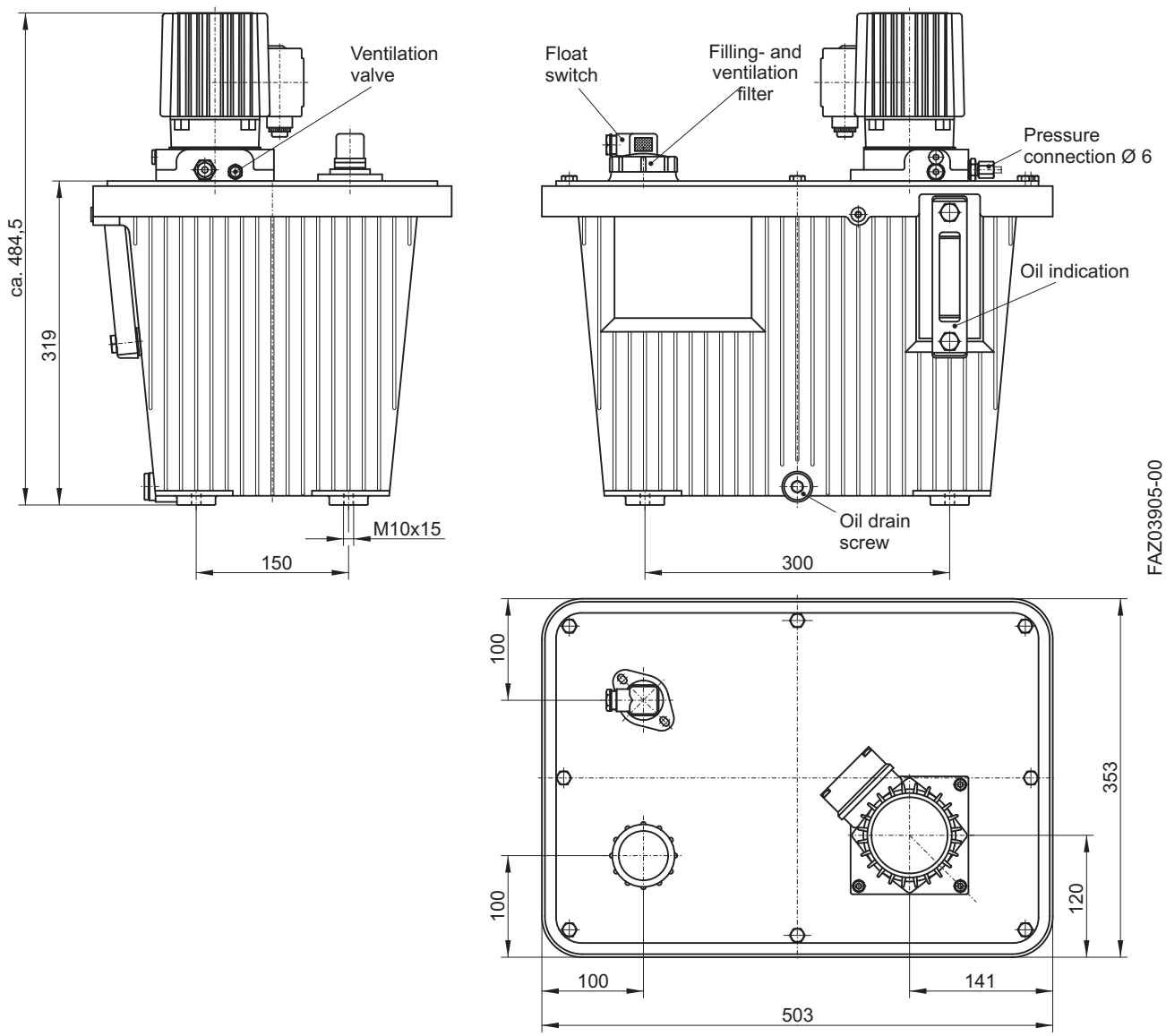
EA 3 / EA 6 with 30 l-reservoir



Order key type-no. 2705

2705.30.11.0.0000

Delivery rate	3 cm³/pulse (1 l/min)	6 cm³/pulse (2 l/min)
Code-no.	30	60
Content	30 l	
Code-no.	11	
Level monitoring	without	with, for oil
Code-no.	0	1
Special model		

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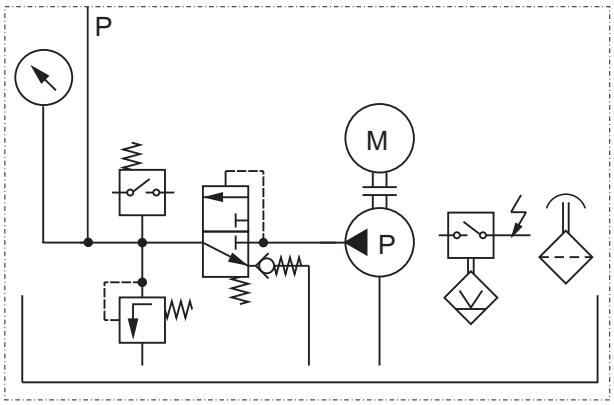
Technical description

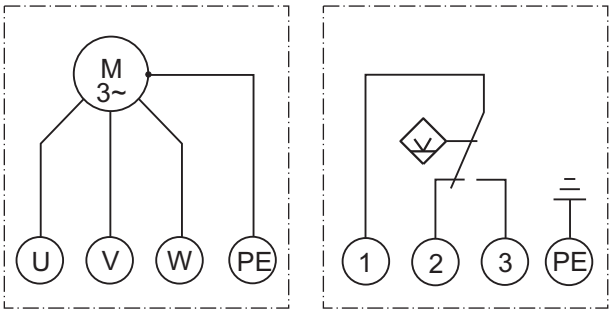
The single line unit EA 1,5 supplies the lubrication points by dynamic metering valves or static metering valves.

The single line pump EA 1,5 can be controlled with an external control device.

Hydraulic diagram



Connection diagram (without control unit)



Darstellung Füllstandsschalter
(Model oil): reservoirr nicht leer

Technical Data

Unit	
Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 40 bar
Lubricant:	oil
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	3 l
Reservoir material:	plastic, transparent
Motor	
Drive:	electric motor, 2-poles △ 0,44 A, Y 0,25 A
Protection class	IP 54
Operating mode	S1
Power:	0,1 kW
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,44/0,25 A 254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min
Float switch	
Voltage:	230 V AC/DC
Starting current:	max. 0,5 A
Capacity:	max. 10 VA
Protection class:	IP 65
Connection:	Tuchel-plug, pol 1 and 3
Switch:	NO (opening contact by turning of the float)
Pressure switch	
Voltage:	max. 42 V
Capacity:	100 VA
Protection class:	IP 65
Connection:	AMP 6,3x0,8

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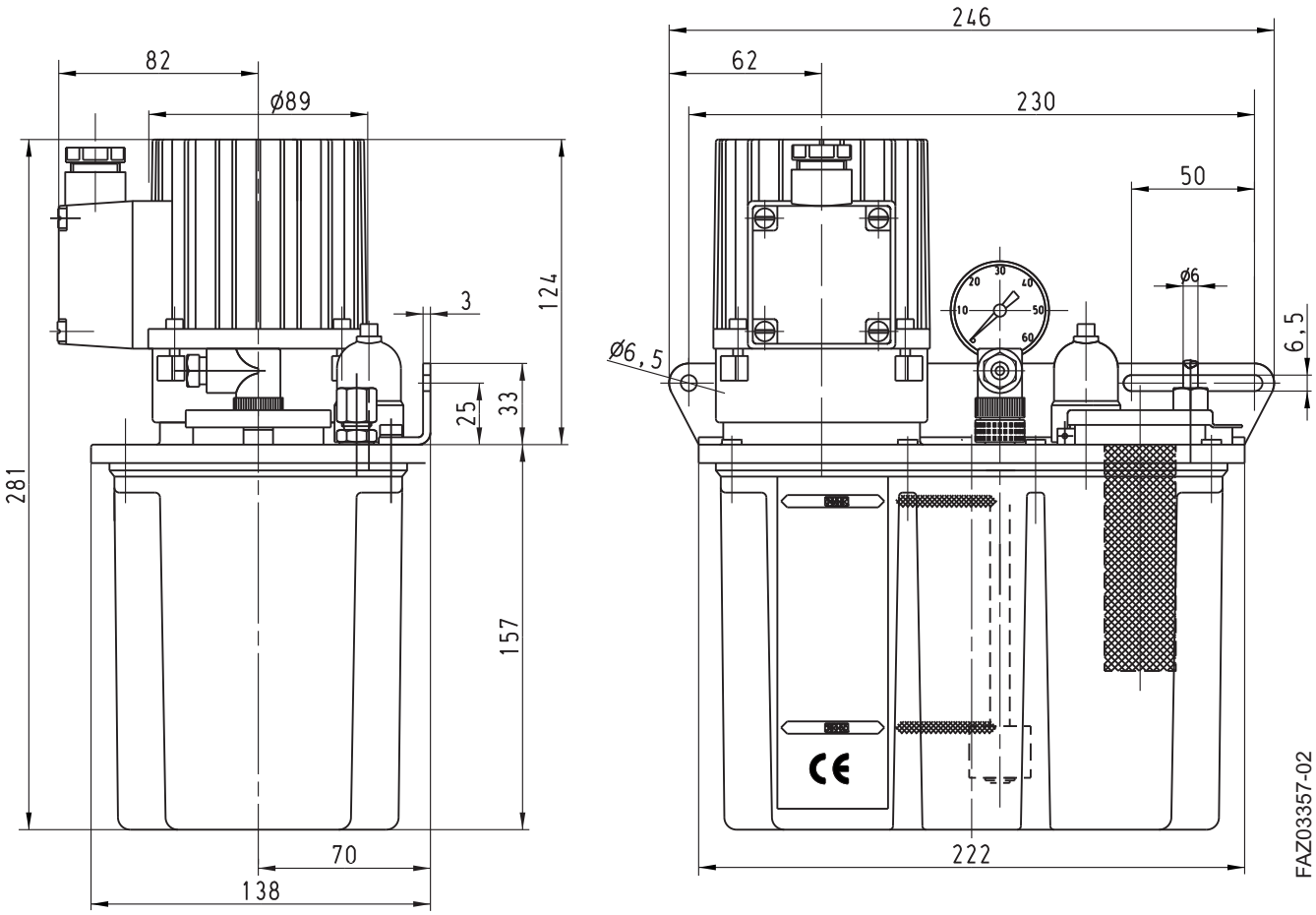
EA 1,5 oil



Order key type-no. 2727

2727.1.1.0.1.2.000

Reservoir content	3 l	
Code-no.	1	
Level monitoring	without	with
Code-no.	0	1
Pressure switch	without	with
Code-no.	0	1
Pressure gauge	without	with
Code-no.	0	1
Pressure connection	Ø 6 mm	Ø 8 mm
Code-no.	1	2
Special model		

Subject to alterations!

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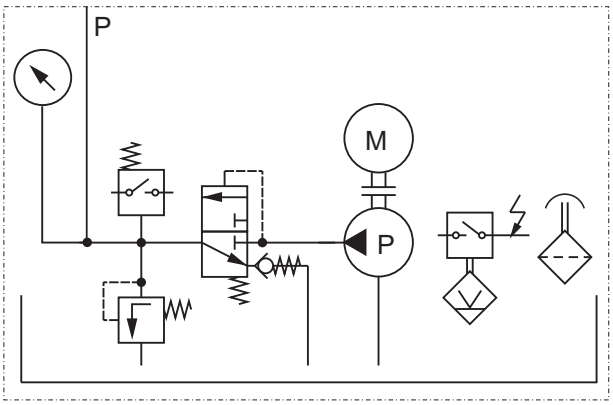
Technical description

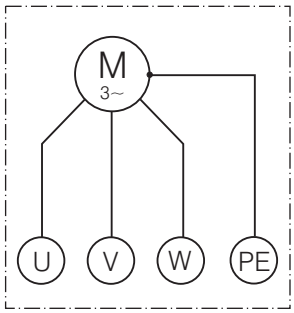
The single line unit EA 1,5 supplies the lubrication points by dynamic metering valves or static metering valves.

The single line pump EA 1,5 can be controlled with

Hydraulic diagram

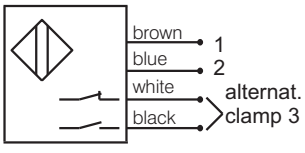


Connection diagram (without control unit)



pole assignment of the filling-level switch:

1 = 10 - 35 V DC
2 = Mass
3 = NC or NO



Standard connection:
NO (black) at clamp 3
NC (white) can be reconnected otherwise if necessary.

Technical Data

Unit

Pump type:	gear pump
Output rate:	0,4 l/min
Operating pressure:	max. 40 bar
Lubricant:	fluid grease
Viscosity range:	20 - 700 mm²/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	3 l
Reservoir material:	plastic, transparent

Motor

Drive:	electric motor, 2-pole △ 0,44 A, Y 0,25 A
Protection class	IP 54
Operating mode	S1
Power:	0,1 kW
Operating voltage and nominal current:	200-240/345-420 V, 50 Hz, 0,44/0,25 A 254-277/440-480 V, 60 Hz, 0,44/0,25 A
Revolutions:	2700/3200 r/min

Level switch

Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switching current:	200 mA
Protection class:	switch IP 67, plug IP 54
Connection:	compact plug, 3-pol. + PE

Pressure switch

Voltage:	max. 42 V
Capacity:	100 VA
Protection class:	IP 65
Connection:	AMP 6,3x0,8

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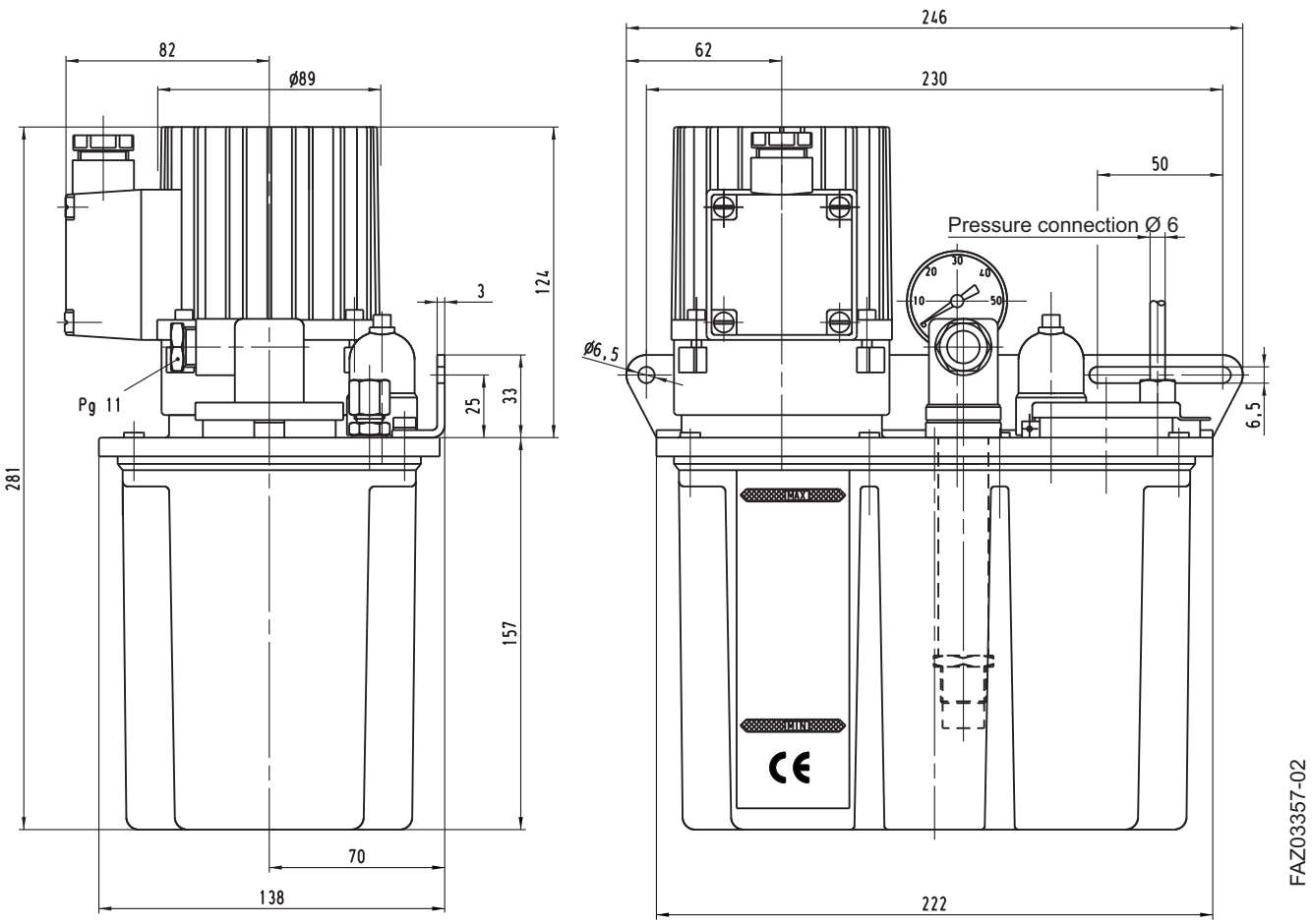
EA 1,5 fluid grease



Order key type-no. 2728

2728.1.1.0.1.2.000

Reservoir content	3 l	
Code-no.	1	
Level monitoring	without	with
Code-no.	0	1
Pressure switch	without	with
Code-no.	0	1
Pressure gauge	without	with
Code-no.	0	1
Pressure connection	Ø 6 mm	Ø 8 mm
Code-no.	1	2
Special model		

Subject to alterations!

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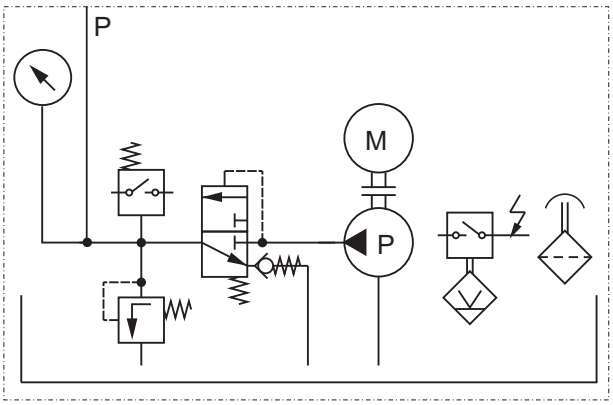
1090200388

Technical description

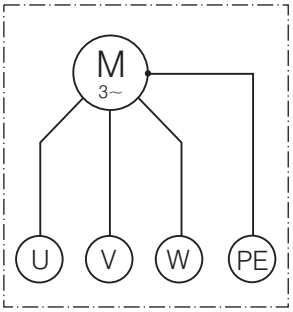
The single line unit BEKA XLube supplies the lubrication points by dynamic metering valves or static metering valves.

The single line pump BEKA XLube can be controlled with an external control device.

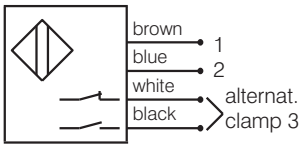
Hydraulic diagram



Connection diagram (without control unit)



Pole assignment of the filling-level switch:
1 = 10 - 35 V DC
2 = Mass
3 = NC or NO



Standard connection:
NO (black) at clamp 3
NC (white) can be reconnected otherwise if necessary.

Technical Data

Unit	
Pump type:	gear pump
Output rate:	0,25 l/min
Operating pressure:	max. 28 bar
Lubricant:	oil fluid grease NLGI cl. 000-00 (according to release list)
Viscosity range:	20 - 700 mm^2/s
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	1,2 l
Reservoir material:	plastic, transparent
Motor	
Drive:	electric motor KM4030/2
Power:	67 W
Operating pressure :	230 V AC, 50/60 Hz
Revolutions:	2800 r/min
Float switch (oil)	
Voltage:	250 V AC/DC
Starting current:	0,5 A
Capacity:	10 VA
Switch:	standard NO contact (opening contact by turning of the float)
Level switch (fluid grease)	
Voltage:	10 - 60 V DC
Switching type:	pos. switch NC/NO
Switching:	200 mA
Protection class:	switch IP 67, plug IP 54
Pressure switch	
Voltage:	42 V
Capacity:	100 VA
Connection:	AMP 6,3 x 0,8

1090200388

Subject to alterations!

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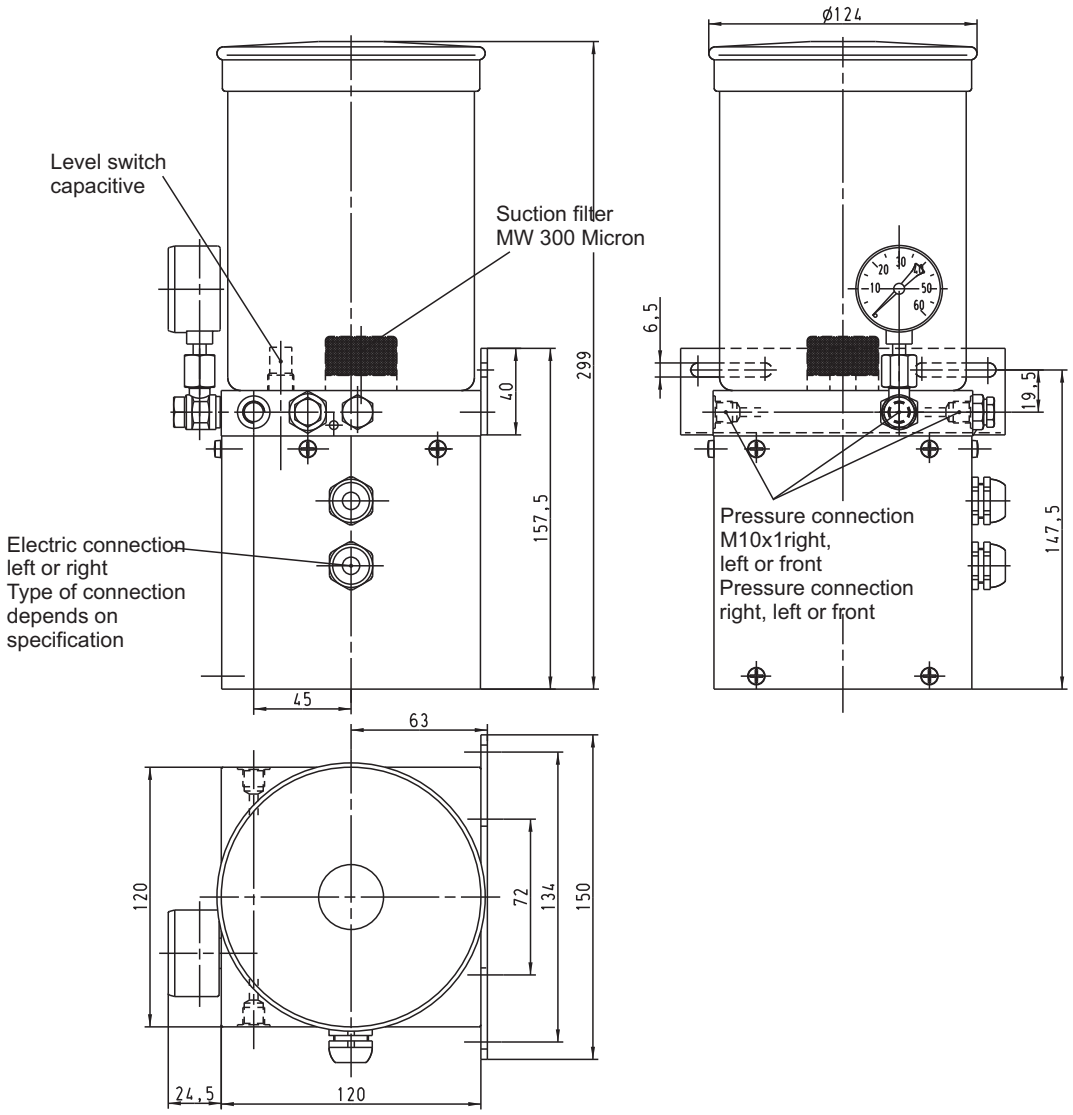

FAZ03693-00

Order key type-no. 2712

2712.1.1.1.3.1.2.2.XX

Delivery rate	0,25 l/min			
Code-no.	1			
Pressure connection	M10x1-R	M10x1-L	M10x1-V	
Code-no.	1	2	3	
Level monitoring	without	with, for oil	with, for fluid grease	
Code-no.	0	1	2	
Pressure gauge	without	with, right	with, left	with, front
Code-no.	0	1	2	3
Pressure switch	without	mit		
Code-no.	0	1		
Electric connection	left	right		
Code-no.	1	2		
Voltage	230 V			
Code-no.	2			
Special model				

Subject to alterations!

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1090200388

Technical description

The pneumatic pump unit of type no. 2564 supplies the lubrication points via dynamic metering valves.

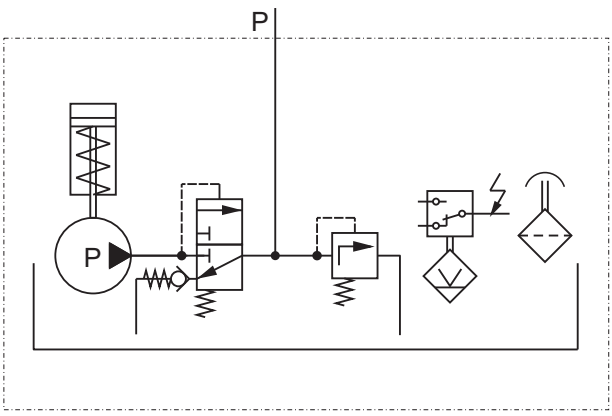
Mode of operation

Lubrication starts when the piston is pressurized. The compressed air has to be adjusted in a way that the pressure relief valve only opens when all metering valves have lubricated. This ensures that all metering valves supply enough lubricant to the lub points.

When the 3/2-way solenoid valve switches, the piston is pushed into its original position. The main line is relieved down to < 1 bar by the relief valve and the metering valves restack the lubricant for the next lubrication pulse. At the same time, the lubricant is sucked out of the reservoir for the next stroke.

The metering valves' total dosage should not exceed 60% of the pump's delivery quantity.

Hydraulic diagram



Technical Data

Pneumatic pump

Output rate:	30 cm^3/stroke or 50 cm^3/stroke
Ratio:	1 : 9
Flow pressure:	5 - 10 bar
Volume:	P30 = 300 cm^3 P50 = 550 cm^3
Lubricant:	oil, 20 - 700 mm^2/s fluid grease (according to release list)
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	2,7 l
Reservoir material:	plastic, transparent

Float switch

Contact type:	changeover contact
Voltage:	250 V AC/DC
Starting current:	max. 1 A
Capacity:	max. 60 VA

Level monitoring (fluid grease)

Operating voltage:	10 - 60V DC
Switching type:	positive switching NO / NC
Switching current:	200 mA
Current consumption:	< 20 mA
Protection class:	switch IP 67, plug IP 54

Operating mode:

Pneumatic actuation via 3/2 way solenoid valve.
Repositioning of the pump by spring force.

03-2-10-01 State: 01.12EN

Subject to alterations!

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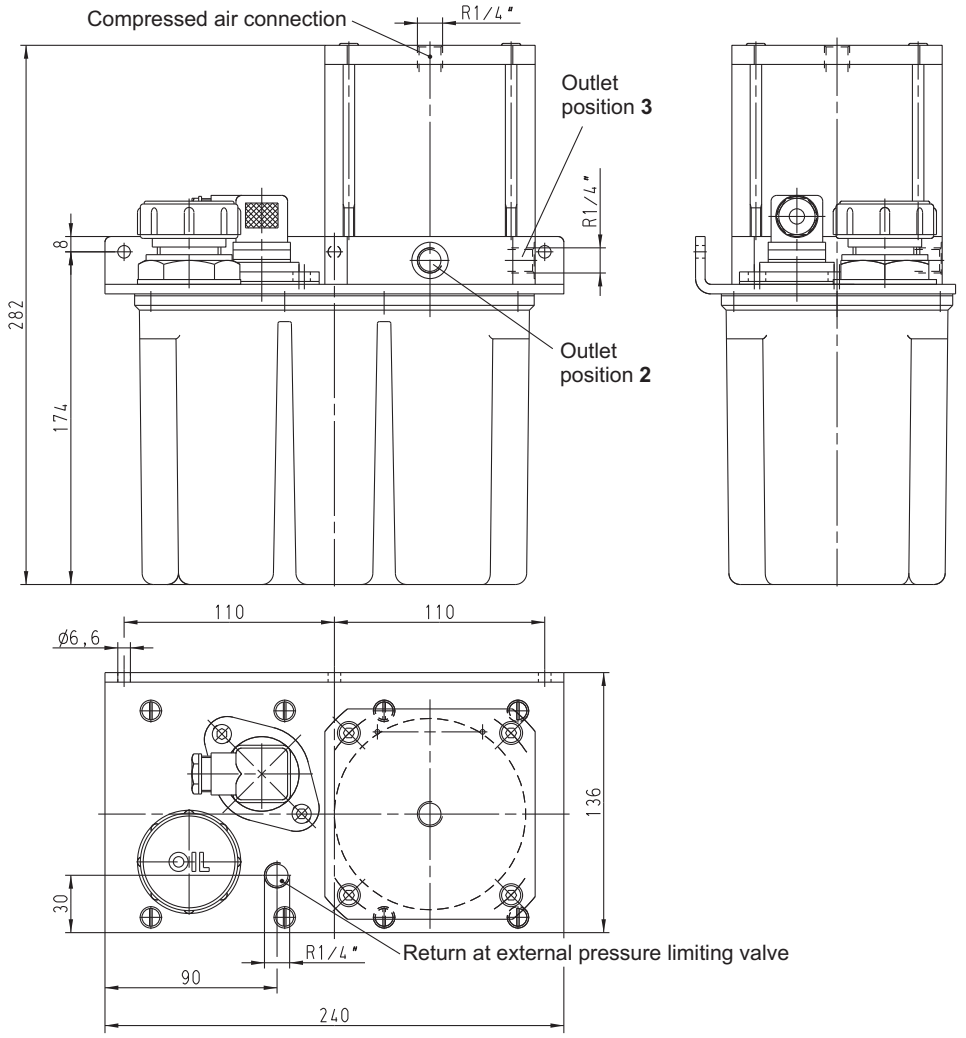
1090200388

2564 with 2,7 l-reservoir



FAZ02076-00

Order key type-no. 2564

2564.30.2.1.4.1.1.000

Delivery rate	30 cm³/stroke	50 cm³/stroke	
Code-no.	30	50	
Outlet position	2	3	
Code-no.	2	3	
Pressure relief valve	without	with	
Code-no.	0	1	
Reservoir content	2,7 l		
Code-no.	4		
Level monitoring	without	with, for oil	with, for fluid grease
Code-no.	0	1	2
Return line connect.	without	with	
Code-no.	0	1	
Special model			

Subject to alterations!

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1090200388

Technical description

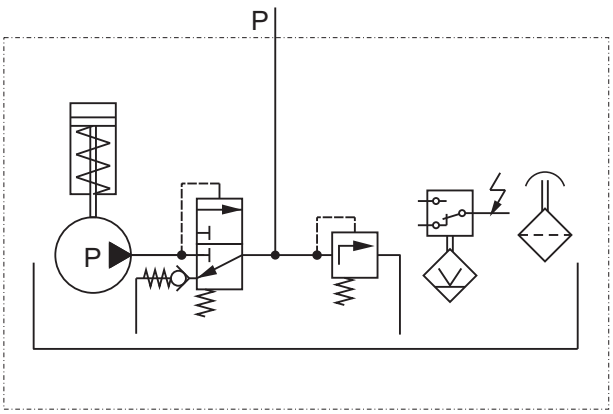
The pneumatic pump unit of type no. 2564 supplies the lubrication points via dynamic metering valves.

Mode of operation

Lubrication starts when the piston is pressurized. The compressed air has to be adjusted in a way that the pressure relief valve only opens when all metering valves have lubricated. This ensures that all metering valves supply enough lubricant to the lub points.

When the 3/2-way solenoid valve switches, the piston is pushed into its original position. The main line is relieved down to < 1 bar by the relief valve and the metering valves restack the lubricant for the next lubrication pulse. At the same time, the lubricant is sucked out of the reservoir for the next stroke.

The metering valves' total dosage should not exceed 60% of the pump's delivery quantity.



Technical Data

Pneumatic pump

Output rate:	30 cm^3/stroke or 50 cm^3/stroke
Ratio:	1 : 9
Flow pressure:	5 - 10 bar
Volume:	approx. 300 cm^3
Pressure relief valve:	adjusted to 50 bar
Lubricant:	oil, 20 - 700 mm^2/s fluid grease (according to release list)
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	6 l
Reservoir material:	steel sheet

Float switch

Contact type:	changeover contact
Voltage:	250 V AC/DC
Starting current:	max. 1 A
Capacity:	max. 60 VA

Capacitive proximity switch (fluid grease)

Operating voltage:	10 - 60 V DC
Switching type:	positive switching NO / NC
Switching current:	200 mA
Current consumption:	< 20 mA
Protection class:	switch IP 67, plug IP 54

Operating mode:

Pneumatic actuation via 3/2-way solenoid valve.
Repositioning of the pump by spring force.

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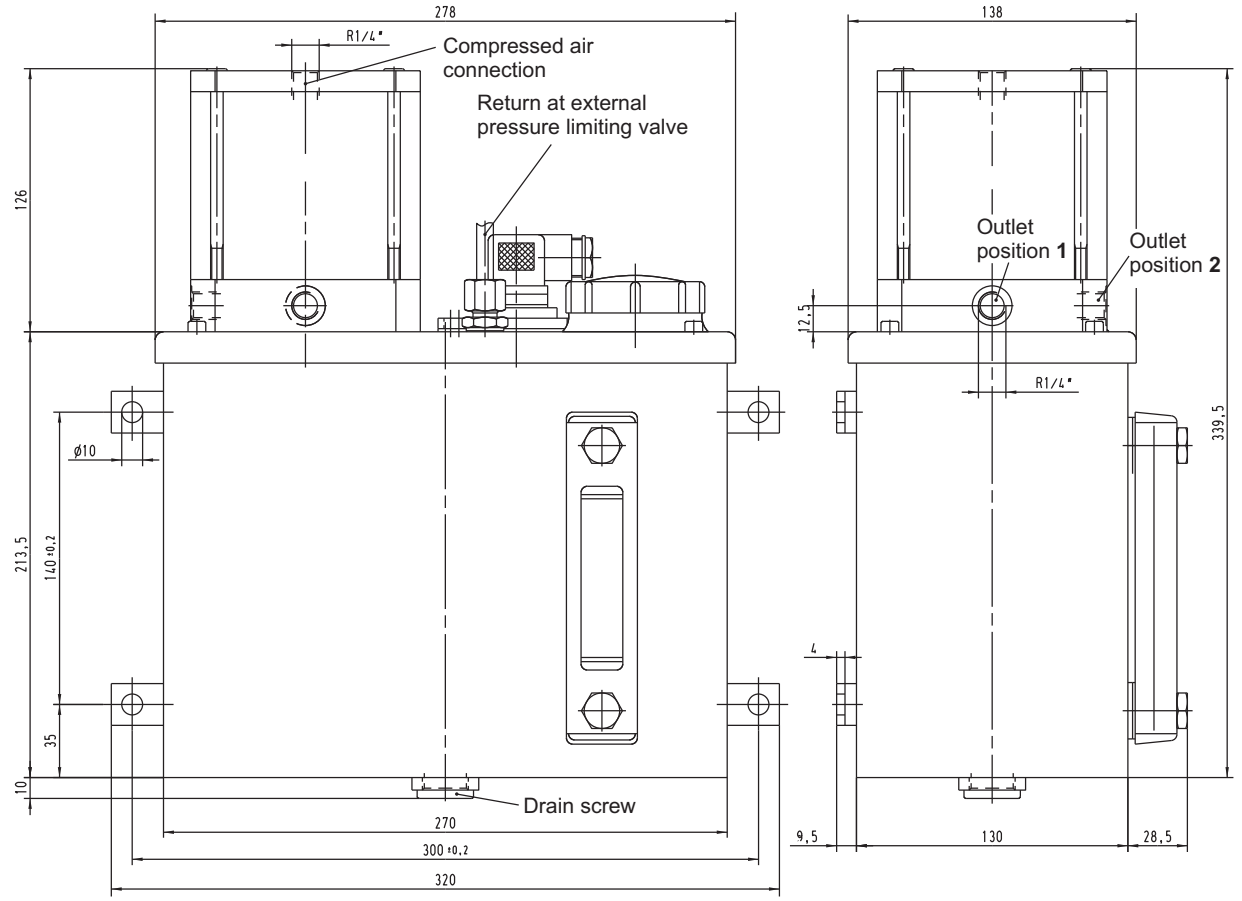
P30-6 with 6 l-reservoir



FAZ02297-00

Order key type-no. 2564

2564.30.2.1.A.1.2.000

Delivery rate	30 cm³/stroke	50 cm³/stroke	
Code-no.	30	50	
Outlet position	1	2	
Code-no.	1	2	
Pressure relief valve	without	with	
Code-no.	0	1	
Reservoir content	6 l		
Code-no.	A		
Level monitoring	without	with, for oil	with, for fluid grease
Code-no.	0	1	2
Return line connect.	without	Pipe Ø 6 mm	Pipe Ø 8 mm
Code-no.	0	1	2
Special model			

Subject to alterations!

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Technical description

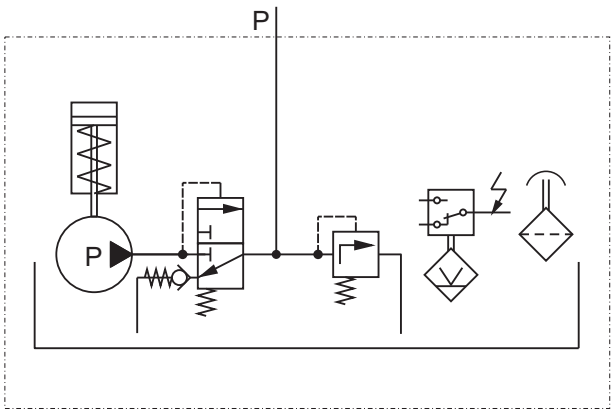
The pneumatic pump unit of type no. 2565 supplies the lubrication points via dynamic metering valves.

Method of operation

Lubrication starts when the piston is pressurized. The compressed air has to be adjusted in a way that the pressure relief valve only opens when all metering valves have lubricated. This ensures that all metering valves supply enough lubricant to the lub points.

When the 3/2-way solenoid valve switches, the piston is pushed into its original position. The main line is relieved down to < 1 bar by the relief valve and the metering valves restack the lubricant for the next lubrication pulse. At the same time, the lubricant is sucked out of the reservoir for the next stroke.

The metering valves' total dosage should not exceed



Technical Data

Pneumatic pump

Output rate:	10 cm^3/stroke or 15 cm^3/stroke
Ratio:	with 10 cm^3/stroke 1 : 11 with 15 cm^3/stroke 1 : 8
Flow pressure:	4 - 8 bar
Drive volume:	133 cm^3 / stroke
Pressure relief valve:	adjusted to 50 bar
Lubricant:	oil, 20 - 700 mm^2/s fluid grease (according to release list)
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	6 l
Reservoir material:	steel sheet

Float switch

Contact type:	changeover contact
Switching voltage:	max. 220 V
Switching current:	max. 1A
Capacity:	max. 60 VA

Capacitive proximity switch (fluid grease)

Operating voltage:	10 - 60V DC
Switching type:	positive switching NO / NC
Switching current:	200 mA
Protection class:	switch IP 67, plug IP 54

Operating mode:

Pneumatic actuation via 3/2-way solenoid valve.
Repositioning of the pump by spring force

State: 01.12EN
03-2-12-01

Subject to alterations!

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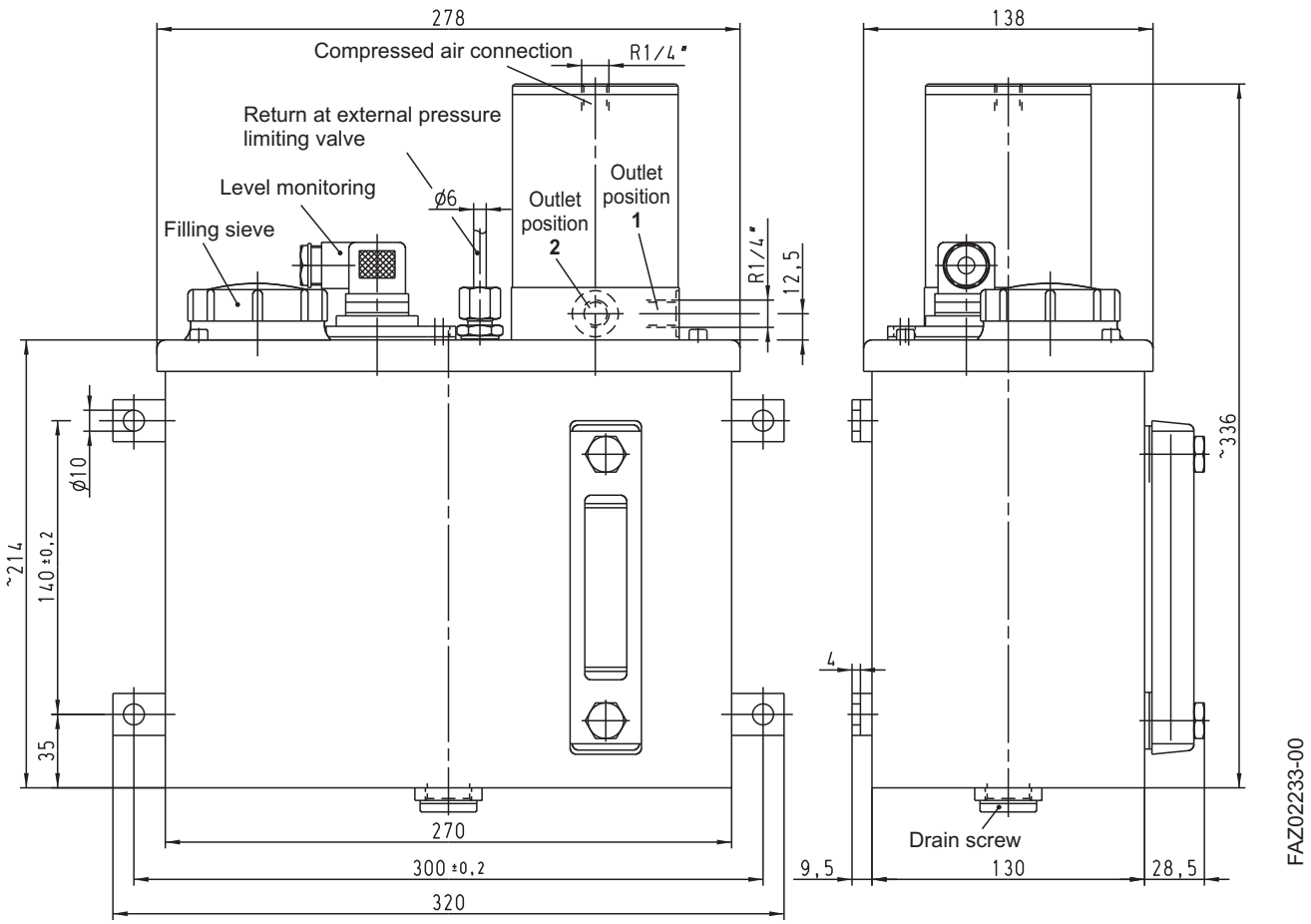
1090200388



Order key type-no. 2565

2565.10.2.1.6.1.0.000

Delivery rate	10 cm³/stroke	15 cm³/stroke	
Code-no.	10	15	
Outlet position	1	2	
Code-no.	1	2	
Pressure relief valve	without	with	
Code-no.	0	1	
Reservoir content	6 l		
Code-no.	6		
Level monitoring	without	with, for oil	with, for fluid grease
Code-no.	0	1	2
Return line connect.	without	Pipe Ø 6 mm	Pipe Ø 8 mm
Code-no.	0	1	2
Special model			

Subject to alterations!

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Technical description

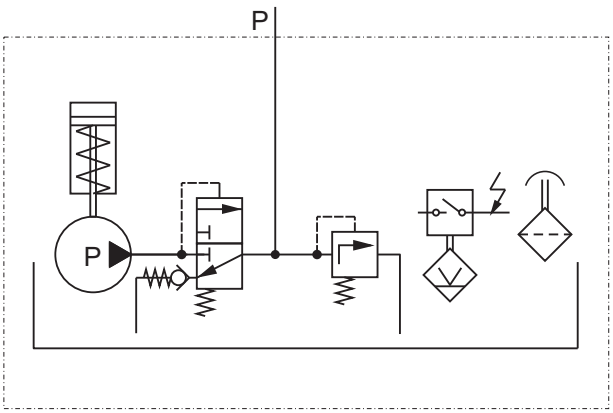
The pneumatic pump unit of type no. 2563 supplies the lubrication points via dynamic metering valves.

Method of operation

Lubrication starts when the piston is pressurized. The compressed air has to be adjusted in a way that the pressure relief valve only opens when all metering valves have lubricated. This ensures that all metering valves supply enough lubricant to the lub points.

When the 3/2-way solenoid valve switches, the piston is pushed into its original position. The main line is relieved down to < 1 bar by the relief valve and the metering valves restack the lubricant for the next lubrication pulse. At the same time, the lubricant is sucked out of the reservoir for the next stroke.

The metering valves' total dosage should not exceed 60% of the pump's delivery quantity.



Technical Data

Pneumatic pump

Output rate:	10 cm^3/stroke or 15 cm^3/stroke
Ratio:	with 10 cm^3/stroke 1 : 11 with 15 cm^3/stroke 1 : 8
Flow pressure:	4 - 8 bar
Drive volume:	133 cm^3 / stroke
Pressure relief valve:	adjusted to 50 bar
Lubricant:	oil, 20 - 700 mm^2/s fluid grease (according to release list)
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	2 / 4,2 / 8 l
Reservoir material:	plastic, transparent

Float switch (oil)

Connection:	Tuchel plug M12x1
Contact type:	NO contact
Switching voltage:	max. 60 V
Switching current:	max. 0,5 A
Capacity:	max. 10 VA

Capacitive proximity switch (fluid grease)

Operating voltage:	10 - 35V DC
Connecting type:	positive switching NO / NC
Switching current:	200 mA
Protection class:	switch IP 67, plug IP 54

Operating mode:

Pneumatic actuation via 3/2-way solenoid valve.
Repositioning of the pump by spring force.

Subject to alterations!

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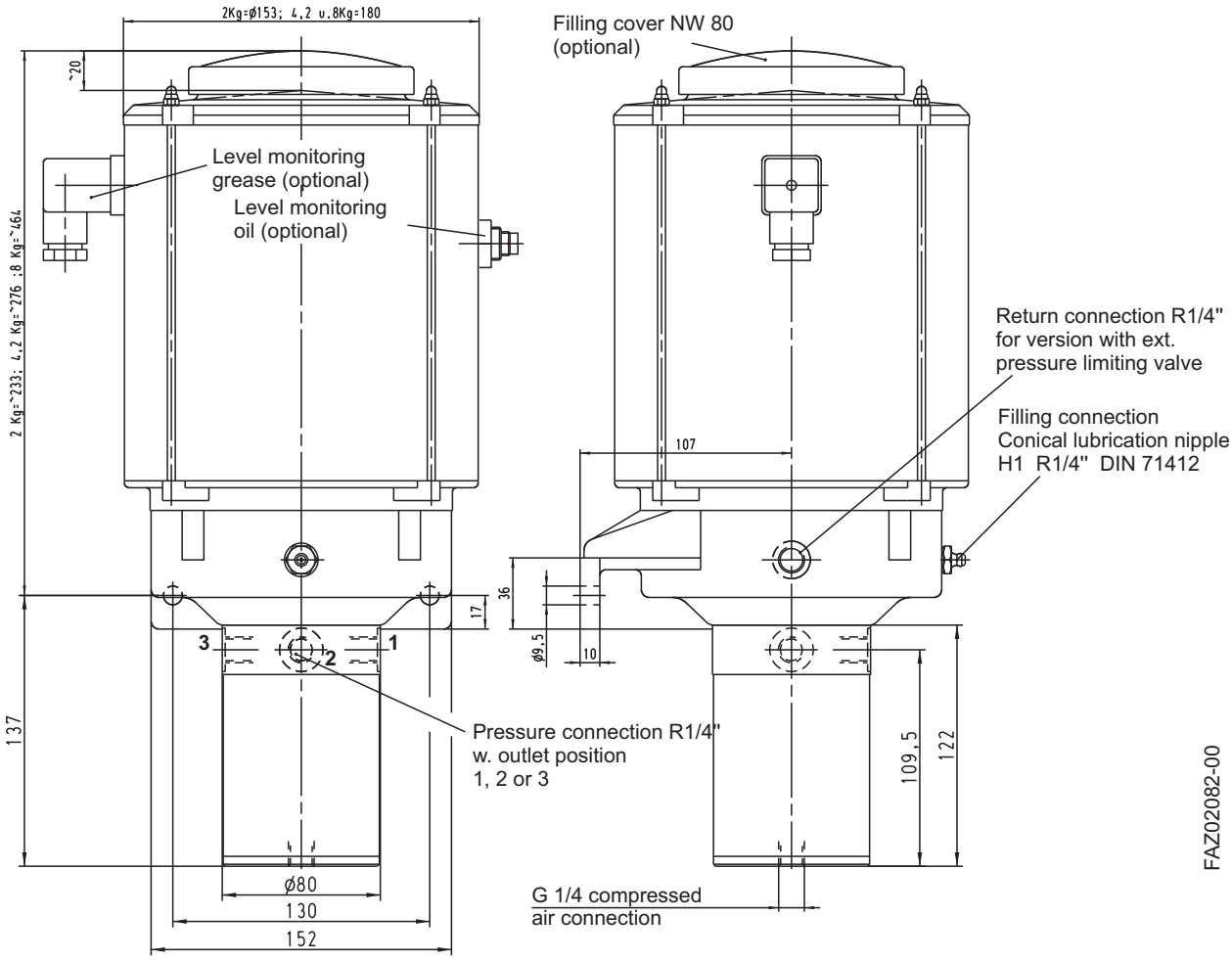

Order key type-no. 2563

2563.10.2.1.7.1.1.000

Delivery volume	10 cm³/stroke	15 cm³/stroke	
Code-no.	10	15	
Outlet position	1	2	3
Code-no.	1	2	3
Pressure relief valve	without	with	
Code-no.	0	1	
Reservoir content	2 l	4,2 l	8 l
Code-no. with filling cover / without filling cover	3 / 2	7 / 6	9 / 8
Level monitoring	without	with, for oil	with, for fluid grease
Code-no.	0	1	2
Return line connect.	without	with	
Code-no.	0	1	
Special model			

Subject to alterations!

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Technical description

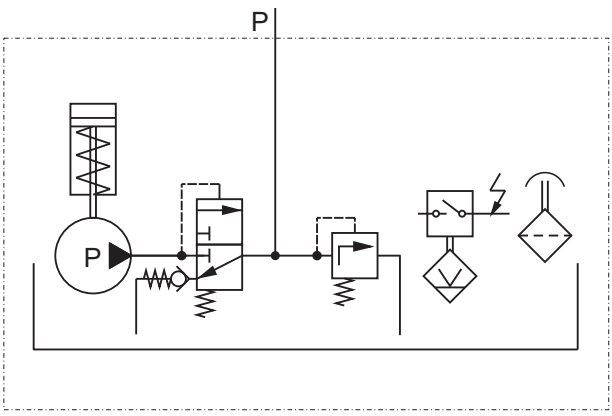
The pneumatic pump unit of type no. 2564 supplies the lubrication points via dynamic metering valves.

Mode of operation

Lubrication starts when the piston is pressurized. The compressed air has to be adjusted in a way that the pressure relief valve only opens when all metering valves have lubricated. This ensures that all metering valves supply enough lubricant to the lub points.

When the 3/2-way solenoid valve switches, the piston is pushed into its original position. The main line is relieved down to < 1 bar by the relief valve and the metering valves restack the lubricant for the next lubrication pulse. At the same time, the lubricant is sucked out of the reservoir for the next stroke.

The metering valves' total dosage should not exceed 60% of the pump's delivery quantity.



Technical Data

Pneumatic pump

Output rate:	30 cm^3/stroke or 50 cm^3/stroke
Ratio:	1 : 9
Flow pressure:	5 - 10 bar
Drive volume:	P30 = 300 cm^3 P50 = 550 cm^3
Pressure relief valve:	adjusted to 50 bar
Lubricant:	oil, 20 - 700 mm^2/s fluid grease (according to release list)
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	2 / 4,2 / 8 l
Reservoir material:	plastic, transparent

Float switch

Connection:	Tuchel plug M12x1
Contact type:	NO contact
Switching voltage :	max. 60 V
Switching current:	max. 0,5 A
Capacity:	max. 10 VA

Capacitive proximity switch (fluid grease)

Operating voltage:	10 - 60 V DC
Switching type:	positive switching NO / NC
Switching current:	200 mA
Protection class:	switch IP 67, plug IP 54

Operating mode:

Pneumatic activation via 3/2-way solenoid valve.
Repositioning of the pump by spring force.

03-2-14-01 State: 01.12EN

Subject to alterations!

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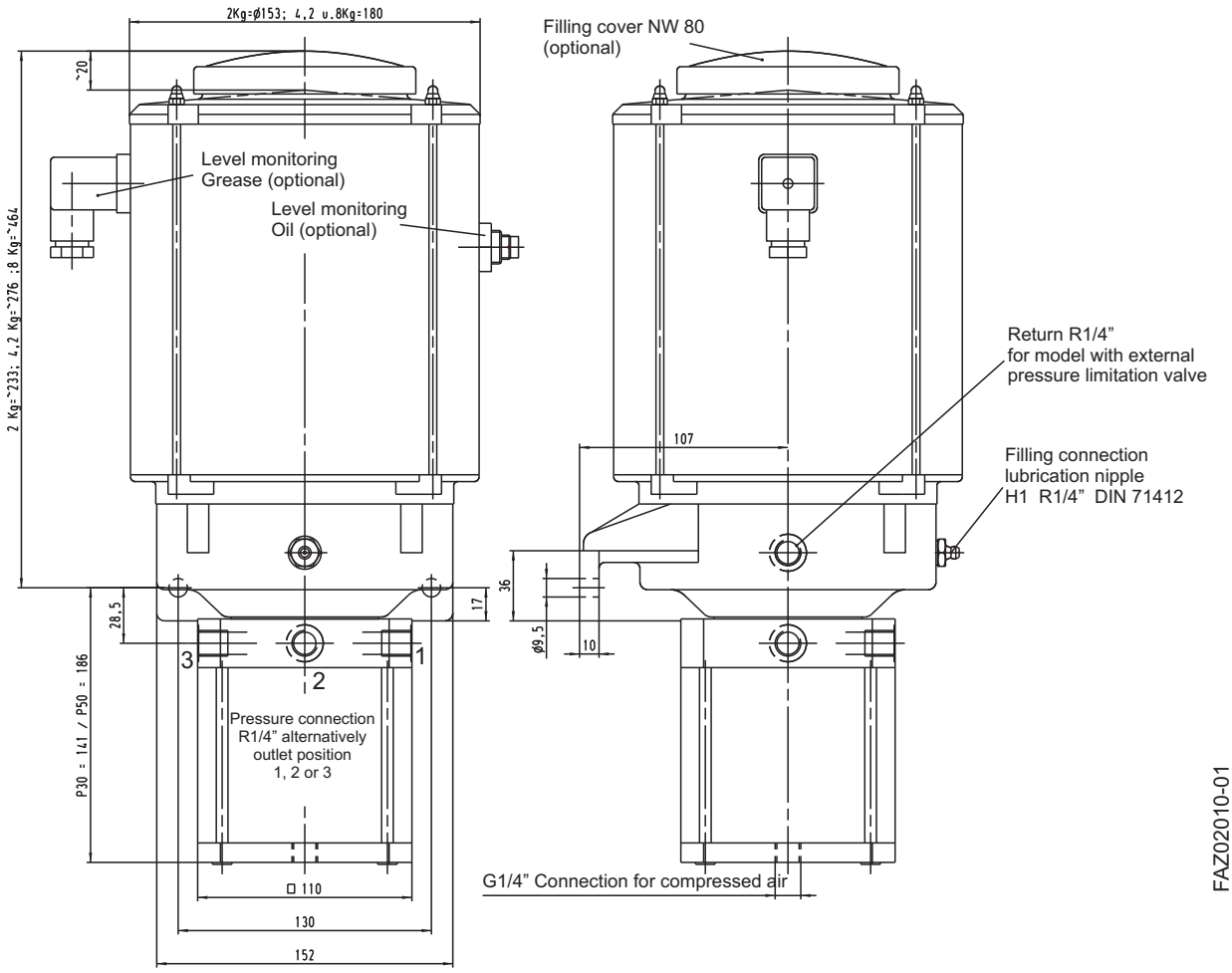

Order key type-no. 2564

2564.30.1.1.7.2.1.000

Delivery rate	30 cm³/stroke	50 cm³/stroke	
Code-no.	30	50	
Outlet position	1	2	3
Code-no.	1	2	3
Pressure relief valve	without	with	
Code-no.	0	1	
Reservoir content	2 l	4,2 l	8 l
Code-no. with filling cover without filling cover	3 2	7 6	9 8
Level monitoring	without	with, for oil	with, for fluid grease
Code-no.	0	1	2
Return line connect.	without	with	
Code-no.	0	1	
Special model			

Subject to alterations!

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Technical description

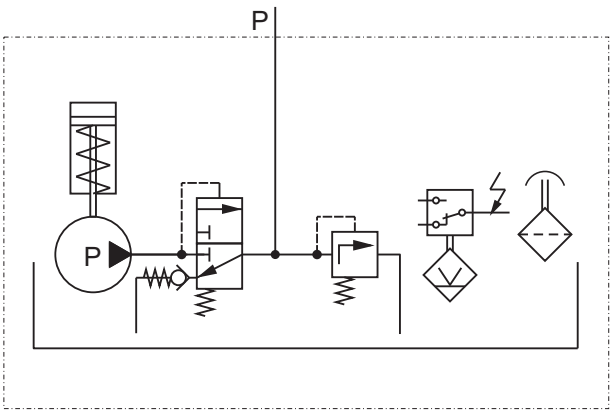
The pneumatic pump unit of type no. 2562 supplies the lubrication points via dynamic metering valves.

Method of operation

Lubrication starts when the piston is pressurized. The compressed air has to be adjusted in a way that the pressure relief valve only opens when all metering valves have lubricated. This ensures that all metering valves supply enough lubricant to the lub points.

When the 3/2-way solenoid valve switches, the piston is pushed into its original position. The main line is relieved down to < 1 bar by the relief valve and the metering valves restack the lubricant for the next lubrication pulse. At the same time, the lubricant is sucked out of the reservoir for the next stroke.

The metering valves' total dosage should not exceed 60% of the pump's delivery quantity.



Technical Data

Pneumatic pump

Output rate:	10 cm^3/stroke or 15 cm^3/stroke
Ratio:	with10 cm^3/stroke 1 : 11 with 15 cm^3/stroke 1 : 8
Flow pressure:	4 - 8 bar
Drive volume:	133 cm^3 / stroke
Pressure relief valve:	adjusted to 50 bar
Lubricant:	oil, 20 - 700 mm^2/s fluid grease (according to release list)
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	1,2 l
Reservoir material:	plastic, transparent

Float switch

Contact type:	changeover contact
Switching voltage:	max. 220 V
Switching current:	max. 1 A
Capacity:	max. 60 VA

Operating mode:

Pneumatic actuation via 3/2-way solenoid valve.
Repositioning of the pump by spring force.

Subject to alterations!

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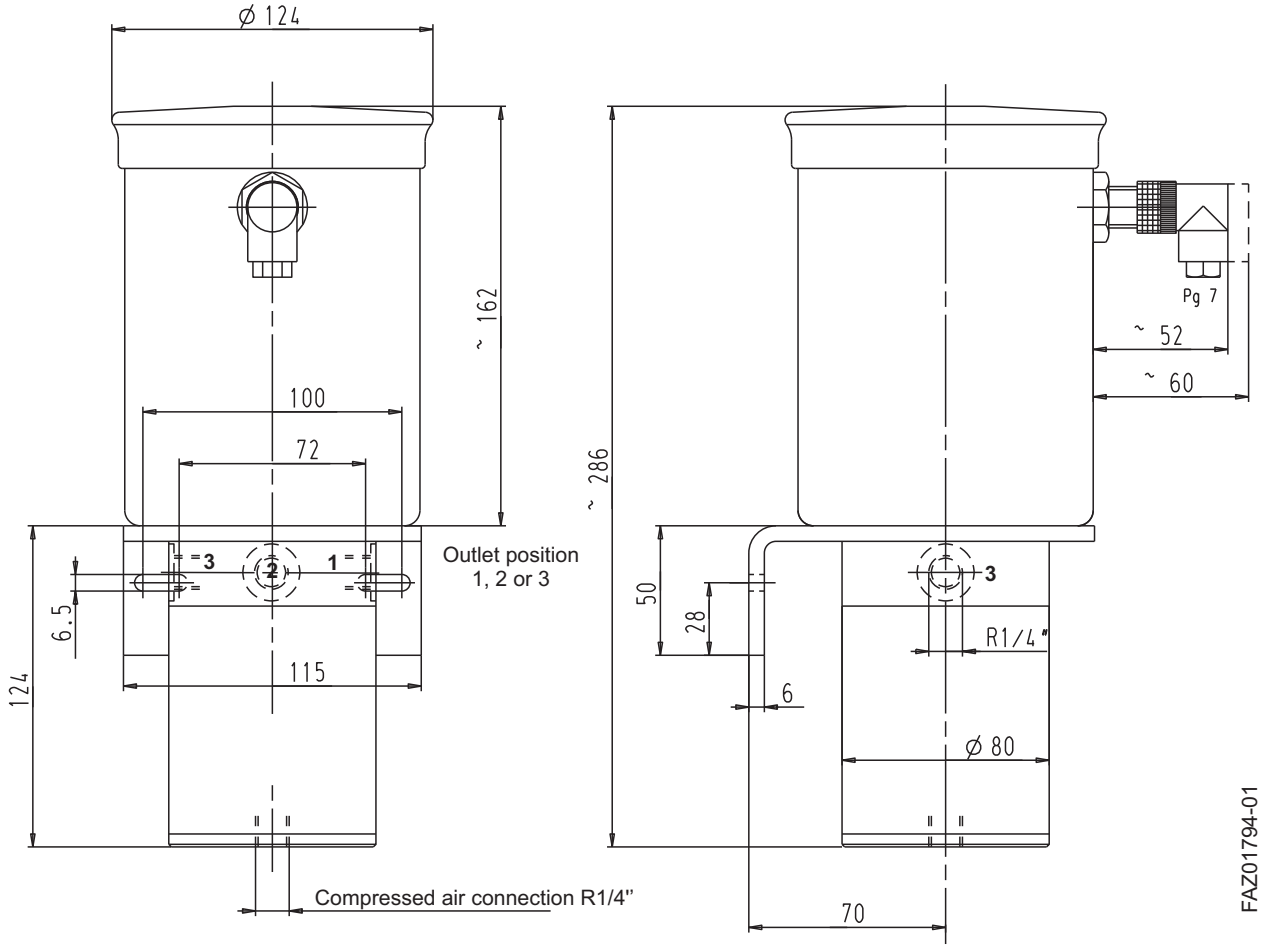
P5.1,2 and **P8.1,2** with 1,2 l-reservoir



Order key type-no. 2562

2562.010.01.1.1.00

Delivery rate	10 cm³/stroke	15 cm³/stroke	
Code-no.	010	015	
Outlet position	1	2	3
Code-no.	01	02	03
Level monitoring	without	with, for oil	(for fluid grease without level monitoring)
Code-no.	0	1	
Pressure relief valve	with	without	
Code-no.	1	2	
Special model			

Subject to alterations!

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Technical description

The pneumatic pump unit of type no. 2564 supplies the lubrication points via dynamic metering valves.

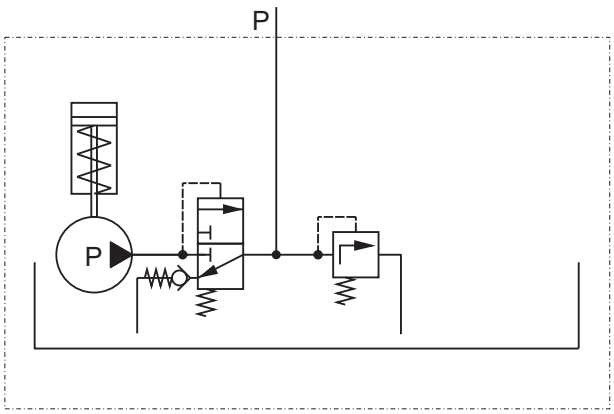
Mode of operation

Lubrication starts when the piston is pressurized. The compressed air has to be adjusted in a way that the pressure relief valve only opens when all metering valves have lubricated. This ensures that all metering valves supply enough lubricant to the lub points.

When the 3/2-way solenoid valve switches, the piston is pushed into its original position. The main line is relieved down to < 1 bar by the relief valve and the metering valves restack the lubricant for the next lubrication pulse. At the same time, the lubricant is sucked out of the reservoir for the next stroke.

The metering valves' total dosage should not exceed 60% of the pump's delivery quantity.

Hydraulic diagram



Technical Data

Pneumatic pump

Output rate:	30 cm^3/stroke or 50 cm^3/stroke
Ratio:	1 : 9
Flow pressure:	5 - 10 bar
Volume:	P30 = 300 cm^3 P50 = 550 cm^3
Pressure relief valve:	adjusted to 50 bar
Lubricant:	oil, 20 - 700 mm^2/s fluid grease (according to release list)
Temperature range:	medium 0 - 70°C ambient 0 - 40°C

Operating mode:

Pneumatic actuation via 3/2-way solenoid valve.
Repositioning of the pump by spring force.

03-2-16-01 State: 01.12EN

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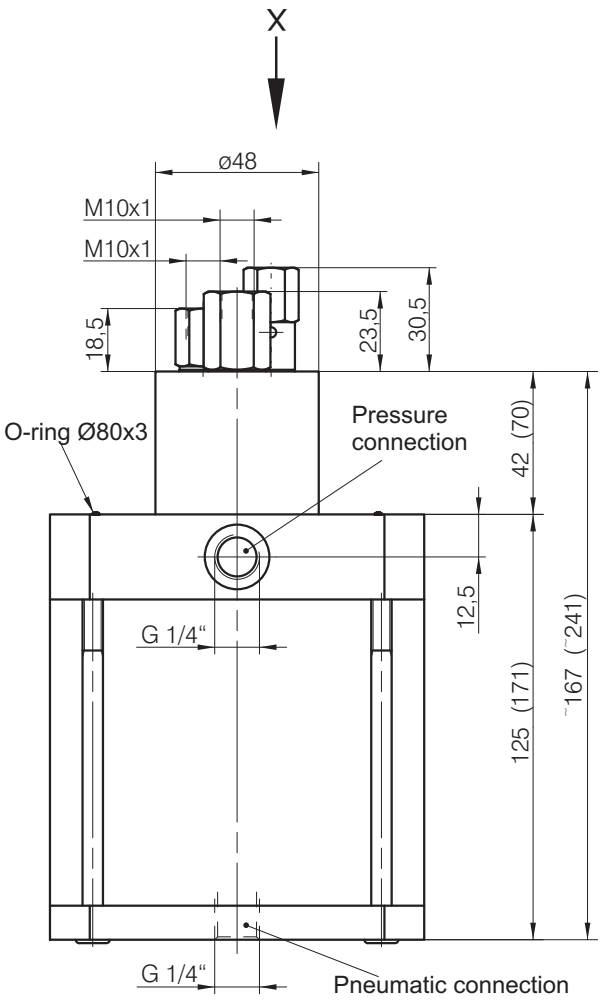

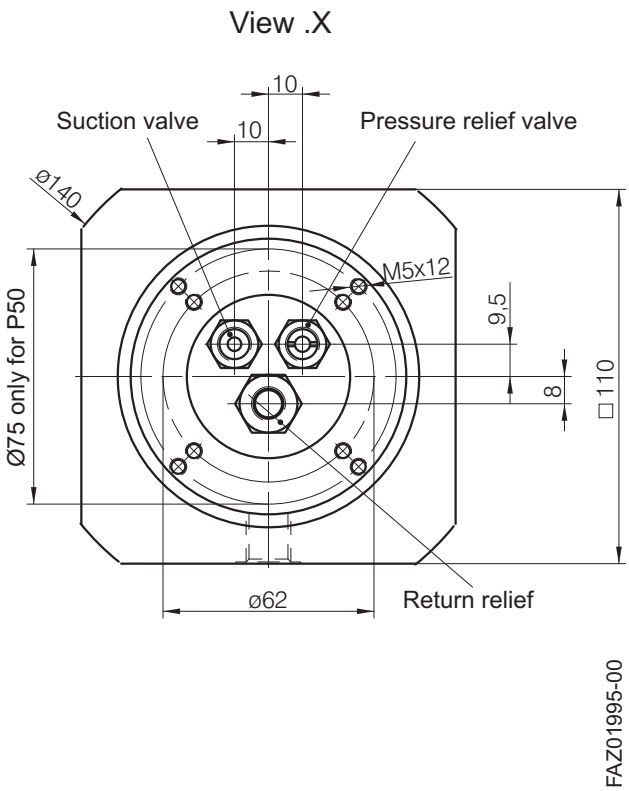

Clamp measures for P50

Order key type-no. 2564

2564.30.1.0.0.0.0.000

Delivery rate	30 cm³/stroke	50 cm³/stroke
Code-no.	30	50
Outlet position	1	
Code-no.	1	
Pressure relief valve	without	with
Code-no.	0	1
Reservoir content	without	
Code-no.	0	
Level monitoring	without	
Code-no.	0	
Return line connect.	without	
Code-no.	0	
Special model		

Subject to alterations!

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Technical description

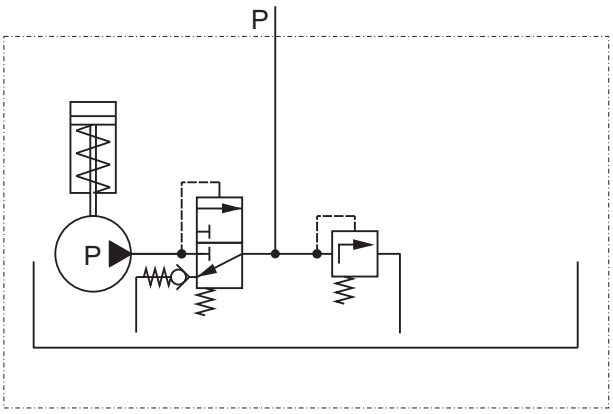
The pneumatic pump unit of type no. 2566 supplies the lubrication points via dynamic metering valves.

Method of operation

Lubrication starts when the piston is pressurized. The compressed air has to be adjusted in a way that the pressure relief valve only opens when all metering valves have lubricated. This ensures that all metering valves supply enough lubricant to the lub points.

When the 3/2-way solenoid valve switches, the piston is pushed into its original position. The main line is relieved down to < 1 bar by the relief valve and the metering valves restack the lubricant for the next lubrication pulse. At the same time, the lubricant is sucked out of the reservoir for the next stroke.

The metering valves' total dosage should not exceed 60% of the pump's delivery quantity.



Technical Data

Pneumatic pump

Output rate:	3 cm^3/stroke 9,5 cm^3/stroke 15 cm^3/stroke
Ratio:	with 3 cm^3/stroke 1 : 32 with 9,5 cm^3/stroke 1 : 12 with 15 cm^3/stroke 1 : 8
Flow pressure:	3 - 8 bar
Lubricant:	oil, 20 - 700 mm^2/s fluid grease (according to release list)
Temperature range:	medium 0 - 70°C ambient 0 - 40°C

Operating mode:

Pneumatic actuation via 3/2-way solenoid valve.
Repositioning of the pump by spring force.

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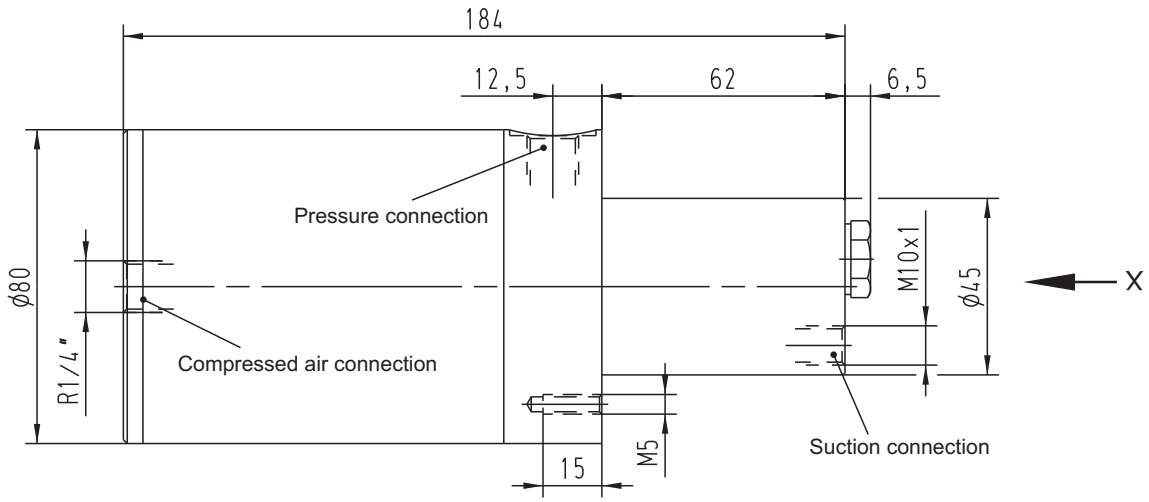
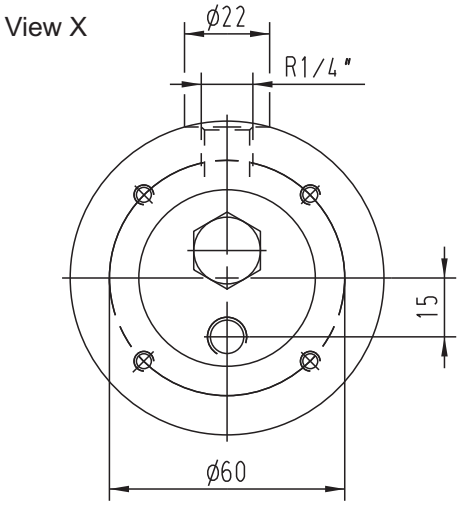
P605 without reservoir





FAZ01834-00

Order key type-no. 2566

2566.03.00.000

Delivery rate	3 cm³/stroke	9,5 cm³/stroke	15 cm³/stroke
Code-no.	03	09	15
Special model			

Subject to alterations!

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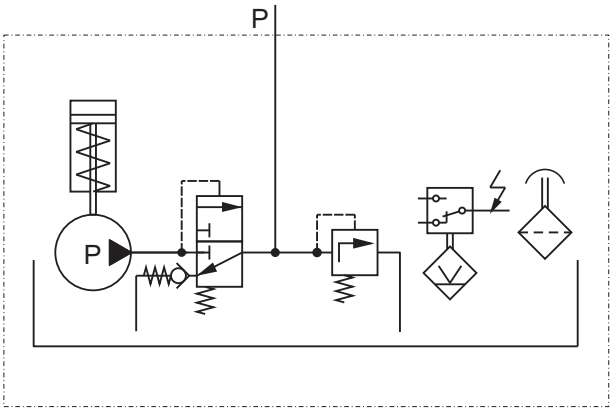
Technical description

The hydraulic pump units PH1-6 to PH10-6 are applied at machines and systems at which hydraulic oil can be used for the drive.

Dynamic metering valves are used to supply the lubrication points.

The control is carried out via a 3/2-way solenoid valve for a simple piston stroke and via a 4/2-way solenoid valve for up-and-down stroke.

Hydraulic diagram



Technical Data

Hydraulic pump

Output rate:	PH1: 1 cm^3/stroke PH6: 6 cm^3/stroke PH10: 10 cm^3/stroke
Ratio:	Ph1: 1 : 2 PH6: 1 : 2 Ph10: 1 : 1
Actuating pressure:	22 - 200 bar
Per. operating pressure:	max. 55 bar
Relief pressure:	1 - 2 bar
Pressure relief valve:	adjusted to 55 bar
Lubricant:	oil, 20 - 700 mm^2/s fluid grease (according to release list)
Temperature range:	medium 0 - 70°C ambient 0 - 40°C
Reservoir capacity:	6 l
Reservoir material:	steel sheet

Float switch

Contact type:	changeover contact
Voltage:	250 V AC/DC
Starting current:	max. 1 A
Capacity:	max. 60 VA

Operating mode:

Hydraulic actuation via 3/2-way solenoid valve (simple piston stroke) resp. 4/2-way solenoid valve (up-and-down stroke). Return of the pump by spring force.

Subject to alterations!

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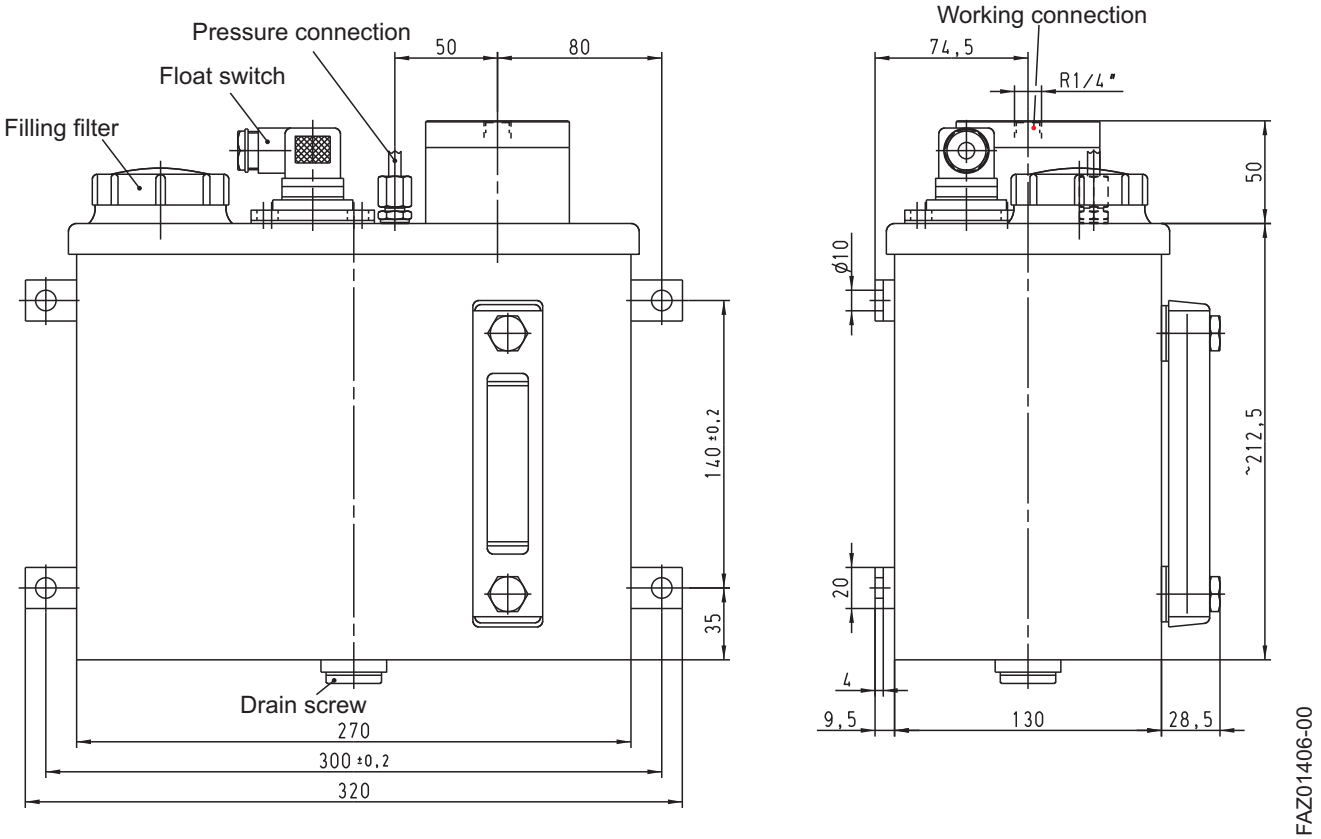
PH1-6 / PH6-6 / PH10-6 with 6 l-reservoir



Order key type-no. 2578

2578.01.01.02.01.000

Delivery rate	PH1: 1 cm³/stroke	PH6: 6 cm³/stroke	PH10: 10 cm³/stroke
Code-no.	01	02	03
Reservoir content	6 l		
Code-no.	01		
Pressure connection	Ø 6 mm	Ø 8 mm	Ø 10 mm
Code-no.	01	02	03
Level monitoring	with, for oil	without	
Code-no.	01	02	
Special model			

Subject to alterations!

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1090200388

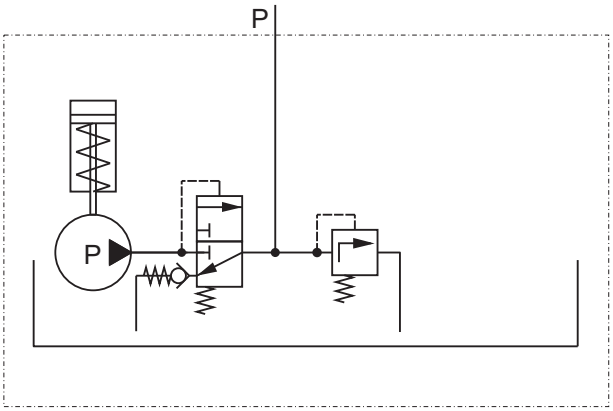
Technical description

The hydraulic pumps PH1 to PH10 are used at machines and systems at which hydraulic oil can be used for the drive.

Dynamic metering valves are used to supply the lubrication points.

The control is carried out via an 3/2-way solenoid valve for simple piston stroke and via 4/2-way solenoid valve for up-and-down stroke.

Hydraulic diagram



Technical Data

Hydraulic pump

Output rate:	PH1: 1 cm^3/stroke PH6: 6 cm^3/stroke PH10: 10 cm^3/stroke
Ratio:	PH1: 1 : 2 PH6: 1 : 2 PH10: 1 : 1
Starting pressure:	22 - 200 bar
Per. operating pressure:	max. 55 bar
Relief pressure:	1 - 2 bar
Pressure relief valve:	adjusted to 55 bar
Lubricant:	oil, 20 - 700 mm^2/s fluid grease (according to release list)
Temperature range:	medium 0 - 70°C ambient 0 - 40°C

Operating mode:

Hydraulic actuation via 3/2-way solenoid valve (simple piston stroke) resp. 4/2-way solenoid valve (up-and-down stroke). Return of the pump by spring force.

Subject to alterations!

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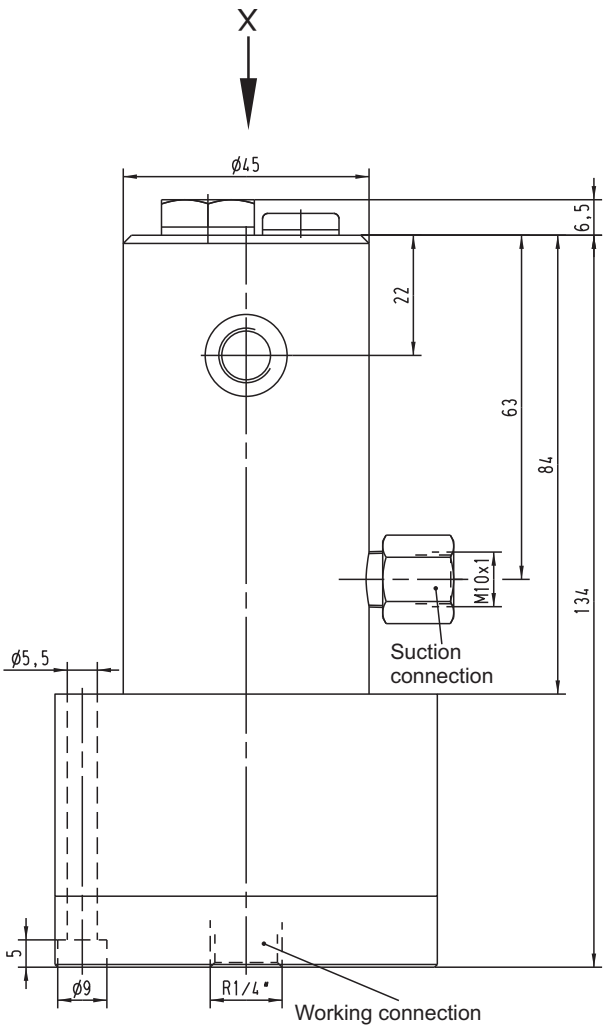

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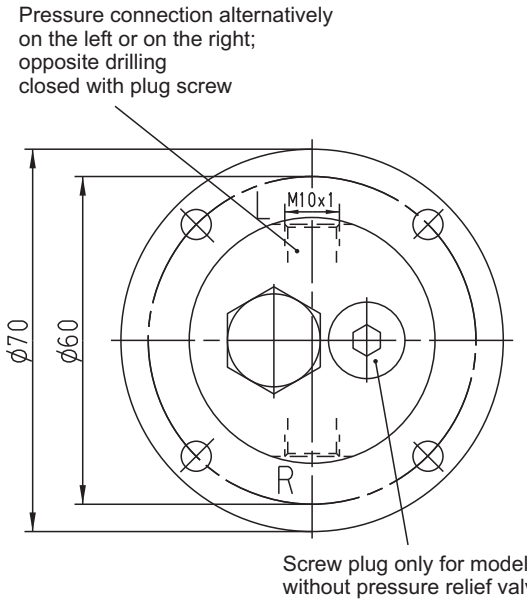

FAZ00923-00

Order key type-no. 2577

2577.01.01.02.000

Delivery rate	PH1: 1 cm³/stroke	PH6: 6 cm³/stroke	PH10: 10 cm³/stroke
Code-no.	01	02	03
Pressure connection	L	R	
Code-no.	01	02	
Pressure relief valve	with	without	
Code-no.	01	02	
Special model			

Subject to alterations!

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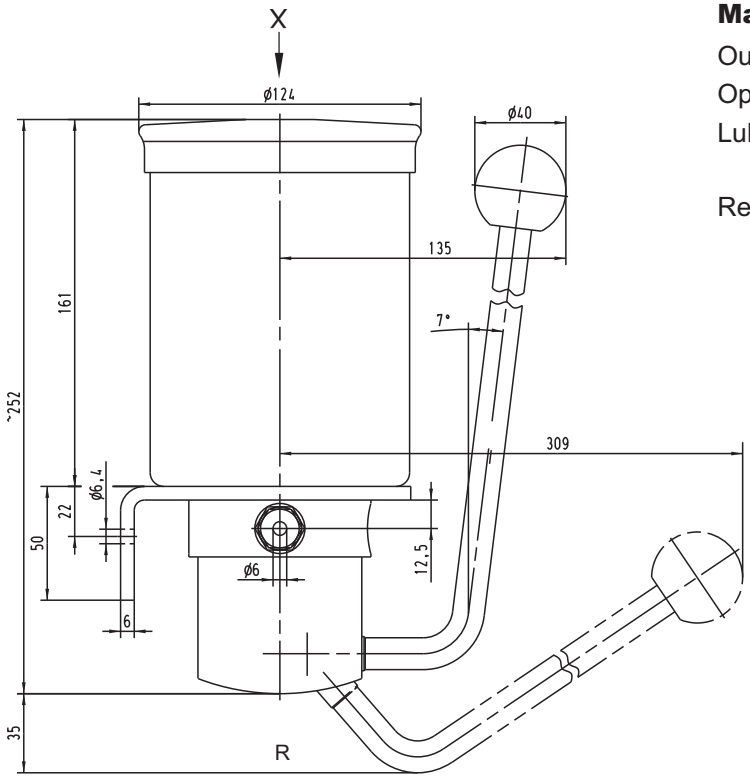
Technical description

The manual piston pumps of type no. 2532 and 2533 with 1,2 l reservoir are used for small systems to supply the lubrication points via dynamic metering valves or static metering valves.

The lubrication system's total dosage quantity should not exceed 60% of the piston pump's delivery rate.

The hand lever can be placed left, right or in the middle.

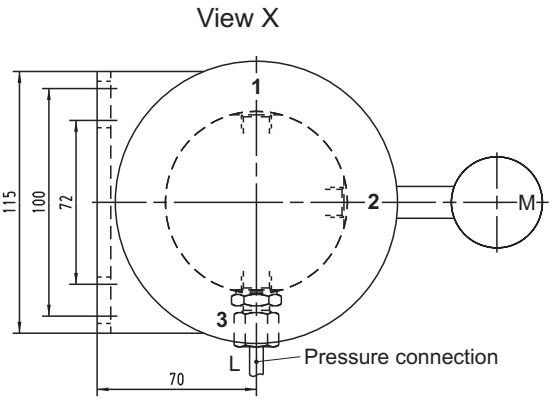
Note: Press the lever slowly and steadily until stop!



Technical data

Manual piston pump

Output rate:	6 / 10 / 15 cm^3/stroke
Operating pressure:	30 bar
Lubricant:	oil, 20 - 700 mm^2/s
	fluid grease (according to release list)
Reservoir capacity:	1,2 l



Order key type-no. 2532

2532.06.7.0.000

Delivery rate	6 cm³/stroke	10 cm³/stroke	15 cm³/stroke
Code-no.	06	10	15
Lever position	L	R	M
Pos. Pressure connection	1 2 3	1 2 3	1 2 3
Code-no.	1 2 2	4 5 6	7 8 9
Pressure relief valve	without	with	
Code-no.	0	1	
Special model			

State: 01.12EN
03-4-10-01

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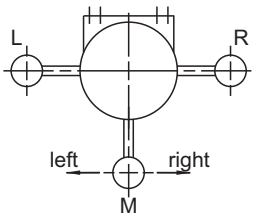
Manual pump 2533

Technical Data

Manual piston pump

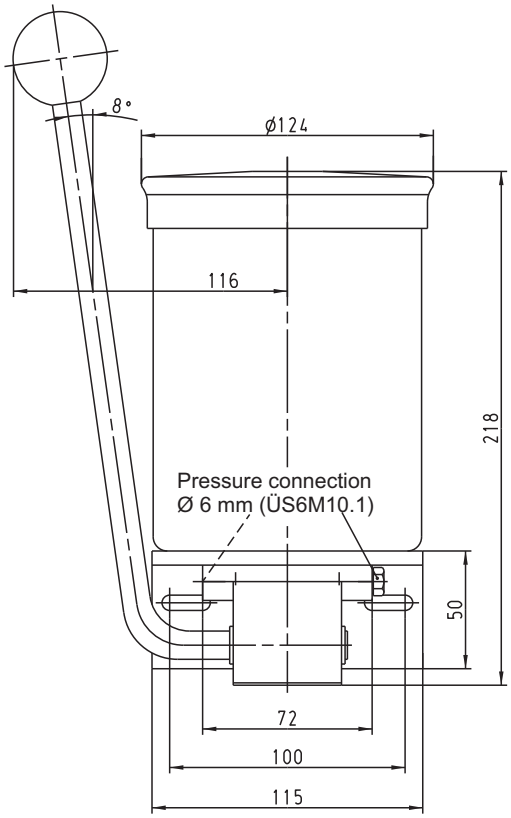
Output rate:	6 / 10 cm³/stroke
Operating pressure:	30 bar
Lubricant:	oil, 20 - 700 mm²/s
	fluid grease (according to release list)
Reservoir capacity:	1,2 l
Reservoir material:	plastic, transparent

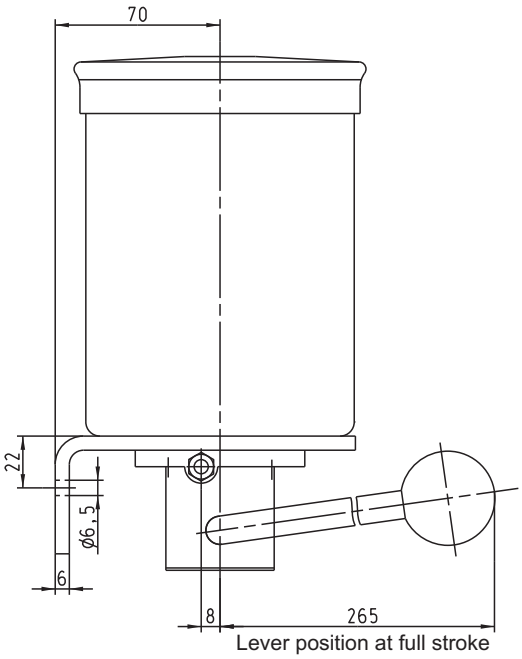
Lever positions:



ML = middle, pull direction left
MR = middle, pull direction right
L = left R = right

For positions ML/MR, the pressure connection is at the front!





Order key type-no. 2533

2533.06.1.0.000

Delivery rate	6 cm³/stroke		10 cm³/stroke			
Code-no.	06		10			
Lever position	R	R	L	L	ML	MR
Pos. pressure connection	L	R	R	L	front	
Code-no.	1	2	3	4	5	6
Pressure relief valve	without		with			
Code-no.	0		1			
Special model						

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1090200388

Technical description

The metering elements supply the necessary lubricant precisely metered to the lubrication points. The lubrication quantity is determined by the metering volume of the metering elements.

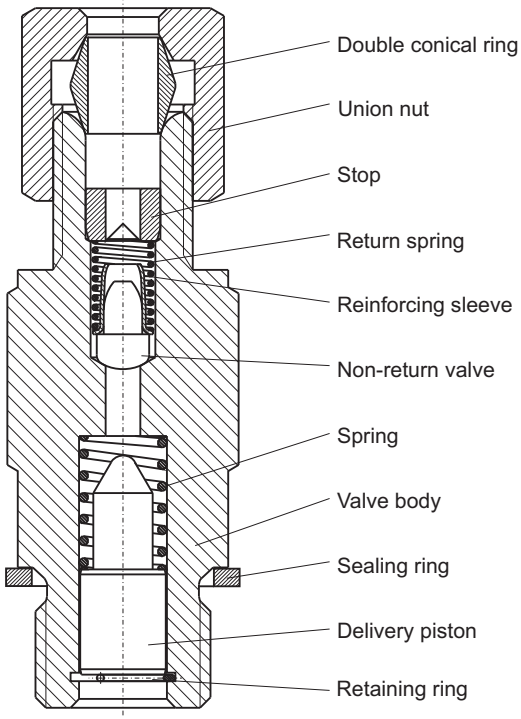
BEKA-metering valves operate only according to the piston principle. Only a metallic piston offers

- long-lasting resistance (temperature, aging)
- supply of oils and fluid greases.

These characteristics make the difference between the piston principle and flexible

Metering valves (dynamic system)

In contrast to the metering valves, the dynamic metering valves have no sealing sleeves, which control the restacking of the lubricant.
With dynamic metering valves, restacking is effected via the piston's radial clearance.
Despite the annular gap, the lubricant is delivered to the lubrication point without leakage due to "dynamic" pressurization. On the other hand, the annular gap allows a fast re-filling after the main line's relief.
The dynamic system requires a higher pump power than the static one.



Advantages of the system:

- Economic and simple technology with only few components
- Compact form and small dimensions
- A wide range of different output rates

Subject to alterations!

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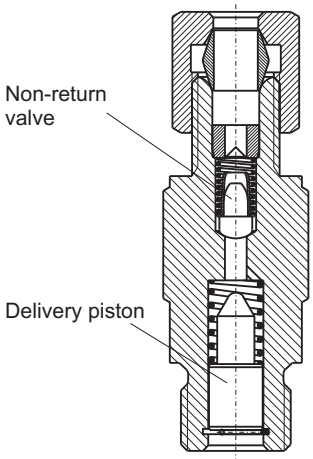
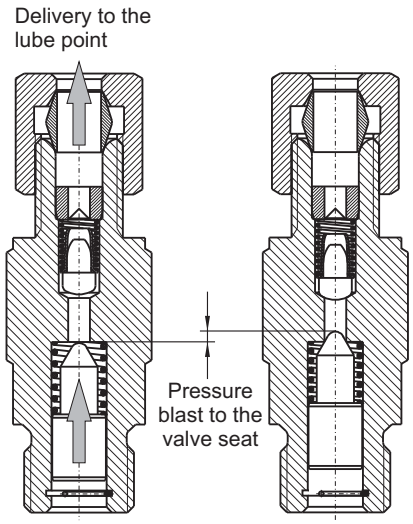


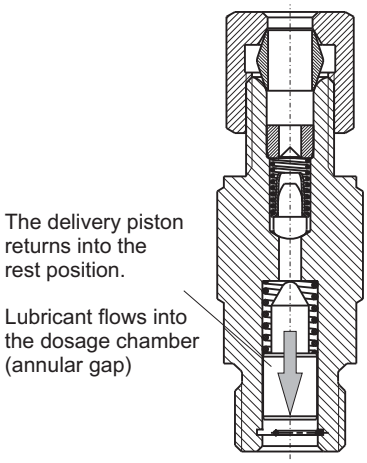
Functional description

Normal position
The lubricant is in the dosage chamber of the metering valve. The quantity of lubricant is determined by the piston stroke.



Piston stroke

As soon as the pump delivers, lubricant flows from the main line into the metering valve and pushes the delivery piston towards the non-return valve with approx. 20 bar.
The lubricant is displaced and via the non-return valve delivered to the lub point.
The conical nipple of the delivery piston prevents any lubricant leakage.



Re-filling

After the pump has been switched off, the main line is relieved and the spring pushes the piston back into its initial position.
Via the annular gap is the metering chamber again filled with lubricant (restacking).
For a safe restacking, the following break times have to be observed: l

Oil	at least	5 seconds*
Fluid grease	at least	20 seconds*

** depends on the lubricant's viscosity. In general: The higher the viscosity, the longer the re-stacking time.*

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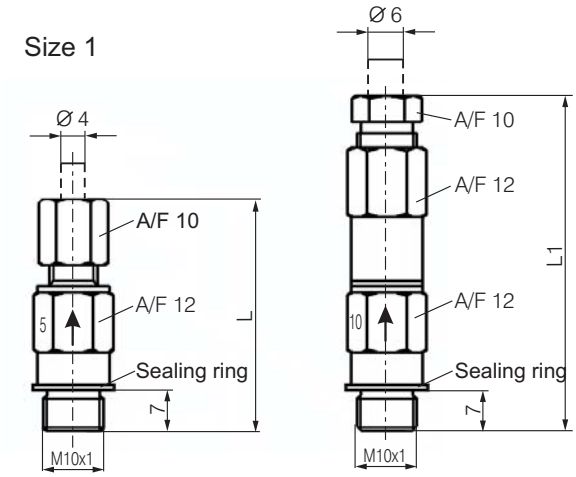
Technical data of type no. Z31ZV

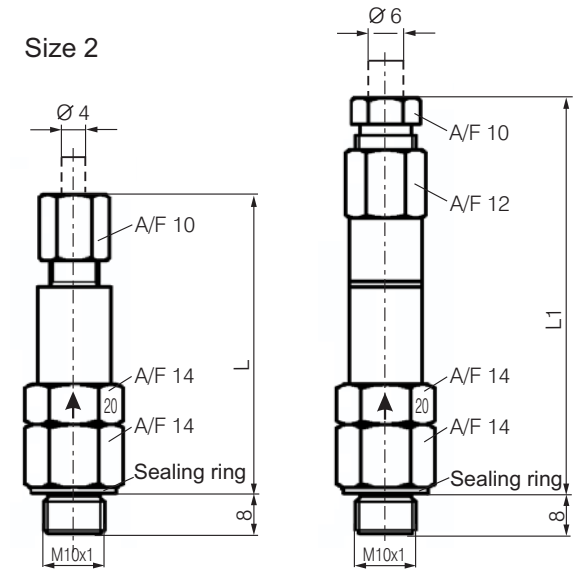
Installation position:	optional
Temperature range:	0 - 70°C
Operating pressure:	15 - 40 bar
Relief pressure:	< 1 bar
Lubricants:	oils
	fluid greases NLGI-cl. 000 - 00 (according to release list)
Viscosity range:	50 - 700 mm^2/s

The sealing ring (order no. 090760300321) is included in the delivery.

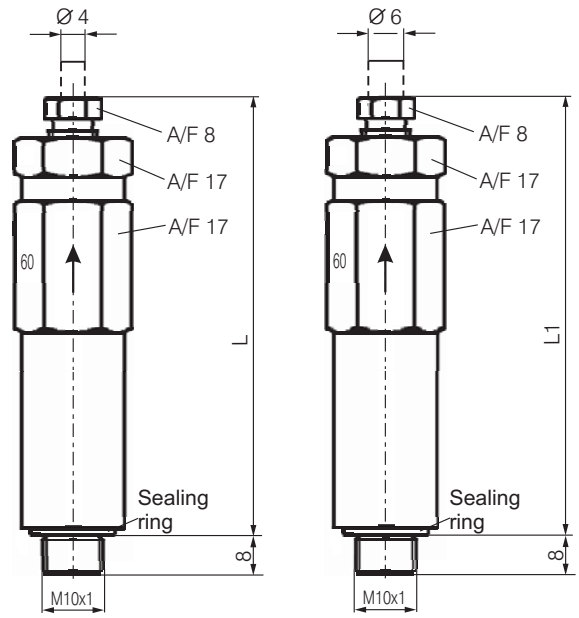
Size 1



Size 2



Size 3



Metering valves of type no. Z31ZV, size 1
with threaded connection

Metering volume mm^3/stroke	L mm	L1 mm	Model oil and fluid grease		
			Type	Order-no.	
				Pipe Ø 4	Pipe Ø 6
10	41	55	Z31ZV1	4030 001 00	4030 001 01
20			Z31ZV2	4030 002 00	4030 002 01
30			Z31ZV3	4030 003 00	4030 003 01
50			Z31ZV5	4030 005 00	4030 005 01
100			Z31ZV10	4030 010 00	4030 010 01
150	44	58	Z31ZV15	4030 015 00	4030 015 01

Metering valves of type no. Z31ZV, size 2
with threaded connection

Metering volume mm^3/stroke	L mm	L1 mm	Model oil and fluid grease		
			Type	Order-no.	
				Pipe Ø 4	Pipe Ø 6
200	51	68	Z31ZV20	4030 020 00	4030 020 01

Metering valves of type no. Z31ZV, size 3
with threaded connection

Metering volume mm^3/stroke	L mm	L1 mm	Model oil and fluid grease		
			Type	Order-no.	
				Pipe Ø 4	Pipe Ø 6
400	75	75	Z31ZV40	4030 040 00	4030 040 01
500			Z31ZV50	4030 050.00	4030 050 01
600			Z31ZV60	4030 060 00	4030 060 01
1000			Z31ZV100	4030 100 00	4030 100 01

Subject to alterations!

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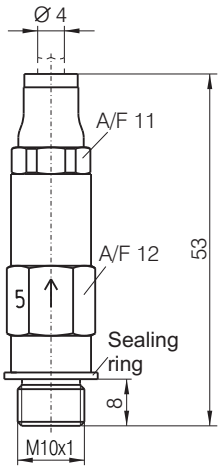
Proportioning valves (dynamic system)

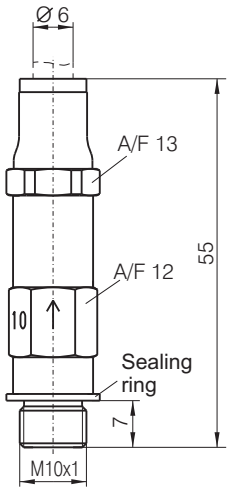
with plug connection



Technical data of type no. Z31ZV

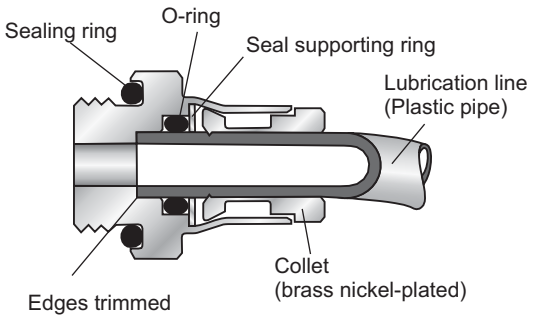
Installation position:	optional
Temperature range:	0 - 70°C
Operating pressure:	15 - 40 bar
Relief pressure:	≤ 1 bar
Lubricants:	oils fluid greases NLGI-cl. 000 - 00 (according to release list)
Viscosity range:	20 - 700 mm^2/s

The sealing ring (order-no. 090760300321) is included in the delivery.



Metering valves of type no. Z31ZV
with plug-in connection

Metering volume mm^3/stroke	Type	Model Ø4 with sealing ring	Model Ø6 with sealing ring
		Order-no.	Order-no.
10	Z31ZV1	4036 001 01	4036 001 05
20	Z31ZV2	4036 002 01	4036 002 05
30	Z31ZV3	4036 003 01	4036 003 05
50	Z31ZV5	4036 005 01	4036 005 05
100	Z31ZV10	4036 010 01	4036 010 05
150	Z31ZV15	4036 015 01	4036 015 05



Thread M 8x1 on enquiry!

Subject to alterations!

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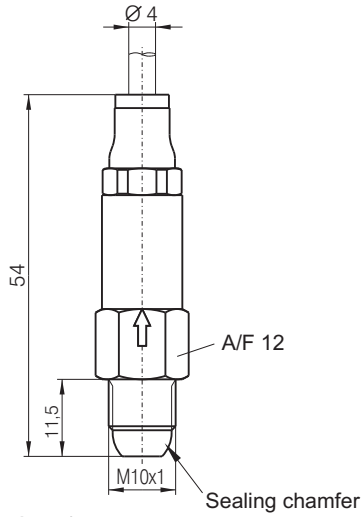
Technical data of type no. Z31ZV

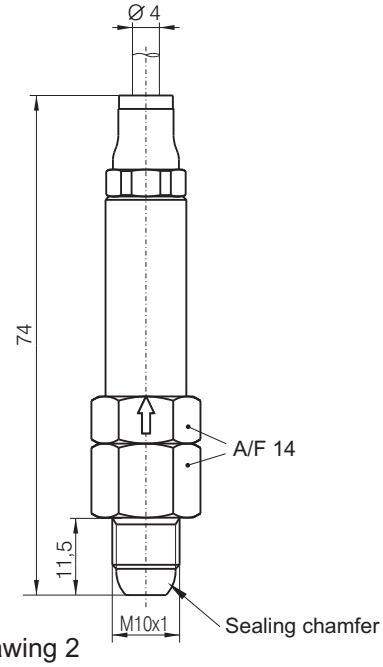
Installation position:	optional
Temperature range:	0 - 70°C
Operating pressure:	15 - 40 bar
Relief pressure:	max. 4 bar
Lubricants:	oils fluid greases NLGI-cl. 000 - 00 (according to release list)
Viscosity range:	20 - 700 mm^2/s



Drawing 1

Metering valves of type no. Z31ZV
with sealing chamfer

Metering volume mm^3/stroke	Type	Order-no.	Drawing
10	Z31ZV1	4036 001 02	1
20	Z31ZV2	4036 002 02	1
30	Z31ZV3	4036 003 02	1
50	Z31ZV5	4036 005 02	1
100	Z31ZV10	4036 010 02	1
150	Z31ZV15	4036 015 02	1
200	Z31ZV20	4036 020 02	2



Drawing 2

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Proportioning valves (dynamic system)

03-5-10-06 State: 01.12EN

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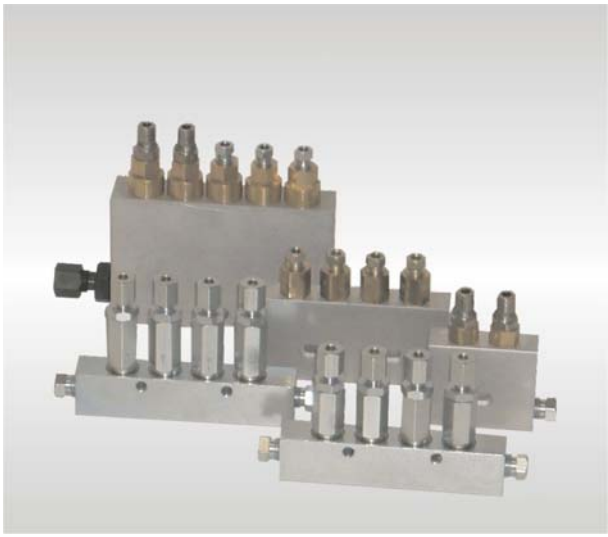
Technical description

The metering elements supply the necessary lubricant precisely metered to the lubrication points. The respective quantity is determined by the metering volume of the metering element.

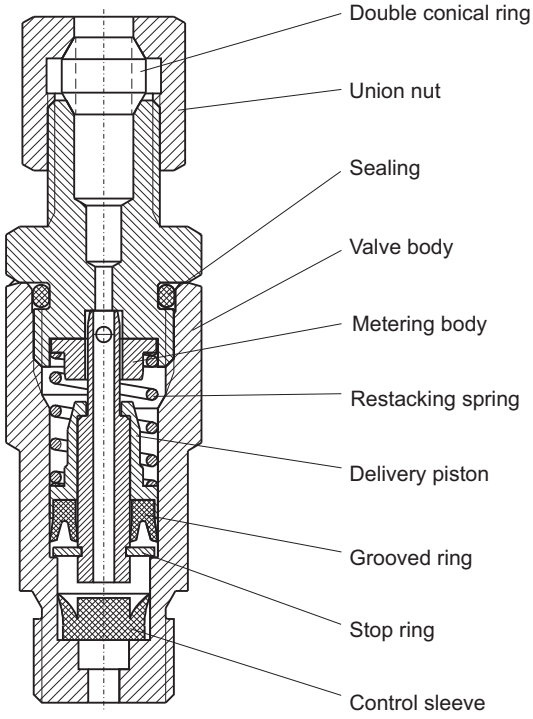


Static metering valves

The lubricant re-stacking is controlled by a control sleeve at the BEKA metering valves.

As for the function no pressure surge is necessary, the pressurization in the system can be carried out slowly. The designation "static" therefore cannot be explained with “not dynamic".

Even with a slow pressurization, BEKA metering valves show an exact metering and a high repeating accuracy.



Advantages of the system

- wide viscosity range (oil, fluid grease)
- ideal for precise and exactly repeated applications
- low pump power required
- long lines possible
- nearly unlimited number of lubrication points with continuous lubricant supply (no pressure surge required)

Subject to alterations!

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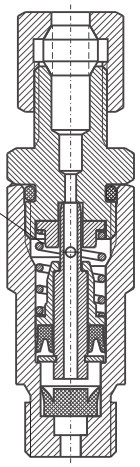
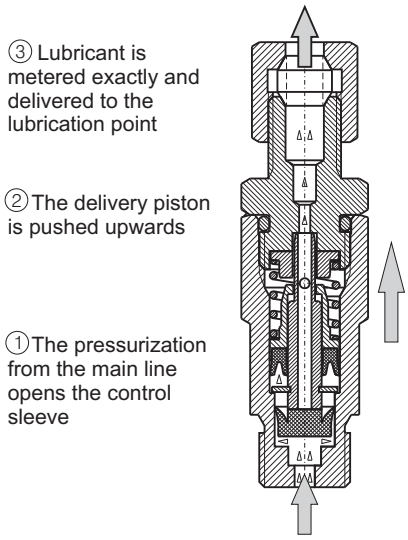
Functional description



Normal position

The lubricant is in the metering chamber of the valve. The quantity of lubricant is limited by its space and the stroke of the delivery piston.



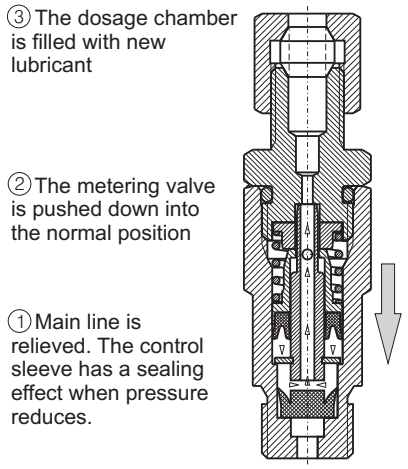
Piston stroke

As soon as the pump delivers, lubricant flows from the main line into the metering valve.

The piston is moved upwards against the spring force. This pushes the lubricant from the metering chamber to the lub point.

For this procedure, no particular pressurization speed is needed. The function of the metering valve is guaranteed for a wide viscosity range.

The lubricant's flow direction is set by the control sleeve.



Re-filling

After the lubricant delivery is the main line relieved.
The spring pushes back the delivery piston. The control sleeve seals the main line. The lubricant, which is in the piston chamber, is restacked by the spring into the dosage chamber.
The metering piston returns into its normal position and the metering valve is ready for the next cycle.

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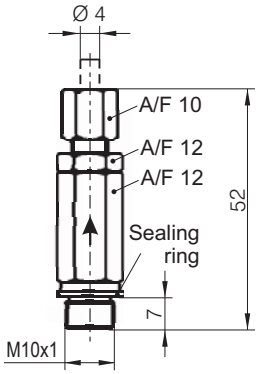
with bolted and plug connection

Technical data of type no. Z31DV

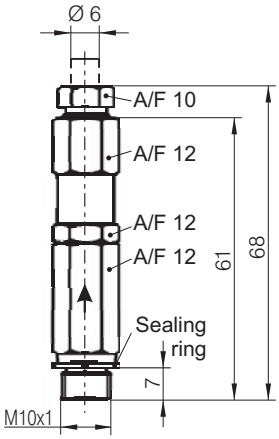
Installation position:	optional
Temperature range:	0 - 70°C
Operating pressure:	15 - 40 bar
Relief pressure:	max. 4 bar
Lubricants:	oils
	fluid greases NLGI-cl. 000 - 00 (according to release list)
Viscosity range:	20 - 700 mm^2/s

The sealing ring (order-no. 090760300321) is included in the delivery.



Metering valves of type no. Z31DV
with threaded connection

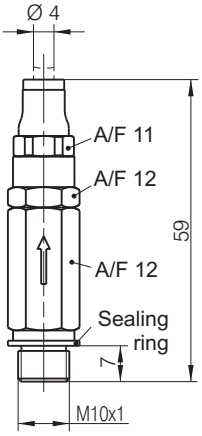
Metering-volume mm^3/stroke	Type	Order-no.	
		for pipe Ø 4	for pipe Ø 6
30	Z31DV3	4031 030 00	4031 030 01
50	Z31DV5	4031 050 00	4031 050 01
100	Z31DV10	4031 100 00	4031 100 01
150	Z31DV15	4031 150 00	4031 150 01
200	Z31DV20	4031 200 00	4031 200 01

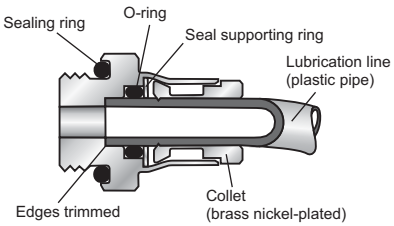


Metering valves Z31DV
with plug-in connection for polyamide pipes

Metering-volume mm^3/stroke	Type	Order-no. for pipe Ø 4
30	Z31DV3	4031 030 05
50	Z31DV5	4031 050 05
100	Z31DV10	4031 100 05
150	Z31DV15	4031 150 05
200	Z31DV20	4031 200 05

Thread M 8x1 on enquiry!

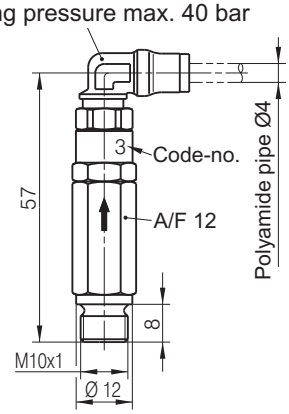




Metering valves of type no. Z31DV
with angular plug-in connection for polyamide pipes

Metering-volume mm^3/stroke	Type	Order-no. for pipe Ø 4
30	Z31DV3	4031 030 11
50	Z31DV5	4031 050 11
100	Z31DV10	4031 100 11
150	Z31DV15	4031 150 11
200	Z31DV20	4031 200 11

Rotary angular plug-in connection
EDP-No.: 04061536
Operating pressure max. 40 bar



Subject to alterations!

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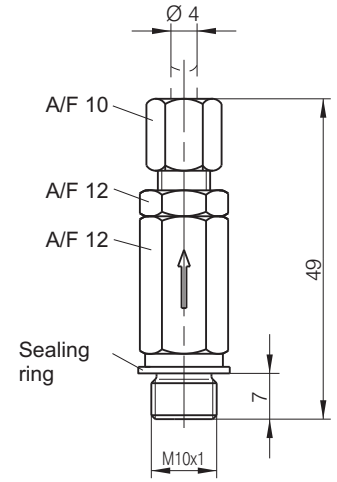
Metering valves (static system)

with bolted and plug connection

Technical data of type no. Z31DDV

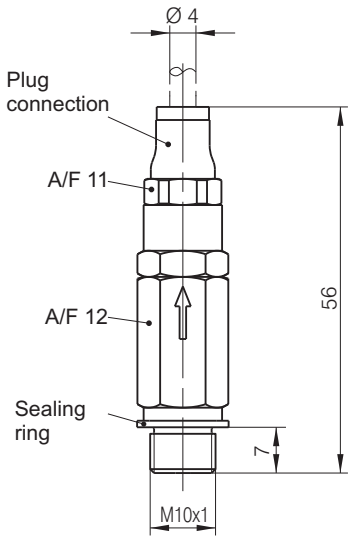
Installation position:	optional
Temperature range:	0 - 70°C
Operating pressure:	12 - 40 bar
Relief pressure:	max. 1 bar
Lubricants:	oils
Viscosity range:	20 - 700 mm^2/s

The sealing ring (order-no 090760300321) is included in the delivery.



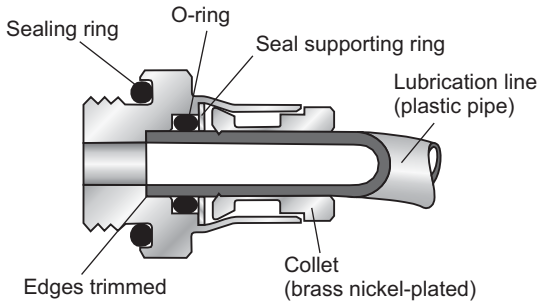
Metering valves of type no. Z31DDV
with threaded connection

Metering-volume mm^3/stroke	Type	Order-no.
30	Z31DDV3	4032 030 00
60	Z31DDV6	4032 060 00
100	Z31DDV10	4032 100 00
160	Z31DDV16	4032 160 00



Metering valves of type no. Z31DDV
with plug-in connection

Metering-volume mm^3/stroke	Type	Order-no.
30	Z31DDV3	4032 030 07
60	Z31DDV6	4032 060 07
100	Z31DDV10	4032 100 07
160	Z31DDV16	4032 160 07



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1090200388

Function

See functional description metering valves.

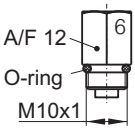
Technical data type 4018

Material:	distributor block - aluminum dosage nipple- brass
Number of lubrication points:	1 to 10
Connections:	
Main line	M10x1 for pipe Ø6 mm
Lubrication line	M8x1 for pipe Ø4 mm
	Model for olive acc. to DIN 3862 and retaining screw according to DIN 3871
Installation position:	optional, with the outlet upwards if possible
Temperature range:	0 - 80°C
Operating pressure:	12 - 50 bar
Relief pressure:	max. 3 bar
Lubricants:	oils fluid greases NLGI-cl. 000 - 00 (according to release list)
Viscosity range:	10 - 1000 mm^2/s

Table of order-no. for dosage nipple with O-ring:

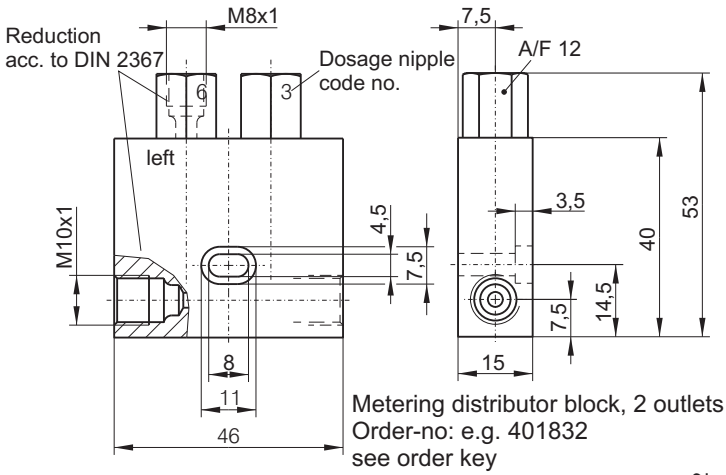
Dosage nipple code no. (stamped on the dosage nipple)	Metering volume mm^3/stroke	Order-no. dosage nipple
1***	10	40180000
3	30	40180001
6	60	40180002
10	100	40180003
16	160	40180004

*** Metering nipple 10 mm^3 cannot be exchanged!

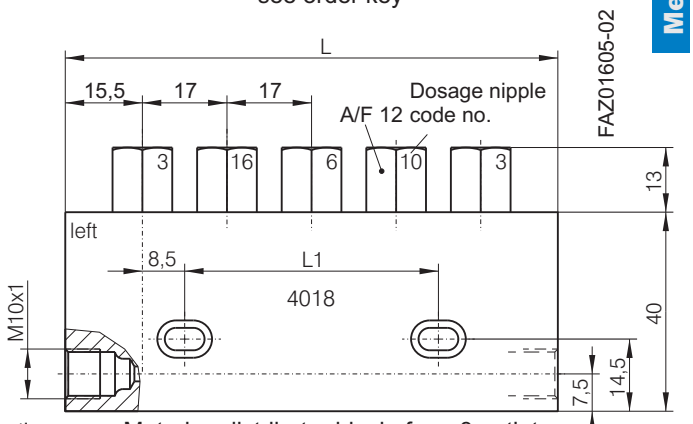


For locking the metering nipples:
Screw plug DIN 908 - M8x1,
Order-no.: 090090800113
Sealing ring similar to
DIN 7603 - A8x12x1,5
Order-no.: 0907603A00611

Metering nipple with O-ring 7,5x1,5
exchangeable,
Order-no. see table



Metering distributor block, 2 outlets
Order-no: e.g. 401832
see order key

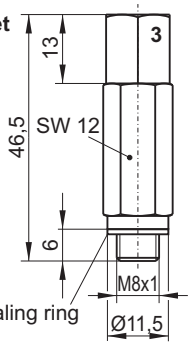


Reduction acc. to DIN 2367

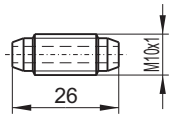
Metering distributor block, from 3 outlets on
Order-no.:e.g. 401825342
see order key

Number of lube points	3	4	5	6	7	8	9	10
L (mm)	65	82	99	116	133	150	167	184
L1 (mm)	17	34	51	68	85	102	119	136

Metering distributor, 1-outlet
Order-no.: e.g. 40182
see order key



Sealing ring



Distributor connection nipple
Order-no.: 40160005

Order example for a metering distributor block for 7 lubrication points:

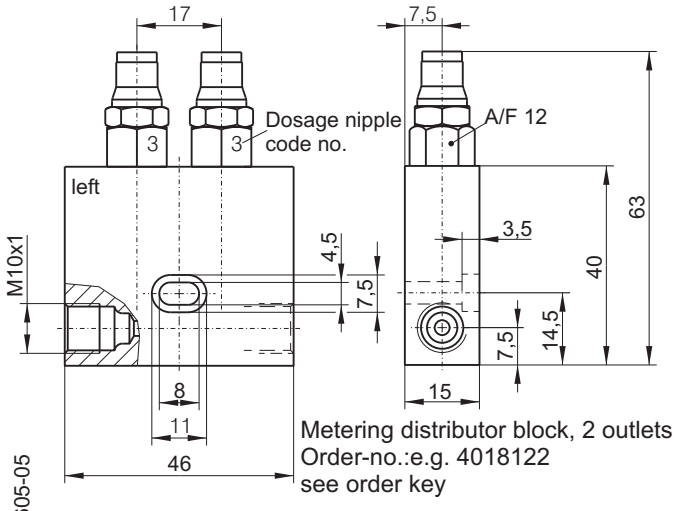
Order-no. → 4018 3 3 4 2 9 5 5
Type-no.

Order key						
Metering volume (mm^3)	*	10	30	60	100	160
Order-code-no.	0**	9	2	3	4	5

* Please indicate the metering volume from left to right, **0 = for not used lubricant outlets

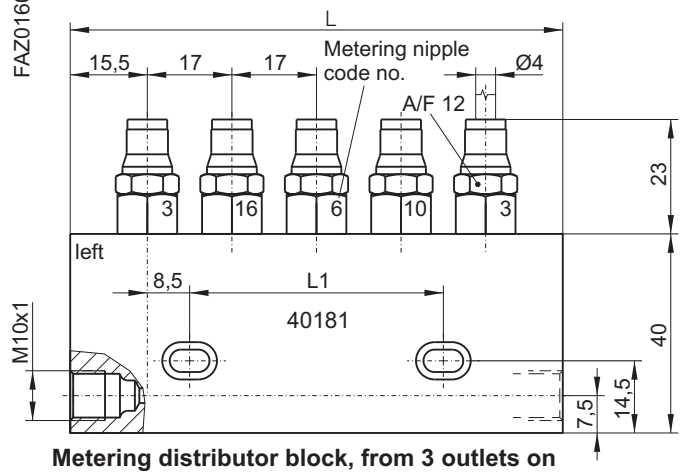
Subject to alterations!

Metering distributor blocks size 1 type 40181 with plug connection



Metering distributor block, 2 outlets
Order-no.:e.g. 4018122
see order key

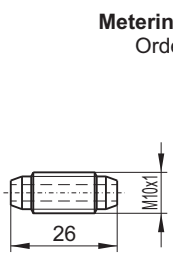
FAZ01605-05



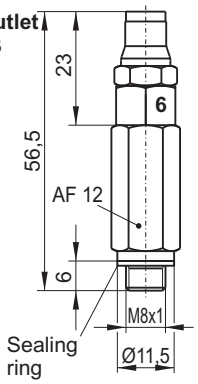
Metering distributor block, from 3 outlets on
Order-no.: e.g. 4018125342, see order key

Number of lube points	3	4	5	6	7	8	9	10
L (mm)	65	82	99	116	133	150	167	184
L1 (mm)	17	34	51	68	85	102	119	136

Metering distributor, 1-outlet
Order-no.: e.g. 401813
see order key



Distributor connection nipple
Order-no.: 40160005



Function

See functional description metering valves..

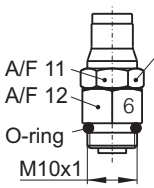
Technical data type 40181

Material:	distributor block - aluminum dosage nipple - brass
Number of lubrication points:	1 to 10
Connections:	
Main line	M10x1, pipe Ø6 mm
Lubrication line	plug-in connection M8x1, pipe Ø4 mm
Model for olive according to DIN 3862 and retaining screw according to DIN 3871	
Installation position:	optional, with outlet upwards if possible
Temperature range:	0 - 80°C
Operating pressure:	12 - 50 bar
Relief pressure:	max. 3 bar
Lubricants:	oils fluid greases NLGI-cl. 000 - 00 (according to release list)
Viscosity range:	10 - 1000 mm²/s

Table of order-no. for dosage nipple with O-ring and plug-in connection:

Metering nipple Code-no. (stamped on metering nipple)	Metering volume (mm³/stroke)	Order-no. metering nipple
1***	10	401810000
3	30	401810001
6	60	401810002
10	100	401810003
16	160	401810004

*** Dosage nipple 10 mm³ cannot be exchanged!



Plug-in connection M8x1
for pipe Ø4 mm
Order-no.: 04061535

Dosage nipple with O-ring 7,5x1,5 and plug-in connection Ø4 mm (complete) exchangeable
Order-no. see table above

Order example for a metering distributor block for 6 lubrication points:

Order-no. → 40181 3 3 4 2 5 5
Type-no.

Order key						
Metering volume(mm³)*		10	30	60	100	160
Order-code-no.	0**	9	2	3	4	5

* Please indicate the metering volume from left to right, **0= non-used outlets

Subject to alterations!

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03-5-20-06 State: 01.12EN
1090200388

Function

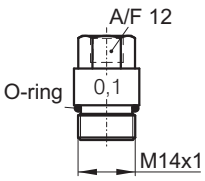
See functional description metering valves.

Technical data type 4180

Material:	distributor block - aluminum dosage nipple - brass
Number of lubrication points:	1 to 10
Connections:	
Lubrication line	M8x1 for pipe Ø4 mm Model for olive acc. to DIN 3862 and retaining screw according to DIN 3871
Main line	M12x1
Installation position:	optional, with outlet upwards if possible
Temperature range:	0 - 80°C
Operating pressure:	16 - 50 bar
Relief pressure:	max. 4 bar
Lubricants:	oils fluid greases NLGI-cl. 000 - 00 (according to release list)
Viscosity range:	10 - 1000 mm²/s

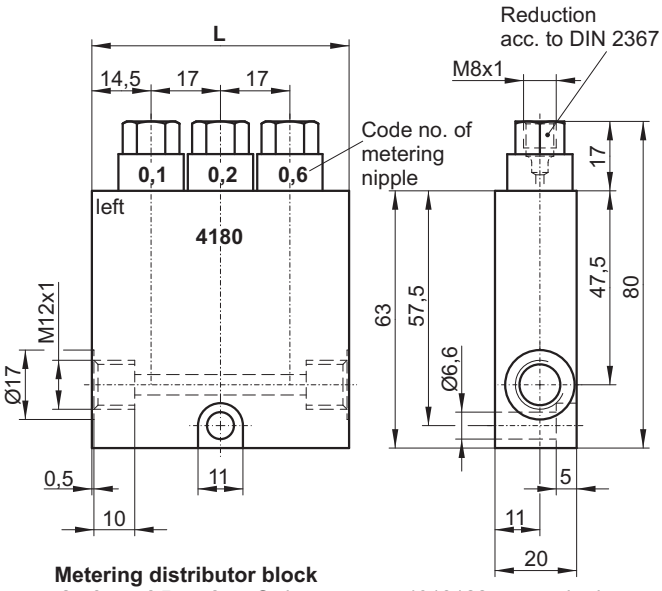
Table of order-no. for dosage nipple with O-ring:

Metering nipple Code-no. (stamped on metering nipple)	Metering volume (mm³/stroke)	Order-no metering nipple
0,1	100	41800001
0,2	200	41800002
0,3	300	41800003
0,4	400	41800004
0,6	600	41800006



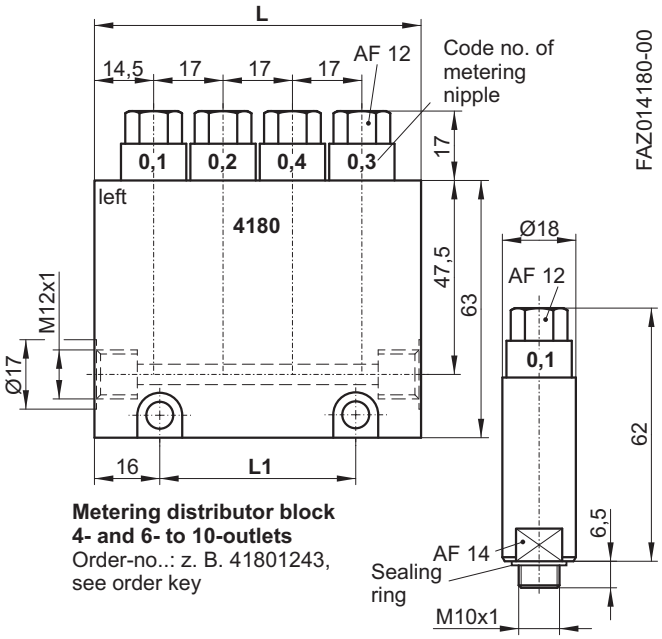
Metering nipple with O-ring 12x1,5
exchangeable, order-no. see table

For locking the metering nipples:
Screw plug DIN 908 - M8x1,
Order-no.: 090090800113
Sealing ring similar to
DIN 7603 - A8x12x1,5
Order-no.: 0907603A00611



Metering distributor block
2-, 3- and 5-outlets Order-no..: e.g. 4018122, see order key

Number of lube points	2	3	4	5	6	7	8	9	10
L (mm)	46	63	80	97	114	131	148	165	182
L1 (mm)	-	-	45	-	82	99	116	133	150



Metering distributor block
4- and 6- to 10-outlets
Order-no..: z. B. 41801243,
see order key

Metering distributor, 1-outlet
Order-no..: z. B. 41801
see order key

Order example for metering distributor block for 5 lube points:

Order-no. 4180 1 3 2 1 2
type-no.

Order key						
Metering volume (mm³)	*	100	200	300	400	600
Order-code-no.	0**	1	2	3	4	6

* Please indicate the metering volume from left to right, **0 = for not used lubricant outlets

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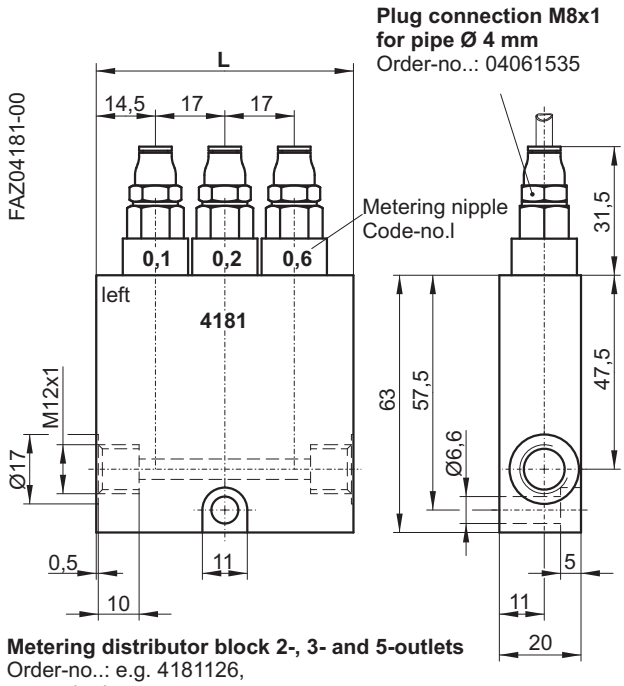
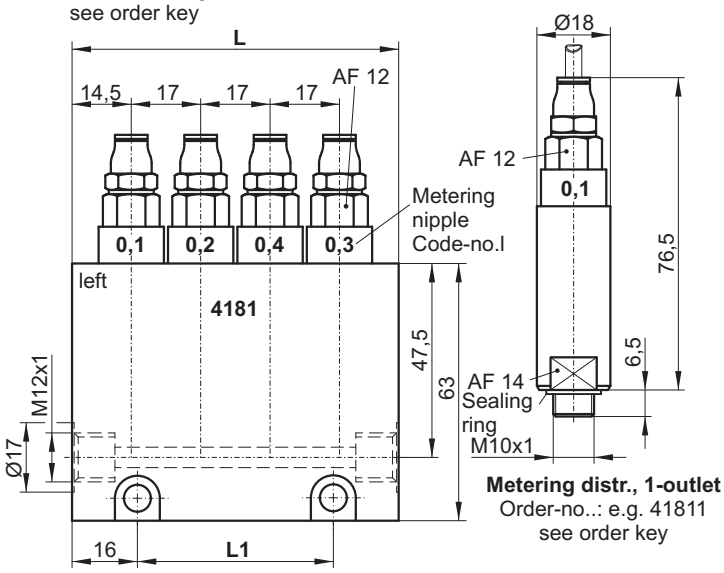
Metering distributor block size 2 type 4181 with plug-type connection

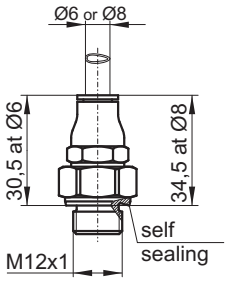


Metering distributor block 2-, 3- and 5-outlets
Order-no..: e.g. 4181126,
see order key



Metering distr., 1-outlet
Order-no..: e.g. 41811
see order key

Metering distributor block 4- and 6- to 10-outlets
Order-no..: e.g. 41811243,
see order key



Straight plug connection for main line
Order-no. for Ø6: 4181G001
Order-no. for Ø8: 4181G002

Function

See functional description metering valves.

Technical data type 4181

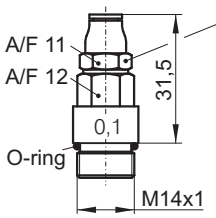
Material:	distributor block - aluminum dosage nipple - brass
Number of lubrication points:	1 to 10
Connections:	
Lubrication line	plug-in connection M8x1, pipe Ø4 mm
Main line	M12x1
Installation position:	optional, with outlet upwards if possible
Temperature range:	0 - 80°C
Operating pressure:	16 - 50 bar
Relief pressure:	max. 4 bar
Lubricants:	oils fluid greases NLGI-cl. 000 - 00 (according to release list)
Viscosity range:	10 - 1000 mm²/s

Table of dimensions of the figs. on the left:

Number of lube points	2	3	4	5	6	7	8	9	10
L (mm)	46	63	80	97	114	131	148	165	182
L1 (mm)	-	-	45	-	82	99	116	133	150

Table order-no. for metering nipple with O-ring:

Metering nipple Code-no. (stamped on metering nipple)	Metering volume (mm³/stroke)	Order-no. metering nipple
0,1	100	41810001
0,2	200	41810002
0,3	300	41810003
0,4	400	41810004
0,6	600	41810006



Plug-in connection M8x1 for pipe Ø4 mm
Order-no.: 04061535

Dosage nipple with O-ring and plug-in connection Ø4 mm (complete) exchangeable,
Order-no. see table

Order example for metering distributor block for 5 lube points:

Order-no. → 4181 1 3 2 1 2
Type-no.

Order key						
Metering volume (mm³)	*	100	200	300	400	600
Order-code-no.	0**	1	2	3	4	6

* Please indicate the metering volume from left to right, **0= non-used outlets

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03-5-20-08 State: 01.12EN

1090200388

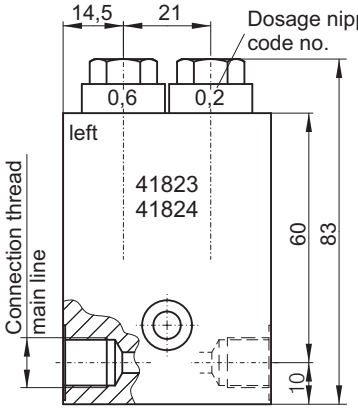
Function

See functional description metering valves..

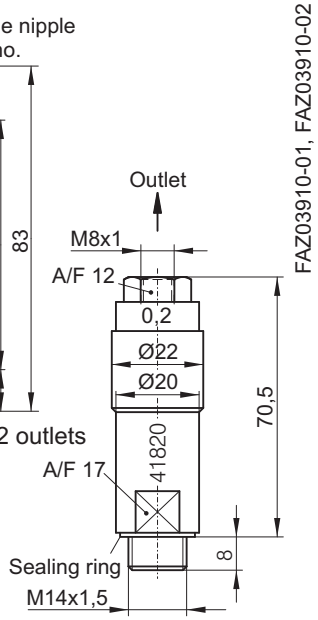
Technical data

Type 41820, 41823, 41824

Material:	distributor block - aluminum
	dosage nipple - brass
Number of lubrication points:	1 to 3
Connections:	
Lubrication line	M8x1 for pipe Ø4 mm
	Model for olive acc. to DIN 3862 and retaining screw acc. to DIN 3871
Main line	M12x1 or G1/8
Installation position:	optional, with outlet upwards if possible
Temperature range:	0 - 80°C
Operating pressure:	16 - 50 bar
Relief pressure:	max. 4 bar
Lubricants:	oils
	fluid greases NLGI-cl. 000 - 00 (according to release list)
Viscosity range:	10 - 1000 mm²/s



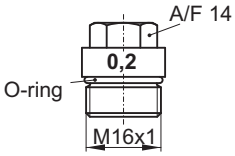
Metering distributor block, 2 outlets
Order-no.: e.g 4182331,
see order key



Dosage distributor, 1 outlet
Order-no.: e.g. 418201
see order key

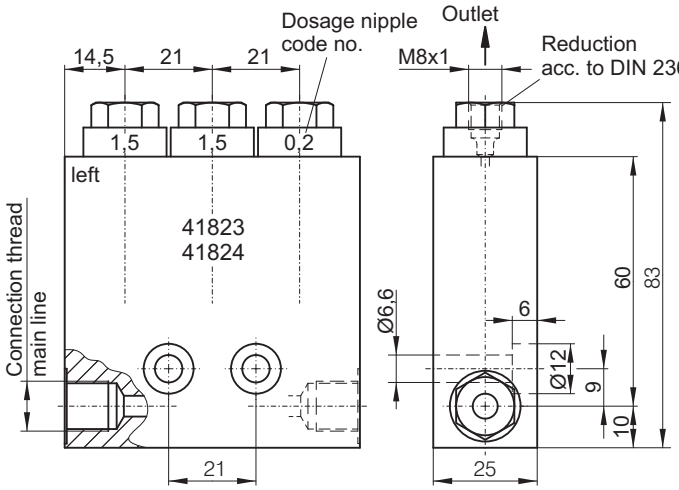
Table of order-no. for dosage nipple with O-ring:

Metering nipple Code-no. (stamped on metering nipple)	Metering volume (mm³/stroke)	Order-no. metering nipple
0,2	200	41820001
0,4	400	41820002
0,6	600	41820003
1,0	1000	41820004
1,5	1500	41820005



For locking the metering nipples:
Screw plug DIN 908 - M8x1,
Order-no.: 090090800113
Sealing ring similar to
DIN 7603 - A8x12x1,5
Order-no.: 0907603A00611

Metering nipple with O-ring 14x1,5 mm
exchangeable, order-no. see table



Metering distributor block, 3 outlets
Order-no.:e.g. 41823551, see order key

Order example for metering distributor block for 3 lube points:

Order-no. → 41823 5 1 5

Order key			Metering distr.
Connection thread main line	M12x1	G 1/8	1-outlet
Order-code-no. = type-no.	41823	41824	41820

Metering volume (mm³) *	200	400	600	1000	1500
Order-Code-no.	1	2	3	4	5

* Please indicate the metering volume from left to right

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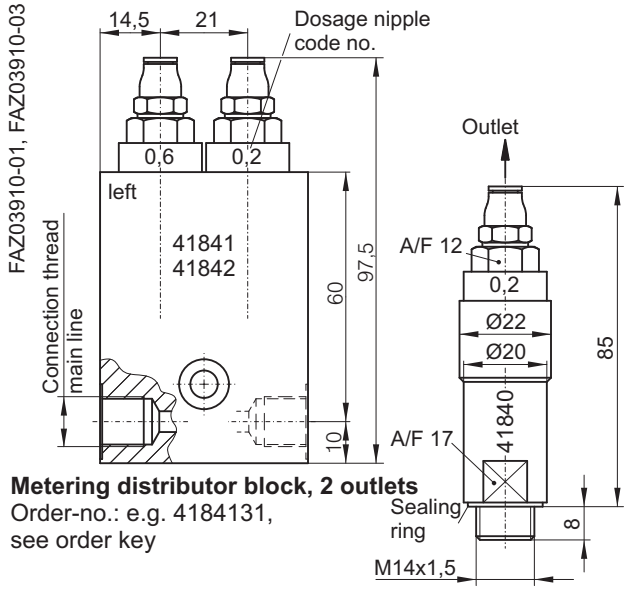
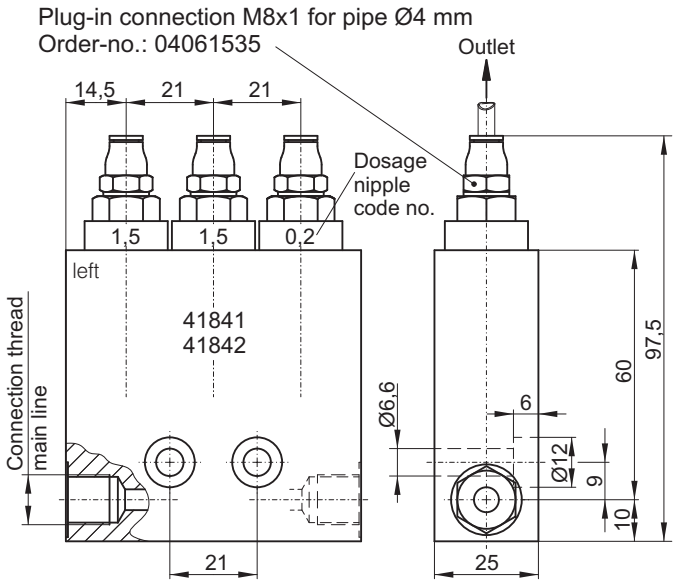
Metering distributor blocks size 3 type 41840, 41841, 41842 with plug-type connection



Metering distributor block, 2 outlets
Order-no.: e.g. 4184131,
see order key

Dosage distributor, 1 outlet
Order-no.: e.g. 418401
see order key



Metering distributor block, 3 outlets
Order-no.: e.g. 41841551, see order key

Function

See functional description metering valves.

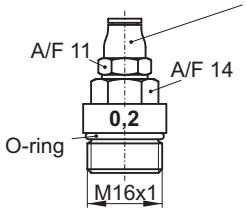
Technical data

Type 41840, 41841, 41842

Material:	distributor block - aluminum dosage nipple - brass
Number of lubrication points:	1 to 3
Connections:	
Lubrication line	plug-in connection, M8x1, pipe Ø4 mm
Main line	M12x1 or G1/8
Installation position:	optional, with outlet upwards if possible
Temperature range:	0 - 80°C
Operating pressure:	16 - 50 bar
Relief pressure:	max. 4 bar
Lubricants:	oils fluid greases NLGI-cl. 000 - 00 (according to release list)
Viscosity range:	10 - 1000 mm^2/s

Table of order-no. for dosage nipple with O-ring and plug-in connection:

Metering nipple Code-no. (stamped on metering nipple)	Metering volume (mm^3/stroke)	Order-no. Metering nipple
0,2	200	41840001
0,4	400	41840002
0,6	600	41840003
1,0	1000	41840004
1,5	1500	41840005



Plug-in connection M8x1 for pipe Ø4 mm
Order-no.: 04061535

Dosage nipple with O-ring and plug-in connection Ø4 mm (complete) exchangeable,
Order-no. see table

Order example for metering distributor block for 2 lube points:

Order-no. → 41841 5 1

Order key			Metering distr.
Connection thread main line	M12x1	G 1/8	1-outlet
Order-code-no. = type-no.	41841	41842	41840

Metering volume (mm^3)	* 200	400	600	1000	1500
Order-Code-no.	1	2	3	4	5

* Please indicate the metering volume from left to right

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1090200388

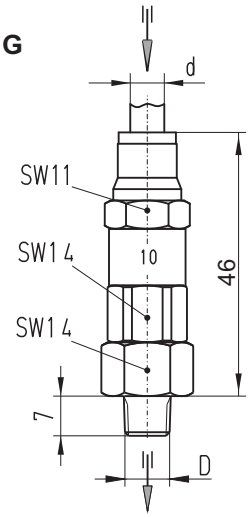
Function

Metering units for a direct lub point connection operate according to the static system. They can be plugged directly into the lub point connection.

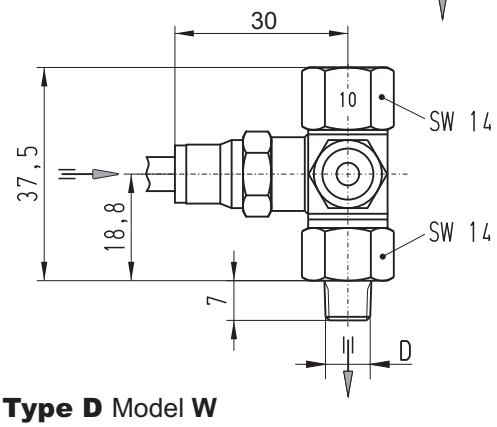
Technical data

Model:	steel
Relief pressure:	max. 1 bar
Lubricants:	
Pipe Ø4 mm	oils
Pipe Ø6 mm	oil and fluid grease according to release list

Type A Model **G**

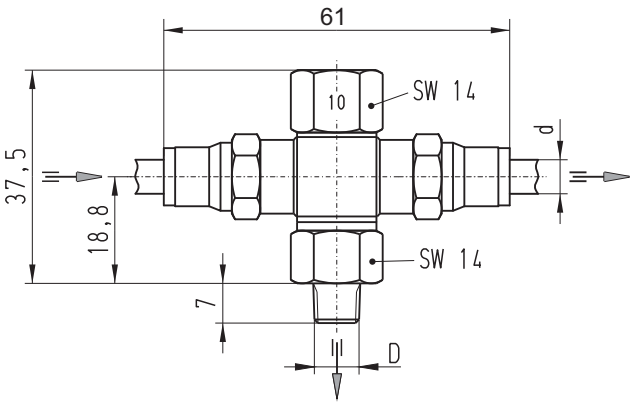


Type B Model **L**

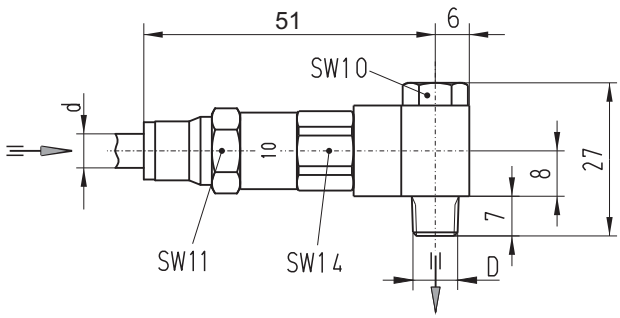


4176-000

Type C Model **T**



Type D Model **W**



Metering volume (mm^3 /stroke)	Code	Screw thread D	Order-no.							
			Type A Model G		Type B Model L		Type C Model T		Type D Model W	
			d=Ø4 mm	d=Ø6 mm	d=Ø4 mm	d=Ø6 mm	d=Ø4 mm	d=Ø6 mm	d=Ø4 mm	d=Ø6 mm
30	3	M 8x1k	4176 A 0311	4176 A 0321	4176 B 0311	4176 B 0321	4176 C 0311	4176 C 0321	4176 D 0311	4176 D 0321
		M 10x1k	4176 A 0312	4176 A 0322	4176 B 0312	4176 B 0322	4176 C 0312	4176 C 0322	4176 D 0312	4176 D 0322
		R 1/8"k	4176 A 0313	4176 A 0323	4176 B 0313	4176 B 0323	4176 C 0313	4176 C 0323	4176 D 0313	4176 D 0323
60	6	M 8x1k	4176 A 0611	4176 A 0621	4176 B 0611	4176 B 0621	4176 C 0611	4176 C 0621	4176 D 0611	4176 D 0621
		M 10x1k	4176 A 0612	4176 A 0622	4176 B 0612	4176 B 0622	4176 C 0612	4176 C 0622	4176 D 0612	4176 D 0622
		R 1/8"k	4176 A 0613	4176 A 0623	4176 B 0613	4176 B 0623	4176 C 0613	4176 C 0623	4176 D 0613	4176 D 0623
100	10	M 8x1k	4176 A 1011	4176 A 1021	4176 B 1011	4176 B 1021	4176 C 1011	4176 C 1021	4176 D 1011	4176 D 1021
		M 10x1k	4176 A 1012	4176 A 1022	4176 B 1012	4176 B 1022	4176 C 1012	4176 C 1022	4176 D 1012	4176 D 1022
		R 1/8"k	4176 A 1013	4176 A 1023	4176 B 1013	4176 B 1023	4176 C 1013	4176 C 1023	4176 D 1013	4176 D 1023

03-5-20-11 State: 01.12EN

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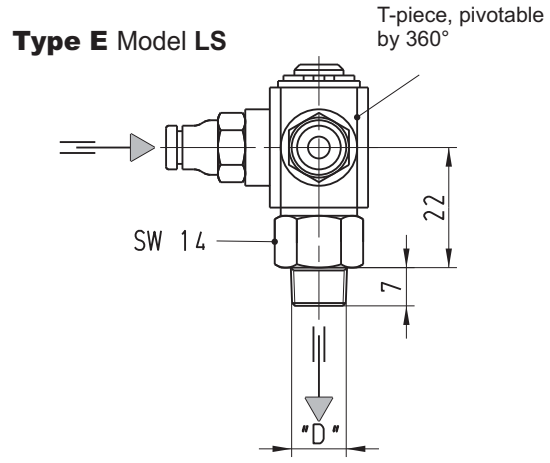
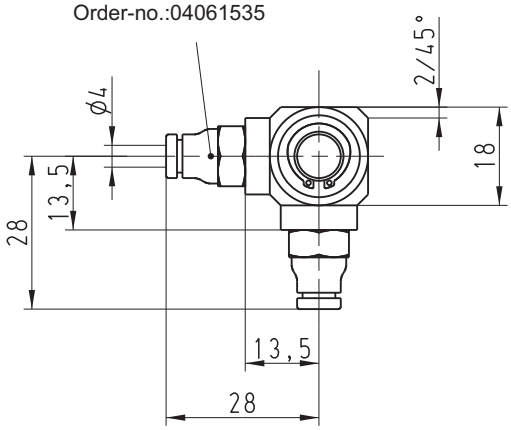
Metering untis with pivotable connection

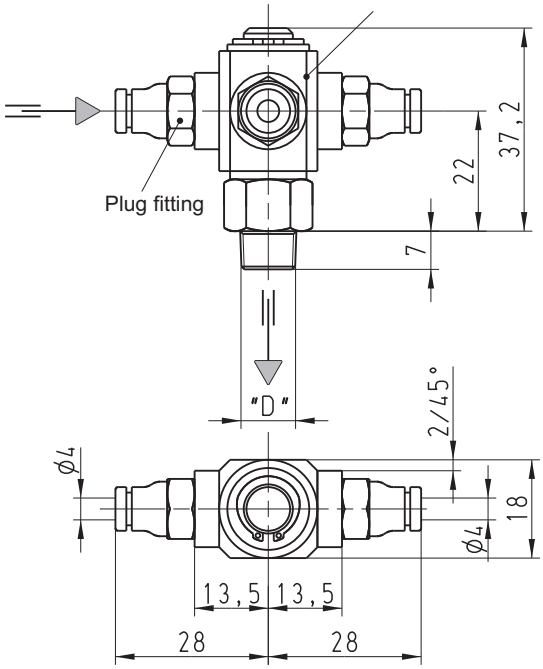
Type E Model **LS**



Order-no.:04061535



Type F Model **TS**



Function

Metering units with rotary connection operate according to the static system. They can be plugged directly into the lub point connection. With the rotary connection, movements of the lubricated parts are also possible during operation.

Technical data

Model:	steel
Connection:	male connection Ø4 mm for polyamide pipe
Operating pressure:	max. 35 bar
Relief pressure:	max. 1 bar
Lubricants:	oils
	ISO VG 40 - 250 mm^2/s

Type E Model LS, pivotable

Metering volume (mm^3/stroke)	Code	Screw thread	Order-no.
30	3	M 8x1 conic.	4174E0311
		M 10x1 conic.	4174E0312
		R 1/8" conic.	4174E0313
60	6	M 8x1 conic.	4174E0611
		M 10x1 conic.	4174E0612
		R 1/8" conic.	4174E0613
100	10	M 8x1 conic.	4174E1011
		M 10x1 conic.	4174E1012
		R 1/8" conic.	4174E1013

Type F Model TS, pivotable

Metering volume (mm^3/stroke)	Code	Screw thread	Order-no.
30	3	M 8x1 conic.	4174F0311
		M 10x1 conic.	4174F0312
		R 1/8" conic.	4174F0313
60	6	M 8x1 conic.	4174F0611
		M 10x1 conic.	4174F0612
		R 1/8" conic.	4174F0613
100	10	M 8x1 conic.	4174F1011
		M 10x1 conic.	4174F1012
		R 1/8" conic.	4174F1013

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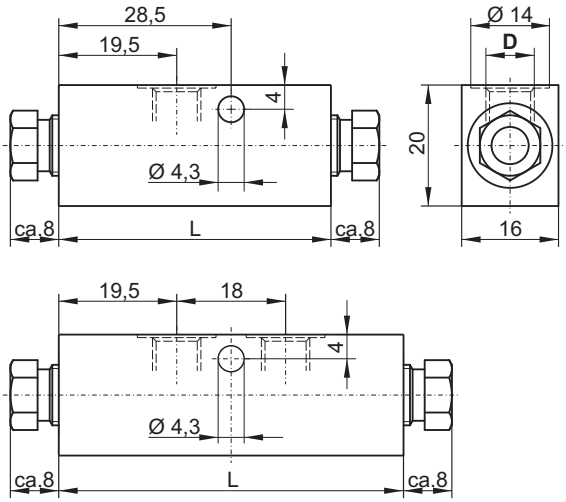
Function

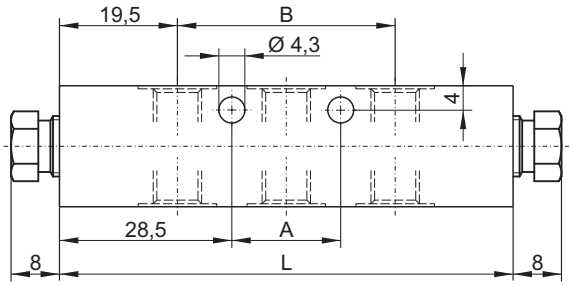
Distributor strip with threads at one (Z32...) or both sides (Z33...) serve as a strip for metering elements, as e.g. metering valves. Distributor strips can be delivered with connection thread (D) M10x1 or M8x1.

Model: steel, surface galvanized
Connection: Ø6 mm, for solderless pipe connection according to DIN 2367 with olive and retaining screw (included in the delivery)

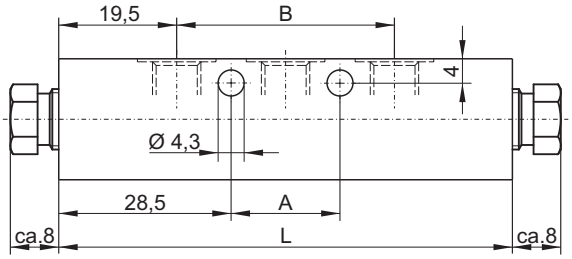
Accessories

Ventilation screw M10x1 — Order-no. 0802000255
Sealing ring DIN 7603-A10x14x1 — Order-no 090760300321





Model with outlets on both sides (Z33...)



Model with outlets at one side (Z32...)

Type	Number of outlets	A	B	L	Order-no. Connection (D) M10x1	Order-no. Connection (D) M8x1	
Z32VL1	1	--	--	45	4020 001 01	4020 001 01 05	Model with outlets at one side
Z32VL2	2	--	--	57	4020 001 02	4020 001 02 05	
Z32VL3	3	18	36	75	4020 001 03	4020 001 03 05	
Z32VL4	4	36	54	93	4020 001 04	4020 001 04 05	
Z32VL5	5	54	72	111	4020 001 05	4020 001 05 05	
Z32VL6	6	72	90	129	4020 001 06	4020 001 06 05	
Z32VL7	7	90	108	147	4020 001 07	4020 001 07 05	
Z32VL8	8	108	126	165	4020 001 08	4020 001 08 05	
Z32VL9	9	126	144	183	4020 001 09	4020 001 09 05	
Z32VL10	10	144	162	201	4020 001 10	4020 001 10 05	
Z32VL11	11	162	180	219	4020 001 11	4020 001 11 05	
Z32VL12	12	180	198	237	4020 001 12	4020 001 12 05	
Z33VL2	2x1	--	--	45	4020 010 02	4020 010 02 05	Model with outlets on both sides
Z33VL4	2x2	--	--	57	4020 010 04	4020 010 04 05	
Z33VL6	2x3	18	36	75	4020 010 06	4020 010 06 05	
Z33VL8	2x4	36	54	93	4020 010 08	4020 010 08 05	
Z33VL10	2x5	54	72	111	4020 010 10	4020 010 10 05	
Z33VL12	2x6	72	90	129	4020 010 12	4020 010 12 05	
Z33VL14	2x7	90	108	147	4020 010 14	4020 010 14 05	
Z33VL16	2x8	108	126	165	4020 010 16	4020 010 16 05	
Z33VL18	2x9	126	144	183	4020 010 18	4020 010 18 05	
Z33VL20	2x10	144	162	201	4020 010 20	4020 010 20 05	
Z33VL22	2x11	162	180	219	4020 010 22	4020 010 22 05	
Z33VL24	2x12	180	198	237	4020 010 24	4020 010 24 05	

03-6-10-01 State: 01.12EN

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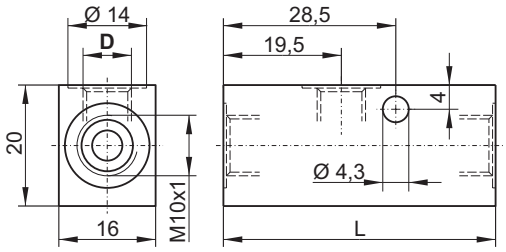
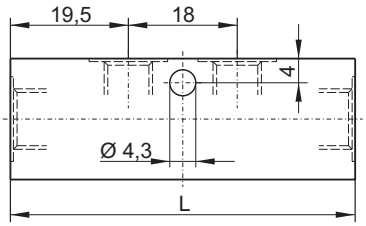
Distributor strips size 1

without union screws





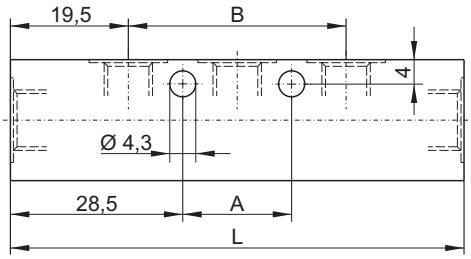
Function

Distributor strips with screw-in threads at one (Z32...) or both (Z33...) sides serve for the fixture of metering elements, as e.g. measure or metering valves.

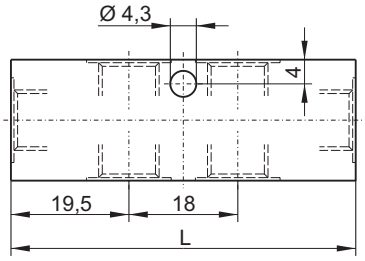
Model:	steel, surface galvanized
Connection (D):	M8x1
	M10x1

Accessories

Double cone olive Ø 6	Order-no. 09038620023
Retaining screw Ø 6	Order-no. 0802000190
Ventilation screw M10x1	Order-no. 0802000255
Sealing ring DIN 7603-A 10x14x1	Order-no. 090760300321



Model with outlets at one side (Z32...)



Model with outlets on both sides (Z33...)

Type	Number of outlets	A	B	L	Order-no. Connection (D) M10x1	Order-no. Connection (D) M8x1	
Z32VL1	1	--	--	45	F4020/01-00 001	F4020/02-00 001	Model with outlets at one side
Z32VL2	2	--	--	57	F4020/01-00 002	F4020/02-00 002	
Z32VL3	3	18	36	75	F4020/01-00 003	F4020/02-00 003	
Z32VL4	4	36	54	93	F4020/01-00 004	F4020/02-00 004	
Z32VL5	5	54	72	111	F4020/01-00 005	F4020/02-00 005	
Z32VL6	6	72	90	129	F4020/01-00 006	F4020/02-00 006	
Z32VL7	7	90	108	147	F4020/01-00 007	F4020/02-00 007	
Z32VL8	8	108	126	165	F4020/01-00 008	F4020/02-00 008	
Z32VL9	9	126	144	183	F4020/01-00 009	F4020/02-00 009	
Z32VL10	10	144	162	201	F4020/01-00 010	F4020/02-00 010	
Z32VL11	11	162	180	219	F4020/01-00 011	F4020/02-00 011	
Z32VL12	12	180	198	237	F4020/01-00 012	F4020/02-00 012	
Z33VL2	2x1	--	--	45	F4020/06-00 001	F4020/06-01 001	Model with outlets on both sides
Z33VL4	2x2	--	--	57	F4020/06-00 002	F4020/06-01 002	
Z33VL6	2x3	18	36	75	F4020/06-00 003	F4020/06-01 003	
Z33VL8	2x4	36	54	93	F4020/06-00 004	F4020/06-01 004	
Z33VL10	2x5	54	72	111	F4020/06-00 005	F4020/06-01 005	
Z33VL12	2x6	72	90	129	F4020/06-00 006	F4020/06-01 006	
Z33VL14	2x7	90	108	147	F4020/06-00 007	F4020/06-01 007	
Z33VL16	2x8	108	126	165	F4020/06-00 008	F4020/06-01 008	
Z33VL18	2x9	126	144	183	F4020/06-00 009	F4020/06-01 009	
Z33VL20	2x10	144	162	201	F4020/06-00 010	F4020/06-01 010	
Z33VL22	2x11	162	180	219	F4020/06-00 011	F4020/06-01 011	
Z33VL24	2x12	180	198	237	F4020/06-00 012	F4020/06-01 012	

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Function

Distributor strips with plug-in threads at one (Z32...) or both (Z33...) sides serve for the fixture of metering elements, as e.g. metering valves.

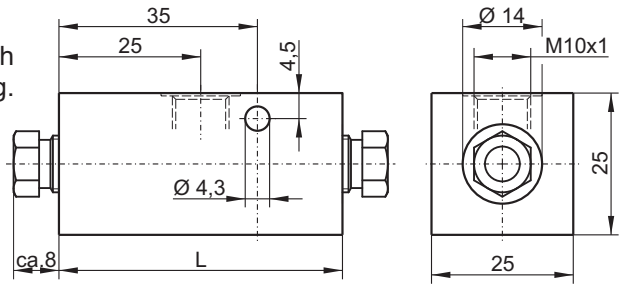
Model: steel, surface galvanized

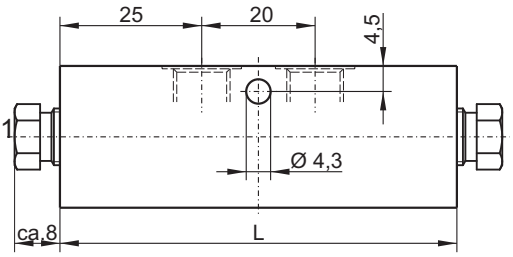
Connection: Ø6 mm, for solderless pipe connection according to DIN 2367 with olive and retaining screw (included in the delivery)

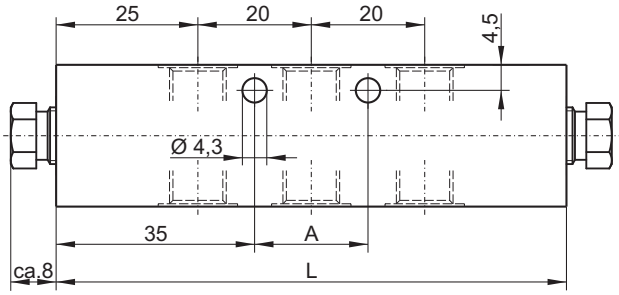
Accessories

Ventilation screw M10x1 Order-no. 0802000255

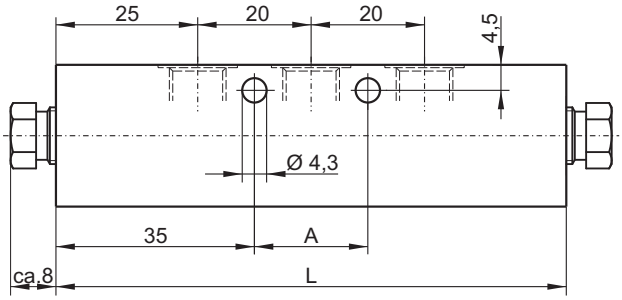
Sealing ring DIN 7603-A 10x14x1 Order-no. 090760300321







Model with outlets on both sides (Z33...)



Model with outlets at one side (Z32...)

Type	Number of outlets	A	L	Order number	
Z32VL1/2	1	--	50	4020 002 01	Model with outlets at one side
Z32VL2/2	2	--	70	4020 002 02	
Z32VL3/2	3	20	90	4020 002 03	
Z32VL4/2	4	40	110	4020 002 04	
Z32VL5/2	5	60	130	4020 002 05	
Z32VL6/2	6	80	150	4020 002 06	
Z32VL7/2	7	100	170	4020 002 07	
Z32VL8/2	8	120	190	4020 002 08	
Z32VL9/2	9	140	210	4020 002 09	
Z32VL10/2	10	160	230	4020 002 10	
Z33VL2/2	1x2	--	50	4020 011 02	Model with outlets on both sides
Z33VL4/2	2x2	--	70	4020 011 04	
Z33VL6/2	2x3	20	90	4020 011 06	
Z33VL8/2	2x4	40	110	4020 011 08	
Z33VL10/2	2x5	60	130	4020 011 10	
Z33VL12/2	2x6	80	150	4020 011 12	
Z33VL14/2	2x7	100	170	4020 011 14	
Z33VL16/2	2x8	120	190	4020 011 16	
Z33VL18/2	2x9	140	210	4020 011 18	
Z33VL20/2	2x10	160	230	4020 011 20	

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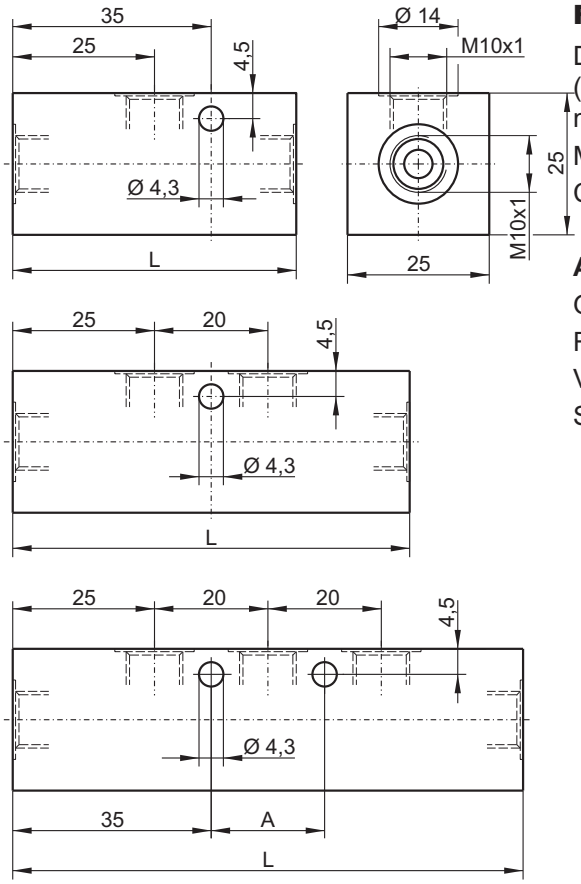
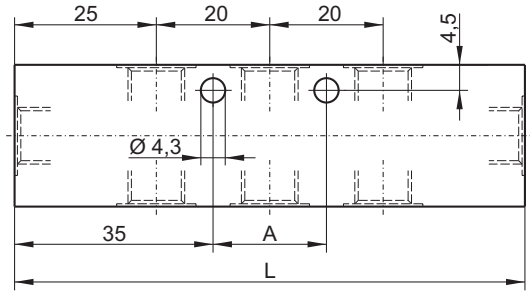
Distributor strips size 2

without union screws



Model with outlets at one side (Z32...)



Model with outlets on both sides (Z33...)

Function

Distributor strips with screw-in threads at one (Z32...) or both (Z33...) sides serve for the fixture of metering elements, as e.g. metering valves.

Model: steel, surface galvanized

Connection: M10x1

Accessories

Olive Ø 6	Order-no. 09038620023
Retaining screw Ø 6	Order-no. 0802000190
Ventilation screw M10x1	Order-no. 0802000255
Sealing ring DIN 7603-A 10x14x1	Order-no. 090760300321

Type	Number of outlets	A	L	Order number	
Z32VL1/2	1	--	50	F4020/12-00 001	Model with outlets at one side
Z32VL2/2	2	--	70	F4020/12-00 002	
Z32VL3/2	3	20	90	F4020/12-00 003	
Z32VL4/2	4	40	110	F4020/12-00 004	
Z32VL5/2	5	60	130	F4020/12-00 005	
Z32VL6/2	6	80	150	F4020/12-00 006	
Z32VL7/2	7	100	170	F4020/12-00 007	
Z32VL8/2	8	120	190	F4020/12-00 008	
Z32VL9/2	9	140	210	F4020/12-00 009	
Z32VL10/2	10	160	230	F4020/12-00 010	
Z33VL2/2	1x2	--	50	F4020/11-00 001	Model with outlets on both sides
Z33VL4/2	2x2	--	70	F4020/11-00 002	
Z33VL6/2	2x3	20	90	F4020/11-00 003	
Z33VL8/2	2x4	40	110	F4020/11-00 004	
Z33VL10/2	2x5	60	130	F4020/11-00 005	
Z33VL12/2	2x6	80	150	F4020/11-00 006	
Z33VL14/2	2x7	100	170	F4020/11-00 007	
Z33VL16/2	2x8	120	190	F4020/11-00 008	
Z33VL18/2	2x9	140	210	F4020/11-00 009	
Z33VL20/2	2x10	160	230	F4020/11-00 010	

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Technical description

The single line distributor NV (relubrication system) supply lubricant after pressure- relief process into the lines towards the lube points, i.e. after the pump is switched off. Each outlet has one lube point.

Exchangeable metering nipples guarantee a perfect adjustment of lubricant requirements of the friction point. The number of pump actuations per time unit of the lubrication system, enable an additional coordination of the lubricant volume.

Technical data

Operating pressure:	min.	15 bar
inlet:	max.	45 bar
outlet:	max.	13,5 bar
Temperature range:		-20 °C to +70 °C
Lubricant:		fluid greasee NLGI-cl. 000, 00
		oils 68 - 1000 mm²/s
Metering volume:		optional
		0,1 / 0,2 / 0,3 / 0,4 / 0,6 / 1,0 cm³/stroke and outlet
Material:	housing	GD-Zn
	additional parts	brass
No. of outlets at one distributor:		
	min.	1 outlet
	max.	6 outlets

(several single line distributors NV can be assembled behind each other with a connector)

Weights:	NV-2:	285 g
	NV-4:	485 g
	NV-6:	715 g

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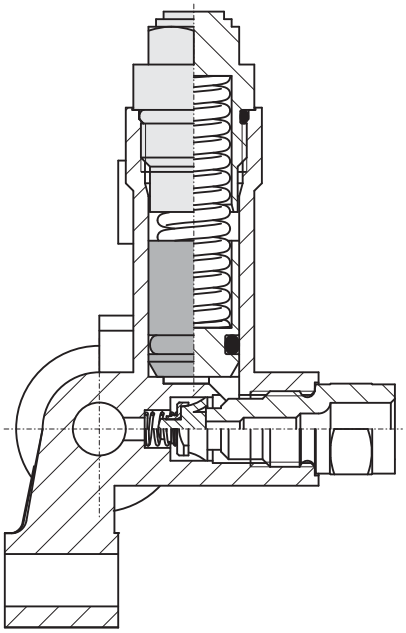
Function

When lubricant is supplied through the inlet drilling (1) into the distributor or towards the metering nipple (2), it presses the edge of the valve sleeve (3) with retaining plate (4) inside. Thus lubricant can pass this parts and flow towards the metering nipple (2). The metering piston (5) is contrary tot he spring force (6) pressed upwards and the lubrication chamber (7) is filled with lubricant.

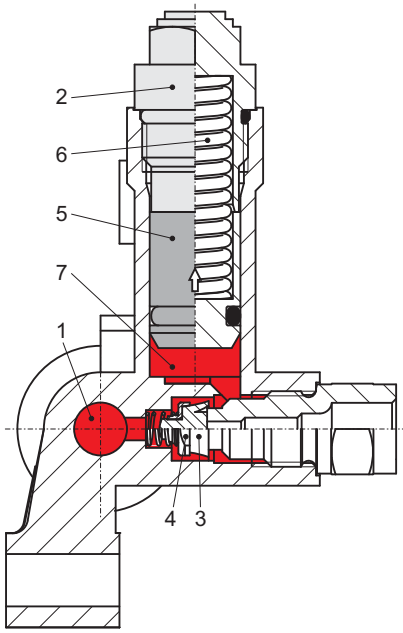
As soon as all distributors are filled, the pressure switch switches off the pump when the necessary pressure is reached. Due to the pressure relief in the inlet drilling (1), the metering piston (5) is pressed downwards by the metering spring (6) and the valve sleeve (3) with retaining plate (4) is pressed, contrary to the valve spring (8), to the left side. Now the outlet drilling (9) is open and lubricant flows to the lube point.

After this supply process, the valve sleeve (3) with retaining plate (4) is pressed to the right by the valve spring (8) and the outlet drilling (9) is closed again.

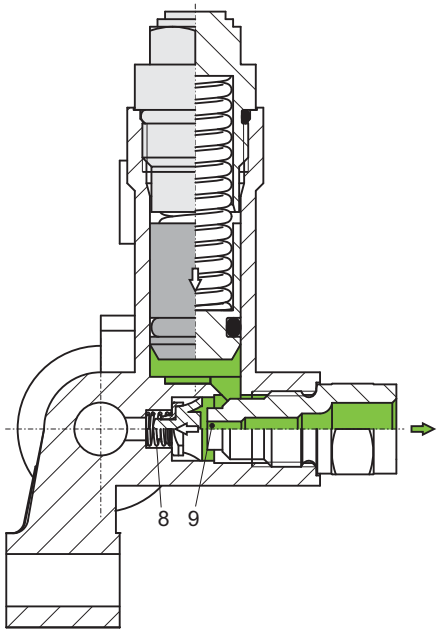
A new lubrication cycle starts as soon as the adjusted break time is processed.



Single line distributor NV in normal position
system without pressure



Single line distributor NV pressurized
lubricant pressure



Single line distributor NV supplies to lube point
inlet drilling relieved

= pressure channels
= following pressure stroke

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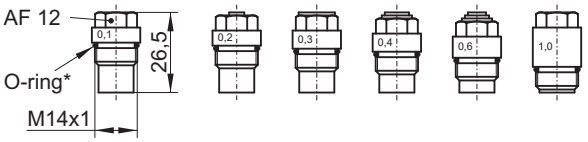
Metering nipple

The metering volume is recognizable by the form.



* Spare part number O-ring 12x1,5:

09037710017141

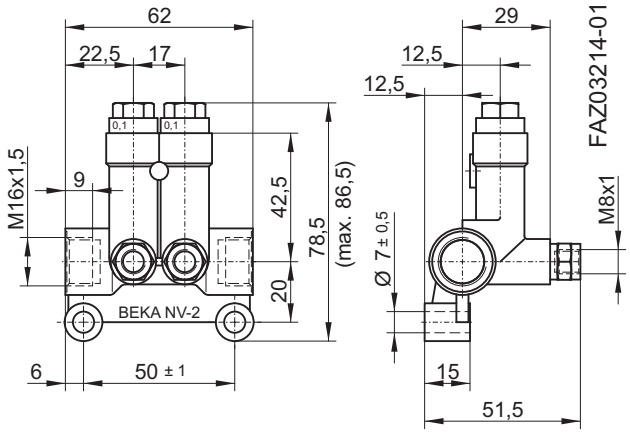
Table order-no.:

Metering volume (cm³ / stroke and outlet)	Order-no. for metering nipple with O-ring
0,1	402001
0,2	402002
0,3	402003
0,4	402004
0,6	402006
1,0	402010

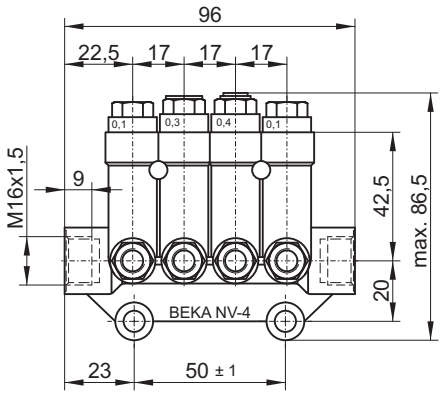
Single line distributor NV

Die Single line distributor NV are only delivered with installed metering nipples.

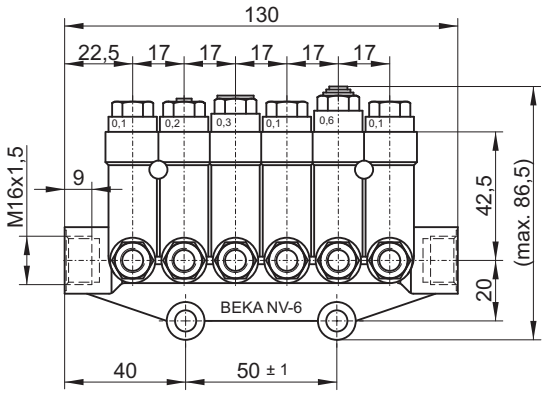
NV-2 (= 2-outlets)



NV-4 (= 4-outlets)



NV-6 (= 6-outlets)



Order key

for single line distributor NV

Order example: 4020 4 1241

Type-no.
Number of outlets

Delivery volume (cm³/stroke a. outlet)	Code no.**
0,1	1
0,2	2
0,3	3
0,4	4
0,6	6
1,0	10

**Code-no. please indicate from left to right

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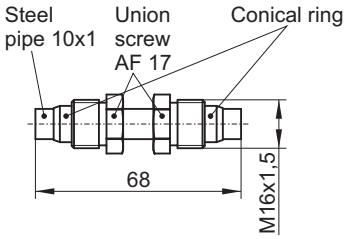
Combination of single line distributor NV

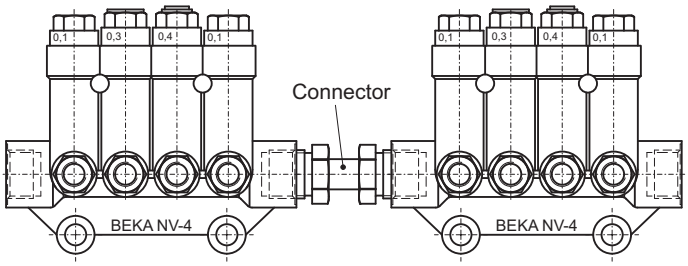
If more than six outlets of the NV-6 are needed, two single line distributors NV can be combined by means of a connector.

There are two connectors offered:

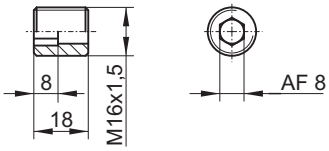
Order-no. connector: 402080

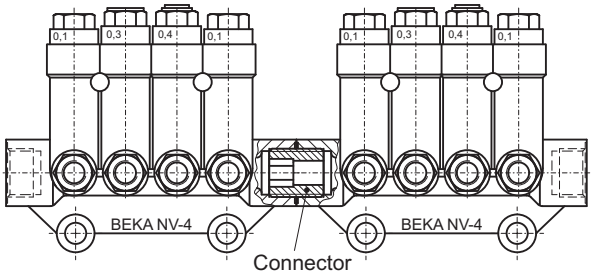


FAZ02619-00
FWZ02148-00



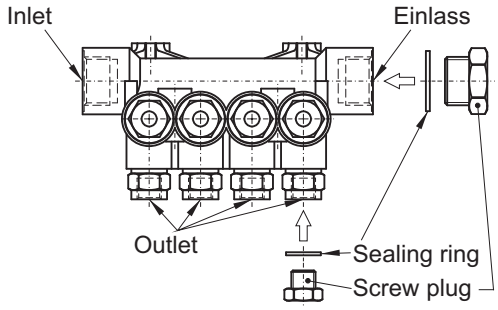
Order-no. connector: 402090





Sealing of inlets or outlets

If necessary, one inlet or several outlets can be sealed by a screw plug and a sealing ring. Those outlets are then shut down. Other meterings are not affected.



Parts	Order-no.
Inlet	
Screw plug M16x1,5	100300012
Seal. ring DIN 7603-A16x20x1,5	090760300711
Outlet	
Screw plug M8x1	100300004
Seal. ring DIN 7603-A8x11,5x1	090760300211

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Technical description

The single line distributor UEN supplies lubricant after pressure- relief process into the lines towards the lube points, i.e. after the pump is switched off. Each outlet has one lube point.

Due to the piston control unit of the distributor, high system pressures are possible. Because of the restoring force of the metering piston, high operational safety is possible at large line lengths or at cold temperatures.

Technical data

Operating pressure at inlet: 210 bar
max. 300 bar

Outlet pressure: max. 50 bar

Relief pressure: max. 40 bar

Temperature range: -30 °C to +60 °C

Lubricant: fluid grease;greases up to NLGI-cl. 2 acc. to release list

Metering volume: see table

Material: steel,
zinc-nickel-coating acc. to DIN 50979

Number of metering elements or of outlets of one single line distributors:
min. 1 metering element: UEN-1
max. 6 metering elements: UEN-6
(up to 12 metering elements possible with a connecting element, up to 24 metering elements possible with two connecting elements)

Weights: see table of dimensional drawing (next page)

Designation metering element	Metering volume* (mm³/stroke)
25 UEN	25
50 UEN	50
100 UEN	100
200 UEN	200
400 UEN	400

* Metering tolerance is approx. 20 % and depends on lubricant and temperature

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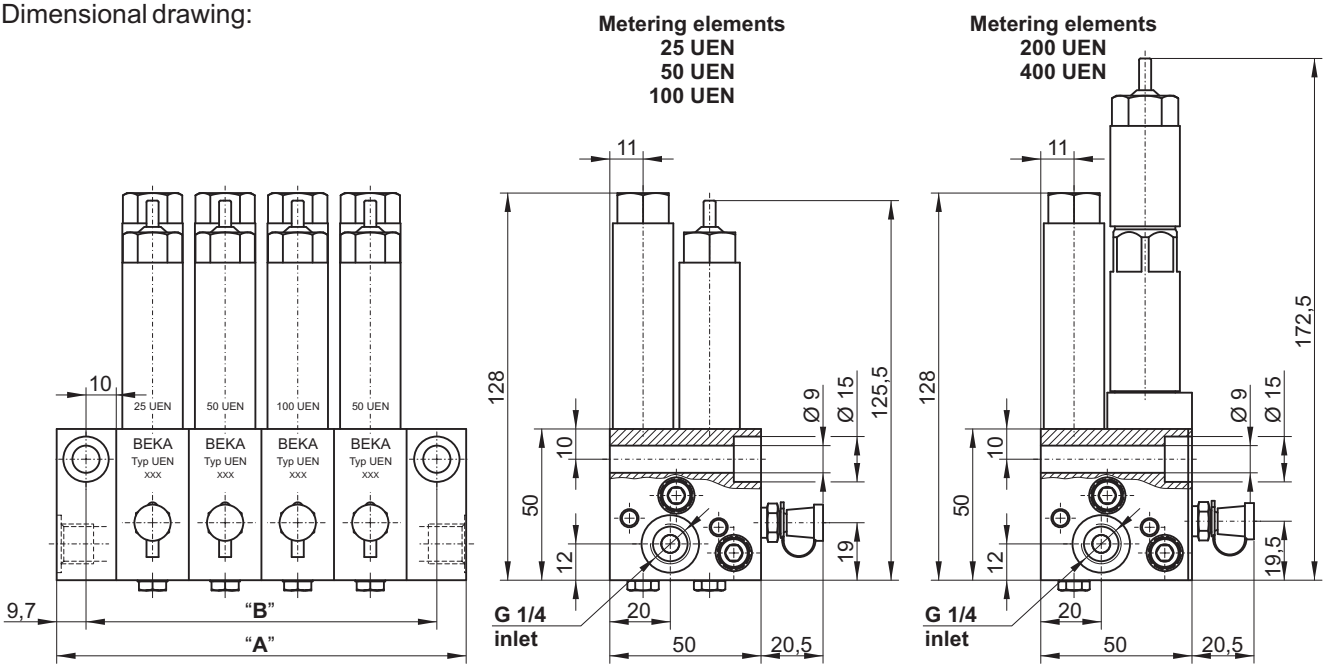
Dimensional drawing:



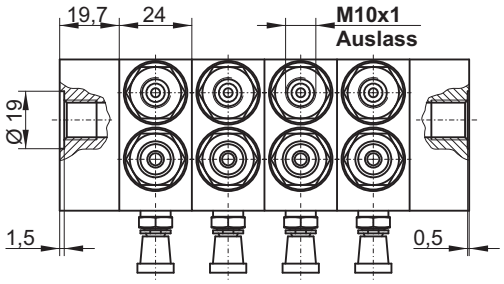


Table of dimensions:

Number of metering elem.	Dimension "A" (mm)	Dimension "B" (mm)
1	63,4	44
2	87,4	68
3	111,4	92
4	135,4	116
5	159,4	140
6	183,4	164

Table of weight for one single line distributors UEN:

Number of one metering element	Weigt of distributor (kg) with metering elementes 25/50/100 UEN	with metering elementes 200/400 UEN
1	2,44	2,89
2	4,24	5,14
3	6,04	7,39
4	7,84	9,64
5	9,64	11,89
6	11,44	14,14

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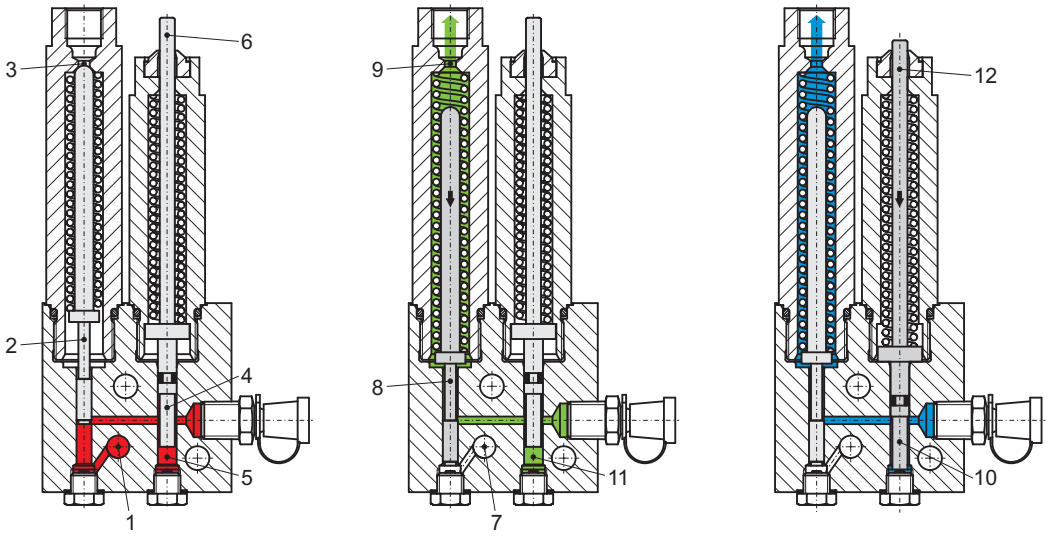
Function

When lubricant is supplied through the inlet drilling (1) into the distributor, it presses the control piston (2) upwards agains the spring force whereupon the lubricant outlet (3) is closed. When pressure increases, the metering piston (4) is pressed upwards against the spring force and the lubricant chamber (5) is filled. The indicator pin (6) is displayed and shows that the distributor is filled with lubricant.

As soon as all distributors are filled, the pump is switched off by reaching the switching pressure. The following pressure relief at the inlet drilling (7) makes the control piston (8) being pressed down and hence, the lubricant outlet (9) is opened.

Now the metering piston (10) is pressed downwards and the stored lubricant in the lubrication chamber (11) is rearranged and supplied to the outlet (9). The indication pin (12) is not displayed anymore.

A new lubrication cycle starts as soon as the adjusted break time is processed.



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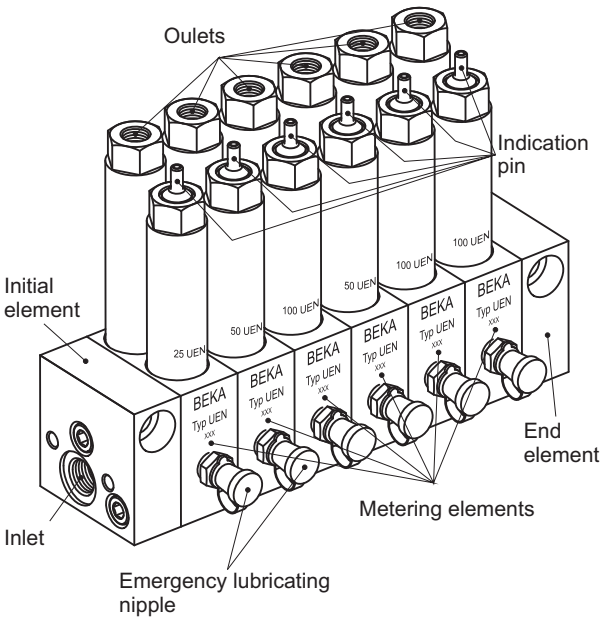
Order key



The single line distributor UEN without accessories can be ordered with max. six metering elements according to the order key below as standard.

Other single line distributors UEN with accessories or with more than six metering elements must be

Order key type-no. 4124

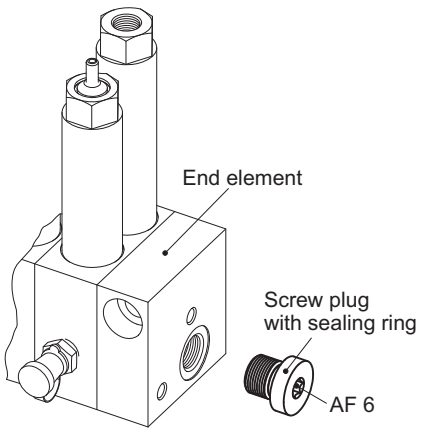
4124 6 AACDAC 000

Type number	4124					
Code-no.	4124					
Number of metering elements	1	2	3	4	5	6
Code-no.	1	2	3	4	5	6
Metering vol. per outlet (mm³/stroke)	25	50	100	200	400	
Kennbuchstabe	C	D	A	E	B	
Special model	none					
Code-no.	000					

Screw plug

In order to lock the threaded connection at the end element, a screw plug with sealing ring has to be ordered separately.

Screw plug G 1/4 (ZnNi-coating) with sealing ring
Order-no.: 04030189342100



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Elements

The single line distributor UEN consists of one initial element, one to six metering elements and one end element.

Each metering element has one outlet and a functional indication (indication pin).

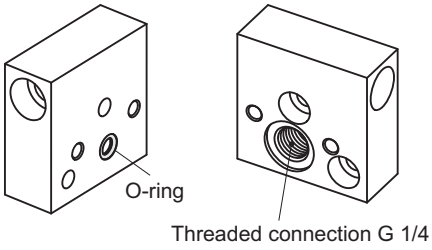
Initial element

The initial element has a threaded connection G 1/4.

Order-numbers

Initial element (with O-ring): 4124990010
Weight: 0,31 kg

O-ring DIN 3771 - Ø 6 x 1,5 - NBR as spare part:
09037710031181



Metering elements

Each metering element has a threaded connection M10x1 at the outlet.

Order numbers

Metering element 25 UEN (with O-ring): 4124990022

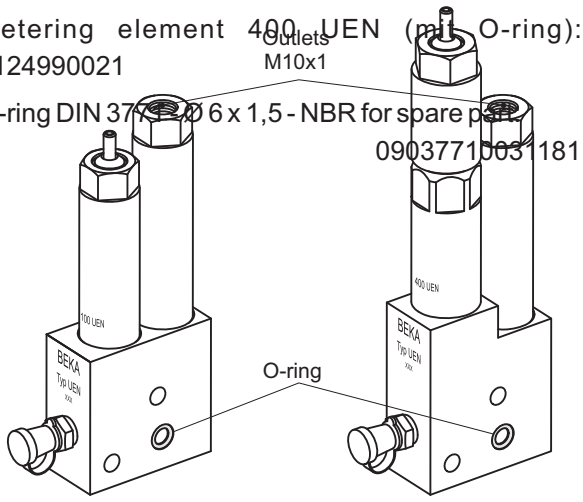
Metering element 50 UEN (with O-ring): 4124990023

Metering element 100 UEN (with O-ring): 4124990020

Metering element 200 UEN (with O-ring): 4124990024

Metering element 400 UEN (with O-ring): 4124990021

O-ring DIN 3771 - Ø 6 x 1,5 - NBR for spare part:
09037710031181



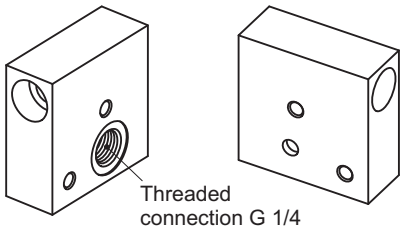
	Metering element 25 UEN 50 UEN 100 UEN	Metering element 200 UEN 400 UEN
Weight:	1,8 kg	2,25 kg

End element

The end element has a threaded connection G 1/4.

Order number

End element: F4124/03-02
Weight: 0,33 kg



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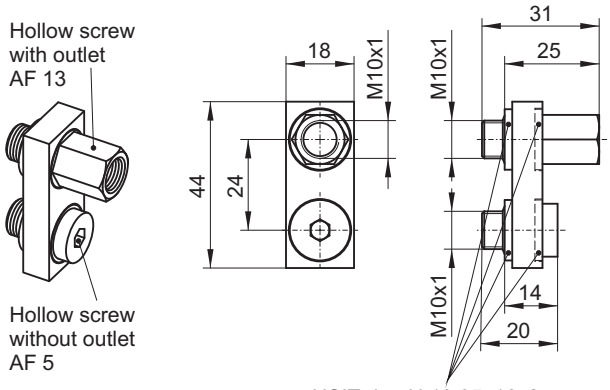
Combination of outlets

For lube points with divergent metering volumes, two, three or four outlets can be combined by means of a distributor bridge.

Distributor bridge 2-outlets

Order-no. total: 4124990005

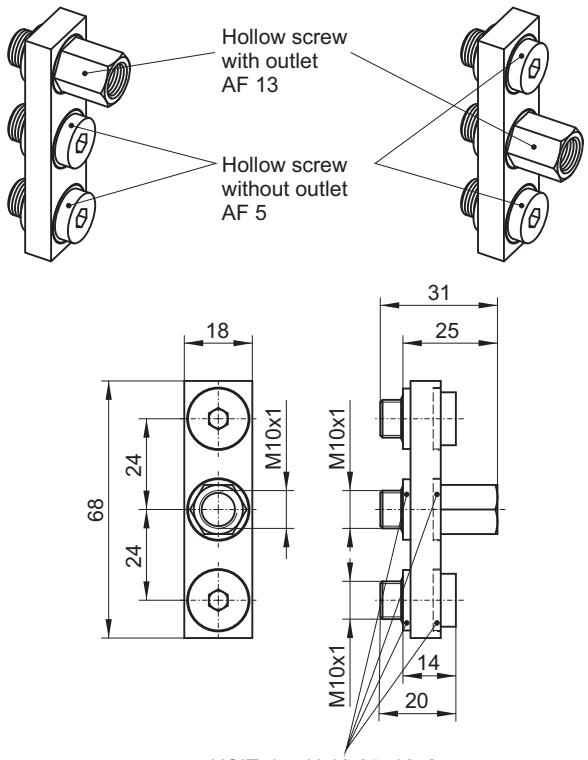


USIT-ring U 10,35x16x2
(1.4401 + NBR 80)
Order-no..: 100150010383
(for spare part)

Distributor bridge 3-outlets

Order-no. total:

4124990081 4124990082

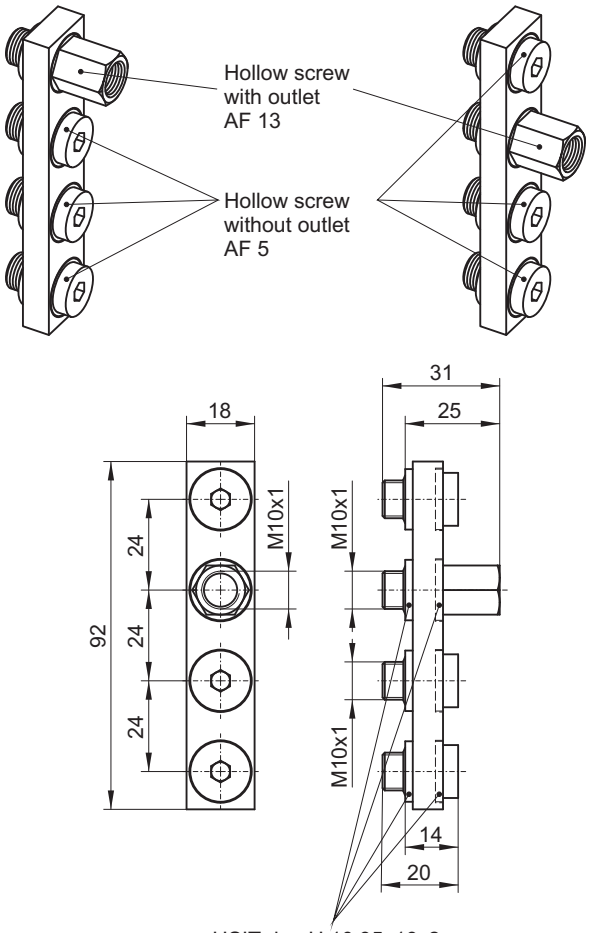


USIT-ring U 10,35x16x2
(1.4401 + NBR 80)
Order-no..: 100150010383
(for spare part)

Distributor bridge 4-outlets

Order-no. total:

4124990083 4124990084



USIT-ring U 10,35x16x2
(1.4401 + NBR 80)
Order-no..: 100150010383
(for spare part)

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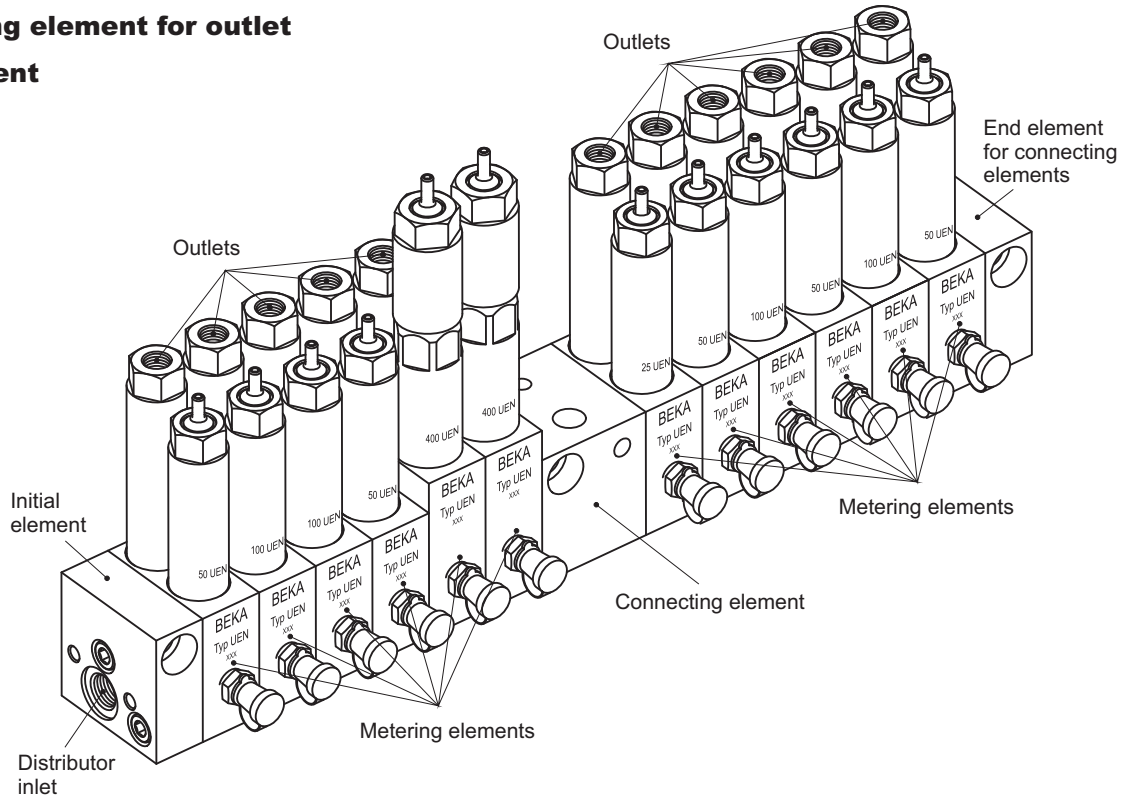
Connecting element for outlet enlargement

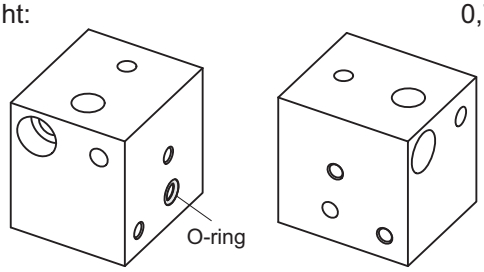


If distributors with more than six metering elements are necessary, they can be enlarged to max. 12 outlets (2x6 metering elements) by means of connecting elements. When using a connecting element, a special end element is needed.

Connecting element

Order-no. (with O-ring)**:** 4124990040

Weight: 0,75 kg



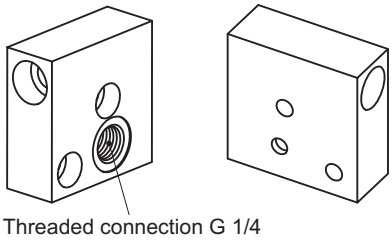
O-ring DIN 3771 - Ø 6 x 1,5 - NBR for spare part: 09037710031181

End element for connecting element

The end element for connecting element has a threaded connection G 1/4.

Order-no.: F4124/03-04

Weight: 0,32 kg



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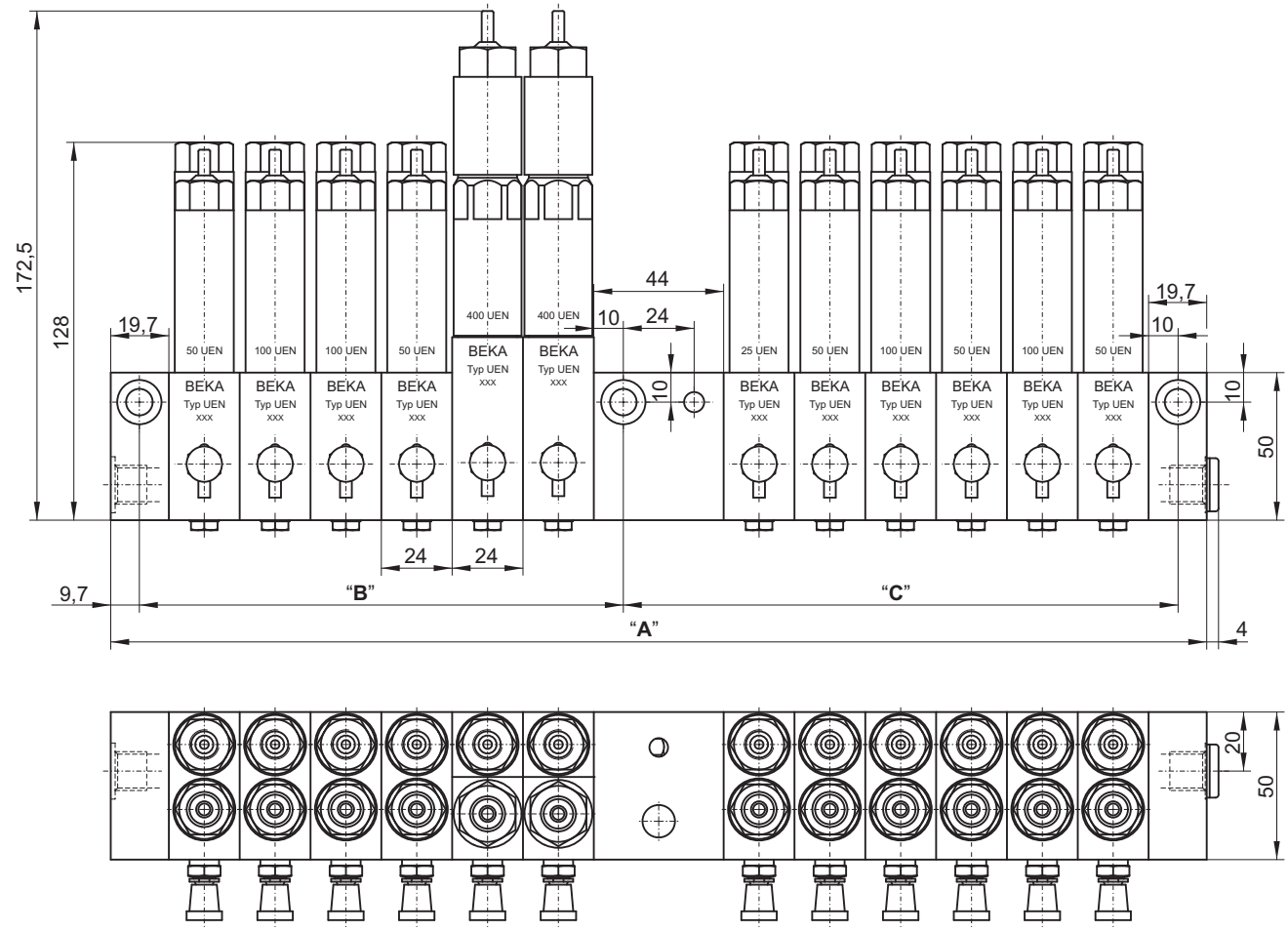
UEN (relubrication system)

Dimensional drawing:



Number of Metering elem.	Dim. "A" (mm)	Dim. "B" (mm)	Dim. "C" (mm)
1	-	44	68
2	-	68	92
3	-	92	116
4	-	116	140
5	-	140	164
6	-	164	188
7	131,4	-	-
8	179,4	-	-
9	227,4	-	-
10	275,4	-	-
11	323,4	-	-
12	371,4	-	-

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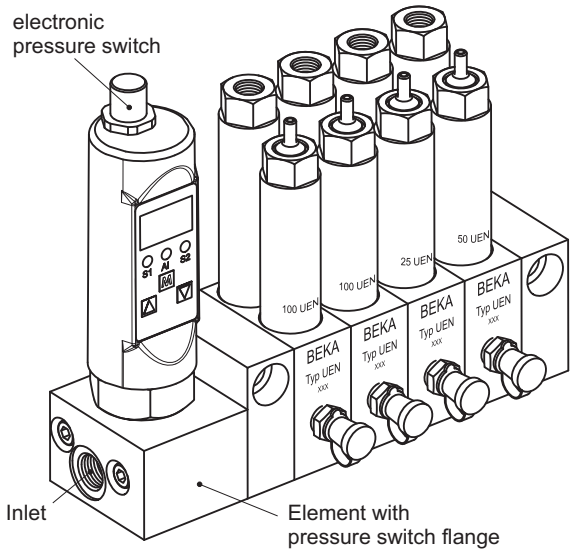
Electronic pressure switch



The electronic pressure switch monitores the system pressure in the pressure line and switches off the pump when reaching 210 bar to start the relief in the pressure lines.

If more single line distributors are installed in the lubrication system, the electronic pressure switch shall be installed at the inlet, which is the farthest away from the pump to ensure that the switching pressure is reached in the complete system.

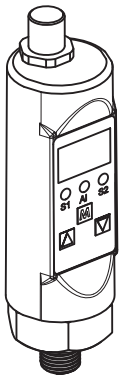
Compared with a mechanic pressure switch, the electrical one exclude lubricant hardenings at the measuring inlet.

For installing the electronic pressure switch, there is an **element with pressure switch flange** that is assembled as standard at the initial element.

Electronic pressure switch with pressure switch flange element and fastening (complete).
Order-no.:
4124990012

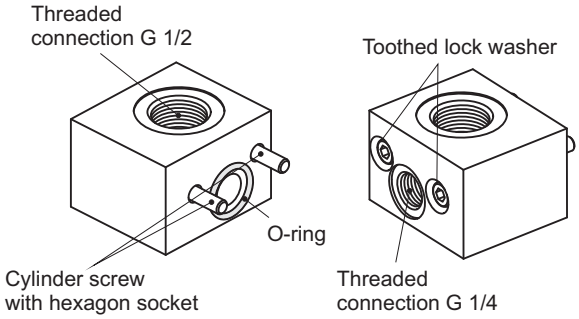
Order number

Electronic pressure switch: 042100415
Weight: 0,75 kg



Element with pressure switch flange

Order-no.: 4124990080
(w. O-ring, toothed lock washer and cylinder screw)
Weight: 0,5 kg

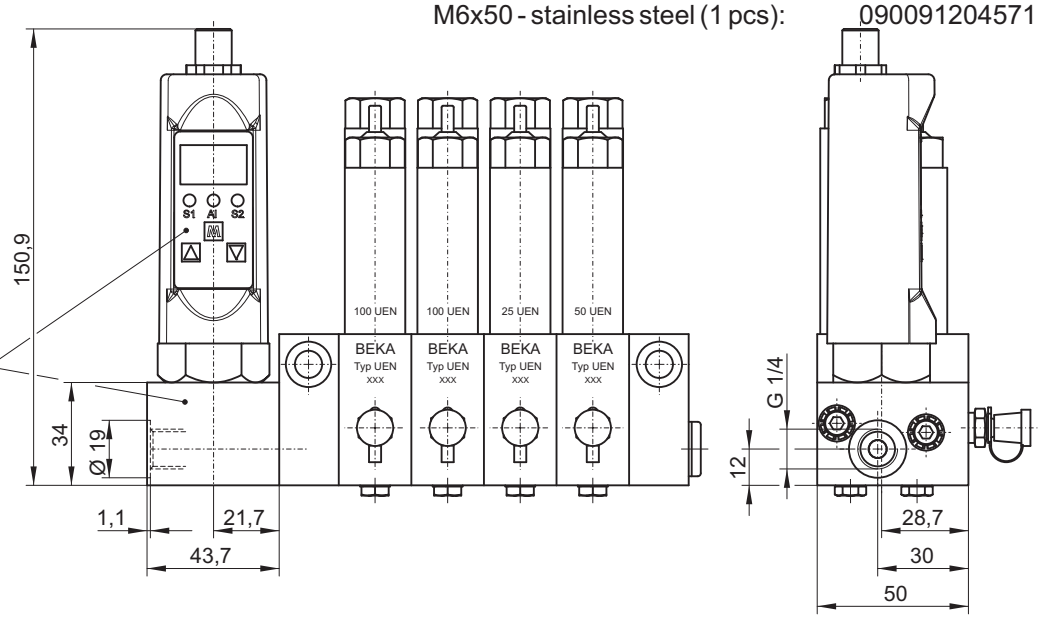


Spare parts

O-ring DIN 3771 - Ø 16 x 2 - NBR: 09037710034141

Toothed lock washer DIN 6797 - A 6,4 - stainless steel (1 pcs):
0906797003311

Cylinder screw with hexagon socket DIN 912 - M6x50 - stainless steel (1 pcs): 090091204571



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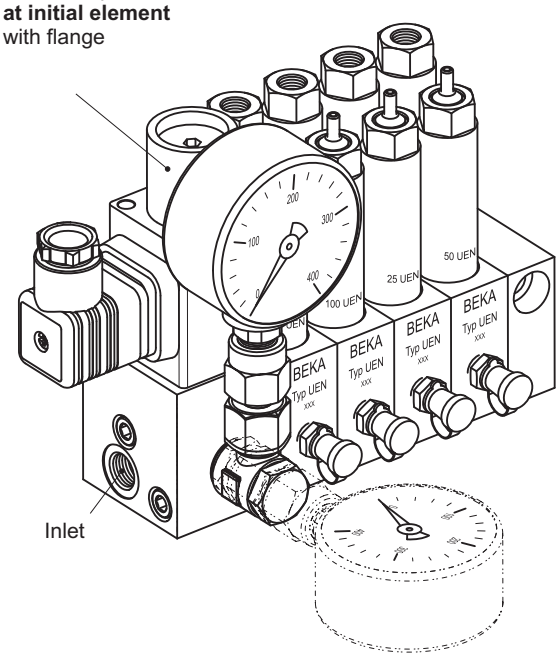
Mechanic pressure switch

mechanic pressure switch
at initial element
with flange

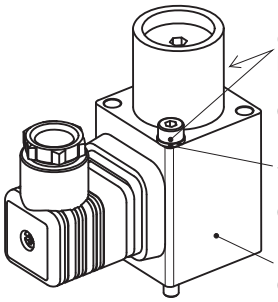


The mechanic pressure switch monitors the system pressure in the line and switches off the pump when reaching 210 bar in order to start the pressure line relief.

When installing the mechanic pressure switch, a widened **initial- or end element** is necessary instead of the standard ones. Hence, five or eleven metering elements can be combined to one single line distributor by means of a connecting element.

Order number

Mechanic pressure switch: 4124990500
(with cylinder screws and spring ring)
Weight: 0,5 kg



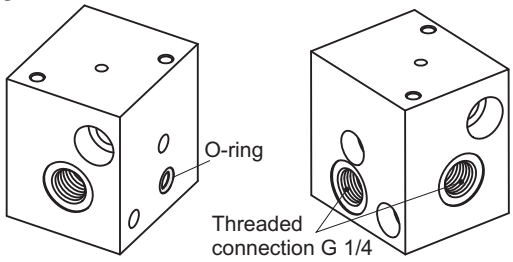
Cylinder screw with hexagon socket
DIN 912 - M5x60 - stainless steel
Order-no..: 090091202651

Spring ring
DIN 127 - A 5 - stainless steel
Order-no..: 0900127001311

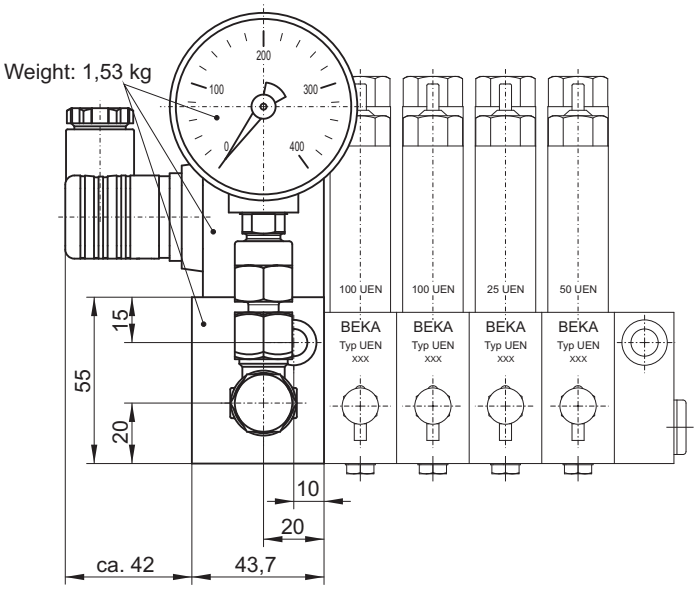
Mechanic pressure switch
Order-no..: 042100390

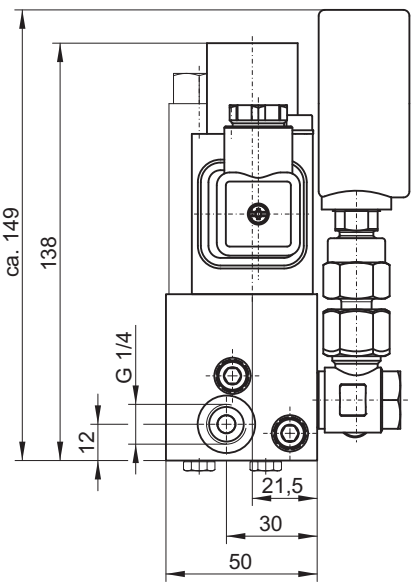
Initial element with pressure switch flange

Order-no. (with O-ring)**:** 4124990011
Weight: 0,81 kg



O-ring DIN 3771 - Ø 6 x 1,5 - NBR for spare part:
09037710031181





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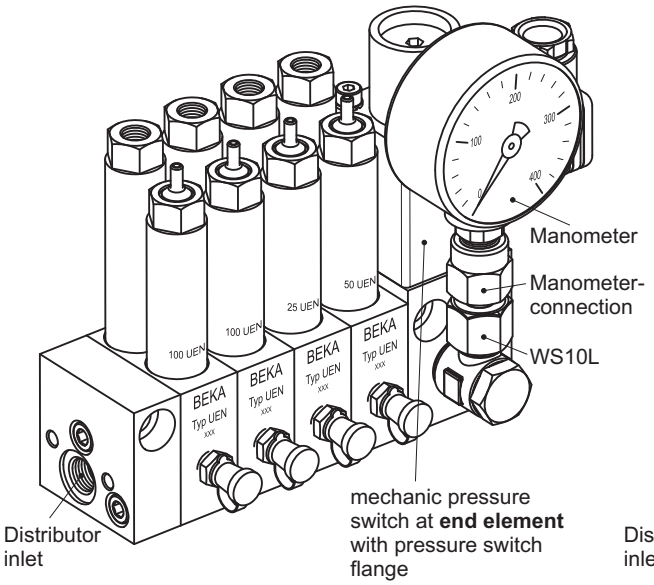
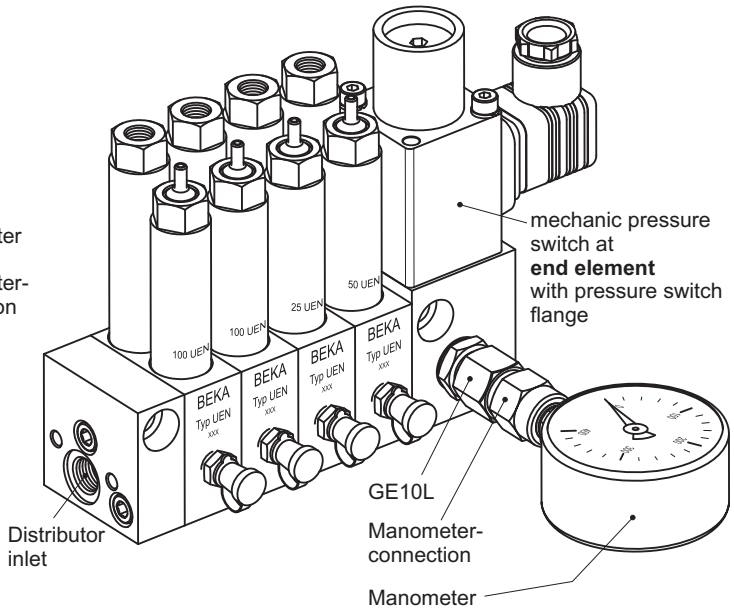




Order number

Manometer, 0 - 400 bar, with glycerine filling:
0460110122141

Manometer connection G1/4 - L10: 04062961

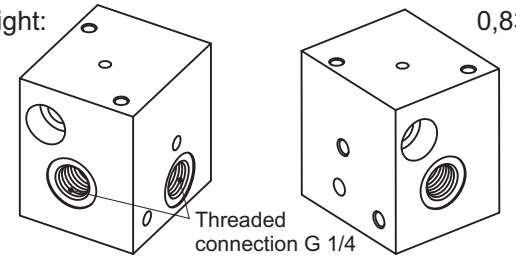
Male stud coupling with cutting ring with cylindric threaded connection G 1/4, for pipe-Ø 10, series L:
04062450

Elbow swivelling fitting with cutting ring with cylindric threaded connection G 1/4, for pipe-Ø 10, series L:
04062452

End element with pressure switch flange

Order-no.: F4124/03-03

Weight: 0,83 kg

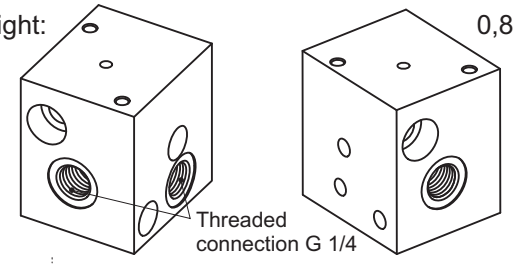


End element with pressure switch flange for connection elemenet

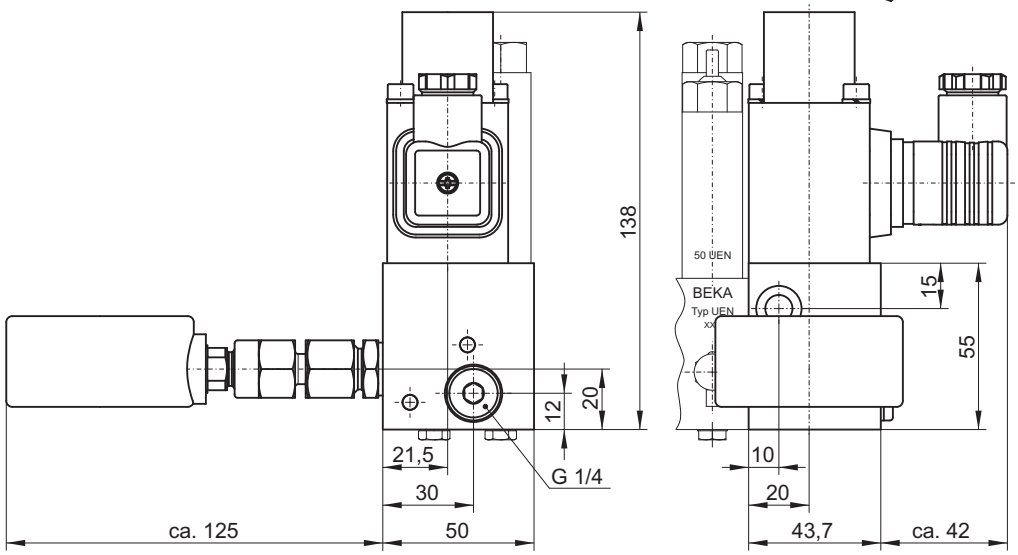
(beginning at six metering elements),

Order-no.: F4124/03-05

Weight: 0,81 kg



Dimensional drawing:



Single line elements UEN with mech. pressure switches (beginning at six metering elements) must be equipped with an end element with **pressure switch flange for connection elements**

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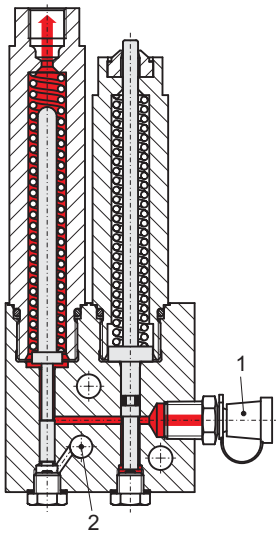
Emergency grease nipple

Lubrication points can be lubricated individual by an emergency grease nipple (1). This must be done at relieved pressure connection (2). Lubricant then flows, without any metering, through the single line distributor towards the lubrication points.

The initial filling for distributors that are delivered without grease filling can be done via the emergency grease nipple.

If hoses must be exchanged, they can also be filled via the emergency grease nipple

Attention:
When lubricating or filling via the emergency grease nipple, the max. pressure of 280 bar must not be exceeded as otherwise the sealings will be damaged. The function of the single line distributor can no more be guaranteed. Therefore it is recommended to use a hand lever grease press for lubrication or filling.



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Extend or shorten a distributor

The single line distributors UEN can be adjusted at any time to their applications of use due to their disk consruction. If lube points are added or reduced, the single line distributor can be extended or shortened by metering elements.

Description

- unscrew the cylinder screws that fix the distributor

  Attention: at single line distributors with electronic pressure switch, the element with pressure switch flange must be removed before
- separate the distributor at the requested disk
- add or remove the metering elements
- screw the single line distributor together with the according cylinder screws (see table) and toothed lock washers

Table of order-no. for cylinder screw with hexagon socket DIN 912 or DIN 6912 (1 pcs) in stainless steel only for single line distributor UEN **with electronic pressure switch or without pressure switch:**

Distributor size	Cylinder screw	Order-no.
UEN-1	M6 x 50	090691201931
UEN-2	M6 x 70	090091203671
UEN-3	M6 x 95	090691202631
UEN-4	M6 x 120	0900912111E1
UEN-5	M6 x 140	0900912050D1
UEN-6	M6 x 170	0900912112E1

Table of order-no. for cylinder screw with hexagon socket DIN 912 or DIN 6912 (1 pcs) in stainless steel only for single line distributor UEN **with mechanic pressure switch:**

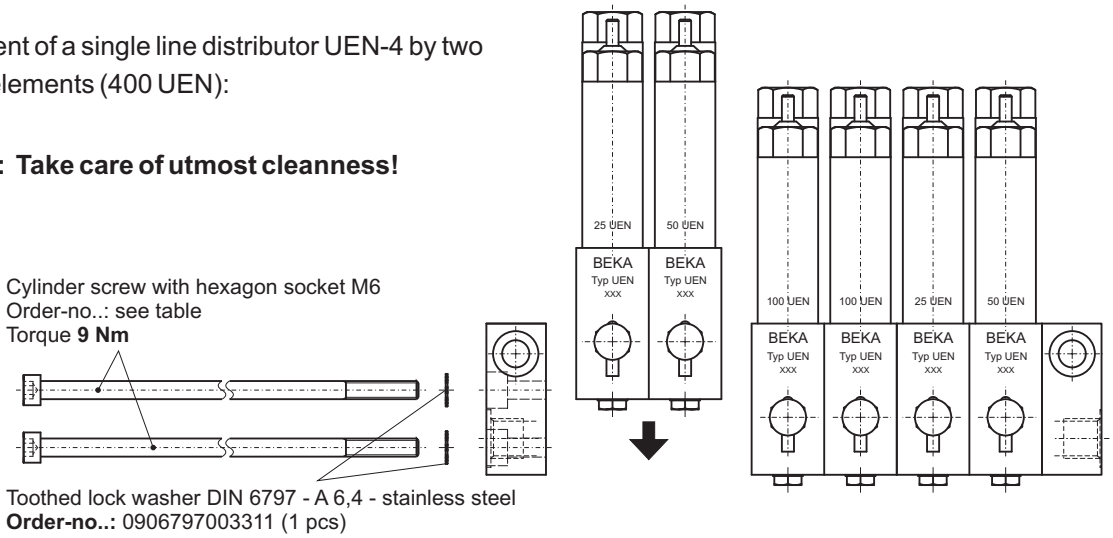
Distributor size	Cylinder screw	Order-no.
UEN-1	M6 x 70	090091203671
UEN-2	M6 x 95	090691202631
UEN-3	M6 x 120	0900912111E1
UEN-4	M6 x 140	0900912050D1
UEN-5	M6 x 170	0900912112E1

If an O-ring, that seals the distributors between the elements, is damaged and does not seal anymore, it can be ordered.

O-ring DIN 3771 - Ø 6 x 1,5 - NBR for initial element and metering element,
Order-no.: 09037710031181

Enlargement of a single line distributor UEN-4 by two metering elements (400 UEN):

Attention: Take care of utmost cleanness!



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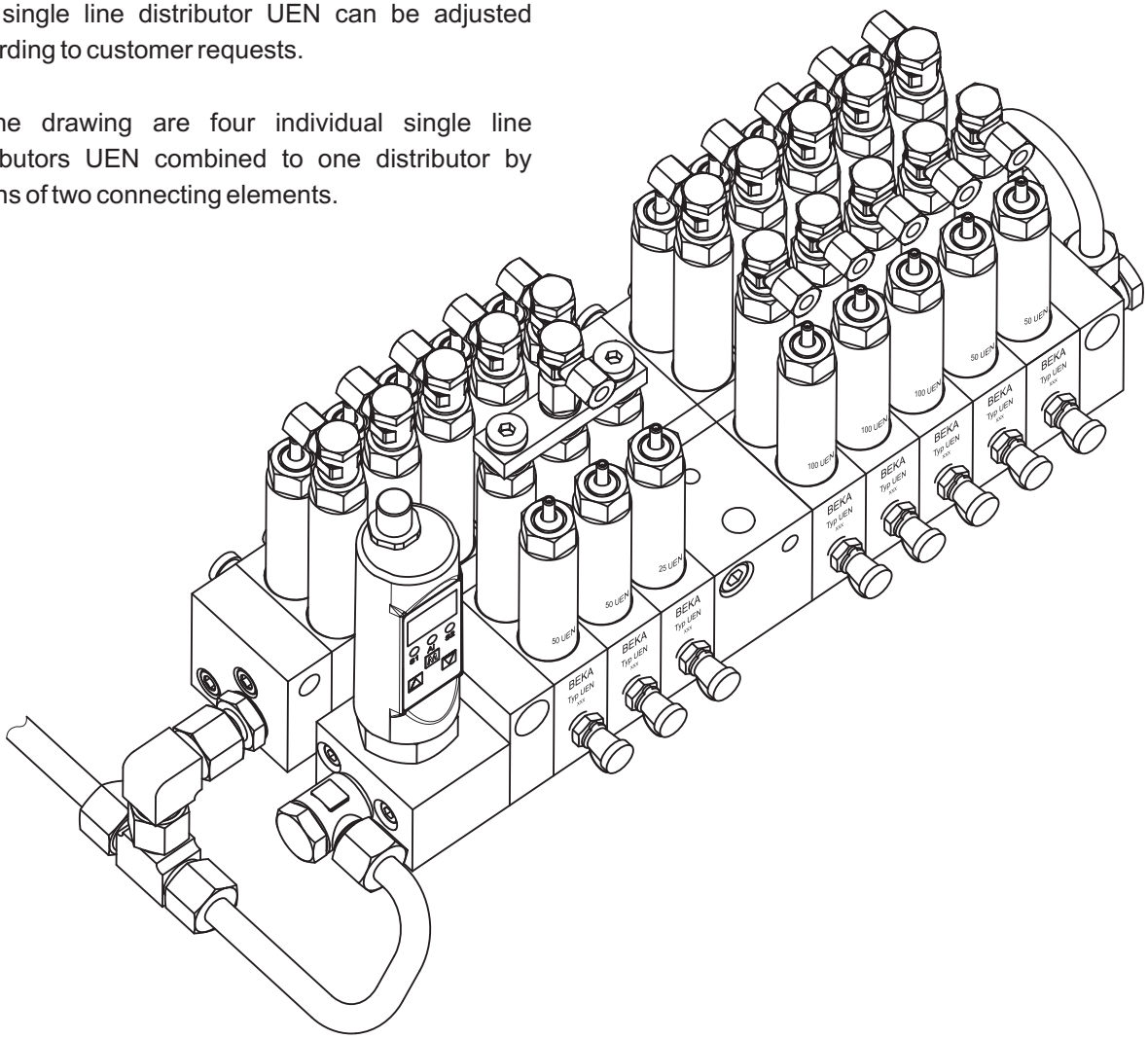
Example

The single line distributor UEN can be adjusted according to customer requests.

In the drawing are four individual single line distributors UEN combined to one distributor by means of two connecting elements.



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Technical description

The single line distributor IV (static system) supplies lubricant via pump pressure into the line and to the lube points. Each outlet has one lube point.

The metering of lubricant can be adjusted directly at each distributor or metering valve for each lube point. The single line distributors IV have an indicator pin for the visual function control.

The single line distributor IV-1 and IV-11 can be used in combination.

Technical data

Operating pressure:	max. 240 bar min. 125 bar
Relief pressure:	< 55 bar
Temperature range:	-25 °C to +70 °C
Lubricant:	fluid grease; greases up to NLGI-cl. 2
Metering volume:	see table
Material:	steel, galvanized
Number of outlets or metering valves of one single line distributor:	min. 1 max. 6
Weight:	see table

Table of metering volume:

Type	Metering vol. adjustable (cm³ / stroke a. outlet)	Metering vol. p. revolution of metering screw (cm³)
IV-1	0,2 to 1,2	ca. 0,15
IV-11	1 to 11	ca. 0,6

Table of weights:

Metering valve*	Weights (kg)	
	IV-1	IV-11
individual	0,63	3,0
1-outlets	1,03	4,5
2-outlets	1,75	8,3
3-outlets	2,60	12,4
4-outlets	3,40	16,5
5-outlets	4,30	20,6
6-outlets	5,00	-

* see dimensional drawings

03-9-30-01 State: 01.12EN

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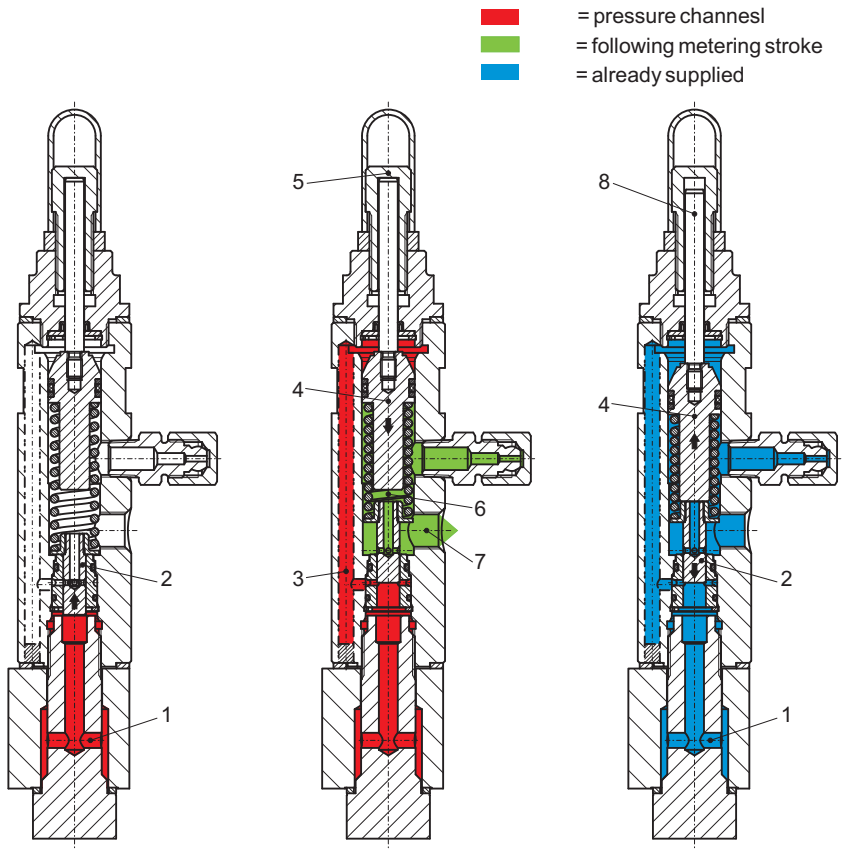
Function

When lubricant is supplied through the inlet drilling (1) into the distributor it presses the control piston (2) upwards against the spring force. Hence lubricant can flow through the pressure channel (3) of the valve housing to the metering piston (4). The metering piston in pressed downwards and the adjusted lubricant quantity (adjusted at set screw (5)) is supplied out of the relief chamber (6) to the outlet (7). The function is indicated by the displayed indication pin (8).

As soon as the pressure is relieved from the inlet drilling (1) the control piston (2) is pressed downwards by the spring. Lubricant that is above the metering piston (4) can be delivered into the relief chamber (6) through the drilling of the control piston (2). The metering piston (4) is moved upwards. In the topmost position of the metering piston (4) the indication pin (8) is displayed again.

The metering valve is now ready for the next lubrication cycle.



Metering volume adjustment

The metering strokes and hence the metering volume is regulated with the set screw below the protection cap. Turning the screw clockwise the quantity is reduced, turning it counter clockwise the volume is increased.

Take off the cap, loosen the hexagon nut, adjust the requested volume via the set screw and tighten the hexagon nut again.

The metering volume can be reduced to 10 % of the max metering volume without affecting the metering valve function.

The metering valves are adjusted to full stroke when they are delivered. The metering volume shall only be adjusted after the start- up and after the pressure connections have been ventilated.

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Filling connection

The lubrication points can be lubricated individual via the filling nipples (1). This must be done with relieved pressure connection (2). Lubricant is then directly supplied to the lube points, without metering.

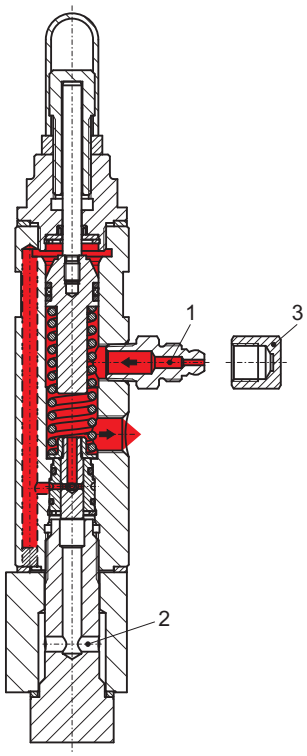
The initial filling of the single line distributor is done via the filling nipple.

If hoses must be replaced, they can also be filled via the filling nipple.

During the pump pressurization or when the filling nipple is not necessary it must be sealed with a screw plug (3).

Attention:

When lubricating or filling via the nipple take care that the max. pressure of 280 bar is not exceeded as then the sealings could be damaged. The function of the single line distributor can then not be ensured any more. Therefore it is recommended to use a manual lever pump with pressure gauge for lubricating or filling.



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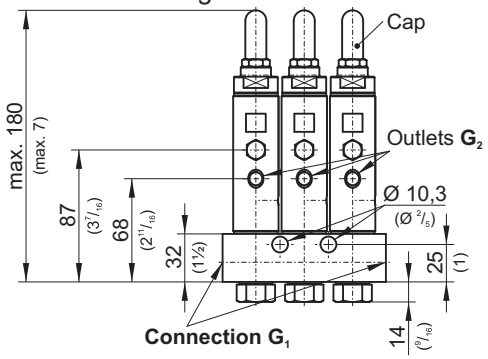
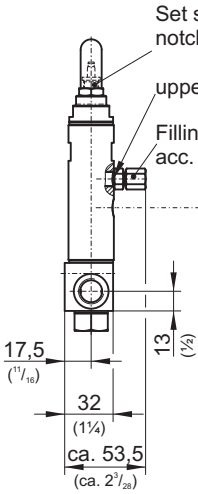
IV-1 (static system)

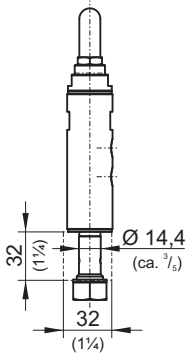
Dimensional drawng





Pipe fittings with suitable conical connection thread and nominal pressure can be screwed into the outlets (see "fittings and accessories).

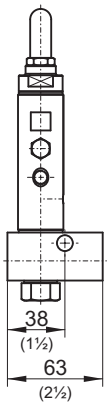
Model
Metering valvel #
individual



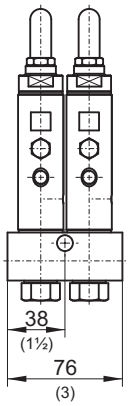
FAZ03581-00

( ) Dimensions in brackets are inch dimensions
G_1, G_2 see order key

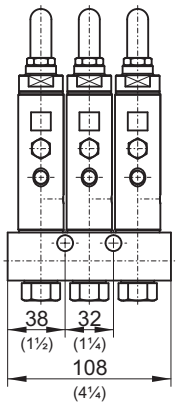
Single line distributor **IV-1** Metering valve **1-outlets**



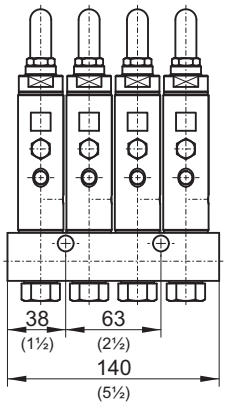
Single line distributor **IV-1** Metering valve **2-outlets**



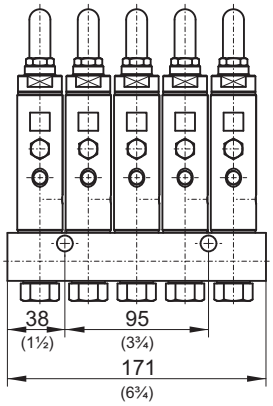
Single line distributor **IV-1** Metering valve **3-outlets**



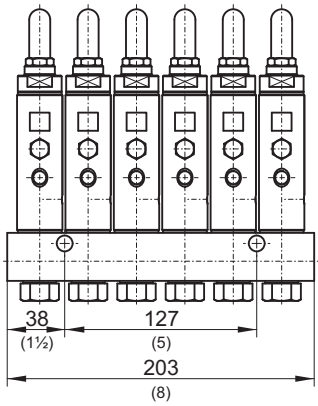
Single line distributor **IV-1** Metering valve **4-outlets**

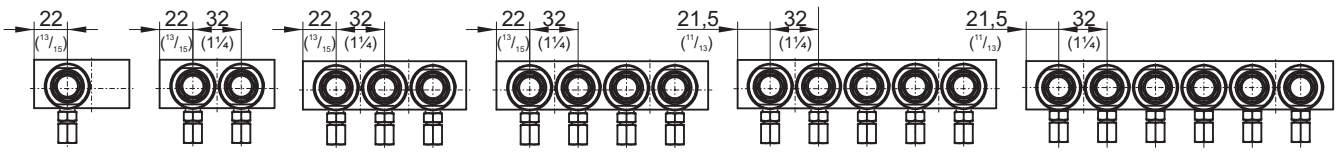


Single line distributor **IV-1** Metering valve **5-outlets**



Single line distributor **IV-1** Metering valve **6-outlets**





Order key type-no. 4125

4125 000 3 1 1 1 000

Type number	4125					
Code-no.	4125					
Single line distributor	**IV-1**					
Code-no.	000					
Number of metering valves	1-out.	2-out.	3-out.	4-out.	5-out.	6-out.
Code-no.	1	2	3	4	5	6
Model of metering valve	individual					
Code-no.	0					
Inlet thread G_1	without	G 3/8	NPT 3/8"			
Code-no.	0	1	2			
Outlet thread G_2		G 1/8	NPT 1/8"			
Code-no.		1	2			
Accessories for upper outlet	without		Filling connection			
Code-no.	0		1			
Special model	none					
Code-no.	000					

Subject to alterations!

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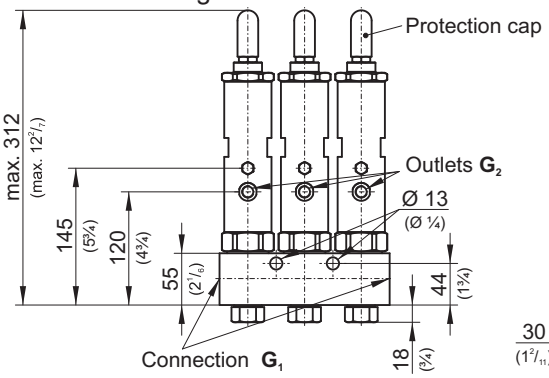
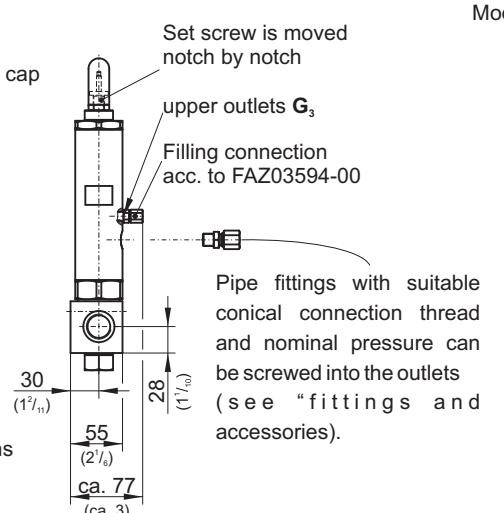
1090200388

Dimensional drawing:

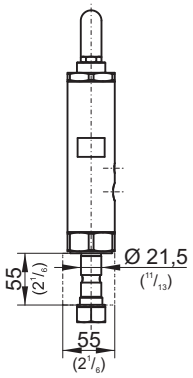


( ) Dimensions in brackets are inch dimensions

G_1, G_2, G_3 see order key



Model Metering valvel **individual**



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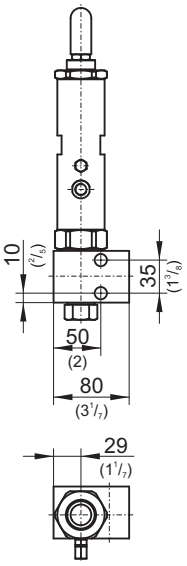
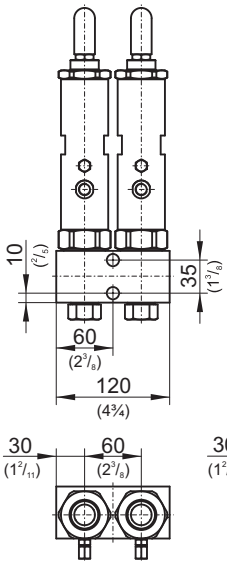
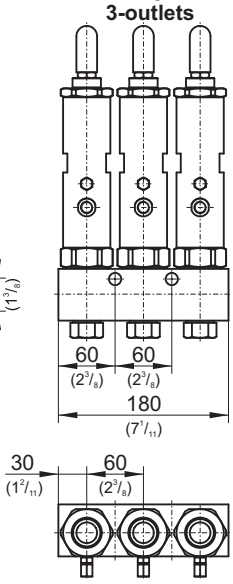
Single line distributor **IV-11** Metering valve **1-outlets**



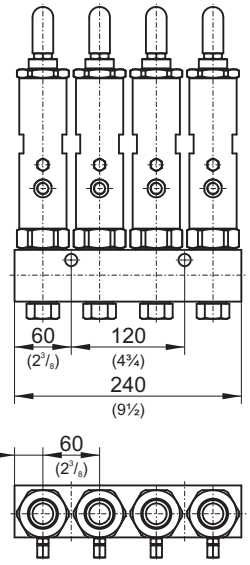
Single line distributor **IV-11** Metering valve **2-outlets**



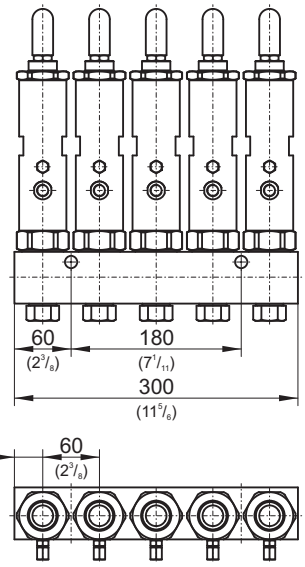
Single line distributor **IV-11** Metering valve **3-outlets**



Single line distributor **IV-11** Metering valve **4-outlets**



Single line distributor **IV-11** Metering valve **5-outlets**



Order key type-no. 4125

4125 002 3 1 1 1 1 000

Type number	4125				
Code-no.	4125				
Single line distributor	**IV-11**				
Code-no.	002				
Number of metering valves	1-outl.	2-outl.	3-outl.	4-outl.	5-outl.
Code-no.	1	2	3	4	5
Model metering valve	individual				
Code-no.	0				
Thread inlet G_1	without	G 3/4	NPT 3/4"		
Code-no.	0	1	2		
Thread outlet G_2		G 1/4	NPT 1/4"		
upper thread outlet G_3		G 1/8	NPT 1/8"		
Code-no.		1	2		
Accessories for upper outlet	without	filling connection			
Code-no.	0	1			
Special model	none				
Code-no.	000				

Subject to alterations!

IV-1 / IV-11 (static system)

Subject to alterations!

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