



# DEVICES AND SYSTEMS FOR CENTRAL LUBRICATION

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CATALOG OF DEVICES



# LUBRICATION TECHNIQUE

## CATALOG OF DEVICES

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- FLUIDOTEHNIC's production program is based on its own development. Thanks to that, all the products are the result of the engineering staff work, as well as the quality and skilled workers in manufacturing and installation. Each serial product during the conquest passes through the phase of prototype development, functional tests and check in real operating conditions. Following step is removal of all possible defects and then, based on that, test series is produced. This is how we achieve high quality of manufactured devices. In case of the individual production, after the functional testing, we deliver the product to the customer.
- Since its foundation FLUIDOTEHNIC Ltd. has been continuously investing both in the expansion of commercial building and the purchase of modern equipment for the production, control and techno-economic support. It is located in the industrial zone of Vrnjacka Banja, on a lot size ~ 2ha. It consists several buildings, connected into a functional whole area of 4000 m2. The whole complex is adjusted to the environment- we are taking good care of health, work safety and environmental protection.



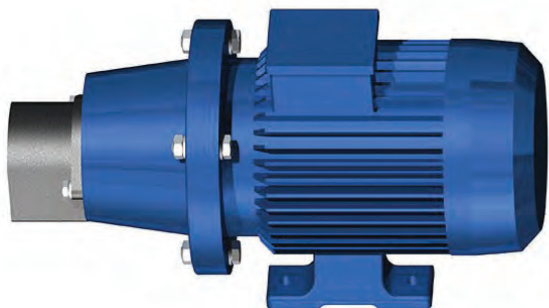




- Market research, device development, technical assistance and personnel training free of charge for all our customers is the main task of this service. Many years of experience in the development tasks of hydraulics, pneumatics and lubrication techniques, as well as the latest computer technology guarantee that our customers will get the optimum technical solution. During the development, every device passes precisely defined procedure, starting from making the design concept, followed by manufacturing and testing prototypes and going into production.
- It consists of several facilities and departments: foundry of non-ferrous metals, mechanical drive, locksmith department, installation and technical control. All operations from the casting to the final machining are performed with the universal and software machines. Control and assembly is 100%. When the assembly is finished, each device is being tested on the test stand and on the basis of the results it gets the appropriate certificates and guarantees. On each call of the user, service teams come in as soon as possible, with spare parts and the necessary tools, regardless of whether the equipment is in warranty or out of warranty period.



## PUMPS FOR OIL LUBRICATION

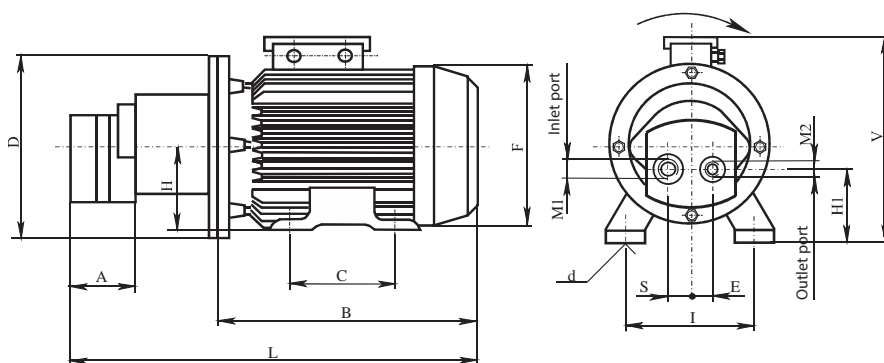


The main parts of the unit are low-pressure gear pump, bell housing and electric motor. The pump shaft and driving shaft of electric motor are connected by elastic coupling. The pump is designed to operate flawlessly with high-density hypoid oil as well as low density oil. It is very resistant to metal particles which may occurs in oil due to wearing of the gears. Because of its robust design, the unit is applicable in plants with hardest working conditions, such as iron plants, cement works, surface mines, etc. The mounting holes of the unit are on the electric motor base. On supplied two types of power units:

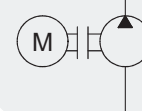
- without relief valve
- with relief valve

Units with other dimensions, hydraulic and electric characteristics are available on request.

Code	L	A	B	H	H1	I	C	V	D	F	S	d	E	M2	M1
10 - 0200	417	60	257	90	74	140	100	211	200	170	18	10	18	M16x1,5	M18x1,5
10 - 0210	427	70	257	90	74	140	100	211	200	170	18	10	18	M18x1,5	M27x2
10 - 0215	474	72	287	90	67,5	140	125	211	200	170	26	10	26	M26x1,5	M33x2
10 - 0217	492	82	295	100	77,5	160	140	257	250	193	27,5	12	26	M26x1,5	M42x2
10 - 0220	510	100	295	100	77,5	160	140	257	250	193	27,5	12	26	M33x2	M42x2

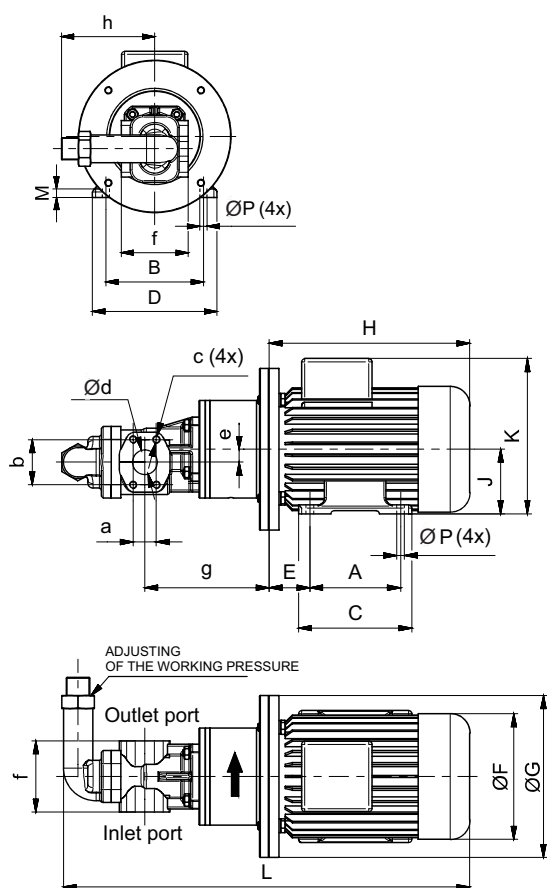


**SYMBOL**

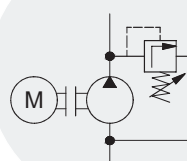


Ordering code			10 - 0200	10 - 0210	10 - 0215	10 - 0217	10 - 0220
Flow rate	(dm <sup>3</sup> /min)		10	20	40	60	100
Max operating pressure	(bar)		20	20	20	15	15
Admissible underpressure in the suction line	(bar)		0,25				
Admissible overpressure in the suction line	(bar)		0,5				
Fluid	Oil viscosity	(mm <sup>2</sup> /s)	13 - 800				
	Temperature	(°C)	-25 ; +80				
Electric motor	Power	(kW)	1,1	1,1	1,5	2,2	3
	Speed	(rpm)	1370	1370	1390	1410	1380
	Voltage	(V)	3x400 V 50 Hz				
	Insulation		IP 54 class E				
	Ambient temperature	(°C)	-20 ; +60				
Mass	(kg)		20	20	23	30	36,5

Ordering code	Operating pressure (bar)	Flow (dm <sup>3</sup> /min)	Fluid	Pump code	Electric motor (3x400V, 50 Hz)	Ambient temp.	Mass (kg)
10-0190 4-1000-15	0 - 16	3,3	Mineral oil - viscosity 10 to 1500 mm <sup>2</sup> /s	KF 4	0,18 kW, 870 rpm	-30 to +90°C	10
10-0190 6-1000-15		5,1		KF 6	0,25 kW, 880 rpm		11
10-0190 12-1000-15		10,2		KF 12	0,55 kW, 900 rpm		14,5
10-0190 20-1000-15		16,3		KF 20	0,75 kW, 900 rpm		22,3
10-0190 32-1000-15		26		KF 32	1,1 kW, 900 rpm		25,3
10-0190 40-1000-15		33		KF 40	1,5 kW, 930 rpm		34,3
10-0190 50-1000-15		41		KF 50	1,5 kW, 930 rpm		34,3
10-0190 63-1000-15		51		KF 63	2,2 kW, 930 rpm		37,3
10-0190 80-1000-15		65		KF 80	2,2 kW, 940 rpm		37,3
10-0190 112-1000-15		93		KF 112	4 kW, 950 rpm		58
10-0190 150-1000-15		119		KF 150	5,5 kW, 950 rpm		64
10-0190 180-1000-15		145		KF 180	5,5 kW, 950 rpm		66,6



#### SYMBOL



Ordering code	A	B	C	D	E	F	G	H	J	K	L	M	P	a	b	c	d	e	f	g	h						
10-0190 4-1000-15	90	112	109	137	45	139	160	205	71	180	425	11	7	22,2	47,6	M10	19,5	14,2	100	134	100						
10-0190 6-1000-15		100	125	125	160	50	156	200	230	80	206		475							8		26,2	52,4	25	154		
10-0190 12-1000-15	130		170	56	176	250	90		222	512	13	9	163														
10-0190 20-1000-15	140		155				175		275	90			587	M12	38	20	110	184									
10-0190 32-1000-15	125	160	170	200	63	194	250	323			112	263						690	14	11		35,7	69,9	204			
10-0190 40-1000-15	140								190	220																	
10-0190 63-1000-15																											
10-0190 80-1000-15		178	216	218	260	89	258	300			435	132	300	861	16	12	50,8	88,9	63,5	23,7		150	264	170			
10-0190 112-1000-15	841								42,9	77,8															50,8	130	246
10-0190 150-1000-15																											
10-0190 180-1000-15																											

## FILTERS (FOR OIL LUBRICATION)

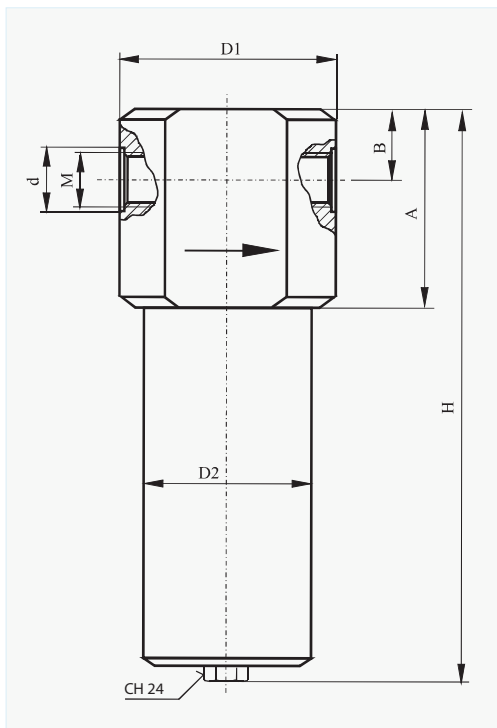
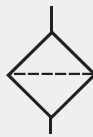


Pressure line filter is applied for oil circulating lubrication systems for middle and high power gearboxes. It is capable for operation in very hard conditions. The filter can be assembled in pressure line in any position. Flow direction is indicated by the arrow on the filter body. The filter cartridge is made of high strength wire cloth. Periodically it is necessary to clean the filter cartridge. To disassembling unscrew the filter cup (CH 24). The cleaning period depends of the operating time and of the oil purity.

The filters are made with cartridge's fineness of filtration:  
40, 60, 100, 150, 200, 300  $\mu\text{m}$ . In order code should be added required fineness.

### EXAMPLE: Filter 10-0270/60

#### SYMBOL



Ordering code		10 - 0265	10 - 0270	10 - 0275	10 - 0280	10 - 0285
Fluid	Viscosity of oil	13 - 800 mm <sup>2</sup> /s				
	Temperature	-30 ; +80 °C				
Working pressure		20 bar				
Filtration rating		40, 60, 100, 150, 200, 300 $\mu\text{m}$				
Flow rate (dm <sup>3</sup> /min)		180	100	40	25	10
Mass (kg)		7,3	4,2	2,1	2,1	1

Code	M	d	D1	D2	H	A	B
10 - 0265	M42 x 2	50	120	105	390	95	25
10 - 0270	M33 x 2	40	110	90	280	80	25
10 - 0275	M27 x 2	34	100	76	205	58	18
10 - 0280	M22 x 1,5	28					
10 - 0285	M16 x 1,5	22	65	50	169	50	13

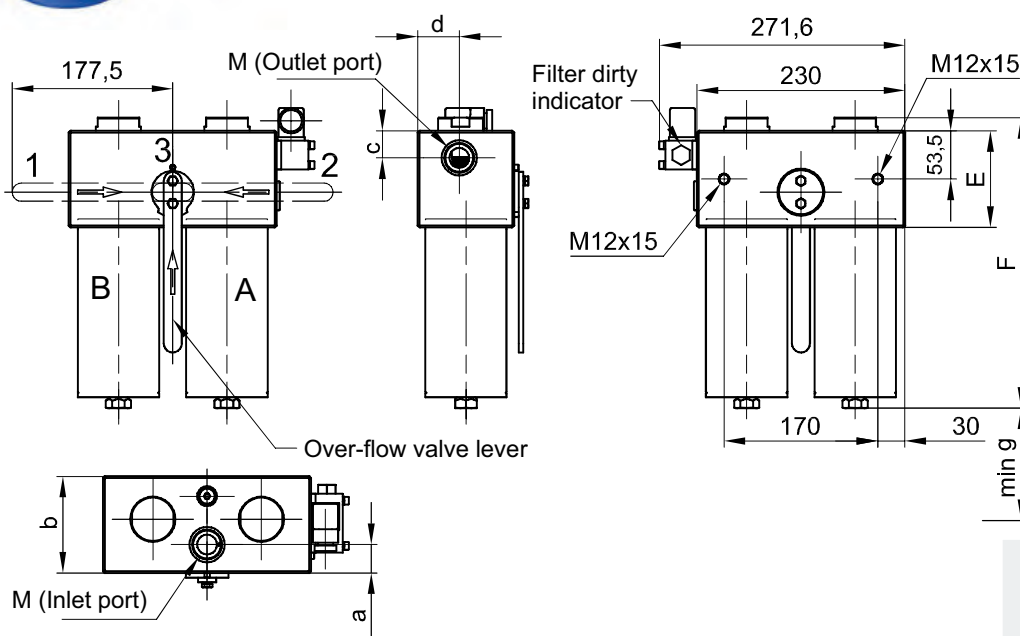
## DOUBLE FILTER



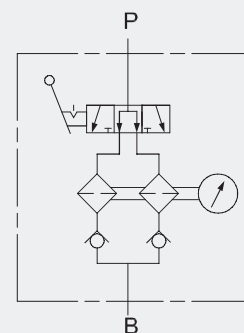
Double pressure line filter is applied for oil circulating lubrication systems for middle and high power gearboxes. It is capable for operation in very hard conditions. The filter can be assembled in pressure line in any position. Flow direction is indicated by the arrow on the filter body. The filter cartridge is made of high strength wire cloth. Periodically it is necessary to wash the filter cartridge in the gasoline. To disassembling unscrew the filter cup. The cleaning period depends of the operating time and of the grease purity.

Filter has three operation modes so that the filter cartridge can be changed without stopping the flow, i.e. diversion of flow can be rerout to the other filter element.

Filthiness filter can be determined visually and by electro indicator.



### SYMBOL



Ordering code		10-0295	10-0295/1	10-0295/2	10-0295/3
Fluid	Viscosity of oil	13 - 800 mm <sup>2</sup> /s			
	Temperature	-30 to +80 °C			
Working pressure		20 bar			
Filtration rate		40, 60, 100, 150, 200, 300 μm			
Flow rate		100 dm <sup>3</sup> /min	40 dm <sup>3</sup> /min	25 dm <sup>3</sup> /min	180 dm <sup>3</sup> /min
Contam-ination indicator	Switch type	Magnetic			
	Voltage	max 250V AC/DC			
	Working load	1,2W			
	Diff. activated pressure	Δp=2 bar			
Mass		22 kg	20 kg	20 kg	36 kg

Flow of oil	
Handle position	Filter cartridge no.
1	A
2	B
3	A and B

Code	a	b	c	d	e	f	g	M
10-0295						321		
10-0295/1	31,5	107	30	46	107	268	200	M33x2
10-0295/2								
10-0295/3	38	125	35	49	140	466	320	M42x2

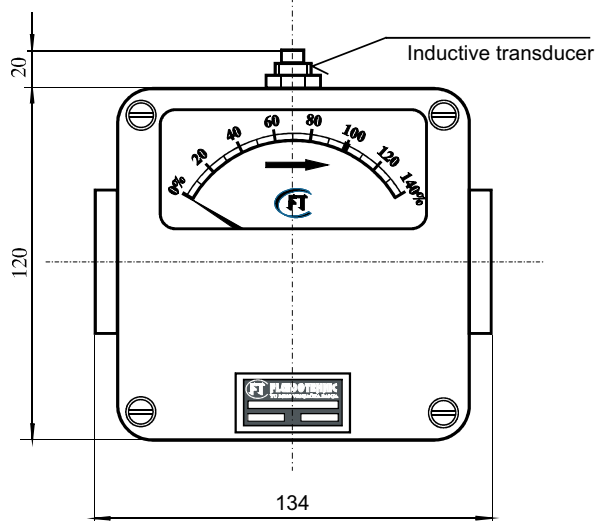
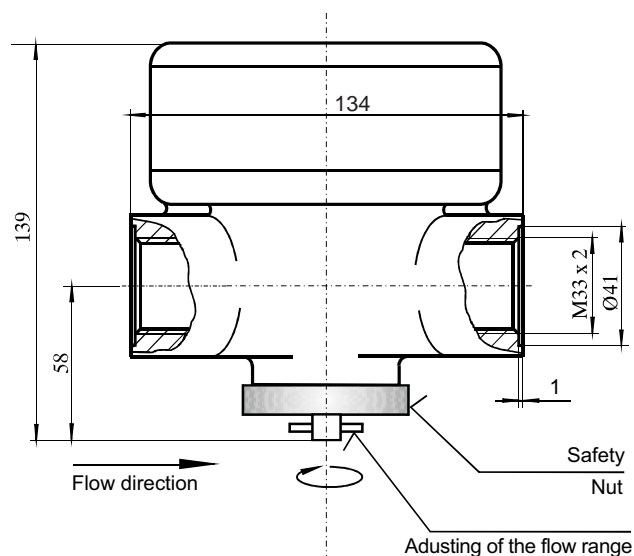


## FLOW INDICATOR

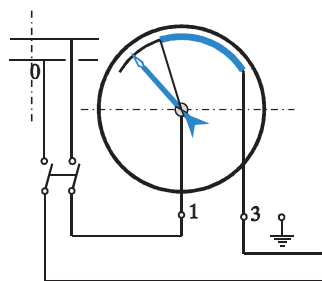


This device is applied for lubrication and cooling systems where oil flow control is necessary. Indication is visual by scales in percent values, and electrical by inductive transducer. The adjusting of the device is very simply. After the mounting of the device system can be started and the safety nut should be released. When the flow rate is nominal, put the black pointer on 100% by turning of adjusting axle (direction of adjusting axle is the same as direction of the pointer). Adjusted value should be fixed by safety nut. Proper adjusted

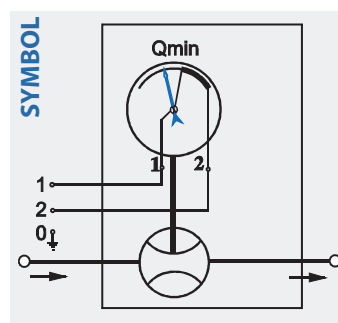
device is high precise in wide range of the flow. Electrical control is performed by inductive transducer which is adjusted to give signal (switching of the contact) in case of flow decreases (due to some failure in system) under the 70% of nominal value. The devices of other warning values of the flow are available on request.



Ordering code		10 - 0850	10 - 0850/1
Fluid	Viscosity of oil	13 - 800 mm <sup>2</sup> /s	
	Temp.	-30 ; +80 °C	
Working pressure		0,5-15 bar	
Flow rate		30-100 dm <sup>3</sup> /min	10-35 dm <sup>3</sup> /min
Controlled flow rate		15-100 dm <sup>3</sup> /min	5-45 dm <sup>3</sup> /min
Connection ports		M33x2	
Inductive level indicator	Voltage	12 - 24 V DC	
	Current	200 mA	
	Type	NO PNP	
Mass		3,2 kg	



1. Contact opens in case of flow decreases under limited value

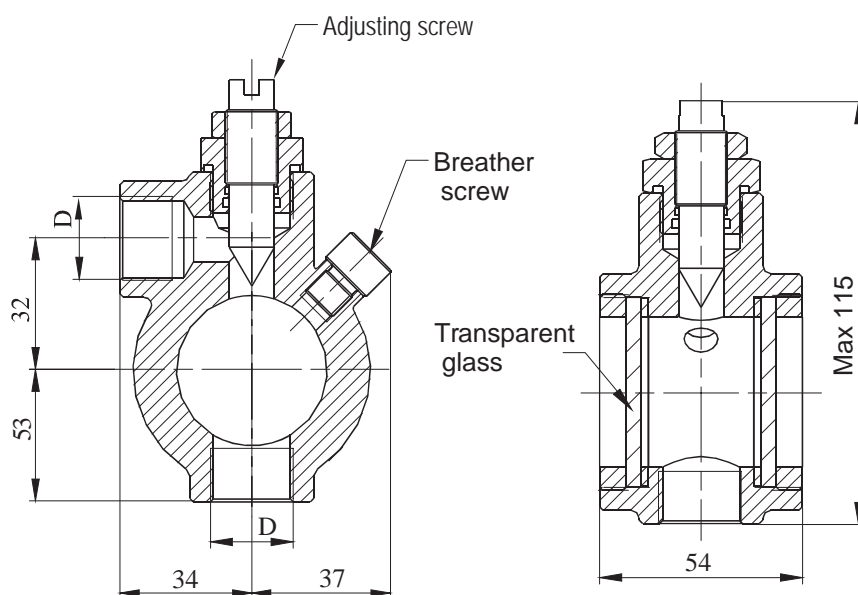


## FLOW CONTROL DEVICE WITH INDICATION



This device is applied for lubrication and cooling systems where oil flow control is necessary. Indication is visual by transparent glasses. The adjusting of the device is very simply by adjusting screw. Clockwise rotation decreases the flow rate, contrary flow rate increases. To avoid turbulence and clogging the adjusted flow should be in one stream and stable. In case of clogging turn off the breather screw until the flow becomes stable.

Because of its high quality and robust design, the unit is applicable in plants with hardest working conditions, such as iron plants, cement works, cellulose industry, excavators for surface exploitations, etc.



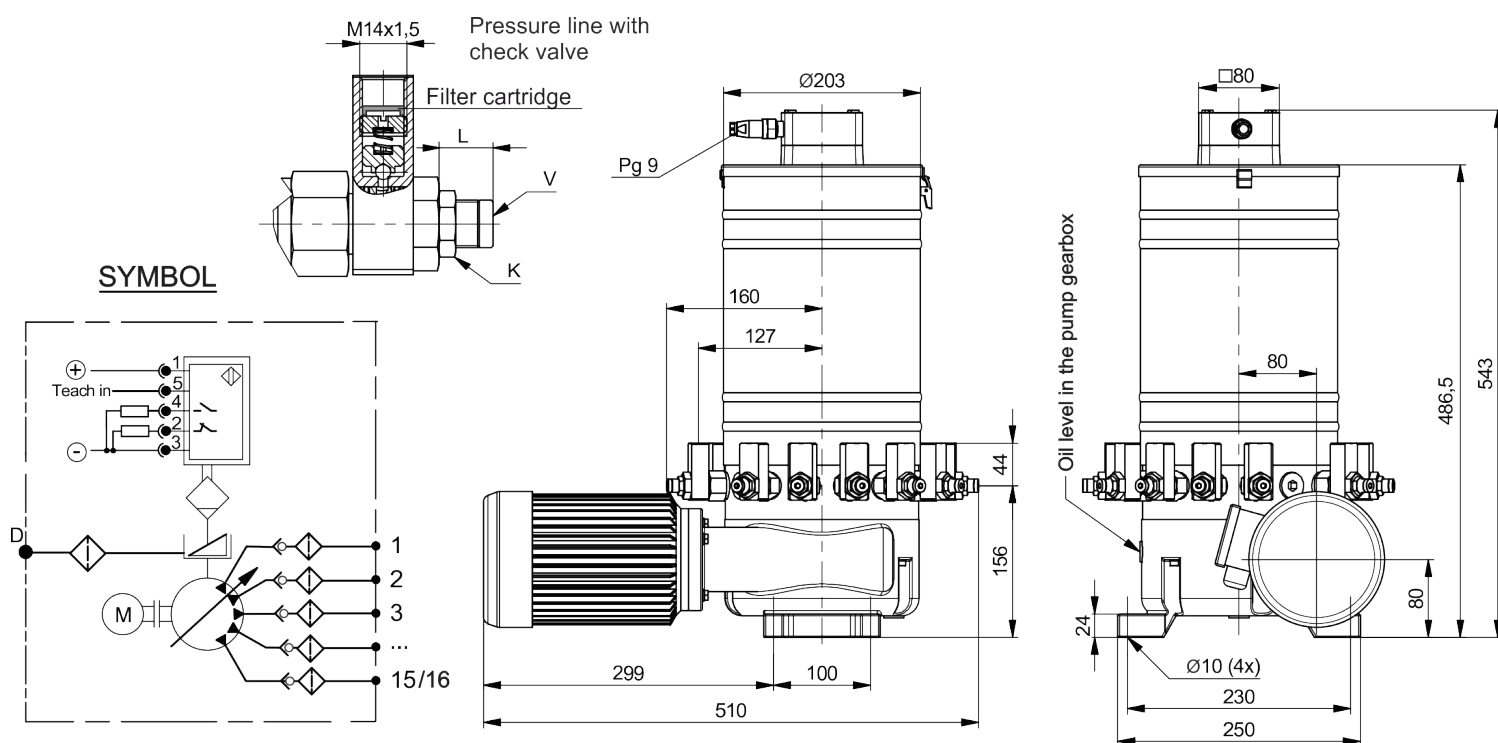
Ordering code		10 - 0230/10	10 - 0230/15
Fluid	Viscosity of oil	13 - 800 mm <sup>2</sup> /s	
	Temperature	-10 ; +80 °C	
Working pressure		0,1 - 20 bar	
Nominal open		NO 10	NO 15
Controlled flow rate		0 - 1 dm <sup>3</sup> /min	0 - 1 dm <sup>3</sup> /min
Connection ports "D"		G3/8"	G1/2"
Mass		1,1 kg	1,1 kg



The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm, i.e. 0,16 cm<sup>3</sup> per piston stroke. By loosening nut "K" and turning the adjusting screw „V" for 360 clock wise ( "L" is reduced for 1mm), the flow rate decreases to 0,025 cm<sup>3</sup> per piston stroke. Minimum flow rate corresponds the "L" value of 12 mm. The flow is reduced to zero if the dimension "L" is 9 mm. After adjusting lock the safety nut "K" again. The outlet ports can be oriented upward or downward. Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A".

Ordering example for the pump with sixteen outlet ports and with ultrasonic indicator of lubricant level for flow 1,4 cm<sup>3</sup>/min per port is:

## 10-6000S -AU/16



Code	Flow per piston stroke	Flow per outlet port	Max pressure	No. of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator AU	Tank volume	Mass
	(adjustable)	(adjustable)			Grease	Oil visc.	Temp.		Power	Rated speed	Voltage			
	cm³	cm³/min			bar	NLGI	mm²/s		°C	kW	rpm		V	dm³
10 - 6000	0,04 - 0,16	0,5 - 2,2	350	1-16	≤3	>13	-25 ; +80	70:1	0,25	980	3x400v 50Hz	10 to 30V 200 mA 2xPNP NO / NC	10	~30
10 - 6000S		0,35 - 1,4						112:1						
10 - 6000L		0,85 - 3,4						70:1						

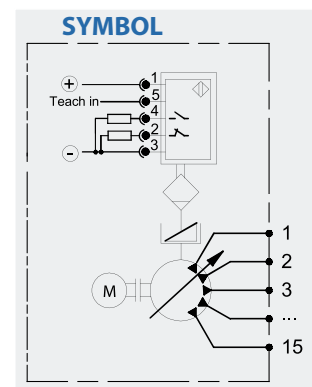
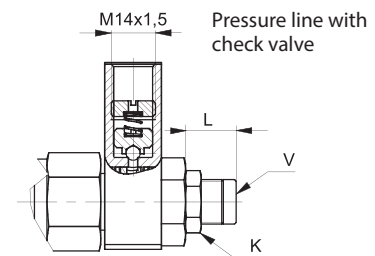
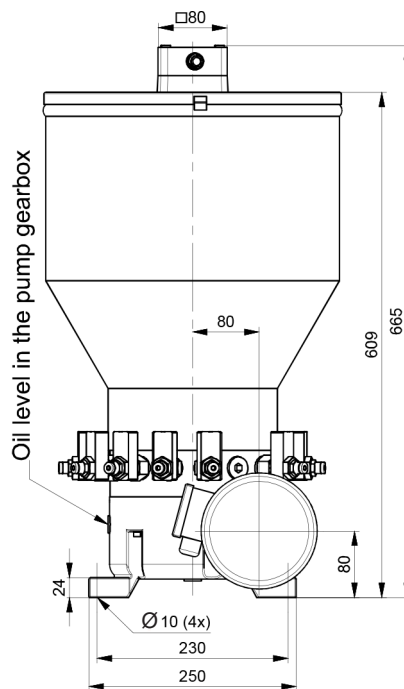
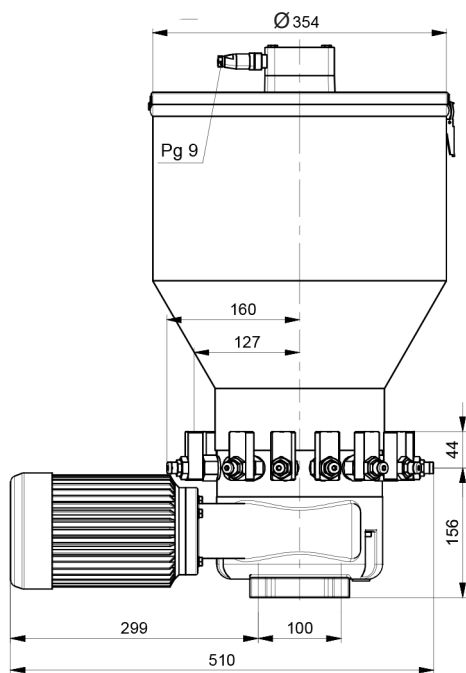
## ELECTRIC MOTOR MULTILINE PUMPS



This variable displacement pump is applied for oil and grease lubrication in multiline centralized systems. Displacement of each port can be adjusted separately from minimum to maximum value. It is possible to cut out some of the ports if it is necessary. The number of the ports (from 1 to 15 or 1 to 16 – depending on the variant) should be specified in order. The tank volume in standard execution is 30 dm<sup>3</sup>, but other values are also available on request.

Ordering example for the pump with twelve outlet ports and with ultrasonic indicator of lubricant level for flow 3,4 cm<sup>3</sup>/min per port is:

**10-2500L-1 -AU/12**



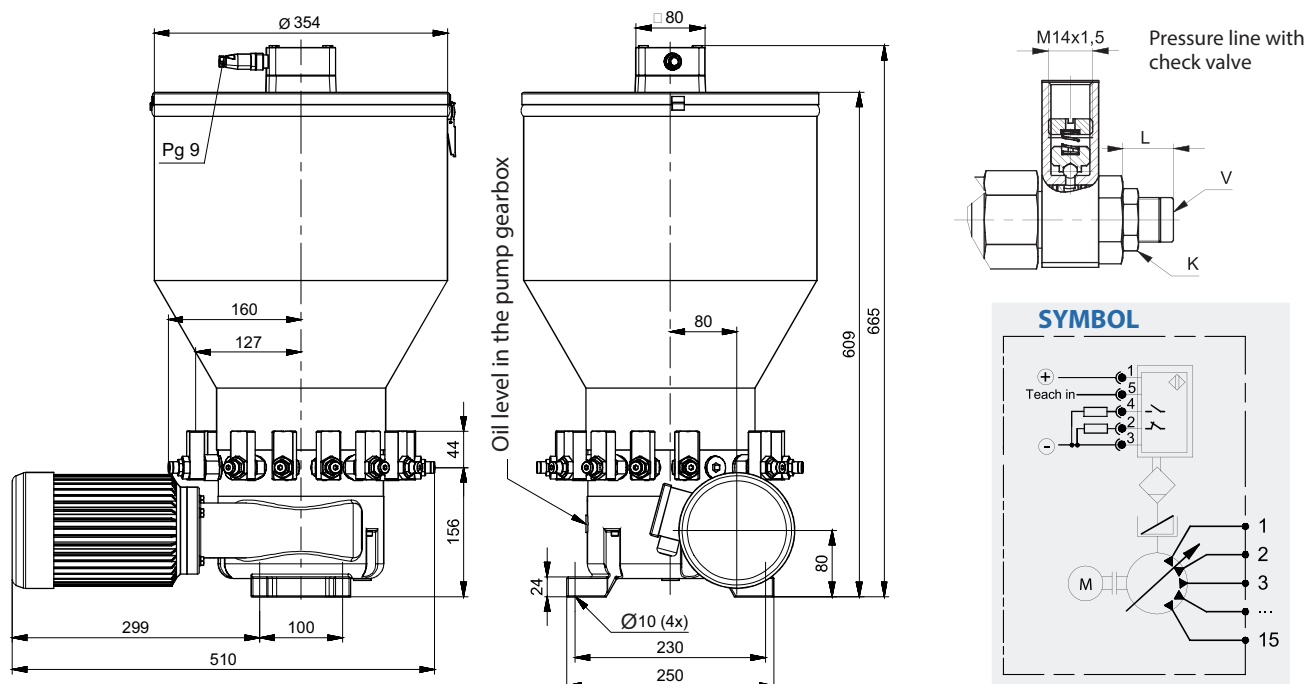
Code	Flow per piston stroke	Flow per outlet port	Max pressure	No. of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator AU	Tank volume	Mass
	(adjustable)	(adjustable)			Grease	Oil visc.	Temp.		Power	Rated speed	Voltage			
	cm³	cm³/min			bar	NLGI	mm²/s		°C	kW	rpm		V	dm³
10 - 2500-1	0,04 - 0,16	0,5 - 2,2	350	1-15	≤3	>13	-25 ; +80	70:1	0,25	980	3x400v 50Hz	10 to 30V 200 mA 2xPNP NO / NC	30	~33
10 - 2500S-1		0,35 - 1,4						112:1						
10 - 2500L-1		0,85 - 3,4						70:1	0,37	1460				



The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm, i.e. 0,16 cm<sup>3</sup> per piston stroke. By loosening nut "K" and turning the adjusting screw „V" for 360 clock wise ( "L" is reduced for 1mm), the flow rate decreases to 0,025 cm<sup>3</sup> per piston stroke. Minimum flow rate corresponds the "L" value of 12 mm. The flow is reduced to zero if the dimension "L" is 9 mm. After adjusting lock the safety nut "K" again. The outlet ports can be oriented upward or downward. Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A".

Ordering example for the pump with sixteen outlet ports and with ultrasonic indicator of lubricant level for flow 3,4 cm<sup>3</sup>/min per port is:

**10-6000L-1 -AU/16**



Code	Flow per piston stroke	Flow per outlet port	Max pressure	No. of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator AU	Tank volume	Mass
	(adjustable)	(adjustable)			Grease	Oil visc.	Temp.		Power	Rated speed	Voltage			
	cm³	cm³/min			bar	NLGI	mm²/s		°C	kW	rpm		V	dm³
10 - 6000-1	0,04 - 0,16	0,5 - 2,2	350	1-16	≤3	>13	-25 ; +80	70:1	0,25	980	3x400v 50Hz	10 to 30V 200 mA 2xPNP NO / NC	30	~33
10 - 6000S-1		0,35 - 1,4						112:1						
10 - 6000L-1		0,85 - 3,4						70:1	0,37	1460				

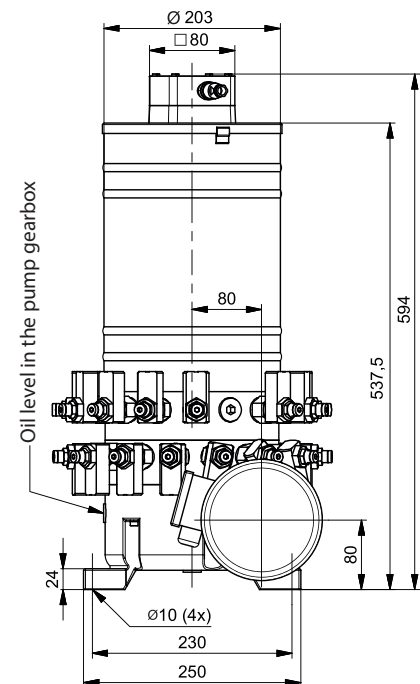
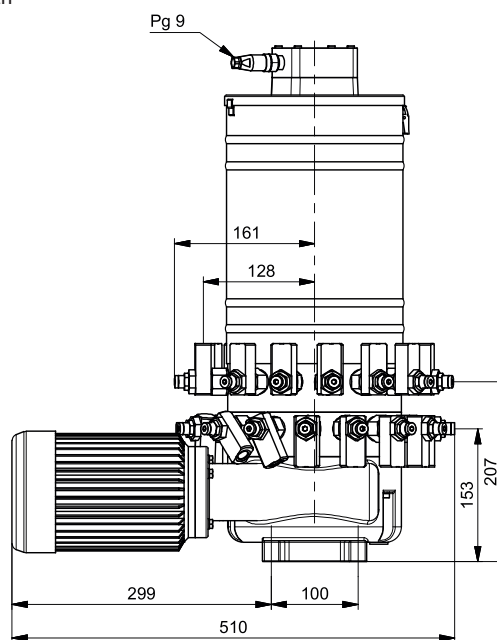
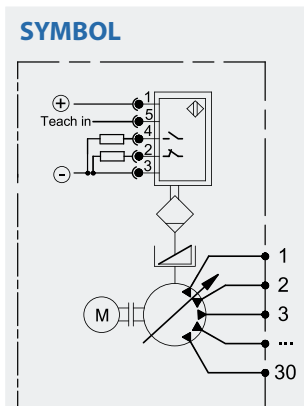
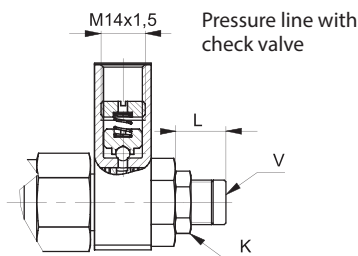
## ELECTRIC MOTOR MULTILINE PUMPS



This variable displacement pump is applied for oil and grease lubrication in multiline centralized systems. Displacement of each port can be adjusted separately from minimum to maximum value. It is possible to cut out some of the ports if it is necessary. The number of the ports (from 1 to 30 or 1 to 32 – depending on the variant) should be specified in order. The tank volume in standard execution is 30 dm<sup>3</sup>, but other values are also available on request.

Ordering example for the pump with 30 outlet ports and with ultrasonic indicator of lubricant level for flow 1,4 cm<sup>3</sup>/min per port is:

**10-2550S -AU/30**



Code	Flow per piston stroke	Flow per outlet port	Max pressure	No. of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator AU	Tank volume	Mass
	(adjustable)	(adjustable)			Grease	Oil visc.	Temp.		Power	Rated speed	Voltage			
	cm <sup>3</sup>	cm <sup>3</sup> /min			NLGI	mm <sup>2</sup> /s	°C		kW	rpm	V			
10 - 2550	0,04 - 0,16	0,5 - 2,2	350	1-30	≤3	>13	-25 ; +80	70:1	0,25	980	3x400v 50Hz	10 to 30V 200 mA 2xPNP NO / NC	10	~36
10 - 2550S		0,35 - 1,4						112:1						
10 - 2550L		0,85 - 3,4						70:1						



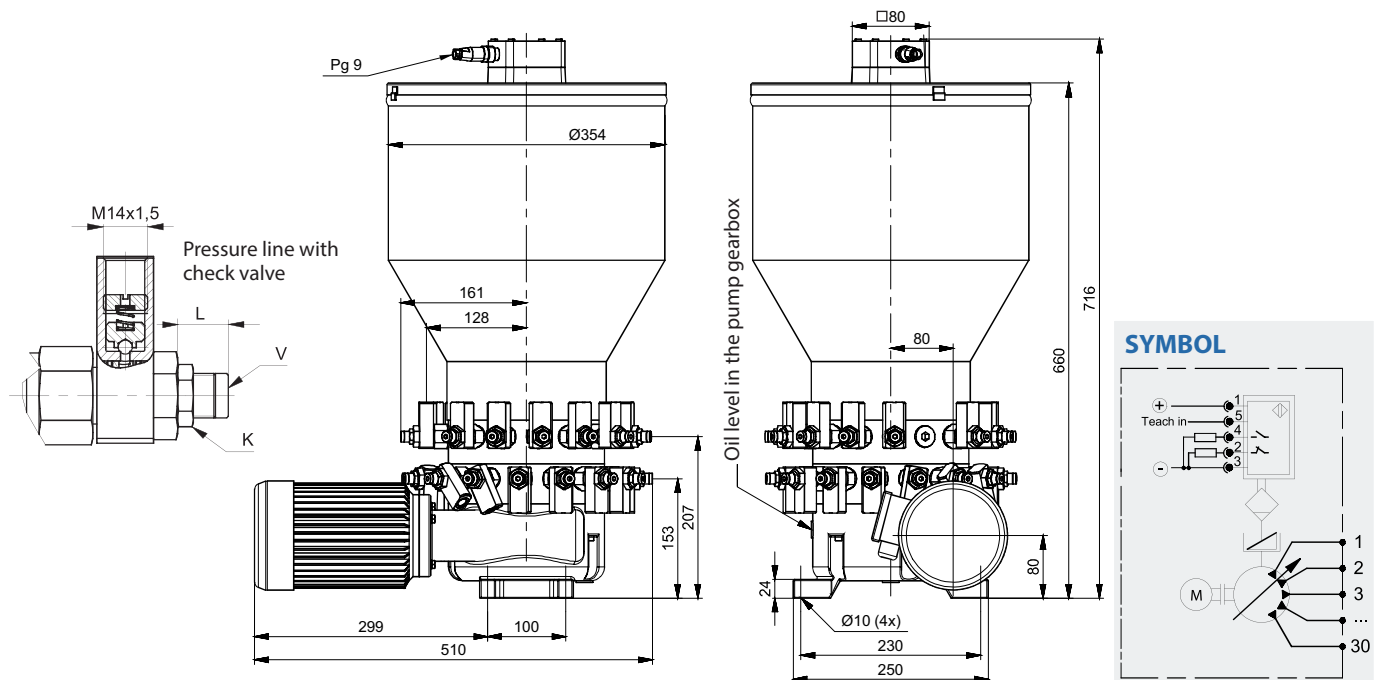
## ELECTRIC MOTOR MULTILINE PUMPS



This variable displacement pump is applied for oil and grease lubrication in multiline centralized systems. Displacement of each port can be adjusted separately from minimum to maximum value. It is possible to cut out some of the ports if it is necessary. The number of the ports (from 1 to 30 or 1 to 32 – depending on the variant) should be specified in order. The tank volume in standard execution is 30 dm<sup>3</sup>, but other values are also available on request.

Ordering example for the pump with 18 outlet ports and with ultrasonic indicator of lubricant level for flow 3,4 cm<sup>3</sup>/min per port is:

**10-2550L-1 -AU/18**

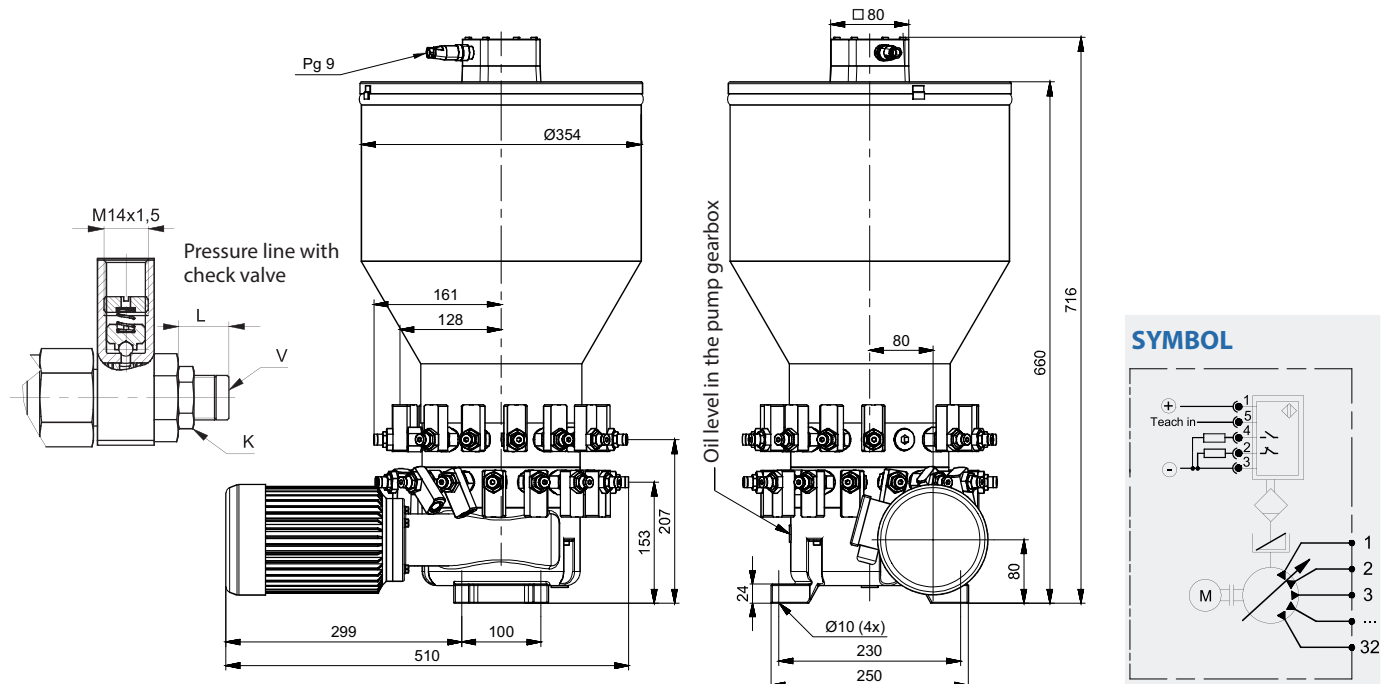


Code	Flow per piston stroke	Flow per outlet port	Max pressure	No. of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator AU	Tank volume	Mass
	(adjustable)	(adjustable)			Grease	Oil visc.	Temp.		Power	Rated speed	Voltage			
	cm³	cm³/min			bar	NLGI	mm²/s		°C	kW	rpm		V	dm³
10 - 2550-1	0,04 - 0,16	0,5 - 2,2	350	1-30	≤3	>13	-25 ; +80	70:1	0,25	980	3x400v 50Hz	10 to 30V 200 mA 2xPNP NO / NC	30	~42
10 - 2550S-1		0,35 - 1,4						112:1						
10 - 2550L-1		0,85 - 3,4						70:1						

The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm, i.e. 0,16 cm<sup>3</sup> per piston stroke. By loosening nut "K" and turning the adjusting screw „V“ for 360 clock wise ( "L" is reduced for 1mm), the flow rate decreases to 0,025 cm<sup>3</sup> per piston stroke. Minimum flow rate corresponds the "L" value of 12 mm. The flow is reduced to zero if the dimension "L" is 9 mm. After adjusting lock the safety nut "K" again. The outlet ports can be oriented upward or downward. Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A".

Ordering example for the pump with 18 outlet ports and with ultrasonic indicator of lubricant level for flow 3,4 cm<sup>3</sup>/min per port is:

**10-6050L-1 -AU/18**



Code	Flow per piston stroke	Flow per outlet port	Max pressure	No. of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator AU	Tank volume	Mass
	(adjustable)	(adjustable)			Grease	Oil visc.	Temp.		Power	Rated speed	Voltage			
	cm³	cm³/min			bar	NLGI	mm²/s		°C	kW	rpm		V	dm³
10 - 6050-1	0,04 - 0,16	0,5 - 2,2	350	1-32	≤3	>13	-25 ; +80	70:1	0,25	980	3x400v 50Hz	10 to 30V 200 mA 2xPNP NO / NC	30	~43
10 - 6050S-1		0,35 - 1,4						112:1						
10 - 6050L-1		0,85 - 3,4						70:1						



## ELECTRIC MOTOR PUMP

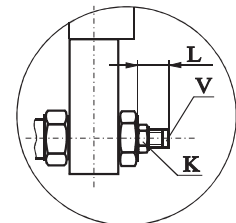
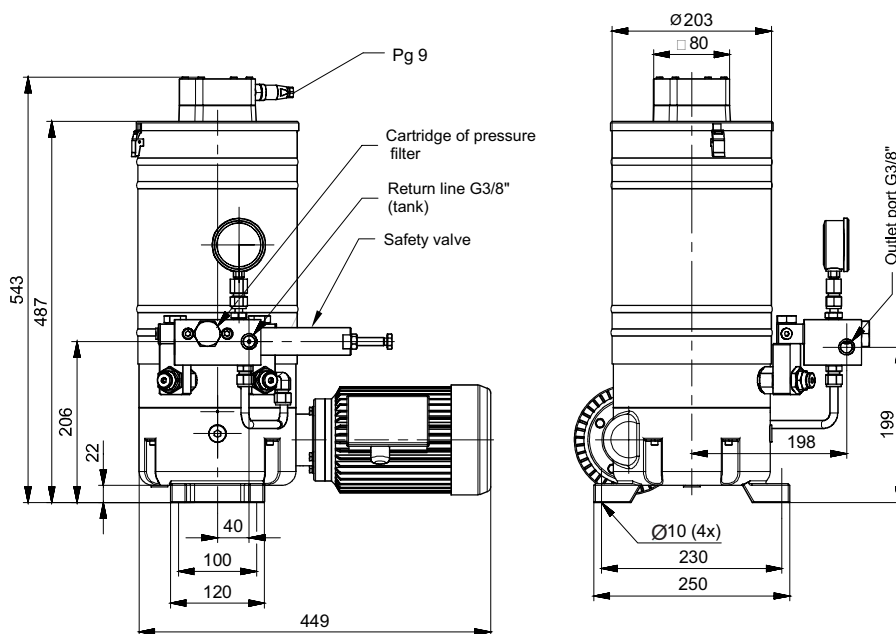


Electric driven pump for grease and oil lubrication usually is applied for smaller centralized two-lines systems. It is suitable for operation in very hard working conditions (excavators for surface mines, iron plants, cement works e.t.c.) This pump has two pump elements with variable flow and possibility of independent regulation minimum to maximum value. It is possible to cut out outlet ports, if it is necessary. The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm. By loosening nut "K" and turning the adjusting screw "V" for 360 clock wise ("L" is reduced for 1mm), the flow rate decreases to 0,11 cm<sup>3</sup> per piston stroke.

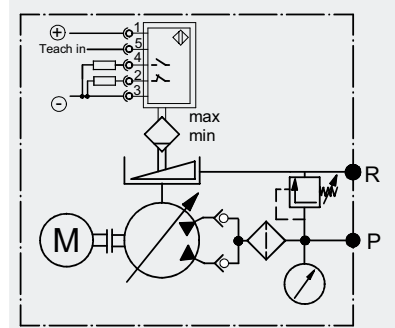
Minimum flow rate corresponds the "L" value of 12 mm. The flow is reduced to zero if the dimension "L" is 9 mm. After adjusting, lock the safety nut "K" again. Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A".

Ordering example for the pump with ultrasonic indicator of lubricant level for flow 18 cm<sup>3</sup>/min is:

**10-2570 -AU**



### SYMBOL



Code	Flow (adjustable)	Max. pressure	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator AU	Tank volume	Mass
	cm <sup>3</sup> /min	bar	Grease	Oil visc.	Temp.		Power	Rated speed	Voltage			
10 - 2570L	10-27	300	NLGI	mm <sup>2</sup> /s	°C	70:1	0,37	1460	3x400 V	10 to 30V 200 mA 2xPNP NO / NC	10	~33
10 - 2570	7-18		≤3	>13	-25 ; +80	112:1	0,25	980	50Hz			
10 - 2570S	4-11											

## ELECTRIC MOTOR PUMP



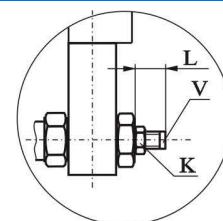
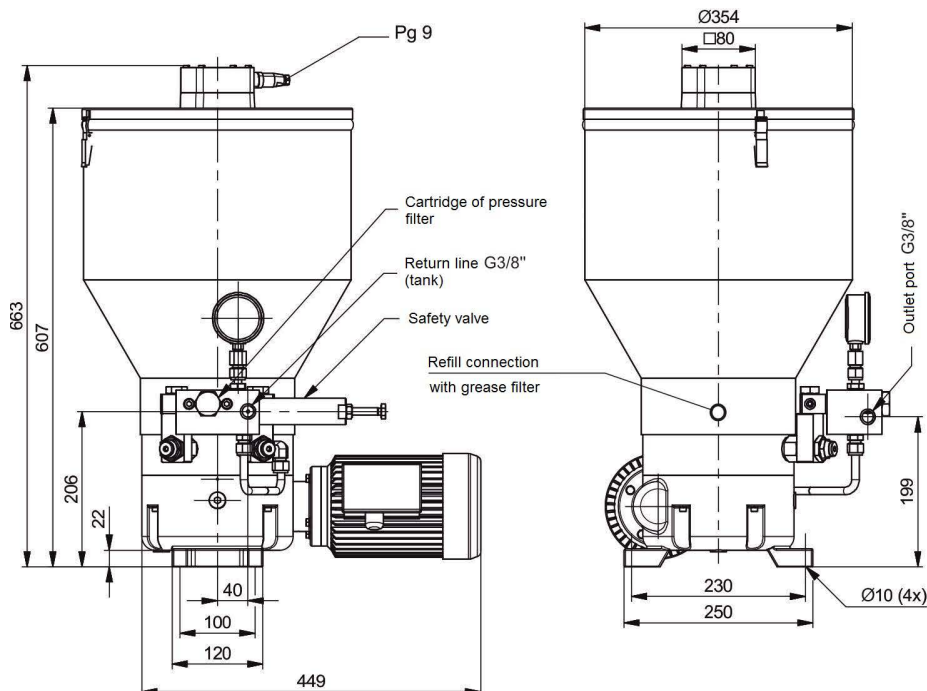
Electric driven pump for grease and oil lubrication usually is applied for smaller centralized two-lines systems. It is suitable for operation in very hard working conditions (excavators for surface mines, iron plants, cement works e.t.c.) This pump has two pump elements with variable flow and possibility of independent regulation minimum to maximum value. It is possible to cut out outlet ports, if it is necessary. The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm. By loosening nut "K" and turning the adjusting screw "V" for 360 clock wise ("L" is reduced for 1mm), the flow rate decreases to 0,11 cm<sup>3</sup> per piston stroke. Minimum flow rate corresponds the "L" value of 12 mm. The flow is reduced to zero if the dimension "L" is 9 mm. After adjusting, lock the safety nut "K" again. Pump

with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A".

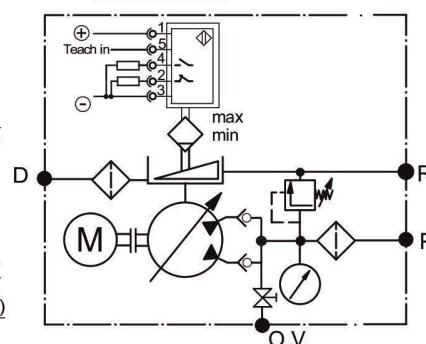
Rough / fine filter with active flow surface area 15cm<sup>2</sup> and filtration rate 400/150 µm is installed at outlet port. Pump has refill with grease by connection port D and filter filtration rate 400µm and the pump will be protected from dirt that can cause failure. If the pump absorbs air in case of total discharge of the tank, it has exhaust valve which enables quick start.

Ordering example for the pump with ultrasonic indicator of lubricant level for flow 27 cm<sup>3</sup>/min is:

**10-2570L-1 -AU**



### SYMBOL:



Code	Flow (adjustable)	Max. pressure	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator AU	Tank volume	Mass				
			Grease	Oil visc.	Temp.		Power	Rated speed	Voltage							
	cm³/min	bar	NLGI	mm²/s	°C	kW	rpm	V	dm³	kg						
10 - 2570L-1	10-27	300	≤3	>13	-25 ; +80	70:1	0,37	1460	3x400 V 50Hz	10 to 30V 200 mA 2xPNP NO / NC	30	~36				
10 - 2570-1	7-18					112:1	0,25	980								
10 - 2570S-1	4-11															

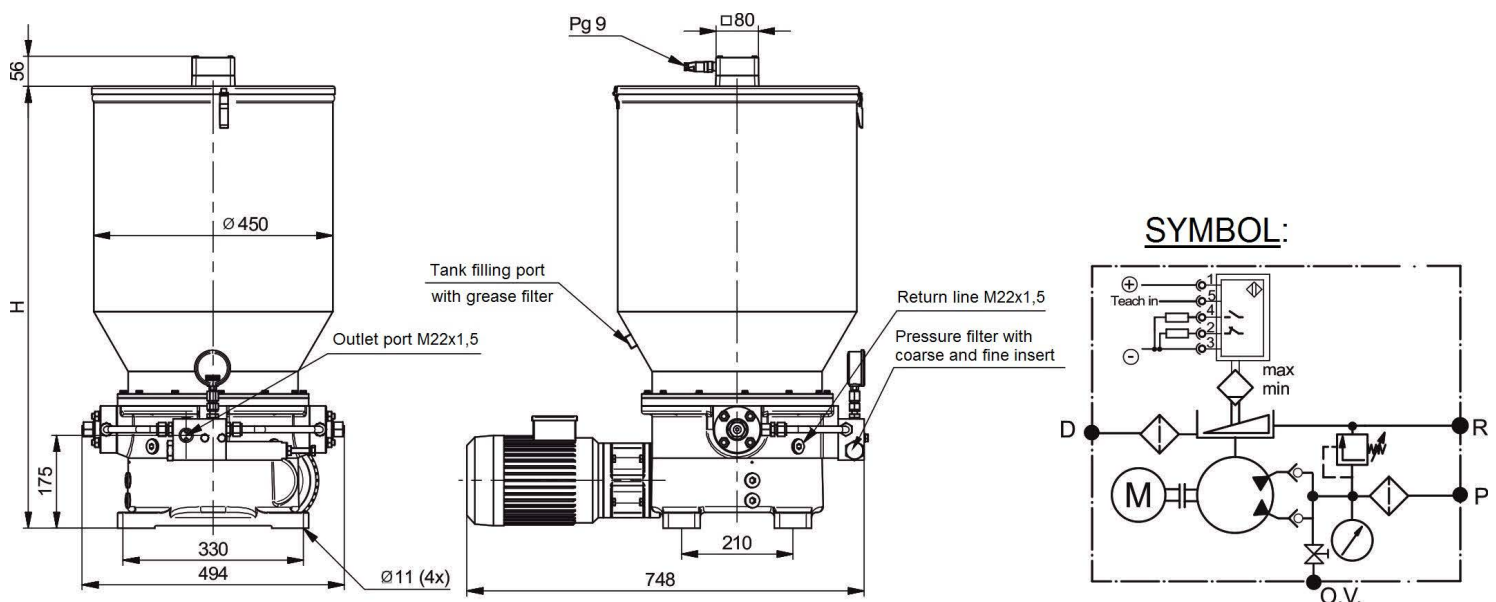
## ELECTRIC MOTOR PUMP



This electric driven pump is usually applied for oil and grease lubrication in two-line centralized systems. It is suitable for operation in very hard working conditions (excavators for surface mine exploitation, iron plants, cement works). In tank should be posed level indicator, in this case type of pump must have "AU". Ultrasonic level indicator measures three levels of lubricant in the tank, and range be selected based on customer request. Tank can be 40, 50, 60, 80 and 100 dm<sup>3</sup>. The tank is filled through the port "D" using the charging pump (with jointing cone 24° DIN 3901/3902 M26x1,5).

This is recommended to avoid particles and air in lubricant. This piston pump is available in three variants depends of displacement and working pressure. It is equipped with pressure gauge and pressure relief valve to prevent the overload, and filter fineness 150 µm. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A". For discharging use the port "B". Non-standard tank volume marked with additional designation at the end (40, 60, 100).

If the pump absorbs air in case of total discharge of the tank, it has exhaust valve which enables quick start. Safety valve has been adjusted at opening pressure 5% above maximum allowed working pressure.

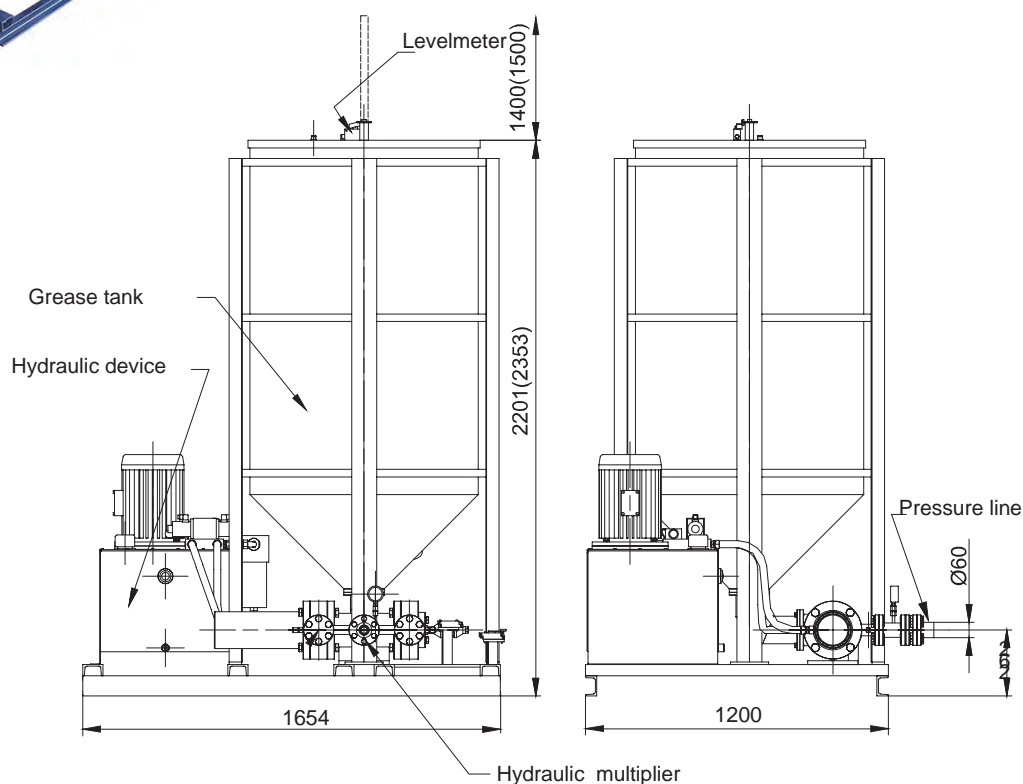


Code	Flow	Max. pressure	Fluid			Electric motor			Ultrasonic level indicator AU	Tank volume	H	Mass kg
	cm³/min	bar	Grease	Oil visc.	Temp.	Power	Rated speed	Voltage		dm³		
			NLGI	mm²/s	°C	kW	rpm	V				
10 - 3500	500	250	≤3	>13	-25 ; +80	1,1	1410	3x400/50Hz	10 to 30V 200mA 2xPNP NO/ NC	50	612	82
10 - 3500-1										80	832	87
10 - 3500/1	300	350								50	612	82
10 - 3500/1-1										80	832	87
10 - 3500/2	150	400								50	612	82
10 - 3500/2-1										80	832	87

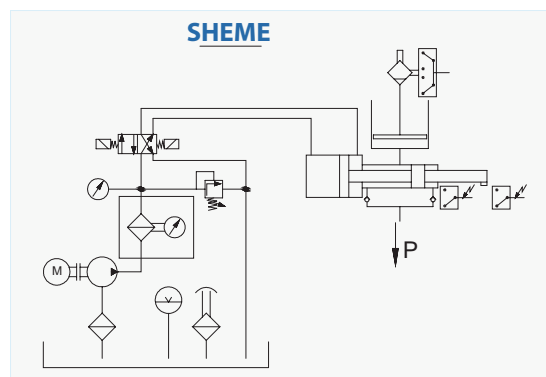
## ELECTRO MOTOR PUMP FOR CENTRAL SUPPLEMENT



Electric driven pump for central supplement used in places there is a more grease lubrication central systems such as ironworks, rolling mills, coke plants etc. In this way is provided surely grease delivering to each pump by the pipelines. This ensures perfect grease purity. Also, the costs of lubricant handling are reduced because it's kept in one place. Head pumps can be automatically supplemented by installation of electric taps and control box. Pumps are made with many variations of operating pressure, flow and tank volume, according to customer's request. The tank of the pump is equipped with the level indicators for min. and max. Level indicator provide the automatic pump refilling if there exists a central tank for grease.



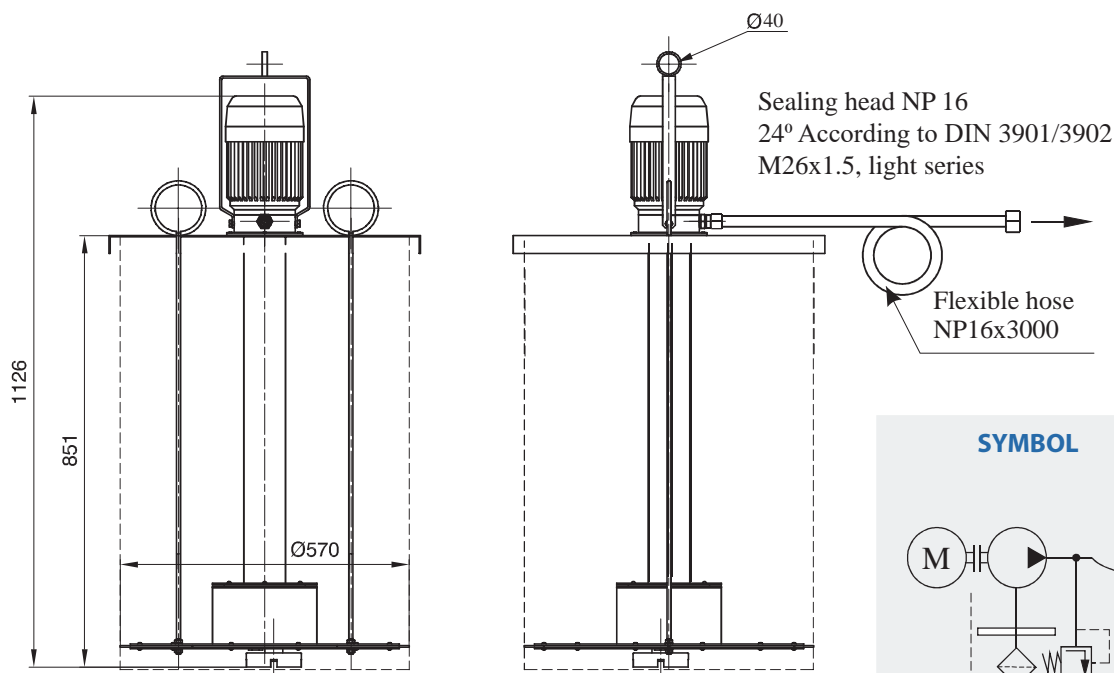
Ordering code		543-8400	543-8450/1600
Max. pressure of hydraulic unit		45 bar	50 bar
Workin fluid - mineral oil		HIDROL HD 46	
Oil's tank volume		80 dm <sup>3</sup>	
Electric motor	Voltage	3x400 V 50 Hz	
	Power	5,5 kW	7,5 kW
	rpm	1450 rpm	
Flow of lubricant		4 dm <sup>3</sup> /min	
Grease NLGI		≤ 3	
Max. grease work pressure		350 bar	380 bar
Temperat. application area		-10 to +50 °C	
Grease tand volume		1000 dm <sup>3</sup>	1600 dm <sup>3</sup>
Mass		630 kg	690kg



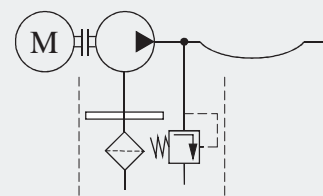
## ELECTRIC MOTOR PUMP FOR GREASE TRANSFER



Electric driven pump type 10-4000 is applied for charging other pumps in centralized lubrication systems, as well as for lubricant transfer from one tank to another. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This gear pump is designed for operating with grease. The filter installed on intake line protects the pump and the whole system of impurities. The pressure relief valve installed on pressure line protects the pump of overload. The pump is designed to be directly mounted to a standard grease barrel of 200dm<sup>3</sup>. The pump has a rubber hose 16x3000 mm, and the binding site for crane, for easier barrels replacement.



### SYMBOL



Ordering code		10 - 4000
Fluid	Grease	NLGI ≤3
	Temperature	-10 ; +60 °C
Displacement		6 dm <sup>3</sup> /min
Operating pressure		25 bar
Electric motor	Power	0,55kW
	Voltage	3x400V 50Hz
	rpm	910 rpm
Mass		43 kg



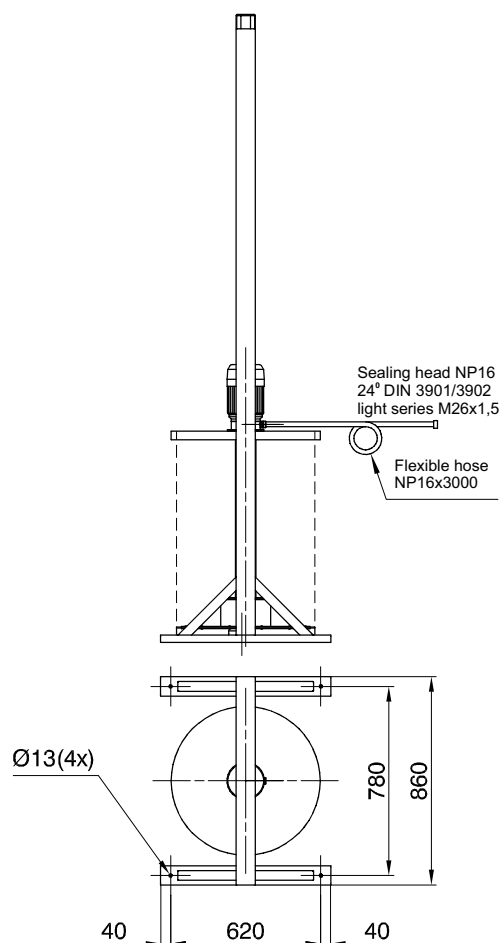
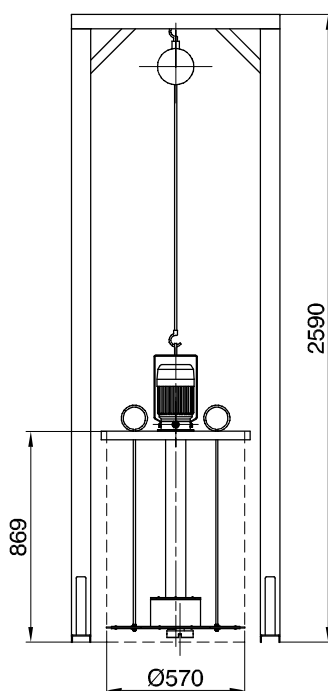
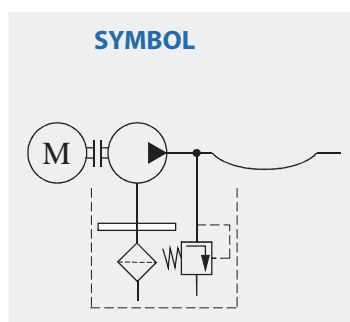
## ELECTRIC MOTOR PUMP FOR GREASE TRANSFER WITH CRANE



Electric driven pump type 10-4000/D is applied for charging other pumps in centralized lubrication systems, as well as for lubricant transfer from one tank to another. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This gear pump is designed for operating with grease. The filter installed on intake line protects the pump and the whole system of impurities. The pressure relief valve installed on pressure line protects the pump of overload. The pump is designed to be directly mounted to a standard grease barrel of 200dm<sup>3</sup>. The rubber flexible hose 16x3000mm is included in complet.

### NOTE:

Pump has the crane and a base for easy handling (replacement of barrels).

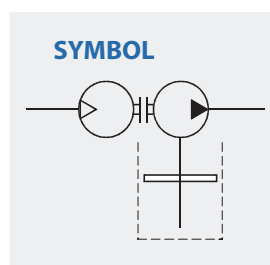
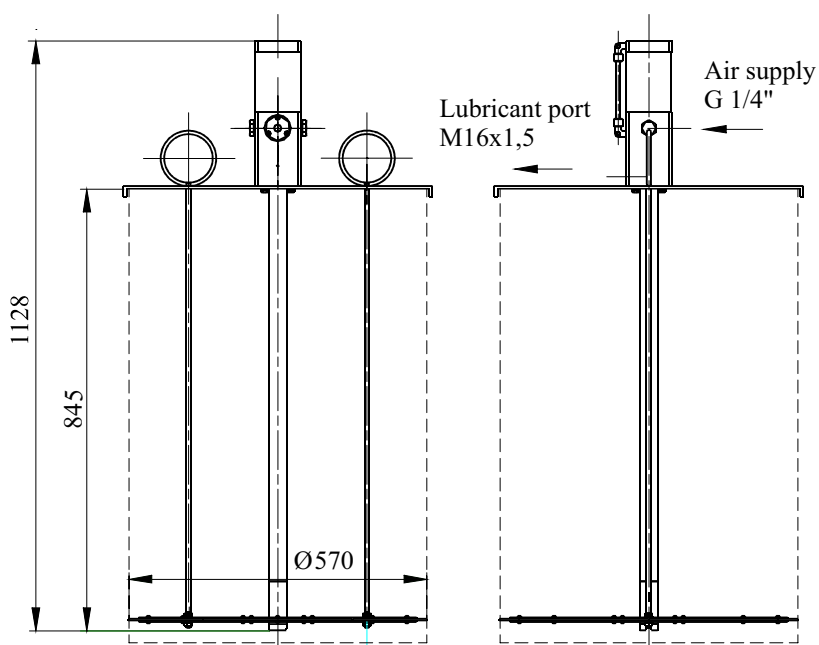


Ordering code		10 - 4000/D
Fluid	Grease	NLGI ≤3
	Temperature	-10 ; +60 °C
Displacement		6 dm <sup>3</sup> /min
Operating pressure		25 bar
Electric motor	Power	0,55kW
	Voltage	3x400V 50Hz
	rpm	910 rpm
Mass		97 kg

## PNEUMATIC PUMP FOR LUBRICATION



Pneumatic pump for lubrication type is applied for centralized lubrication systems and for single lubrication in service work- shops as well as in industrial plants, where the supply of pressurized air is available. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This piston pump is designed to be directly mounted to a standard lubricant barrel of 200 dm<sup>3</sup>. For uniform work operation of the pump pressurized air must be clean and lubricated. This is one of the warranty conditions. The option with filter regulator-lubricator pneumatic set is also available (code 10-5000/P; 10-5050/P).

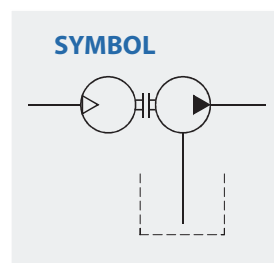
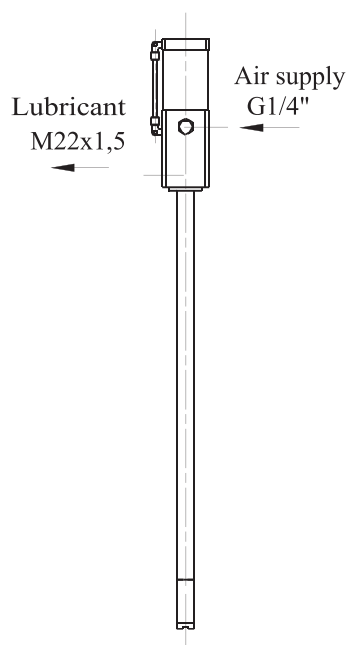
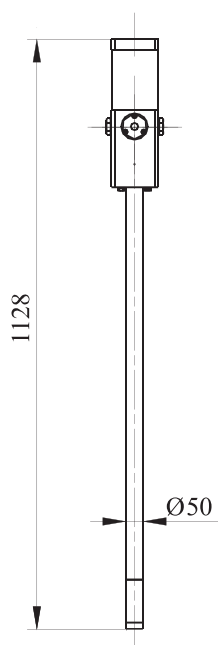


Ordering code		10 - 5000	10 - 5050
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s	
	Grease	NLGI ≤3	
	Temperature	-10 ; +60 °C	
Air pressure		max. 6 bar	
Lubricant pressure		400 bar	150 bar
Displacement		5,5 cm <sup>3</sup>	14 cm <sup>3</sup>
Cycles per minute		120	
Mass		23 kg	

## PNEUMATIC PUMP FOR OIL DRAFT



Pneumatic pump for oil draft is applied for oil draft for the barrels or tanks in service workshops as well as in outdoor, where the supply of pressurized air is available. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This piston pump is designed to be directly mounted to the hole 2". For uniform work of the pump, pressurized air must be clean and lubricated. This is one of the warranty conditions. The option with filter regulator-lubricator pneumatic set is also available (code 10-5300/P).



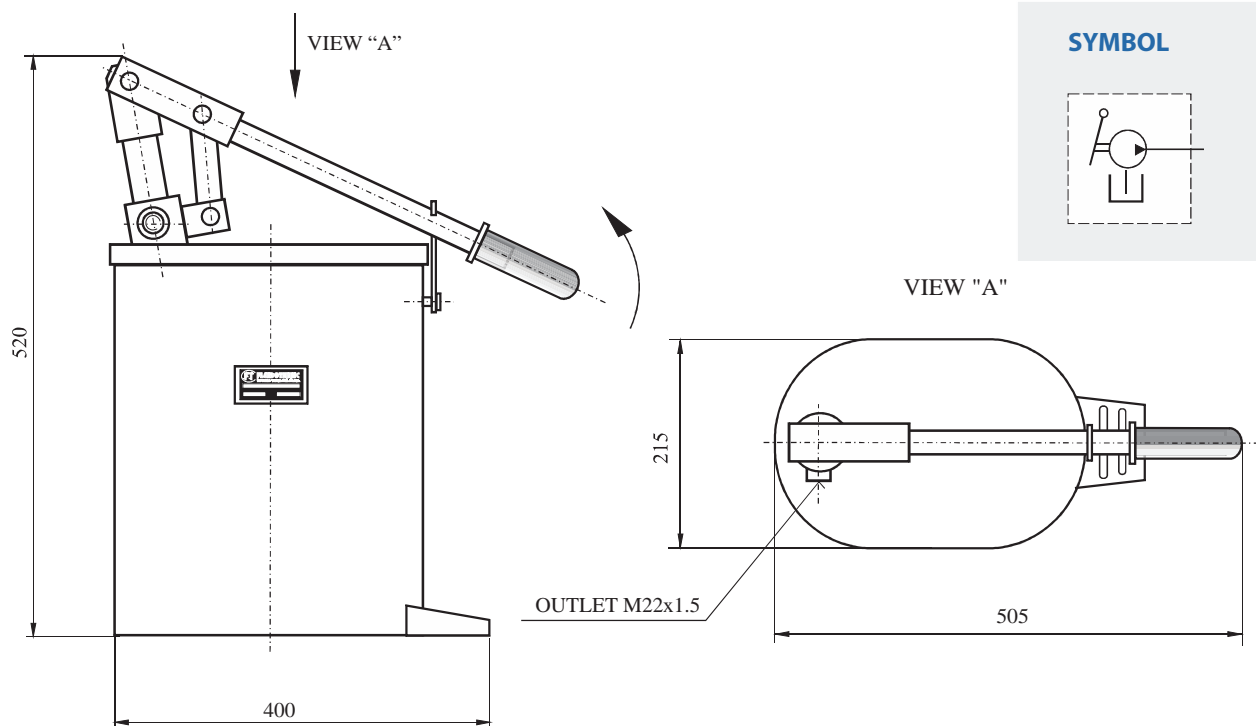
Ordering code		10 - 5300
Fluid	Oil viscosity	>10 mm <sup>2</sup> /s
	Temperature	-10 ; +60 °C
Air pressure		max. 6 bar
Lubricant pressure		20 bar
Displacement		65 cm <sup>3</sup>
Cycles pre minute		160
Mass		9 kg



## HAND PUMP (FOR LUBRICANT TRANSFER)



Hand pump type 10-2400 is applied for charging other pumps in small lubrication systems. The pump design is based on the principle of a double - acting piston. It is of simple design suitable for carrying. The pump is equipped with tank for lubricant. The proper flexible hose can be added on request.



Ordering code		10 - 2400
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s
	Grease	NLGI ≤3
	Temperature	-10 ; +80 °C
Operating pressure		max. 10 bar
Flow per cycle		100 cm <sup>3</sup>
Force on the lever under max. pressure		20 daN
Connection port		M22x1,5
Tank volume		15 dm <sup>3</sup>
Mass		7,0 kg

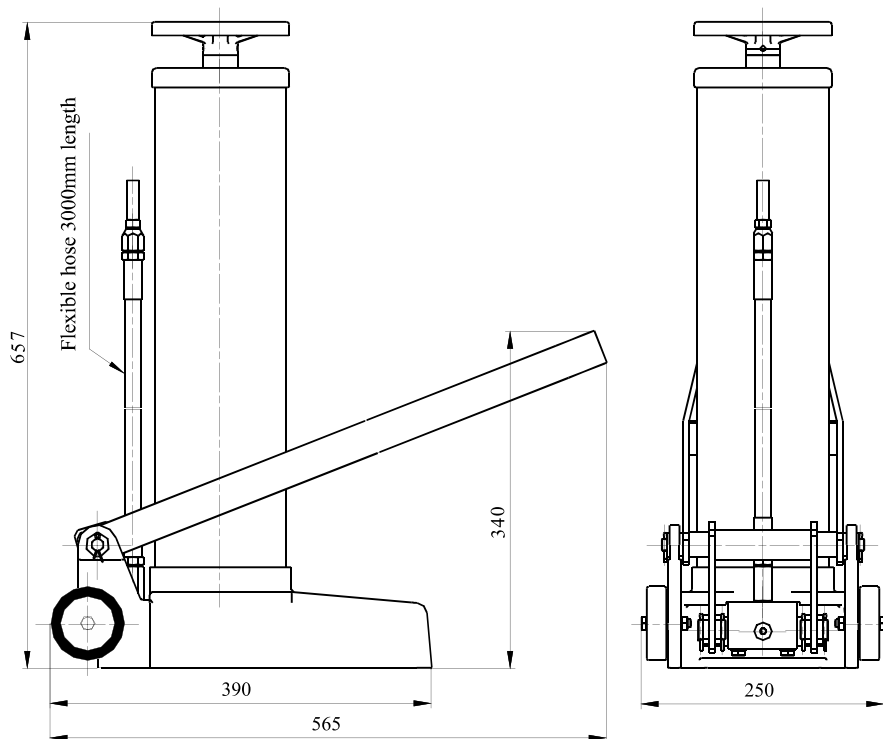
## FOOT PUMP (FOR GREASE LUBRICATION)



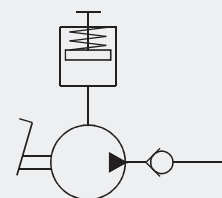
The foot operated pump 10-3000 is applied for single lubrication in case of high flow resistance in lubrication line. The pump is wheeled for easier removal to another place. The flexible high pressure hose of 3m length is included in complet. Robust design, proper chose of material and high precision of manufacture, make this pump suitable for long time operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works, sevice work-shops).

Accessories included in complet:

- american head
- pioneer head - small
- pioneer head - big



### SYMBOL



Ordering code		10-3000
Lubricant	Grease NLGI	≤3
	Temperature	-20 to +80 °C
Flow		3,1 cm³/cycle
Working pressure max		450 bar
Force at lever end (pedal) at max. pressure		50 daN
Tank volume		5 dm³
Mass		24 kg



## POWER UNIT FOR MULTILINE LUBRICATION

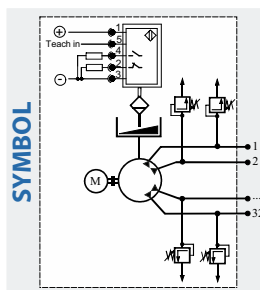


This unit is applied for oil and grease lubrication in multiline centralized systems. Main parts of the unit are multiline pump (1), distributing strip (2) with pressure relief valves (4) and stand (3). The pump has variable flow, it can be adjusted, for each outlet port, separately from minimum to maximum value. It is possible to cut out some of the ports if it is necessary. The number of the ports (from 1 to 15) should be specified in order. Pressure relief valves of each port are adjusted separately from 50 to 300 bar. In case of clogging of some lubrication point, the pressure relief valve is opened so the lubricant leaks out. This function protects the pump and also

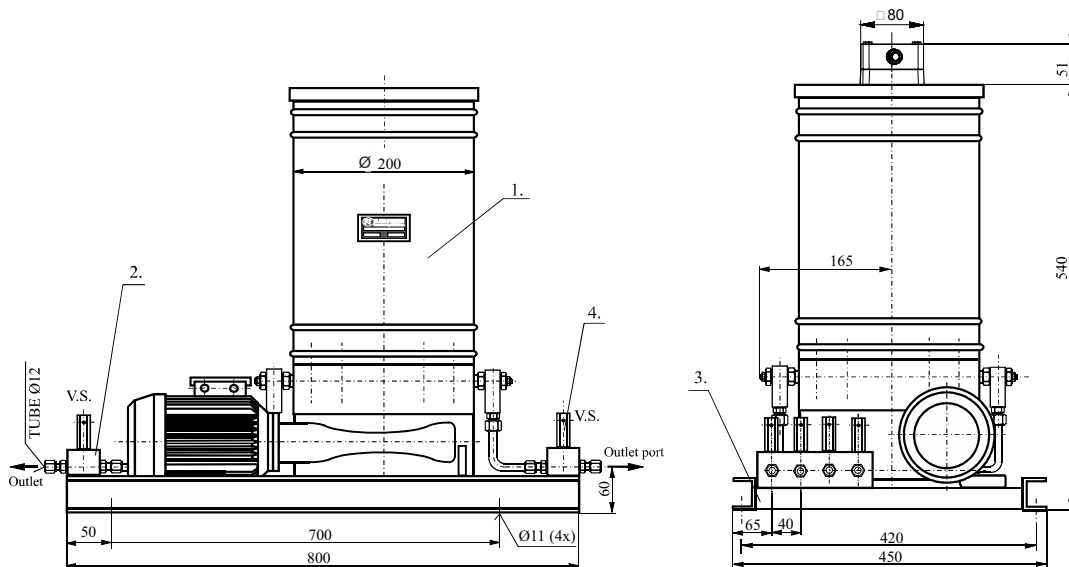
indicates the improper function of the system. The outlet ports can be arranged on the both side of unit. Maximum number of ports on one side is 9. In ordering code the ports on the opposite side of electric motor should be specified at first. Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, with the range according to customer requirements. The required flow should be specially emphasized.

Ordering example of the power unit 13 outlet ports (8 on one side and 5 on another side) and minimal level indicator:

**10-2800AU/8-5**



Ordering code		10 - 2800/no. outlet ports
Fluid	Oil viscosity	>13 mm²/s
	Grease	NLGI ≤3
	Temperature	-25 ; + 80 °C
Working pressure		max. 300 bar
Flow per piston stroke		0,03 - 0,16 cm³
Flow per outlet port (point out when ordering)		0,35-1,4 ; 0,5-2,2 ; 0,85-3,4 cm³/min
Connecting ports		SRPS M.B6.702 L12 M
Number of outlet ports		1 - 16
Electric motor		0,25kW 3x400V 980 rpm (0,37kW 3x400V 1360 rpm)
Tank volume		10 dm³
Gear box ratio		70 : 1 ; 112 : 1
Ultrasonic level indicator AU	Voltage	10 to 30V
	Current	200 mA
	Type	2xPNP NO/NC
Mass		~54 kg



## POWER UNIT FOR MULTILINE LUBRICATION (WITH HEATER IN SAFETY BOX)



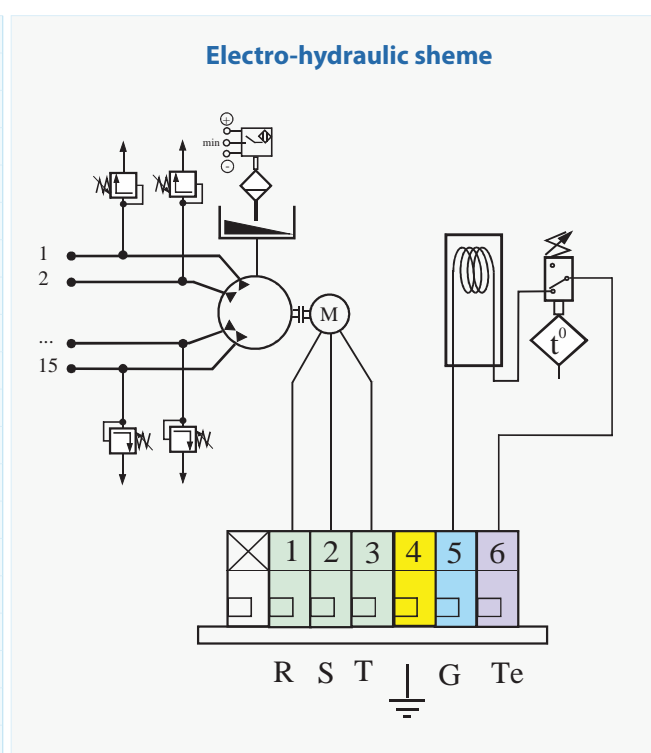
This unit is applied for oil and grease lubrication in multiline centralized systems. It is suitable for low temperature and dusty ambient. Main part of the unit is multiline pump fixed on the unit base. The pump is protected by thermal insulated jacket with cover. Hinges on the cover enable the right and left side assembling. The heater cable wound around the lubrication tank heats the lubricant and interior of the box. Temperature in the box is controlled by the thermostat. The pump has variable flow, it can be adjusted, for each outlet port, separately from minimum to maximum value. It is possible to cut out some of the ports if it is necessary. The pump is factory adjusted to the maximum flow rate 0,16 cm<sup>3</sup> per piston stroke, i.e. 2,2 cm<sup>3</sup> /min per each port. Length "L" is adjusted to 16mm. Releasing the safety nut "K" and turning the screw "V" clockwise (reducing "L" for 1 mm) flow rate decreases for 0,03 cm<sup>3</sup> per piston stroke, i.e. 0,4cm<sup>3</sup> /min. L=10mm results in minimum flow rate. L=9mm cuts out the flow completely. After adjusting tight the safety nut "K" again.

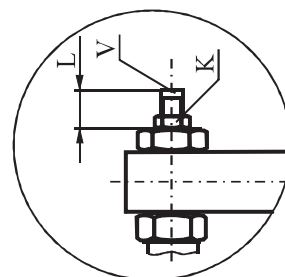
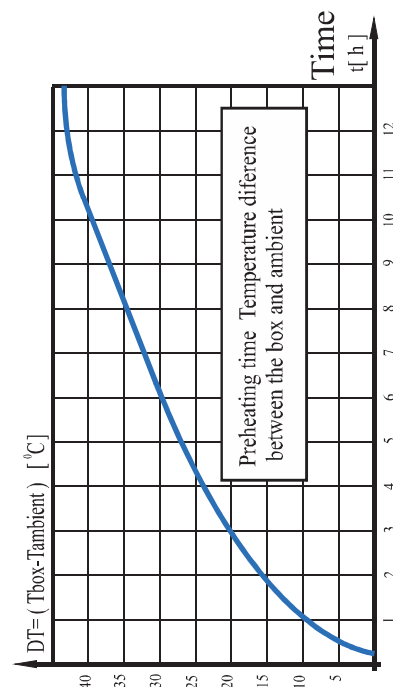
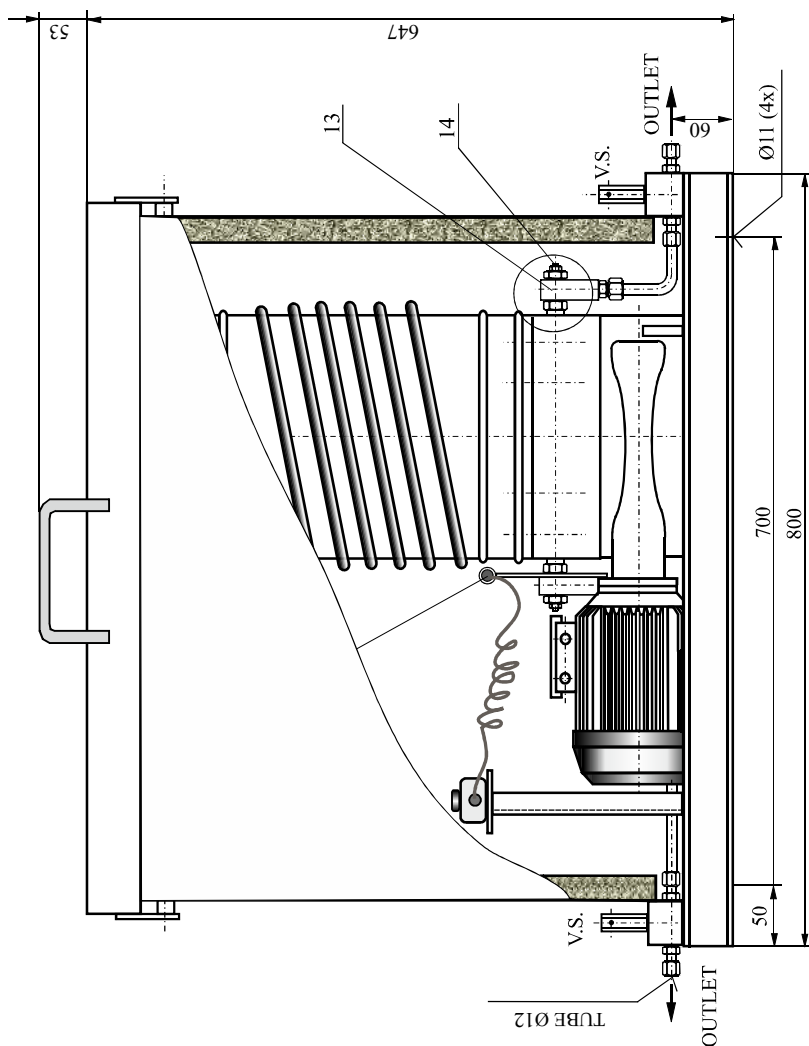
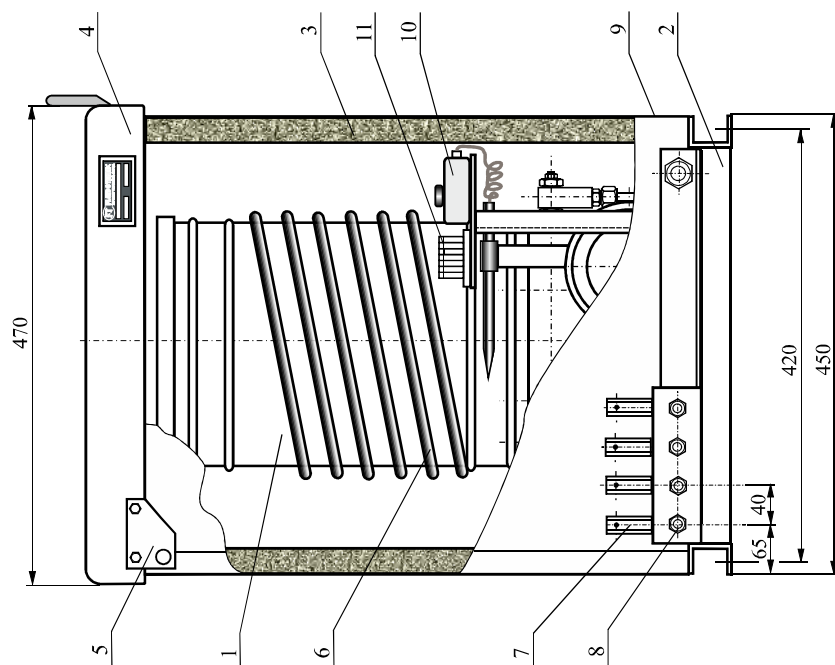
**NOTE:** On customer request we install, in the power unit, the pumps other flow characteristics.

The number of the ports (from 1 to 15) should be specified in order. Pressure relief valves of each port are adjusted separately from 50 to 300bar. In case of clogging of some lubrication point, the pressure relief valve is opened so the lubricant leaks out. This function protects the pump and also indicates the improper function of the system. The outlet ports can be arranged on the both side of unit. Maximum number of ports on one side is 9. In ordering code the ports on the opposite side of electric motor should be specified at first. For the option with indication of minimum quantity of the lubricant, add "AU".

**ORDERING EXAMPLE:** The unit with 14 outlet ports (8 on one side and 6 on other side) and indication of minimum quantity of lubricant: **10-2900 AU/8-6**

Ordering code		10 - 2900/no. outlet ports	
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s	
	Grease	summer	NLGI ≤3
		winter	NLGI ≤1
	Temperature	-20 ; + 80 °C	
Working pressure		max. 300 bar	
Operating pressure		200 bar	
Flow per piston stroke		0,03 - 0,16 cm <sup>3</sup>	
Flow per outlet port		0,4 - 2,2 cm <sup>3</sup> /min	
Connecting ports		SRPS M.B6.702 L12 M	
Number of outlet ports		1-15	
Electric motor		0,25kW 3x400V 980 rpm	
Tank volume		10 dm <sup>3</sup>	
Gear box ratio		70:1	
Heater		141W 400V 50Hz	
Thermostat		-30 ; + 30 °C	
Ultrasonic level indicator AU	Voltage	10 to 30V	
	Current	200 mA	
	Type	2xPNP NO/NC	
Mass		~116 kg	





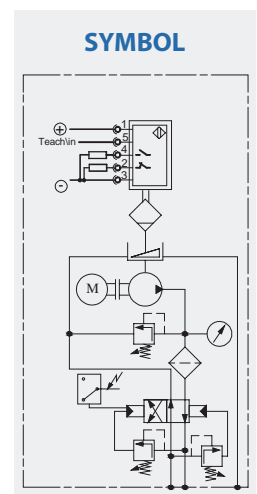
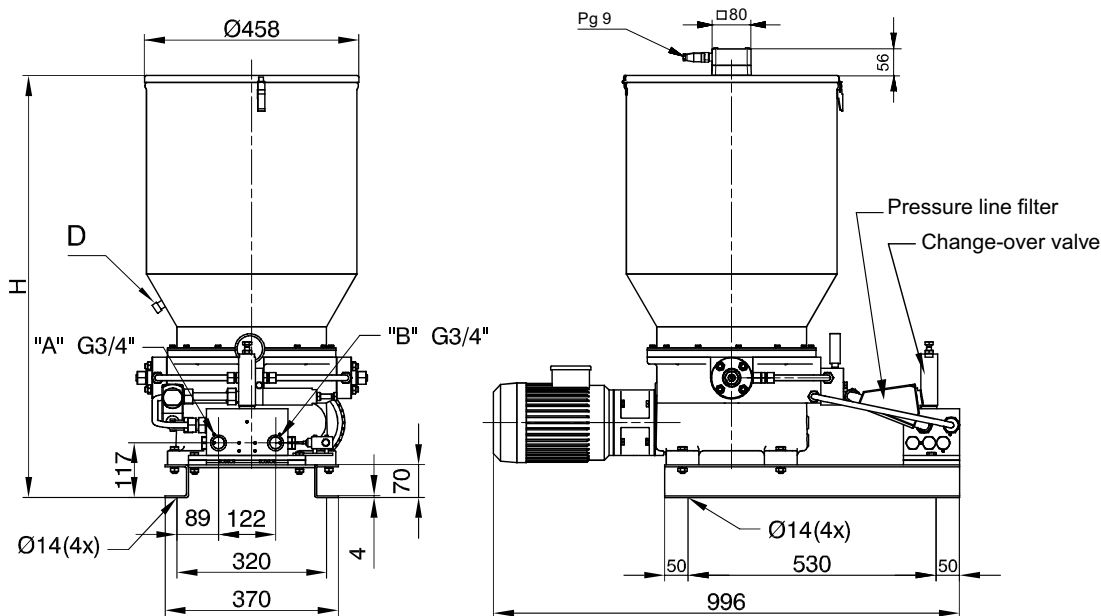
**DETAIL - HEAD OF THE PUMP**

1	MULTILINE PUMP
2	BASE OF UNIT
3	UNIT JACKET
4	UNIT COVER
5	COVER HINGE
6	HEATER
7	PRESSURE RELIEF VALVE
8	FITTING SRPS M.B1.702 L12M
9	CABLE GLAND PG 21
10	THERMOSTAT
11	VSTERMIAL
12	THERMOSTAT PAN
13	HEAD PUMP
14	SCREW FOR ADJUSTING FLOW

## UNIT FOR DUAL LINE LUBRICATION (WITH HYDRAULIC CHAGE-OVER VALVE)



The compact unit is applied for oil and grease lubrication in two-line centralized systems. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). In tank should be posed level indicator max/min (for automat.supplying). Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, with the range according to customer requirements. There is 3 tank variants: 50, 80 and 100 dm<sup>3</sup>. The tank filled through the port D (with seals cone 24° DIN 3901/3902 M26x1,5), using the charging pump. This is recommended to avoid particles and air in lubricant. This piston pump is available in three variants regarding flow and working pressure. It is equipped with pressure gauge and pressure relief valve to prevent the overload. For lubrication of gear unit of the pump use hypoid oil. The oil level must be equal to down edge of filling port. The lubricant flows from the pump through the filter to the change-over valve. Hydraulic change-over valve is manage-regulating device. When the pressure in distributing line increases to the adjusting value (50 - 350bar), is performed automatically transfer of main line and lubrication cycle is completed. This is indicated by micro switch of electric indicator. Starting the pump begins the lubrication cycle in second line. This simplifies the control of whole lubrication system. The switching pressure can be adjusted by the screw (spanner gap 17) on the regulators housing.

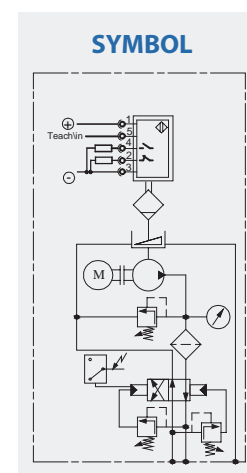
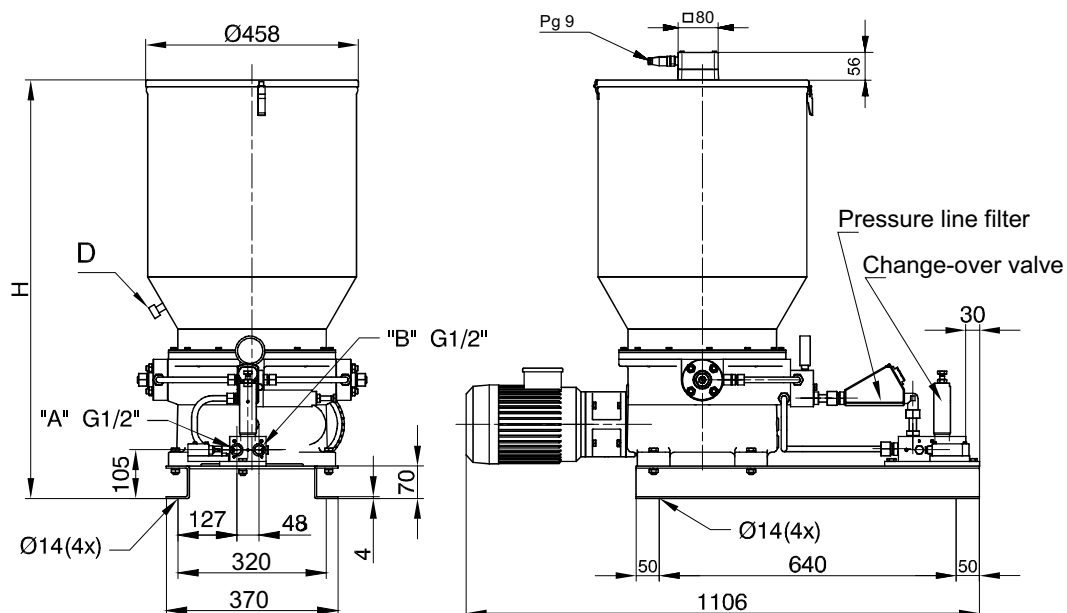


Ordering code	Flow	Max. pressure	Fluid			Electric motor			Ultrasonic level indicator AU	Electric indicator	Tank volume	H	Mass
	cm³/min	bar	Grease	Oil visc.	Temp.	Power	Rated speed	Voltage			dm³		kg
			NLGI	mm²/s	°C	kW	rpm	V					
10 - 2100	500	250	≤3	>32	-25 ; +80	1,1	1410	3x400/50Hz	10 to 30V 200 mA 2xPNP NO/NC	220V/5A	50	682	114
10 - 2100-1											80	902	119
10 - 2100/1	300	300									50	682	114
10 - 2100/1-1											80	902	119

## UNIT FOR DUAL LINE LUBRICATION (WITH HYDRAULIC CHAGE-OVER VALVE)



The compact unit is applied for oil and grease lubrication in two-line centralized systems. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). In tank should be posed level indicator max/min (for automat.supplying). Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, with the range according to customer requirements. There is 3 tank variants: 50, 80 and 100 dm<sup>3</sup>. The tank filled through the port D (with seals cone 24° DIN 3901/3902 M26x1,5), using the charging pump. This is recommended to avoid particles and air in lubricant. This piston pump is available in three variants regarding flow and working pressure. It is equipped with pressure gauge and pressure relief valve to prevent the overload. For lubrication of gear unit of the pump use hypoid oil. The oil level must be equal to down edge of filling port. The lubricant flows from the pump through the filter to the change-over valve. Hydraulic change-over valve is manage-regulating device. When the pressure in distributing line increases to the adjusting value (50 - 350bar), is performed automatically transfer of main line and lubrication cycle is completed. This is indicated by micro switch of electric indicator. Starting the pump begins the lubrication cycle in second line. This simplifies the control of whole lubrication system. The switching pressure can be adjusted by the screw (spanner gap 17) on the regulators housing.

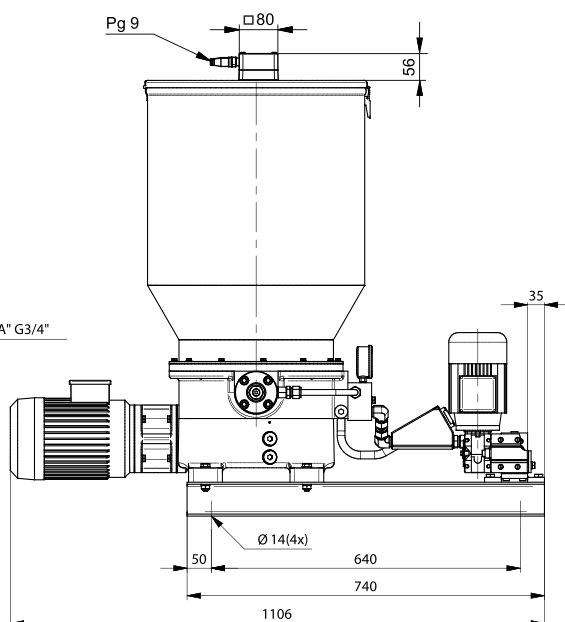
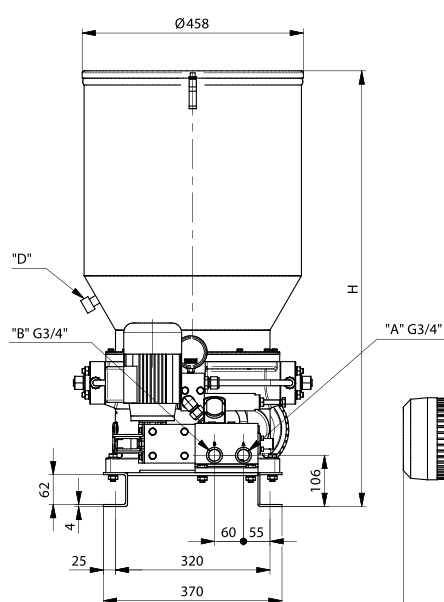


Ordering code	Flow cm <sup>3</sup> /min	Max. pressure bar	Fluid			Electric motor			Ultrasonic level indicator AU	Electric indicator	Tank volume dm <sup>3</sup>	H	Mass kg
			Grease NLGI	Oil visc. mm <sup>2</sup> /s	Temp. °C	Power kW	Rated speed rpm	Voltage V					
10 - 2100/2	150	350	≤3	>32	-25 ; +80	1,1	1410	3x400/50Hz	10 to 30V 200 mA 2xPNP NO/ NC	220V/5A	50	682	105
10 - 2100/2-1											80	902	110

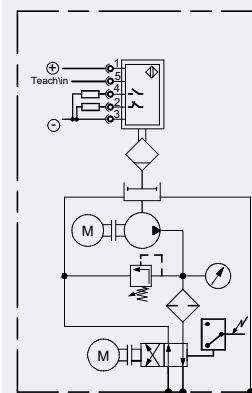
## UNIT FOR DUAL LINE LUBRICATION (WITH ELECTRIC DRIVEN CHANGE-OVER VALVE 400V)



The compact unit is applied for oil and grease lubrication in two-line systems. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works, etc.). Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, with the range according to customer requirements. The tank filled through the port D (with seals cone 24° DIN 3901/3902 M26x1,5), using the charging pump. This is recommended to avoid particles and air in lubricant. This piston pump is equipped with pressure gauge and pressure relief valve to prevent the overload. For lubrication of gear unit of the pump use hypoid oil. The oil level must be equal to down edge of filling port. The lubricant flows from the pump through the filter to the change-over valve. When the pressure in distributing line increases to the adjusting value is performed automatically transfer of main line and lubrication cycle is completed. This is indicated by micro switch of electric indicator. Starting the pump begins the lubrication cycle in second line. This simplifies the control of whole lubrication system.



### SYMBOL



Ordering code		10-2110	10-2110-1	10-2110/1	10-2110/1-1	10-2110/2	10-2110/2-1
Lubricant	Oil viscosity	>32 mm²/s					
	Grease NLGI	≤3					
	Temperature	-25 ; +80 °C					
Working pressure		250 bar		300 bar		350 bar	
Flow		500 cm³/min		300 cm³/min		150 cm³/min	
Electric motor of pump		1,1KW 3x400V 50Hz 1370 rpm					
Electric motor of change-over valve		0,09KW 3x400V 50Hz 1320 rpm					
Gear box ratio of change-over valve		100:1					
Switching time of change-over valve		2,3 s					
Electric indicator on change-over valve		max 220V 5A					
Ultrasonic level indicator		10 to 30V 200mA 2xPNP NO/NC					
Tank volume		50 dm³	80 dm³	50 dm³	80 dm³	50 dm³	80 dm³
Height H		682 mm	902 mm	682 mm	902 mm	682 mm	902 mm
Mass		105 kg	110 kg	105 kg	110 kg	105 kg	110 kg

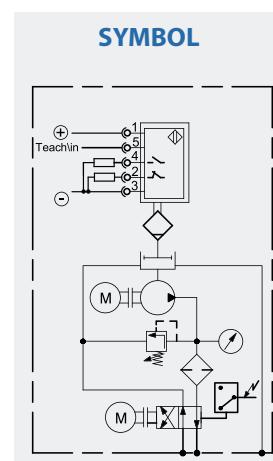
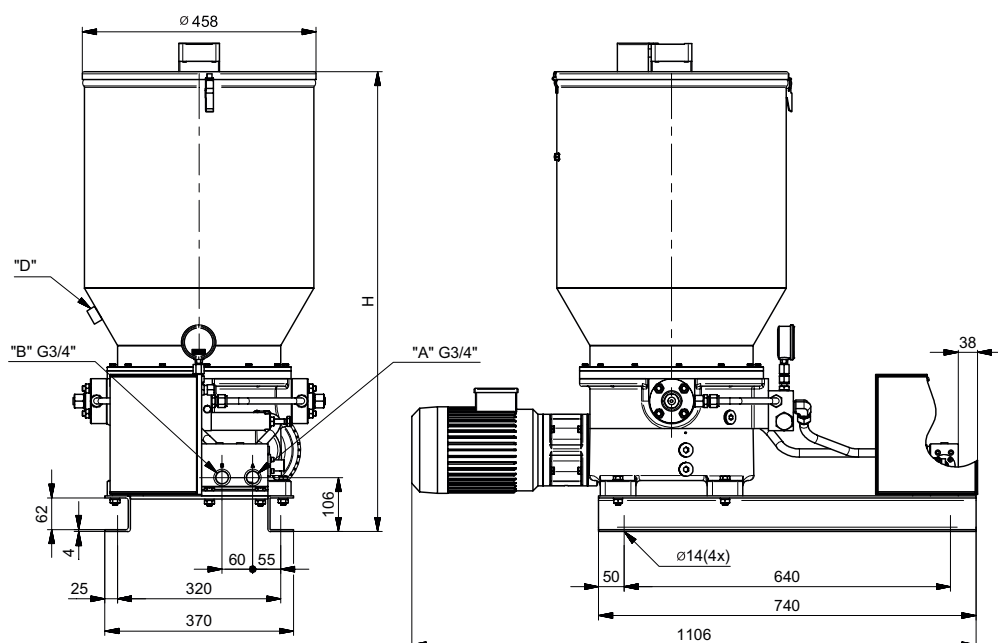


## UNIT FOR DUAL LINE LUBRICATION (WITH ELECTRIC DRIVEN CHANGE-OVER VALVE 24V DC/ 230V AC)



The compact unit is applied for oil and grease lubrication in two-line systems. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works, etc.) In the tank should be posed level indicator max/min (for automat. supplying). If it is required pump with level indicator, to primary code should add „AU“. Ultrasonic level indicator indicate 3 lubricant level in the tank, with the range according to customer requirements. There is many tank variants: 40, 50, 60, 80 and 100 dm<sup>3</sup>. This is a piston pump. It is equipped with manometer, pressure relief valve to prevent overload and filter fineness 150 µm . The lubricant flows from the pump through the filter to the electric driven grease change-over valve. When the pressure in distributing line reaches the required value,

electric driven change-over valve, based on control cabinet command, directs flow in the second line. Lubrication cycle is completed and this is indicated by micro switch of electric indicator. Starting the pump, change-over valve automatically fill with lubricant second line and repeat lubrication cycle. Change-over valve is available in two variants: 24V DC or 230V AC. Desired variant emphasize in ordering. Also, it should be emphasized non-standard tank volume.



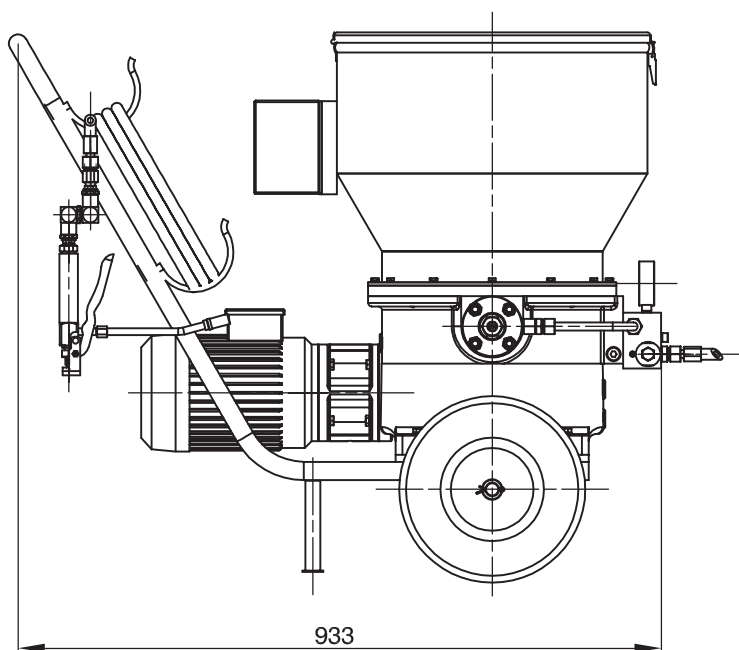
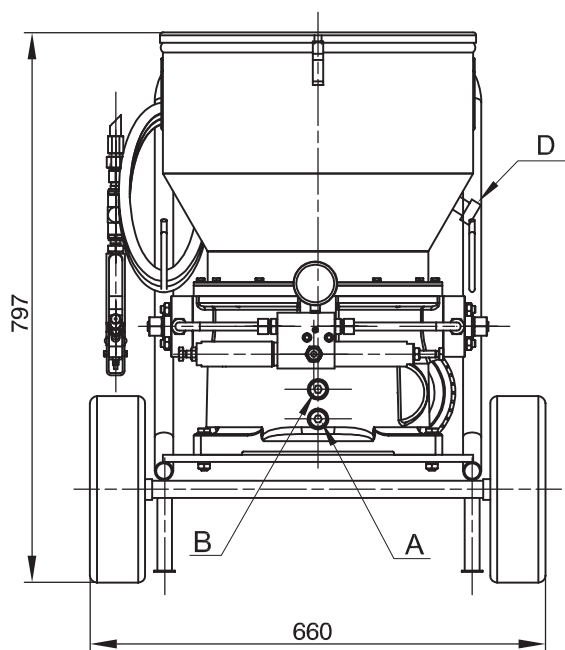
Ordering code		10-2120	10-2120-1	10-2120/1	10-2120/1-1	10-2120/2	10-2120/2-1
Lubricant	Oil viscosity	>13 mm²/s					
	Grease NLGI	≤ 3					
	Temperature	-25 to +80°C					
Working pressure		250 bar		350 bar		400 bar	
Flow		500 cm³/min		300 cm³/min		150 cm³/min	
Electric motor of pump		1,1 kW 3x400V 50Hz 1370 rpm					
Electric motor of change-over valve		24 V DC 1,2 A /230V AC 0,25A					
Switching time of change-over valve		1,0 s					
Electric indicator on change-over valve		max 220 V 5 A					
Ultrasonic level indicator		10 to 30 VDC 200 mA 2xPNP NO/NC					
Tank volume		50 dm³	80 dm³	50 dm³	80 dm³	50 dm³	80 dm³
Height H		682 mm	902 mm	682 mm	902 mm	682 mm	902 mm
Mass		105 kg	110 kg	105 kg	110 kg	105 kg	110 kg

## ELECTRIC COMPACT UNIT (FOR SINGLE GREASE LUBRICATION)



This device is generally used in repair shops. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). The tank is filled through the port "D" using the charging pump (with cone 24° DIN3901/3902 M26x1,5). This is recommended to avoid particles and air in lubricant. The piston pump is available in three variants regarding flow and working pressure. It is equipped with pressure gauge and pressure relief valve to prevent the overload. For lubrication of gear unit of the pump use hypoid oil. The oil level must be equal to down edge of filling port "A". For discharging use the port "B". This compact unit automatically maintains the set lubricant pressure. The electric motor is started

and switching off automatically by electric signal from pressure switch. The device is equipped with hose (5m long) and lubrication gun with head for lubrication JUS M.C4.613. The length of the electric supply cable is 10m. The device is wheeled and easily movable.



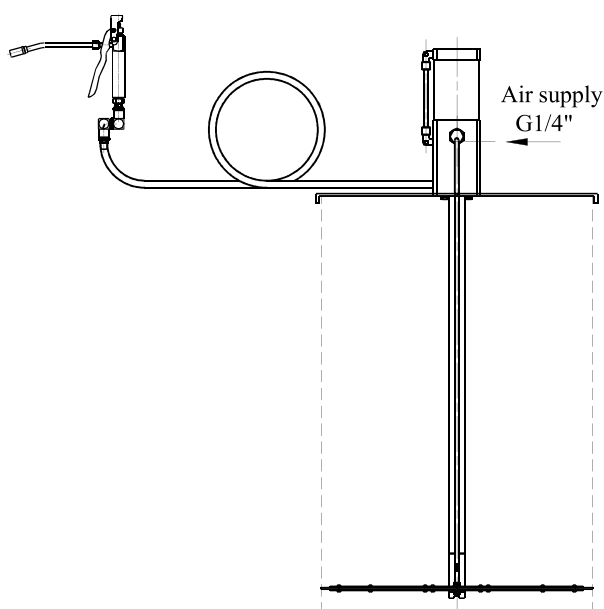
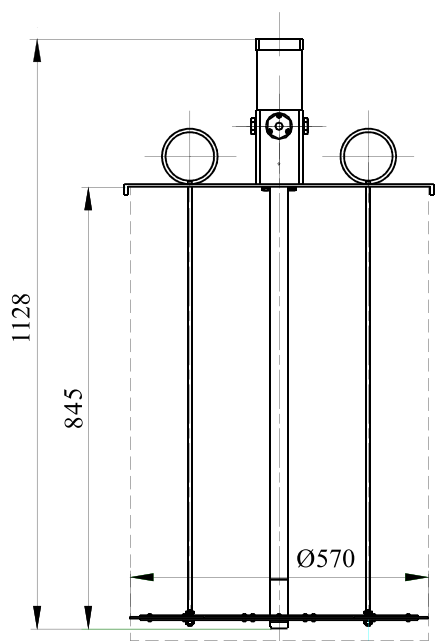
Ordering code	Flow	Max. pressure	Fluid			Elektric motor			Tank volume	Mass
	cm³/min	bar	Grease	Oil visc.	Temp.	Power	Rated speed	Voltage	dm³	kg
			NLGI	mm²/s	°C	kW	rpm	V		
10 - 2300	500	130								
10 - 2300/1	300	200	≤3	>32	-20 ; +60	1,1	1410	3x400/50Hz	50	97
10 - 2300/2	150	300								

## PNEUMATIC PUMP FOR SINGLE LUBRICATION



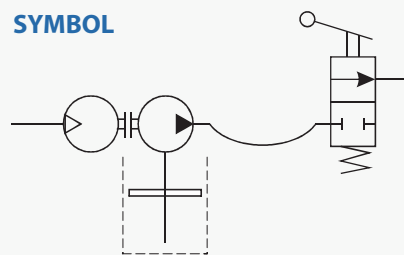
Pneumatic pump for single lubrication type 10-5100 is applied for single lubrication in service work-shops as well as in outdoor, where the supply of pressurized air is available. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This piston pump is designed to be directly mounted to a standard lubricant barrel of 200 dm<sup>3</sup>. It is equipped with high pressure flexible hose NP8 length of 15m and lubrication gun with swivel fitting which allows turning gun on three axis and easy handling, regardless of rigidity hoses under high pressure. For uniform work of the pump pressurized air must be clean and lubricated. Only in this case is recognized warranty on the device.

The option with set for air purification is also available (code 10-5100 P).



Ordering code		10 - 5100
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s
	Grease	NLGI ≤3
	Temperature	-10 ; +60 °C
Air pressure		max. 6 bar
Lubricant pressure		400 bar
Flow/cycle		5,5 cm <sup>3</sup>
Cycles per minute		120
Hose length		15 m
Mass		30 kg

### SYMBOL

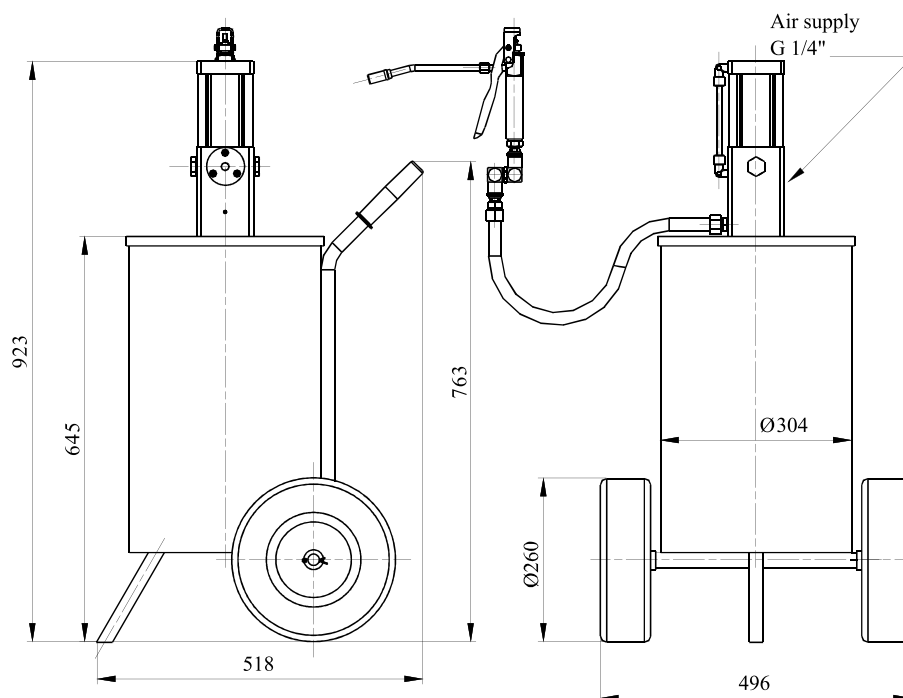


## PNEUMATIC UNIT FOR SINGLE LUBRICATION ON CART



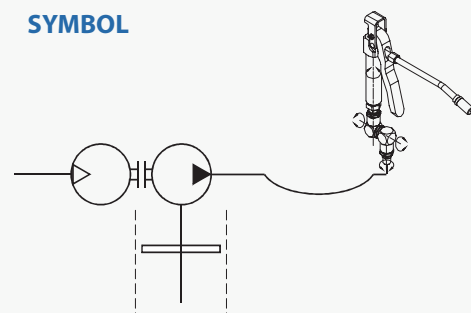
Pneumatic power unit for lubrication on cart is applied for single lubrication in service work- shops as well as in outdoor, where the supply of pressurized air is available. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This piston pump is designed to be directly mounted to a movable lubricant tank of 30 dm<sup>3</sup>. The pump is easy to move as it is equipped with air-filled wheels. It's equipped with high pressure flexible hose length of 5m and lubrication gun with swivel fitting which allows turning gun on three axis and easy handling, regardless of rigidity hoses under high pressure. For uniform work of the pump pressurized air must be clean and lubricated. Only in this

case is recognized warranty on the device. The option with set for air purification is also available, in type add. "P" (code 10-5150 P).



Ordering code		10 - 5150	10 - 5200
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s	
	Grease	NLGI ≤3	
	Temperature	-10 ; +60 °C	
Air pressure		max. 6 bar	
Lubricant pressure		400 bar	150 bar
Flow/cycle		5,5 cm <sup>3</sup>	14 cm <sup>3</sup>
Cycles per minute		120	
Tank volume		30 dm <sup>3</sup>	
Mass		28 kg	

### SYMBOL



## ELECTRIC CONTROL UNIT



In the serial production there are units for twolines, progressive, single or multilines systems for central lubrication. These electric units perform managing and control of central lubrication system. Management system for lubrication is in manual and automatic mode. Regular mode is automatically, manual mode is selected for setting service action.

Unit has indication, all necessary which is located outside the command board. Over indications may follow the work of individual components of the system (indication allows monitoring of the individual components of the system) and possible errors in the system during work: termination of functioning a pump, pipeline cracking cessation of work distributing valve, dosing distributors etc. Bimetallic switches (in

the single-switch) protect the pumps from overload. Management is performed using PLC (with the appropriate program of the system). Functional and control parameters (timeout, operating time of system, operating time of pumps, control times, etc..) can be changed during operation very simply using the functional panel at the cabinet door. All mentioned parameters can be monitored and changed by the operator's cabin. At the customer's request can be monitored any other parameters or operating mode of system.

With the control unit is supplied original software of equipment manufacturer or the application software in electronic form.

Each control unit may have possibility of extending RS232, RS485 or Ethenert ports, depending on the applied equipment.

Networking is easy using: Modbus, Profibus, Facon, TCP/IP ...

There is a galvanic separation of controller's control signals and executive elements.

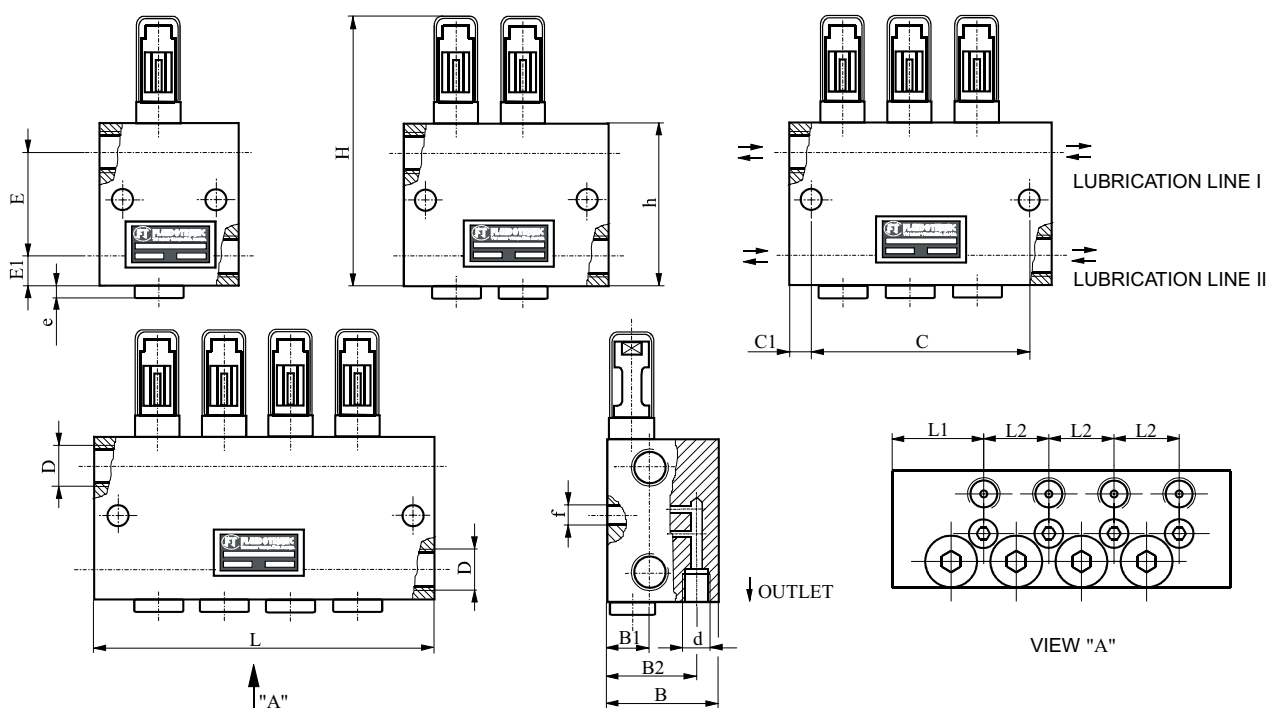
In the unit itself are installed components of renowned manufacturers such as: SIEMENS, ABB, OMRON, or other on the customer's request.

Main power supply		3x400/220 VAC; 50 Hz
Controller supply		24 VDC
Measurement of lubricant level (inductive sensor)		ON-OFF
Controller's digital inputs and outputs		24 VDC
Analogue input (grease level, pressure)		current 4 - 20 mA
Work ambient temperature		-5 to +40 °C
Insulation		IP 54
Standards and regulatives		SRPS EN ISO
On customer's request	Measurement of lubricant level	ultrasonic
	Clamps	resistant to vibrations
	Voltage	from 200 VAC to 660 VAC
	Frequency	from 42 Hz to 60 Hz
	Insulation	IP 55
	Ambient temperature	-45 to +40 °C

## DUAL LINE DOSING DISTRIBUTORS

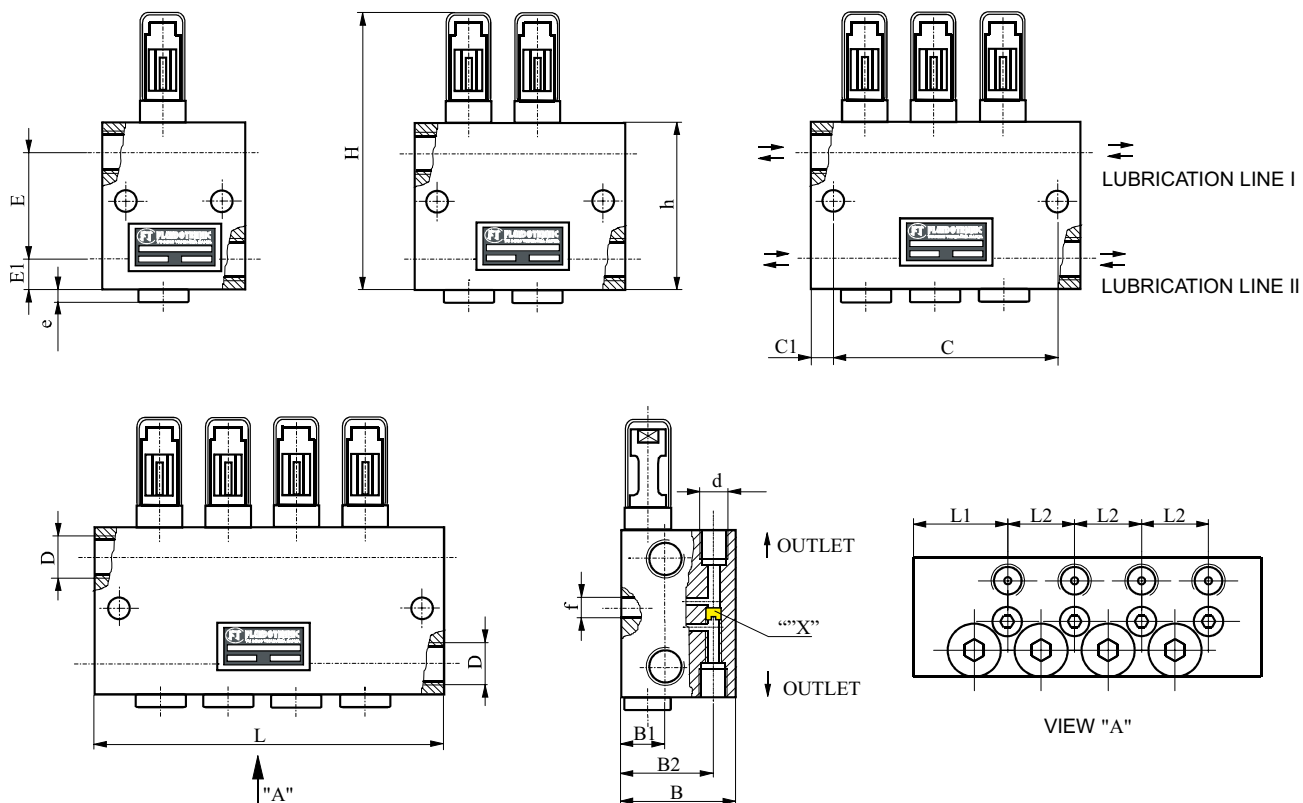


The dosing distributors are executive devices in two-line automatic and hand operated systems for centralized lubrication. Lubrication is carried out by injection of precisely defined quantity of lubricant under pressure. The quantity of lubricant is adjustable by regulation screw. By unscrew the screw "X" and than montage plug screw in the one of the outputs, on gets a double quantity of lubricant in one lubrication point, and number of outlet ports is reduced. In this case type DD-2 becomes DD-1. Flow regulators bodies are protected by transparent protective caps against dust. On customer request are manufactured dosing distributors with other dosing volume. As required, will be installed inductive sensors, in order to control a lubrication of certain points.



Size	Code	Number of lubrication points	D	d	L	L1	L2	B	B1	B2	H	h	C	C1	f	E	E1	e	Mass (kg)
2	10-1310	1	G 3/8"	G 1/4"	61		-						41						1,5
	10-1320	2			89	25	28	45	21	35	113	69	69	10	9	44	12,5	5	2,2
	10-1330	3			117														2,9
	10-1340	4			145														3,5
5	10-1410	1			68		-						48						2,4
	10-1420	2			100	30	32	51	27	41	131	80	80	10	9	55	12,5	5	3,3
	10-1430	3			132														4,3
	10-1440	4			164														5,4
10	10-1520	1			100	30	64	51	27	41	131	80	80	10	9	55	12,5	5	3,3
	10-1540	2			164														5,4
25	10-1610	1			67	42	-	67	42	56	208	125	0	57	9	97	14	13	4,5

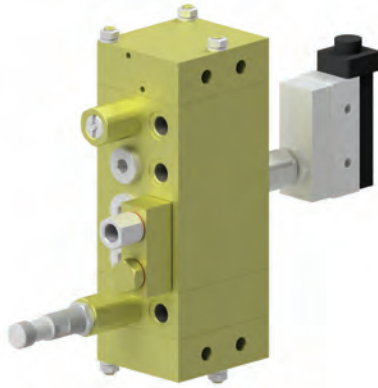




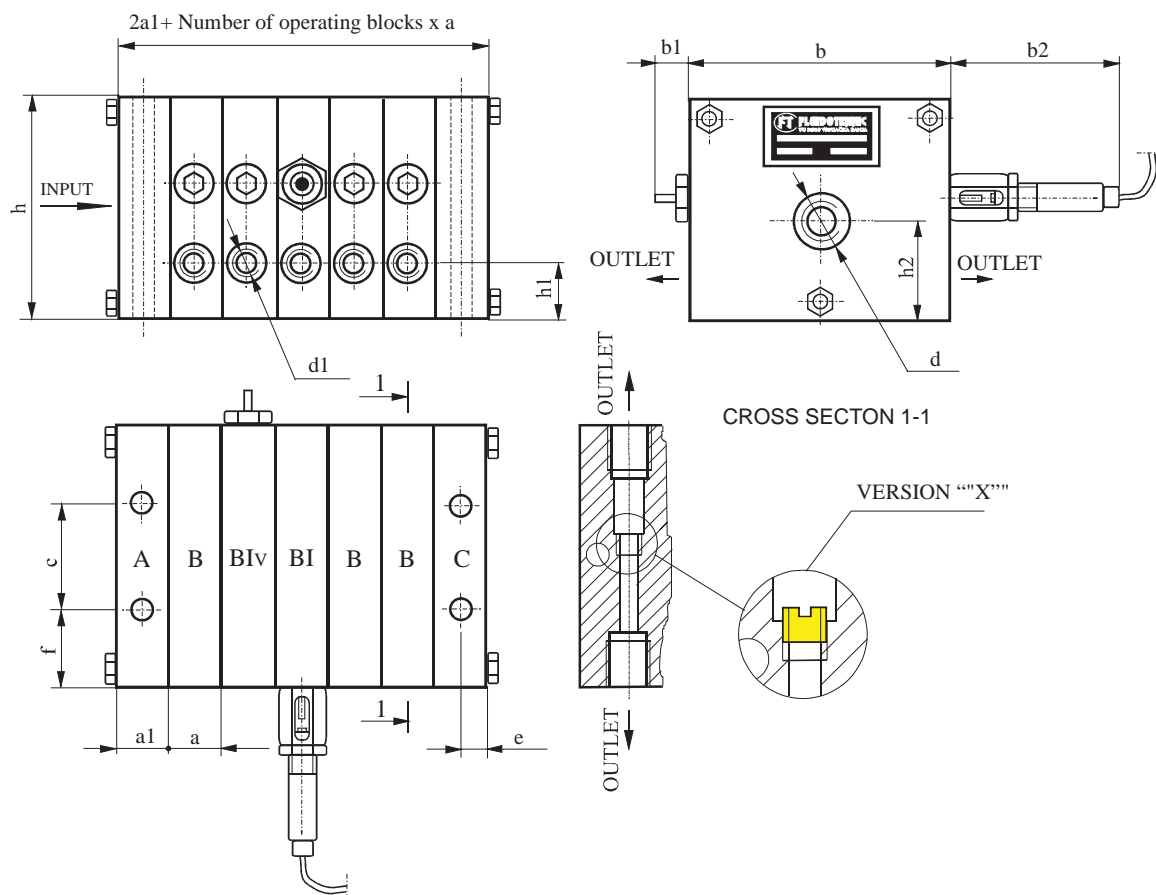
Size	Code	Number of lubrication points	D	d	L	L1	L2	B	B1	B2	H	h	C	C1	f	E	E1	e	Mass (kg)
2	10-1310-2	2	G 3/8"	G 1/4"	61		-						41						1,5
	10-1320-2	4			89	25		45	21	35	113	69	69	10	9	44	12,5	5	2,2
	10-1330-2	6			117		28						97						2,9
	10-1340-2	8			145								125						3,5
5	10-1410-2	2			68		-						48						2,4
	10-1420-2	4			100	30		51	27	41	131	80	80	10	9	55	12,5	5	3,3
	10-1430-2	6			132		32						112						4,3
	10-1440-2	8			164								144						5,4
10	10-1520-2	2			100	30	-	51	27	41	131	80	80	10	9	55	12,5	5	3,3
	10-1540-2	4			164		64						144						5,4
25	10-1610-2	2			67	42	-	67	42	56	208	125	0	57	9	97	14	13	4,5

Size		2	5	10	25
Fluid	Oil viscosity	> 13 mm²/s			
	Grease	NLGI ≤3			
	Temperature	-30 ; + 80 °C			
Working pressure		10 - 400 bar			
Adjustment range		0,5 - 2 cm³/cycle	1,5 - 5 cm³/cycle	3,0 - 10 cm³/cycle	5,0 - 25 cm³/cycle

## PROGRESSIVE DOSING DISTRIBUTORS



The progressive doser distributors are executive devices in progressive automatic and hand operated systems for centralized lubrication. The distributor is an assembly of several elements connected to each other to form a unit. These elements are: inlet block (A), operating blocks (B) and final block (C). The number of operating blocks can be from min. 3 to max. 12. A distributor operation can be monitored by installing one operation block with visual indicator (BIv) or inductive transducer (BI) which provides electric control as well as visual indication.

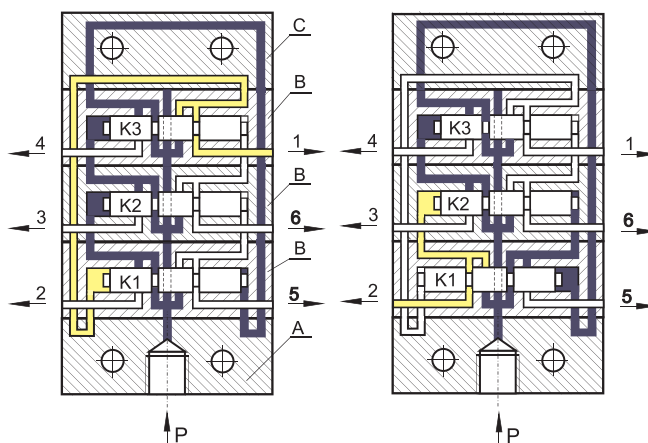


Type		PD1	PD2
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s	
	Grease	NLGI ≤3	
	Temperature	-30 ; +80 °C	
Working pressure		10 - 250 bar	10 - 350 bar
Flow	Oil	500 cm <sup>3</sup> /min	2000 cm <sup>3</sup> /min
	Grease	50 cm <sup>3</sup> /min	200 cm <sup>3</sup> /min
Inductive transducer	Voltage	12 - 24 V DC	
	Current	200 mA	
	Type	NO PNP	
Mass of the block		0,4 kg	0,9 kg

Type	d	d1	a	a1	b	b1	b2	c	f	h	h1	h2	e
PD1	G 1/4"	G 1/8"	22	20	58	12	100	22	18	52	12	22	10
PD2	G 3/8"	G 1/4"	26	25	84	12	100	34	25	65	16	28	12,5

## OPERATION MODE

Operation mode is explained on three-element distributor. Pressurized lubricant supplied through the port P is passing through the blocks B and C and pushing the spool K1 to the left. The lubricant is discharged through the outlet 1. Then the spool K2 is actuated and in the same way discharges lubricant through the outlet 2. This cycle is proceeding until the lubricant is supplied to distributor. There are various possibilities of combining outlet volumes. Removing the screw "X" and plugging an outlet port results in duplicating the lubricant quantity on the opposite outlet port. Interconnecting the neighboring blocks results in summation of their outlet volumes.



## ORDERING CODE

According to the request, a designation is formed for a complete distributor or individual blocks only. The request is to include all data as follows:

**DOSING DISTRIBUTOR**

\_\_\_\_\_

Type: PD1, PD2 \_\_\_\_\_

Number of operating blocks B : 3 to 12 \_\_\_\_\_

Number of outlet ports: 2 to 24 \_\_\_\_\_

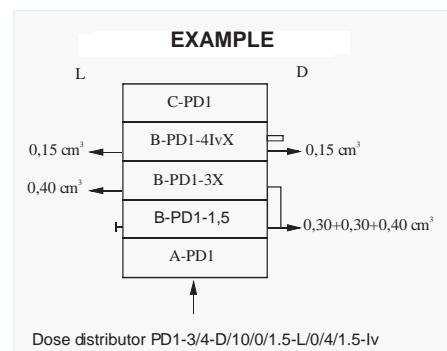
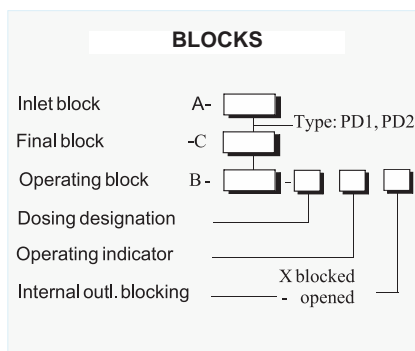
Volumes at outlets, right and left : cm<sup>3</sup> x 10 \_\_\_\_\_

Operating indicator \_\_\_\_\_

- = none  
I = electrical  
lv = visual

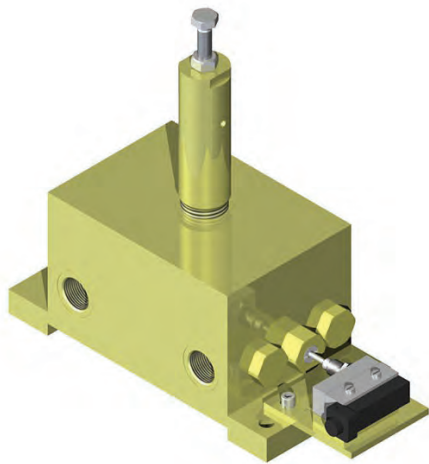
**NOTE:** Installing interconnection results in the volume which is the total of individual volumes. The flow rate is equal to zero if the screw "X" is removed and an outlet port is plugged. Complete volume is directed through the port on the opposite side.

Dosing volume for working blocks "B"			
PD1		PD2	
Code	cm <sup>3</sup> /stroke	Code	cm <sup>3</sup> /stroke
1,5	0,15	3,5	0,35
2	0,2	5	0,5
2,5	0,25	8	0,8
3	0,3	10	1
4	0,4		



## HYDRAULIC CHANGE-OVER VALVE

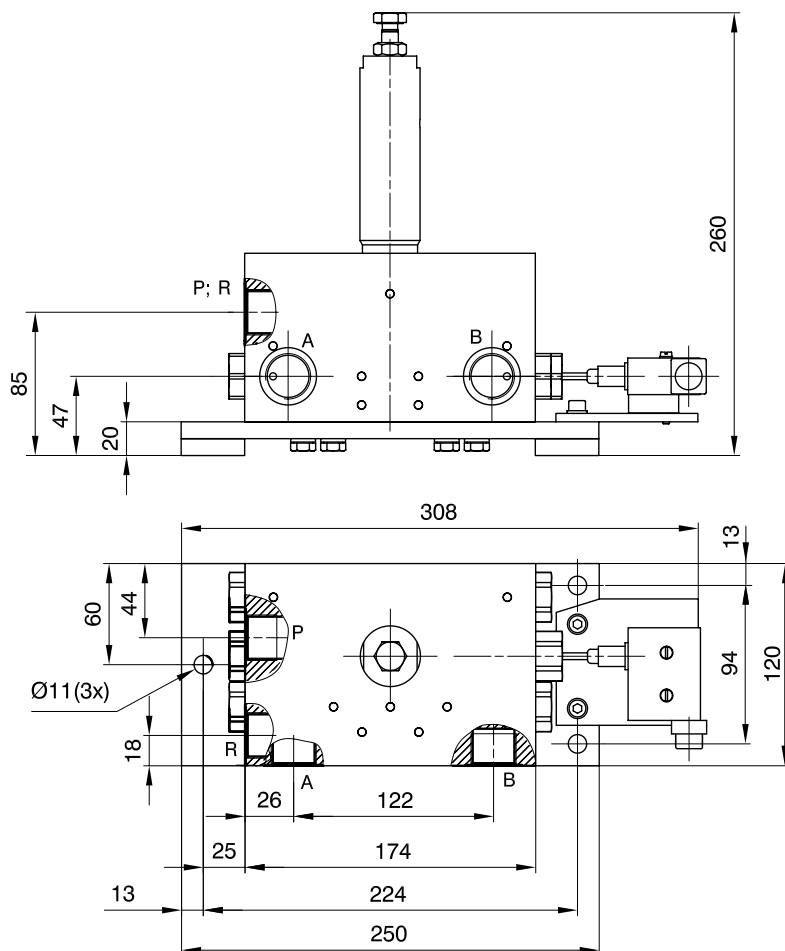
### 10-0650



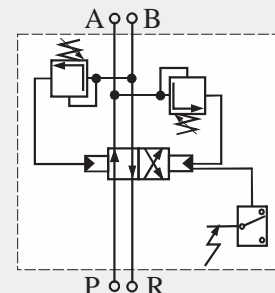
The change-over valve is a control device applied in two-line centralized lubrication systems. When the pressure in distributing line increases to the adjusting value (50 - 350bar), lubrication - cycle is completed. This is indicated by micro switch of electric indicator. The valve spool moves to another position connecting the second line to the pump. Starting the pump begins the lubrication cycle in second line. This simplifies the control of whole lubrication system. To adjust the switching pressure turn the screw CH 17 which is located on the regulator body.

Robust design, big discharge cross section (NG 10), high precisely fitted spools and easy control, make this device suitable for long time

operation in very hard working conditions in small and middle size lubrication systems (excavators, iron plants, cement works, mines).



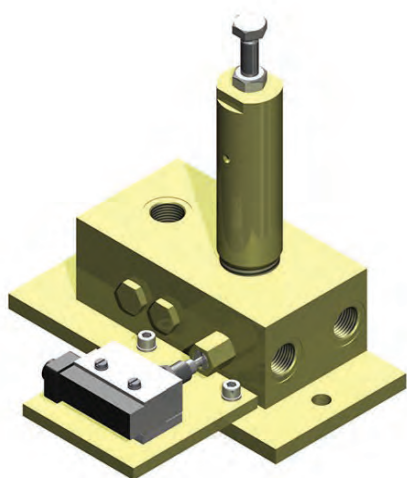
#### SYMBOL



Ordering code		10 - 0650
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s
	Grease	NLGI ≤3
	Temperature	-30 ; +80 °C
Working pressure		50 - 350 bar
Flow		max. 40 dm <sup>3</sup> /h
Connecting ports		G 3/4"
Electric indicator		max. 220 V 5 A
Mass		18,5 kg

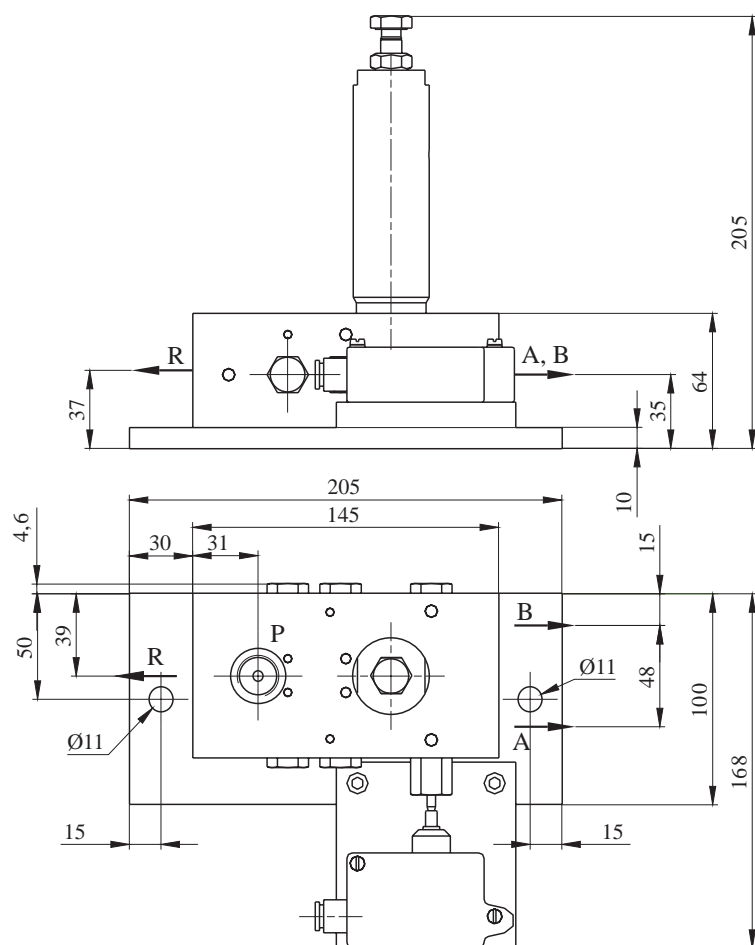
## HYDRAULIC CHANGE-OVER VALVE

### 10-0625

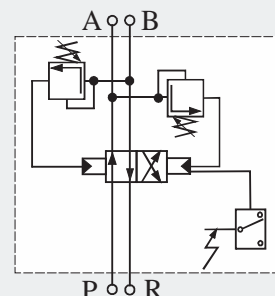


The change over hydraulic valve is a control device applied in two-line centralized lubrication systems. When the pressure in distributing line increases to the adjusting value (50 - 350bar), lubrication cycle is completed. This is indicated by micro switch of electric indicator. The valve spool moves to another position connecting the second line to the pump. Starting the pump begins the lubrication cycle in second line. This simplifies the control of whole lubrication system. To adjust the switching pressure turn the screw CH 17 which is located on the regulator body.

Robust design, high precisely fitted spools and easy control, make this device suitable for long time operation in very hard working conditions in small and middle size lubrication systems (excavators, iron plants, cement works, mines).



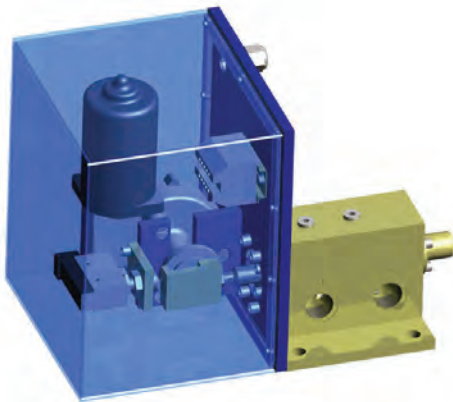
#### SYMBOL



Ordering code		10 - 0625
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s
	Grease	NLGI ≤3
	Temperature	-30 ; +80 °C
Working pressure		50 - 350 bar
Flow		max. 14 dm <sup>3</sup> /h
Connecting ports		G 1/2"
Electric indicator		max. 220 V 5 A
Mass		7,2 kg

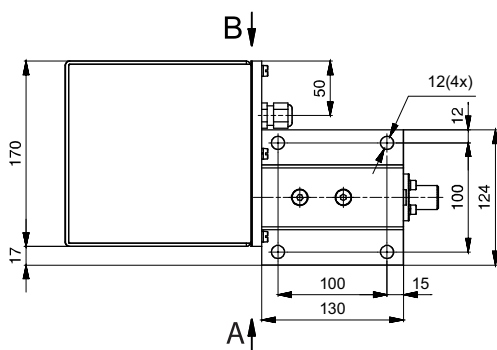
## DUAL LINE ELECTRIC DRIVEN CHANGE-OVER VALVE

### 24V DC/230V AC

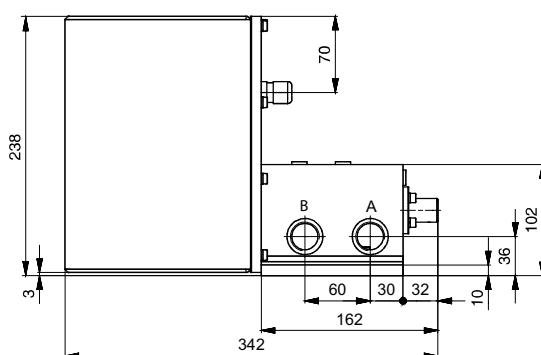


The two-line electric driven change-over valve is applied for grease lubrication systems. After the lubrication cycle of one line, pressure switches send a signal to control unit for turn off the pump and start the change-over valve motor. Then lubrication cycle transmits to second line. After the pause, the cycles continues by the same principle. Robust design and reliable operation make this device suitable for long time operation in very hard working conditions: in iron plants, mines, excavators. Electric motor voltage is 24V DC or 230V AC. When ordering, it should be noted supply voltage.

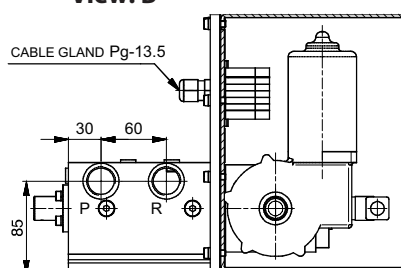
Example: 10-2725-230V AC



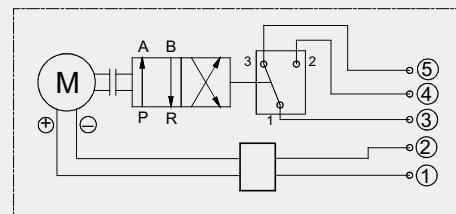
**View: A**



**View: B**



#### SYMBOL

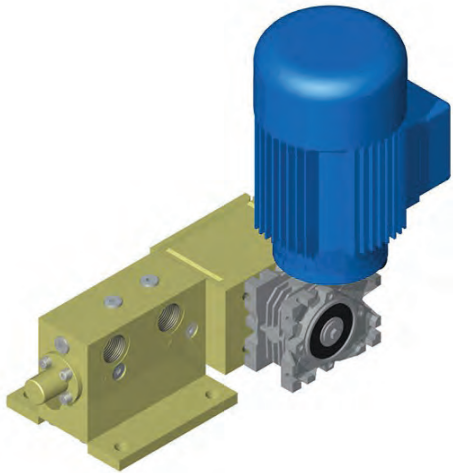


Ordering code		10-2725
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s
	Grease	NLGI ≤3
	Temperature	-30 to +80°C
Working pressure max.		400 bar
Lubricant flow max.		65 dm <sup>3</sup> /h
Switching time		1 s
Connecting ports		G 3/4"
Electric indicator		250V 5A
Electric motor	Voltage	24V DC/230V 50Hz
	Current	1,1A/0,25A
	Rated speed	30 rpm
Mass		15,5 kg



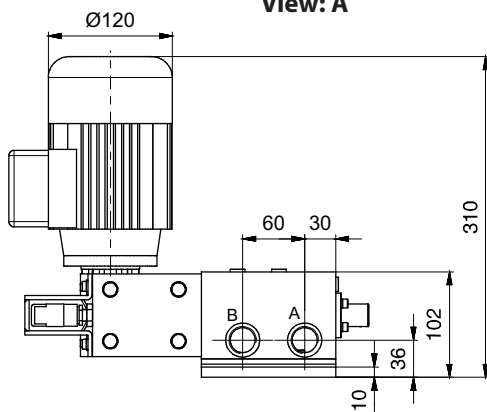


## DUAL LINE ELECTRIC DRIVEN CHANGE-OVER VALVE

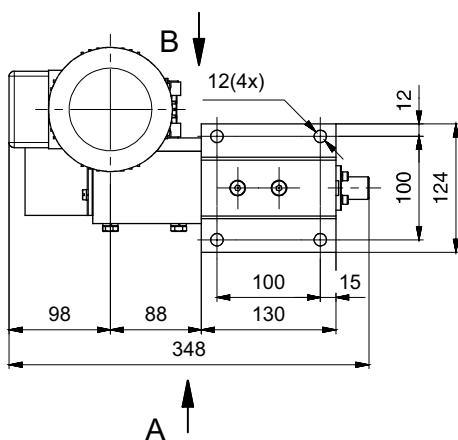
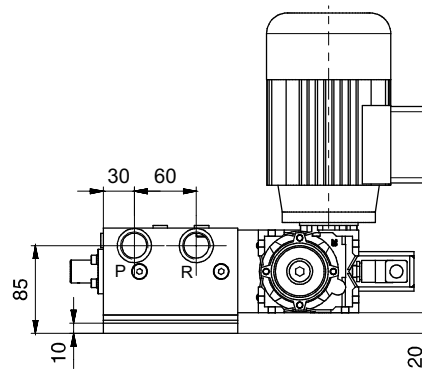


The two-line electric driven change-over valve is applied for grease lubrication systems. After the lubrication cycle of one line, pressure switches sends a signal to control unit to turn off the pump and start the change-over valve motor that transmits lubrication cycle to second line. After the pause, the cycles continues by the same principle. Robust design and reliable operation make this device suitable for long time operation in very hard working conditions: in iron plants, mines, excavators. Electric motor voltage is 3x400V 50Hz.

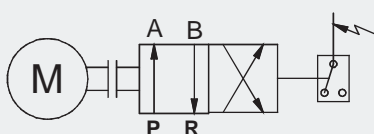
**View: A**



**View: B**

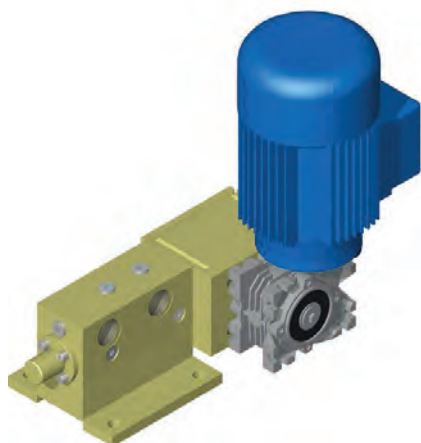


**SYMBOL**



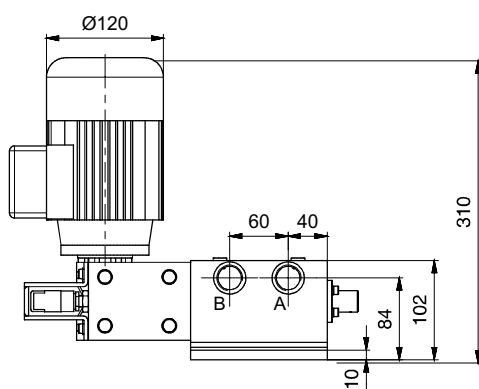
Ordering code		10-2750
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s
	Grease	NLGI ≤3
	Temperature	-30 to +80°C
Working pressure max.		400 bar
Lubricant flow max.		65 dm <sup>3</sup> /h
Switching time		2,0 s
Connecting ports		G 3/4"
Electric indicator		250V 5A
Electric motor	Voltage	3x400V 50Hz
	Current	0,09 kW
	Rated speed	1420 rpm
Gear box ratio		100:1
Mass		12,9 kg

## DUAL LINE ELECTROMOTIVE TAP

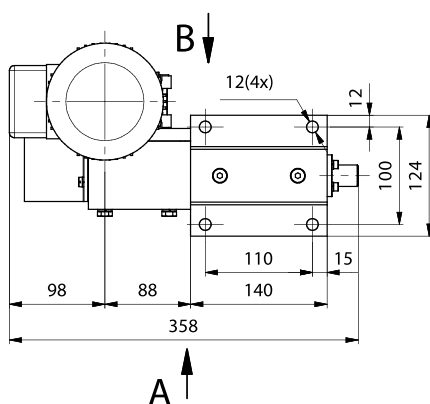
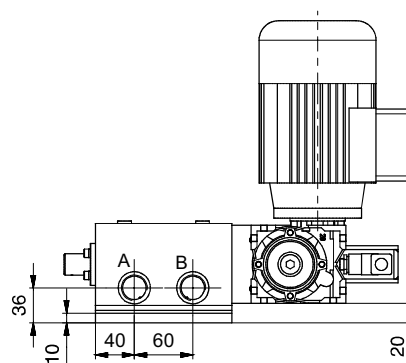


Two-line electromotive tap is applied in complex systems for central grease lubrication. If we have a two-line complex system, where it is necessary that certain groups of lubrication points have different lubrication time intervals or should be lubricated only places that were in operation, it is necessary to install these taps. In this way, if necessary, up includes or includes lubrication in the particular branches of installation. Robust design and reliable operation make this device suitable for long time operation in very hard working conditions: in iron plants, mines, excavators.

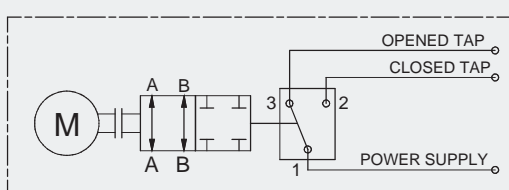
**View: A**



**View: B**

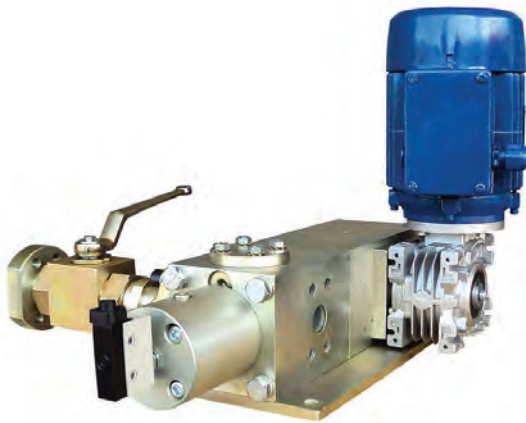


### SYMBOL



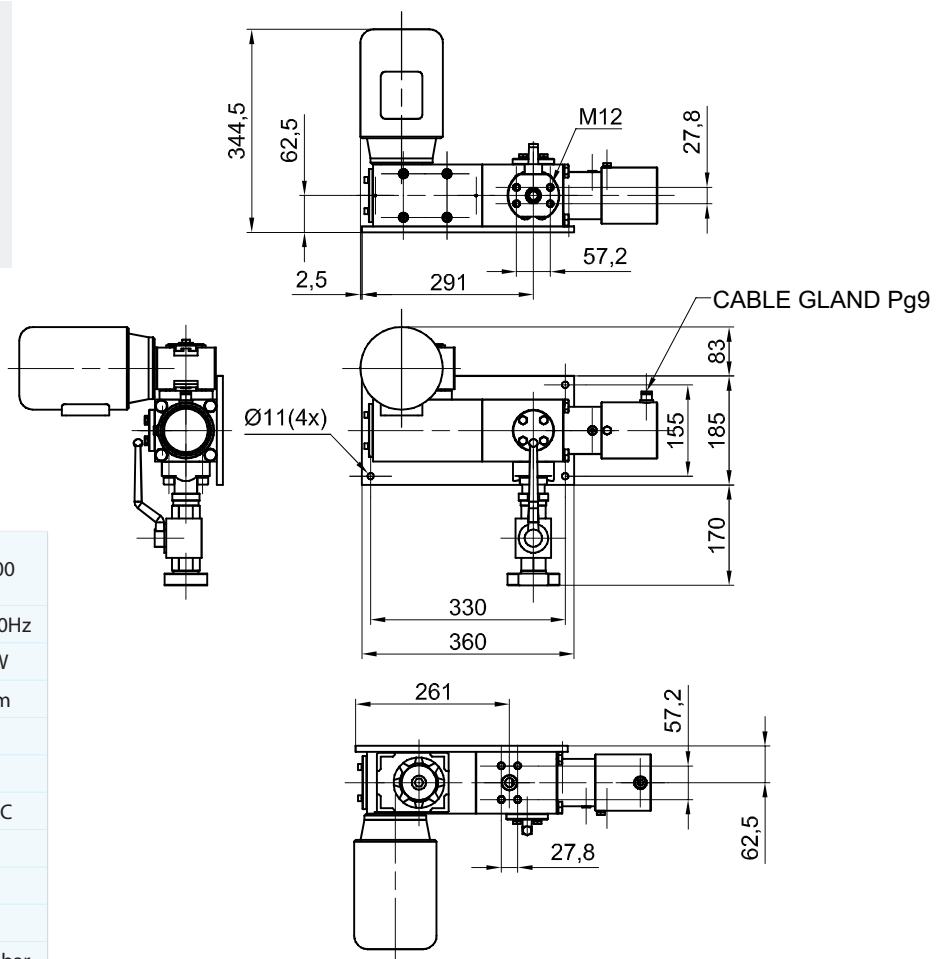
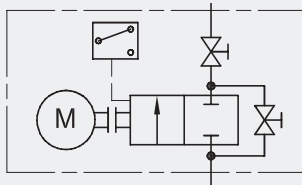
Ordering code		10-2780
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s
	Grease	NLGI ≤3
	Temperature	-30 to +80°C
Working pressure max.		400 bar
Lubricant flow max.		65 dm <sup>3</sup> /h
Switching time		2,0 s
Connecting ports		G 3/4"
Electric indicator		250V 5A
Electric motor	Voltage	3x400V 50Hz
	Current	0,09 kW
	Rated speed	1420 rpm
Gear box ratio		100:1
Mass		13,3 kg

## ELECTROMOTIVE TAP



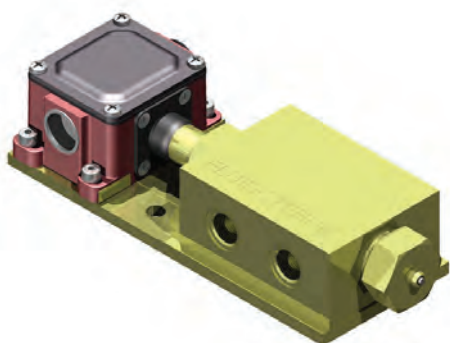
Electromotive tap is used to central refill (supplement) system of grease pumps. When a level of grease in the certain lubricating pump is lowered to a minimum, electric control unit gives command to open the tap and includes a central pump for refill. When a level of grease come to maximum, the tap closes and pump for refill switches off. In this way it provided safe grease transportation to the pumps for lubrication and prevented the possibility of grease contamination with dirt. This is particularly useful in places with hard working conditions and dirty environments, such as mills, coke plants, foundries, cement plants... Due to robust construction, very precise built-in pistons and easy operation of the whole system, this device is very suitable for use in all systems of central grease refill (supplement).

### SYMBOL

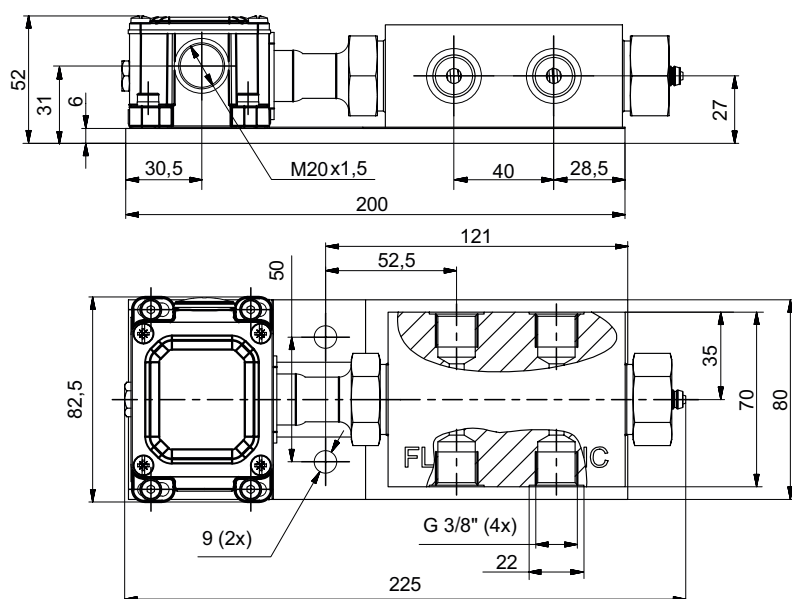


Ordering code		543-6500
Electric motor	Voltage	3x400V 50Hz
	Power	0,09 kW
	Rated speed	670 rpm
Gear box ratio		100:1
Switching time		4,3 s
Microswitch	Voltage	250 V AC
	Max. current	10A
Nominal size		NO 25
Grease NLGI		≤3
Fluid operating pressure		max. 400 bar
Max flow		6 dm <sup>3</sup> /min
Ambient temperature		-30 ; +80 °C
Mass		46 kg

## CONTROL DEVICE (DIFFERENTIAL PRESSURE SWITCH)

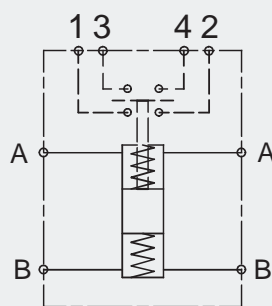


Control device (differential pressure switch) is electrohydraulic component whose task is to send information about the achieved differential pressure at the two-line lubrication systems. In this way it is guaranteed that it reached an appropriate differential pressure in the main lines, and thus activating the distributor and lubricant of each places with the required quantity of lubricant. This device belongs to the group of piston pressure switch in which the piston is located in the housing, and piston thanks to its fine processing and precision manufacturing makes sealing. This solution provides outstanding performance with low and normal oil viscosity as well as with grease. The robust housing and compact construction allows operation very hard working conditions (excavators for surface exploitation, iron plants, cement works etc.). Differential activation pressure is 50 bar and at the request of the customer can be and 100 bar.

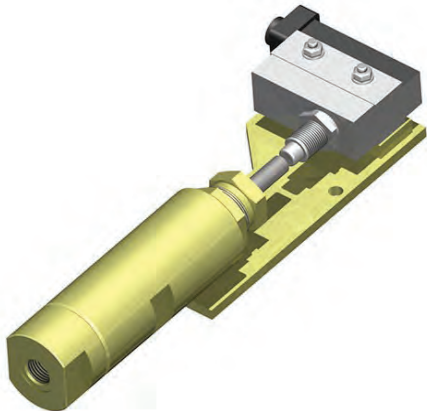


Ordering code		10-0380-50
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s
	Grease	NLGI ≤3
	Temperature	-30 ; +80 °C
Differential pressure		50 bar
Differential pressure on request		100 bar
Max allowed pressure		400 bar
Conencting ports		G 3/8"
Switching frequency		120 cycles/min
Electric indicator	Voltage	max 500 V
	Current	max 15A
	Insulation	IP 65 acc. to IEC/EN 60529
	Mech. endurance	10.000.000 working cycles
Mass		3,0 kg

### SYMBOL



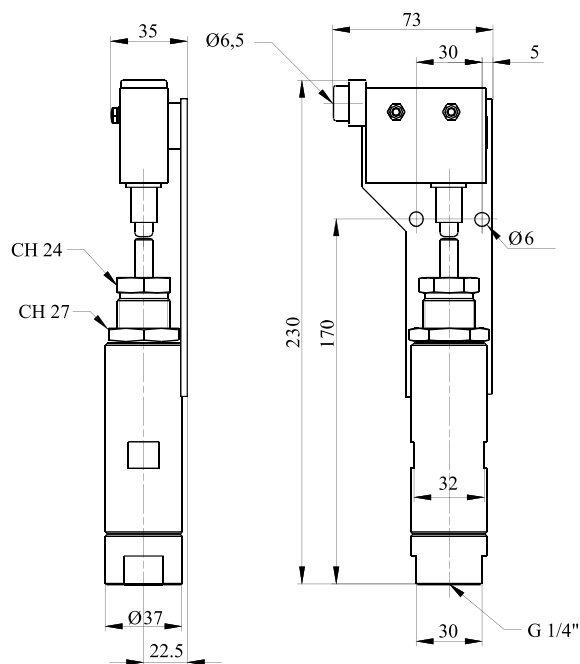
## PRESSURE SWITCH



Pressure switch is electro hydraulic component with the task to send information about the achieved in advance specified pressure in the hydraulic or lubrication installation. Because of very precisely piston treatment and very small gap between piston and housing of few  $\mu\text{m}$ , any seal is not necessary.

Small differential stroke enables very smooth operation with low and normal viscosity oil as well as with grease. Robust housing and compact construction allows operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works).

Activating pressure is continuously adjusted, and the device is factory adjusted to minimum value (or as customer's request). To select a pressure setting release the safety nut CH 27, then turn the screw CH 24 (clockwise rotation or contrary). In this way switch activated pressure can be reduced or increased.



### SYMBOL

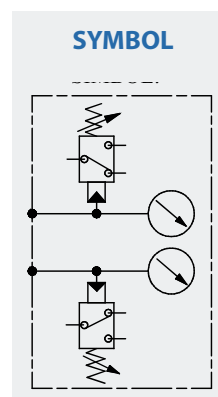
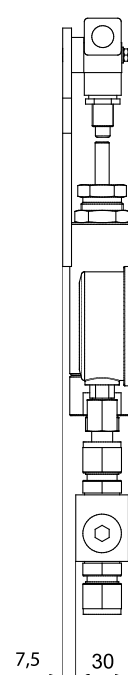
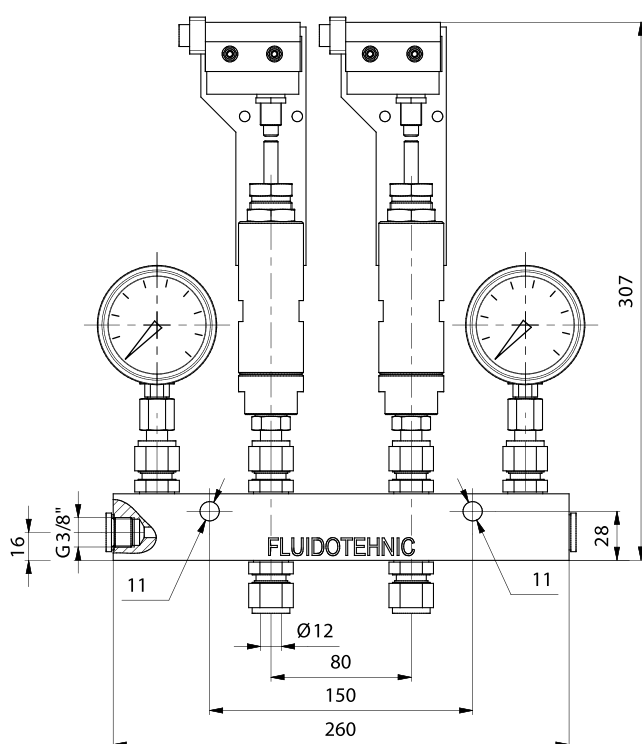


Ordering code		10 - 0300	10 - 0320	10 - 0325
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s		
	Grease	NLGI ≤3		
	Temperature	-30 ; +80 °C		
Working pressure		50 - 200 bar	100 - 400 bar	15 - 60 bar
Connecting port		G 1/4"		
Switching frequency		120 cycles/min		
Max voltage		250 V		
Max current		10 A		
Mass		1,1 kg		

## CONTROL DEVICE (FOR DUAL LINE GREASE LUBRICATION SYSTEMS)



Control device 10-0140 is applied for dual line grease lubrication systems. It is capable for operation in most hard conditions such as in surface exploitation plants, mines, iron plants and cement works. Adjusting range of the pressure switches is from 50 to 400 bar. When the pressure in the first line reaches the given setting, pressure switch produce the electrical signal. Then, in the system with electric driven distributor, the pump is switching off, electric motor of distributor is switching on and moving the valve to another position. Then the another lubrication cycle started through the second line. In the system with hydraulic distributing valve, switching is performed by distributing valve. Control unit only indicates that required pressure has been reached at a suitable point (usually at the end of line), before the end of the lubrication cycle.



Ordering code		10 - 0140	10 - 0140/1
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s	
	Grease	NLGI ≤3	
	Temperature	-30 ; +80 °C	
Working pressure		50 - 200 bar	100 - 400 bar
Connecting ports		SRPS M.B6 716-T12 (G3/8")	
Electric indicator		max. 220 V 5 A	
Mass		5,8 kg	



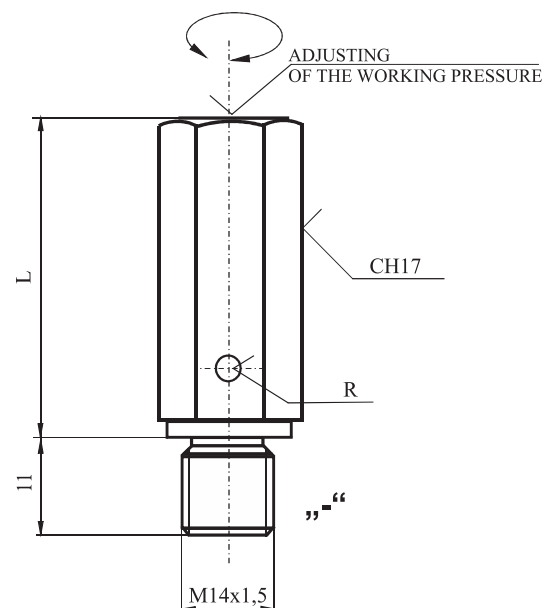
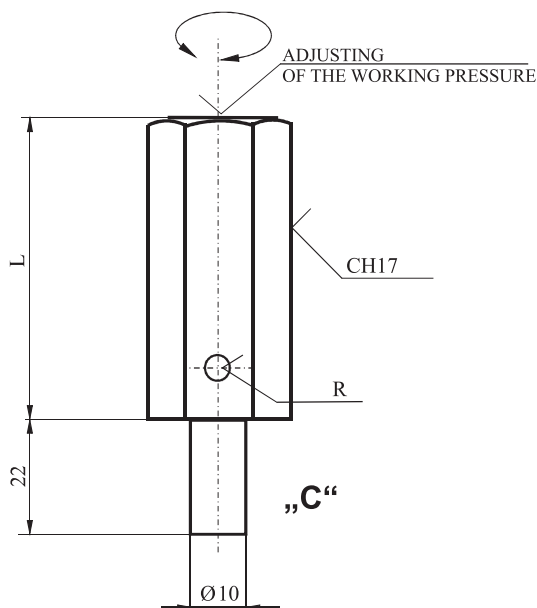
## PRESSURE RELIEF VALVE



The valve is applied to prevent overload in lubrication systems. It is mounted on the pump pressure line or on the outlet ports of progressive dosing distributors. In this way the equipment is protected from damage. Is produced in two versions:

- safety valve with connection pipe F10
- safety valve with connecting thread M14x1,5

On customer request on made the valves with other working pressure, as well as the connection type.

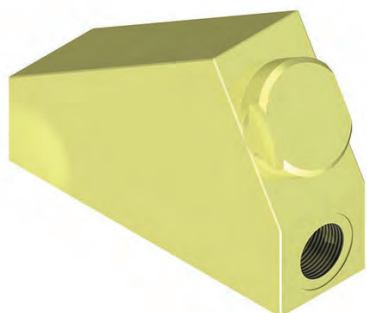


### SYMBOL



Ordering code	Tubular	10 - 0400 C	10 - 0400/1 C	10 - 0400/2 C
	Screw	10 - 0400	10 - 0400/1	10 - 0400/2
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s		
	Grease	NLGI ≤3		
	Temperature	-30 ; +80 °C		
Working pressure		100 - 300 bar	10 - 70 bar	150 - 450 bar
Nominal open		NO3	NO4	NO3
L		45 mm	51 mm	59 mm
Mass		~ 0,1kg		

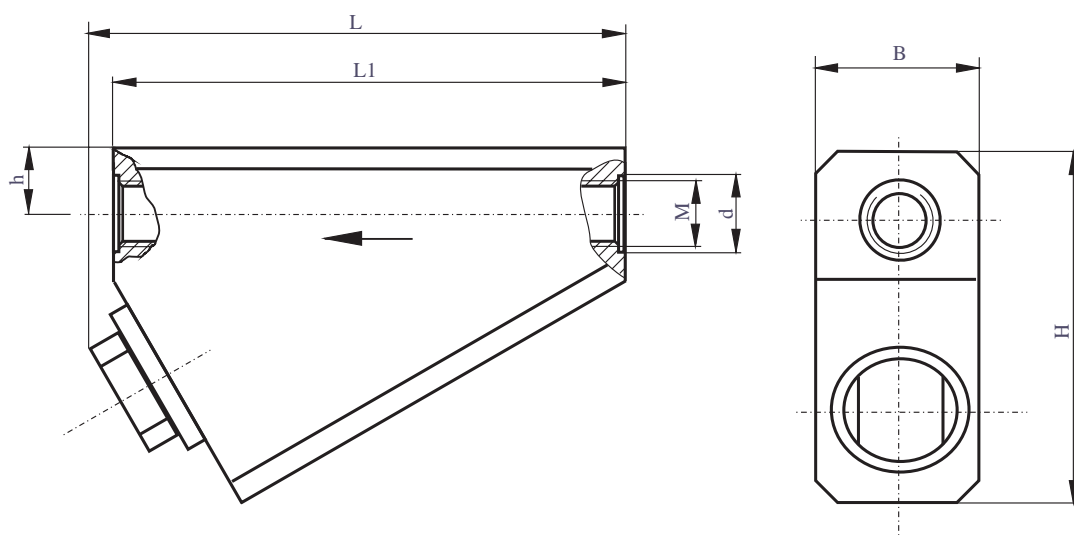
## PRESSURE LINE FILTER (FOR GREASE LUBRICATION SYSTEMS)



Pressure line filter is applied for grease lubrication systems. It is capable for operation in very hard conditions. The filter can be assembled in pressure line in any position. Flow direction is indicated by the arrow on the filter body. The filter cartridge is made of high strength wire cloth. Periodically it is necessary to clean the filter cartridge. To disassembling unscrew the safety nut. The cleaning period depends of the operating time and of the grease purity. Two sizes are available:

- for the flow rate up to 600 cm<sup>3</sup>/min.
- for the flow rate up to 100 cm<sup>3</sup>/min.

The filter cartridge wash up on every 180kg consumed fats, replacement: after 5 wash. Before resumption of filter cartridge, obligately switch on the pump manually for the purpose of ejection, through the grease, possible impurity in the filter.



Ordering code		10 - 2650	10 - 2660
Fluid	Oil viscosity	>13 mm <sup>2</sup> /s	
	Grease	NLGI ≤3	
	Temperature	-30 ; +80 °C	
Working pressure		400 bar	
Filtration rating		150 mm	
Flow rate	Oil	6 dm <sup>3</sup> /min	1 dm <sup>3</sup> /min
	Grease	600 cm <sup>3</sup> /min	100 cm <sup>3</sup> /min
Mass		2,2 kg	1,4 kg

### SYMBOL

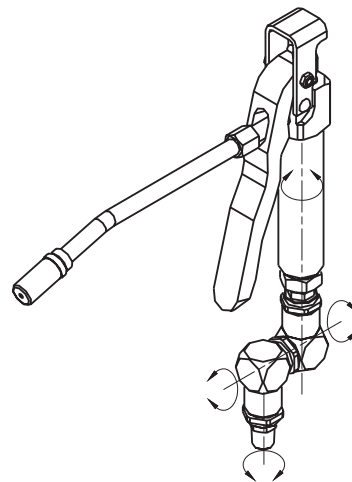
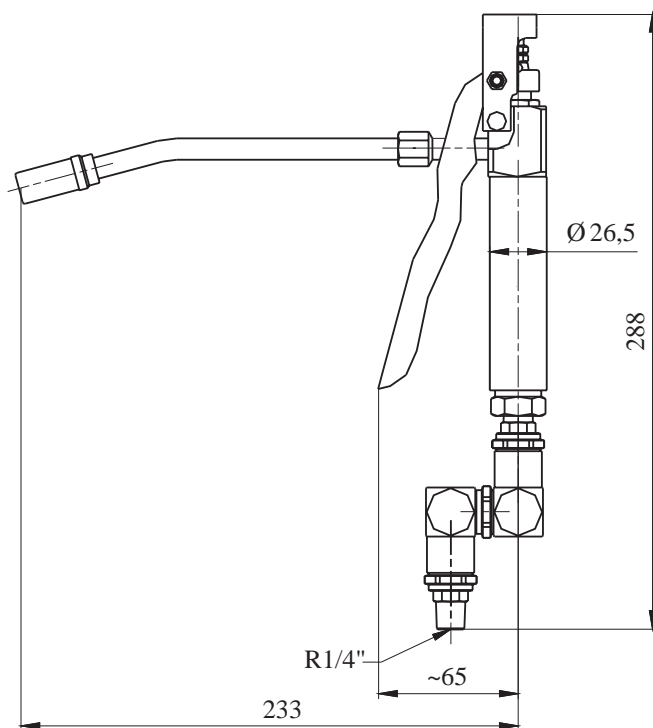


Code	M	d	L	L1	h	H	B
10 - 2650	M 22x1,5	28	130	128	15	89	45
10 - 2660	G 1/4"	20	115	105	16	76	35

## GUN FOR LUBRICATION



Lubrication gun is applied for single lubrication in industrial plants and service workshops. It is connected with electric or pneumatic driven power unit by highpressure hose. It is capable for operating in very hard conditions. Delivery can be with or without swivel joint. The swivel joint enable gun easily rotating around three axes. This makes the handling of the gun very comfortably despite of the rigidity of the high pressure hose. The hose of 350mm length is included in delivery set.



Name		Gun set	Gun	Rotary connection
Ordering code		11-1500	11-1510	11-1520
Fluid	Grease NLGI	≤ 3		
	Temperature	-30 ; +80 °C		
Working pressure max.		500 bar		
Connection ports		R1/4" con.	R1/4" con	R1/4" con.
Mass		1,3 kg	1,0 kg	0,3 kg



SERBIA  
36210 VRNJACKA BANJA  
Rudjinci 175/A  
tel/fax: +381-36-631-710  
E-mail: office@fluidotehnic.com  
Web: www.fluidotehnic.com

Matični broj: 06568939  
Šifra delatnosti: 2822  
PIB: 100918689  
Reg. broj: 11506568939  
Br. Reg. Upisa: 1-14429-00



## EC DECLARATION OF CONFORMITY / DECLARATION ON INSTALLATION

### DEKLARACIJA O USAGLAŠENOSTI / DEKLARACIJA O UGRADNJI

#### We hereby declare that the following products

Izjavljujemo da su sledeći uređaji

**Electric driven pumps for grase lubrication** (Elektromotorne pumpe za podmazivanje mastima)

**Power unit for oil lubrication** (Elektromotorni uređaj za podmazivanje uljima)

**Pneumatic pumps for lubrication** (Pneumatske pumpe za podmazivanje mastima)

**Two line dosing distributors** (Dvolinijski dozatori)

**Progressive doser distributors** (Progresivni dozatori)

**Change-over valves** (Hidraulički razvodnici)

**Electric driven change-over valves** (Elektromotorni razvodnici)

**Pressure and flow valves** (Ventili pritiska i protoka)

#### Are designed and produced in accordance with the safety requirements according to the following regulations:

Projektovani i proizvedeni u skladu sa bezbednosnim zahtevima prema sledećim propisima:

**Machinery Directive EC/2006/42**

(Mašinska direktiva EC/2006/42)

**Low voltage directive EC/2014/35**

(Niskonaponska direktiva EC/2014/35)

**in accordance with the following standards:**

i u skladu sa sledećim standardima:

**Safety of machinery - General principles for design**

- Risk assessment and risk reduction EN ISO 12100:2010

Bezbednost mašina - Opšti principi za projektovanje

- Ocena rizika i smanjenje rizika SRPS ISO 12100:2014

**Safety of machinery - Electrical equipment of machines - Part 1: EN 60204-1:2016**

Bezbednost mašina - Električna oprema mašina - Deo 1: EN 60204-1:2016

**Declaration on installation in the sense of EC Machinery Directive (2006/42/EC) Annex II B**

Izjava o ugradnji u skladu sa EC Mašinskom direktivom (2006/42/EC) Anex II B

**Product of "FLUIDOTEHNIC" assemble into mechanical devices and equipment. Start-up is not admissible unless it has been verified that the whole equipment, meets the requirements defined in the EC machinery Directive (2006/42/EC)**

Proizvod "FLUIDOTEHNIC"-a se ugrađuje u drugu opremu i dodatne uređaje. Pokretanje nije dozvoljeno sve dok i relevantna oprema u koju se ugrađuju ne bude u skladu sa Mašinskom direktivom (2006/42/EC)

**The manufacturer undertakes to supply the relevant information of incomplete machine on request to responsible inspector by electronic way. Technical documents of the machine is prepared in accordance with Annex VII, part B Machinery Directive (2006/42/EC)**

Proizvođač se obavezuje da će elektronskim putem dostaviti odgovarajuće podatke o delimično završenoj mašini nadležnom inspektor na njegov zahtev. Tehnička dokumentacija je izrađena u skladu sa Anexom 7, deo B Mašinske direktive.

Vrnjačka Banja, 01/02/2017 godine



Šljivić Miroslav, General Manager

The EC Declaration of Conformity is only valid in conjunction with confirmation that the device has been correctly applied, installed, inspected and maintained according to the operating instructions provided. The validity of the declaration will cease in case of any modification and/or supplement not previously approved by "FLUIDOTEHNIC".

Ova deklaracija o usaglašenosti važi samo u slučaju da je uređaj pravilno ugrađen, iskontrolisan i da se koristi i održava u skladu sa uputstvom za rukovanje i održavanje. Važenje izjave prestaje u slučaju bilo kakve modifikacije ili dodatka koji nisu prethodno odobreni od "FLUIDOTEHNIC"-a.



Fluidotehnic d.o.o.  
Serbia  
36210 Vrnjacka Banja  
Rudjinci 175/A  
Tel: +381-(0)36-631-710  
+381-(0)36-631-711  
Fax: +381-(0)36-631-712  
[www.fluidotehnic.com](http://www.fluidotehnic.com)  
[office@fluidotehnic.com](mailto:office@fluidotehnic.com)

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