



FLUIDOTEHNIK

VRNJAČKA BANJA



DEVICES AND SYSTEMS FOR CENTRAL LUBRICATION TEHNICAL DATA



FLUIDOTEHNIC from Vrnjacka Banja established in 1993, is the company which main activities are designing, developing and manufacturing non-standard equipment in the field of hydraulic, pneumatics and lubrication technique.

Long time experience in the developmental tasks and support the latest computer technology, guarantee the optimal solution, while modern universal and programming machines provides a high products quality.

Production program has been tied FLUIDOTEHNIC for big systems where it is extremely difficult working conditions: mines, surface exploitation plants, steel works, cement works, cockeries, foundries, hydroelectric power plants, shipyards, harbors.



Assembling of the multilane power units for lubrication of the crane in Metalworks of Nizhny Tagilsk, Russia Sverdlovsk area

Devices for lubrication produced by FLUIDOTEHNIC are modern designed and reliable in extremely hard operation conditions. These products operate faultlessly in temperature range from -45 to $+45$ °C. Standard voltage are 3x400V 50Hz. On customer request are available products of various voltages, frequency, mounting dimensions and environment conditions.

Mounting of installations, with multilane pumps and progressive doser distributors, for lubrication of „Winder“ on the dredge for extraction of coal from the Danube. Coal mine Kovin, SERBIA



Transport of overhauled excavator & reloading machine from the place for mounting in surface mine „Gracanica“ Gacko, REPUBLIKA SRPSKA-Bosnia and Herzegovina

Part of the installation for lubrication of excavator's caterpillar cart TK Gacko, REPUBLIKA SRPSKA-Bosnia and Herzegovina



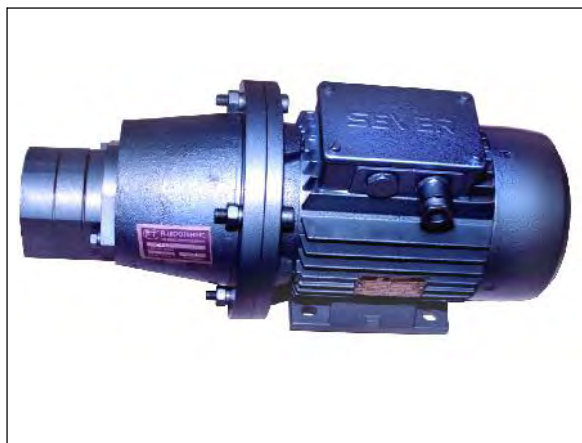
DEVICES FOR LUBRICATION



- GREASE AND OIL PUMPS
- GREASE AND OIL POWER UNITS
- FLOW INDICATORS FOR OIL
- TWO-LINES DOSING DISTRIBUTORS
- PROGRESSIVE DISTRIBUTORS
- PRESSURE SWITCHES
- HYDRAULIC DISTRIBUTION VALVES
- ELECTRIC DRIVEN CHANGE-OVER VALVE
- CONTROL DEVICES
- PRESSURE LINE AND SUCTORIAL FILTERS
- PRESSURE RELIEF VALVES
- SPECIAL DEVICES ON CUSTOMER REQUEST



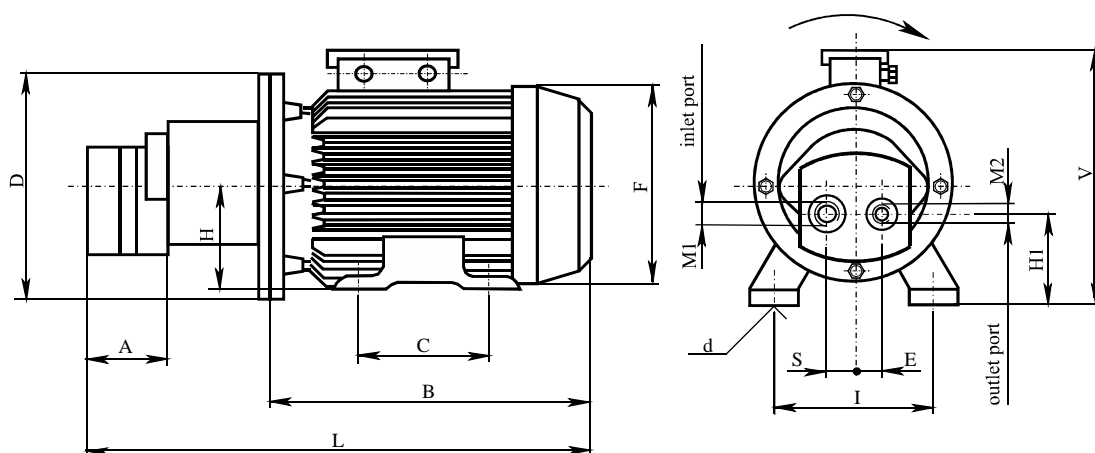
POWER UNIT FOR OIL LUBRICATION



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 flawlessly operate 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 of the other dimensions, hydraulic and electric characteristics are available on request.



CODE	L	A	B	H	H1	I	C	V	D	F	S	d	E	M ₂	M ₁
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	444	72	257	90	67,5	140	100	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

ORDERING CODE		10 - 0200	10 - 0210	10 - 0215	10 - 0217	10 - 0220
Flow rate (dm ³ /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 ² /s)	13 - 800				
	Temperature (°C)	-25 ; +80				
Electric motor	Power (kW)	1,1	1,1	1,5	2,20	3,00
	Speed (rpm)	1370	1370	1390	1410	1380
	Voltage (V)	3x400V 50Hz				
	insulation	IP 54 klasa E				
	Ambient temperature (°C)	-25 ; +60				
	Mass (kg)	20	20	23	30	36,5



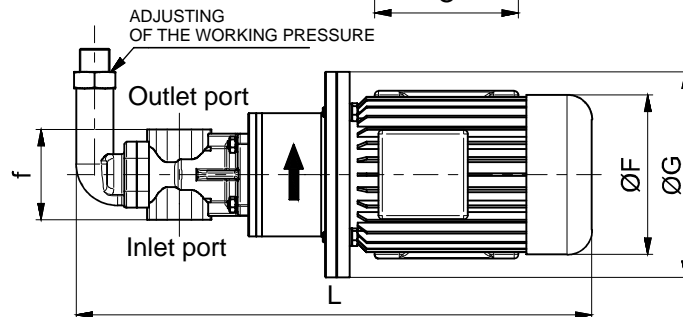
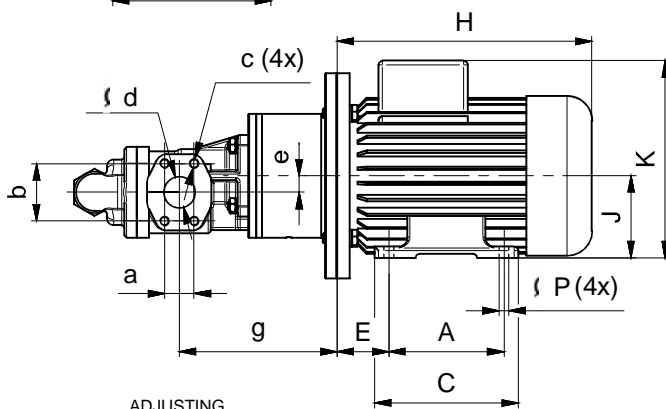
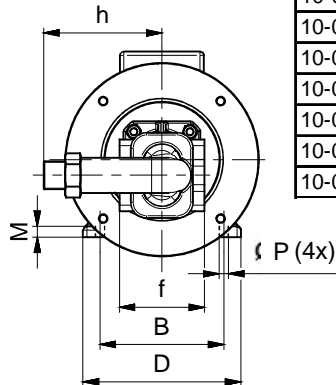
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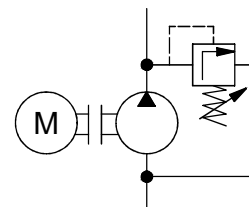
tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com

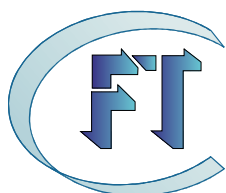
Ordering code	Operating pressure (bar)	Flow (dm ³ /min)	Fluid	Code pump	Electric motor (3x400V, 50 Hz)	Ambient temperature	Mass (kg)
10-0190 4-1000-15	0-16	3,3	oil viscosity 10 do 1500 mm ² /s	KF 4	0,18 kW, 870 rpm	-30 to +90°C	10
10-0190 6-1000-15		5,1		KF 6	0,25 kW, 880 rpm		11
10-0190 12-1000-15		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



SIMBOL:



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				G3/4"	14,2	95	134	100	
10-0190 6-1000-15		125	125	160	50	156	200	230	80	206	475		8							154		
10-0190 12-1000-15	100	140	130	170	56	176		250	90	222	512	13	9				G1"					163
10-0190 20-1000-15			155	175	275	587	194															
10-0190 32-1000-15	125	140	170	200	63	194	250	305	100	240	637	12	11	35,7	69,9	M12	38	20	110	208		
10-0190 40-1000-15	160							323			690									14		224
10-0190 50-1000-15	190																					
10-0190 63-1000-15																						
10-0190 80-1000-15																						
10-0190 112-1000-15	178	216	218	260	89	258	300	435	132	300	841	16	12	42,9	77,8	M16	50,8	23,7	130	246	170	
10-0190 150-1000-15											861			50,8	88,9		63,5		150	264		
10-0190 180-1000-15											877			61,9	106,4		76,2		150	274		



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36210 VRNJACKA BANJA

Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710

631 - 711

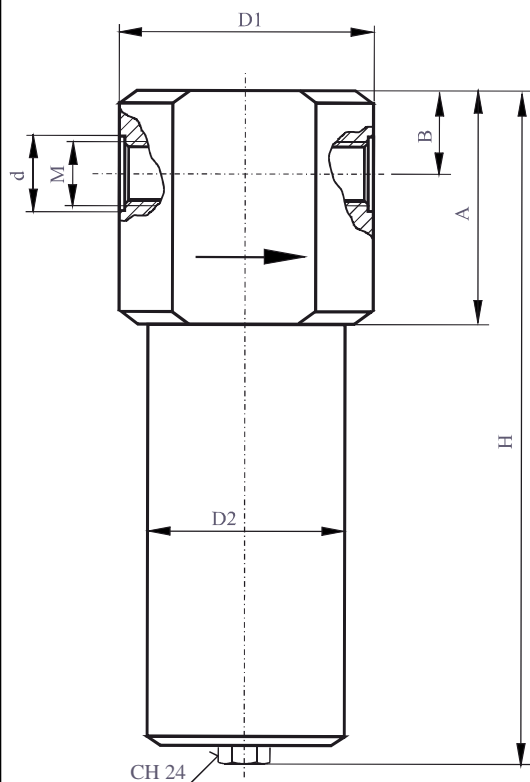
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PRESSURE LINE FILTER (FOR OIL LUBRICATION SYSTEMS)

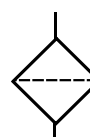
Pressure line filter is applied for oil circulating lubrication systems for middle and high power gearboxes. It is capable for operation in very hard conditions. The filter can be assembled in pressure line in any position. Flow direction is indicated by the arrow on the filter body. The filter cartridge 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 μm . 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 Oil viscosity	>13 mm ² /s				
Temperature	-30 ; +80 °C				
Working pressure	20 bar				
Filtration rating	40, 60, 100, 150, 200, 300 μm				
Flow rate (dm ³ /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



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 Rudjinci 175/A
 tel/fax: +381 - 36 - 631 - 710
 631 - 711
 E-mail: office@fluidotehnic.com

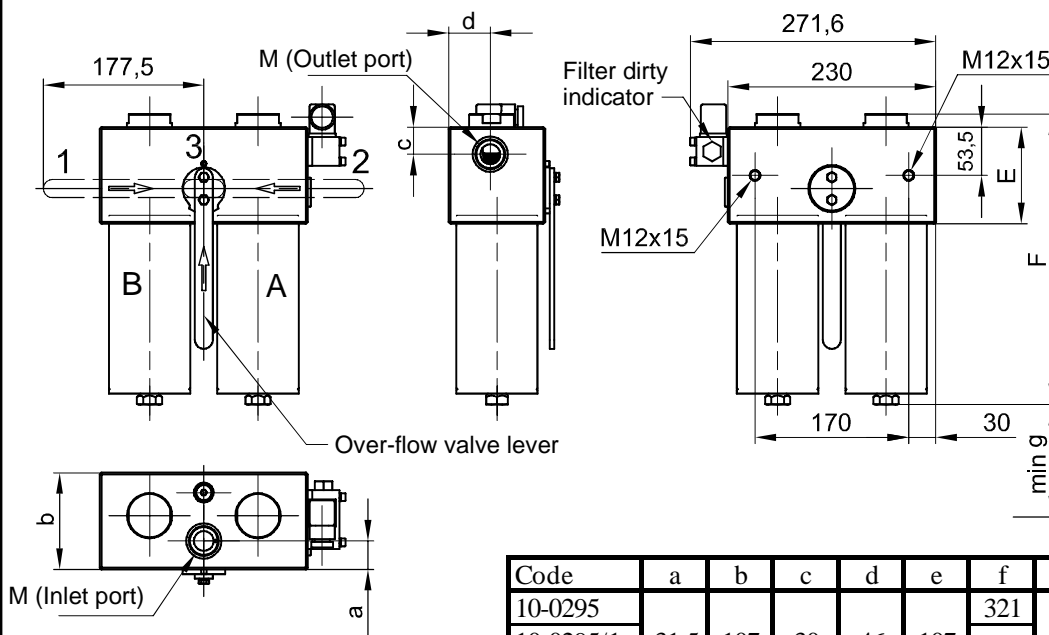
DUBLE PRESSURE LINE FILTER



Duble 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.

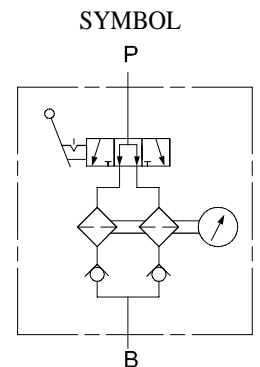
Filthiness filter can be determined visually and by electro indicator.



Oil flow	
Handle position	Filter cartridge nr.
1	A
2	B
3	A , 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

Ordering code		10-0295	10-0295/1	10-0295/2	10-0295/3
Fluid	Oil viscosity	>13 mm ² /s			
	Temperature	-30 do +80 °C			
Operating pressure		20 bar			
Filtration rating		40, 60, 100, 150, 200, 300 µm			
Flow rate		100 dm ³ /min	40 dm ³ /min	25 dm ³ /min	180 dm ³ /min
Contaminant indicator	switch type	magnetic			
	voltage	max 250V AC/DC			
	working load	1,2W			
	diff.activated pressure	p=2 bar			
Mass		22 kg	20 kg	20 kg	36 kg



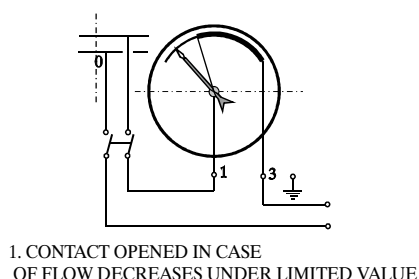
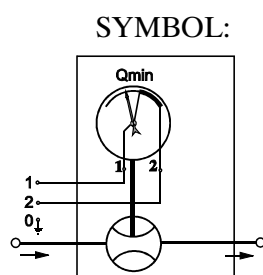
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FLOW INDICATOR

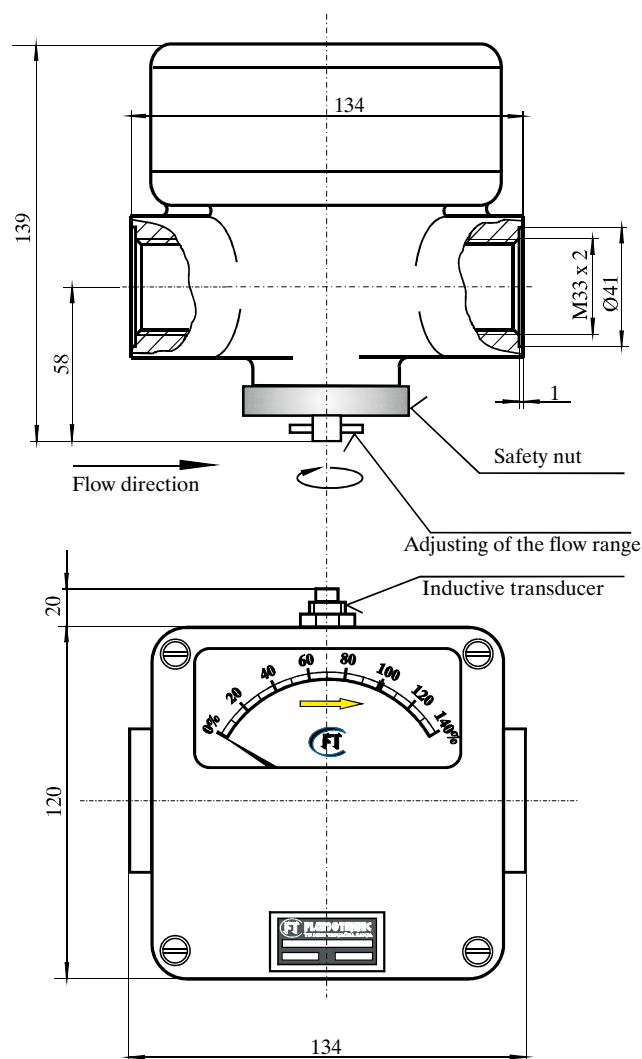


This device is applied for lubrication and cooling systems where oil flow control is necessary. Indication is visual by scales in percent values, and electrical by inductive transducer. The adjusting of the device is very simply. After the mounting of the device system can be started and the safety nut 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	Oil viscosity	13 - 800 mm ² /s
	Temperature	-30 ; +80 °C
Operating pressure	0,5-15 bar	
Flow rate	30-100 dm ³ /min	10-35 dm ³ /min
Controlled flow rate	15-100 dm ³ /min	5-45 dm ³ /min
Connection ports	M33x2	
Inductive level indicator type	Voltage	12 - 24 V DC
	Max current	200 mA
	type	NO PNP
Mass	3,2 kg	



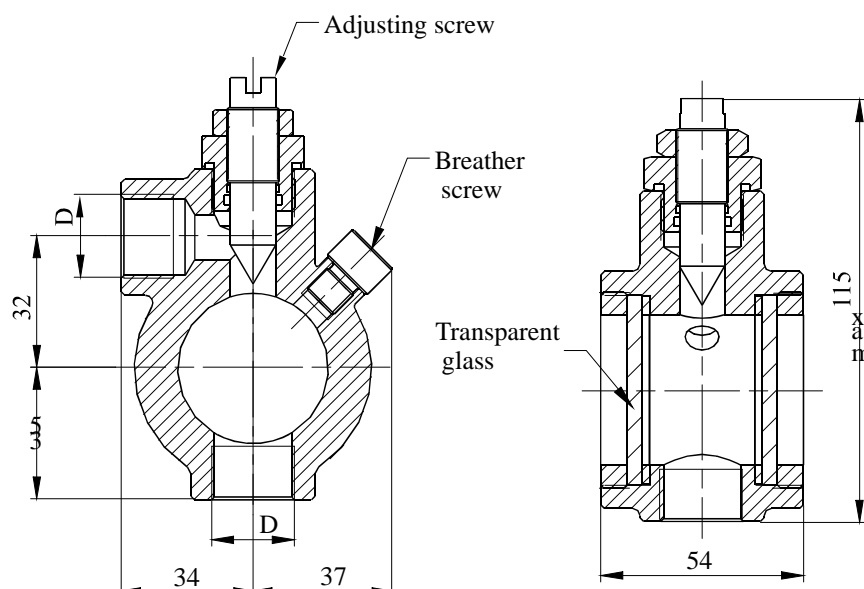
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 Rudjinci 175/A
 tel/fax: +381 - 36 - 631 - 710
 631 - 711
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FLOW CONTROL DEVICE WITH INDICATION



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	Oil viscosity	13 - 800 mm ² /s
	Temperature	-10 ; +80 °C
Operating pressure	0,1 - 20 bar	
Flow rate	NO 10	NO 15
Controlled flow rate	0 - 1 dm ³ /min	0 - 1 dm ³ /min
Connection ports "D"	G3/8"	G1/2"
Mass	1,1 kg	1,1 kg



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36210 VRNJACKA BANJA
Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com

ELECTRIC DRIVEN MULTILINE PUMP (FOR GREASE LUBRICATION SYSTEMS)



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) should be specified in order. The tank volume in standard execution is 10 lit., but other values are also available on request.

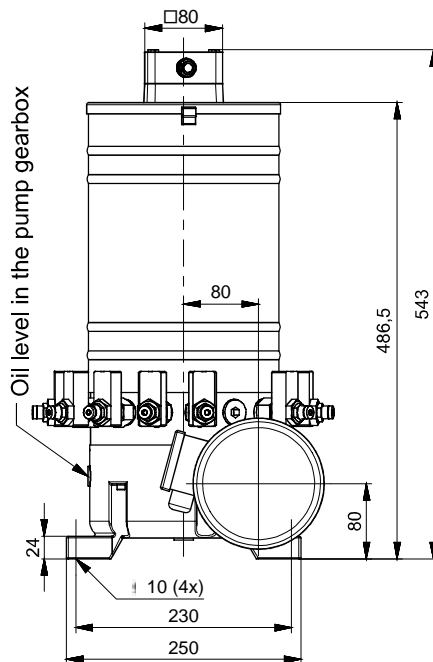
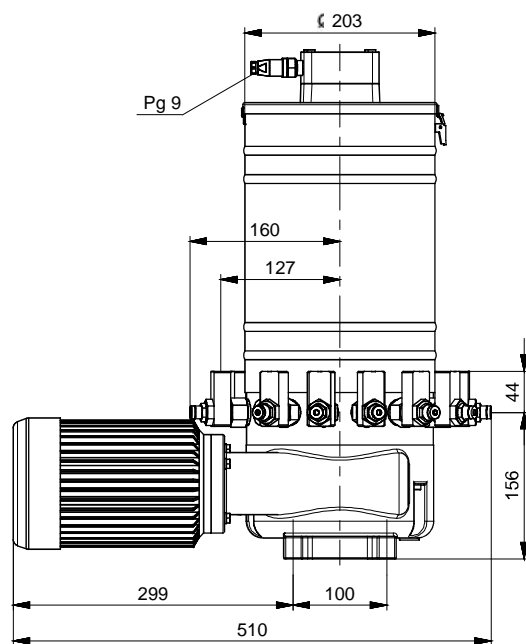
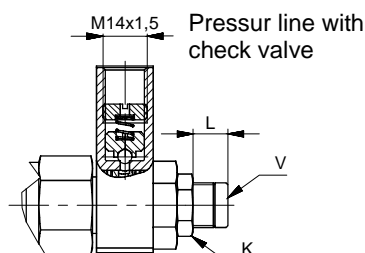
The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm, i.e. 0,16 cm³ per piston stroke. By loosening nut "K" and turning the adjusting screw „V“ for 360 clock wise ("L" is reduced for 1mm), the flow rate decreases to 0,025 cm³ per piston stroke. Minimum flow rate corresponds the "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.

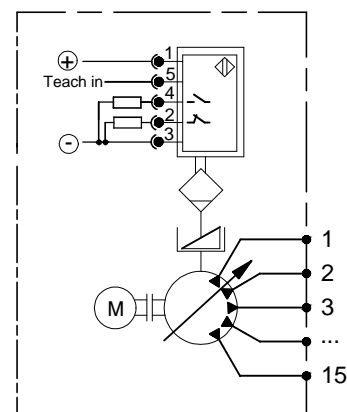
Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A"

Ordering example for the pump with eight outlet ports and with ultrasonic indicator of lubricant level

10-2500S-AU/8



SYMBOL



Code	Flow per piston stroke (adjust.) cm ³	Flow per outlet port (adjust.) cm ³ /min	Max. Pressure bar	Number of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator	Tank volume dm ³	Mass kg
					Grease	Oil visc.	Temperat.		Power	Rated speed	Voltage			
					NLGI	mm ² /s	°C		kW	rpm	V			
10 - 2500	0,04 - 0,16	0,5 - 2,2	350	1 - 15	≤3	>13	-25 ; +80	70:1	0,25	980	3x400 V 50Hz	10 do 30V 200 mA 2xPNP NO / NC	10	~29
10 - 2500S		0,35 - 1,4						112:1						
10 - 2500L		0,85 - 3,4						70:1						



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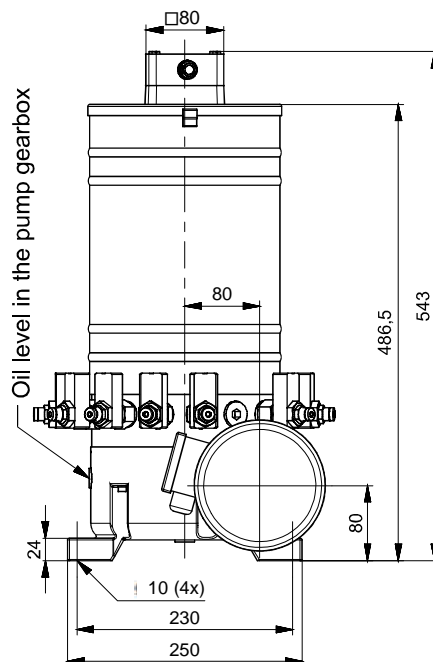
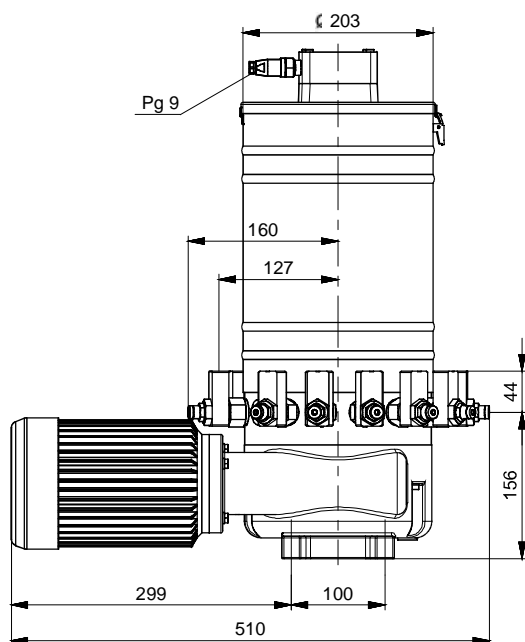
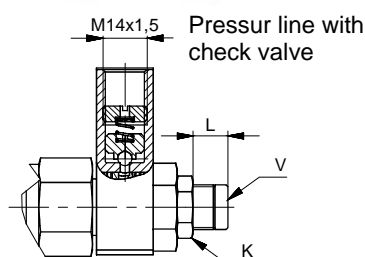
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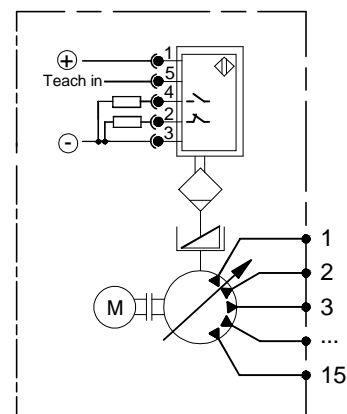
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ELECTRIC DRIVEN MULTILINE PUMP (FOR GREASE LUBRICATION SYSTEMS)



SYMBOL



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 16) should be specified in order. The tank volume in standard execution is 10 lit., but other values are also available on request.

The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm, i.e. 0,16 cm³ 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 cm³ 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 cm³/min per port is:

10-6000S-AU/16

Code	Flow per piston stroke (adjust.) cm ³	Flow per outlet port (adjust.) cm ³ /min	Max. Pressure bar	Number of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator	Tank volume dm ³	Mass kg
					Grease	Oil visc.	Temperat.		Power	Rated speed	Voltage			
					NLGI	mm ² /s	°C		kW	rpm	V			
10 - 6000	0,04 - 0,16	0,5 - 2,2	350	1 - 16	≤3	>13	-25 ; +80	70:1	0,25	980	3x400 V 50Hz	10 do 30V 200 mA 2xPNP NO/ NC	10	~30
10 - 6000S		0,35 - 1,4						112:1						
10 - 6000L		0,85 - 3,4						70:1						



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**36210 VRNJACKA BANJA
Rudjinci 175/A**

**tel/fax: +381 - 36 - 631 - 710
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E-mail: office@fluidotehnic.com

ELECTRIC DRIVEN MULTILINE PUMP (FOR GREASE LUBRICATION SYSTEMS)



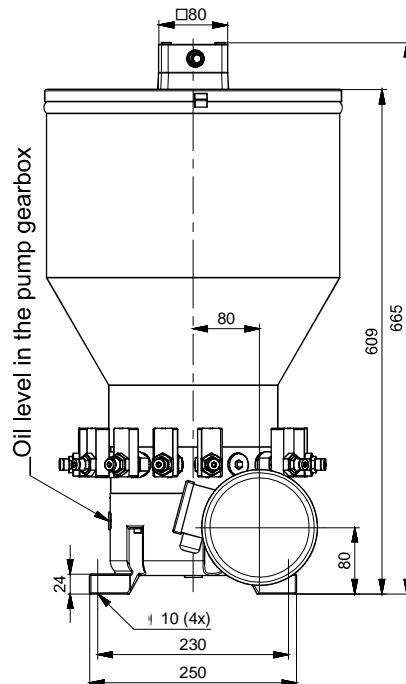
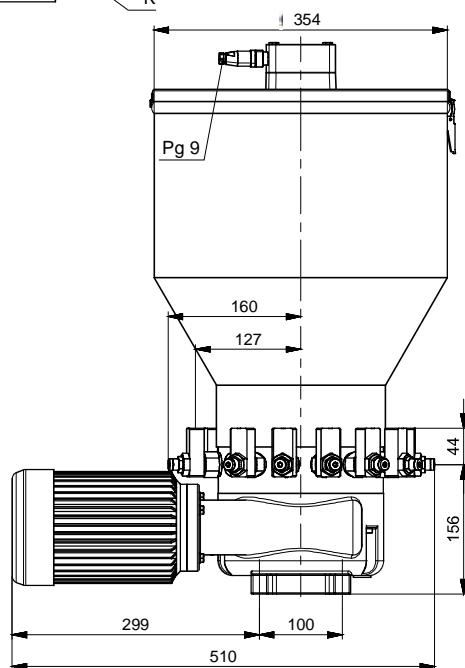
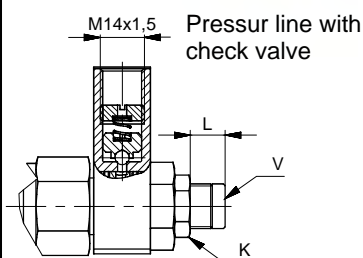
This variable displacement pump is applied for oil and grease lubrication in multiline centralized systems. Displacement of each port can be adjusted separately from minimum to maximum value. It is possible to cut out some of the ports if it is necessary. The number of the ports (from 1 to 15) should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

The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm, i.e. $0,16 \text{ cm}^3$ 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 $0,025 \text{ cm}^3$ 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.

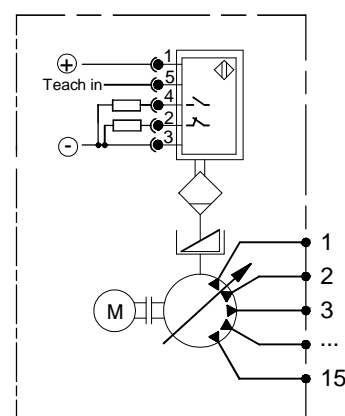
Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A"

Ordering example for the pump with 12 outlet ports and with ultrasonic indicator of lubricant level for flow $3,4 \text{ cm}^3/\text{min}$ per port is:

10-2500L-1-AU/12



SYMBOL



Code	Flow per piston stroke (adjust.) cm^3	Flow per outlet port (adjust.) cm^3/min	Max. Pressure bar	Number of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator	Tank volume dm^3	Mass kg
					Grease	Oil visc.	Temperat.		Power	Rated speed	Voltage			
					NLGI	mm^2/s	$^{\circ}\text{C}$		kW	rpm	V			
10 - 2500-1	0,04 - 0,16	0,5 - 2,2	350	1 - 15	≤ 3	> 13	$-25 ; +80$	70:1	0,25	980	3x400 V 50Hz	10 do 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						



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**36210 VRNJACKA BANJA
Rudjinci 175/A**

**tel/fax: +381 - 36 - 631 - 710
631 - 711**

E-mail: office@fluidotehnic.com

ELECTRIC DRIVEN MULTILINE PUMP (FOR GREASE LUBRICATION SYSTEMS)



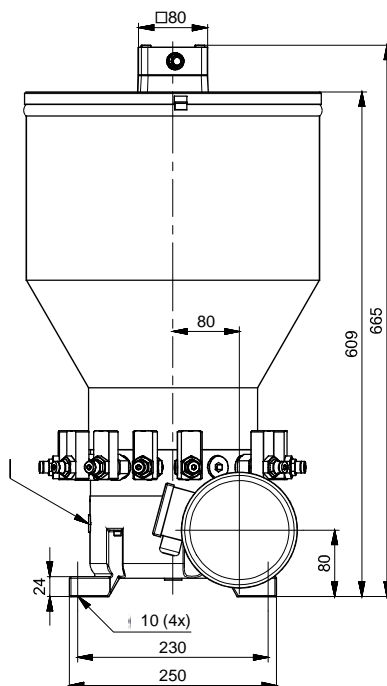
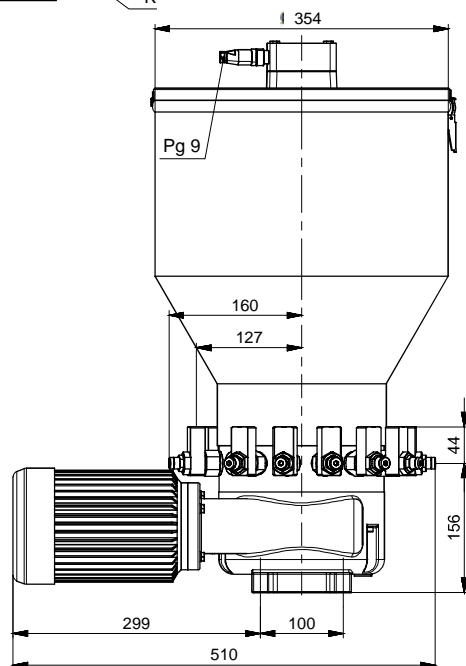
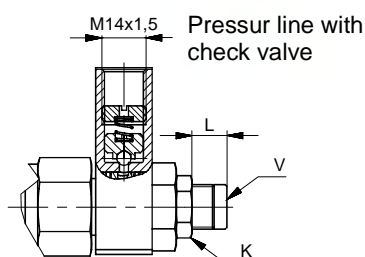
This variable displacement pump is applied for oil and grease lubrication in multiline centralized systems. Displacement of each port can be adjusted separately from minimum to maximum value. It is possible to cut out some of the ports if it is necessary. The number of the ports (from 1 to 16) should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

The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm, i.e. 0,16 cm³ 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 cm³ 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.

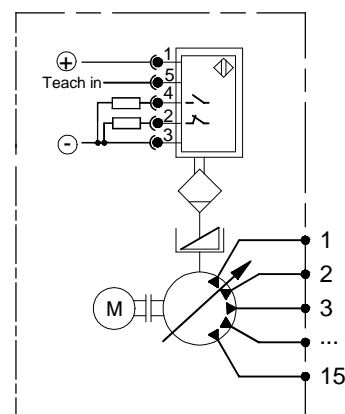
Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A"

Ordering example for the pump with 16 outlet ports and with ultrasonic indicator of lubricant level for flow 3,4 cm³/min per port is:

10-6000L-1-AU/16



SYMBOL



Code	Flow per piston stroke (adjust.) cm ³	Flow per outlet port (adjust.) cm ³ /min	Max. Pressure bar	Number of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator	Tank volume dm ³	Mass kg
					Grease	Oil visc.	Temperat.		Power	Rated speed	Voltage			
					NLGI	mm ² /s	°C		kW	rpm	V			
10 - 6000-1	0,04 - 0,16	0,5 - 2,2	350	1 - 16	≤3	>13	-25 ; +80	70:1	0,25	980	3x400 V 50Hz	10 do 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						



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36210 VRNJACKA BANJA
Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com

ELECTRIC DRIVEN MULTILINE PUMP



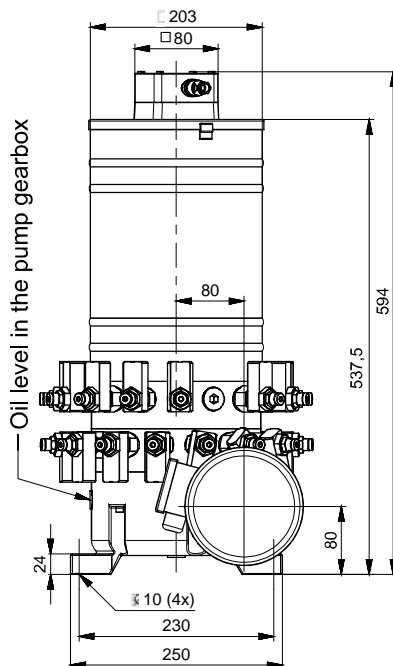
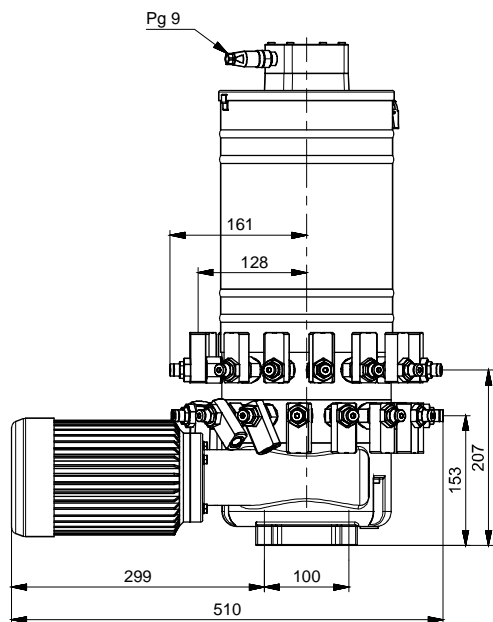
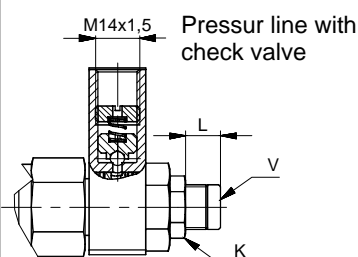
This variable displacement pump is applied for oil and grease lubrication in multiline centralized systems. Displacement of each port can be adjusted separately from minimum to maximum value. It is possible to cut out some of the ports if it is necessary. The number of the ports (from 1 to 30) should be specified in order. The tank volume in standard execution is 10 lit., but other values are also available on request.

The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm, i.e. 0,16 cm³ 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 cm³ 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.

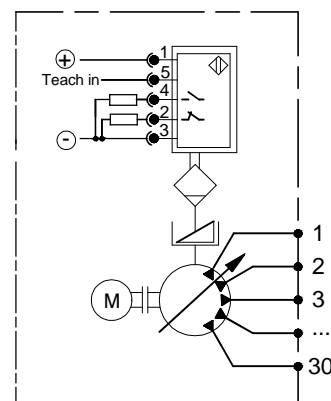
Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A"

Ordering example for the pump with 30 outlet ports and with ultrasonic indicator of lubricant level for flow 3,4 cm³/min per port is:

10-2550S-AU/30



SYMBOL



Code	Flow per piston stroke (adjust.) cm ³	Flow per outlet port (adjust.) cm ³ /min	Max. Pressure bar	Number of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator	Tank volume dm ³	Mass kg
					Grease	Oil visc.	Temperat.		Power	Rated speed	Voltage			
					NLGI	mm ² /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	3x400 V 50Hz	10 do 30V 200 mA 2xPNP NO / NC	10	~36
10 - 2550S		0,35 - 1,4						112:1						
10 - 2550L		0,85 - 3,4						70:1						



SERBIA

36210 VRNJACKA BANJA

Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710

631 - 711

E-mail: office@fluidotehnic.com

ELECTRIC DRIVEN MULTILINE PUMP



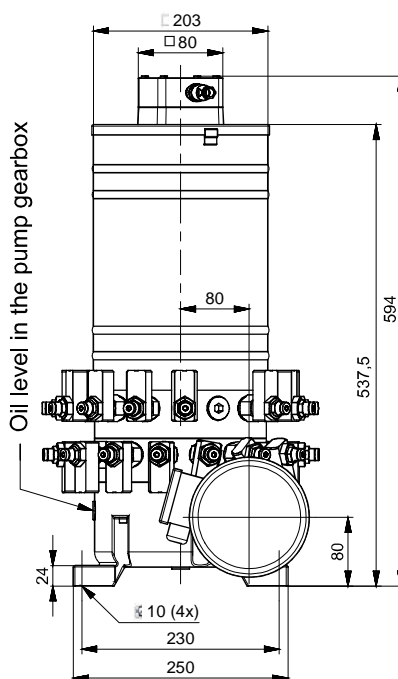
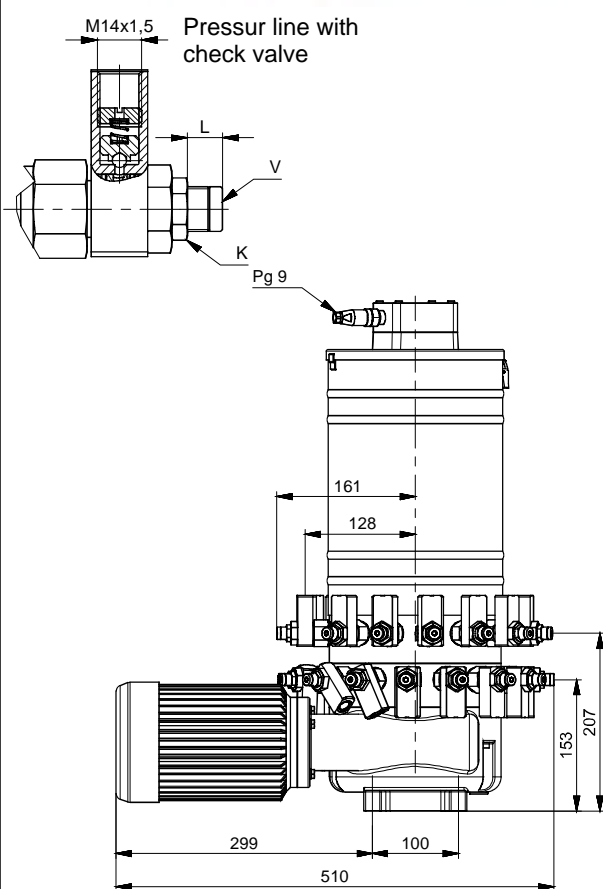
This variable displacement pump is applied for oil and grease lubrication in multiline centralized systems. Displacement of each port can be adjusted separately from minimum to maximum value. It is possible to cut out some of the ports if it is necessary. The number of the ports (from 1 to 32) should be specified in order. The tank volume in standard execution is 10 lit., but other values are also available on request.

The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm, i.e. 0,16 cm³ 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 cm³ 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.

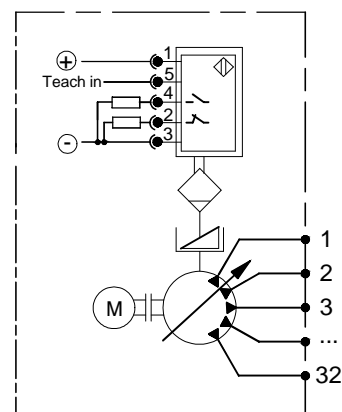
Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A"

Ordering example for the pump with 32 outlet ports and with ultrasonic indicator of lubricant level for flow 1,4 cm³/min per port is:

10-6050S-AU/32



SYMBOL



Code	Flow per piston stroke (adjust.) cm ³	Flow per outlet port (adjust.) cm ³ /min	Max. Pressure bar	Number of outlet	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator	Tank volume dm ³	Mass kg
					Grease	Oil visc.	Temperat.		Power	Rated speed	Voltage			
					NLGI	mm ² /s	°C		kW	rpm	V			
10 - 6050	0,04 - 0,16	0,5 - 2,2	350	1 - 32	≤3	>13	-20 ; +80	70:1	0,25	980	3x400 V 50Hz	10 do 30V 200 mA 2xPNP NO/ NC	10	~36
10 - 6050S		0,35 - 1,4						112:1						
10 - 6050L		0,85 - 3,4						70:1						



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36210 VRNJACKA BANJA
Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com

ELECTRIC DRIVEN MULTILINE PUMP



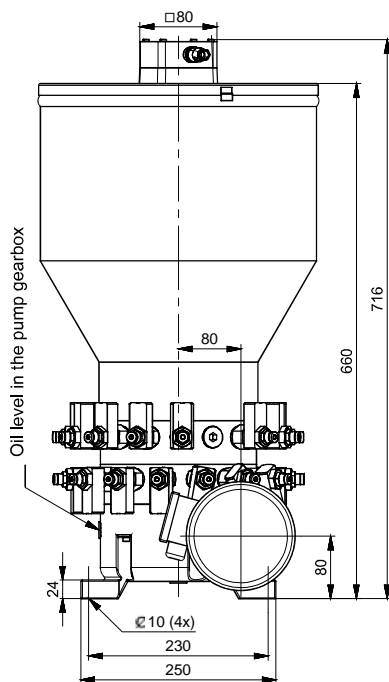
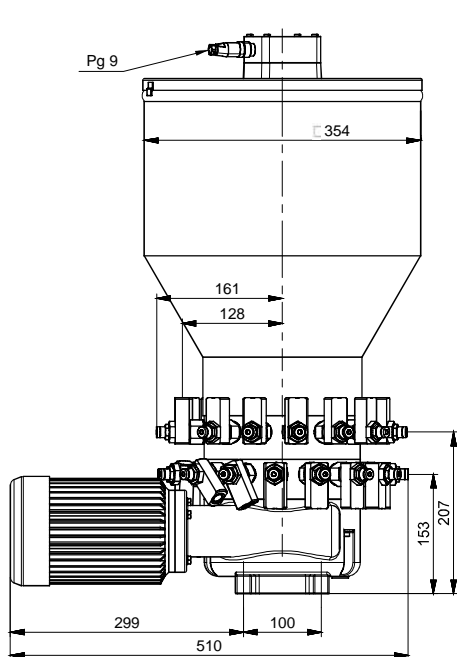
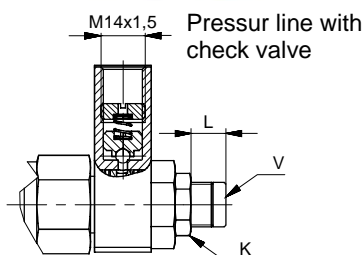
This variable displacement pump is applied for oil and grease lubrication in multiline centralized systems. Displacement of each port can be adjusted separately from minimum to maximum value. It is possible to cut out some of the ports if it is necessary. The number of the ports (from 1 to 30) should be specified in order. The tank volume in standard execution is 10 lit., but other values are also available on request.

The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm, i.e. 0,16 cm³ 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 cm³ 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.

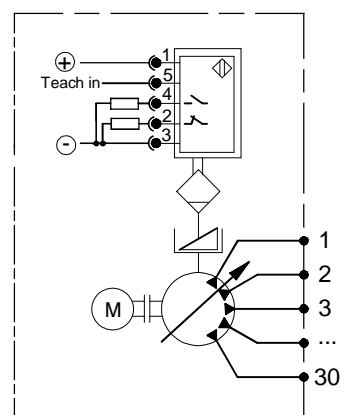
Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A"

Ordering example for the pump with 18 outlet ports and with ultrasonic indicator of lubricant level for flow 3,4 cm³/min per port is:

10-2550L-1-AU/18



SYMBOL



Code	Flow per piston stroke (adjust.) cm ³	Flow per outlet port (adjust.) cm ³ /min	Max. Pressure bar	Number of outlet	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator	Tank volume dm ³	Mass kg
					Grease	Oil visc.	Temperat.		Power	Rated speed	Voltage			
					NLGI	mm ² /s	°C		kW	rpm	V			
10 - 2550-1	0,04 - 0,16	0,5 - 2,2	350	1 - 30	≤3	>13	-25 ; +80	70:1	0,25	980	3x400 V 50Hz	10 do 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						



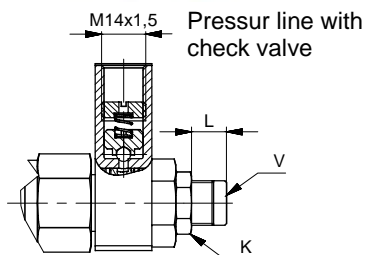
S E R B I A

36210 VRNJACKA BANJA
Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com

ELECTRIC DRIVEN MULTILINE PUMP



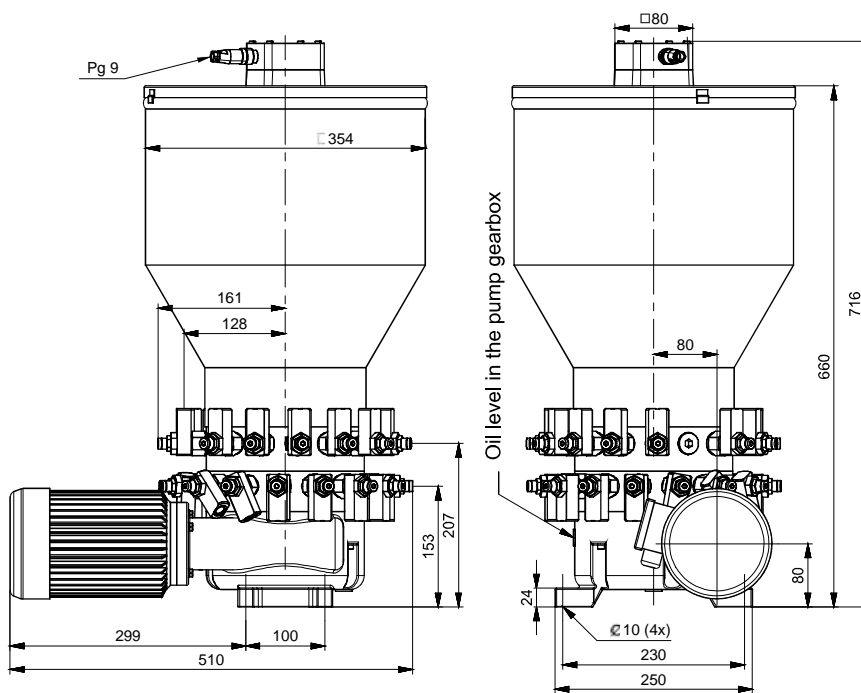
This variable displacement pump is applied for oil and grease lubrication in multiline centralized systems. Displacement of each port can be adjusted separately from minimum to maximum value. It is possible to cut out some of the ports if it is necessary. The number of the ports (from 1 to 30) should be specified in order. The tank volume in standard execution is 10 lit., but other values are also available on request.

The pump is factory adjusted to the maximum flow so the dimension "L" is 16mm, i.e. $0,16 \text{ cm}^3$ 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 $0,025 \text{ cm}^3$ 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.

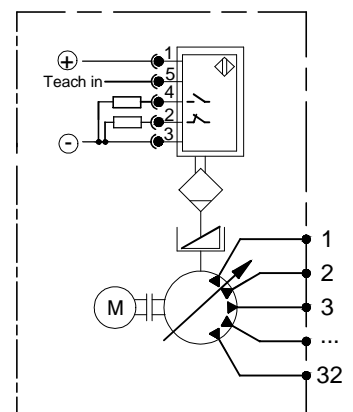
Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A"

Ordering example for the pump with 18 outlet ports and with ultrasonic indicator of lubricant level for flow $3,4 \text{ cm}^3/\text{min}$ per port is:

10-6050L-1-AU/18



SYMBOL



Code	Flow per piston stroke (adjust.) cm^3	Flow per outlet port (adjust.) cm^3/min	Max. Pressure bar	Number of outlet ports	Fluid			Gear box ratio	Electric motor			Ultrasonic level indicator	Tank volume dm^3	Mass kg
					Grease	Oil visc.	Temperat.		Power	Rated speed	Voltage			
					NLGI	mm^2/s	$^{\circ}\text{C}$		kW	rpm	V			
10 - 6050-1	0,04 - 0,16	0,5 - 2,2	350	1 - 32	≤ 3	> 13	$-25 ; +80$	70:1	0,25	980	3x400 V 50Hz	10 do 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						



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36210 VRNJACKA BANJA
Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com

ELECTRIC DRIVEN PUMP (FOR GREASE LUBRICATION SYSTEMS)



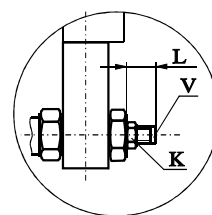
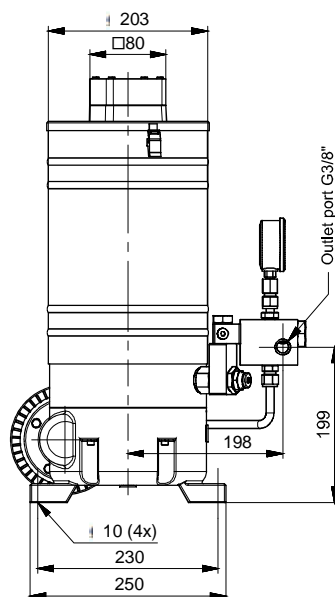
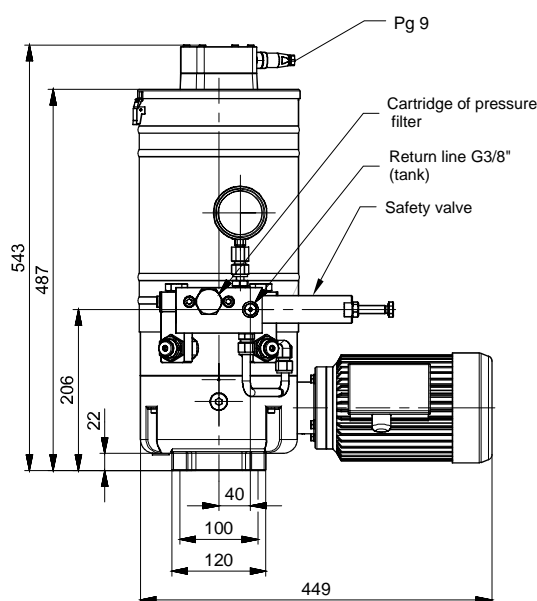
Electric driven pump for grease and oil lubrication usually is applied for smaller centralized two-lines systems. It is suitable for operation in very hard working conditions (excavators for surface mines, iron plants, cement works e.t.c.) This pump has two pump elements with variable flow and possibility 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 1 mm), the flow rate decreases to 0,11 cm³ 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.

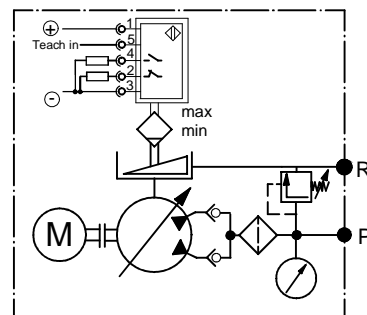
Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A"

Ordering example for the pump with ultrasonic indicator of lubricant level for flow 18 cm³/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 ³ /min	bar	Grease	Oil visc.	Temperat.		Power	Rated speed	Voltage		dm ³	kg
			NLGI	mm ² /s	°C		kW	rpm	V			
10 - 2570L	10 - 27	300	≤3	>13	-25 ; +80	70:1	0,37	1460	3x400 V 50Hz	10 do 30V 200 mA 2xPNP NO / NC	10	~33
10 - 2570	7 - 18						0,25	980				
10 - 2570S	4 - 11											



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36210 VRNJACKA BANJA
Rudjinci 175/A
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631 - 711

E-mail: office@fluidotehnic.com

ELECTRIC DRIVEN PUMP (FOR GREASE LUBRICATION SYSTEMS)



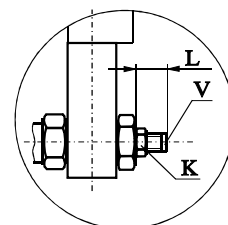
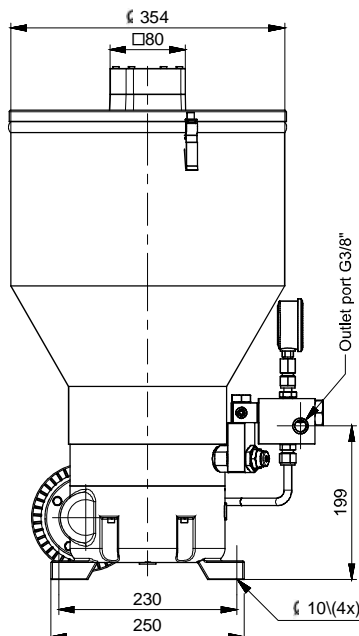
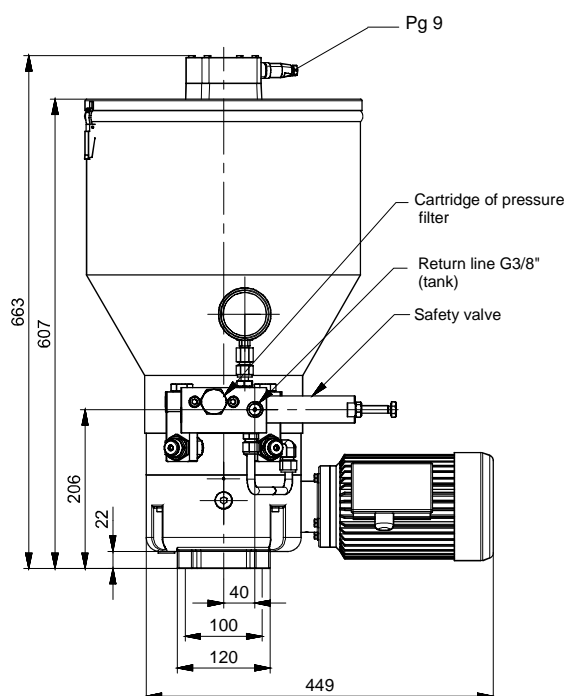
Electric driven pump for grease and oil lubrication usually is applied for smaller centralized two-lines systems. It is suitable for operation in very hard working conditions (excavators for surface mines, iron plants, cement works e.t.c.) This pump has two pump elements with variable flow and possibility 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 cm³ 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.

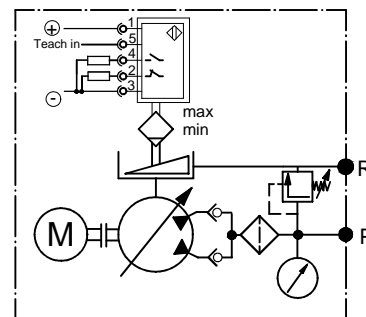
Pump with lubricant level indication have "AU" in code. Ultrasonic level indicator indicate 3 lubricant level in the tank, depending on customer requirements. For lubrication of gear unit of the pump use oil SAE 80. The oil level must be equal to down edge of filling port "A"

Ordering example for the pump with ultrasonic indicator of lubricant level for flow 27 cm³/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.	Temperat.		Power	Rated speed	Voltage		dm³	kg
	cm³/min	bar	NLGI	mm²/s	°C		kW	rpm	V			
10 - 2570L-1	10 - 27	300	≤3	>13	-25 ; +80	70:1	0,37	1460	3x400 V 50Hz	10 do 30V 200 mA 2xPNP NO / NC	30	~36
10 - 2570-1	7 - 18					112:1	0,25	980				
10 - 2570S-1	4 - 11											



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Rudjinci 175/A
tel/fax: +381 - 36 - 631 - 710
631 - 711
E-mail: office@fluidotehnic.com

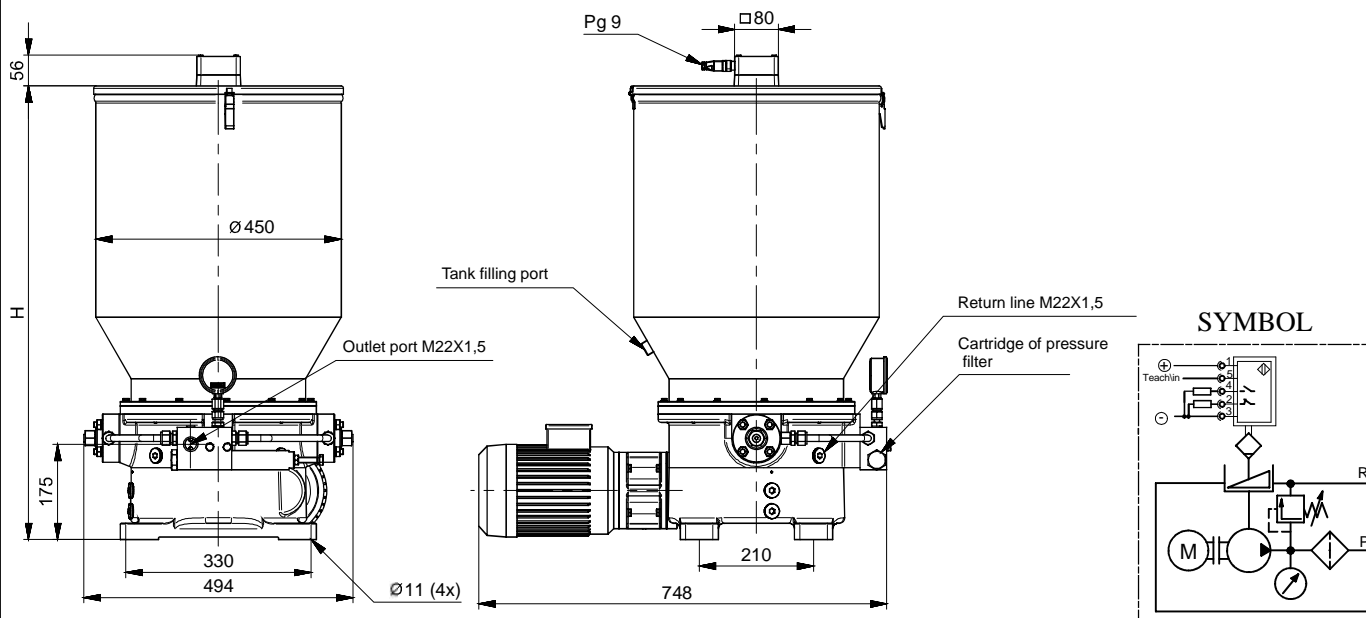
ELECTRIC DRIVEN PUMP (FOR GRASE LUBRICATION)



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 dm³. 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).



Code	Flow	Max. Pressure	Fluid			Electric motor			Ultrasonic level indicator "AU"	Tank volume	H	Mass
	cm³/min	bar	Grease	Oil visc.	Temperat.	Power	Rated speed	Voltage		dm³		kg
			NLGI	mm²/s	°C	kW	rpm	V				
10 - 3500	500	250	≤3	>13	-20 ; +80	1,1	1410	3x400/50Hz	10 do 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



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Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710
631 - 711

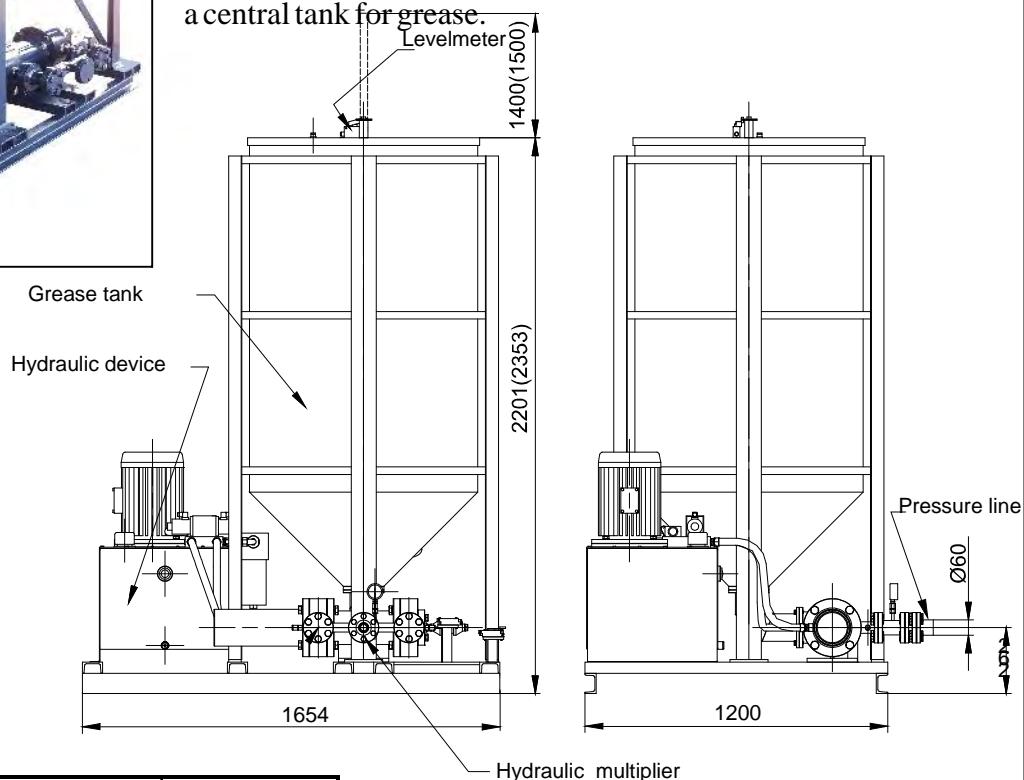
E-mail: office@fluidotehnic.com

ELECTRIC DRIVEN PUMP FOR CENTRAL SUPPLEMENT



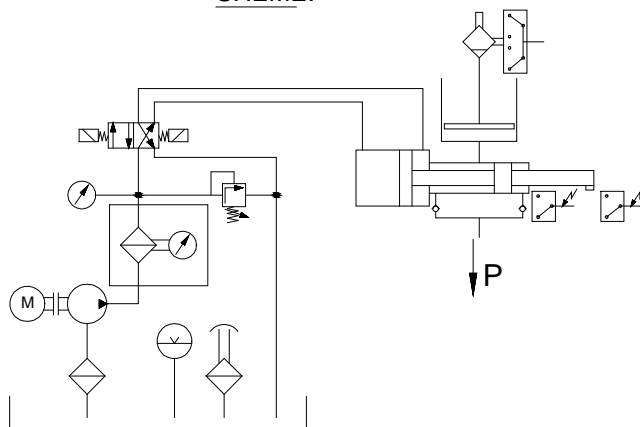
Electric driven pump for central supplement used in places there is a more grease lubrication central systems such as ironworks, rolling mills, coke plants etc. In this way is provided surely grease delivering to each pump by the pipelines. This ensures perfect grease purity. Also, the costs of lubricant 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 hydraul.device	45	50
Working fluid mineral oil	HIDROL HD 46	
Tank oil volume	65 dm ³	
Motor	voltage	3x400V 50Hz
	power	5,5 kW 7,5 kW
	rpm	1450
Flow of lubricant	4 dm ³ /min	
Grease NLGI	< 3	
Max grease work pressure	350 bar	380 bar
Temperat. application area	-10 do +50 ⁰ C	
Grease tank volume	1000 dm ³	1600 dm ³
Mass	725 kg	780kg

HEME:



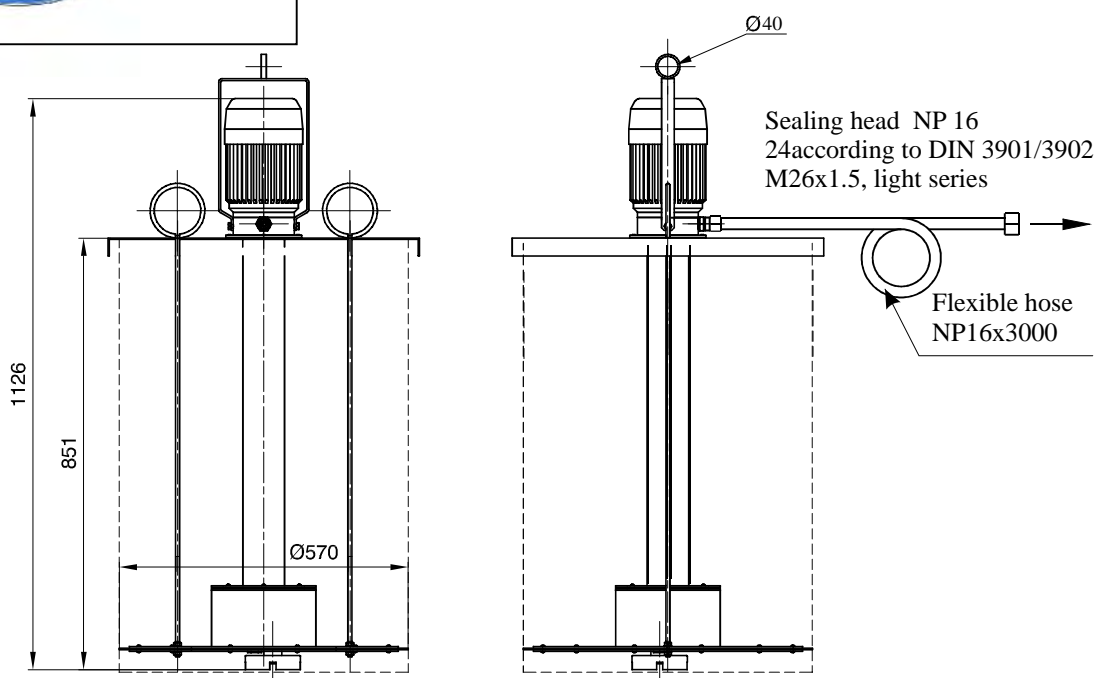
S E R B I A
 36210 VRNJACKA BANJA
 Rudjinci 175/A
 tel/fax: +381 - 36 - 631 - 710
 631 - 711
 E-mail: office@fluidotehnic.com

ELECTRIC DRIVEN PUMP FOR GREASE TRANSFER



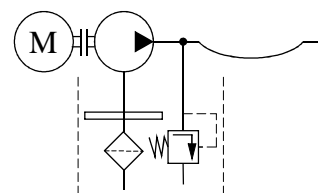
Electric driven pump type 10-4000 is applied for charging other pumps in centralized lubrication systems, as well as for lubricant transfer from one tank to another. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This gear 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 200dm³. The pump has a rubber hose 16x3000 mm, and the binding site for crane, for easier barrels replacement.



Ordering code		10 - 4000
Fluid	Grease	NLGI <3
	Temperature	-10 ; +60 °C
Displacement		6 dm ³ /min
Operating pressure		25 bar
Electric motor	Power	550 W
	Voltage	3x400V/50 Hz
	Speed	910 rpm
Masa		43 kg

SYMBOL



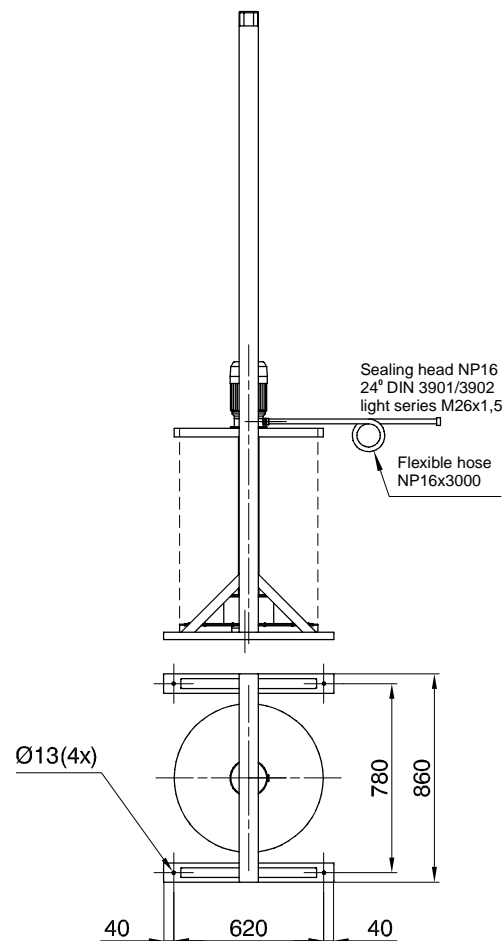
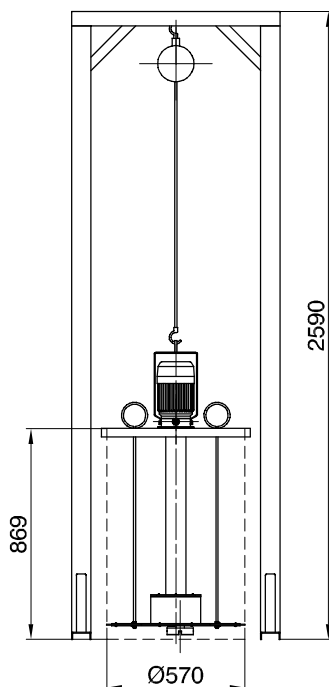
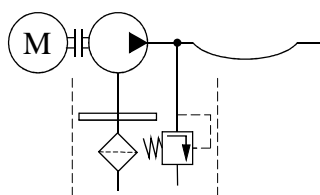
ELECTRIC DRIVEN PUMP FOR GREASE TRANSFER WITH CRANE



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 200dm³. The rubber flexible hose 16x3000mm is included in complet. Pump has the crane and a base for easy handling (replacement of barrels).

SYMBOL



Ordering code	10 - 4000/D	
Fluid	Grease	NLGI <3
	Temperature	-10 ; +60 °C
Displacement	6 dm ³ /min	
Operating pressure	25 bar	
Electric motor	Power	550 W
	Voltage	3x400V/50Hz
	Speed	910 rpm
Mass	97 kg	



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SERBIA

36210 VRNJACKA BANJA

Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710

631 - 711

E-mail: office@fluidotehnic.com

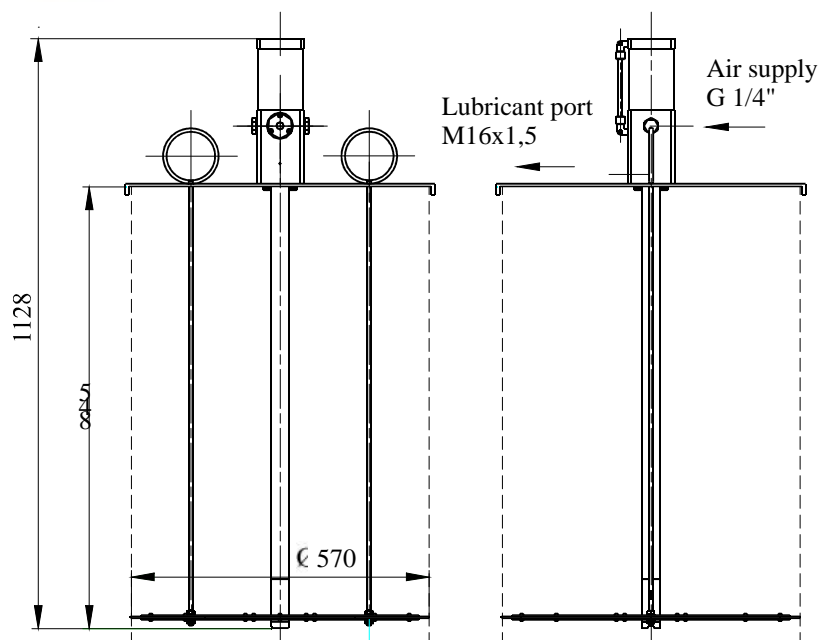
PNEUMATIC PUMP FOR LUBRICATION



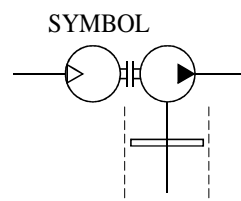
Pneumatic pump for lubrication type is applied for centralized lubrication systems and for single lubrication in service work-shops as well as in industrial plants, where the supply of pressurized air is available. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This piston pump is designed to be directly mounted to a standard lubricant barrel of 200 dm³.

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 ² /s	
	Grease	NLGI <3	
	Temperature	-10 ; +60 °C	
Air pressure		max. 6 bar	
Lubricant pressure		400 bar	150 bar
Displacement		5,5 cm ³	14 cm ³
Cycle per minute		120	
Mass		23 kg	



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36210 VRNJACKA BANJA
Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com

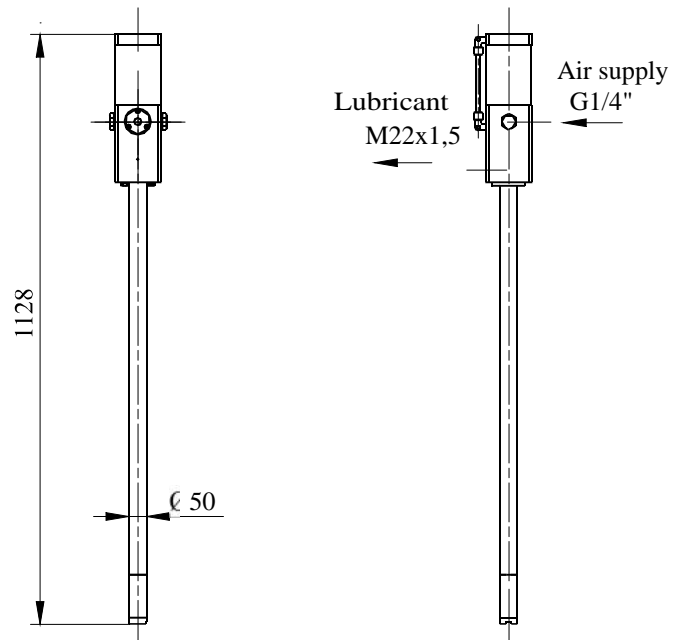
PNEUMATIC PUMP FOR OIL DRAFT



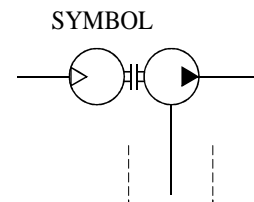
Pneumatic pump for oil draft is applied for oil draft for the barrels or tanks in service work-shops as well as in outdoor, where the supply of pressurized air is available. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This piston pump is designed to be directly mounted to 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	>8 mm ² /s
	Temperature	-10 ; +60 °C
Air pressure	max. 6 bar	
Lubricant pressure	20 bar	
Displacement	65 cm ³	
Cycle per minute	160	
Mass	9 kg	



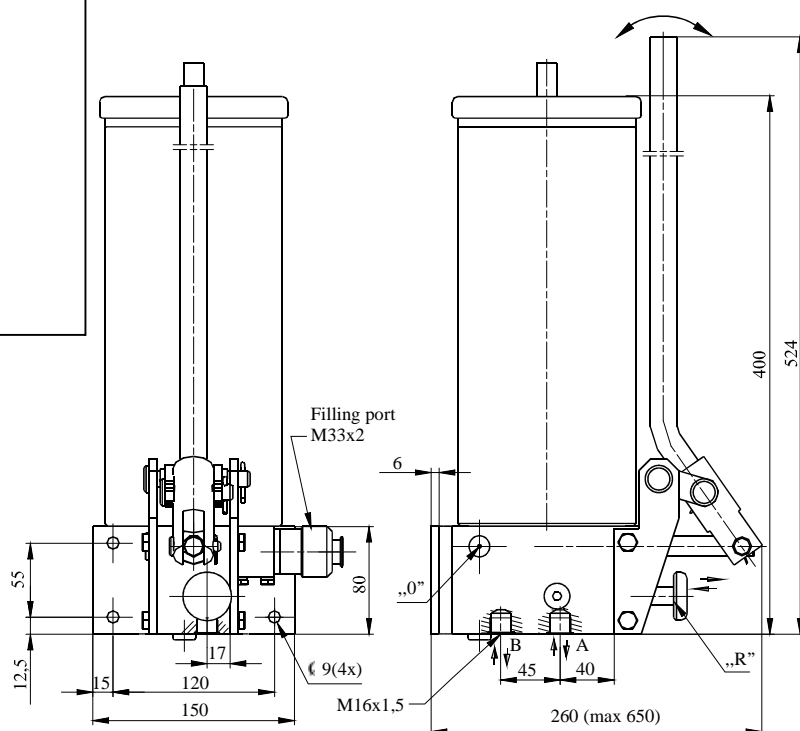
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 36210 VRNJACKA BANJA
 Rudjinci 175/A
 tel/fax: +381 - 36 - 631 - 710
 631 - 711
 E-mail: office@fluidotehnic.com

HAND PUMP FOR TWO LINE LUBRICATION

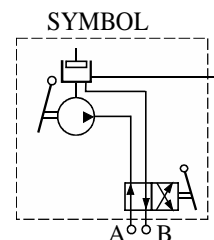


The hand pump 10-2450 used for small two-line lubrication systems. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This piston pump is equipped with tank, hand actuated distributing valve for line switching (R) and visual indicator with a weight.

The tank can be filled using the charging pump or directly, removing the tank cover and visual indicator. To remove air from lubricant release screw "O", pull the pump lever to end position, retight the screw and push the lever back. If necessary, repeat this procedure.



Ordering code		10 - 2450
Fluid	Oil viscosity	>13 mm ² /s
	Grease	NLGI <3
	Temperature	-30 ; +80 °C
Operating pressure		max. 200 bar
Flow per cycle		8 cm ³
Force on lever under max. pressure		35 daN
Connection ports		M16x1,5
Tank volume		3 dm ³
Mass		14 kg



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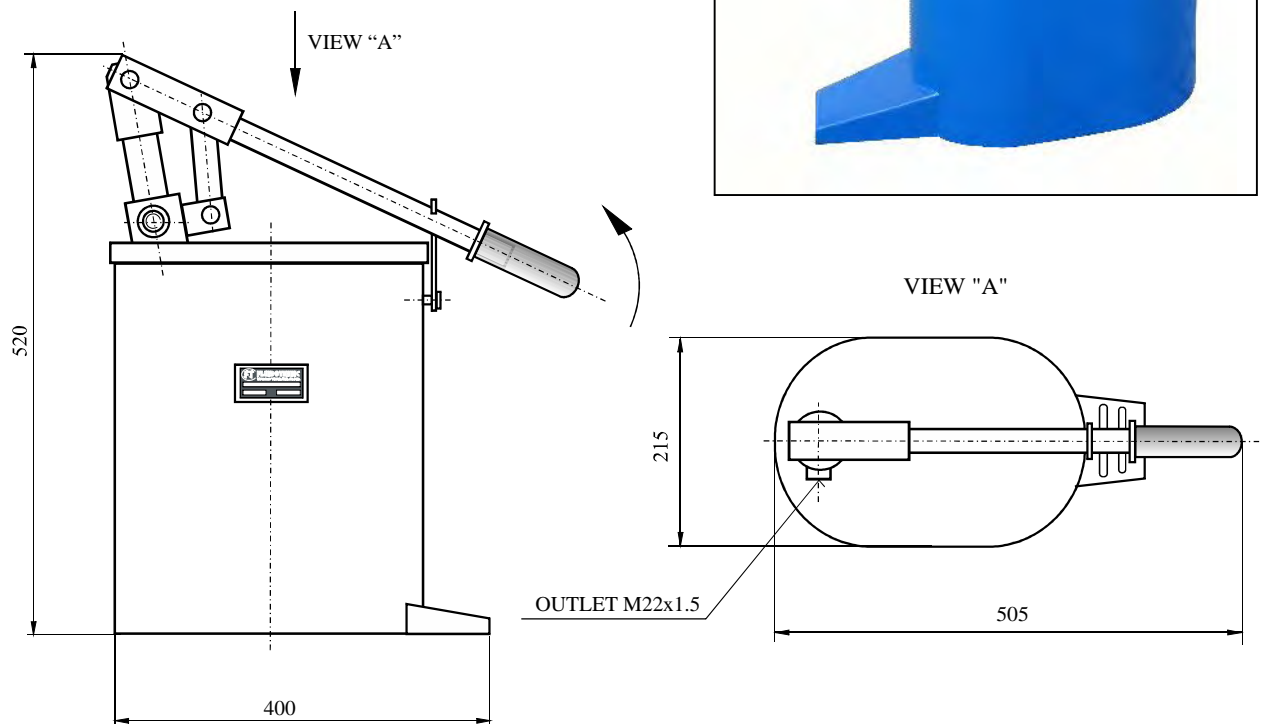
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631 - 711

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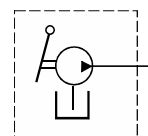
HAND OPERATED PUMP (FOR LUBRICANT TRANSFER)

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 ² /s
	Grease	NLGI <3
	Temperature	-10 ; +80 ⁰ C
Operating pressure		max. 10 bar
Flow per cycle		100 cm ³
Force on lever under max. pressure		20 daN
Connection ports		M22x1,5
Tank volume		15 dm ³
Mass		7,0 kg

SYMBOL:



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 36210 VRNJACKA BANJA
 Rudjinci 175/A
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 631 - 711
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FOOT OPERATED PUMP (FOR GREASE LUBRICATION)



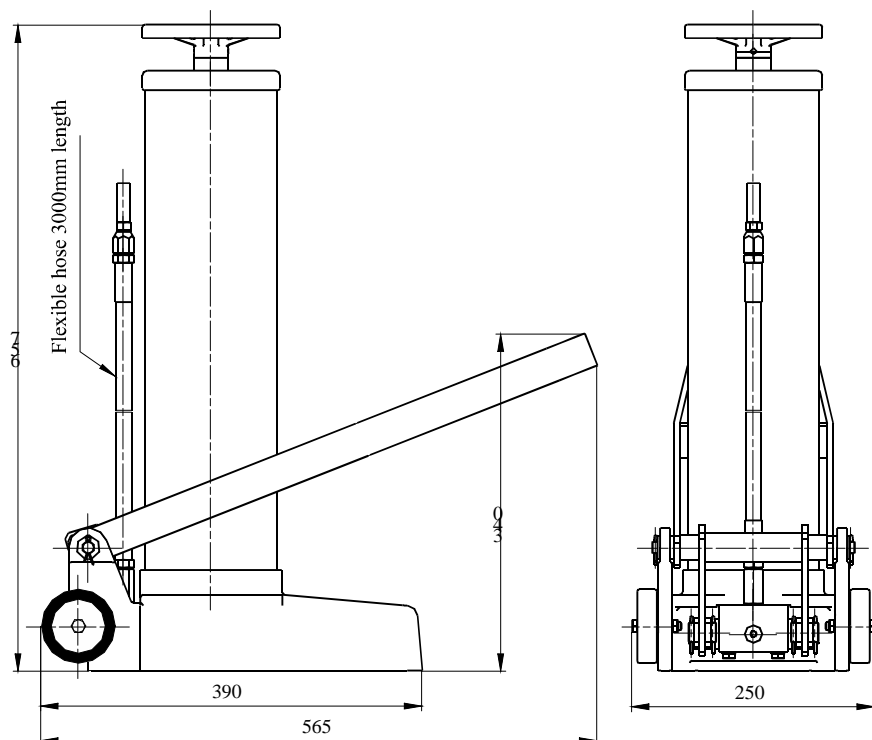
The foot operated pump 10-3000 is applied for single lubrication in case of high flow resistance in lubrication line. The pump is wheeled for easier removal to another place.

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).

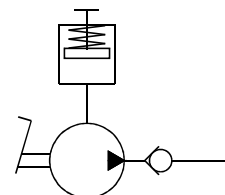
Accessories included in complet:

- american head
- peoneer head small
- peoneer head-big



Ordering code	10-3000
Lubricant	Grease NLGI
Temperature	<3
Flow	3,1 cm ³ /cycle
Pressure	450 bar
Force at lever end (pedal) at max. pressure	50 daN
Tank capacity	5 dm ³
Mass	24 kg

SIMBOL



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36210 VRNJACKA BANJA

Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710

631 - 711

E-mail: office@fluidotehnic.com

POWER UNIT FOR MULTILINE LUBRICATION

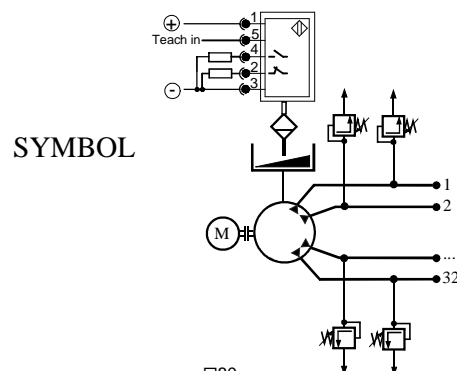


Ordering code	10 - 2800/Nr.outlet ports	
Fluid	oil viscosity	>13 mm ² /s
	grease	NLGI ≤3
	temperature	-25 ; + 80 °C
Work pressure	max. 300 bar	
Flow per piston stroke	0,03 - 0,16 cm ³	
Flow per outlet port	0,35-1,4 ; 0,5-2,2 ; 0,85-3,4 cm ³ /min	
Connecting ports	SRPS M.B6.702 L12 M	
Number of outlet ports	1 - 16	
Motor	0,25kW 3x400V 980 rpm (0,37kW 3x400V 13850 rpm)	
Tank volume	10 dm ³	
Gear box ratio	70 : 1 ; 112 : 1	
Ultrasonic level indicator	voltage	10 do 30V
	current	200 mA
	type	2xPNP NO/NC
Mass	~54 kg	

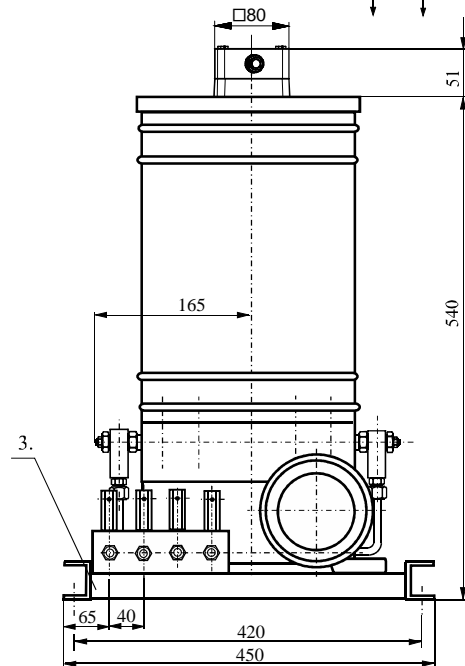
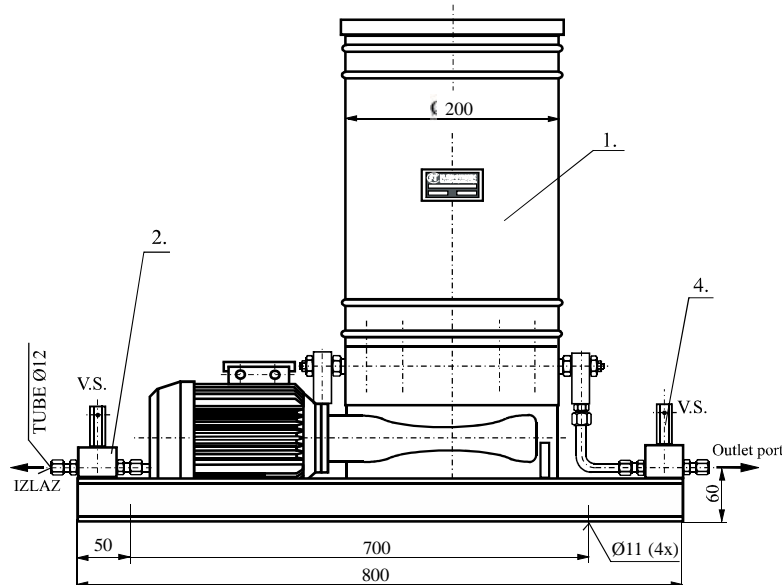
This unit is applied for oil and grease lubrication in multiline centralized systems. Main parts of the unit are multiline pump (1), distributing strip (2) with pressure relief valves (4) and stand (3). The pump has variable flow, it can be adjusted, for each outlet port, separately from minimum to maximum 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 for power unit with 13 outlet ports (8 on one side, 5 on another side) and min. level indicator:

10-2800AU/8-5



SYMBOL



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Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710

631 - 711

E-mail: office@fluidotehnic.com

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 cm³ per piston stroke, i.e. 2,2 cm³ /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 cm³ per piston stroke, i.e. 0,4cm³ /min. L=10mm results in minimum flow rate. L=9mm cuts out the flow completely. After adjusting tight the safety nut "K" again.

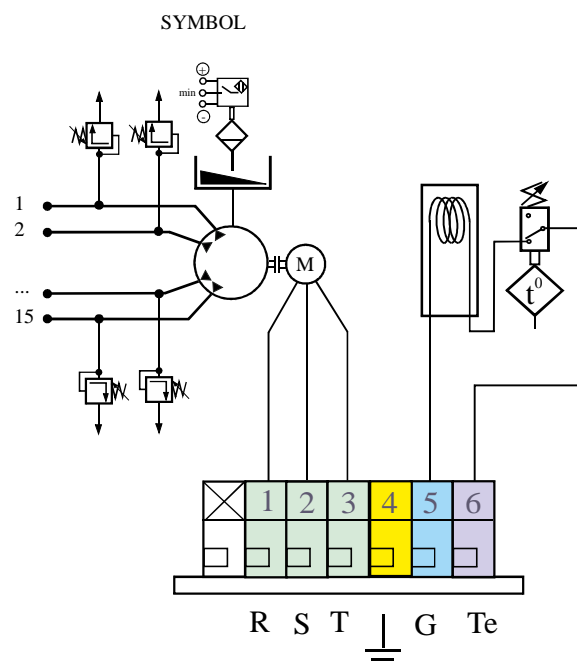
NOTE: On customer request we install, in the power unit, the pumps other flow characteristics.

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, 6 on another side) and indication of minimum quantity of lubricant:
10-2900AU/8-6

Ordering code		10 - 2900/Nr.outlet ports	
Fluid	oil viscosity	>13 mm ² /s	
	grease	summer	NLGI ≤3
		winter	NLGI ≤1
	temperature	-20 ; + 80 °C	
Work pressure		max. 300 bar	
Operating pressure		200 bar	
Flow per piston stroke		0,03 - 0,16 cm ³	
Flow per outlet port		0,35-1,4 ; 0,5-2,2 ; 0,85-3,4 cm ³ /min	
Connecting ports		SRPS M.B6.702 L12 M	
Number of outlet ports		1 - 15	
Motor		0,25kW 3x400V 980 rpm	
Tank volume		10 dm ³	
Gear box ratio		70 : 1 ; 112 : 1	
Heater		141W 400V 50Hz	
Thermostat		-30 ; + 30 °C	
Ultrasonic level indicator	voltage	10 do 30V	
	current	200 mA	
	type	2xPNP NO/NC	
Mass		~116 kg	

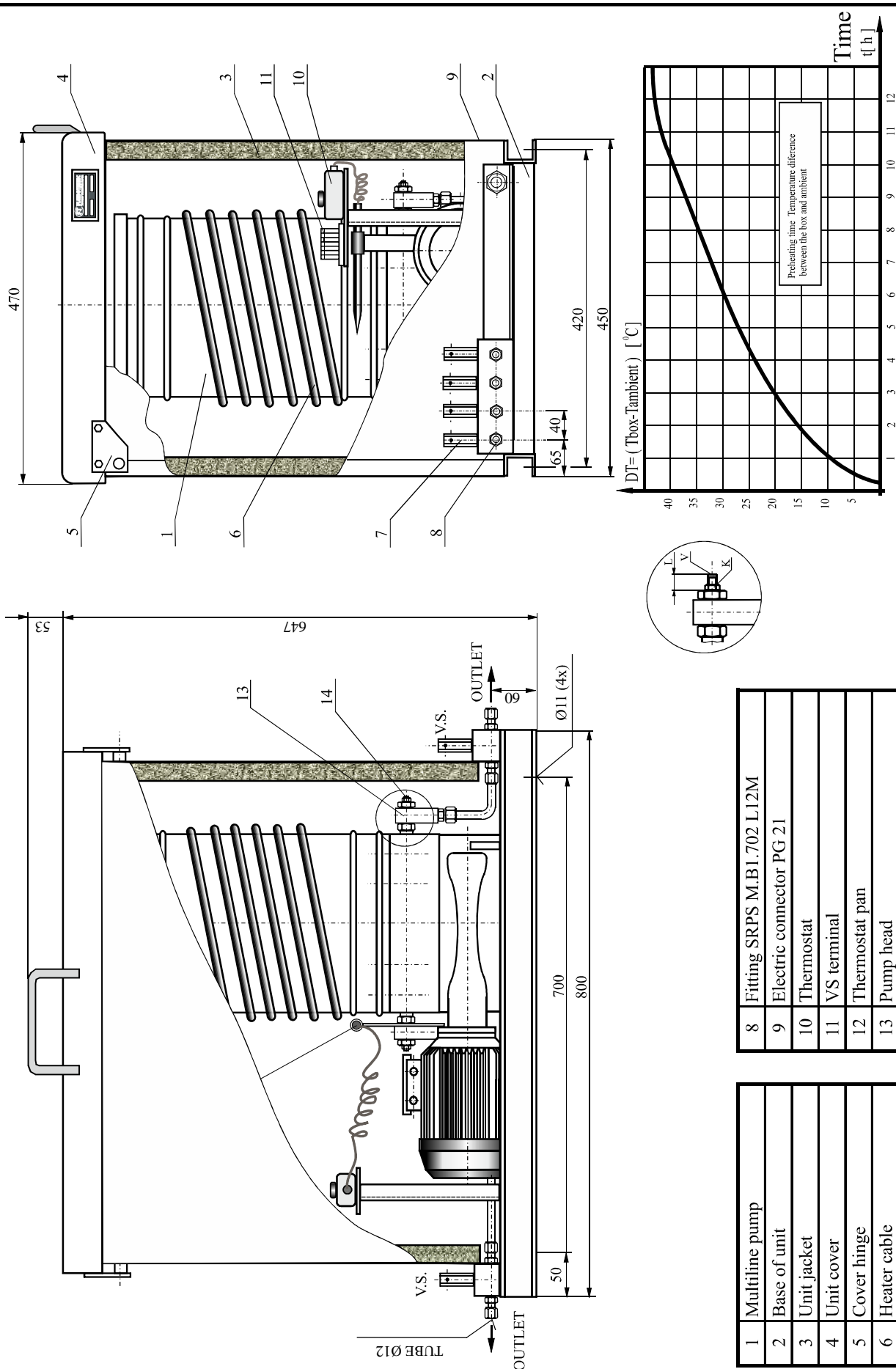


SERBIA

36210 VRNJACKA BANJA
Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com



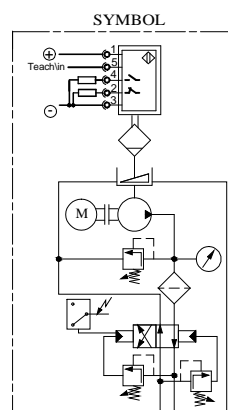
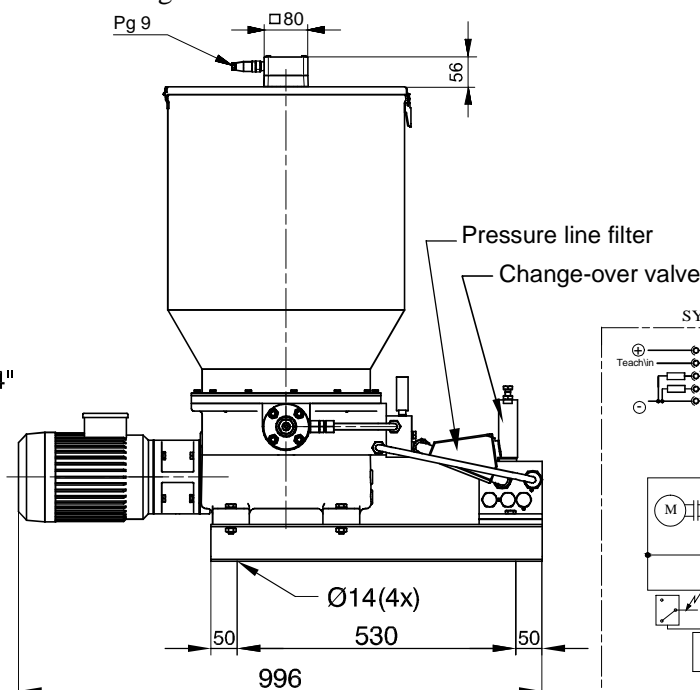
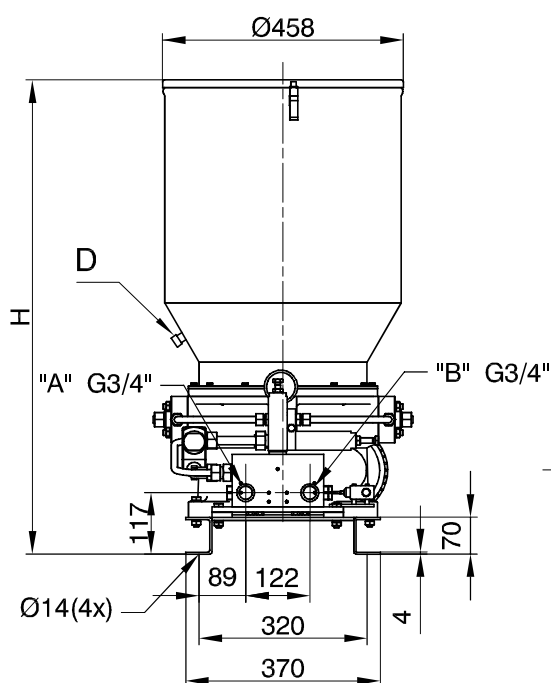
(WITH CHANGE-OVER VALVE)



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 dm³. 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.



Code	Flow	Max. Pressur e	Fluid			Electric motor			Ultrasonic level indicator "AU"	Electric indicator	Tank volume	H	Mass
	cm³/min		Grease	Oil visc.	Temperatur	Power	Rated speed	Voltage			dm³		kg
			NLGI	mm²/s	°C	kW	rpm	V					
10 - 2100	500	250	≤3	>32	-20 ; +80	1,1	1410	3x400/50Hz	10 do 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



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36210 VRNJACKA BANJA
Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com

COMPACT UNIT FOR CENTRALIZED LUBRICATION (WITH CHANGE-OVER VALVE)

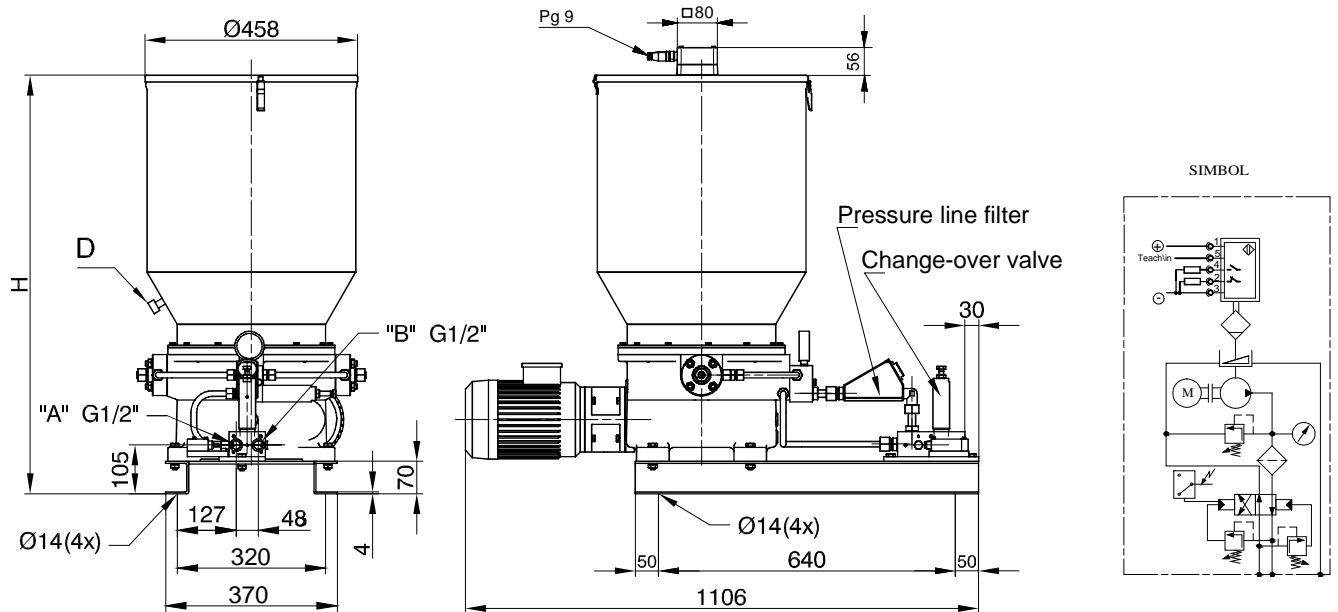


The compact unit is applied for oil and grease lubrication in two-line centralized systems. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). In the tank can be placed min/max level indicator, it can be used for automatic refill. 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 dm³. 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.



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



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**36210 VRNJACKA BANJA
Rudjinci 175/A**

tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com

COMPACT UNIT FOR CENTRALIZED LUBRICATION

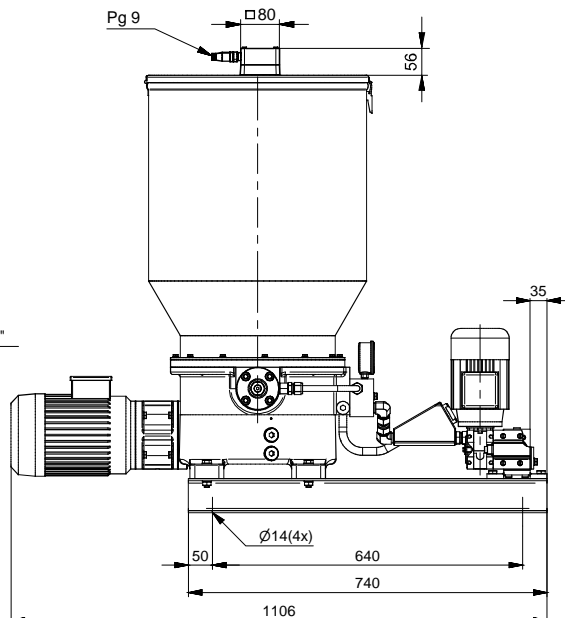
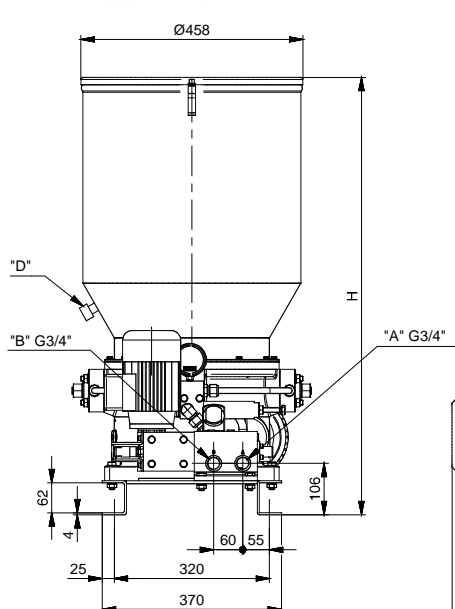
(WITH ELECTRIC DRIVEN CHANGE-OVER VALVE 400V)



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.

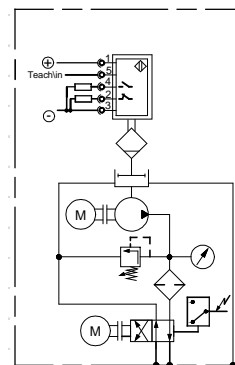
The tank filled through the port D (with seals cone 24° DIN 3901/3902 M26x1,5), using the charging pump. This is recommended to avoid particles and air in lubricant. This piston pump is equipped with pressure gauge and pressure relief valve to prevent the overload. For lubrication of gear unit of the 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.



Ordering code		10-2110	10-2110-1	10-2110/1	10-2110/1-1	10-2110/2	10-2110/2-1
Fluid	oil viscosity	>32 mm ² /s					
	grease NLGI	≤3					
	temperature	-25 ; +80 °C					
Work pressure		250 bar		300 bar		350 bar	
Flow		500 cm ³ /min		300 cm ³ /min		150 cm ³ /min	
Electric motor of pump		1,1KW		3x400V	50 Hz	1370 rpm	
Electric motor of change-over valve		0,09KW		3x400V	50Hz	1320 rpm	
Gear box ratio		100 : 1					
Switching time for change-over valve		2,3 s					
Electric indicator on change-over valve		max 220V 5A					
Ultrasonic level indicator		10 do 30V 200mA 2xPNP NO/NC					
Tank volume		50dm ³	80dm ³	50dm ³	80dm ³	50dm ³	80dm ³
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

SYMBOL:



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36210 VRNJACKA BANJA
Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com

COMPACT UNIT FOR CENTRALIZED LUBRICATION

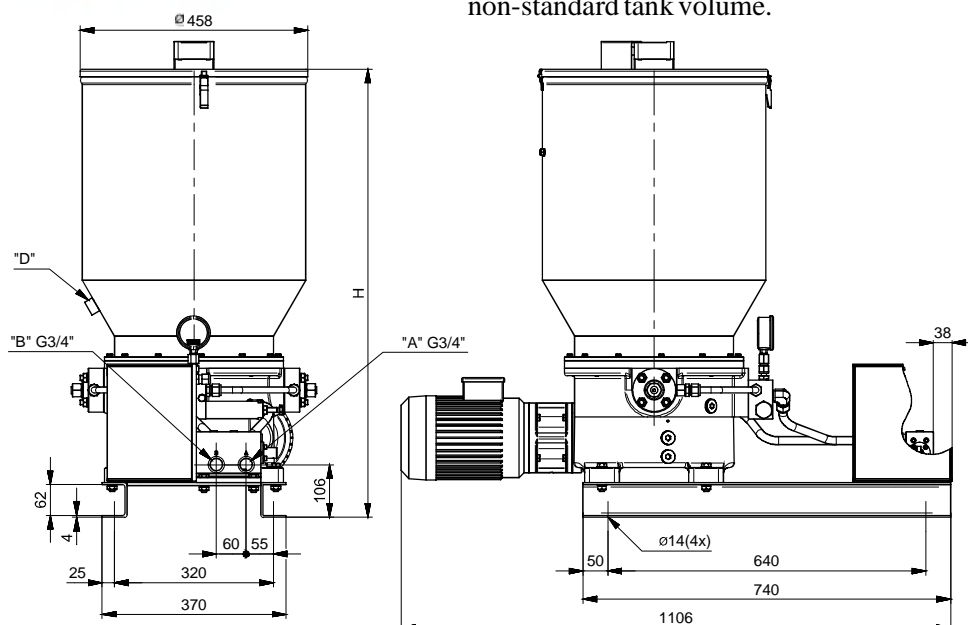
(WITH ELECTRIC DRIVEN CHANGE-OVER VALVE 24V DC / 230V AC)



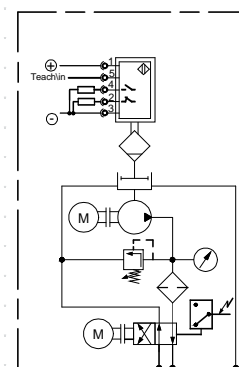
The compact unit is applied for oil and grease lubrication in two-line systems. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works, etc.) In the tank should be posed level indicator max/min (for automat. supplying). If it is required 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 dm³. 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.



SYMBOL:



Ordering code		10-2120	10-2120-1	10-2120/1	10-2120/1-1	10-2120/2	10-2120/2-1
Fluid	oil viscosity	>32 mm ² /s					
	grease NLGI	≤3					
	temperature	-25 ; +80 °C					
Work pressure		250 bar		300 bar		350 bar	
Flow		500 cm ³ /min		300 cm ³ /min		150 cm ³ /min	
Electric motor of pump		1,1KW 3x400V 50 Hz 1370 rpm					
Electric motor of change-over valve		24V DC 1,2A / 230V AC 0,25A					
Switching time for change-over valve		1,0 s					
Electric indicator on change-over valve		max 220V 5A					
Ultrasonic level indicator		10 do 30V 200mA 2xPNP NO/NC					
Tank volume		50dm ³	80dm ³	50dm ³	80dm ³	50dm ³	80dm ³
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



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36210 VRNJACKA BANJA
Rudjinci 175/A

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631 - 711

E-mail: office@fluidotehnic.com

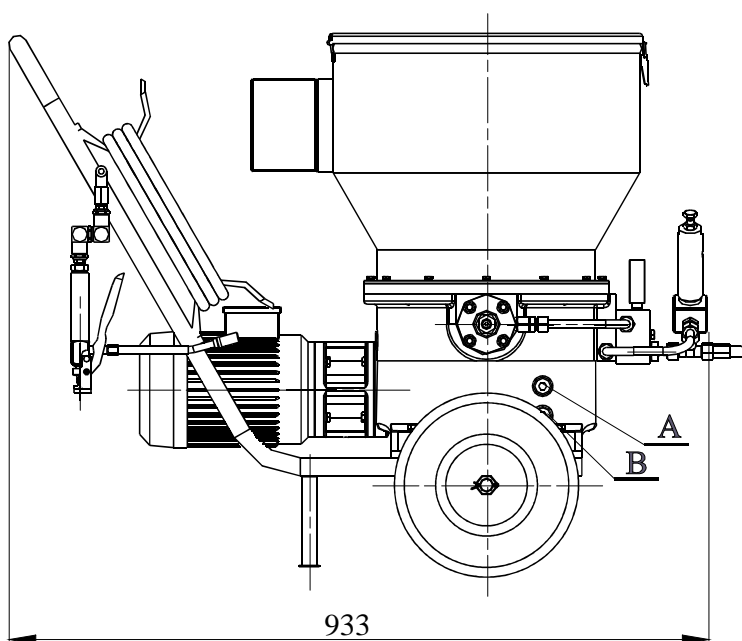
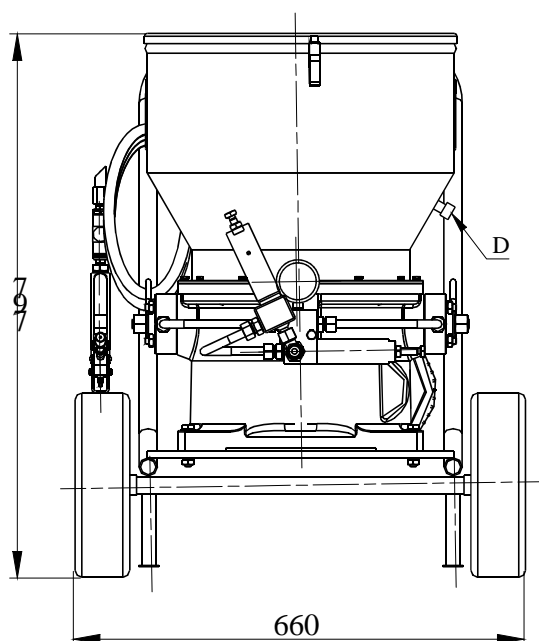
ELECTRIC COMPACT UNIT (FOR SINGLE GREASE LUBRICATION)

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.



Code	Flow cm ³ /min	Max pressure. bar	Fluid			Electric motor			Tank Volume dm ³	Mass kg
			Grease	Oil	Temperature	Power	Speed	Voltage		
			NLGI	mm ² /s	°C	kW	rpm	V		
10-2300	500	130	≤3	>32	-20 ; +60	1,1	1410	3x400/50Hz	50	97
10-2300/1	300	200								
10-2300/2	150	300								



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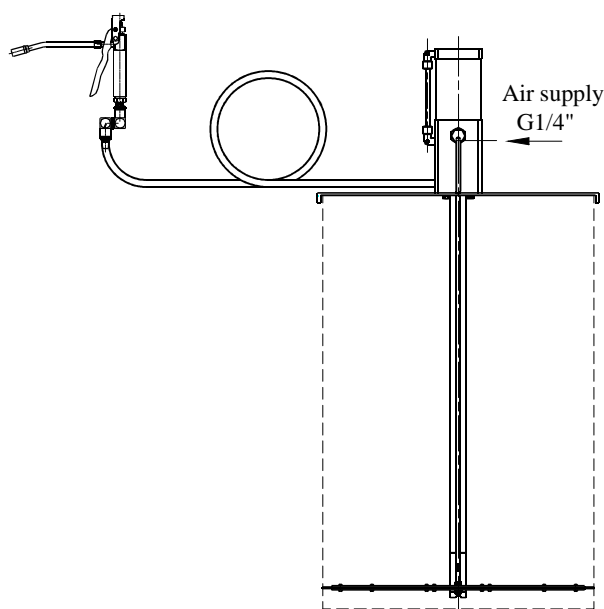
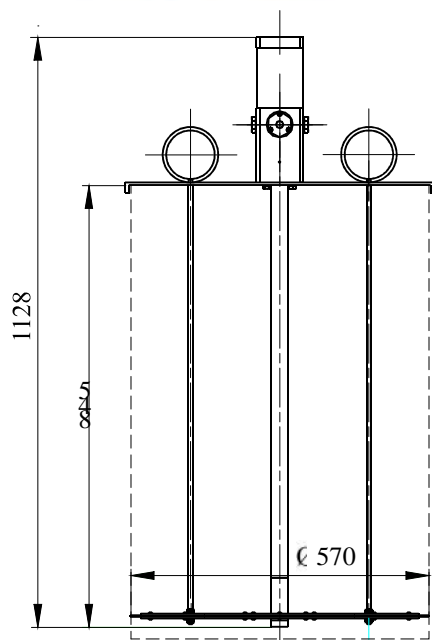
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PNEUMATIC DRIVEN PUMP FOR SINGLE LUBRICATION

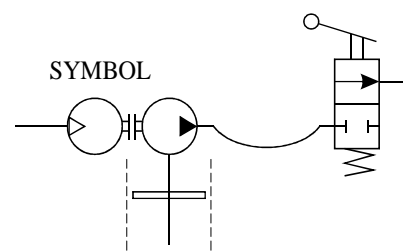


Pneumatic pump for single lubrication type 10-5100 is applied for single lubrication in service work- shops as well as in outdoor, where the supply of pressurized air is available. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This piston pump is designed to be directly mounted to a standard lubricant barrel of 200 dm³. Its 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 ² /s
	Grease	NLGI <3
	Temperature	-10 ; +60 °C
Air pressure	max. 6 bar	
Lubricant pressure	max. 400 bar	
Flow/cycle	5,5 cm ³	
Cycle per minute	120	
Lengh hose	15 m	
Mass	30 kg	



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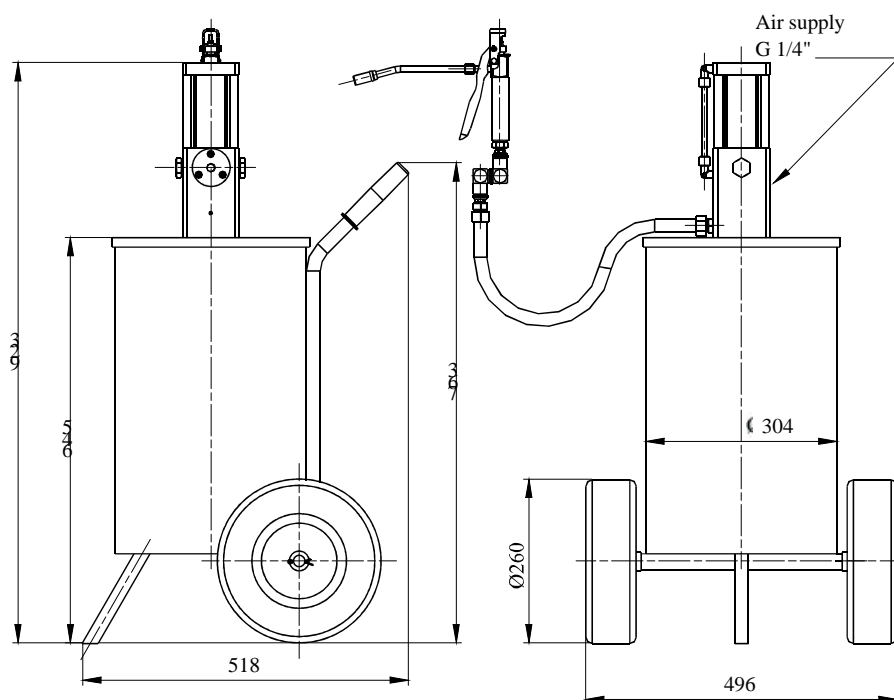
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PNEUMATIC POWER UNIT FOR SINGLE LUBRICATION ON CART

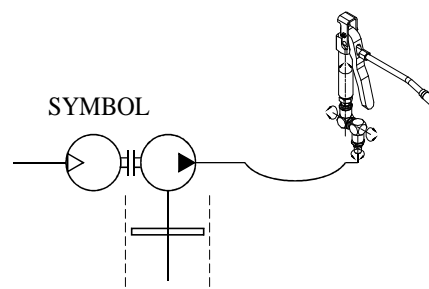


Pneumatic power unit for lubrication on cart is applied for single lubrication in service work-shops as well as in outdoor, where the supply of pressurized air is available. It is suitable for operation in very hard working conditions (excavators for surface exploitation, iron plants, cement works). This piston pump is designed to be directly mounted to a movable lubricant tank of 30 dm³. 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 ² /s
	Grease	NLGI <3
	Temperature	-10 ; +60 °C
Air pressure	max. 6 bar	
Lubricant pressure	400 bar	150 bar
Flow/cycle	5,5 cm ³	14 cm ³
Cycle per minute	120	
Tank volume	30 dm ³	
Mass	28 kg	



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36210 VRNJACKA BANJA

Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710

631 - 711

E-mail: office@fluidotehnic.com

ELECTRIC CONTROL UNIT



In the serial production there are units for two-lines, 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 all necessary indication, 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.

The 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	200 VAC to 660 VAC
	frequency	42 Hz to 60 Hz
	insulation	IP 55
	ambient temperature	-45 do +40 °C



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Rudinci 175 A

tel/fax: +381 - 36 - 631 - 710

631 - 711

E-mail: office@fluidotehnik.com

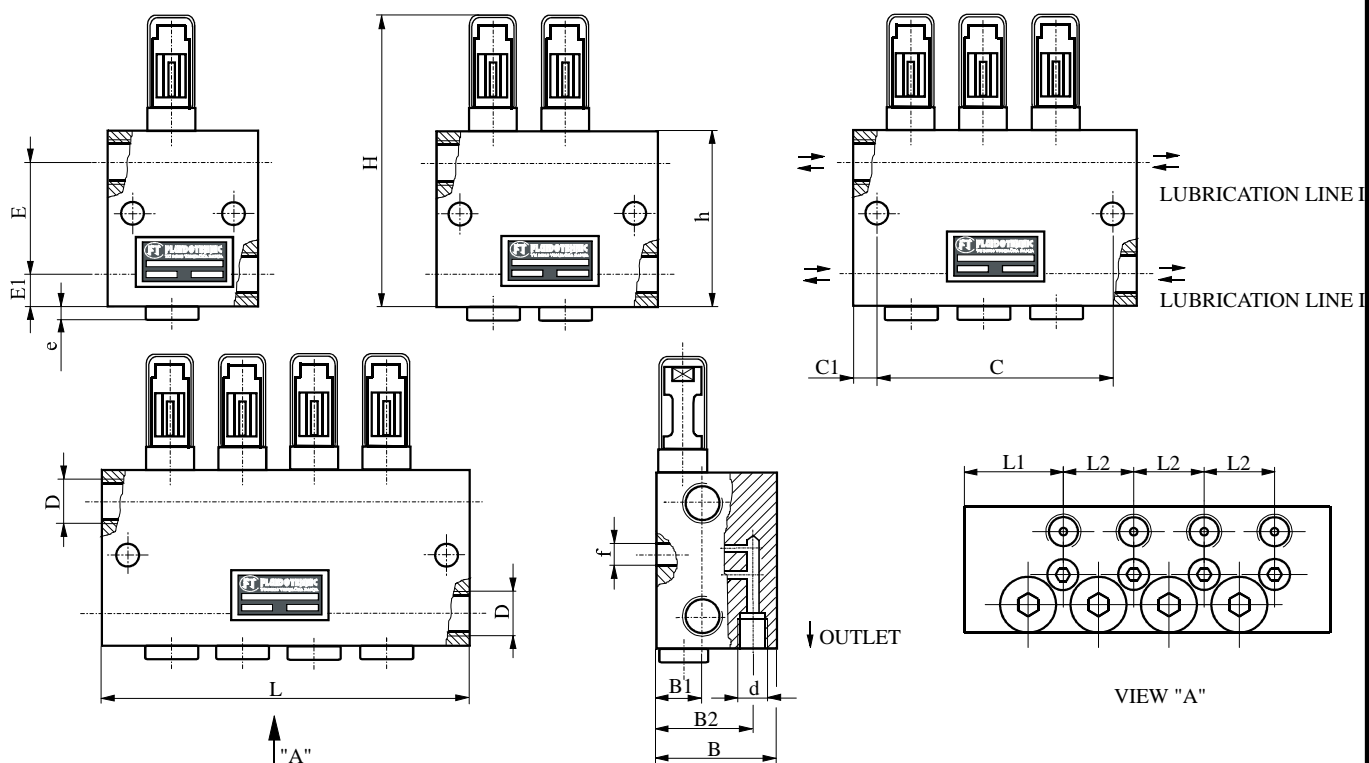
TWO - LINE DOSING DISTRIBUTORS



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 then montage plug screw in the one of the outputs, one 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	25	-	45	21	35	113	69	41	10	9	44	12,5	5	1,5
	10-1320	2			89		28						69						2,2
	10-1330	3			117								97						2,9
	10-1340	4			145								125						3,5
5	10-1410	1			68	30	-	51	27	41	131	80	48	10	9	55	12,5	5	2,4
	10-1420	2			100		32						80						3,3
	10-1430	3			132								112						4,3
	10-1440	4			164								144						5,4
10	10-1520	1			100	30	-	51	27	41	131	80	80	10	9	55	12,5	5	3,3
	10-1540	2			164		64						144						5,4
25	10-1610	1					67	42	-	67	42	56	208	125	0	57	9	97	14



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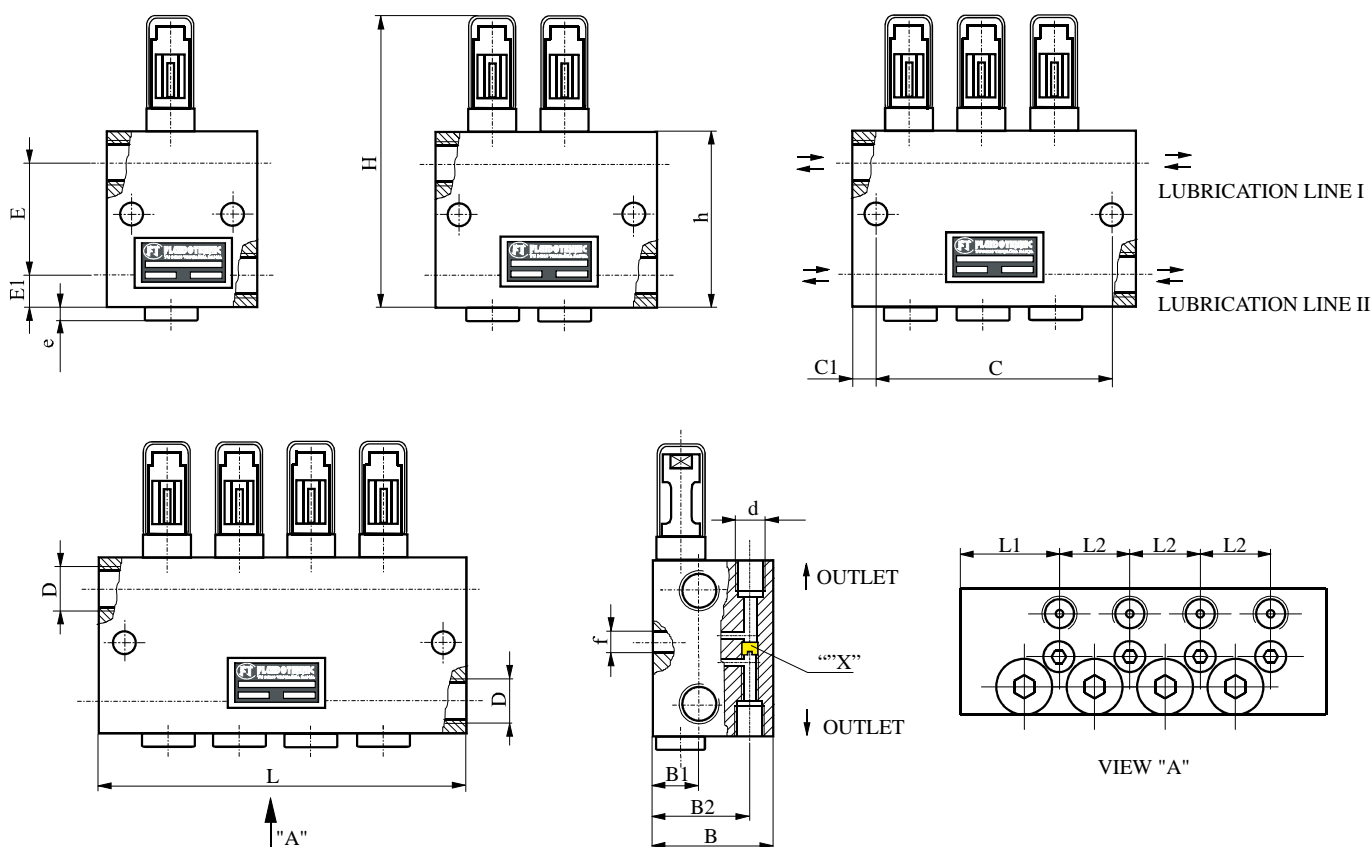
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Size	Code	Number of lubricant points	D	d	L	L1	L2	B	B1	B2	H	h	C	C1	f	E	E1	e	Mass (kg)
2	10-1310-2	2	G 3/8"	G 1/4"	61	25	-	45	21	35	113	69	41	10	9	44	12,5	5	1,5
	10-1320-2	4			89		28						69						2,2
	10-1330-2	6			117		97						2,9						
	10-1340-2	8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

TECHNICAL DATA

Size NV	2	5	10	25
oil viscosity	> 13 mm ² /s			
Lubricant greas.	NLGI < 3			
temperature	-30 ; + 80 °C			
Working pressure	10 - 400 bar			
Adjustment range	0,5 - 2 cm ³ /cycle	1,5 - 5 cm ³ /cycle	3,0 - 10 cm ³ /cycle	5,0 - 25 cm ³ /cycle



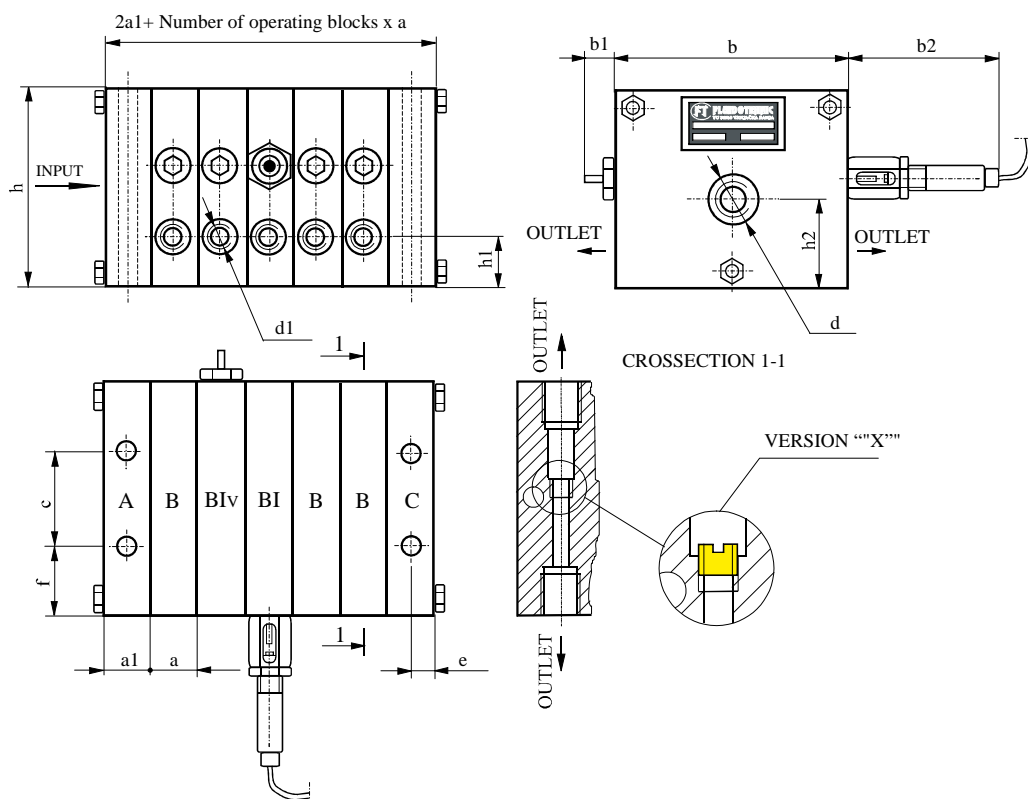
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 Rudjinci 175/A
 tel/fax: +381 - 36 - 631 - 710
 631 - 711
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PROGRESSIVE DOSER DISTRIBUTORS

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
Lubricant	Oil viscosity	$>13 \text{ mm}^2/\text{s}$	
	Grease	NLGI <3	
	Temperature	$-30 ; +80 ^\circ\text{C}$	
Operating pressure		10 - 250 bar	10 - 350 bar
Flow rate	Oil	$500 \text{ cm}^3/\text{min}$	$2000 \text{ cm}^3/\text{min}$
	Grease	$50 \text{ cm}^3/\text{min}$	$200 \text{ cm}^3/\text{min}$
Inductive transducer	Voltage	12 - 24 V DC	
	Current	200 mA	
	type	NO PNP	
Mass of the block		0,4 kg	0,9 kg



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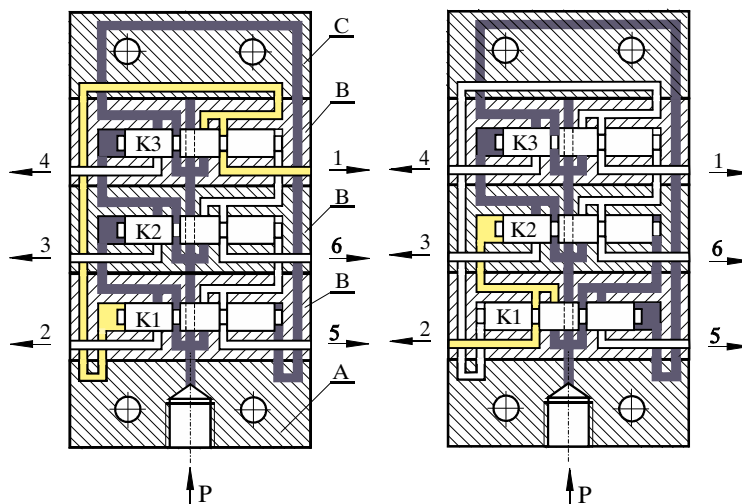
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TYPE	d	d1	a	a1	b	b1	b2	c	f	h	h1	h2	e
PD1	G 1/4"	R 1/8"	22	20	58	12	100	22	18	52	12	22	10
PD2	G 3/8"	R 1/4"	26	25	84	12	100	34	25	65	16	28	12,5

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.



Designation:

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:

DOZER  -  /  - D /  / ... - L /  / ... - 

Type: PD1, PD2 _____

Number of operating blocks B : 3 to 12 _____

Number of outlet ports: 2 to 24 _____

Volumes at outlets, right and left : cm³ x 10 _____


Operating indicator _____


- = none
I = electrical
Iv = 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 WORK BLOCKS "B"			
PD1		PD2	
Code	cm ³ /stroke	Code	cm ³ /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		

Blocks Inlet block A -  Type: PD1, PD2

Final block C - 

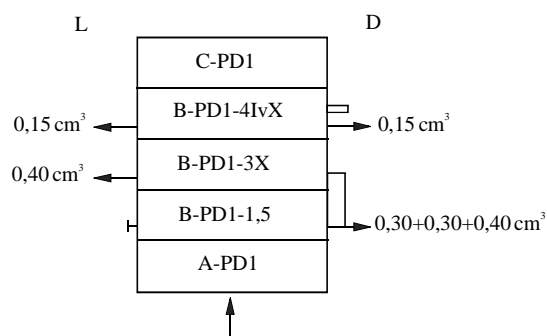
Operating block B -  -  -  - 

Dosing designation _____

Operating indicator _____

Internal outl. blocking _____ X blocked - opened

Example



Dose distributor PD1-3/4-D/10/0/1.5-L/0/4/1.5-Iv



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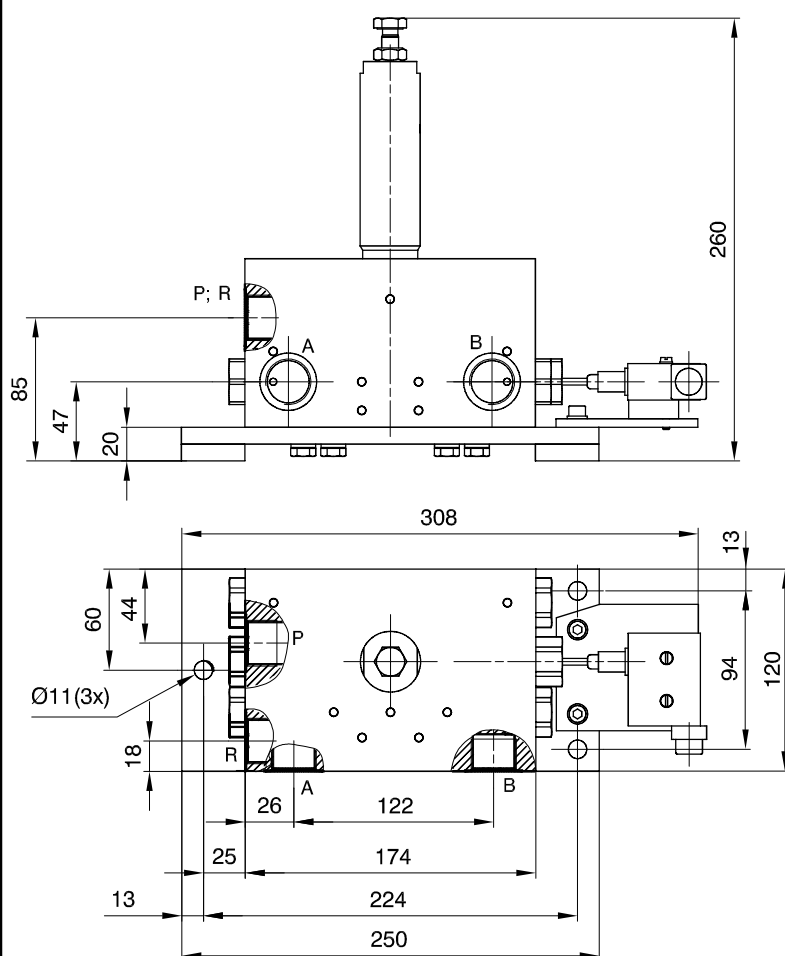
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CHANGE-OVER VALVE

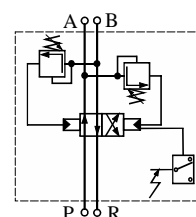
10-0650

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 ² /s
	Grease	NLGI <3
	Temperature	-30 ; +80 °C
Operating pressure	50 - 350 bar	
Flow rate	max. 40 dm ³ /h	
Connecting ports	G 3/4 "	
Electric indicator	max. 220 V 5 A	
Mass	18,5 kg	



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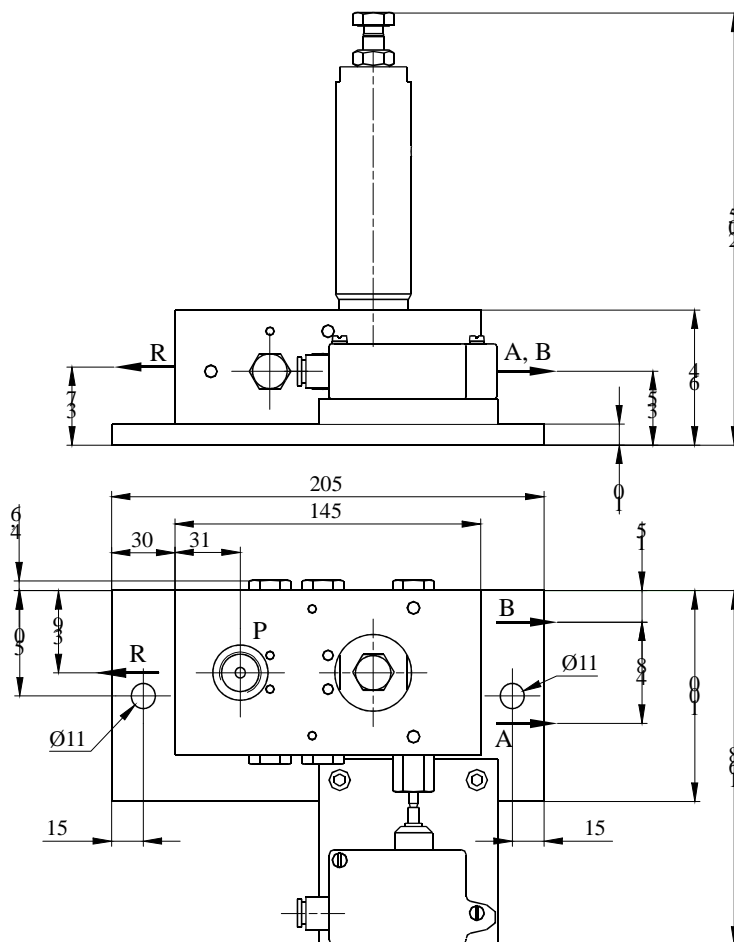
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HYDRAULIC CHANGE-OVER VALVE

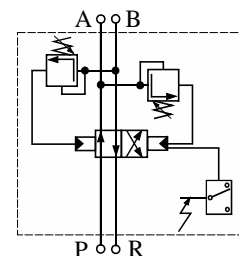
10-0625

The hydraulic 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, 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 ² /s
	Grease	NLGI <3
	Temperature	-30 ; +80 °C
Operating pressure		50 - 350 bar
Flow rate		max. 14 dm ³ /h
Connecting ports		G1/2 "
Electric indicator		max. 220 V 5 A
Mass		7,3 kg



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 631 - 711
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TWO-LINE ELECTRIC DRIVEN CHANGE-OVER VALVE 24V DC/230V AC

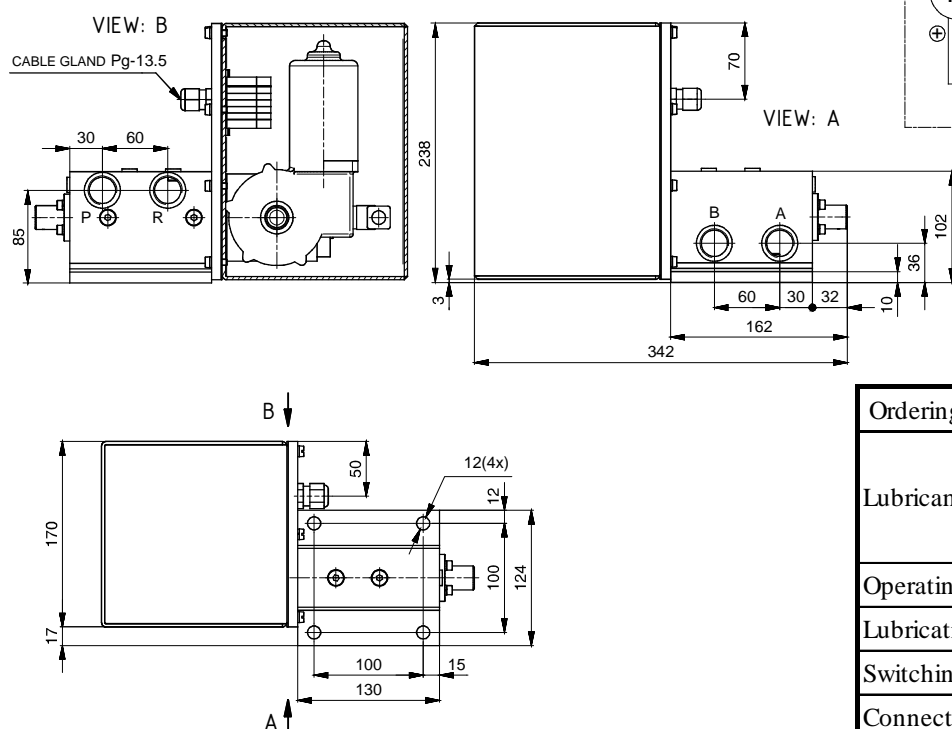
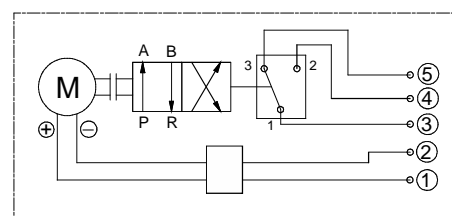


The two-line electric driven change-over valve is applied for grease lubrication systems. After the lubrication cycle of one line, pressure switches send a signal to control unit to turn off the pump and start the change-over valve motor. Then lubrication cycle transmits to second line. After the pause, the cycles continue 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

SYMBOL:



Ordering code		10-2725
Lubricant	oil viscosity	>13 mm ² /s
	grease NLGI	NLGI <3
	temperature	-30 do +80 ⁰ C
Operating pressure max.		400 bar
Lubrication flow max.		65 dm ³ /h
Switching time		1 s
Connecting port		G 3/4"
Electric indicator		250V 5A
Electric motor	voltage	24V DC/230V AC
	current	1,1A/0,25A
	speed	30 rpm
Mass		15,5 kg



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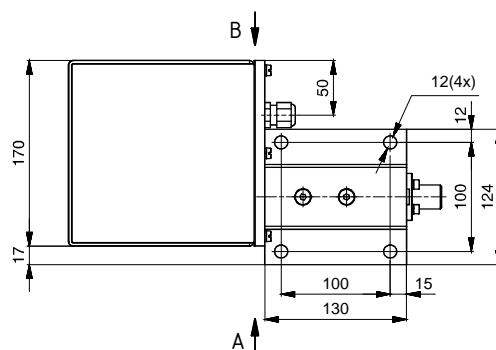
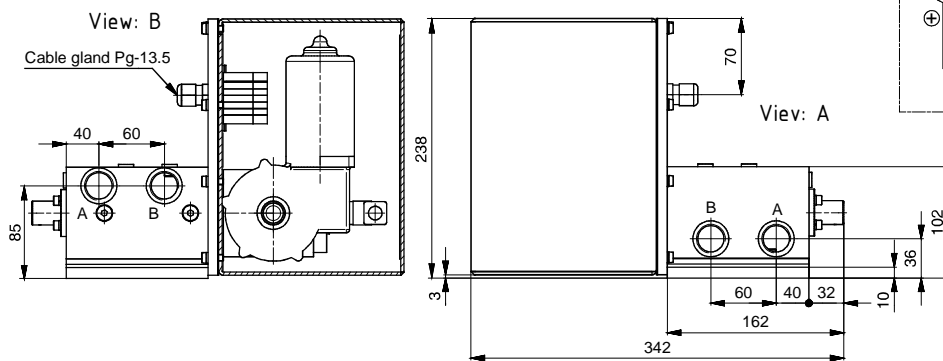
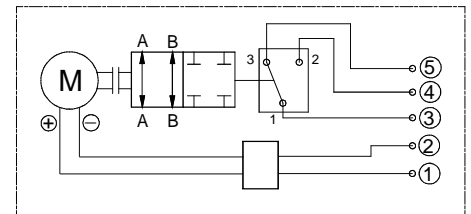
TWO-LINE ELECTROMOTIVE TAP 24V DC/230V AC



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. Electric motor voltage is 24V DC or 230V AC.

When ordering, it should be noted supply voltage.

SIMBOL:



Ordering code		10-2740
Lubricant	oil viscosity	>13 mm ² /s
	grease NLGI	NLGI <3
	temperature	-30 do +80 ⁰ C
Operating pressure max.		400 bar
Lubrication flow max.		65 dm ³ /h
Switching time		1,0 s
Connecting port		G 3/4"
Electric indicator		250V 5A
Electric motor	voltage	24V DC/230V AC
	current	1,1A
	speed	30 rpm
Mass		15,5 kg



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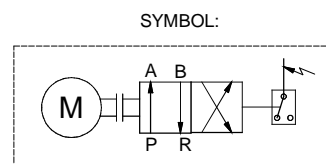
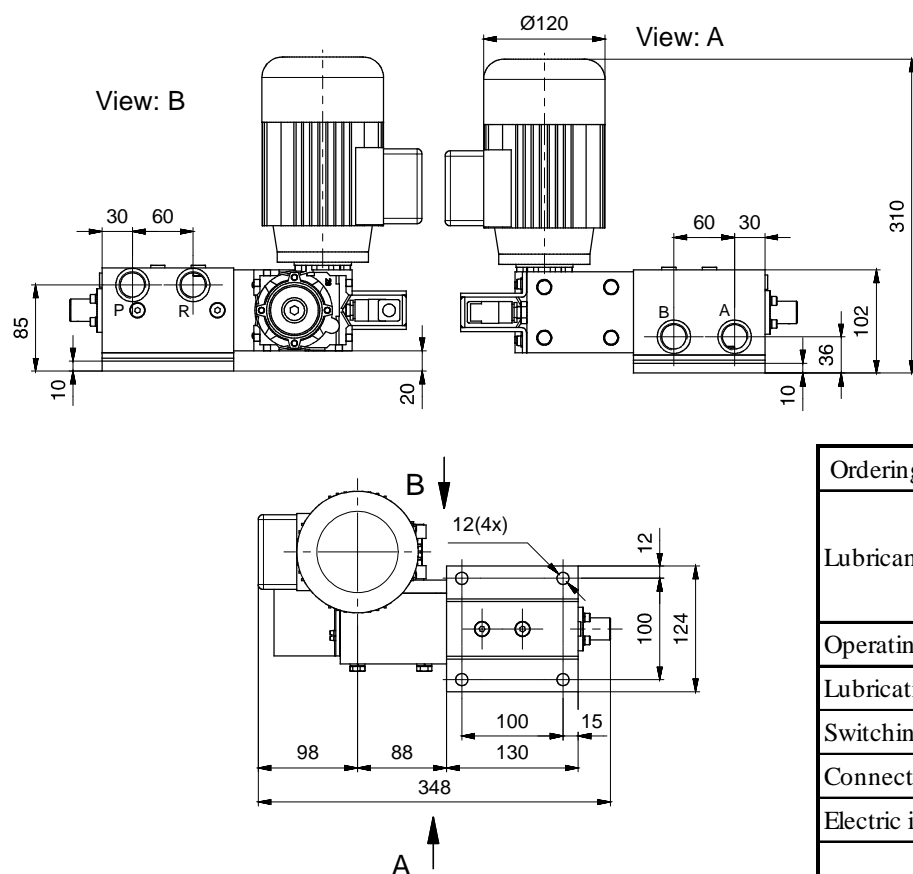
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TWO-LINE ELECTRIC DRIVEN CHANGE-OVER VALVE



The two-line electric driven change-over valve is applied for grease lubrication systems. After the lubrication cycle of one line, pressure switches send 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 continue 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.



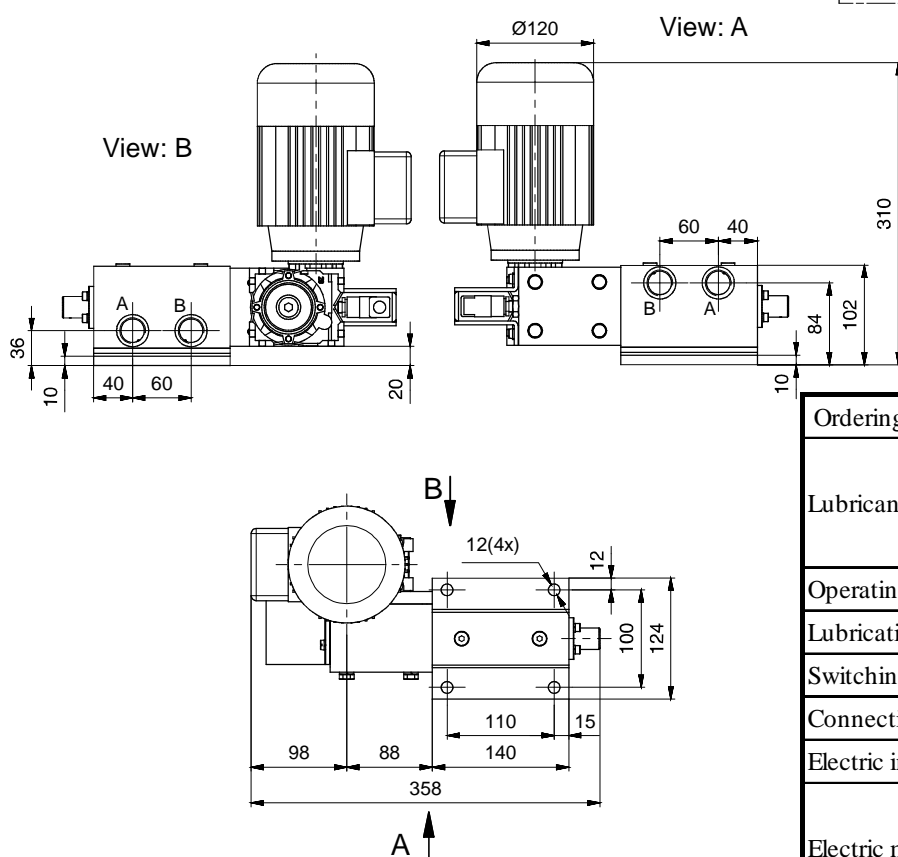
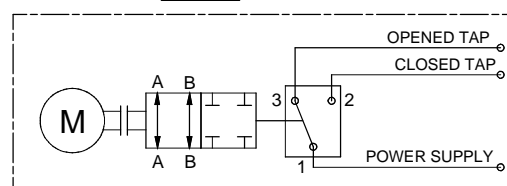
Ordering code		10-2750
Lubricant	oil viscosity	>13 mm ² /s
	grease NLGI	NLGI <3
	temperature	-30 do +80 ⁰ C
Operating pressure max.		400 bar
Lubrication flow max.		65 dm ³ /h
Switching time		2,0 s
Connecting port		G 3/4"
Electric indicator		250V 5A
Electric motor	voltage	3x400V 50Hz
	current	0,09 KW
	rpm	1420 rpm
Gear box ratio		100:1
Mass		12,9 kg

TWO-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.

SYMBOL:



Ordering code		10-2780
Lubricant	oil viscosity	>13 mm ² /s
	grease NLGI	NLGI <3
	temperature	-30 do +80 ⁰ C
Operating pressure max.		400 bar
Lubrication flow max.		65 dm ³ /h
Switching time		2,0 s
Connecting port		G 3/4"
Electric indicator		250V 5A
Electric motor	voltage	3x400V 50Hz
	current	0,09 KW
	rpm	1420 rpm
Gear box ratio		100:1
Mass		13,3 kg



SERBIA

36210 VRNJACKA BANJA
Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710
631 - 711

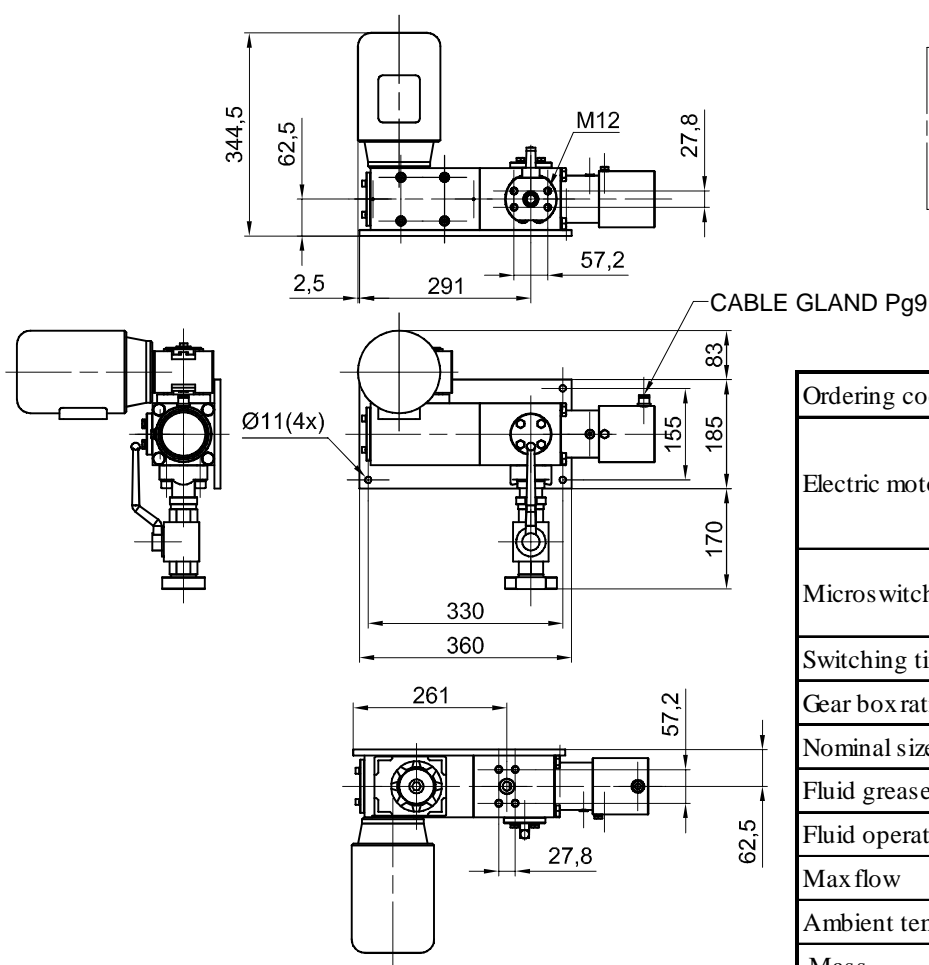
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ELECTROMOTIVE TAP

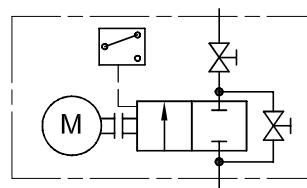


Electromotive tap is used to central refill (supplement) system of grease pumps. When a level of grease in the certain lubricating pump is lowered to a minimum, electric control unit gives command to open the tap and includes a central pump for refill. When a level of grease come to maximum, the tap 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



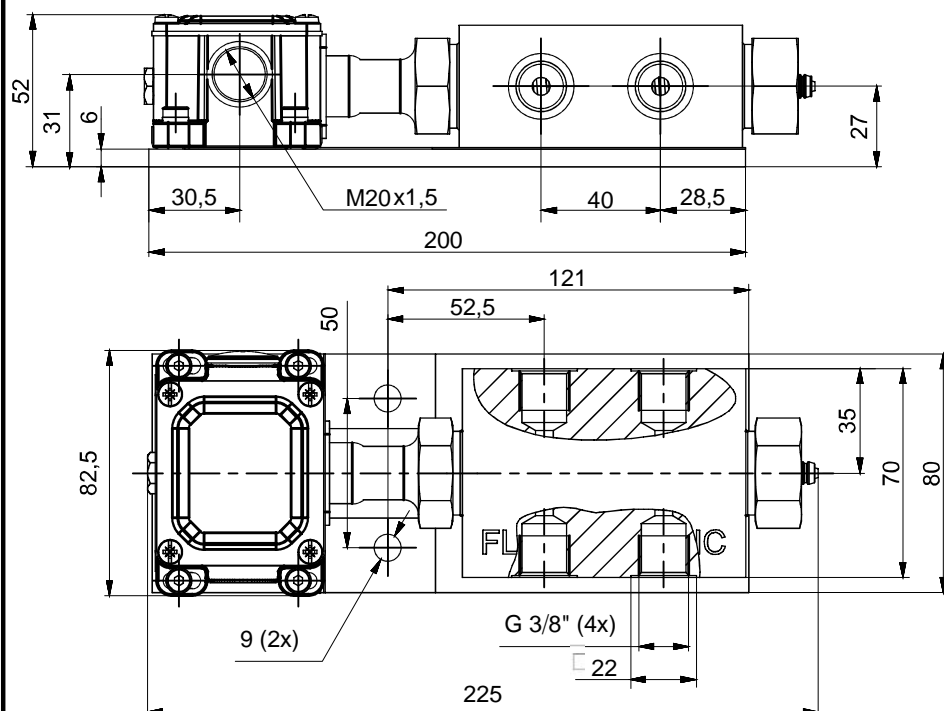
Ordering code		543-6500
Electric motor	Voltage	3x400 V 50 Hz
	Power	0,09 KW
	speed	670 rpm
Microswitch	Voltage	250 V AC
	max.current	10A
Switching time		4,3 s
Gear box ratio		100:1
Nominal size		NO 25
Fluid grease		NLGI <3
Fluid operating pressure		max. 400 bar
Max flow		6 dm ³ /min
Ambient temperature		-30 ; +80 °C
Mass		46 kg

CONTROLN DEVICE (DIFFERENTIAL PRESSURE SWITCH)

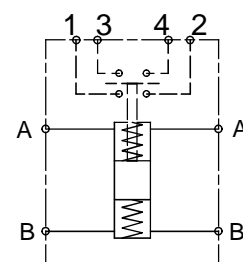


Control device (differential pressure switch) is electrohydraulic component whose task is to send information about the achieved differential pressure at the two-line lubrication systems. In this way it is guaranteed that it reached an appropriate differential pressure in the main lines, and thus activating 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	$>13 \text{ mm}^2/\text{s}$
	grease	$\text{NLGI} \leq 3$
	temperature	$-30 ; +80 ^\circ\text{C}$
Differential pressure		50 bar
Differential pressure on request		100 bar
Max allowed pressure		400 bar
Connecting ports		G 3/8"
Switching frequency		120 cycle/min
Electric indicator	voltage	max 500 V
	current	max 15A
	insulation	IP 65 acc. to IEC/EN 60529
	mech. endurance	10.000.000 work cycle
Mass		3,0 kg



SYMBOL:



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SRBIJA

36210 VRNJAČKA BANJA

Rudinci 175 A

tel/fax: +381 - 36 - 631 - 710

631 - 711

E-mail: office@fluidotehnic.com

PRESSURE SWITCH

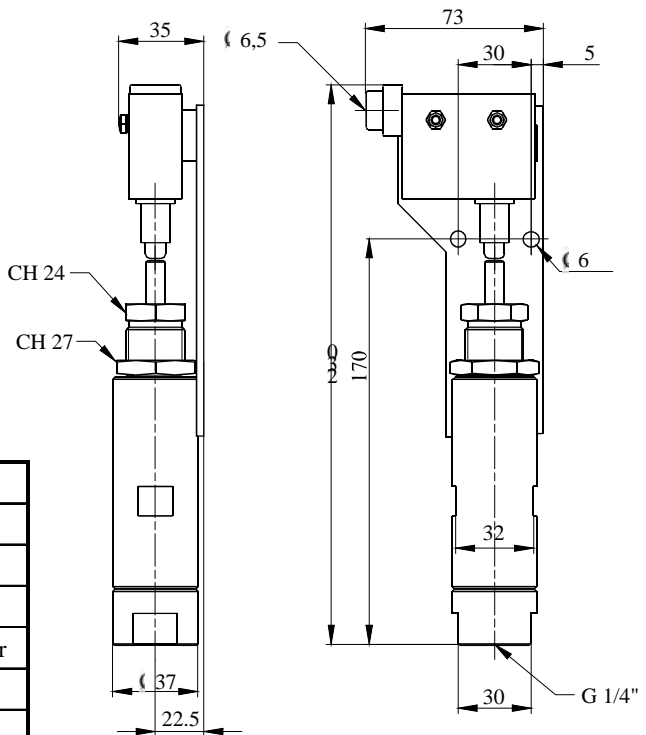
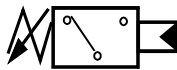


Pressure switch is electro hydraulic component with the task to send information about the achieved in advance specified pressure in the hydraulic or lubrication installation. Because of very precisely piston treatment and very small gap between piston and housing of few μm , any seal is not necessary.

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	$>13 \text{ mm}^2/\text{s}$	
	Grease	NLGI <3	
	Temperature	$-30 ; +80 ^\circ\text{C}$	
Operating pressure	50 - 200 bar	100 - 400 bar	15 - 60 bar
Connecting port	G1/4"		
Switching frequency	120 cycle/min		
Max voltage	250 V		
Max current	10 A		
Mass	1,1 kg		

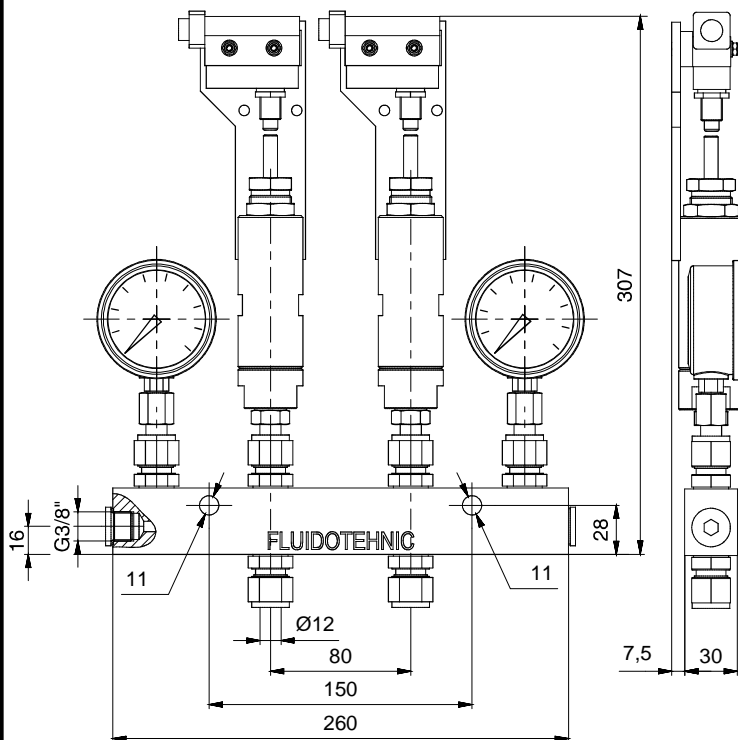
CONTROL DEVICE (FOR TWO-LINE GREASE LUBRICATION SYSTEMS)



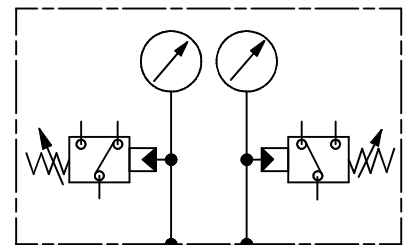
Control device 10-0140 is applied for two-line grease lubrication systems. It is capable for operation in most hard conditions such as in surface exploitation plants, mines, iron plants and cement works.

Adjusting range of the pressure switches is from 50 to 400bar. 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.



SYMBOL:



Ordering code	10 - 0140	10 - 0140/1
Fluid	Oil viscosity	>13 mm ² /s
	Grease.	NLGI <3
	Temperature	-30 ; +80 °C
Operating pressure	50 - 200 bar	100 - 400 bar
Connecting ports	SRPS M.B.6.716 T12 (G3/8")	
Electric indicator	max. 220 V 5 A	
Mass	5,8 kg	



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36210 VRNJACKA BANJA

Rudjinci 175/A

tel/fax: +381 - 36 - 631 - 710

631 - 711

E-mail: office@fluidotehnic.com

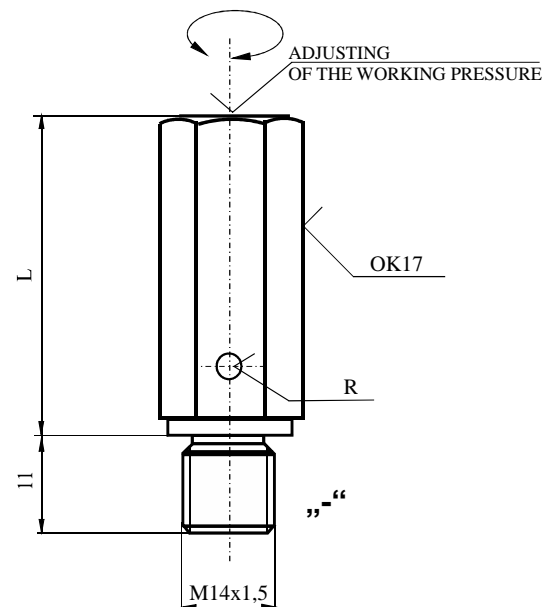
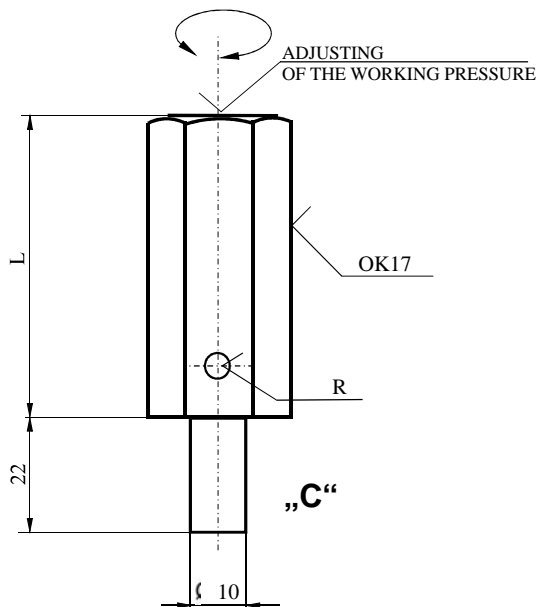
PRESSURE RELIEF VALVE



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:

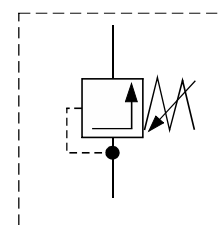
- safety valve with connection pipe F10
- safety valve with connecting thread M14x1,5

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



Ordering code	"C"	10 - 0400 C	10 - 0400/1 C	10 - 0400/2 C
	-	10 - 0400	10 - 0400/1	10 - 0400/2
Fluid	oil viscosity	>13 mm ² /s		
	grease	NLGI ≤3		
	temperature	-30 ; +80 °C		
Operating pressure		100 - 300 bar	10 - 70 bar	150 - 450 bar
Flow rate		NO3	NO4	NO3
L		45 mm	51 mm	59 mm
Connecting port		M14x1,5		
Mass		~ 0,1kg		

SYMBOL:

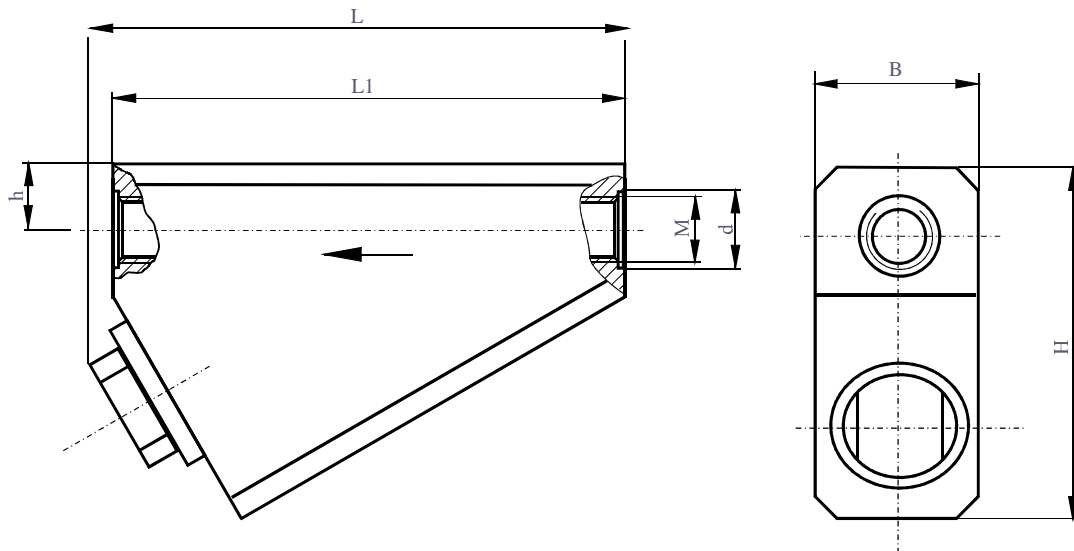


PRESSURE LINE FILTER (FOR GREASE LUBRICATION SYSTEMS)

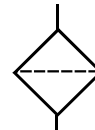
Pressure line filter is applied for grease lubrication systems. It is capable for operation in very hard conditions. The filter can be assembled in pressure line in any position. Flow direction is indicated by the arrow on the filter body. The filter cartridge is made of high strength wire cloth. Periodically 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 cm³/min
- for the flow rate up to 100 cm³/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.



SYMBOL:



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

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



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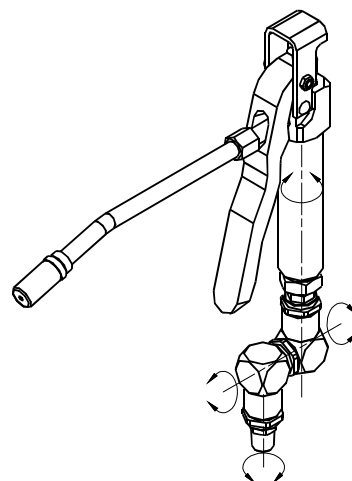
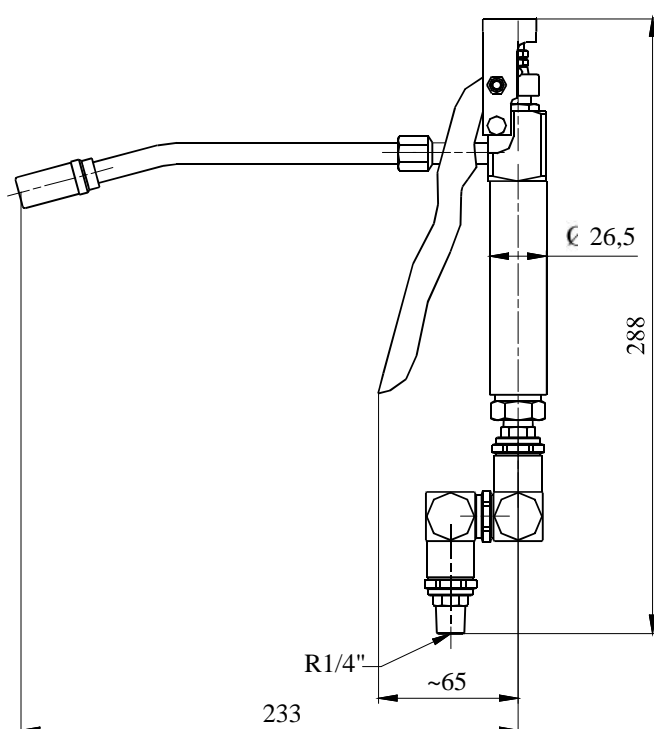
tel/fax: +381 - 36 - 631 - 710
631 - 711

E-mail: office@fluidotehnic.com

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 high-pressure 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.



Gun hand set		Gun set	Gun	Swivel joint
Ordering code		11-1500	11-1510	11-1520
Fluid	Grease NLGI	≤ 3		
	Temperature	$-30 ; +80^{\circ}\text{C}$		
Max operating pressure		500 bar		
Connecting ports		R1/4" kon.	G1/4"	R1/4" kon.
Mass		1,3 kg	1,0 kg	0,3 kg



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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

Šif.delatnosti: 2822

PIB: 100918689

Reg.br.: 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 product

Izjavljujemo da su sledeći uređaji

Electric driven pump for grease lubrication (Elektromotorne pumpe za podmazivanje mastima)

Power unit for oil lubrication (Elektromotorni uređaji za podmazivanje uljima)

Pneumatic pump for lubrication (Pneumatske pumpe za podmazivanje mastima)

Two line dosing distributors (Dvolinijski dozatori)

Progressive dozer distributors (Progresivni dozatori)

Change-over valve (Hidraulički razvodnici)

Electric driven change-over valve (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/2006/95

(Niskonaponska direktiva EC/2006/95)

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 60204-1:2006

Bezbednost mašina - Električna oprema mašina - Deo 1: EN 60204-1:2006

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) Annex 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 (2006/42/EC).

Vrnjačka Banja, 01/02/2015



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.



Assembling of the lubrication system for tracked in Prim d.o.o. Kostalac for surface mining Drmno, SERBIA

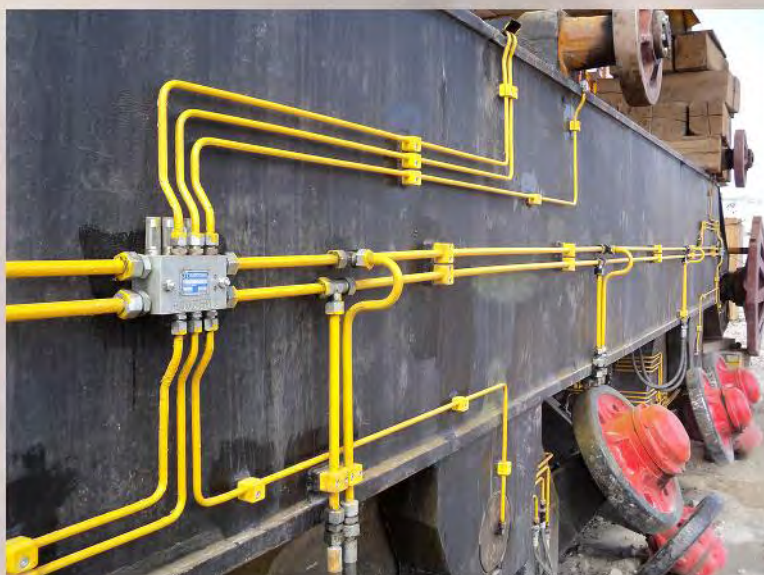
Assembling of crane in Niznjitagil Metallurgical Combine, RUSSIA



Assembling of the coke unit in Gosa FOM Smederevska Palanka for iron plant Krivi Rog, RUSSIA



Part of the installation for lubrication of excavator's undercarriage for surface mine „Gracanica“ Gacko, REPUBLIKA SRPSKA-Bosnia and Herzegovina



Mounting of central system for lubrication of reloading machine for surface mine „Gracanica“ Gacko, REPUBLIKA SRPSKA-Bosnia and Herzegovina

Assembling of central lubrication system on P&H excavator in RTB Bor, SERBIA



PRODUCTION PROGRAM

- Electric driven and hydraulic grease change-over valves (reversing valve) for two-lines systems, working pressure up to 350 bar;
- Two-lines and progressive dosing distributors, working pressure up to 350 bar;
- Pressure switches, working pressure from 0,5 to 400 bar;
- Pressure relief valves, working pressure from 10 to 400 bar;
- Flow indicators for oil;
- Control devices for lubrication installations work control;
- Oil and grease filters of various technical characteristics;
- Special devices and parts on customer request.



- Electric driven multiline pumps for oil and grease lubrication, from 1 to 30 lines, working pressure up to 350 bar;
- Electric driven pumps for two-lines grease lubrication, working pressure up to 400 bar;
- Hand operated pumps for two-lines grease lubrication, working pressure up to 200 bar;
- Electric driven power units for single grease lubrication;
- Power units for oil circulating lubrication, working pressure of 20 bar, flow rate from 10 to 100 l/min;
- Pneumatic pumps for single grease and oil lubrication and lubricant transfer up to 400 bar



Due to installation on equipment of great importance, the most important requirements for lubrication devices are high quality and full reliability. The testing of the parts and manifolds is 100%. After assembling, characteristics of each product are checked on testing device. The results processed by computer are the enclosed to delivered product.



FLUIDOTEHNIC



SERBIA
36210 VRNJACKA BANJA
Rudjinci 175/A

tel/fax +381-36-631-710
631-711
631-712

Web: www.fluidotehnic.com
E-mail: office@fluidotehnic.com

ŠTAMPA 11/2015