

# SYSTEM LUBRICATION DUAL LINE

CATALOG No. 803/20

# 20



**ADVANCED FLUID  
MANAGEMENT SOLUTIONS**

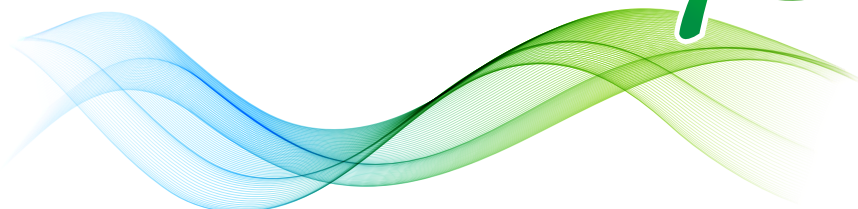




## HELP THE NATURE

Packaging contains, depending on the articles, one or more of the following materials; they must be recycled in accordance with current regulations in the country of use.

cardboard • polyethylene sack • polystyrene  
paper • wood • nails • plastic strap  
cellophane • clips • gummed paper







**ADVANCED FLUID  
MANAGEMENT SOLUTIONS**



DESIGN IS AN

*Art*







founded in 1975





*the human side  
of Quality*





# STUDY, RESEARCH AND DESIGN

The real strength of a firm starts with the ability of its study and research departments to always find the most suitable solutions to address market demands.



# TESTING AND INSPECTIONS

A sophisticated test room enables careful testing of the quality of new products before they are put on the market.

# ASSEMBLY LINES

Dedicated equipment specially designed to facilitate assembly operations, at the same time allowing an effective and automatic control of quality.





# STORAGE OF COMPONENTS

Our vertical stores enable quick and careful preparation of the components and spare parts intended for assembly and sale.



**TECHNOLOGY**  
**INNOVATION**  
**QUALITY**  
**SAFETY**  
**RELIABILITY**



# TECHNICAL ASSISTANCE

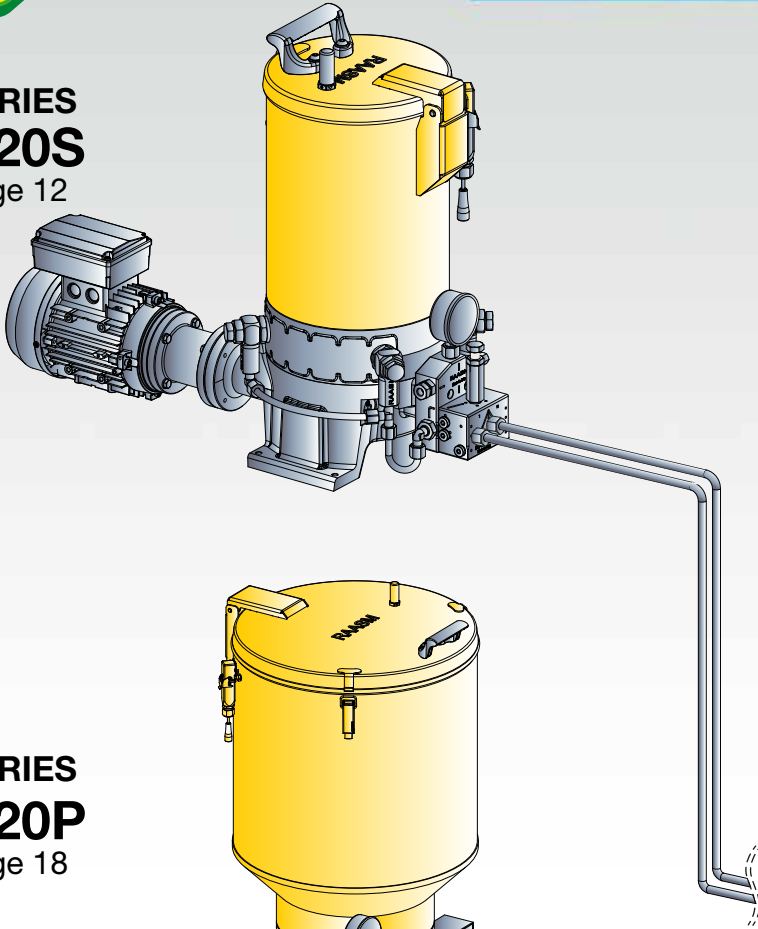
**RAASM** has the most complete range of products for lubrication and the dispensing of fluids. The aim is to always respond fully to the questions of our customers and meet all their needs.



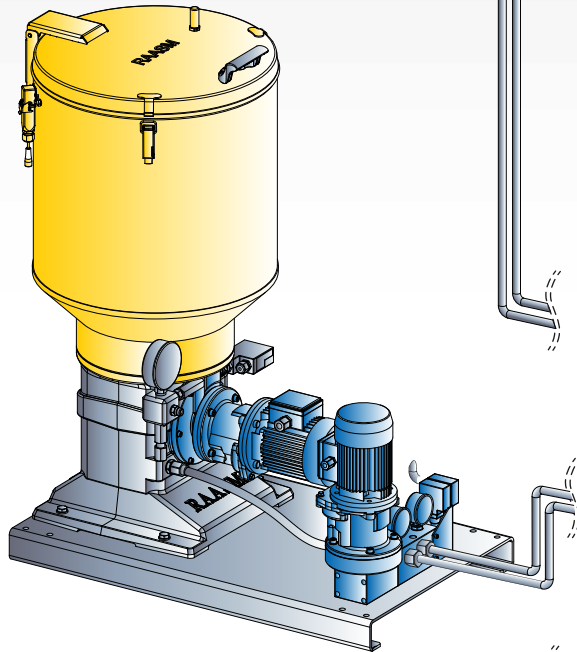


# SYSTEM 20 DUAL LINE

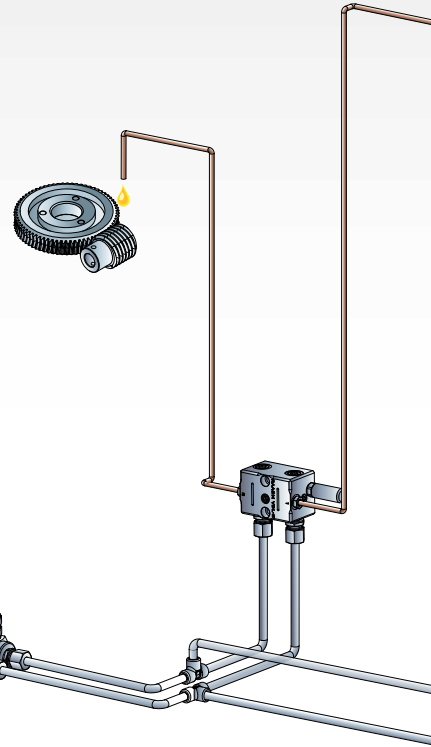
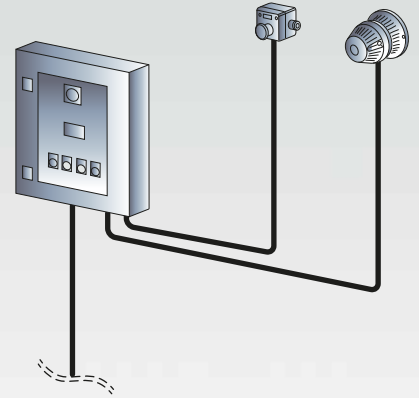
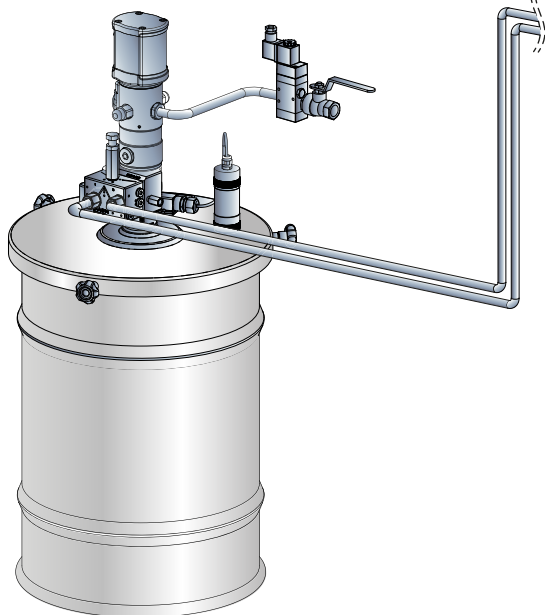
■ **SERIES  
C20S**  
page 12



■ **SERIES  
C20P**  
page 18



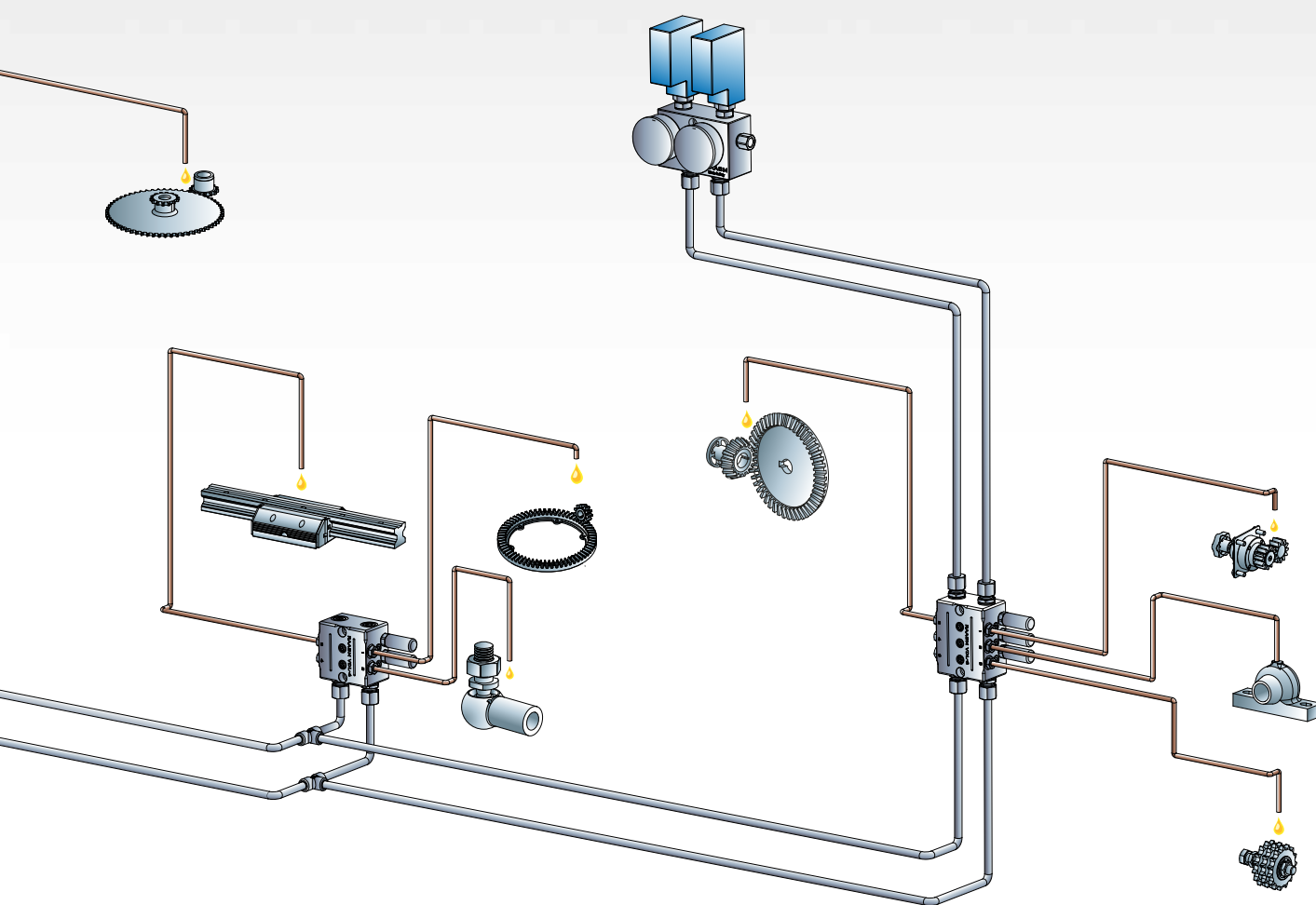
■ **SERIES  
C20F**  
page 24





The centralized dual-line lubrication systems are normally used in large systems and machines: steel mills, cement works, mines, overhead cranes, shipyard cranes and presses, for example the systems are sized in order to be able to reach rather high pressures from 200 to 400 bar.

In such systems the length of the piping can easily exceed 70 metres. In this system you can use oils with viscosity from 40 cSt and greases up to NLGI 2.



## ADVANTAGES

- Supplies an exact quantity of lubricant from the pumping unit to all the grease points located even at great distances.
- The dosing and measuring devices (called Volumetric distributors) are managed through two main lines, therefore the lubricant is always under the control of the system at the same time.
- The system can be easily extended through the addition of one or more Volumetric distributors.
- This high pressure system allows the use of particularly narrow pipes, enabling a reduction in the quantity and the deterioration of the residual grease inside the piping, while also reducing installation costs.
- Visual check of each Volumetric distributors or by means of a special sensor.
- If a volumetric distributor does not work, all the other outlets will continue to function normally.
- Easy re-calibration of lubricant dosing of each distributor even after installation.
- Optimum monitoring and control possibilities using appropriate equipment.
- The system keeps the pressure constantly regulated and is able to compensate temperature fluctuations.
- The system is able to generate only the necessary pressure required for each lubrication cycle, therefore the pump and other system components of the system are not subjected to pressure variations that can affect their service life.







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# SERIES C20S MOTOR-OPERATED

WITH RADIAL PISTONS

**Compact motor-operated pumps, equipped with line inverter mounted on the main body of the pump.**

They have a sturdy and compact base in nickel-plated aluminium alloy, radially fitted with pumping elements in galvanized hardened steel. The epoxy powder painted lubricant tank is available in 3 different sizes: 10, 30 and 70 litres. Two electric motors (three-phase) are available with 4 poles or 6 poles, to which gearmotors with ratios of 35:1 and 70:1 are coupled. These all specifics allow a wide combination of tanks, motors and gear motors to meet all end-users' needs.



## TECHNICAL CHARACTERISTICS

Max. delivery	*	108 cm <sup>3</sup> /min
Max. working pressure		400 bar adjustable
Tank capacity		10-30-70 litres
Ratio of reducer in pump		35:1 - 70:1
Filling union		F 1/2" G
Lubricant outlet union		F 1/4" G
Pumping unit delivery		P/N 2081100 - 1 cm <sup>3</sup> /cycle
Temperature		-25 °C / +60 °C
Lubricant		Oil > 40 cSt - Greases max NLGI 2
Electric min. level control		Supplied
Electric min. max. level control		On request
Motor		Power: 0,25 kW
		230/400 V AC - 50 Hz - 275/480 V AC - 60 Hz *
		6 poles motor: 870 ÷ 1100 rpm
		4 poles motor: 1370 ÷ 1660 rpm
		protection: IP 55
Materials		base: aluminum alloy
		moving parts: steel
		pumping piston: hardened steel
		reservoir: painted steel

\* Approx. delivery with grease NLGI 2 a 18 °C. (The lubricant must have technical characteristics in compliance with working temperature).

\* Different rated voltages have to be indicated in the purchase order.



P/N		Tank capacity (litres)	No. pumping elements	Reducer ratio	Motor	Delivery (cm³/min)
Grease	Oil					
2070080	2070440	10	2	70:1	6 poles	28
2070200	2070560	30	2	70:1	6 poles	28
2070020	2070380	10	2	70:1	4 poles	40
2070140	2070500	30	2	70:1	4 poles	40
2070110	2070470	10	4	70:1	6 poles	56
2070230	2070590	30	4	70:1	6 poles	56
2070350	2070710	70	4	70:1	6 poles	56
2070050	2070410	10	4	70:1	4 poles	80
2070170	2070530	30	4	70:1	4 poles	80
2070290	2070650	70	4	70:1	4 poles	80
2070065	2070425	10	2	35:1	6 poles	54
2070185	2070545	30	2	35:1	6 poles	54
2070095	2070455	10	4	35:1	6 poles	108
2070215	2070575	30	4	35:1	6 poles	108
2070335	2070695	70	4	35:1	6 poles	108

## STANDARD EQUIPMENT



Low level capacitive sensor.

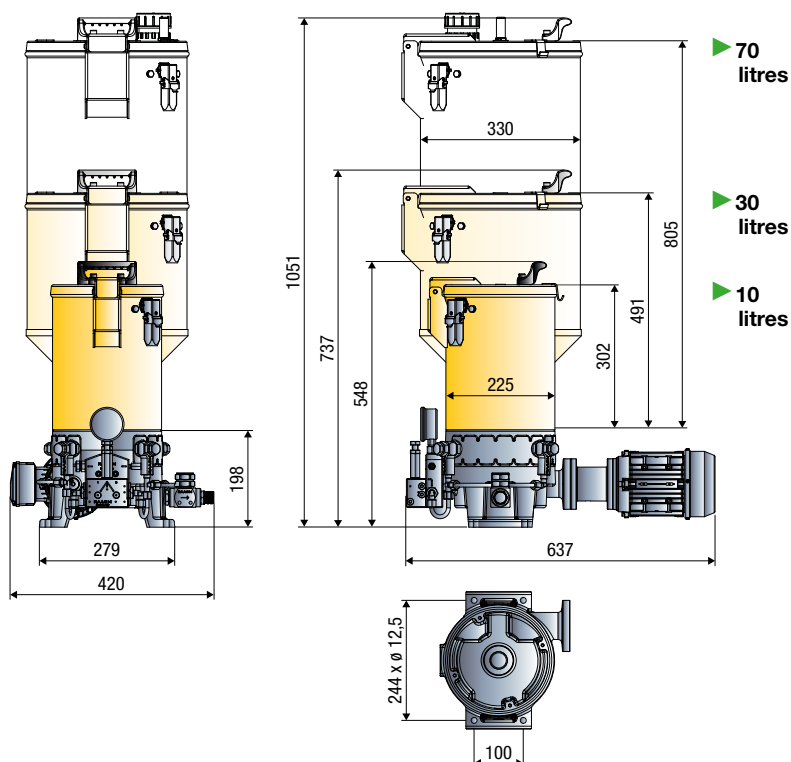





Visual level indicator  
for oil and grease.




**ON REQUEST**




High level capacitive sensor.

### OVERALL DIMENSIONS (mm)



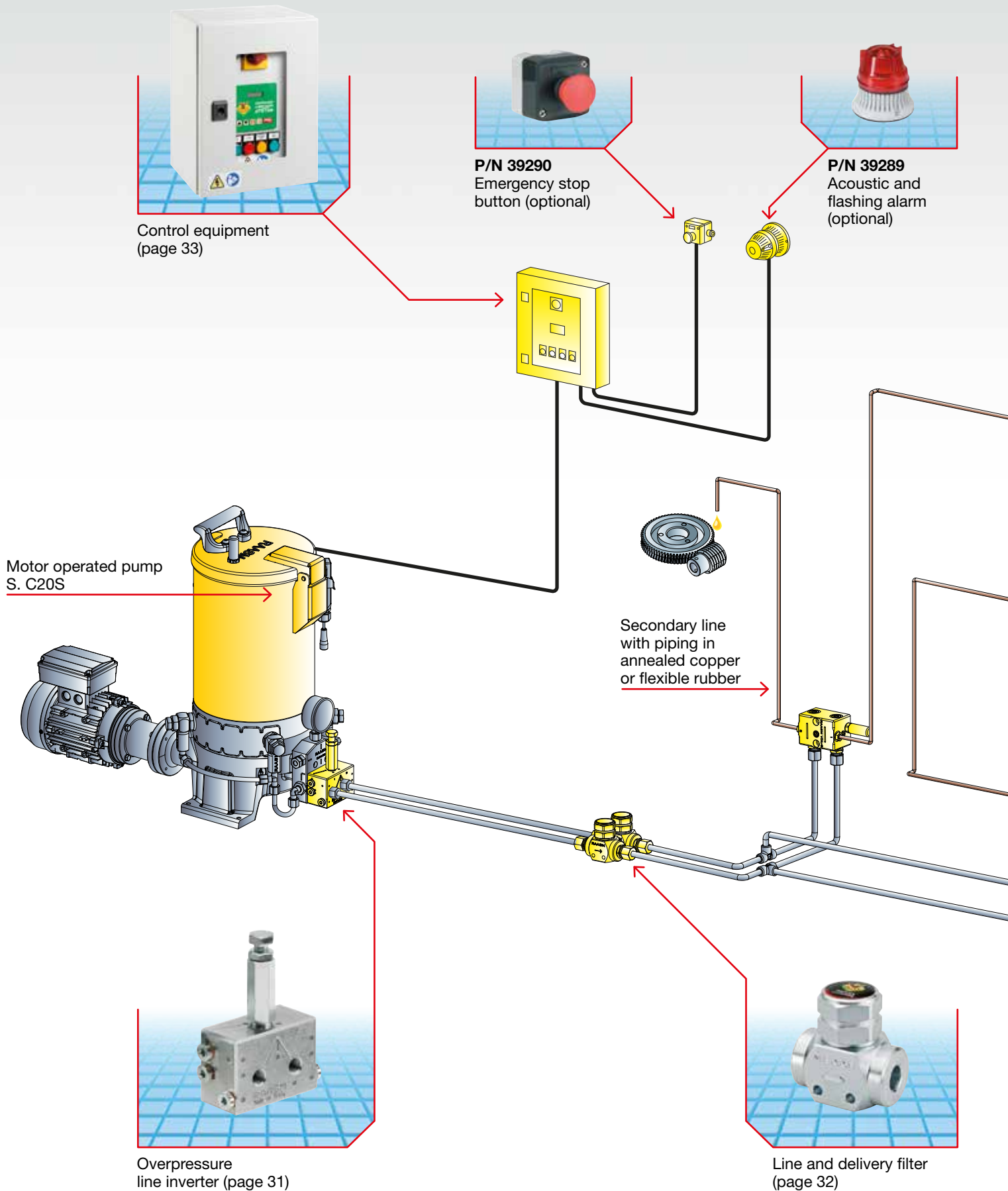
	10 litres	
	Grease	Oil
<b>Packing-m³</b> 	1-0,152	1-0,152
<b>Net weight kg</b> 	29,5	29,3
<b>Gross weight kg</b> 	41,3	41,1

	30 litres	
	Grease	Oil
<b>Packing-m³</b> 	1-0,208	1-0,208
<b>Net weight kg</b> 	34,7	34,4
<b>Gross weight kg</b> 	46,9	46,6

	70 litres	
	Grease	Oil
<b>Packing-m³</b> 	1-0,296	1-0,296
<b>Net weight kg</b> 	39,2	38,5
<b>Gross weight kg</b> 	52	51,3



# Type of lubrication system with





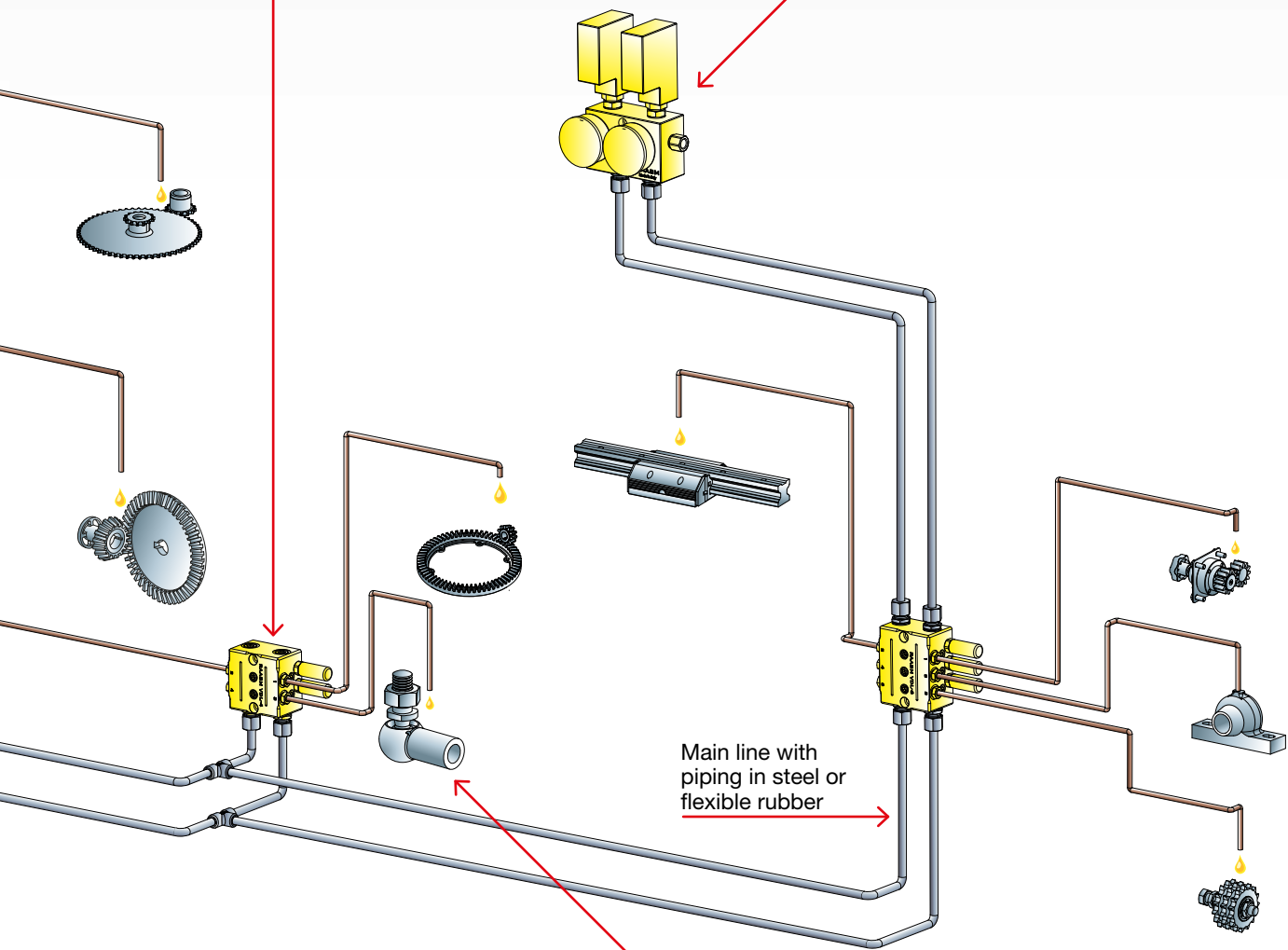
# MOTOR-OPERATED PUMP SERIES C20S



Volumetric distributor  
Series VDL-M (page 28-29)



Line and pressure switch  
(page 32)



**Lube point:** In the plant are represented some types of moving parts that need to be lubricated







**ADVANCED FLUID  
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**Series C20P**



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# SERIES C20P MOTOR-OPERATED PUMP

## PISTONS WITH OSCILLATING UNIT

Motor-operated pumps equipped with three-phase motor (4-poles) with large epoxy powder painted tank (40 or 100 litres) mounted on base in nickel-plated aluminium alloy.

The pumping unit can be fitted with dosing pistons of two different diameters (7 or 10 mm), thereby offering a choice of different deliveries according to customer requirements.

A minimum level sensor, standard on all models, informs the operator by means of a special luminous signal and stops pump operation, preventing it from running empty.

The line inversion system is supplied separately. It can be electromechanical or overpressure-type, as illustrated on the following pages of this catalog.



### TECHNICAL CHARACTERISTICS

Doser piston flow rate	*	160 (ø 7 mm) - 400 (ø 10 mm) cm³/min
Max. working pressure		400 bar adjustable
Tank capacity (litres)		40 -100 litres
Doser piston diameter		7 - 10 mm
Lubricant inlet connection		F 1/2" G
Lubricant outlet connection		F 3/8" G
Working temperature		-25 °C / +60 °C
Lubricant		Oil > 40 cSt - Greases max NLGI 2
Min level electric control		Standard
Min and max level electric control		On request
Motor		Power 0,55-0,66 kW
		230/400 V AC-50 Hz - 275/480 V AC-60 Hz
		Speed 1370 ÷ 1640 rpm
		Protection IP 55

\* Approx. delivery with grease NLGI 2 a 18 °C. (The lubricant must have technical characteristics in compliance with working temperature).

\* Different rated voltages have to be indicated in the purchase order.



## GUIDE TO CHOOSING PUMP

P/N		Tank capacity (litres)	dosing piston ø (mm)	Delivery (cm³/min)
Grease	Oil			
2000065	2000305	40	7	160
2000185	2000425	100	7	160
2000095	2000335	40	10	400
2000215	2000455	100	10	400

### STANDARD EQUIPMENT



Low level capacitive sensor.



Visual level indicator for oil and grease.

### ON REQUEST

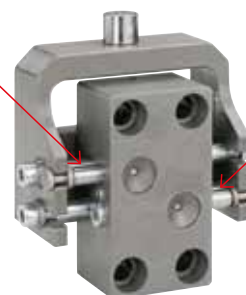


High level capacitive sensor.

## OSCILLATING PUMPING UNIT

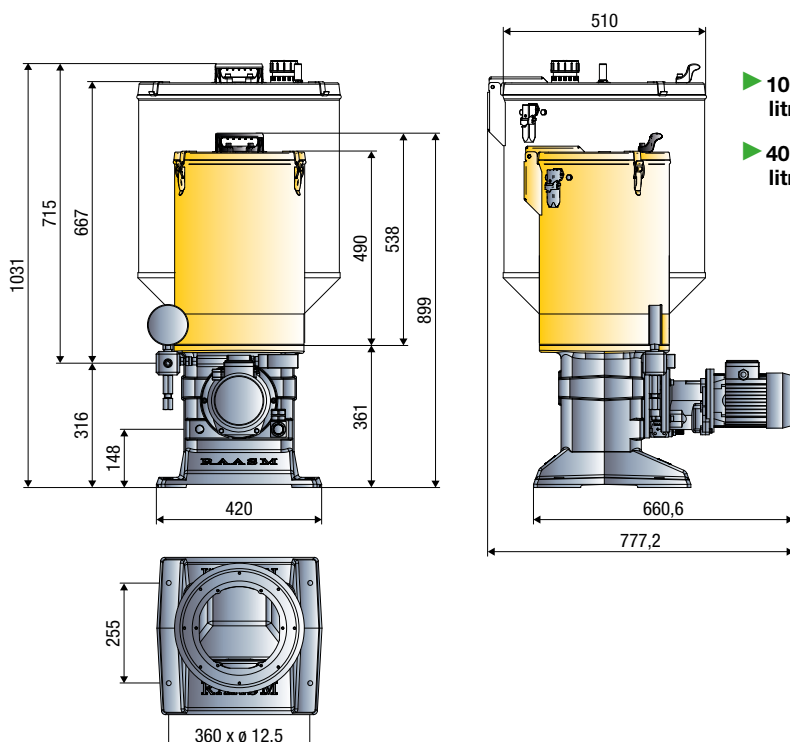
The reciprocating motion of pumping group's body allows to the two dosing pistons to dispense lubricant directly from pumping group to pump's outlet.

Dosing piston  
(ø 7 mm - ø 10 mm)



Dosing piston  
(ø 7 mm - ø 10 mm)

## OVERALL DIMENSIONS (mm)



► 100 litres

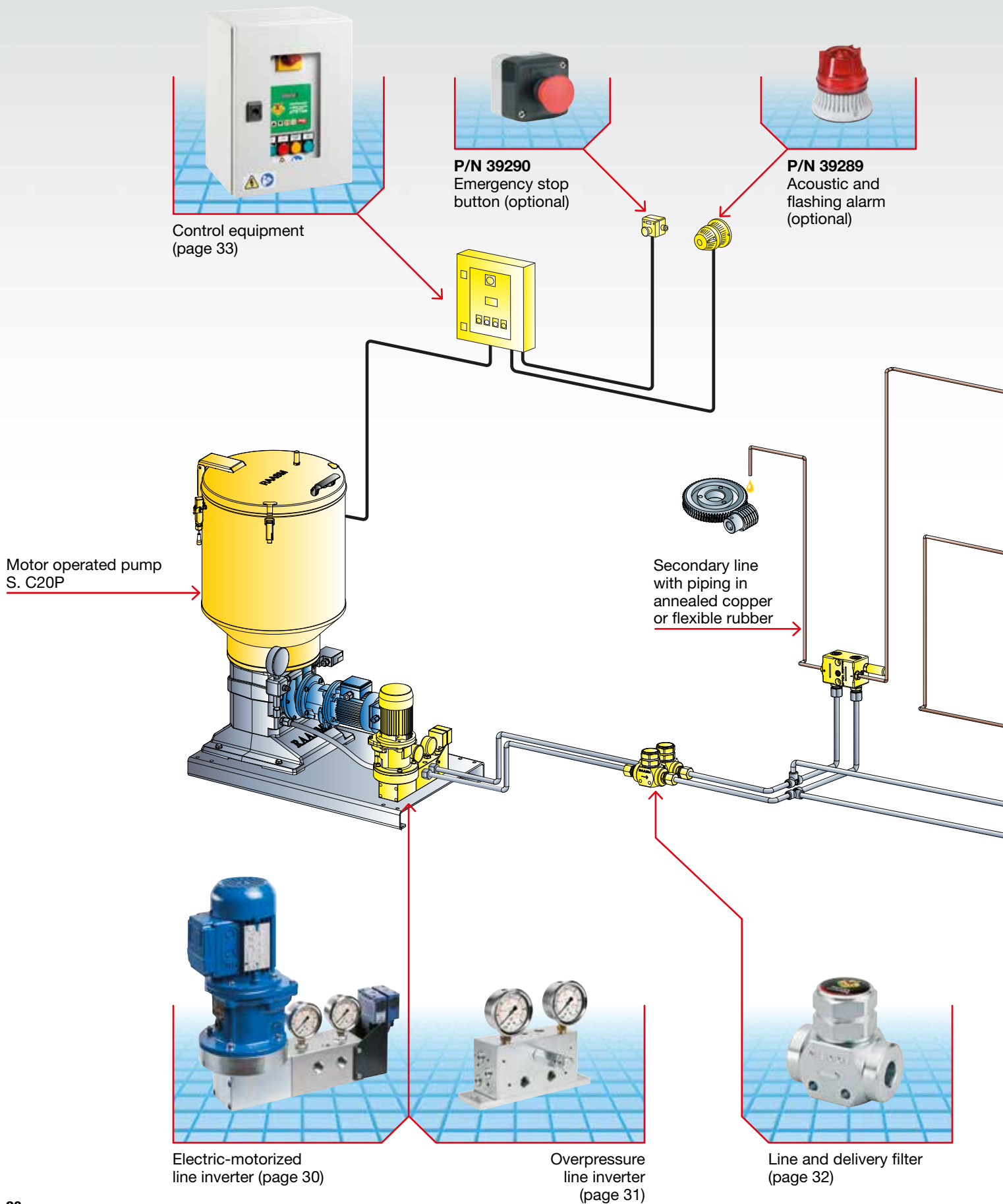
► 40 litres

	40 litres	
	Grease	Oil
Packing-m³	1-0,268	1-0,268
Net weight kg	63,2	61,3
Gross weight kg	79,6	77,7

	100 litres	
	Grease	Oil
Packing-m³	1-0,435	1-0,435
Net weight kg	75,7	73,6
Gross weight kg	92,5	90,4



# Type of lubrication system with





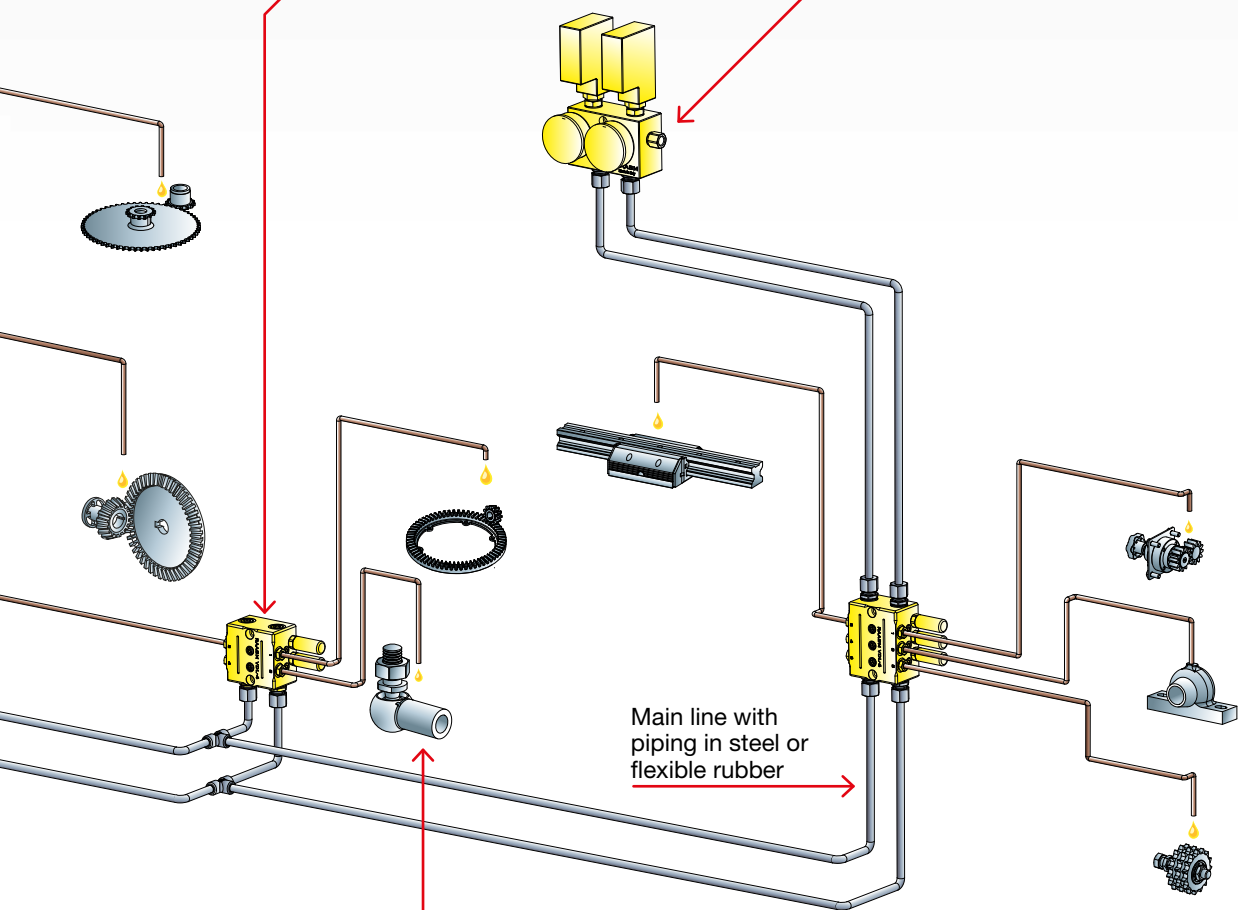
# MOTOR-OPERATED PUMPS SERIES C20P



Volumetric distributor  
Series VDL-M (page 28-29)



Line and pressure switch  
(page 32)



Main line with  
piping in steel or  
flexible rubber

**Lube point:** In the plant are represented some types of moving parts that need to be lubricated







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# SERIES C20F AIR-OPERATED PUMP

10 LITRES

DRUM

Depending on available feed type, on system's specifics or on required dispense, an air-operated pump may be preferred to an electric one.

Various solutions are available for great versatility: with 10 liters tank or suitable for 20, 50 or 200 kg drums, provided with drum cover and grease follower plate (if necessary).

If commercial drums are used, once the lubricant is finished the end user can replace the drum or fill it up again through the specific inlet, on request with a special kit. Oil pumps are provided with drum cover for open drums (up to 50 kg) or with ring nut for closed drums (usually from 50 kg to 200 kg).

High compression ratio (50:1) and adjustable feeding pressure allow to set system's pressure to its specific requirements (from 100 to 350 bar).



## TECHNICAL CHARACTERISTICS

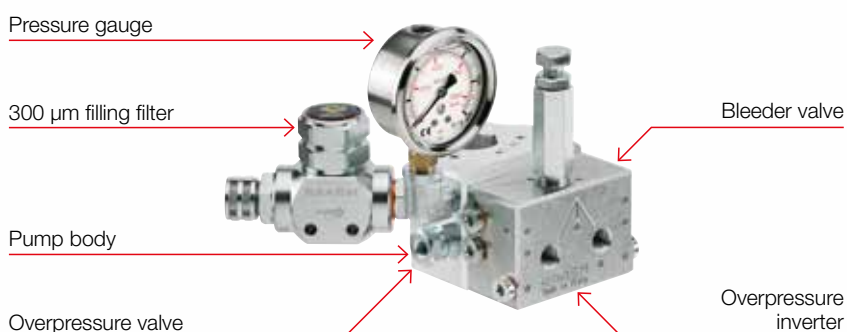
Max flow rate	1330 cm <sup>3</sup> /min
Max working pressure	8 bar
Pressure ratio	50:1
Air inlet connection	F 1/4" G
Lubricant outlet connection	F 1/4" G
Overpressure valve	adjustable from 100 to 350 bar
Operating temperature	-25 °C / +60 °C
Lubricant	Oil > 40 cSt - Grease max NLGI 2

\* Approx. delivery with grease NLGI 2 at 18°C.

## DELIVERY INVERSION AND CONTROL ASSEMBLY

This group is composed by:

- **Pressure gauge:** to check the line pressure.
- **Overpressure valve:** allows to check the system pressure and to discharge the lubricant in case of overpressure 100 - 350 bar.
- **Filling filter:** for filling the lubricant in the tank.
- **Bleeder valve:** during the filling phase, it allows to remove the air inside.



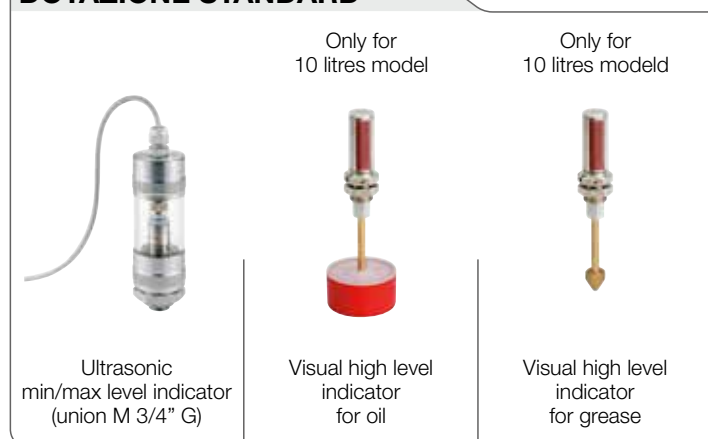


## GUIDE TO CHOOSING PUMP

P/N	Tank capacity (litres)	Drum internal ø (mm)	Pump (R 50:1)	Drum cover	Follower plate	Pump outlet assembly
<b>Grease</b>						
2010020	10 litres	220	62641	-	10/617	2080201
2010200	20 kg	255/300	62648	10/507	10/63	2080201
2010380	50 kg	335/360	62674	10/503	10/62	2080201
2010470	60 kg	360/400	62674	10/502	10/61	2080201
2010560	200 kg	540/580	62695	10/501	10/60	2080201

P/N	Tank capacity (litres)	Drum external ø (mm)	Pump (R 50:1)	Drum cover	Drum ring	Pump outlet assembly
<b>Oil</b>						
2010650	10 litres	240	62641	-	-	2080201
2010830	20 kg	260/330	62648	10/507	-	2080201
2011010	50 - 60 kg	340/385	62674	10/503	-	2080201
2011100	50 - 60 kg	closed - thread 2"	62674	level 39650	10/14	2080201
2011190	200 kg	closed - thread 2"	62695	level 39650	10/14	2080201

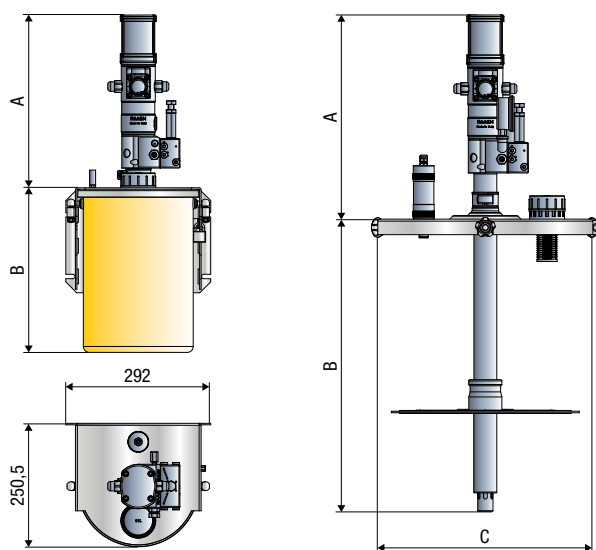
### DOTAZIONE STANDARD



### ON REQUEST



## OVERALL DIMENSIONS (mm)



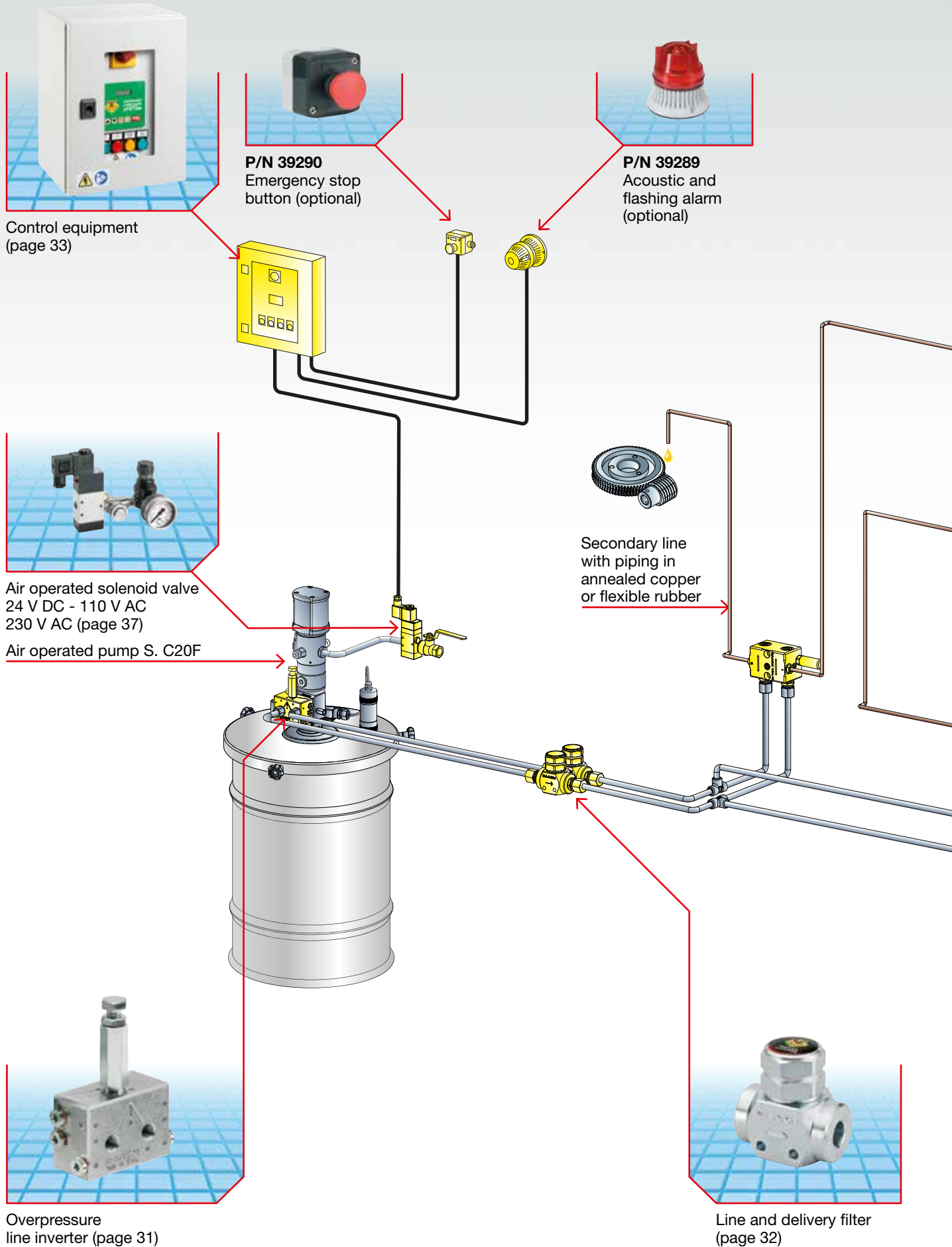
Grease	A	B	C
2010020	351	335	292
2010200	355	361	341
2010380	355	621	389
2010470	355	621	424
2010560	355	835	604

Oil	A	B	C
2010650	351	335	292
2010830	355	361	341
2011010	355	621	389
2011100	355	621	424
2011190	355	835	604

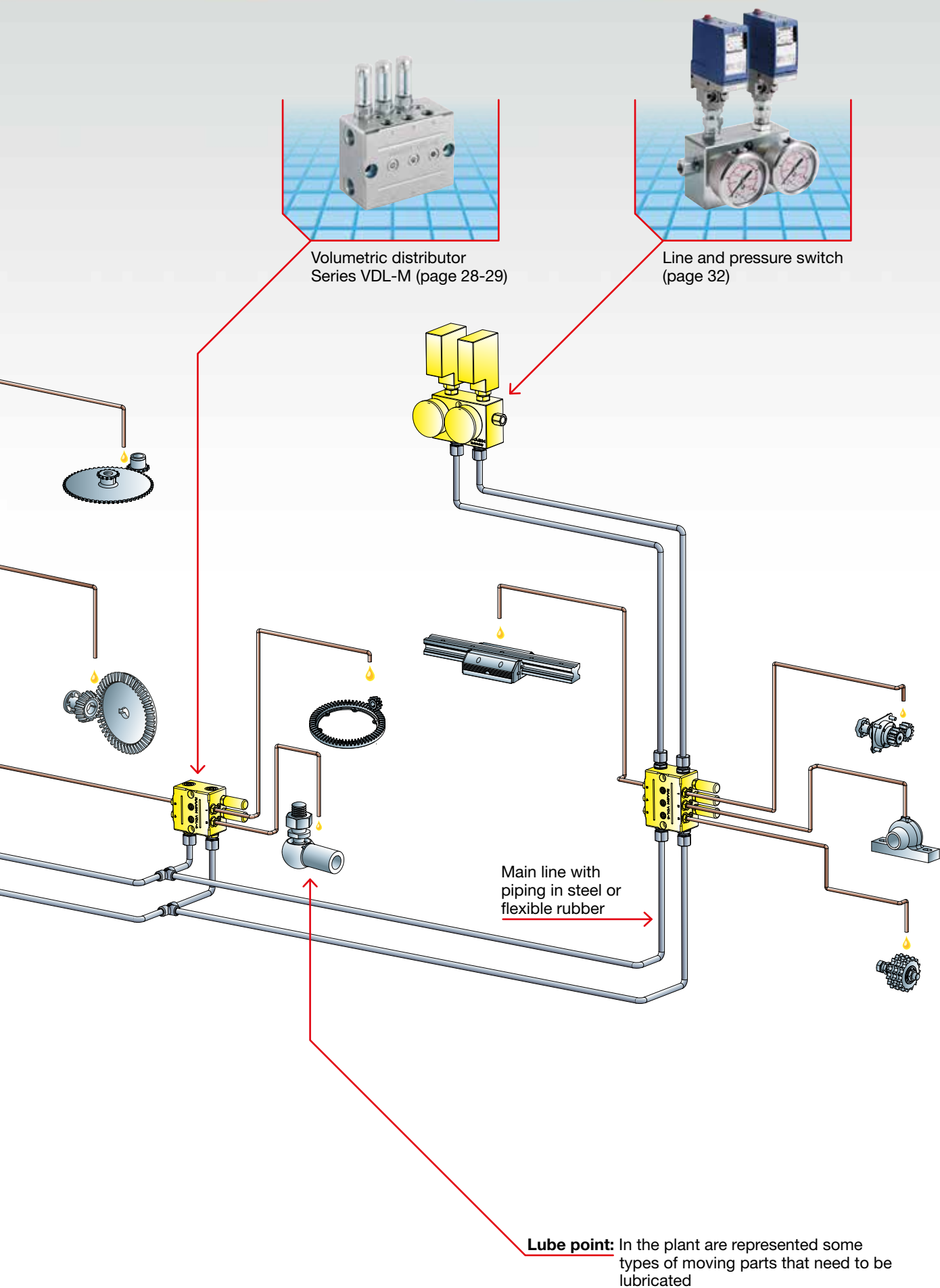
	10 litres		20 kg		50 kg		60 kg		220 kg	
	Grease	Oil	Grease	Oil	Grease	Oil	Grease	Oil	Grease	Oil
Packing-m³	1-0,056	1-0,056	2-0,094	2-0,094	2-0,086	2-0,086	2-0,086	2-0,050	2-0,115	2-0,060
Net weight kg	18,2	17,4	13,5	12,2	15,2	13,4	15,6	11,4	23,2	13,0
Gross weight kg	18,5	17,7	14,1	12,8	15,8	14,0	16,2	12,0	24,0	13,8



# Type of lubrication system with



# AIR-OPERATED PUMPS SERIES C20F







# VDL-M

## VOLUMETRIC DISTRIBUTOR

The volumetric distributor VDL-M is very simple, efficient and precise, and also allows the adjustment of delivery directly to the system installation (page 8-9).

In the first stage of the lubrication cycle the fluid pressure in line 1, moving the first pilot piston and then the dosing piston, sends the lubricant to the user points connected in delivery 2.

After the maximum pressure in line 1 is reached, indicated by the line end pressure switch, the inverter changes the feed from line 1 to line 2.

In the second stage, the procedure is repeated as above: the fluid pressure moving the first pilot piston and then the dosing piston, sends the lubricant to the user points connected in delivery 1.

The dispensing of lubricant occurs alternately by pumping through two separate main circuits, each with its own independent outlet.

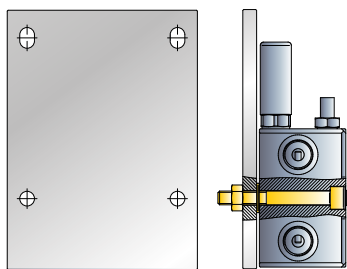


### TECHNICAL CHARACTERISTICS

Doser piston flow rate	adjustable from 0,28 to 3,00 cm <sup>3</sup> /cycle
Notch to regulate flow rate	1 - 2 - 3
Flow rate for each notches	0,3 - 1,5 - 3,00 cm <sup>3</sup> /cycle
Max working pressure	150 bar (oil) - 400 bar (grease)
Min flow rate for each outlet	0,28 cm <sup>3</sup> /cycle
Max flow rate for each outlet	3,00 cm <sup>3</sup> /cycle
Lubricant	Oil > 40 cSt - Greases max NLGI 2
No. of outlet	2 - 4 - 6 - 8 - 10
Lubricant inlet connection	F 3/8" G
Lubricant outlet connection	F 1/4" G
Working temperature	-25 °C / +60 °C

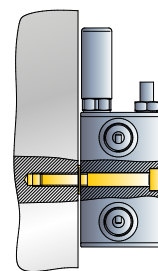
## INSTALLATION ON MACHINERY WITH ADDITIONAL PLATE

The distributor can be installed using the steel fixing plates subsequently welded on the machinery or station fixed part.

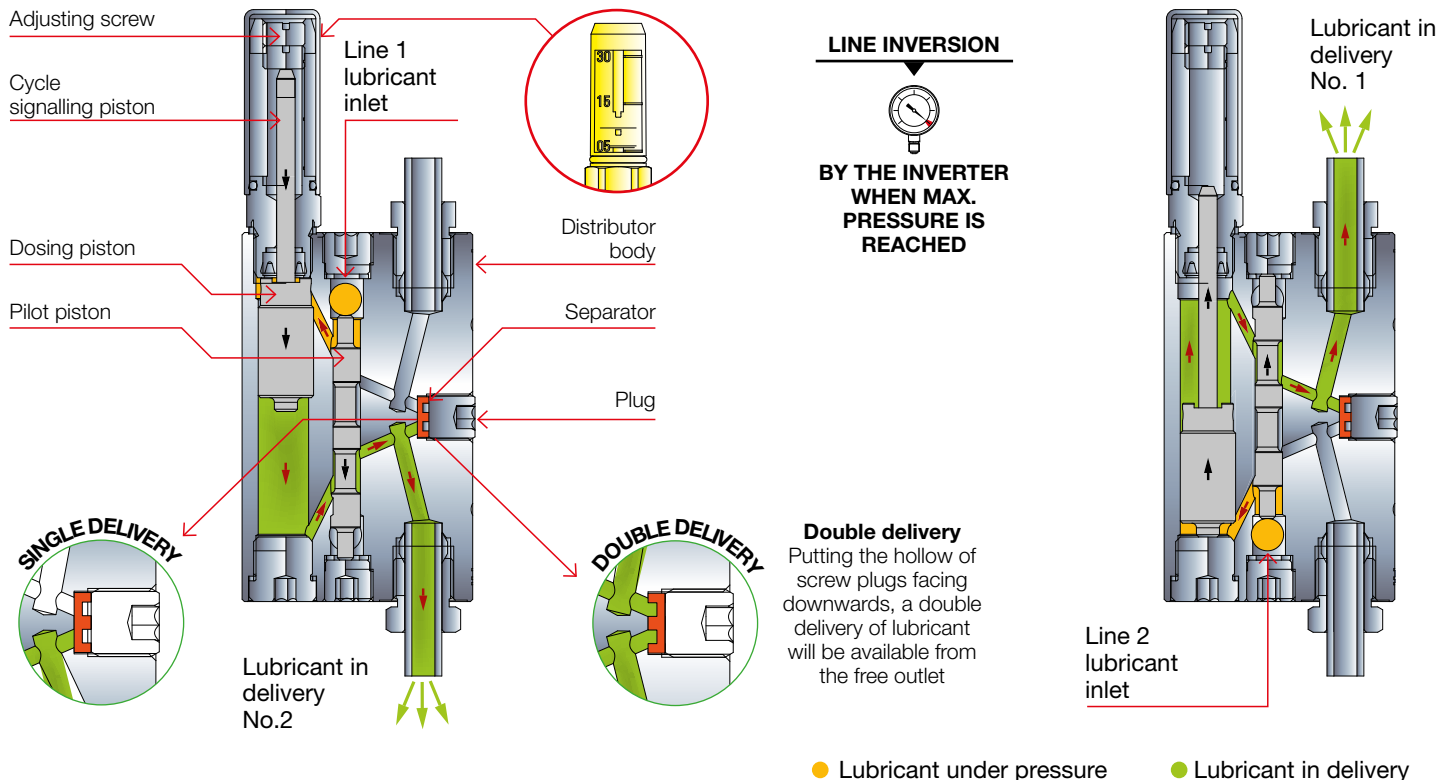


## DIRECT INSTALLATION ON MACHINERY

The distributor can be fixed directly on the structure of the machinery, using the fixing holes with M8 screws. It is advisable to insert spacer washers between the distributor body and the support surface, especially if unfinished.



## WORKING PRINCIPLE

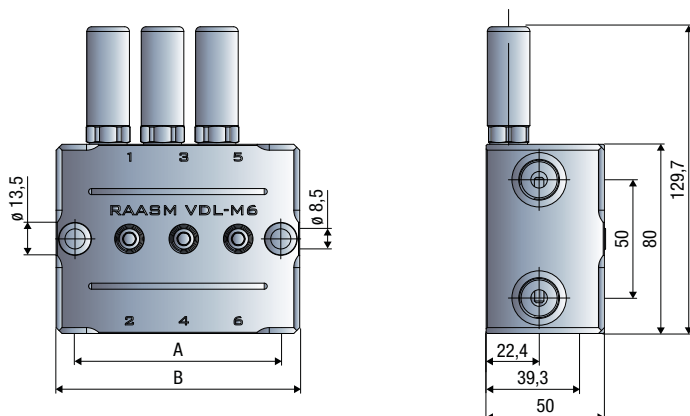


## GUIDE TO CHOOSING DISTRIBUTOR

P/N	Abbreviation	Outlet		Threads *	
		Min	Max	Inlet	Outlet
2030310	VDL-M2	1	2	F 3/8" G	F 1/4" G
2030330	VDL-M4	2	4		
2030350	VDL-M6	3	6		
2030370	VDL-M8	4	8		
2030390	VDL-M10	5	10		

\* Threads on request F 3/8" NPT - F 1/4" NPT

## OVERALL DIMENSIONS (mm)



Abbreviation	A	B
VDL-M2	41	57
VDL-M4	64	80
VDL-M6	87	103
VDL-M8	110	126
VDL-M10	133	146



# OVERPRESSURE OR MOTOR-OPERATED REVERSING VALVE

The reversing valves are devices that enable the flow of lubricant, at the pump outlet, to be automatically diverted from line 1 to line 2.

This operation allows the two lines to be alternately pressurized, thereby activating the distributors connected to them. They are available in two versions, depending on the method of operation: by overpressure and motor-operated.

The overpressure reversing valves exploit the pressure generated by the pump in order to carry out the change between the two lines, whereas the motor-operated reversing valves obtain the line inversion by means of a servo control fed by a gearmotor.

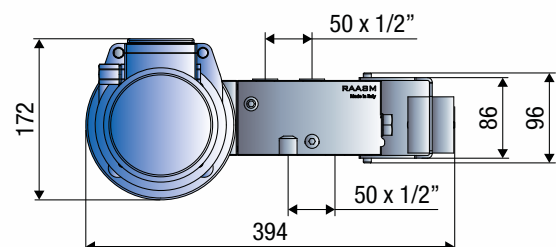
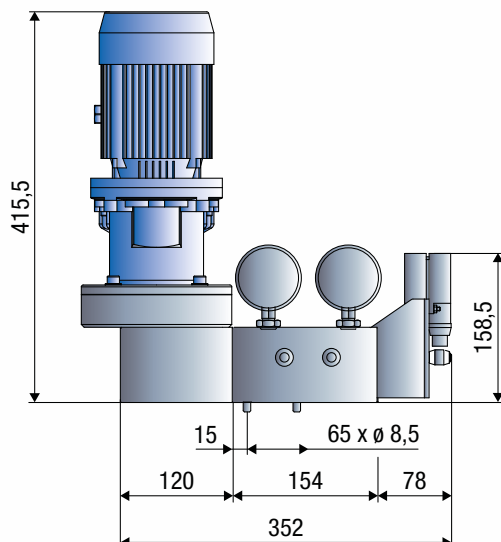


## TECHNICAL CHARACTERISTICS

<b>P/N</b>	<b>2080400</b>
<b>Max flow rate</b>	up to 7700 cm <sup>3</sup> /min (420 kg/h)
<b>Max working pressure</b>	150 bar (oil) - 400 bar (grease)
<b>Reducer</b>	* asynchronous three-phase 230/400V AC 50 Hz - 0,09 kW asynchronous three-phase 265/460V AC - 60 Hz - 0,09 kW Speed 900÷1120 giri/min
<b>Outlet connections line 1 and 2</b>	F 1/2" G
<b>Fluid inlet and discharging pressure outlet connection</b>	F 1/2" G
<b>Protection</b>	IP55
<b>Lubricant</b>	Oli > 40 cSt - Greases max NLGI 2

\* Different rated voltages have to be indicated in the purchase order.

## OVERALL DIMENSIONS (mm)







# OVERPRESSURE REVERSING VALVES

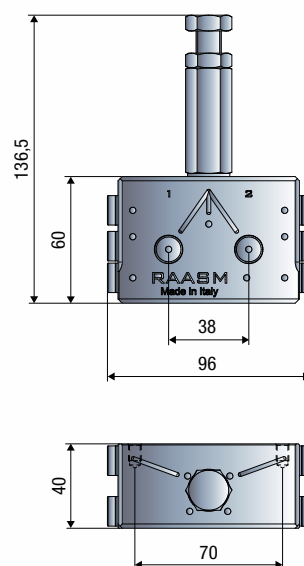
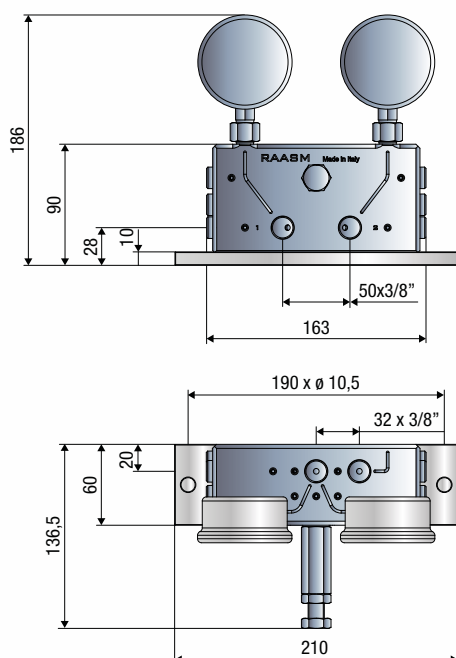
The overpressure reversing valves exploit the pressure generated by the pump in order to carry out the change between the two lines.



## TECHNICAL CHARACTERISTICS

P/N	2080300	2080201
Max flow rate	6600 cm <sup>3</sup> /min (360 kg/h)	5500 cm <sup>3</sup> /min (300 kg/h)
Max working pressure	50 - 150 bar (oil) - 50 - 400 bar (grease)	50 - 150 bar (oil) - 50 - 400 bar (grease)
Outlet connections line 1 and 2	F 3/8" G	F 1/4" G
Working cycles	max. 120 per min	max. 120 per min
Fluid inlet and discharging pressure outlet connection	F 3/8" G	F 1/4" G
Lubricant	Oil > 40 cSt - Greases max NLGI 2	Oil > 40 cSt - Greases max NLGI 2

## OVERALL DIMENSIONS (mm)





# PRESSURE SWITCH AND FILTER

## PRESSURE SWITCH

### Pressure switch

The line end pressure switches are used to control and monitor the correct operation of the centralized system, confirming the reaching of maximum pressure and end of cycle control.

### Filter

In order to ensure proper functioning of the system and that the lubricant intended for user points is totally free of impurities, the installation of appropriate filters at the control unit inlet (for filling) and outlet is recommended. The sturdy steel structure the filters are provided with ensures a sure seal and also allows their use in centralized lubrication systems where high operating pressures (500 bar).

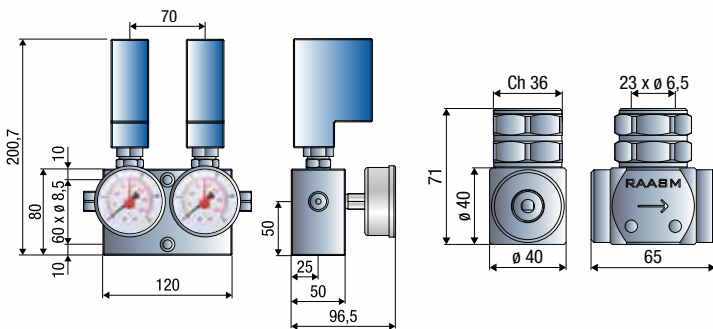
Working with lubricating oils and greases, they are placed at the outlet of the pumping unit and along the line of the system.



## TECHNICAL CHARACTERISTICS

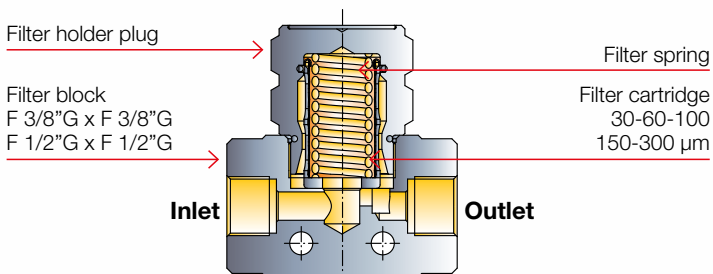
Type	Oil and Grease	Oil and Grease
Max working pressure	400 bar	500 bar
Filtration degree	-	30 - 60 - 100 - 150 - 300 µm
Lubricant inlet connection	F 3/8"G	F 3/8"G - F 1/2" G
Lubricant outlet connection	-	F 3/8"G - F 1/2" G
Electric contact	by clamps	-
Working temperature	-25 °C / +60 °C	-25 °C / +60 °C
Lubricant	Oil > 40 cSt - Grease max NLGI 2	Oil > 40 cSt - Grease max NLGI 2

## OVERALL DIMENSIONS (mm)



Technical characteristics	P/N	Working pressure (bar)	Protection degree	Type
2 pressure switches and 2 manometers	2080700	from 30 to 400	IP55	without box
	2080703		IP65	with box
1 pressure switch and 2 manometers	2080710	from 30 to 400	IP55	without box
	2080713		IP65	with box

## DELIVERY-FILLING FILTER



Lubricant	P/N	Connection	Filtration degree (µm)
Oil and Grease	2080900	F 3/8" G	30
	2080930		60
	2080950		100
	2080800	F 3/8" G	150
	2080801		300
	2080901		30
	2080931	F 1/2" G	60
	2080951		100
	2080850		150
	2080851	F 1/2" G	300



# CONTROL EQUIPMENT

200÷500 V AC 50/60 Hz

## System control board

The control equipment is dedicated to the management and control of centralized single-line lubrication. The dedicated card installed inside controls the inlet and outlet signals of the whole system.



## TECHNICAL CHARACTERISTICS

P/N	2170031	2170021	2170033	2170036	2170026	2170037	2170035	2170025
Proper for pump	C20S - C20P		C20F	C20S - C20P		C20F	C20S - C20P	
Voltage	200÷500 V AC			200÷500 V AC			200÷500 V AC	
Power consumed	1500 W max			1500 W max			1500 W max	
Button start /stop	NO	NO	NO	YES	YES	YES	YES	YES
Light allarm	NO	NO	NO	YES	YES	YES	YES	YES
Light filling	NO	NO	NO	YES	YES	YES	NO	NO
Tank full light	NO	NO	NO	YES	YES	YES	NO	NO
Trasparent window	NO	NO	NO	YES	YES	YES	YES	YES
Filling control	NO	NO	YES	YES	YES	YES	NO	NO
Protection rating	IP54			IP55			IP55	
Working temperature	- 25°C / +60 °C			- 25°C / +60 °C			- 25°C / +60 °C	

\* Depends on the type of motor applied to the pump.

The card is installed in a metal box provided with or without transparent window and communicates with a display integrated into an easy to use flexible membrane keyboard. Within the enclosure all the components (connections, remote control switches, fuses, etc.) are easy accesable.

- Display integrated into the flexible membrane keyboard
- Simple user interface based on a menu, easy to start configure and programme
- Rugged and waterproof cover, meets the requirements of IP55
- Ability to customize the lubrication intervals, pause and the cycle count
- Programming of the operating parameters protected by password
- Call system filling tank (on request) with high level light indicator.



## INPUT AND OUTPUT SIGNALS

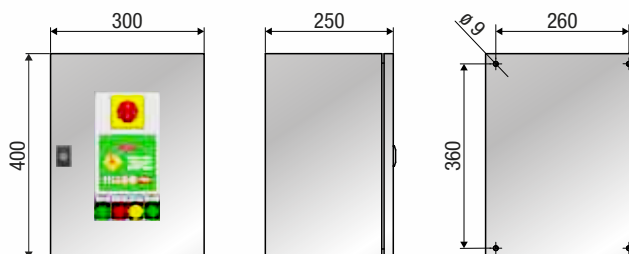
### Input signals

Start/Stop remote
Cycle-counter/Pressure switch L1
Cycle-counter/Pressure switch L2
Low level tank
Safety pressure switch maximum pressure
Thermal protection three-phase motors
Remote stand by cycle
Micro-inverter L1
Micro-inverter L2
Remote emergency button

### Output signals

Power motor pump
Power
- motor inverter
- pressure discharge valve
- solenoid inverter 1
Power relay solenoid inverter 2
Remote operation lamp
Remote warning lamp

## OVERALL DIMENSIONS (mm)



Packing-m³	1-0,03
Net weight kg	15,2-15,4
Gross weight kg	15,5-15,7





# CONTROL EQUIPMENT

12-24 V DC

120-230 V AC 50/60 Hz

This unit of management and control is composed of an electrical panel in polycarbonate in reduced dimensions.

Inside is connected an electronic card that communicates with a display integrated in the practice flexible membrane keypad located on the front of the unit.



## TECHNICAL CHARACTERISTICS

P/N	1670035	1670036
Proper for pump	C20F	C20F
Voltage	12/24 V DC	120-230 V AC 60/50 Hz
Power consumed	200 W max	600 W max
Inlet	9	9
Outlet	5	5
Protection rating	IP64	IP64
Working temperature	- 25°C / +60 °C	- 25°C / +60 °C

The dedicated card installed inside controls the inlet and outlet signals of the whole system. The hardware part is composed of the removable terminal blocks located inside of the unit to facilitate removal of the card in case of maintenance

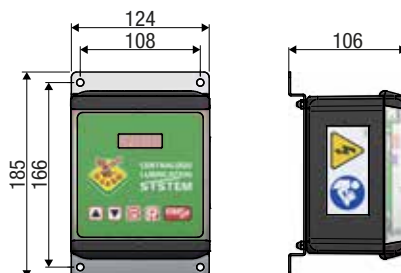
- Display integrated into the flexible membrane keyboard
- Simple user interface based on a menu, easy to start, and use configure and programme
- Rugged and waterproof cover, meets the requirements of IP64
- Ability to customize the lubrication intervals, pause and the cycle count
- Programming of the operating parameters protected by password



## INPUT AND OUTPUT SIGNALS

Input signals	Output signals
Start/Stop remote	Power motor pump
Cycle-counter/Pressure switch L1	
Cycle-counter/Pressure switch L2	Power - pressure discharge valve - solenoid inverter 1
Low level tank	
Safety pressure switch maximum pressure	Power relay solenoid inverter 2
Thermal protection three-phase motors	
Remote stand by cycle	Remote operation lamp
Micro-inverter L1	
Micro-inverter L2	Remote warning lamp

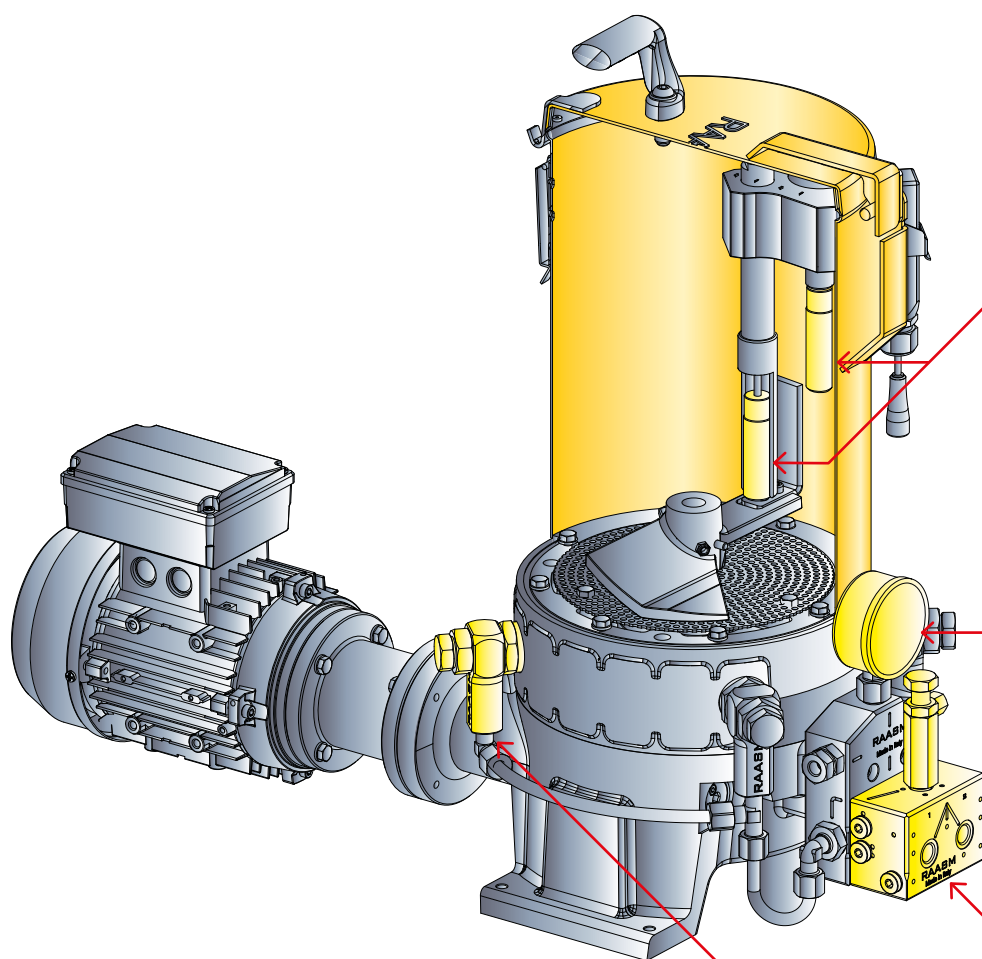
## OVERALL DIMENSIONS (mm)



Packing-m <sup>3</sup>		1-0,005
Net weight kg		1,2-1,4
Gross weight kg		1,1-1,3



# ACCESSORIES PUMP SERIES C20S



**P/N 1581800**  
High or low level  
capacitive sensor.



**P/N 2081030**  
Pressure gauge.



**P/N 2080201**  
Overpressure  
reversing valve.

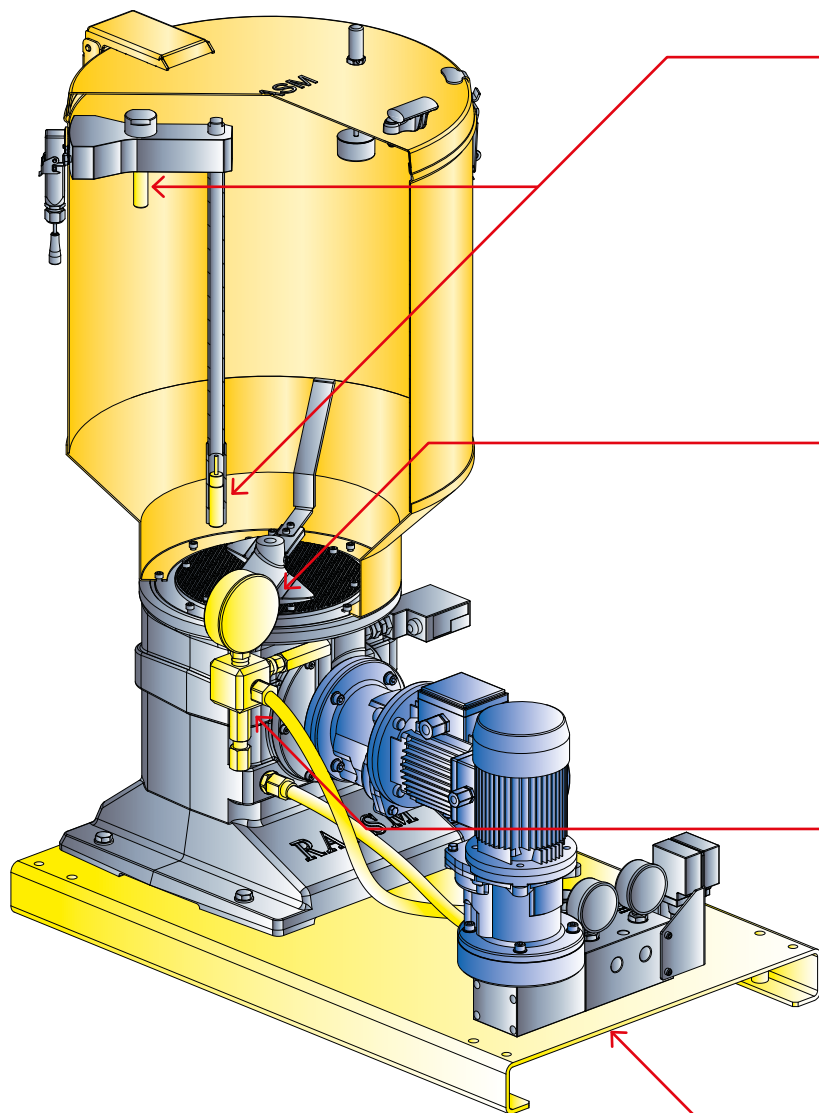


**P/N 2081100**  
Pumping element.

P/N	Description	Connection	Capacity/Pressure
<b>1581800</b>	Minimum and maximum capacitive level	M 18 x 1	-
<b>2081030</b>	Pressure gauge ø 63 mm 600 bar	M 1/4" G	600 bar
<b>2080201</b>	Overpressure reversing valve	outlet F 1/4" BSP	5500 cm <sup>3</sup> /min (50-150 bar oil) (50 - 400 bar grease)
<b>2081100</b>	Pumping element ø 12 mm	M27 x 1,5	1 cm <sup>3</sup> /cycle



# ACCESSORIES PUMP SERIES C20P



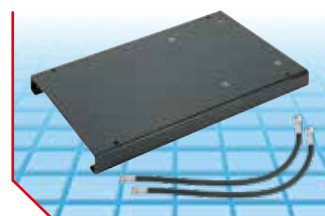
**P/N 1581800**  
High or low level  
capacitive sensor.



**P/N 2081050**  
Pressure gauge.



**P/N 2081700**  
Outlet pressure  
control device.



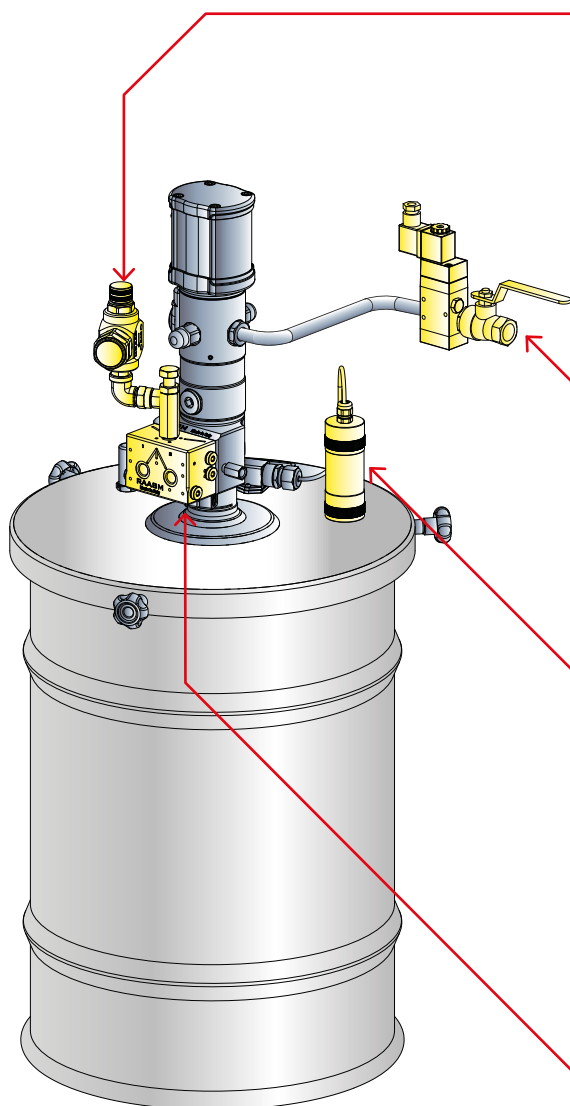
**P/N 2081750**  
Base for pump and  
connecting hoses.

P/N	Description	Connection	Capacity/Pressure
1581800	Minimum and maximum capacitive level	M 18 x 1	-
2081050	Pressure gauge ø 100 mm 600 bar	M 1/4" G	600 bar
2081700	Outlet pressure control device	outlet F 3/8" BSP	50 - 400 bar
2081750	Base for pump and connecting hoses	hoses F 3/8"G x F 3/8"G	hoses 400 bar





# ACCESSORIES PUMP SERIES C20F



**P/N 1581150**  
Filling filter 300 µm.



**P/N 1582000 - 1582001**  
Air operated solenoid  
24 V DC.  
**P/N 1582002 - 1582003**  
Air operated solenoid  
110 V AC.  
**P/N 1582004 - 1582005**  
Air operated solenoid  
230 V AC.



**P/N 1581850**  
Min and max level  
ultrasonic sensor.



**Art. 39650**  
Min level indicator  
(optional only for oil).



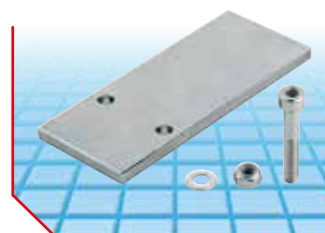
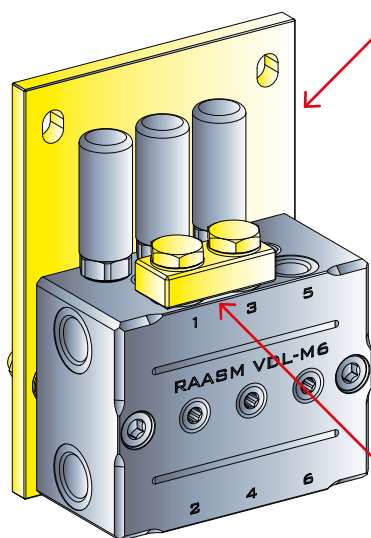
**P/N 2080201**  
Overpressure  
reversing valve.

P/N	Description	Connection	Pressure
<b>1581150</b>	Filling filter	M 3/8" G	-
<b>1582000</b>	Air operated solenoid 24 V DC	F 1/4"G x F 1/4"G	2,5-8 bar
<b>1582001</b>	Air operated solenoid 24 V DC	F 1/2"G x F 1/2"G	2,5-8 bar
<b>1582002</b>	Air operated solenoid 110 V AC	F 1/4"G x F 1/4"G	2,5-8 bar
<b>1582003</b>	Air operated solenoid 110 V AC	F 1/2"G x F 1/2"G	2,5-8 bar

P/N	Description	Connection	Pressure
<b>1582004</b>	Air operated solenoid 230 V AC	F 1/4"G x F 1/4"G	2,5-8 bar
<b>1582005</b>	Air operated solenoid 230 V AC	F 1/2"G x F 1/2"G	2,5-8 bar
<b>1581850</b>	Min and max level ultrasonic sensor	wole on drum cover ø 31 mm	-
<b>2080201</b>	Overpressure reversing valve	outlet F 1/4" BSP	50-150 bar oil 50-400 bar grease
<b>39650</b>	Min level indicator (optional only for oil)	Oil	-



# ACCESSORIES FOR VOLUMETRIC DISTRIBUTOR **SERIES VDL-M**



**P/N 2080100 - 2080101**  
**P/N 2080102 - 2080103**  
**P/N 2080104**  
 Fixing plate for volumetric distributor "VDL-M".



**P/N 2080051**  
 Distributor junction.

P/N	Description	Connection
<b>2080100</b>	Fixing plate for volumetric distributor "VDL-M"	2 outlet
<b>2080101</b>	Fixing plate for volumetric distributor "VDL-M"	4 outlet
<b>2080102</b>	Fixing plate for volumetric distributor "VDL-M"	6 outlet
<b>2080103</b>	Fixing plate for volumetric distributor "VDL-M"	8 outlet
<b>2080104</b>	Fixing plate for volumetric distributor "VDL-M"	10 outlet
<b>2080051</b>	Distributor junction "VDL-M"	Dosing screw M 1/4" BSP



# Customized pumps selection guide

Should the specific requirements be different from the ones of standard pumps, follow this model to customize your own pump.

## SERIES C20S

Series	Lubricant type		Tank capacity			Poles		No. Pumping elements		Ratio		Level control		
	G	O	10	30	70	4	6	2	4	3	7	O	L	Y
System 20 dual line	Grease (max NLGI 2)	Oil (> 40 cSt)	10 litres	30 litres	70 litres	4 poles	6 poles	2 pumping elements	4 pumping elements	R 35:1	R 70:1	without minimum level	with minimum level	with minimum and maximum level

Example of pump code

C20S	G	10	6	/	2	7	L
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## SERIES C20P

Series	Lubricant type		Tank capacity		Power		Flow rate		Control equipment		Level control			Accessories 1		Accessories 2	
	G	O	40	100	A	B	1	4	0	1	L	O	Y	/	1	/	1
System 20 dual line	Grease (max NLGI 2)	Oil (> 40 cSt)	40 litres	100 litres	0,75 Kw	0,37 Kw	160 cm³ ø 7 mm	400 cm³ ø 10 mm	without control equipment	with control equipment	with minimum level	without minimum level	with minimum and maximum level	without base for pump and connecting hoses	with base for pump and connecting hoses	without motor operated reversing valve	with motor operated reversing valve

Example of pump code

C20P	G	40	A	1	/	0	L	1	1
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## SERIES C20F

Series	Lubricant type		Tank capacity	Tank external ø (mm)						Ratio			Level control		
C20F	G	O	10	28	35	37	38	42	60	5	6	7	0	1	2
System 20 dual line	Grease (max NLGI 2)	Oil (> 40 cSt)	10 kg	da 240 a 280	da 300 a 350	da 260 a 330	da 340 a 385	da 370 a 420	da 550 a 600	R 50:1	R 65:1	R 75:1	without minimum level ultrasonic	with minimum level ultrasonic	with minimum and maximum level ultrasonic + visual maximum level + filling filter

Example of pump code

C20F	G	10	/	5	1
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## FOR FOREIGN MARKETS



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### **P/N 1 GOODS DELIVERY TERMS**

The goods are delivered ex works RAASM S.p.A. The subsequent transport/shipment must occur by, in the name and at the expense of the purchasing customer, even by means of a carrier appointed and designated by the same. All risks arising from loading, subsequent custody and transport are borne entirely by the purchasing customer.

### **P/N 2 MINIMUM ORDERS**

Each order cannot be for less than € 1,500.00, net of fees, taxes, customs duties, discounts and rebates and any other charges not included in the price of the goods. If, at the option of RAASM S.p.A., orders for lower amounts are accepted, an extra charge of € 155,00 shall be applied for order management administrative expenses.

### **P/N 3 ACCESSORIES**

All the accessories given in the price list (plugs, oil bar taps, oil guns, grease guns, probes, protection caps, clutches, swivelling supports, etc.) are supplied exclusively for fitting to or combining with the items RAASM S.p.A. produces

### **P/N 4 COMPLAINTS**

Any defects immediately noticed after a brief inspection of the goods (damage, shortages or different product from that ordered) must be notified in writing to our company within 8 (eight) days of receipt the goods. Any defects in the product noticeable only during its use must be notified in writing to RAASM S.p.A. within 8 (eight) days of being detected.

Any returns of goods must be authorized in advance by RAASM S.p.A. and freight charges are at the customer's expenses.

### **P/N 5 DELIVERY TIMES/TERMS**

Delivery times and dates are only approximate and are subject to change. Any delays in delivery do not entitle the customer to cancel the order or claim compensation for damages caused by delay of delivery. Delivery times for urgent orders must be agreed directly with RAASM S.p.A. RAASM S.p.A. has the right not to carry out the order and/or totally or partially carry it out, without this giving rise to reimbursement or claims for compensation for damage.

### **P/N 6 PACKS AND PACKAGING**

Packaging costs are included in the price, except for special packing, which shall be charged at cost.

### **P/N 7 PRICES**

The current Price list cancels and replaces the previous price list. In the event of changes to our price list and/or individual items, the goods shall be forwarded at the price in force on the day of the order confirmation. The price list and/or the prices of individual items can be changed even without notice, according to the changes in market conditions or technical innovations/modifications made to the product. The prices are understood to be ex works RAASM S.p.A.

### **P/N 8 PAYMENTS**

Payments must be made exclusively to RAASM S.p.A. at the agreed conditions. Under no circumstances will deductions or roundings be accepted. In case of late payment with respect to the agreed conditions, RAASM S.p.A. reserves the right to charge interest at the current rate, effective from the day after that agreed for payment, plus any additional expenses. Discounts conditional on the payment term and already credited shall be recharged.

### **P/N 9 WARRANTY**

RAASM S.p.A. provides each product with the communication of particular instructions for the installation, use and maintenance requirements and the need to carry out possible checks on the product. All the technical information and data mentioned in the catalogue and in the price-list in force are not binding and can be changed without prior notice for the purpose of improving the quality of the products. All products manufactured by RAASM S.p.A. are guaranteed for a period of 5 (five) years from the date of delivery to the first user. The user must keep and show the sales invoice - or an equivalent document - together with the item's serial number in order to make a claim under the RAASM S.p.A. guarantee. The 5 (five) year guarantee does not apply to components which are subject to normal wear and tear (such as gaskets, diaphragms, O-rings, hoses, etc.), electronic components and items that are sold but not manufactured by RAASM S.p.A. (marked with a red asterisk in the current product catalogue) which are guaranteed for 1 (one) year from the date of delivery to the first user.

1 (one) year warranty is valid also for the following products:

- digital litre counters and FCS system;
- cable reels;
- electric, pneumatic or hydraulic motor supplied with our industrial hose reels S. 600 and 700.

Incorrect installation, use or maintenance of the product shall void the warranty. Upon written notice, the articles must be returned free to our Factory for checking and acceptance. In any case, the guarantee expires in the 10th year from the date of manufacture (indicated by the serial number), if the stated expiry takes place before the expiration terms indicated above (1 or 5 years from delivery to the first user).

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# RAASM

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