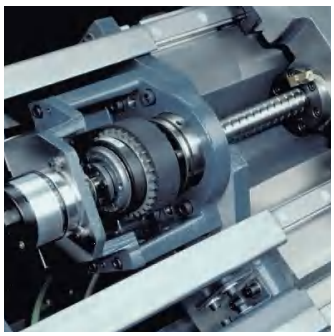
P100 Compact Electric Pump

Grease | 8MPa | +0~50℃ | Small medium equipment



MESOLUBE

Instructions

D100

This series of pumps are available in reservoir and cartridge pump versions, which can be used in single-line lubrication systems and progressive lubrication systems.

Precautions

In this manual, the use of the following markings provides safety precautions to prevent accidents that may cause injury to the human body. Before operating the pump, be sure to read these safety precautions carefully to fully understand the contents.

Indicates a potentially hazardous situation that, if ignored, could result in death or serious injury.

Indicates information that should be paid special attention to when operating the pump. If ignored, the pump or the machine may be damaged.

Indicates a potentially dangerous situation that, if ignored, may cause minor or moderate injury.

Indicate reference information or points that can help you deal with the pump.

Indicates a reference clause.

About the manual

All illustrations and specifications in this manual are subject to change without notice.
When reselling, renting or lending the pump to a third party, be sure to include the relevant manual of the pump and any other documents accompanying the pump.

Precautions

Safety Precautions

1. Before handling the pump, please read this manual carefully and understand its contents.
2. Keep this manual in a designated place for easy access at any time.
3. Only technicians with relevant installation knowledge can

Label type

The label is attached to the pump. If any label is damaged or becomes illegible, please contact us immediately. Strictly follow the instructions on the label on the pump.

Trademark label

MESOLUBE

Warning label

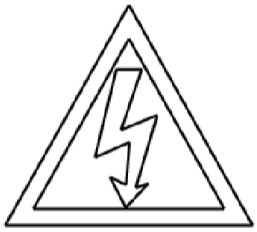
⚠ Notice

○ It is necessary to confirm the (+) (-) pole when connecting the power supply of the oil pump.
○ Use the special grease designated by our company, otherwise the pump parts may be damaged.

Serial number label

Series model：P100
Ordercode：P100-071211

Electricity warning sign



Direction label

Specification label

Technical Data

Model	P100	Voltage	□12VDC □24VDC
Outlets	1 or 2		□110VAC □220VAC
Lubricant	NLGI 000~1	Pressure	Max 8MPa
Protection	IP54	Outlet thread	M10x1
Reservoir	0.3L	Operating temperature	0~ +50 °C
		Metering quantity	15mL/min

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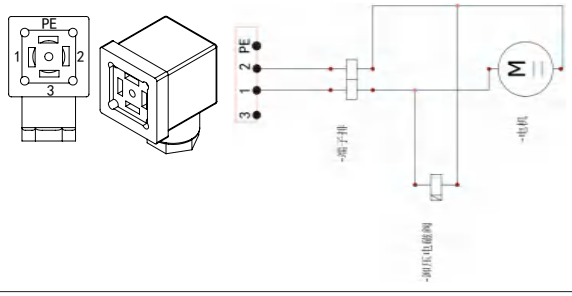
Terminal wiring label



Introduction

The P100 series pump is highly efficient and easy to operate. It is used in small and medium-sized machinery and can form a single-line centralized lubrication system and a progressive lubrication system.

Series Features

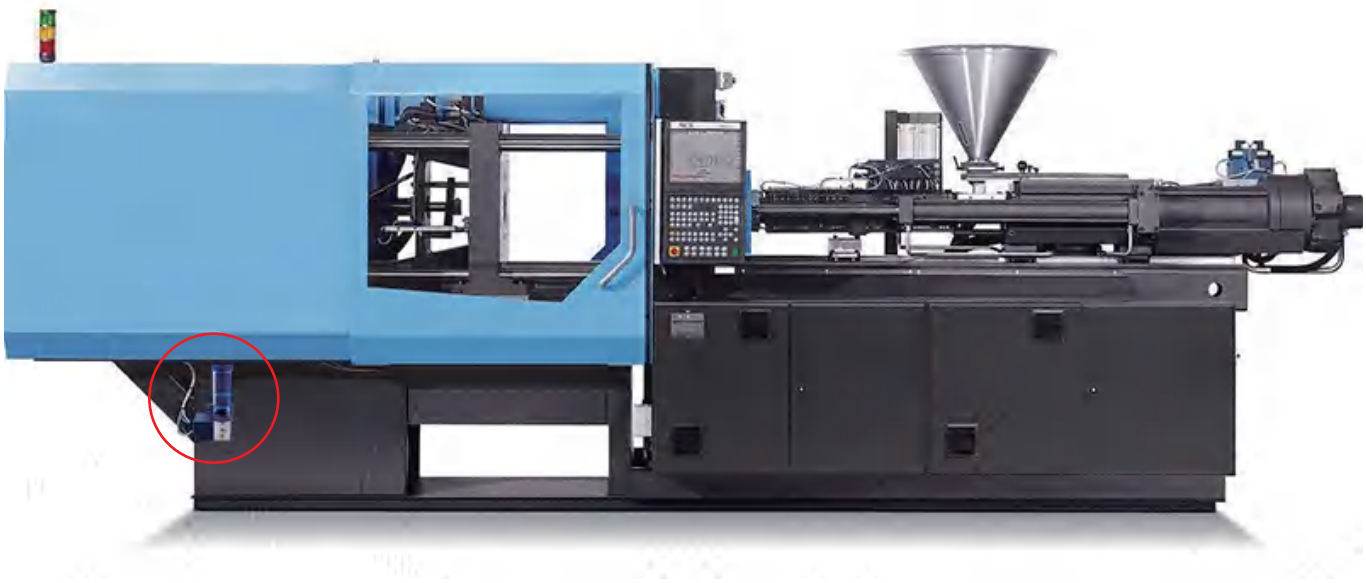
1. Two versions with reservoir or cartridge
2. Up to 2 lubricant outlets
3. With liquid level monitoring function
4. Woltage 12/24VDC, 110/220VAC
5. Max operating pressure 8MPa
6. Controlled by external PLC or with controller
7. Six optional mounting bores offer variety of installation possibilities
8. Manual lubrication button to facilitate system startup or exhaust
9. Venting screw for simple venting during system start-up or after cartridge exchange
10. Indoor use

Series Advantages

1. Cost-effective, stable & reliable, simple operation
2. Effective lubrication, extending equipment life
3. Accurate and stable system performance
4. It can be expanded to more lubrication points

Applications

Automation
Machine tools
Material handling
Plastic-injection-molding machinery and processes



Product Introduction

The P100 series pump system can lubricate up to 100 lubrication points, and the main line can be up to 15 meters long.
It has a pressure relief valve to make it suitable for use in the lubrication system of a single-line pressurized distributor.
Two versions of P100 series, reservoir and cartridge version.

Transparent Plastic Reservoir

Capacity: 0.3L, 0.5L, 1L, 1.2L, 1.7L, etc., including standard filters.

Advantages

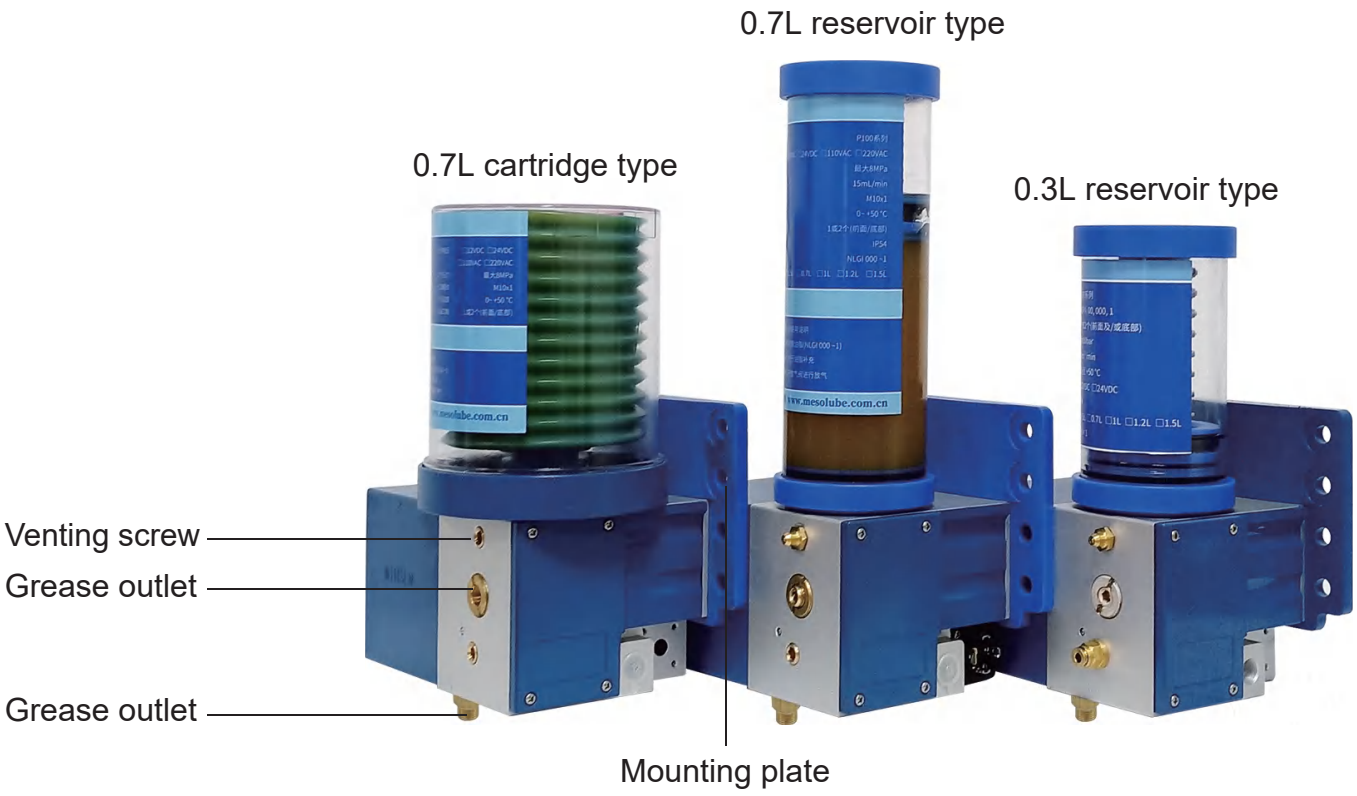
1. Flexible and easy to inject
2. With different capacity
3. Extend maintenance time
4. Exhaust only when the system is started

Pre-filled Cartridge

With liquid level switch, it can be filled with various grease NLGI000~2

Advantages

1. Avoid using wrong or contaminated lubricants
2. Reduce grease pollution to the environment
3. It can simplify inventory management
4. Replace the oil package safely and cleanly

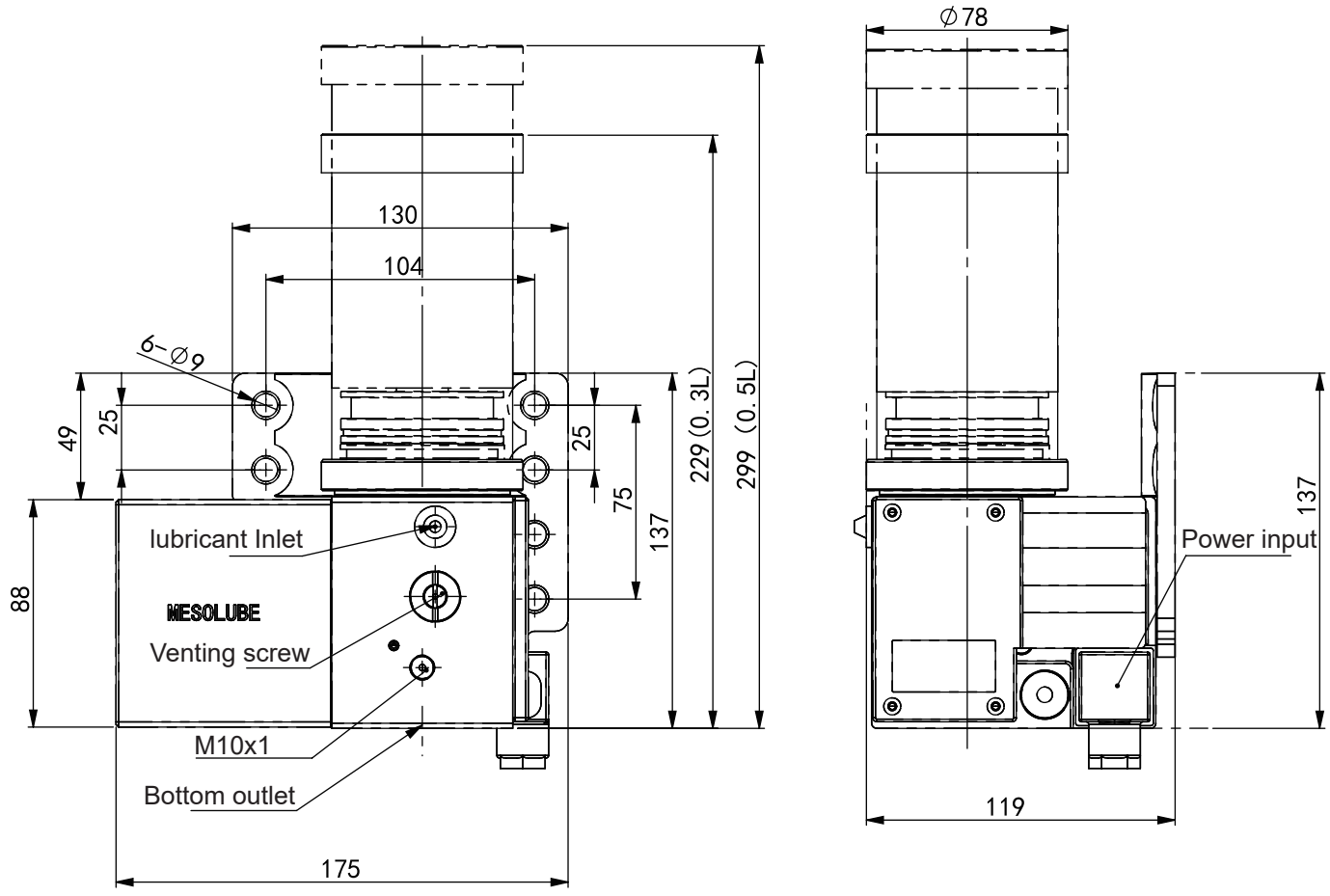


Technical data

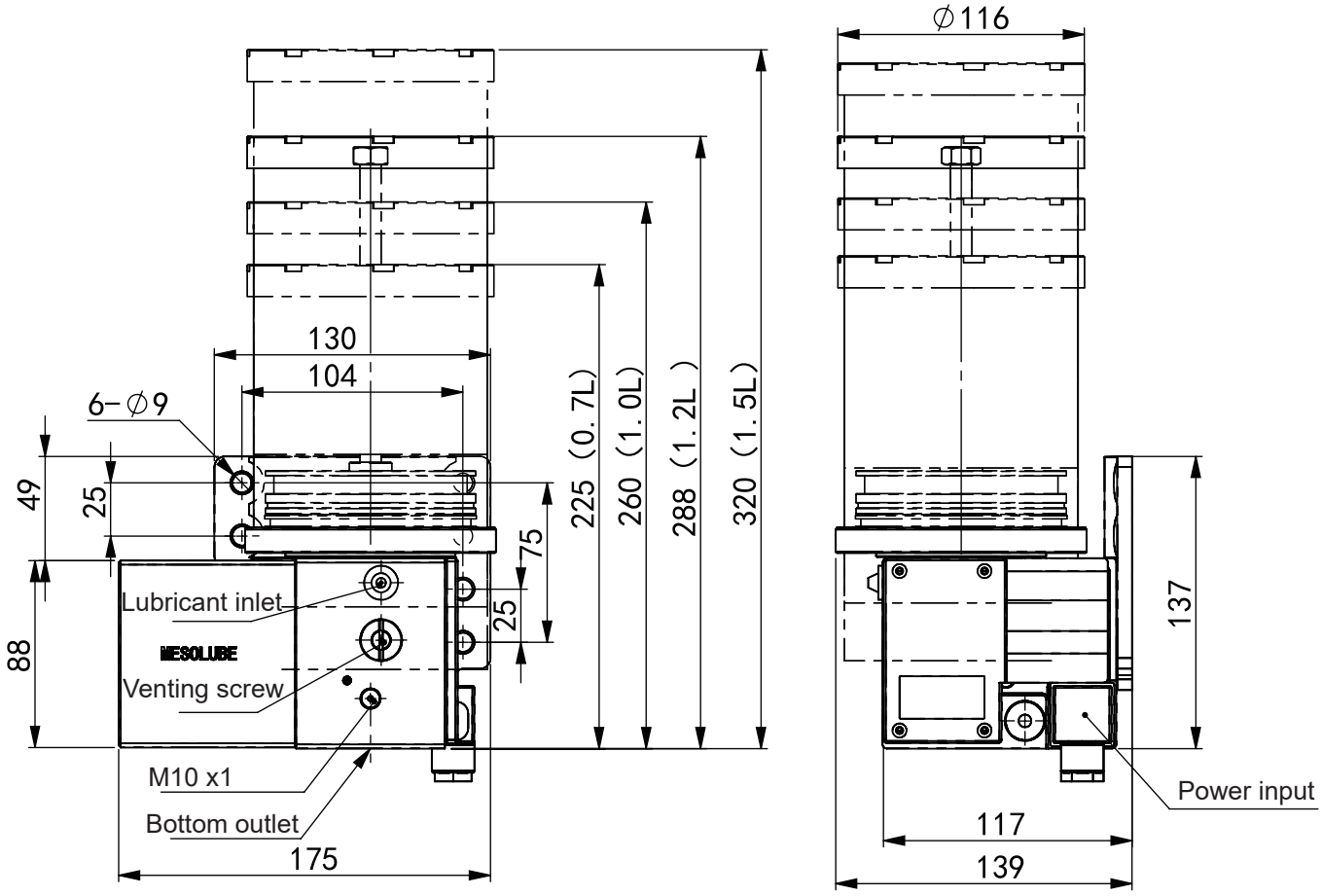
Specifications

Model	P100 series
Operating pressure	Max 8MPa
Operating temperature	0~+50 °C
Metering quantity	15mL/min
Operating voltage	12VDC, 24VDC, 110VAC, 220VAC
Protection class	IP54
Number of outlet	1or2 (front and/or bottom)
Lubricants	NLGI 000~2 (Working stable lithium soap grease)
Cartridges	0.3L, 0.4L, 0.7L
Reservoirs	0.5L, 0.7L, 1.0L, 1.2L, 1.5L
Mounting position	Upright

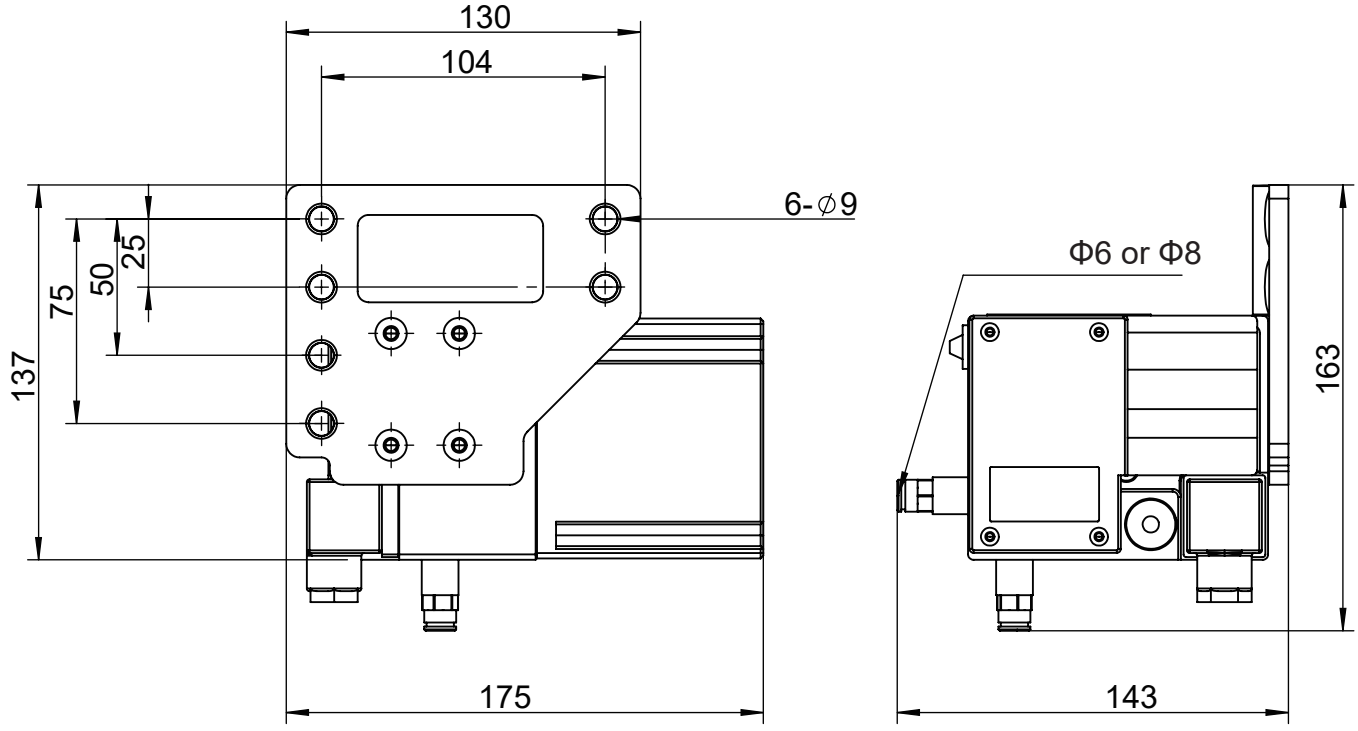
Dimensions (Reservoir series 0.3L, 0.5L)



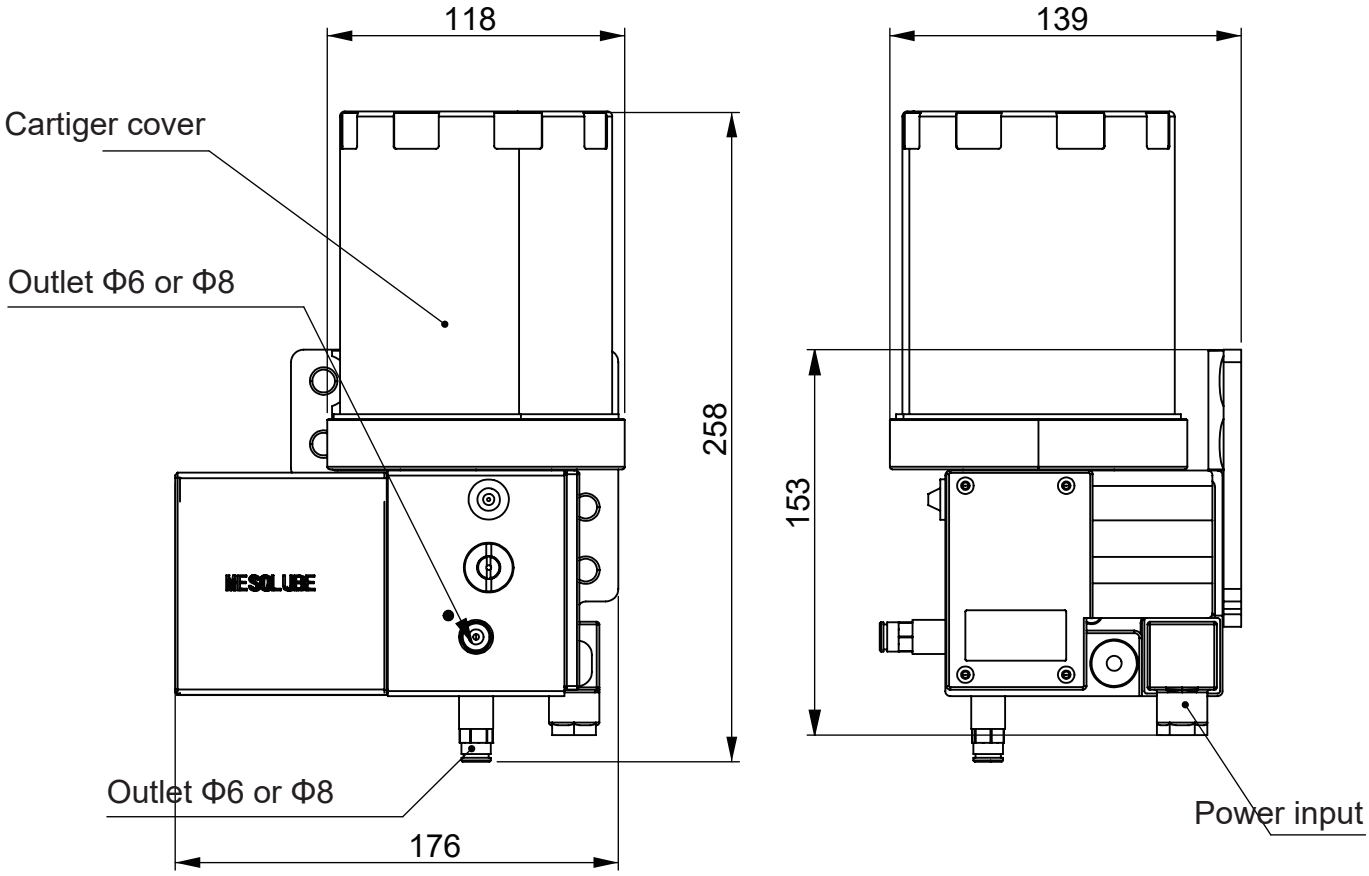
Dimensions (Reservoir series 0.7L, 1.0L, 1.2L, 1.5L)

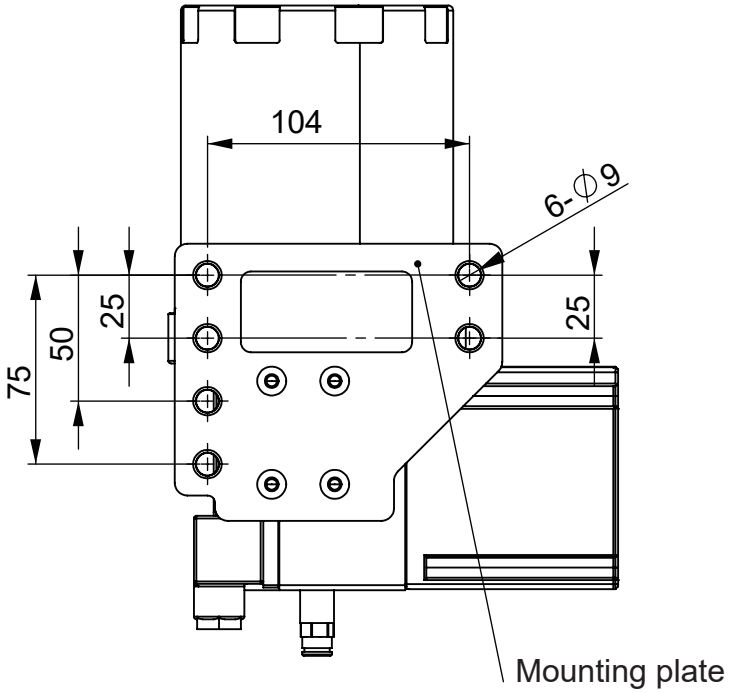


Base Dimension (Reservoir and cartridge version)



Dimensions (Cartridge series)





Order code

P100 - □ □ □ □

Pump type

P100 series electric grease pump

Reservoir or cartridge size

05 = 0.5L reservoir version
07 = 0.7L reservoir version
10 = 1.0L reservoir version
12 = 1.2L reservoir version
15 = 1.5L reservoir version
07C = 0.7L cartridge version
00C = without cartridge version

Operating voltage

12 = 12VDC
24 = 24VDC
110 = 110VAC
220 = 220VAC

Pressure-relief valve

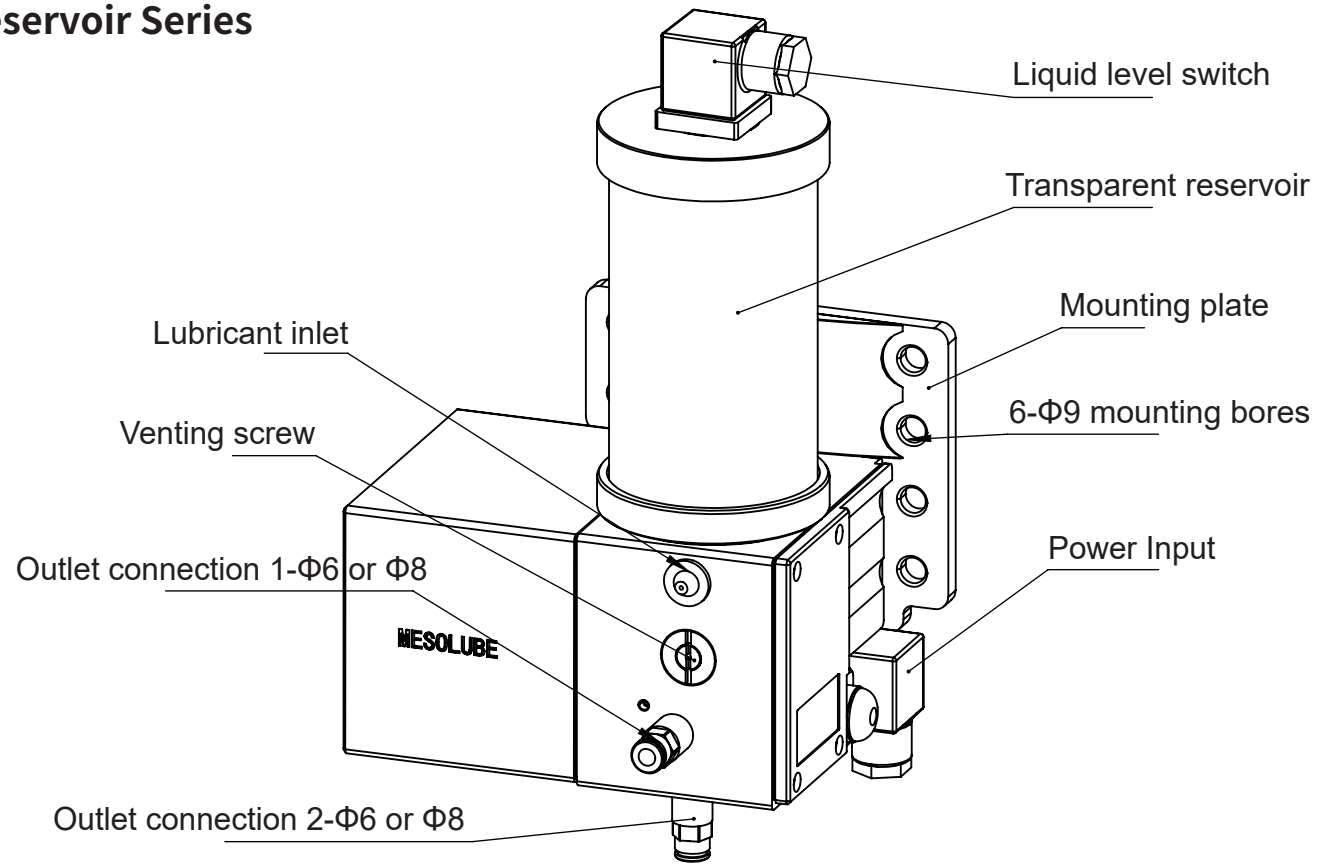
1 = with pressure-relief valve
0 = without pressure-relief valve

Operating controller

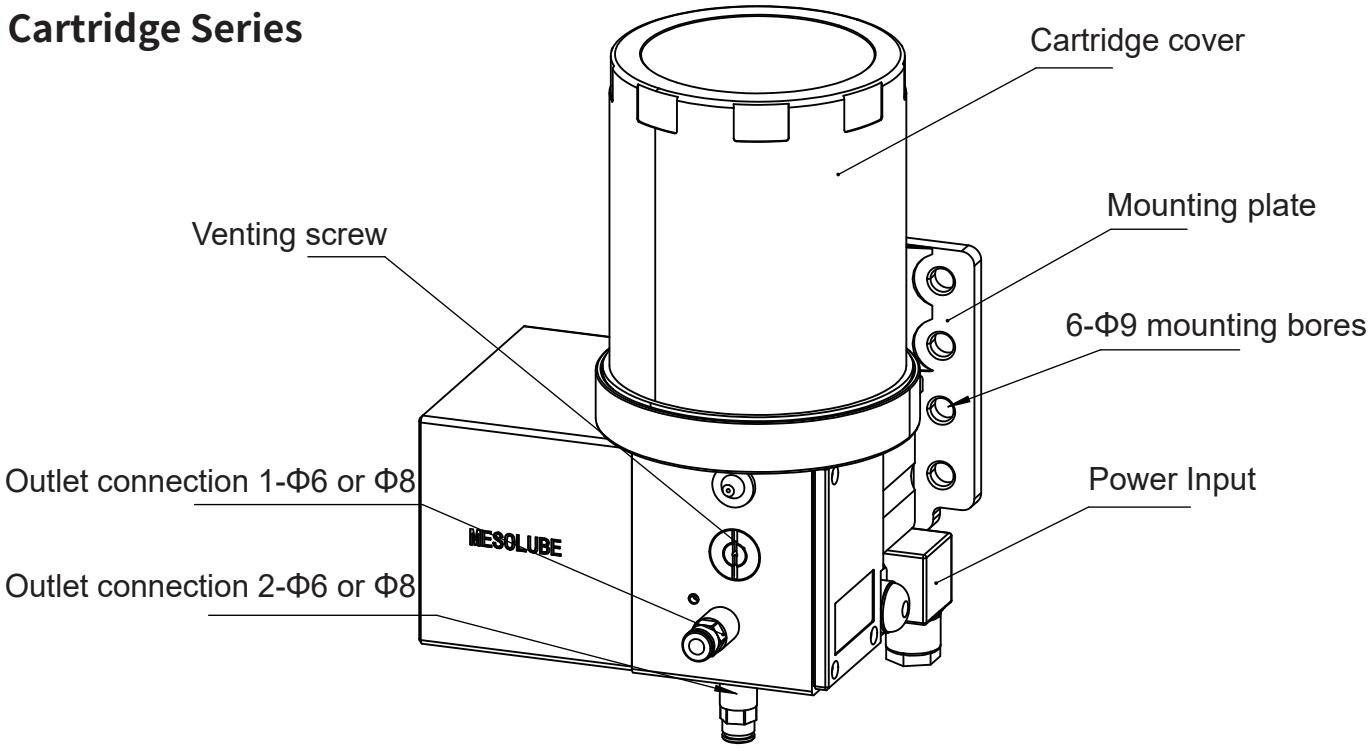
1 = with controller
0 = external controller

Details

Reservoir Series

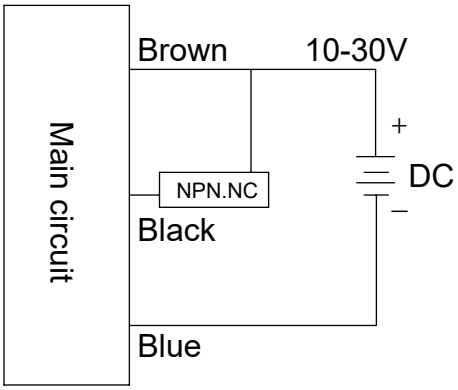


Cartridge Series

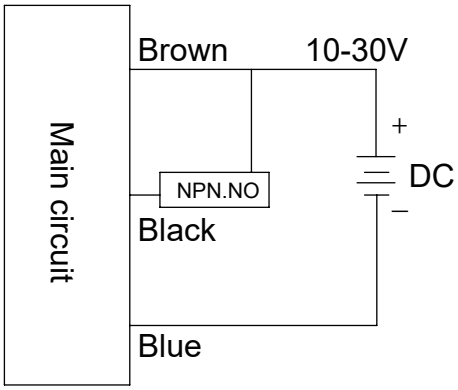


Liquid level switch (selection instructions)

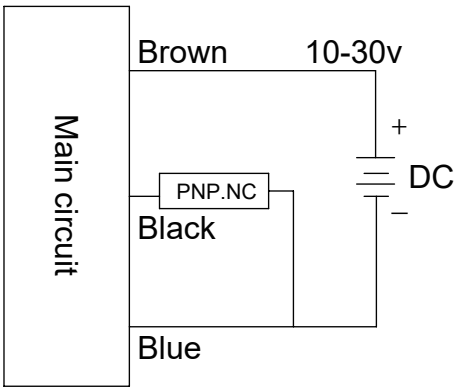
NPN.NC type(three-wire)



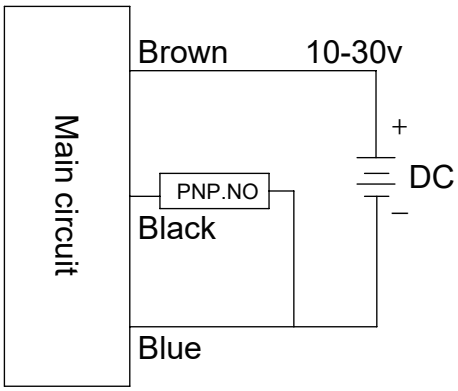
NPN.NO type(three-wire)



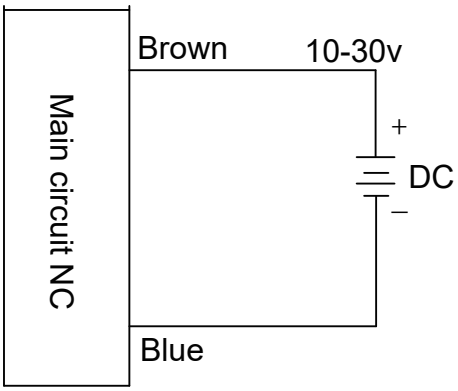
PNP.NC type(three-wire)



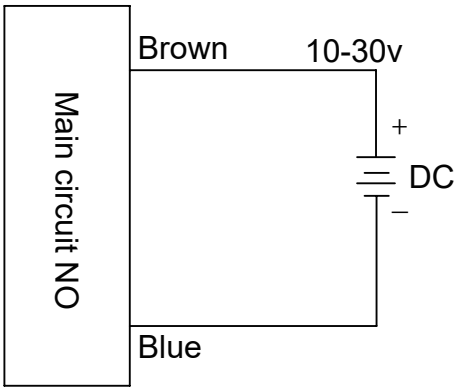
PNP.NO type(three-wire)



NC type(two-wire)



NO type(two-wire)

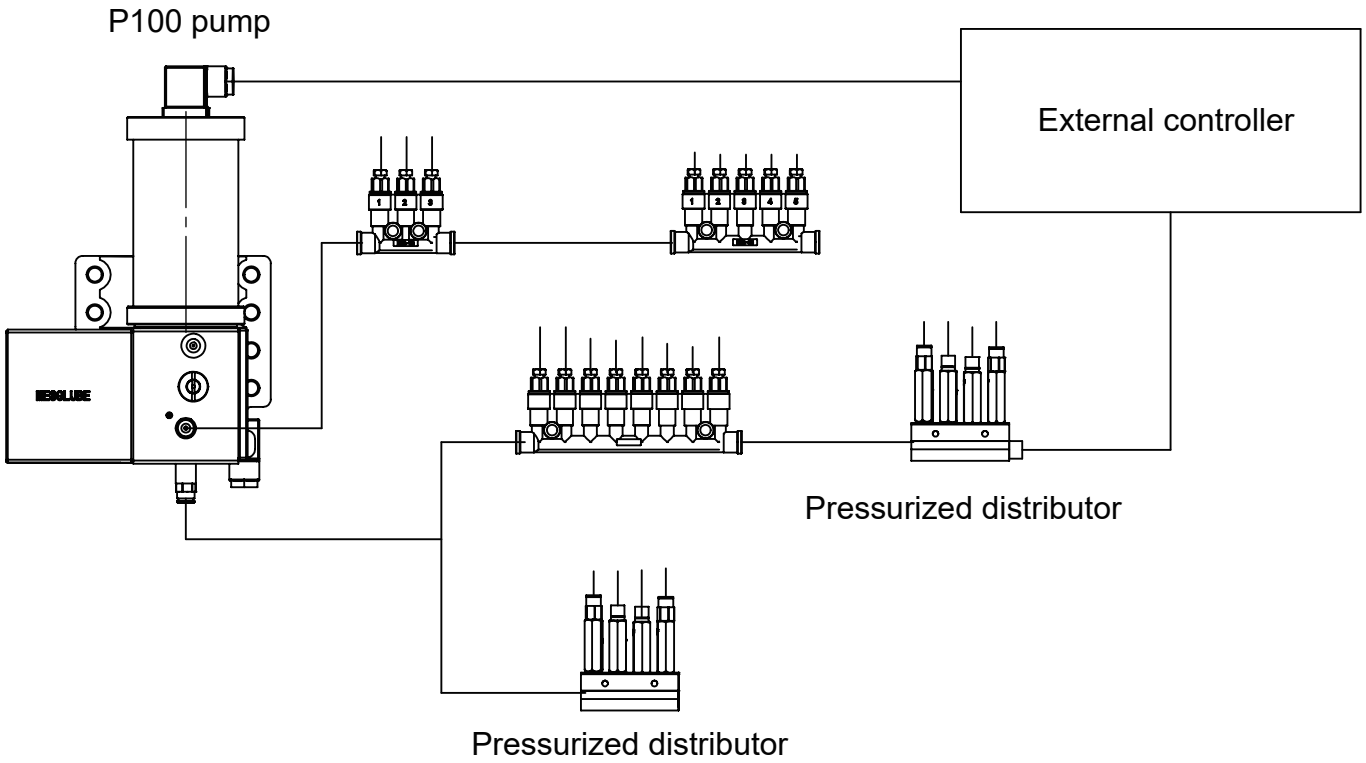


Lubrication system

Single-line System Features

♦ P100 series can be used in single-line centralized lubrication system. The reciprocating linear movement of the pump driven by the motor delivers the grease to the outlet of the pump, and reaches the lubrication point through the pressurized distributor. When the preset pressure is reached, the motor stops working, and the pressure relief valve also starts to work, releasing the pressure of the system, and one cycle is completed.
♦ The pump can be controlled by an external control system (or with its own controller). The control system mainly sets the lubrication frequency, lubrication time and interval time.
♦ System pressure is monitored by a pressure switch, which is usually installed in the tube before the last distributor. Pressure switch sends a signal to control unit, which stops the pump.
♦ The lubrication system composed of P100 pump and pressurized distributor works within the specified temperature range, the max pressure is 8MPa, the mini lubrication interval is 5 mins, max main line length is 15 meters, and it is suitable for up to 100 lubrication indoors small and medium equipment.

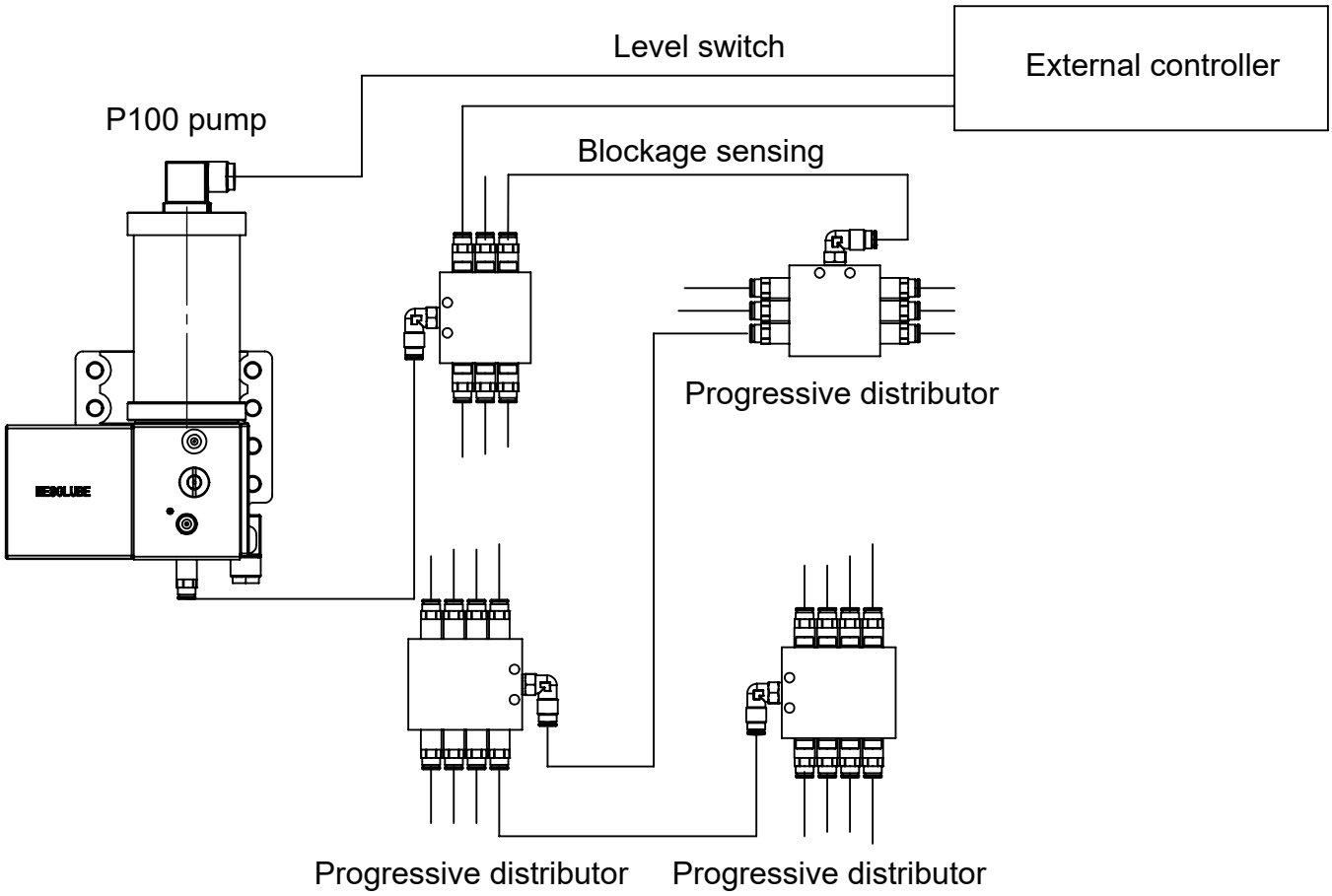
P100 Single-line System Layout



Progressive System Features

♦ The max length of the lubrication pipeline of the progressive system can reach 14 meters
♦ When the system fails and the distributor is blocked, the system will alarm.
♦ The lubricant can be distributed to each lubrication point in a predetermined proportion
♦ With visual monitoring or electrical monitoring function
♦ If the system is blocked, it can be seen from the safety valve that there is grease overflow.

P100 Progressive System Layout



Mounting requirements

Operating environment

Please ensure that the ambient temperature: +0~+50℃, humidity: 35~85%RH

Mounting details

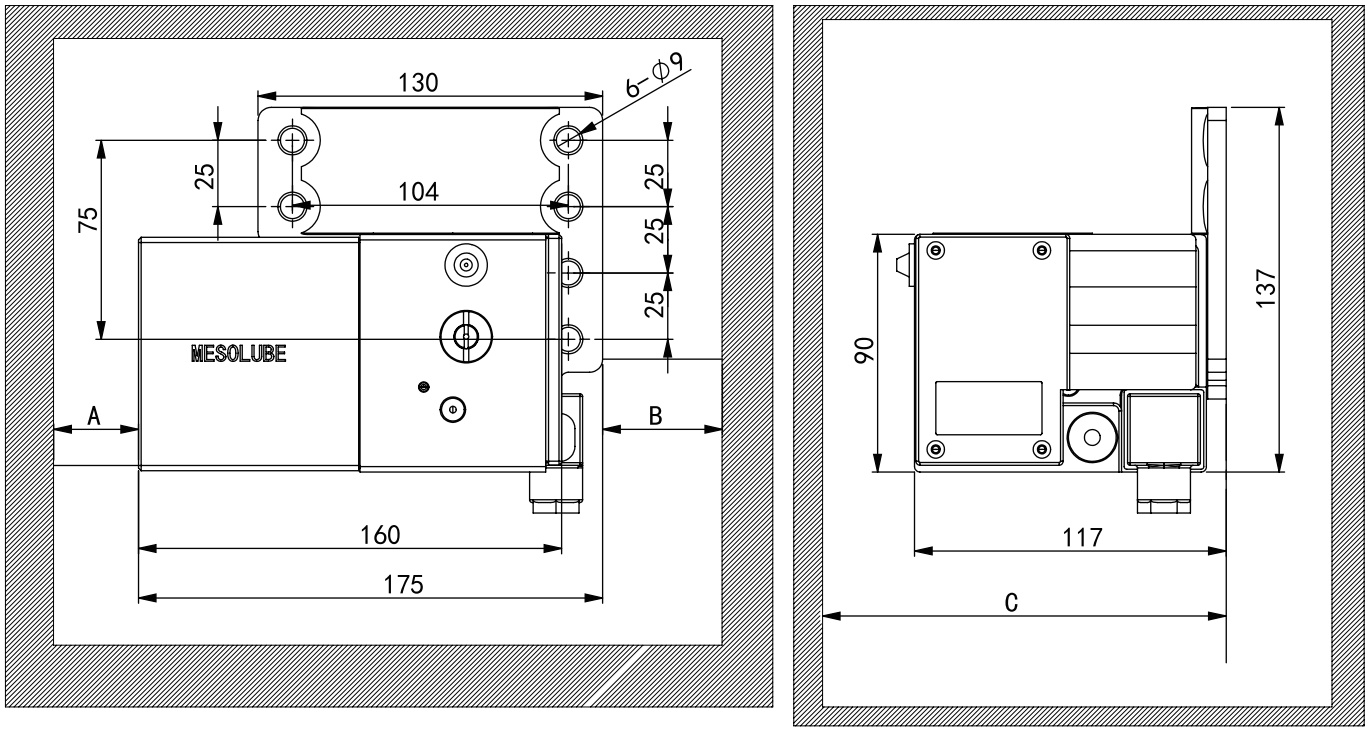
♦ Don’t drop the product to cause injury or property damage.
♦ When mounting tubing and related moving parts, please keep a safe distance and follow local regulations to prevent accidents.

♦ Be sure to fix the pump on a vertical and flat surface.
♦ Use 6 M8 bolts through Φ9 holes to mount and fix the pump.
♦ It is recommended to apply anti-vibration glue when the pump is subjected to vibration.
♦ Mount the pump in a location away from water, oil, chips and dust.
♦ Vibration: 9G (88m/s2) or less.
♦ On the electrical connection of the pump unit, make sure to take appropriate measures to prevent interference between signals due to inductance, capacitance or electromagnetic coupling. Please use anti-interference cables where electrical interference fields will distort signal transmission.

○ Be careful not to drop the main unit.
○ Do not pick up the pump by grabbing the cover, because the main unit may detach from the cover and fall.
○ Do not step on the pump, otherwise it will cause damage.
○ Do not damage the tubing due to assembly work.
○ Do not damage the pump unit due to assembly work.
○ The mouting position of the P100 series is vertical.
○ Do not use protruding parts (such as buttons or pressure gauges) as handles.
○ Do not mouting the product on the movable part of the equipment.
○ Make sure to leave the necessary space around the pump for operation and maintenance.

Minimum mounting space

To ensure that there is enough space for maintenance work, please ensure the smallest mounting space.



A:250 B:200 C:300

Lubrication line connection

It is necessary to connect the pump and the lubrication tubing without pressure.

♦ Ensure the used tubing, hoses, stop valves, directional control valves, accessories, etc. need to meet the max. working pressure, temperature range and grease level of the pump.

♦ Before assembling, must carefully check all the components required by the line, such as tubing, hoses, shut-off valves, directional control valves, accessories, etc.

♦ The seals in the tubing system must not protrude inward to avoid disrupting the flow of lubricant.

♦ Make sure there are no air pockets after the lubrication line is mounted.

♦ In the direction of grease flow, avoid connecting small diameter tubes to large diameter tubes.

♦ There must be a smooth transition in the connection transition of tubing with different diameters, and the connection should avoid sudden changes in direction.

Refilling

Filling cartridge

Please make sure that under this condition: +0~+50℃, humidity: 35~85%RH

Molde	Orde code	filling method
P100 series	P100-07C1211	Disposable oil package

Precautions

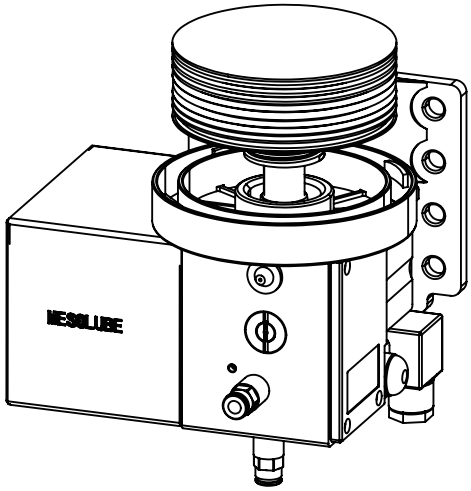
The standard LHL package is recommended. If the cartridge is removed before the grease is used up, air will enter and cause failure, so please make sure that the grease in the cartridge is completely used up before replacing.

♦ Don't turn on the power with the empty cartridge taken out, otherwise the pump will suck in air or foreign matter and cause its malfunction.
♦ When replacing the cartridge, do not wipe around the inlet of the pump with a dirty cloth, as this will cause the pump to suck in foreign matter and cause its failure.
♦ Only standard LHL cartridge is supported. Using other grease may cause system failure and damage important parts of the equipment.
♦ Do not inject grease into an empty cartridge and reuse it, as this may cause the cartridge to rupture or cause the pump to malfunction due to the entry of air or foreign objects.

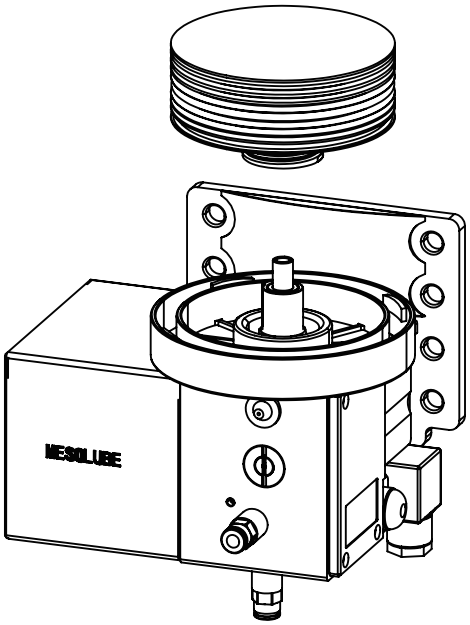
Replacement procedure

If the grease level switch works, or the cartridge will shrink when the amount of LHL is used up, please replace cartridge according to the following steps.

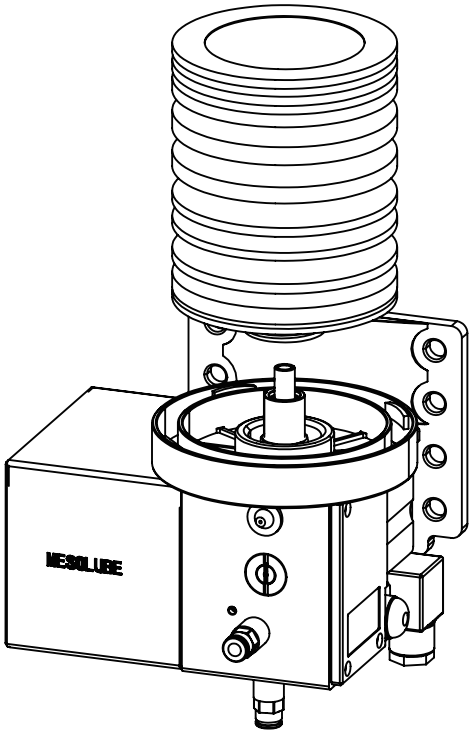
(1) Rotate the transparent cover counter-clockwise to remove it from the pump.



(2) Turn the empty cartridge counterclock-wise and remove it

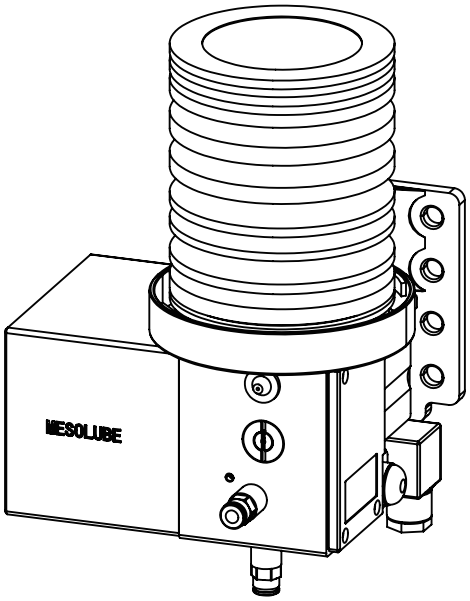


(3) When mounting a new cartridge, tighten the threads on the cartridge and adapter clockwise



Stop when the cartridge is tightened, otherwise the thread will be damaged.

(4) Mount the thick sister of the cartridge and turn the cover clockwise to tighten



When mounting cartridge, avoid the entry of air or foreign objects

Troubleshoot

Precautions

Only original MESOLUBE spare parts can be used. It is prohibited to modify the product without authorization and use non-original spare parts and accessories.
The lubrication system is under pressure during operation. Therefore, before starting assembly, maintenance or repair work or any system modification or system repair, the lubrication system must be decompressed.

Troubleshooting

Fault	Cause	Troubleshoot
Motor fails to start when the operating voltage is applied	♦ No working voltage of motor	♦ Check the power connection ♦ Check the correct connection of the power plug/cable ♦ Check operating voltage on motor
No pressure build-up or release	♦ There is not enough grease inside the pump	♦ Cartridge/reservoir empty ♦ If motor resistance is high, replace the pump
	♦ Unsuitable grease is used	♦ Remove lubricant from system and dispose of lubricant in the proper manner
	♦ The pressure is too low or too high, the pressure regulating valve is defective	♦ Replace the pressure regulator
	♦ The ambient temperature is too low	♦ Increase ambient temperature
	♦ Air in the main line ♦ Main line leaky/broken	♦ Vent main line ♦ Repair main line