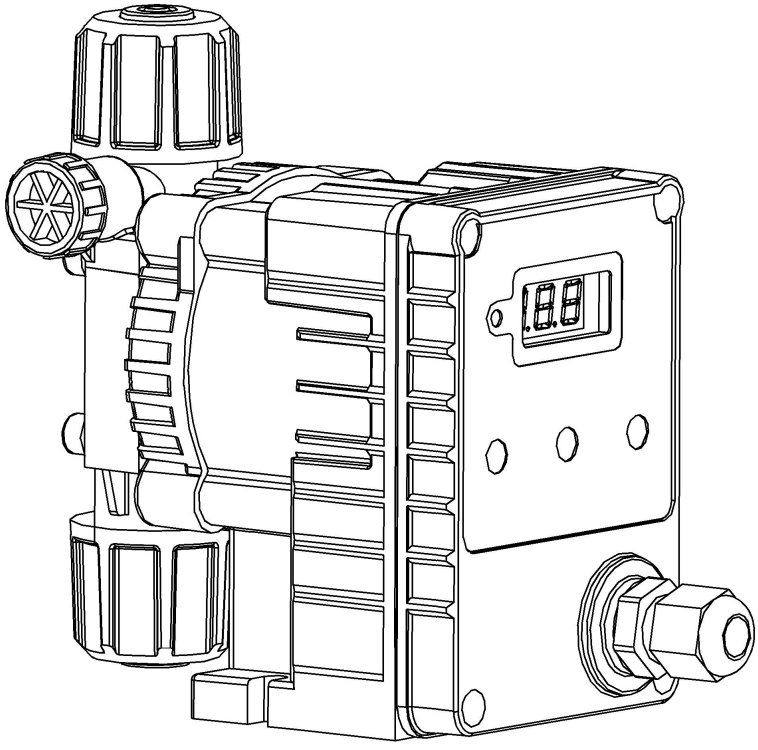
LANGO®

EJ Series
Electromagnetic Dosing Pump
Instruction



Thank you for choosing our products

Please read this instruction before using the product. This instruction describes the important precautions and practical instructions of the product.

Important note

Safe and proper use of pumps

- The Safety Instructions cover important details of operating the pump. Please read this section carefully before using the pump To avoid personal injury or property loss.
- Be sure to comply with the warning or attention instructions in this specification. This part is very important to prevent the pump operator from being hurt in a dangerous state.
- Here is the meaning of the symbol:

Types of symbols



A "warning" or "note" that must be executed. In this triangle there is a warning or Pay attention to the concrete and practical information of the form description.



Represents a prohibited operation or procedure. Within or to the symbol, describe the specific operations that need be avoided.



Represents an operation or procedure that must be performed correctly. The operation error mentioned here will cause the pump failure of operation which will lead to pump failure or damage.

Security statements

Warning

● Turn off power

Operating the pump without cutting off the power will cause electric shock. Before implementing any pump operating procedures, make sure that the power has been turned off and the pump and other related equipment have been stopped.



● Terminate operation

During the operation, once an exception is found, the operation should be stopped immediately and checked and troubleshooting.



● Applicable only to specified conditions

The use of pumps under non-specified applicable conditions may cause personal injury or pump damage. Please use the pump strictly according to the specified conditions.



● No modification

Do not modify the pump. We are not responsible for any accidents or dam- age due to modification.



● Wear protective gear

When arranging pipes or disassembling pumps, be sure to wear protective equipment such as safety glasses, protective gloves, etc.



● Waterproof

Pump does not have waterproof function. The use of pumps in areas where there is water spatter and humidity can cause electric shock or short circuit



Notice

● Qualified operators

The operator of the pump must have sufficient knowledge and operation experience of the pump.



● Applicable to specified voltages only

Do not make the pump work at a voltage not specified by the nameplate, otherwise it will cause damage to the pump or cause fire.



● Static idling

Do not idle the pump, otherwise the heat generated by friction between the pump components will cause damage.



● Do not place the pump close to water

The pump is not water-proof construction.

The use of the pump in a humid place or a place where the pump can bet wet, electrical shock or short-cir- cu it may result.



● Ventilation

Poisoning may be caused when working involving toxic liquids. Therefore, it is necessary to ensure full access to the operating site Wind.



Warning

● **Prevent the accidental outflow of fluid**

Appropriate measures shall be taken to prevent accidental outflow of fluid during pump or pipe rupture.



● **Fault pump**

Do not use the damaged pumps. Using a faulty pump may cause electric leakage or electric shock.



● **No damage to wires**

Do not pull, destroy, change connecting wires, hang heavy objects on wires or heat them, which may lead to fire or electric shock.



● **Ground and install electric leakage protector (optional)**

Please connect the ground wire and install the leakage protector, otherwise there is a risk of electric shock.



● **Wire processing**

Do not use any broken wires, or a fire or electric shock may occur. The wires should be handled with great care.



● **Replacement of vulnerable parts**

The parts shall be replaced according to this instruction. Do not do the operation beyond this instruction manual during maintenance.



● **Provisions on the operation and storage points**

Do not install or store the pump in: 1.Ambient temperature exceeds the range of 0 to 40 degrees 2.Nearby flammable gas



● **Treatment of old pumps**

Used or damaged pumps must be properly handled in accordance with relevant laws and regulations.(Ask the certified industrial waste disposal company)



Product Description

1.Safety and Precautions

Avoid temperatures above 0-40° C, or pumps and pipes are directly exposed to direct sunlight using pumps. Be sure to cut off the pump power before maintenance.

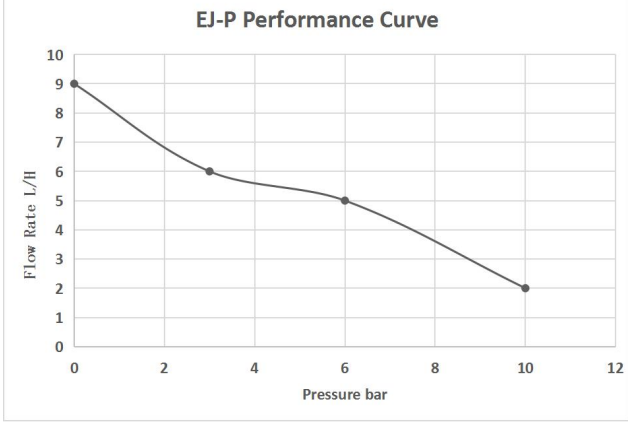
When operating the pump or its surrounding environment, be sure to properly wear the protective equipment and equipment recommended by the liquid supplier. Be sure to release the pressure before removing the pipe or repairing the pump.

2.Working principle

EJ series electromagnetic metering pump consists of pump head, driver and controller. The drive is an electromagnetic coil. When the controller energizes the coil, the core and connecting rod move forward under the action of electromagnetic force. The forward movement of the diaphragm reduces the pump cavity space and increases the pressure, forcing the fluid in the pump cavity to be discharged through the valve assembly of the outlet pipe. When the current of the coil is cut off, the iron core and the connecting rod are bounced back to the original position by the elastic force of the reset spring, the connecting rod drives the diaphragm back, the space in the pump chamber increases and the pressure drops, and the liquid in the tank is under atmospheric pressure. Through the controller drive the driver's frequent action to complete the liquid is inhaled and spit out.

3.Specification

Model:EJ-P,manual type with screen, frequency:0-360spm, ø4×6mm, 20w,



Attention 1. Pump performance is obtained by pumping water at ambient temperature at rated voltage.

2. The above parameters are measured with clear water. When the pressure drops, the amount will increase.

3. Allowable ambient temperature :0~40 degrees Celsius

4. Allowable liquid temperature :0~40 degrees Celsius

5. Allowable voltage range: within 10%± rated voltage

1) Special circumstances of the allowable voltage range, such as the transfer of slurry, please consult us.

2) due to product improvement, product specifications may change, without prior notice, can be adjusted.

Material

Pump head	Diaphragm	Valve ball	Valve seat	Valve guide	Gasket	O-ring
PVC	PTFE (EPDM not wet-end)	ceramic	PP+30%GF	PP+30%GF	PTFE	EPDM

CODE PVC: transparent polyvinyl chloride PP: polypropylene
EPDM: ethylene propylene terpolymer PTFE: teflon

Installation

1.Open the package and check

After opening the product packaging, check that the pump and its accessories are damaged. If any parts are lost or damaged, please ask the local distributor for a refund.。（12 pumps a carton, standard spare parts:1pc injection valve,1pc filter valve,1m PVC hose,2m PE hose）

2.Location

Select a clean, dry, close to the power supply to install the pump, requiring easy stroke adjustment and pipe connection. Avoid installation locations outside the ambient temperature of 0-40 degrees Celsius, pumps and pipes should avoid exposure to direct sunlight.In any case, the suction and installation height of the metering pump shall not exceed 1.0m.

3.Inhalation pipe installation

The suction line is made in as short as possible. For spontaneous suction, a stop valve shall be installed in the tank outlet pipe and minimize the distance between the stop valve and the pump suction port. For bracket mounting or groove top mounting, bottom valves shall be installed at the end of the suction tube. The vertical height of the bottom valve from the bottom tank is about 25mm. In order to avoid bending the suction tube, there should be a rigid PVC tube on the outside of the suction tube to keep the suction tube straight.

4.Exiting pipe installation

The requirements for discharging tube installation are not high. The end of the spit tube can connect to any injection point where the liquid needs to be injected, but avoid sharp curves and kinks. Do not make the pipe be cut or cut off by sharp edges and corners. It is recommended to install the check valve at the injection point and connect the discharge pipe to the check valve.

Warning
When the spring in the check valve is made of Harbin alloy or other metal materials, attention should be paid to its corrosion resistance. When conveying corrosive liquids such as HCL, please ask us for the check valve of suitable material.

5.Power supply wiring

To connect the pump power cord to a socket with suitable voltage and grounding. Do not use the power supply circuit to supply power to heavy equipment or other equipment at the same time to avoid generating clutter and interfere with the normal of the pump.

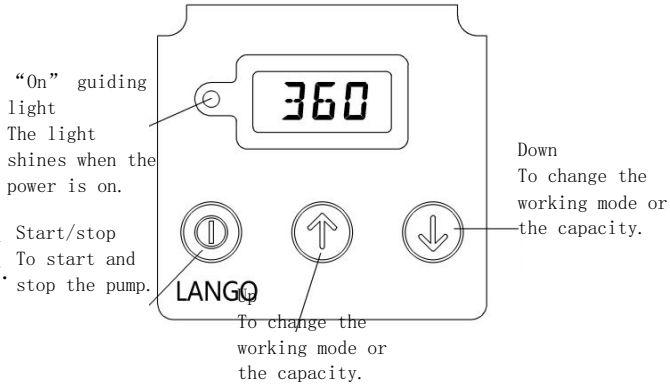
Warning
● Do not allow the pump to operate with the exit valve completely closed. Otherwise, it may lead to liquid leakage or pipe rupture. If the operation lasts for more than 30 minutes, the heat will accumulate in the pump, causing the pump head, valve body and other deformation after the loose connection, resulting in leakage. Never keep the pump running when the discharge valve is closed. ●Do not void the pump. The pump is easy to leak after idling, so ensure that the pump chamber is filled with liquid before allowing the pump to start. * After the pump idling for a long time (over 30 minutes), it will cause the pump body to overheat, causing deformation of the pump assembly (pump head, valve sleeve, etc.) or loosening of the pump head connection, resulting in liquid leakage. ● Keep the pump head connected firmly. If the pump head connection bolt is loose, it will cause leakage. * Prior to the pump, confirm that 4 connecting bolts have been tightened.(Pump head connection bolts may be loose during storage or transportation) The pump head shall be fully connected with the same amount of torque in diagonal order.

Operation

1.Operation

①Use the ⏻ (Start / Stop) key to start / stop the pump. When the pump starts or stops, the impulse frequency can be adjusted at the same time.

Long press this key to lock or unlock the current frequency.



②Use▲ (UP) and▼ (DOWN)

To set 1～360 spm frequency.

Keep pressing can quickly adjust the frequency.

③Install the pump and start to the stroke frequency Set to 360 times / min to quickly drain the gas in the pump chamber,set▲ (UP) and▼ (DOWN)to the suitable capacity.

2.Adjust

If the required flow is not the maximum output, adjust the stroke frequency to the required.

3.Calibration

If precise output is required, complete the exhaust and conditioning operation, then attach a calibration container to the suction end of the pump. Run the pump for one minute to measure the output from the calibration container. Adjust the stroke frequency as necessary and measure the output again. When the required discharge volume is reached, remove the calibration container and reattach the suction tube.

Maintenance

⚠ Warning
● Before maintaining the pump, cut off the power supply, release the outlet pressure, drain and flush the residual fluid in the pump head and valve assembly.

1. Membrane replacement

Cut off the power supply, remove the suction pipe, and spit out the pipe and exhaust pipe. Remove the pump head connection bolt, unscrew the diaphragm, remove the small gasket behind the baffle and diaphragm, then install a new diaphragm, baffle and small gasket on the connecting rod, and turn the diaphragm clockwise until the diaphragm is completely

locked on the connecting rod. Reinstall the pump head and tie the bolts with the pump head with a suitable torque wrench.

2. Valve replacement

Remove the suction and discharge tubes, remove the suction end and valve assembly, and then install a new valve assembly to ensure that both seats are oriented correctly. Finally, tighten the suction end connector. Replace the vent valve assembly for the same thing.

3. Hose replacement

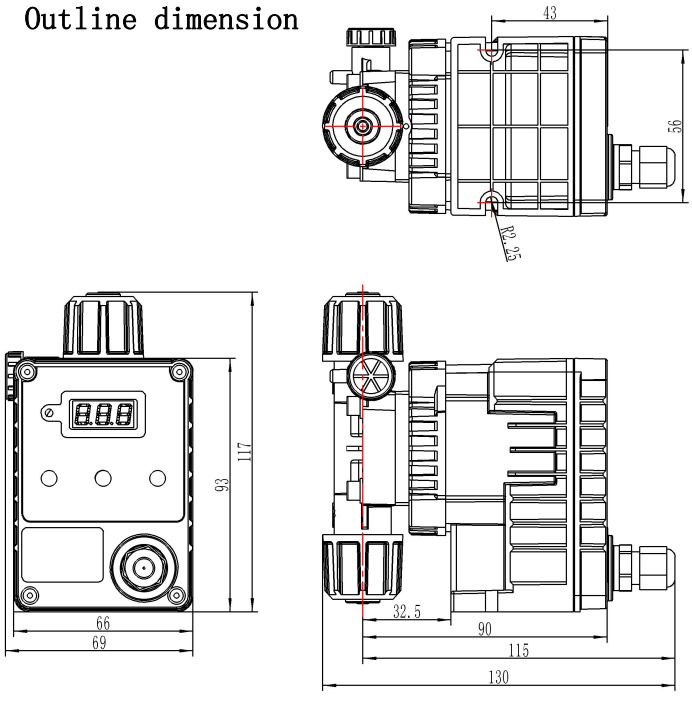
Check the line for scratches, cracks and thinning. Check the entire pipe for damage due to friction, corrosion, stress, overheating, or ultraviolet light exposure (direct sunlight or mercury vapor lamp exposure). If the above situation occurs, the whole pipeline should be replaced. It is recommended to replace the exout tube regularly every 12 months.

4. Debugging

Breakdown	Cause	Measure
The pump can not be started.	○ wiring error ○ voltage error ○ PCB damage	○ Correct wiring ○ Connect the appropriate voltage ○ Replace the controller
The pump cannot absorb liquid.	○ There is air in the suction tube ○ The valve gasket is not installed ○ The valve assembly is misoriented ○ An air lock ○ The suction valve or the discharge valve is blocked by a foreign body ○ The valve ball is stuck on the valve seat	○ Reset the suction tube discharge air ○ Install valve gaskets ○ Reinstall the valve assembly ○ Open the air vent ○ Disassemble, check, and clean up ○ Disassemble, check, and clean up
The amount of spit out is unstable	○ The suction valve or the discharge valve is blocked by a foreign body ○ There are bubbles in the pump ○ Overliquid supply ○ Membrane damage	○ Disassemble, check, and clean up ○ Open the air vent ○ Install the injection valve or the back-pressure valve ○ Replace the membrane
Liquid leakage	○ The connector or the lock nut becomes loose ○ The pump head becomes loose ○ Membrane damage ○ Seal rings and valve gaskets are missing	○ Tighten ○ Tighten the upper pump head connection bolts ○ Replace the membrane ○ Install the sealing ring and the valve gasket

Outline dimension

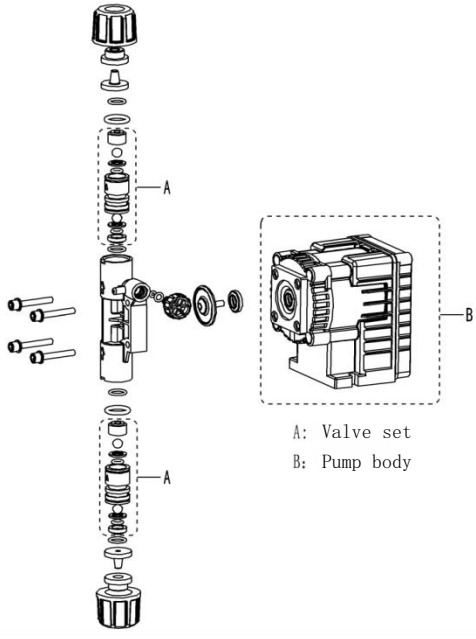
5. Outline dimension



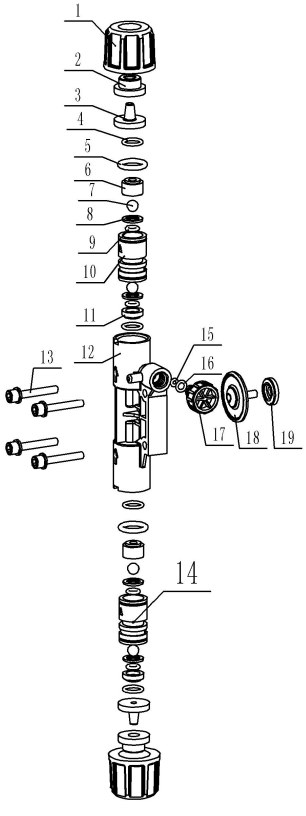
Explosive view

6. Explosive view

Here, all the parts are completely decomposed, mesh Are to give users a clearer understanding of its structure, However, in the actual disassembly, the degree of disassembly is not Beyond the extent specified in the maintenance section of this manual.



7.Spare parts list

EJ-10,15,20	No.	Spare part name	Quantity
	1	Lock nut	2
	2	4*6 round joint	2
	3	4*6 taper joint	2
	4	O-ring 9*1.7	2
	5	O-ring 11*2.65	2
	6	Valve guide	2
	7	Valve ball	4
	8	Valve seat pressing plate	4
	9	O-ring 4.5*1.8	2
	10	Outlet valve guide (with hole)	1
	11	Valve seat	2
	12	Pump head	1
	13	Bolt	4
	14	Inlet valve guide (without hole)	1
	15	Air vent O-ring2 2*1.5	1
	16	Air vent O-ring2 4*1.5	1
	17	Air vent knob	1
	18	Membrane	1
	19	Membrane gasket	1

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