

LEO[®] **B.0**
≡ **INNOVATION** ≡



CIRCULATING PUMP

LRP

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This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Attention!

If the appliance or the supply cord is damaged, it must be repaired by manufacturer, its service agent or qualified person.



Meaning of crossed –out wheeled dustbin:

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact you local government for information regarding the collection systems available.



Before installation, you should carefully read this manual.

1. Introduction

LRP series is a hot water-circulation pump, which features adjustable speed. Three speed levels are available. It is suitable for circulation systems with pressurized liquids, hot-and-cold water circulation system, water booster for family use, closed industrial circulation systems, air-conditioning systems, heaters, even for circulation of fish-pond and fish-tanks, and as a pressurized supplier for water-towers, etc.

Operating conditions:

Non-inflammable, non-adhesive and non-explosive liquids not containing solid particles, fibers and mineral oil

Liquids temperature: +2~+60°C; +2~+95°C; +2~110°C, Please see the nameplate

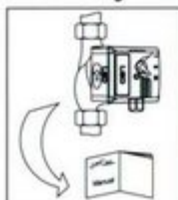
Ambient temperature: +2~+40°C

Max. Operation pressure: 6bar; 10bar, Please see the nameplate

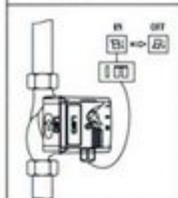
Protection grade: IP42; IP44, Please see the nameplate

Insulation grade: Class H

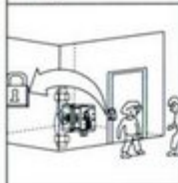
2. Safety Instructions



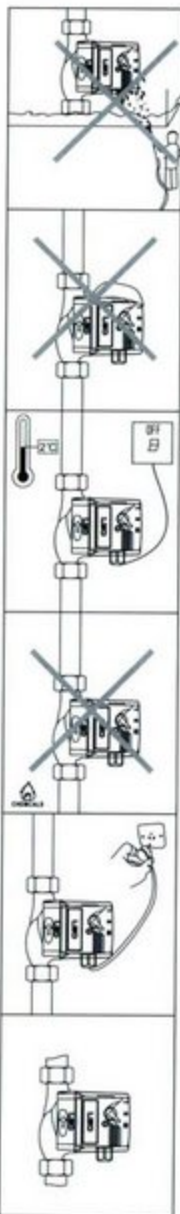
1). To ensure normal and safety operation of the electric pump, read the manual carefully before use.



2). The electric pump should have reliable grounding to prevent short circuit; for safety, leakage protection switch should be equipped and be careful not to wet the power plug; socket should be connected in damp-proof area.



3). Do not touch the electric pump while working.



4). Avoid splashing pressured water to the electric pump as well as prevent the pump immersed by water.

5). Keep the pump in ventilation.

6). In case ambient temperature is lower than 2°C, take anti-freezing measures to avoid ice cracking of the pump chamber.

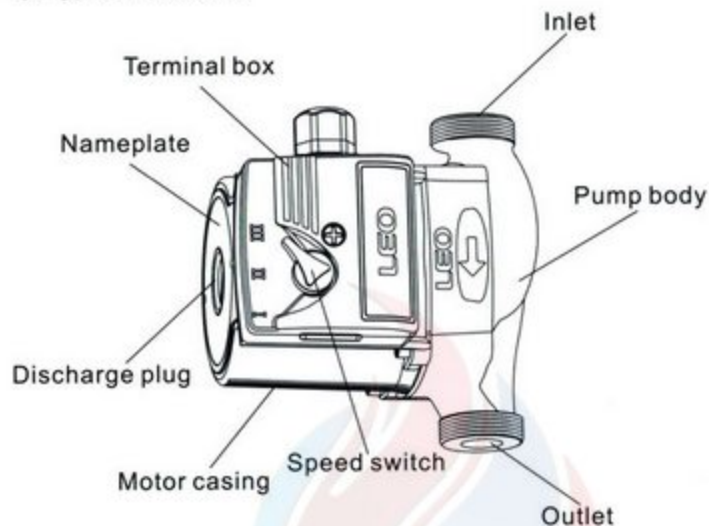
7). Do not transfer any inflammable, explosive or gasified liquids that beyond the stipulation.

8). Ensure the pump will not be accidentally turned on while installing and maintaining. The maintenance shall be done by the professional.

9). Power supply should be in accordance with the voltage stated in the nameplate.

3.Product Structure

1). Typical Structure



LRP XX - XX X / XXX

Sample:

Distance between inlet and outlet

No identification=Cast iron pump body & threaded connection

F=Cast iron pump body & flange connection

B=Bronze pump body & threaded connection

A=AUTO

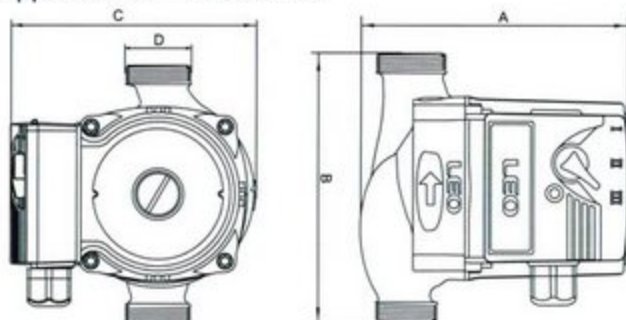
Max. Head (dm)

Inlet/outlet ID. (mm)

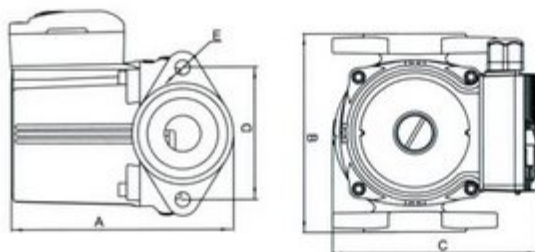
LEO3.0 Circulating Pump

Warning: If an external control system is added to the circulation pump, the automatic mode needs to be adjusted to the manual mode, otherwise the pump cannot operate normally.

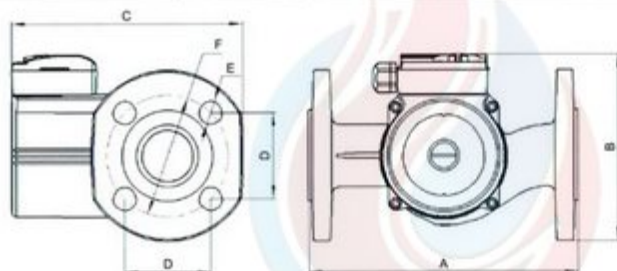
2). Appearance & Dimensions



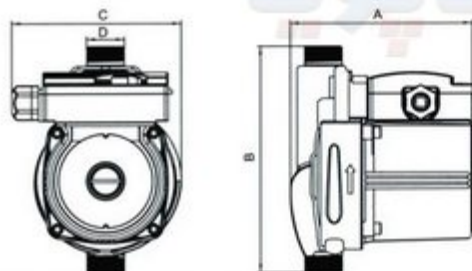
Model	A(mm)	B(mm)	C(mm)	D
LRP15-40/130	130	130	125	G1
LRP15-40B/130	130	130	125	G1
LRP20-40/130	130	130	125	G1.25
LRP25-40/130	130	130	125	G1.5
LRP25-40/180	130	180	125	G1.5
LRP32-40/180	135	180	125	G2
LRP15-50/130	130	130	125	G1
LRP15-50B/130	130	130	125	G1
LRP20-50/130	130	130	125	G1.25
LRP25-50/130	130	130	125	G1.5
LRP25-50/180	130	180	125	G1.5
LRP32-50/180	135	180	125	G2
LRP15-60K/130	130	130	125	G1
LRP25-60K/130	130	130	125	G1.5
LRP15-60/130	130	130	125	G1
LRP15-60B/130	130	130	125	G1
LRP20-60/130	130	130	125	G1.25
LRP25-60/130	130	130	125	G1.5
LRP25-60/180	130	180	125	G1.5
LRP32-60/180	135	180	125	G2
LRP25-70/130	130	130	125	G1.5
LRP25-70/180	130	180	125	G1.5
LRP32-70/180	135	180	125	G2
LRP25-80/180	154	180	134	G1.5
LRP32-80/180	168	180	137	G2
LRP25-120/180	155	180	148	G1.5



Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
LRP21-40F/120	130	120	125	80	M10
LRP21-50F/120	130	120	125	80	M10
LRP21-60F/120	130	120	125	80	M10
LRP21-70F/120	130	120	125	80	M10



Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)
LRP32-80F/220	220	150	191.5	71	Φ 19	Φ 100
LRP36-80F/200	200	138	174.5	64	Φ 11.5	Φ 90
LRP40-80F/250	250	155	196.5	78	Φ 19	Φ 110



Model	A(mm)	B(mm)	C(mm)	D
LRP15-90A/160	129	160	120	G0.75

4. Technical Parameters

Model	Input Power(W)			Max. Flow (L/min)	Max. Head (m)	Inlet/Outlet Dia.(mm)	Pipe size (inch)
	3	2	1				
LRP15-50/130	85	60	40	40/32/23	4.5/3.8/2.5	Φ15	1
LRP15-50B/130	85	60	40	40/32/23	4.5/3.8/2.5	Φ15	1
LRP20-50/130	85	60	40	47/37/25	4.5/3.8/2.5	Φ20	1.25
LRP21-50F/120	85	60	40	58/45/32	4.5/3.8/2.5	Φ21	1.25
LRP25-50/130	85	60	40	55/43/28	4.5/3.8/2.5	Φ25	1.5
LRP25-50/180	85	60	40	60/47/32	4.5/3.8/2.5	Φ25	1.5
LRP32-50/180	85	60	40	60/47/32	4.5/3.8/2.5	Φ32	2
LRP15-60/130	96	69	45	40/32/23	5.4/4.5/2.8	Φ15	1
LRP15-60B/130	96	69	45	40/32/23	4.8/4.5/2.8	Φ15	1
LRP20-60/130	96	69	45	45/37/25	5.4/4.5/2.8	Φ20	1.25
LRP21-60F/120	96	69	45	65/45/32	5.4/4.5/2.8	Φ21	1.25
LRP25-60/130	96	69	45	55/43/28	4.9/4.5/2.8	Φ25	1.5
LRP25-60/180	96	69	45	63/47/32	5.4/4.5/2.8	Φ25	1.5
LRP32-60/180	96	69	45	65/47/32	5.4/4.5/2.8	Φ32	2
LRP15-60K/130	96	63	39	42/32/23	5.6/4.5/2.5	Φ15	1
LRP25-60K/130	96	63	39	58/43/28	5.7/4.5/2.5	Φ25	1.5
LRP15-40/130	74	54	34	38/30/22	4.0/3.5/2.3	Φ15	1
LRP15-40B/130	74	54	34	38/30/22	4.0/3.5/2.3	Φ15	1
LRP20-40/130	74	54	34	40/35/25	4.0/3.5/2.3	Φ20	1.5
LRP21-40F/120	74	54	34	55/42/30	4.0/3.5/2.3	Φ21	1.5
LRP25-40/130	74	54	34	45/42/30	4.0/3.5/2.3	Φ25	1.5
LRP25-40/180	74	54	34	58/42/30	4.0/3.5/2.3	Φ25	1.5
LRP32-40/180	74	54	34	58/42/30	4.0/3.5/2.3	Φ32	2
LRP21-70F/120	150	130	105	67/50/37	6.3/6/5.2	Φ21	1.5
LRP25-70/130	150	130	105	67/50/37	6.3/6/5.2	Φ25	1.5
LRP25-70/180	150	130	105	67/50/37	6.3/6/5.2	Φ25	1.5
LRP32-70/180	150	130	105	67/50/37	6.3/6/5.2	Φ32	2
LRP25-80/180	200	190	160	115/100/60	7.1/6.5/5.5	Φ28	1.5
LRP32-80/180	270	245	160	164/100/60	7/6.8/5.4	Φ42	2
LRP32-80F/220	270	245	160	167/100/60	7.3/6.8/5.4	Φ42	2
LRP36-80F/200	270	245	160	150/100/60	7.3/6.8/5.4	Φ42	2
LRP40-80F/250	270	245	160	158/100/60	7.3/6.8/5.4	Φ42	2
LRP25-120/180	270	245	160	65/38/22.5	11.4/10/6.3	Φ18	1.5
LRP15-90A/160	120			25	9	Φ15	0.75

5. Installation & Precautions

- 1). The pump must be firmly grounded. A 30mA leakage protection switch must be installed.
- 2). Never run the pump dry.
- 3). Prevent water from entering into the motor or splashing onto the pump, so as to avoid the risk of electric shock.
- 4). The pump must never be exposed, including being used outdoors; otherwise its service life will be greatly reduced, along with an increase of chance of electric shock.
- 5). Never cover the pump surface. The pump must always have ventilation, to reduce the risk of fire.
- 6). With the exception of the speed switch, never touch the pump while it is running.
- 7). A drainage facility should be implemented in the vicinity of the installation site. Make repairs to the pump immediately upon leaks being noticed during operation, to avoid risk of electric shock, damage of surrounding equipment, and damage to its exterior.
- 8). The motor shaft shall be installed horizontally.
- 9). Place the pump at the boiler outlet. An automatic air release valve needs to be installed at the pump inlet.
- 10). Add non-softened water to the heating pipelines as infrequently as possible, to avoid calcium deposits accumulating in the pipeline, which will block the impeller.
- 11). In the winter when the ambient temperature drops below 0°C or when the pump has not been used for extended period. Drain the pipe system completely, to prevent cracking of the pump body.
- 12). The liquids transferred may be hot and is under high pressure. First empty the liquids in the system or close the cutoff valve before moving and disassembling the pump, to avoid scalding.
- 13). The hot liquids under high pressure flow out once the discharge plug is removed. Make sure the hot liquids will not result in personal injury or cause damage to other components.
- 14). Make sure the pump is disconnected from the socket when adjusting the speed.
- 15). When the pump has not been used for extended period, shut off the valve at the pump inlet and power source is disconnected.
- 16). Keep out of reach of children after installation of the pump.
- 17). The pump shall be placed in a dry, ventilated and cool place at normal temperature.

6. Installation

- 1). All welding has been finished in the pipe system before installation. Make sure there are no foreign material and sundries in the pipe system, thus it can ensure the pump from damage.
- 2). The pump shall be installed in a place where it is easy to access. It is advisable to install a valve beside the inlet, to make it easy for maintenance.
- 3). In order to prevent water from splashing onto the motor and casing, when replacing pump, priming or reinstall the entire pipe system, it is advisable to install a separating valve at pump inlet and outlet.
- 4). The flow direction must in accordance with the arrows indicated on the pump.

7. Electrical Connection



WARNING Unless the power is off, do not wiring the junction box.

The electric pump should have reliable grounding to prevent current leakage with leakage protection switch being equipped.

Electrical connection and protection should be conducted according to stipulations. Specification of working voltage is marked on the nameplate; please ensure the motor is in accordance with power supply. In case the working area of the electric pump is too far from the power supply, power transmission lines should be of a heavier gauge, otherwise the electric pump cannot work normally because the voltage drop is too dramatic.

In case the electric pump is used outdoor, extended lines should apply rubber cables for outdoor use.

8. Cleaning & Maintenance

- 1). The pump is free-of-maintenance under normal conditions. It is advisable to keep water clean.
- 2). In case of any frost and ice damages, please open the drain plug to empty water in the pump chamber. When start up the pump again, open the drain plug, fill water and tighten it and then the pump is usable. Turn off the bleed valve and open the inlet valve. Make sure there is water inside the pipe before starting the pump.
- 3). In summer or when the ambient temperature is high, pay attention to ventilation, avoid dew on electrical parts which will result in electrical faults.

9. Troubleshooting



Disconnect power supply before service.

Problem	Possible cause	Remedy
The motor does not run	No power at outlet	Check the fuse and electrical connection
	Motor clogged	Remove the vent hole. Turn the rotor with screwdriver
	Impeller plugged	Remove the sundries
	Low voltage	Adjust the voltage
	Capacitor broken	Replace the capacitor
The pump does not supply water but the motor is running	Air in the hose	Check the hose to prevent air from entering into the hose
	Sundries at the impeller entrance	Have the impeller cleaned by the professional
Noise from the pipeline	The flow rate has been set too high	Switch to low speed operation
	Air in the pipeline	Discharge the air in the pipeline
Noise from the pump during operation	Air in the pump or hose	Turn on the tap. Run the pump for minutes to discharge the air in the pump
	Exhaust pipe broken	Increase the system pressure within the permitted range

If you fail to solve a problem after following the tips in the above table, please call local distributor or call the customer service of our company: 400-711-3699.

Leo in the world

Asia

America

Europe

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