GARDEN AUTOMATIC PUMP

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LKJ-P / LKJ-PE / LKJ-PE-1

LKJ-PA / LKJ-PAE / LKJ-PAE-1

CONTENTS

9. Trouble Shooting

⚠ Cut off power before maintenance of water pumps.

Failures	Causes	Measures
Electric motor fails to be started	Electric motor fails to be started.	Replace bearing (sent to maintenance point to maintain).
	Impeller is jammed.	Turn rotation shaft near fan blade with screw driver to make it rotate flexibly or dismantle pump body to remove debris.
	Bad stator winding.	Replace windings (sent to maintenance point to maintain).
Electric motor operates but has no water	Water pump is not filled with water.	Inject water into pump chamber again.
	Impeller is damaged.	Replace impeller (sent to maintenance point to maintain).
	Water level lowers bottom valve.	Adjust water inlet pipeline to submerge bottom valve.
	Leakage of suction pipes.	Examine joints sealing of all suction pipes.
	Water level lowers suction height of water pump.	Adjust water pump installation height to choose proper water pump.
	Water accumulation in pipelines or pump chamber freezes.	Start the pump when ice melts.
Deficiency in pressure	Incorrect selection of type pf water pump.	Choose proper water pump.
	Inlet water pipes are too long or have too many elbows. Their diameter does not conform to regulations.	Select pipeline diameter in conformity to regulations and shorter water inlet pipelines.
	Foreign bodies block entrance of pipelines, strainer mesh or pump chamber.	Clean pipelines, bottom valve or pump chamber and remove foreign bodies.
	Electric motor voltage is too low and conductor is too long.	Examine voltage at the end of electric motor and lengthen conductor section.
Pump vibration	Pump does not be fixed in base.	Tighten foundation bolt.
	Foreign bodies are blocked in pipe lines or pump chamber.	Examine and clean pipe lines and water pump.
	Instability of base.	Be installed in stable base.
Electric motor operates intermittently or bad stator winding	Electric motor operates a long time at an overload.	To install valve in water outlet to decrease water flow.
	Impeller is jammed or operates a long time at an overload.	Remove debris in pump chamber and make water pump operate under rated flow.
	Fault grounding or wires are damaged and electric pump is struck by lightning.	Find reasons and replace winding.
Water leakage in support	Foreign matter wears mechanical seal.	Clean or replace mechanical seal.

If failures still can not be precluded according to above-mentioned tips, please call dealers or our customer service hotline: 400-711-3699

8. Technical Parameters

Specification	LKJ-909P	LKJ-909PE	LKJ-909PE-1	LKJ-909PA	LKJ-909PAE	LKJ-909PAE-1
Voltage/frequency	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz
Power	900W	900W	900W	900W	900W	900W
Flow	3600L/H	3600L/H	3600L/H	3600L/H	3600L/H	3600L/H
Pump lift	4.3bar/43m	4.3bar/43m	4.3bar/43m	4.3bar/43m	4.3bar/43m	4.3bar/43m
Suction lift	8m	8m	8m	8m	8m	8m
Starting pressure		1.5bar	1.5bar	1.5bar	1.5bar	1.5bar
Gross weight	10.2	10	10.1	15.8	15.6	15.2
Pressure switch				1.5-3.5(bar)		
Pressure gauge			0-6(bar)			0-6(bar)
Size (L×W×H)	46.5cm×22cm×30cm			50cm×28.5cm×62cm		
Noise	80dB(A)					

Specification	LKJ-1109P	LKJ-1109PE	LKJ-1109PE-1	LKJ-1109PA	LKJ-1109PAE	LKJ-1109PAE-1
Voltage/frequency	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz
Power	1100W	1100W	1100W	1100W	1100W	1100W
Flow	4600L/H	4600L/H	4600L/H	4600L/H	4600L/H	4600L/H
Pump lift	4.6bar/46m	4.6bar/46m	4.6bar/46m	4.6bar/46m	4.6bar/46m	4.6bar/46m
Suction lift	8m	8m	8m	8m	8m	8m
Starting pressure		1.5bar	1.5bar	1.5bar	1.5bar	1.5bar
Gross weight	11.2	11.2	11.2	16.65	16.2	16.1
Pressure switch				1.5-3.5(bar)		
Pressure gauge			0-6(bar)			0-6(bar)
Size (L×W×H)	46.5cm×22cm×30cm			50cm×28.5cm×62cm		
Noise	82dB(A)					

Note: above properties are ideal state of samples

Please read the instruction manual carefully before installation.

1. Warning

1.1. 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.

1.2. Attention!

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

1.4.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.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposals at least free of charge.

2. Overview

LKJ-1109PE/PA series garden jet pumps are a nifty water supply system, suitable to draw water for domestic use, draw water from wells, increase pressure for pipelines, agricultural irrigation, water vegetable greenhouses and gardens and aquaculture. Besides, LKJ series jet pumps are installed with handles, light weight and suitable to workplaces that need moving frequently.

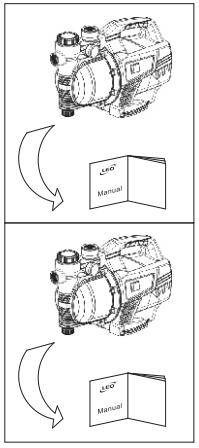
The transmission medium, whose PH value is between 6.5 and 8.5, are clean and noncorrosive liquid at room temperature without solid particles or fiber. Power source is required to be 50Hz and rated voltage is 220-240V.

Note: LKJ-1109PE/PA series garden jet pumps are divided into standard and intelligent types and with tank. LKJ-909P,LKJ-1109P is a type of standard water pump;

LKJ-909PE,LKJ-1109PEis a type of intelligent pump with LCD; LKJ-909PE-1,LKJ-1109PE-1 is a type of intelligent pump with LED, which can directly display pump pressure and flow. Characteristics of intelligent pumps are as follow: in case of power supply, unscrew pipe valves, pumps can start working automatically; otherwise, pumps will stop working.

LKJ-909PA,LKJ-1109PA,LKJ-909PAE,LKJ-909PAE-1,LKJ-1109PAE,LKJ-1109PAE-1is a automatic pump with pressure tank, features of pump with tank: It can effectively guarantee the pipeline constant pressure, prevent pipeline leakage and pump frequent start and reduce the pump's service life.

3. Safety Precautions



1).In order to keep pumps working normally and safely, please read instruction manual carefully.

2).Electric pumps should be grounded reliably to prevent electri-city leakage. For security reasons, leakage protection switch should be installed; do not wet power plug and sockets should be connected to dry area.

7. Maintenance Manual

Jet pumps need high-performance electric motor. Electric motor is furnished with overheat protector, and adopts mechanical seal with silicon carbide, stainless steel shaft and imported NSK bearing. Overcurrent components adopt high-performance plastic, improving service life of pumps and reducing maintenance costs.

In normal working condition, pumps are free of maintenance, but should keep clean.

7.1. Clean strainer mesh

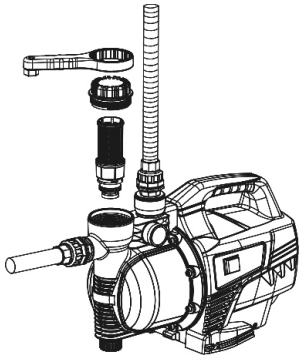
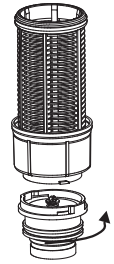


Fig.6



To keep good water output flow, users should clean strainer mesh components regularly according to water quality. The method to clean is as follows:

Strainer mesh is rotated as the direction of arrow on the right to separate one-way valve and strainer mesh; clean strainer mesh and one-way valve respectively with clean water; assemble strainer mesh and one-way valve and install them properly for use.

7.2. Temperature lowers 4℃ or extended outage status

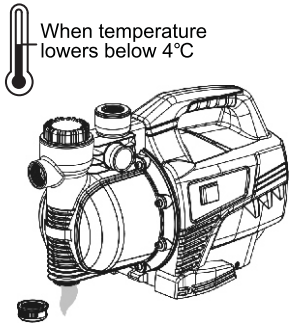


Fig.7

If there is any risks of damage due to frost or freezing, or electric pumps may not be used for a long time, please open screw plug for water drainage to discharge water. When pumps are needed to restart, open pump cover, filled with water and tighten cover before restart.

Tips:

1). In winter, in case of out-of-operation of electric pumps or temperature is lower 4, discharge liquid in pipelines and pump chamber to prevent frost crack of pumps.

2). In summer or when temperature is high, keep good aeration to prevent electric parts having dew, thus leading to failures.

3). If electric pumps overheat or are abnormal, please cut off power promptly and examine according to methods specified in VII Common Failures and Treatment to preclude failures.

6.5 Inject water into pump chamber

> ⚠ Do not start pumps before pump chamber is filled with water.

Install inlet water pipes before using pumps and unscrew transparent pump cover with wrench to take filter elements out (combined parts of filter and one-way valve is called as filter elements); inject water to pump chamber; recover filter elements and pump cover to the original, which is shown as Fig.3; pumps may be used after electrified and adjust flow as needed.

5.cup (to inject water to pump chamber);
6.one-way valve;
7.filter;
8.pump cover;
9.wrench.

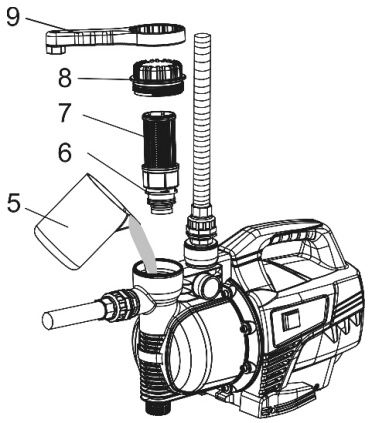
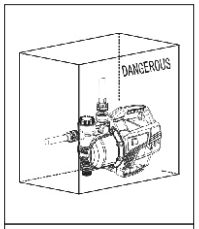


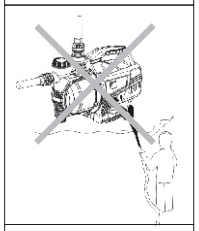
Fig.5

Tips:

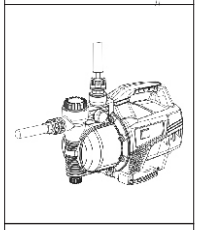
1). When pumps are starting normally, please examine leakage of pipelines once again;
2). Note: after filled with water, pumps fail to discharge water after five minutes of starting, close electric pumps and reinject water or examine whether inlet water pipes are leaked or not;
3). Fill pump chamber with water the first time using electric pumps.



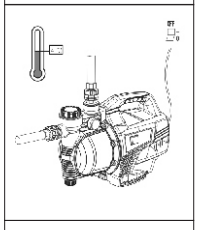
3).Electric pumps are forbidden to be touched when working. Do not wash, swim or let livestock enter the water near workplace to prevent accidents.



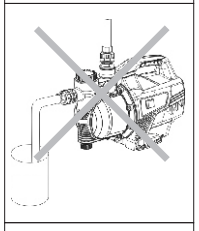
4).To avoid pressurized water spraying and submerging electric pumps.



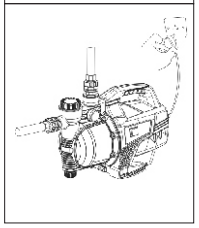
5).To keep good aeration at runtime.



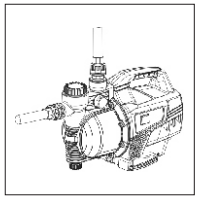
6).When temperature lowers below 4℃ , anti-freezing measures should be taken to prevent frost crack of pump bores.



7).Pumps can not output any combustible, gasifiable or explosive liquid beyond stipulations.



8).Cut power source first when pumps are maintained.



9).To supply power at the voltage indicated in nameplate.

4. Functions of product

LKJ-909P, LKJ-1109P:

This type of pump is an ordinary water pump, which can be started and stopped through the switch after plugging in. When the water pump starts normally, it can keep operating unless abnormal situations including intentional power cut, motor breakdown or interruption of power supply in the city happen.

LKJ-909PA,LKJ-1109PA:

Mode of automatic function: After the water pump operates normally after being power-on, when the working pressure of its cavity reaches the set value for the mechanical pressure switch to turn off (cut off the electricity), the water pump will stop working and get into the ready mode; when the pressure of its cavity reduces and reaches the set value for the mechanical pressure switch to turn on (plug in), the water pump will again get into the operating mode. Such process will be repeated, realizing the automatic starting and stopping function of the water pump.

Note: 1. Selected range of the mechanical pressure switch is: (1.5-3.5) bar ±0.1 bar;

2. Pressure of air inflation between the pressure tank and the gasbag is 1.6 bar ± 0.1 bar;

LKJ-909PE-1,LKJ-1109PE-1:

Function of delayed starting: When plug in (green light on and red light and yellow light off), the water pump will start 2s later (yellow light and green light on and red light off).

Function of dry running protection:

When the water pump operates normally after plugging in, if it cannot feel the water (no water from the inlet) for 20 successive seconds, it will operate for 100s (the 20s that it feeling no water shall also be included in such 100s) and then stop for 5s (green light on, yellow light flickering, red light off) and repeat this process for 3 times. If the water pump still cannot feel any water after such process is repeated for 3 times, it will stop operating (green light on, red light flickering, yellow light off).

If the water pump opens its dry running protection function and stops operating, press “RESET” button, the water pump will start again and entre aforesaid repetitive process. When the repetition process ends, the water pump stops operating (red light and green light on, yellow light off). If you want to restart the water pump, plug it in.

6. Instructions

6.1. Examine screw plug for water drainage

Before using pumps, examine whether screw plug for water drainage has been installed properly or not and screw manually or with tools, which is shown on the left: No.1: screw plug for water drainage.

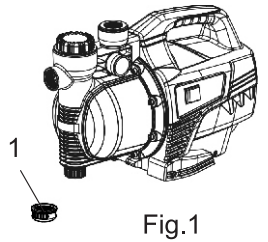


Fig.1

6.2. Set inlet water pipes

Water pumps are connected with circuits, which is shown on the left:
No.2: steel wire hose or corrugated pipe;
No.3: dismountable connection nut;
No.4: water inlet transfer;
Concrete operations are as follows: screw water inlet transfer to water inlet of pumps, and then screw dismountable connection nut to water inlet transfer; meanwhile pay attention to sealing of cooperation and pipelines, for sealing directly affects usage of pumps.

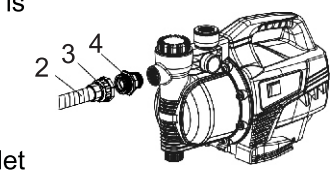


Fig.2

6.3. Set outlet water pipes

Installation of outlet water pipes is shown as Fig.2, the same as installation of water inlet pipes; pay attention to sealing of pipelines.
Influence of pipeline leakage is as follows:
<1> Increase usage cost;
<2> Reduce service life of pumps.

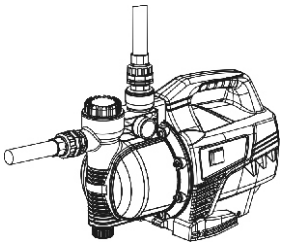


Fig.3

6.4. Precautions used for the first time

Turn fan blade before start and examine flexibility of rotation of water pumps.

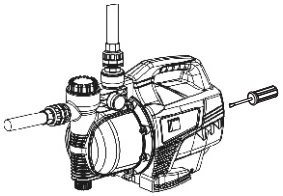
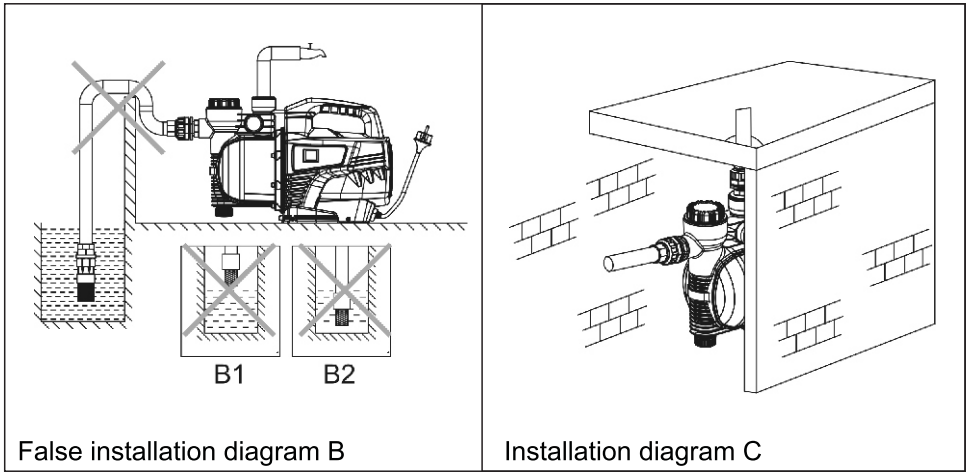


Fig.4



False installation diagram B

Installation diagram C

A: Installation precautions of inlet water pipes

1). Do not use soft rubber hose to avoid sucking flat during the installation of electric pumps;
2). Bottom valve is vertical and installed above water bottom 30cm to avoid sucking silt (B2);
3). Joints of inlet water pipes must be sealed and have elbows as few as possible, otherwise no water will be sucked;
4). Diameter of inlet water pipes should be at least the same as that of water inlet to prevent great loss of water and influence water property;
5). Notice water level decline when using, and bottom valve should not break the surface of water (B1);
6). When inlet water pipes are longer than 10m or inlet water pipes are lifted more than 4m, inlet water pipes diameter must be greater than that of water inlet of electric pumps;
7). When installing circuits, electric pumps must not be pressurized by circuits;
8). In order to avoid solid particles entering electric pumps, inlet pipelines must be installed with filters.

B: Installation precautions of outlet water pipes

Diameter of outlet water pipes should be at least the same as that of water outlet to minimize pressure, high flow rate and noise.

C: Choice of installation location

When installing pumps, inlet pipelines should be as short as possible and elbows should be as few as possible. Pumps should be placed in the well-ventilated environment. Pumps may be installed outdoor, but they must be covered to prevent rain damage and frost.

If the water pump feels water during aforesaid process, it will exit from the dry running protection function and operate normally (yellow light and green light on, red light off).

Automatic function:

After the water pump operates normally after plugging in, when the outlet valve closes, the water pump will stop after operating for 10s (green light on, red light and yellow light off). When reopening the valve, the water pump restarts (yellow light and green light on, red light off) when the pressure of the water pump reduces to the value (1.5 bar) for the pressure sensor to start.

Function of leakage protection:

When the water pump operates normally after plugging in, if the pressure inside the pipes cannot keep being higher than that for the water pump to restart for a long time and the water pump starts and stops for no less than 6 times within 2 min, the water pump will enter the mode of examining frequent starting and stopping (green light on, yellow light flickering, red light off). If the water pump starts and stops for no less than 6 times within 2 min and such a condition lasts for 1 hour, it will stop operating (green light and red light on, yellow light off). If you want to restart the water pump, plug it in.

If during the timekeeping period, the water pump starts and stops for less than 6 times within 2 min, the program will continue examination 2 min later.

1. If the water pump still starts and stops for less than 6 times within 2 min, the timekeeping will reset. The water pump will exit from the leakage protection function and operate normally;
2. If the water pump still starts and stops for no less than 6 times within 2 min, the timekeeping continues until such timekeeping reaches 1h and the water pump stops.

Note: the green light means the water pump is in a ready mode after plugging in; the yellow light means the water pump is operating; the red light means the water pump is breaking down.

LKJ-909PE,LKJ-1109PE:

Function of delayed starting:

After plugging in, the LED displays “OFF” and the water pump starts 2s later with the LED displaying faucet picture and real-time flow.

Function of dry running protection

When the water pump operates normally after plugging in, if it cannot feel the water (no water from the inlet) for 20 successive seconds, it will operate for 100s (the 20s that it feeling no water shall also be included in such 100s) and then stop for 5s and repeat this process for 3 times. If the water pump still cannot feel any water after such process is repeated for 3 times, it will stop operating, the LED will display error code and flicker. If the water pump feels water after opening its dry running protection function, it will exit from the dry operating protection function.

If the water pump opens its dry running protection function for the first time and stops operating, press “CHECK” button, the water pump will start again and entre the repetitive process of operating for 100s and then stopping for 5s. If the water pump still feels no water after such process is repeated for 3 times, it will stop operating and the LED will display error code and flicker. If you want to restart the water pump, plug it in; if the water pump feels water within 3 times of such repetitive process, it will exit from the dry operating protection function and operate normally.

Automatic function:

After the water pump operates normally after plugging in, when the outlet valve closes, the water pump will stop after operating for 10s. When reopening the valve, the water pump restarts when the pressure of pipes reduces to the value for the pressure sensor to start.

Function of leakage protection:

When the water pump operates normally after plugging in, if the pressure inside the pipes cannot keep being higher than that for the water pump to restart for a long time and the water pump starts and stops for no less than 6 times within 2 min, the water pump will enter the mode of examining frequent starting and stopping. If the water pump starts and stops for no less than 6 times within 2 min and such a condition lasts for 1 hour, it will stop operating and the LED will display error code and flicker. If you want to restart the water pump, plug it in.

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If the water pump still starts and stops for less than 6 times within 2 min, the timekeeping will reset. The water pump will exit from the leakage protection function and operate normally;

If the water pump still starts and stops for no less than 6 times within 2 min, the timekeeping continues until such timekeeping reaches 1h and the water pump stops.

Operating method of LED buttons:

When plugging in, the LED displays “OFF” and the water pump starts 2s later. Shortly press “SET” button can stop and start the water pump;

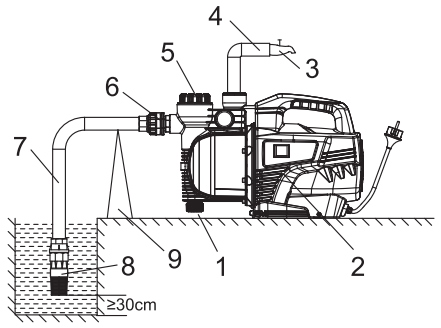
When the water pump operates normally after plugging in, shortly press “CHECK” button can switch between the lift (m) interface and the flow (m3/h) interface;

When the water pump operates normally after plugging in, long press “SET” button to enter the starting pressure value setting interface of the water pump and the water pump will stop operating and the interface will display factory set value: 15m. Shortly press “CHECK” button to “+”, when the set value reaches 30m, continue to press “CHECK” button and the set value will return to the initial value: 15m. After setting the starting pressure value, shortly press “SET” button to return to ordinary operating interface which displays real-time lift (m) and flow (m3/h) and the simulated faucet will drip three water drops;

5. Before Installation

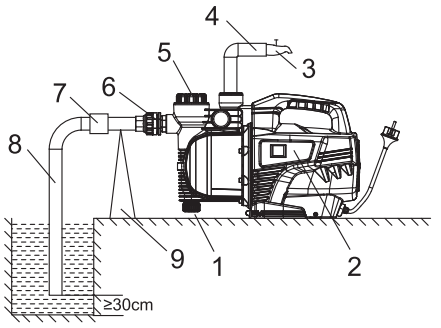
The product should be installed and maintained by personnel who are familiar with instruction manual and have professional qualification certificate; installation and operation must conform to local laws and practical standard; install pipeline properly according to instruction manual and anti-freezing measures are taken to pipeline.

Correct installation diagram A



1. plug screw for water outflow;
2. electric pump;
3. faucet
4. outlet pipe;
5. pump cover;
6. dismountable connection;
7. inlet pipe;
8. bottom valve;
9. support

Correct installation diagram A-1



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9. support

When the water pump operates normally after plugging in, long press “SET” button to enter the starting pressure value setting interface of the water pump and the water pump will stop operating and the interface will display factory set value: 15m. Shortly press “CHECK” button to “+”, when the set value reaches 30m, continue to press “CHECK” button and the set value will return to the initial value: 15m. After setting the starting pressure value, shortly press “SET” button to return to ordinary operating interface which displays real-time lift (m) and flow (m3/h) and the simulated faucet will drip three water drops;

Note: long press “SET” button to enter the starting pressure value setting interface of the pressure sensor, the water pump will stop operating; shortly press “SET” button to exit from the pressure value setting interface, the water pump will start again.

Timing function:

Under the mode of automatic function, shortly press “SET” button once to enter timing mode. The display screen shows the time, such as 12:00;

Setting of current time: long press “SET” button under the timing mode to set current hour, shortly press “SET” button to set current minute(s). When setting the time, shortly press “CHECK” button to “+” to maximum, the value can return to the initial one;

Setting of power-on time: following the aforesaid step, continue to shortly press “SET” button to set the hour of power-on time, then shortly press “SET” button to set the minute(s) of power-on time. When setting the time, shortly press “CHECK” button to “+” to maximum, the value can return to the initial one;

Setting of power-off time: following the aforesaid step, continue to shortly press “SET” button to set the hour of power-off time, then shortly press “SET” button to set the minute(s) of power-off time. When setting the time, shortly press “CHECK” button to “+” to maximum, the value can return to the initial one.

Enter the timing mode after following aforesaid steps.

Note: long press “SET” button to enter the starting pressure value setting interface of the pressure sensor, the water pump will stop operating; shortly press “SET” button to exit from the pressure value setting interface, the water pump will start again.

Timing function:

Under the mode of automatic function, shortly press “SET” button once to enter timing mode. The display screen shows the time, such as 12:00;

Setting of current time: long press “SET” button under the timing mode to set current hour, shortly press “SET” button to set current minute(s). When setting the time, shortly press “CHECK” button to “+” to maximum, the value can return to the initial one;

Setting of power-on time: following the aforesaid step, continue to shortly press “SET” button to set the hour of power-on time, then shortly press “SET” button to set the minute(s) of power-on time. When setting the time, shortly press “CHECK” button to “+” to maximum, the value can return to the initial one;

Setting of power-off time: following the aforesaid step, continue to shortly press “SET” button to set the hour of power-off time, then shortly press “SET” button to set the minute(s) of power-off time. When setting the time, shortly press “CHECK” button to “+” to maximum, the value can return to the initial one.

Enter the timing mode after following aforesaid steps.

LKJ-909PAE-1,LKJ-1109PAE-1

Function of delayed starting:

When plug in (green light on and red light and yellow light off), the water pump will start 2s later (yellow light and green light on and red light off).

Function of dry running protection

When the water pump operates normally after plugging in, if it cannot feel the water (no water from the inlet) for 20 successive seconds, it will operate for 100s (the 20s that it feeling no water shall also be included in such 100s) and then stop for 5s (green light on, yellow light flickering, red light off) and repeat this process for 3 times. If the water pump still cannot feel any water after such process is repeated for 3 times, it will stop operating (green light on, red light flickering, yellow light off).

If the water pump opens its dry running protection function and stops operating, press “RESET” button, the water pump will start again and entre aforesaid repetitive process. When the repetition process ends, the water pump stops operating (red light and green light on, yellow light off). If you want to restart the water pump, plug it in.

If the water pump feels water during aforesaid process, it will exit from the dry running protection function and operate normally (yellow light and green light on, red light off).

If the water pump opens its dry running protection function for the first time and stops operating, press “CHECK” button, the water pump will start again and entre the repetitive process of operating for 100s and then stopping for 5s. If the water pump still feels no water after such process is repeated for 3 times, it will stop operating and the LED will display error code and flicker. If you want to restart the water pump, plug it in; if the water pump feels water within 3 times of such repetitive process, it will exit from the dry operating protection function and operate normally.

Automatic function:

After the water pump operates normally after plugging in, when the outlet valve closes, the water pump will stop after operating for 10s. When reopening the valve, the water pump restarts when the pressure of pipes reduces to the value for the pressure sensor to start.

Function of leakage protection:

When the water pump operates normally after plugging in, if the pressure inside the pipes cannot keep being higher than that for the water pump to restart for a long time and the water pump starts and stops for no less than 6 times within 2 min, the water pump will enter the mode of examining frequent starting and stopping. If the water pump starts and stops for no less than 6 times within 2 min and such a condition lasts for 1 hour, it will stop operating and the LED will display error code and flicker. If you want to restart the water pump, plug it in.

If during the timekeeping period, the water pump starts and stops for less than 6 times within 2 min, the program will continue examination 2 min later.

If the water pump still starts and stops for less than 6 times within 2 min, the timekeeping will reset. The water pump will exit from the leakage protection function and operate normally;

If the water pump still starts and stops for no less than 6 times within 2 min, the timekeeping continues until such timekeeping reaches 1h and the water pump stops.

Operating method of LED buttons:

When plugging in, the LED displays “OFF” and the water pump starts 2s later. Shortly press “SET” button can stop and start the water pump;

When the water pump operates normally after plugging in, shortly press “CHECK” button can switch between the lift (m) interface and the flow (m3/h) interface;

When the water pump operates normally after plugging in, long press “SET” button to enter the starting pressure value setting interface of the water pump and the water pump will stop operating and the interface will display factory set value: 15m. Shortly press “CHECK” button to “+”, when the set value reaches 30m, continue to press “CHECK” button and the set value will return to the initial value: 15m. After setting the starting pressure value, shortly press “SET” button to return to ordinary operating interface which displays real-time lift (m) and flow (m3/h) and the simulated faucet will drip three water drops;

Automatic function:

After the water pump operates normally after plugging in, when the outlet valve closes, the water pump will stop after operating for 60s (green light on, red light and yellow light off). When reopening the valve, the water pump restarts (yellow light and green light on, red light off) when the pressure of the water pump reduces to the value (1.5 bar) for the pressure sensor to start.

Note: the green light means the water pump is in a ready mode after plugging in; the yellow light means the water pump is operating; the red light means the water pump is breaking down.

LKJ-909PAE,LKJ-1109PAE:

Function of delayed starting:

After plugging in, the LED displays “OFF” and the water pump starts 2s later with the LED displaying faucet picture and real-time flow.

Function of dry running protection

When the water pump operates normally after plugging in, if it cannot feel the water (no water from the inlet) for 20 successive seconds, it will operate for 100s (the 20s that it feeling no water shall also be included in such 100s) and then stop for 5s and repeat this process for 3 times. If the water pump still cannot feel any water after such process is repeated for 3 times, it will stop operating, the LED will display error code and flicker. If the water pump feels water after opening its dry running protection function, it will exit from the dry operating protection function.

If the water pump opens its dry running protection function for the first time and stops operating, press “CHECK” button, the water pump will start again and entre the repetitive process of operating for 100s and then stopping for 5s. If the water pump still feels no water after such process is repeated for 3 times, it will stop operating and the LED will display error code and flicker. If you want to restart the water pump, plug it in; if the water pump feels water within 3 times of such repetitive process, it will exit from the dry operating protection function and operate normally.

Automatic function:

After the water pump operates normally after plugging in, when the outlet valve closes, the water pump will stop after operating for 60s. When reopening the valve, the water pump restarts when the pressure of pipes reduces to the value for the pressure sensor to start;

Operating method of LED buttons:

When plugging in, the LED displays “OFF” and the water pump starts 2s later. Shortly press “SET” button can stop and start the water pump;

When the water pump operates normally after plugging in, shortly press “CHECK” button can switch between the lift (m) interface and the flow (m3/h) interface;