

Self Priming Pump

Installation&Operating Instructions

INSTALLATION

Only qualified licensed electrician should install pump and wiring.

IMPORTANT ELECTRICAL

Electrical Contractors Please Note:All pumps must be wired to the main power supply through an approved and correctly rated electrician.

Pump Mount Must:

- Be solid Level Rigid Vibration Free.
- Allow use of short,direct suction pipe.(To reduce friction losses&don't install the pump more than 3M geometrical height from water level)
- Allow for gate valves in suction and discharge piping.
- Have adequate floor drainage to prevent flooding.
- Be protected from excess moisture.
- All adequate access for servicing pump and piping.

NOTICE:

Pump suction and discharge connections have moulded in thread stops, DO NOT try to screw pipe in beyond these stops.

OPERATION

- ▲ NEVER run pump dry! Running pump dry may damage seals,causing leakage and flooding! Fill pump with water before starting motor.
- ▲ Before removing lid:
STOP PUMP before proceeding.
CLOSE GATE VALVES in suction and discharge pipes.
RELEASE ALL PRESSURE from pump and piping system.
NEVER tighten or loosen screws while pump is operation.
- ▲ Do not block pump suction, To do so with body may cause severe or fatal injury.
Small children using pool must ALWAYS be guided by adult Supervision!

Priming Pump:

- Release all air from fitter and piping system:see filter owner manual.
- In a flooded suction system (water source higher than pump),pump will prime itself when suction and discharge valves are opened.
- If pump is not in a flooded suction system,unscrew and remove cap cover;fill cap and pump with water.
- Clean and inspect Ring; re-install on trap cover.
- Replace cap cover on cap; turn clockwise to tighten cover.

NOTICE:

Tighten cap cover by hand only.

Pump should prime now.Priming time will depend on vertical length of suction lift and horizontal length of suction piping.

Routine Maintenance

The only routine maintenance is inspection/cleaning basket.Debris or trash that collects in basket,well choke off water flow through the pump.Follow instructions below to clean basket:

Stop pump,close gate valve in suction and discharge,and release all pressure from system before proceeding.

- 1.Unscrew cap lid(turn counterclockwise).
- 2.Remove strainer basket and clean. Be sure all holes in basket are clear,flush basket with water.If basket is replaced backwards, cover will not fit on pre-filter body.
- 3.Clean and inspect lid Ring;re-install on cap cover.
- 4.Clean Ring groove on pre-filter body and Replace lid.To help keep lid from sticking, tighten hand tight only.
- 5.Prime pump (see priming instructions above)

SERVICE&REPAIR PARTS

Ask Technical informations to local agent or wholesaler .that can prove the are qualified supplier , you can also order spare parts from them,Give the following information when ordering repair parts:

- 1 .Unit nameplate data or serial label number .
- 2.Description of part.

FAULT ANALYSIS

MOTOR DOES NOT START

- 1.Disconnect switch or circuit breaker off position
- 2.Fuses fusing or thermal protector open
- 3.Locked motor shaft
- 4.Motor winding burned out
- 5.Defective starting switch inside single phase motor
- 6.Disconnected or defective wiring
- 7.Low voltage

LOW PUMP CAPACITY

- 1.Inlet or discharge valve partly closed
- 2.Inlet or discharge valve partly plugged
- 3.Inlet or outlet too small
- 4.Hairs or foreign plugged strainer
- 5.Dirty filter
- 6.Impeller clogged

PUMP DOES NOT REACH FULL SPEED

Low voltage

Pump connected for wrong voltage

PUMP DELIVERS NO WATER

- 1.Pump is not primed
- 2.Suction or discharge valve closed
- 3.Leakage or air into suction system
- 4.Impeller clogged

HIGH PUMP PRESSURE

- 1.Discharge valve or inlet fittings closed too much
- 2.Return pipes too small
- 3.Dirty filters

MOTOR OVERHEAT (protector trips)

- 1.Lowe voltage
- 2.Motor winding connected with wrong voltage on dual voltage model
- 3.Poor ventilation environment

NOISY PUMP AND MOTOR

- 1.Hairs or foreign plugged strainer
- 2.Worn motor bearings
- 3.Inlet or discharge valve partly plugged
- 4.Suction line partly plugged
- 5.Vacuum hose plugged or too small
- 6.Pump improper operating

AIR BUBBLES AT INLET FITTINGS

- 1.Leakage of air from suction fittings, connections or valve system
- 2.Cleaning pre-filter
- 3.Low water level in pool

LEAKAGE OF WATER AT SHAFT

Shaft seal requires replacement

NOTE:

If the recommendations in the fault analysis of this manual do not solve your particular problem(s), please contact your local dealer for service.

1.Working conditions

Medium temperature: 5~50°C

Environment temperature: <60°C

1.Solar pool pumps are solar panels that absorb solar energy and convert it into electrical energy to drive the pump. The controller adopts an intelligent modular design with built-in MPPT chip, which adjusts the output voltage in real time according to the change of sunshine intensity to achieve maximum power point tracking. At the same time, it can control high water level and low water level, with over-voltage protection and overload protection, and it can be visually displayed through LED lights. The motor use the design of brushless permanent magnet synchronous. stable start-up operation, high efficiency, low noise, long service life .

2. The pump shell is made by glass fiber filled with GF/PP anti-corrosion material. The material of the impeller is glass fiber filled polyphenylene ether. The design of the transparent cover is convenient and simple. At the same time, the mechanical seal and bearing are high quality, the operation process is quiet, and the heat dissipation effect is good. Easy to install and maintain .

3. The pump can work under the condition of no electricity, safe, reliable and environmental protection.

4. It is mainly used in swimming pool water circulation system and is suitable for irrigation in orchards, gardens and greenhouses in remote areas, water supply for suburban parks and farms, water supply and drainage in seashore salt farms, aeration equipment for aquaculture such as fish ponds and livestock drinking water systems.

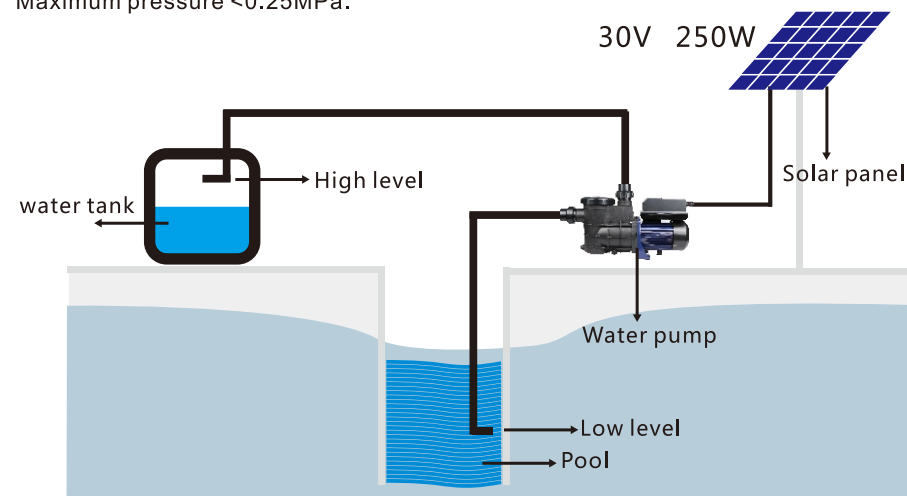
5.The inlet and outlet of the swimming pool pump are connected by PVC pipes. The outer diameter of the PVC pipe at the inlet and outlet is 50mm. The pump base is fixed by bolts.

6.The pump shall be capable of continuous operation when the following conditions are met.

Transmission medium: 5 ~ 40 °C water;

Maximum operating ambient temperature < +40°C;

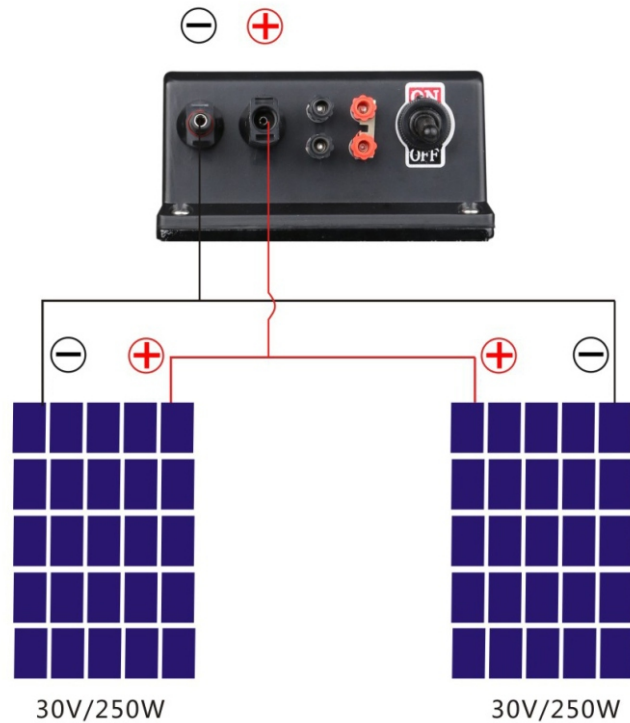
Maximum pressure <0.25MPa.



Series connected

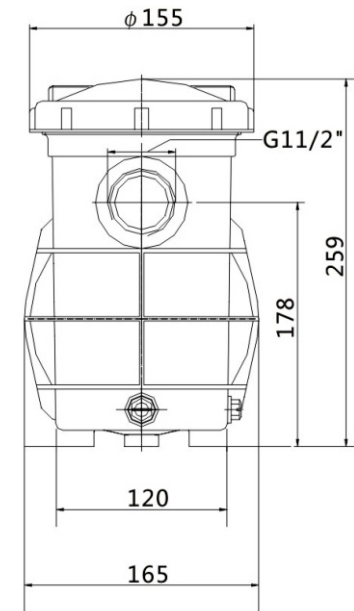
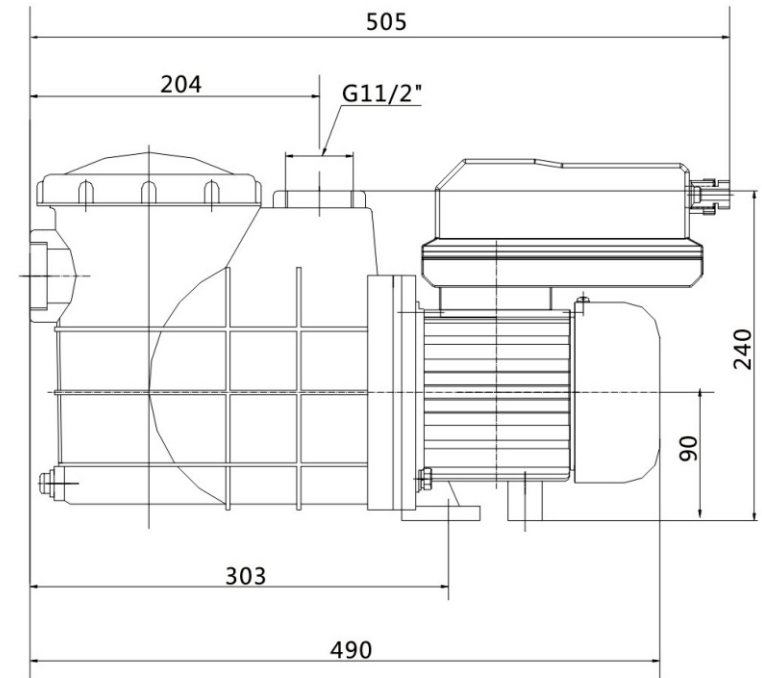


Parallel connected



5

Size



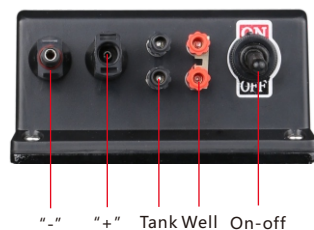
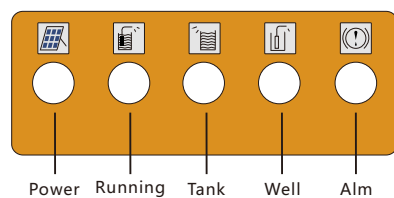
6

Technical characteristic



NO.	Item	NO.	Item	NO.	Item	NO.	Item	NO.	Item
1	Cap	6	O-ring	11	Drain plug	16	Impeller	21	Base
2	Transparent lid	7	Union	12	O-ring	17	Shaft seal	22	Ventilation hood
3	O-ring	8	O-ring	13	O-ring	18	Pump cover	23	Junction box cover
4	Basket strainer	9	Union bushing	14	Diffuser	19	O-ring	24	Junction box
5	Pump body	10	Union nut	15	O-ring	20	Bracket	25	Spanner

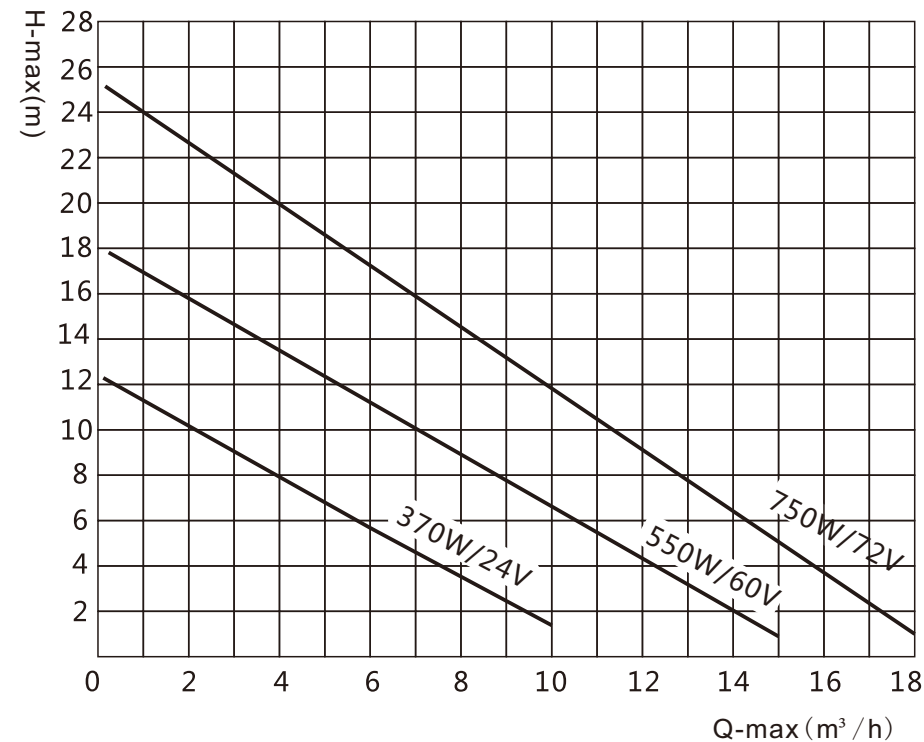
Junction Box Indicator& Function



1. Connect the solar panel "+" and "-" pole to junction box, power indicator light up mean power is on. Then press the switch to the "ON" position, the running indicator light, and the pump start.
2. To control the low water level, remove the low water level connection piece of the junction box, and then connect the two wires to the "Well" switch. On the contrary, connect the two wires to the "Tank" switch to control the high water level.

Parameters&Function Curves

Model	FQS-370	FEL-550	FEL-750
Voltage(V)	24V DC	60V DC	72V DC
Power(W)	370	550	750
H-max(m)	10	12	13
Flow(m³/h)	10	15	16
Solar panel	2pcs 30V/250W	3pcs 30V/250W	4pcs 30V/250W
Current(A)	14.5	9	11.5
Working voltage(V)	30	90	120
Temperature	-40°C~+85°C	-40°C~+85°C	-40°C~+85°C
Temperature	90°C	90°C	90°C
Output voltage(V)	30	90	120
Port size(mm)	50	50	50
Protection grade	IP 54	IP 54	IP 54



Common problems&solutions

- A.The pump does not self-priming
- B.Low flow rate
- C.Pump have noise
- D.Motor didn't work
- E.Motor with sound but didn't work
- F.Dripping water appeared after some time of work

A	B	C	D	E	F	reason	solution
X	X					Air enters the self-priming part	Ensure the sealing of the self-priming part
X						Transparent cover leaks	Check the transparent cover to ensure that it is sealed
X	X					Suction is too high	Adjust the suction
X	X		X			Voltage does not match	Please refer to the required voltage
X						Pump without water	Water injection into the pump body
X						Tube is not inserted into the liquid	Make sure that the liquid is inserted into the end of the tube
	X					Filter basket clogged	Clean the filter basket
	X	X				Inlet pipe is smaller than the outlet pipe	change the suitable pipe
	X					Clogged outlet	Check the filter basket and outlet pipe
	X	X				Pump body with sundries	Clean the pump body and check the filter basket
			X			No power	Check if the socket is loose
				X		The impeller is entangled	Clean up the sundries
					X	Shaft seal is worn or with sundries	Replace and clean the shaft seal