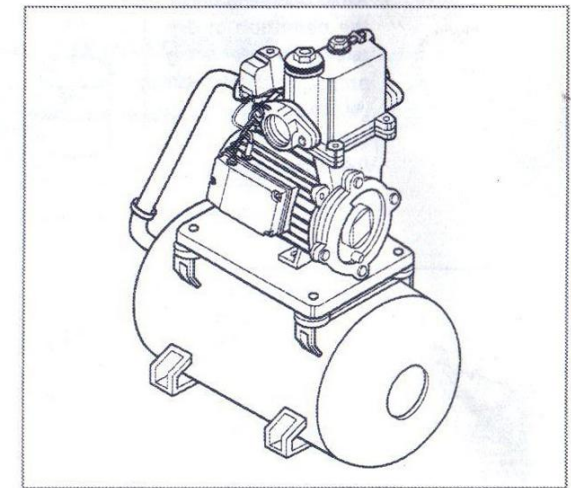


wilo

ELECTRIC PUMP OWNER'S MANUAL

WILO Pumps Ltd.

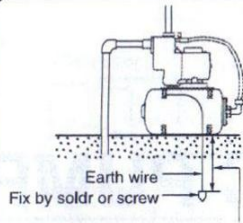


**MODEL : PU-460EA
PW-404EA
PW-750LEA**

READ OVER THIS OWNER'S MANUAL BEFORE
THE FIRST OPERATION OF YOUR PUMP FOR THE
SAKE OF ITS OPTIMUM EFFICIENCY.

<http://www.wilo.co.kr>

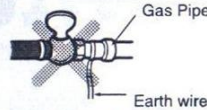
1. PRECAUTION BEFORE USING THE PUMP



More than 75m(2.46Ft)

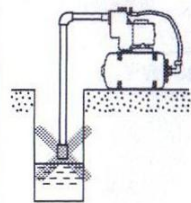
1. Connect the earth wire before use. This enables you to prevent an accident caused by electric shock when the electric insulation is not order.

● For you safety from the danger of electric shock, please be careful not to get power plug stained with water.

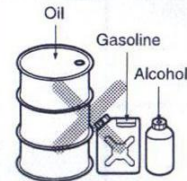


CAUTION IN CONNECTING THE EARTH WIRE

- Connect the earth wire after turning off the electric power.
- Never connect with gas pipes, otherwise it can be the cause of explosion.



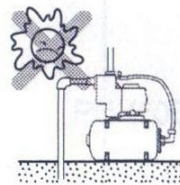
2. Avoid operating under the condition of dry running and delivering no water. For it will shorten the service life of pump and also cause the trouble of motor.



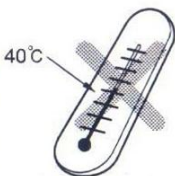
2. Be careful not to use the pump with other liquids except for water. When it is used for solvent such as benzol, acid, inflammable liquids such as gasoline and high viscous liquid, there is a risk of the fire and it will cause the trouble of the pump and also shorten the service life for it.



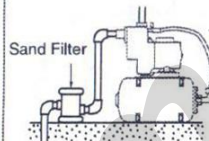
4. Never wrap the motor of the pump head in a blanket or a cloth for preventing freezing in the cold weather. For it will be the cause of the fire.



5. Avoid using the pump under the condition exposed to the direct rays or rain because it will be the reason of shortening the service life of the pump and also of the danger of electric shock.



6. Avoid using the pump under the condition of ambient temperature over 40°C and below -10°C, and also with hot water over 40°C For it will shorten the service life of pump.



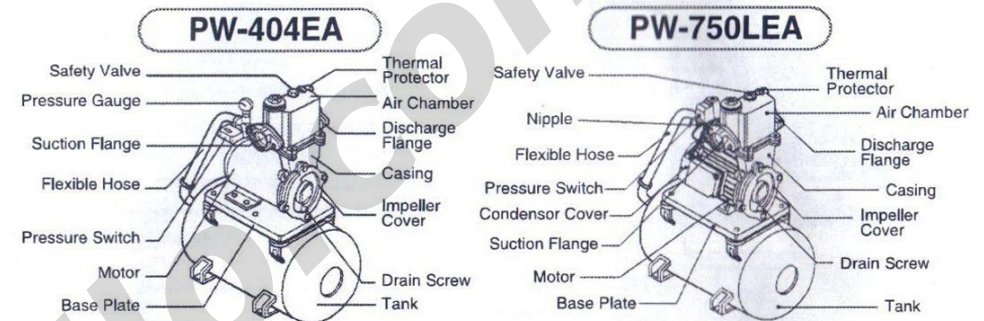
7. When this pump is set up in the well which is easy to suck in sand, above all, a sand filter is needed. For it will prevent the defacement of the impeller in the pump head for a short time, the decline of pressure and the decrease of the pumping water.

8. The permitted voltage fluctuation is within $\pm 10\%$ of the rated voltage. Otherwise it will be the reason of shortening the service life of the pump.

2. APPEARANCE AND NAME OF THE PARTS

※ Before using, please check all parts of the pump.

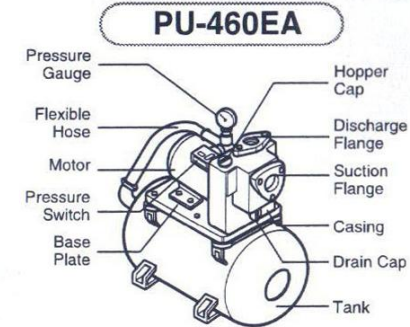
The pump consists of:



Accessories



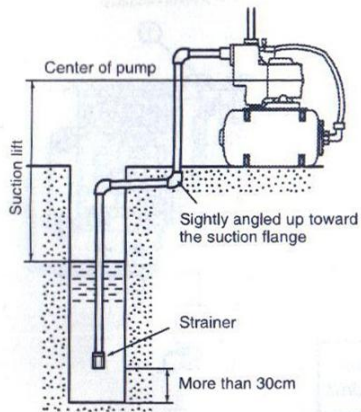
Check Valve Spring



3. SPECIFICATIONS

Item	Model	PW-404EA	PU-460EA	PW-750LEA
Power source		$\phi 1, 220V, 50Hz$		
Output (W)			400	750
Discharge head (m)		25	7	25
Suction lift (m)		8	5	8
Capacity (ℓ/min)		32 (at total head 9m)	110 (at total head 12m)	30 (at total head 33m)
Suction&Discharge pipe		40mm(1 1/2")		
Pressure Switch	ON	2.5kgf/cm ²	0.7kgf/cm ²	2.5kgf/cm ²
	OFF	3.5kgf/cm ²	1.2kgf/cm ²	3.5kgf/cm ²

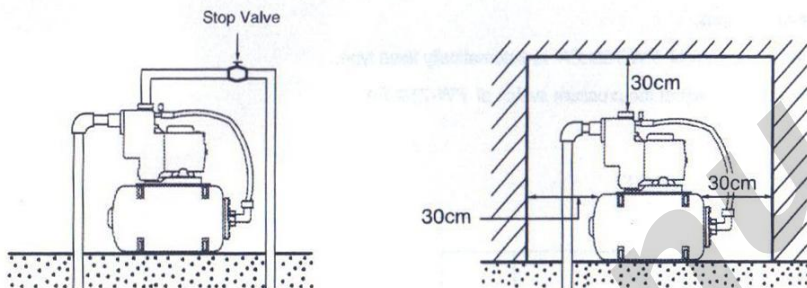
4. CHECKING POINTS BEFORE INSTALLATION



Suction lift	Maximum horizontal length of suction pipe
7m/22.9Ft	14.5m/47.6Ft
6m/19.7Ft	26m/85.3Ft
5m/16.4Ft	37.5m/123Ft
4m/13.1Ft	49m/160.8Ft
3m/9.8Ft	50.5m/165.7Ft

- Install the pump just over the well as possible as you can. But when the pump must be installed far from the well because of circumstances, the maximum distance of the pipe from the well to the pump is limited according to the suction lift. Decide the suction lift considering the dry season.

5. GUIDE FOR INSTALLATION

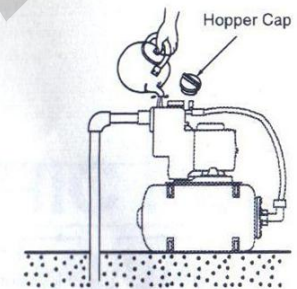


- Install the stop valve on the discharge side of the pump and it will be very convenient for checking and repairing the pump.
- Select the place where the pump can be conveniently checked or repaired after installation. For installing the pump in the narrow place because of the circumstances, the room just like the figure is needed.
- Minimize the number of the elbows to prevent the water leaking in the piping or to lessen the resistance of water.
- Concrete the foundation with cement that the pump may not lean or slant even after many years.

6. HOW TO OPERATE THE PUMP

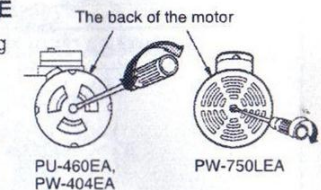
● HOW TO START THE PUMP

- This pump requires a little priming water at the very beginning of operation. Prime it without fail before starting.
- 1) Pour priming water after detaching the hopper cap.
 - 2) Set the hopper cap and open one faucet.
 - 3) Plug in and operate the pump, then water will come out a few minutes later.
 - 4) If water does not come out, it may be caused by the lack of priming water. So, repeat priming.



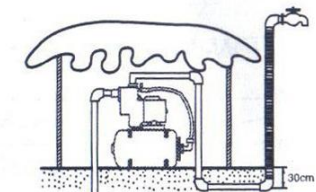
● WHEN THE PUMP IS REUSED AFTER A LONG TIME

- There is a possibility for the motor not to be operated in spite of switching on the electric power because of the sticking and solidification of the dirt and filth in the water of the pump head.
- In case of, turn off the electric power, and then turn the shaft in the back of the motor a few times with driver or something like that. After that, you can operate the pump as usual.



● MEASURES TO PROTECT AGAINST COLD IN WINTER

- Pumps and water in pipes could be frozen easily in winter and it is possible for pumps and pipes to burst. To prevent this, you should take these preventive steps like the pictures following.
- You should exhaust all the water out of a pump and a pipe connected to a pressure weight after opening the pipe valve. You can prevent pumps and pipes from being frozen in this way.

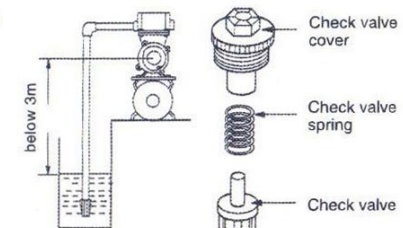


● IN CASE THE SUCTION LIFT IS BELOW 3m. (PW-404EA / PW-750LEA)

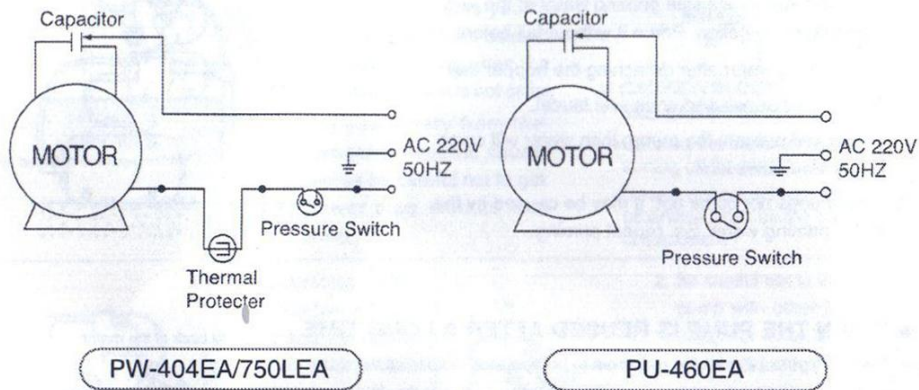
Exchange the accessory, the check valve spring in the middle of the check valve, if the depth of the well is below 3m.

- It can prevent water leakage (backward flow) in the check valve.

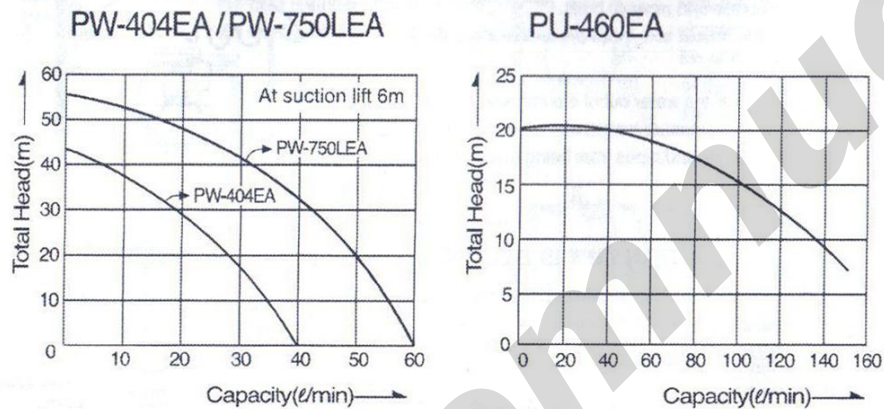
But when the suction lift (the length of water level from the pump) is above 3m, never exchange the check valve spring, otherwise it will cause the decrease of the pumping water.



7. WIRING DIAGRAM



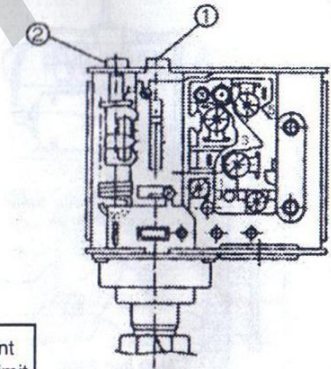
8. TOTAL HEAD-CAPACITY CURVE



9. WAY TO REGULATE PRESSURE SWITCH (PW-404EA/PU-460EA)

1. WAY TO REGULATE

- Following is the process of regulation.
When choosing the pressure for suspension of power supply, turn the No.1 valve.
When choosing the pressure for binding, turn No.2 valve.
- The pressure for suspension of power supply increases when turning counterclockwise.
The difference between the pressure for suspension of power supply and the pressure for binding increases when turning clockwise.

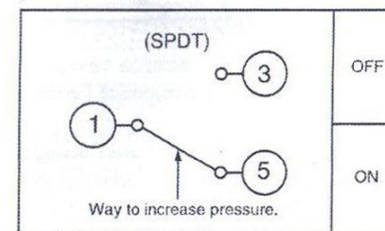


NO.	Model	Set Value		Adjustment Pressure Limit
		ON	OFF	
1	PU-460EA	0.7kgf/cm ²	1.2kgf/cm ²	6.8kgf/cm ²
2	PW-404EA	2.5kgf/cm ²	3.5kgf/cm ²	6.8kgf/cm ²
3	PW-750LEA	2.5kgf/cm ²	3.5kgf/cm ²	Fixed Type

2. CAUTION

- Do not turn all the other valves except No1, No2, or it might cause abnormal functions.
- The pressure switch of PW-750LEA is automatically fixed type.
Therefore, do not adjust the pressure switch of PW-750LEA.

3. HOW TO CONNECT



※ (1), (3), (5) - fixed valves.