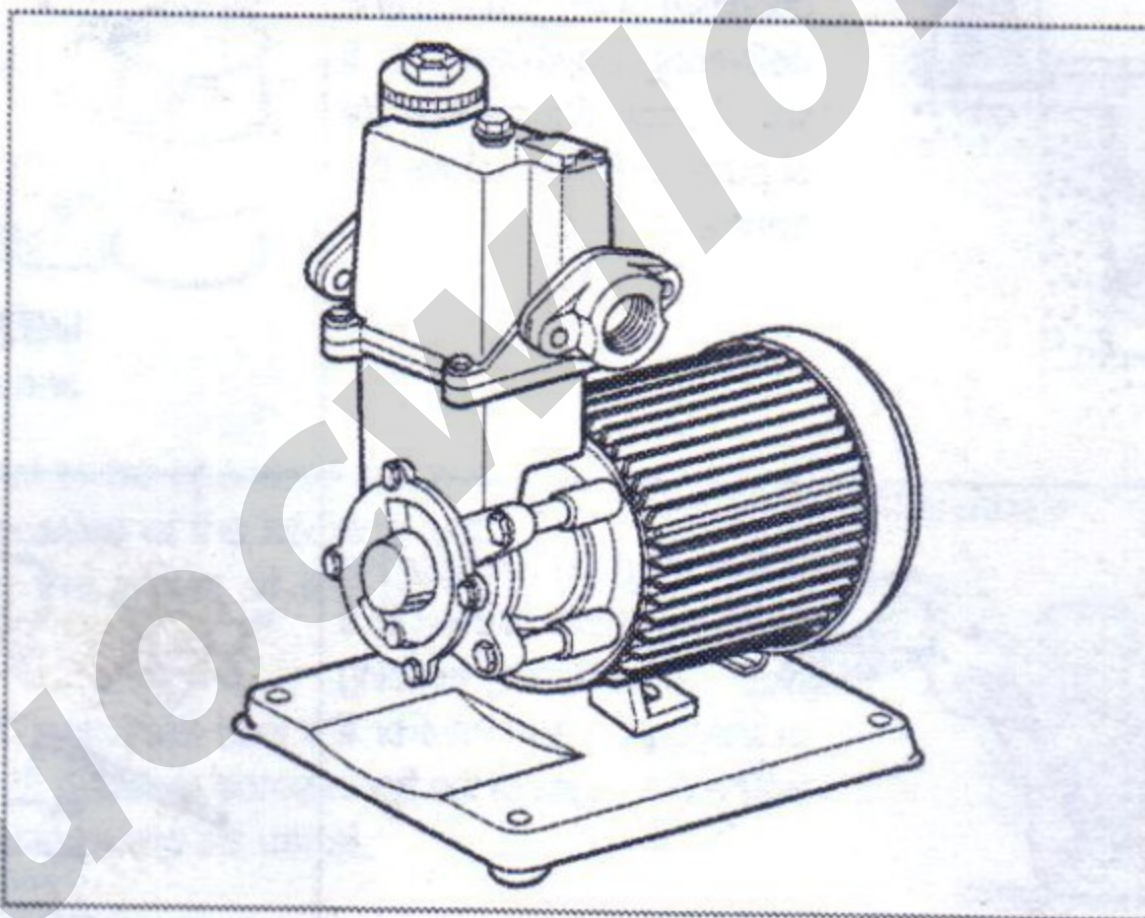


# wilo

## ELECTRIC WELL PUMP

### OWNER'S MANUAL



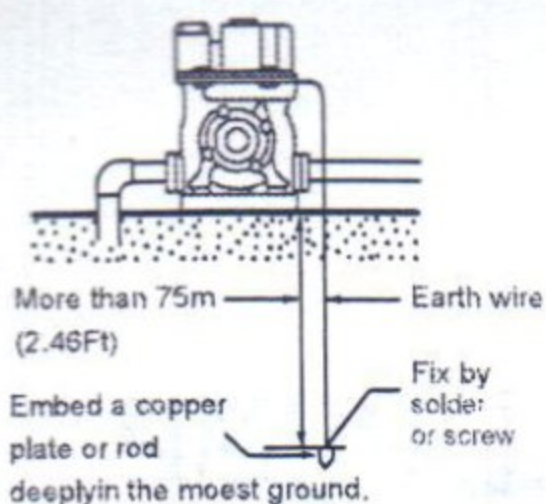
**MODEL: PW-082EA PW-121E**  
**PW-122EA PW-251E**  
**PW-252EA PW-401E**  
**PW-1500E PW-2200N**  
**PW-750E**

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>

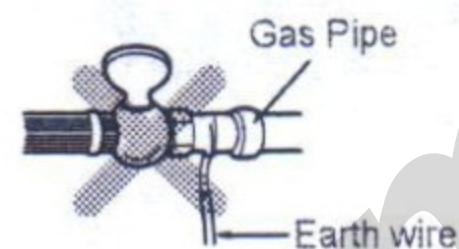


# 1. PRECAUTION BEFORE USING



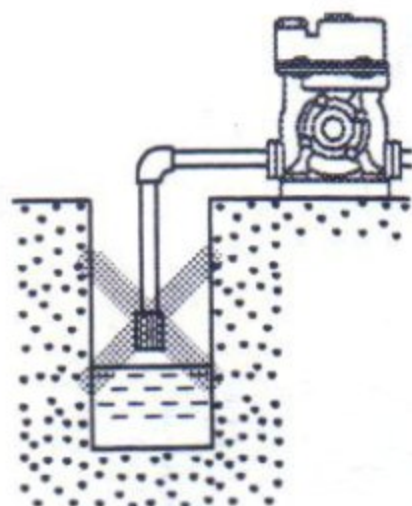
1. Connect the earth wire before use. This enables you to prevent an accident caused by electric shock when the electric insulation is not order.

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

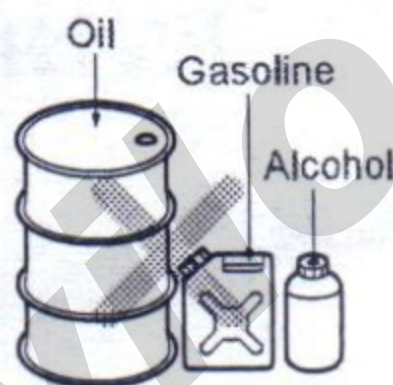


### CAUTION IN CONNECTING THE EARTH WIRE

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



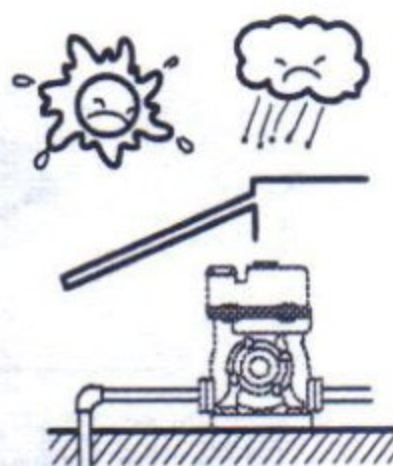
2. Avoid operating under the condition of dry running and delivering no water. For it will shorten the service life of pump and also cause the trouble of motor.



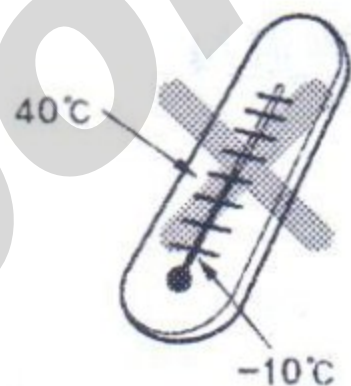
3. Be careful not to use the pump with other liquids except for water. When it is used for solvent such as benzol, acid, inflammable liquids such as gasoline and high viscous liquid, there is a risk of the fire and it will cause the trouble of the pump and also shorten the service life for it.



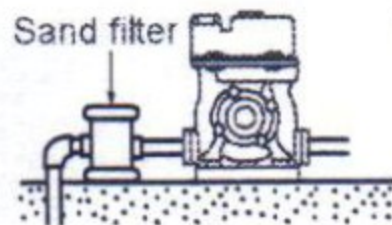
4. Never wrap the motor of the pump head in a blanket or a cloth for preventing freezing in the cold weather. For it will be the cause of the fire.



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.



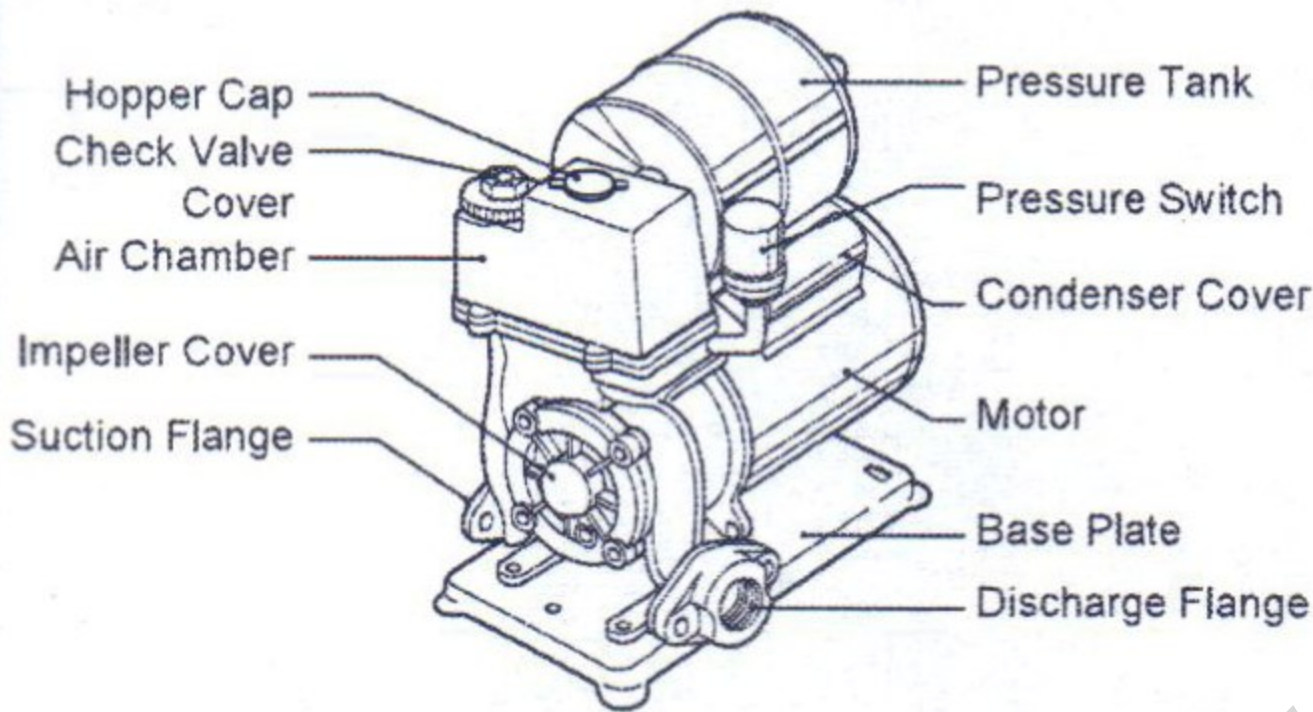
7. When this pump is set up in the well which is easy to suck in sand, above all, A sand filter is needed. For it will prevent the defacement of the impeller in the pump head for a short time, the decline of pressure and the decrease of the pumping water.

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.

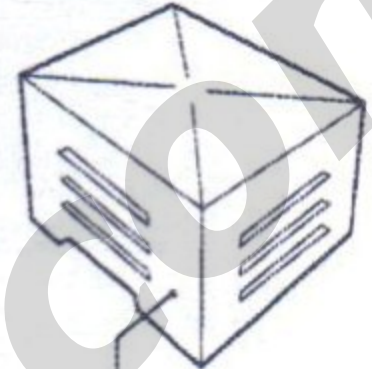


## 2. APPEARANCE AND NAME OF THE PARTS

### PW-082EA, PW-122EA, PW-252EA

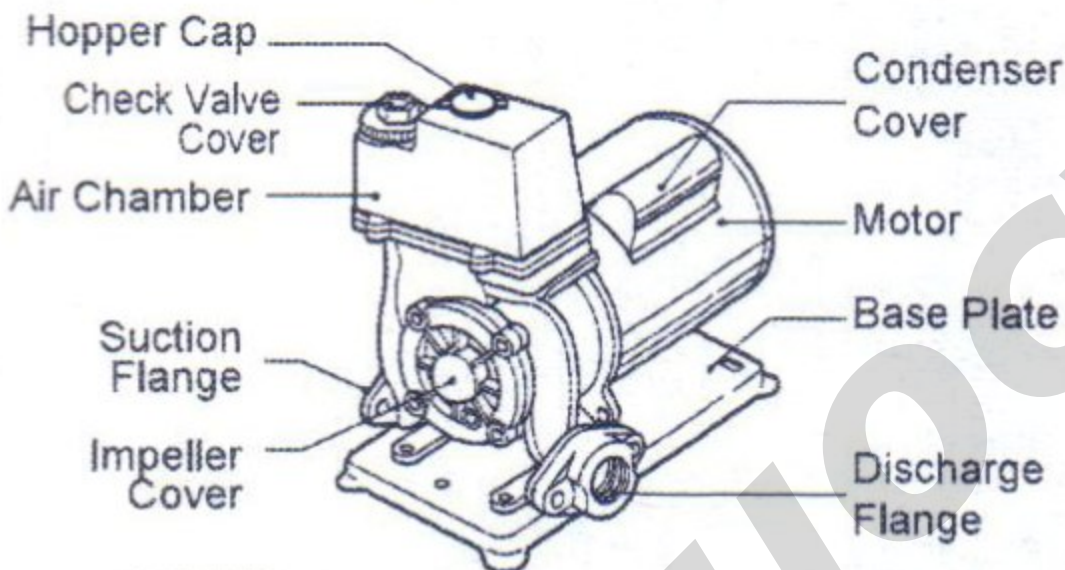


Check Valve Spring



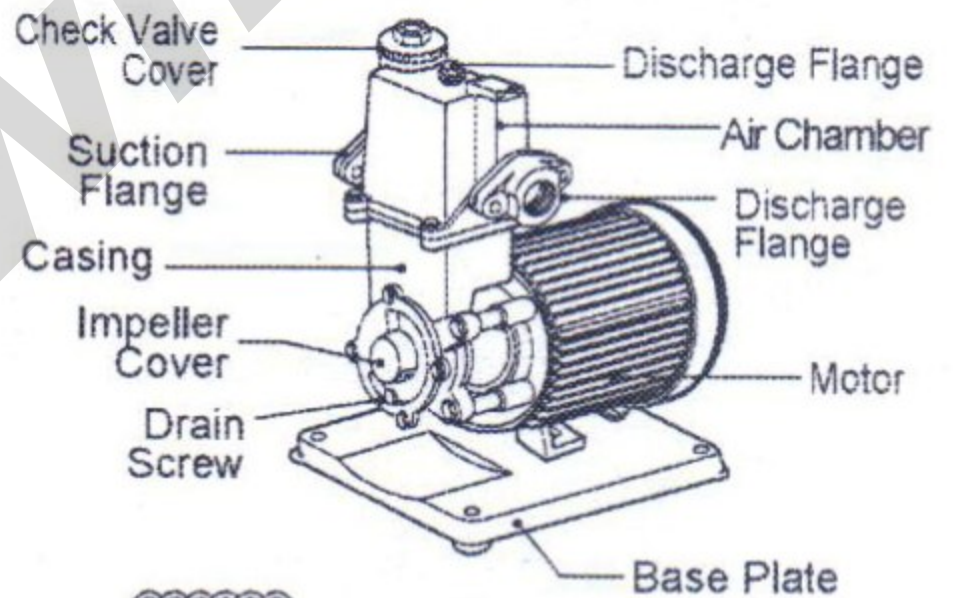
Pump Cover (PW-252EA)

### PW-121E, PW-251E



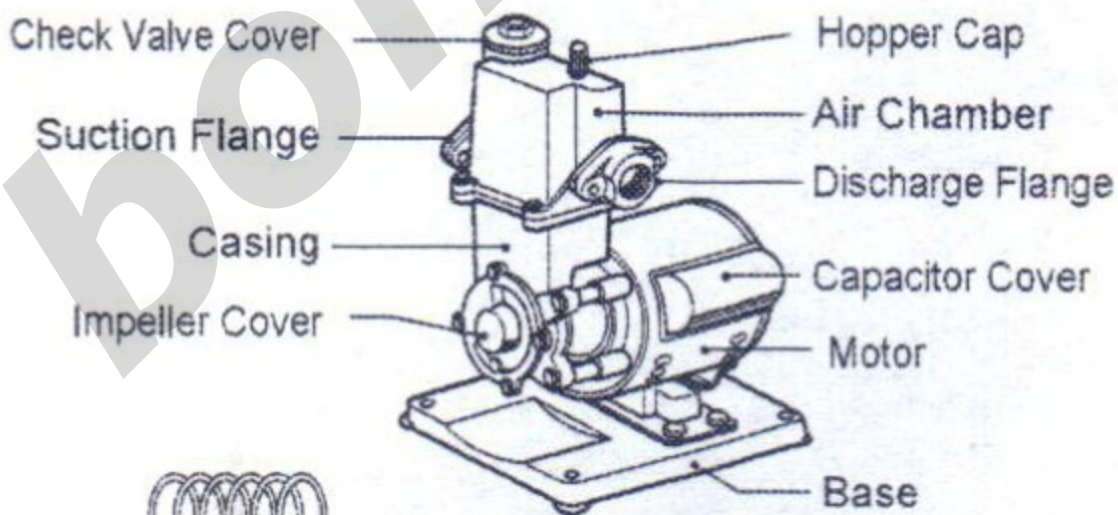
Check Valve Spring

### PW-750E



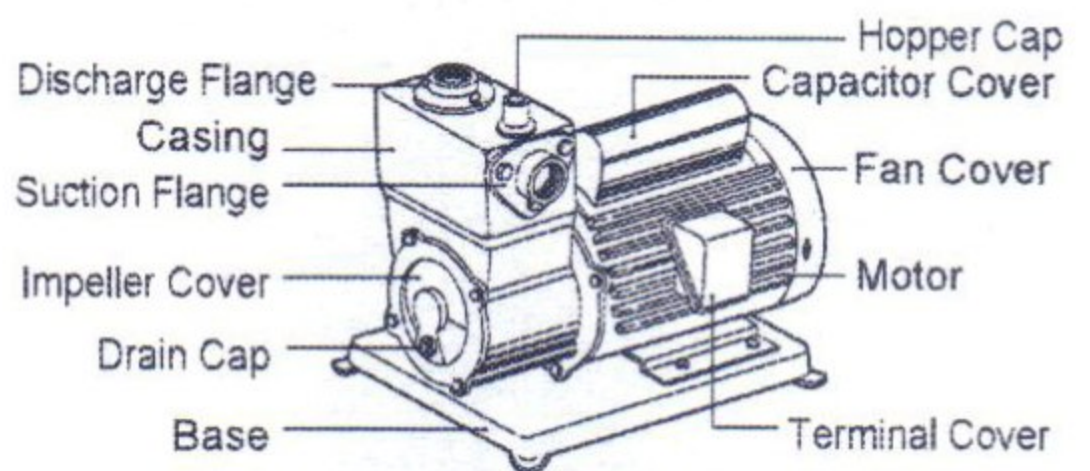
Check Valve Spring

### PW-401E



Check Valve Spring

### PW-1500E / PW-2200N



※ PW-2200N has not the Capacitor Cover

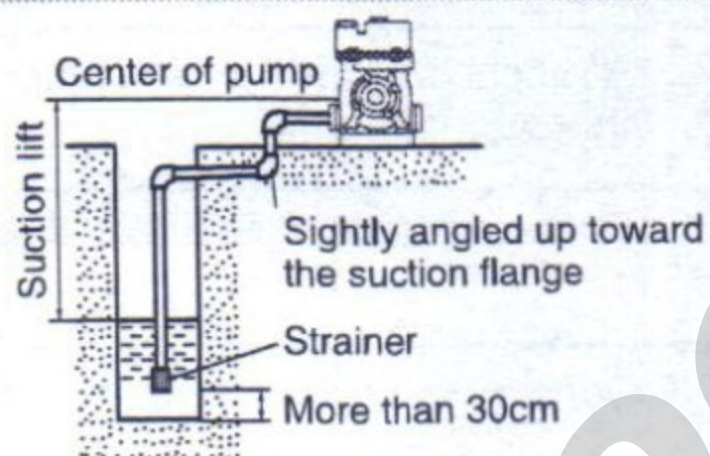


### 3. SPECIFICATIONS

Item	Model	PW-082EA	PW-122EA	PW-252EA
Power Source		220/230V, 50Hz		
Output		80W	125W	250W
Suction Lift		8m		
Discharge Head		7m	10m	16m
Capacity		15 l/min	22 l/min	34 l/min
		(At total head 9m)		
Pressure Switch	on	0.7kg/cm <sup>2</sup>	1.0kg/cm <sup>2</sup>	1.6kg/cm <sup>2</sup>
	off	1.3kg/cm <sup>2</sup>	1.6kg/cm <sup>2</sup>	2.4kg/cm <sup>2</sup>
Suction Pipe		20mm(3/4")		25mm(1")
Discharge Pipe		20mm(3/4")		25mm(1")

Item	Model	PW-251E	PW-401E	PW-750E	PW-1500E	PW-2200N
Power Source		220V, 50Hz				440V, 60Hz
Output		250W	400W	750W	1500W	2200W
Suction Lift		8m				8m
Total Head		32m	36m	55m	58m	63m
Capacity		30 l/min	45 l/min	30 l/min	40 l/min	50 l/min
		(At total head 9m)		(At total head 33m)	(At total head 42m)	(At total head 52m)
Suction Pipe		25mm(1")	40mm(1 1/2")			
Discharge Pipe		25mm(1")	40mm(1 1/2")			

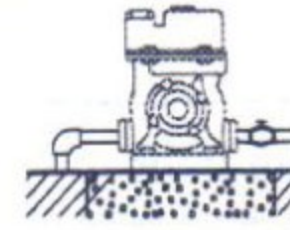
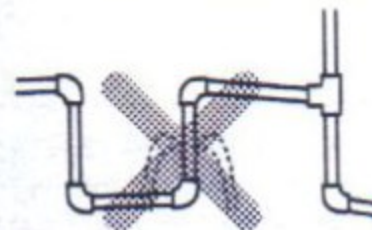
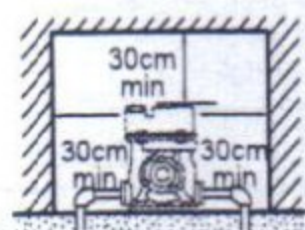
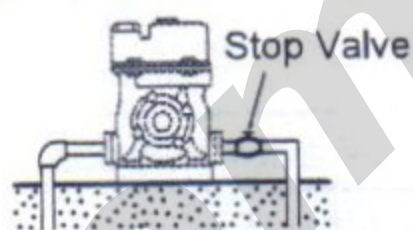
### 4. CHECKING POINTS BEFORE INSTALLATION



Suction lift	Maximum horizontal length of suction pipe
8m/26.2Ft	9m/29.5Ft
7.5m/24.6Ft	13.5m/44.3Ft
7m/22.9Ft	18m/59Ft
6.5m/21.3Ft	22.5m/73.8Ft
6m/19.7Ft	27m/88.6Ft

- 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



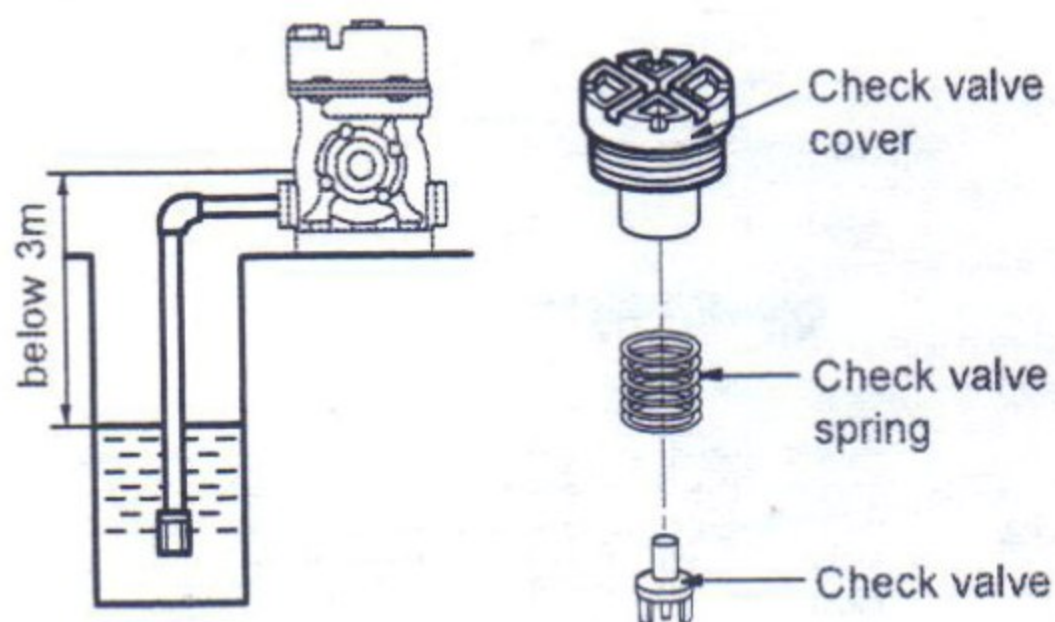
- Install the stop valve on the discharge side of the pump and it will be very convenient for checking and repairing the pump.
- Select the place where the pump can be conveniently checked or repaired after installation. For installing the pump in the narrow place because of the circumstances, the room 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

### • IN CASE THE SUCTION LIFT IS BELOW 3m.

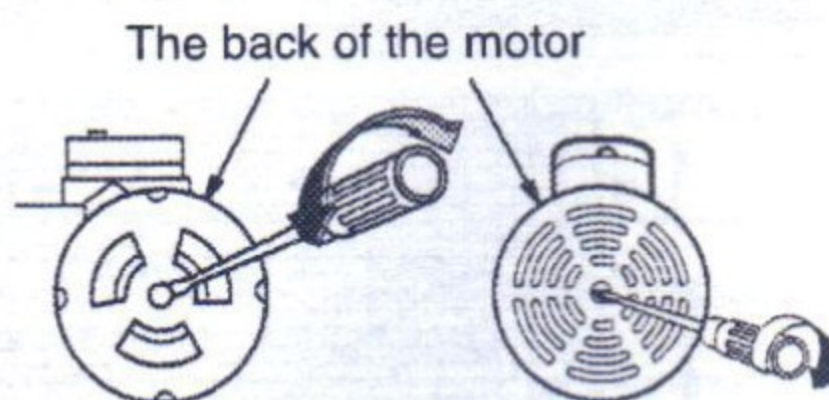
Exchange the accessory, the check valve spring in the middle of the check valve, if the depth of the well is below 3m.



- 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.

### • WHEN THE PUMP IS REUSED AFTER A LONG TIME

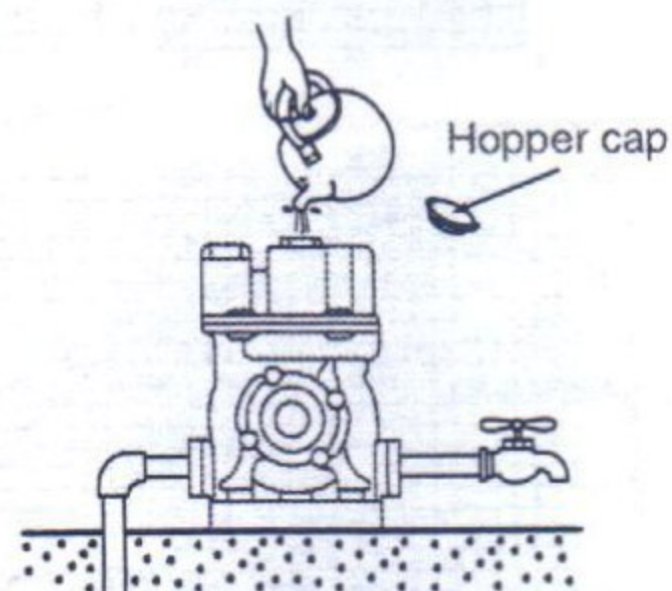
- There is a possibility for the motor not to be operated in spite of switching on the electric power because of the sticking and solidification of the dirt and filth in the water of the pump head.
- In case of, turn off the electric power, and then turn the shaft in the back of the motor a few times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



### • HOW TO START THE PUMP

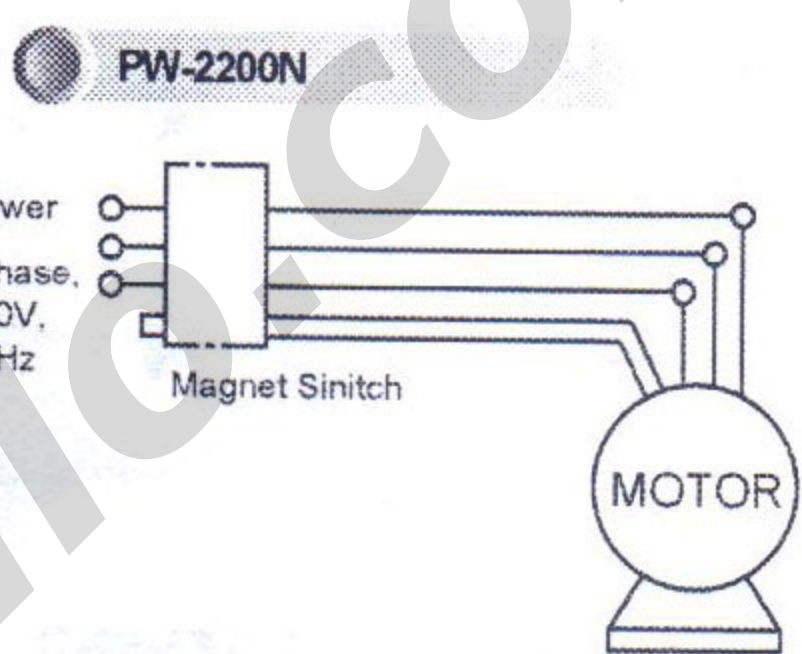
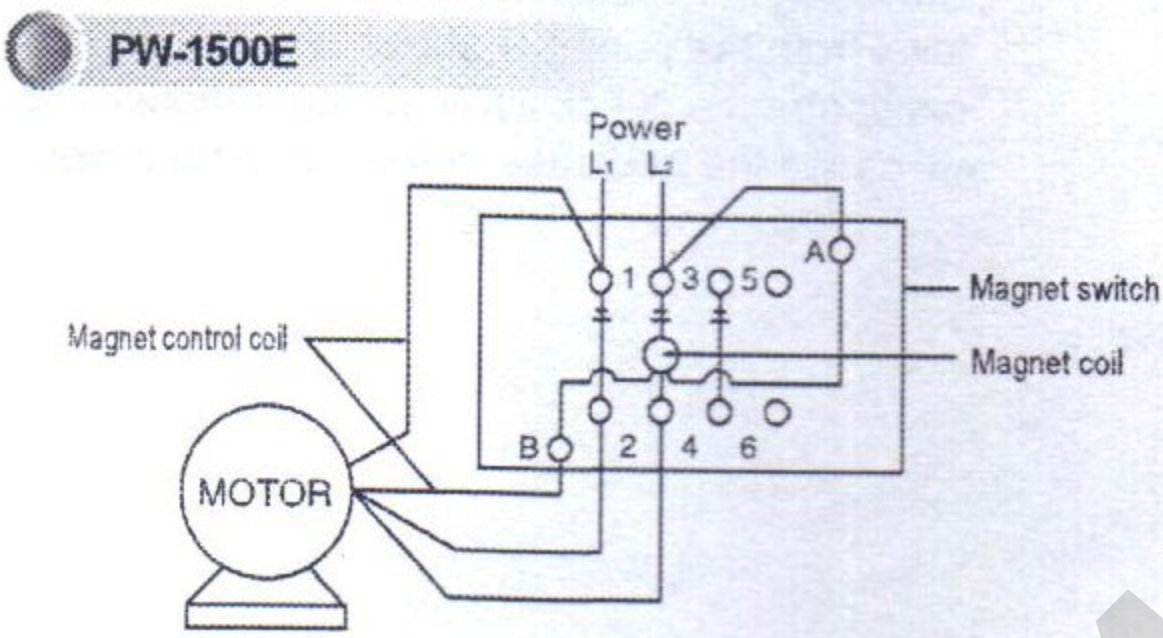
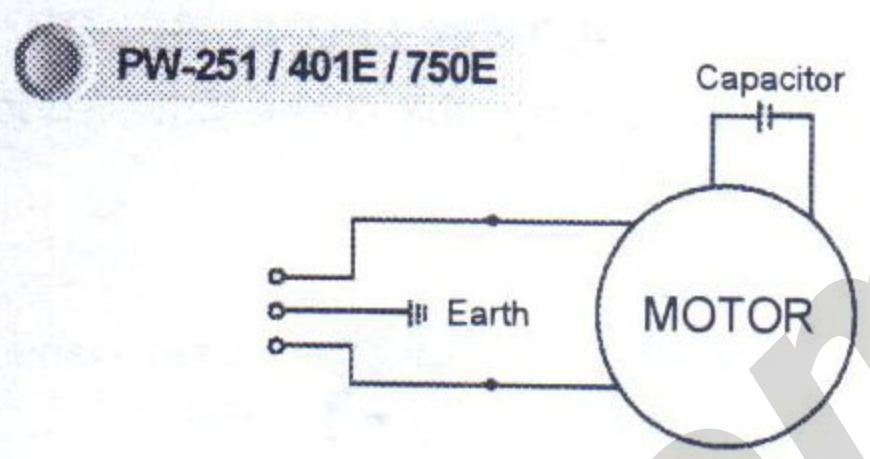
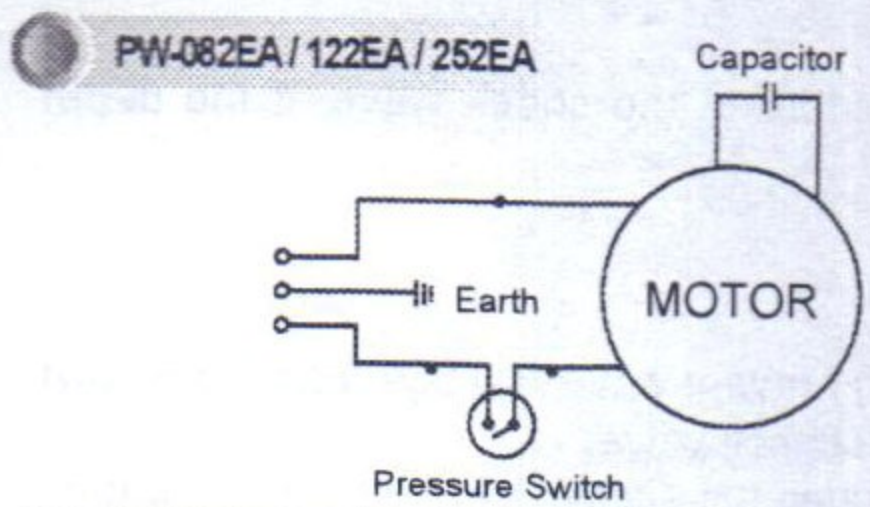
- This pump requires a little priming water at the very beginning of operation. Prime it without fail before starting.

- 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.

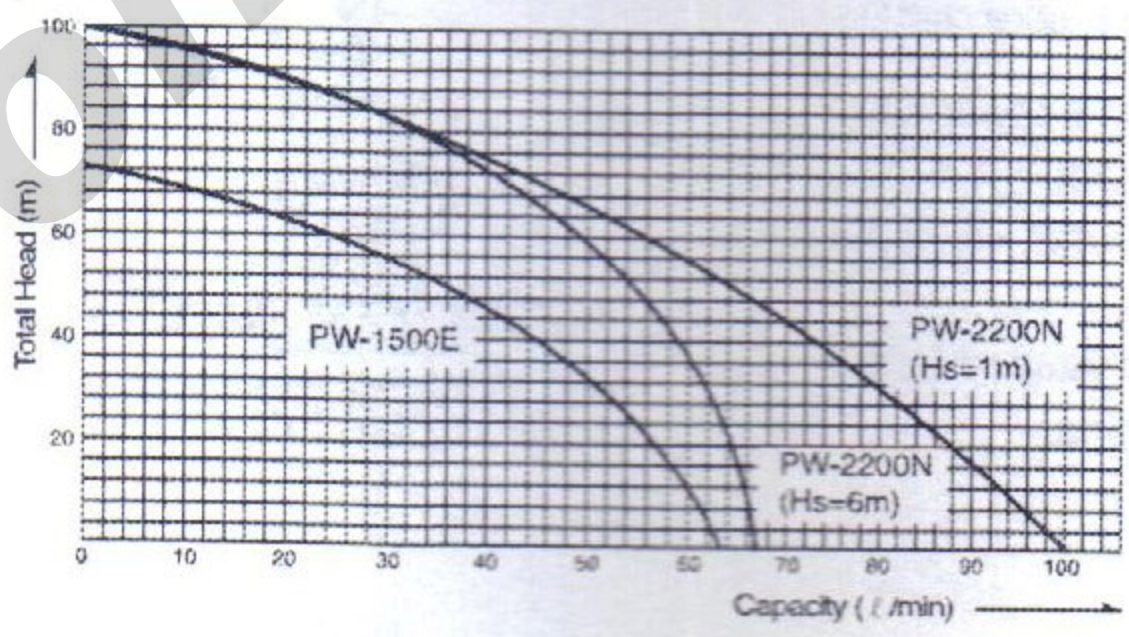
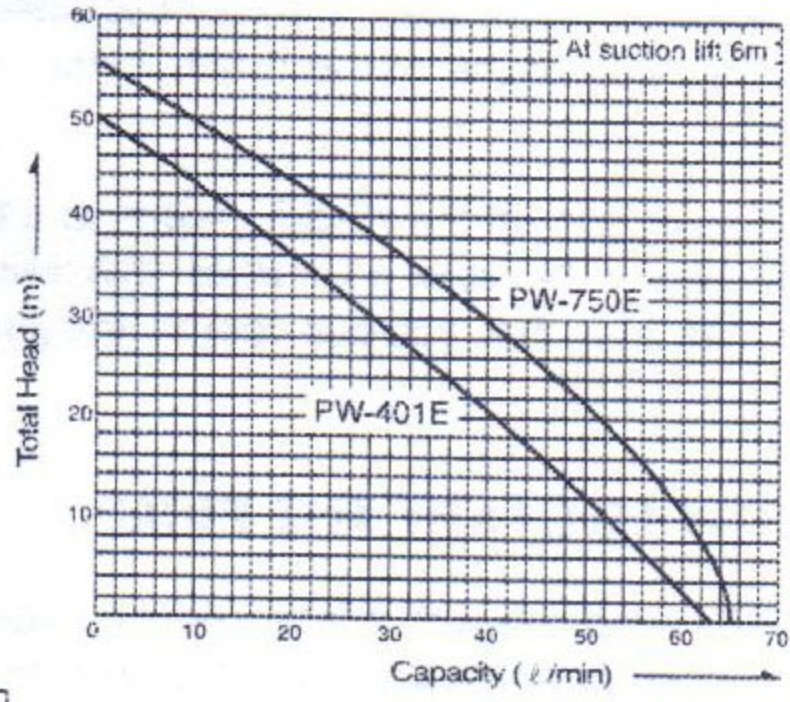
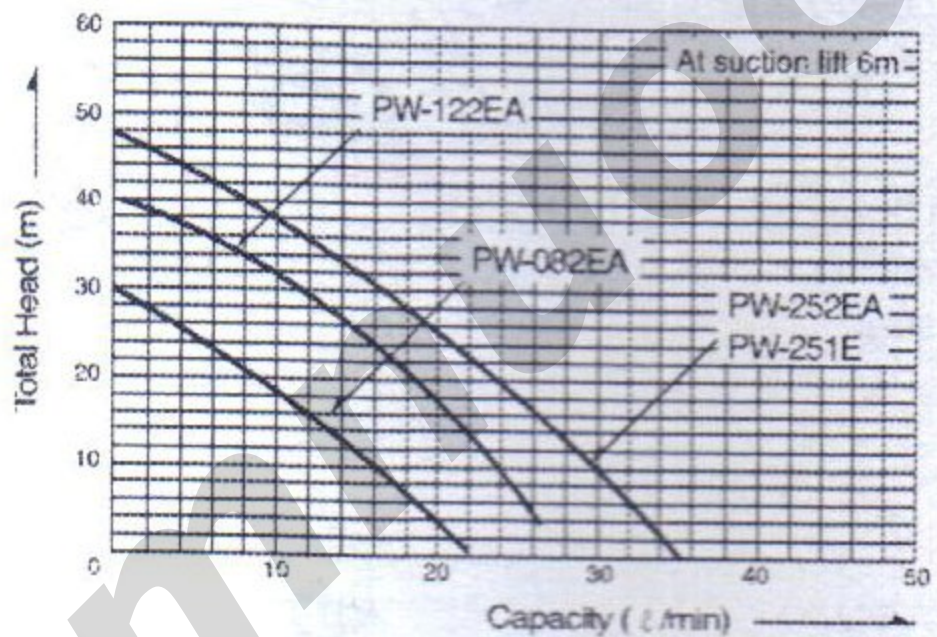




# 7. WIRING DIAGRAM



# 8. TOTAL HEAD-CAPACITY CURVE





## 9. TROUBLES AND COUNTER-MEASURES

Troubles	Causes	Counter-Measures (The indication • can be done by user.)
Motor does not start.	Thermal protector.	• If the motor is overheated, it doesn't operate. Then, wait till getting cold. (20~30 minutes)
	Faulty cord connection.	• Insert the plug securely.
	Cord disconnected.	Replace the new cord.
	Trouble in motor.	Repair or replace the motor.
	Too low power supply voltage.	• Consult with the power supply company.
Water is not pumped out although motor runs.	Water level of well is lower than standard level.	• Check the water level of Well.
	Trouble in check valve.	Take off the check valve case. Then, clean the valve, the valve seat and the valve hole.
	Air drawn into suction pipe	After checking the joints of piping, shut them perfectly.
	Air drawn into pump from mechanical seal.	Replace the new mechanical seal.
Thermal protector for motor works too often.	Too low or high power supply voltage.	• Consult with power supply company.
	Impeller is contact with another part.	Repair the defects.
	Short or open circuit of the capacitor.	Replace the capacitor.
Water does not come out at the first few minutes after switch on.	Air drawn into suction pipe.	Repair the defects of piping (To prevent air leaking)
Pump starts though no water is being used.	Water leaks at piping or pump.	Repair piping, pump parts and faucets etc.
	Water leaks at mechanical seal.	Replace the mechanical seal.
	Trouble in check valve.	Take off the check valve case. Then, clean the valve, the valve seat and the valve hole.
	Defacement or transformation of the impeller.	Replace the impeller.