



ET-SERIES
CPU-controlled
Auto Booster Silent Pump
INSTRUCTION MANUAL



- ***NO RUSTY WATER***
- ***SILENT OPERATION***
- ***DRY RUNNING SHUTDOWN PROTECTION***
- ***STABLE WATER PRESSURE***
- ***EQUIPPED WITH THERMAL PROTECTOR***

ISO9001 CERTIFIED

MADE IN TAIWAN

ET Series Instruction Manual

Please read all instructions carefully before installing your new systems, as failures caused by in proper installation or operation are not covered by the warranty.

A. Pump Structure

The ET Series constant pressure pump is a combination of pump, motor, diaphragm pressure tank, pressure sensor and high tech CPU controller, all incorporated into one constant pressure system.

B. Suitable Liquids

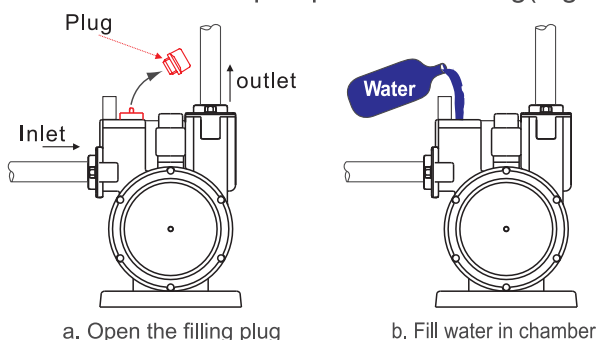
The ET series are designed for the pumping of non-aggressive water, or water not containing solid particles.

C. Operating conditions:

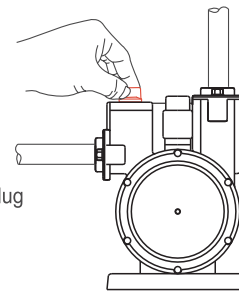
1. Ambient temperature:Max. +40° C.
2. Liquid temperature:+2° C~+40° C.
3. Relative humidity: Max. 85%(RH).
4. Before using the pump, be sure the inlet pressure setting is lower than factory pressure setting.

D. Installation

1. It is recommended that the plumber/installer provides an adequate draining system to avoid damage in case of leakage, particularly when installed indoors. When it is installed outside, it should be covered by a weather-proof housing, well ventilated to allow motor heat to escape.
2. The pump should be installed as close as possible to the liquid source.
3. Prime water inside pump before running(Fig.1).



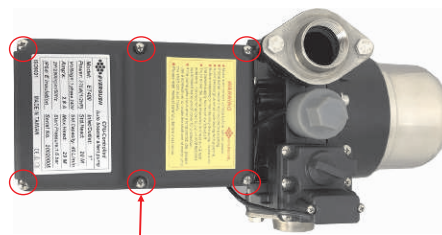
(If the water source is under the ET pump, the height of inlet pipe cannot exceed 3M, and a bottom foot valve must be installed.)



c. Tightened the priming plug

(Fig.1)

4.If the pump is for 60Hz area, EVERGUSH standard ET is bi-voltage110/220V design. Installer can open the cover of terminal box, to switch 110V or 220V button on CPU. (Fig.2)



a. unscrew cover of terminal box



b. Switch to required voltage.(This design is only for 60Hz model)

(Fig.2)

5.No water inflow occurs, pump will auto-shutdown within 1 minute, CPU will auto detect the pump water status and restart the pump within 1 hour. If user want to actuate during the period, please turn off main power source, then re-open power source again.

6. To avoid your furniture damage, do not install the pump on ceiling, carpet or any place close to electrical appliances.

7. Try to avoid the pump exposing to direct sun & rain outdoors. It is suggested to put on EVERGUSH customized water-proof cover for protection.(Fig.3)



Optional

(Fig.3)

E. Electrical connection



This mark located outside the electronic box is a warning for an electrical hazard.

1. Ensure the main voltage is the same as the value shown on the motor label and the pump is safely connected to ground/earth.
2. ESV models are designed for single phase motors, which are supplied with plug and lead and can be connected directly to the main power supply.

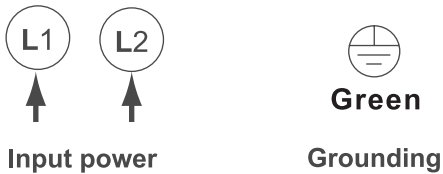
F. Wiring diagram

WARNING:

Risk of Electric Shock - This pump is supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle".

Before operation, please ensure the voltage is correct or the circuit breaker and grounding connectors are all connected in accordance with local regulations.

Single-phase power supply



G. Piping

1. When used on a suction lift, a foot valve should be fitted on the suction line, below the liquid level.
2. To minimize pressure drop, the discharge pipe should be at least the same size as the discharge port of the pump.
3. For long suction pipes or high suction lifts over 4M, the suction pipe should be of greater diameter than the suction port.
4. Ensure all connections are completely sealed using thread tape only.

H. Operation & Maintenance

Under normal operating conditions, the pump does not require any maintenance as long as the following points are observed:

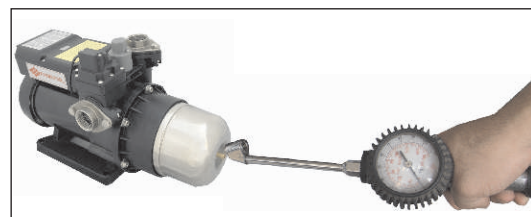
1. Periodically check the condition of the check valve and strainer (if used).
2. If the pump is to be inactive for long periods, it should be rinsed thoroughly with clean water, then, drained and stored in a dry place.
3. If the pump sticks after periods of inactivity, a screw driver slot is provided on the motor shaft end to free up the pump/motor. To do so, insert a screw driver in the slot in the motor shaft as shown in Fig. 4 and turn to free the rotor.

(Fig.4)



"Use a screwdriver to rotate the shaft end of motor until it spin freely"

5. Pre-pressure (1kg/cm^2) Diaphragm tank can be replaceable and should be checked or refilled air pressure (1kg/cm^2) after long term idle. To check the Pressure Tank air pressure, turn off power, open a tap on the discharge line to release pressure from the pump, unscrew the cover and apply an accurate pressure gauge to the valve as shown in Fig. 5.



(Fig.5)

6. If inlet pressure value is higher than factory pre-set activation point, it will cause the pump can't start. Please inform professional personnel to improve and reduce inlet pressure.

The factory preset activation point is as follows:

Model	Power	Activation Pressure
ET200	1/4HP	1.2 bar
ET400	1/2HP	1.6 bar

● Pre-set activation pressure is not adjustable.

I. Precautions

1. The pump should be shut down and the trouble corrected if the pump is running at speed and found to have any of the following problems:

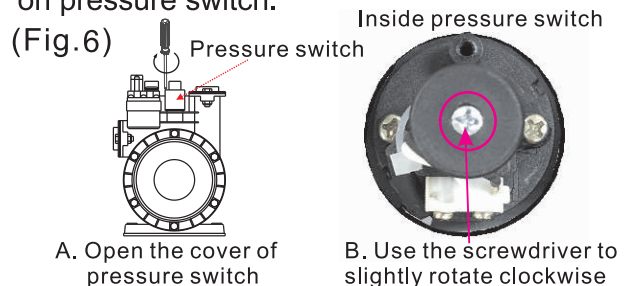
- No liquid discharged or Not enough liquid discharged.

-Excessive vibration- Motor running hot.

2. Do not allow the pump to continually start and stop(cycling) as this will reduce the motor life.

3. Cycling can occur on booster pump unit when the pressure tank pre-charge drops, or where there is a leak in the discharge pipeline.

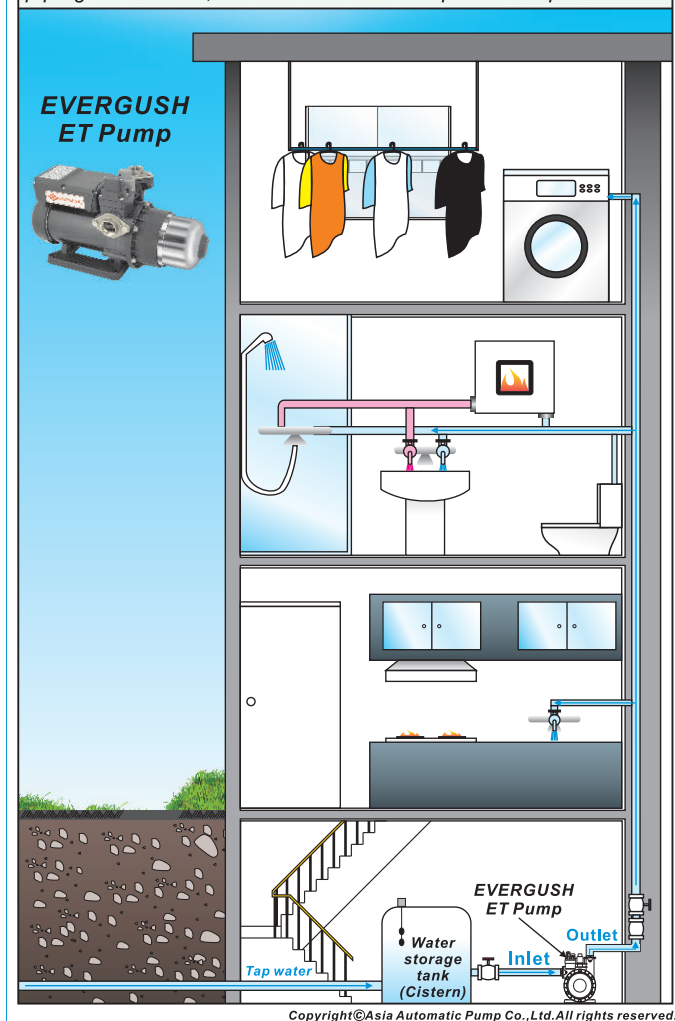
- When connecting with PVC pipeline, must avoid using too much glue, excessive glue would permeate into check valve from outlet side which would cause the check valve getting stuck and ET would start and stop too frequently. It would probably cause the less discharge of water which is due to adhesion of strainer at inlet side.
- If the suction pressure (positive pressure) is more than the activation pressure of ET pump, It will cause the ET pump cannot start. Please inform professionals to adjust the activation point on pressure switch.



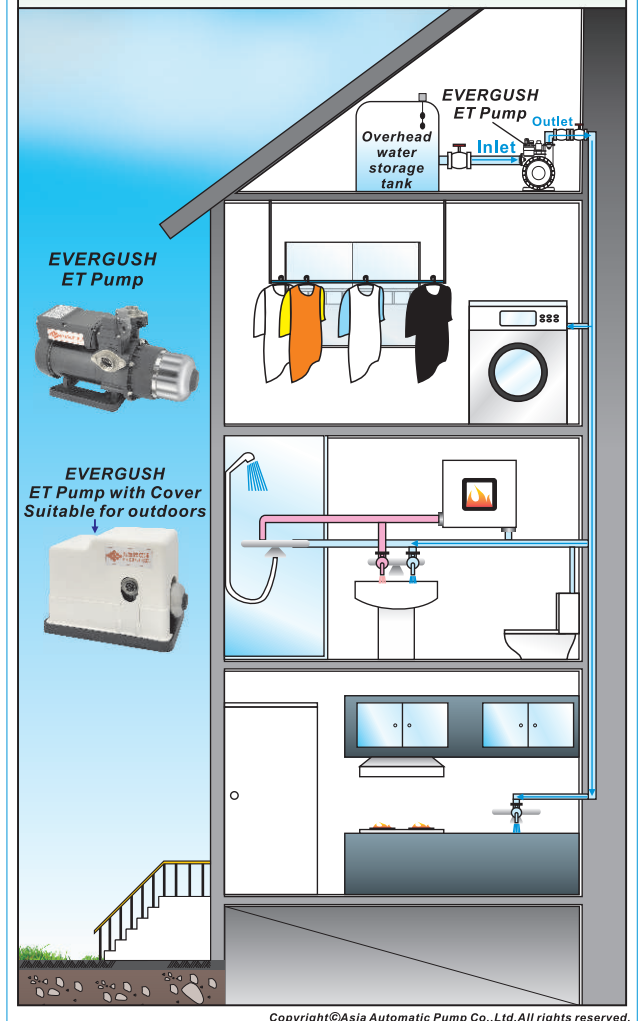
J. ET Applications

- Auto boost water pressure to the house, apartment, villa, school, restaurant, school, beauty shop,...etc.
- Auto boost water pressure to garden sprinkler, heater, toilet, washing machine, sanitary equipment, etc.

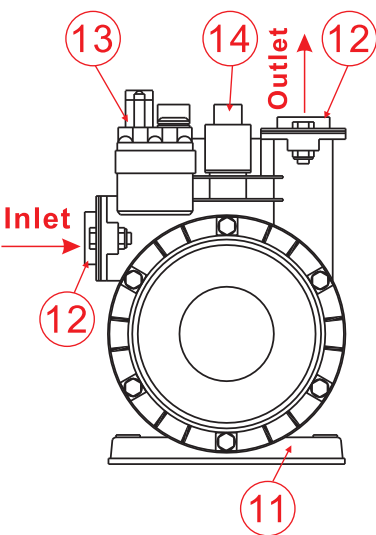
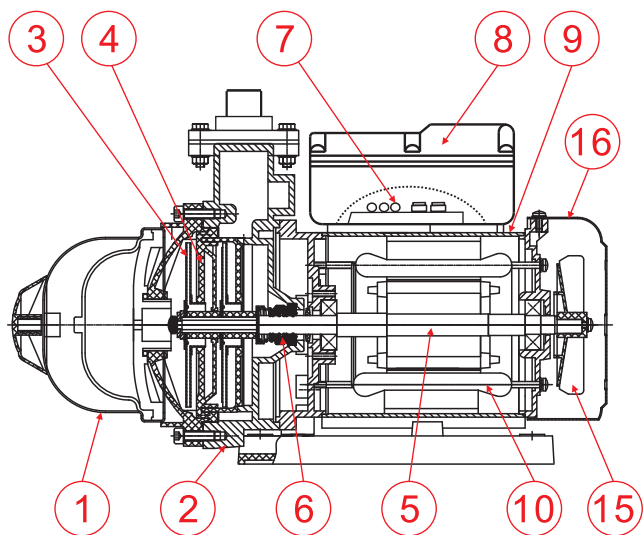
ET pump is installed on 1st floor or basement of house, connect piping with cistern, then auto boost water pressure upward.



ET pump is installed on the roof of house, connect piping with water storage tank, then auto boost water pressure downward.



K. Main Parts & Materials



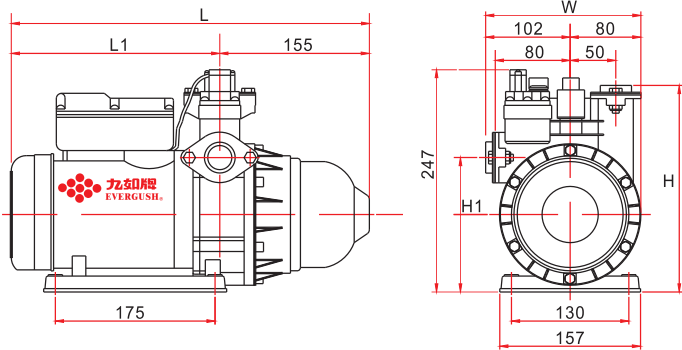
NO.	Name
1	Pressure Tank
2	Pump casing
3	Impeller
4	Guide Vane
5	Shaft
6	Mechanical Seal
7	CPU board
8	Terminal Box
9	Motor Shell
10	Motor Coil
11	Base
12	Flange
13	Flow sensor set
14	Pressure switch
15	Motor fan
16	Back cover

L.Specifications

Model	Cycle	Power		Inlet/Outlet		Pole	Phase	Voltage	Pressure		Rated Head	Rated Flow	Max. Head	Max. Flow
	Hz	W	HP	Inch	mm	P	∅	V	On (Bar)	Off (Bar)	M	L/min	M	L/min
ET200	50Hz	180	1/4	3/4"	20	2	1	220~240	1.2	2.5	15	36	25	55
	60Hz							110/220	1.2	2.2	15	30	22	56
Et400	50Hz	370	1/2	1"	25	2	1	220~240	1.6	2.9	20	40	29	65
	60Hz							110/220	1.6	2.4	20	30	24	68

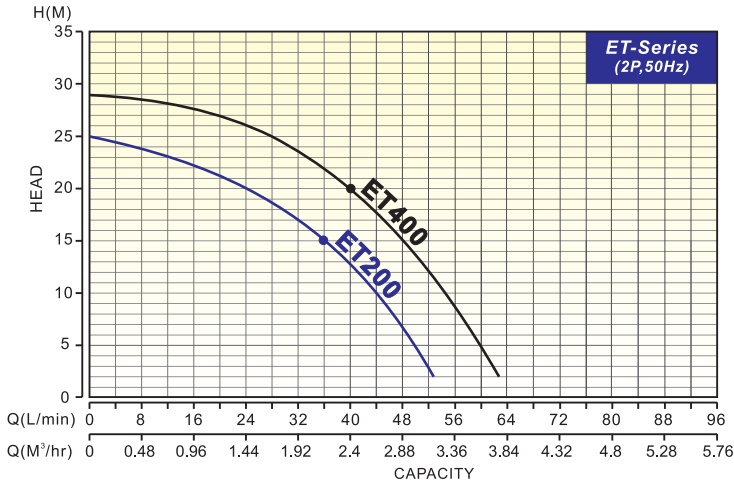
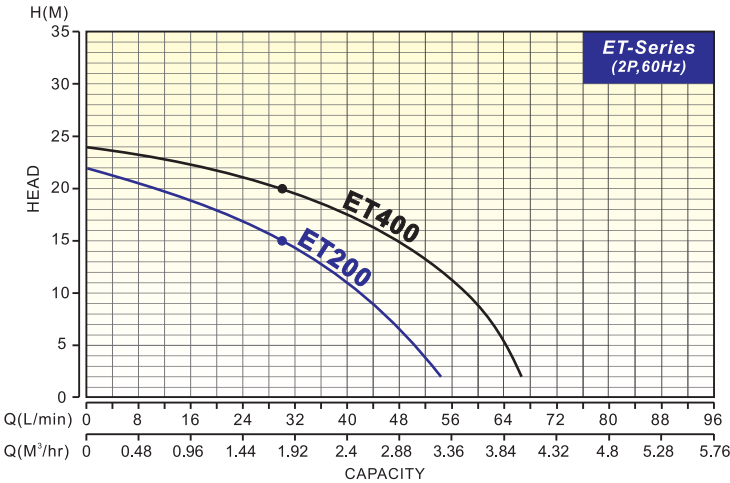
Suction Lift: Max. 4M

M.Dimensions



Model	Cycle	Dimensions (mm)					Net Weight
	Hz	L	L1	W	H	H1	
ET200	50Hz	405	230	182	225	150	7.1
	60Hz	385	230				6.8
ET400	50Hz	420	245	182	225	150	8.3
	60Hz	400	245				8.0

N.Performance Curves



K. Troubleshooting



Before installing or maintaining the pump, make sure that the power supply has been switched off, and the power can't be accidentally switched on.

- Confirm correct voltage before turn on power, and prime water inside the pump before starting.
- Try to avoid the pump exposing to direct sun & rain outdoors. It is recommended to put on EVERGUSH customized water-proof cover for protection.
- If the pump gets stuck after a long-time idle, please use a screwdriver to rotate the shaft end of motor until it spin freely, in order to remove the rusts that got stuck inside the pump casing.

ET CPU-controlled auto booster silent pump

TROUBLESHOOTING



Optional
ET Pump with water-proof cover
(Suited for installation outdoors)

Unusual phenomenon	Malfunction Routine/Cause	Solutions
The pump can't start	1. Power is not turn on	1. Re-connect the power again.
	2. Connects to wrong voltage.	2. Check and make sure it's the right voltage.
	3. Pressure sensor is broken.	3. Replace it.
	4. CPU controller is burned up.	4. Replace it
	5. Capacitor is burned up.	5. Replace it.
	6. Too low or high voltage	6. Check \pm if supply voltage is within 10%.
	7. Motor wiring is burned up.	7. Replace it.
	8. Shaft jammed	7. Use a screwdriver to rotate the shaft end of motor until it spin freely.
The pump can't stop, On/Off frequently	1. Pressure switch is malfunction.	1. Adjust or replace it.
	2. Diaphragm inside pressure tank is broken.	2. Replace it.
	3. Check valve is hardened or stuck.	3. Replace it.
	4. There is air inside the pump.	4. Open check valve lid and expel the air.
	5. Discharge pipeline has leakage.	5. Check for leakage in the pipeline.
Motor is running, but pressure or flow is small	1. Impeller is damaged.	1. Change impeller.
	2. Air is inside the pump.	2. Open drain plug and discharges the air.
	3. Actual performance can't reach customer's requirement.	3. Change to a bigger horsepower pump.
	4. Pipeline or valve leakages.	4. Check for leakage in the pipeline or valve.
	5. Inlet strainer blocked.	5. Clean strainer inside or replace it.
During operation, the pump stops suddenly.	1. Abnormal voltage.	1. Check voltage and use right voltage.
	2. Impeller is stuck with obstacle.	2. Dismantle pump and clean impeller.
	3. When water shortage occurs, the pump will stop automatically.	3. Restart the pump when water returns.
Motor is producing loud noise	1. Bearing is broken	1. Replaces bearing
	2. Dusts/obstacles inside the pump	2. Dismantles and cleans it



The ET pump is not suitable for underground water.

It is recommended that professionals install and maintain the pump.