

INSTALLATION & OPERATION MANUAL

EXHAUST AIR HEAT PUMP FOR HOT WATER WITH
CONTINUOUS MECHANICAL EXTRACT VENTILATION

MODELS: EV-H20/180 , EV-H20/270



Exhaust Air Heat Pump Hot Water

Thank you very much for purchasing our product, please keep this installation manual in a safe place and refer to this manual before you install the product.

Important notice: Please read this manual carefully before you attempt to install this product. Failure to do so may result in the product not working according to its design.

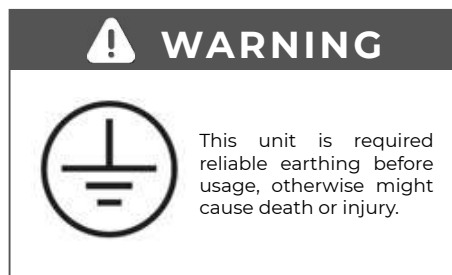
This product must only be installed by qualified personnel in the mechanical and electrical industry.

INSTALLATION & OPERATION MANUAL

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SAFETY PRECAUTIONS



Notes on the use of the product

01. Household electrics must have a reliable earth connection.
02. This product must be protected with a residual current device of adequate rating.
03. Do not interfere with any permanent instruction, labels or warning plate attached to the external cover of a this heat pump.
04. This product must only be installed by qualified personnel in the mechanical and electrical industry.
05. Always comply with local wiring regulations.
06. Always engage with a trained professional to relocate this product after it has been professionally installed.
07. Maintenance and repair work must only be undertaken by trained and qualified personnel.
08. The electrical connection to this product must be via a 20A RCD/MCB or RCBO with a test button function.
09. The final electrical connection must be via a double pole isolating switch located close to the unit. The isolating switch must never be covered up.
10. A One way isolating valve must be installed on the cold water supply pipe for maintenance purposes.
11. This appliance should never be used by children.
12. If the power supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified personnel in order to avoid a hazard.
13. **Do not operate this heat pump in a wet room such as a bathroom or unless it is housed in a separate cupboard within that room.**

Refrigerant R290 Warning

- This appliance uses R290 (propane) refrigerant, which is a flammable gas and must be serviced by an authorized person.
- **WARNING** Risk of fire/flammable material. If the refrigerant is leaking, switch off the unit at the mains and contact the service agent.
- **DO** not store chemicals or flammable materials near this appliance.
- **NEVER** use a flammable spray such as hair spray, paint, etc near this unit as this may cause a fire.
- Avoid risk of injury from contact with refrigerant if you notice a leak.
- If you suspect the refrigerant is leaking then:
 - Do not smoke.
 - Do not operate electrical equipment. Isolate the device. Call the service agent.
- End of life recycling. Please consult your local recycling centre for advice.

The refrigerant must not enter the atmosphere. Only have the refrigerant removed by qualified professional.

The H20 is designed for internal installation only. Where a system has been installed internally or in an unventilated room, the following parameters must be observed so that should any refrigerant leak, it will not stagnate so as to create a fire or explosion hazard.

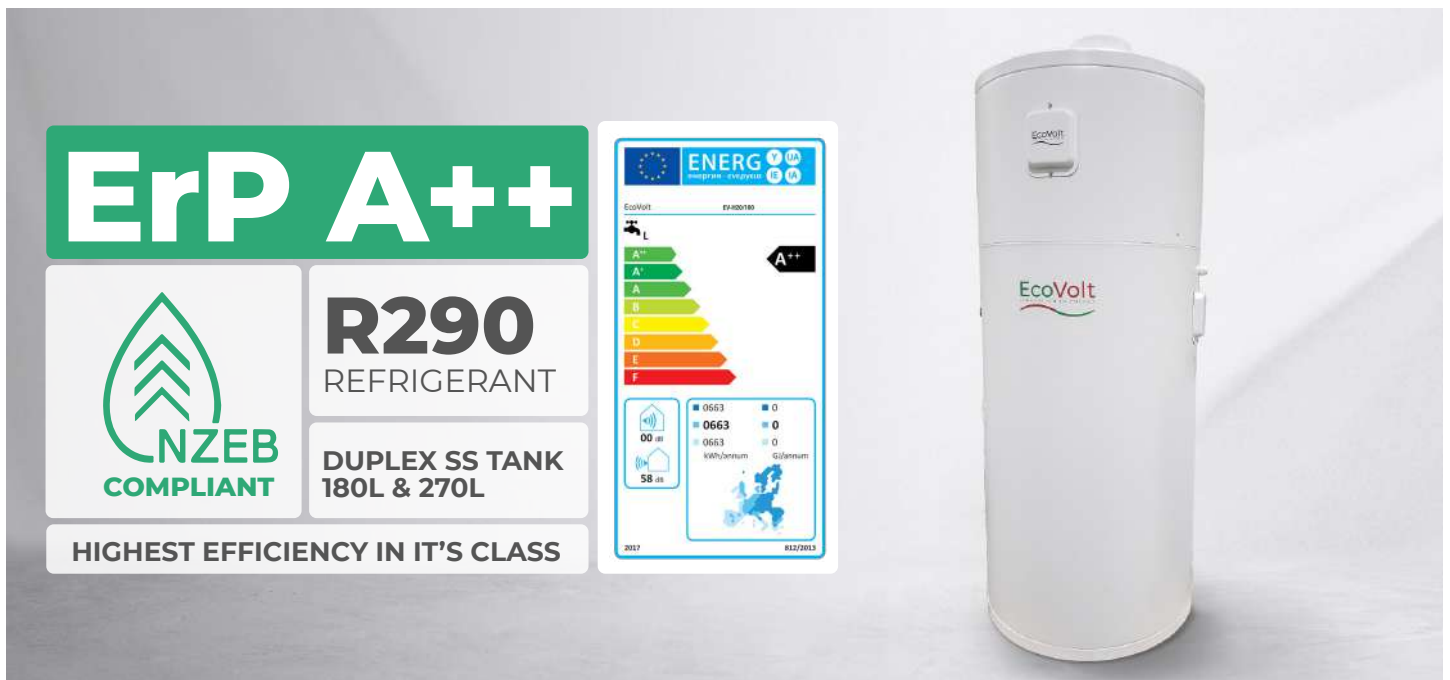
MINIMUM FLOOR AREA = 45m³, based off a charge of 0.350Kg and allowable practical limit for R290 of 008Kg/M³.

GENERAL INFORMATION

I. SPECIFICATION

MODEL	WEIGHT (KG)	DIMENSIONS (MM)	POWER SUPPLY
EV-H20/180	83	620×1524	220V-240V/ 50Hz
EV-H20/270	94	620×1943	220V-240V/ 50Hz

II. APPEARANCE



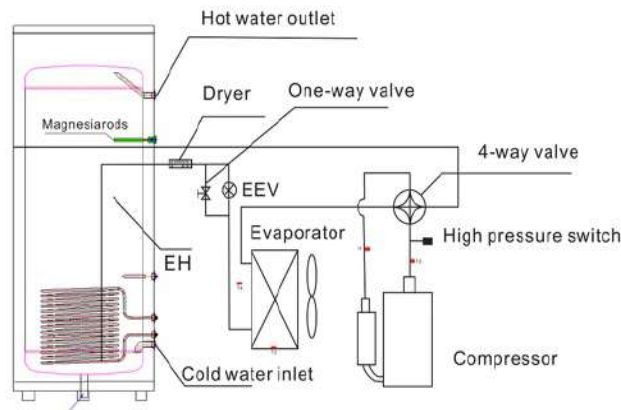
III. FEATURES

ECOVOLT H20 EXHAUST AIR HOT WATER:

01. Quality built duplex stainless steel water cylinder with 50mm factory fitted rigid insulation. Lowstanding losses for energy efficiency in the storage of hot water.
02. Quality highly efficiency micro -channel heat exchanger wrapped in close contact with the cylinder for thermal conductivity.
03. No contact between the refrigerant piping and the water for additional safety
04. The maximum outlet water temperature is 70°C using a combination of the heat pump and auxiliary heating element. For efficient heating using the heat pump only it is recommended that the hot water temperature limit is set for 52°C.
05. The heat pump uses extracted stale air from wet rooms delivered by rigid or semi-rigid ducting and connected using different methods as below. The air intake ducting should be kept to a maximum combined length of 20 meters. For high performance buildings it is recommended to install a supply duct connected to the outside with an inline damper connected to the damper signal cable. This method will take energy from the outside air as well as the internal wet rooms.
06. Automatic and program modes available.

IV. REFRIGERANT CIRCUIT

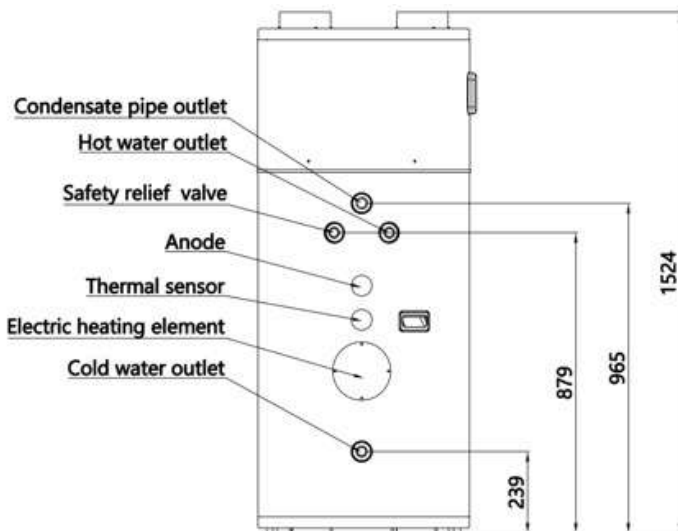
SAMPLE ONLY



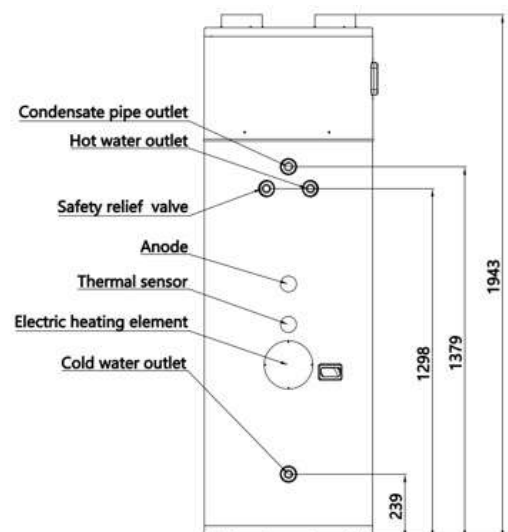
Compressor	GMCC/Toshiba - R290.
Evaporator	Copper tube and aluminum fin type heat ex-changer.
EEV	Electronic expansion valve, the opening is regulated according to the discharge air temperature of compressor.
Fan	Centrifugal fan with three speeds.
Tank	Duplex stainless steel.
Heat Exchanger	Micro-channel wrap around water tank with high efficiency.
Electric Heater	Dry Ceramic heating element with no direct contact with the water.
Controller	Touch screen.

V. ILLUSTRATION

Model EV-H20/180



Model EV-H20/270



VI. SPECIFICATIONS

ECOVOLT MODEL	EV-H20/180	EV-H20/270
POWER SUPPLY	230V/50HZ	
RATED INPUT POWER (COMPRESSOR)	0.57KW	0.57KW
RATED INPUT CURRENT (COMPRESSOR)	2.9A	2.9A
RATED HEATING CAPACITY (COMPRESSOR)	2.4KW	2.4KW
RATED INPUT POWER (IMMERSION)	1.5KW	1.5KW
RATED INPUT CURRENT (IMMERSION)	6.9A	6.9A
MAX CURRENT (COMPRESSOR & IMMERSION)	12.0A	12.0A
REFRIGERANT	R290 (330G)	R290 (330G)
COMPRESSOR	MIDEA	
ERP LABEL	A++	A++
EFFICIENCY η_{wh} (EN16147)	154.5%	168.7%
COP DHW		
EXPANSION VALVE	EEV	EEV
WATER TANK CAPACITY	180L	270L
LOSSES PST BY	0.97 kWh/24h	1.02 kWh/24h
INNER TANK MATERIAL	DUPLEX STAINLESS STEEL 2205	
INNER TANK THICKNESS	1.0MM	1.0MM
INNER TANK DIAMETER	Φ 500MM	Φ 500MM
WATER INLET/OUTLET PIPE	G 3/4"/FEMALE	G 3/4"/FEMALE
RATED WATER TANK PRESSURE	8 bar	8 bar
OUTER CASING	RAL 9016	RAL 9016
FAN	CENTRIFUGAL (3 SPEED)	CENTRIFUGAL (3 SPEED)
VENTILATION	VERTICAL DISCHARGE	VERTICAL DISCHARGE
DUCT CONNECTIONS	150MM	150MM
RESISTIVE IMMERSION ELEMENT	1.5KW / DRY HEATER	1.5KW / DRY HEATER
RATED OUTLET WATER TEMPERATURE	55°C	55°C
MAX OUTLET WATER TEMPERATURE	70°C	70°C
WORKING RANGE WITH ELECTRIC HEATER	-15°C-43°C	-15°C-43°C
WORKING RANGE WITHOUT ELECTRIC HEATER	-7°C-43°C	-7°C-43°C
ANTI-CORROSION FOR WATER TANK	MAGNESIUM ANODE	MAGNESIUM ANODE
ANTI LEGIONELLA	WATER HEATED UP TO 70°C BY ELECTRIC HEATER	
IP CLASS	IPX1	IPX1
UNPACKED DIMENSION	Φ 620×1620MM	Φ 620×1850MM
PACKED DIMENSION	700×700×1790MM	700×700×2010MM
NET WEIGHT	88KG	102KG
GROSS WEIGHT	106KG	120KG
NOISE @ 1 METER	46 dB	46 dB
VENTILATION RATES L/M/H SPEED (L/S)	126/183/226	126/183/226

NOTE

All the pictures in this manual are for illustration purposes only. Please refer to local wiring and plumbing regulations. If in doubt of anything in this manual, contact your local service agent.

INSTALLATION

I. CHOOSE A SUITABLE LOCATION

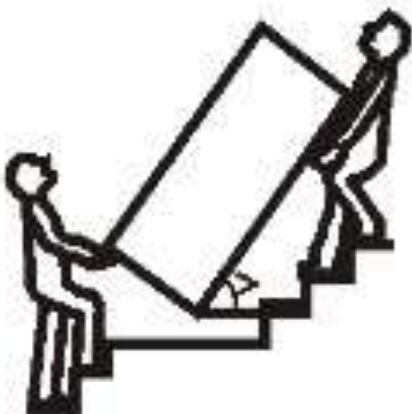
01. This product is suitable for an indoor utility room or plantroom.
02. Please ensure there is adequate space for installation and maintenance.
It is recommended a head height of 300mm is required.
03. The Air inlet and outlet vents final connections to be done in insulated flexible ducting with less than 0.5mtr duct length.
04. The product is to be installed in a dry and free from humidity location.
05. Support surface must be level and can hold the products weight when filled with water.
Please refer to the technical data sheet for the products weight.
06. Please select a suitable location for the exhaust air vent to the outside.
Always insulate the exhaust air ducting to avoid condensation when operational.
07. Please select a suitable location for the supply air intake ducting from the outside if being used on high performance air tight building. Always insulate the supply air intake ducting to avoid condensation when operational.
08. Please ensure there is access to the front panel for maintenance.
Please note the clearance areas required for maintenance.
09. Always allow extra room for pipe connections and power cables.
10. Always refrain from installing on a surface with loose coverings as the product may make a vibrating noise when operating.

NOTE

If the product is installed in a location where there is a possibility of frost, then all precautions must be taken to ensure all pipework is sufficiently insulated.

The following locations are not recommended as suitable installation locations of the product.
Areas containing toxic gases or mineral oils.

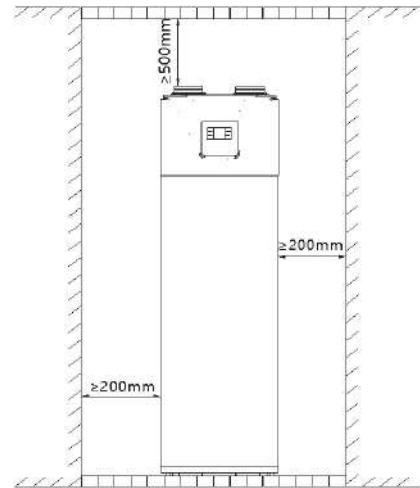
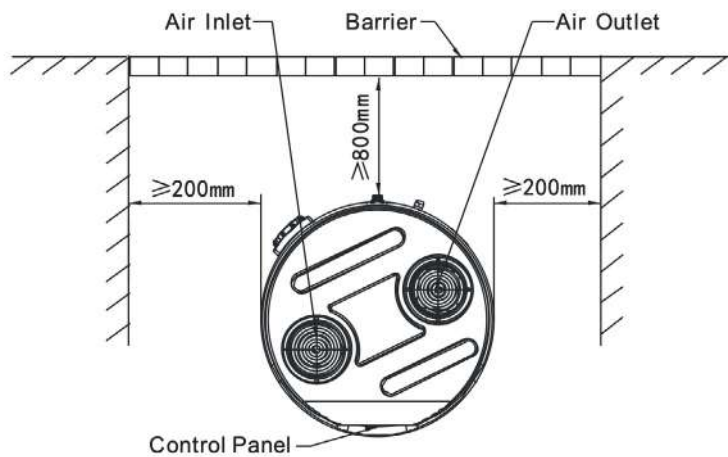
II. TRANSPORTING THE PRODUCT



01. This exhaust air heat pump is heavy and requires at least two people to lift it with the assistance of lifting equipment.
02. It is always recommended to lift the product with all its packaging in place.
03. Always wear PPE when lifting the product.
04. Avoid lifting at the angle greater than 75°.

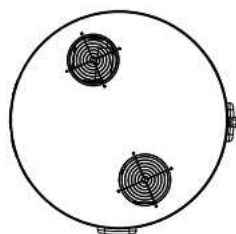
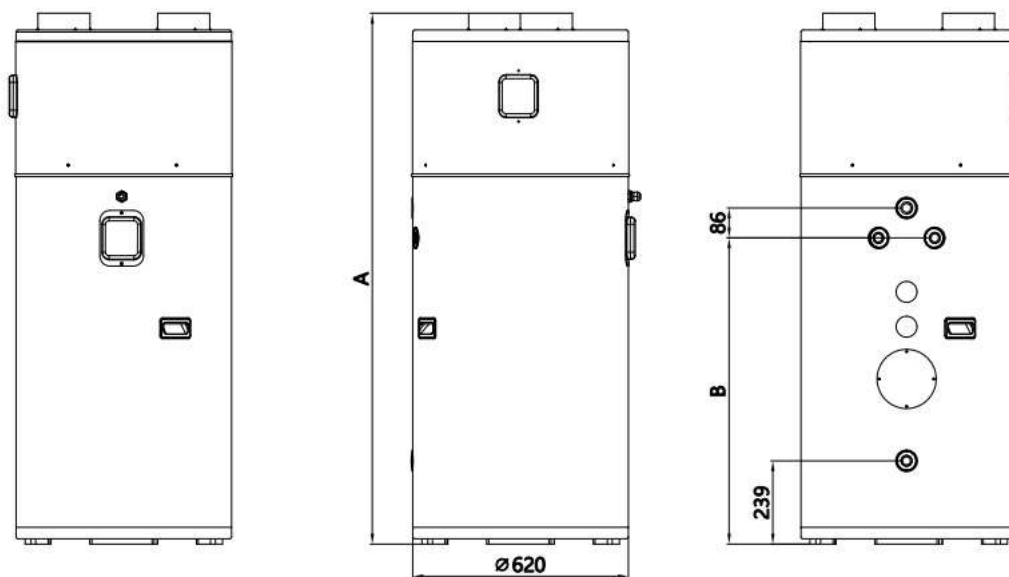
III. THE INSTALLATION OF HEAT PUMP

01. Always leave enough space for installation and maintenance. The below illustrations are guidelines only.



02. The air inlet ducting is vented from “wetrooms” like a kitchen, bathroom, ensuites and utility rooms. The minimum size ducting is 150mm rigid or approved semi rigid ducting. Flexible ducting is not recommended and should not be used.

IV. PRODUCT DIMENSIONS

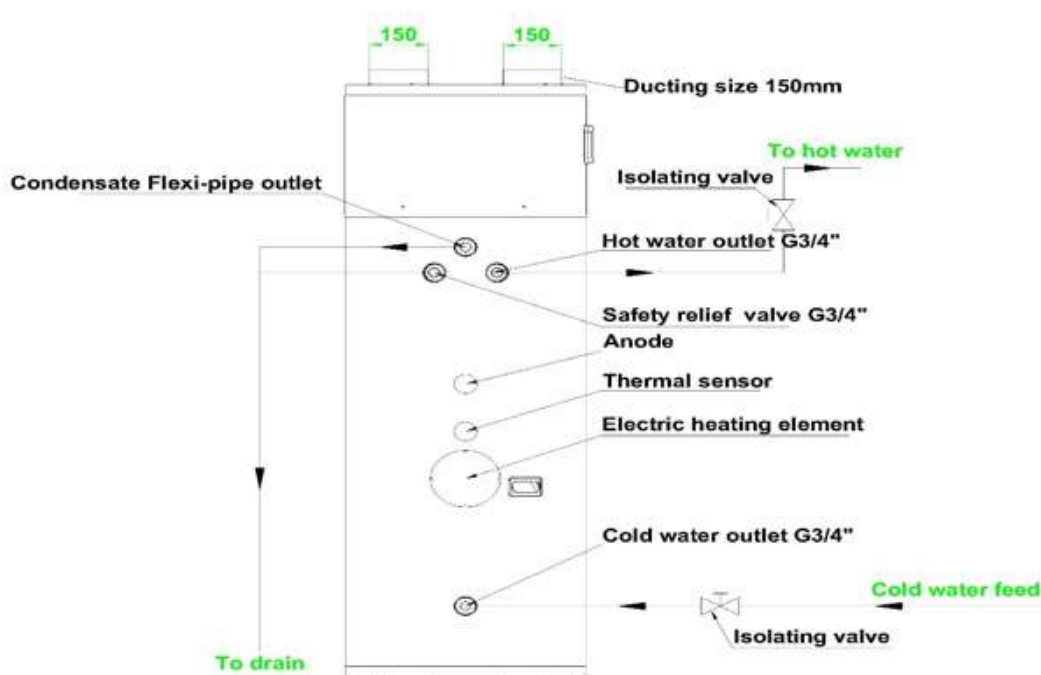


200:A-1524 B-879
300:A01943 B-1298

MODEL	SIZE A	SIZE B
EV-H20/180	1524	879
EV-H20/270	1943	1298

PLUMBING CONNECTIONS

I. DIAGRAM

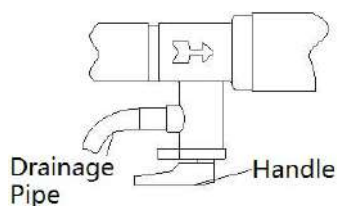


II. WATER PIPE INSTALLATION INSTRUCTIONS

01. Only use quality copper piping for the final connections to the unit.
02. Connect the pipes according to the drawing and insulate all pipes. Plastic flexible hose piping is allowed for the condensate run off.
03. Cold Water inlet/ hot water outlet requires a G3/4" fitting.
04. The safety relief valve comes with the product and must be fitted and piped to the drain network.
05. Once all the pipe work is complete and all connections are tight, the filling of the system with cold water can begin. Open up the cold water inlet isolating valve to begin the process. As the water begins to fill up inside the tank, it is possible to release the build up of pressure by slowly opening the safety relief valve. Repeat this process until the tank is full and water begins to flow out of the safety relief valve.
06. The correct cold water intake pressure is between 1.5BAR and 6.5BAR. If the pressure is less than 1.5BAR a pressure pump may be required for operation. Installing a pressure gauge inline with the cold water inlet will assist the user if there are pressure issues after the installation.
07. During operation and heat pump cycle, there will be condensation droplets within the heat pump. Always ensure the condensate pipe is connected to the drainage network.

! NOTE

- The safety relief valve needs to be pulled every six months to ensure it works correctly and is not blocked.



- Insulate the drainage pipe to avoid freezing in cold weather..

! WARNING

- Do not hold down the handle of the safety valve.
- Do not block the drain.

! NOTE

If this product is installed in an outbuilding or unheated space, please ensure all pipework including ducting is insulated well. Failure to do so could result in frozen pipework and condensation issues.

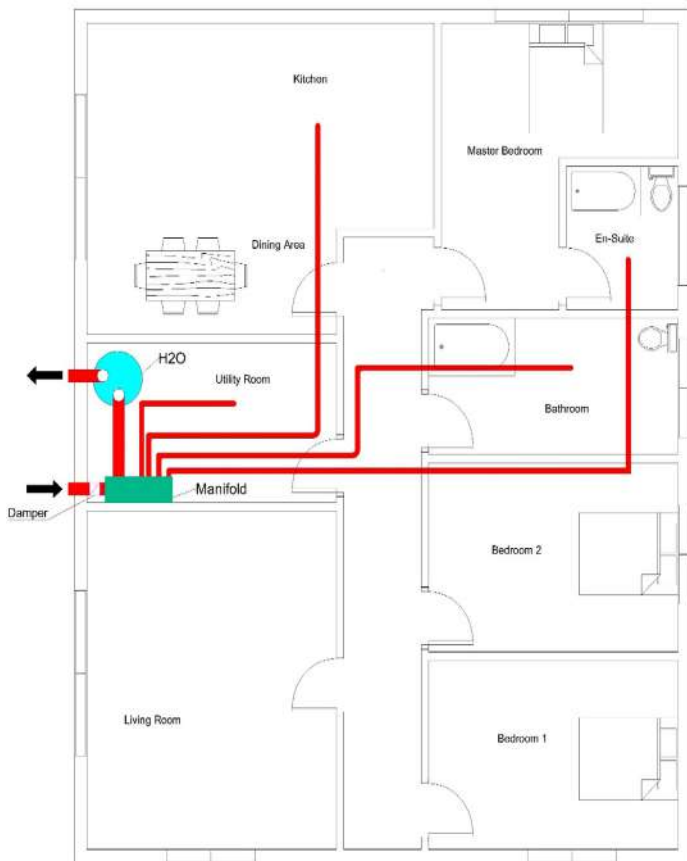
III . VENTILATION

CMEV FUNCTION.

The selection of the fan speed is determined by the size of the property and the designed ventilation rates to comply with part F regulations. Once the selection is made it should be noted on the service log book at the back of this manual. Then the extract grills must be calibrated in accordance to the designed extract rate by the qualified person. It may be possible to increase the fan speeds in need of purge ventilation, this is done by selecting a higher speed on the controller. It must be noted to reduce the speed to the design rated speed once the purge ventilation is completed. If there is no requirement for the CMEV function the selector switch is set to OFF

SPEED	VOLTAGE	FREQUENCY	AIR FLOW VOLUME
HIGH	230V	50HZ	630 m ³ h
MIDDLE	230V	50HZ	510 m ³ h
LOW	230V	50HZ	210 m ³ h

IV. DUCTING INSTALLATION INSTRUCTIONS



Sample ducting layout.

- ▶ Option 1 is recommended at all times. Only use semi-rigid ducting when 150mm solid ducting is not viable to use.
- ▶ When the air intake ducting pass through the unheated section of the building it is essential that the ducting is wrapped in foil back insulation.
- ▶ The exhaust air ducting must be wrapped in continuous foil backed insulation and care must be taken when the ducting leaves the building and vapour control layer.
- ▶ Sample ducting layout. Shows a power open, spring close damper on the supply air ducting. This is possible to achieve by connecting the damper cable from the H2O unit.

ELECTRICAL CONNECTIONS

THE ELECTRICAL CONNECTIONS MUST BE COMPLETED BY A QUALIFIED AND TRAINED PROFESSIONAL.

⚠ NOTE

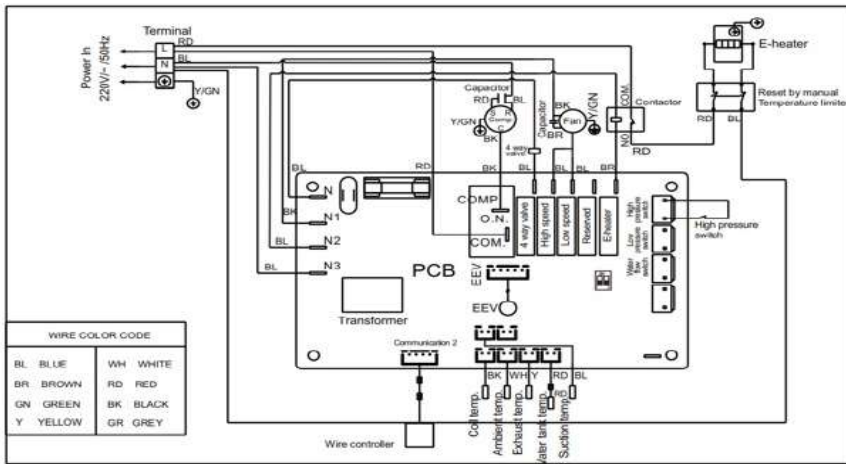
- ▶ This product must be wired on a separate circuit protected by a 20A RCD/MCB (RCBO)
- ▶ The circuit must be connected to a reliable earth electrode connected to the consumer unit.
- ▶ The testing of the circuit and final connections are the responsibility of the trained installer.

I. POWER SPECIFICATION

ITEM →	POWER SUPPLY	CABLE SIZE (MM2)		PROTECTION DEVICE RCBO TYPE (B)		EARTH LEAK-AGE
MODEL ↓		L&N CONDUCTORS	PE CONDUCTOR	RATING (A)	TYP	
EV-H20/180 EV-H20/270	220V/50HZ	L&N CONDUCTORS	PE CONDUCTOR	RATING (A)	TYP	30mA
		Φ 2.5MM	Φ 2.5MM	20	B	

NOTE: Final connection is via a 20A isolating switch in close proximity to the heat pump.

WIRING DIAGRAM OF THE INTERNAL CONTROL BOARD



METHOD OF APPLICATION

FILLING THE UNIT WITH WATER.

1. When using the product for the first time always ensure the tank is full with water. Never operate if the tank is empty. Follow the guidelines below to check the tank is full.

Open the cold water isolation valve and hot water outlet valve.

Hot water outlet

→

HOT WATER OUT

Turn on a hot water tap or shower and wait for the water to flow freely out. Close the tap or shower when complete.

Never operate this unit if there is no water in the tank. This will result in possible damage to the dry resistive Element.

2. Draining the system: Isolate the cold water feed at the valve. Open a hot water outlet or safety relief valve to drain out the water. It is recommended to always install a drain off valve at the lowest connection point after the cold water isolating valve.

CONTROLLER INSTRUCTIONS

TOUCHSCREEN CONTROL SECTION

I. FEATURES

1. Operating condition

- Voltage: 220V ~ ±10%,50Hz±1Hz.
- Ambient temperature: -7~+43°C.
- Storage temperature: -20~+70°C.
- Relative humidity: 0~95%RH.
- Temperature accuracy: ±1°C.

2. Main function

- Display the water temperature and setting temperature, and can query the coil temperature, ambient temperature and exhaust temperature and so on.
- Power cut memory function.
- When power cut, the clock will still work.
- Timer on/off.
- Automatic defrosting.
- Touch screen.
- Error code display.
- Anti-freezing function.

II. HOME PAGE ILLUSTRATION AND ICON MEANINGS



- 1 : Set water temperature (water temperature could be set by this icon).
- 2 : Current water temperature.
- 3 : Date and time (Real time could be set by this icon).
- 4 : Electric heater(When element is activated, icon appears; When element is deactivated, icon disappears).
- 5 : Compressor (When comp. is running, the icon appears; When comp. is not running, the icon disappears)
- 6 : 4-way valve (When defrost is activated, the icon appears; When defrost is deactivated, the icon disappears).
- 7 : Fan (When fan is running, the icon appears; When fan is not running, the icon disappears).
- 8 : Circulating pump(not for all in one heat pump) or PV mode(not for H2O).
- 9 : WIFI (When WIFI is connected, the icon appears; When WIFI is disconnected, the icon disappears).
- 10 : Mode icon.
- 11 : Power ON/OFF.
- 12 : Mode select.
- 13 : Query.
- 14 : Set menu.
- 15 : Number keyboard: Input numbers by different number keys.
- 16 : Timer (When timer is activated, the icon appears; When timer is deactivated, the icon disappears).

III. OPERATION INSTRUCTION

3.1 Turn ON/OFF


- When the system is off, touch the button “ON/OFF”, the system will turn on.
- When the system is on, touch the button “ON/OFF”, the system will turn off.
- When the screen is in sleep mode, simply touch it to wake it up for operation.
- No operation on the controller for 5 minutes, the screen will enter sleep mode. Only the current water temperature will be displayed.

3.2 Select working mode

- Heating mode: Touch the button “MODE” to select different working modes. Also the working mode will be showed on the top right corner of screen.
- Only heating mode is accessible by “MODE” button for H2O. Please refer to below for accessing other working modes.
- Eco mode: When the Water temperature is set $\leq 55^{\circ}\text{C}$, only heat pump works.
- Hybrid mode: When 55°C water temperature setting \leq max 70°C , heat pump heats the water to 55°C . and stop working, then the electric heating element continues heating the water to set temperature.
- Booster mode: Touch the button “SET” → touch the button “User Para” → Touch the button “F13”, then this mode will be activated. Under this mode, heat pump and electric heating element work simultaneously.
- Timer mode: Please refer to 3.5.3 for details. All above modes could be accessible under timer mode.
- Heat pump failure mode: When heat pump system fails, electric heating element will work automatically.
- Low ambient temperature mode: When the ambient temperature is less than 5°C only electric heating element is allowed to work.

3.3 Set water temperature




- Touch the icon  on the home Page to enter water temperature setting → Touch the button “+”, “-” to adjust water temperature setting → Touch the button “OK” to confirm water temperature setting.
- The max water temperature the heat pump can achieve is 55°C . It is recommended not to raise the temperature above this.
- The max water temperature that electric heating element could achieve is 70°C .
- Based on above, DO NOT set water temperature over 70°C .

3.4 Real-Clock Setting



THERE ARE TWO WAYS TO ACCESS REAL-CLOCK SETTING.

- Touch the icon  on the home page to enter real-clock setting → Input the real time → Press the button “Return” to confirm the time and return to home Page.
- Touch the button “SET” on the home page to enter real-clock setting → Touch the button “Clock” to calibrate the real date and time.

3.5 Settings Menu



Press the button “Setting”, enter the settings menu page.

3.5.1 User Parameters



- Touch the button “User Para”, enter the page of “User Para”.
- The defrost could be turned on/off manually by setting the number 0/1, adjustment is not suggested.
- The electric heater could be turned on/off manually by setting the number 0/1, adjustment is not suggested.
- The sterilization could be turned on/off manually by setting the number 0/1, and the water will be heated up to 70oC, adjustment is not suggested.
- The final water temperature could be set by F01, adjustment is not suggested.
- The reheat temperature could be set by F03, adjustment is not suggested.
- Both heat pump and electric heater will be turned on simultaneously by setting F13 to 0, adjustment is not suggested.
- The reheat temperature could be set under F13(fast heating function), adjustment is not suggested.
- PV mode could be activated by setting “PV function” to 1 (Not for H20).
- PV mode must be performed under timer mode, so must set the working period for PV mode (Not for H20).

3.5.2 Engineering parameters



- Only professional trained engineers are allowed to get access into this setting.

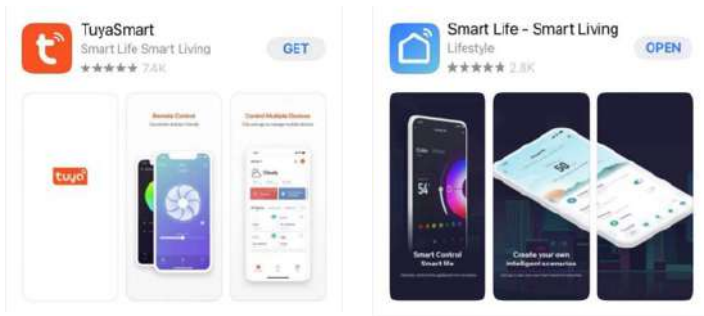
3.5.3 Timer setting



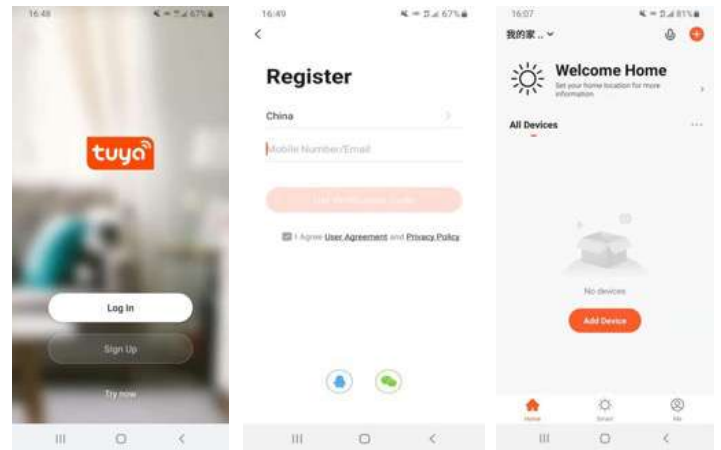
- Touch the button “Timing” → enter the page of timer setting.
- 3 time periods at most could be set, including “Timing1”, “Timing2” and “Timing3”.
- The “time start” and “time end” could be set in each time period separately, when “time start” is set same as “time end”, the timer will not be activated.
- Once setting is finished, touch the button “ON/OFF” to turn on/off the timer.

3.5.4 WiFi setting

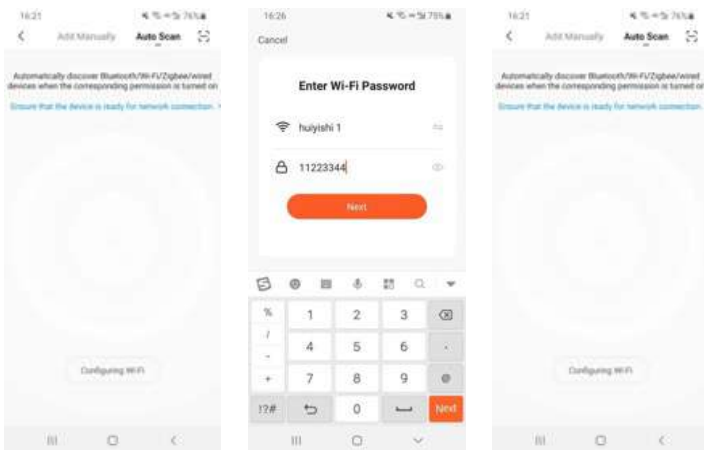
01. Download the “TuyaSmart” or “Smar Life” APP on ppstore, usually “TuyaSmart” is recommended.




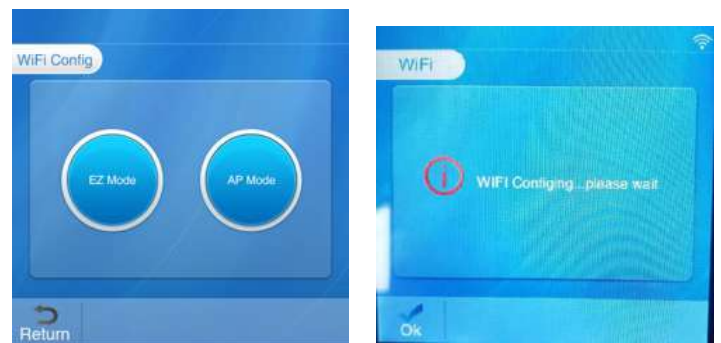
02. After APP is downloaded, register your account by email or mobile phone number at your first login.



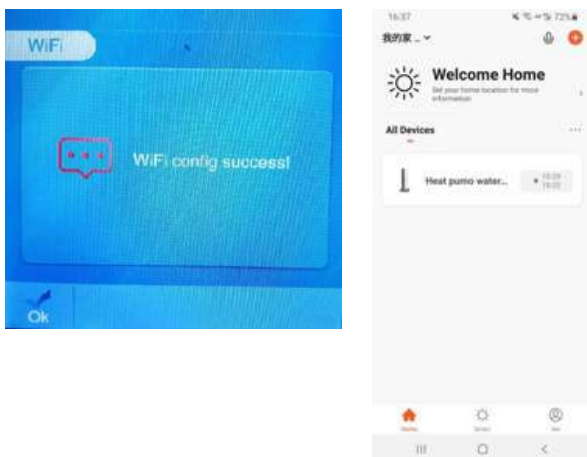
03. Make sure the mobile phone to be connected with WIFI. Select Auto Scan, also touch “Configuring Wi-Fi” to input the WiFi name and password. Now the phone will search the available devices.



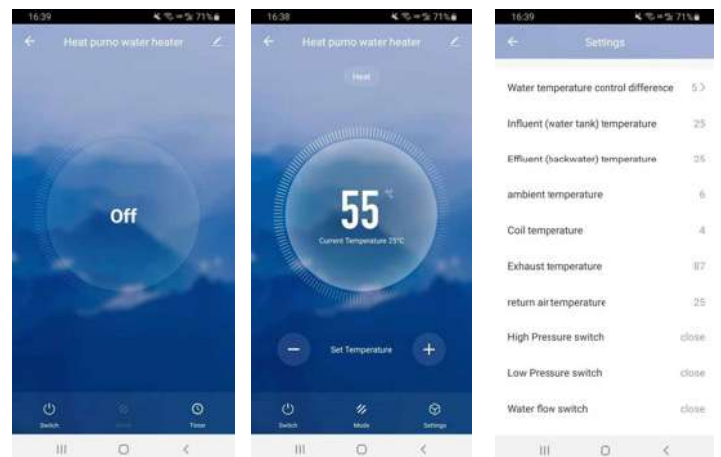
04. Turn on the controller → Touch the button “Set” → touch the button “WiFi” → touch the button “EZ Mode” to activate the WiFi connection. During the configuration, the icon  will be flashing.




05. Once the connection is successful, you will see following pages on the controller and APP.




06. See following homepage on APP.



3.5.5 Screen brightness setting

Touch the button  adjust the brightness on the screen.

3.5.6 Reset

Touch the button  restore the factory default setting (this function has not been available yet).

3.6 Query

Touch the button “QUERY” on the home page → enter query page to check system running status.



3.6.1 Temperature monitoring

- Touch the button “Temperature” → show the instant temperatures detected by different sensors.
- Water inlet temp.(tank) means the current water temperature.
- Water outlet temp.(tank) will not show any information.



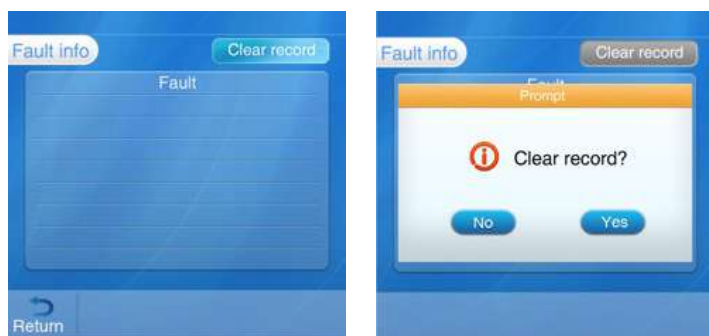
3.6.2 Check heat pump running status

- Touch the button “System status” → Show the running status of the critical components.
- Touch the button “Next” to show next page, press the button “Prev ” to show the previous page.
- Circulating pump/PV, Linkage, water flow, Low pressure is not applicable for H2O.



3.6.3 Inquiry fault record

- Press the button "Fault info"→check the fault record.
- Press the button "Clear record", the fault record will be eliminated.



IV. TROUBLE SHOOTING

NO.	FAULT DESCRIPTION	CAUSES
1.	WATER FLOW SWITCH FAILURE	NOT APPLICABLE
2.	LOW PRESSURE PROTECTION	1. LACK OF REFRIGERANT 2. BLOCKAGE IN THE REFRIGERANT SYSTEM 3. PRESSURE SWITCH FAILURE 4. RESSURE SWITCH FAILURE
3.	HIGH PRESSURE PROTECTION	1. REFRIGERANT OVER FILLING 2. BLOCKAGE OR AIR MIXED IN THE REFRIGERANT 3. PRESSURE SWITCH FAILURE 4. FAN DOESN'T WORK NORMALLY
4.	GAS EXHAUST TEMP PROTECTION	1. SENSOR FAILURE OR SENSOR CONNECTION WIRE FAILURE 2. LACK OF REFRIGERANT OR AIR MIXED IN THE REFRIGERANT 3. EEV OPENING ABNORMAL 4. FAN DOESN'T WORK NORMALLY 5. MAIN BOARD FAILURE
5.	COIL TEMP SENSOR FAULT	1. SENSOR FAILURE OR SENSOR CONNECTION WIRE FAILURE 2. MAIN BOARD FAILURE
6.	AMBIENT TEMP SENSOR FAULT	SAME AS NO.5
7.	RETURN WATER TEMP FAULT	SAME AS NO.5
8.	EXHAUST TEMP SENSOR FAULT	SAME AS NO.5
9.	OUTLET WATER TEMP SENSOR FAULT	SAME AS NO.5
10.	GAS RETURN TEMP SENSOR FAULT	SAME AS NO.5

V. ELECTRIC HEATING ELEMENT CONTROL:

01. When defrosting, electric heating element is forced to be turned on; The electric heating element is not allowed to be turned on within 60 seconds after the machine is powered on or after the electric heating element is turned off.
02. When water setting temperature say $60^{\circ}\text{C} >$ water tank temperature say $56^{\circ}\text{C} \geq 55^{\circ}\text{C}$, electric heating element is forced to continue heating to water setting temperature. (Under this condition, the electric heating element is not restricted by the ambient temperature conditions).
03. When the Booster mode is activated, both the electric heating element and heat pump are turned on. The Welement icon appears.
04. When the ambient temperature is $\leq 5^{\circ}\text{C}$, the heat pump will be not allowed to turned on, and the electric heating is automatically activated to produce hot water. When the ambient temperature $\geq 5^{\circ}\text{C}$ The electric heating is stopped.
05. When high pressure protection or exhaust high temperature protection is incurred, and the compressor will be locked when ambient low temperature protection.
06. When exhaust temperature sensor failure, coil temperature sensor failure, gas return temperature sensor failure, the electric heating element will be automatically activated on above conditions, which is not restricted by the ambient temperature requirement.

COMMISSIONING

PLEASE CONFIRM THE FOLLOWINGS BEFORE COMMISSIONING OF HEAT PUMP

01. **All connections to the unit are tight and there are no leaks in the pipework**
02. **All ducting connections are correct and the ducting is free from blockages**
03. **All electrical connections have been completed by a qualified person in this field and all connections are tight. The unit is protected with the correct protection device at the consumer unit.**
04. **Insulation of the ducting is complete.**
05. **The unit has adequate earthing as per local wiring regulations.**
06. **There is no air present in the system.**
07. **Cold water pressure is within the limits as per the manual.**
08. **Once all above is satisfied and the system is filled with water it is possible to select the mode to operate the system as per the control panel manual.**
09. **It is recommended to allow 4-5 hours to heat the water fully when turning on the system for the first time. Once the water reaches temperature the heat pump will switch off and only switch back on when the temperature is 5 degrees below the set point target temperature.**

MAINTENANCE & SOLUTION

I. MAINTENANCE

IT IS RECOMMENDED TO CHECK THE SYSTEM EVERY 6 MONTHS FOR THE FOLLOWING:

- 01. Dirt and debris caught in the air intake and exhaust air outlet at the top of the unit. Remove the flexible ducting connected to both vents and use a vacuum cleaner to clear out any dirt or debris.**
- 02. Check the magnesium anode and replace if required. This is important for areas with hard water, especially ones that use water from a well.**
- 03. Inspect and clean out the evaporator using a vacuum cleaner. The evaporator is located at the top of the unit. Follow these steps to carry out this task.**

- Turn off the power supply to the unit using the local isolator.
- Unscrew the fixing screws. That will allow the top casing to be removed.
- Unclip the control wire to the touchscreen control panel and remove from the casing.
- Using a vacuum cleaner carefully clean out the evaporator for any dirt or debris.

Once completed, re-assemble the casing and fix and secure the ducting. The unit is now ready to be used again.

II. ERROR & APPROACHES

ERROR	REASON	APPROACH
NO HOT WATER	NO POWER TO THE UNIT. THE TEMPERATURE SETTING IS SET VERY LOW	CONTACT THE FITTER CONTACT YOUR SERVICE AGENT
THE SCREEN IS DARK	THE TEMPERATURE CONTROLLER IS DAMAGED THE CIRCUIT BOARD OF THE INDICATOR LAMP IS DAMAGED.	
THE SCREEN IS DARK	THE HOT WATER ISOLATOR VALVE IS SHUT OFF THE WATER PRESSURE IS TOO LOW	CHECK THE POSITION OF THE HOT WATER VALVE INCREASE THE PRESSURE AND IF REQUIRED FIT A PUMP
WATER LEAKING	CONTACT THE FITTER	CONTACT THE FITTER

