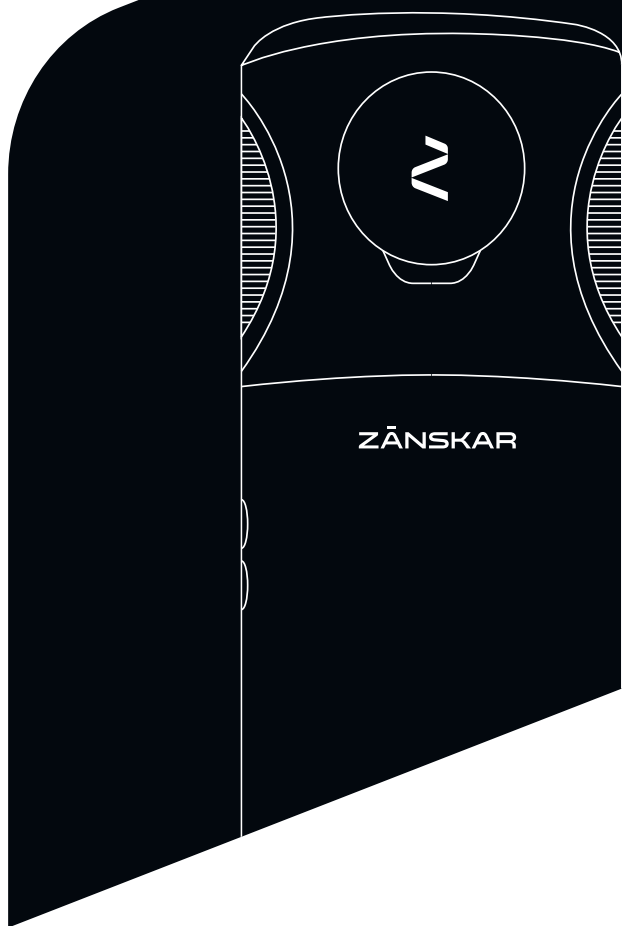


HOTSPRING™ HEAT PUMP WATER HEATER MANUAL

HSHPM300



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download



WHATS IN THE BOX?

1 X Water Tank

1 X Pressure release valve

1 X PVC Drain pipe

4 X Screws

1 X Cable Gland

! Please read this manual
• carefully before installation

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HERE'S A LITTLE INFO ABOUT THE APPLIANCE

The way it functions. What it does. And a lot more.



CHARACTERISTICS

Smart and Efficient Unit

The operational costs can be up to 80% less than that of an electric water heater, and can be installed in locations which are unsuitable for solar hot water heating.

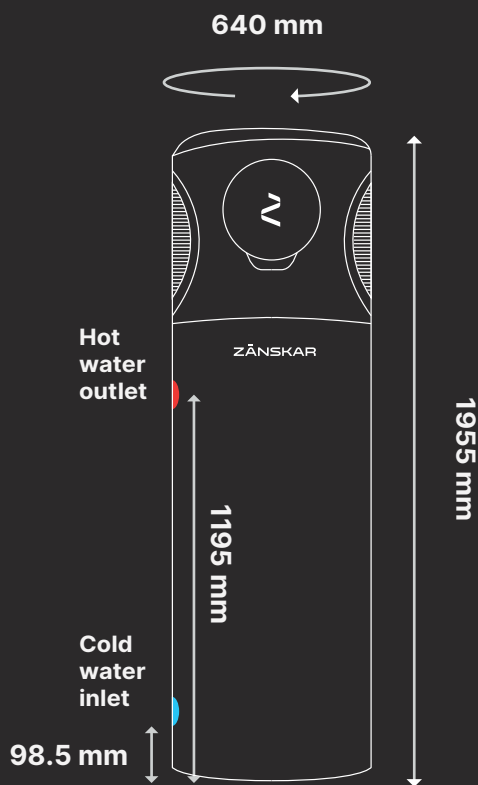
Safe and Environment Friendly

Produces no harmful gases and has no open flame. Making the appliance safe to work with when installing.

Easy to Operate

Featuring an easy to use controller to set the desired water temperature

DIMENSIONS



TECHNICAL SPECIFICATIONS

General

Nominal capacity	300 Litre
Outer diameter	640 mm
Weight (when empty)	129 kg
Weight (filled)	429 kg
Height	1995 mm
Cylinder material	Enamelled Steel
Heat insulation/External Cover	ABS
Heat Loss per Hour	0.2° C
DHW temperature range (HP Mode)	-5° to 43° C
Maximum pressure	8.5 bar
Max. Hot water temperature (HP+ back up heater)	60° C

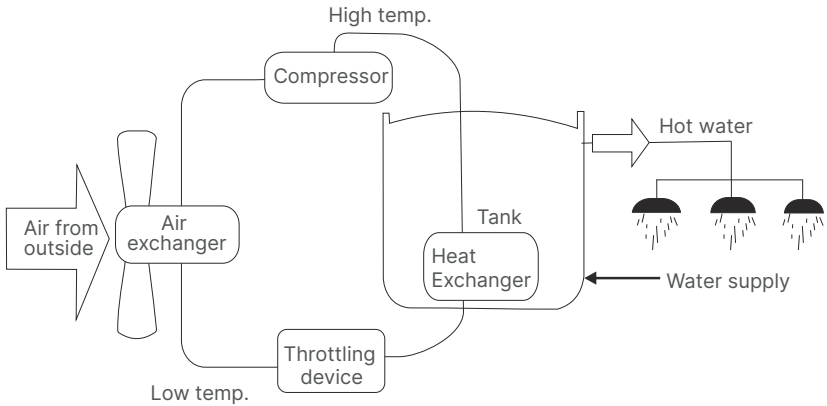
Electrical Specifications

Rated Input - HP mode	0.9kw
Heating Output - HP mode	3.6 kw
Electrical back up	1.5kw
Rated Input - HP + back up	2.4kw
Heating Output HP+ back up	5.1 kw
Water Inlet / Outlet size	(inch) 3/4
Running Current (including back up heater)	12 Amps
Voltage and Frequency 230V	- 50Hz

Others

Refrigerant type	R 134A
Sound power level	48dB
Coefficient of performance	4.0
Air Volume	450 (m3/h)
Re-heat time in HP Mode (35 degrees delta)	3 hours
Hot water generation per hour Hp Mode (35 degrees delta)	90 LPH
Heat Up Delta per hour – Heat Pump Mode	11.4
Heat Up Delta per hour – with Back Up	16.2
IP Rating	IPX4
Compressor Brand	Hitachi
Compressor Type	Rotary

HOW IT WORKS



- Heat Pump collects environmental heat via collector systems and refrigerant is circulated which absorbs the heat, boils and evaporates.
- Then compressor compresses the gas which raises the temperature & heat is passed to the heat exchanger. The heat exchanger helps exchange heat with the water in the cylinder. With the gained heat you can heat the water and get hot water throughout your home.
- Refrigerant has passed on its heat. So it has cooled off. It's in liquid again.
- This liquid passes to the expansion valve where the temperature drops and refrigerant can absorb heat again.
- This liquid passes to the expansion valve where the temperature drops and refrigerant can absorb heat again.

FREEZE PROTECTION SYSTEM

The appliance has a freeze protection system. The freeze protection system will protect the water heater from damage, by preventing ice forming in the waterways of the water heater, in the occurrence of freezing.

BEFORE YOU OPERATE THE APPLIANCE

Read through this manual to better understand how the appliance works, along with its installation and maintenance procedures.

- Install and operate the appliance exactly as documented in this manual.
- After the installation is complete, make sure all connections are secure before you switch on the appliance.
- Maintenance of the appliance is to be carried out as mentioned in this manual.
- Failure to adhere to the installation/operational procedures will result in invalidation of the warranty.
- If the supply cord is damaged please ask for replacement as it must be replaced in order to avoid a hazard.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Do not put fingers or any other objects into the fans.
- Children / Minors should be prohibited/supervised to ensure that they do not operate/ play with the appliance.
- In the event of a malfunction, please shut off power and contact your service engineer.

BEFORE YOU INSTALL THE APPLIANCE

Make sure you've read the below pointers carefully.

PROFESSIONAL TECHNICAL REQUIRED

The appliance must be installed by qualified persons. Improper installation could result in electrical shock /water leakage or fire.

EARTHING REQUIRED

Ensure that the appliance and power connections have a good earthing connection. Failure to do this may cause an electrical shock.

CHECK DRAINAGE FITTINGS

Before installation, make sure there are no leakages in the drainage fittings.

ISOLATING SWITCH

This appliance requires an isolating switch as required by local by-laws.

INSTALLATION LOCATION

The appliance cannot be installed next to a flame/flammable gas.

FIXING THE APPLIANCE

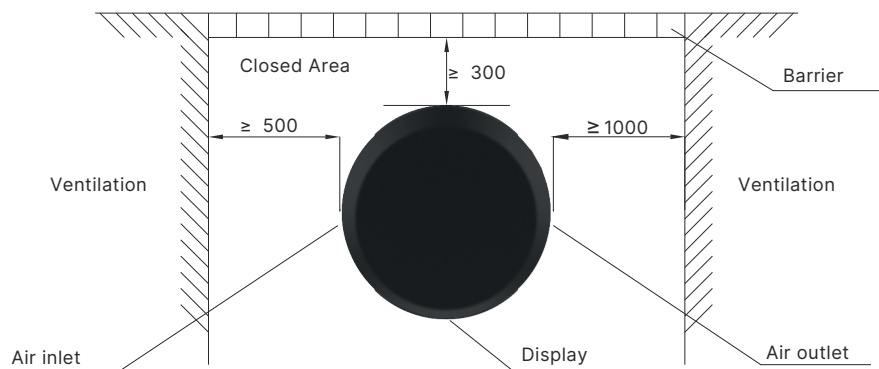
Ensure that the base/wall is strong and levelled.

INDOOR INSTALLATION SPACE

Before installation, please ensure that you leave the space as shown below for maintenance. Appliance can be installed Indoor or Outdoor.

The appliance has to be installed with ventilation if its installed indoor.

Unit:mm



BEFORE YOU INSTALL THE APPLIANCE

OUTDOOR INSTALLATION SPACE

It is recommend to cover the appliance if its installed outdoor.
Installing the appliance under a 'Chajja' or protection - roof will
help in prolonging the life of the appliance's internal working system.



HOUSE EAVE ≥ 600 mm



WHEN INSTALLING THE APPLIANCE

Make sure the following criteria are adhered to.

- If the water supply pressure exceeds the rated pressure, a pressure reducing valve is to be fitted when installing the appliance.
- The water may drip from the discharge pipe of the pressure relief device and that this pipe must be left open to the atmosphere.
- The pressure relief device should be operated regularly to remove lime deposits and verify that it is not blocked.
- A discharge pipe connected to the pressure relief device is to be installed in a continuously downward direction and in a frost-free environment.
- Facilities for draining and filling of systems shall be provided where these are required for servicing purposes. The drainage facilities shall be fit at the lowest point in the closed circuit.
- Seismic restraints. The appliance must be braced with seismic restraints according to local by laws
- Items needed for Installation:
 1. Non-Return Valve
 2. Three pin top plug 16 Amps
 3. Plumbing material as per site requirement

WHEN INSTALLING THE APPLIANCE

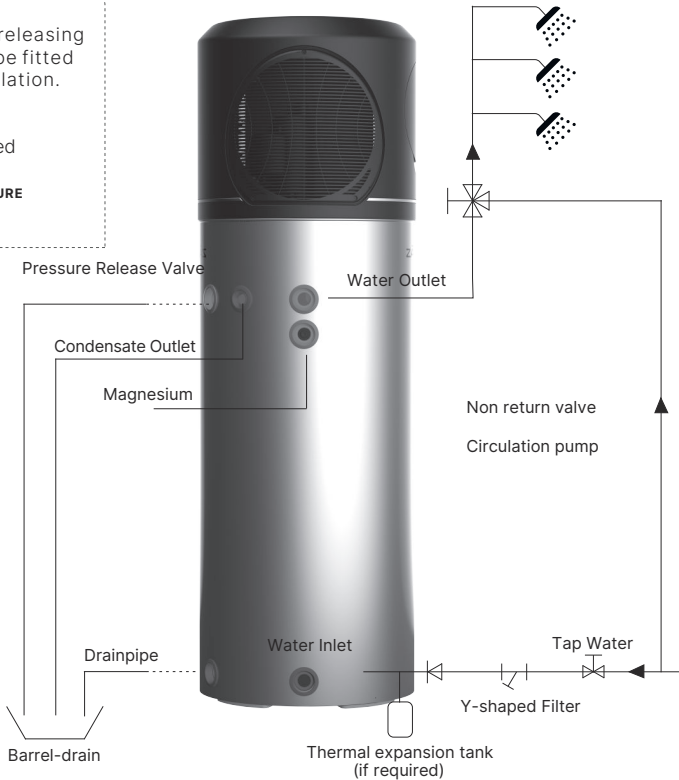
The setup of the pipeline connections can in no way affect the building's structure and safety.

NOTICE

A pressure releasing valve is to be fitted in the installation.

Tempering valve required

VALVE PRESSURE
0.7MP



Pipeline connection explanation

- Installation of the water inlet or outlet pipes: The spec of the water inlet and outlet thread is BSP3/4(internal thread). Pipes must be heat-resistant and durable.
- Installation of the pipe for Pressure release valve: The spec of the valve connecting thread is BSP3/4(internal thread).
- After installation, it must be confirmed that the drainpipe outlet is exposed in the air. Drainpipe is joined to the pressure relief orifice of this valve, you must ensure that the flexible drainpipe is exposed in the air.

ATTENTION

- The Pressure release valve attached with the appliance must be installed.
- Failure to do so will cause damage to the appliance, and possible personal injury.
- Do not use stainless steel fittings to connect directly with other metals to prevent galvanic corrosion.
- Drain the water tank through the drain valve at the bottom part of the appliance.

CONNECTING CABLES AND POWER CHORDS

Read the following points to make the process safe and worry-free

- **TRIAL RUNNING**

Switch on the appliance using the controller. In the case of any unusual noise, switch the power off and consult your service provider. If the power cord is damaged, it must be replaced by a qualified electrician. Make sure that the parameters have been pre-set to a temperature of 60 degrees.

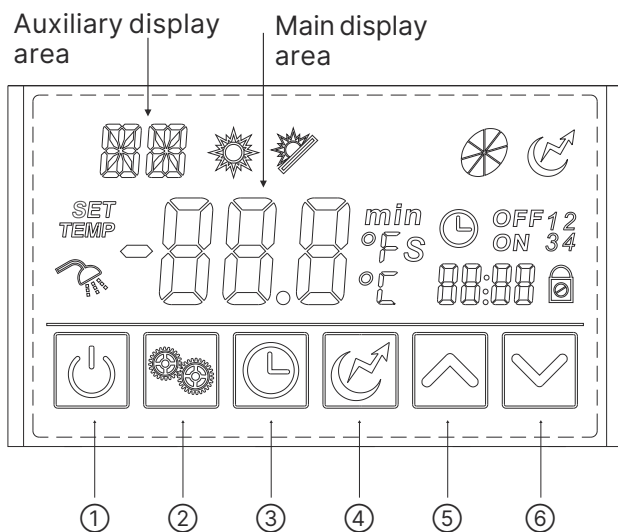
- **INSPECTION BEFORE TRIAL RUNNING**







Check the water supply to the tank and pipe connections for possible leaks. Check that all power connections are secure before switching on.









WHEN USING THE APPLIANCE

Make sure you follow the following precautions

THE FUNCTION DIAGRAM OF THE WIRE CONTROLLER





	BUTTON	NAME	FUNCTION
①		ON/OFF	Turn on/off the unit.
②		Mode	Switch unit running modes or save setting parameters.
③		Clock	Set the clock or the timer.
④		Electric Heater	Turn on/off the electric heater or switch fan modes.
⑤		Up	Move up or increase parameter values.
⑥		Down	Move down or decrease parameter values.

STATUS ICON	NAME	MEANING
	Standard Heating	Shows that the appliance is in standard heating mode.
	Eco.heating	Shows that the appliance is in eco mode heating.
	Fan	Shows that the fan is on and the speed of the fan.
	Electric heater	Shows that the electric heater is on.
	Set temp achieved	Shows that the water temperature has reached the target point and the appliance shut off automatically.
<i>SET</i>	Parameter setting	Shows that the parameter is adjustable.
<i>TEMP</i>	Temperature	Shows that the temperature is non-adjustable (measured value).
	Timer & ON	Shows that the appliance will be turned on by the timer automatically.
	Timer & OFF	Shows that the appliance will be turned off by the timer automatically.
<i>min</i>	Minute	Shows that the main display area displays the minute.
<i>S</i>	Second	Shows that the main display area displays the second.
<i>°C</i>	Centigrade	Shows that the temperature in Main display area or Auxiliary display area is in °C.
<i>°F</i>	Fahrenheit	Shows that the temperature in Main display area or Auxiliary display area is in °F.
	Lock	Shows that the keyboard is locked.

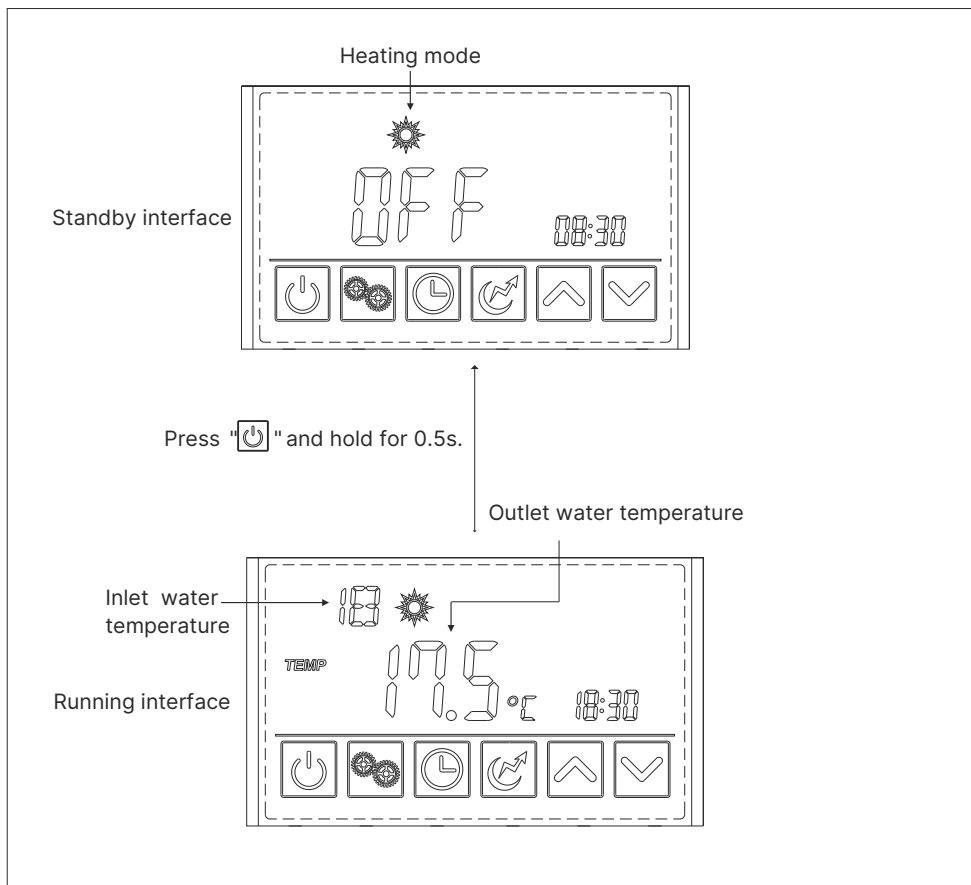
USAGE OF WIRE CONTROLLER

Turn ON/OFF the appliance


Press "  " and hold for 0.5s on the standby interface of the wire controller to turn on the appliance and at this time the main display area shows the water outlet temperature.

Press "  " and hold for 0.5s in the running interface of the wire controller to turn off the appliance and at this time the main display area shows OFF.

NOTE The ON/OFF button can only be used to turn on/off the appliance in standby or running interface of the wire controller.



MODE SELECTION

Press "  " to select the mode from Standard Heating, Eco heating, or intelligent heating mode.

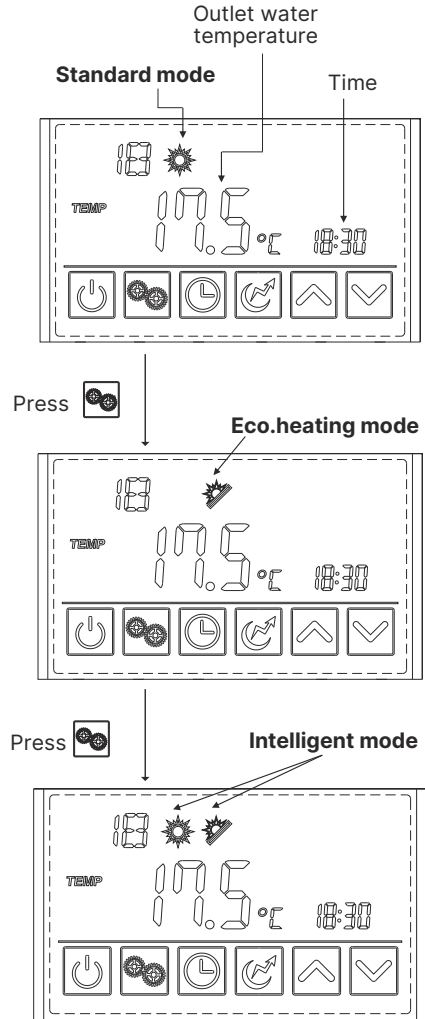
When ambient temperature is above 5 degree and below 30 degree, the appliance operates in Standard heating mode; When ambient temperature is above 30 degree, the appliance operates in Eco Heating Mode.

Standard Heating mode

This mode is to use the appliance and electric heating to heat at the same time. At the beginning, only the appliance operates. After the appliance operates for a certain time(200minutes), if the target temperature has not been reached, the electric heater will operate; If the water temperature reaches target temperature, electric heater will not operate.







Eco Heating Mode Appliance only operates on Eco Heating Mode. The electric heater doesn't operate.

Intelligent Mode The intelligent mode is based on the ambient temperature to determine what mode the appliance works in.



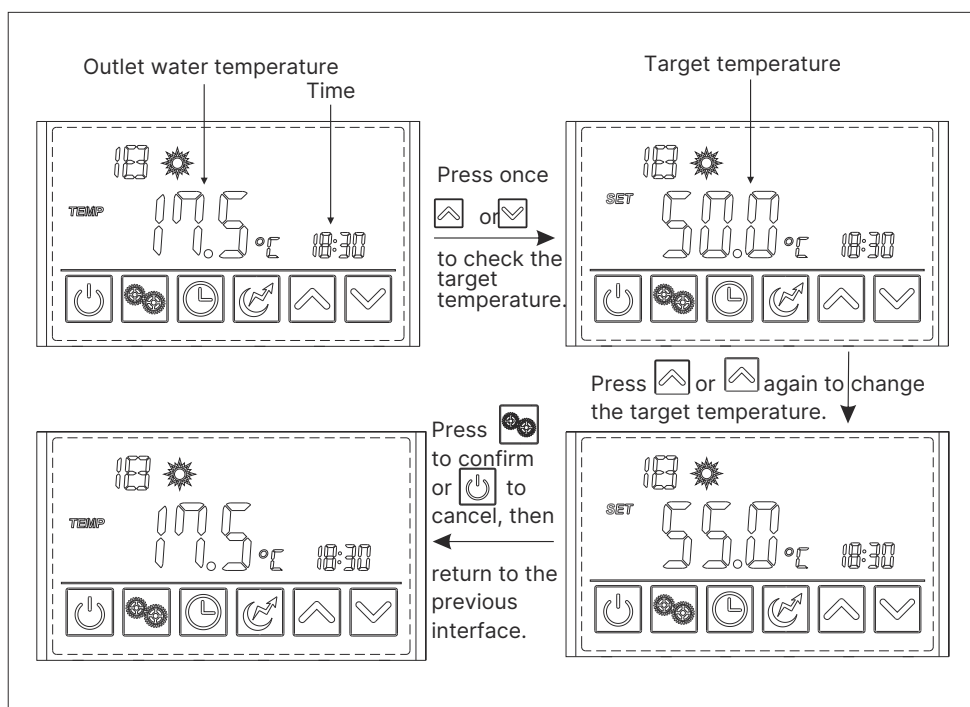
Our recommendation is to use of the Intelligent Mode on commissioning.

TARGET TEMPERATURE CHECKING AND SETTING

In the standby or running interface, press "" or "" once to check the target temperature of the outlet water. Press "" or "" again to change the target temperature. After making the changes to the parameter, press "" to confirm or "" to cancel the changes, then return to the previous interface. If no operations are performed on the keypad for 5s, the controller exits the parameter modification menu by timeout and the changes are confirmed. Example: Change the target temperature from 50 to 55.5 when the actual outlet water temperature is 18 °C.



NOTE Make sure that the temperature of the out-flowing water is not too high. Extremely high temperatures can/may cause scalding and/or severe damage to the skin and other sensitive areas.

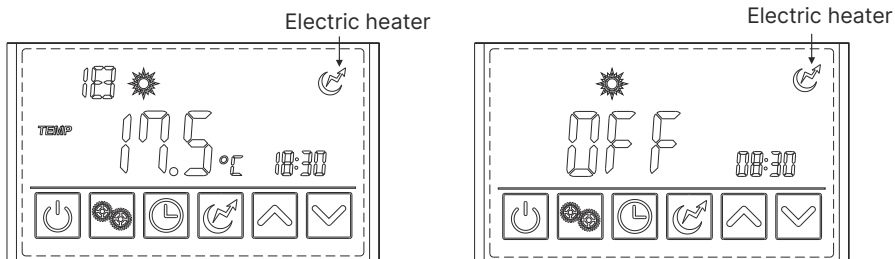
Recommended temperature is 55-60° C





ELECTRIC HEATER SETTING



The electric heater can be turned on when the appliance is heating or standby.

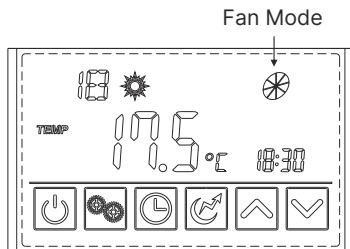
Press "" once to turn on the electric heater and press "" again to shut it off.







FAN MODE SETTING

Press "" and hold for 2s for the first time to change the fan mode to low speed running and the fan will run at low speed when the appliance target temperature is reached .



Press "" and hold for 2s again to change the fan mode to high speed running and the fan will run at high speed when the appliance target temperature is reached. Press "" and hold for 2s for the third time to change the fan mode to shut-down and the fan will stop running when the appliance target temperature is reached.

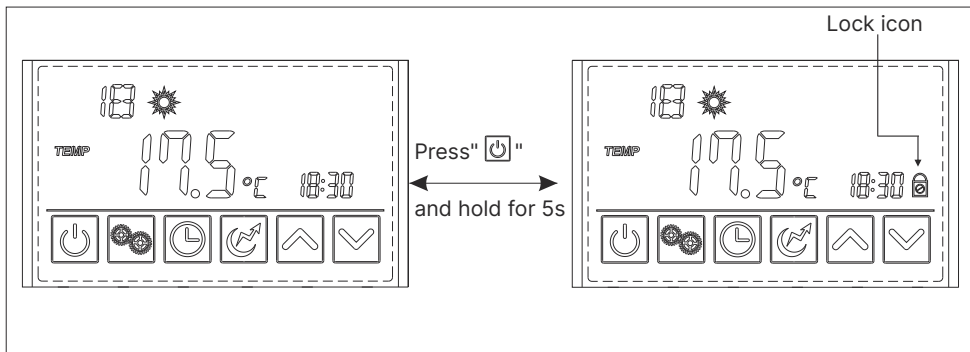


Definition of the fan icon

1.  (Running) : shows that the fan is running at high speed
2.  (Running): shows that the fan is running at low speed.
3. Fan icon disappears: shows that the fan is shut off.
4.  (Static) : shows that the fan will run at high speed when target setting temperature is reached.
5.  (Static) : shows that the fan will run at low speed when target setting temperature is reached.

KEYBOARD LOCKING

Press "  " and hold for 5s once to lock the keyboard. Press "  " and hold for 5s again to unlock the keyboard.



IF THE APPLIANCE NEEDS REPAIRS AND MAINTENANCE

Here are some instructions to make it a hassle free process.

IMPORTANT

If the appliance needs to be relocated, repaired or installed again, only use a Zanskar certified technician.

PROHIBITED

We strongly advise customers to not try and repair the appliance. This may cause serious injury and/or damage to the appliance.

OPERATION ATTENTION (SHUT OFF THE POWER)

Turn off power before cleaning / maintenance / repair.

REPAIRS AND MAINTENANCE

Listed below are the appliance's malfunction signals and their respective solutions

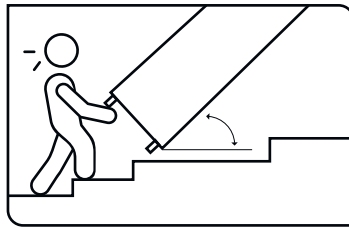
For any malfunctions, please refer to the table below:

MALFUNCTION	DISPLAY	CASE	SOLUTION
Bottom water temp. Failure	P01	The water bottom temp. Sensor is open or short circuit	Check or change the water bottom temp. Sensor
Top tank water temp. Failure	P02	The water top tank temp. is open or short circuit	Check or change the water top tank temp. Sensor
Ambient temp. Failure	P04	The ambient temp. Sensor is open or short circuit	Check or change the ambient temp. Sensor
Coil temp. Failure	P05	The pipe temp. Sensor is open or short circuit	Check or change the pipe temp. Sensor
Refrigerant absorb temp. Failure	P07	The evaporator temp. Sensor is open or short circuit	Check or change the evaporator temp. Sensor
Anti-freeze temp. Failure	P09	The anti-freeze temp. Sensor is open or short circuit	Check or change the anti-freeze temp. Sensor
Solar temp. Failure	P034	The solar temp. Sensor is open or short circuit	Check or change the solar temp. Sensor
High pressure protection	E01	The exhaust pressure is high , high pressure switch action	Check high pressure switch and cooling return circuit
Low pressure protection	E02	The suction pressure is low, Low pressure switch action	Check low pressure switch and cooling return circuit
Water flow failure	E03	No water or little water in water system	Check the flow volume, water pump has failed
Electric-heater overheat protection	E04	Water flow volume not enough, Water system pressure difference is small	Check the flow volume, water system is jammed or not
Anti-freeze protection	E07	Water flow volume not enough, Water system pressure difference is small	Check the flow volume, water system is jammed or not
Communication failure	E08	Wired remote control with master signal failure	Check the connection line between the wired remote control and motherboard
Winter frost protection	E09	Ambient temperature is too low	

TRANSPORTING THE APPLIANCE NEEDS CARE

And doing it the right way isn't that difficult

- As a rule, the appliance is to be stored and/or transported in its shipping container in the upright position and without water charge.
- For transport over short distance, and provided due care is exercised, an inclination angle of up to 30 degree is permitted.
- Both during transport and storage, ambient temperatures of -5°C to 40°C are permissible.



CAUTION High center of gravity!

USING A FORKLIFT?

- When transported by a fork-lift, the appliance must remain mounted on the pallet.
- The lifting rate should be kept to a minimum. Due to its top-heaviness, the appliance must be secured against tipping over.
- To prevent any damage, the appliance must be placed on a level surface!

TRANSPORTING IT MANUALLY?

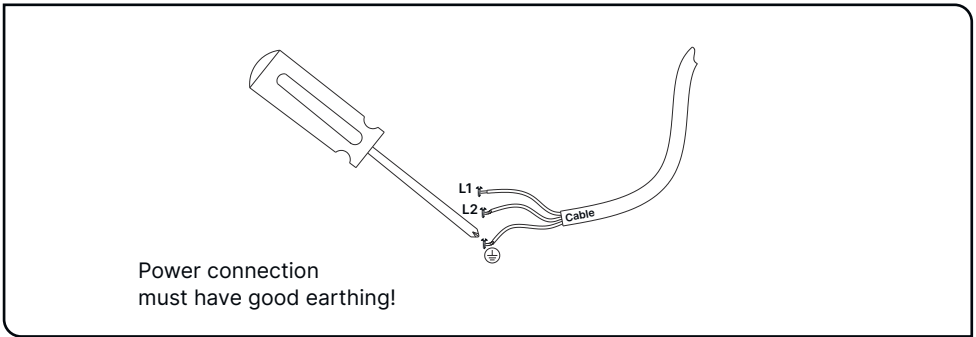
- For manual transport, the wooden pallet can be used for the bottom part.
 - Using ropes or carrying straps, a second or third handling configuration is possible.
 - tPermissible inclination angle of 60 degree should not be exceeded. If transport is in an inclined position and cannot be avoided, the appliance should be placed into operation one hour after it has been moved into final position.
-

MATTERS FOR ATTENTION

CAUTION

- To reduce the risk of excessive pressures and temperatures in this appliance, install temperature and pressure protective equipment required by local codes and no less than a combination temperature and pressure relief valve certified by a nationally recognized testing laboratory that maintains periodic inspection of production of listed equipment or materials, as meeting the requirements for Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems, ANSIZ21.22. This valve must be marked with a maximum set pressure not to exceed the marked maximum working pressure of the appliance.
- Install the valve into an opening provided and marked for this purpose in the appliance, and orient it or provide tubing so that any discharge from the valve exits only within 6 inches above, or at any distance below, the structural floor, and does not contact any live electrical part. The discharge opening must not be blocked or reduced in size under any circumstances.
- Hydrogen gas is produced in a hot watersystem served by this appliance that has not been used for along period oftime (2 weeks or more). Hydrogen gas is extremely flammable. To reduce the risk of injury under these conditions, it is recommended that the hot water faucet be opened for several minutes at the kitchen sink before using any electrical appliance
- The appliance is fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under over voltage category conditions, and this means wiring must be in accordance with local wiring rules.

THE METHOD OF GROUNDING



PRESSURE RELEASE VALVE:

- Installation of the Pressure release valve is used to prevent the temperature or pressure going too high inside the tank. When the temperature or pressure reaches the set value, the valve will open automatically so as to force the pressure or decrease the temperature.
- The handle of the safety valve should be pulled once every six months so as to remove the calcium carbonate deposition decrease the temperature. Take care as the temperature of the discharging water is very high.
- Vent pipes should be thermally insulated to prevent the pipes freezing in the winter.

REMARK Pressure release valve: Model: YA-20, action pressure:0.7MPa

WARNING Fail to operate the relief valve easing gear atleast once every six months mayresult in the appliance exploding. Continuous leakage of water from the valve may indicates problem with the appliance.

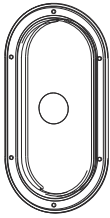
HOW TO DRAIN OUT WATER

Cut out the water supply connection between the tap water supply and the tank by closing the corresponding valve. Open the hot water outlet and then open the drain outlet valve at the same time. The water in the tank will be drained out through the drain outlet.

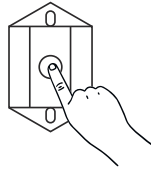
USE OF THE OVERHEATING PROTECTOR

DANGER

- The operation of the thermal cut-out indicates a possibly dangerous situation. Do not reset the thermal cut-out until the appliance has been serviced by a qualified person.
- The overheating protector is used to turn the power off, preventing the water from being heated too high. To return the appliance to its normal operational status it will have to be re set manually.



Loosen the screws
and open the cover



Press the red button to reset

WARRANTY ON ZANSKAR APPLIANCES

ZANSKAR appliances are designed, produced and shipped free from defects and will function reliably when installed properly, used correctly and treated in accordance with installation and operating instructions as mentioned in this manual.

The warranty period for ZANSKAR appliances for territory of India will be as indicated in the operating manual and/or advertised in the website/catalogs:

Comprehensive Warranty 1 year / **Compressor** 2 years / **Tank** 5 years

Zanskar's authorised service centre/agent will at their option repair or replace those appliances which within the warranty period stated above subject to the following terms and conditions:

- Liability under the warranty will only be covered if the installation of the Zanskar's Appliances has been carried out by an authorised representative of the Zanskar or an authorised / approve
- Liability under warranty does not cover damage due to calcification and foreign matter intervention
- Inspection report of the Zanskar's authorised technician will be treated as final and binding under the warranty for determining the defects, repairs/alterations required or carried out or certifying working of the goods thereafter
- The customer will have no claim under this warranty in respect of personal injury, damage or property or consequential damages, or for utilisation of the goods not in accordance with the operating manual
- Under this limited warranty for service and repair Zanskar will provide only a replacement of appliance or part thereof. The owner is responsible for all other costs. Such costs may include but are not limited to, labor charges for service, removal, repair or reinstallation, shipping, delivery, handling of the appliance & road permits etc.
- Warranty is only valid on producing a valid invoice showing purchase of the product from an authorised reseller or a copy of the warranty card duly filled in and signed/stamped by Zanskar's representative.

For detailed terms & conditions to claim this warranty refer warranty card or our website www.zanskar.in

CERTIFICATIONS

IN COMPLIANCE WITH AUSTRALIAN STANDARDS.



WaterMark Certificate of Conformity – Level 1

AS 3498-2009 - Authorization requirements for plumbing products - Water heaters and hot-water storage tanks



StandardsMark License

AS /NZS 2712:2007 - Solar and heat pump water heater design & construction
