

Please read and follow the installation and operation instructions carefully, to ensure the long life and reliable operation of this appliance.

CONTENTS

Important Safety Instructions	-----	page 2
Electrical Diagram	-----	page 3
Technical Data and Product Structure	-----	page 4
Installation Guideline	-----	page 6
Operation Instructions	-----	page 10
Trouble-shooting	-----	page 11
Normal Maintenance	-----	page 12

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WARNINGS

This is not a do-it-yourself project. Failure to have this appliance installed by a licensed plumber and electrician will void all warranties.

Under no circumstances should you attempt to install, repair or disassemble the Advantage tankless electric water heater without first shutting off all power to the unit directly at the circuit breaker box.

Installation of this product is restricted to indoor locations only by licensed plumbing or electrical contractors.

■ Important Safety Instructions

1. The installation must be in compliance with the National Electrical Code, your local electrical and plumbing codes.
2. This appliance must be EARTHED/GROUNDED.
3. All wiring and installation must be supervised by a qualified electrician.
4. **CAUTION: This product has more than one power-supply connection point. Disconnect all power supplies before servicing.**
5. This appliance is not intended for use by persons (include 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. Children should be supervised to ensure that they do not play with the appliance.
6. This appliance **MUST** be permanently connected to the fixed circuit breaker and it must be installed vertically. **DO NOT** install this appliance near to flammable materials or strong magnetic fields.
7. This appliance is **forbidden** to be switch on if you think it may be frozen, as this could result in serious damage to the unit. Wait until you are sure that it has completely thawed out before you switch it on.
8. Please feel the outlet hot water temperature with hand to make sure it is suitable for showering before taking shower to avoid getting scalded.
9. Before connecting pipes to the water heater hoses, it is extremely important to FLUSH the pipes to wash away all plumbing paste or residue in the pipes.
10. The heating chamber is treated with composite nano insulation material; it is natural if there might be a bit of smell or green blue smoke when the unit is used for the first time.
11. If there is damage to the wire, you must contact qualified electrician to replace it with dedicated wire from our authorized dealers.
12. **CAUTION: FOR HOUSEHOLD AND INDOOR USE ONLY**
13. **CAUTION: Risk of electric shock ,CONNECT ONLY TO A CIRCUIT THAT IS PROTECTED BY A GROUND.**
14. **Save these instructions.**

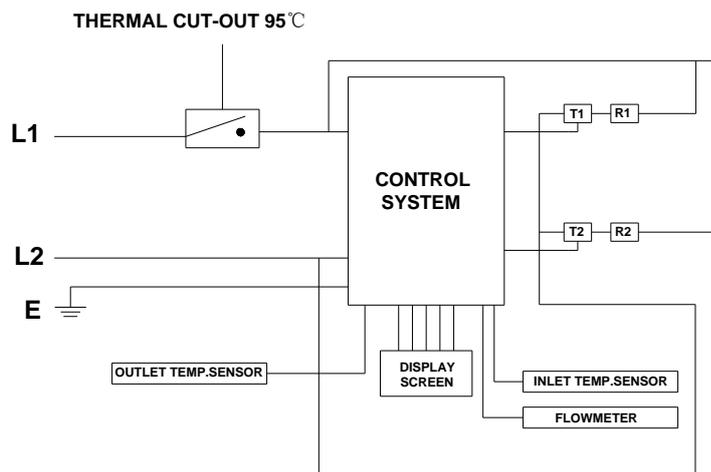
■ Product Features

The **Advantage** tankless electric water heaters are incorporated with patented technology with multi-safety devices. The unit has the following features.

1. Tankless, instantaneous heating for on demand hot water, No pre-heating. No stand-by heating loss. energy-saving.
2. Micro-computer control, Adopting patented heating technology. Water is completely separated from electricity by multi-layers of composite nano insulation material.
3. Overtemperature protection: when the outlet water temp. reaches over 153°F /67°C, the electricity will be cut off to avoid getting scalded and the screen displays E1. The appliance will start to work automatically when the temp. drops to the set temperature.
4. Malfunction of sensor- when there is malfunction with the temperature sensor, the heater stops working and displays E3
5. Conversion between degree Fahrenheit and degree Celsius.

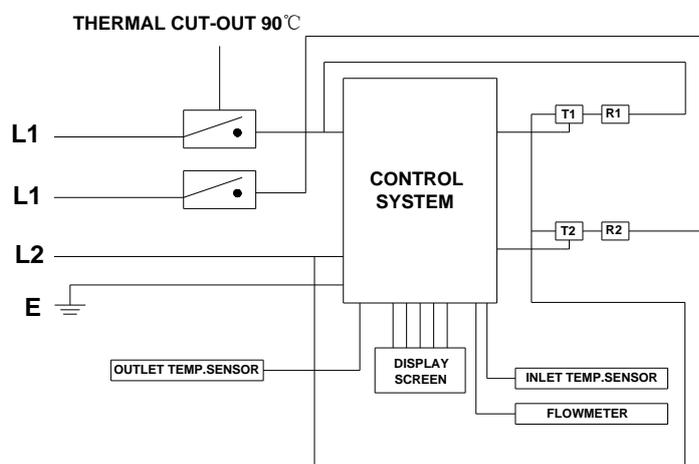
■ Electrical Diagram

MODEL ADV120FDCH



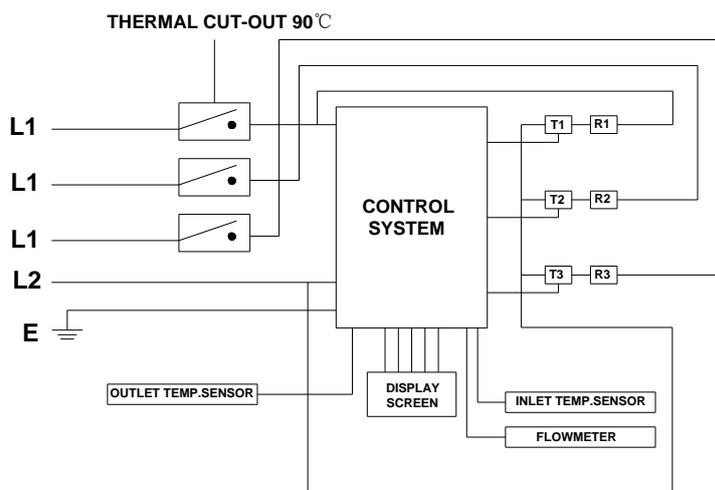
REMARK: J:RELAY R:HEATING SYSTEM T:TRIAC

ADV150FDCH ADV180FDCH



REMARK: J:RELAY R:HEATING SYSTEM T:TRIAC

ADV210FDCH ADV240FDCH ADV270FDCH



REMARK: J:RELAY R:HEATING SYSTEM T:TRIAC

AC 240V/60Hz

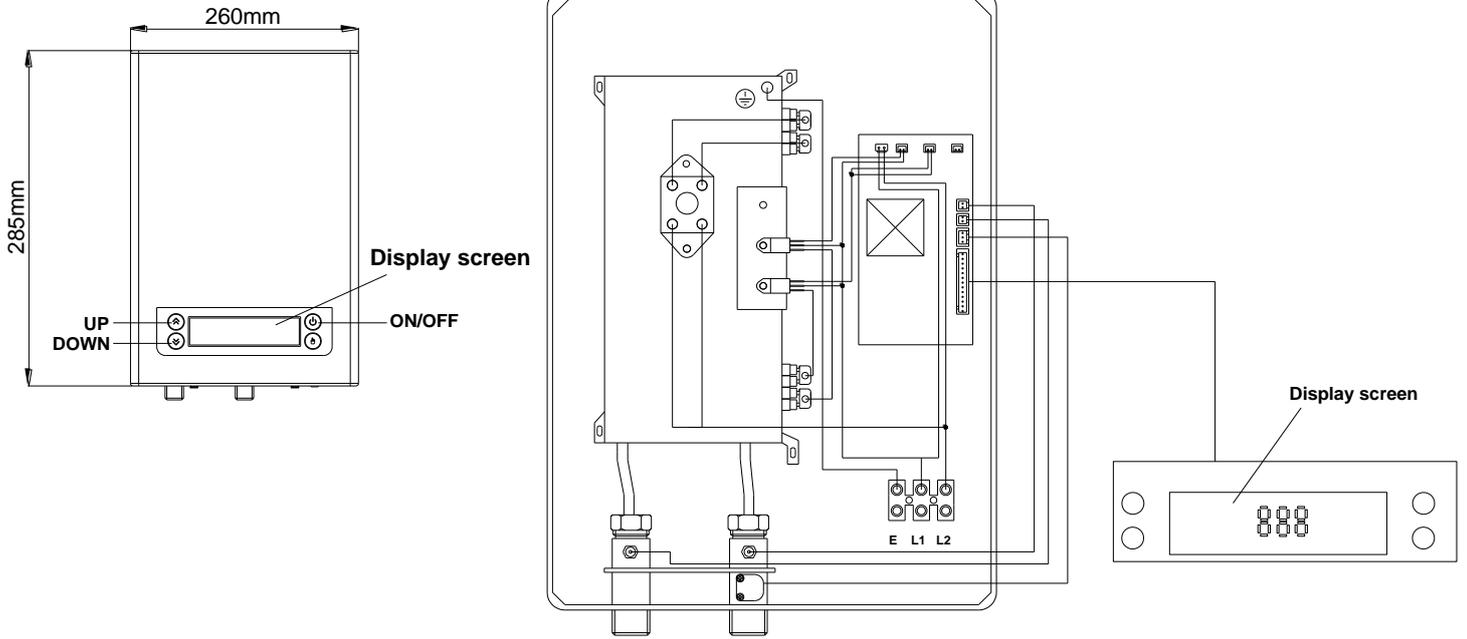
■ Technical Data

Model	ADV120FDCH	ADV150FDCH	ADV180FDCH	ADV210FDCH	ADV240FDCH	ADV270FDCH
Phase	1	1	1	1	1	1
Voltage	V	240	240	240	240	240
Wattage	kW	12	15	18	21	27
Max. Amp. load	A	50	63	75	88	113
Min. required circuit breaker	A	60	2 X 40	2x50	3 X 40	3 X 40
Min. wire size	AWG cooper	8	2 X 8	2 X 8	3 X 8	3 X 8
Min. water flow to activate	GPM / L/min.	0.85/ 3.2	0.85 / 3.2	0.85 / 3.2	0.85 / 3.2	0.85 / 3.2
Weight	kg	3.6	5.3	5.3	5.5	5.5
Product Dimensions	mm	385x260x93	385x260x93	385x260x93	385x260x93	385x260x93
Water connections	NPT	1/2"	3/4"	3/4"	3/4"	3/4"

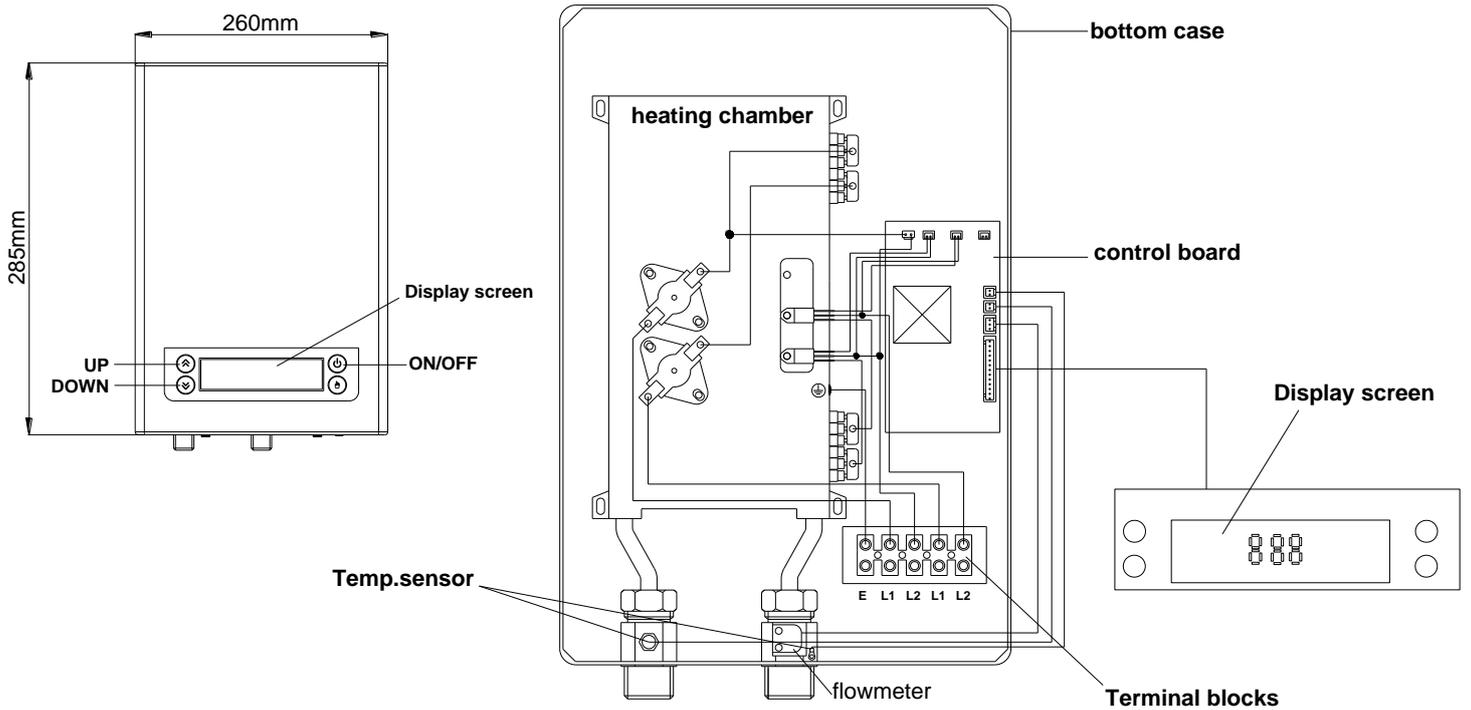
Note: *suitable recognized strain relief means shall be provided when the product installed.

Product Inner Structure

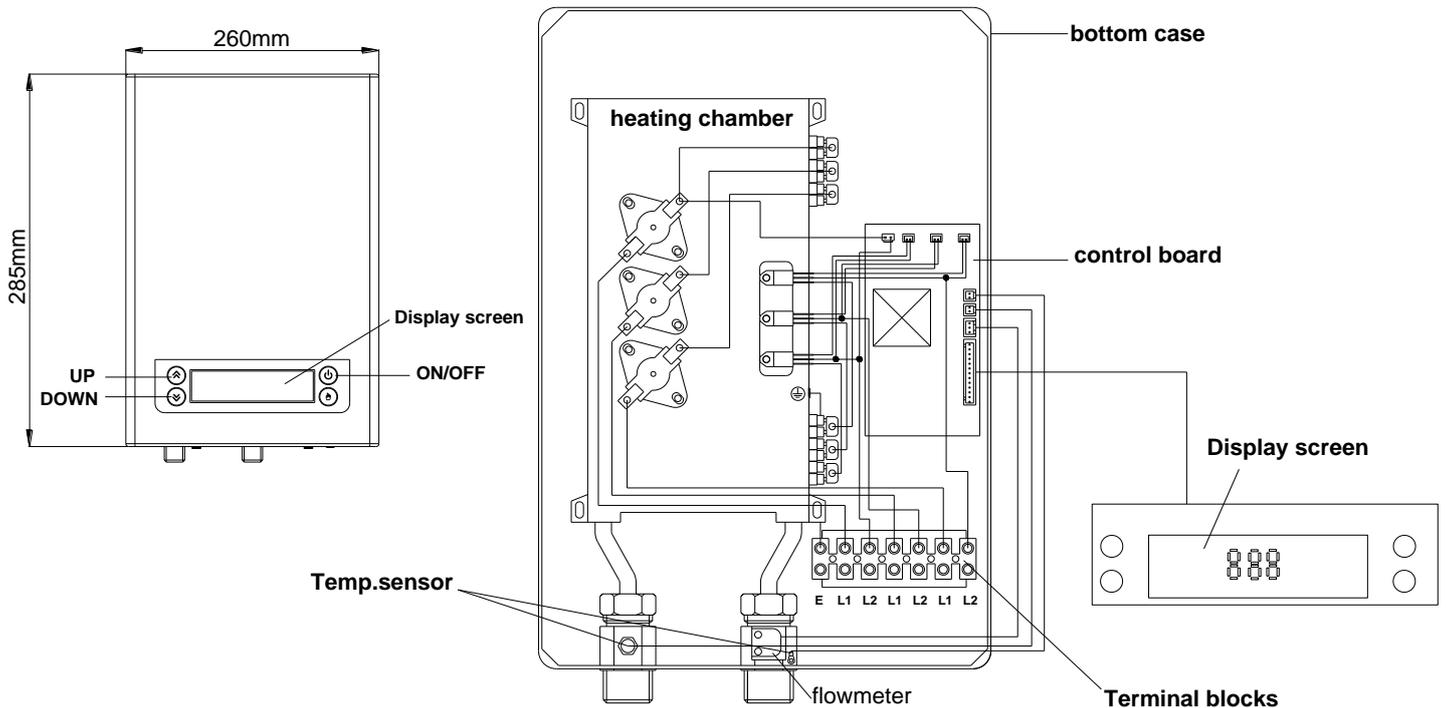
MODEL ADV120FDCH



ADV150FDCH ADV180FDCH



ADV210FDCH ADV240FDCH ADV270FDCH



■ Installation Guideline

The installation must be in compliance with the National Electrical Code, your local electrical and plumbing codes.

1. Make sure the appliance is intact, and the fittings are complete.
2. Please make sure the main power supply, water pressure, grounding condition, amp meter and wire reach the standard of installation requirement.
3. The appliance must be connected to properly grounded dedicated branch circuits of proper voltage rating. Ground must be brought to the "ground" at the circuit breaker panel.
4. This appliance **MUST** be permanently connected to the fixed circuit breaker. If you don't use the heater, please switch off the circuit breaker.
5. **DO NOT** install this appliance near flammable materials or a strong magnetic field. The unit must only be mounted in a VERTICAL position near by the water fittings. When installing new unit please connect water fittings and turn water on so water flows through unit before turning POWER ON.

■ Installation Location & Method

● Fixed installation on the wall

Locate an appropriate place on a section of wall as above mentioned.

Fig 1 → Front and back of the appliance

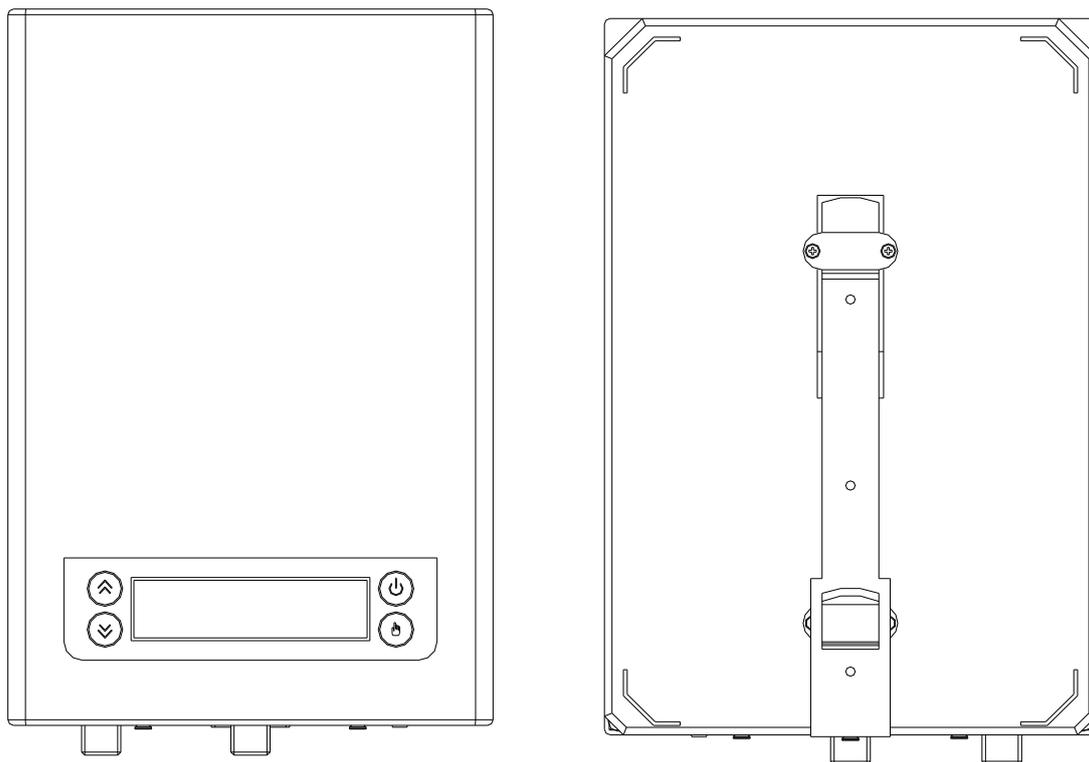


Fig 2 → Remove screw which fixed the bracket on back of the appliance.

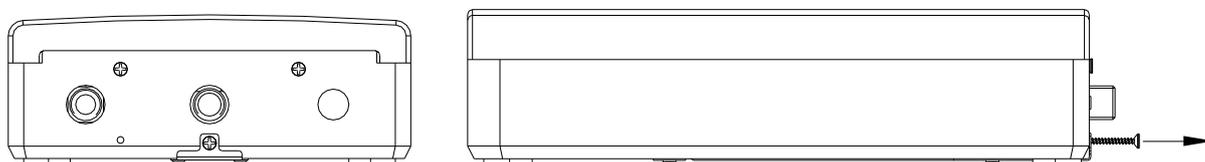


Fig 3 → Remove the bracket from the appliance

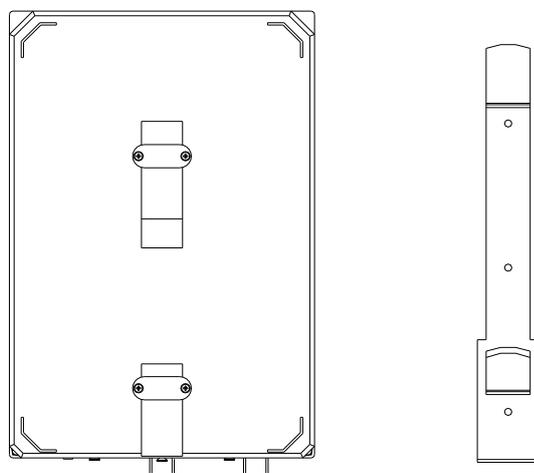


Fig 4 → Hold the back bracket hanger in position against the wall and mark the three mounting holes. Drill three holes of 6.00mm diameter, the distance between every two holes is 100mm. (Put plastic anchor in the hole, fix

the bracket on the wall. and secure the hanger using the screws supplied or an appropriate alternative method)

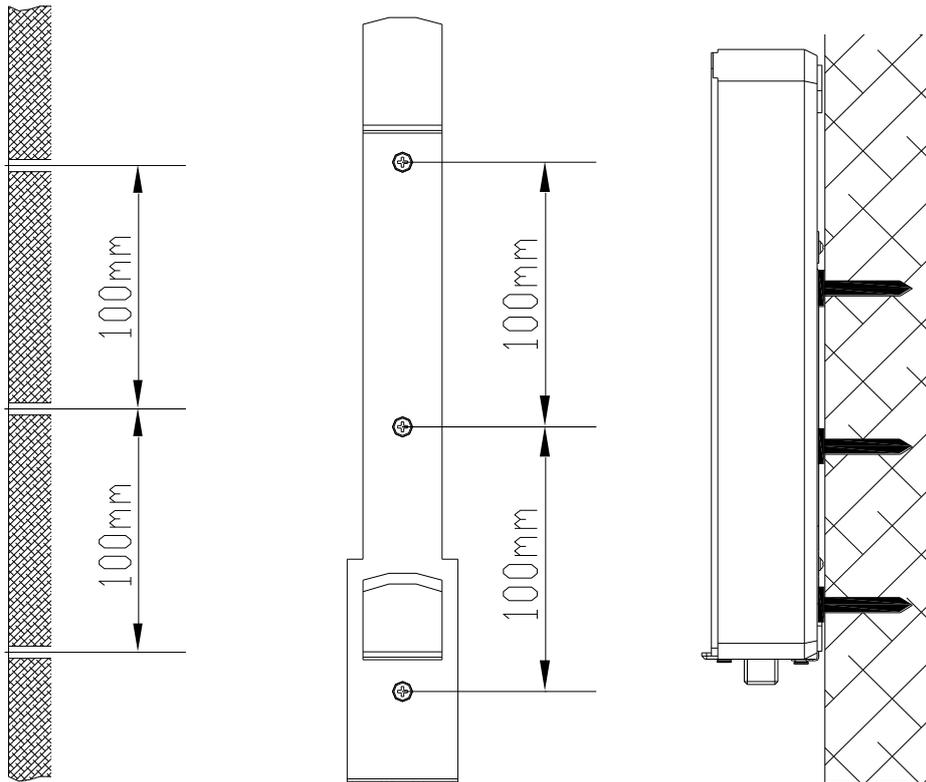


Fig 5 → Undo screws on appliance to remove the front cover, Carefully use hands to pull out the screen row line plug before removing the front cover.

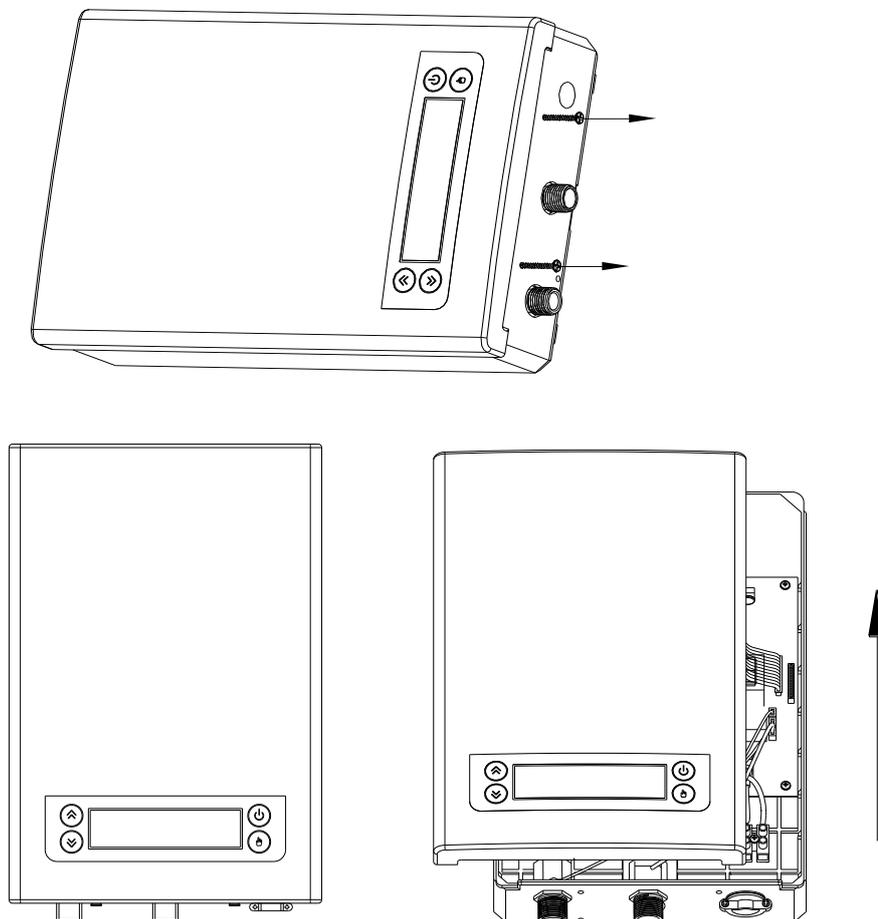


Fig 6 → Fix the appliance to the bracket which was nailed to the wall, Make sure the unit bracket is secured onto the back metal hanger correctly

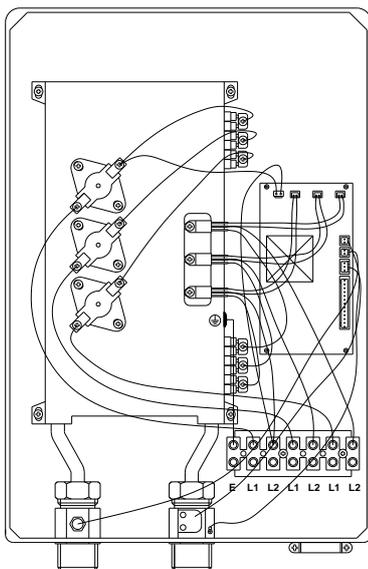


Fig 7 → Connect the cable to the terminal blocks, please notice the guidance logo below the terminal blocks. ADV120FDCH will be connected to one circuit breaker, ADV150FDCH, ADV180FDCH, will be connected to two circuit breakers, ADV210FDCH, ADV240FDCH, ADV270FDCH will be connected to three circuit breakers.

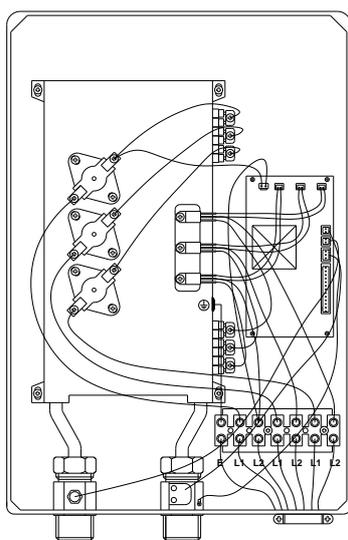


Fig 8 → Please plug in the screen row line plug, then affix the front cover on appliance, screw in place.

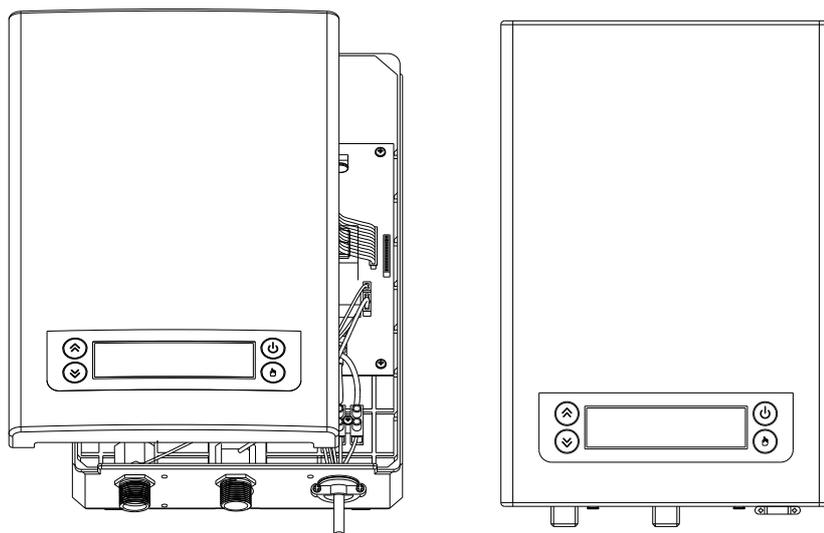
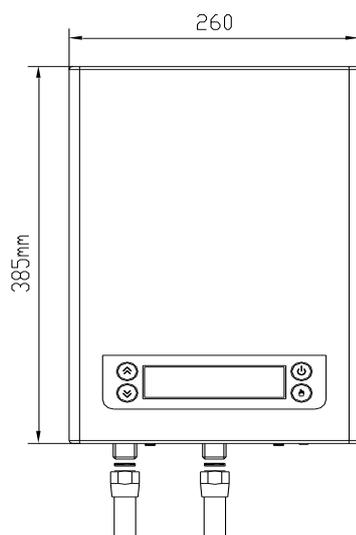


Fig 9 → Connect the water pipe to the water inlet and water outlet connections, please remember to install the rubber seal ring.



●Water connections

1. All water pipe must comply with national and applicable state and local water pipe codes.
2. The unit should be connected directly to the main water supply. Flush pipe with water to remove any debris or loose particles
3. It is required that 1/2"NPT water connections be used with model ADV120FDCH, use 3/4"NPT water connections with the following models ADV150FDCH, ADV180FDCH, ADV210FDCH, ADV240FDCH, ADV270FDCH
4. Please remember to install rubber seal rings at the connections. When all water connections are completed, check for leaks and take corrective action before proceeding.

●Electrical connection

1. All electrical work must comply with national and applicable state and local electrical codes
2. All units must be connected to a properly grounded dedicated branch circuit of proper voltage rating.
3. Before beginning any work on the electric installation, be sure that main breaker panel switch is OFF to avoid any danger of electric shock, all mounting and plumbing must be completed before proceeding with electrical hook-up.
4. ADV120FDCH can be connected to a single circuit, use a supply cable protected by a double pole breaker
5. ADV150FDCH, ADV180FDCH, require two independent circuits. Use two supply cables protected by two separate double pole breakers.
6. ADV210FDCH, ADV240FDCH, ADV270FDCH, require three independent circuits. Use three supply cables protected by three separate double pole breakers.
7. While feeding the cable to terminal blocks, please make sure the metal wire ends and the terminal blocks touch completely. Then tighten the screws to make sure there is full contact and the current can go through.

■Operation Instructions

1. Turn on the circuit breaker to bring electrical power to the unit.
2. Open water faucet for a few minutes until water flow is continuous and all air is purged from water pipes. The unit must be operated after the breakers are turned on.
3. After the unit is supplied with power, a beep sound can be heard and LED lights for 2 seconds, no other display, the appliance keeps standby.
4. Press "⏻" to turn ON/OFF the appliance. When the unit is ON, LED displays actual water temperature of the

outlet. When the appliance is not operating, the screen will switch to the screen saver after 5 seconds. The display screen light will be off. Touch the screen, it will return to operating mode

4. Press  and  to adjust the outlet temperature. Temperature setting range is 30--52°C/ 86-125°F.

- If the unit has been paused, You may initially get a short burst of very hot water while you turn on again. Please run the water through for a few seconds to let the temperature settle down. Please check hot water with hand before you taking a shower.
- If the unit will not be used in winter, drain out water completely so that the heater will not FREEZE.
- Please periodically clean inlet strainer and the shower to keep a free water flow.

5. Press  to convert the temperature display between fahrenheit degree and degree celsius.

6. There is a automatic memory function to avoid repetitive operation, while you turn on the appliance, the default set temp. will be the same as last time it was set.

■ Trouble-shooting

Problems	Possible Causes	Corrective Actions
1. Inlet and outlet fittings leaking	A. Fittings are not tight B. Rubber washer worn-out	A. Tighten fittings. B. Change rubber washer.
2. LED no signal	A. Power not connected. B. LED damaged.	A. Connect power to the unit. B. Change LED.
3. Functional keys not working	A. No water out from shower. B. Water pressure too low. C. Key or PCB damaged.	A. Open valve to get water. B. Open valve to get pressure. C. Change key or PCB.
4. Water too hot	A. Too high temperature set. B. Water flow too little.	A. Set a lower temperature. B. Open valve more.
5. Water too cold	A. Low temperature set. B. Water flow too much.	A. Set a higher temperature. B. Reduce water flow.
6. Outlet gets water smaller and smaller.	Inlet strainer or shower clogged.	Clean strainer and shower.
7. LED displays E1	Outlet temp. is over 67°C/153°F	A, Reduce the temperature B, Turn up the water flow
8. LED displays E3	Temperature sensor failure	Please contact with your local dealer
9. Display overload	Inlet water flow is too high.	Reduce the inlet water flow

7 and 8 should only be performed by qualified electrician. The person who initially installed the unit is the best one to contact for help.

■ Normal Maintenance

Note: Do not attempt to repair this water heater yourself. Call a service person for assistance. Always turn off all power supply to the unit. Turn off all circuit breakers supplying power to the appliance *please note some units are connected multiple circuit breakers. Turn OFF ALL WATER SUPPLY and ALL POWER SUPPLY.

This unit does not require any regular maintenance. However, to ensure consistent water flow, it is recommended to follow the following procedures.

1. Periodically remove scale and dirt that may build up at the aerator of the faucet or in the shower head.
2. There is a built in filter screen at inlet connection which should be cleaned from time to time. Please turn off the water flow before doing this.