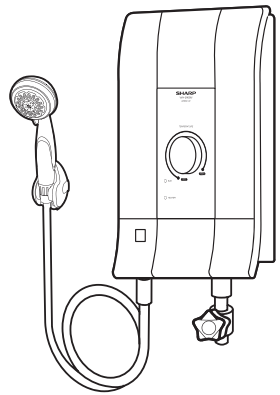


SHARP

OPERATION MANUAL



ELECTRIC WATER HEATER

MODEL WH-235M
WH-238MP
WH-245M

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Please see the date of manufacture marked on the product
Thank you for your trust in products of Thai City Electric Co., Ltd.
In order to use electric water heater in efficiency way. Please read the instructions manual carefully before using this appliance.

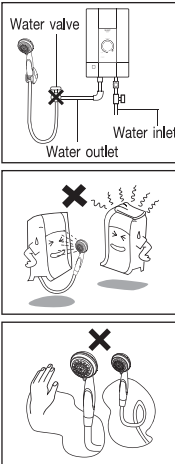
REV.1-2560

USAGE PRECAUTIONS

Please read the warning and cautions carefully before using this appliance and comply strictly for your own safety and to prevent the damage that may occur on your property.

WARNING

- Always turn off the main breaker before making any repairs to your electric water heater.
- Do not install water valve or faucet at hot water outlet.
- Do not spray water on this electric water heater or put wet towels on it.
- Do not cover the shower head with hands or towels or fold the shower hose.



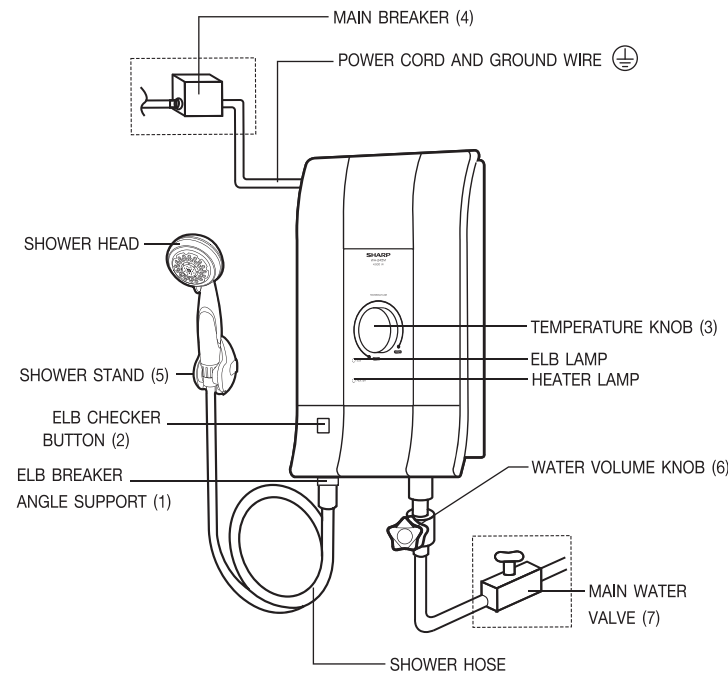
CAUTIONS

- If you see the light within your house is flashing from time to time while showering due to irregularity of electricity, the water temperature may change and this is not unusual.
- In case that using other faucet at the same as using electric water heater (common main water pipe), the water pressure and flow may be reduced and it may cause higher water temperature. This is not unusual. You should adjust water volume or reset water temperature in appropriate way.
- In the event of thunder and lightning storm, turn off the main breaker to prevent the damage that may occur on this appliance.
- If the ELB lamp (green) is off during the operation, push the ELB breaker again and if ELB lamp (green) does not display then stop using the heater by turning the temperature knob and the water volume knob and contact the service center immediately.
- Close supervision is necessary in order to check on the water temperature when used by children, elderly, patients and disabled person.
- In case of tap water outage while using, turn the temperature knob to "OFF" and the water volume knob to turn off the water (to avoid water automatically flowing when you are not in the bathroom after tap water flow resumes).
- While we using a product if that is stop working immediately as we do not know the cause, please inform the SHARP service center for proceed to repair.

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DESCRIPTION OF PARTS

Equipments within dashed border must be purchased separately



SPECIFIC INFORMATION

Model	WH-235M	WH-238MP	WH-245M
Rated voltage (V)	220		
Rated frequency (Hz)	50		
Power consumption (W)	3,500		4,500
Water supply system	Single point		
Water temperature control	Approximately 50°C (Maximum)*		
Minimum pressure	0.02 MPa**(0.21 Bar)		
Maximum pressure	0.34 MPa**(3.39 Bar)		
Product dimension (WxHxD) (mm.)	236 x 378 x 86		
IP number	IP25		
Weight (kg.)	2.2		

Note : * Temperature of inlet water is approximately 25°C and flow rate is 2.3 liters/min.
** 1 MPa (Megapascal)= 10.2 Kilograms/ Square centimeter.

USING YOUR ELECTRIC WATER HEATER

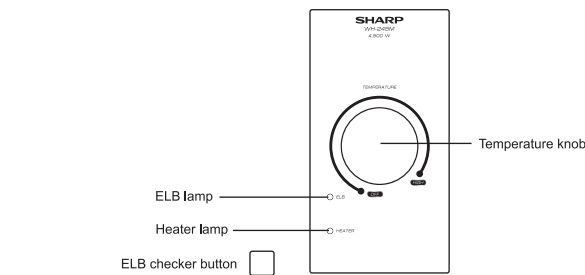
The installation must only be carried out by the company's expert or authorized dealers. For safety reason, a ground wire existence should be verified after the water heater installation.

- Open the main water valve (7) from the home main water pipe.
- Open the main breaker switch (4).
- Push the ELB breaker (1) up to activate the heater electrical system.
- Turn the water volume knob (6) as desired (see the water volume knob detail in adjustment water temperature).
- Turn the temperature knob (3) from "OFF" clockwise to adjust the desired temperature. The heater lamp (red) will be illuminated and the warm water will flow from the shower head (see the detail in adjustment water temperature).
- After use, turn the temperature knob (3) to "OFF" and turn the water volume knob (6) to stop the flow.

Notice : In case of electricity or tap water outage while using, always turn the temperature knob to "OFF" and the water volume knob (6) clockwise to shut the heater before leaving the bathroom.

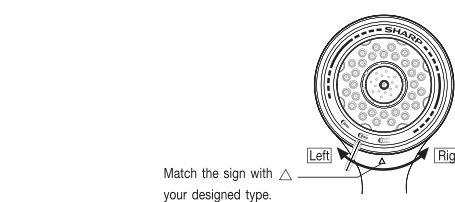
ADJUSTMENT WATER TEMPERATURE

- Using the temperature knob.**
 - Turn the temperature knob to adjust water temperature as desired.
OFF : Turn the heater off and water will flow at the normal temperature.
HIGH : The water temperature is 50°C degree approximate.
- Using the water volume knob.**
 - Turn the knob counterclockwise will increase the volume and decrease the temperature simultaneously.
 - Turn the knob clockwise will decrease the volume and increase the temperature simultaneously.



USING YOUR SHOWER

Shower heads allow users to adjust into 3 types by simply twisting the shower head cover as shown in the picture.



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INSTALLATION GUIDES

Installation this unit should be done by qualified technician only. Please make an inquiry from SHARP service facility or dealer.

Warning : • The ground wire must be installed with the electric water heater.
• Must connect the ground wire from the position of connecting ground wire on the base of product to go down the earth always.

1. BEFORE INSTALLATION

- Please check water pressure before operating this unit. The minimum water pressure is 0.02 MPa (0.21 Bar). The maximum water pressure is 0.34 MPa (3.39 Bar).
 - Please follow the picture below to check water pressure. Water shall overflow at the end of the tube within 2.3 meters above the faucet.
- Parts list provided in the box include : Electric water heater unit, shower head, shower hose, shower stand, water volume knob, filter gasket, rubber gasket (1 piece), screw (6 pieces), wall anchor (6 pieces), operation manual and warranty card.

2. INSTALLATION THE UNIT

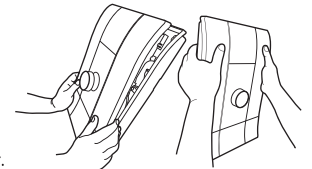
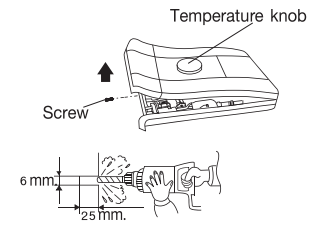
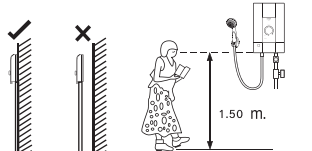
- Preparing installation area.
 - The unit must be mounted to the wall in a vertical position only. (See in the picture)
 - Leave this unit away from the wall for both sides more than 200 millimeters. (Page 16)
 - The minimum height of 1.50 meters to the lower edge of the unit must be observed.
- Removing the unit cover.
 - Remove the screw underneath the unit.
 - Open the cover by lifting from the bottom.
- Mounting the unit to the wall.
 - Drill two 6 millimeters holes in the wall with approximately 25 millimeters in depth.
 - Install wall anchors into the holes.
 - Screw the top wall anchors, leave screw length around 8-10 millimeters and hang the unit on the screw than marked the position in order to drill another 2 holes at the bottom, drill the holes and install the rest of wall anchors then fasten all of 4 screws.

2.4 Assemble the cover with the heater.

- Push the temperature knob from inside to make the knob appears in the front.
- Assemble the cover from the knob of the heater and push tight on the top of cover.
- Tighten screws to attach the cover with the heater and place the temperature knob to the same place.

2.5 Installation the shower stand.

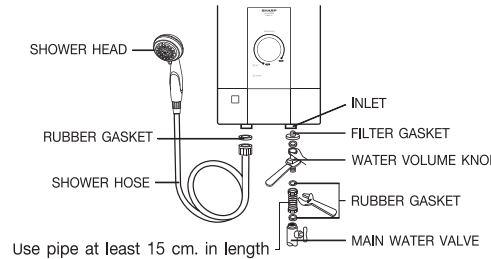
- Ensure that the shower stand located in the level that the top part of the shower head is not higher than the top part of the unit when hanging the shower head. (See in the picture)
- The shower stand can be adjusted 40 degree.



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3. PIPING INSTALLATION

- Connection point between the unit and the water volume knob and twist the shower hose by hands until it tight. Do not use any tools during assembly because it may cause the damage to plastic components.
- Tighten the connection into the thread located at the bottom of the water volume knob. Force gauge do not exceed 40 kgf.cm.
- Connect water inlet pipe and water outlet pipe as shown in the picture.



The shower head must be installed properly.

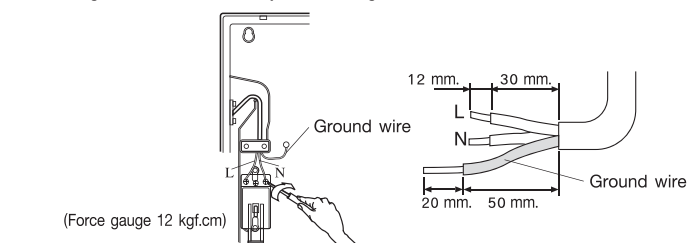
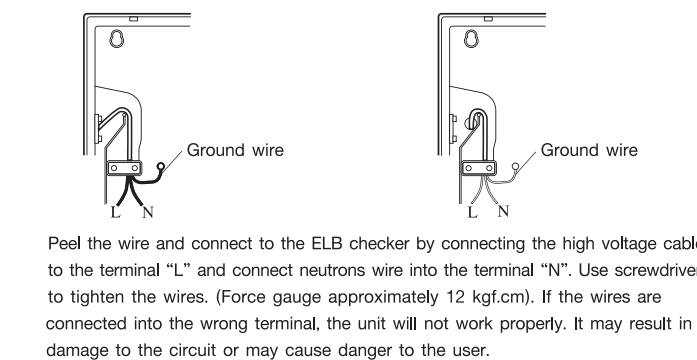
- Connect to the shower head.
- Connect to the unit.

4. ELECTRIC WIRE CONNECTIONS

- Before connection the wires, please make sure the main breaker is off to cut off power.
 - Use dual insulated wire with at least 4 square millimeters cross-section. (WH-235M, WH-238MP)
 - Use dual insulated wire with at least 6 square millimeters cross-section. (WH-245M)
 - Connect electric wire to the unit from the main breaker board through the main breaker which is located outside the bathroom. Wire connection must be permanent.
- Electric wire connection to the unit can be done by 2 methods. (as illustrated) Drill a small hole at the rubber to insert the wire on side or at the rear of the unit.

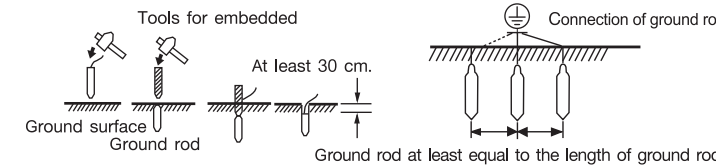
Connect the wire on side of the unit

Connect the wire at rear of the unit



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- The ground wire must be connected to grounding point on the unit. Grounding process.
 - Ground rod installation, select the area where moisture stored in the soil and away from flood area with no sand or limestone.
 - The diameter of ground rod is not less than 16 millimeters and the length is not less than 240 centimeters.
 - Embed the ground rod at least 30 centimeters in depth from ground surface.



- Ground resistance must be less than 5 ohm.
- After grounding process is completed, if ground resistance is higher than 5 ohm, additional ground rod must be embedded. Leave the additional one away from the previous ground rod at least equal to the length of ground rod. Connect them together in parallel.

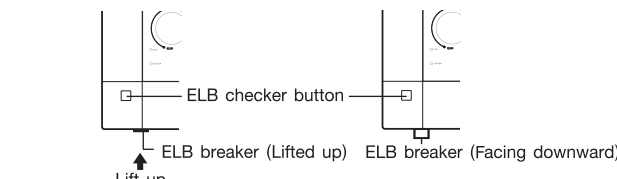
5. OPERATION TEST

- Check the leakage at any joints by open the valve in the main water pipe.
- Check the electrical wire connection before open the main breaker (4).
- Test the earth leakage breaker (ELB) switch.
 - Push the ELB breaker up (1) to activate the internal electrical system.
 - Press the ELB checker button (2), if the ELB breaker slides down and the electrical system has been cut so the ELB system works properly.
- Operation test on the unit.
 - Push the ELB breaker up to activate the internal electrical system. Turn the water volume knob (6) counterclockwise. The ELB lamp (green) will display and the normal temperature water will flow from the shower head.
 - Turn the temperature knob (3) and the heater lamp (red) will display and the warm water will flow from the shower head. Turn the knob up/down to observe the temperature change from water.

CLEANING AND MAINTENANCE

1. Inspection of ELB checker once a month.

- Once press the ELB checker button, the circuit shall automatic cut off and you may hear the sound like "Click" and ELB checker is facing downward, it represent normal operation of ELB system. For next operation, remove the switch to its original position.

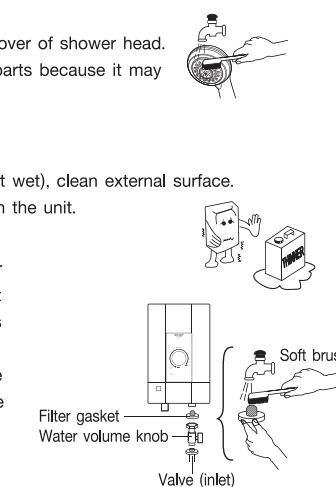


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- Cleaning the shower head.**
 - Use soft toothbrush to clean external cover of shower head. Do not remove and clean the internal parts because it may cause damage to such components.
- Cleaning electric water heater unit.**
 - Make sure the main breaker is turn off.
 - Use damp cloth with mild soap (but not wet), clean external surface.
 - Do not use benzene oil, thinner to clean the unit.

4. Cleaning filter gasket.

- Clean filter gasket with clean tap water and soft brush. Clean the filter gasket from time to time when the warm water is not come out properly.
- Remove the filter gasket by twisting the connection at the top of the water volume knob in anti-clockwise direction after turn off the valve (inlet).



INITIAL INSPECTIONS

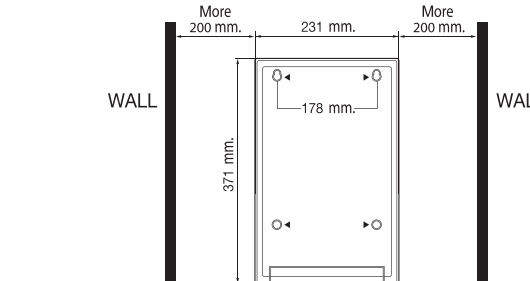
1. Please inspect the following points before calling for service.

Symptom	Check points
Water cannot flow properly.	1. Check the filter gasket. It may be blocked. Please see cleaning filter gasket. (on page 16) 2. Check the shower head. It may be blocked. see cleaning the shower head (on page 16). Please 3. Check the valve. It may be narrowed.
Water does not flow.	1. Check the valve whether it is on.
No electricity supply to the unit.	1. Check the ELB breaker whether switch is upward.

2. If you find the following symptom during operation, please contact SHARP service facility immediately.

- Water leakage.
 - Cannot control water temperature.
 - ELB lamp indicator and heater lamp is not working.
3. Do not attempt to repair the unit, if it required qualified technician.

INSTALLATION STYLE



Sole Distributor in Thailand

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THAI CITY ELECTRIC CO., LTD.
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Tel. 0 2353 1111 Call Center 0 2254 5090
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