

Panasonic®

Operating and Installation Instructions Electric Water Heater (Household Use)

Model No. **DH-6SM1**



Thank you for purchasing this Panasonic product.

- Please read these instructions carefully in order to use this product correctly and safely.
- Before using this product, **please give your special attention to the SAFETY PRECAUTIONS.**
- Please keep this Operating and Installation Instructions for future use.

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English

BEFORE USING ELECTRIC WATER HEATER

SAFETY PRECAUTIONS

Make sure to follow these instructions

In order to prevent accidents or injuries to the user, other people and damage to property, please follow the instructions below.

■ The following indications indicate the degree of damage caused by incorrect operation.

 WARNING Indicates serious injury or death.	 CAUTION Indicates risk of injury or property damage.
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■ The symbols are classified and explained as follows.

 This symbol indicates prohibition.	 This symbol indicates requirement that must be followed.
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WARNING

-  ● If the ELB Reset Lever cannot be reset even if you push it up or if it soon slides down during operation, do not use the appliance and contact the authorized dealer immediately to avoid a hazard to users such as damage to property, serious injury or death. Never fix the ELB Reset Lever forcibly with tape and such.
- Do not insert finger or other objects into the appliance to avoid physical and electric shock hazards.
- Do not replace any other parts of the appliance with spare parts other than genuine parts.
 - Parts for other models will not fit to this model and may cause hazardous condition to user.
- Do not spray water to the appliance nor put wet towels on it to avoid from coming into contact with any live parts and such, in order to prevent smoke emission, ignition, fire and electric shock hazards.
- Do not disassemble, repair or modify the appliance. It may cause fire, electric shock or injury.
 - Please contact your Service Centre for repairing.
- This appliance is not to be used for a potable water supply.

-  ● The appliance must be earthed. Improper grounding could cause electric shock.

-  ● Stop using the appliance when any abnormality / failure occurs and switch off the Miniature Circuit Breaker (MCB). (Risk of smoke / fire / electric shock / scalding)
Example of abnormality or failure:
 - The ELB Reset Lever cannot be reset. Please refer to "TEST OPERATION" at page EN11.
 - Burnt odor or smoke is detected during operation.
 - The Front Plate or Back Plate is deformed or abnormally hot.
 - The Outlet Water temperature become extremely hot.→ Contact an authorized dealer immediately for maintenance / repair.

- 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. Children should be supervised to ensure that they do not play with the appliance.
- Make sure the voltage indicated on the label of the appliance is the same as your local supply.
- Pay attention to water temperature when reducing the volume of water. The water temperature will become very hot if the water flow rate is too low.
- When the appliance is used by someone such as child, old person, sick person and physically handicapped person, the person responsible for their safety is kindly requested to pay attention and check the water temperature by using hand from time to time.

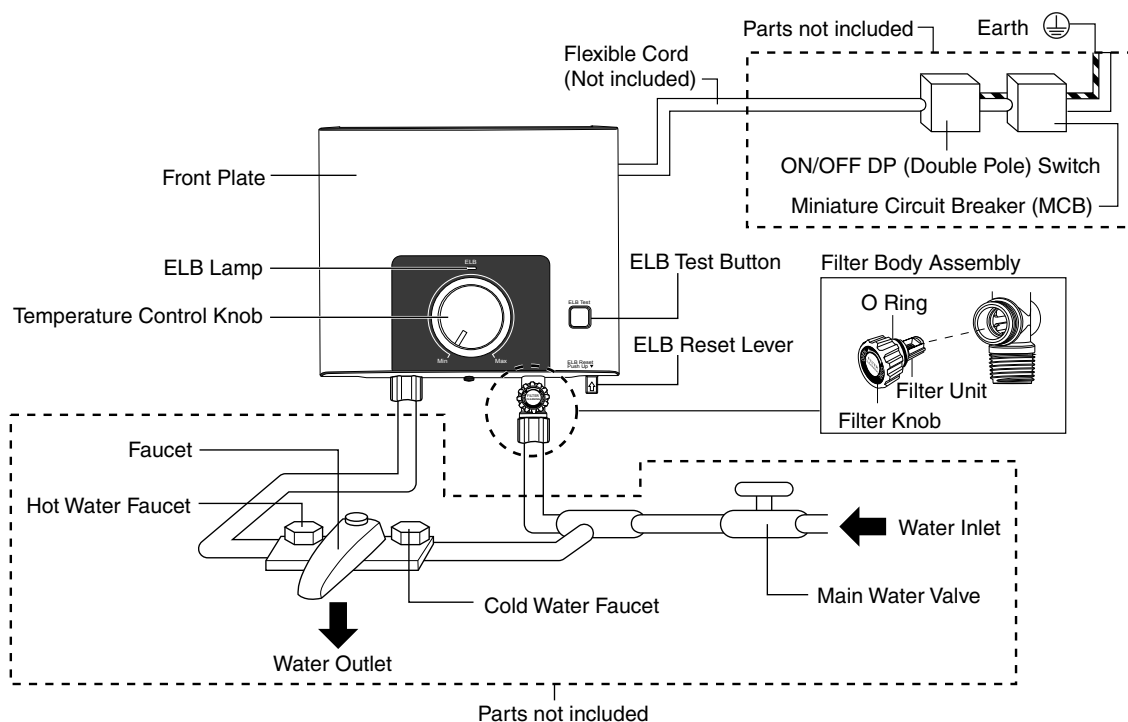
WARNING

-  Switch off the Miniature Circuit Breaker (MCB) before any service to avoid electric shock hazards.
- In time of lightning / thunder, switch off the Miniature Circuit Breaker (MCB) in advance to protect the appliance against possible damage.
- Inspect the built-in ELB (once a month) to avoid a hazard to users such as damage to property, serious injury or death. Please refer to "TEST OPERATION" at page EN11.
- Inspect the Miniature Circuit Breaker (MCB) once a month to ensure no faulty on the household earthing system that will lead to electric shock hazard.
- The manufacturer is not liable for damage caused by incorrect installation or failure to follow the instruction indicated in the Operating and Installation Instructions.

CAUTION

-  Never use benzene, thinner, bleaching agent and such for cleaning purpose to avoid smoke emission, ignition, fire and electric shock hazards.
 - Avoid using dirty water as it may affect heater performance and other components.
 - Do not block the Water Outlet with hand, towel or bend the shower hose (not provided). The water flow rate will drop and water temperature may become very hot.
 - In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.
 - Do not switch on if there is possibility the water in the appliance is frozen.
 - Never fix the appliance forcibly with tape or adhesives. Strictly follow all the instructions given for installation. (See page EN7-EN11 "HOW TO INSTALL ELECTRIC WATER HEATER".)
-
-  Please make sure the O Ring is not removed and shall be free from foreign particle to avoid water leaking.
 - Press the ON/OFF DP (Double Pole) Switch before and after each usage.
 - Always turn on the Cold Water Faucet first and then adjust the Hot Water Faucet to get the desired water temperature. So as to avoid the danger of scalding when operating this appliance.
 - This product is intended for household use only.
 - Please read the instructions before proceeding to maintenance. (See page EN5-EN6 "MAINTENANCE".)
 - The appliance is intended to be permanently connected to the water mains and not connected by a hose-set.
 - Before installation, make sure the water flow pressure is under the allowable rated pressure as stated on Specifications table. (See page EN6 "SPECIFICATIONS".)

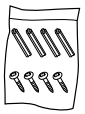
PARTS IDENTIFICATION



Note:

- It is recommended to make the cold water and hot water mixing piping as illustrated.

ACCESSORIES

Description	Items	
 Installation Packing	 (Ø6 × 25) mm Wall Plug (4 pcs)	 (M4.1 × 25) mm Screw (4 pcs)

Note:

- When removing the appliance from package, some water may be found inside. This is normal as the appliance is tested during the manufacturing process.

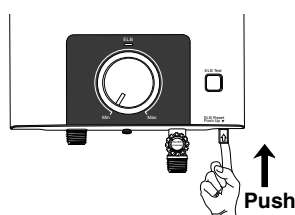
HOW TO USE ELECTRIC WATER HEATER

Note:

- The water temperature lowers as the volume of water is increased by opening the Faucet and water temperature rises as the volume of water is decreased by closing the Faucet.
- In case of continuous usage at high temperature setting, water temperature will increase and may cause the control device to activate temporarily resulting in water temperature to drop.
- If you use water at more than one point, the water pressure will drop and the water flow may become weak or the water temperature may rise. However, this is not a sign of any trouble. Adjust the Hot Water Faucet to a proper level.
- Do not switch on if there is possibility the water in the heater is frozen.

HOW TO USE

- ① Turn on the Main Water Valve.
- ② Switch on the Miniature Circuit Breaker (MCB) and the ON/OFF DP (Double Pole) Switch.
- ③ Push the ELB Reset Lever up if it is down.



ELB: On condition



ELB: Off condition

- ④ Set the Temperature Control Knob to the desired position.
 - (a) When the Temperature Control Knob is set to "Min", temperature level is low.
 - (b) When the Temperature Control Knob is set to "Max", temperature level is high.
- ⑤ Turn on the Hot Water Faucet. The ELB Lamp will light up once the appliance operates.



CAUTION



Avoid using dirty water as it may affect heater performance and other components.



Always turn on the Cold Water Faucet first and then adjust the Hot Water Faucet to get the desired water temperature. So as to avoid the danger of scalding when operating this appliance.

MAINTENANCE



WARNING



Switch off the Miniature Circuit Breaker (MCB) before any service to avoid electric shock hazards.

1. Inspection on the built-in ELB.

Inspect the built-in ELB (once a month) to avoid a hazard to users such as damage to property, serious injury or death.

- Make sure the appliance is in on condition.
- Press the ELB Test Button. If the ELB is in normal condition, ELB Reset Lever will slide down.
- Push up the ELB Reset Lever to reset the ELB.

2. Main body cleaning.

Be sure to switch off the Miniature Circuit Breaker (MCB) beforehand.

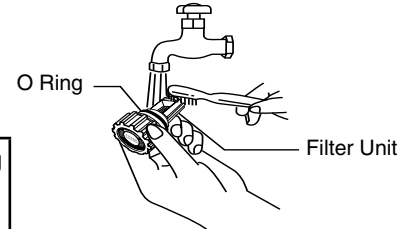
- Clean it with moist cloth.
- Never use benzene, thinner, detergent, bleach and such for cleaning purpose.
- Do not spray water to the appliance, nor put wet towels on it.
- Make sure to use suitable cloth to clean the Main body surface to avoid scratch.

Note:

- Do not place any material on the appliance.

3. Filter Unit cleaning. (Filter Unit is fixed to Filter Knob)

- Clean the Filter Unit with water every week.
- Clean the Filter Unit when you feel that hot water is not drawn normally.



CAUTION



Please make sure the O Ring is not removed and shall be free from foreign particle to avoid water leaking.

TROUBLESHOOTING

1. Check the following points before asking for repair.

Symptom	Points to be checked
Water is not drawn normally.	• Check whether any leakage of the water connections. • Check the Filter Unit. Clean the Filter Unit if it is clog by stain and dirt.
No hot water comes out from the Water Outlet. (no electrical supply to the appliance)	• Check whether the water and electrical connections comply with the Specifications as indicated. • Make sure to switch on the ON/OFF DP (Double Pole) Switch. • Make sure to switch on the Miniature Circuit Breaker (MCB). • Make sure the ELB Reset Lever is not slide down. Push up the ELB Reset Lever to reset the ELB (refer to "TEST OPERATION" at page EN11).
No water flows out from the appliance at all.	• Make sure the Main Water Valve is opened. • Check whether the water supply is there. • Check whether inlet water supply connected to the Filter Body Assembly.

2. If abnormalities as mentioned below are found during use, do not use the appliance and contact an authorized dealer immediately.

- Water leakage.
- Water temperature cannot be controlled.
- ELB Lamp does not light up.

3. Special skill is required for repairing. Never try to repair the appliance by yourself.

SPECIFICATIONS

Power Supply	230 V a.c. 60 Hz
Power Consumption	6000 W
Temperature Control	32 °C (minimum) ~ 50 °C (approx.)
Min. Water Pressure	0.02 MPa / 0.2 kgf/cm ² / 2.9 psi
Max. Water Pressure	0.6 MPa / 6.12 kgf/cm ² / 87.0 psi
Dimension (Approx.) H x W x D	195 mm x 233 mm x 112 mm
Weight (Approx.)	2.0 kg

HOW TO INSTALL ELECTRIC WATER HEATER

For Installer

WARNING

-  ● **Do not install, remove or reinstall the appliance by yourself.**
 - Improper installation will cause leakage, electric shock, fire or injury. Installation and wiring must be done by competent personnel.
- **Do not share the inlet and outlet pipe of the appliance with other outlets. The pressure may drop due to water being drawn off at other point. The water temperature may become very hot.**
-  ● **The appliance must be earthed. Improper grounding could cause electric shock.**
-  ● **This appliance should be installed and serviced by competent personnel and only genuine spare parts should be used. If not, it may cause fire or result in improper operation.**
 - **During installation process make sure electrical and water supplies are turned off.**
 - **Use the appliance under the allowable rated voltage conditions. If not, it may cause an electric shock or fire.**
 - **Proper size of Flexible Cord and electric wiring must be installed to avoid smoke emission and fire hazards.**
 - **The appliance must be permanently connected to the electric supply through the ON/OFF DP (double pole) Switch having a contact separation of at least 3 mm in all poles incorporated in the fixed wiring. This switch must be clearly identifiable but out of reach of a person using a fixed bath or shower.**
 - **Use the attached accessories parts for installation.**

CAUTION

-  ● **This appliance must be installed indoor only.**
- **Flexible Cord must enter the appliance through designated point only (do not make additional holes).**
- **Ensure this appliance is not installed at the place where water existence will lead to smoke emission, ignition, fire, electric shock and damage to property.**

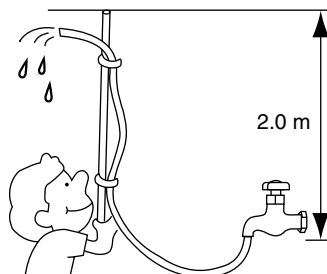
BEFORE INSTALLATION

- Installation must be done by competent personnel.
- All plumbing works must be completed.
- Use appropriate pipes for the inlet and outlet connections which can withstand high temperature and pressure.
- Make sure the water flow pressure under the allowable rated pressure conditions.

Min. water pressure 0.02 MPa / 0.2 kgf/cm² / 2.9 psi

Max. water pressure 0.6 MPa / 6.12 kgf/cm² / 87.0 psi

- Measure the water pressure as illustrated. Water should flow out of the Hose 2.0 m above the Main Water Valve.



English

EN7

HOW TO INSTALL

Note:

- During installation process, make sure electrical and water supplies are turned off.

1. Where to install the appliance.

- Install the appliance in indoor with frost-free weather proof locations only.



WARNING



Be sure to install the appliance on the wall as illustrated in Figure 1 (vertical position with the inlet pipe and outlet pipe pointing downward).

- Do not install the appliance away from the wall surface as shown in Figure 2.
- Select a suitable location with easy access of electrical and water supplies.
- Avoid installations which expose the appliance to any of the following conditions:
 - Installation in frost.
 - Voltage input exceeding the specified voltage.

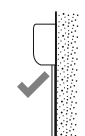


Figure 1

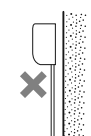


Figure 2



CAUTION



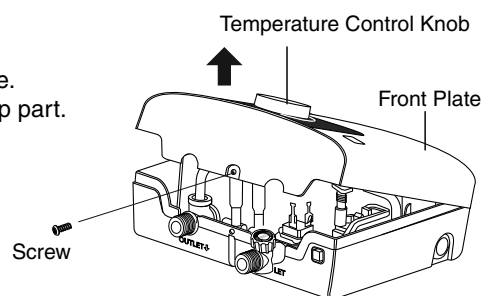
Ensure this appliance is not installed at the place where water existence will lead to smoke emission, ignition, fire, electric shock and damage to property.

2. How to remove the Front Plate.

- Make sure the Temperature Control Knob at "Min" position.
- Remove the Screw at the bottom of the appliance.
- Lift up the Temperature Control Knob to make it free. Make sure the Temperature Control Knob is not detached from the Front Plate.
- Remove the Front Plate first at the bottom and then unhook the top part.

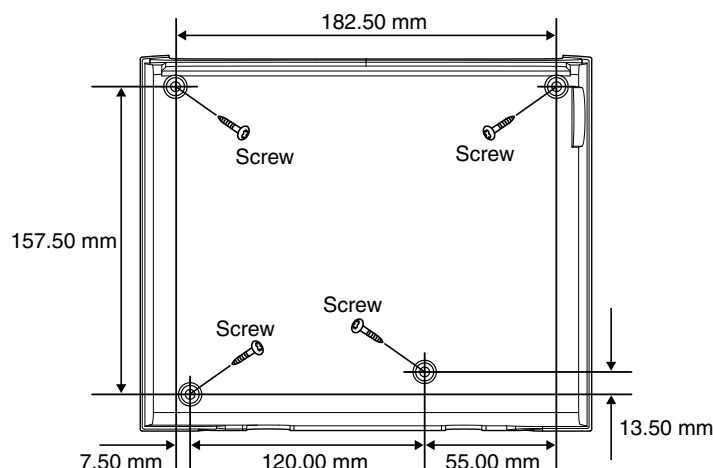
Note:

- Temperature Control Knob is attached to Front Plate (No need to pull out).



3. How to fix the appliance.

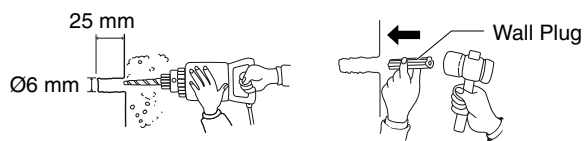
- Please fix the appliance based on the dimension below:



Note:

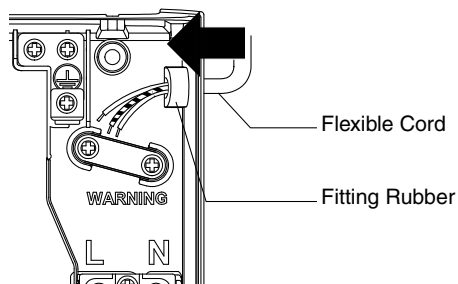
- For same level holes, use suitable tool to ensure the hole levelness.

- ② Make 4 holes for Wall Hook at the wall by means of a drill. Drive the Wall Plug into each hole.



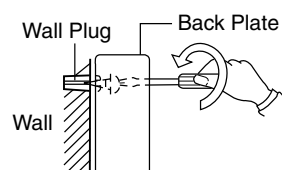
- ③ Insert the Flexible Cord to the appliance through **Figure 3** as shown below:

- Cutting the Fitting Rubber which is attached to the Back Plate, and pass the Flexible Cord through it.

**Figure 3****CAUTION**

Flexible Cord must enter the appliance through designated point only (do not make additional holes).

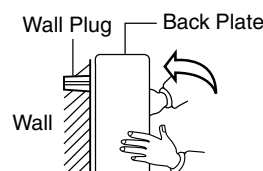
- ④ Mount the appliance on the wall with 4 Screws. Drive each Screw into the two upper Wall Plugs through the screw holes on the Back Plate. After tighten up the two upper Screws, tighten up the remaining two Screws.



- ⑤ Ensure the set fixed tightly on the wall by shaking it left and right.

Note:

- The Back Plate must be mounted with 4 Screws.

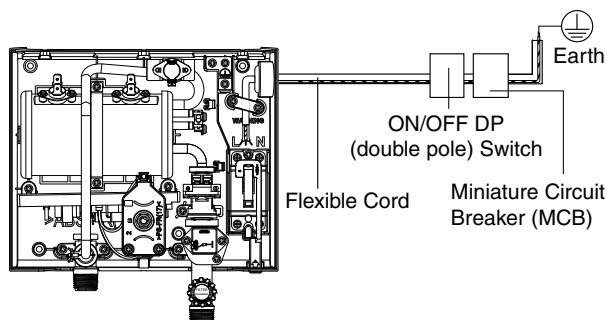
**4. Electric wiring.**

- Make sure rated electrical supply is supplied to this appliance.

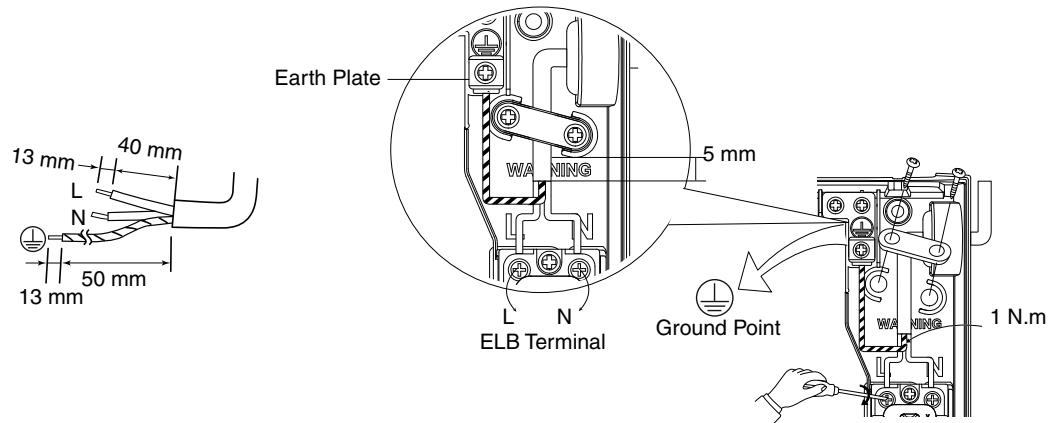
**WARNING**

- Proper size of Flexible Cord and electric wiring must be installed to avoid smoke emission and fire hazards.
- The appliance must be permanently connected to the electric supply through the ON/OFF DP (double pole) Switch having a contact separation of at least 3 mm in all poles incorporated in the fixed wiring. This switch must be clearly identifiable but out of reach of a person using a fixed bath or shower.

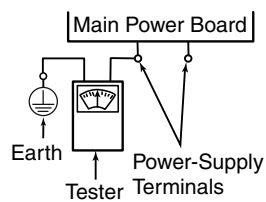
- ① Lead the Flexible Cord connected to ELB terminal inside the appliance:
Flexible Cord 4.0 mm², double-coated cable.



- ② Unscrew the cord holder and fix the cable. Strip the cable (coating). Loosen the screw and fasten the live wire (L) and neutral wire (N) to the ELB (L,N); insert the earth wire under the Earth Plate to the Ground Point with 1 N.m (10 kgf.cm) torque. Fix back the cord holder to its position to clamp the cable.



- ③ Connect wires in correct polarity (L,N).
- Connecting wires in wrong polarity (L,N) causes an abnormal condition which may lead to electric leaking, burning, and such.
 - Before wiring, please check polarity (L,N) with voltage range of a tester or voltmeter by connecting one terminal of the tester to earth while the other to one of the Power Supply terminal.
 - When the needle of the tester deflects greatly, the polarity of the Power Supply terminal is "L".

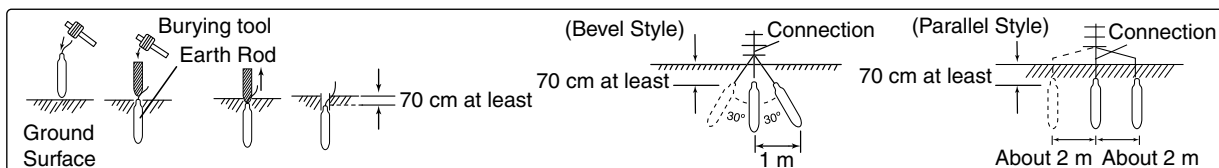


- ④ Earth Rod.

WARNING

The appliance must be earthed. Improper grounding could cause electric shock.

- Earth Rod handling procedure. Select adapter place to bury the optional Earth Rod (DQ-6H) for at least 70 cm below ground surface.
- Ensure that the ground resistance is less than 100 Ω . If it is not, drive the Rod deeper into ground surface or use 2 or 3 Rods.



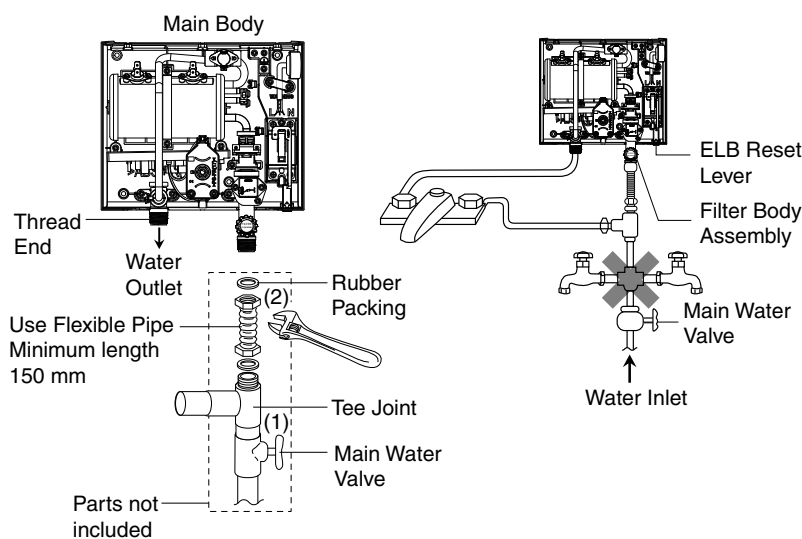
5. Piping installation procedure.

Note:

- Make sure no water leaks from pipe connection.
- When glue is used for external piping connection, must wait for the glue to dry before proceeded to test run with water.

WARNING

Do not share the inlet pipe of the appliance with other outlets. The pressure may drop due to water being drawn off at other point. The water temperature may become very hot.



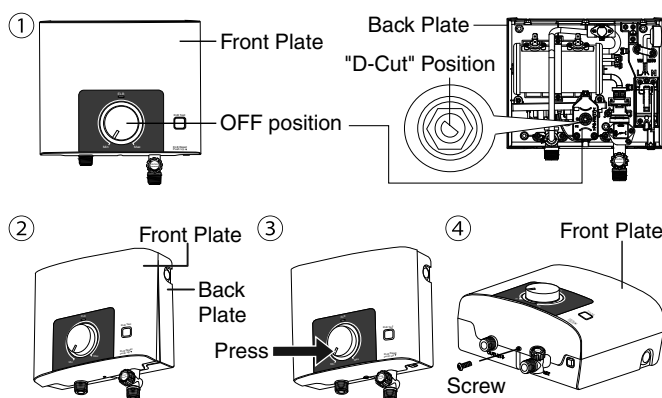
- (1) Tee joint must be installed between the Main Water Valve and Flexible Pipe.
- (2) Place Rubber Packing between Filter Body Assembly and Flexible Pipe. Do not use Piping Tape. Tighten it by spanner firmly.

Remark:

It is desirable to make the piping as short and linear as possible because the longer the distance from the appliance to the Faucet, greater influence may be caused on the hot water temperature due to increase in resistance and change in water temperature.

6. How to fix the Front Plate.

- ① Make sure the Temperature Control Knob on Front Plate and "D-Cut" at "Min" position.
- ② Close the Front Plate of the appliance according to the sequence as illustrated (Close from top to bottom).
- ③ Press the Temperature Control Knob.
- ④ Fix the Screw at the bottom of the appliance.



Note:

- Do not push the ELB Test Button when fixing the Front Plate.

TEST OPERATION

⚠ WARNING

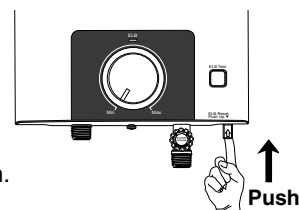


- Inspect the built-in ELB (once a month) to avoid a hazard to users such as damage to property, serious injury or death.



- If the ELB Reset Lever cannot be reset even if you push it up or if it soon slides down during operation, do not use the appliance and contact an authorized dealer immediately to avoid a hazard to users such as damage to property, serious injury or death. Never fix the ELB Reset Lever forcibly with tape and such.

1. • Turn on the Main Water Valve.
• Check if water leaks from the Pipe Line.
2. • Before switch on electricity check the wiring.
• Switch on the Miniature Circuit Breaker (MCB) and the ON/OFF DP (Double Pole) Switch.
• ELB Lamp (red) will light up. (Push up the ELB Reset Lever if it is down)
• Push the ELB Test Button.
- It is normal if the ELB Lamp goes off (the ELB Reset Lever falls) and push the ELB Reset Lever up.
3. • Open the Hot Water Faucet and set the temperature by turning the Temperature Control Knob.
• Set the Temperature Control Knob between "Min" to "Max".
4. • Regulate the Hot Water Faucet so that the hot water temperature becomes optimum.
• Too hot : Further open the Cold Water Faucet.
: Check for clogging of the piping.
• Too cold : Reduce the volume of water from the Cold Water Faucet or further open the Hot Water Faucet.



EN11

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