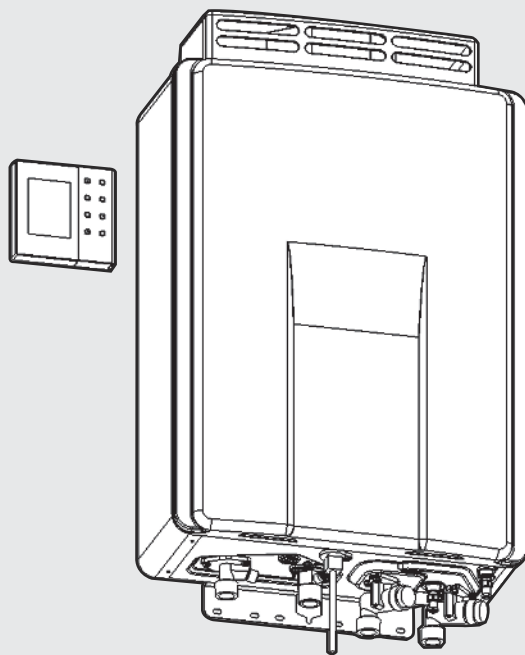




# DOMESTIC GAS WATER HEATER

# Instruction Manual

Model Name  
**REU-2024WP-RS**



**Thank you for choosing Rinnai**

- Please read this manual carefully & install it as specified.
- Be sure to ask licenced professional to perform installation.

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----------	------	--

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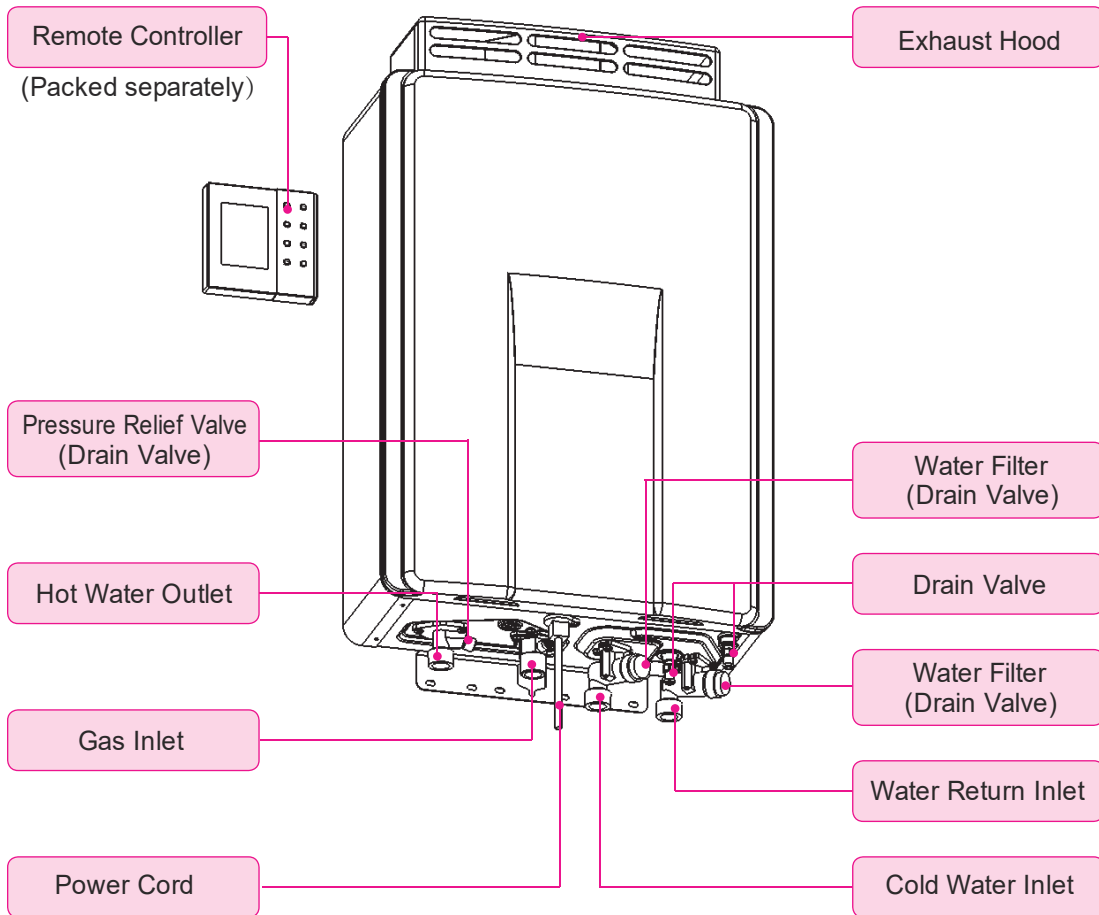
Function

Operation

Installation & Maintenance

# COMPONENTS & PARTS

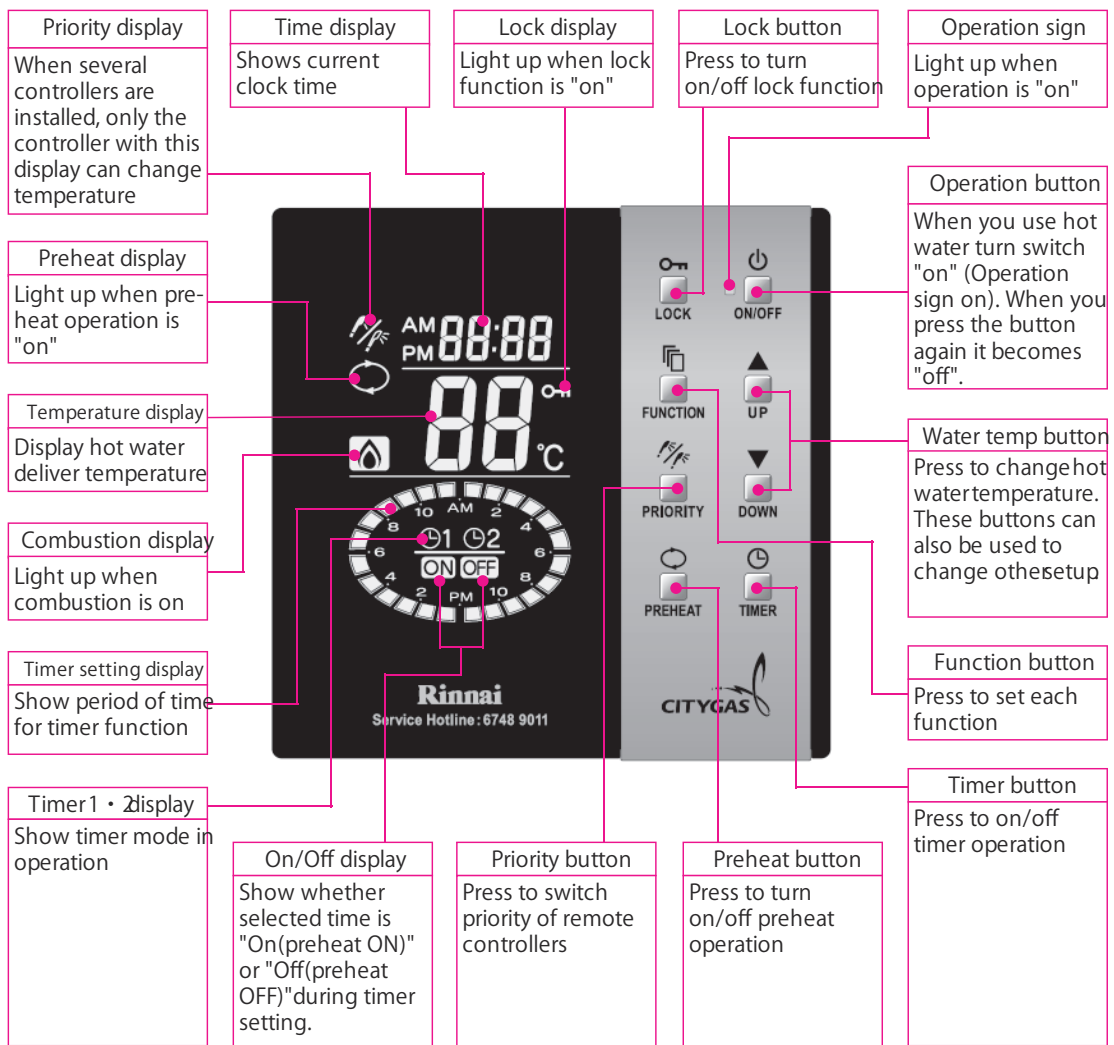
Function



# REMOTE CONTROLLER

- Remote controllers can be used in following combination. (3 controllers can be installed maximum)
  - 1x main remote controller
  - 1x main remote controller + 1x sub remote controller
  - 1x main remote controller + 2x sub remote controller

## Main remote controller MC-195T-RS

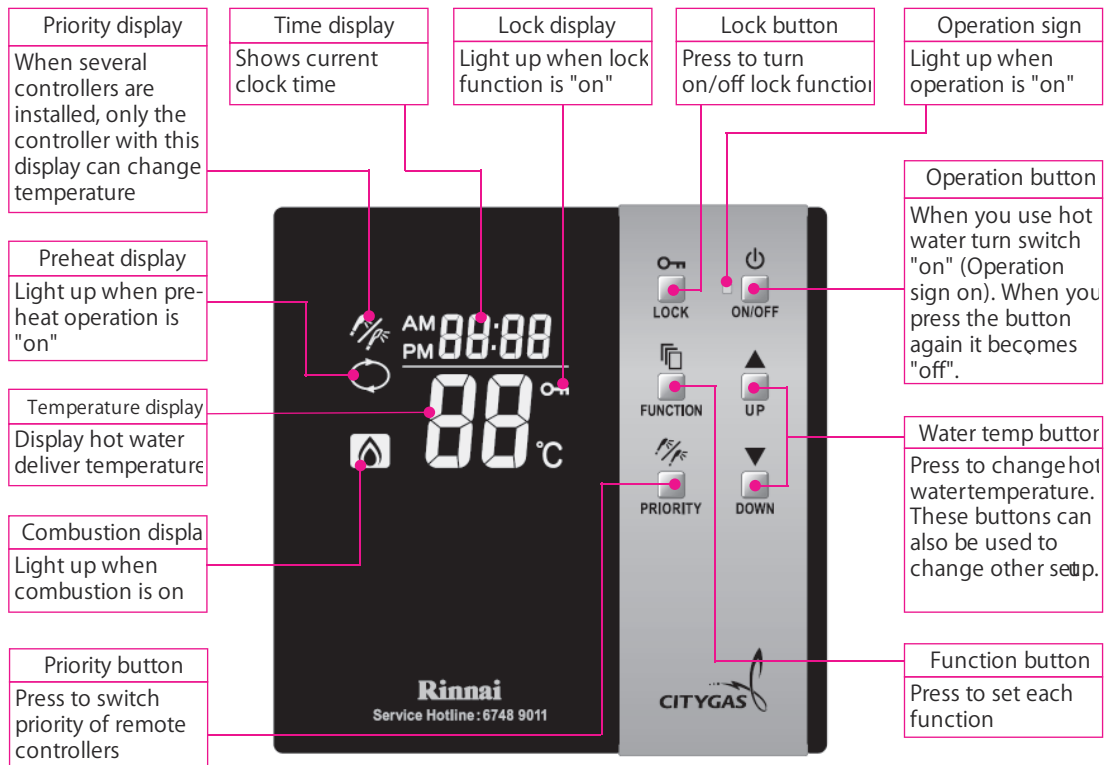


Function

# REMOTE CONTROLLER

Sub remote controller MC-195-RS (Accessory)

Function

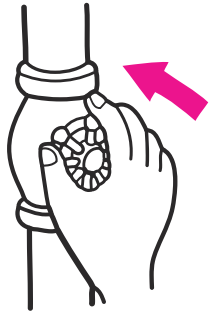


# FIRST TIME USE

Follow below instructions before use

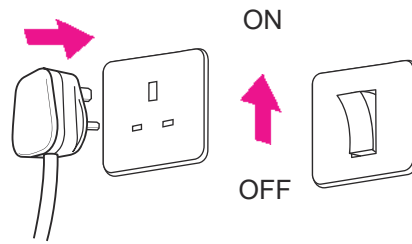
1

Open water inlet valve fully



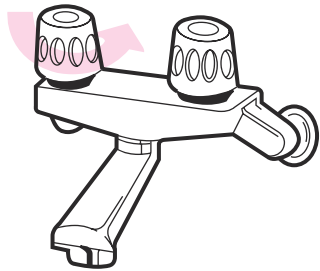
3

Plug in



2

Turn on hot water tap, make sure there is water flow, then turn off tap



4

Open gas valve fully



Caution

To avoid electric shock, don't use wet hands to touch the power plug or socket.

# HOW TO USE

## Set clock time

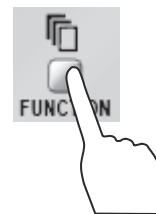
Display shows " <sup>AM</sup>/<sub>PM</sub> --: --" when you turn on the controller without setting clock time. Please set the clock following procedure below.

- ✘ Clock can be set by main remote controller (MC-195T-RS). Sub remote controller (MC-195-RS) cannot.
- ✘ Display also shows " <sup>AM</sup>/<sub>PM</sub> --: --" after blackout or electric plug is disconnected. Please set the clock time.

1

Press "Function" button when operation is "Off".

- "AM12:00" shows on display.

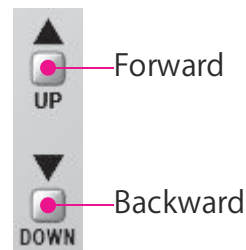


- ✘ When more than 1 remote controllers are installed, time of all remote controllers are modified if you adjust time by main remote controller and turn on controllers.

2

Press "Up" or "Down" button to adjust current time.

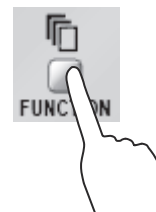
- Press "Up" once to move 1 minute forward, and Press "Down" once to move 1 minute backward.
- Keep pressing the button to change time by 10 minutes.
- Please don't mix up AM and PM.



3

Press "Function" button again.

- Display stops flashing to finish the setting. Clock starts from 0 sec when "Function" button is pressed. Using time signal will help you to set more accurate time.
- Regardless "Function" button is pressed, setting will be finished automatically after 1 min.



# HOW TO USE



Warning

- To prevent being scalded, check the water temperature by hand before shower.
- After using hot shower, some hot water will still remain in the water pipe. To prevent being scalded, check water temperature by hand before use.
- Please switch off power, close water and gas inlet valve if you do not use water heater for long term.

## Adjust hot water delivery temperature

1

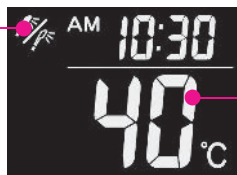
Press "Operation" button to turn it "On".

- Operation sign lights in Green and display is on.
- Please check "Priority" display is on. Only with controller with "Priority" display you can change the hot water temperature.

Operation sign



Priority display



Hot water temperature

2

Press "Up" or "Down" button to change hot water temperature.

- Press "Up" button once to increase temperature by 1 deg. Press "Down" button to decrease temperature by 1 deg.
- Main remote controller can be set 14 stages between 37 deg and 55 deg.
- Sub remote controller can be set 13 stages between 37 deg and 50 deg.

Temp up

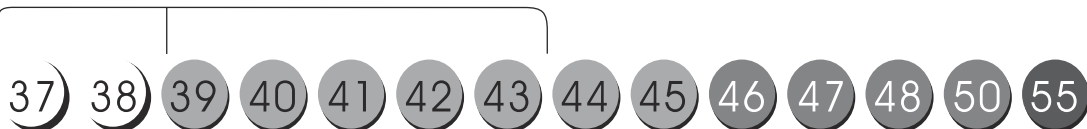


Temp down



Dish Washing

Shower



(55deg is set only for main remote controller)

- Temperature is set as 40 deg in factory line.
- While hot water is delivering you cannot increase temperature more than 48 deg.
- Set temperature is recorded in controller even when operation switch is "Off". However, sub controller cannot memorize temperature more than 42 deg.

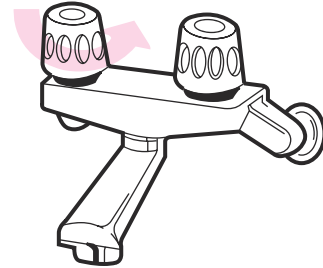
# HOW TO USE

3

Deliver hot water with opening hot water tap.

- During hot water delivery display shows "Combustion" display.

Combustion display



Notice

- The actual water temperature varies depending on season and length of piping. Please take displayed temperature as rough indication.
- With small amount of water delivery, "Combustion" display can disappear and water become cold.
- With low set hot water temperature and with high water inlet temperature the actual delivered hot water can be hotter than set temperature.

## How to use "Priority" button

When more than 1 remote controllers are installed, you can change the temperature by the controller only with "Priority" display. This is for avoiding injury such as burn.

1

Press "Priority" button when hot water is not in use.

- "Priority" display lights on display of the controller which allows you to change hot water temperature.

Priority display



- When more than 1 controllers are installed, each of controllers remembers set temperature when they were once "Priority". When priority is switched, the set temperature of prioritized controller becomes the hot water delivery temperature. However, sub remote controller doesn't remember temperature more than 42 deg.

- ✘ When you install only one controller "Priority" display remains on.
- ✘ When the controller is switched "On" from "Off" the controller is prioritized and shows "Priority" display.



Warning

- To prevent burn, do not change the priority setting when you use showering.



# HOW TO USE

## How to use preheat function (continuous use)

Preheat function is to circulate hot water through piping to keep it warm to deliver hot water immediately when you open tap.

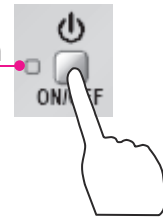
※Use main controller (MC - 195T - RS)

1

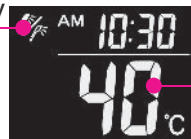
Check operation sign(green) is on.

- When the operation sign doesn't light, press "Operation" button.
- Please check "Priority" display is on when more than 1 controllers are installed. When "Priority" display is off, press "Priority" button.

Operation sign



Priority display



Hot water temperature

2

Press "Up" or "Down" button to set temperature of preheat function.

- It heats up the water inside of piping and keep it at set temperature.
- Max temperature at preheat operation is 50deg. It operates at 50deg even when the set temperature is 55deg.



Temp. up

Temp. down

3

Press "Preheat" button

- Display shows "Preheat" display to start preheat operation.
- When sub remote controller is installed, "Preheat" display will be on for sub remote controller as well.
- Press "Preheat" button again to stop preheat operation. "Preheat" display on display will be off.



Preheat display



Warning

- When you change "Priority" during preheat operation, set temperature will change accordingly to keep preheat operation. Please check the displayed temperature before usage to avoid burn.
- Even if you change the set temperature, water temperature doesn't change until you use all hot water inside of piping. Please be careful of burn especially when you drop hot water temperature because the water inside of piping is hotter than set temperature.

# HOW TO USE

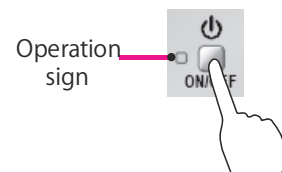
## How to use preheat function (with timer)

- ※ Control by Main remote controller (MC - 195T - RS)
- ※ Before using timer function please check current clock time is correct.
- ※ Without setting clock time, timer setting isn't shown even pressing timer button. Please press timer button after setting clock time.

1

Check operation sign (green) is on.

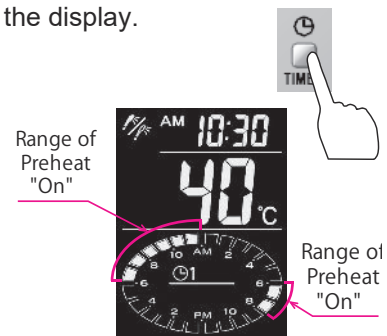
- When Operation sign is off, press "Operation" button.



2

Press "Timer" button. "Timer setting 1" is shown on the display.

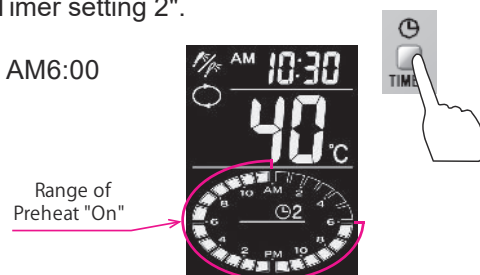
- "Timer setting 1" for preheat is set AM6:00 ~ 8:00 and PM6:00 ~ 12:00 in advance.
- When the time is in the range of preheat timer "On", it starts preheat Operation automatically. When it is in the range of preheat "On", "Preheat" display lights. When sub remote controller is installed, sub remote controller also shows "Preheat" display.
- When it is not in the range of preheat timer "On", it stops preheat operation automatically and "Preheat" display will be off.



3

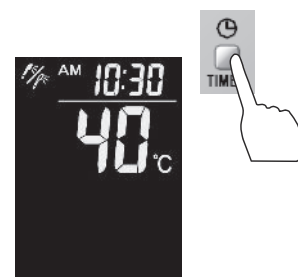
Press "Timer" button once more to show "Timer setting 2".

- "Timer setting 2" for preheat "On" is set AM6:00 ~ PM12:00 in advance.



4

Press "Timer" button once more to exit from timer setting and "Timer setting" display becomes off.



# HOW TO USE

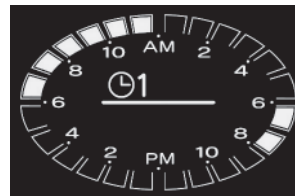
## How to use preheat operation (How to change timer setting)

※ You can change the time by main remote controller (MC-195T-RS)

In case changing "Timer setting 1" of Preheat "On" to "AM7:00 ~ 9:00" and "PM6:00 ~ 12:00"

1

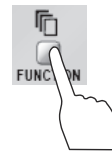
Press "Timer" button to display timer of "Timer setting 1".



2

Press "Function" button.

- Step of current time in oval and "Timer 1" display flash.
- Right image is an example that current time is PM4:30.
- When flashing step is in the range of preheat "On", "On" display lights.
- When flashing step is in the range of preheat "Off", "Off" display lights.



3

Press "Up" button or "Down" button to move step to "AM6:00 ~ 7:00".

- Press "Up" button to move step clockwise.
- Press "Down" button to move step counter-clockwise.



4

Press "Preheat" button.

- "On" display turns to "Off" display.
- The step of "AM6:00 ~ 7:00" stops lighting.



5

Press "Up" or "Down" button to move step to "AM8:00 ~ 9:00".

- The step of "AM8:00 ~ 9:00" flashes.



# HOW TO USE

6

Press "Preheat" button.

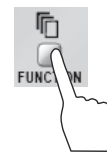
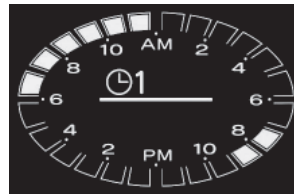
- "Off" display turns to "On" display.
- The step of "AM8:00 ~ 9:00" lights.



7

Press "Function" button to finish the timer setting.

- "Timer 1" display lights and steps stop flashing.
- Unless pressing "Function" button, after 30 seconds timer setting finishes automatically.



※ "Timer setting 2" can be changed in the same way. Change the display to "Timer setting 2" to change the timer setting.

## How to use preheat operation (Override function)

During timer operation, use Override function to turn around "On/Off" condition temporary. This is useful when you come home earlier than usual, or leave house earlier than usual.

1

Press "Preheat" button during timer operation.



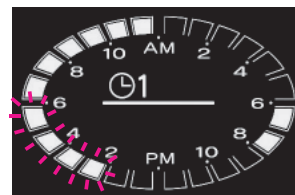
Ex) When you press "Preheat" button at 2:30 pm, steps from 2:00 to 6:00 pm light to turn "On" from "Off".

Original conditic



Press "Preheat" button

Override function is on



- Override function is effective only once and dissolved automatically. For example, in the case above, at 6:00 pm PM 2:00 ~ 6:00 stops lighting automatically to be preheat "Off".
- Press "Preheat" button during override function to cancel it to return to original condition.
- Override function is cancelled by stopping timer function or make operation "Off".

# HOW TO USE

## How to use lock function

With lock function all buttons stop working to prevent small kids from doing mischief or wrong operation.

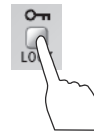
- Lock function can be used for both cases controller is "On" and "Off".
  - In lock mode all operation buttons are blocked except lock button.
  - Lock mode can be set by each controller.
- ✘ In order to lock all remote controllers when more than 1 controllers are installed, please "Lock" each controller.  
If all remote controllers are not locked, setting of temperature, "On" or "Off" can be controlled by other controllers.

1

Press "Lock" button for 3 seconds until it beeps to show "Lock" display on the display and lock mode is on.



Lock display

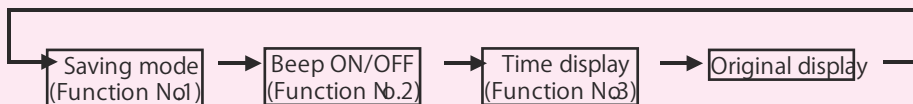


2

Press "Lock" button again for 3 seconds to beep and "Lock" display disappears and lock mode becomes off.



Press "Function" button when remote controller is "On" and don't use timer, you can set various functions. Every time you press "Function" button to change display as follow.



## Save electricity of display (Saving mode)

This is a function of saving electricity of remote controller. Once set time passes, display goes off automatically and only operation sign (Green) lights.

- Saving mode can be set for each remote controller.
- Use hot water or press any button to light up display again.
- ✘ Display doesn't go off without using any hot water. Please use hot water at least once.

# HOW TO USE

1

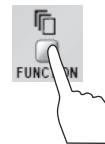
Press "Function" button once when remote controller is "On" and don't use timer.

- Display shows as below.



Function number

Setting mode



2

Press "Up" or "Down" button to change to preferable mode.

- Saving mode 2 is preset in the factory.

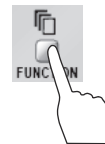
Mode	Brightness	Light off time
1	Dark	After 10 min
2	Bright	After 25 min
OFF	Bright	Keep brighting



3

Press "Function" button 3 times to go back to original display.

- Unless pressing "Function" button after 1 minutes it goes back to the original display automatically.



## Beep ON/OFF

Use when you want to turn off beep.

1

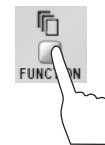
Press "Function" button twice when remote controller is "On" and don't use timer.

- Display shows as below.



Function number

setting mode



# HOW TO USE

2

Press "Up" or "Down" button to change mode.

- Beep ON is preset in the factory.

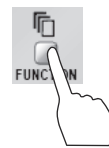
Mode	Beep
ON	Beep
OFF	Silence



3

Press "Function" button twice to go back to original display.

- Unless pressing "Function" button after 1 minutes it goes back to the original display automatically.



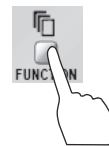
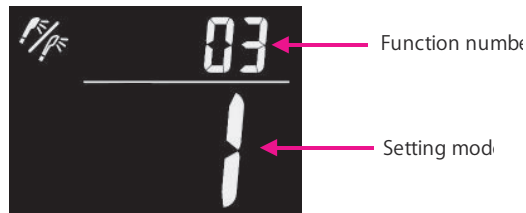
## Time display ON/OFF

You can choose if clock time is shown in operation "On" or "Off".

1

Press "Function" button 3 times when remote controller is "On" and don't use timer.

- Display shows as below.



2

Press "Up" or "Down" button to choose mode.

- Mode 1 is preset at the factory.

Mode	Operation ON	Saving mode while operation ON	Operation OFF
1	Mention	No-mention	No-mention
2	Mention	Mention	Mention
OFF	No-mention	No-mention	No-mention



3

Press "Function" button once to go back to original display.

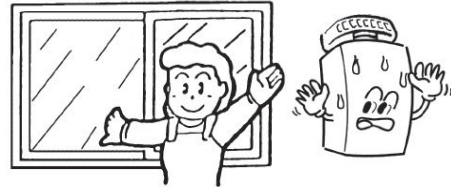
- Unless pressing "Function" button after 1 minutes it goes back to the original display automatically.



# SAFETY NOTES

**A**

Outdoor water heater must not be installed indoor. If the unit is installed indoor, poor ventilation will cause incomplete combustion which leads to oxygen deficiency and CO toxication.



Outdoor water heater must not be installed indoor.

**B**

Check and clean Exhaust outlet regularly to prevent from blocking.

Check and clean exhaust outlet



**C**

To prevent being scalded, do not touch the Exhaust hood or other parts after used.



**D**

Inflammable materials or chemicals must be removed from the surrounding of the unit.





## SAFETY NOTES

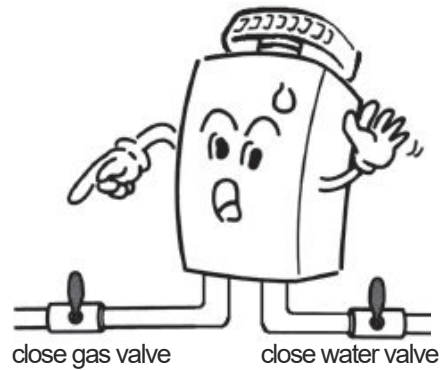
**E**

Stop using water heater during thunder storm.



**F**

If any problem happen, close the gas valve and water tap and refer to "Trouble Shooting". If product doesn't still operate properly, please contact Rinnai authorized service centre.



**G**

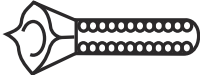


Please do not repair the appliance by yourself. High voltage inside of the heater may harm you. Unauthorized service work may cause some damages to the heater.



# INSTALLATION

## Accessories (included)

- After unpacking the appliance check for damage, if the heater is damaged or appears to have any defects contact your supplier immediately.
- DO NOT install a damaged appliance before checking with your supplier.
- Remove the accessories pack and the heater from the carton and check that all the parts are included.

Diagram	Q.ty	Diagram	Q.ty
 Wall Plug	5	 Instruction Manual	1
 Screw	5		

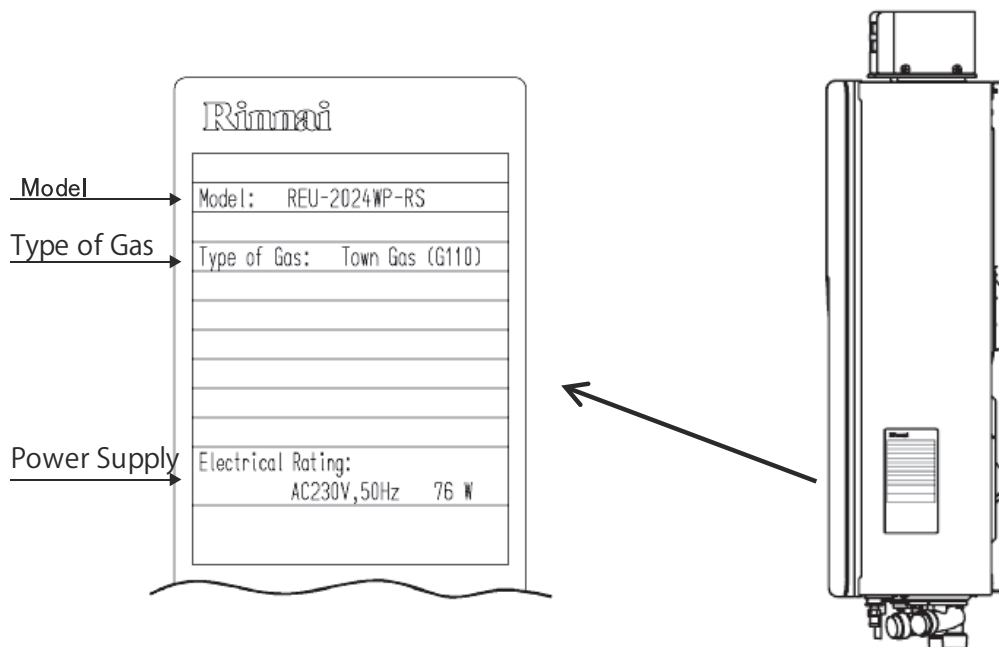
# INSTALLATION

## Installation Precautions



Notice

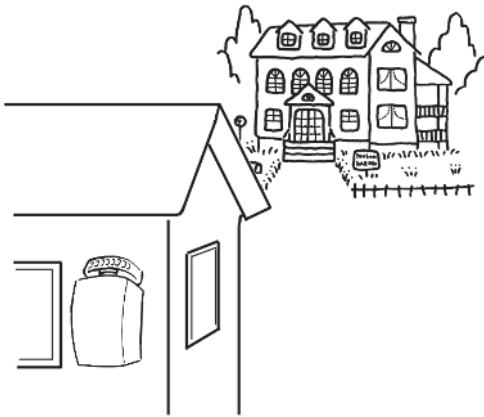
- Please refer to data label to see if gas type, electric point and installation site is appropriate.
- Installation of the water heater requires expert qualification and technique. Please ask expertise for installation and make the unit installed correctly.
- This water heater is designed to be installed outdoor. Please do not install indoor or inside of bathroom.
- Please keep enough space for check and maintenance of unit. Please do not install the unit where it causes danger to check and maintain the unit or where the unit cannot be checked or maintained in front.
- Please do not use hot spring water, groundwater or well water to avoid corrosion.
- This unit is designed for domestic use. Commercial use (such as restaurant) will shorten the lifetime of the unit extremely



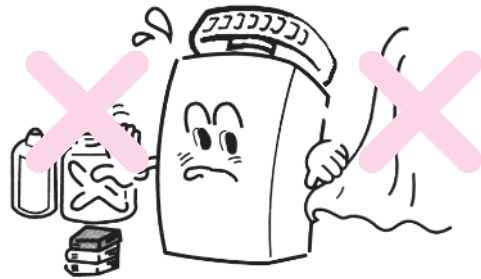
# INSTALLATION

## Installation locations for the water heater

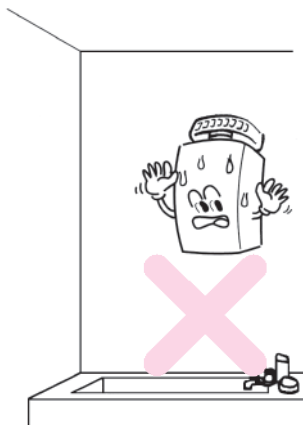
- Please install the unit well ventilated outdoor place (ex. balcony, rooftop)



- Please do not install near other gas appliances. Please do not put flammable gas or liquid around the unit.



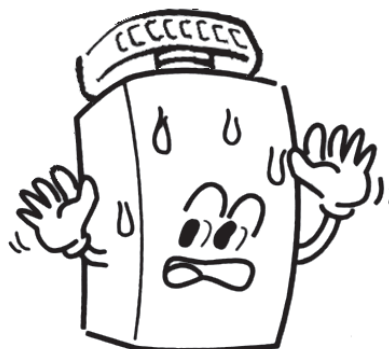
- It is prohibited to install the unit indoor or inside of bathroom.



- Please do not install the unit underneath of ventilation fan or cooker hood.



Exhaust outlet of cooker hood

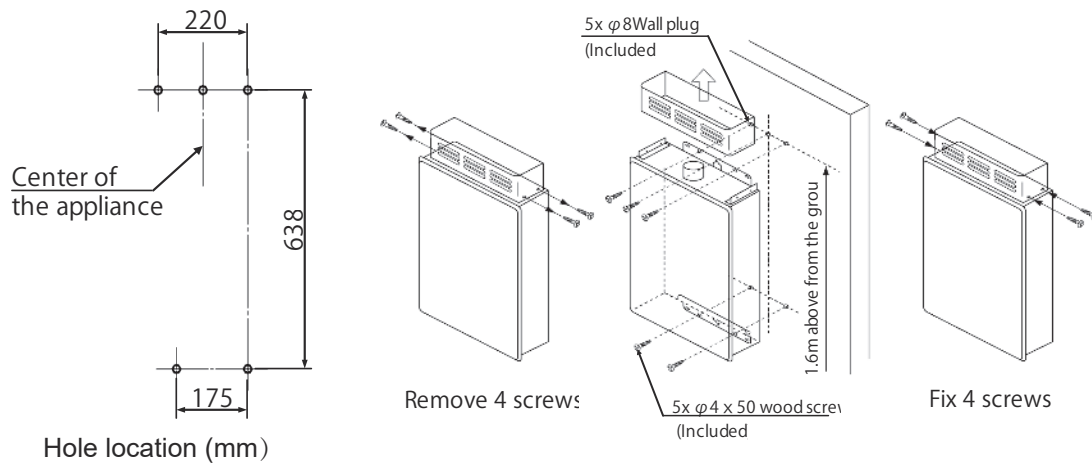


- Please install the unit where its noise or exhaust air do not bother neighbors.

# INSTALLATION

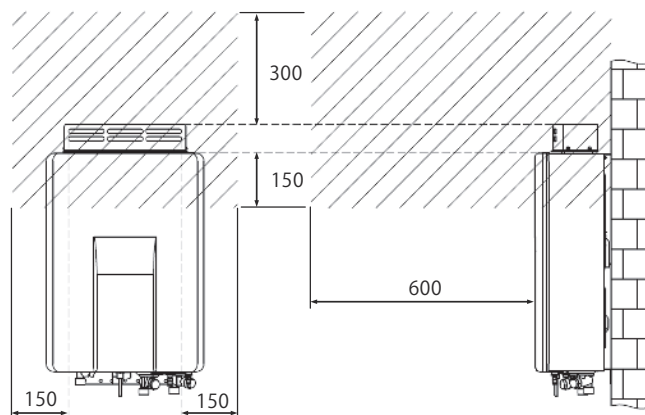
## Water heater installation procedure

1. Remove exhaust hood. (Remove 4 screws)
2. Hole location :Hole on wall following water heaters dimension and instruction, and hammer in 5x  $\phi$ 8 wall plugs.
3. Screw a wood screw into the wall plug which is on the middle of the top, until the distance between screw head and wall becomes 5mm.
4. Hang water heater on the screw at the notch of the upper hanging bracket and entwist the rest 4 screws on wall plugs to fix the main body.
5. Fix exhaust hood using 4 screws.



### Notice

- Install the unit at places with enough space for exhaust and air intake.
- To avoid exhaust air coming inside of room, do not install the unit near the openings of buildings (shaded area at the right.)



# INSTALLATION

## Water inlet/outlet and circulation piping



Notice

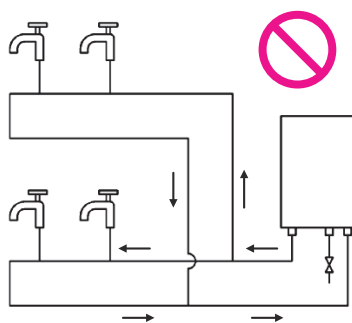
- To facilitate repair and maintenance, set a water inlet valve near the water inlet.
- Before connecting the water inlet pipe to the equipment, open the water inlet valve to flush out the dirt and debris in the water pipe. When the all pipes are connected to the equipment, wake to carry out the flushing test. After this, remove the water filter from the water inlet joint and the return inlet joint and clean them.
- Please place non-return valve near water inlet connection.
- Avoid piping which lets air stand inside on pipeline
- Use joints as less as possible and avoid complicated piping.
- Piping should be made from metals.
- Shower head with less pressure loss is recommended.
- Only plumbers can do piping. Install pipings as instructed in the drawing.

### Water inlet piping

- In order for end users to use the appliance comfortably, 150 ~ 500kPa (approx 1.5 ~ 5kgf/cm<sup>2</sup>) water pressure is necessary. When water inlet pressure is low, take some measure to lift up the pressure using pressure pump for example.
- In case water inlet pressure is over 500kPa, install pressure reducing valve (500kPa).

### Circulation (hot water out/in) piping

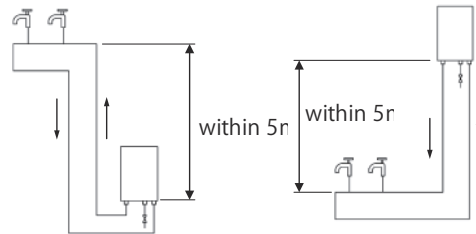
- This water heater is with hot water circulation system. Make sure to install return piping to let hot water can return.
- Do not pipe for two systems, it will cause circulation failure.



- The length of circulation pipe (sum of hot water outward and return) should be less than 80m. Also the number of elbow should be less than 20.  
(Design the pipeline that hot water circulation volume will be more than 7L/min. Refer to pump head in p37.)
- Please use the pipeline with 20A (R3/4) for hot water circulation, outward and return.
- The longer pipeline cause more heating loss and the time to heat up water inside of pipe upto set temperature increases. Please install circulation pipe as short as possible.
- To avoid heat loss, try to put heat retention along circulation piping.

# INSTALLATION

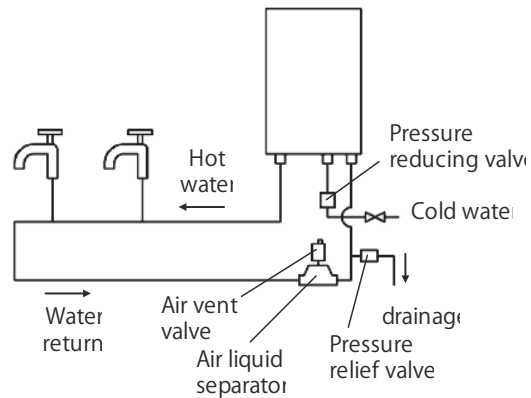
- The difference in height for circulation pipings should be within 5m.
- ✘ In this case, more than 245kPa (2.5kg/cm<sup>2</sup>) is required for water inlet of the unit.



- Make sure to install Air liquid separator and Air vent valve on the return pipe near the unit to avoid pump circulation failure due to air.
- With preheat operation the water inside of pipe is heated to expand its volume. In order to absorb the pressure increase due to expanded water, make sure to deal with expanded water in following ways.

## ① Way to use pressure relief valve

- Make sure to install pressure relief valve (setting pressure 700kPa(7.1kg/cm<sup>2</sup>)) on hot water return near water heater
- Expanded water comes out from pressure relief valve and make sure to discharge water.
- Install pressure reducing valve (500kPa) when water inlet pressure is more than 500kPa(5.1kg/cm<sup>2</sup>)

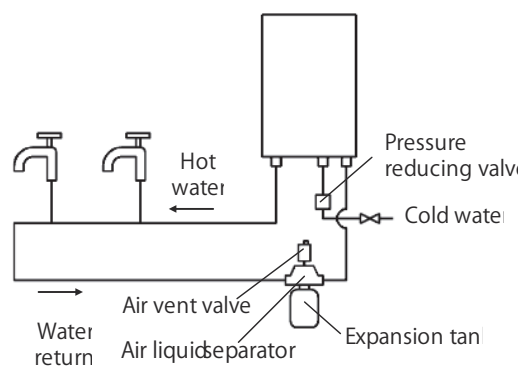


## ② Way to use expansion tank (in case water discharge is impossible)

- Place expansion tank on return piping
- Refer to the table below for the capacity of expansion tank

- ✘ Filling pressure of expansion tank should be the same value as water supply pressure

Length of circulation pipe	Water supply pressure	
	300kPa	500kPa
40m	0.5L	0.8L
80m	0.9L	1.5L



- Install pressure reducing valve(500kPa) when water supply pressure is more than 500kPa (5.1kg/cm<sup>2</sup>)

- ✘ When expanded water volume is more than the capacity of tank, expanded water is discharged from pressure relief valve of the unit.

# INSTALLATION

## Gas Connection

### Gas outlet

- In case there is no gas connection outlet where the unit is to be installed or in case gas outlet location or dimension is not appropriate, talk with gas companies for installation, relocation or replacement.
- The unit requires dedicated outlet.

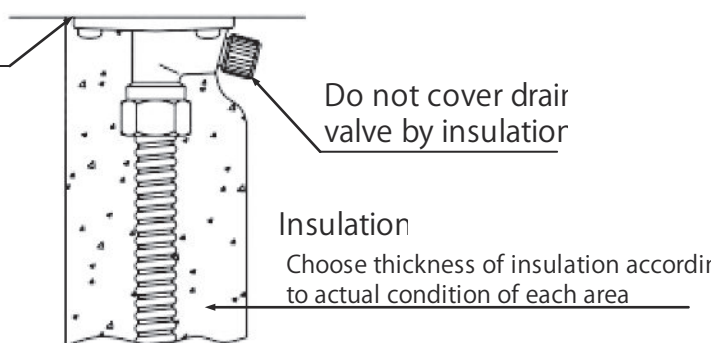
### Gas connection

- Please use  $3/4 \phi$  gas pipe for town gas and natural gas.
- Gas piping is to be made of metal. Rubber piping cannot be used.
- Since water heater combusts huge amount of gas in a short time, make sure of providing enough gas to the unit. Piping for Town gas should have enough allowance because town gas flow rate is high and pressure loss inside of piping is high.
- Clean up the metal dust inside of piping before connect to the unit. If metal dust comes into the unit, it may cause explosion accident.
- Piping construction should be treated by professional plumbers.

## Heat retention of piping

- Heat retention treatment is required to avoid heat loss of circulation pipe (outward and return).
- Do not cover drain valve (pressure relief valve and water filter) by insulation.
- Thickness of insulation is to be chosen according to the actual condition of each area.

Cover up to the bottom of unit to retain the heat



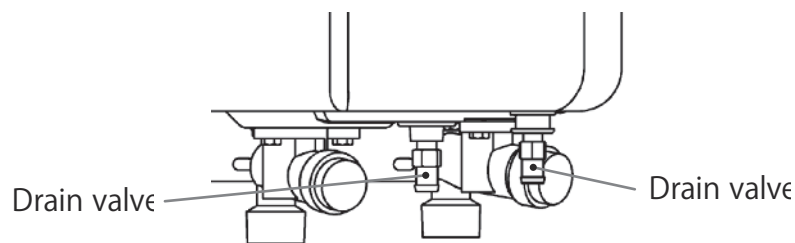
## Electric construction

- Power of this appliance is AC230V 50Hz.
- This unit requires electric outlet with 3 holes. Make sure of installing grounding to the electric outlet for safety. (The distance between electric outlet and the unit should be less than 1m)
- Electric cord cannot be contacted on or looped around high temperature part of water heater.
- Please use raintight type outlet. Install outlet where rain cannot come in.



## Trial operation

- Refer to p5 ~ p14 in manual after installing remote controller to do trial operation. After checking that the unit operates without any problem, explain the end user how to use the unit and pass this manual to him/her.
1. Open water inlet valve and open all taps to see water is coming. After the check, close taps.
  2. Loosen two drain valves at the side of return connection slowly in order to remove air in circulation piping. After checking water is coming out, close drain valve.



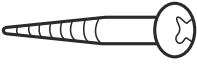
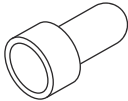




3. Insert electric plug into outlet, open gas valve and press remote controller switch "On".
  4. Open hot water tap to see combustion display is on and hot water is coming out.
    - ✘ At first time usage air is inside of gas piping. Continue "Open hot water tap (15 sec)" and "Close hot water tap" until the unit ignites.
  5. Press preheat button to see preheat display and combustion display is on.
    - ✘ Press preheat button again to stop preheat operation.
- After trial operation, unless you use the unit immediately close gas valve and remove water from appliance following p35. After removing water, clean up filters of water inlet connection and return connection.
  - Do not forget to remove electric plug unless you use the unit immediately since this appliance consumes around 3W electricity continuously.

# REMOTE CONTROLLER INSTALLATION

## Accessories (included)

Following accessories are included in the package of remote controller. Check before installation.

Parts name, Shape	Unit	Parts name, Shape	Unit
 φ6 Wall plug	2	 M4 × 25 screw	2
 φ4.1 × 25 screw	2	 Closed end connectc	4
 φ4 × 8 screw	1	 Cable clamp	1

## Accessories (not included)

Following accessories are not included. If necessary you need to buy them separately.

Parts name	Model number	Notes
Duplex cable	SU-53-□□	Cable length : 2m, 5m, 10m, 15m, 20m For connecting remote controller
Sub remote controller	MC-195-RS	

# REMOTE CONTROLLER INSTALLATION

How to install remote controller (1 x main remote controller)

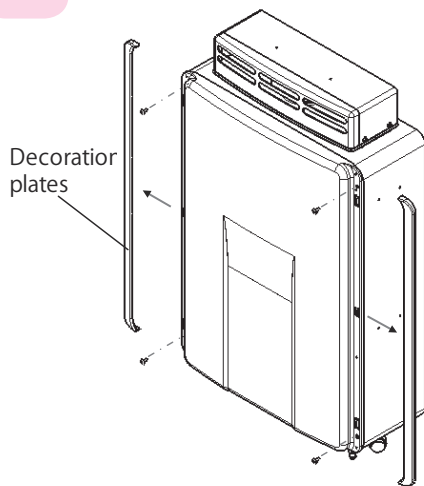


Notice

- Please do not install the unit at following places
  - In bathroom or places with spray or steam (Controller is not waterproof)
  - Places with high temperature or sunshine
  - Places where oil scatters
  - Ragged wall (Case can be distorted to cause failure)
  - Places where some medicines are used (Benzene, Alcohol, extra fatted soap)
- Please check the electric plug is unplugged before installation. (Turn off distribution switchboard)
- PCB can be damaged if cable construction is done with power on

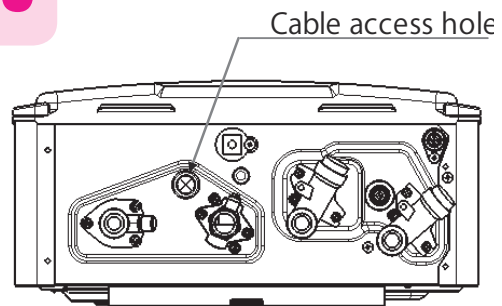
**1**

Remove 2 decoration plates to remove front panel (remove 4 screws)



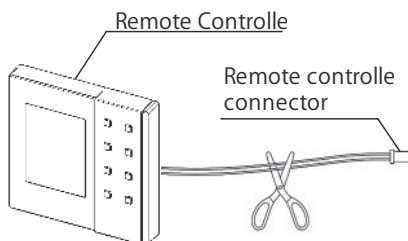
**3**

Insert duplex cable from cable access hole at the bottom of the unit



**2**

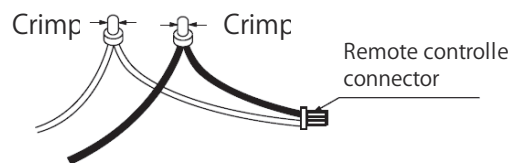
Cut remote controller cable around the middle



**4**

Use closed end connector to crimp duplex cable with cut remote controller cable

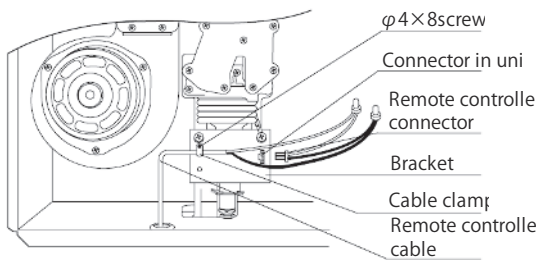
- Peel off the trunking of each cable by 10mm before you crimp them
- There is no polar character.



# REMOTE CONTROLLER INSTALLATION

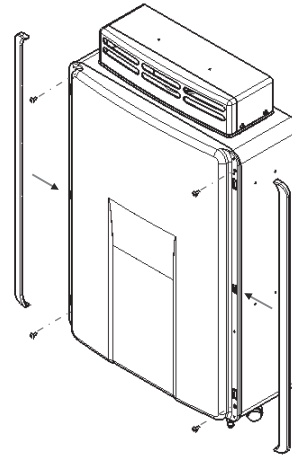
**5**

Insert remote controller connector into the connector of unit and fix remote controller cable with bracket, using screws and cable clamp.



**6**

Fix front panel using 4 screws and attach 2 decoration plates



**7**

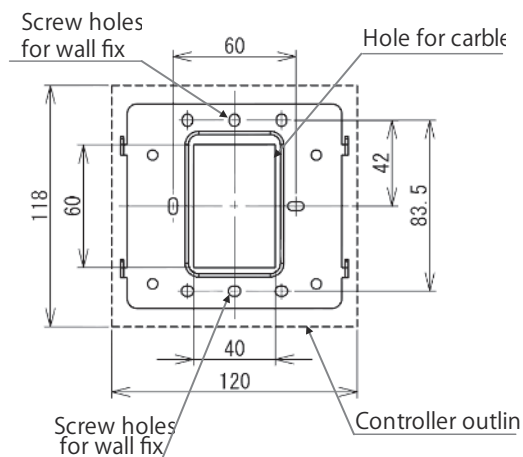
Fix remote controller in following way

## Installation onto wall

**a**

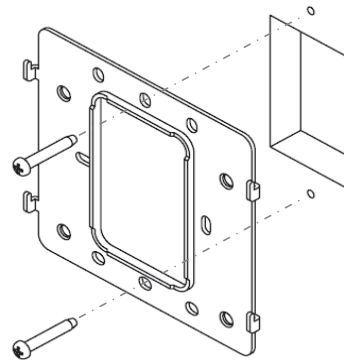
Make holes on the wall for bringing out cable and for screws

- Size of hole for cable should be less than 60 x 40mm
- In case the wall is made of concrete, make holes for wall plug (φ 6, more than 25mm depth) and place wall plug in it.



**b**

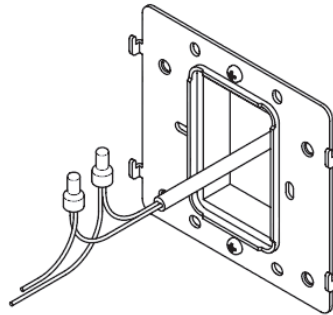
Put the fixing plate onto the wall using φ 4.1×25 screws included.



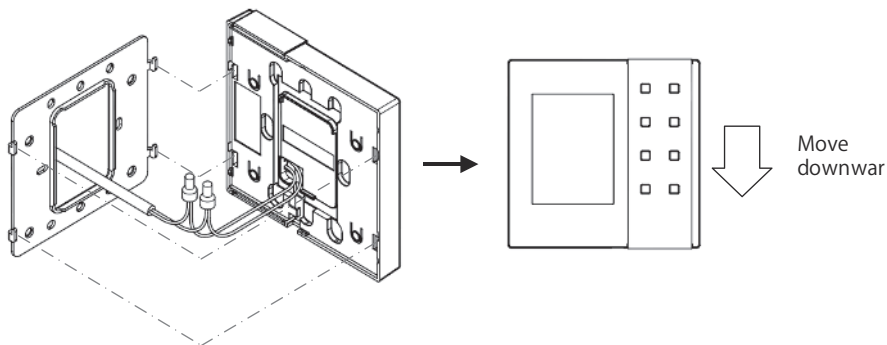
# REMOTE CONTROLLER INSTALLATION

**c** Bring out duplex cable through the hole to connect with remote controller cable with Closed end connector.

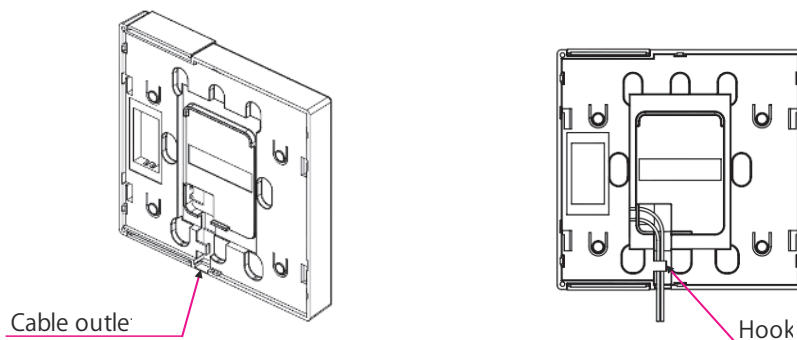
- Peel off the trunking of each cable by 10mm before you crimp them.
- There is no polar character.



**d** Insert hooks of fixing plate into remote controller and move controller down until it clicks.



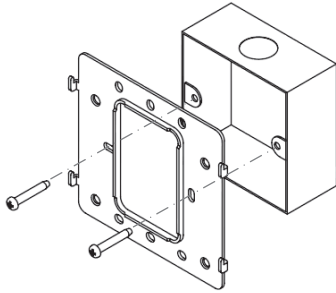
✘ In case of open wiring, remove cable outlet on remote controller case by nipper. Fix cables using hook on remote controller casing.



# REMOTE CONTROLLER INSTALLATION

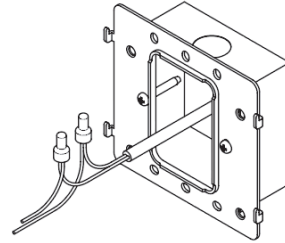
## Installation onto switch box

**a** Put fixing Plate onto switch box using screws. (M4×25)

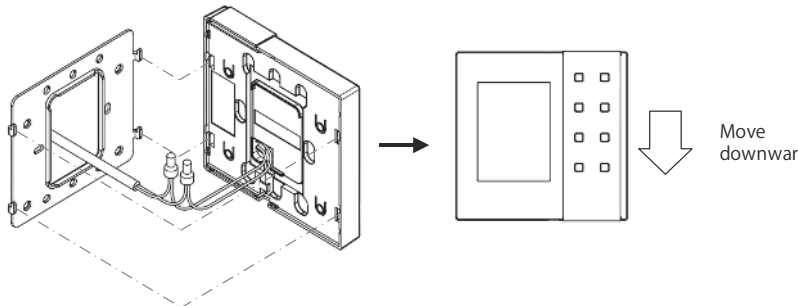


**b** Bring out duplex cable through the hole to connect with remote controller cable with closed end connector.

- Peel off the trunking of each cable by 10mm before you crimp them.
- There is no polar character.



**c** Insert hooks of fixing plate into remote controller and move controller down until it clicks.



Notice

- Duplex cable need to be wired keeping off from electric codes of other electric appliances. Unit might not operate properly. If wires are close to electric codes of TV or radio, it might cause noise to display and sound.
- Wire cables where there is no effect from heat.
- Protect cables by using conduit tube, in case of installing inside of cement .
- The maximum length of duplex cable is within 25m. Make sure the total length of cable is within 50m.
- When duplex cable is longer than required, do not insert into water heater and remote controller.
- Please do not use cables whose cross section surface is less than  $0.5 \text{ mm}^2$  to avoid breakdown.

# REMOTE CONTROLLER INSTALLATION

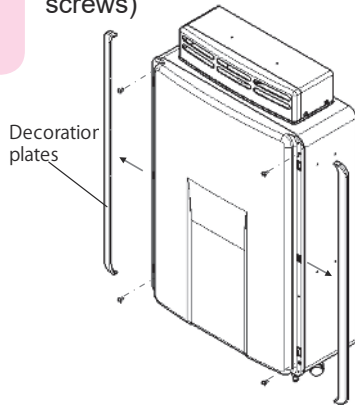
## How to install remote controllers more than one controller

- Remote controllers can be used in following combination. (3 controllers can be installed maximum)

- 1x main remote controller + 1x sub remote controller
- 1x main remote controller + 2x sub remote controller

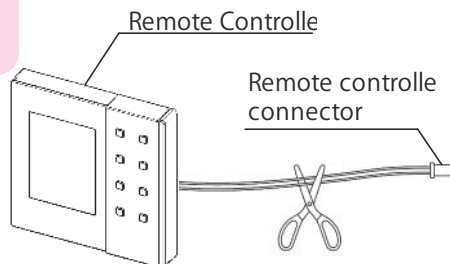
**1**

Remove 2 decoration plates to remove front panel (remove 4 screws)



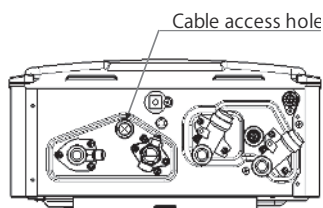
**2**

Cut remote controller cable around the middle



**3**

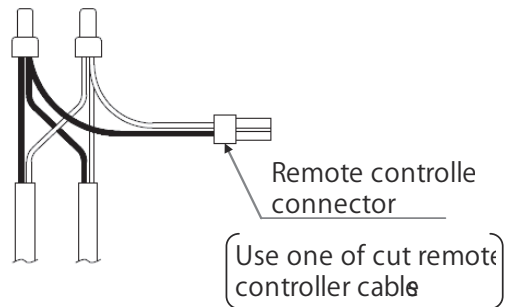
Insert duplex cable from cable access hole at the bottom of the unit



**4**

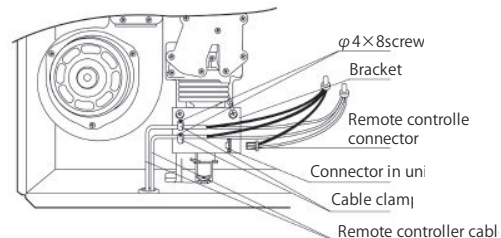
Use closed end connector to crimp duplex cable with cut remote controller cable

- Peel off the trunking of each cable by 10mm before you crimp them
- There is no polar character.



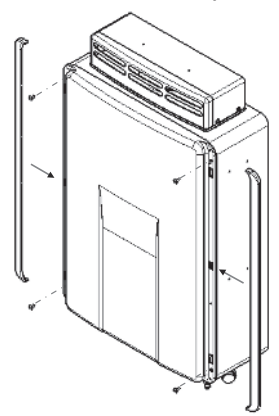
**5**

Insert remote controller connector into the connector of unit and fix remote controller cable with bracket, using screws and cable clamp.



# REMOTE CONTROLLER INSTALLATION

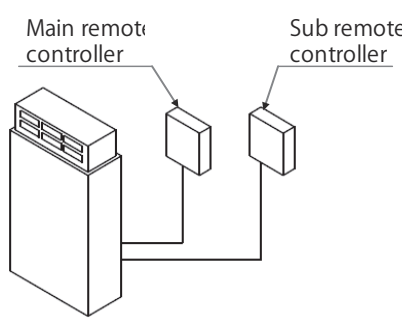
**6** Fix front panel using 4 screws and attach 2 decoration plates



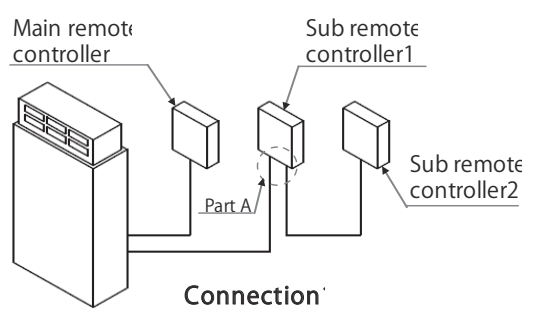
**7** Refer to p26 ~ p29 to install each controller

• Connect remote controller and duplex cable as below

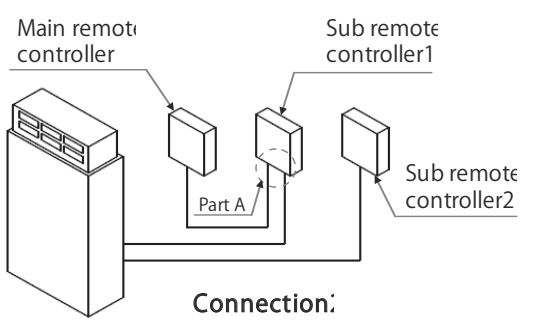
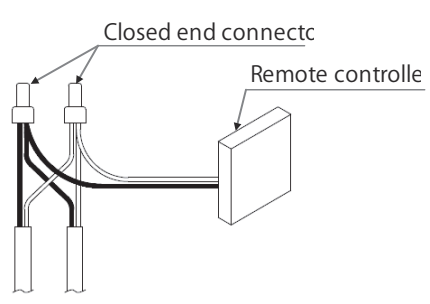
Connect 2 remote controllers



Connect 3 remote controllers



※ Connect Part A as below.



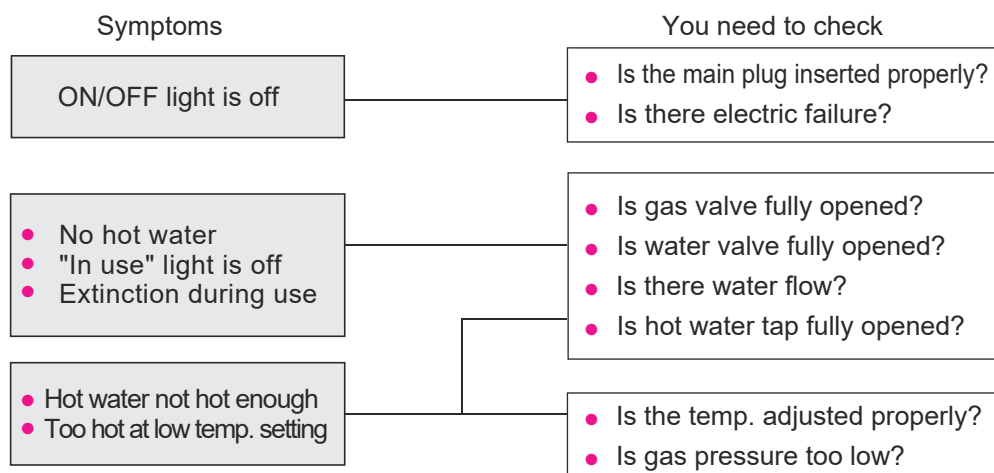


# TROUBLE SHOOTING

Following conditions are not troubles

Symptoms	Causes & Solutions
Too small volume of hot water becomes cold water	When hot water volume is set too low, burners shut down and water becomes cold, do not set hot water volume too low.
Higher hot water comes out in low setting	When incoming water temp. is high and hot water tap is only slightly open, hot water temp. will get very high. Turn hot water tap to larger volume.
Fan rotation noise remains after stop using hot water	Fan rotates for a while after operation in order to make reignition faster.
Hot water tap is closed but combustion display lights (Pump noise can be heard)	During preheat operation circulation pump operates automatically when water temperature in circulation pipe drops to retain heat. Therefore combustion display lights even when you don't use hot water.
Display shows "-- : --" as time	Display shows "-- : --" in energizing after blackout. Please reset the time. (refer to page 5)
Hot water does not come out immediately even when preheat is on and open hot water tap.	It takes time before hot water inside of piping reach the set temperature, depending on hot water delivery temp and piping condition.

Please check if you face following conditions



- If the product doesn't still operate properly after the above inspections, then disconnect the main plug, insert again to restart the operation. If this doesn't still solve the problem, please contact Rinnai service centre.

# ERROR MESSAGES

## Error Codes

In case of failures, heater will stop automatically and an error message will flash on the digital monitor of the operating controller. Turn the hot water tap OFF, then ON again or try switch OFF the power, then ON again.

Error Code	FAULTY
10	Combustion fan rotation failure
	Air supply/Exhaust blockage
11	Spark failure
12	Flame failure
14	Thermal fuse/Over-heating protect device operate
16	Over boiling
31	Incoming water temp sensor failure
32	Outgoing water temp sensor failure
52	Modulation solenoid valve operating circuit failure
61	Combustion fan failure
63	Circulation pump failure
65	Water flow control failure
70	Electrical unit failure
71	Solenoid valve operating circuit failure
72	Flame rod circuit error

- If error message is still shown, make sure to close the gas valve. Disconnect plug and contact Rinnai service centre.
- When the screen of the digital monitor of the Operating controller is blank, disconnect the power plug and connect again, press power ON. If there is still no light, please call Rinnai service centre.

# INSPECTION & MAINTENANCE



Caution

- Regular inspection & maintenance is recommended for safe operation
- When maintenance is required, close the gas valve, disconnect the main plug & wait for it to cool down.
- Do not open the front panel.

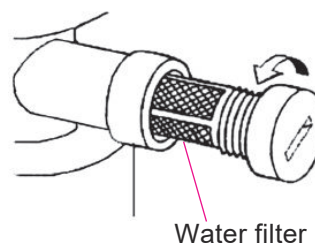
## Please take note following items during inspection

- Is there any unusual noise during operation?
- Is there anything wrong with the product appearance?
- Is there any flammable materials close to the product or exhaust outlet?
- There are safety cautions on the front panel of the product. If these cautions are illegible because of oil stain, clean it with cloth. Do not clean it with detergent, thinner etc. Do not remove it.
- In order to ensure safe operation, please take safety inspection every year. Please contact Rinnai service centre about regular inspections.

## Maintenance

- If there is oil stain on the surface of the product, clean it with wet cloth. Do not use detergent, thinner, benzine etc. Remote controller is not waterproof. Do not shower water on it since it contains electric components. It can lead to breakdown.
- Less hot water is delivered if water inlet filter in is blocked by dust or something. In this case remove dusts of water inlet filter after closing water inlet valve. Also, dusts of water inlet filter in circulation return inlet can cause failure water circulation. Remove dusts on water inlet filter of circulation return inlet. Be careful especially when there is a plumbing construction nearby.
- If the exhaust is blocked by dirty matter and the operation is continued, this will cause incomplete combustion. Be sure to keep the exhaust outlet clean.

Rotate water filter to the counterclockwise by hands or by inserting a coin into the grave.



Notice

- When carry out the maintenance, make sure to keep the inner parts dry. If not, it will cause product faulty.

# INSPECTION & MAINTENANCE

## In disuse for long term

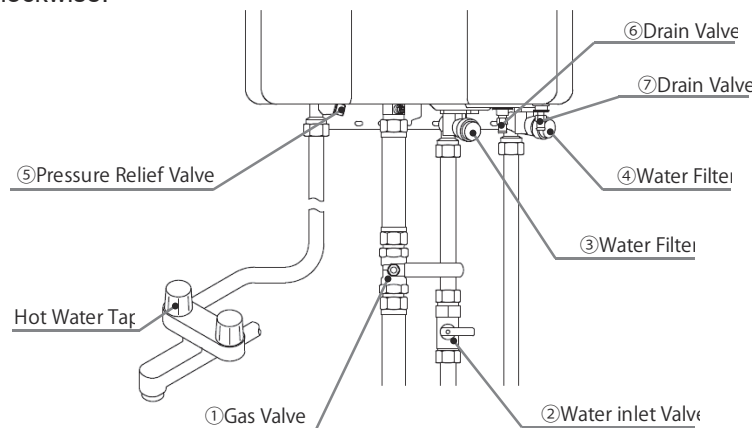
Draw off water from the unit in disuse for long term.



Caution

- This maintenance should be done after cooling down the unit since after operation water inside of the unit can be hot.
- To avoid electric shock, don't use wet hands to touch the power plug or socket.

1. Close ① Gas Valve.
2. Turn "off" remote controller operation button.
3. Remove electric plug. (Make distribution board switch "off")
4. Close ② Water inlet Valve.
5. Open all hot water taps. (including shower)
6. Rotate ③ · ④ Water inlet filter, ⑤ Pressure Relief Valve, ⑥ · ⑦ Drain Valve counterclockwise.



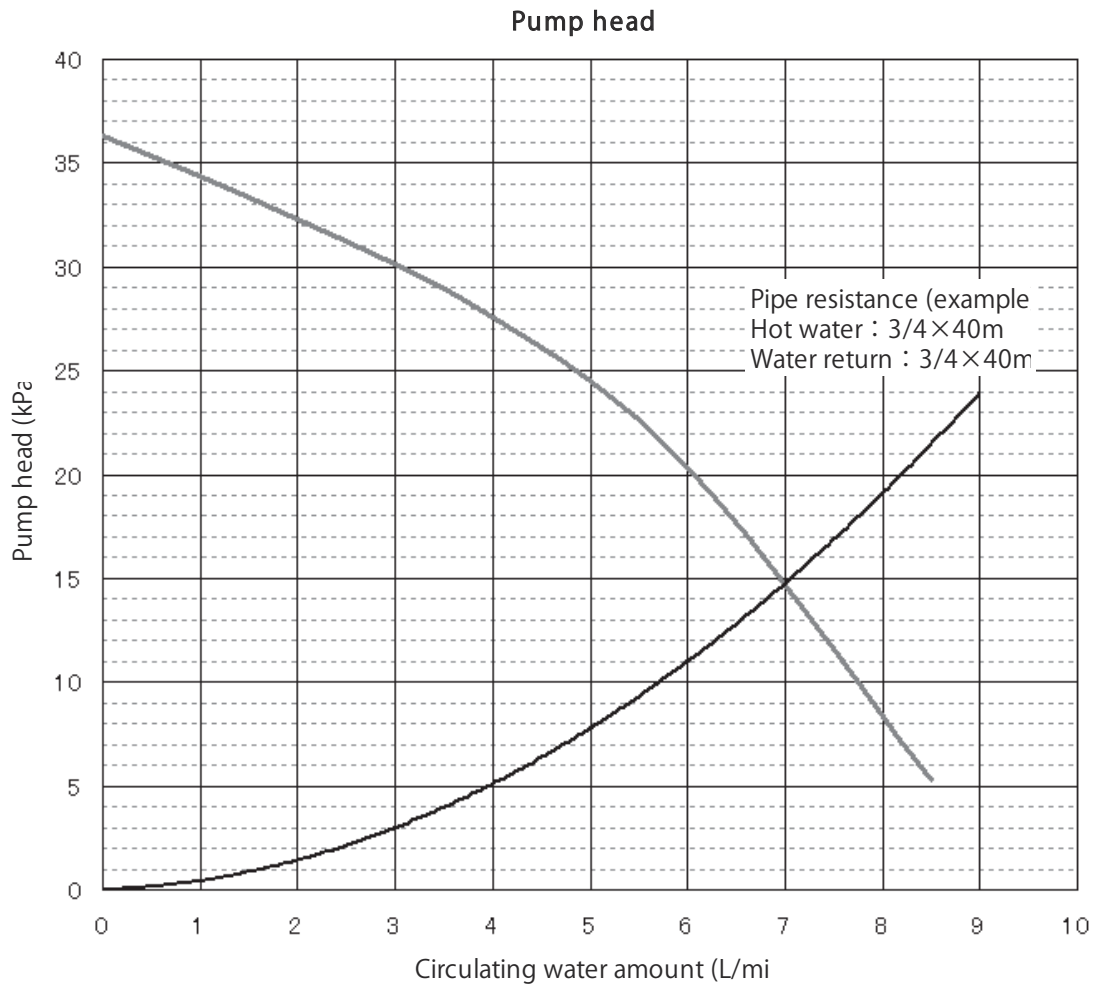
## When you use the unit after draw off...

1. Check electric plug is unplugged. (Check distribution board switch "off")
2. Check ① Gas valve is closed.
3. Close all hot water taps. (including shower)
4. Close ③ ④ Water Filter, ⑤ Pressure Relief Valve, ⑥ · ⑦ Drain Valve.
5. Open ② Water inlet Valve fully.
6. Open all hot water taps. After checking water coming, close hot water taps.
7. Loosen ⑥ · ⑦ Drain Valve slowly in order to remove air inside of piping. After checking water coming, close ⑥ · ⑦ Drain Valve.
8. Insert electric plug into outlet. (Switch "on" distribution board)
9. Open ① Gas Valve.
10. Press switch "on" of remote controller. Display lights and hot water can be delivered.

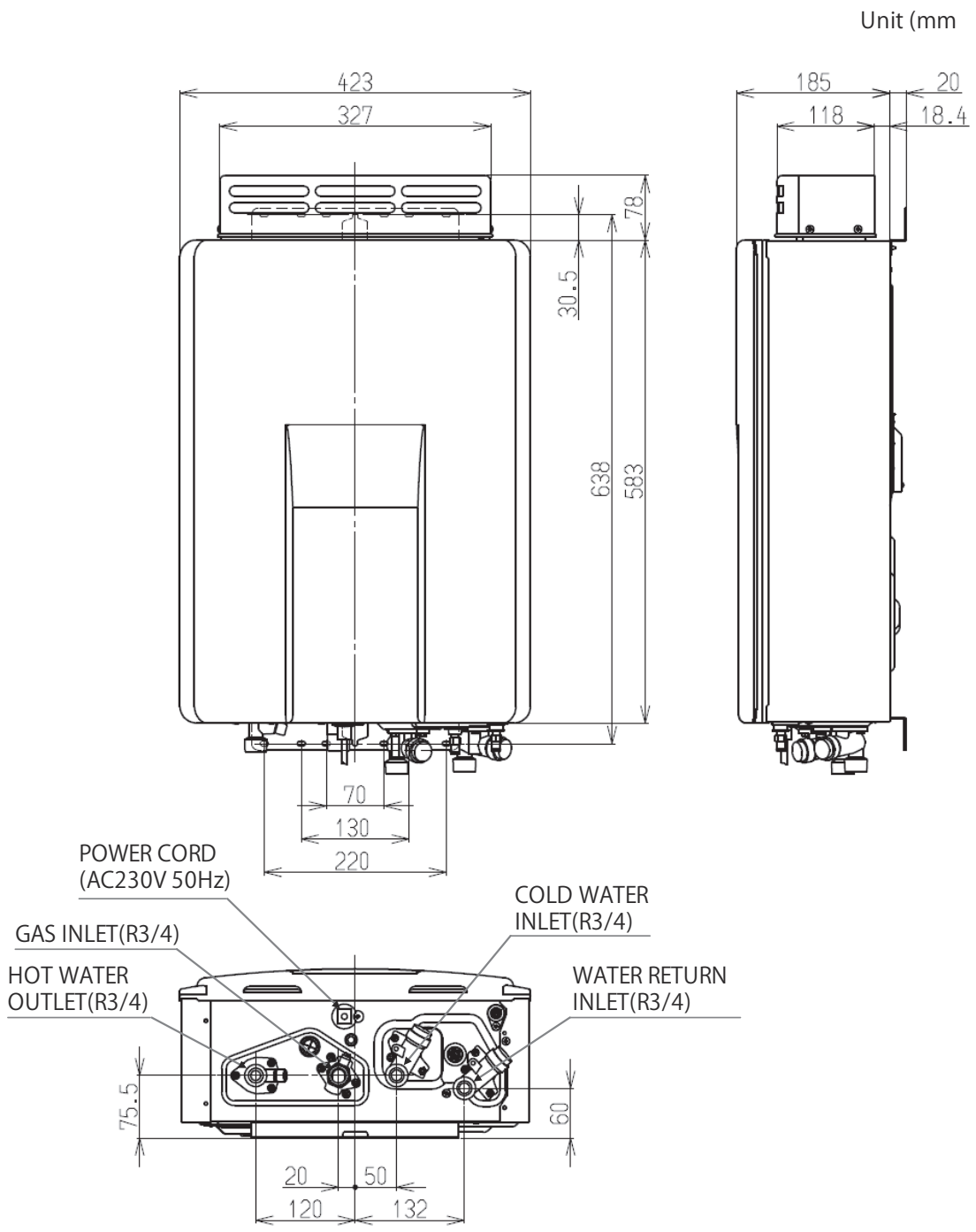
# PRODUCT SPECIFICATION

Appliance type	Forced exhaust domestic gas water heater Type B	
Model name	REU-2024WP-RS	
Type of gas	Town Gas(G110)	
Gas supply pressure	8~20mbar	
Heat input Qn/Qm	38.9/2.9 Kw	
Useful output Pn/Pm	34.9/2.4kW (20/1.4L/min $\Delta$ 25°C)	
Temperature range	37~55°C (MC-195T-RS)	
	37~50°C (MC-195-RS)	
External dimension	(W)423 × (H)661 × (D)185	
Weight	22.6kg	
Minimum water flow	2.2L/min(10kPa)	
Water pressure(Pw)	5bar	
Connection diameter	Gas	R3/4"
	Cold water	R3/4"
	Hot water	R3/4"
	Water return	R3/4"
Power supply	AC230V/50Hz	
Electric consumption	76W	
Maximum water flow	24L/min	
Safety devices	Flame failure	Flame lod
	No water heating	Water flow sensor
	Over temperature	Thermistor (95°C gas valve shut down)
	HEX. Damage	Thermal fuse (150°C cut off)
	Over water Pressure	Pressure relief valve (785kPa)
	Over heating	Bi-metal switch (90°C OFF)
	Over current	Glass fuse (5A)

# PRODUCT SPECIFICATION



# DIMENSIONS



# Rinnai®

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