

Haier

User Manual

Haier Solar Water Heater

Models

GV110RNMB(*)

GV150REMB

GV200REMB

GV270REMB

*:Model without electric
auxiliary heating function.



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Please read through the manual before use.
Please keep the manual for future reference.









Safety cautions (please read the cautions before use)

| Description of symbols | Behaviors that are prohibited | Warning | Directions that must be followed. | Caution | Directions that must be noted. |
|---------------------------|----------------------------------|---------|--------------------------------------|---------|-----------------------------------|
|---------------------------|----------------------------------|---------|--------------------------------------|---------|-----------------------------------|

Warning! Improper operation of the following may lead to personal injury or even death!

| | |
|--|---|
|  Do not touch glass vacuum tube, pipes and valves for supplying hot water during use to avoid being burned.  Please feel the water temperature by hand before use to make sure of proper water temperature while in use |  Personnel other than professional maintenance staff are prohibited from repairing, maintenance, dismantling or altering the water heater without authorization. |
|--|---|

Caution! Improper operation of the following may lead to personal injury or even death or property loss!

| | |
|---|--|
|  Please do not use the hot water in the heater for drinking or similar purposes.  To guarantee effectiveness, do not feed water to the heater several times within one day in case of insufficient sunlight exposure.  The glass vacuum tubes can withstand a low temperature of -70 °C when they are not filled with water. When the auxiliary heating device is not to be used, on continuous cloudy days in winter or when the tubes are covered by snow, be sure to keep the water tank full of water and replace the cold water in the tank frequently (every 2 days). Otherwise the water retained in the tank will cause the vacuum tubes to break.  When the heater with auxiliary electric heating function is used, ensure the auxiliary electric heater and electric heating accompanying strap are in OFF state. |  The glass vacuum tube shall not be exposed for a long period without water inside after installation to avoid the shortening of the service life. If it cannot be used immediately, it shall be covered.  The water heater is equipped with a special venting pipe and overflow pipe. To ensure normal operation, never refit or plug their outlets. Otherwise the water tank will shrink.  Water shall be fed in early morning or at night when the sunlight is insufficient. The water feeding after sunlight exposure of the glass vacuum tube will cause an explosion of the pipe.  Water shall be fed in early morning or at night when the sunlight is insufficient. The temperature of the hot water delivered may not satisfy your requirement. If there is no electric heating as an auxiliary energy source, it may be unable to be used normally. |
|---|--|

- Suggestions -

- The water heater is non-pressurized, gravity-fed water heater relying on the height difference of the water tank and point of use to supply hot water with the outgoing water pressure in direct proportion to the height. An additional pressurizer may be required.
- Please clean the glass vacuum tubes before the winter comes. Keep their surface clean to maintain heat collection efficiency.
- **In the area** where it's very cold in the winter, we recommend you select our optional solar energy heater controller with anti-freeze function.

Product features

1.Inner cylinder made of SUS304 stainless steel

The inner cylinder of the water tank adopts sanitary SUS304 stainless steel, featuring strong corrosive resistance and durability.

2.High efficiency & energy-saving thermal insulation

With integrated polyurethane foam insulation for solar water heaters, realize good heat preservation and minimize heat loss.

3.Aluminium-Zinc-coated outer shell of water tank

Aluminium-Zinc-coated sheet boasting outstanding corrosion resistance, oxidation resistance and weatherability is the first choice for outdoor protective materials.

4.Tower type frame

The tower type frame, made of carbon steel by means of spray processing, has the advantages of a stable structure, attractive appearance and corrosion resistance.

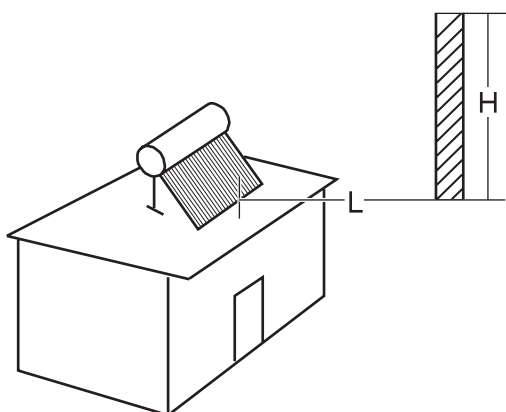
Technical parameters

| Model | GV110RNMB | GV150REMB | GV200REMB | GV270REMB |
|--|--|-------------------------|--------------------|--------------------|
| Specifications of the glass vacuum tubes | Φ 58mm X 1800mm, all-glass vacuum tube solar heat collector | | | |
| Frame form | Horizontal 45° | | | |
| Number of the glass vacuum tubes | 12 | 16 | 22 | 30 |
| Aperture area | 1.58m ² | 2.07m ² | 2.90m ² | 4.03m ² |
| Usable water | 110L | 150L | 200L | 270L |
| Total water volume | 141L | 195L | 253L | 342L |
| Electric auxiliary heating | None | 1500W/220V ; 1650W/230V | | |

Note:The deviation of the aperture area is $\leq 3\%$; the deviation of the capacity is $\pm 5\%$; the permitted error limit of other parameters is $\pm 10\%$.

Installation instructions

Selection of installation location



1.The water heater shall be installed within the lightening protected area of a building in locations prone to lightning strikes.

2.The orientation of the water heater to be installed:
10° south by east and 15 ° south by west in the Northern Hemisphere;
10° north by west and 15 ° north by east in the Southern Hemisphere.

3.There must be no shielding object in front of the installation location of the water heater. If an object exists, the space between the heater and the objective shall be more than L, $L = \frac{H}{\tan(66.5 - \alpha)}$

(wherein: H-height of the shielding objective; α -local latitude)

Installation instructions

Exterior and installation dimensions of horizontal water heater

| Models | Exterior dimensions (unit: mm) | | Installation dimensions (unit: mm) | |
|-----------|-----------------------------------|------|---------------------------------------|------|
| | A | H | D | B |
| GV110RNMB | 1160 | 1725 | 1000 | 1490 |
| GV150REMB | 1600 | 1725 | 1320 | 1490 |
| GV200REMB | 1957 | 1725 | 1775 | 1490 |
| GV270REMB | 2597 | 1725 | 2435 | 1490 |

Note: The permitted error limit of the parameters above is $\pm 10\%$.

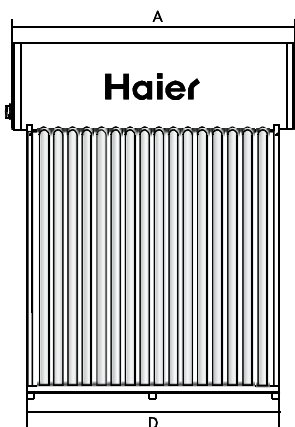
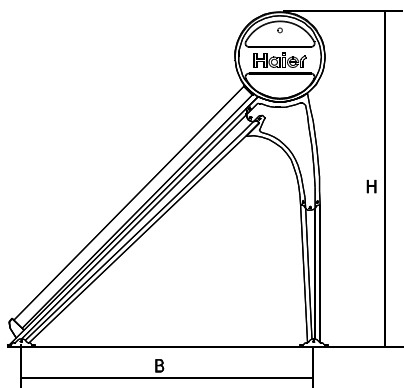
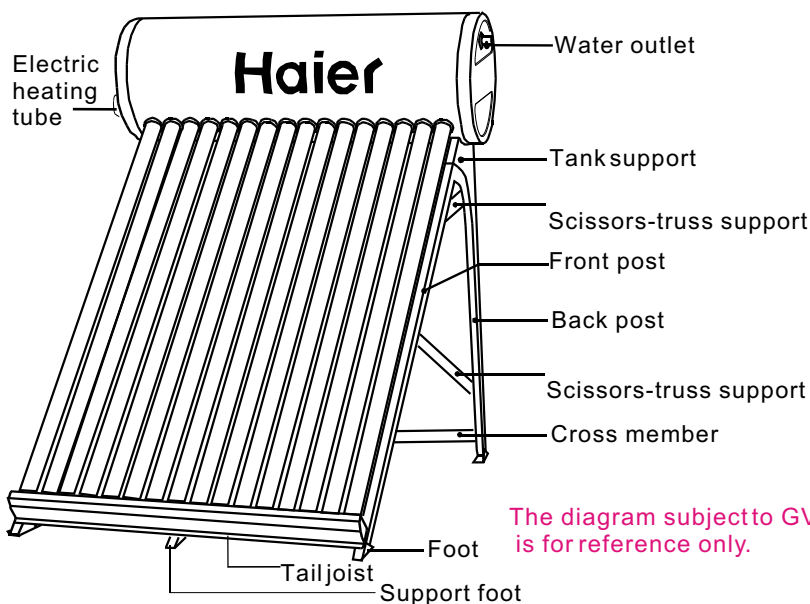


Diagram of appearance structure



The diagram subject to GV150REMB is for reference only.

Installation instructions

◆ Frame assembly

Please see the related paper in the frame package for the diagram of the frame and packing list.

◆ Frame fastness

1. For horizontal water heaters, it is recommended to fix the feet of the heater onto the foot foundation with embedded iron parts or make a concrete brick with expansion bolts and then fix the feet of the heater to the expansion bolts.
2. Adjust the height of the frame by the hard waterproof cushion to keep the horizontal tank and each foot evenly weighted.

Notice:

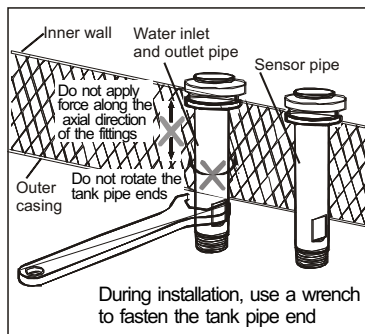
1. Make sure that the feet all closely contact the supporting floor without foot suspension to avoid damage of the product due to frame deformation.
2. Please use the steel wire to firmly fasten the tank and frame if in a location where typhoons frequently occur.
3. The water heater shall be stably and firmly installed to avoid severe damage or accident due to harsh weather conditions.

◆ Tank installation

1. Unpacking the tank, rip off the protection film. Uninstall the nut and cushion.
2. Place tank onto tank bracket cradle, inserting protruding bolts into holes, fasten with nuts.

Installation of Solderless Pipe Head

1. Pipe fitting is connected to water pipe with a solderless connection.
2. Overflow pipe and water inlet pipe both use solderless structure. To install, use a wrench to secure the water tank pipe head. In order to avoid damaging the seals, do not rotate water tank pipe head and do not apply force along the axial direction of the pipe.
3. When installing the water inlet and outlet pipe, first use a wrench to secure the water tank pipe head, then unscrew the plastic cap and use inner ratchet teeth to directly connect to the PEX pipe. Before installation, check that the gasket ring of the water inlet and outlet pipe is intact.



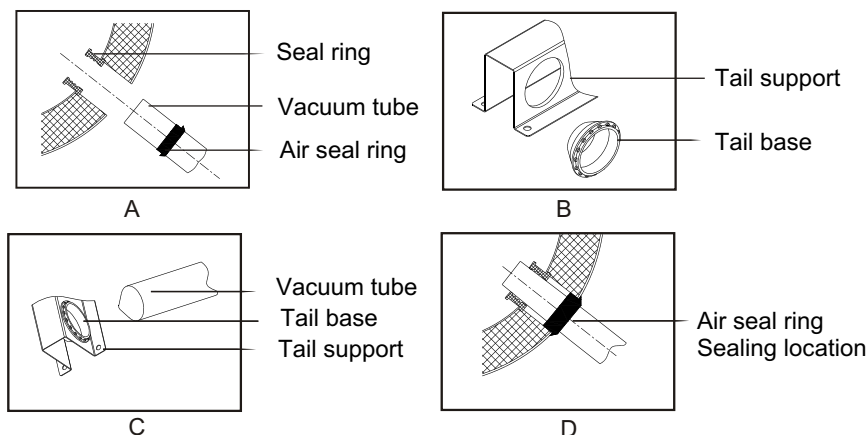
Notice:

1. Rip off the protection film after installation to avoid the destroy of the tank, and please do not use the sharp tool.
2. Leave nuts loose since some adjustment may be necessary after fitting tubes.
3. When assembling the water tank, keep the center line of the vacuum tube connecting holes parallel with the diagonal pillar of bracket.
4. The inlet and outlet of the water tank can be also used as the drain.

Installation instructions

Installation of vacuum tubes

1. Keep the tubes out of the sunlight before assembling the tubes to avoid being burned.
2. Place the air seal ring around the vacuum tubes (Figure A);
3. Insert the tubes into the seal ring with even pressure and a twisting motion. The resultant force direction shall be consistent with the axial direction of the vacuum tubes;
4. Place the tubes into the tail support of the frame (Figure B) and then fix the tube onto the tail base (Figure C);
5. Insert the tube into the seal ring at the depth of around 1cm, push the air seal ring to the water tank hole for sealing (Figure D);
6. While assembling, install one tube on each end of the heater tank respectively first, so that the heater tank and frame are positioned as a whole.



Notice:

1. Check whether the seal rings in tank holes are sufficiently installed and whether the sealing location is clean and free from foreign matters and damage.
2. Place the bevel of the air seal ring downwards, and then put it onto the open end of the tube with a clearance of around 10cm from pipe end. Make the pipe end wet before insertion for easy assembly.

Installation of electric heater and Operation instructions

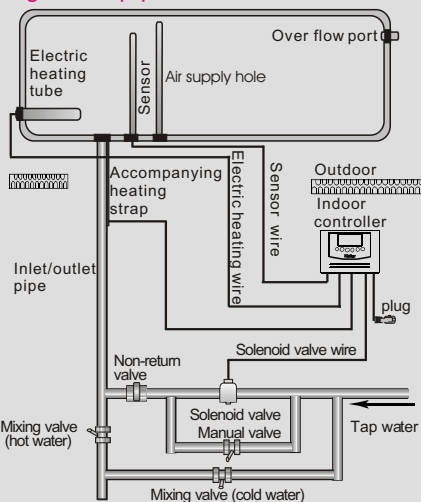
Please refer to the Operation Manual of Solar water heater controller Model HR-QBJ1-KSD in the controller package.

Installation instructions

Precautions on pipeline installation

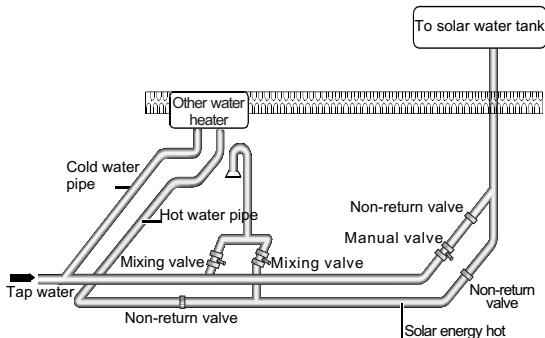
1. Any alteration to the structure of the solar water heater may cause problems in use.
2. There are five ways to connect the water pipe to the room: flue, vent hole, through-hole in the wall, pipe well for solar pipes and embedded sleeves, wherein the former three types are commonly used. Before installation, the installation staff will consult the entry form and installation location of the pipe in a comprehensive way and in consideration of your convenience. A slope in the through-wall must be ensured during pipeline layout, and sealing shall be guaranteed to prevent the entry of rain or odors.
3. Keep the smoothness of the air pipe to prevent the blockage of impurities, which may lead to collapse and deformation of the water tank under suction when using water.
4. Do not install a valve in the overflow pipeline to ensure that the flood signal can be sent out rapidly and accurately.
5. To avoid the return of water in the tank, a non-return valve shall be installed at the joint of the water upward/downward pipes and the tap water.
6. The installation project should be confirmed by our professional service personnel when installing several sets of the series of the products.

Diagram of pipeline installation



The diagram subject to GV150REMB is for reference only.

Connection of water supply pipes when the solar water heater coexists with other water heaters



Warning

Please install another non-return valve on the cold and hot water pipes respectively if the solar heater coexists with other water heaters so as to avoid accidents caused by water returned to the solar water tank through hot water pipe due to high pressure in the tanks.

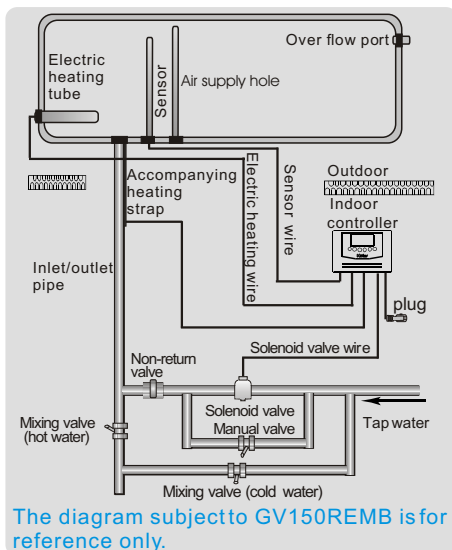
Operation instructions

Notice:

Improper operation of the water heater may lead to serious burns. When using the heater, do not make the water outlet of the nozzle aim at the body, mix the cold and hot water before use.

Operations

- 1) Before using water, the manual valve, mixing valve (hot water) and mixing valve (cold water) should be closed.
- 2) To fill water, use automatic function on the controller, or open the manual valve.
- 3) When using manual valve, when water flows from the overflow pipe, it indicates the water tank is full. Close the manual valve to finish filling water.
- 4) To use water, open the mixing valve (hot water) and the water comes from the shower nozzle. If the water is too hot, open the mixing valve (cold water) to adjust the water temperature.
- 5) After use of water, make sure the manual valve and mixing valves are closed.



Troubleshooting

| Phenomena | Possible causes | Solutions |
|------------------------------------|--|---|
| No water supply | The tank is empty | Add water according to the tank |
| | The pipeline or the connector falls off or is blocked | Maintain the pipeline or remove the blockage |
| | In the winter, water in the feeding/outgoing pipe may become frozen | Start the accompanying heating strap or wait for natural ice-out. |
| | The vacuum tube is damaged | Replace the tube |
| | Tap water supply stopped or low water pressure | Wait for normal water supply |
| No water from the overflow pipe | Pipeline or connector may become broken | Repair or replace the pipeline or connector |
| | In the winter, water in the feeding/outgoing pipe may become frozen | Start the accompanying heating strap or wait for natural ice-out. |
| The temperature is not high enough | In bad weather or winter when the sun is relatively low, the sunlight time is short, atmosphere quality is poor, and sunshine radiation energy is insufficient | Use auxiliary electric heating as an option |
| | The valve for water supply is loose or damaged | Tighten or replace the valve |
| | The vacuum tube cannot effectively collect heat due to a blockage in front of it | Remove the blockage or change the location for installation |
| | Dust on the tube | Clean the tube surface |

Packing list

| Main parts | | Quantity | | | |
|------------------------|-------------------|-----------|-----------|-----------|-----------|
| | | GV110RNMB | GV150REMB | GV200REMB | GV270REMB |
| Water tank package | Water tank (PC) | 1 | 1 | 1 | 1 |
| | Manual (Copy) | 1 | 1 | 1 | 1 |
| | Tank support (PC) | 2 | 2 | 2 | 3 |
| | Sensor (PC) | 1 | 1 | 1 | 1 |
| Glass vacuum tube (PC) | | 12 | 16 | 22 | 30 |
| Frame (set) | | 1 | 1 | 1 | 1 |
| Controller (set) | | 1 | 1 | 1 | 1 |

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