

NEOREST® AIRBATH™

Please install the product properly, in accordance with the descriptions in this manual so that full use can be made of the product's functions.

After installing the product, please tell the customer how to use the product fully.

- Thank you for choosing to use the Toto NEOREST® AIRBATH™ on this occasion.
- Please install the product properly, in accordance with the descriptions in this manual so that full use can be made of the product's functions.
- Please be sure to discuss the procedures for the bathtub installation, the various phases of construction for the function module, and the electrical and plumbing work before starting.
- After completing the construction, please explain the operation to the customer and give this Installation Manual and the accompanying "Instruction Manual" to the customer.
Note also: Please be sure to fill in the required items in the warranty.
- Please be aware that the parts numbers listed in the Installation Manual may be revised.

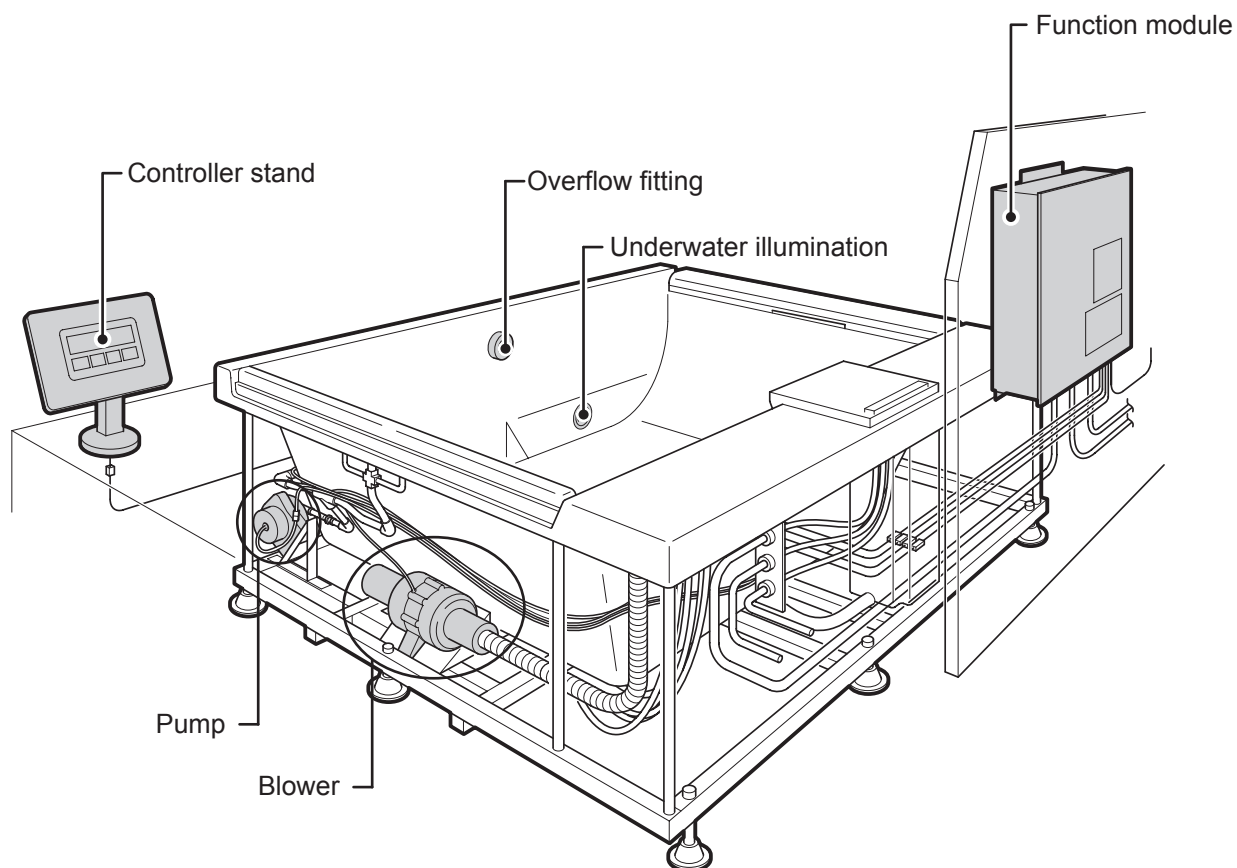


Table of contents

1. IMPORTANT SAFETY INSTRUCTIONS	4 ~ 7
1-1 Bathtub.....	5
1-2 Function module.....	6
2. Contents of set	8 ~ 9
2-1 Bathtub.....	8
2-2 Cables.....	8
2-3 Controller Stand.....	9
2-4 Function module.....	9
3. Dimension Drawings and Specifications	10 ~ 12
3-1 Bathtub, Controller stand and Function Module.....	10
3-2 List of Specifications	12
4. Installation Procedure	13
5. Installation Precautions	14 ~ 16
5-1 Bathtub	14
5-2 Function module.....	15
5-3 Clean-up Shower Installation Conditions	16
5-4 Function module installation locations	17
6. Installation requirements	18 ~ 39
6-1 Building a base for the bathtub ~ seating the bathtub	18
(1) Building a base	18
(2) Plumbing and connecting the drain pipes	18
(3) Seating the bathtub.....	19
6-2 Finishing	20
(1) Fixing the bathtub in place.....	20
(2) Plumbing and connecting the hot/cold pipes and the fill-tub pipe	20
(3) Connecting the cables	20
(4) Finishing the tiles.....	21
6-3 Controller stand installation.....	22
(1) Marking the pilot hole, drilling the hole and installing the plug.....	22
(2) Attach the base.....	23
(3) Install the slip ring.....	24
(4) Controller stand installation	25
6-4 Function module installation.....	26
(1) Advance preparation.....	26
(2) Function module installation	26
(3) Positioning of holes for function module installation screws	27
(4) Function module installation	28
(5) Plumbing the equipment.....	28
(6) Inspecting for leaks in the fill-tub plumbing	29
(7) Plumbing the hot, cold and fill-tub pipes.....	30
(8) Electrical work.....	31
6-5 Confirmation and trial operation	33

1. IMPORTANT SAFETY INSTRUCTIONS



● **READ AND FOLLOW ALL INSTRUCTIONS. SAVE THIS INSTRUCTION with your instruction manual.**

INSTALL TO PERMIT ACCESS FOR SERVICING.



INSTALL THIS UNIT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) NFPA 70 AND CANADIAN ELECTRICAL CODE, PART 1.

Please read these "Important safety instructions" carefully before beginning the installation work and install the product correctly.

This Installation Manual has a number of different symbols intended to allow proper and safe installation of the product, to prevent harm to the end user, to prevent damage to property and to prevent harm to construction workers. These symbols have the following significance.

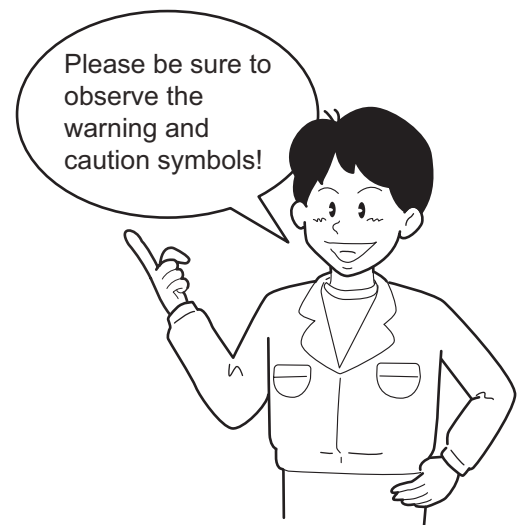
Symbol	Meaning
 Warning	This symbol indicates that errant handling after disregarding this symbol could result in death or serious personal injury.
 Caution	This symbol indicates that errant handling after disregarding this symbol could result in personal injury or cause physical damage.

The following symbols can be found in the Installation Manual or on the product and are intended to help the construction worker install the product safely and properly. Please read the descriptions carefully and install the product correctly.

Symbol	Meaning
	Indicates "prohibited" activity that must not take place.
	Indicates "required" activity that must take place.







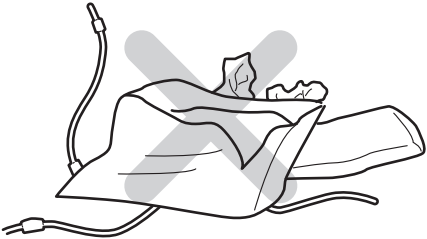

After completing the installation, please check for safety problems such as loose fittings or leaks.

The Instruction Manual that is packed with the product is a valuable source of product information to help the end user use the product safely and correctly. Please take good care of it and keep it from getting lost or soiled. After the construction is complete, please give the manual to the end user or the construction superintendent.







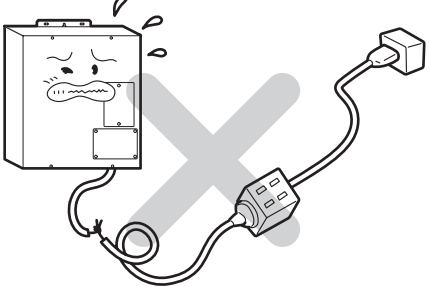

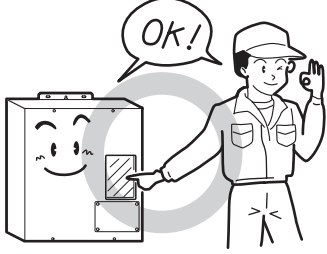

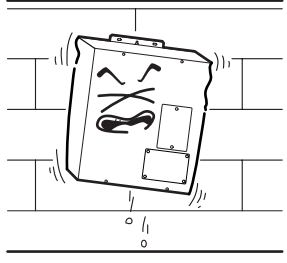
1-1 Bathtub

Warning


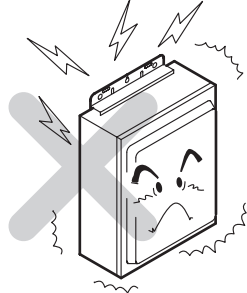

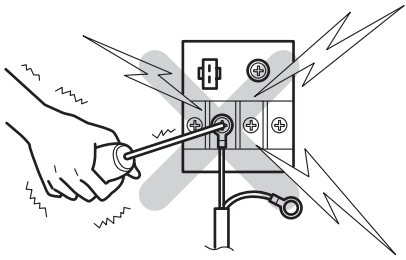


 <p>Always do this</p>	<p>Install the product securely, in accordance with the Installation Manual.</p> <p>Improper installation can cause leaks that damage or ruin household property.</p> 
 <p>Prohibited</p>	<p>Do not drop or strike the bathtub with hard objects.</p> <p>Doing so could crack or scratch the bathtub or cause leaks that damage or ruin household property.</p>
 <p>Prohibited</p>	<p>Do not stand on bathtub while working.</p> <p>Doing so could cause one to slip and fall or could otherwise damage the product.</p>
 <p>Always do this</p>	<p>Install the drainage pipes securely, in accordance with the procedure.</p> <p>Improper installation could lead to leaks that damage or ruin household property.</p>
 <p>Always do this</p>	<p>After opening the box, please immediately dispose of unneeded packaging.</p> <p>Wooden frames, nails, cardboard or sealing straps could cause injury.</p> <p>Additionally, children or pets might put vinyl bags over their heads, leading to unanticipated accidents.</p> 
 <p>Prohibited</p>	<p>Do not install on or near gas, kerosene or other combustible or flammable substances. Otherwise a fire could result.</p>

1-2 Function module




Warning

 <p>Always do this</p>	<p>Install securely, in accordance with the Installation Manual.</p> <p>Improper installation can lead to electric shocks or fire.</p> <p>Additionally, it could cause water leaks that damage or ruin household property.</p>	
 <p>Connect Ground</p>	<p>Be sure to have a qualified individual (certified electrician) carry out all electrical work in accordance with the relevant laws and regulations.</p> <p>Improper work can lead to problems or short circuits.</p> <p>All electrical connections must be in accordance with local codes, ordinances, and the National Electrical Code (NEC).</p> <p>If you are unfamiliar with methods of installing electrical wiring and appliances, you should secure the services of a qualified licensed electrician.</p>	
 <p>Prohibited</p>	<p>Do not modify the power supply cord, use it with an extension cord or combine it with other equipment using multiple plugs.</p> <p>Doing so could lead to shocks, overheating or fire.</p>	
 <p>Always do this</p>	<p>After the installation, test the ground fault circuit interrupter (GFCI) protecting this appliance and periodically check it in accordance with the manufacturer's instructions.</p> <p>An improperly functioning GFCI could lead to electric shock or fire.</p>	
 <p>Always do this</p>	<p>Be sure that the equipment is installed in a stable place with sufficient load-bearing strength, as set forth in the Installation Manual.</p> <p>Improper installation could cause the equipment to fall or topple over, causing injury.</p>	

⚠ Warning

 <p>Always do this</p>	<p>When installing the function module using a metal lath or wire lath support, be certain not to connect the function module and support electrically.</p> <p>Doing so could lead to electric shock, overheating or fire.</p> 
 <p>Always do this</p>	<p>CAUTION: To reduce the risk of electrical shock disconnect power before servicing from the supply circuit.</p> 
 <p>Prohibited</p>	<p>Do not install on or near gas, kerosene or other combustible or flammable substances.</p> <p>Otherwise a fire could result.</p>
 <p>Prohibited</p>	<p>Do not install in locations with high humidity, such as bathing areas or where water might pool.</p> <p>Otherwise product problems or electric shock could result.</p>

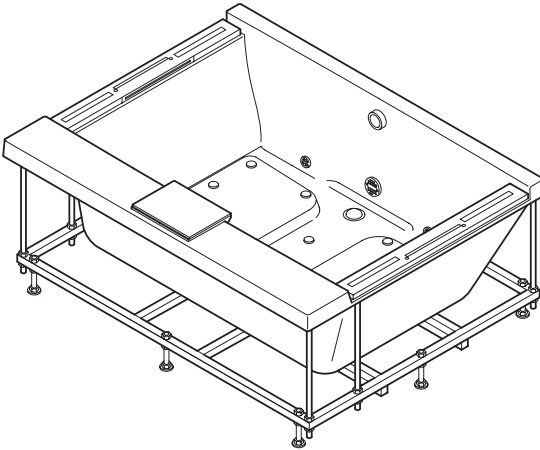
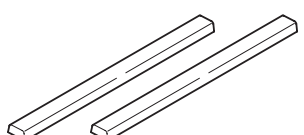
⚠ Warning

 <p>Always do this</p>	<p>Always implement the countermeasures for preventing freezing.</p> <p>It is possible that the pipes could freeze, rupturing the pipes or equipment.</p>
 <p>Prohibited</p>	<p>Use no water other than standard tap water.</p> <p>The use of well water could cause corrosion, which could lead to leaks.</p>
 <p>Always do this</p>	<p>If installing the product in a location where damage from water leaking from the function module is anticipated, be sure to waterproof the floor.</p> <p>If there were to be a leak, it could damage the floor or floors below.</p>

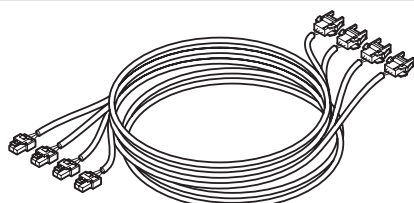
2. Contents of set

●After unpacking the product, please confirm the numbers of parts as shown below.

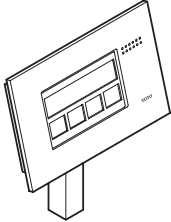
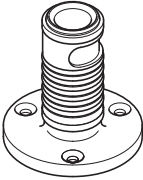
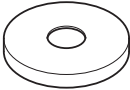

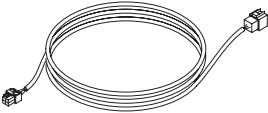


2-1 Bathtub

Part Name	Qty	Shape of Bathtub	Qty
Installation Manual	3		1
Owner's Manual	3		
Cleaning tool	1		
Headrests	2		

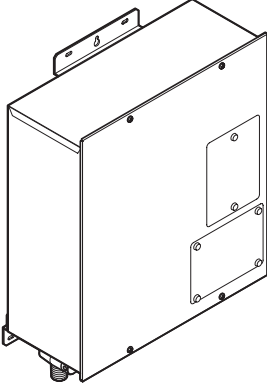
2-2 Cables

Junction Cables	3	 <p><Breakdown> *Power supply junction cable *Signal junction cable *Air blower junction cable</p>
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2-3 Controller stand

Product Name	Qty	
Controller stand assembly	1	
Base assembly	1	 (with O-Ring safety sheet)
Base cover	1	
Slip ring assembly	1	 (Slip Ring inside)
Controller splitter cord	1	
Set screw with hexagonal hole M4 x 4 long	2	 (1 Spare)
Phillips head tapping screw 4 x 30 (holds base in place)	3	

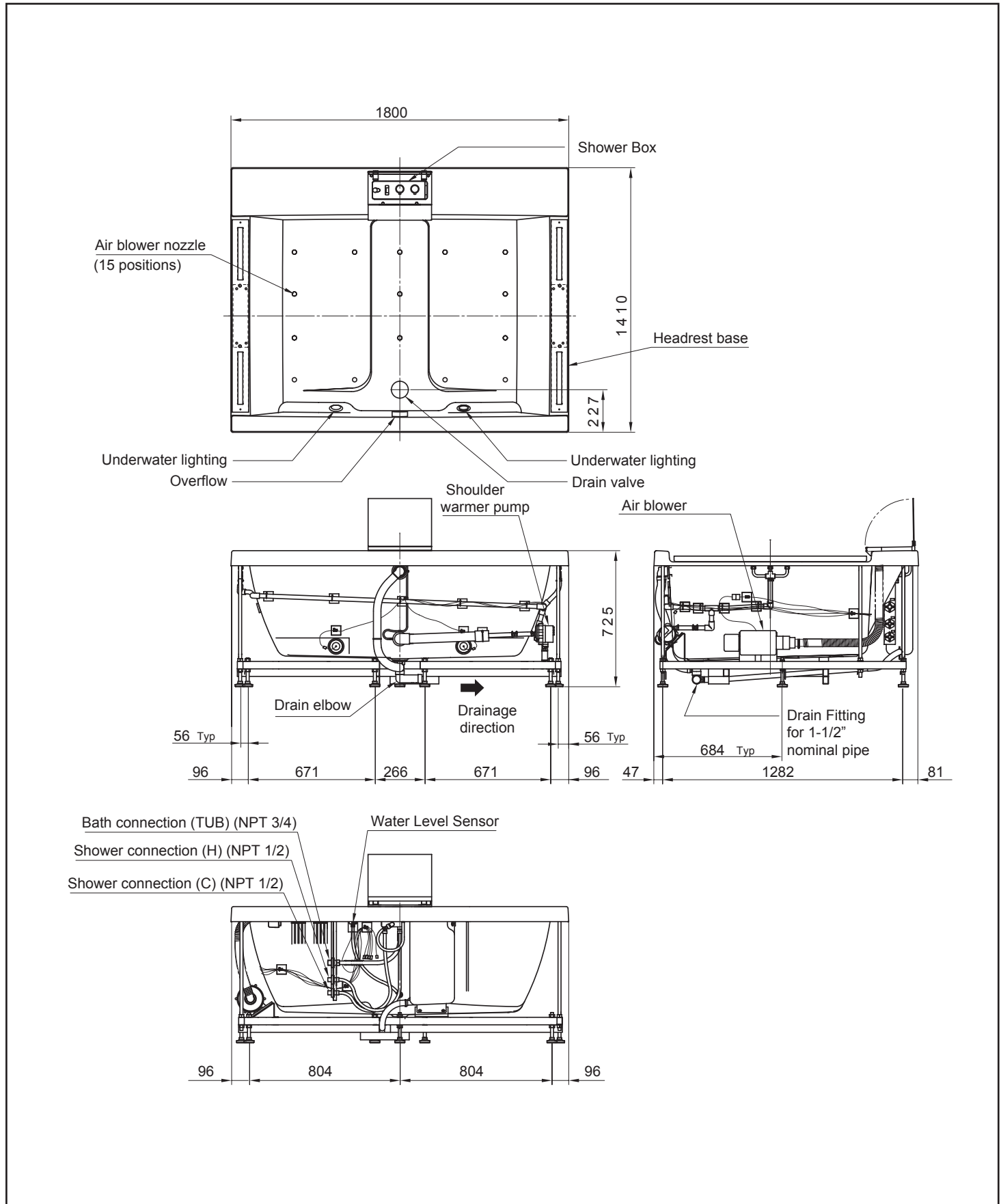
2-4 Function module

Part Name	Qty	
Function Module (including mounting hardware)	1	

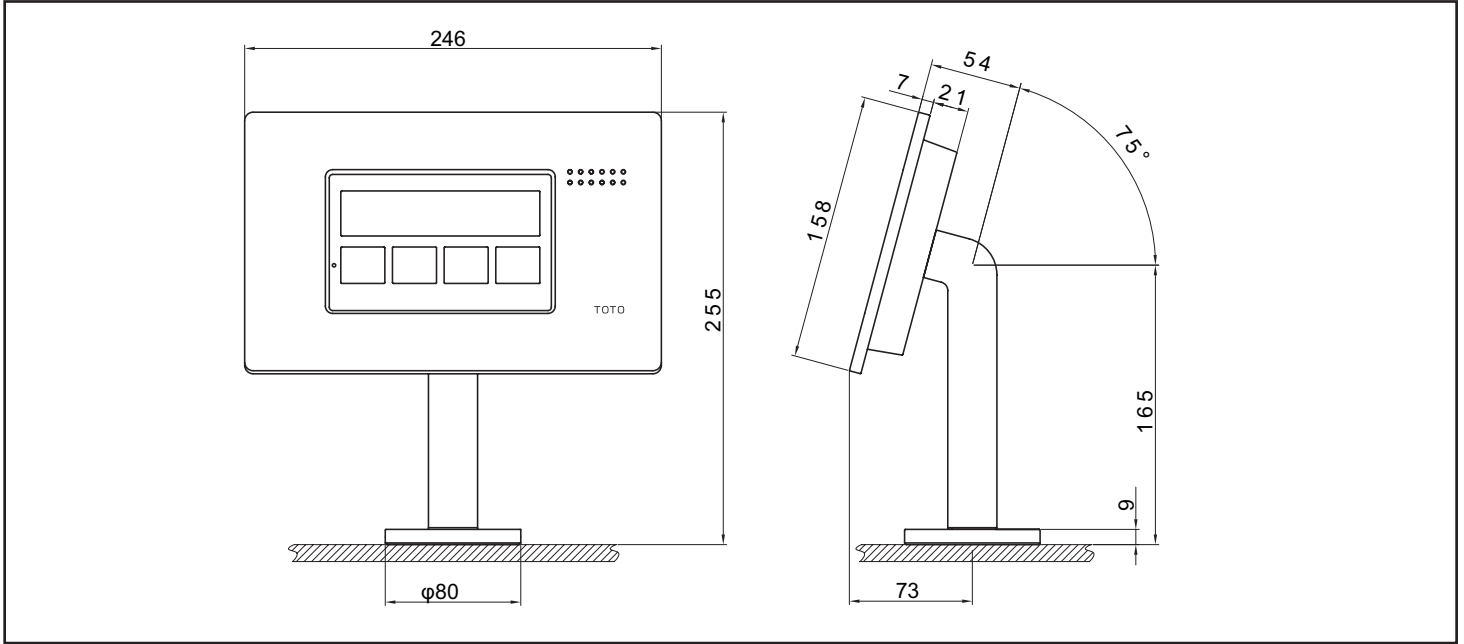
3. Dimension Drawings and Specifications

3-1 Bathtub, Controller stand and Function Module

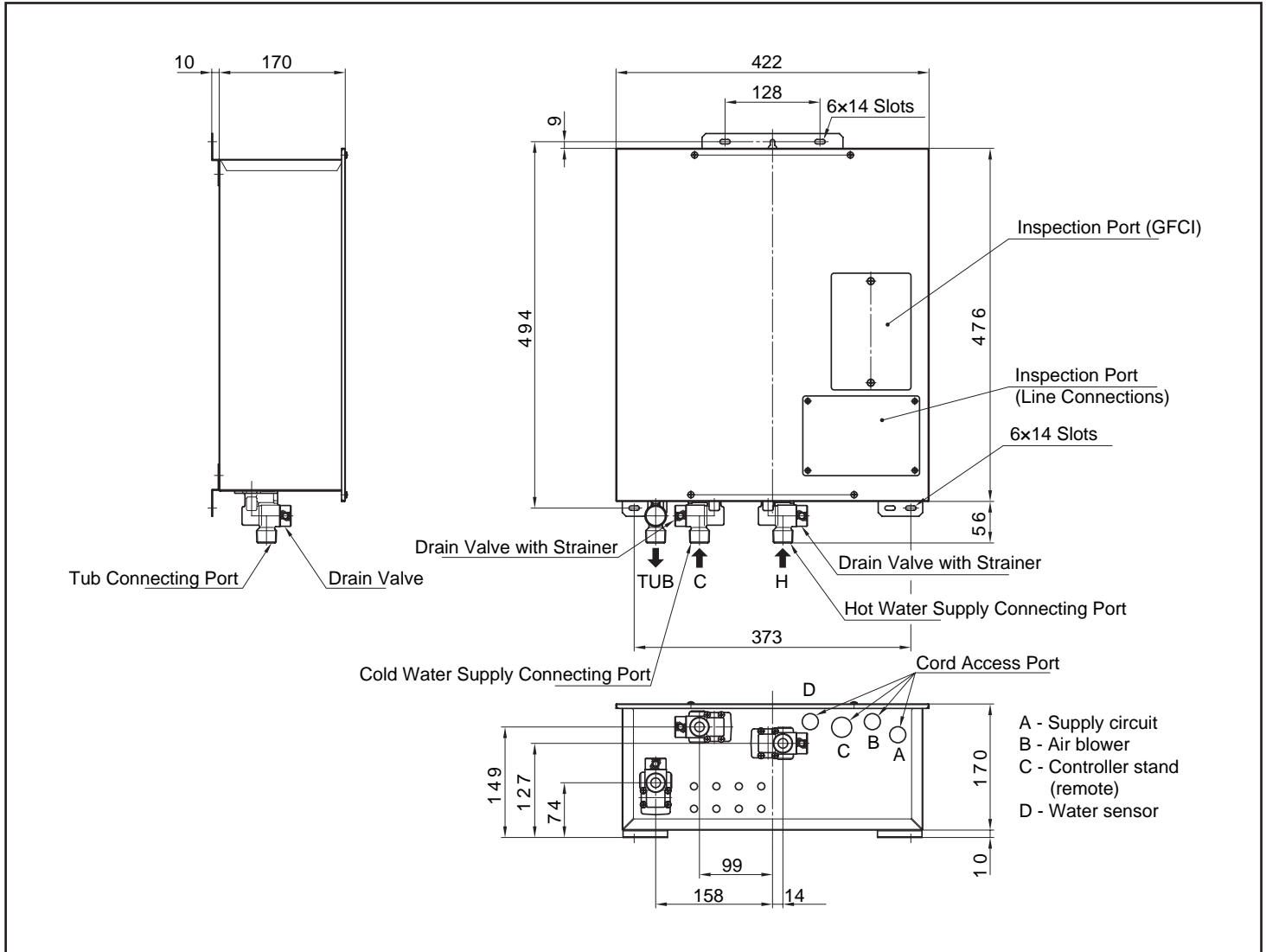
■Bathtub



■ Controller stand



■ Function Module



3-2 List of Specifications

AIRBATH™	External Dimensions		70 7/8" x 55 1/2" x 28 1/2" (1800 mm W, 1410 mm D, 725 mm H)
	Weight		353 lbs. (160 kg)
	Capacity		161 Gallons (610 L) to overflow line
	Drain time		9 minutes 15 seconds
	Material		Acrylic Synthetic Marble
	Tub filling	Number of drains	1
		Tub filling flow rate	Maximum 35 L/min.
	Air blower	Number of jets	15 on the bottom of the AIRBATH™
	Shoulder warmer	Intake ports	1
		Outlet ports	2
	Underwater lighting	Lighting modules	2
		Colors	3 types of patterns, 10 individual colors (controlled from the function module)
	Water pressure used (Clean-up shower)		0.08 to 0.75 MPa
	Connecting port diameter	Hot supply (shower)	NPT 1/2
Cold supply (shower)		NPT 1/2	
Fill-tub (hot)		NPT 3/4	
Other		Fill-tub fittings, 2-handle tube cleaning shower, headrest	
Controller Stand	Outside dimensions		9 5/8" x 4 1/2" x 10" (246 mm W, 113 mm D, 255 mm H)
	Weight		6.2 lbs. (2.8 kg) (including the controller)
	Rotation angle		90 °
Function Module	Outside dimensions		See dimensional diagrams
	Weight		37.5 lbs. (17 kg)
	Rated voltage		120 VAC
	Rated frequency		60 Hz
	Rated current		5.9 A
	Rated power consumption		710 W
	Installation location		Indoor
	Water pressure		29 to 108.75 psi (0.20 to 0.75 MPa) (The pressure differential of the cold water is to be greater than that of the hot water and kept within 0.1MPa.)
	water temperature	Hot water supply	140 to 158°F (60 to 70°C)
		Cold water supply	32 to 86°F (0 to 30°C) (No freezing)
	Connecting port diameter	Hot water supply	NPT 3/4
Cold water supply		NPT 3/4	
Hater water		NPT 3/4	

4. Installation Procedure

6-1 Building a base for the bathtub ~ seating the bathtub (P. 18, P. 19)

- (1) Building a base (P. 18)
- (2) Plumbing and connecting the drain pipes (P. 18)
- (3) Seating the bathtub (P. 19)

6-2 Finishing (P. 20, P. 21)

- (1) Fixing the bathtub in place (P. 20)
- (2) Plumbing and connecting the hot/cold pipes and the fill-tub pipe (P. 20)
- (3) Connecting the cables (P. 20)
- (4) Finishing the tiles (P. 21)

6-3 Controller stand installation (P. 22)

- (1) Marking the pilot hole, drilling the hole and installing the plug (P. 22)
- (2) Attach the base (P. 23)
- (3) Install the slip ring (P. 24)
- (4) Controller stand installation (P. 25)

6-4 Function module installation (P. 26 to P. 32)

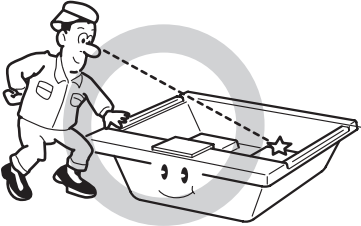

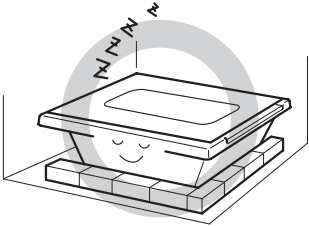

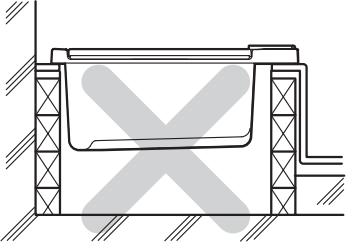
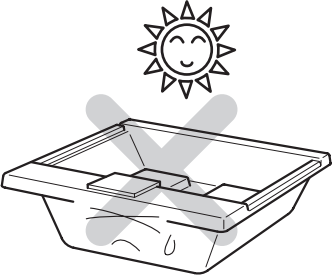
- (1) Advance preparation (P. 26)
- (2) Function module installation (P. 26)
- (3) Positioning of holes for installing the function module installation screws (P. 27)
- (4) Function module installation (P. 28)
- (5) Plumbing the equipment (P. 28)
- (6) Inspecting for leaks in the fill-tub plumbing (P. 29)
- (7) Plumbing the hot, cold and fill-tub pipes (P. 30)
- (8) Electrical work (P. 31, P. 32)

6-5 Confirmation and trial operation (P. 33 to P. 39)

5. Installation Precautions

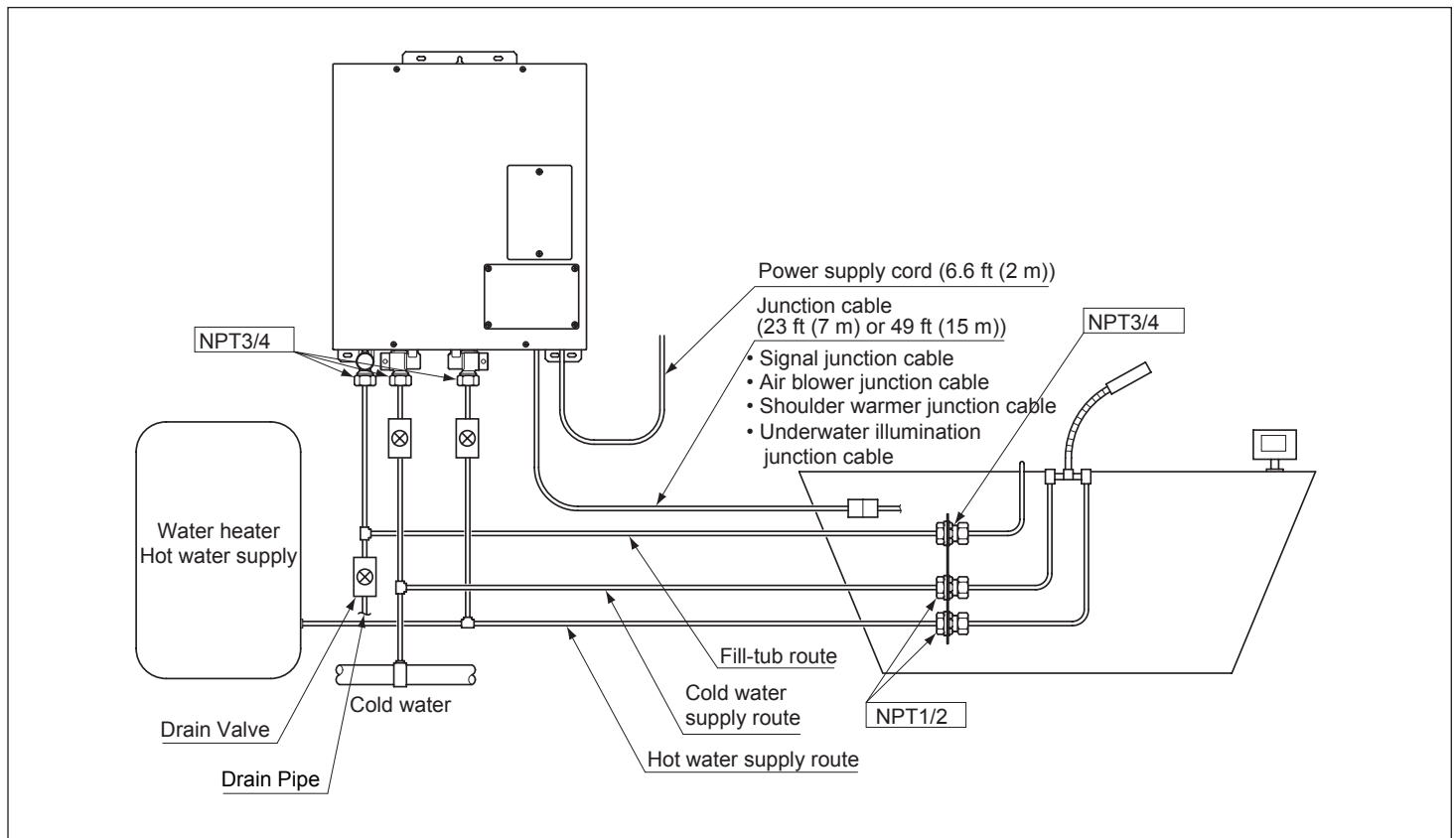
5-1 Bathtub

● Bathtub

<p>1 Before installing the bathtub, check the bathtub itself and the plumbing for problems.</p>  A worker in a uniform and cap is inspecting a bathtub. Dotted lines indicate the worker's line of sight across the tub's surface.	<p>2 Do not place anything heavy on the tub or anything in the tub for standing on.</p>  Two workers are shown standing on a bathtub. One is using a hammer, and the other is using a wrench. Stars around the tub indicate damage.	<p>3 Do not remove the protective sheet on the tub. Also, the bathtub should be protected with cardboard or other material until the bathroom construction is finished.</p>  A bathtub is shown with a protective sheet covering its top surface. The sheet is secured with straps.
<p>4 Do not place lit cigarettes on the bathtub or direct the flame of a blowtorch at it.</p>  A worker is using a blowtorch on a bathtub. Sparks and flames are shown coming from the torch's nozzle.	<p>5 Do not install the tub with the rim surface as its sole support.</p>  A bathtub is shown supported by its rim on a wooden frame. A large 'X' is drawn over the illustration to indicate it is incorrect.	<p>6 Do not install the bathtub outdoors or in a location where the sun will hit it all day (solarium or similar room).</p>  A bathtub is shown in a room with a large window. A sun icon is shown shining through the window onto the bathtub.
<p>7 When transporting the bathtub, do not carry by the hoses or plumbing or strike it with anything hard.</p>		

● When disposing of a NEOREST® AIRBATH™, please ask a certified disposal professional to dispose of it.

5-2 Function module



- The function module requires a hot water supply temperature of at least 140°F (60°C). (No more than 158°F (70°C)). If the supply temperature of the hot water is too low, it won't be possible to fill the tub to the temperature setting on the controller.

The function module mixes the supply of hot and cold water and runs hot water out of the fill-tub outlet, so the temperature of the water flowing out will be lower than the temperature of the water being supplied to the function module.

- The pressure of the hot and cold water supplied to the function module must be at least 29 psi (0.20 MPa) (when flowing). (No more than 108.75 psi (0.75 MPa)).

※ The pressure differential of the cold water is to be greater than that of the hot water and kept within 14.5 psi (0.10 MPa).

If the pressure is low, the water won't flow out like a waterfall. Additionally, it will take longer for the tub to fill with hot water.

- Supply Equipment Specifications
 - o Supply Pressure 29 to 108.75 psi (0.20 to 0.75 MPa)
 - o Supply Temperature 140 to 158°F (60 to 70°C)
 - o Hot water usage
 - Max. temperature 113°F (45°C)
 - Max. flow rate 9.2 gal/min. (35 L/min.)
 - Max. capacity 145 gal. (550 L)

- The diameter of the function module connector is NPT 3/4. Please do not make the diameter of the plumbing smaller than the diameter of the connector to the function module.

The use of equipment below full capacity could lead to problems for the clients.

- It is necessary to have space between the tip of the water pipe drainage. If not the water could backflow.

5-3 Clean-up Shower Installation Conditions

- When attaching the Clean-up Shower, please observe the following conditions of use.

(1) Confirmation of water pressure

Supply hot/cold water pressure: $\left\{ \begin{array}{l} \text{Minimum required pressure: 11.6 psi (0.08 MPa)} \\ \text{Maximum water pressure: 108.75 psi (0.75 MPa)} \end{array} \right.$

※ If the supply water pressure exceeds 108.75 psi (0.75 MPa), please reduce the pressure to around 29 psi (0.20 MPa) using a commercially available pressure-reducing valve.

(2) Confirmation of hot water supply temperature

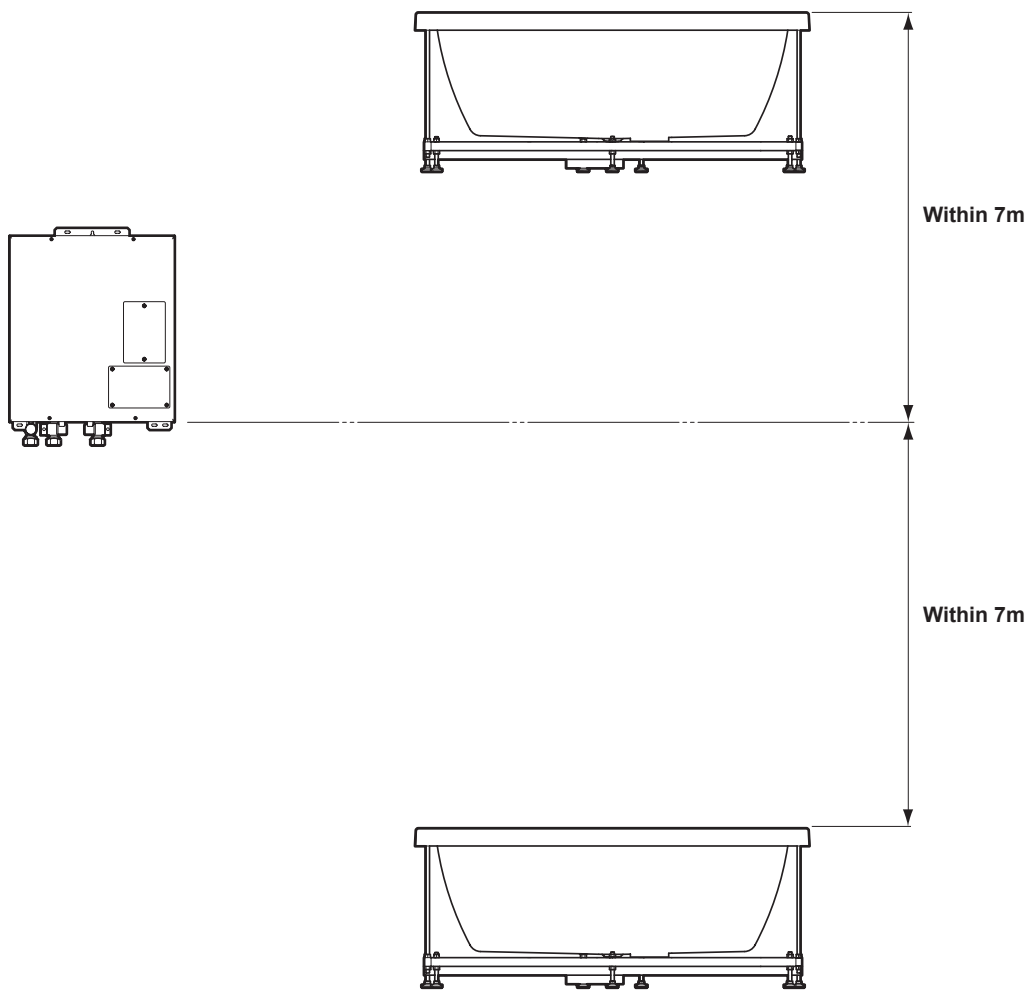
- Please keep the hot water supply temperature no higher than 158°F (70°C).
Note also that for safety, we recommend a hot water supply temperature of 140°F (60°C).
- Please **do not use steam** in place of a hot water supply.

(3) Plumbing

- Please **do not connect** the hot and cold water **backward**.
Note also that in order to reduce resistance, the shortest distance possible should be used for the hot water supply pipe from the hot water heater and insulation should be wrapped around the plumbing.
- Please implement countermeasures for freezing such as wrapping insulation around the pipes.

5-4 Function module installation locations

- Please locate the function module in a place where freezing and moisture from indoor water will not be a problem.
Please leave a space of at least 2 ft. (600 mm) in front of the equipment so that inspections or repairs can be made. Also, please do not locate it on a second-story wall or other place without access.
- Please locate the function module in a place that is strong enough to bear its weight and a margin (40 lbs (18 kg)).
- Please take the following into consideration when deciding where to place the function module.
 - The length of the cables to the equipment (pumps and the like) that will be installed with the bathtub
A 23 ft. (7 m) or 49 ft. (15 m) cable is provided.
 - A height which allows the plumbing to be inclined so that the bathtub can be drained more easily when removing the water.



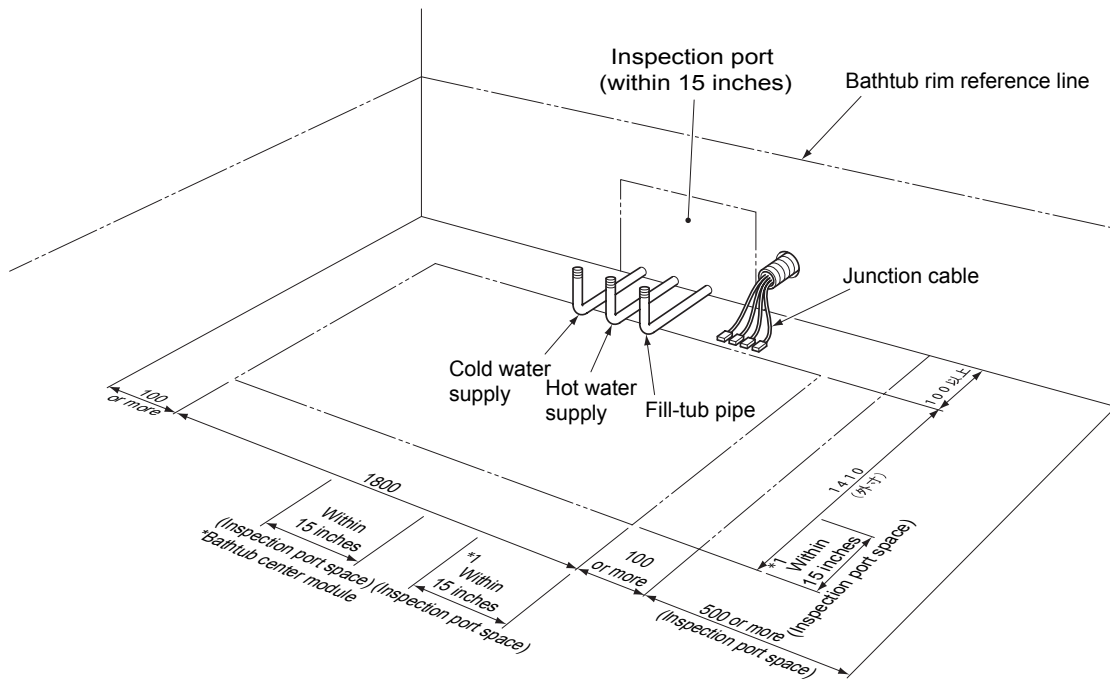
- Please install in a location that will not cause damage if there is water leakage.
- If you install in a location that can cause damage please add water protection and appropriate drainage on the floor.
- If the tub installation is downstairs the function module should be within 23 ft. (7 m) of the top of the tub (see diagram).
- If the tub installation is upstairs the function module should be within 23 ft. (7 m) of the top of the tub (see diagram).
In this case the supplied water pressure should be 29 psi (0.20 MPa) above head pressure.

6. Installation requirements

6-1 Building a base for the bathtub ~ seating the bathtub

(1) Building a base

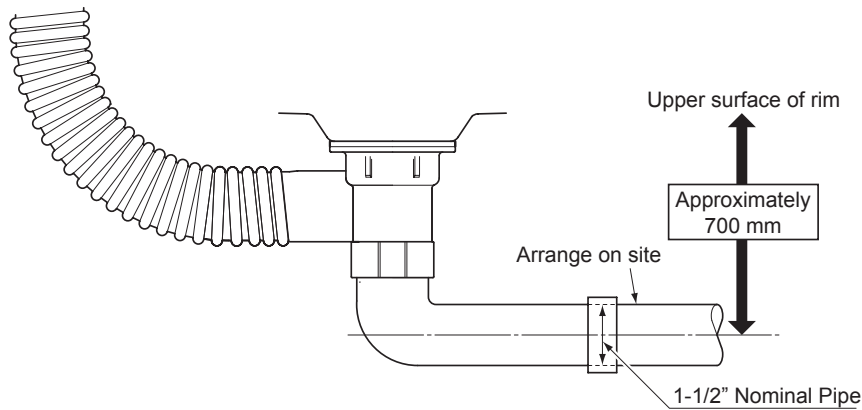
- Please allow at least 100 mm or more clearance beyond the external dimensions when determining the position of the bathtub.
- Please set up the hot/cold water supply pipes and the fill-tub pipe on the side with the inspection port.
 - * Also, please set aside space for inspection ports at the rear of the bathtub center module or the function module (pump) (one or the other of *1).
 - * Please fit the hot/cold water pipes with anti-backwash valves and shut-off valves.



(2) Plumbing and connecting the drain pipes

For a directly connected drain

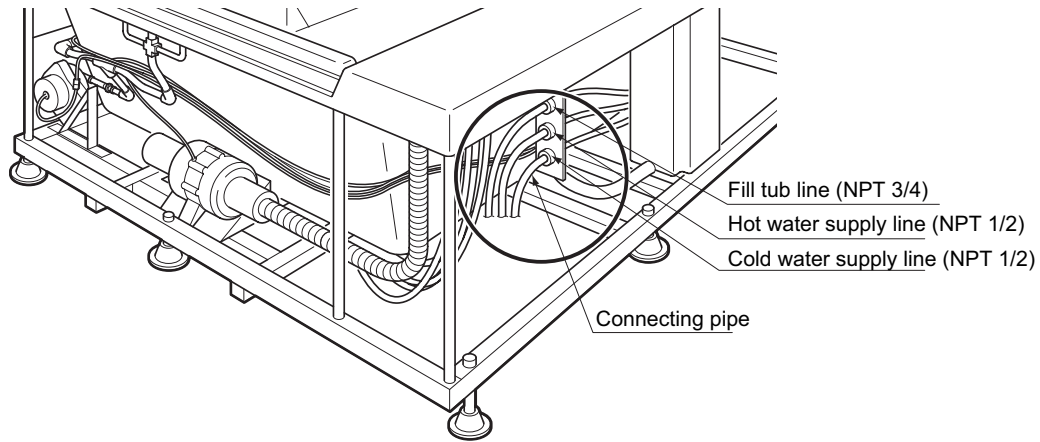
Please connect the plumbing to the drain fittings of the bathtub in advance.



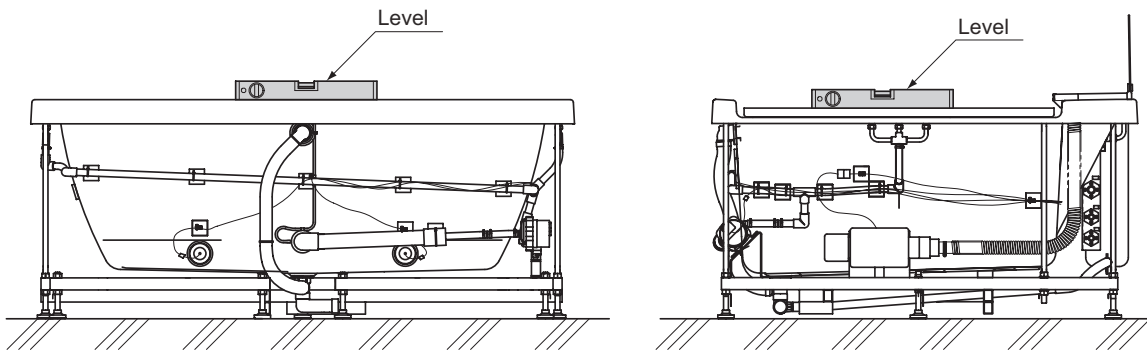
- All of the plumbing is to be arranged on site. Please refer to the provided template (0GU5079).

(3) Seating the bathtub

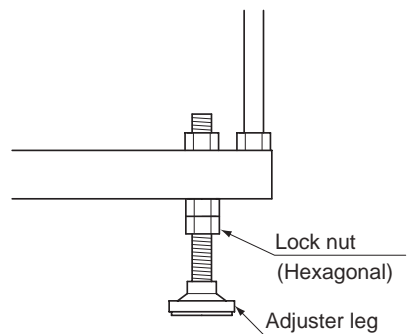
- Please attach the plumbing that will connect the hot and cold water supplies and the fill-tub line to the bathtub.



- Please make the bathtub level.
- The feet of the bathtub are adjuster bolts, so please loosen the lock nut (hexagonal) and adjust it until it is level.



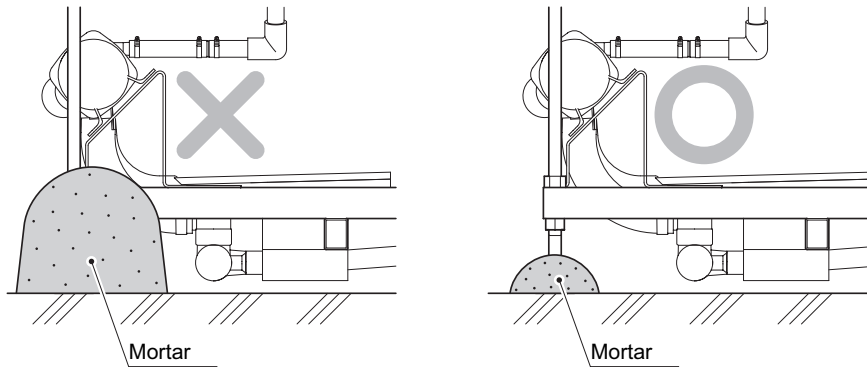
- After using a level to make fine adjustments to bathtub, please tighten the lock nuts on the adjuster legs.



6-2 Finishing

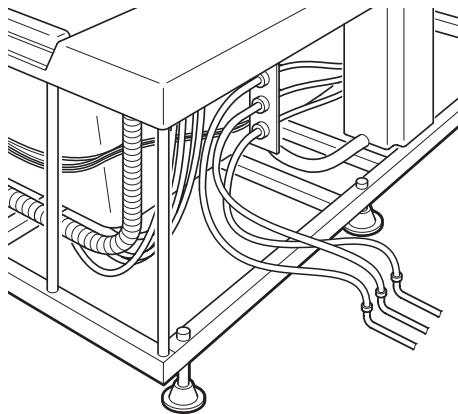
(1) Fixing the bathtub in place

- Please fix the bathtub in place using mortar or a powerful adhesive.
Caution: Please be careful not to get any mortar or adhesive on the bathtub itself.



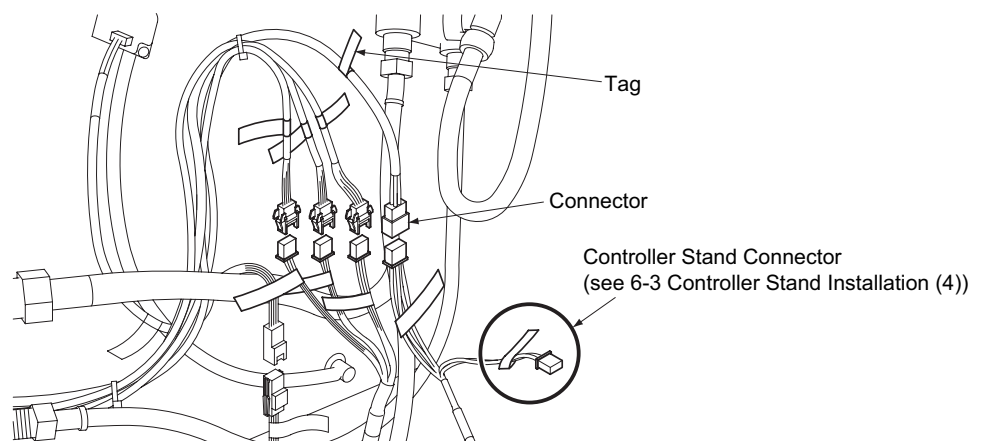
(2) Plumbing and connecting the hot/cold pipes and the fill-tub pipe

- Please connect the connecting plumbing installed on the bathtub to the hot/cold water supply pipes and the fill-tub pipe that were set up in advance.



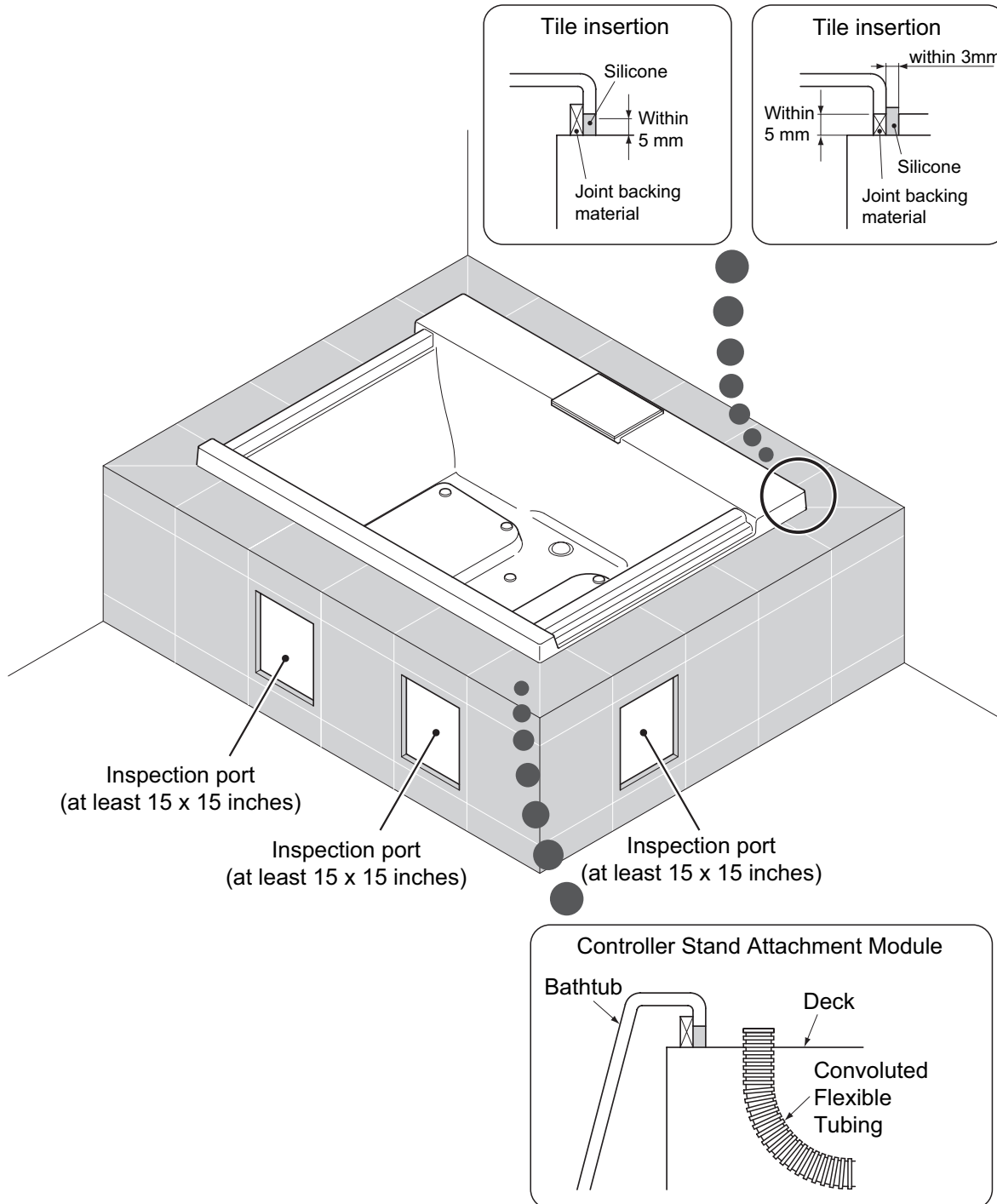
(3) Connecting the cables

- Please connect the fill-tub unit and the connecting junction cables to the respective cables on the bathtub side.
* Check the tags on the junction cable and the bathtub-side cables when making the connections.



(4) Finishing the tiles

- Please build a deck around the perimeter with an apron and tiles.
 - * Before installing the deck, please fill the bathtub with water, test run it and check for leaks around the pipe connections. Please refer to the POO concerning test runs.
 - * Before tiling the deck surface, determine the position of the remote control stand and insert a sheathing pipe for the cable.
 - * Be sure to leave a gap in the space between the bathtub and the tiles and then fill in the gap between the bathtub and the tiles using an alcohol-free type of silicone.

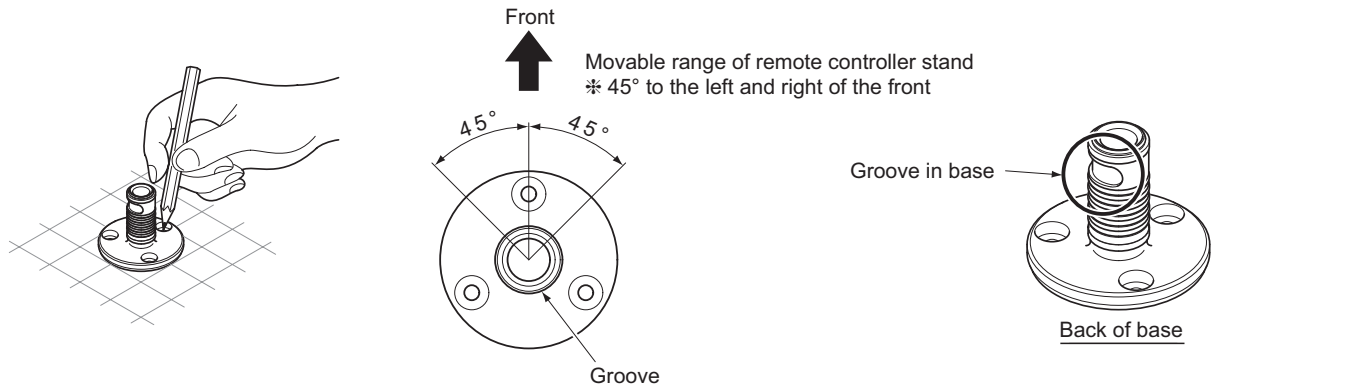


- * Please arrange for a joint-backing material on site.
Also, when forming the deck apron, please be sure to affix the joint-backing material to the deck surface or the back surface of the bathtub rim before putting the tub in place. It may not be possible to apply the joint-backing material after the bathtub has been put in place.

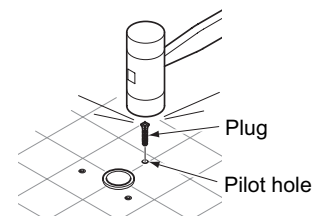
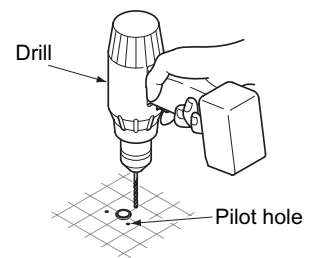
6-3 Controller stand installation

(1) Marking the pilot hole, drilling the hole and installing the plug

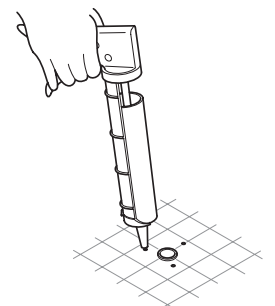
- ① Cut the conduit sheath for the wires that protrude from the surface of the deck.
- ② Place the base so that the conduit sheath stays in the center and, being careful of the installation direction, mark the three places where the holes will be that will secure the base
 - * Please be careful of the position of the groove and the front during installation and fix it in place, keeping the movable range of the remote controller in mind.



- ③ Drill the pilot holes the size of the plug where the marks were made. (Please choose plugs that fit the 4 x 30 Philips head tapping screws.)
- ④ Check that the position of the hole is not in a hollow part of the tile surface. If it is hollow, please fix it in place using an adhesive tapping anchor.
- ⑤ Place the plug in the pilot hole and pound it in.

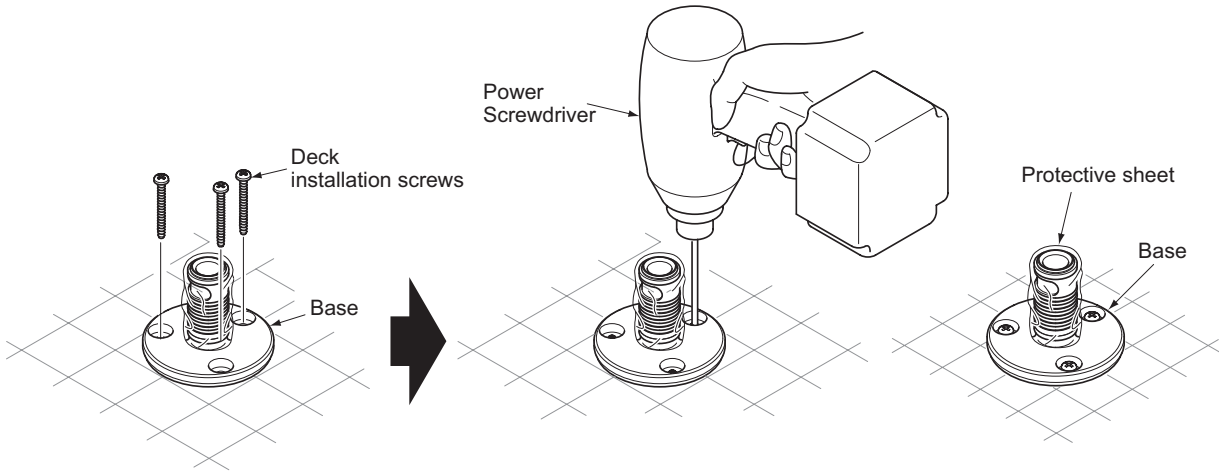


- ⑥ To keep water from seeping through, seal the gap between the plug and the hole.



(2) Attach the base

① Use the screws that came with the base to attach it so that it faces the right direction.

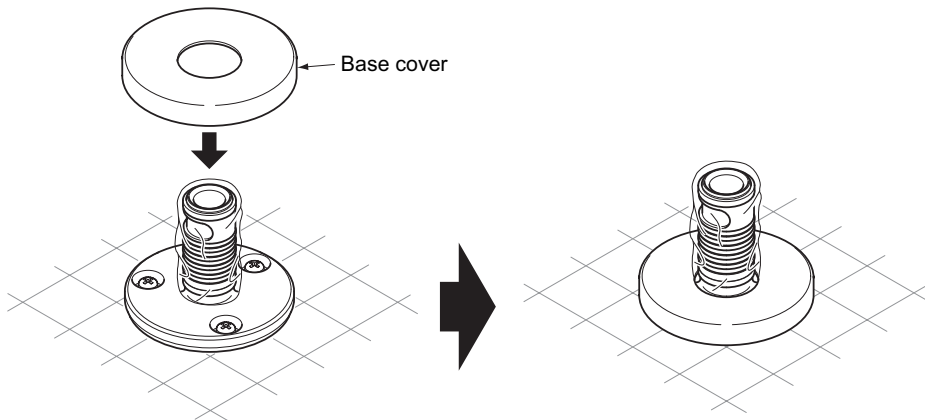


Prohibited

Do not remove the protective sheet on the base.

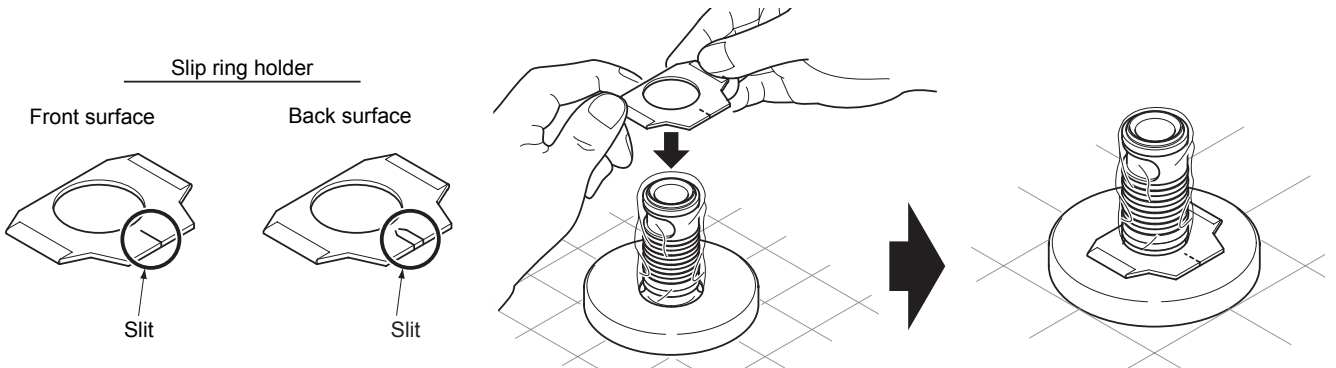
- Doing so could cause problems or make the unit malfunction, due to debris or damage to the O ring.
- This will make it more difficult to install the slip ring and could bend or damage the slip ring.

② Attach the base cover.



(3) Install the slip ring

① Place the slip ring on the base, being careful not to confuse the front and back surfaces of slip ring holder.



Always do this

Be sure to attach the slip ring.

- Not installing it could bring the base cover and stand into contact and damage the base cover.

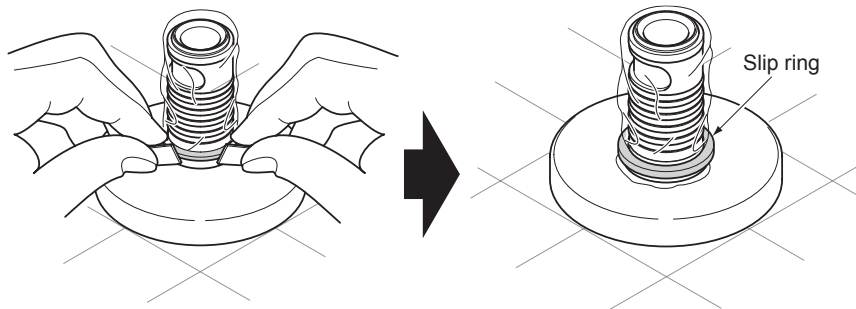


Always do this

Install the slip ring very carefully.

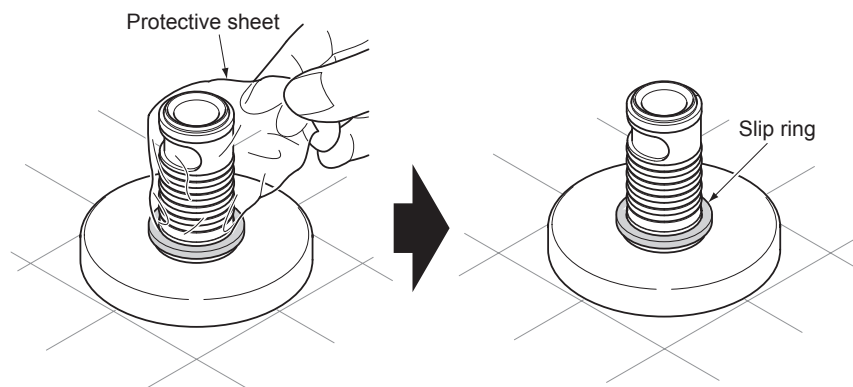
- If the slip ring becomes "stretched" or "misshapen", it may not perform its intended function.

② Remove the slip ring holder from the base while leaving the slip ring in place by tearing off the part of the slip ring holder with the slit in it to the right and left.



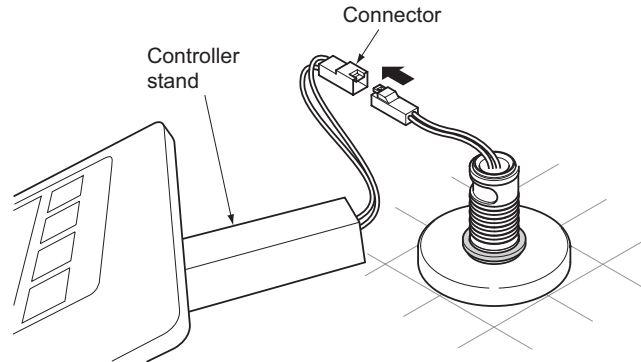
③ Remove the protective sheet on the base.

* Please remove the protective sheet carefully. Otherwise, the slip ring could become damaged or misshapen.

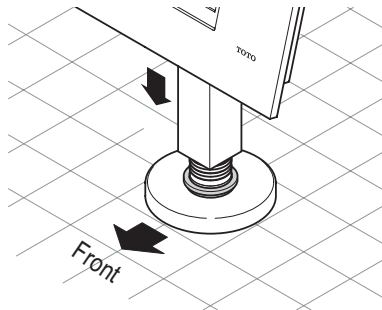


(4) Controller stand installation

- ① After connecting the splitter cord that comes with the unit to the signal relay cable (6-2 Finishing (3)), remove it from the base through the conduit sheath and connect it to the controller stand itself.

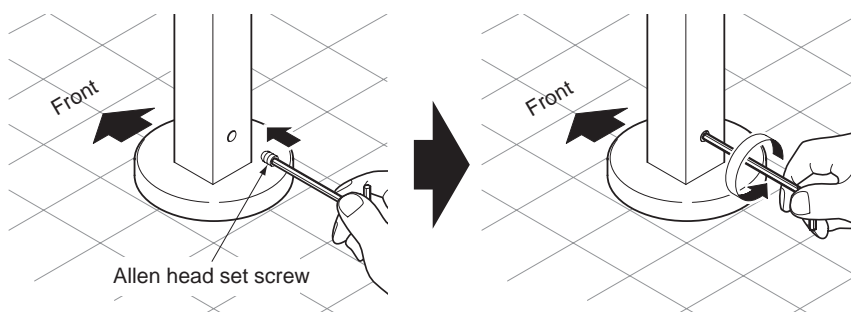


- ② Press the controller stand into the base.



- ② Tighten the included Allen head set screw in the hole in the back of the controller stand. After turning the screw until it stops, turn it 180 to 360° backward from where it stopped turning.

* Please be careful not to let the screw protrude when doing so.



Always do this

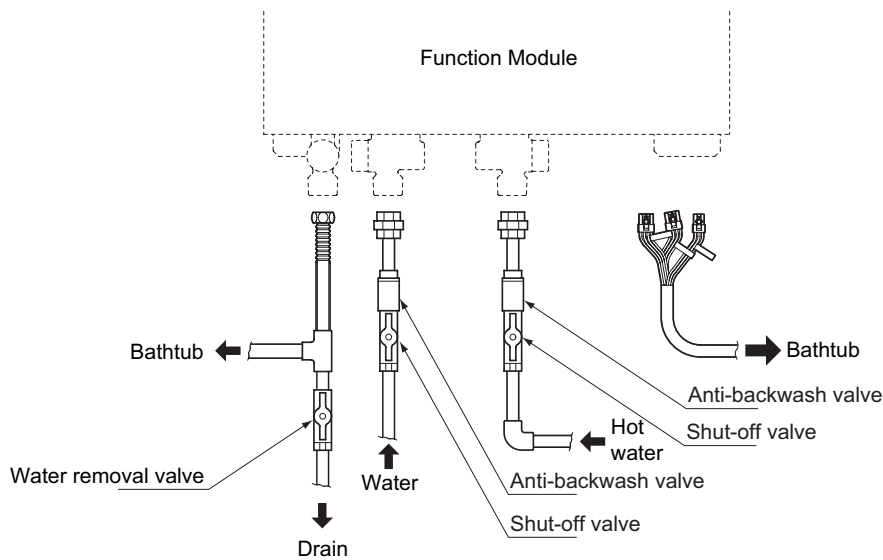
Always turn back the screw.

- Neglecting to do so could keep the remote controller stand from moving back and forth.

6-4 Function module installation

(1) Advance preparation

- ① Install shut-off valves and anti-backwash valves on the hot and cold water supply pipes.
 - ② Run the pipes and cables for the connection between the bathtub and the function module.
- * Install a water removal valve on the fill-tub pipes and make arrangements for a suitable water drainage process.

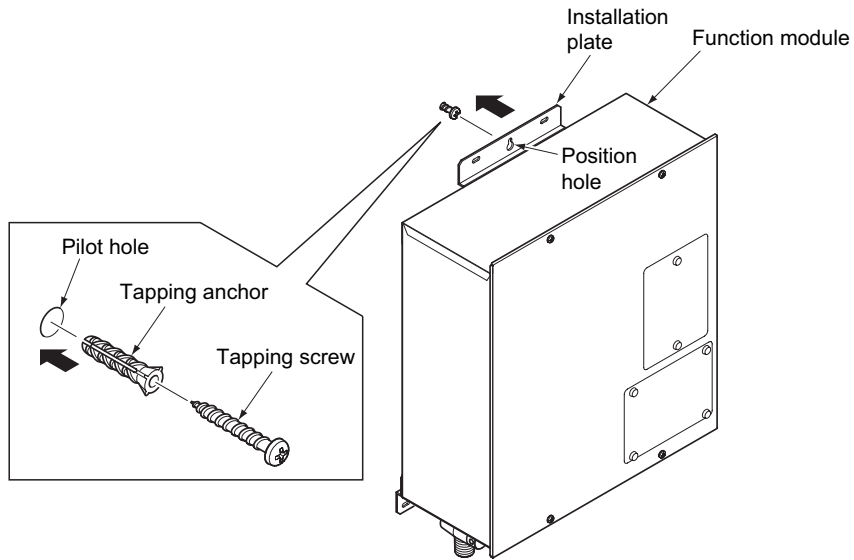


(2) Function module installation

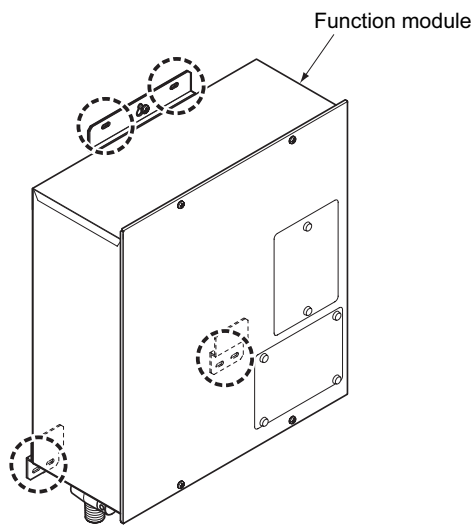
- The weight of the equipment will hang on the installation wall, so it should be reinforced if it isn't strong enough. The supporting structure should be capable of supporting at least 40 lbs (18 kg).
- When installing the equipment, do not drop it or hit it against anything. Doing so could break or damage the parts inside the equipment.
- Be sure to install it on a vertical wall.
- The plumbing that is connected to the equipment should be installed so that there will be no safety problems with respect to earthquakes, other vibration or physical impact and caulking material should be used to seal the points where the hot and cold water and the power lines pass through the walls.

(3) Positioning of holes for function module installation screws

- ① Drill pilot holes for positioning the function module, pound in the curl plug (arranged on site) and use a tapping screw for positioning. Then, hang the installation plate of the function module (above) on the tapping screw.



- ② Position the holes for the screws (two above and two below) and remove the function module briefly.



(4) Function module installation

- ① Drill the pilot hole in the position determined for the screw and pound in the tapping anchor (arranged on site).
- ② Replace the function module on the tapping screws and fix the tapping screws (two above and two below) into place.
- ③ Waterproof the area so that water cannot get into the building from the screws that secure the equipment.

(5) Plumbing the equipment

■ Precautions when plumbing

- If the plumbing materials are specified by the relevant local and national plumbing authorities, comply with those specifications.
 - Be sure to flush filings, sand and debris from inside the pipes using water before connecting the function module.
 - Use a union junction or similar means on the connection port and do not use excessive force.
 - The diameter of the pipe is not to be less than the diameter of the function module connector (3/4).
 - When the water pressure is high, either install a pressure-reducing valve or a device to prevent "water hammers." (Recommended water pressure: 29 to 108.75 psi (0.20 to 0.75 MPa)).
 - Keep the number of unions as small as possible and do not use complicated plumbing. Additionally, do not plumb in such a way that air can become trapped in the pipes.
- Hot and cold water supply plumbing.
 - Install an anti-backwash valve, a shut-off valve or a shut-off valve with an anti-backwash valve near the hot and cold water supply ports.
 - In order for the customer to have a pleasant experience using this equipment, a hot and cold water supply pressure of 29 to 108.75 psi (0.20 to 0.75 MPa) is required. If the water pressure is low, the equipment will not function properly and could lead to trouble with the customer, so be prepared to install a booster pump as a countermeasure.
 - Fill-tub plumbing.
 - The pipes that are used with the fill-tub feature are to have a maximum length of 49.2 ft (15 m) and 10 changes of direction.
 - Please incline the pipes so that it will be easier to remove water from the pipes when draining water from the pipes.
 - Please allow sufficient space for the end of the water-removal pipe and the drain opening.
If there is no space, backed up water could flow back inside.

(6) Inspecting for leaks in the fill-tub plumbing

Caution

- Do not apply additional pressure to the equipment.

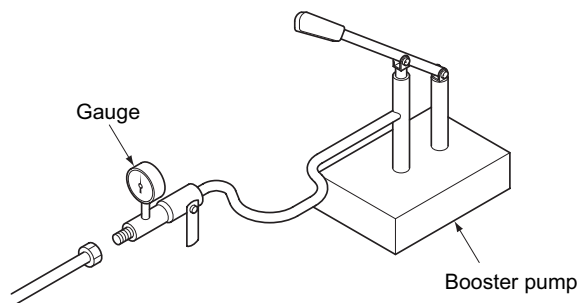
Inspection pressure and time: 43.5 psi (0.30 MPa) for five minutes or longer.

- ① Install a valve on one end of the fill-tub plumbing. (Valve open.)
- ② Install a booster pump on the other end to feed water into the fill-tub plumbing.
- ③ Once the air has been removed from the fill-tub plumbing and it has been filled with water, close the installed valve.
- ④ Inspect for leaks.

Inspection pressure and time: 43.5 psi (0.30 MPa) for five minutes or longer.

- Use a pressure meter that suits the pressure being checked when inspecting the pressure.
- Be sure that there are no leaks or pressure drops across the gauge.

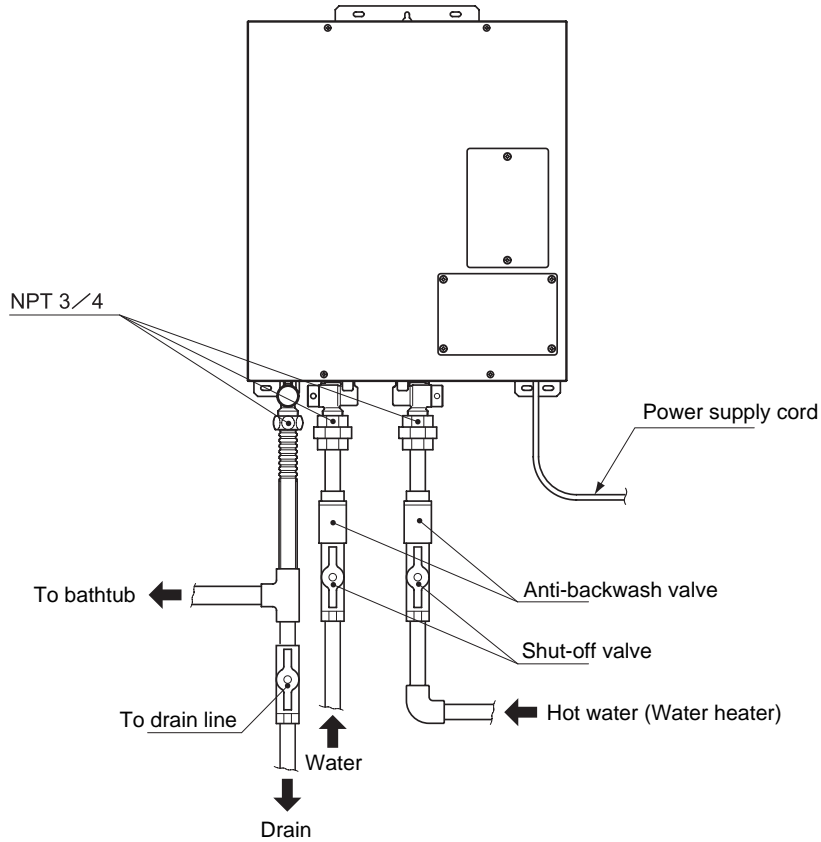
* Do not apply pressure to the equipment itself.



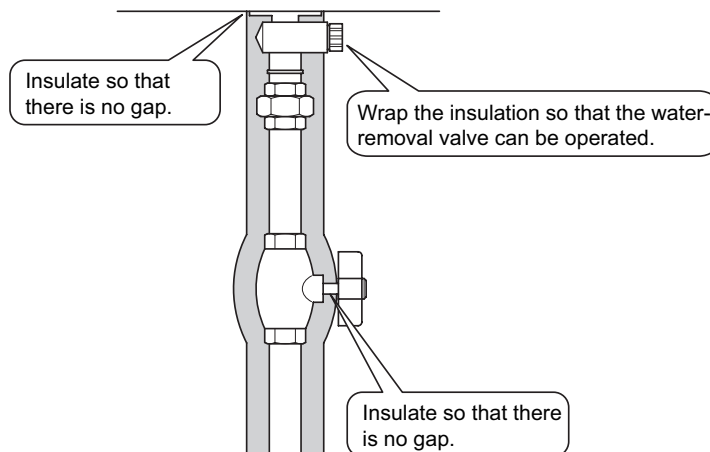
* If pressure leaks are discovered, run the test again after fixing the leaky areas.

(7) Plumbing the hot, cold and fill-tub pipes

① Connect the pipes described so far to their respective connection ports on the function module.



- ② Open the shut-off valves on the hot and cold water supply lines and check to see that there are no leaks from the joints.
- ③ After connecting the cables and the bathtub equipment (Page 31), fill the tub and confirm that there is no water leaking from the joints in the fill-tub pipes (two places: on the function module side and the bathtub side).
- Freezing prevention (Please implement this in locations where there is a risk of the equipment or pipes freezing.)
 - To prevent freezing, insulation (insulating material, electric heaters, etc.) should be used that is appropriate to the region.
 - Insulate the plumbing completely after checking to see that there are no leaks from the hot, cold or fill-tube water lines.
 - In order to be able to drain water from inside the pipes, do not wrap the water removal valve with insulation.



(8) Electrical work

● Power supply check.

Warning



Connect Ground

- All electrical connections must be in accordance with local codes, ordinances, and the National Electrical Code (NEC). If you are unfamiliar with methods of installing electrical wiring and appliances, you should secure the services of a qualified licensed electrician.

Improperly performed work could result in breakdowns or current leaks that could lead to electric shocks.

Install to permit access for servicing.

An equipment grounding terminal is provided in the field wiring compartment. To reduce the risk of electric shock, this Terminal must be connected to the grounding means provided in the electric supply panel with a conductor equivalent in size to the circuit conductor supplying this equipment.

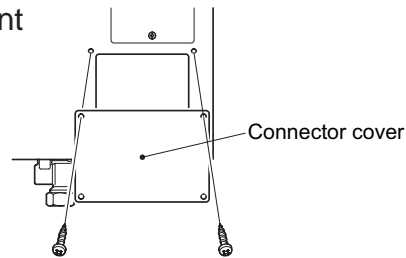
Install this unit in accordance with the National Electrical Code (NEC) NFPA 70 and Canadian Electrical Code, Part 1.

Connect only to a branch circuit protected by an overcurrent protective device rated not more than 15A.

The power supply for this function module is 120 V (60 Hz) and the power consumption is 710 W.

● Connecting the cable and the bathtub equipment

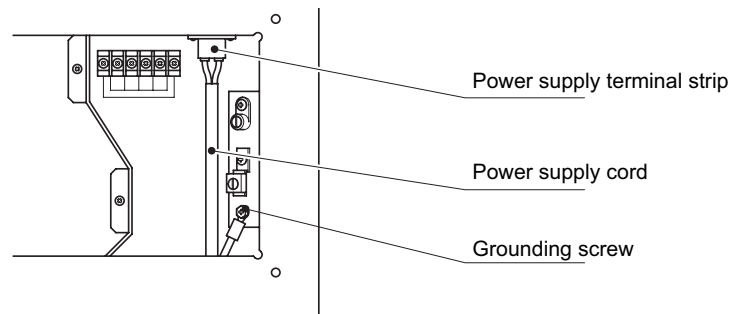
- ① Remove the cover on the connector



- ② Using a conduit joint (arranged on site), pull the power supply cord (arranged on site) through the hole in the bottom and push it into the power supply terminal strip. During this operation, please be careful of the size of the wire and the length of insulation that is stripped away.

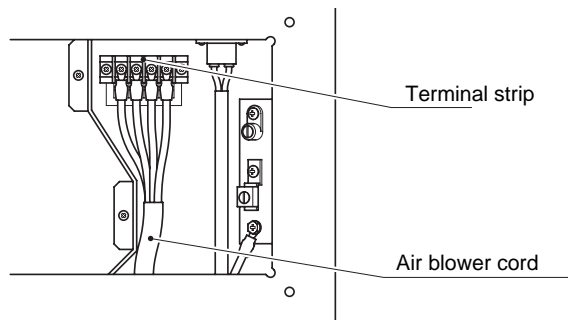
* Proper size: AWG12 or 14
Stripped length: 0.55 in (14 mm)

Pull the grounding wire (arranged on site) through the same hole and fix it to the ground with a screw.

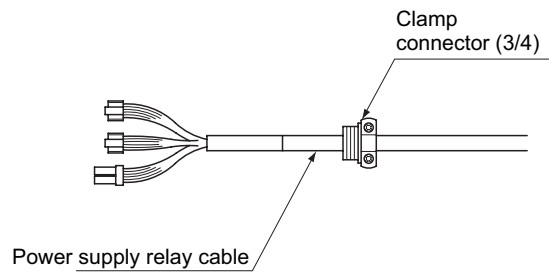


- ③ Using a conduit joint (arranged on site), pull the air-blower cord (arranged on site) through the hole in the bottom and fix it to the power supply terminal strip with a screw.

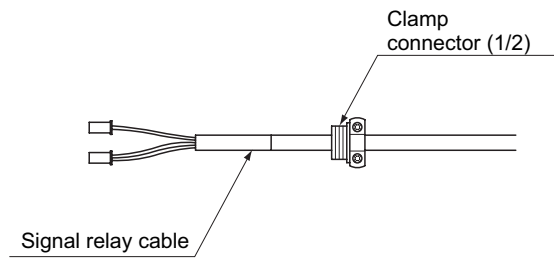
When doing this, please make sure that the color of the wire and the color of the terminal strip label match.



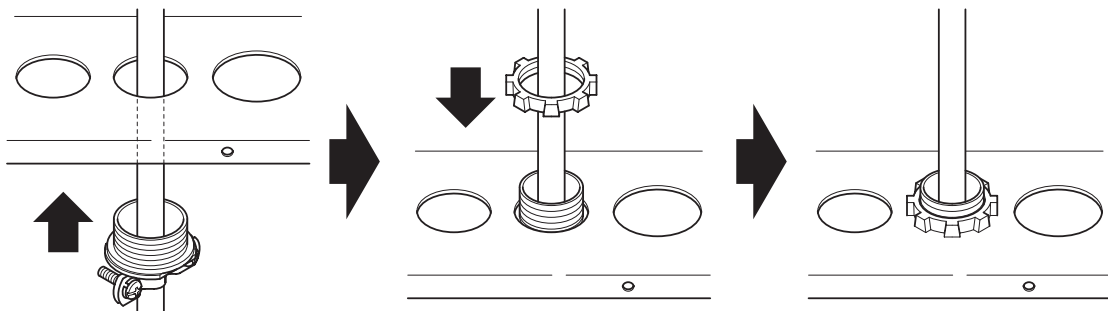
④ Set up the clamp connector (3/4) that comes with the "Control Unit" of the power supply relay cable.



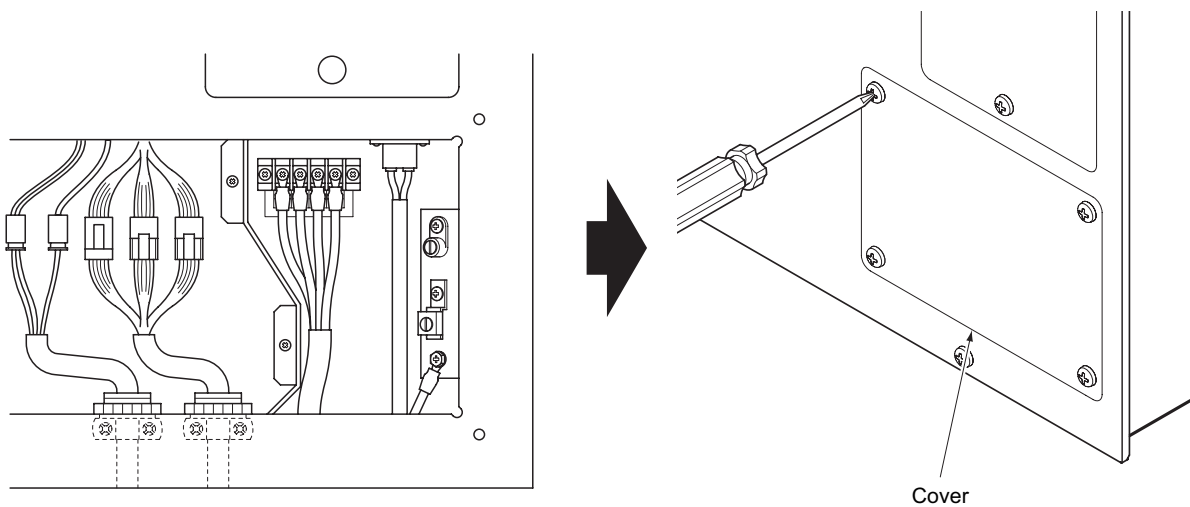
Set up the clamp connector (1/2) that comes with the "Control Unit" of the signal relay cable.



Pull the cables ⑤ and ④ through their respective holes in the bottom and fix the clamp connectors in place.



⑥ Attach the cover after connecting each of the connectors and you are finished.



6-5 Confirmation and trial operation

Run trial operations as described in the Instruction Manual and, after confirming that the product runs normally, tell the customer how to use it and deliver it to the customer.

■ Inspection

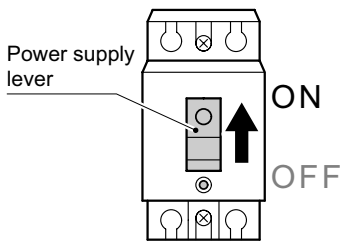
Warning



Always do this.

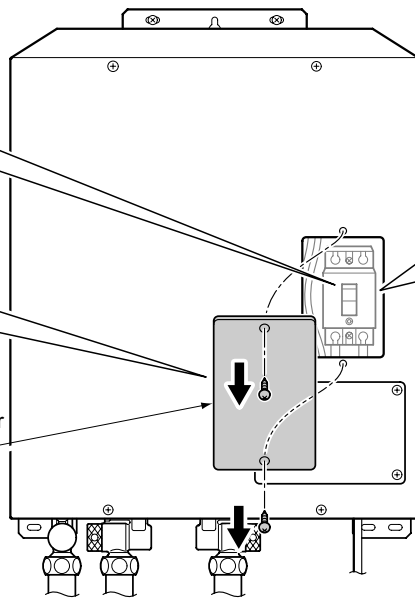
- After the unit is installed, please be sure to check the operation of the Supplementary protector. An improperly functioning Supplementary protector could lead to electric shock or fire

- 2 Set the power supply lever on the Supplementary protector to ON



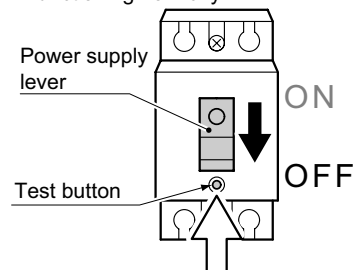
- 1 Remove the operation cover from the Supplementary protector.

Supplementary protector operation cover

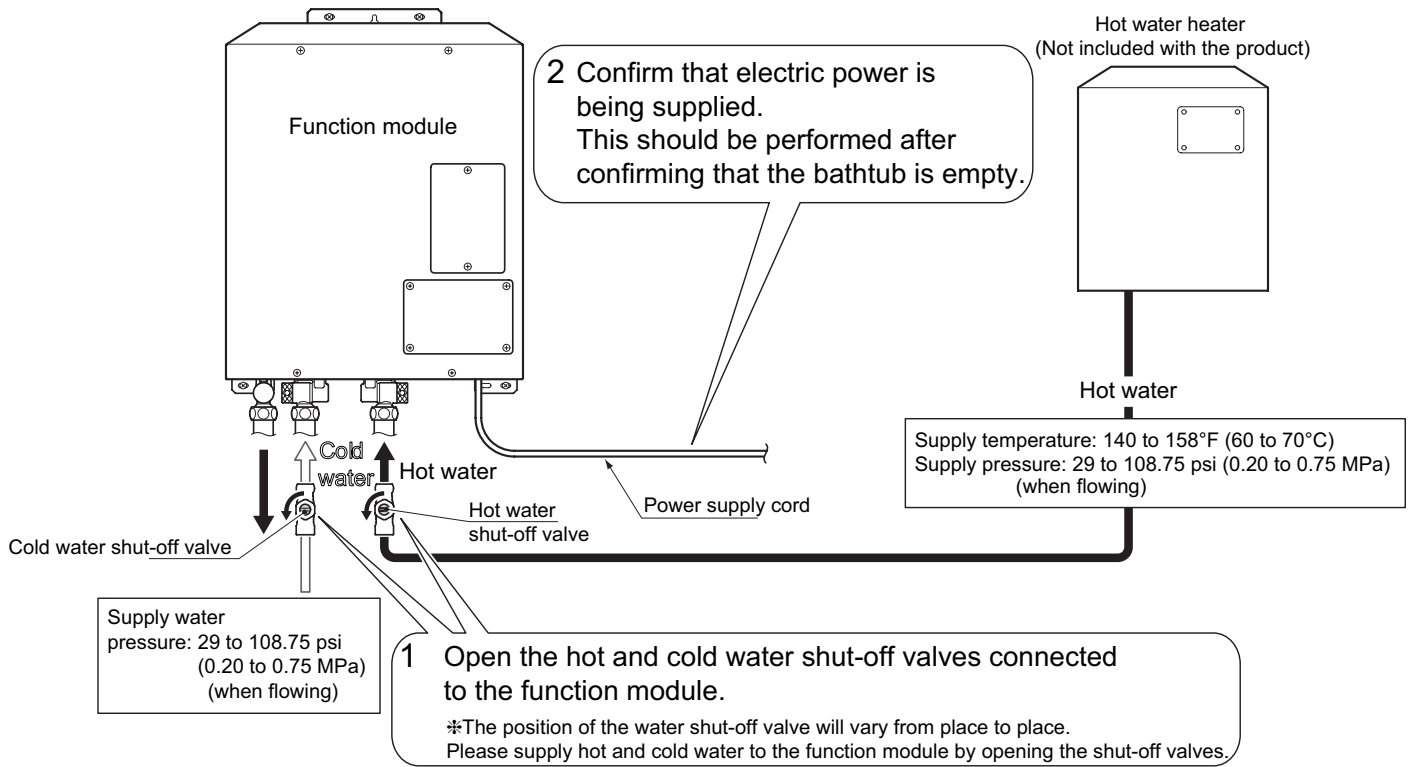


- 3 Push the test button on the Supplementary protector.

※ If the power supply lever changes from ON to OFF < then it is functioning normally.



■ Trial operation preparation




■ Trial operation

Please run the unit in order of operations (1) to (6).

* Do not apply pressure to the equipment itself.

(1) Bathtub data reset

- ① Open the bathtub drain valve and empty the bathtub.
- ② Set the On/Off button on the controller to OFF.
- ③ Turn the  to ON.

Please open the drain valve of the bathtub so that no water remains in the bathtub.
The draining operations will end automatically after approximately 2 minutes.

(2) Fill-tub operation

① Close the drain valve in the bathtub and set the On/Off button on the controller to ON.

② Set  to ON.

③ Confirm that the fill-tub cascade is flowing out of the fill-tub outlet.

④ Confirm that there are no leaks in the plumbing.

⑤ Wait until the fill-tub feature finishes normally.

When the tub has been filled, a melody will play and then stop automatically.

(3) Air blower

* Please make sure that there is hot water in the tub after running the fill-tub feature.

① Set the On/Off button on the controller to ON.

② Set  to ON.

③ Confirm that there is air flowing out of the nozzles in the bottom of the bathtub.

④ Confirm that there are no air or water leaks in the plumbing.

⑤ Set  to OFF.

(4) Shoulder warmer

* Please make sure that there is hot water in the tub after running the fill-tub feature.

① Set the On/Off button on the controller to ON.

② Set  to ON.

③ Confirm that there is water flowing out of the (two) shoulder warmer outlets.

④ Confirm that there are no leaks in the plumbing.

⑤ Set  to OFF.

(5) Underwater illumination

① Set the On/Off button on the controller to ON.


② Set  to ON.

③ Confirm that the (two) lighting modules are turned on.

④ Confirm that there are no leaks in the lighting modules.

⑤ Set  to OFF.

(6) Purge operation

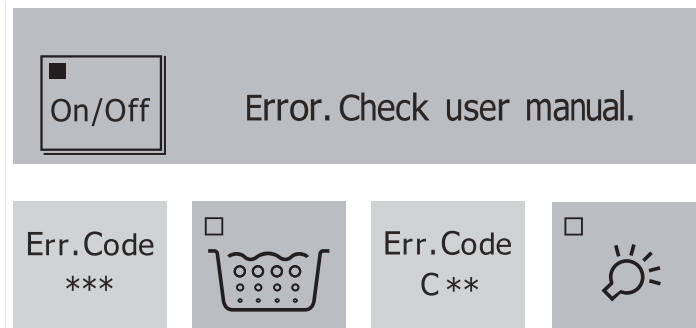
- ① Remove the drain plug in the bathtub and empty the bathtub.
- ② Set the On/Off button on the controller to OFF.
- ③ Set  to ON.

Please remove the drain plug in the bathtub so that the water in the bathtub will all run out. The purge operation will end automatically after approximately two minutes.

■ Handling problems

If there are problems with operation, please refer to the section on troubleshooting in the Instruction Manual.

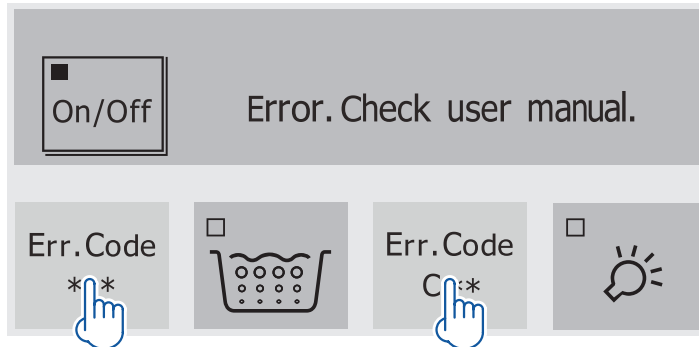
When an error code is displayed



Error Code	Cause	Response
032	Drain valve open	* Is the bathtub drain valve closed?
079	No hot water	* Is sufficient hot water available from the water heater? • Please check the temperature setting/operation of the water heater.
152	Incoming water temperature problem	* Is hot water being supplied to the cold water connection port of the function module? • Please check the connections of the plumbing to the function module.
262	Water level sensor open circuit	* Is the water sensor cable connected? * Is there a break in the water sensor cable?
572	No water	* Is the water main/shut-off valve turned on?
C04	Shoulder warming pump rpm problem	* Is there enough hot water in the bathtub? * Is debris blocking the intake port? * Is the intake port blocked?
Other	---	Please try again after resetting the error.

Error reset method

Errors can be reset with the button that displays the error codes.



If the error codes aren't displayed

The lights on the controller don't work

- Is the controller cable connected?
- Is the controller cable broken?
- Is the power supply reaching the function module?

Air blower doesn't function

- Is the air pump cable connected?
- Is the air pump cable broken?

The underwater lighting doesn't turn on

- Is the underwater lighting cable connected?
- Is the underwater lighting cable broken?

※Please refer to the Instruction Manual concerning other problems.

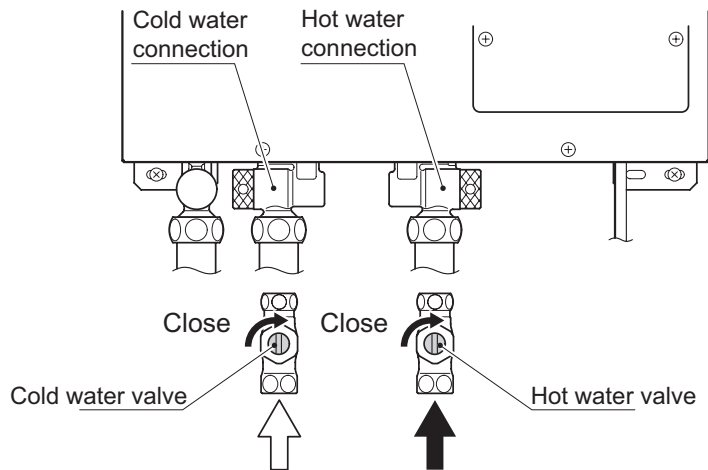
■ Cleaning the strainer in the water drain lug


Debris in the plumbing will collect in the strainer, so after connecting the plumbing and running water through it and after the trial operations, please be sure to clean the strainer.

Caution

If the product won't be delivered to the customer for a long time or if it will not be used for a long time, please remove the water from the function module and shut off the power. (See Instruction Manual.)

- * After the water has run out of the fill-tub outlet, the water inside the function module will still be quite hot. Please wait until the equipment cools to avoid scalds or burns.
 - * Hot and cold water will run out of the water drain lug, so please place a bucket or other container underneath the function module to catch the water.
- ① Close the hot/cold water valves in the plumbing connected to the connection ports.
- * The location of the shut-off valves will vary with the installation site.



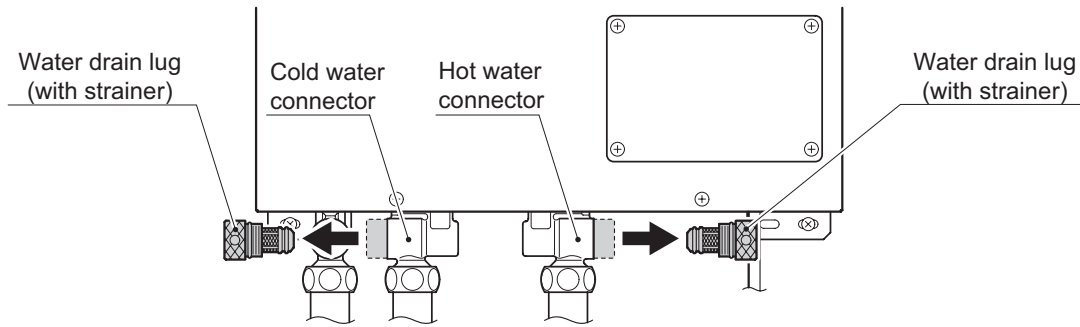
- ② Set the  on the controller to ON and wait around 20 seconds.

* Please do this with the On/Off button set to ON.

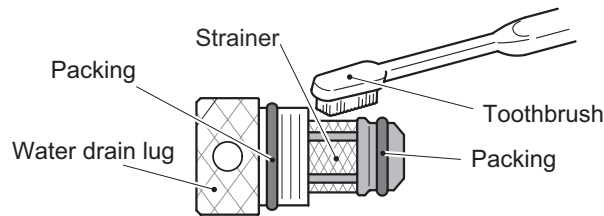
- ③ After confirming that no water is flowing out of the fill-tub outlet, turn the On/Off button to OFF.

- If the water continues flowing, please set the On/Off button to OFF again and start from step (1). Sometimes, the controller will display error code 572.
- This is a notice that the water has been shut off. After resetting the error (See Page 37), set the On/Off button to OFF and proceed to step (4).

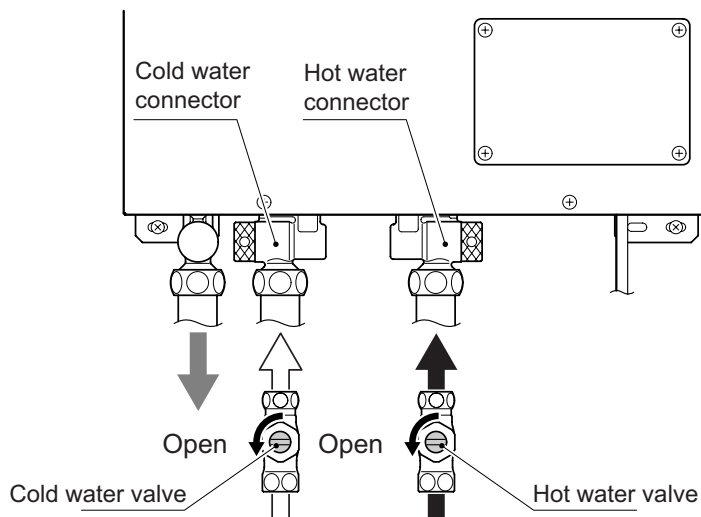
- ④ Remove the water drain lugs in the hot and cold water connection ports.
- * Hot water will come out of the function module when removing the water drain lugs, so please be careful.
 - * When the water drain lugs cannot be removed by turning them by hand, please put the end of a screwdriver or other tool in the hole in the water drain lug and use that to turn them.



- ⑤ Rinse the strainer with water while brushing it with a toothbrush.
- * Please keep debris from scratching or getting on the packing. Otherwise, leaks could develop or debris could get inside the function module, causing problems.



- ⑥ Reattach the water drain lugs to the hot and cold water connectors as they were initially.
- ⑦ Open the hot and cold water valves and check to see that there is no water leaking around the drain lugs.





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