Panasonic

i D

Installation Manual

AIR-TO-WATER HYDROMODULE + TANK

WH-ADC0916H9E8AN

Required tools for Installation Works						
	1	Philips screw driver	5	Pipe cutter	9 Megameter	58.8 N•m (5.8 kgf•m)
	2	Level gauge	6	Reamer	10 Multimeter	65 N•m (6.5 kgf•m)
	3	Electric drill	7	Knife	11 Torque wrench	117.6 N•m (12.0 kgf•
	4	Spanner	8	Measuring tape	42 N•m (4.2 kgf•m)	

SAFETY PRECAUTIONS

Read the following "SAFETY PRECAUTIONS" carefully before installation of Air-To-Water Hydromodule + Tank (here after referred to as "Tank Unit"). Electrical works and water installation works must be done by licensed electrician and licensed water system installer respectively. Be sure to use the correct The caution it is not inclusive to the installed.
The caution items stated here must be followed because these important contents are related to safety. The meaning of each indication used is as below. Incorrect installation due to ignorance or negligence of the instructions will cause harm or damage, and the seriousness is classified by the following indications.
Please leave this installation manual with the unit after installation.

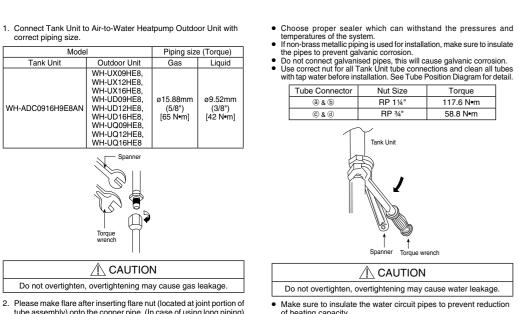
WARNING This indication shows the possibility of causing death or serious injury.

	// WARNING This indication shows the possibility of causing death of serious injury.						
AUTION This indication shows the possibility of causing injury or damage to properties only.							
he items to be followed	e items to be followed are classified by the symbols:						
Symbol with white background denotes item that is PROHIBITED from doing.							
Symbol with dark background denotes item that must be carried out.							
Carry out test run to confirm that no abnormality occurs after the installation. Then, explain to user the operation, care and maintena instructions. Please remind the customer to keep the operating instructions for future reference. If there is any doubt about the installation procedure or operation, always contact the authorized dealer for advice and information.							
<u>∕</u> MARNING							
	Do not use unspecified cord, modified cord, joint cord or extension cord for power supply cord. Do not share the single outlet with other electric: contact, poor insulation or over current will cause electrical shock or fire.						

\bigcirc	Do not use unspecified cord, modified cord, joint cord or extension cord for power supply cord. Do not share the single outlet with other electrical appliances. Poor contact, poor insulation or over current will cause electrical shock or fire.
\bigcirc	Do not tie up the power supply cord into a bundle by band. Abnormal temperature rise on power supply cord may happen.
\bigcirc	Keep plastic bag (packaging material) away from small children, it may cling to nose and mouth and prevent breathing.
\bigcirc	Do not use pipe wrench to install refrigerant piping. It might deform the piping and cause the unit to malfunction.
\bigcirc	Do not purchase unauthorized electrical parts for installation, service, maintenance and etc They might cause electrical shock or fire.
\bigcirc	Do not add or replace refrigerant other than specified type. It may cause product damage, burst and injury etc.
\bigcirc	Do not place containers with liquids on top of the Tank Unit. It may cause Tank Unit damage and/or fire could occurs if they leak or spill onto the Tank Unit.
\bigcirc	Do not use joint cable for Tank Unit / Outdoor Unit connection cable. Use specified Tank Unit / Outdoor Unit connection cable, refer to instruction ③ CONNECT THE CABLE TO THE TANK UNIT and connect tightly for Tank Unit / Outdoor Unit connection. Clamp the cable so that no external force will be acted on the terminal. If connection or fixing is not perfect, it will cause heat up or fire at the connection.
8	Do not use the hot water produced by the Tank Unit for drinking or food preparation. It may cause illness to the user.
0	For electrical work, follow local wiring standard, regulation and this installation instruction. An independent circuit and single outlet must be used. If electrical circuit capacity is not enough or defect found in electrical work, it will cause electrical shock or fire.
0	For water circuit installation work, follow to relevant European and national regulations (including EN61770) and local plumbing and building regulation codes.
0	Engage dealer or specialist for installation. If installation done by the user is defective, it will cause water leakage, electrical shock or fire.
-	This is a R410A model, when connecting the piping, do not use any existing (R22) pipes and flare nuts. Using such same may cause abnormally high pressure

 This is a revision induce, when connecting the piping, do not use any existing (rizz) pipes and nate rula. Using soci sail in the refrigerantic cycle (piping), and possibly result in explosion and injury. Use only R410A refrigerant.
 Thickness for copper pipes used with R410A must be 0.8 mm or more. Never use copper pipes thinner than 0.8 mm.
 It is desirable that the amount of residual oil is less than 40 mg/10 m. 9.

ACXF60-30360-AA 🖄



2.	Please make flare after inserting flare nut (located at joint portion of
	tube assembly) onto the copper pipe. (In case of using long piping
3.	Do not use pipe wrench to open refrigerant piping. Flare nut may
	be broken and cause leakage. Use proper spanner or ring wrench
4.	Connect the piping:

 Align the centre of piping and sufficiently tighten the flare nut with fingers. · Further tighten the flare nut with torque wrench in specified

torque as stated in the table. could damage the system. Make sure the power supply is turned

During installation, install the refrigerant piping properly before run the compressor. Operation of compressor without fixing refrigeration piping and valves at opened condition will cause suck-in of air, abnormal high pressure in refrigeration cycle and result in explosion, injury etc. During pump down operation, stop the compressor before remove the refrigeration piping. Removal of refrigerant piping while compressor is operating and valves are opened will cause suck-in of air, abnormal high pressure in refrigerant cycle and result in explosion, injury etc. Tighten the flare nut with torque wrench according to specified method. If the flare nut is over tightened, after a long period, the flare may break and cause different before the presence of the specified method. If the flare nut is over tightened, after a long period, the flare may break and cause 0 0 frigerant gas leakage. After completion of installation, confirm there is no leakage of refrigerant gas. It may generate toxic gas when the refrigerant contacts with fire. Ventilate v with fire. entilate the room if there is refrigerant gas leakage during operation. Extinguish all fire sources if present. It may cause toxic gas when the refrigerant contacts Only use the supplied or specified installation parts, else, it may causes unit vibrate loose, water leakage, electrical shock or fire. If there is any doubt about the installation procedure or operation, always contact the authorized dealer for advice and information. gf∙m) Select a location where in case of water leakage, the leakage will not cause damage to other properties. When installing electrical equipment at wooden building of metal lath or wire lath, in accordance with electrical facility standard, no electrical contact betwee animment and building is allowed. Insulator must be installed in between. 0 Any work carried out on the Tank Unit after removing any panels which is secured by screws, must be carried out under the supervision of authorized dealer and This system is multi supply appliance. All circuits must be disconnected before accessing the unit terminals. r cold water supply has a backflow regulator, check valve or water meter with check valve, provisions for thermal expansion of water in the hot water syste ist be provided. Otherwise it will cause water leakage. 0 The piping installation work must be flushed before Tank Unit is connected to remove contaminants. Contaminants may damage the Tank Unit components. This installation may be subjected to building regulation approval applicable to respective country that may require to notify the local authority before installation The Tank Unit must be shipped and stored in upright condition and dry environment. It may laid on its back when being moved into the building. ork done to the Tank Unit after remove the front plate cover that secured by screws, must be carried out under the supervision of authorized dealer, licensed 0 Ilation contractor, skilled person and instructed persor This unit must be properly earthed. The electrical earth must not be connected to a gas pipe, water pipe, the earth of lightening rod or a telephone. Otherwis there is a danger of electrical shock in the event of an insulation breakdown or electrical earth fault in the Tank Unit. 0 i ance as stated in 🚫 Do not install the Tank Unit at place where leakage of flammable gas may occur. In case gas leaks and accumulates at surrounding of the unit, it may cause fire. Do not release refrigerant during piping work for installation, re-installation and during repairing a refrigeration parts. Take care of the liquid refrigerant, it may cause frostbite. Do not install this appliance in a laundry room or other high humidity location. This condition will cause rust and damage to the unit. Make sure the insulation of power supply cord does not contact hot part (i.e. refrigerant piping, water piping) to prevent from insulation failure (melt). Do not apply excessive force to water pipes that may damage the pipes. If water leakage occurs, it will cause flooding and damage to other properties O Do not transport the Tank Unit with water inside the unit. It may cause damage to the unit. Carry out drainage piping as mentioned in installation instructions. If drainage is not perfect, water may enter the room and damage the furniture. Select an installation location which is easy for maintenance. wer supply connection to Tank Unit. Power supply point should be in easily accessible place for power disconnection in case of emergency. Must follow local national wiring standard, regulation and this installation instruction. Strongly recommended to make permanent connection to a circuit breaker. - Power Supply 1: Use approved 20A 4-poles circuit breaker with a minimum contact gap of 3.0mm. - Power Supply 2: Use approved 20A 4-poles circuit breaker with a minimum contact gap of 3.0mm. NECT In the •

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A

Ensure the correct polarity is maintained throughout all wiring. Otherwise, it will cause electrical shock or fire.

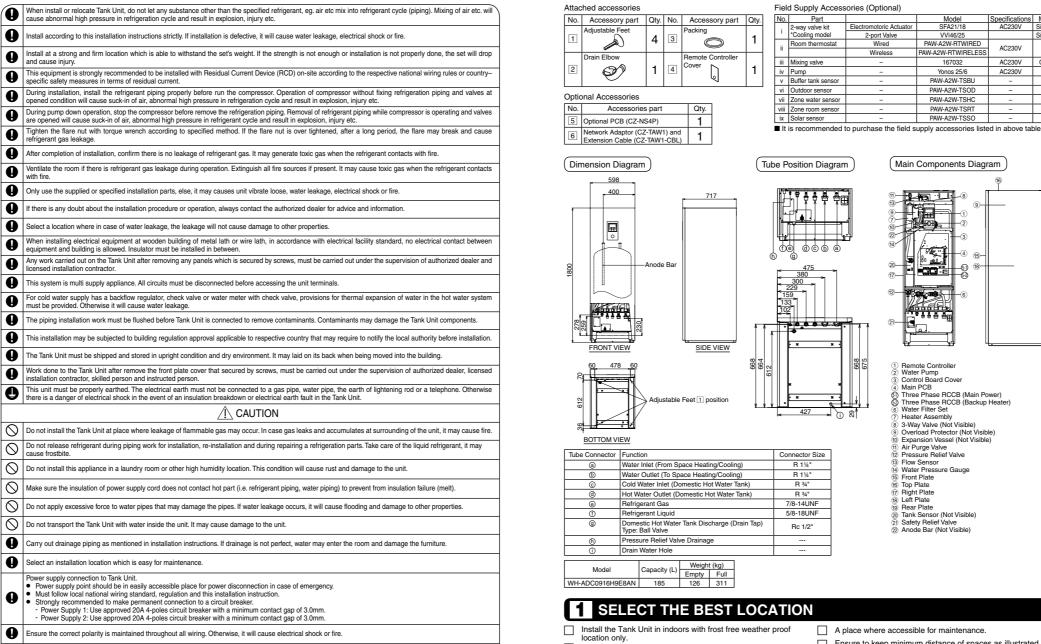
After installation, check the water leakage condition in connection area during test run. If leakage occurs, it will cause damage to other properties.

If the Tank Unit not operates for long time, the water inside the Tank Unit should be drained.

se abnormal high pressure in refrigeration cycle and result in explosion, injury e

Install according to this installation instructions strictly. If installation is defective, it will cause water leakage, electrical shock or fire.

It may need three or more people to carry out the installation work. The weight of Tank Unit might cause injury if carried by one person.



Must install on a flat horizontal and solid hard surface There should not be any heat source or steam near the

Booster + Backup Heater Power Supply

Power Supply 2

E

<u>רבדד</u>

Power Supply

Tank Unit A place where air circulation in the room is good. A place where drainage can be easily done (e.g. Utility room). A place where Tank Unit's operation noise will not cause A place where Tank Unit is far from door way.

below from wall, ceiling, or other obstacles A place where flammable gas leaking might not occur. Secure the Tank Unit to prevent it being knocked over accidentally or during earthquakes following conditions:

Tank unit/Outdoor unit

WIRE STRIPPING AND CONNECTING REQUIREMENT

No loose strand (gap between wires) when insert

ACCEPT PROHIBITED PROHIBITED

Conductor fully insert

connecting terminal board

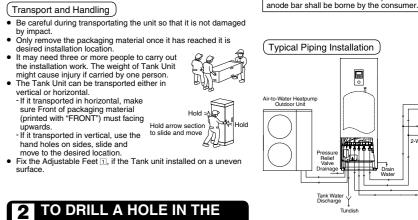
5mm or more

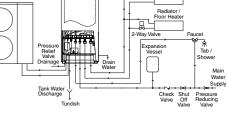
Conductor Conductor not over insert fully insert



WATER QUALITY REQUIREMENT

Must use water that complies with European water quality standard 98/83 EC. The lifespan of the Tank Unit will be shorter if groundwater (include spring water and well water) is used. The Tank Unit shall not be used with the tap water containing contaminants such as salt, acid, and other impurities which may corrode the tank and its component. Recommend to carry out periodic inspection and replacement of the anode bar. The cost of inspection and replacement of the





A WARNING

Open or close the Front Plate carefully. The heavy Bottom Front Plate may injures

WALL AND INSTALL A SLEEVE OF PIPING

1.	Make a Ø70 mm through hole.	This section is for authorized and licensed electrician/water system
2.	Insert the piping sleeve to the hole.	installer only. Work behind the front plate secured by screws
З.	Fix the bushing to the sleeve.	must only be carried out under supervision of qualified contractor,
4.	Cut the sleeve until it extrudes about 15 mm from the wall.	installation engineer or service person.

4.	. Cut the sleeve until it extrudes about 15 mm from the wall.			
	When the wall is hollow, please be sure to use the sleeve for			

Outdoor

, 15 mm

Bushing for tube as

Putty or caulking compoun

When the wall is hollow, please be sure to use the steeve for tube assembly to prevent dangers caused by mice biting the 5. Finish by sealing the sleeve with putty or caulking compound at the final stage.



Access to Internal Components

Open and Close Front Plate 15 . Remove the 2 mounting screws of Bottom Front Plate (6). . Slide it upwards to unhook the Bottom Front Plate (6) hook. 3. Reverse above steps 1~2 for close it.

Refrigerant Piping Installation This Tank Unit is designed for combination with Panasonic Air-to-Water Heat Pump Outdoor Unit. If Outdoor Unit from other manufacturer are being used in combination with Panasonic Tank Unit, optimum operation and reliability of the system is not guaranteed. Thus warranty cannot be given in such case

CHECK RCCB Ensure the RCCB set to "ON" condition before check RCCB.

Turn on the power supply to the Tank Unit. This testing could only be done when power is supplied to the Tank

4

Be careful not to touch parts other than RCCB test button when the power is supplied to Tank Unit. Else, electrical shock may happen.

 Push the "TEST" button on the RCCB. The lever would turn down and indicate "0", if it functions normal.
 Contact authorized dealer if the RCCB malfunction. Turn off the power supply to the Tank Unit.
If RCCB functions normal, set the lever to "ON" again after testing finish.

7 INSTALLATION OF REMOTE **CONTROLLER AS ROOM** THERMOSTAT

 $\bullet\,$ Remote Controller 1 mounted to the Tank Unit can be moved to the room and serve as Room Thermostat.

(Installation Location

Install at the height of 1 to 1.5 m from the floor (Location where average room temperature can be detected).
 Install vertically against the wall.

"OPEN". 3. Open Tap / Shower to allow air inlet. Turn the Safety Relief Valve knob counterclockwise slightly and hold it until all air is released from this pipeline. Then recover the knob to original position after ensured the pipeline is emptied.

airflow. 3. Location where condensation occurs (The Remote Controller is not moisture proof or drip proof.)

Keep distance of 1 m or more from the TV, radio and PC. (Cause of fuzzy image or noise)

water supply, in order to supply water with appropriate temperature for shower or tap usage. Failure to do so might cause scalding. Failure to connect the tube appropriately might causing the Tank Unit malfunction. (C) Pressure Relief Valve Drainage Pipework
Connect a drain hose to the Pressure Relief Valve hose
The hose must be installed in a continuously downward and left open to the frost-free atmosphere.
If drain hose is long, use a metal support fixture along the presence of the support fixture along the supp Spanner Torque wrench eliminate the wavy pattern of drain tube. • The water may drip from this discharge hose. Therefore guide the hose without close or block the outlet of the h • Do not insert this hose into Do not overtighten, overtightening may cause water leakage. sewage hose or cleaning hose that may generate ammonia gas,

 Make sure to insulate the water circuit pipes to prevent reduction If necessary, use a hose clamp to tighten the hose at drain hose connector to prevent it from labeling Guide the drain hose to outdoor as illustrated at the right figure.

1

• After installation, check the water leakage condition in connection Failure to connect the tube appropriately might cause the Tank

58.8 N•m

Tube Connector Nut Size Torque

Tank Unit

© & @

of heating capacity.

area during test run.

tion From Frost

aining.

dry heating. Corrosion Resistance: Duplex stainless steel is naturally corrosion resistant to mains

water supply. No specific maintenance is required to maintai

(A) Space Heating/Cooling Pipework

Connect Tank Unit Tube Connector @ to outlet connector of Panel/

Connect Tank Unit Tube Connector
 to inlet connector of Panel/

• Failure to connect the tube appropriately might cause the Tank

this resistance. However, please note that Tank Unit is not

Unit malfunction

loor heater.

For embedded type

2 Connect the r

Replace The Remote Controller Cover

Front Plate

Existing Remote

Replace the existing Remote controller cover with Remote controlle

cover 4 to close the hole left after remove the Remote controller

. Release the Remote controller cover's hooks from behind the Front Plate $(\ensuremath{\mathfrak{B}})$

Preparation: Make 2 holes for screws using a driver.

Mount the bottom case to the wall.

Unit malfunction.

@ & (b) RP 11/4" 117.6 N•m

RP 34"

If the Tank Unit is being exposed to frost while power supply failure or pump operating failure, drain the system. When water is idle inside the system, freezing up is very likely to happen which

Illustration of guide drain hose (D) Domestic Hot Water Tank Discharge (Drain Tap) and Safety Relief Valve Pipework
 Safety Relief Valve 0.8MPa (8 bars) incorporated in Domestic Hot

Water Tank.

 (B) Domestic Hot Water Tank Pipework
 It's strongly recommended to install an expansion vessel (field supply) in the Domestic Hot Water Tank circuit. Refer Typical Piping THE TANK UNIT A WARNING

t cause scalding. t causing the Tank	cable size requirement.				
	Mo	del	Connecting		
	Tank Unit	Outdoor Unit	Cable Size		
alve hose outlet (h).		WH-UX09HE8,			
lownward direction		WH-UX12HE8,			
		WH-UX16HE8,			
e along the way to		WH-UD09HE8,			
T he sector sector b	WH-ADC0916H9E8AN	WH-UD12HE8,	6 x min 1.5 mm ²		
Therefore must t of the hose.		WH-UD16HE8,			
a or the nose.		WH-UQ09HE8,			
		WH-UQ12HE8,			
		WH-UQ16HE8			
Discharge below fixed grating	 Earth wire shall be line figure for the electric 	Tank Unit respectively onger than the other w cal safety in case of th	r. rires as shown in th		
	cord from the Holde	· · ·			
Trapped gulley	 An isolating device muture Isolating device (dis 3.0 mm contact gap 	connecting means) sh	ould have minimur		
urain nose to outdoor	 Connect the approved polychloroprene sheathed power supply 2 cord and type designation 60245. 				

Connecting cable between Tank Unit and Outdoor Unit shall be approved polychloroprene sheathed flexible cord, type

RCCB ----**BBBB** rminal Board 🜘 Holder (Clamper) - 0 Connecting Cabl Power Supply Cabl Terminal screw Tightening torque cN•m {kgf•cm} 157~196 {16~20 M4

2

M5 196~245 {20~25} *1 - Earth wire must be longer than other cables for safety reason

(CONNECTING REQUIREMENT)

Terminals on the Outdoor Unit

ninals on the Tank Unit

Terminals on the isolating device from power supply (Disconnecting

Power Supply Cord)

Colour of wires (Connecting cables)

For Tank Unit with WH-UX09HE8, WH-UX12HE8, WH-UX16HE8, WH-UD09HE8, WH-UD12HE8, WH-UD16HE8,

WH-UQ09HE8, WH-UQ12HE8, WH-UQ12HE6, WH-UQ16HE8, WH-UD19HE9, WH-UD12HE9, WH-UD12HE9, WH-UQ12HE9, WH-UQ12HE8, WH-UQ12HE9, WH-UQ16HE8
The equipment's power supply 1 complies with IEC/EN 61000-3-2.
The equipment's power supply 2 complies with IEC/EN 61000-3-2.
The equipment's power supply 2 complies with IEC/EN 61000-3-2.
The equipment's power supply 2 complies with IEC/EN 61000-3-2.

Voltage input exceeding the specified voltage.

Sleeve for tube Ensure to keep minimum distance of spaces as illustrated ø70 mm through hole

Please avoid installations which expose the Tank Unit to any of the Extraordinary environment conditions; installation in frost or exposure to unfavorable weather conditions.

Model SFA21/18

PAW-A2W-RTWIRELESS

Yonos 25/6

PAW-A2W-TSBU

PAW-A2W-TSHC

PAW-A2W-TSP

<u>ta</u>

Remote Controller Water Pump Control Board Cover

) Right Plate) Left Plate

Rear Plate Tank Sensor (Not Visible

Safety Relief Valve
 Anode Bar (Not Visible

PAW-A2W-TSOD

PAW-A2W-TSSO -

AC230V Siemen

AC230V Wilo

AC230V

167032 AC230V Caleffi

(Unit : mm)

Indoor

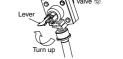
3

For Space Heating / Cooling 1. Turn the plug on the Air Purge Valve $^{(f)}$ outlet anticlockwise by one complete turn from fully closed position



2. Set the Pressure Relief Valve 12 level "DOWN". Pressure relief valve 12

points.





3. Start filling water (with pressure more than 0.1 MPa (1 bar)) to the Space Heating / Cooling circuit via Tube Connector (a. Sto filling water if the free water flow through Pressure Relief Valve Drainage (b)

 Turn ON the Tank Unit and make sure Water Pump 2 is running 5. Check and make sure no water leaking at the tube connecting

(DISCHARGE THE WATER)

For Domestic Hot Water Tank 1. Turn OFF power supply. 2. Set the Domestic Hot Water Tank Discharge (Drain Tap) \circledast to

 Avoid the following locations for installation 1. By the window, etc. exposed to direct sunlight or direct air.

2. In the shadow or backside of objects deviated from the room 5. After discharge, set Domestic Hot Water Tank Discharge (Drain Location near heat source.

(Remote Controller Wiring

5. Uneven surface.

4 CONNECT THE CABLE TO This section is for authorized and licensed electrician only. Work behind the Control Board Cover (3) secured by screws must only be carried out under supervision of qualified contractor, llation engineer or service person.

ank	cable size requirement.			
	Mod	Model		
	Tank Unit	Outdoor Unit	Cable Size	
et (h).		WH-UX09HE8,		
tion		WH-UX12HE8,		
		WH-UX16HE8,		
y to		WH-UD09HE8,		
	WH-ADC0916H9E8AN	WH-UD12HE8,	6 x min 1.5 mm ²	
I		WH-UD16HE8,		
		WH-UQ09HE8,		
		WH-UQ12HE8,		
		WH-UQ16HE8		
w	Ensure the colour of	wires of Outdoor Unit		

(Fixing of Power Supply Cable and Connecting Cable)

table for cable size requirement.

VH-UX09HE8.

WH-UX12HE8, WH-UX16HE8,

NH-UD09HE8,

WH-UD16HE8,

WH-UQ09HE8.

WH-UQ12HE8, WH-UQ16HE8

be used and must not be removed

Mode

Tank Unit Outdoor Unit

H-ADC0916H9E8AN WH-UD12HE8.

1 cord and power supply 2 cord and type designation 60245 IEC 57 or heavier cord to the terminal board, and to the other end of the cord to isolation device (Discours)

the cord to isolating device (Disconnecting means). See below

To avoid the cable and cord being damaged by sharp edges, the

cable and cord must be passed through a bushing (located at the bottom of Control Board) before terminal board. The bushing must

Installation section to locate the expansion vessel.
Recommended pre-charge pressure of the expansion vessel (field supply) = 0.35MPa (3.5 bars)
In high water pressure or water supply is above 500kPa, please install the Pressure Reducing Valve for water supply. If the pressure higher than that, it might damage the Tank Unit.
A Pressure Reducing Valve (field supply) with below specification is strongly advised to be installed along the line of the tube connector © of Tank Unit. Refer Typical Piping Installation section to locate both of these valves.
Recommended Pressure Reducing Valve specifications: - Set pressure: 0.35 MPa (3.5 bars)
Must connect a faucet to Tank Unit Tube Connector @ and main water supply, in order to supply water with appropriate temperature Installation section to locate the expansion vessel.

-F

Supply Cord Cable Isolating Recommende.

5 x min 1.5 mm² 20A

5 x min 1.5 mm² 20A

30mA, 4P type A

30mA, 4P type AC

6

CUTTING AND FLARING THE PIPING

1. Please cut using pipe cutter and then remove the burrs. Remove the burrs by using reamer. If burrs is not removed, gas leakage may be caused. Turn the piping end down to avoid the metal powder entering the pipe.
 Please make flare after inserting the flare nut onto the copper pipes. guaranteed for use with a private water supply. It is recommended to use a tray (field supply) to collect water from the Tank Unit if water leakage occur.



2. To remove burrs 3. To flare 1. To cut Improper flaring

(Water Piping Installation Please engage a licensed water circuit

circuit.
This water circuit must comply with relevant European and national regulations (including EN61770), and local building regulation codes.
Ensure the components installed in the water circuit could withstand water pressure during operation.
Do not use worn out tube.
Do not apply excessive force to pipes that may damage the pipes.
Choose proper sealer which can withstand the pressures and temperatures of the system.
Make sure to use two spanners to tighten the connection. Further tighten the nuts with torque wrench in specified torque as stated in the table.
Cover the pipe end to prevent dirt and dust when inserting it through a wall.

Remove The Remote Controller From Tank Unit

2. Remove the wiring between Remote controller and Tank Unit

00

Mount the bottom case to the wall.

1. Remove the top case from the bottom case

(Mounting The Remote Controller

Cut here with a nipper and remove the b with a file.

ect the remote contro Arrange the wires along the groove

Preparation: Make 2 holes for screws using a driver

For exposed type

Mount the top case. • Align the claws of the to

of the bottom of



Outdoor Unit.

		WH-UX1
it installer to install this water		WH-UD0
laurant European and a stimul	WH-ADC0916H9E8AN	WH-UD1
elevant European and national ocal building regulation codes.		WH-UD1
e water circuit could withstand		WH-UQ0
		WH-UQ1
hat may damage the pipes.		WH-UQ1
inar inag admage the pipeo.		

 Refer below table for the rated flow rate of each particular Rated Flow Rate (I/min)
 Tank Unit
 Outdoor Unit
 Cool
 Heat

 WH-UX09HE8
 20.1
 25.8

 WH-UX12HE8
 28.7
 34.4

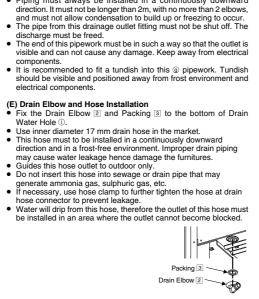
 WH-UX16HE8
 35.0
 45.9
 09HE8 20.1 25.8 12HE8 28.7 34.4
 16HE8
 35.0
 45.9

 09HE8
 20.1
 25.8
 12HE8 28.7 34.4 16HE8 35.0 45.9

Hook (6 places

9

<u>5</u>



2. Press from front to fix the Remote controller cover $\underline{4}$ on the front

ook (6 places

Front Plate (1

Remote

cover 4

8 TEST RUN

after finish cleaning.

(RESET OVERLOAD PROTECTOR (9)

water temperature, take below steps to reset it.

Pipework are properly done.

• Drain Tap and Safety Relief Valve discharge fittings share the

same drainage outlet.
 Use R½" male connector for this drainage outlet connection (Tube

connector (a).
Piping must always be installed in a continuously downward

9 MAINTENANCE

· In order to ensure safety and optimal performance of the Tank Unit, seasonal inspections on the Tank Unit, functional check of RCCB, field wiring and piping have to be carried out at regular intervals. This maintenance should be carried out by authorized dealer. Contact dealer for scheduled inspection.

(Maintenance for Water Filter Set 6)

Turn OFF power supply.
 Set the two valves for the Water Filter Set (6) to "CLOSE".

- 3. Take of the clip, then gently pull out the mesh. Beware of small amount water drain out from it. 4. Clean the mesh with warm water to remove all the stain. Use
- Soft brush if necessary.
 Reinstall the mesh to the Water Filter Set 6 and set back the
- clip on it.

 6. Set the two valves for the Water Filter Set (6) to "OPEN".
 7. Turn ON power supply. (Maintenance for Safety Relief Valve 2)

It is strongly recommended to operate the valve by turn the knob counter clockwise to ensure free water flow through discharge pipe at regular intervals to ensure it is not blocked and to remove

Maintenance for Anode Bar

Electric cable connecting work are properly done. c) Tank Unit is filled up with water and trapped air is released.
 d) Please turn on the power supply after filling the tank until full.
 e) In order to check whether the tank is full, switch heater once for about 10 min. for about 10 min.
 Switch ON the power supply of the Tank Unit. Set the Tank Unit RCCB to "ON" condition. Then, please refer to the Operation Instruction for operation of Remote Controller ().
 For normal operation, Water Pressure Gauge (a) reading should be in between 0.05 MPa and 0.3 MPa. If necessary, adjust the Water Pump (2) SPEED accordingly to obtain normal water pressure operating range. If adjust Water Pump (2) SPEED cannot solve the problem, contact your local authorized dealer.
 After test run, please clean the Water Filter Set (6). Reinstall it atter finish cleaning.

Turn off power supply.

- Close water supply valve.
- mounting screws respectively

- 1. Place back the Foamed Polystyrene cap.

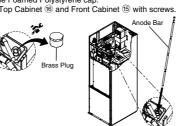
 Take out the cover.
 Use a test pen to push the centre button gently in order to reset the Overload Protector (9)

Overload Protector (9) a serves the safety purpose to prevent the



. Before test run, make sure below items have been checked:





10

14

5 CHARGING AND DISCHARGING THE WATER

· Make sure all the piping installations are properly done before carry out below steps

(CHARGE THE WATER) For Domestic Hot Water Tank



Domestic Hot Water Tank Discharge (Drain Tap) (2)

- 2. Set all Tap / Shower "OPEN". Start filling water to the Domestic Hot Water Tank via Tube Connector (©). After 20~40min, water should flow out from Tap / Shower.

PROPER PUMP DOWN PROCEDURE

Remove the refrigerant piping

(CHECK ITEMS

Strictly follow the steps below for proper pump down procedure. n may occur if the steps are not followed as per sequence

After 10-15 minutes, (after 1 or 2 minutes in case very low ambient temperatures (< 10°C)), fully close 2 way valve on Outdoor Unit.

After 3 minutes, fully close 3 way valve on Outdoor Unit. Press the "OFF/ON" switch on the Remote Controller ① to stop pump down operation.

Is the Tank Unit properly installed on the concrete floor?

Is there any gas leakage at flare nut connections?

Has the heat insulation been carried out at flare nut connection?

Is the Pressure Relief Valve (2) operation normal?

Is the Remote Controller (1) LCD operation normal?

Is the Safety Relief Valve knob turned for releasing air?

Is there any abnormal sound?

Is the heating operation normal?

Is the Tank unit water leak free on test run?

When the Tank Unit is not in operation (standby), enter the Service setup menu in the Remote Controller and select Pump down operation to turn it ON. (See APPENDIX for detail)

- Else, please contact your local authorized dealer
- Check and make sure no water leaking at the tube connecting points.
 Set the Domestic Hot Water Tank Discharge (Drain Tap)

 to "OPEN" for 10 seconds to release air from this pipeline. Then set it "CLOSE".
- Turn the Safety Relief Valve knob counterclockwise slightly and hold for 10 seconds to release air from this pipeline. Then recover the knob to original position.
- To prevent back pressure from happening to the Safety Relief Valve, do turn the Safety Relief Valve knob counterclockwise

Z

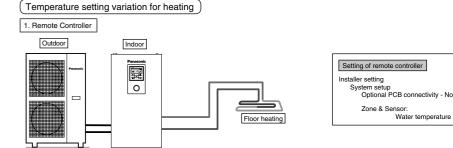
expansion vessel. (field supply)Please keep the installation height difference of system water

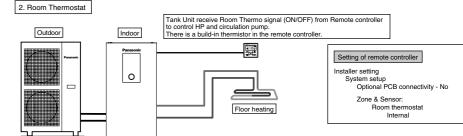


1 Variation of system

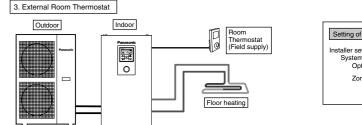
This section introduces variation of various systems using Air-To-Water Heatpump and actual setting method.

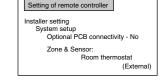




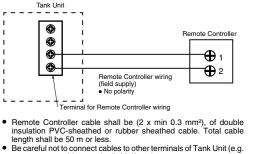


Connect floor heating or radiator directly to the Tank Unit. Remove remote controller from Tank Unit and install it in the room where floor heating is installed. This is an application that uses remote controller as Room Thermostat.





Connect floor heating or radiator directly to Tank Unit. Remote controller is installed on Tank Unit. Install separate external Room Thermostat (field supply) in the room where floor heating is installed. This is an application that uses external Room Thermosta



Do not bundle together with the power source wiring or store in the same metal tube. Operation error may occur.

CHECK PRESSURE RELIEF VALVE 12

• Check for correct operation of Pressure Relief Valve (12) by turning on the lever to become horizontal.

Be sure to switch off all power supply before performing each of

Water pressure should not lower than 0.05 MPa (with inspects the

Water Pressure Gauge (14). If necessary add water into Tank Unit

CHECK WATER PRESSURE)*(0.1 MPa = 1 bar)

If you do not hear a clacking sound (due to water drainage), contact your local authorized dealer.
Push down the lever after finish checking.
In case the water keep on draining out from the Tank Unit, switch off the system, and then contact your local authorized dealer.

6 RECONFIRMATION

(EXPANSION VESSEL 10 PRE PRESSURE CHECKING

the below checkings

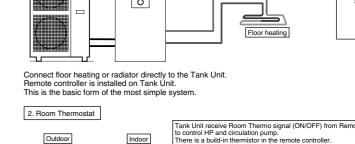
(via Tube Connector (a)).

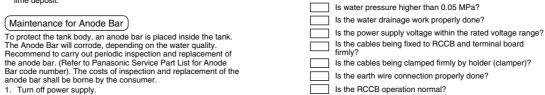
- For Space Heating / Cooling
 Expansion Vessel (10) with 10 L air capacity and initial pressure of 1 bar is installed in this Tank Unit.
 Total amount of water in system should be below 200 L. (Inner volume of Tank Unit's piping is about 5 L)
 If total amount of water is over 200 L, please add another approximation vessel (16) de unpublic
- circuit within 10 m.

8



12





anode bar shall be borne by the consumer.

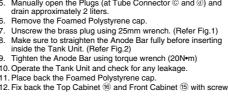
Make sure the tank water are cool down to room temperature Take off the Front Plate (5) and Top Plate (6) with 2 and 10

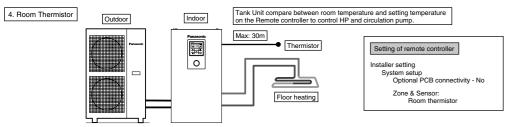
12. Fix back the Top Cabinet 16 and Front Cabinet 15 with screw

water over heating. When the Overload Protector (9) a trip at high

Manually open the Plugs (at Tube Connector © and @) and drain approximately 2 liters. Remove the Foamed Polystyrene cap.

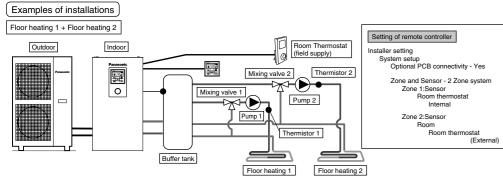




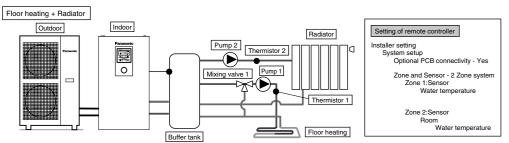


Connect floor heating or radiator directly to Tank Unit. Remote controller is installed on Tank Unit. Install separate external room thermistor (specified by Panasonic) in the room where floor heating is installed. This is an application that uses external room thermistor.

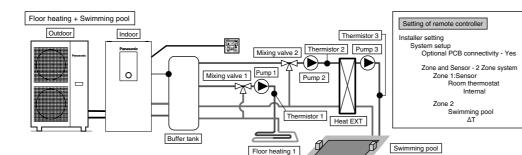
There are 2 kinds of circulation water temperature setting method Direct: set direct circulation water temperature (fixed value) Compensation curve: set circulation water temperature (nead value) Compensation curve: set circulation water temperature depends on outdoor ambient temperature in case of Room thermo or Room thermistor, compensation curve can be set. In this case, compensation curve is shifted according to the thermo ON/OFF situation. (Example) If room temperature increasing speed is; very slow \rightarrow shift up the compensation curve very fast \rightarrow shift down the compensation curve



Connect floor heating to 2 circuits through buffer tank as shown in the figure. Install mixing valves, pumps and thermistors (specified by Panasonic) on both circuits Remove remote controller from Tank Unit, install it in one of the circuit and use it as Room Thermostat Install external Room Thermostat (field supply) in another circuit. Both circuits can set circulation water temperature independently. Install buffer tank thermistor on buffer tank. It requires connection setting of buffer tank and ΔT temperature setting at heating operation separately. This system requires Optional PCB (CZ-NS4P).



Connect floor heating or radiator to 2 circuits through buffer tank as shown in figure Install pumps and thermistors (specified by Panasonic) on both circuits. Install mixing valve in the circuit with lower temperature among the 2 circuits. (Generally, if install floor heating and radiator circuit at 2 zones, install mixing valve in floor heating circuit.) Remote controller is installed on Tank Unit. For temperature setting, select circulation water temperature for both circuits. Both circuits can set circulation water temperature independently Both circuits can set circulation water temperature independency. Install buffer tank thermistor on buffer tank. It requires connection setting of buffer tank and ΔT temperature setting at heating operation separately. This system requires the Optional PCB (CZ-NS4P). Mind that if there is no mixing valve at the secondary side, the circulation water temperature may get higher than setting temperature. **133**

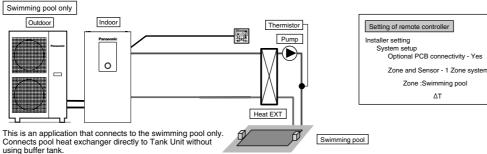


Connect floor heating and swimming pool to 2 circuits through buffer tank as shown in figure Install mixing valves, pumps and thermistors (specified by Panasonic) on both circuits. Then, install additional pool heat exchanger, pool pump and pool sensor on pool circuit. Remove remote controller from Tank Unit and install in room where floor heating is installed. Circulation water temperature of floor heating and evidentiating and heat be activided and install in room where floor heating is installed. Circulation water temperature of floor heating and swimming pool can be set independently.

Install buffer tank sensor on buffer tank.

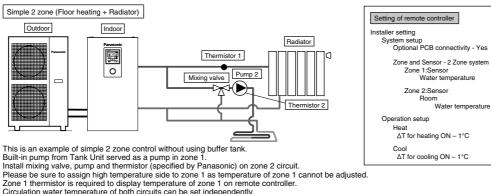
uires connection setting of buffer tank and ΔT temperature setting at heating operation separately. This system requires the Optional PCB (CZ-NS4P).

* Must connect swimming pool to "Zone 2". If it is connected to swimming pool, operation of pool will stop when "Cooling" is operated.



Install pool pump and pool sensor (specified by Panasonic) at secondary side of the pool heat exchange Remove remote controller from Tank Unit and install in room where floor heating is installed. Temperature of swimming pool can be set independently. This system requires the Optional PCB (CZ-NS4P).

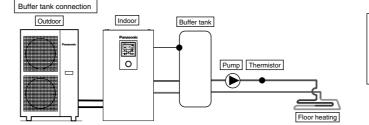
In this application, cooling mode cannot be selected. (not display on remote controller)



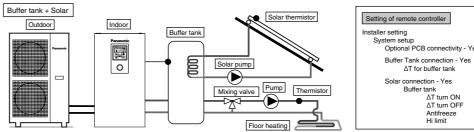
Zone 1 thermistor is required to display temperature of zone 1 on remote controller. Circulation water temperature of both circuits can be set independently. (However, temperature of high temperature side and low temperature side cannot be reversed) This system requires the Optional PCB (CZ-NS4P).

(NOTE)

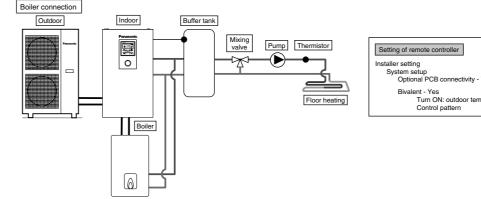
Thermistor 1 does not affect operation directly. But error happens if it is not installed. Please adjust flow rate of zone 1 and zone 2 to be in balance. If it is not adjusted correctly, it may affects the performance.
 (If zone 2 pump flow rate is too high, there is possibility that no hot water flowing to zone 1.)
 Flow rate can be confirmed by "Actuator Check" from maintenance menu.



This is an application that connects the buffer tank to the Tank Unit. Buffer tank's temperature is detected by buffer tank thermistor (specified by Panasonic). This system requires Optional PCB (CZ-NS4P).



This is an application that connects the buffer tank to the Tank Unit before connecting to the solar water heater to heat up the tank Buffer tank's temperature is detected by buffer tank the istor (specified by Panas Buffer tank's temperature is detected by puffer tank thermistor (specified by Panasonic). Solar panel's temperature is detected by solar thermistor (specified by Panasonic). Buffer tank shall use tank with built-in solar heat exchange coil independently. During winter season, solar pump for circuit protection will be activated continuously. If does not want to activate the solar pump operation, please use glycol and set the anti-freezing operation start temperature to -20°C. Heat accumulation operates automatically by comparing the temperature of tank thermistor and solar thermistor. This system requires Optional PCB (CZ-NS4P).



This is an application that connects the boiler to the Tank Unit, to compensate for insufficient capacity by operate boiler when outdoo There are 3 modes selectable by renote controls to the DHW tank's circuit to heat up tank's hot water is also possible Beiler is connected parallel with heat pump against heating circuit. There are 3 modes selectable by renote controller for boiler connection. Besides that, an application that connects to the DHW tank's circuit to heat up tank's hot water is also possible (Choeseline actions of billing hold) be recomposible bu inteller. (Operation setting of boiler shall be responsible by installer.) This system requires Optional PCB (CZ-NS4P).

Depending on the settings of the boiler, it is recommended to install buffer tank as temperature of circulating water may get higher. (It must connect to buffer tank especially when selecting Advanced Parallel setting.)

A WARNING Panasonic is NOT responsible for incorrect or unsafe situation of the boiler system.

I CAUTION

Make sure the boiler and its integration in the system complies with applicable legislati Make sure the return water temperature from the heating circuit to the Tank Unit does NOT exceed 55°C Boiler is turned off by safety control when the water temperature of the heating circuit exceed 85°C

2 How to fix cable

(Connecting with external device (optional)

All connections shall follow to the local national wiring standard.
 It is strongly recommended to use manufacturer-recommended parts and accessories for installation.
 For connection to main PCB ④

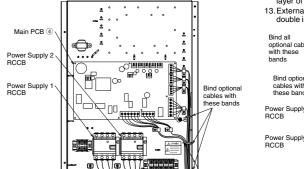
note: - Two-way Valve shall be CE marking compliance

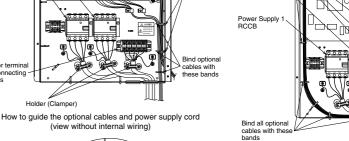
component.
Maximum load for the valve is 9.8VA.
Room thermostat cable must be (4 or 3 x min 0.5 mm²), of type designation 60245 IEC 57 or heavier cord, or similarly double insulation sheathed cable.

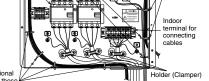
designation 60245 IEC 57 or heavier External control shall be connected to 1-pole switch with min 3.0 mm contact gap. Its cable must be (2 x min 0.5 mm²), double insulation layer of PVC-sheathed or rubber-sheathed cable. * note: - Switch used shall be CE compliance component Maximum operating current shall be less than 3A_{ms}.
 Room sensor zone 1 cable shall be (2 x min 0.3 mm²) double insulation layer of PVC-sheathed or rubber-sheathed. 7. Outdoor air sensor cable shall be (2 x min 0.3 mm²) double

C

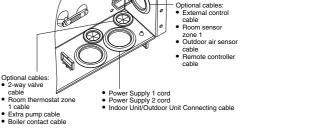
nsulation layer of PVC-sheathed or rubber-sheathed







How to guide the optional cables and power supply cord (view without internal wiring)





16

For connection to Optional PCB 5

By connecting Optional PCB, 2 Zone temperature control can be achieved. Please connect mixing valves, water pumps and thermistors in zone 1 and zone 2 to each terminals in Optional 2020

PCB. Temperature of each zone can be controlled independently by Pump zone 1 and zone 2 cable shall be (2 x min 1.5 mm²), of type designation 60245 IEC 57 or heavier.

1. Two-way valve shall be spring and electronic type, refer to "Field Supply Accessories" table for details. Valve cable shall be (3 x min 1.5 mm²), of type designation 60245 IEC 57 or heavier, or similarly double insulation sheathed cable. Solar pump cable shall be (2 x min 1.5 mm²), of type designation 60245 IEC 57 or heavier. 4. Pool pump cable shall be (2 x min 1.5 mm²), of type designation 60245 IEC 57 or heavier.

Room thermostat zone 1 and zone 2 cable shall be (4 x min 0.5 mm²), of type designation 60245 IEC 57 or heavier. Mixing valve zone 1 and zone 2 cable shall be (3 x min 1.5 mm²). of type designation 60245 IEC 57 or heavier. Room sensor zone 1 and zone 2 cable shall be (2 x min 0.3 mm²),

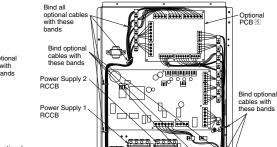
 Extra pump cable shall be (2 x min 1.5 mm²), of type designation 60245 IEC 57 or heavier.
 Boiler contact cable shall be (2 x min 0.5 mm²), of type double insulation layer (with insulation strength of minimum 30V) of PVC-sheathed or rubber-sheathed cable.

 Buffer tank sensor, pool water sensor and solar sensor cable shall be (2 x min 0.3 mm²), double insulation layer (with insulation strength of minimum 30V) of PVC-sheathed or rubber-sheathed arbitrary sensor and solar sensor sens sensor sensor sensor sensor sensor sensor sensor sensor sen 9 Water sensor zone 1 and zone 2 cable shall be (2 x min 0.3 mm²)

 Water Sensor Zone 1 and Zone 2 cable shall be (2 x min 0.3 min²), double insulation layer of PVC-sheathed or rubber-sheathed cable.
 Demand signal cable shall be (2 x min 0.3 mm²), double insulation layer of PVC-sheathed or rubber-sheathed cable. SG signal cable shall be (3 x min 0.3 mm²), double insulation layer of PVC-sheathed or rubber-sheathed cable.
 Heat/Cool switch cable shall be (2 x min 0.3 mm²), double insulation

laver of PVC-sheathed or rubber-sheathed cable

External compressor switch cable shall be (2 x min 0.3 mm²), double insulation layer of PVC-sheathed or rubber-sheathed cable.





15

11

Setting of remote controller

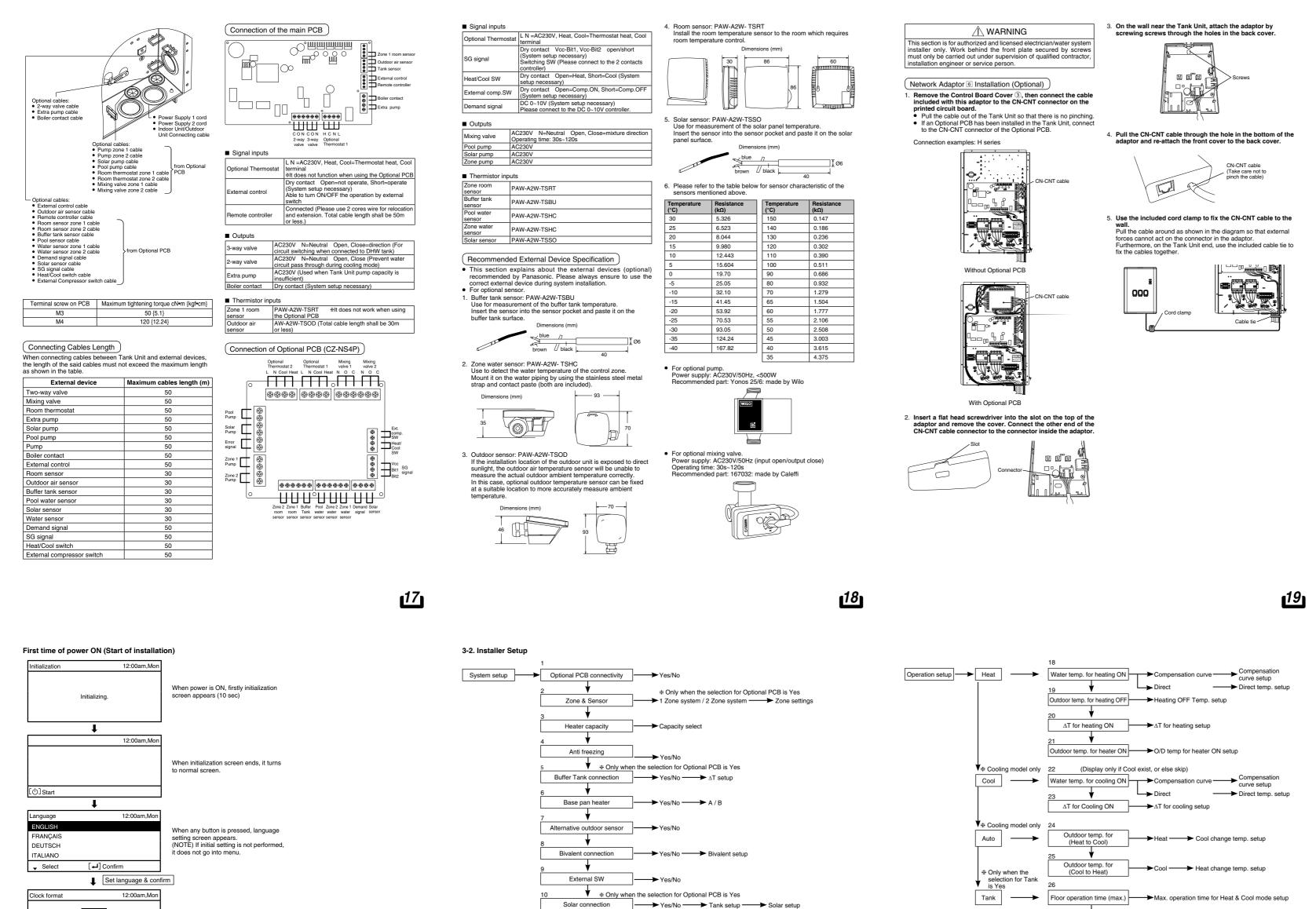
Optional PCB connectivity - Y

Buffer Tank connection - Yes

∆T for buffer tank

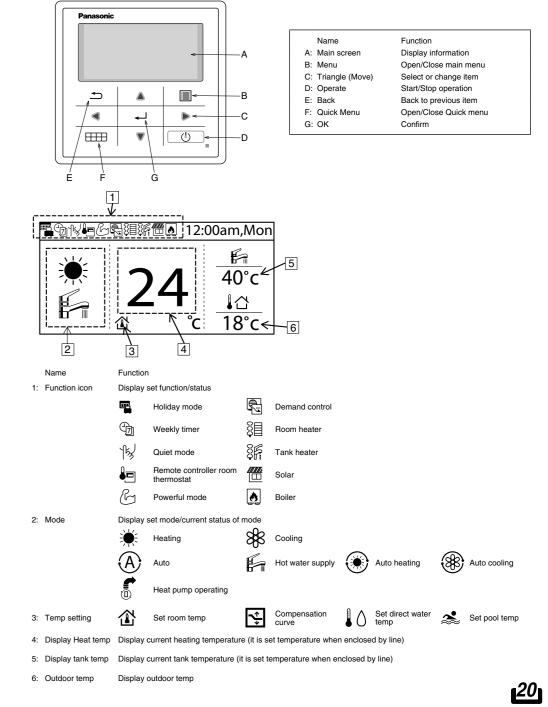
Antifreeze Hi limit

staller setting System setup



★ Only when the selection for Optional PCB is Yes



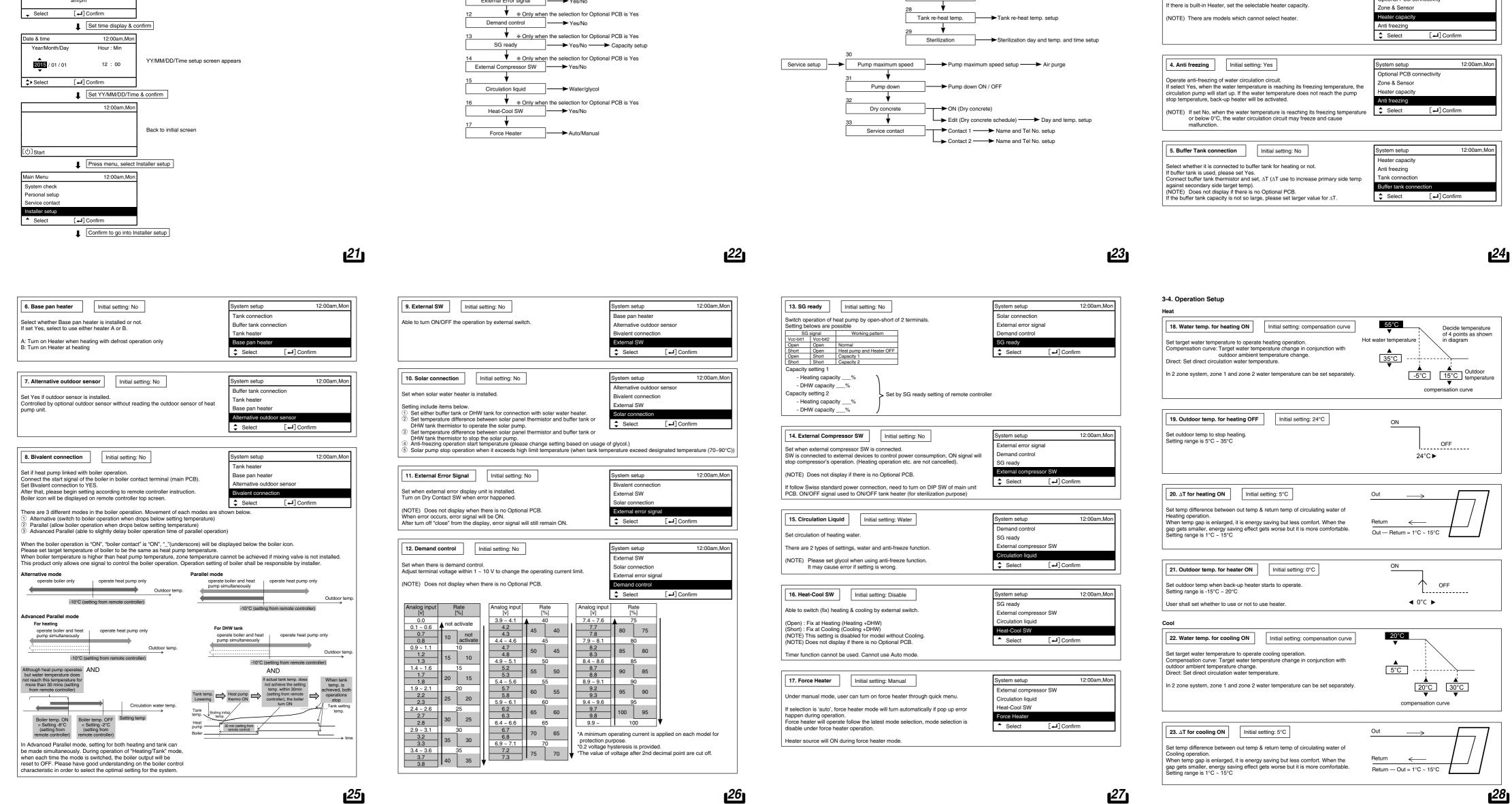


3-3. System Setup

Tank heat up time (max.) Max. operation time for Tank mode setup

1. Optional PCB connectivity Initial setting: No	System setup	12:00am,Mon
	Optional PCB cor	nnectivity
f function below is necessary, please purchase and install Optional PCB.	Zone & Sensor	
Please select Yes after installing Optional PCB.	Heater capacity	
2-zone control		
Pool	Anti freezing	
Buffer tank	 Select 	[⊷] Confirm
Solar		
External error signal output		
Demand control		
 SG ready Stop heat source unit by external SW 		
Stop field Source unit by external SW		
2 Zone & Sensor	System setun	12:00am Mon
2. Zone & Sensor Initial setting: Room and Water temp.	System setup	12:00am,Mon
	Optional PCB cor	, .
f no Optional PCB connectivity Select sensor of room temperature control from the following 3 items	Optional PCB con Zone & Sensor	, .
f no Optional PCB connectivity Select sensor of room temperature control from the following 3 items ① Water temperature (circulation water temperature)	Optional PCB con Zone & Sensor Heater capacity	, .
f no Optional PCB connectivity Select sensor of room temperature control from the following 3 items ① Water temperature (circulation water temperature) ② Room thermostat (Internal or External)	Optional PCB con Zone & Sensor	, .
f no Optional PCB connectivity Select sensor of room temperature control from the following 3 items 1) Water temperature (circulation water temperature) 2) Room thermostat (Internal or External)	Optional PCB con Zone & Sensor Heater capacity	, .
f no Optional PCB connectivity Select sensor of room temperature control from the following 3 items 1) Water temperature (circulation water temperature) 2) Room thermostat (Internal or External) 3) Room thermistor When there is Optional PCB connectivity	Optional PCB cor Zone & Sensor Heater capacity Anti freezing	nectivity
f no Optional PCB connectivity Select sensor of room temperature control from the following 3 items ① Water temperature (circulation water temperature) ② Room thermostat (Internal or External) ③ Room thermistor When there is Optional PCB connectivity ① Select either 1 zone control or 2 zone control.	Optional PCB cor Zone & Sensor Heater capacity Anti freezing	nectivity
f no Optional PCB connectivity Select sensor of room temperature control from the following 3 items ① Water temperature (circulation water temperature) ② Room thermostat (Internal or External) ③ Room thermistor When there is Optional PCB connectivity ① Select either 1 zone control or 2 zone control. If it is 1 zone, select either room or pool, select sensor	Optional PCB cor Zone & Sensor Heater capacity Anti freezing	nectivity
f no Optional PCB connectivity Select sensor of room temperature control from the following 3 items 1) Water temperature (circulation water temperature) 2) Room thermostat (Internal or External) 3) Room thermistor When there is Optional PCB connectivity 1) Select either 1 zone control or 2 zone control. If it is 1 zone, select either room or pool, select sensor If it is 2 zone, after select sensor of zone 1, select either room or pool for zone	Optional PCB cor Zone & Sensor Heater capacity Anti freezing	nectivity
f no Optional PCB connectivity Select sensor of room temperature control from the following 3 items ① Water temperature (circulation water temperature) ② Room thermostat (Internal or External) ③ Room thermistor When there is Optional PCB connectivity ① Select either 1 zone control or 2 zone control. If it is 1 zone, select either room or pool, select sensor	Optional PCB cor Zone & Sensor Heater capacity Anti freezing	nectivity

Optional PCB connectivity



26

12:00am,Mor

Operation

Air Purge

12:00am,Mo

28

Tank

26. Floor operation time (max)

27. Tank heat up time (max)

Set max boiling hours of tank.

28. Tank re-heat temp.

Setting range is -12°C ~ -2°C

Set timer to perform sterilization

Set operating day & time. (Weekly timer format)

User shall set whether to use or not to use sterilization mode.

29. Sterilization

5min ~ 60min)

max temp.)

It is a function for Heating + Tank operation.

Initial setting: 8h

Initial setting: 60min

Initial setting: -8°C

Set max operating hours of heating. When max operation time is shortened, it can boil the tank more frequently.

When max boiling hours are shortened, it immediately returns to Heating operation, but it may not fully boil the tank.

Set temp to perform reboil of tank water. (When boiled by heat pump only, $(51^{\circ}C - Tank re-heat temp)$ shall become

Initial setting: 65°C 10min

Sterilization temp (55~75°C + If use back-up heater, it is 65°C) Operation time (Time to run sterilization when it reached setting temp

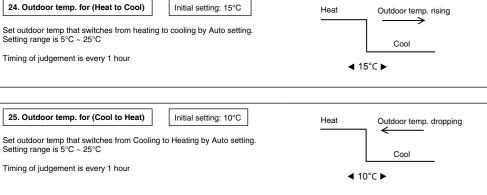
24h

▼

am/pm

When language is set, setting screen of

time display appears (24h/am/pm)



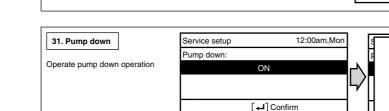
30min ~ 10h

Heat

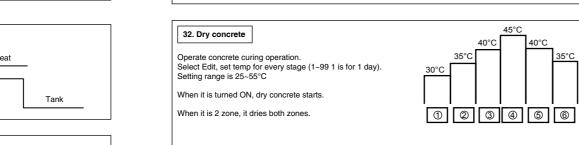
5min ~ 4h

Tank

-12°C ~ -2°C



Initial setting: Depend on model



33. Service contact	Service setup 12:0	0am,Mon	Contact-1: Bryan Adams	
	Service contact:		ABC/ abc 0-9/ Other	
Able to set name & tel no. of contact person when there is breakdown	Contact 1		ABCDEFGHIJKLMNOPQR	
etc. or client has trouble. (2 items)	Contact 2		STUVWXYZ abcdefghi	
			jklmnopqrstuvwxyz	
	▲ Select [⊶] Confirm		→ Select [←] Enter	

4 Service and maintenance

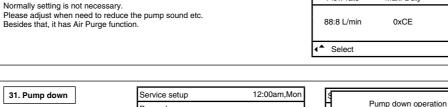
Custom menu

Setting method of Custom menu When connect CN-CNT connector with computer Please use optional USB cable to connect with CN-CNT stom menu After connected, it requests for driver. If PC is under Windows Vista or later version, it automatically installs the driver under Cool mode Back-up heater nternet environment Reset energy monitor If PC uses Windows XP or earlier version and there is no intern-Reset operation history driver (VCP driver) and install. http://www.ftdichip.com/Drivers/VCP.htm Smart DHW - Select [←] Confirm Please press 🗐 + ▼ + ◀ for 10 sec. tems that can be set

 Cool mode (Set With/Without Cooling function) Default is If forget Password and cannot operate remote controller Press - + + + for 5 sec. (NOTE) As with/without Cool mode may affect electricity Password unlock screen appears, press Confirm and it shall application, please be careful and do not simply change it. In Cool mode, please be careful if piping is not Password will become 0000. Please reset it again. (NOTE) Only display when it is locked by pa insulated properly, dew may form on pipe and water may drip on the floor and damage the floor. Maintenance menu Backup heater (Use/Do not use Backup heater) (NOTE) It is different from to use/not to use backup heater set by client. When this setting is used, heater Setting method of Maintenance menu power on due to protection against frost will be disabled. (Please use this setting when it is Maintenance men 12:00am,Mo required by utility company.) By using this setting, it cannot defrost due to low Heuror's setting temp and operation may stop Actuator check est mode Sensor setup Please set under the responsibility of installer. When it stops frequently, it may be due to insufficient circulation flow rate, setting temp of heating is too low etc. Reset passwore Select [←] Confirm 3 Reset energy monitor (delete memory of Energy monitor) Please use when moving house and handover the unit. Press 🗂 + 🖵 + 🕨 for 5 sec. tems that can be set ④ Reset operation history (delete memory of operation history) Please use when moving house and handover the unit. Actuator check (Manual ON/OFF all functional parts) (NOTE) As there is no protection action, please be careful not to cause any error when operating each part (do not turn on pump when there is no water etc.) Smart DHW (Set Smart DHW mode Parameter) a) Start time: Tank reboil at lower ON Temp. onward. b) Stop time: Tank reboil at normal ON Temp, onward, c) ON Temp.: Tank Reboil Temp when Smart DHW start.) Test mode (Test run) Normally it is not used Sensor setup (offset gap of detected temp of each sensor within -2~2°C range) (NOTE) Please use only when sensor is deviated. It affects temperature contro A Reset password (Reset password)

3-5. Service Setup

30. Pump maximum speed



Service setup

Flow rate

Max. Duty

in progress

[①] OFF

 \rightarrow

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