Project cürv

Floor Mounted Heat Pump Water Heater
Operation and Installation Manual

CE UKCA

Model

CURV-HP200M7

CURV-HP250M7

Please read this manual carefully prior to your use of this water heater.
The appearance of the water heater given in this manual is for reference only.

WRAS APPROVED PRODUCT

kiwa approved product

kiwa approved product

EN 12897:2016

*Information correct as of 09/24.

Contents

Dear users of CURV,

Thank you for choosing CURV products.
Please read this manual carefully and follow the operation and safety instruction to ensure best installation and utilization of the product.

Product safety statement:

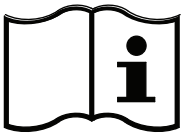
1. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
2. Children should be supervised to ensure that they do not play with the appliance.
3. Installation must be done professionals. Don't open any cover, panel, or top cover with tools for any check, maintenance and repairing yourself at any time, please contact qualified professionals to do those.
4. This appliance is intended to be permanently connected to the water mains and not connected by a hose set.
5. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Arranging disposal of refrigerant

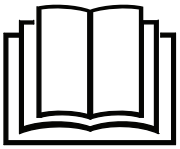
Warning: flammable hazard!

1. Please read the instructions carefully before installation and use.
2. Do not puncture or ignite this product.
3. The environment-friendly refrigerant R290 used in this product is odorless.
4. This product cannot be discarded or scrapped at will.

If necessary, please contact CURV's after-sales team to obtain the correct disposal method.
When the product is disposed of, the refrigerant in the system needs to be recovered.
5. The product should not be stored in an area containing an open flame, including an area with an open fire, gas appliance or electric heater. (e.g. open fire, ignited gas appliance, open electric heater).



6. Before the refrigeration system is repaired, the refrigerant must be removed by a licensed professional.



7. Do not use any method to accelerate the defrosting process or clean frosted components of the appliance.

Warning : Risk of damage to the environment
This heat pump contains the refrigerant R290. The refrigerant must not be allowed to escape into the atmosphere.
Refrigerant must be disposed of by qualified professional.

Safety Instructions – Air Source Heat Pump Water Heater

⚠ **Important:** Failure to follow these safety instructions can cause serious damage to the unit, risk of electric shock, injury, or even death. Always read these instructions before use or installation.

⚠ General Safety

- Always have the water heater installed by qualified professionals.
- Never install the unit yourself — incorrect installation may cause leaks, electric shock, or explosion.
- Keep this manual in a safe and accessible place for future reference.
- Use only genuine accessories and parts recommended by the manufacturer.
- Install the unit indoors in a dry, well-ventilated area where drainage is available.
- Do not install in locations with gas, vapours, dust, or other hazardous atmospheres.
- Keep the area around the unit clean and free from obstruction.

⚠ Electrical Safety

- The heater must be connected to a dedicated power circuit with proper earthing.
- Earth (ground) and neutral wires must **never** be connected together.
- Do not connect the earth wire to water or gas pipes, lightning arresters, or telephone lines.
- Electrical work must comply with local and national regulations.
- Use a cable type **H07RN-F** and ensure all wiring meets local standards.
- Install a **residual current circuit breaker (RCD)** with a trip current of no more than 30mA.
- Ensure a full disconnection device (switch) is installed for all poles in accordance with overvoltage category III requirements.
- If the power cord is damaged, it must be replaced by qualified professionals.
- Do not use extension leads or tapped wires — these can overheat and cause fires.

⚠ Water Safety

- Always fit the water storage tank with a **safety valve**.
    - Do not change the position of the valve or block it.
    - Test it monthly by rotating the handle — water should flow out. If not, check for blockage and replace if necessary.
- Connect the drainpipe to the atmosphere — it must not be blocked.
- The drainpipe must be installed in a frost-free location with a continuous downward slope.
- Recommended inlet water pressure: **0.1–0.5 MPa**.
- Recommended inlet water temperature: **10–30°C**.
- Water heaters must be permanently connected to the mains supply — **do not** connect using a hose set.

⚠ Hot Water Safety

- The actual outlet water temperature may be higher than the displayed temperature.
- Always check the water temperature before use to prevent scalding.
- Do not direct hot water at your body immediately after turning on the tap.
- Children must be supervised by an adult when using hot water.

⚠ Refrigerant Safety (R290)

- This appliance contains 0.12 kg of **R290** refrigerant (GWP = 3).
- Never pierce, burn, or damage the refrigerant system.
- If refrigerant leaks:
  - Ventilate the area immediately.
  - Avoid ignition sources — **do not smoke, weld, or use open flames**.
  - Contact a qualified service technician.
- Refrigerants may not have an odour — always check for leaks with approved equipment.
- Only trained and certified personnel may carry out work on refrigerant systems.
- Refrigerant repairs requiring welding or major disassembly must **never** be done at the user's site — the unit must be sent to an explosion-proof workshop.

⚠ Installation Requirements

- Install on a strong, level foundation that can support the weight of the unit.
- Keep inlet and outlet air ducts at least 1 metre apart to avoid recirculation of cold air.
- Do not accelerate defrosting or cleaning except by methods recommended by the manufacturer.
- Avoid installing in coastal or high-corrosion environments unless protected.

⚠ Transport & Storage

- Handle the product carefully — do not drop, throw, or roll.
- Only trained personnel should handle units containing flammable refrigerants.
- Transport in vehicles that comply with local regulations and protect the unit from rain and damage.
- Store between **–10°C and +50°C** in a well-ventilated area.
- Keep refrigerant cylinders upright and away from heat or ignition sources.

⚠ Maintenance & Servicing

- Maintenance must follow the manufacturer's instructions.
- Always ensure good ventilation when servicing.
- Switch off and isolate the power supply before starting work.
- No welding, smoking, or open flames in the service area.
- Keep fire extinguishers (dry powder or CO_2) nearby.
- Avoid static build-up — wear cotton clothing and gloves in dry conditions.
- Label the system after refrigerant charging.
- Never overcharge refrigerant — measure with an electronic or spring scale.

Technical Parameters

Model	CURV-HP200M7	CURV-HP250M7
Tank		
Tank Volume	192L	246L
Rated Voltage/Frequency	220V~240V/50Hz	220V~240V/50Hz
Tank Max Pressure	0.7MPa	0.7MPa
Thermal Insulation	50mm	50mm
Corrosion Protection	Magnesium rod	Magnesium rod
Insulation Protection Rating	IPX4	IPX4
Performances		
Type Of Extraction	Ambient / Exterior	Ambient /Exterior
COP @ 2°C / EN16147*	2.80	2.67
COP @ 7°C / EN16147*	3.27	3.20
COP @ 14°C / EN16147*	3.52	3.45
Air Flow	300m³/h	300m³/h
Tapping Cycle*	L	XL
Power Input By Electric Backup	1500W	1500W
Rated Power Input By Heat Pump	320W	320W
Maximum Power Input By Heat Pump	535W	535W
Maximum Power Input	2035W	2035W
Standby Power Input / Pes*	22W	43W
Heating Up Time (7°C)*	8.33h	10.51h
Heating Up Time (14°C)*	6.91h	9.04h
Volume Of Mixed Water At 40°C @ 7°C*	221L	314L
Reference Hot Water Temperature @7°C*	54.11°C	54.05°C
Default Temperature Setting	56°C	56°C
Heating Temperature Range (HP)	35°C - 65°C	35°C - 65°C
Heating Temperature Range (HP & Heater)	35°C - 75°C	35°C - 75°C
Maximum Length Of Air Duct	22m	22m
Diameter Of Air Duct Connection	160mm	160mm
Max Working Pressure Of Refrigerant	1.0 / 3.3MPa	1.0 / 3.3MPa
Refrigerant Type /Weight	R290 / 0.15kg	R290 / 0.15kg
Sound Power Level**	50dB (A)	50dB (A)
Sound Pressure @ 1m	36dB	36dB
Ambient Temperature For Use Of Product	-7°C~45°C	-7°C~45°C
Operating Temperature Of Heat Pump	-7°C~45°C	-7°C~45°C
Thermal Dispersion [kWh/24h]	0.53	1.032
Thermal Dispersion S [W]	22	43
Thermal Dispersion Ktank [W/K]	0.49	0.96
Dimension And Connections		
Water Inlet And Outlet Connection	Rp3/4	Rp3/4
Safety Valve Connection	Rp3/4	Rp3/4
Drain & Water Intlet Connection	Rp3/4	Rp3/4
Product Dimensions	(600*620*1694)mm	(600*620*1989)mm
Packing Dimension With Pallet	(736*695*1940)mm	(736*695*2250)mm
Net /Gross Weight	92/116kg	104/128kg

*According to EN 16147; **According to EN12102; The COP and noise level data was tested in Haier lab.

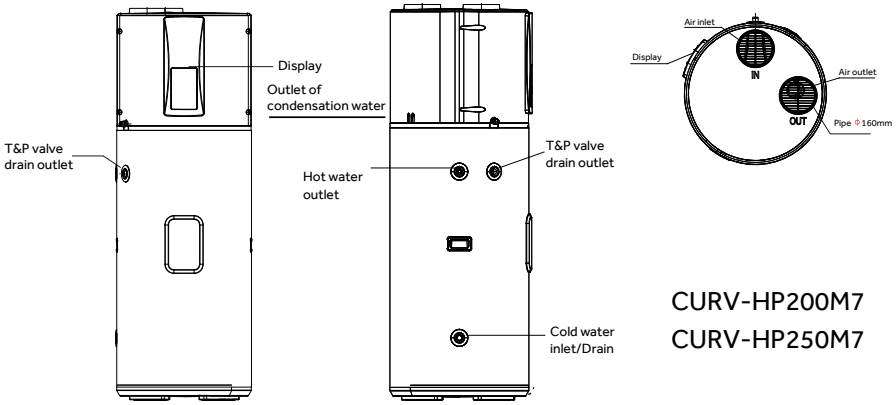
The COP values obtained with external air temperature of 7°C and 14°C, inlet water temperature of 10°C and set temperature of 54°C (according to EN16147)

The sound power level data obtained with extrenal air temperature of 7°C, inlet water temperature of 10°C and set temperature of 55°C, according to EN12102

Manufactured by Haier, exclusively for cürv®

Description of parts and components

Heat pump structure



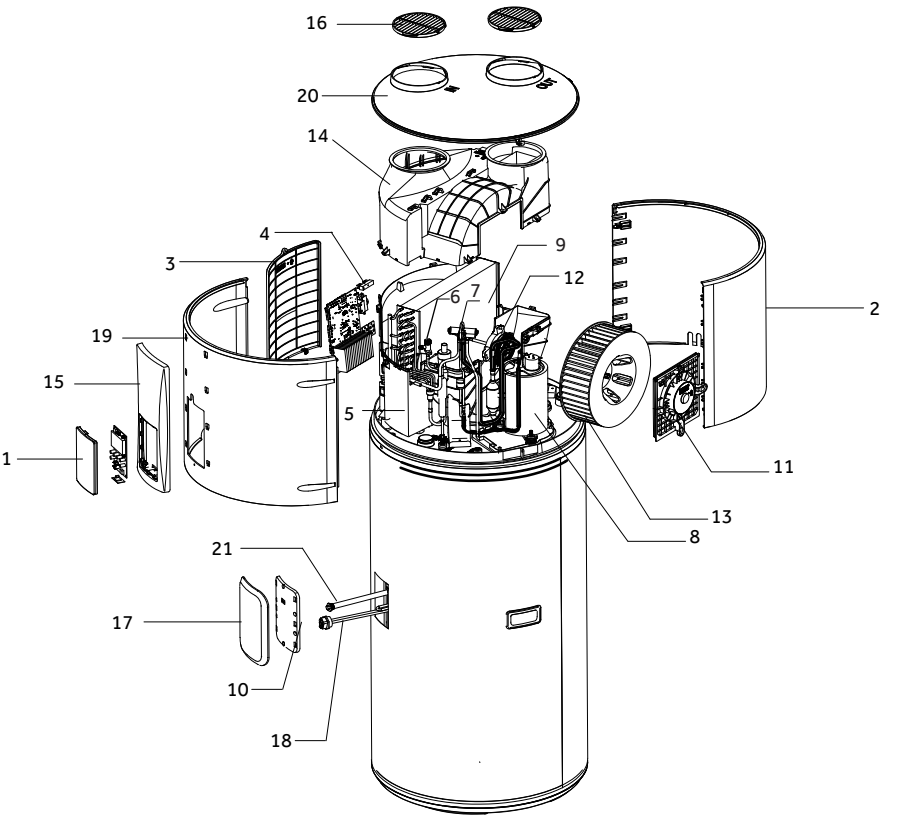
CURV-HP200M7
CURV-HP250M7

Accessorries

Part name	Drainage pipe for condensate water	Instruction manual	Fiber washer	Dielectric connection	Pipe joint R3/4-G1/2
Quantity	1	1	5	2	1

Description of parts and components

Exploded view of the heat pump



S/N	Description	S/N	Description
1	Display panel	12	DC motor
2	Back cover	13	Fan blade
3	Electrical box cover	14	Diversion air duct
4	Control panel	15	Decoration
5	Electrical box	16	Outlet grate
6	Electronic expansion valve	17	Outer waterproof cover
7	Four-way valve	18	Heating element
8	Compressor	19	Front cover
9	Evaporator	20	Top cover
10	Inner waterproof cover	21	Magnesium rod
11	Support	/	

Installation Instructions

Risk Assessment

It is strongly recommended to complete a risk assessment before installing the product. The following areas require particular consideration in addition to the information required by the Health and Safety at Work Act.

- Scalding: where appropriate or required by law a thermostatic mixing valve is to be fitted to the hot water outlet of the cylinder.
- Explosion: the unit is fully equipped with all relevant safety equipment to comply with current regulations. The correct design and function has been verified by independent third party testing. The correct application hereafter is the responsibility of the competent installer.
- Water borne organisms (i.e. Legionella): if applicable a risk assessment should be carried out following the recommendations outlined in the Approved Code of Practice L8.
- The user preference must be considered when commissioning the system.

Installation introduction

Selection of installation site

1. The install location is stable and level. Air flow can flow in and out freely, which is affected by outdoor air to a minimum extent.

2. The surface can support the the filled weight of the appliance and the condensate water can be drained freely.

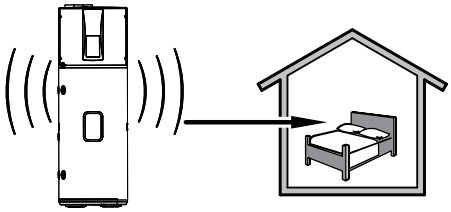
3.Select a location where the appliance noise does not bother the home owners or neighbors.

4. There is sufficient space left for installation and maintenance.

5. There is no strong electromagnetic interference around that may affect control functions.

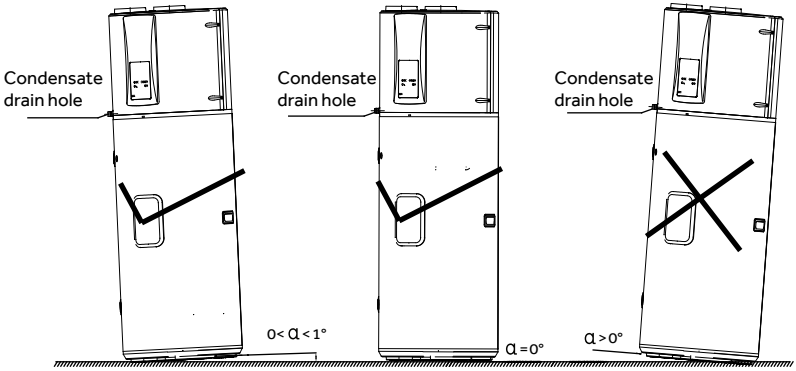
6. There are no corrosive vapors such as aerosl sprays, stain removers or household chemicals near the install location. These vapors may cause corrosion to the machine and it's fittings , which may cause corrosion of the machine and its fittings.

7. Considerations have been made to prevent connected water pipes from freezing.



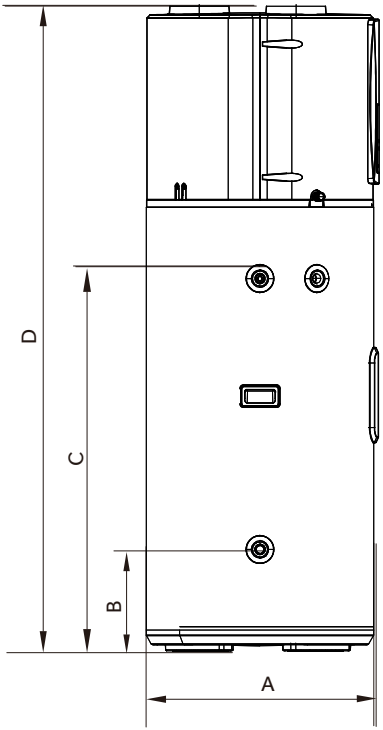
Keep an adequate distance between the working heat pump and the resting places.

10. Installation angle refer to the following diagrams.



Installation introduction

Installation dimensions for a heat pump

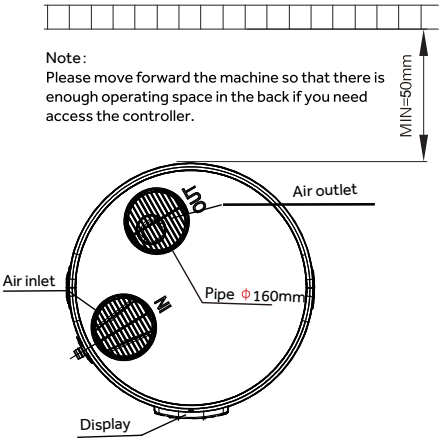


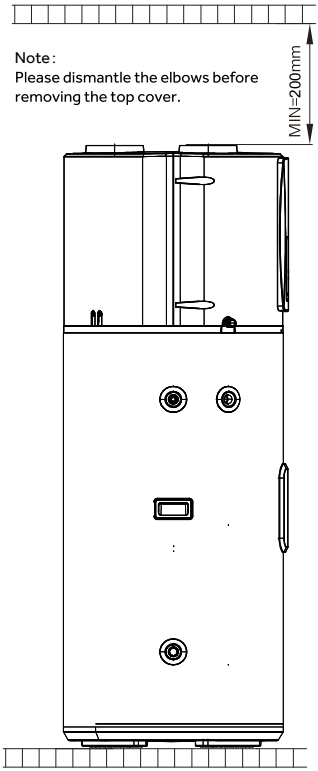
unit: mm

Model	A	B	C	D
CURV-HP200M7	620	270	980	1694
CURV-HP250M7	620	270	1275	1989

Installation instructions

Installation drawings for the heat pump installed on a wall





Installation and fixing of a water tank

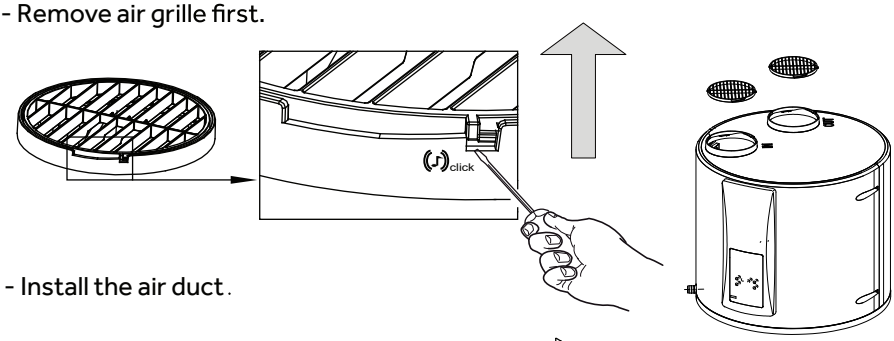
1. Put the water tank on a flat surface with sufficient supporting capacity. The inclination shall not exceed 1°.

2. The installation place of the water tank shall be convenient for use, maintenance and with a sewage drain system. This makes sure that it would not cause any damage to nearby or sub-layer facilities if the water tank or water pipe leaks.

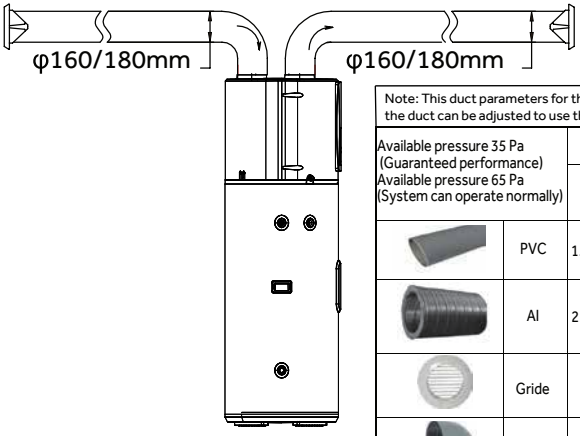
Installation instructions

Air connection

- Remove air grille first.



- Install the air duct.



Note: This duct parameters for the system's default air speed parameters, if you need to lengthen the duct can be adjusted to use the system V1/V2 block to strengthen the exhaust air

Available pressure 35 Pa (Guaranteed performance) Available pressure 65 Pa (System can operate normally)		φ160mm		φ180mm	
		Drop Pressure (Pa)	Equivalent 1m-long	Drop Pressure (Pa)	Equivalent 1m-long
	PVC	1.50/1 meter	1.00	0.96/1 meter	1.00
	Al	2.75/1 meter	1.83	1.67/1 meter	1.74
	Gride	3.41/unit	2.27	2.69/unit	2.80
	90° PVC	4.49/unit	2.99	2.86/unit	2.98
	90° Al	3.54/unit	2.36	2.72/unit	2.83

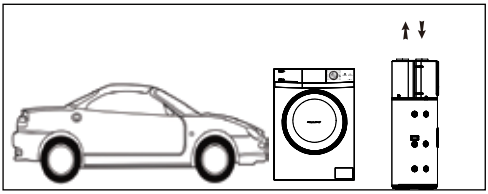
Installation suggestions: 160mm	Installation suggestions: 180mm
x + y < 11 m (PVC)	x + y < 22 m (PVC)
x + y < 6 m (Al)	x + y < 13 m (Al)

- Pressure drops from duct must be lower than or equal to the static pressure of the fan.
- If the pressure drops out of range, the performance of the appliance will be impaired.

It is recommended that an air grille with a mosquito net be installed at the air inlet of the air guide duct. The ventilation area shall not be less than 180 cm^2.

Installation instructions

Advised positions

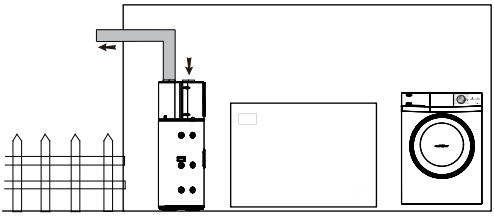


Garage or laundry room (without ducts):

-Unheated room.

-Enables recovery of the free energy released by your vehicle's engine when switched off after use or by household appliances in operation.

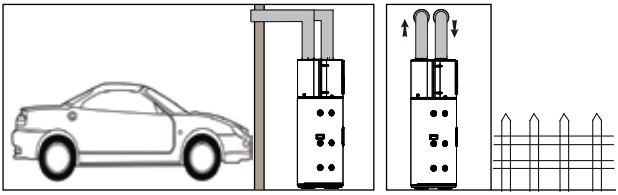
-The room volume shall not be less than 15m^3 and shall be maintained in a ventilated state.



Laundry room (with one duct):

-Unheated room.

-Enables recovery of the free energy released by your vehicle's engine when switched off after use or by household appliances in operation.



Habitable room or outside air (with two ducts):

-Can obtain free heat from the garage.

-If the outside air temperature is too low, connection to the outside air may lead to overconsumption of electricity.

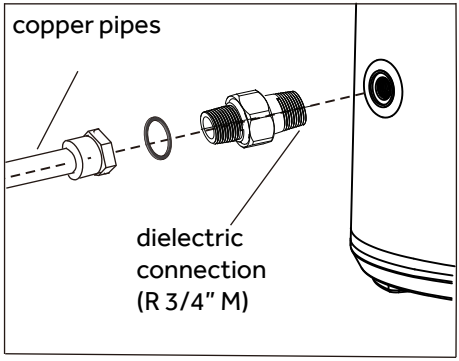
Installation instructions

Installation caution

When making the connections, you should respect the standards and local directives

- Before making the connection , rinse the water inlet pipes and water tank, in order not to introduce metal or other particles into the tank.
- Select copper pipes for pipeline connection.
- The inlet water pressure is between 0.1MPa~0.5MPa. If lower than 0.1 MPa, a booster pump shall be added at the water inlet; if higher than 0.5 MPa, a pressure relief valve shall be added at the water inlet.
- The inlet water temperature is suggested between 10°C-30°C.
- Outdoor water pipeline and valves should be proper insulated.
- In accordance with safety rules, a safety valve(7bar,99°C,R3/4M) must be installed on the tank. For France, we recommend hydraulic safety units fitted with a membrane with the NF marking.
  Integrate the safety valve in the cold water circuit.Install the safety valve close to the tank in a place which is easy to access.
  No isolating devices should be located between the safety valve or unit and the tank.
  The rated pressure of the safety valve shall not exceed 0.7MPa.
- Never block the outlet of the safety valve or its drain line for any reason.
- The diameter of the safety unit and its connection must be atleast equal to the diameter of the domestic cold water inlet.
- If the mains pressure exceeds 80% of safety valve, a pressure reducer must be installed upstream of the appliance.

Do not connect the cold water inlet and hot water outlet directly to the copper pipes in order to avoid iron/ copper galvanic couples (risk of corrosion).
It is mandatory that the cold water inlet and hot water outlet must be fitted with a dielectric connection . R 3/4" dielectric connection and pipe fittings must be used , DO NOT use G 3/4" thread.



Installation Instructions

Correctly Sitting the Water Heater

Install the water heater in an appropriate location, ensuring all of the recommendations have been considered.

Cold Water Inlet with Inlet Group

Install the Inlet Group

The inlet group regulates the pressure of the incoming mains water supply to the water heater and removes any debris that might be water borne.

Between the inlet group and the cold water inlet on the water heater NO isolating device may be fitted, as by doing so important safety devices could be isolated!

Expansion Vessel

The expansion vessel is mandatory on the CURV water heater and can be connected directly to the cold water inlet group, utilising the flexible hose supplied with the vessel. The expansion vessel should always be fitted in accordance with the manufacturer's instructions, see Figure 3. No isolating device should be fitted between the water heater and the cold water inlet group.

Furthermore, it is recommended to mount the vessel higher than the water heater to avoid having to drain the water heater when maintaining and replacing the expansion vessel.

It is important to check the pre-charge pressure of the expansion vessel membrane before filling the cylinder. The pre-charge should be greater than or equal to 3 bar.

Figure 3: Connection of the expansion vessel to the inlet group

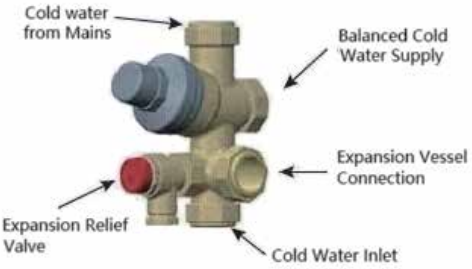


Figure 4: Detail showing the connection of the expansion vessel to the inlet group.

Note: The expansion vessel must be installed to the side of the expansion relief valve on the inlet group. To do this the blanking plug must be removed and the expansion vessel connected, as shown in Figure 4.

Installation Instructions

Cold Water Inlet with Inlet Group

Balanced Cold Water Supply

If balanced cold water supply is required a connection can be taken from the bottom of the inlet group.

Drain Valve (Not Supplied)

It is also recommended to install a drain valve (not supplied) in the lowest point of the cold water feed to the water heater. This allows the water heater to be drained in a controlled manner should this become necessary.

Hot Water Outlet

The hot water pipework is to be directly connected to the hot water outlet connection on the water heater.

Thermostatic Mixing Valve (Not Supplied)

A thermostatic mixing valve may be required to limit the outlet temperature. In this case, the valve should be installed following the manufacturer's instructions, ensuring none of the safety equipment has been isolated, (i.e. make sure the connection to the thermostatic mixing valve is taken after the safety equipment of the inlet group).

Pipe Insulation (Not Supplied)

It is recommended to insulate the hot water pipework from the water heater to the outlets, to reduce the energy requirements for providing hot water. It is also recommended to insulate all other exposed pipework, such as the T&P to the tundish, the coil flow and return and the cold water inlet pipes.

Installation Instructions

Building Regulation G3 Discharge Requirements

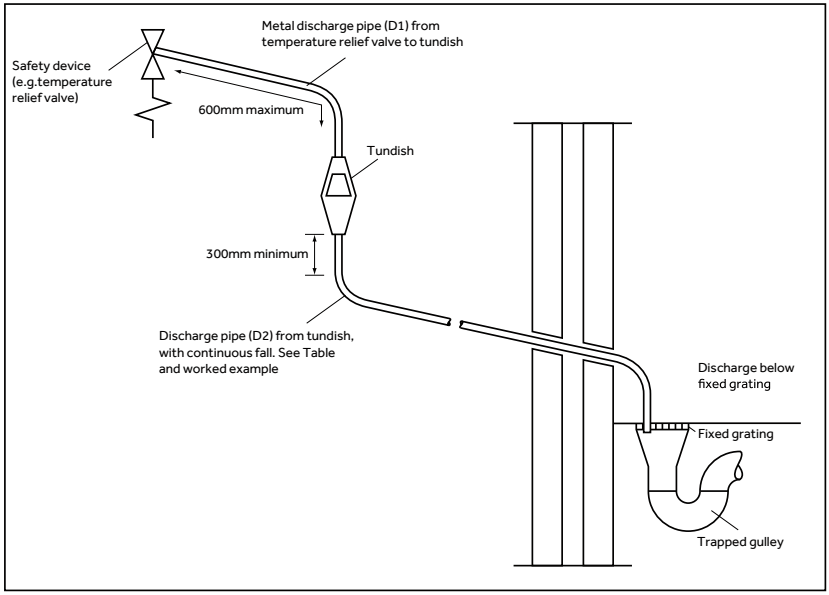


Figure 1: Typical discharge pipe arrangement

Value outlet size	Minimum size of discharge pipe before tundish (mm)	Minimum size of discharge pipe after tundish (mm)	Maximum allowed length of pipe after tundish (m)	Length to be subtracted for each elbow or bend (m)
G1/2	G1/2	22	9	0.8
		28	18	1.0
		35	27	1.4
G3/4	G3/4	28	9	1.0
		35	18	1.4
		42	27	1.7
G1	G1	35	9	1.4
		42	18	1.7
		54	27	2.3

Table 2: Discharge

Installation Instructions

Building Regulation G3 Discharge Requirements

Worked Example

This example is for a G½ temperature relief valve with a discharge pipe (D2) having 4 No. 22mm elbows and length of 7m from the tundish to the point of discharge.

From Table 2, the maximum resistance allowed for a straight length of 22mm copper discharge pipe (D2) from a G½ temperature relief valve is 9.0m. Subtract the resistance for 4 No. 22mm elbows at 0.8m each = 3.2m.

Therefore the maximum permitted length equates to 5.8m, which is less than the actual length of 7m, therefore calculate the next largest size.

Maximum resistance allowed for a straight length of 28mm copper discharge pipe (D2) from a G½ temperature relief valve is: 18m.

Subtract the resistance for 4 No. 28mm elbows at 1.0m each = 4m.

Therefore the maximum permitted length equates to 14m.

As the actual length is 7m, a 28mm (D2) copper pipe will be satisfactory.

- Where a single common discharge pipe serves more than one system, it should be at least one pipe size larger than the largest individual discharge pipe (D2) to be connected.
- The discharge pipe should not be connected to a soil discharge stack unless the soil discharge stack is capable of safely withstanding temperatures of the water discharged, in which case, it should:
- Contain a mechanical seal, which allows water into the branch pipe without allowing foul air from the drain to be ventilated through the tundish.
- There should be a separate branch pipe with no sanitary appliances connected to it.
- If plastic pipes are used as branch pipes carrying discharge from a safety device, they should be either polybutalene (PB) or cross-linked polyethylene (PE-X) complying with national standards.
- Be continuously marked with a warning that no sanitary appliances should be connected to the pipe.

Installation Instructions

Discharge Pipes from Safety Devices

Discharge Pipe D1

The temperature and pressure relief valve must be discharged directly or by way of a manifold via a short length of metal pipe (D1) into a tundish; and the discharge pipe must be installed in a continuously downward direction and in a frost free environment. Water may drip from the discharge pipe of the pressure relief device and this pipe must be left open to the atmosphere.

The diameter of discharge pipe (D1) should not be less than the nominal outlet size of the safety device, e.g. temperature relief valve.

Where a manifold is used it should be sized to accept and discharge the total discharge from all the D1 discharge pipes connected to it.

The discharge pipework from the expansion relief valve must be installed constantly falling to an open point of discharge. It is recommended to combine it with the discharge of the temperature and pressure relief valve.

Note: The T&P valve is pre-sealed and if moved the seal will be broken, should this occur, it will need to be resealed with an appropriate sealant (CURV part number R00836-1).

Discharge Pipe D2

For a detailed description of the discharge pipework D2 (see Page 24).

Tundish

The tundish should be vertical, located in the same space as the unvented hot water storage system and be fitted as close as possible to, and lower than, the safety device, with no more than 600mm of pipe between the valve outlet and the tundish (see Figure 1).

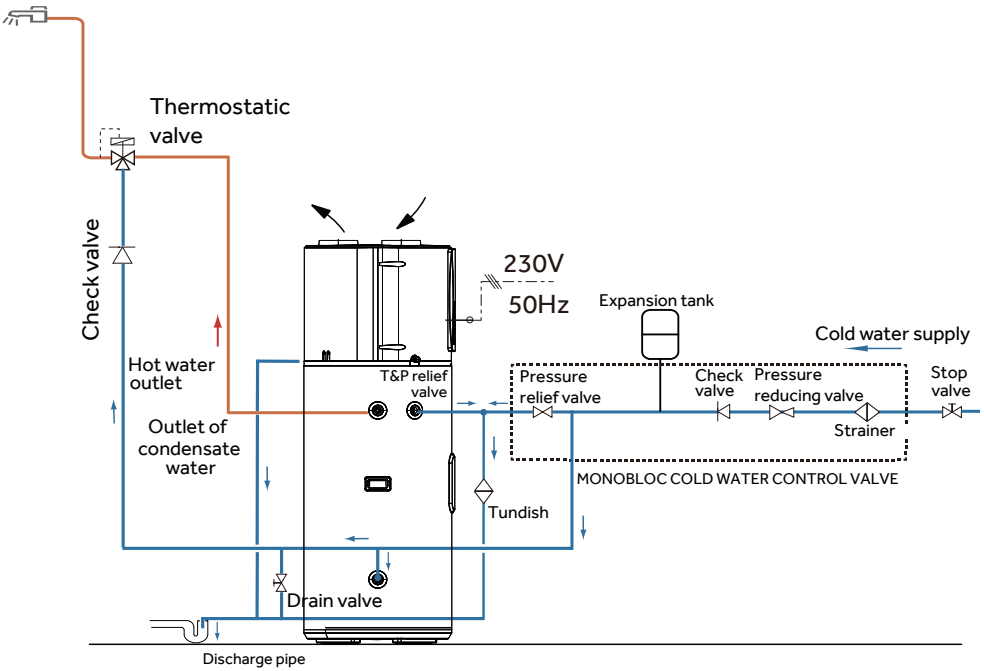
Where discharge may not be apparent, e.g. in dwellings occupied by people with impaired vision or mobility, consideration should be given to the installation of a suitable safety device to warn when discharge takes place, e.g. electronically operated.

Note: To comply with the Water Supply (Water Fittings) Regulations, the tundish should incorporate a suitable air gap.

Note: It is important that the tundish is positioned away from any electrical components.

Installation instructions

Pipeline installation diagram



Cold Water Supply

For satisfactory and safe performance of the water heater the water supply must meet the following criteria:

Minimum dynamic pressure	150 kPa (1.5 bar)
Maximum inlet supply pressure	1200 kPa (12 bar)
Minimum flow rate	15L/min
Max. chlorine content	250mg/L
Max. water hardness	200mg/L

The following instructions have to be followed when installing the cold water mains supply to the water heater:

- The cold watesupply to the water heater must come directly from the cold water mains after the mains stop valve to the property.
- The cold water inlet pipework should have at least an inside diameter of19mm and should meet the requirements of the water regulations for the supply of wholesome water.

Curv recommend an annual maintenance inspection is carried out on the water heater. In hard water areas this should include inspection of the immersion heater, [above 120ppm or 120mg/l]. A local water treatment company should be able to offer free water quality testing. The heating elements may require periodic de-scaling. The installer should do this as part of a maintenance agreement.

If required, precautions can be taken to minimize effects of water hardness, i.e. installation of water conditioner or water softener. These devices should be installed in hard water areas where high water storage temperatures are required, i.e. greater than 60°C storage temperatures, particularly when water hardness exceeds 200ppm. Should the water heater require de-scaling, this must be performed by a qualified technician.

Installation instructions

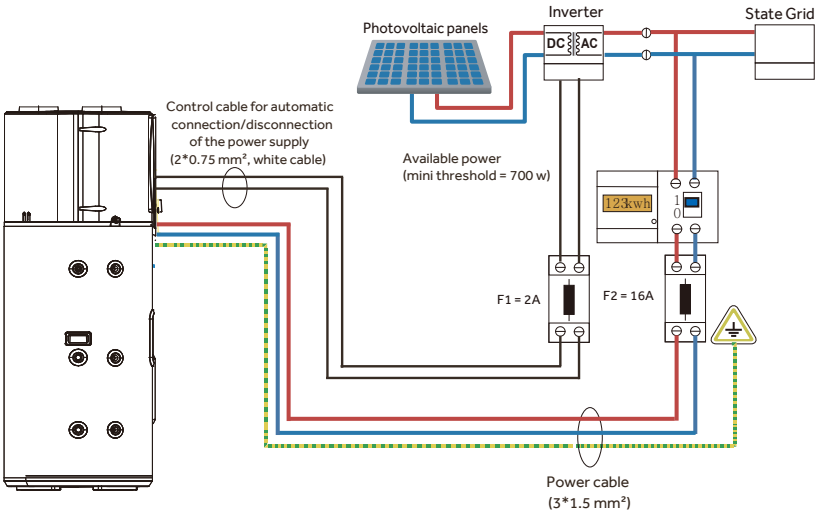
Electrical connections precautions

WARNING

- Only qualified professionals may carry out electrical connections, always with the power off.
- The earthing shall comply with local standards.

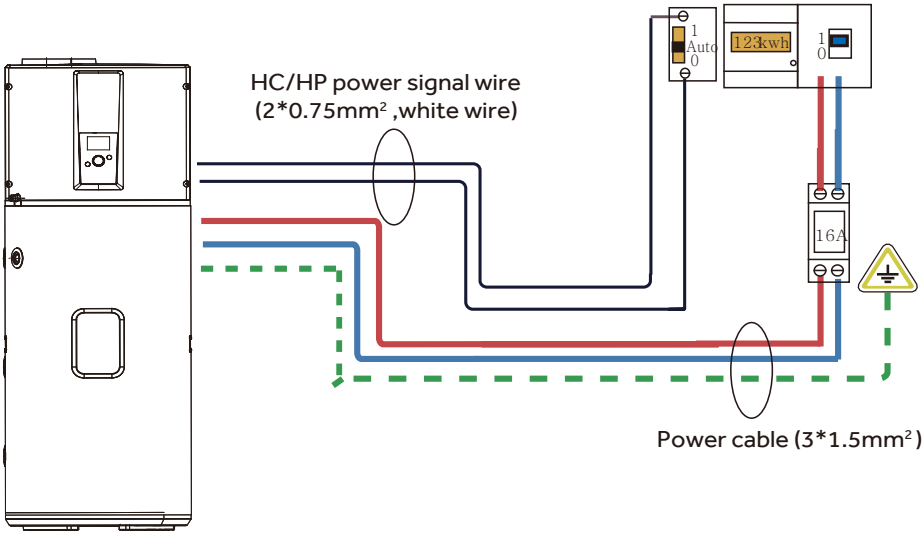
- Water heaters shall be equipped with a dedicated power line and residual current circuit breakers. The action current shall not exceed 30 mA;
- The ground line and the zero line of the power supply shall be separated entirely. Connecting the zero line to the ground line is not allowed.
- Parameter of the power line: 3×1.5mm² or more.
- If a power cable is damaged, it shall be replaced by qualified professionals to avoid risks.
- In the case of places and walls where water may be splashed to, installation height of a power socket shall not be less than 1.8 m, and it shall be ensured that water would not be splashed on these places. The socket shall be installed out of children's reach.
- The phase line, zero line and ground line inside a power socket used in your home shall be wired correctly without any wrong positioning or false connection, and internal short circuit shall be avoided. Wrong wiring may cause fire accidents.

Connection to a PV system

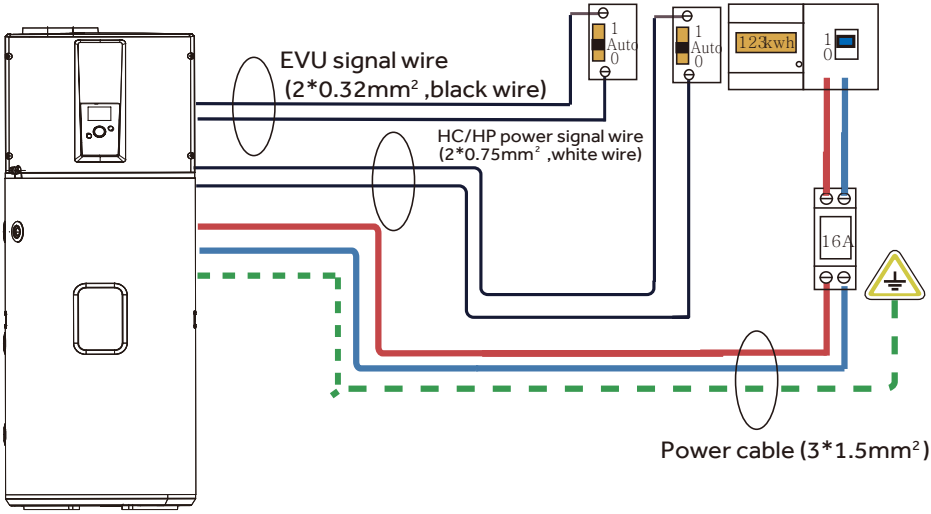


Installation instructions

HC/HP power signal wire connection



SG signal wire connection

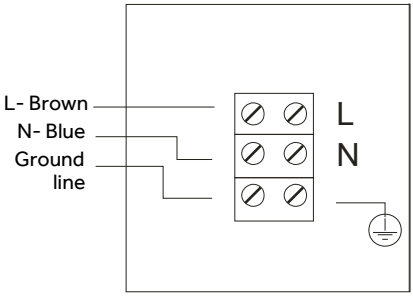


Note: SG (Applicable in Germany, Austria and Switzerland only)

Installation instructions

Installation precautions

- Water heaters shall be equipped with a dedicated power line and residual current circuit breakers. The action current shall not exceed 30 mA;
- The ground line and the zero line of the power supply shall be separated entirely. Connecting the zero line to the ground line is not allowed.
- Parameter of the power line: 3×1.5mm² or more.
- If a power cable is damaged, it shall be replaced by qualified electrician.



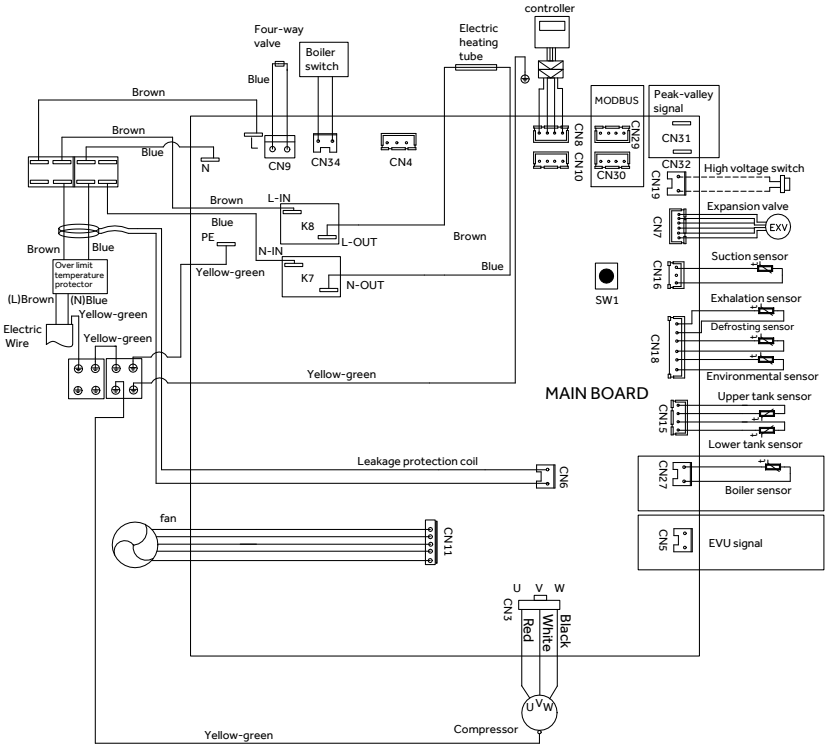
Wiring terminals of a heat pump

CAUTION: In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.

Appliances shall be classified according to the accessibility as appliance not accessible to the general public.

Installation instructions

Wiring diagram



Commissioning

Installation operators shall use checking items for trial running of water heaters as per the operationmanual, and make √ in □.

☐The electrical connection is correctly connected.

☐Water drain pipes are laid correctly.

☐ the ground wire in the hardwire connection.

☐The control panel works well.

☐ The water tank has been connected with dedicated temperature pressure relief valve (TPR valve) and check valve.

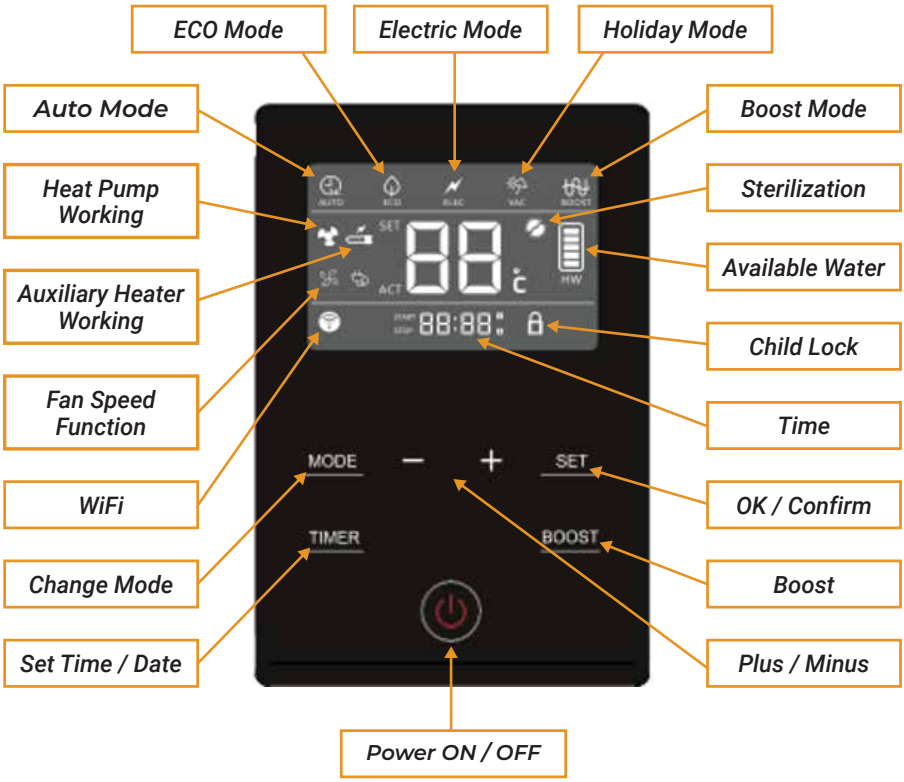
☐ After the water system is completed, the water tank is filled with water. Water drained out of the water outlet of the hot water pipeline.

☐ After the water pipe of the water system is filled, check the whole water pipeline. There is no leakage.

☐ Once the tank is filled, the TPR valve releases water when the lever is pulled.

☐ All hot water lines are correctly insulated.

Hot Water Cylinders - Cylinder Functionality



Description of the icons

Symbol	Description
	Power ON/OFF switch
MODE	Working mode selection
SET	Confirm button
TIMER	The Timer button can be used to set information such as hour, minute, week, day, month, and year. 1. Press this button for the first time, "Hour" blinks, you can adjust the hour with "-" and "+" keys, before extinguishing, press this button again "minute" blinks, the setting method is the same as above; Continue to press the TIMER button and set Week, Day, month, and year in this way. 2. Only press the TIMER button to confirm the time, press the switch button or 5s no operation to exit the time setting state, the four 8 digital tube is steady on to display hours and minutes. 3. The time and date must be set all at once to take effect. If you exit during the setting, the configured parameters are invalid. 4. Because the accuracy of the time is related to sterilization, VAC, ECO, and energy consumption statistics, it is strongly recommended to set the accurate time, week, date and other information after installation. 5. If the VAC function is used, the accurate time and date should be set in advance. If the time is reset between VAC, the unit startup time will be inaccurate.
BOOST	Boost mode. Heat pump and auxiliary power are activated at the same time.
	Auto mode -Optimised management of the heat pump and the electrics for guaranteed comfort; - Prior using heat pump; - If compressor works more than the default 20 hours , start the auxiliary power; - The compressor maximum continuous working time (AA) can be adjust in the installer settings.
	ECO (off-peak) mode -In this mode, priority using heat pump,refer to Installer setting for details; -the user can set the off-peak period and does not work outside the off-peak period. -After entering the ECO mode, press SET to enter the four time ranges. The L1 and L2 time ranges are valid from Monday to Friday, and the L3 and L4 time ranges are valid from Saturday to Sunday. The start time and end time must be different; otherwise, the setting is invalid.
	Electric heating mode - In this mode, the electric heating function is turned on, and the electric heating function remains effective. - This function ensures hot water supply when the heat pump is not working properly.

Function Introduction

Symbol	Description
	Holiday mode - According to the vacation dates in advance to prepare hot water; -In VAC mode, the number of vacation days should be set first. The range of vacation days is 1 to 99 days. For example, you leave home for vacation on 1st January and return home on 5th January, the number of vacation days should be set to 5-1=4 days. -The day before the end of the holiday, the unit starts heating according to the sterilization start time and sterilization target temperature set in the installation Settings. -After the heating is completed, the unit returns to AUTO mode at 0:00 on the day of the end of the holiday.
	BOOST mode. Heat pump and backup element are activated at the same time under AUTO/ECO .Only backup element are activated in VAC mode and ELEC mode.The Boost function works once. BOOST mode has the highest priority and can be started in any mode.
	Heat pump working icon.
	Auxiliary electrical heater working icon.
	When the PV/HC/SG signal is active, the light will be lit, and the unit will operate according to the function parameters set in the Installer settings (P35) operation;
	Sterilization - The unit will be heated at intervals according to the set sterilization interval, sterilization start time and sterilization target temperature to achieve the purpose of killing Legionella bacteria in the tank. -Sterilization switch, sterilization target temperature, sterilization interval and sterilization start time can be performed through the display board installation setting menu. -During the sterilization process, the user manually operates (switching mode, Switch on and off, outage) to exit the sterilization function. - If the sterilization interval is selected to be executed only once, it will be executed at the set time of the next day, after the sterilization heating is completed, the sterilization will be withdrawn and the sterilization function will be automatically turned off. No sterilization during VAC mode.
	Hot water volume display.

Function Introduction

Symbol	Description
	WIFI signal icon.
	Lock screen display icon 1. Enter: In the power-on state, press and hold TIMER+BOOST (combination key) for 6s at the same time, the lock sign will be on, and the screen lock mode will be turned on. 2. After the screen lock mode is turned on, the device will not respond when the user touches any key. 3. Exit: press and hold TIMER+BOOST (combination key) for 6s at the same time, the lock sign is closed, and the screen lock mode is exited.
	Fan speed function, When the Fan speed function is enabled, the light will be lit, and the unit will operate according to the function parameters set in the Installer settings (P36) operation.
Modbus function	MODBUS function setting In the case of shut down, hold down the"+ "key for 5s, the slave address is set, The Ad is displayed on the double 8 on the top of the display board, The first digit of small four 8 below the display board is not displayed, and the last three digits display the current address value. From left to right are hundreds, tens, ones, Set in sequence. Slave address Settings range from 1 to 254. The default value is 001.

Note: Under certain conditions, ECO mode may result in shortages of hot water if the ambient air temperature is low.

Energy accumulation and energy consumption query

1.Press the "+" and "SET" keys at the same time for 5 seconds when the unit is turned on, and the buzzer will sound once to enter the energy accumulation and energy consumption interface, on the display, dual 8-digit tube displays the cumulant code, and the four 8-digit tube displays the cumulant data(which is rounded down), press the "+" or "-" key to switch between pages, the meanings of different pages are as follows:

-A1: Accumulated heat for nearly a month
-A2: Accumulated heat for nearly a year
-C1: Compressor cumulative power consumption for nearly a month
-C2: Compressor cumulative power consumption for nearly a year
-E1:Element cumulative power consumption for nearly a month
-E2:Element cumulative power consumption for nearly a year

2.If 20 seconds no operation or press the switch to exit, return to the main interface.

3.Energy unit: kWh

4. After entering the energy accumulation & energy consumption query interface, continue to press the "+" and "SET" keys for 5 seconds, all data is cleared, the four 8-digit tube displays 0, and the data starts to accumulate again.

Function Introduction

Installer settings

- To open the installer settings, press ⏻ switch off the system, then press + and SET at the same time for 5 seconds.
- When menu is open, press + or − to change the value of the settings.
- Press SET to confirm the settings.
- Press ⏻ to close the menu.

Parameters	Description	Factory setting	Adjustment range
LP 01, 02 03, 04	Off-peak logic type -In four ways -01: Disable function. -02: HC signal. -03: PV signal. -04: SG signal. (Applicable in Germany, Austria and Switzerland only)	01	01 , 02 03 , 04
LL no,nc	Off-peak signal type When you use off -peak time clock contr rst determine the type of signals, Only allow professional installers to operate. - When the home power signal comes, the relay is off, please select NO; - When the home power signal comes, the relay is on, please select NC; - If LP is set to 04, LL can only be set to NO.	NO	NO , NC
LA 01, 02	Heating method -01: Heat according to the initial heating or insulation heating starting condition, and change the target temperature according to the " Lb" setting temperature. No signal returns to the current mode. -02: Only activate and heat in the heating time of the current mode, and change the target temperature according to the " Lb" setting temperature. No signal returns to the current mode. - This parameter is valid only when the LP value is not 01 .If LP is set to 04, LA can only be set to 01.	01	01, 02
Lb 55-75	Target temperature when PV/SG/HC signal is active -The temperature setting is adjustable between 55°C and 75°C. - This parameter is valid only when the LP value is not 01 .If LP is set to 04, LA can only be set to 01.	65	55-75
LC 01, 02 03	Heat source selection in PV/SG/HC function -01 Compressor and electric heating work at the same time. -01 The compressor shall be started first. When the system does not meet the operating conditions, the electric heating can be started. -03 Only electric heating is operated. - This parameter is valid only when the LP value is not 01 .If LP is set to 04, LA can only be set to 01.	02	01,02,03

Function Introduction

Parameters	Description	Factory setting	Adjustment range
	Sterilize -This parameter is the switch of sterilization function. - Every once in a while, heat all domestic hot water to 60° C and 75 ° C.	ON	ON , OFF
	The sterilization target temperature - The sterilization target temperature can be adjusted between 60° C and 75 ° C.	65	60-75
	Sterilization interval - Sterilization interval can be 7 days, 30 days, only once effective, choose one of the three 07,30,once.	07	07,30, ONCE
	Start time of sterilization - Start sterilization at the set time, only hours can be set.	00:00	00:00-23:00
	Compressor maximum continuous working time - If the maximum continuous working time of the compressor more than Set Time, start auxiliary power.	20	5-20
	Average water temperature starting return difference -When the actual average water temperature is 10°C lower than the set temperature, the heat pump will start again, and the adjustment range is 5° C-15 ° C.	10	5-15
	Upper water temperature starting return difference -When the actual upper water temperature is 5°C lower than the set temperature, the heat pump will start again, and the adjustment range is 5° C-15 ° C.	5	5-15
	Fan speed function -This function can be enabled when the total length of air ducts exceeds 20MB. This function is equivalent to the constant speed during heating start-up and heating, which has a certain adverse effect on system performance. -00: Disable function -01: V1 gear (fan speed 700 RPM) -02: V2 gear (fan speed 800 RPM)	00	00,01,02
	External auxiliary heating source -This function can be set when the external boiler or solar energy is connected. -00: Disable function -01: boiler -02: solar energy	00	00,01,02

Function Introduction

Installer settings & WIFI connection

WIFI connection

Your appliance can be connected to your home wireless network and operated remotely using the app. Getting started:

1. Search for "Curv Smart "App in the app store, download and install it on your phone.
2. Register an account and log in.
3. Ensure your home Wi-Fi network is turned on and that the device is powered on.
4. Turn off the device, then press and hold the " ⏻ " button to enter the distribution network status. At this point, the Wi-Fi icon will start flashing.
5. Open the app and click "Add Device" in the upper right corner. Add the device through either autodiscovery or by scanning the QR code below. If the connection is successful, the Wi-Fi icon will remain solid.

Curv-Functional Operation Guide

1. Installation

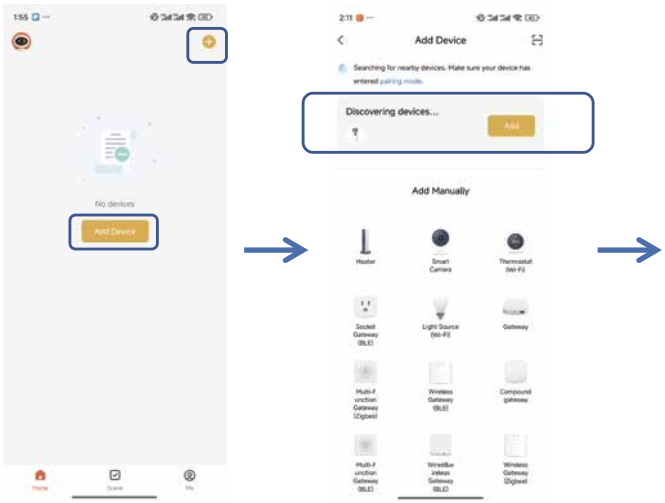
Step1 Download the “Curv Smart” App on the stores, search “Curv Smart ”App.

curv smart

GET IT ON Google Play | Download on the App Store | EXPLORE IT ON AppGallery

Before you can use the APP, you need to follow the steps to register and log in.

2. Add Device



①. After logging in, you will enter the APP. If no devices are currently bound, you can click "Add Device" as shown in Figure 1, or tap the "+" icon in the upper-right corner to add a device.

②. When powered on for the first time, the device will automatically emit a hotspot. Alternatively, you can long-press the power button after turning off the device to enter pairing mode and activate the hotspot. At this point, the APP will display a corresponding hotspot animation (as shown in Figure 2). Tap to add the device.

③. Select the target WiFi (choose a 2.4G network), enter the password, and click "Next" to proceed.

④. After entering the correct WiFi name and password, the device will initiate the WiFi pairing and binding process. Once successfully bound, click "Confirm" to access the device control page.

Hot Water Cylinders - Add A Cylinder To The App

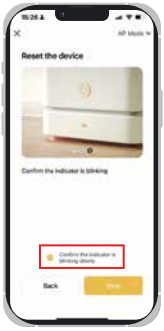
1. Add a product.
2. Select 'Cylinder'.
3. Check WiFi is flashing.
4. Confirm it's flashing.
5. Add Home Wi-Fi Information for the 2.4 GHz connection.
6. App ready to use.

1

2

3

4



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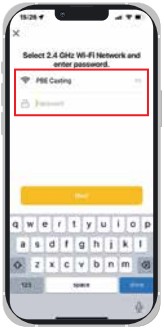
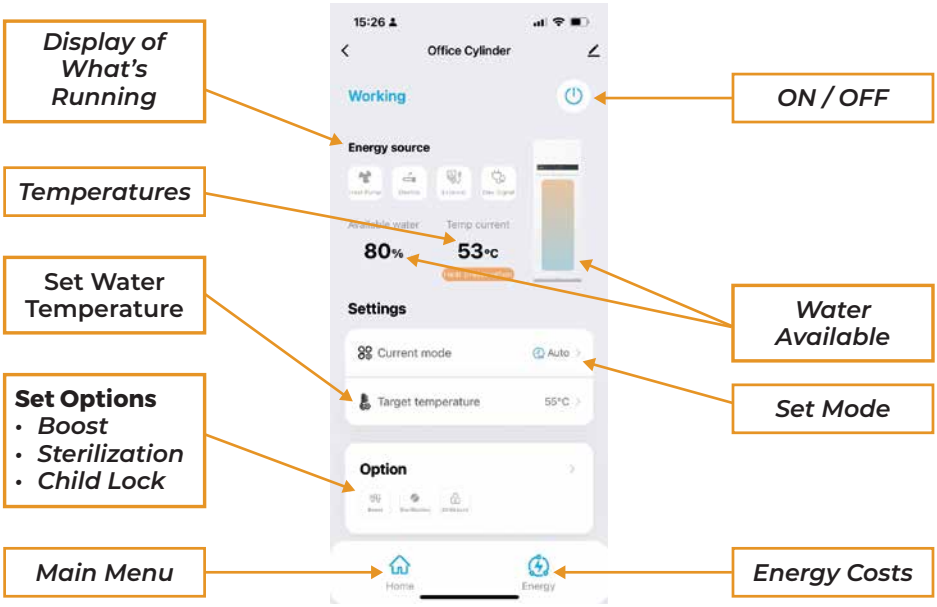
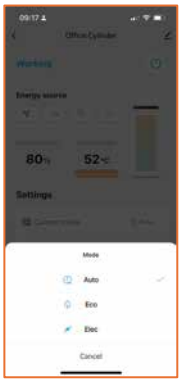


6

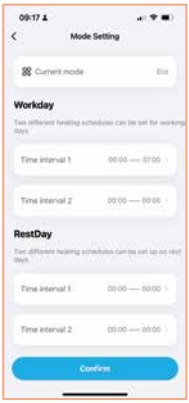
Hot Water Cylinders - App Functions



Set Operation Mode

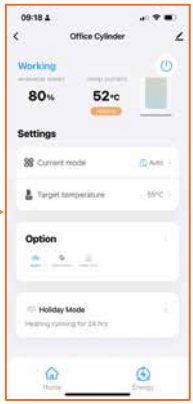


Set ECO Mode (Off-Peak Operation

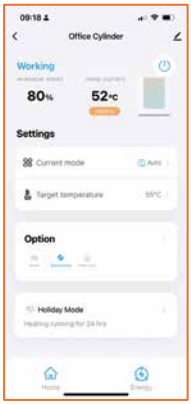


Set Temperatures

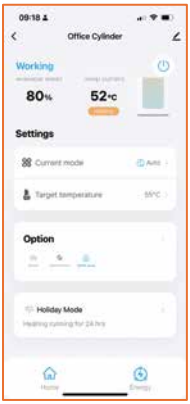
Set Operation Mode



Boost

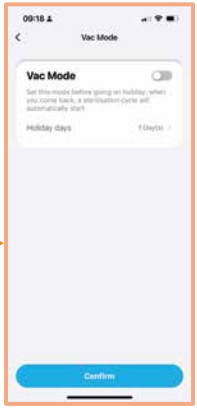


Sterilization



Child Lock

Set Operation Mode



Turn ON

Set Days Away

Function description

Energy accumulation & energy consumption

1.Press the "+" and "SET" keys at the same time for 5 seconds when the unit is turned on, and the buzzer will sound once to enter the energy accumulation and energy consumption interface, on the display, dual 8-digit tube displays the cumulant code, and the four 8-digit tube displays the cumulant data(which is rounded down), press the “+” or “-” key to switch between pages, the meanings of different pages are as follows:
-A1: Accumulated heat for nearly a month
-A2: Accumulated heat for nearly a year
-C1: Compressor cumulative power consumption for nearly a month
-C2: Compressor cumulative power consumption for nearly a year
-E1:Element cumulative power consumption for nearly a month
-E2:Element cumulative power consumption for nearly a year

2.If 20 seconds no operation or press the switch to exit, return to the main interface.

3.Energy unit: kWh

4. After entering the energy accumulation & energy consumption query interface, continue to press the "+" and "SET" keys for 5 seconds, all data is cleared, the four 8-digit tube displays 0, and the data starts to accumulate again.

Checking and maintenance

- Installation and maintenance of the appliance must be undertaken by a qualified professional.
- Before working on the appliance, shut down the machine and cut off the power supply.
- Do not touch with wet hands.
- Maintenance operations are important to guarantee optimal performance and extend the life of the appliance.

Checking of the TPR valve

- Operate the TPR valve at least once every six months to check if it is running correctly. Otherwise check for blocking and replace the safety valve if necessary.

Checking of the hydraulic circuit

- Check the watertightness of the water connections.

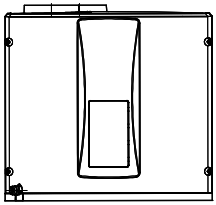
Cleaning of the fan

- Check and clean the fan annually.

Top Cover Removal

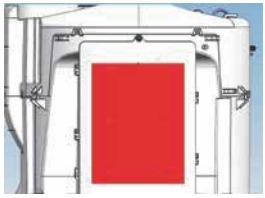
- Remove the 4 screws on the left side with a screwdriver;

- Push forward to open the front housing.



Checking of the main control board

- Use a screwdriver to remove the screw.



Checking and maintenance

Checking of the evaporator

- The evaporate fins are sharp and can cause injury or cuts to hands.
- Avoid damaging the evaporator fins as this can affect the performance of the appliance.

- It is recommended that the evaporator is cleaned every two years.
  Clean the evaporator with a soft brush and water if required. Do not use cleaning agents to clean the evaporator fins.

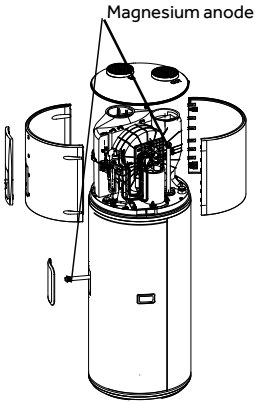
Checking of the condensates drain

- Check the pipe cleanliness.
- An obstruction may cause poor condensates flow or even a risk accumulation of water in the heat pump base.

Checking of the anode

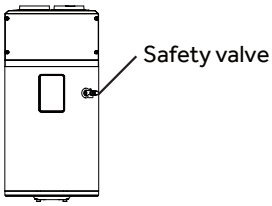
- To avoid irreversible corrosion of the cylinder, it is recommended to check the anode

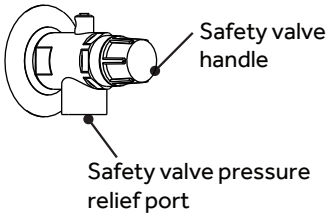
  every two years. If degraded, replace the anode.
- Checking magnesium anode once every 2 years.
- Note:
  When checking the magnesium rod, remove the air duct and top cover first.



Checking of the Safety valve

- Operate the safety valve at least once every six months to check if it is running correctly. Otherwise check for blocking and replace the safety valve if necessary.





Drain the water tank to empty

- Cut the power supply and shut down water inlet valve, then drain the cylinder. Please avoid the hot water inside the water tank to avoid injury.

Faults and protection

Fault type	Action	Digital indication	Release
Compressor protection	Range operating temperature protection	F2	After fault is solved, Automatic release.
	Air exhaust temperature protection	F3	After fault is solved, restart or switch on power supply for release.
	Evaporation high temperature protection	F5	
Electricity leakage alarming	Low electrical insulation	E1	
Over temperature alarming	The actual water temperature≥88°C	E2	After fault is solved, Automatic release.
Fault of the tank temperature sensor	If short circuit or circuit break occurs to the sensor	E3	
Fault of the ambient temperature sensor	If short circuit or circuit break occurs to the sensor	E4	
Fault of the evaporation temperature sensor	If short circuit or circuit break occurs to the sensor	E5	
Fault of the compressor exhaust temperature sensor	If short circuit or circuit break occurs to the sensor	E6	
Fault of the compressor intake temperature sensor	If short circuit or circuit break occurs to the sensor	ED	
Communication fault	Communication of main control panel and display panel is abnormal	E7	
Ambient temperature protection	Ambient or outdoor temperature <-7°C or >45°C	E9	
Fault of the Off-peak power switching signal	If not received the Off-peak signal when selecting switch signals by power companies	EF	
Fault of the external heat source temperature sensor	If short circuit or circuit break occurs to the sensor	Lb	
Pressure switch protection	Action of the pressure switch at the exhaust outlet	E8	After fault is solved, restart or switch on power supply for release.
Fault of the fan	Fan blade is stuck or fan and control panel communication failure	L7	
Wi-Fi communication fault	The communication between the display board and the WiFi module fails when the wifi module is in configuration mode	F0	After fault is solved, Automatic release.

Faults and protection

Fault type	Action	Digital indication	Release
Variable frequency side fault	Compressor phase current hardware transient overcurrent.	P1	After fault is solved, restart or switch on power supply for release.
	Compressor phase current software instantaneous overcurrent.	P2	After fault is solved, Automatic release.
	IPM temperature anomaly.	P3	
	Current overload.	P4	
	Under voltage protection.	P5	
	Overvoltage protection.	P6	
	The communication between the main control and driver is faulty.	P7	
	The current detection circuit on the frequency conversion side is abnormal.	P8	After fault is solved, restart or switch on power supply for release.
	Out of step detection.	PB	
	Software transient overcurrent on the rectifier side.	PD	After fault is solved, Automatic release.
	The hardware on the rectifier side is overcurrent.	PF	After fault is solved, restart or switch on power supply for release.
As we can see the latest errors in memory and reset it.			

The  symbol on the product or on its packaging indicates that this product is not to be treated as regular household waste. Instead, it must be taken to a recycling collection point for electrical and electronic equipment. By properly disposing of this product, you are contributing to the preservation of the environment and the wellbeing of your fellow citizens. Improper disposal is hazardous to health and environment. You can obtain further information on how to recycle this product from your municipality, your waste management service or the shop where you purchased it.

Faults and protection

Water Quality

Water supply from an unfiltered water source that may be highly conductive or have a high mineral content may void the system warranty.
Therefore, to ensure water quality guidelines are met, the following characteristics should not be exceeded.

Total Dissolved Solids (TDS)

Water Properties	Acceptable Level
Total hardness	200 mg/litre or ppm
Total Dissolved Solids(TDS)	600 mg/litre or ppm
Chloride	200 mg/litre or ppm
Magnesium	10 mg/litre or ppm
Sodium	150 mg/litre or ppm
pH	Min 6.5 to Max 8.5
Electricity conductivity	850 μS/cm

In areas of poor water quality, it is recommended that a softener, conditioner or similar device be fitted to the water supply.

WARNING

A breach of this condition may void the warranty in the event of damage caused by water quality exceeding these characteristics.

Product Fiche

Model		CURV-HP200M7	CURV-HP250M7
Power supply	Ph/V/Hz	AC220-240V, 50Hz	AC220-240V, 50Hz
The water heating energy efficiency(ηwh)	%	135.0	133.0
Water heating energy efficiency class	-	Class A+	Class A+
Annual energy consumption (AEC)	kWh/annum	757	1255
The daily electricity consumption (Qelec)	kWh	3.566	5.951
The sound power level (indoors)	dB(A)	50	50
Mixed water at 40°C	L	221L	314L
Load profiles of water heaters,Type	-	L	XL

Manufacturer	Qingdao Economic & Technology Development Zone Haier Water-Heater Co. , Ltd.
Address	Haier Industry Park, Economic & Technology Development Zone, 266101 Qindao, PEOPLE'S REPUBLIC OF CHINA
Denomination	Heat pump water heater
Intended use	Hot water
Assembly type	Single package
Refrigerant	R290/150g

Declaration document

1. List sensors used to detect the external environment around the device.

Sensor Name	Function description	Sensing capabilities
Ambient temperature sensor	Sense the ambient temperature, achieve fan speed and press frequency control	Device top structure inside

2. Exposed network interfaces and services via network interfaces in factory default state.

Network interface	Network service	Description
Port53	DNS Resolution Service	Provides domain name resolution services and sends DNS query requests
Port67	DHCP Service	Assigns IP addresses to devices to enable network connectivity
Port6668	Network Provisioning Service	Used to implement network provisioning functionality
Port7001	PSK with Pin Listening Port	Enabled only during network provisioning for compatibility with other provisioning methods. This module and firmware do not use this port for communication.
WLAN interface	Pairing service	Communicate with the associated services
BLE interface	Pairing service	Communicate with the mobile application to get the Wi-Fi SSID and password during set-up

3. The device will collect and store the Wi-Fi account password you entered, solely for the purpose of network connectivity

MAINS PRESSURE HOT WATER STORAGE SYSTEM COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the storage system as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission this equipment to the manufacturer's instructions will invalidate the warranty, but does not affect statutory rights.

Customer Name _____ Telephone Number _____

Address _____

Cylinder Make and Model _____

Cylinder Serial Number | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Commissioned by (print name) _____ Registered Operative ID Number _____

Company Name _____ Telephone Number _____

ALL SYSTEMS

What is the incoming static cold water pressure at the inlet to the system? ☐ psi

Has a strainer been cleaned of installation debris (if fitted)? Yes ☐ No ☐

Is the installation in a hard water area (above 200ppm)? Yes ☐ No ☐

If yes, has a water scale reducer been fitted? Yes ☐ No ☐

What type of scale reducer has been fitted? _____

What is the hot water thermostat set temperature? ☐ °C

What is the maximum hot water flow rate at set thermostat temperature (measured at high flow outlet)? ☐ l/min

Time and temperature controls have been fitted according to CSA Standards and local codes? Yes ☐

What is the hot water temperature at the nearest outlet? ☐ °C

All appropriate pipes have been insulated up to 1 metre or the point where they become concealed Yes ☐

UNVENTED SYSTEMS ONLY

Where is the pressure reducing valve situated (if fitted)? _____

What is the pressure reducing valve setting? ☐ psi

Has a combined temperature and pressure relief valve and expansion valve been fitted and discharge tested? Yes ☐ No ☐

The tundish and discharge pipework have been connected and terminated according to CSA Standards and local codes? Yes ☐

Are all energy devices fitted with a cut out device? Yes ☐ No ☐

ALL INSTALLATIONS

The hot water system complies with the appropriate CSA standards and local codes Yes ☐

The system has been installed and commissioned in accordance with the manufacturer's instructions Yes ☐

The system controls have been demonstrated to and understood by the customer Yes ☐

The manufacturer's literature, including this Checklist and Service Record, has been explained and left with the customer Yes ☐

Commissioning Engineer's Signature _____

Customer's Signature _____ Date _____

(To confirm satisfactory demonstration and receipt of manufacturer's literature)

SERVICE RECORD

It is recommended that your hot water system is serviced regularly and that the appropriate Service Record is completed.

Service Provider
Before completing the appropriate Service Record below, please ensure you have carried out the service as described in the manufacturer's instructions.

SERVICE 1 Date
Engineer Name
Company Name
Telephone Number
Comments

Signature

SERVICE 2 Date
Engineer Name
Company Name
Telephone Number
Comments

Signature

SERVICE 3 Date
Engineer Name
Company Name
Telephone Number
Comments

Signature

SERVICE 4 Date
Engineer Name
Company Name
Telephone Number
Comments

Signature

SERVICE 5 Date
Engineer Name
Company Name
Telephone Number
Comments

Signature

SERVICE 6 Date
Engineer Name
Company Name
Telephone Number
Comments

Signature

SERVICE 7 Date
Engineer Name
Company Name
Telephone Number
Comments

Signature

SERVICE 8 Date
Engineer Name
Company Name
Telephone Number
Comments

Signature

SERVICE 9 Date
Engineer Name
Company Name
Telephone Number
Comments

Signature

SERVICE 10 Date
Engineer Name
Company Name
Telephone Number
Comments

Signature

Project

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