NIBE

NIBE HA-WH

INDIRECTLY HEATED DOMESTIC HOT WATER CYLINDERS
FOR HEAT PUMPS

EN Installer manual

09.01.2025

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EN 12897:2016

CE

1. Important information

Safety information

This manual describes installation and service procedures for implementation by specialists.
The manual must be left with the customer.
For the latest version of the product's documentation, see nibe.eu.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capacities 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. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Water may drip from the safety valve's overflow pipe. The overflow pipe must be routed to a suitable drain to prevent hot water splashes from causing harm. The overflow pipe must be inclined along its entire length to prevent pockets where water can accumulate, and must be frostproof. The overflow pipe must be at least the same size as the safety valve. The overflow pipe must be visible and its mouth must be open and not placed close to electrical components.
The safety valves must be actuated regularly to remove dirt and to check that they are not blocked.

Symbols

Note
This symbol indicates danger to water heater or person.

Caution
This symbol indicates important information about what you should observe when maintaining your installation.

Tip
This symbol indicates tips on how to facilitate using the product

Caution
Always give the product's serial number when reporting a fault.

Recovery
Leave the disposal of the packaging to the installer who installed the product or to special waste stations. Do not dispose of used products with normal household waste. It must be disposed of at a special waste station or dealer who provides this type of service. Improper disposal of the product by the user results in administrative penalties in accordance with current legislation.

Caution
When secondary return circuits are used, an additional expansion vessel may be required.

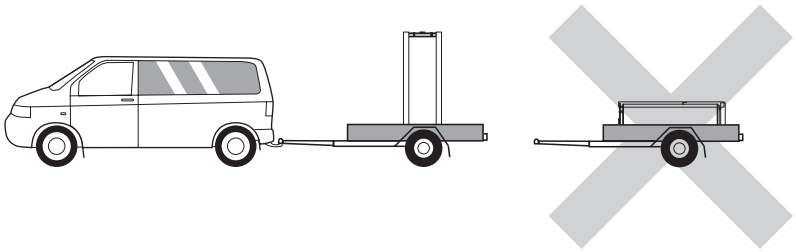
Serial number

The serial number can be found on the the front cover.

2. Delivery and handling

Transport

The NIBE HA-WH should be transported and stored vertically in a dry place.



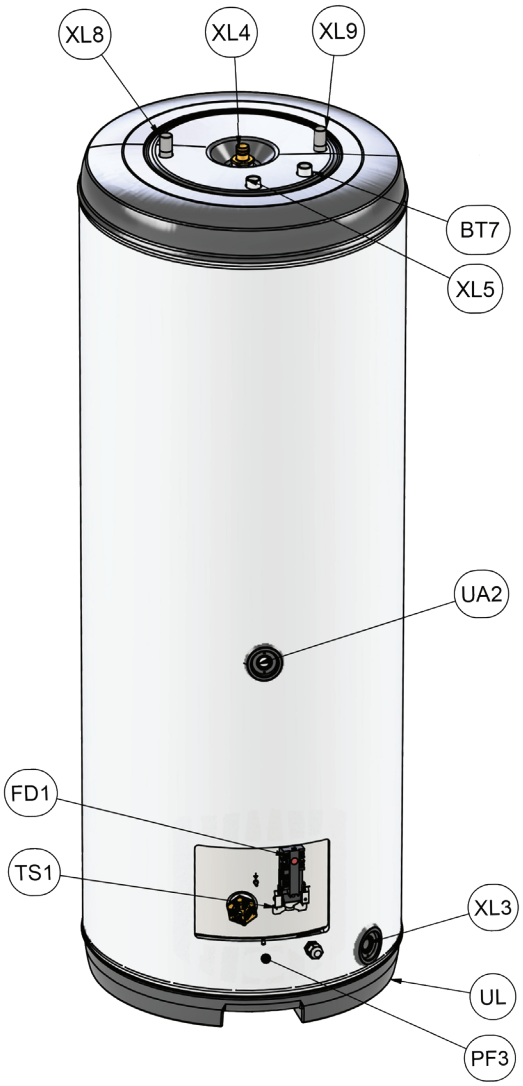
Assembly

- The water heater is only designed for upright installation.
- Position the water heater on a firm base that can bear its weight, preferably on a concrete floor or foundation. Use the water heater's adjustable feet to obtain a horizontal and stable set-up.
- Pipes must be routed from the safety valve to a suitable drain.
- The water heater's installation area should always have a temperature of at least 10 °C and max 30 °C.
- Remember to rotate the cylinder in a direction that allows easy access to the immersion heater and the electrical box.

3. The water heater design

(See page 6 for explanations)

NIBE HA-WH 5016 F, 5020 F and 5030 F



Pipe connections

XL3 Connection, cold water 3/4”

XL4 Connection, hot water, Ø 22 mm

XL5 Connection, hot water circulation, Ø 1/2”
(Only NIBE HA-WH 200 and 300)

XL8 Docking connection, flow line
(from heat pump*), Ø22 mm

XL9 Docking connection, return line
(to heat pump, Ø22 mm)

*or another external heat source

HVAC components

UA2 Submerged tube for hot water sensor
(control)

*or another external heat source

Electrical components

FDI Temperature limiter immersion heater

TSI Working thermostat immersion heater

Miscellaneous

PF 3 Serial number plate

UL Adjustable feet

Designations in component locations according to standard IEC 81346-1 and 81346-2.

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4. Pipe connections

General

Pipe installation must be carried out in accordance with current norms and directives.

Internal support bushes should be fitted when a plastic pipe or annealed copper pipe is used. The water heater must be fitted with the requisite valves, such as a safety valve, shut-off valve, non-return valve, and vacuum valve. An overflow pipe must be routed from the safety valve to a suitable drain. The size of the overflow pipe must be the same as on the safety valve. Route the overflow pipe from the safety valve enclosed along its entire length and ensure that it is frost proof. The outlet of the overflow pipe should be visible and clearly away from any electrical components.

Overflow water from the safety valves goes via non-pressurised collecting pipes to a drain so that hot water splashes cannot cause injury. These non-pressurised collecting pipes must not be used for anything else.

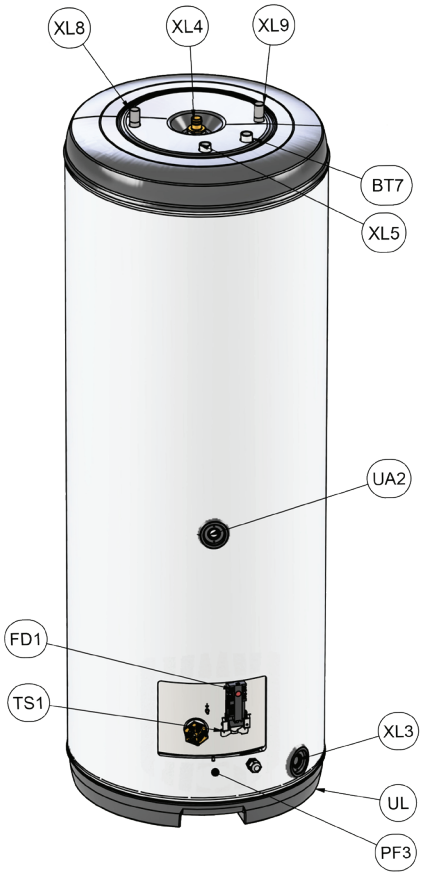
Valves may not be positioned between the expansion valve and the vessel.

Hard water areas

Usually, there should not be a problem in installing NIBE HA-WH in areas of hard water as the operating temperature is 50-60 °C.

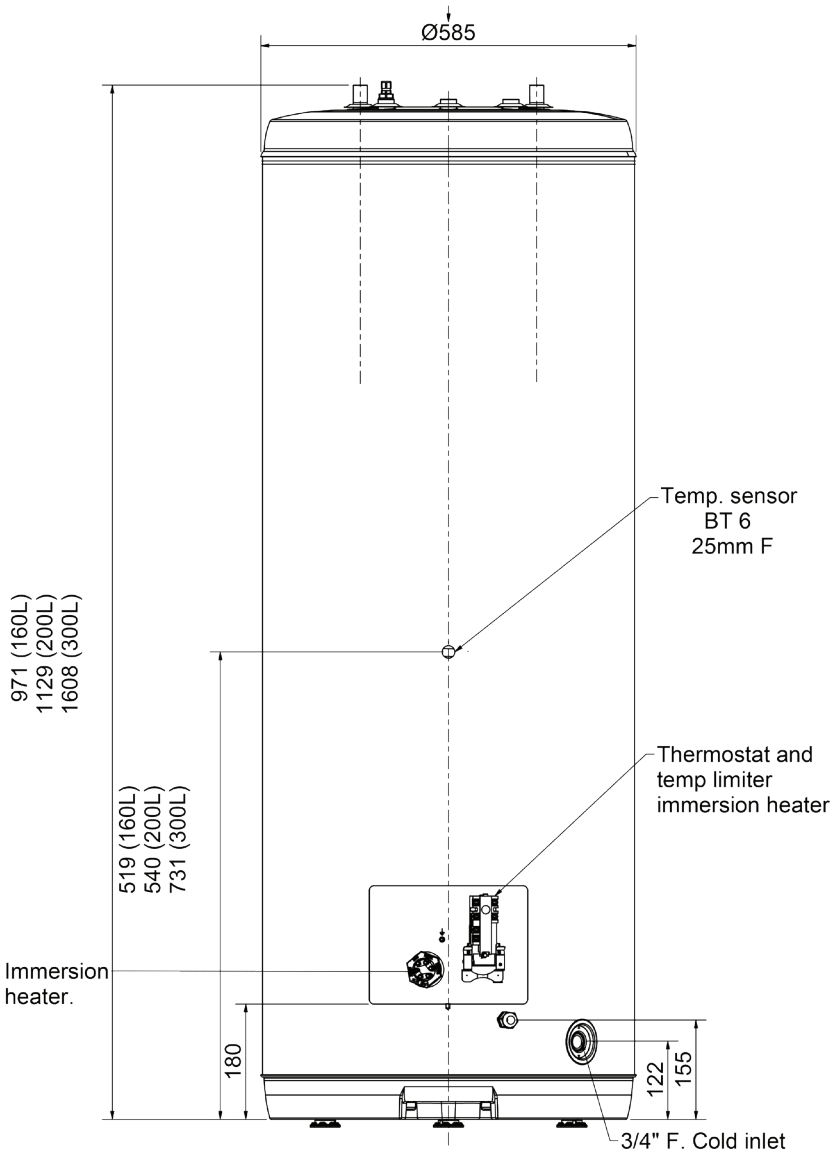
Dimensions, pipe connections and setting-out coordinates

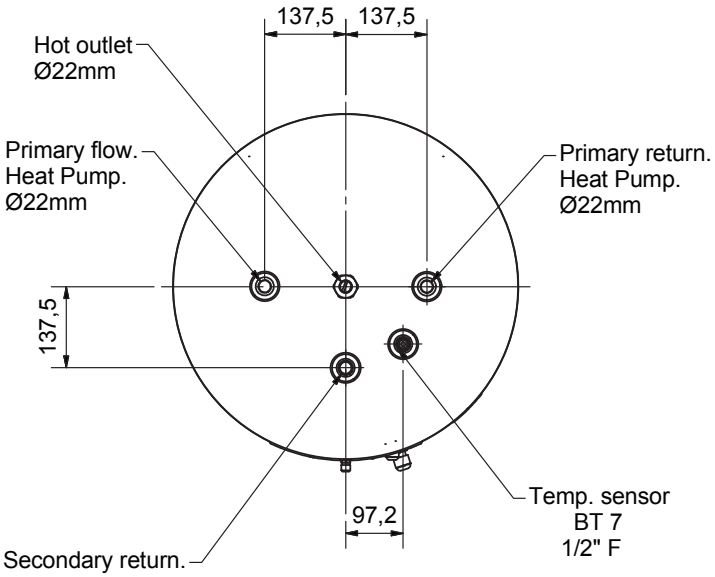
NIBE HA-WH 5016 F, 5020 F and 5030 F



Connection	mm	inch
XL3 Cold water (160, 200, 300)		3/4
XL4 Hot water	22	
XL5 Hot water circulation		1/2
XL8 Docking connection, flow line	22	
XL9 Docking connection, return line	22	

NIBE HA-WH 5016 F, 5020 F and 5030 F

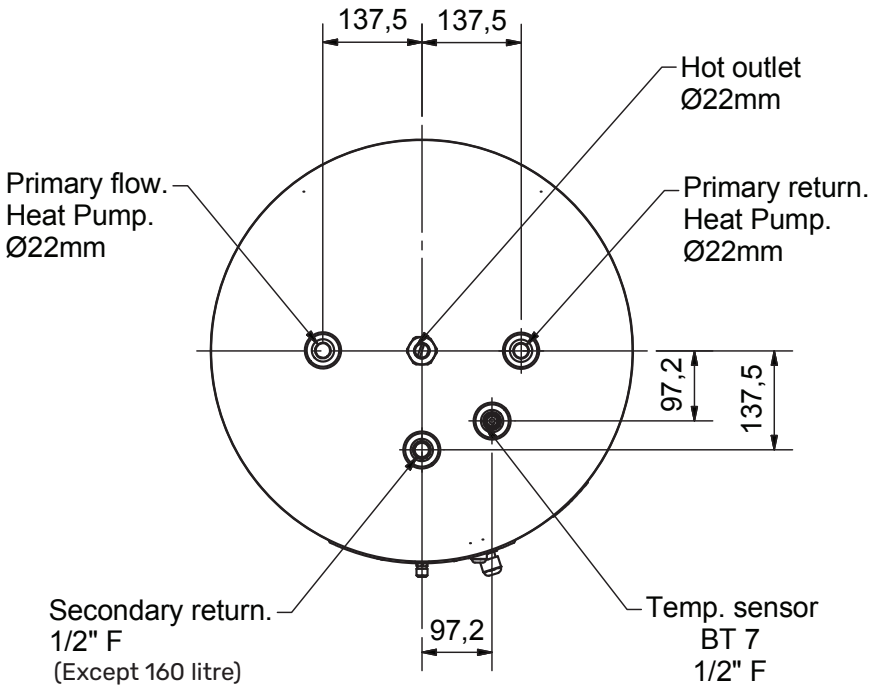




Heat pump connection

Connecting to heat pump

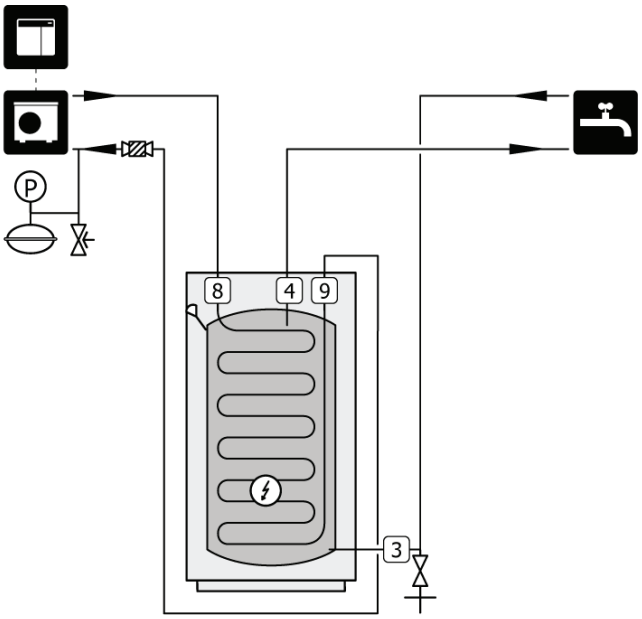
The heat pump supply and return are connected to the NIBE HA-WH.



Cold and hot water

Connecting cold and hot water

There must be a mixing valve if the temperature can exceed 60 °C.



Docking

NIBE HA-WH can be connected in several ways, one of which is shown here.

Information on further options is available at www.nibe.eu and in the respective assembly instructions for the heat pumps used.

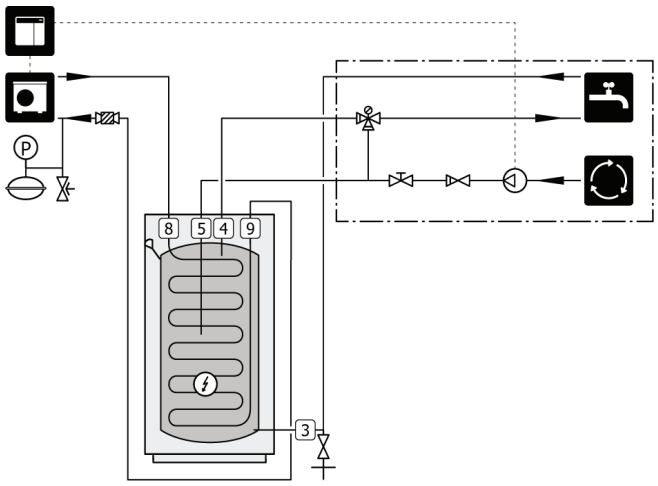
Symbol key

Symbol	Meaning
	Venting valve
	Shut-off valve
	Non-return valve
	Mixing valve
	Safety valve
	Expansion vessel CM1
	Temperature sensor
	Circulation pump
	Particle filter
	Reversing valve

Connecting hot water circulation

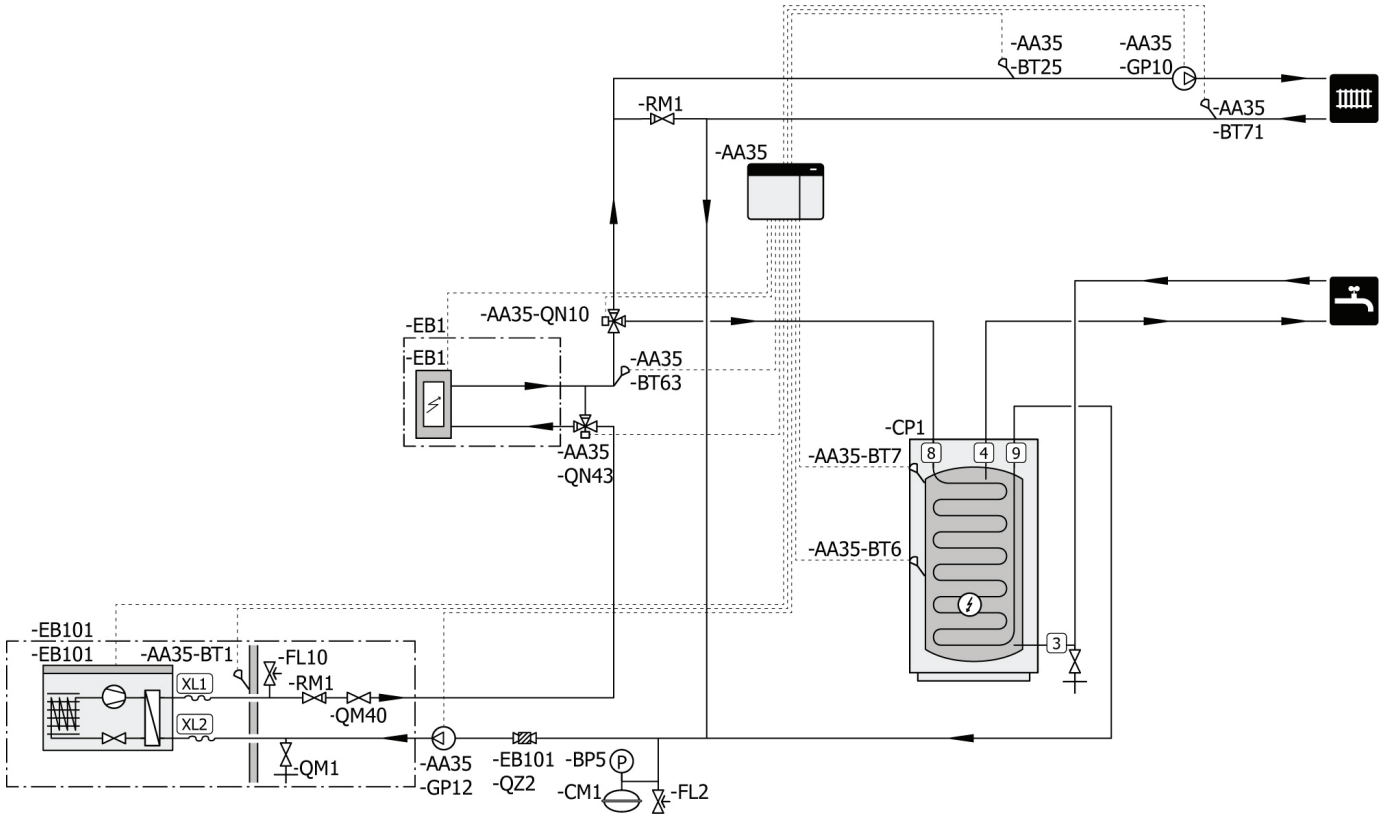
NIBE HA-WH 5020 F and 5030 F have a connection that allows hot water circulation.

To reduce the risk of bacterial growth in systems with hot water circulation, the temperature of the circulating water should not fall below 50 °C. There should not be any non-circulatory hot water pipes. Adjust the hot water system so that the temperature does not fall below 50°C at the ends of the system.



To air source heat pump

NIBE HA-WH can be docked with a NIBE air to water heat pump.



5. Electrical installation

NOTE

Electrical installation and service must be carried out under the supervision of a qualified electrician. Electrical installation and wiring must be carried out in accordance with the stipulations in force.

Sensors

NIBE HA-WH can accommodate up to two hot water sensors, one for NIBE SMO Controller module and one to control start and stop of heat pump.

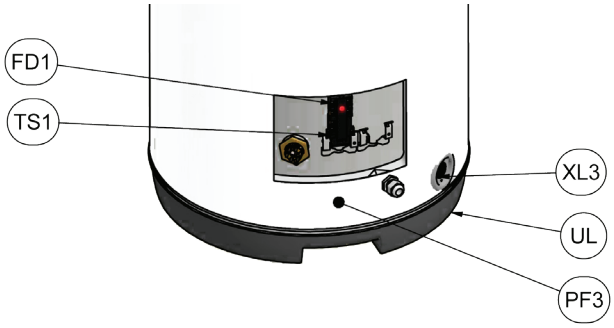
The display sensor is positioned in the submerged tube for control sensor (UA2).

Use the sensors provided with the heat pump/control module. When no heat sensors have been provided, these must be ordered from the manufacturer of the heatpump/control module.

Thermostats and temperature limiter

(Factory fitted)

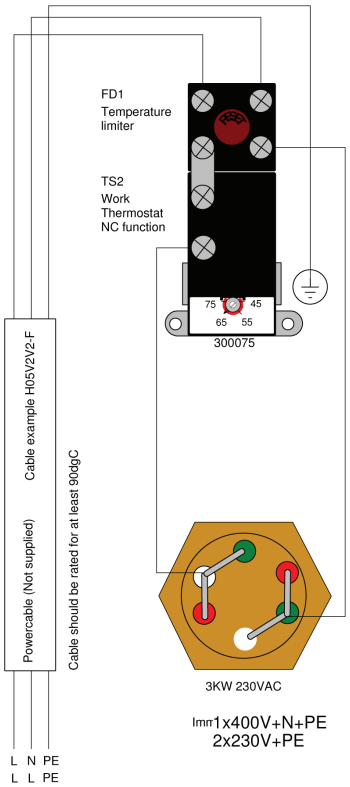
NIBE HA-WH 5016 F, 5020 F and 5030 F



Temperature limiters

Power supply to temperature limiter (FD1) is 230 V. Connect temperature limiter (FD2) electrically to the motorized valves - one to each heat source.

NIBE HA-WH 5016 F, 5020 F and 5030 F



6. Commissioning and adjusting

Filling and venting

Filling the hot water heater

1. Open a hot water tap in the house. (XL4)

2. Fill the hot water heater through the cold water connection (XL3).

3. When the water that comes out of the hot water tap is no longer mixed with air, the water heater is full. Flush the system for several minutes and the tap can be closed.

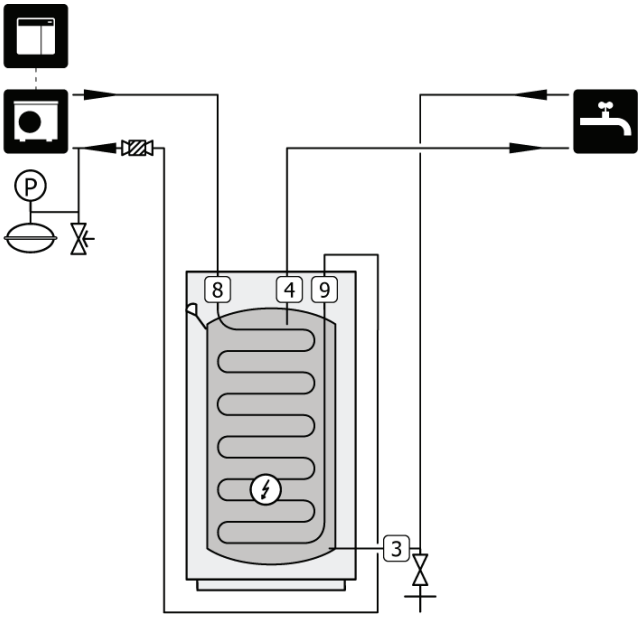
Filling and venting the charge coil

Filling and venting

1. Open the filling valve (external, not included with the product). Fill the coil in the hot water heater and the rest of the climate system with water.

2. Vent the coil and the rest of the climate system via the relevant venting valves.

3. Keep topping up and venting until all air has been removed and the pressure is correct.



Cold inlet

Cleaning the climate system

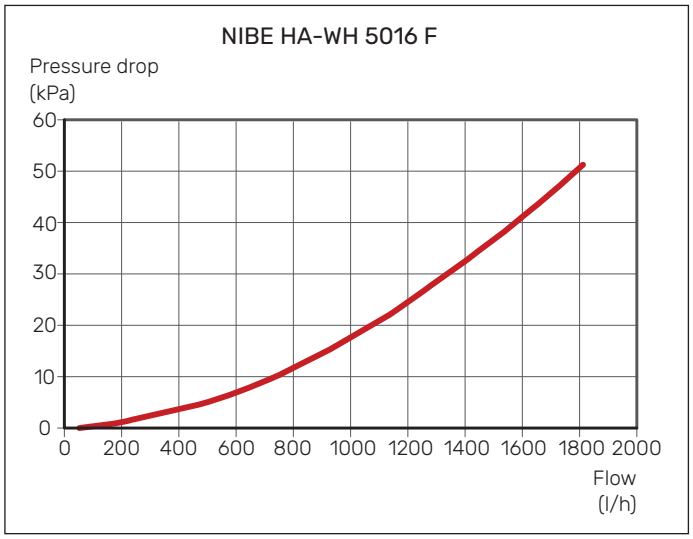
When the water heater and the climate system have been filled with water, the NIBE HA-WH must operate at maximum normal temperature for at least one hour. Thereafter the system must be drained of water and refilled.

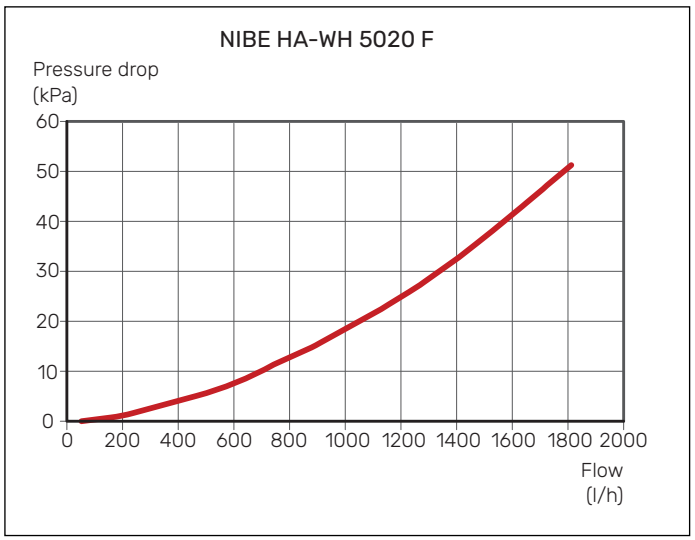
Emptying the climate system

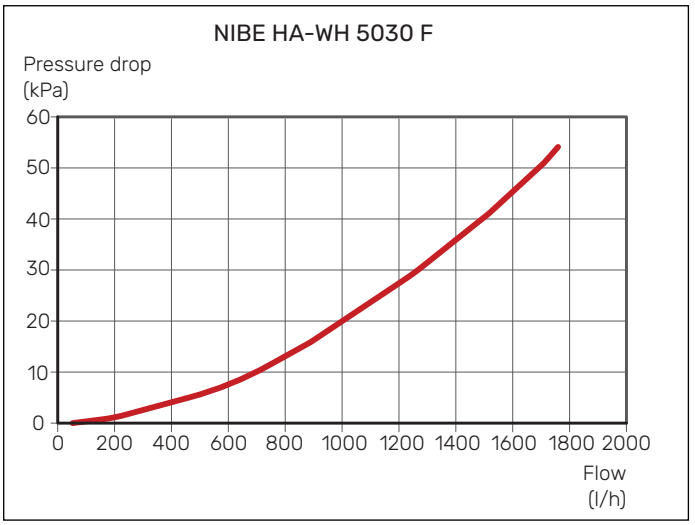
1. Close the main water supply.
2. Flush the system for some minute. Watch out for water splashes from the safety valve.
3. Close the valves and check the strainer.

Pressure drop diagram

Pressure drop diagram, charge coil, horizontal coil Docking connection, flow line (XL8) and docking connection, return line (XL9).







7. Service and maintenance

NOTE
Any servicing must be carried out by a competent person.

NOTE
If this pressurised water heater develops a fault, e.g. a flow of hot water from the overflow pipe, turn the heat pump off and contact your Installer.

Maintenance

General inspection

Check the following:

1. Condition of casing
2. Electrical connections
3. Pipe connections

Correct any fault before continuing.

Hot water heater

Check the following:

1. Expansion relief valve
2. Discharge pipe
3. Expansion vessel

Correct any fault before continuing.

Service actions

Safety valves

The function of the safety valves must be checked regularly.

Perform checks as follows:

1. Open the valve by turning the knob anti-clockwise carefully.
2. Check that water ows through the valve.
3. Close the valve by releasing it. If it does not close automatically when released, turn it anti-clockwise slightly.

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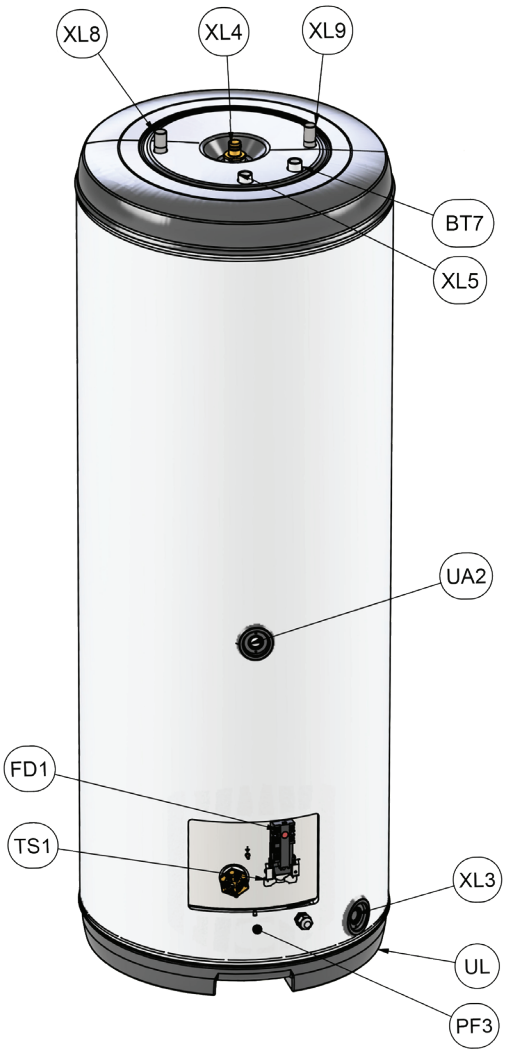

Cleaning

Inspect and clean the water heater by using a suitable instrument such as an endoscope.
The hot water connection (XL4) must be removed to facilitate access.

Emptying

The water heater is emptied through the drain cock (with hose connection) in the cold water connection (XL3).

Drain the charge coil through the siphon (with hose) on the docking connection, return to heat pump (XL9).

NOTE
Do not remove or adjust any components that are part of this pressurised water heater.
Contact your installer!

8. Technical specifications

NIBE HA-WH		160	200	300
Volume (net)	litre	143	179	271
Volume, charge coil	litre	8,1	8,5	10,6
Net weight	kg	42	45	59
Gross weight	kg	191	224	330
Heat content at 50°C	kWh	6,58	8,30	12,57
Amount of hot water (40°C) by 60°C	litre	198	234	361
Heating time (10°C to 60°C) at 80°C supply temperature	min.	10	50	91
Max operating temperature	°C	85	85	85
Max pressure, primary side	bar/MPa	3/0,3	3/0,3	3/0,3
Max pressure, water heater	bar/MPa	5,5/0,55	5,5/0,55	5,5/0,55
Max water supply pressure	bar/MPa	16/1,6	16/1,6	16/1,6
Exp. vessel, tap water, charge pressure	bar/MPa	3,0/0,3	3,0/0,3	3,0/0,3
Expansion relief valve, setting	bar/MPa	6/0,6	6/0,6	6/0,6
Heat loss at 45°C	kW/24h	1,24	1,62	2,01
Set pressure reducing valve	bar/MPa	3	3	3
Max temperature heat pump	°C	75	75	75
Max recommended heat pump	-	S2125-12 F2050-10	S2125-12 F2050-10	S2125-16 F2050-12
Volume expansion vessel	litre	18	18	24
Max design Pressure	bar/MPa	6	6	6
Corrosion protection	Material	Stainless steel	Stainless steel	Stainless steel
Part No.	-	084170	084171	084172
Eprel No.	-	2174677	2174678	2174680

Water chemistry

Total dissolved solids	-
Total Hardness	3 – 6 dH°
Chloride	200 mg Cl/l
Magnesium	10 mg Mg/l
Calcium	25 mg Ca /l,
Natriumchloride (Salt)	200 mg NaCl/l corresponds to (80 mg Na/l)
Sodium	100 mg Na/l. (ref. Norwegian drinking water regulations)
Iron	0,2 mg Fe/l (ref. Norwegian drinking water regulations)
Kobber	2,0 mg Cu/l (ref. Norwegian drinking water regulations)
pH minimum	6,5
pH maximum	9,5

The limit value for conductivity is 250 milliSiemens (mS/m) at 20°C.

9. Item register

NIBE

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