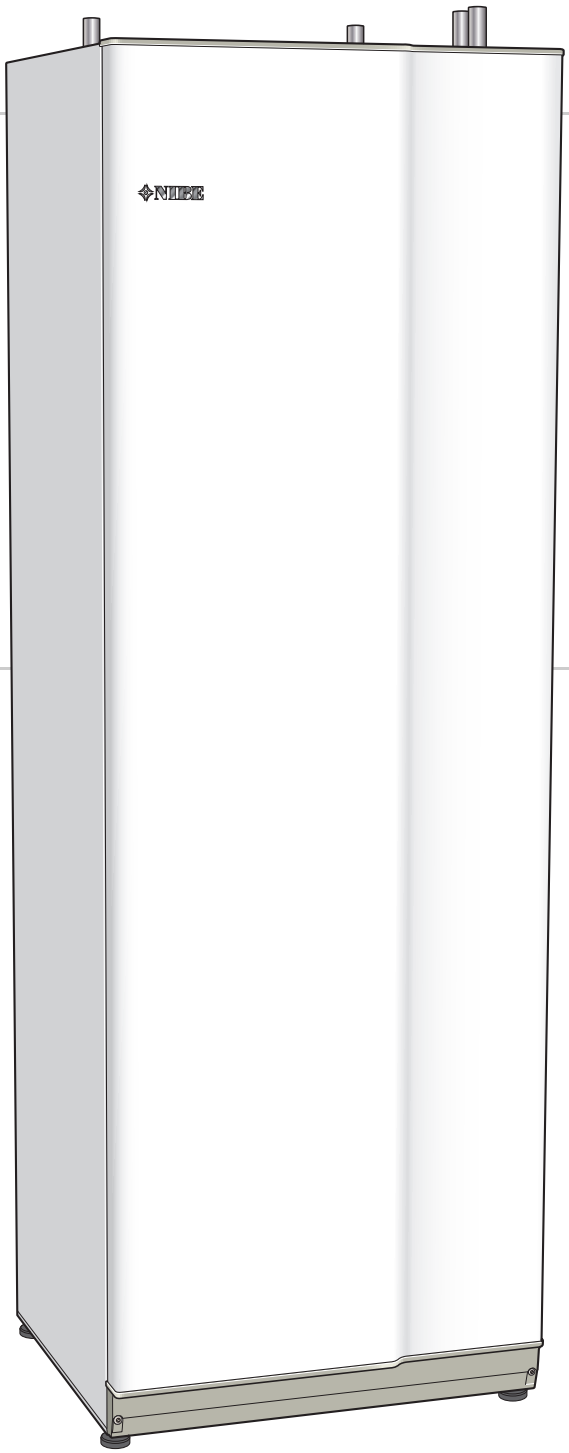


Installer manual

AHP/AHPS

Accumulator tank

IHB GB 1544-4
231351

Table of Contents

1 Important information

Safety information

This manual describes installation and service procedures for implementation by specialists.

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. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Rights to make any design or technical modifications are reserved.

Symbols

NOTE

This symbol indicates danger to machine or person.

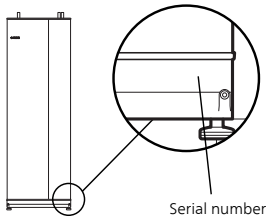
Caution

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.

Serial number



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.

Country specific information

Installer manual

This installer manual must be left with the customer.

Inspection of the installation

Current regulations require the heating installation to be inspected before it is commissioned. The inspection must be carried out by a suitably qualified person.

✔	Description	Notes	Signature	Date
Heat pump (page 12)				
	Shut off valves			
	Expansion vessel			
	Safety valve			
Hot water (page 12)				
	Shut off valves			
	Mixing valve			
	Safety valve			
Cold water (page 12)				
	Shut off valves			
	Non-return valve			
Electricity (page 15)				
	Sensors			

Contact information

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Tel: (52) 647 00 30 Fax: (52) 647 00 31 E-mail: info@nibe.ch www.nibe.ch

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Tel. sentralbord: +47 23 17 05 20 E-mail: post@abkklima.no www.nibeenergysystems.no

PL **NIBE-BIAWAR Sp. z o. o.** Aleja Jana Pawła II 57, 15-703 BIAŁYSTOK
Tel: 085 662 84 90 Fax: 085 662 84 14 E-mail: sekretariat@biawar.com.pl www.biawar.com.pl

RU © **"EVAN"** 17, per. Boynovskiy, Nizhny Novgorod
Tel./fax +7 831 419 57 06 E-mail: info@evan.ru www.nibe-evan.ru

SE **NIBE AB Sweden**, Box 14, Hannabadsvägen 5, SE-285 21 Markaryd
Tel: +46-(0)433-73 000 Fax: +46-(0)433-73 190 E-mail: info@nibe.se www.nibe.se

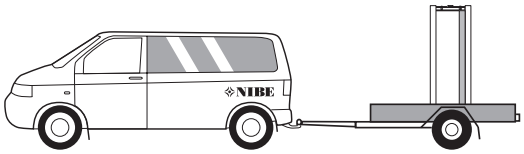
For countries not mention in this list, please contact Nibe Sweden or check www.nibe.eu for more information.

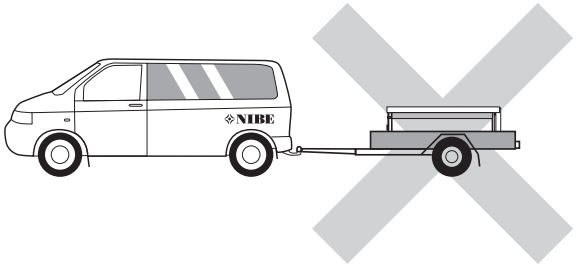
2 Delivery and handling

Transport

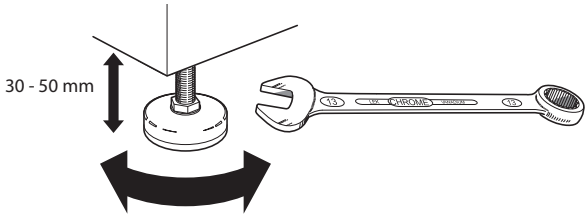
However. the AHP/AHPS may be carefully laid on its back when being moved into a building. The centre of gravity is in the upper part.

AHP/AHPS should be transported and stored vertically in a dry place. However, the AHP/AHPS may be carefully laid on its back when being moved into a building.





Assembly

- 

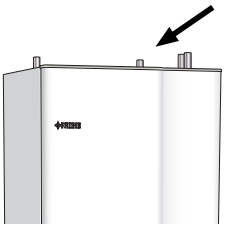
- The area where AHP/AHPS is located must be equipped with floor drainage.

Supplied components

3 x compression rings

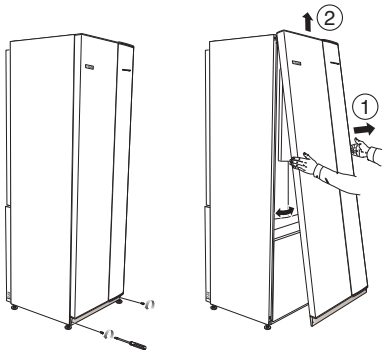
Location

The kit of supplied items is placed on top of the product.

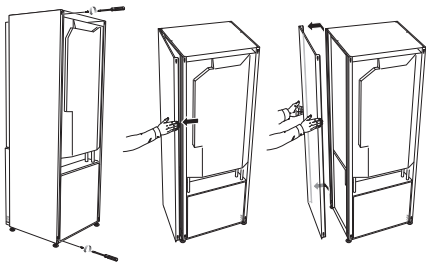


Removing the covers

Front cover



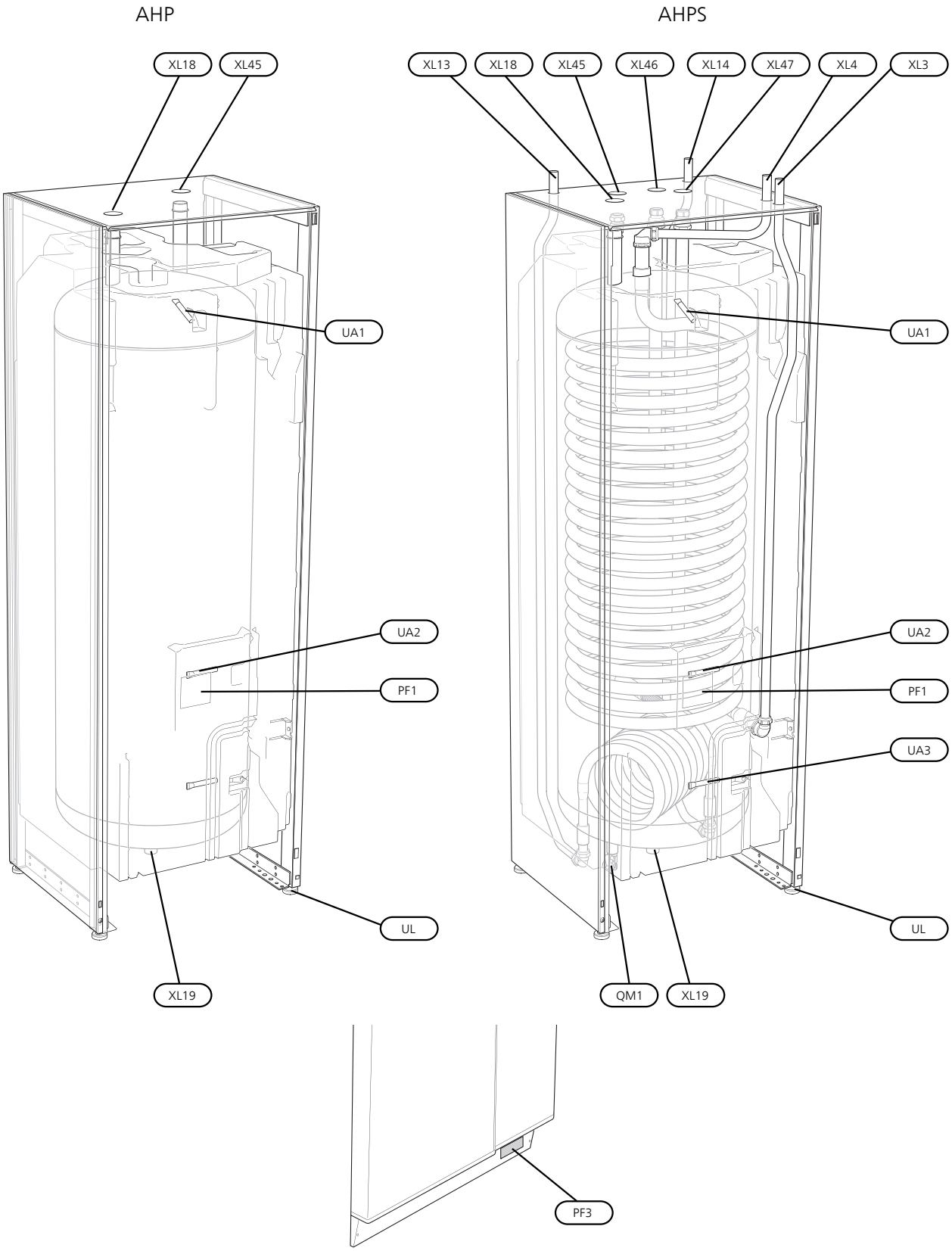
1. Remove the screws from the lower edge of the front cover.
2. Lift the cover out at the bottom edge and up.



The side covers can be removed to facilitate the installation.

1. Remove the screws from the upper and lower edges.
2. Twist the cover slightly outward.
3. Move the hatch backwards and slightly to the side.
4. Pull the cover to one side.
5. Pull the hatch forwards.

3 Accumulator tank design



Pipe connections

XL3	Connection, cold water
XL4	Connection, hot water
XL13	Connection, supply line (from solar heating system) (Only AHPS)
XL14	Connection, return line (to solar heating system) (Only AHPS)
XL18	Docking connection, supply line high temperature (from external heat source)
XL19	Docking connection, return line high temperature (to external heat source)
XL45	Docking connection, level 1
XL46	Docking connection, level 2 (only AHPS)
XL47	Docking connection, level 3 (only AHPS)

HVAC components

QM1	Drain valve, heating medium (only AHPS)
UA1	Submerged tube for hot water sensor
UA2	Submerged tube for hot water sensor
UA3	Submerged tube for solar sensor (only AHPS)

Miscellaneous

PF1	Rating plate
PF3	Serial number plate
UL	Adjustable feet

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

*or another external heat source

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 or annealed copper pipe is used. The accumulator tank must be fitted with the requisite valves, such as a safety valve, shut-off valve and non-return valve. An overflow pipe should be routed from the safety valve to an appropriate drain. The overflow pipe must be the same size as the safety valve. Route the overflow pipe from the safety valve enclosed along its entire length and ensure that it is frost proof. The mouth of the overflow pipe must be visible and not placed close to electrical components.

Maximum boiler and radiator volumes

For installation in pressurized systems, the system must be equipped with a pressure expansion vessel pre-pressurised to 0.5 bar (5 mvp).

Internal volume in AHPS for calculating expansion vessel is 270 l. The expansion vessel's volume must be at least 10 % of the system's total volume.

Example table

Total volume (l) (accumulator tank and radiator system)	Volume (l) expansion vessel
500	50
700	70
1000	100

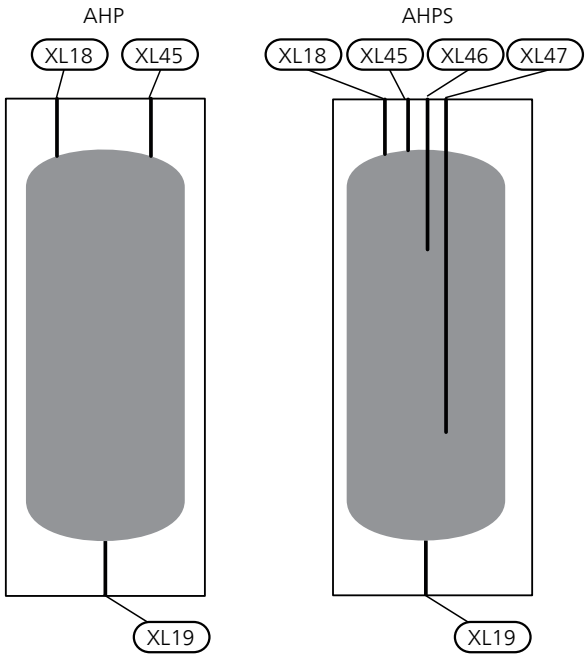
NOTE

Expansion vessel not supplied with the product. Equip the product with an expansion vessel.

The initial pressure of the pressure expansion vessel must be dimensioned according to the maximum height (H) between the vessel and the highest positioned radiator. A pre-pressure of 0.5 bar (5 mvp) means a maximum permitted height difference of 5 m.

If the pre-pressure in the pressure vessel is not high enough it can be increased by adding air via the valve in the expansion vessel. The expansion vessel's pre-pressure must be entered in the check list on page 4. Any change in the pre-pressure affects the ability of the expansion vessel to handle the expansion of the water.

System diagram



AHP

AHP consists of a vessel with accumulated volume. AHP connected to AHPS.

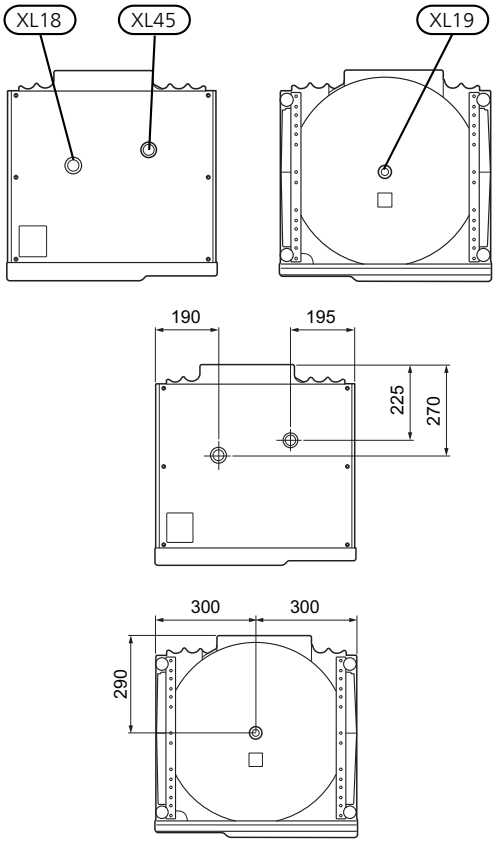
AHPS

AHPS consists of a vessel with a number of connections, which makes it possible to dock the accumulator tank to external units. By using the different levels in the tank, heat can be retrieved and supplied to the tank in several versions. Use for example level 2 and 3 to retrieve solar heat to heat a pool. The heat between level 2 and the top of the tank is then intended to preheat the hot water to the heat pump.

XL 18	Docking connection, supply line high temperature (from external heat source)
XL 19	Docking connection, return line high temperature (to external heat source)
XL 45	Docking connection, level 1
XL 46	Docking connection, level 2
XL 47	Docking connection, level 3

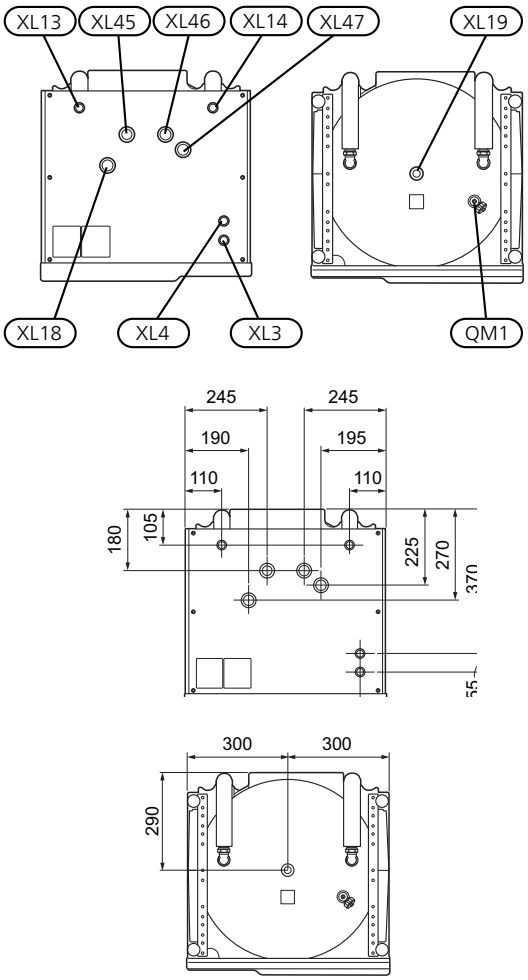
Dimensions and pipe connections

AHP



Connection AHP		
XL18 Docking connection, supply line high temperature	G25	ext.
XL19 Docking connection, return line high temperature	G25	ext.
XL45 Docking connection, level 1	G25	ext.

AHPS

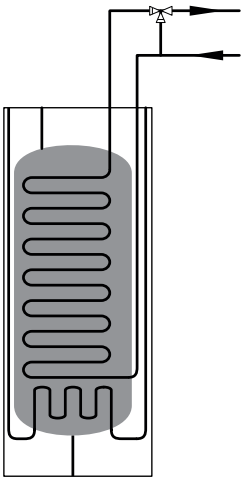


Connection AHPS		
QM1 Draining valve	G20	ext.
XL3 Cold water Ø	mm	22
XL4 Hot water Ø	mm	22
XL13 Solar flow line Ø	mm	22
XL14 Solar return line Ø	mm	22
XL18 Docking connection, supply line high temperature	G25	ext.
XL19 Docking connection, return line high temperature	G25	ext.
XL45 Docking connection, level 1	mm	22
XL46 Docking connection, level 2	mm	22
XL47 Docking connection, level 3	mm	22

Heat pump

Connecting to heat pump

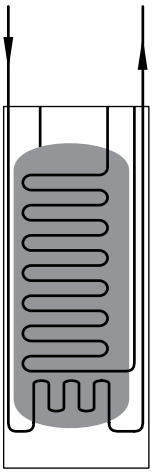
Domestic water is preheated in AHP/AHPS.



Sun

Connecting to solar heating system

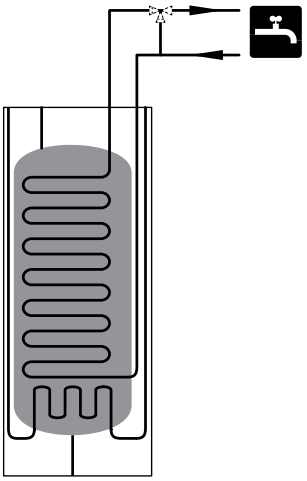
The solar heating system's supply and return are connected to AHPS.



Cold and hot water

Connecting cold and hot water

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



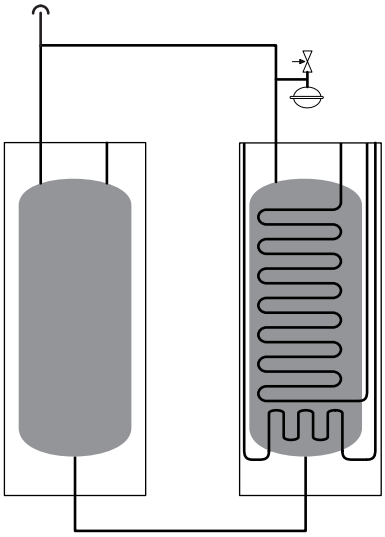
Symbol key

Symbol	Meaning
	Venting valve
	Shut-off valve
	Mixing valve
	Level vessel
	Control valve
	Safety valve
Ⓣ	Thermometer
	Temperature sensor
	Expansion vessel
Ⓟ	Pressure gauge
	Circulation pump
	Particle filter

AHP and AHPS

Connecting two tanks

Extended volume for connecting several solar panels.



Installation alternative

AHP/AHPS can be connected in several different ways, one of which is shown here.

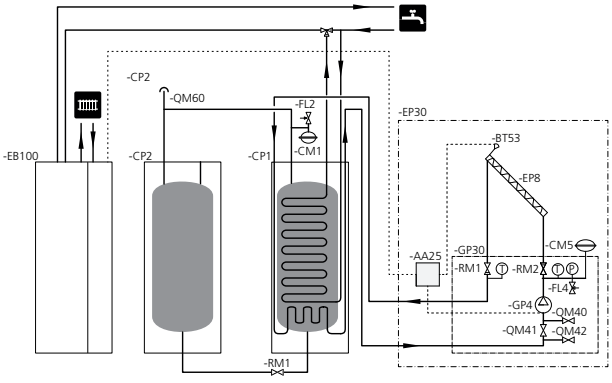
Further option information is available at www.nibe.eu and in the respective assembly instructions for the heat sources used.

Symbol key

Symbol	Meaning
	Venting valve
	Shut-off valve
	Mixing valve
	Level vessel
	Control valve
	Safety valve
Ⓣ	Thermometer
	Temperature sensor
	Expansion vessel
Ⓟ	Pressure gauge
	Circulation pump
	Particle filter

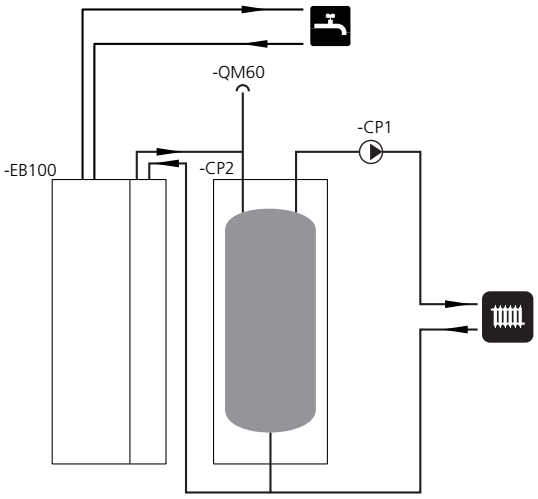
To solar heating

AHPS can be docked to solar heating system.



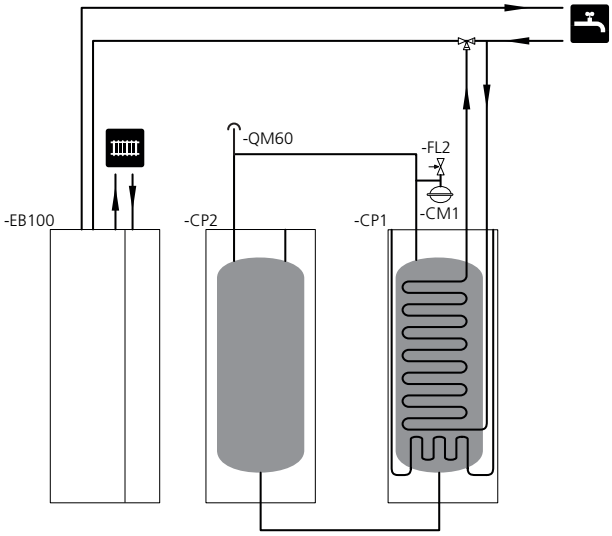
As a buffer vessel for heating system

AHP can be docked as a buffer vessel for the heating system, when the system volume is not sufficient, or to reduce heat spikes.

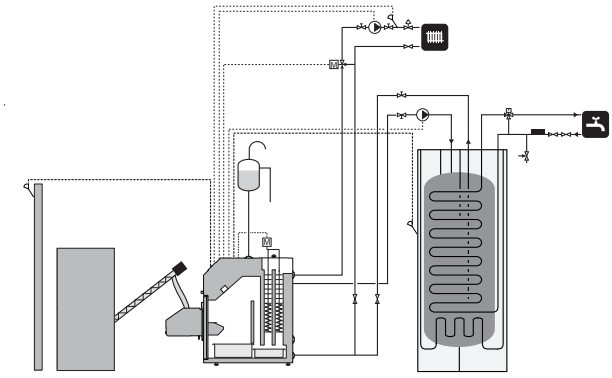


To ground source heat pump

AHP/AHPS can be docked with another heat source, for example NIBE F1245.



To pellet boiler



5 Electrical installation

NOTE

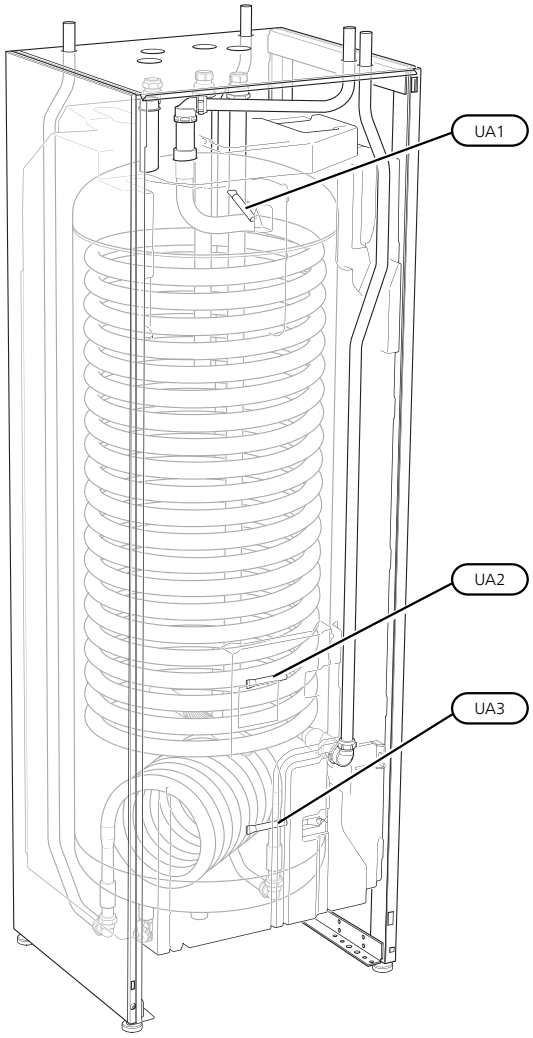
Electrical installation and service must be carried out under the supervision of a qualified electrician. Electrical installation and wiring must be carried out in accordance with the stipulations in force.

Sensors

AHP/AHPS can be supplemented with up to two hot water sensors. These are placed in the submerged tube for hot water sensor (UA1) and (UA2).

AHPS can also be supplemented with a solar sensor. This is placed in the submerged tube for solar sensor (UA3).

Use the sensors provided with the heat pump (or other heat source). When no heat sensors have been provided these must be ordered from the manufacturer of the heat source.



The figure shows AHPS.

6 Commissioning and adjusting

Filling and venting

Filling the hot water coil (AHPS)

1. Open a hot water tap in the house.
2. Fill the hot water coil through the cold water connection (XL3).
3. When the water that comes out of the hot water tap it is no longer mixed with air, the hot water coil is full and the tap can be closed.

Filling the solar coil (AHPS)

Fill the solar coil through the filling connection in the solar panel unit.

There must be water in the solar coil and the vessel before the solar panel unit is operated.

Filling the vessel

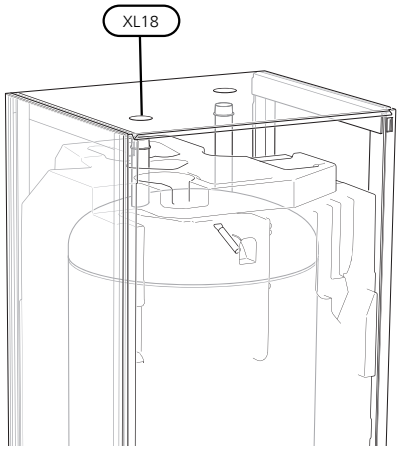
1. Open the externally mounted vent valve (CP2-QM60).
2. Fill the vessel in AHPS through the drain valve (QM1).
3. When the water that exits the vent valve (CP2-QM60) is not mixed with air, the vessel is full.
4. Close the vent valve (CP2-QM60).
5. AHP filled indirectly when AHPS is filled.

Venting

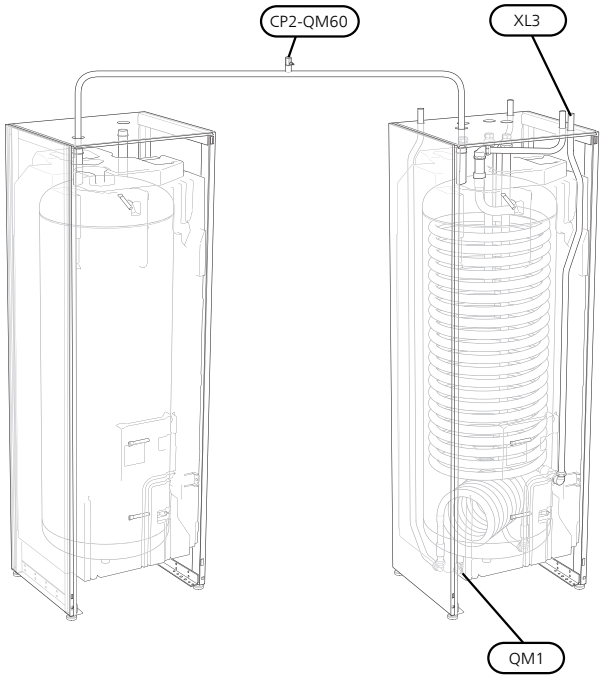
For installations with several AHP/AHPS it is important to vent the connection between the tanks.

1. Vent through the externally mounted vent valve (CP2-QM 60) .
2. Keep topping up and venting until all air has been removed and the pressure is correct.

AHP



AHPS

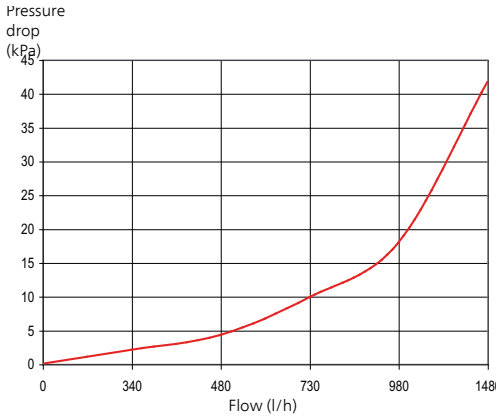


Start-up and inspection

Pressure drop diagram, solar coil

Connection, flow line solar heating system (XL13) and connection, return line solar heating system (XL14).

AHPS



7 Service

Service actions

Safety valve

The hot water coil's externally mounted safety valve sometimes releases a little water after hot water usage. This is because the cold water, which enters the hot water coil, expands when heated causing the pressure to rise and the safety valve to open.

The function of the safety valve must be checked regularly. Perform checks as follows:

1. Open the valve.
2. Check that water flows through the valve.
3. Close the valve.

TIP

The safety valve is not supplied with the accumulator tank. Contact your installer if you are unsure how one checks the valve.

Emptying

AHP: The vessel is drained via docking connection (XL19) in AHP.

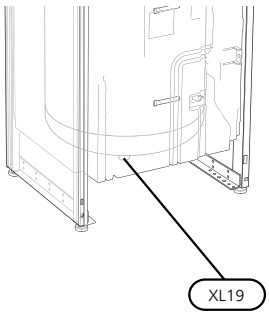
AHPS: Empty the vessel via the drain valve (QM1).

AHP and AHPS: The vessel is drained via the drain valve (QM1) in AHPS, in those cases AHP and AHPS are connected.

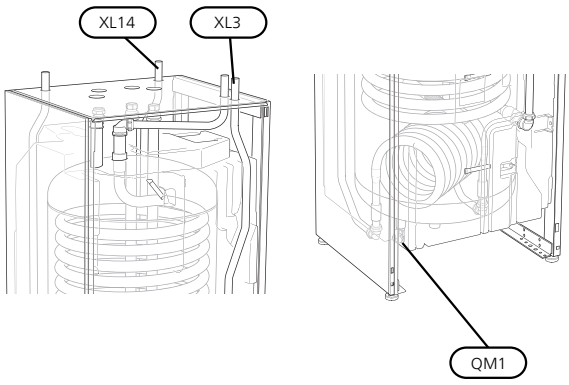
The hot water coil in AHPS is emptied through the siphon (with hose) in the cold water connection (XL3).

Drain the solar coil through the siphon (with hose) on the connection, return to solar heating system (XL14).

AHP



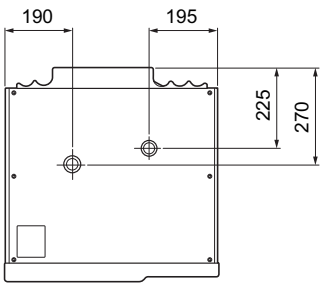
AHPS



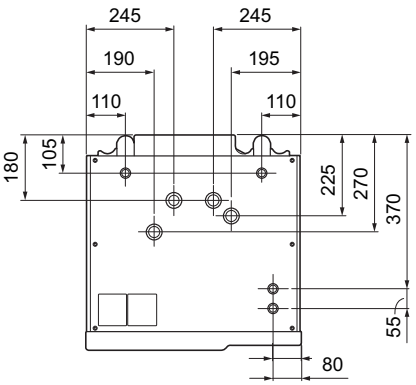
8 Technical data

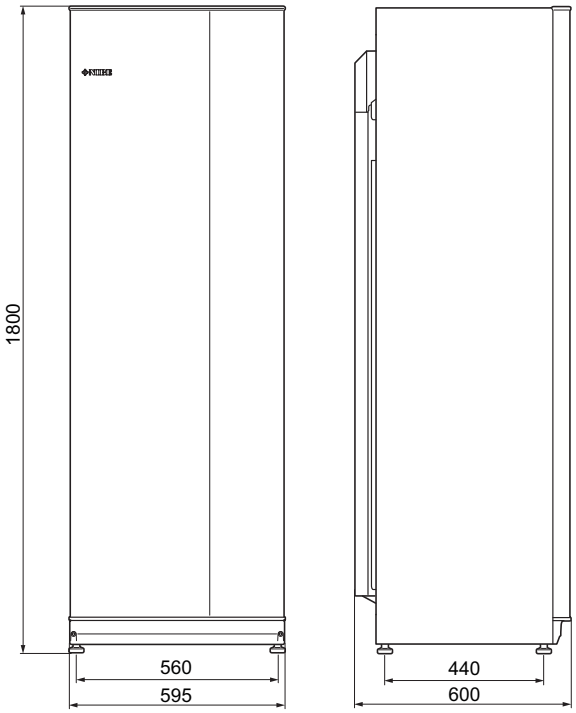
Dimensions and setting-out coordinates

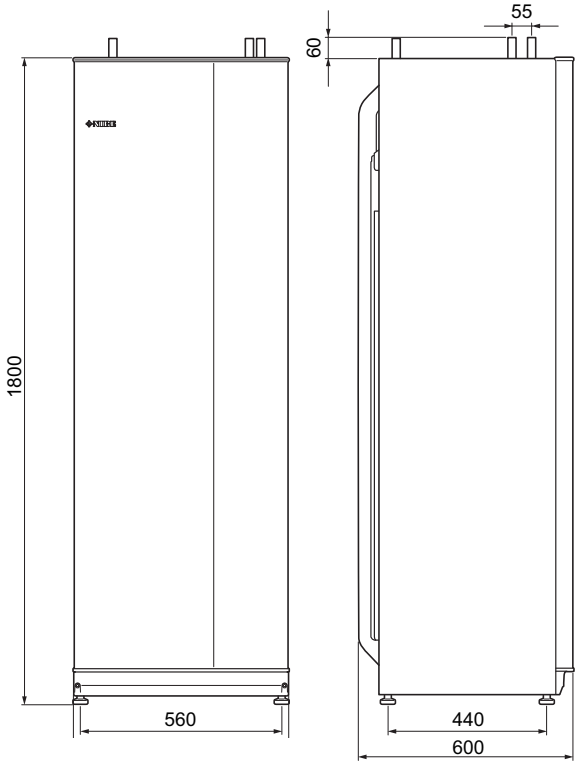
AHP

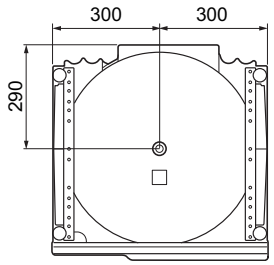


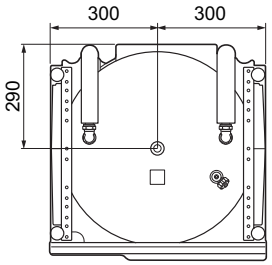
AHPS





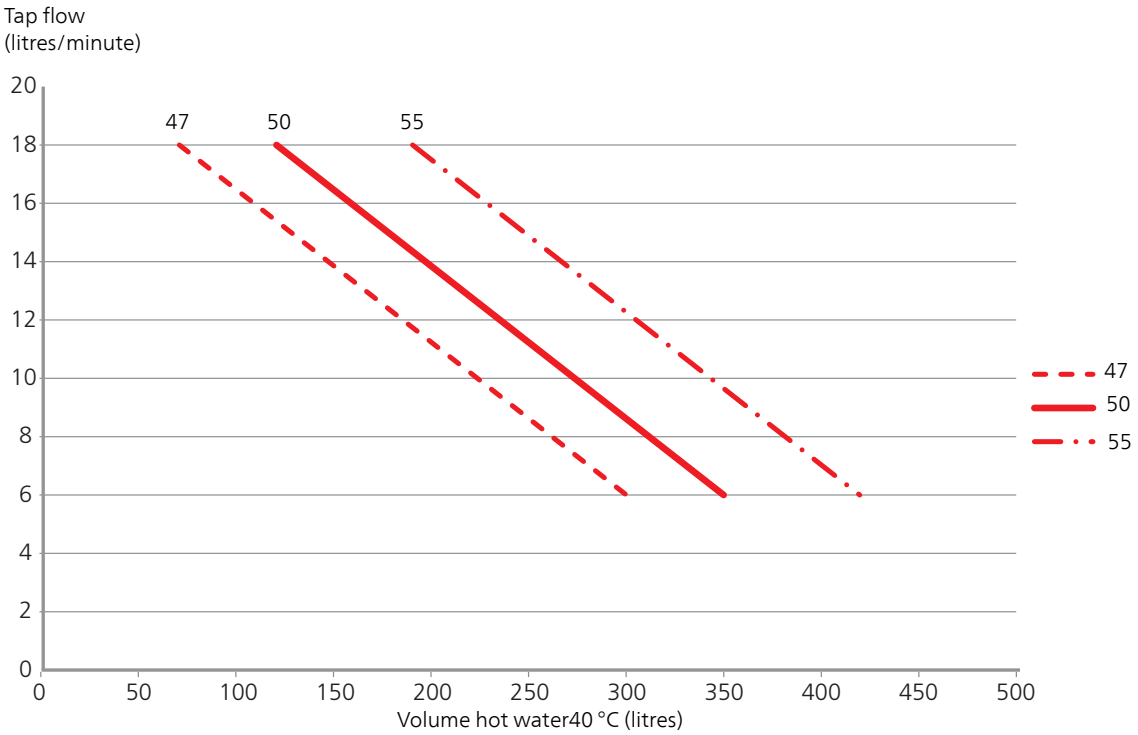






Technical specifications

Hot water capacity AHPS



AHP		
Pipe connections		
Docking, high temperature (ext.)		G25

Miscellaneous		
Volume boiler section	litre	285
Max pressure in boiler section	MPa/bar	0.3/3
Max temperature	°C	85
Capacity hot water heating according to EN 255-3		
Idle loss at Normal comfort (P_{es})	W	119
Dimensions and weight		
Width	mm	600
Depth	mm	600
Height	mm	1800
Required ceiling height	mm	1950
Weight	kg	130
Part No.		056 284

AHPS		
Heating medium circuit		
Max pressure in boiler section	MPa/bar	0.3/3
Max temperature	°C	85
Pipe connections		
Hot water	mm	Ø22
Cold water	mm	Ø22
Docking solar	mm	Ø22
Docking, high temperature (ext.)		G25
Docking, level 1-3	mm	22

Miscellaneous		
Volume hot water coil	litre	17
Volume, solar coil	litre	4.4
Volume boiler section	litre	264
Max pressure in hot water coil	MPa/bar	1.0/10
Corrosion protection, hot water coil		Stainless steel
Corrosion protection, solar coil		Copper
Capacity hot water heating according to EN 255-3		
Tap volume 40 °C at Normal comfort (V_{max})	litre	See diagram
Idle loss at Normal comfort (P_{es})	W	119
Dimensions and weight		
Width	mm	600
Depth	mm	600
Height	mm	1800
Required ceiling height	mm	1950
Weight	kg	140
Part No.		056 283

Energy labelling

Supplier		NIBE	
Model		AHPS 10-300	AHP 10-300
Energy efficiency class		**E**	**E**
Heat loss	W	150	150
Volume	l	285	285

9 Item register

Item register

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