

Hot water storage tank NIBE AHP/AHPS/AHPH

The NIBE AHP/AHPS/AHPH is an easy-to-manage, modular accumulator tank with many connection options. Each module in the system is 60 cm wide and has efficient insulation, resulting in low energy loss.

The NIBE AHPS/AHPH can be used to produce hot water through a combined hot water coil, and can handle high outputs – up to a 24 kW heat pump – resulting in a high hot water capacity for these “technology tanks”.

Connection on several different levels facilitates energy supply and output in most combinations. Docking takes place on the heat pump or other external heat source. The NIBE AHPS has a built-in, combined hot water coil for hot water production as well as a solar coil. The NIBE AHPS and The NIBE AHPH can be extended with the NIBE AHP to the required system volume.

- Accumulator tank for hot water heating with multiple connection options
- Handles high outputs, providing a high hot water capacity
- Easy-to-manage modular system for customised volume requirements



This is how AHP/AHPS/AHPH works

Principle

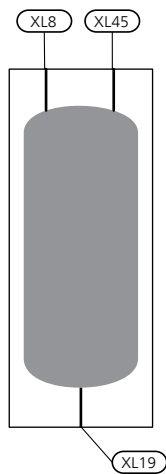
AHP/AHPS/AHPH is an accumulator tank concept of the "technology tank" type. AHPS has e.g. a solar coil and a combined pre-heating and post-heating coil for hot water production. The hot water is produced in the robust, stainless steel hot water coil as the hot water is consumed. The integrated solar coil made of copper pipe can utilise energy from up to 15 m² of solar panel, but in that case it must be combined with AHP.

AHP is a volume expansion vessel that is primarily used to increase the volume together with AHPS / AHPH. Several AHP can be connected in parallel with AHPS / AHPH, which makes things easier when it is difficult to carry in a large tank.

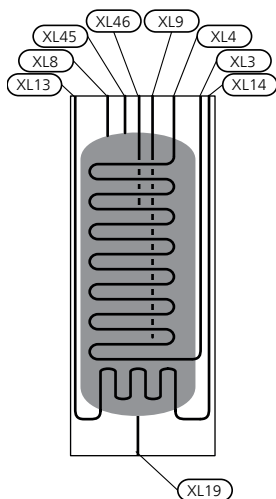
AHPH is an accumulator tank with an integrated stainless steel hot water coil, where hot water is produced as the hot water is consumed. AHPH can dock with an external heat source.

DESIGN

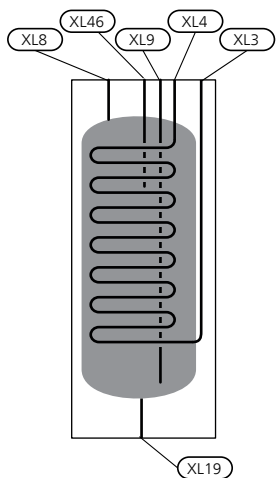
AHP



AHPS



AHPH



AHP

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

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 extracted and supplied to the tank in several different ways. For example, you can use the volume between the bottom and the middle level to extract 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 for the heat pump.

AHPH

AHPH consists of an accumulator tank with integrated tap coil for hot water. AHPH can be docked to an external heat source, for example heat pump.

- XL3 Connection, cold water
- XL4 Connection, hot water
- XL8 Docking connection, supply line (from heat pump*)
- XL9 Docking connection, return line (to heat pump*)
- XL13 Solar heat connection, supply line (from solar heating system)
- XL14 Solar heat connection, return line (to solar heating system)
- XL19 Docking connection, return line (to heat source)
- XL45 Docking connection, top of the tank
- XL46 Docking connection, middle of the tank

* or another external heat source

Good to know about AHP/AHPS/AHPH

Equipment

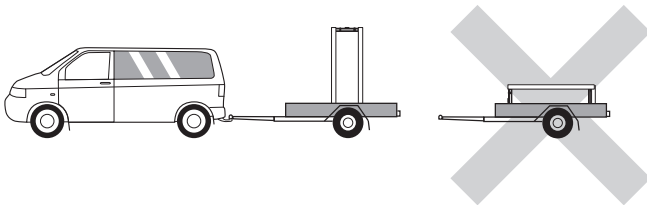
AHP/AHPS/AHPH can be supplemented with up to two hot water sensors, one for display and one for control. Use the sensors provided with the external heat source. When no sensors have been provided, these must be ordered from the manufacturer of the heat source.

Installation and positioning

- The accumulator tank may only be installed vertically.
- Position AHP/AHPS/AHPH on a firm base that can take the weight, preferably on a concrete floor or foundation. Use the accumulator tank's adjustable feet to obtain a horizontal and stable set-up.
- The area where AHP/AHPS/AHPH is located must be equipped with floor drainage.

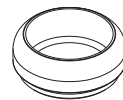
Transport and storage

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

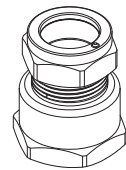


Supplied components

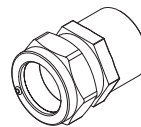
AHPS



3 x Plug Ø 22



2 x Straight connection Ø 22xG1



1 x Straight connection Ø 22xG¾

LOCATION

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

Installation

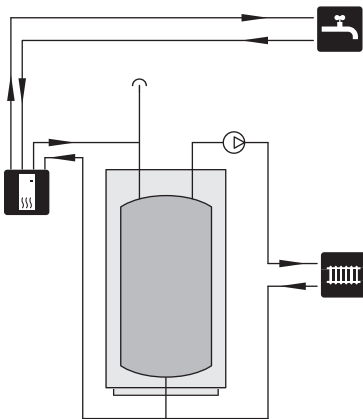
Installation alternative

AHP/AHPS/AHPH can be connected in several different ways, some of which are shown here.

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

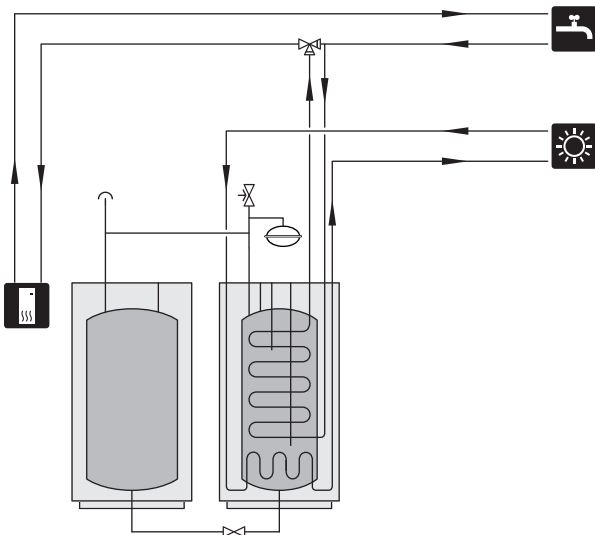
AS A BUFFER VESSEL FOR HEATING SYSTEM

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



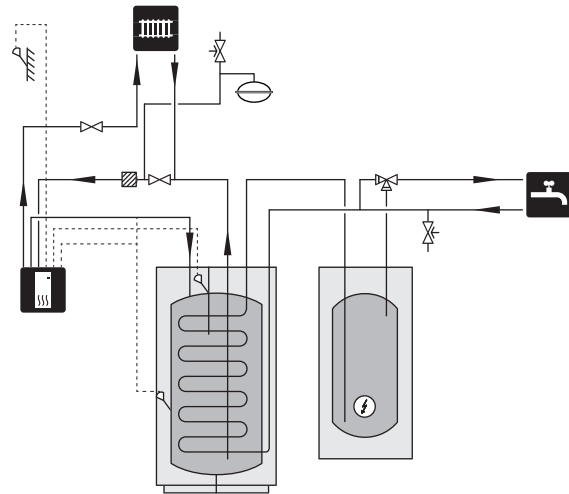
TO SOLAR HEATING

AHPS can be docked to solar heating system.



TO GROUND SOURCE HEAT PUMP/EXTERNAL HEAT SOURCE

AHPH can be docked with another heat source, for example NIBE F1145/1155.



SYMBOL KEY

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

Pipe installation

GENERAL

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

Ensure that incoming water is clean. When using a private well, it may be necessary to supplement with an extra water filter.

If uncertain, contact a plumber alternatively see applicable standards.

For more information see nibe.se.

Maximum boiler and radiator volumes

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

Internal volume in AHP/AHPS/AHPH 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:

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

Expansion vessel not supplied with the product.

The pre-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 means a maximum permitted height difference of 5 m.

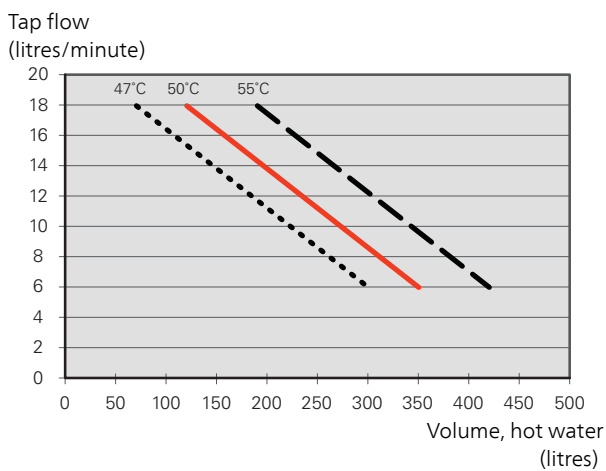
If the pre-pressure is not high enough, it can be increased by adding air via the valve in the expansion vessel. Any change in the pre-pressure affects the ability of the expansion vessel to handle the expansion of the water.

Technical data

Diagram

HOT WATER CAPACITY

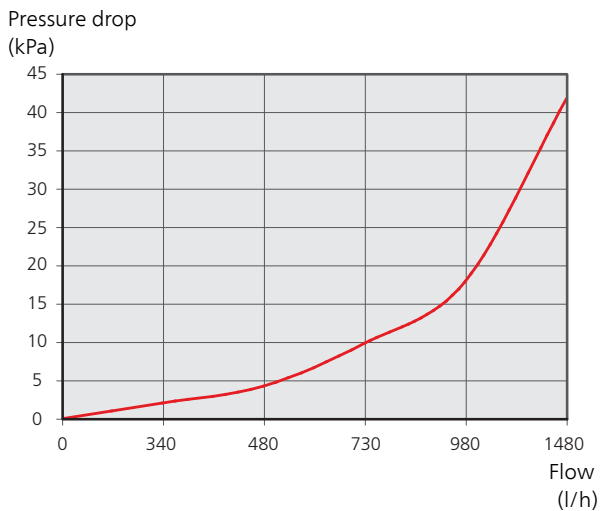
AHPS / AHPH



To achieve the stop temperatures in the diagram above, the "target temp" charge method must be selected in the heat pump's control system.

PRESSURE DROP, SOLAR COIL

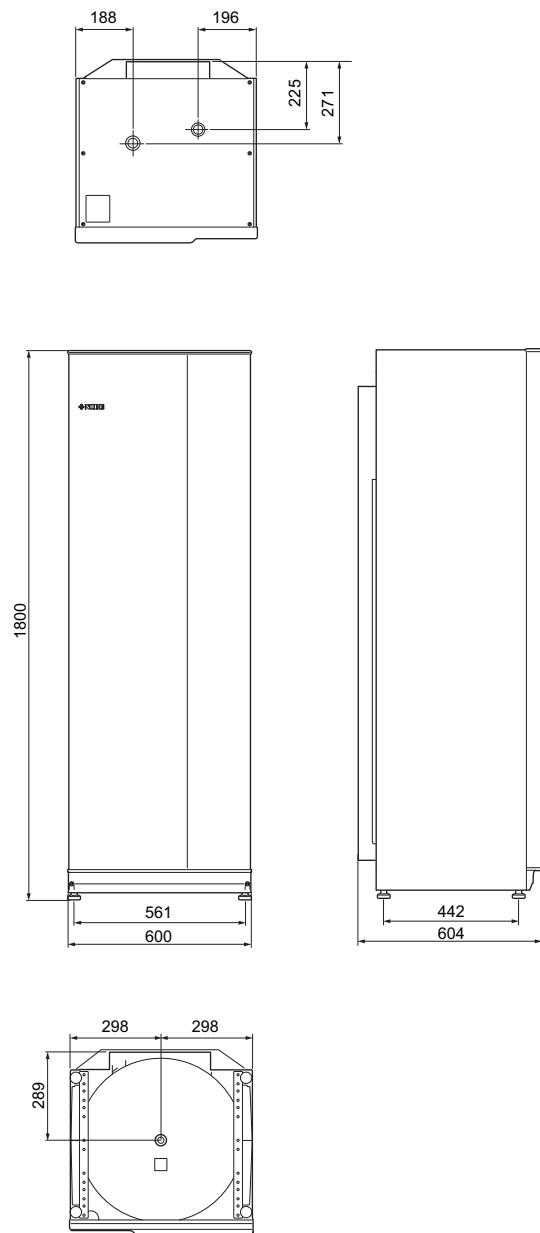
AHPS



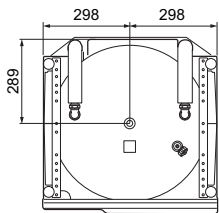
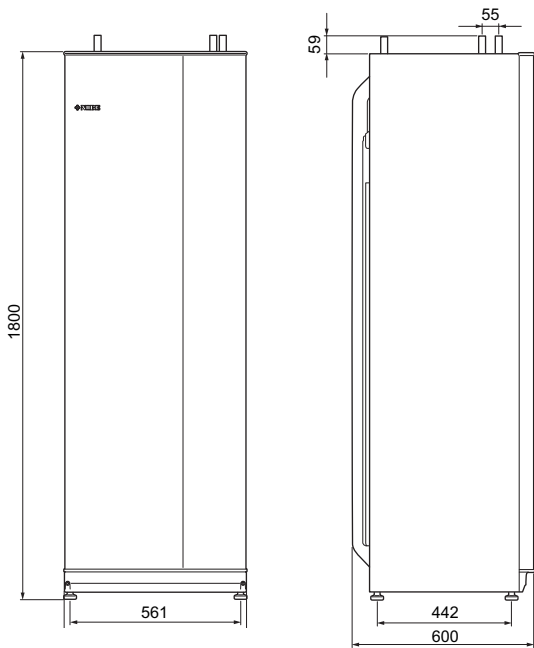
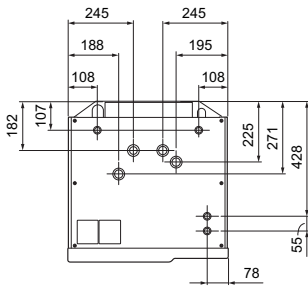
Connection, supply, solar heating system and connection, return line, solar heating system.

Dimensions

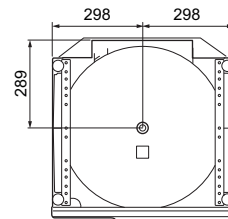
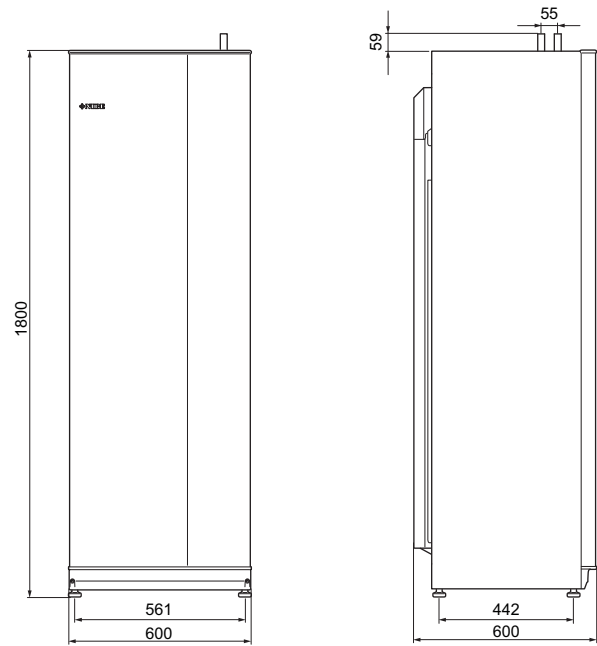
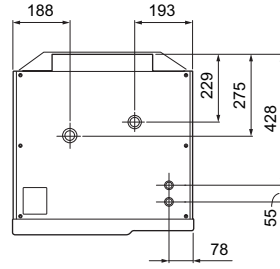
AHP



AHPS

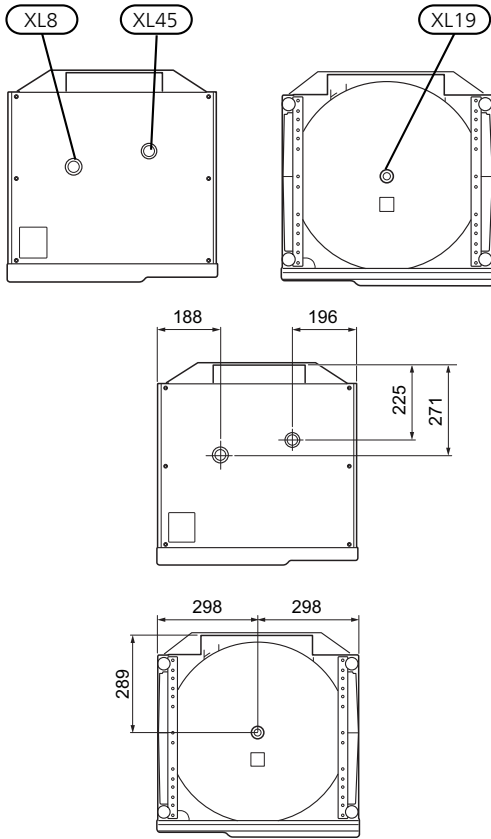


AHPH



Pipe connections

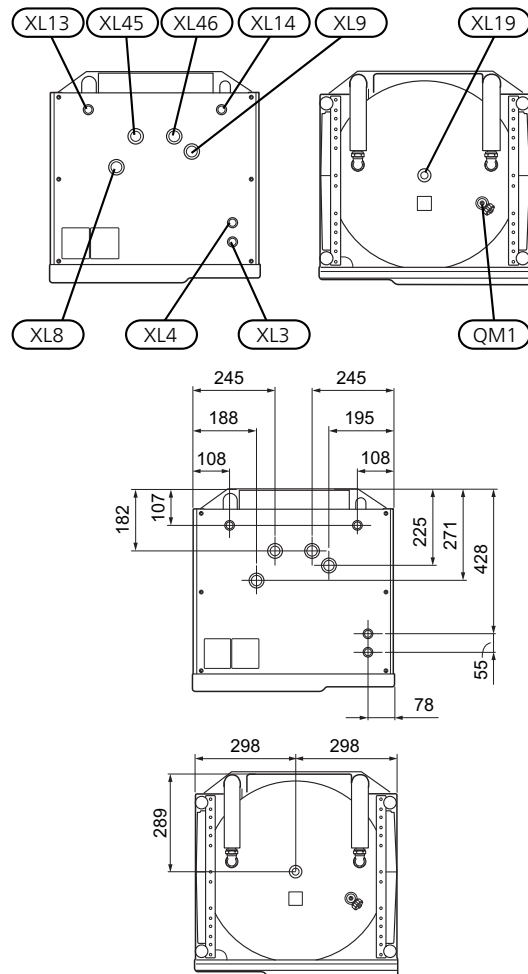
AHP



Connection AHP			
XL8 Docking connection, supply, supply (from heat pump*)	G25	ext.	
XL19 Docking connection, return line high temperature	G25	ext.	
XL45 Docking connection, level 1	G25	ext.	

*or another external heat source

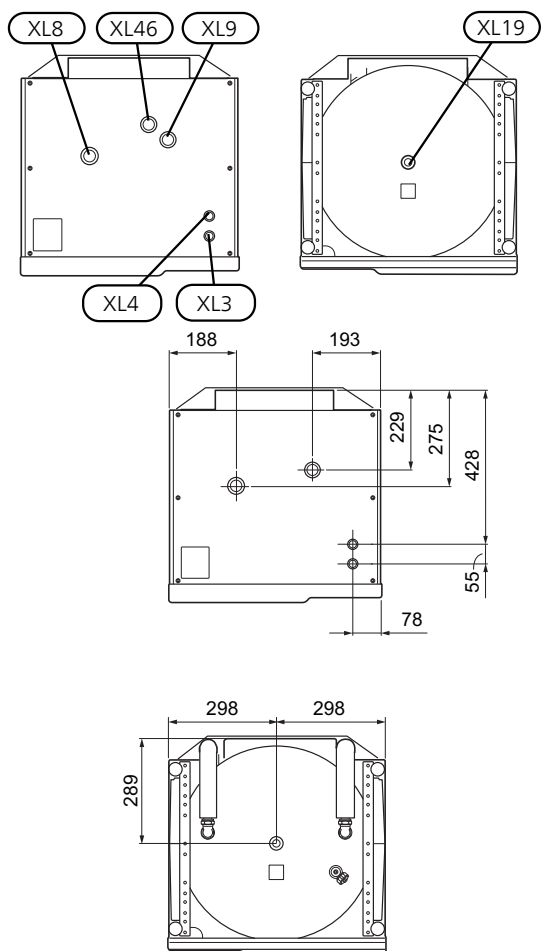
AHPS



Connection AHPS			
QM1 Draining valve	G20	ext.	
XL3 Cold water Ø	mm	22	
XL4 Hot water Ø	mm	22	
XL8 Docking connection, supply line (from heat pump*)	G25	ext.	
XL9 Docking connection, return line (to heat pump*)	G25	ext.	
XL13 Solar supply line Ø	mm	22	
XL14 Solar return line Ø	mm	22	
XL19 Docking connection, return line high temperature	G25	ext.	
XL45 Docking connection, level 1	mm	22	
XL46 Docking connection, level 2	mm	22	

*or another external heat source

AHPH



Connection AHPH		
XL3 Cold water Ø	mm	22
XL4 Hot water Ø	mm	22
XL8 Docking connection, supply line (from heat pump*)	G25	ext.
XL9 Docking connection, return line (to heat pump*)	G25	ext.
XL19 Docking connection, return line high temperature	G25	ext.
XL46 Docking connection, level 2	G25	ext.

*or another external heat source

Technical specifications

<i>Model</i>		<i>AHP 10-300</i>	<i>AHPS 10-300</i>	<i>AHPH 10-300</i>
Efficiency class ¹		C	C	C
<i>Heating medium circuit</i>				
Max pressure in boiler section	MPa/bar	0.3/3		
Max temperature	°C	85		
Max heat pump size	kW	24		
<i>Other</i>				
Volume boiler section	litre	270	250	250
Volume hot water coil	litre	–	17	17
Volume, solar coil	litre	–	4.4	–
Max pressure in hot water coil	MPa/bar	–	1.0/10	
Corrosion protection, hot water coil		–	Stainless steel	
Corrosion protection, solar coil		–	Copper	–
<i>Capacity hot water heating according to EN 255-3</i>				
Tap volume 40 °C at Normal comfort (V_{max})	litre	–	See diagram	
<i>Dimensions and weight</i>				
Width	mm	600	600	600
Depth	mm	600	600	600
Height	mm	1800	1800	1800
Required ceiling height	mm	1950	1950	1950
Weight	kg	105	126	116
Part No.		256 118	256 119	256 120

¹Scale for the product's efficiency class A+ to F.

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