

## *Accumulator tank*

*1000, 750 and 500 litres*

*Aqualux Teknik | Aqualux UB | Aqualux 750 CU*



*Aqualux 750 Teknik with bivalent shunt, optional extra*

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Connection duct and sockets for sensors			

To be completed when Aqualux Teknik / UB has been installed!

Serial number: .....

- Type
- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Aqualux 500 Teknik | <input type="checkbox"/> Aqualux 750 Teknik | <input type="checkbox"/> Aqualux 1000 Teknik |
| <input type="checkbox"/> Aqualux 500 UB     | <input type="checkbox"/> Aqualux 750 UB     | <input type="checkbox"/> Aqualux 1000 UB     |
|   | <input type="checkbox"/> Aqualux 750 CU     |  |

Date of installation: .....

Installed by: .....

Tel.: .....

Other: .....

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## General information

***Read through these instructions carefully before carrying out installation, adjustment or servicing; follow the instructions.***

- Keep these instructions close to the tank!
- Do not carry out any modifications, alterations or conversions.
- A correctly completed installation, adjustment and regular servicing will result in a reliable system.
- Correct setup is important for good heating economy.
- The type and serial number of the tank must always be quoted in any communication with Värmebaronen; see the manufacturer's plate.
- Contact your installer concerning servicing.
- In accordance with its policy of continual improvement and development, Värmebaronen AB reserves the right to alter the specifications without prior notice.

## Accumulation for more convenient wood-firing

In order to fully utilise a modern, environmentally approved wood-fired boiler, the surplus energy produced by the boiler must be stored. The stored energy is then used to heat the house when the fire has burnt out. With an accumulator tank, the firing frequency is reduced, making wood-firing more convenient.

If you are on a differentiated electricity tariff, it may be worthwhile accumulating when the price of electricity is low and then consuming the heat when it is more expensive.

## Accumulation for solar heating

The Aqualux Teknik can be used to store the heat from solar panels. As the sun gives off energy at times which rarely coincide with the pattern of consumption, the accumulator enables the heat to be stored and then distributed over a longer period of time, e.g. at night. A solar panel requires between 50 and 200 litres of water per square metre.

## Heat pump

The Aqualux Teknik is ready for connection to a heat pump. A heat pump regulates the power output by starting and stopping. Frequent starting and stopping limits the performance and lifetime of the heat pump. Adding an accumulator tank to the heating system will give the heat pump a longer running time. The surplus energy is accumulated and then used to heat the house when the heat pump has stopped.

## Stratification

The Aqualux Teknik is designed as a stratification tank. Hot water is lighter than cold water and therefore floats on top of cold water. This stratification of the water is used to exploit the tank's storage capacity to the full and to provide optimal operating conditions for solar panels and heat pumps. Good stratification in the tank improves the efficiency of both solar panels and heat pumps and increases the hot water capacity. Stratification plates and flow restrictions enhance the stratification, providing clear layering between colder and hotter water. The temperature distribution in the tank can be checked easily via the three thermometers on the front of the tank. The temperatures are measured at the top, in the middle and at the bottom.

## Aqualux Teknik

Has a copper-lined hot water heater, solar coil and sockets for two immersion heaters.

Thermometers for displaying the top, middle and bottom temperatures.

The locations of the immersion heaters are determined on the basis of the hot water requirement. If the immersion heater is placed in the upper socket, the hot water capacity will be lower than if the immersion heater is placed in the lower socket.

## Aqualux 750 CU

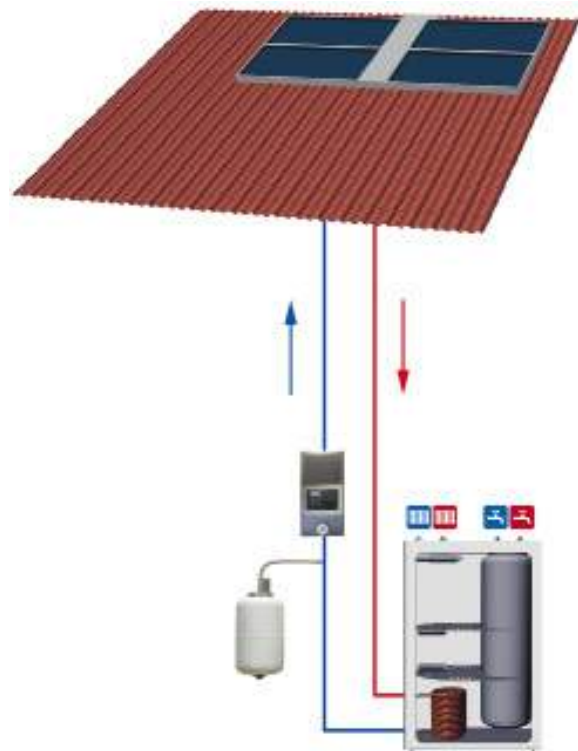
Has a copper-lined hot water heater, shunt, sockets for two immersion heaters and thermometers for displaying the top, middle and bottom temperatures.

## Aqualux UB

The Aqualux UB is a basic version of the Aqualux CU. The Aqualux UB does not have a hot water heater, shunt or sockets for immersion heaters.

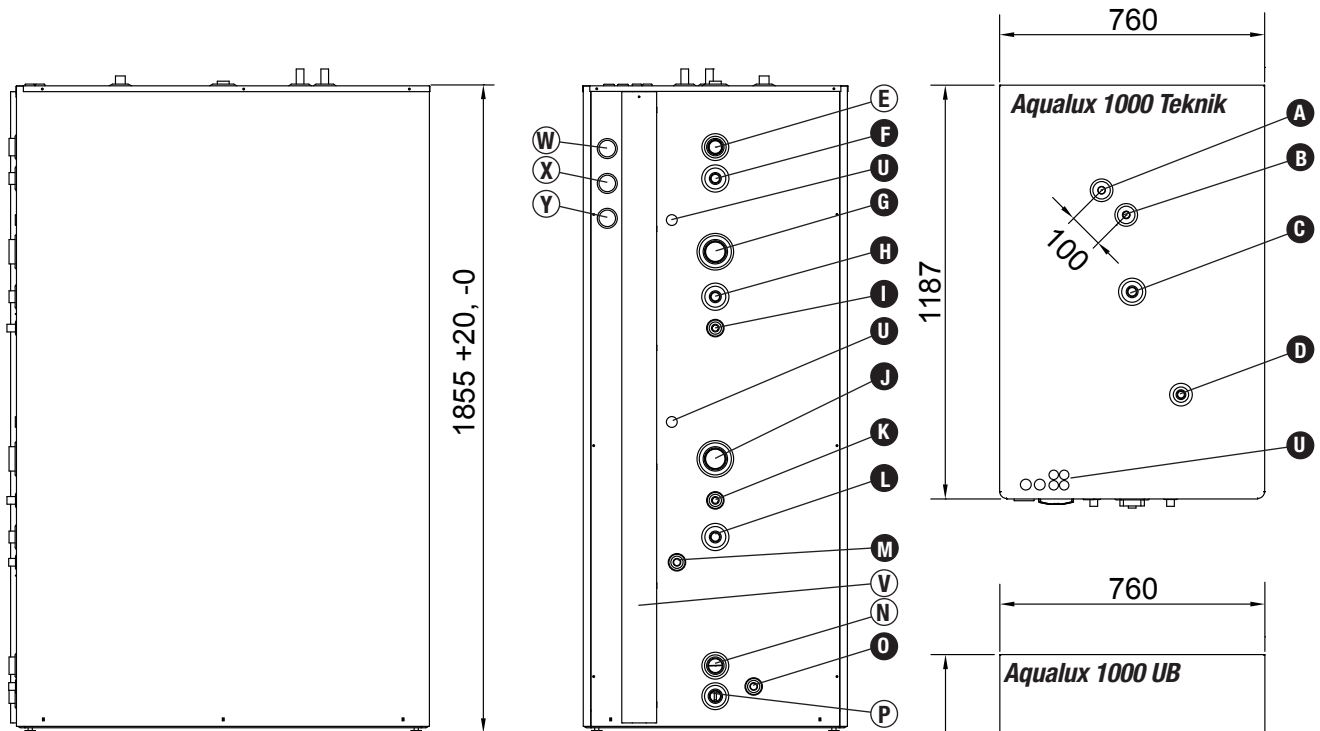
## Optional extras

	Art.No.	Rsk
<b>Solar panel K2.</b>	2501	620 18 19
<b>Circulation unit 1</b> for solar heating.	2610	620 20 58
<b>Circulation unit 2</b> for solar heating.		
<b>Solar control 2</b> , control for solar heating.	2611	620 20 59
<b>Solar Control 1</b> , control for solar heating.	2954	620 16 29
<b>Acc. Control 3</b> , charging pack for systems with a hot water heater in the accumulator tank.	2912	687 60 16
<b>Bivalent shunt</b> with connection package ( <i>right installation only</i> ).	2918	622 19 59
<b>Valve pack</b> , ball, drainage and vent valve.	2927	622 19 60
<b>VB 1510</b> , immersion heater 1.5 kW.	1001	621 08 86
<b>VB 2210</b> , immersion heater 2.2 kW.	1002	621 08 87
<b>VB 3010</b> , immersion heater 3 kW.	1003	621 07 02
<b>VB 4510</b> , immersion heater 4.5 kW.	1004	621 07 10
<b>VB 6010</b> , immersion heater 6 kW.	1005	621 07 28
<b>VB 6002</b> , immersion heater 6 kW (3 + 3 kW).	1020	621 07 51
<b>VBB 222</b> , load monitor suitable for the above immersion heaters, 16 - 35 A.	1910	621 09 09
<b>VB 9002</b> , immersion heater 9 kW (4.5 + 4.5 kW).	1021	621 08 56
<b>VB 6003 F</b> , immersion heater 6 kW (3 + 3 kW).	1032	621 07 78
<b>VB 9003 F</b> , immersion heater 9 kW (4.5 + 4.5 kW).	1034	621 08 57
<b>VBB 12TX</b> , load monitor suitable for the VB 6003 F and VB 9003 F, 16 - 35 A.	1901	621 09 00



Solar panel K2, Circulation unit 1 and Aqualux 750 Teknik

		Teknik	UB				Teknik	UB		Teknik / UB	
<b>Volume:</b>	jacket	840	1000	litres	<b>Test pressure:</b>	tank	2.2	2.2	bar	<b>Lowest height required for installation:</b> 1990 mm	
	hwh	160	-	litres		hwh	13	-	bar		
<b>Weight:</b>	empty	325	250	kg	<b>Design temperature:</b>	tank	110	110	°C	<b>Manufactured to:</b> PED 97/23/EC Article 3.3	
	full	1285	1240	kg		hwh	110	-			
<b>Design pressure:</b>	tank	1.5	1.5	bar	<b>Solar coil:</b>	surface area	3	-	m <sup>2</sup>	<b>1000 Teknik:</b>	art. 2127, rsk 687 60 04
	hwh	10	-			length	12	-	m	<b>1000 UB:</b>	art. 2128, rsk 687 60 05



**Some connections can perform different functions; see the system principles!**

Dimensions from the floor +20, -0 mm	Dim.	Teknik	UB
A. Hot water	ø22 mm	-	-
B. Cold water	ø22 mm	-	-
C. Safety valve (can be used as a lifting sleeve)	G20 int.	-	-
D. Air vent	G15 int.	G20 int.	-
E. See the system principles. The Aqualux Teknik has a flow restrictor	G32 int.	1679	1679 mm
F. See the system principles	G20 int.	1589	- mm
G. Upper immersion heater, max. insertion length 530 mm	G50 int.	1379	- mm
H. See the system principles	G20 int.	1250	- mm
I. See the system principles. The Aqualux Teknik has a flow restrictor	ø22 mm	1160	- mm
J. Lower immersion heater, max. insertion length 530 mm	G50 int.	785	- mm
K. See the system principles. The Aqualux Teknik has a flow restrictor	ø22 mm	666	- mm
L. See the system principles	G20 int.	561	- mm
M. Solar coil, hot water from solar panel	ø22 mm	488	- mm
N. See the system principles	G32 int.	192	192 mm
O. Solar coil, cold water to solar panel	ø22 mm	132	- mm
P. Drainage / expansion	G25 int.	104	104 mm
Q. Sensor tube for temperature sensor	ø8 mm int.	1674	1674 mm
R. Sensor tube for temperature sensor	ø8 mm int.	1379	1379 mm
S. Sensor tube for temperature sensor	ø8 mm int.	785	785 mm
T. Sensor tube for temperature sensor	ø8 mm int.	294	294 mm
U. Cable bushes, Aqualux UB - top only			
V. Connection duct cover			
W. Thermometer, hot zone			
X. Thermometer, intermediate zone			
Y. Thermometer, cold zone			

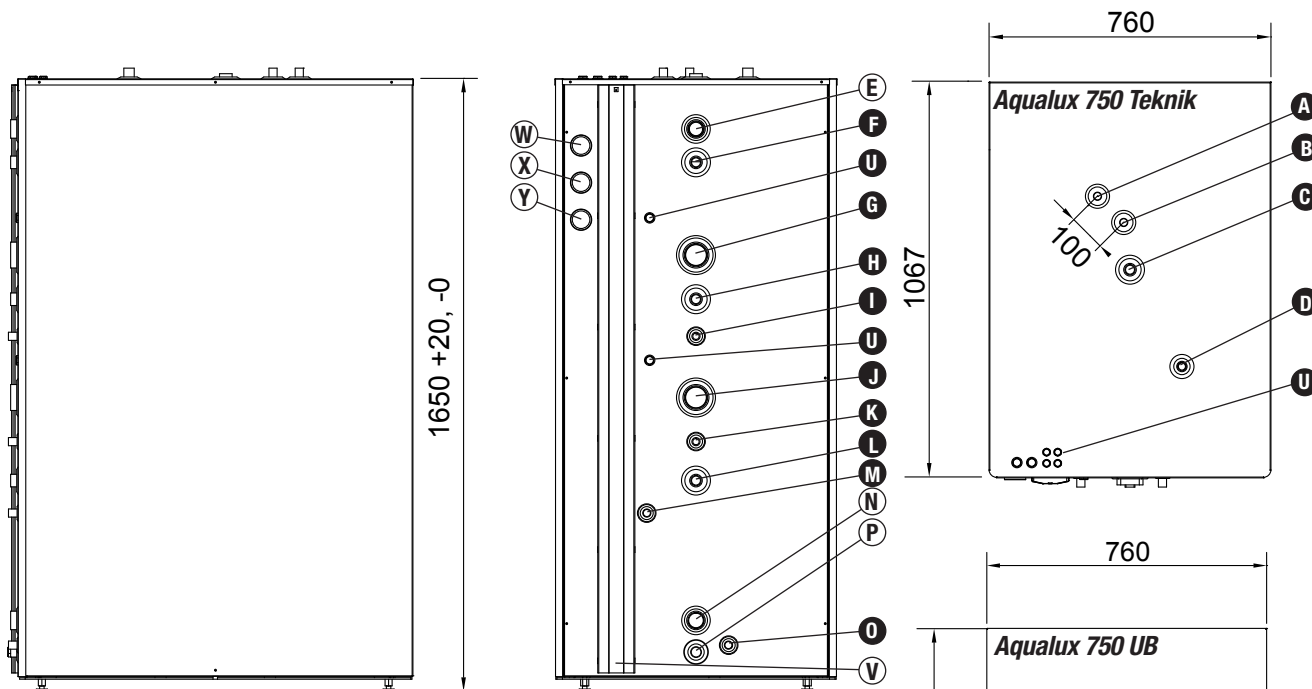
Art. no.: 380003

Art. no.: 380015

Art. no.: 380016

Sensor tubes for temperature sensors and thermometers are accessible when the connection duct cover is removed; see Data - Aqualux Teknik / UB

		Teknik	UB			Teknik	UB	Teknik / UB	
<b>Volume:</b>	jacket	590	750	litres	<b>Test pressure:</b>	tank	2.2	2.2	bar
	hwh	160	-	litres		hwh	13	-	bar
<b>Weight:</b>	empty	260	190	kg	<b>Design temperature:</b>	tank	110	110	°C
	full	1010	940	kg		hwh	110	-	
<b>Design pressure:</b>	tank	1.5	1.5	bar	<b>Solar coil:</b>	surface area	3	-	m <sup>2</sup>
	hwh	10	-			length	12	-	m
									<b>Lowest height required for installation:</b> 1820 mm
									<b>Manufactured to:</b> PED 97/23/EC Article 3.3
									<b>750 Teknik:</b> art.: 2125, rsk: 687 60 64
									<b>750 UB:</b> art.: 2121 rsk: 687 60 41



**Some connections can perform different functions; see the system principles!**

	Dim.	Teknik	UB
Dimensions from the floor +20, -0 mm			
<b>A. Hot water</b>	ø22 mm	-	-
<b>B. Cold water</b>	ø22 mm	-	-
<b>C. Safety valve (can be used as a lifting sleeve)</b>	G20 int.	-	-
<b>D. Air vent (can be used as a lifting sleeve)</b>	G15 int.	G25 int.	
<b>E. See the system principles. The Aqualux Teknik has a flow restrictor</b>	G32 int.	1516	1516 mm
<b>F. See the system principles</b>	G20 int.	1426	- mm
<b>G. Upper immersion heater, max. insertion length 650 mm</b>	G50 int.	1176	- mm
<b>H. See the system principles</b>	G20 int.	1057	- mm
<b>I. See the system principles. The Aqualux Teknik has a flow restrictor</b>	ø22 mm	957	- mm
<b>J. Lower immersion heater, max. insertion length 650 mm</b>	G50 int.	792	- mm
<b>K. See the system principles. The Aqualux Teknik has a flow restrictor</b>	ø22 mm	673	- mm
<b>L. See the system principles</b>	G20 int.	568	- mm
<b>M. Solar coil, hot water from solar panel</b>	ø22 mm	480	- mm
<b>N. See the system principles</b>	G32 int.	191	191 mm
<b>O. Solar coil, cold water to solar panel</b>	ø22 mm	124	- mm
<b>P. Drainage / expansion</b>	G15 int.	106	106 mm
<b>Q. Sensor tube for temperature sensor</b>	ø8 mm int.	1472	1472 mm
<b>R. Sensor tube for temperature sensor</b>	ø8 mm int.	1177	1177 mm
<b>S. Sensor tube for temperature sensor</b>	ø8 mm int.	793	793 mm
<b>T. Sensor tube for temperature sensor</b>	ø8 mm int.	267	267 mm

- U. Cable bushes, Aqualux UB - top only**
- V. Connection duct cover**
- W. Thermometer, hot zone**
- X. Thermometer, intermediate zone**
- Y. Thermometer, cold zone**

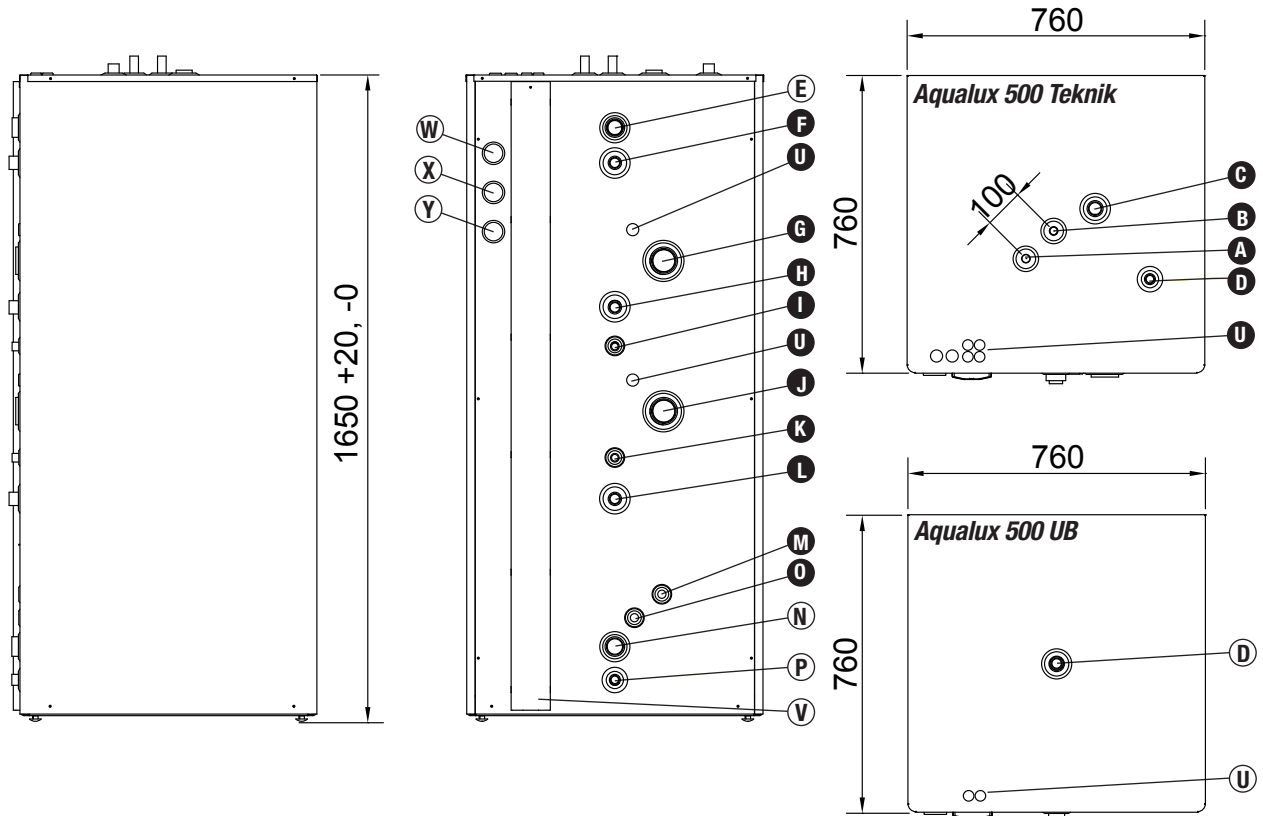
Art. no.: 380003

Art. no.: 380015

Art. no.: 380016

**Sensor tubes for temperature sensors and thermometers are accessible when the connection duct cover is removed; see Data - Aqualux Teknik / UB**

		Teknik	UB				Teknik	UB		Teknik / UB	
<b>Volume:</b>	jacket	340	500	litres	<b>Test pressure:</b>	tank	2.2	2.2	bar	<b>Lowest height required for installation:</b>	1820 mm
	hwh	160	-	litres		hwh	13	-	bar		
<b>Weight:</b>	empty	220	145	kg	<b>Design temperature:</b>	tank	110	110	°C	<b>Manufactured to:</b>	PED 97/23/EC Article 3.3
	full	720	645	kg		hwh	110	-			
<b>Design pressure:</b>	tank	1.5	1.5	bar	<b>Solar coil:</b>	surface area	2.5	-	m <sup>2</sup>	<b>500 Teknik:</b>	art. 2126, rsk 687 60 65
	hwh	10	-			length	10	-	m	<b>500 UB:</b>	art. 2019, rsk 687 60 20



**Some connections can perform different functions; see the system principles!**

Dimensions from the floor +20, -0 mm

	Dim.	Teknik	UB
A. Hot water	∅22 mm	-	-
B. Cold water	∅22 mm	-	-
C. Safety valve (can be used as a lifting sleeve)	G20 int.	-	-
D. Air vent		G15 int	G20 int
E. See the system principles. The Aqualux Teknik has a flow restrictor	G32 int.	1516	1516 mm
F. See the system principles	G20 int.	1426	- mm
G. Upper immersion heater, max. insertion length 650 mm	G50 int.	1176	- mm
H. See the system principles	G20 int.	1057	- mm
I. See the system principles. The Aqualux Teknik has a flow restrictor	∅22 mm	957	- mm
J. Lower immersion heater, max. insertion length 650 mm	G50 int.	792	- mm
K. See the system principles. The Aqualux Teknik has a flow restrictor	∅22 mm	673	- mm
L. See the system principles	G20 int.	568	- mm
M. Solar coil, hot water from solar panel	∅22 mm	324	- mm
N. See the system principles	G32 int.	191	191 mm
O. Solar coil, cold water to solar panel	∅22 mm	264	- mm
P. Drainage / expansion	G15 int.	106	106 mm
Q. Sensor tube for temperature sensor	∅8 mm int.	1465	1465 mm
R. Sensor tube for temperature sensor	∅8 mm int.	1170	- mm
S. Sensor tube for temperature sensor	∅8 mm int.	786	810 mm
T. Sensor tube for temperature sensor	∅8 mm int.	140	165 mm

U. Cable bushes, Aqualux UB - top only

V. Connection duct cover

W. Thermometer, hot zone

X. Thermometer, intermediate zone

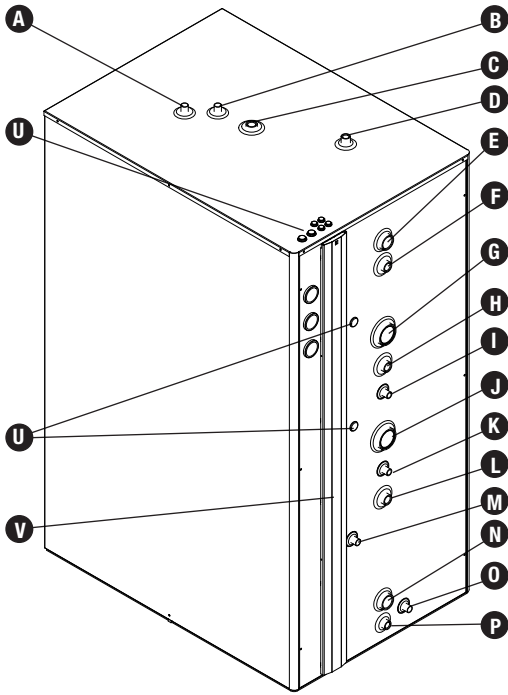
Y. Thermometer, cold zone

Art. no.: 380003

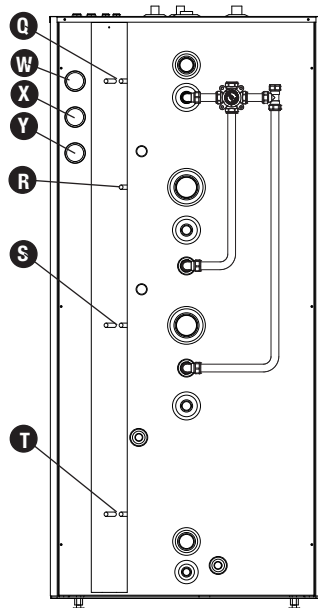
Art. no.: 380015

Art. no.: 380016

Sensor tubes for temperature sensors and thermometers are accessible when the connection duct cover is removed; see Data - Aqualux Teknik / UB

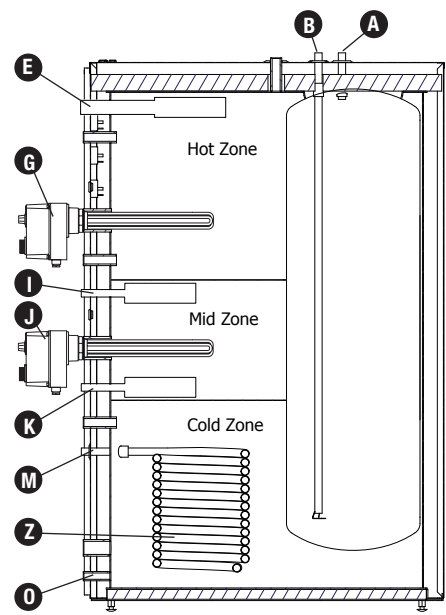


Aqualux 750 Teknik



Sensor tubes for temperature sensors are available for all Aqualux tanks. "Bivalent shunt with connection package" is an optional extra.

The diagrams below show the Aqualux 750 Teknik / UB; see also the data for the relevant Teknik tank!

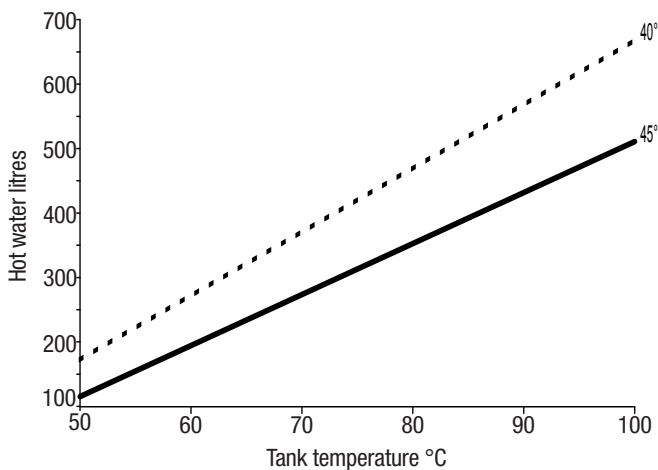


The principle behind the Teknik tanks. Immersion heaters are an optional extra.

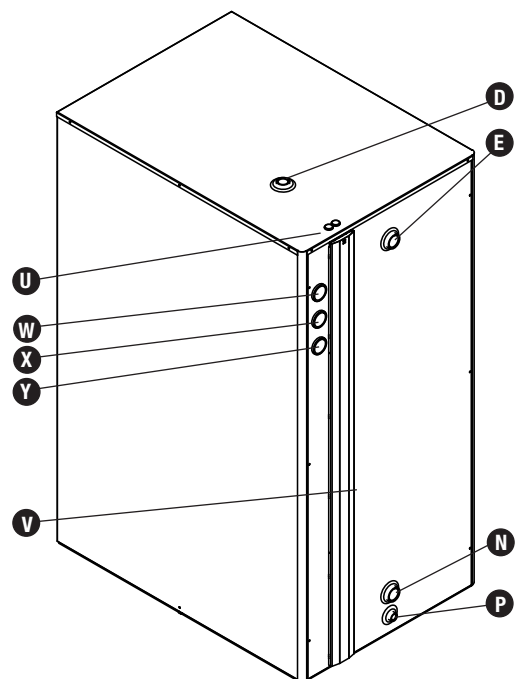
- A. Hot water.
- B. Cold water.
- C. Safety valve.
- D. Air vent.
- E. See the system principles. The Aqualux Teknik has a flow restrictor.
- F. See the system principles.
- G. Upper immersion heater, optional extra.
- H. See the system principles
- I. See the system principles. The Aqualux Teknik has a flow restrictor.
- J. Lower immersion heater, optional extra.
- K. See the system principles. The Aqualux Teknik has a flow restrictor.
- L. See the system principles.
- M. Hot water from solar panel.
- N. See the system principles.
- O. Cold water to solar panel.
- P. Drainage / expansion.
- Q. Sensor tube for temperature sensor.
- R. Sensor tube for temperature sensor.
- S. Sensor tube for temperature sensor.
- T. Sensor tube for temperature sensor.
- U. Cable bushes.
- W. Thermometer, hot zone.
- X. Thermometer, intermediate zone.
- Y. Thermometer, cold zone.
- Z. Solar coil.

**Some connections can perform different functions; see the system principles! The sensor tube for the temperature sensor will be accessible when the connection duct cover is removed.**

### Hot water capacity - Aqualux 500-, 750- and 1000 Teknik



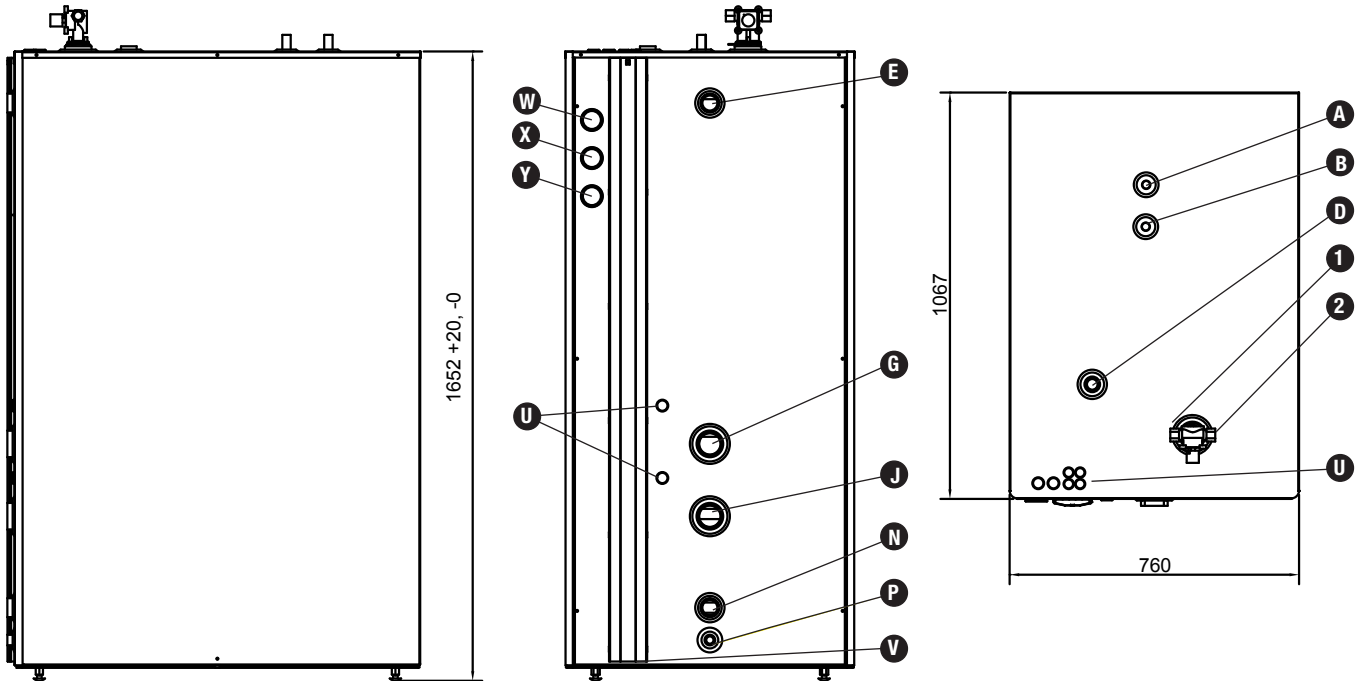
Volume of domestic hot water with fully charged tank.  
Tap flow: 12 litres/min. Incoming cold water temperature: 10°C.



Aqualux 750 UB



<b>Volume:</b>	jacket 630 litres	<b>Test pressure:</b>	tank 2.2 bar	<b>Manufactured to:</b>	PED 97/23/EC Article 3.3
	hot water heater 120 litres		hot water heater 13 bar	<b>Aqualux 750 CU:</b>	art. 2120
<b>Weight:</b>	empty 225 kg	<b>Design temperature:</b>	tank 110 °C		RSK 6876040
	full 975 kg		hot water heater 110 °C		
<b>Design pressure:</b>	tank 1.5 bar	<b>Lowest height required for installation:</b>	1820 mm		
	hot water heater 10 bar				



#### Dimensions from the floor +20, -0 mm

	Dim.
1. Feed pipe	ø22 mm
2. Return pipe	ø22 mm
A. Hot water	ø22 mm
B. Cold water	ø22 mm
D. Air vent (can be used as a lifting sleeve)	G25 int.
E. Docking socket	G32 int. 1516 mm
G. Upper immersion heater, max. insertion length 650 mm	G50 int. 622 mm
J. Lower immersion heater, max. insertion length 650 mm	G50 int. 432 mm
N. Docking socket	G32 int. 191 mm
P. Drainage / expansion	G15 int. 106 mm
Q. Sensor tube for temperature sensor	ø8 mm int. 1472 mm
R. Sensor tube for temperature sensor	ø8 mm int. 1177 mm
S. Sensor tube for temperature sensor	ø8 mm int. 793 mm
T. Sensor tube for temperature sensor	ø8 mm int. 268 mm
U. Cable bushes	
V. Connection duct cover	
W. Thermometer, top	Art. no.: 380003
X. Thermometer, middle	Art. no.: 380015
Y. Thermometer, bottom	Art. no.: 380016

Sensor tubes for temperature sensors and thermometers are accessible when the connection duct cover is removed; see Data - Aqualux Teknik / UB

**The installation must be carried out in accordance with applicable standards and regulations.**

**The tank should be located indoors in a basement or on the ground floor. The installation site must be capable of bearing the weight of the tank when full of water.**

**Hard, calcium-rich water is unsuitable for HVAC use.**

**If a private well is used, the water quality must be checked to ensure that it will not give rise to damage in the tap water installation.**

**Copper components in the domestic hot water heater and pipes must not be exposed to abnormally marble-aggressive water. A water analysis will indicate whether this is the case. If the water quality is poor, a water filter must be installed.**

**The bolts on the base of the tank must be adjusted so that the tank is vertical and horizontal.**

**The pipes on the front of the tank should be routed so that it is possible to remove the connection duct cover.**

## Design

Heat losses from Aqualux tanks are very low, as they are well insulated using 90 mm mineral wool.

The biggest losses in a system normally occur from pipes and system components. In order to minimise these losses, all pipes must be insulated. The heating of boilers for example should be avoided through the installation of non-return valves or through heat traps, i.e. pipes should be routed in a way which prevents unwanted circulation.

To maintain operation in the event of a power failure, the installation should be carried out so that self-circulation can be achieved between the wood-fired boiler and the tanks.

If the boiler and tanks are located next to each other, it is recommended  $\varnothing 25-35$ .

Pipe should be routed so that air pockets are eliminated and so that all air can be vented naturally from the system. A venting valve must be installed on the top of the accumulator so that it can be vented easily.

The tap water system must be fitted with a shut-off valve, non-return valve, mixing valve and safety valve with an opening pressure not exceeding 9 bar.

The domestic hot water circulation (hwc) consumes a lot of energy through the heating of pipes and also affects the stratification in the tank. One energy-saving measure is to use a timer or to completely avoid hwc when it is not necessary. In the case of large distances between the tank and tapping point, e.g. when the hot water is transported via a ball valve, a small electric heater can be installed instead of hwc close to the tapping point in order to reduce the flow time.

A permanent refilling device should be fitted. On the Aqualux 750 CU, the shunt valve must be fully open during refilling.

## Expansion system

The accumulator tank must be connected to an expansion system. The volume of the expansion vessel should be determined on the basis of the prevailing conditions. The guideline value is for the volume in an open system to be approximately 5% of the total system volume or 13-15% in the case of a closed system.

*In the case of an open system, the distance between the top of the highest situated radiator and the expansion vessel must not be less than 2.5m in order to prevent oxygen getting into the heating*

*system. The expansion vessel should be connected so that it rises continuously from the tank's expansion connection point without any provision for shut-off.*

*To prevent damage in the event of a blockage in the expansion system, e.g. as a result of frost, the system should be fitted with a safety valve.*

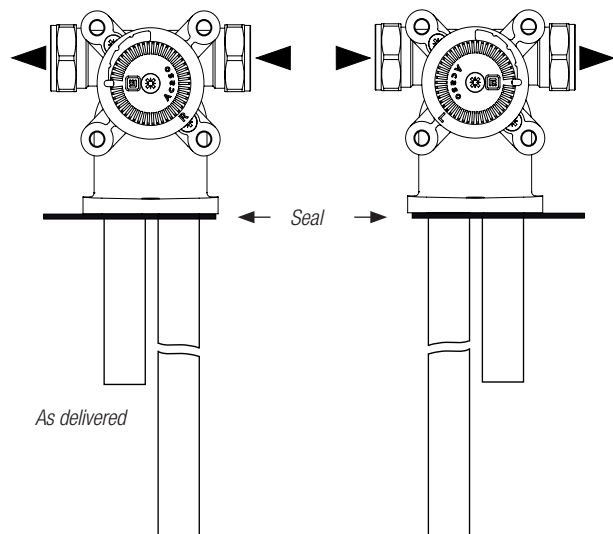
*In the case of a closed system, the tank must be fitted with a safety valve with a unisolatable connection. from the connection point on the top. The expansion vessel should be connected as shown in the system principles.*



**The opening pressure of the safety valve is determined by the component in the system which tolerates the least pressure.**

## Bivalent shunt - Aqualux Teknik

The system principles show a bivalent shunt, optional extra. As the shunt takes the water from the middle of the tank first and then from the top, when the tank starts to be emptied, it helps to maintain the stratification better and ensures that the hot water heater remains hot for longer than if all the water were to be taken from the top of the tank only. The shunt should be supplemented with automatic shunt control.



## Shunt - Aqualux 750 CU

As supplied, the shunt riser connection is on the left and the return is on the right. This can be changed by removing the shunt and altering the position on the plastic pipe. You should also turn the shunt grading, so that it is correct for the new arrangement. The shunt should be supplemented with automatic shunt control.

## Charging pack for wood-firing

The charging pack must be installed. The charging pack ensures that the boiler reaches a high working temperature quickly and creates temperature stratification in the accumulator tank upon charging. With the boiler operating at a high temperature, the risk of condensation is reduced.

### Heating system

If the flow rate in the heating system is too high, it can affect the temperature stratification in the tank and thereby also its method of operation. It is important that the flow is adjusted.

In a low-temperature heating system, the energy yield from solar heating and heat pumps increases.

### Connection duct and socket for sensor

The Aqualux has cable bushes to enable sensors to be connected to the tank and to allow the electricity supply to the immersion heaters to be concealed behind the front.

The socket for the temperature sensor will be accessible when the connection duct cover is removed. Undo the screw on top of the cover. Lift the cover up and unhook.

### General information

After installation, check with the installation technician that the system is in good working order. Make sure the installer shows you the controls and functions, so that you know how the systems works and how to maintain it.

### Safety valves

The safety valve for the domestic hot water system and the heating system must be operated regularly in order to maintain the safety function.

### Venting/refilling

You should regularly check that there is sufficient water in the heating system. Air will remain in the heating system for a while after installation. Further venting should therefore take place on several occasions. After venting, check the pressure and top up the water if necessary.

### Water pressure in the system

The pressure that is required in the heating system depends on the difference in levels between the lowest and highest points in the heating system, static height. If the difference in levels is 5 metres, the pressure will be 0.5 bar, while with a difference in levels of 10 metres, the pressure will be 1.0 bar.

The pressure in the system will vary with the boiler temperature. Do not add more water unnecessarily.

The volume of the water will change according to the temperature. This change in volume will in turn affect the pressure in the system. The higher the temperature, the greater the volume and the higher the pressure. The expansion vessel will partly absorb the volume changes in the system.

### Water pressure in the hot water heater

The pressure in the hot water heater will also vary with the water temperature. However, the hot water heater has no expansion vessel and the water is released through a safety valve when the water pressure becomes too great (over 9 bar).

This could for example occur when a lot of hot water has been used during a shower or bath. A lot of new cold water will then enter the heater. When this cold water is heated, it will expand and the pressure will also increase.

### Measures in the event of a frost risk

In very low temperatures, no part of the heating system must be shut off, as this would result in a risk of frost bursting.

Never light the fire if any part of the heating system might be frozen. **Call an installer.**

The following system principles are suggestions for possible connection setups.

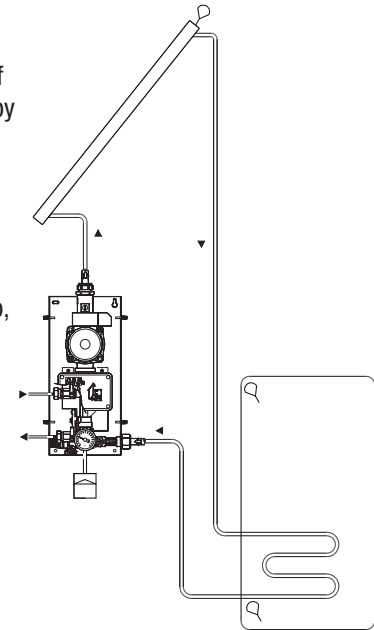


The installation must be carried out in accordance with applicable regulations and standards, as well as the manufacturer's instructions for its products (components).

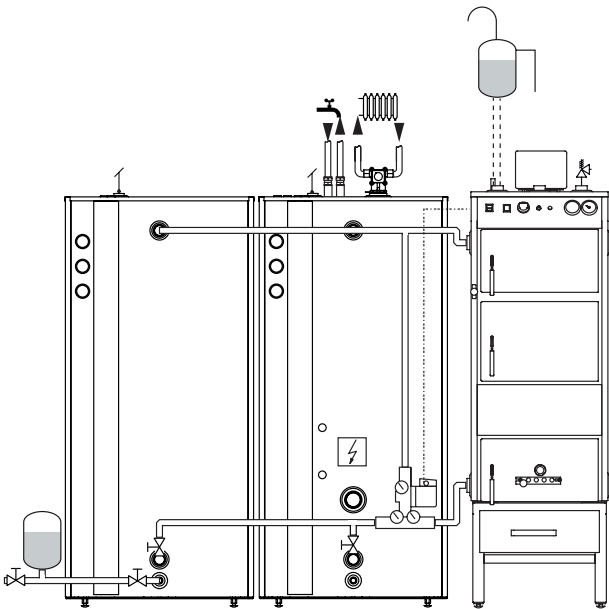
In the system principles diagrams, a solar panel is connected. The installation of this panel can be simplified by using a readymade circulation unit, e.g. Circulation unit 1 or 2.

The circulation unit contains all the necessary valves, manometer, circulation pump, flow meter and control unit with temperature sensor.

The diagram on the right shows the connection of Circulation unit 1.

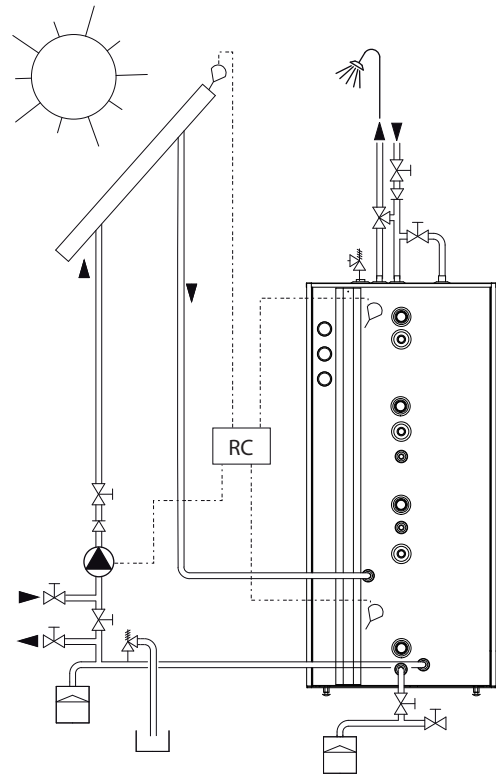


Aqualux 750 CU  
Aqualux UB  
Vedolux 30



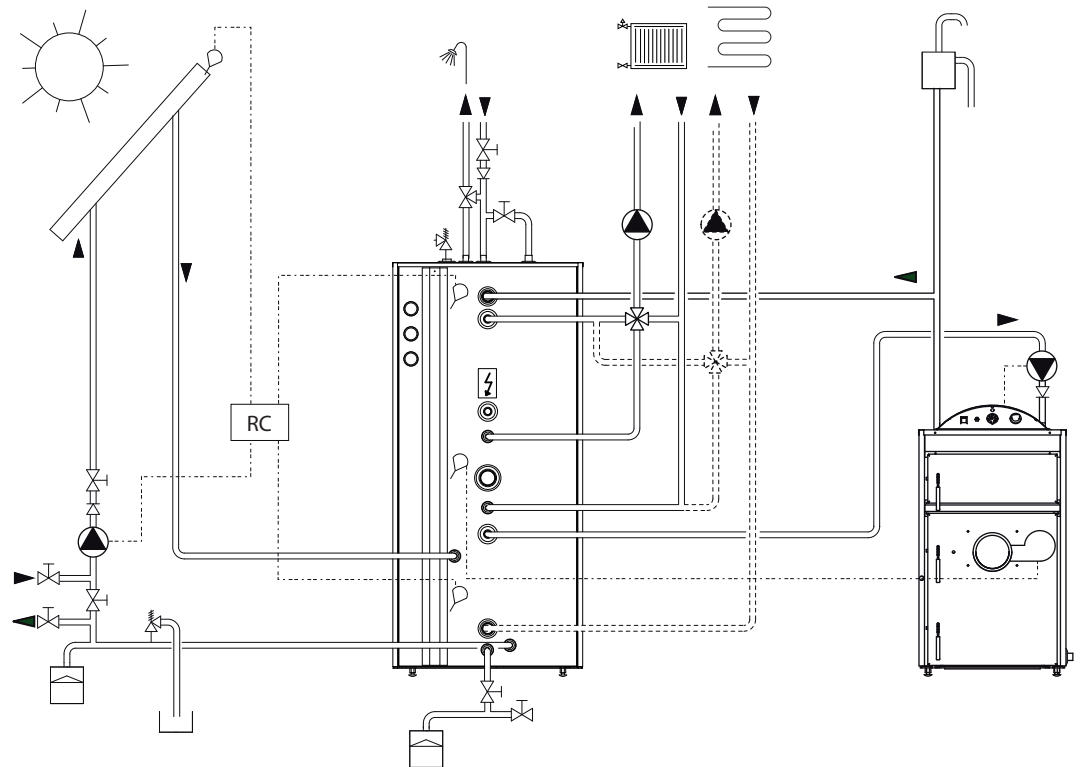
Vedolux heats the accumulator tanks. If necessary, the tanks can also be heated by an immersion heater in the Aqualux 750 CU.

Aqualux Teknik  
Solar panel K2



Basic connection for solar panel. The K2 solar panel heats the Aqualux Teknik. The solar panels produce domestic hot water. If the heating system is connected to the Aqualux Teknik, the solar panels can contribute to the heating process. Additional heating can be provided by connecting an immersion heater, boiler or heat pump.

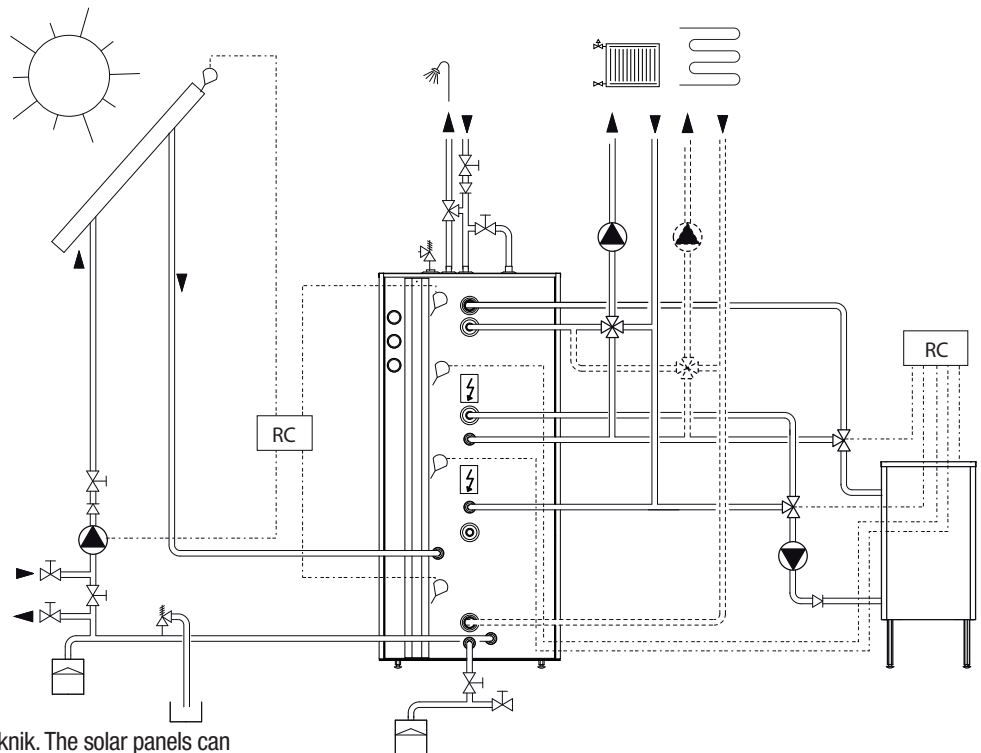
**Aqualux Teknik**  
**Solar panel K2**  
**Pellmax UB**



The K2 solar panel heats the Aqualux Teknik. The heat from the solar panels can be used both to produce domestic hot water and for heating purposes. Heat extraction takes place via a bivalent shunt. During the summer months, the Pellmax UB should be shut off in order to avoid idling losses and low efficiency. If additional heating is

required during the summer months, an immersion heater should be used in the Aqualux Teknik. If a larger hot water capacity is required, the lower of the immersion heater sockets should be used. To maintain a good output from the solar panels for additional heating, the return pipe is connected so that the bottom of the Aqualux Teknik is not heated.

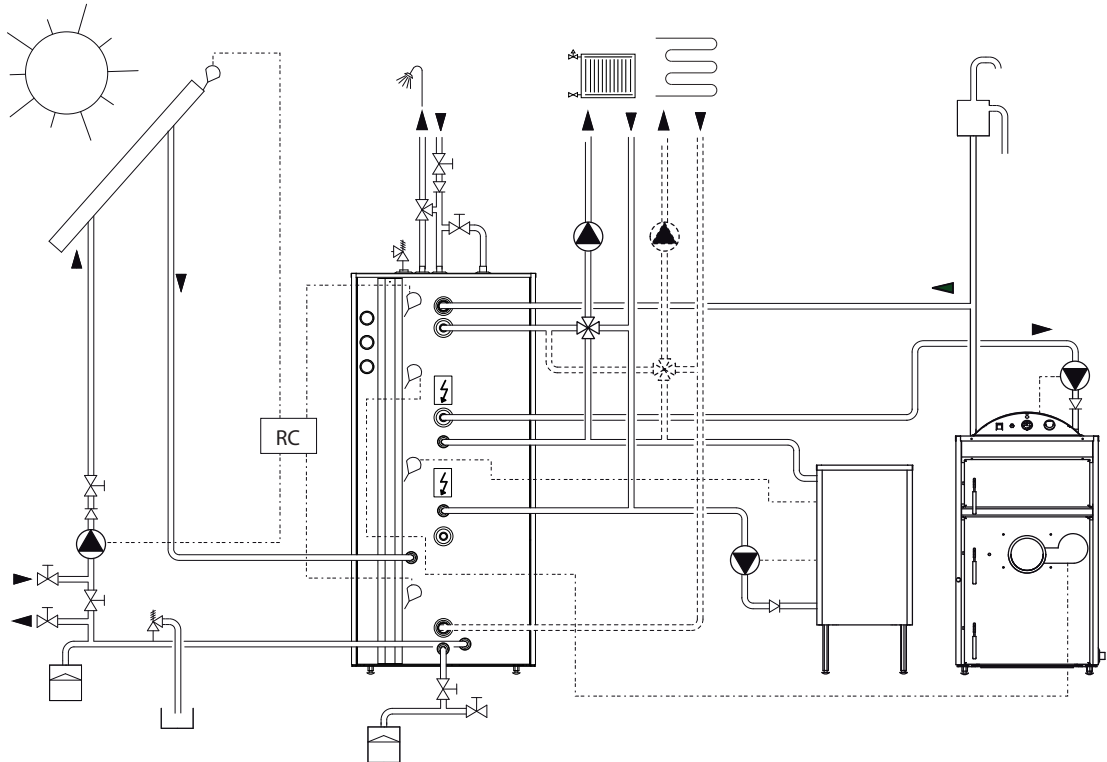
**Aqualux Teknik**  
**Solar panel K2 Air/**  
**Water heat pump.**



The K2 solar panel heats the Aqualux Teknik. The solar panels can provide both domestic hot water and heating. Heat extraction takes place via a bivalent shunt. Additional heating will normally be provided via a heat pump. The heat pump works with liquid condensation with respect to the Aqualux Teknik's intermediate zone and with solid condensation with respect to the upper zone. When the heat pump cannot cope with the heating load, additional heating takes place via the immersion heaters in the upper and intermediate zones. The domestic hot water initially draws heat from the bottom of the tank which has been heated by the sun.

It then draws energy from the intermediate section of the tank and then finally takes heat from the upper zone. This preheating of the domestic hot water increases the efficiency of the heat pump and reduces wear. In order for the heat pump to operate at the lowest possible temperature, the shunt automation and immersion heaters are controlled by the heat pump's controller. The Aqualux Teknik acts as a volume vessel for the heat pump and makes the operation of the heat pump more even.

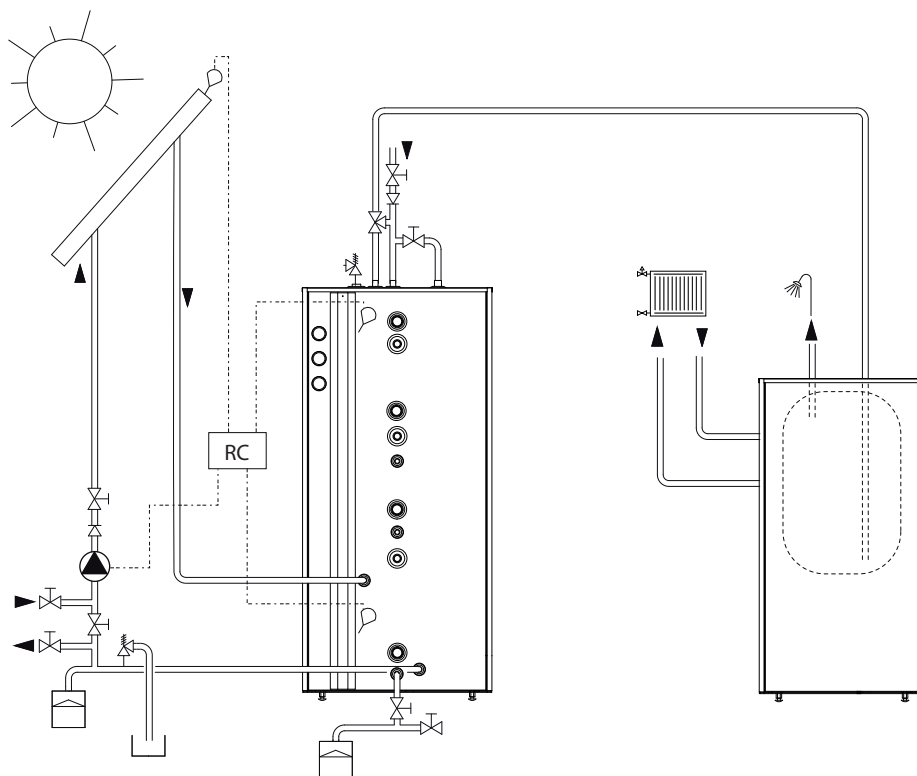
## Aqualux Teknik Solar panel K2 Pellmax UB Heat pump.



The K2 solar panel heats the Aqualux Teknik. The solar panels can provide both domestic hot water and heating. Heat extraction takes place via a bivalent shunt. During the summer months, the Pellmax UB is switched off. If the outdoor temperature is not too low, additional heating will initially take place via the heat pump. The heat pump works with

either liquid or solid condensation with respect to the Aqualux Teknik's intermediate zone. With the Pellmax UB, additional heating takes place in the hot zone or via the immersion heaters in the hot and/or intermediate zones. The Aqualux Teknik acts as a volume vessel for the heat pump and makes the operation of the heat pump more even.

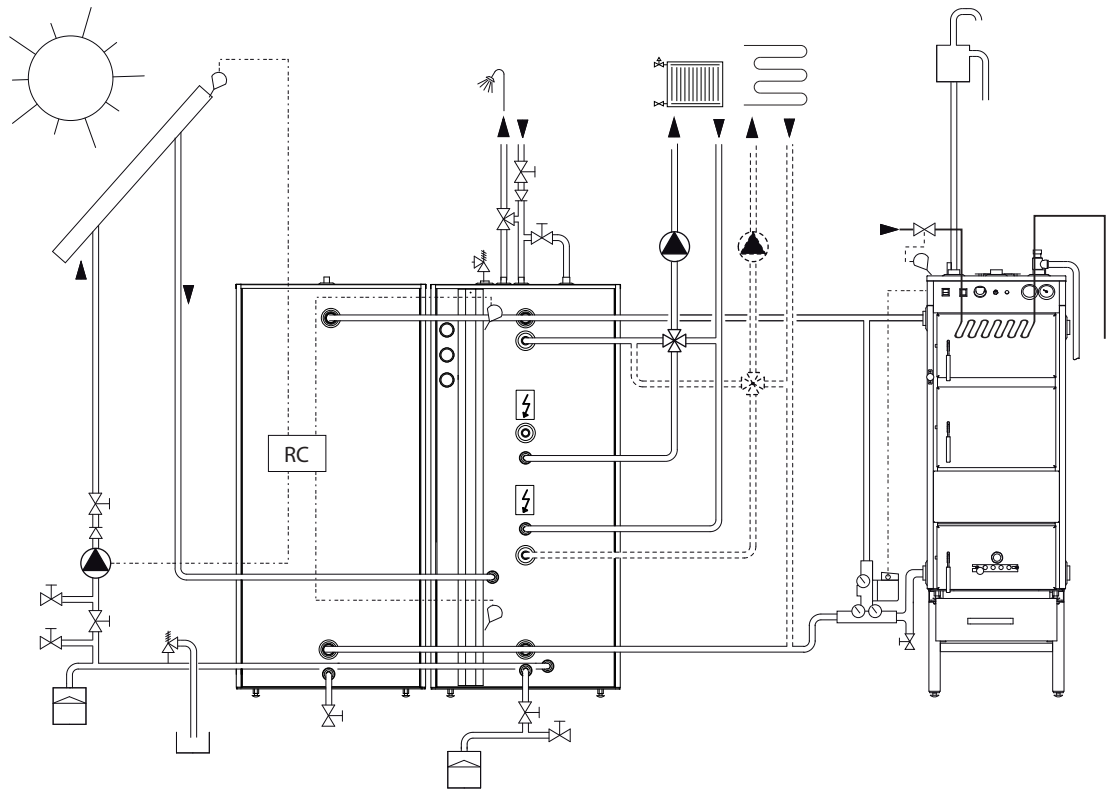
## Aqualux Teknik Solar panel K2 Heat pump/Electric boiler



The K2 solar panels heat the Aqualux Teknik. The solar panels only produce tap hot water. The heating system is connected to the heat pump/electric boiler. The domestic hot water is heated in the Aqualux Teknik.

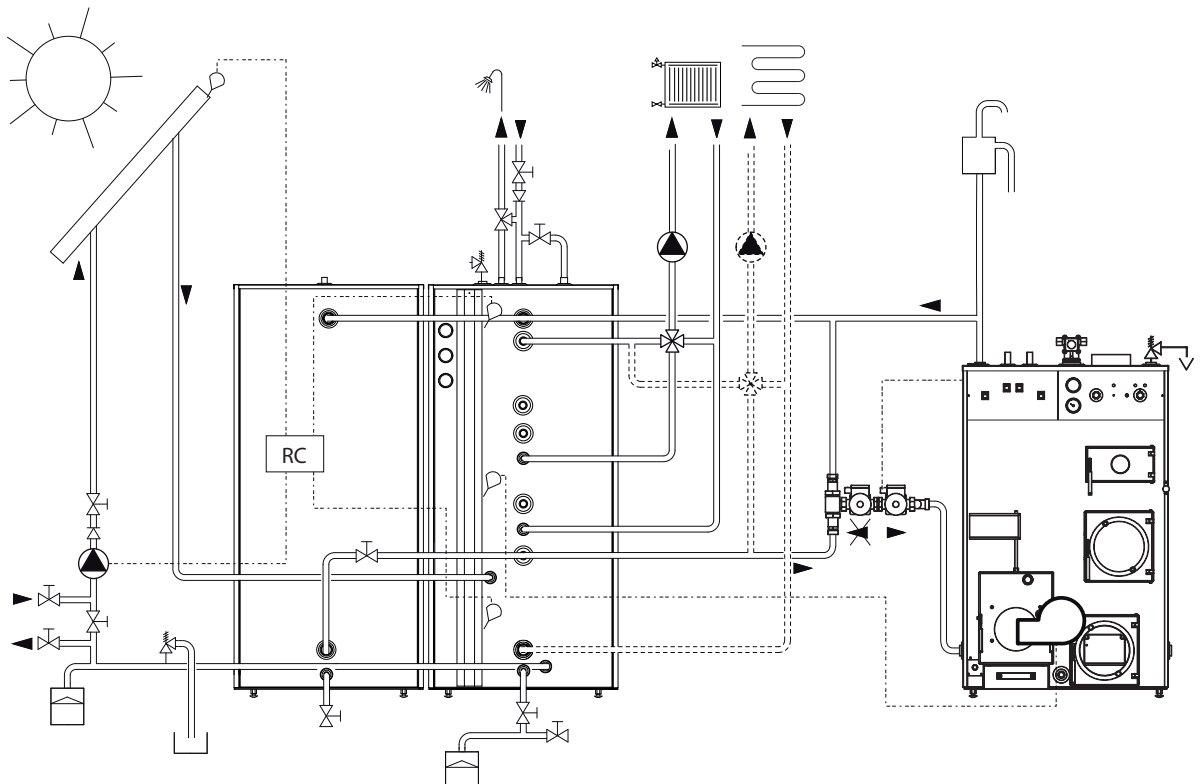
The temperature of the output tap water from the Aqualux Teknik is limited by a mixing valve in order to prevent the heat pump from being subjected to high temperatures. If necessary, the tap hot water is heated further by the heat pump's/electric boiler's hot water heater.

Aqualux Teknik  
Aqualux UB  
Solar panel K2  
Vedolux



The K2 solar panels heat the Aqualux Teknik. The solar panels can provide both domestic hot water and heating. During the winter months, the Vedolux accumulator tanks provide the heating source. The immersion heater in the Aqualux Teknik can also provide additional heating.

Aqualux Teknik  
Aqualux UB  
Solar panel K2  
Biomax



The K2 solar panels heat the Aqualux Teknik. The solar panels can provide both domestic hot water and heating. Hot water heating and heat extraction take place from the Aqualux Teknik. Heat extraction takes place via a bivalent shunt. The discharge pump in Acc.

control 11 is isolated, so that only charging of the Aqualux Teknik is possible. Additional heating takes place via Biomax. To maintain a good output from the solar panels for additional heating, the return pipe is connected so that the bottom of the Aqualux Teknik is not heated.

In accordance with its policy of continual improvement and development, Värmebaronen AB reserves the right to alter the specifications of constituent components.

Värmebaronen UK  
11 Back O'Hill,  
Stirling, FK8 1SH

T 01786 849 099  
F 01786 849 098  
[www.varmebaronen.org](http://www.varmebaronen.org)  
[info@varmebaronen.org](mailto:info@varmebaronen.org)

