

Water heaters with indirect heating with one heat exchanger/ Бойлер с индиректно загревање с един топлообменник / Θερμαντήρες νερού έμμεσης θέρμανσης με έναν εναλλακτική θερμότητας / Neizravno zagrijavani spremnici vode s jednim izmjenjivačem topline/ Indirekt fűtésel és egy hőcserélővel ellátott vízmelegítők/ Boilere cu încălzire indirectă cu o serpentina de incalzire/ Indirektno zagrevani akumulacioni bojleri sa jednim izmenjivačem toplote/ Indirektno ogrevani bojlerji za sanitarno vodo z enim toplotnim izmenjvalcem

Acu Heat AH UNO 200/300/500/800/1000/1500/2000

Water heaters with indirect heating with two heat exchangers/ Бойлер с индиректно загревање с два топлообменника / Θερμαντήρες νερού έμμεσης θέρμανσης με δυο εναλλακτικές θερμότητας / Neizravno zagrijavani spremnici vode s dva izmjenjivača topline/ Indirekt fűtésel és két hőcserélővel ellátott vízmelegítők indirecta cu doua serpentine de incalzire / Boilere cu încălzire indirectă cu două schimbătoare de căldură/ Indirektno zagrevani akumulacioni bojleri sa dva izmenjivača toplote/ Indirektno ogrevani bojlerji za sanitarno vodo z dvema toplotnima izmenjvalcema

Acu Solar AS DUO 200/300/500/800/1000/1500/2000

High capacity buffers/ Бойлер с високо налягане на водата / Δοχεία αδρανείας για συστήματα ζεστού νερού χρήσης / Visokotlačni međuspremnici/ Nagy kapacitású puffertartályok/ Acumuloatoare de capacitate mare/ Bojleri pod visokim pritiskom/ Zalogovniki

Acu Tank AP 200/300/400/500/800/1000/1500/2000

- | | |
|----------|---|
| ENG | - Instruction for use and maintenance |
| BG | - Упътване за инсталиране |
| EL | - Οδηγίες εγκατάστασης |
| HR, BiH | - Uputstvo za instaliranje |
| HU | - Használati és karbantartási útmutató |
| RO | - Instrucțiuni de operare și mentenanță |
| SRB, MNE | - Uputstvo za instaliranje |
| SI | - Navodila za montažo in uporabo |

We hope that your new appliance will bring more comfort to your home.

The instruction manual and the technical description are prepared in order to acquaint you with the product and its proper installation and usage. These instructions are also intended for use by qualified technicians, who shall perform the initial installation or disassembly and repairs in the event of a breakdown.

The observance of the instructions contained herein is in the interest of the buyer and represents one of the warranty conditions, outlined in the warranty card.

- This manual is an integral part of the buffer. It must be kept with care and must follow the appliance if the latter is transferred to another owner or user and/or to another installation.
- Read the instructions and tips very carefully. They will help you ensure the safe installation, use and maintenance of your appliance.
- The installation is at the buyer's expense and must be carried out by a professional technical person from the sector in accordance with the instructions in the manual.

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I. Intended use

The appliance is intended to supply hot water to households equipped with a piping system working at a pressure below 8 bar.

The appliance is intended for work in closed, heated premises and it is not intended to work in a constant flow through regime.

II. Description and technical data

Depending on the model of water heater, it can have none, one or two built-in heat exchangers.

T - for temperature indicator (the indicator is included in the appliance kit) TS1, TS2, TS3 - for mounting temperature sensors for the tank water that help regulate the flow of the coolant through the heat exchangers. EE (HE) – for the electrical heating element - positioned by the outlet pipes. R - for the hot water recirculation systems.



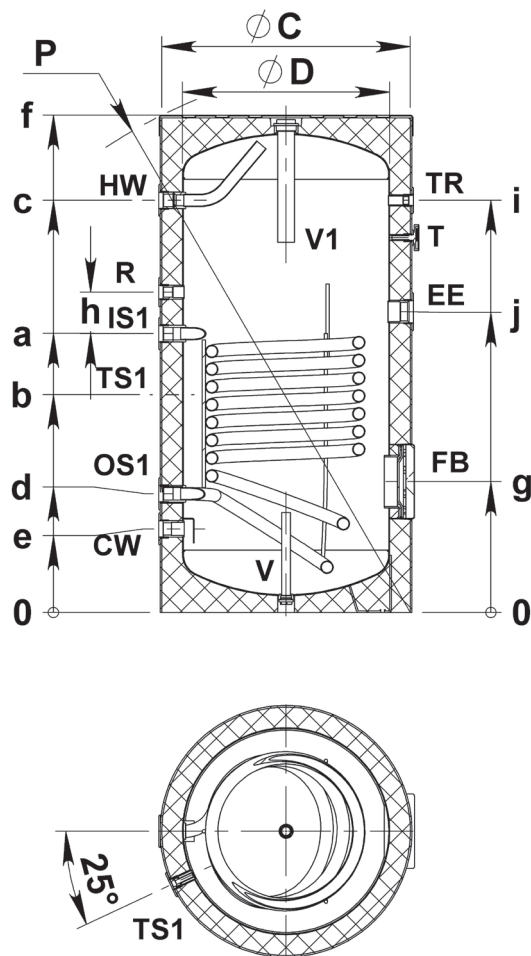
ATTENTION! The electrical heating element should be approved by the producer of the high capacity water heater. Otherwise the producer is not bound by any warranty conditions and it is not responsible for any abnormal work of the appliance.

Data plate

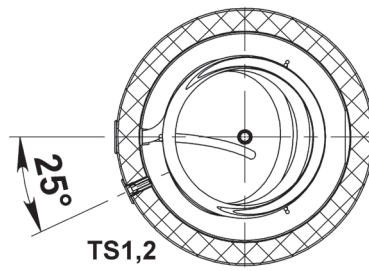
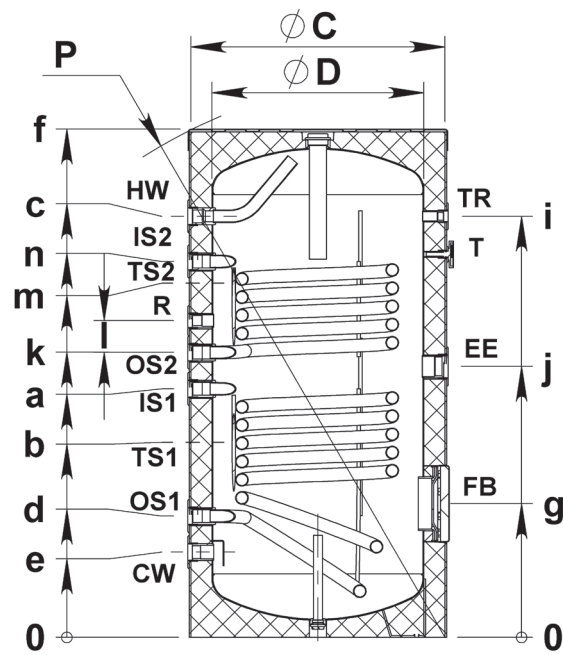
The data plate is located at the top of the rear of the DHW cylinder and includes the following details:

Pos.	Description
1	Model designation
2	Serial number
3	Actual content
4	Standby heat loss
5	Volume heated by immersion heater
6	Year of manufacture
7	Corrosion protection
8	Max. DHW cylinder temperature
9	Max. flow temperature, heat source
10	Max. flow temperature, solar
11	Connected electrical load
12	Heating water heat input
13	Heating water throughput for heating water heat input
14	With 40 °C drawable volume, heated electrically
15	Max. operating pressure, DHW side
16	Highest design pressure
17	Max. operating pressure, heat source side
18	Max. operating pressure, solar side
19	Max. operating pressure, DHW side, CH
20	Max. test pressure, DHW side, CH
21	Max. DHW temperature with electric heating

II. c. Dimensions and connectors for water heaters with indirect heating, 160 - 500l



Acu Heat AH UNO 160-500l



Acu Solar AS DUO

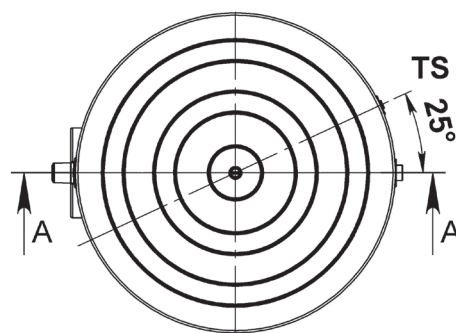
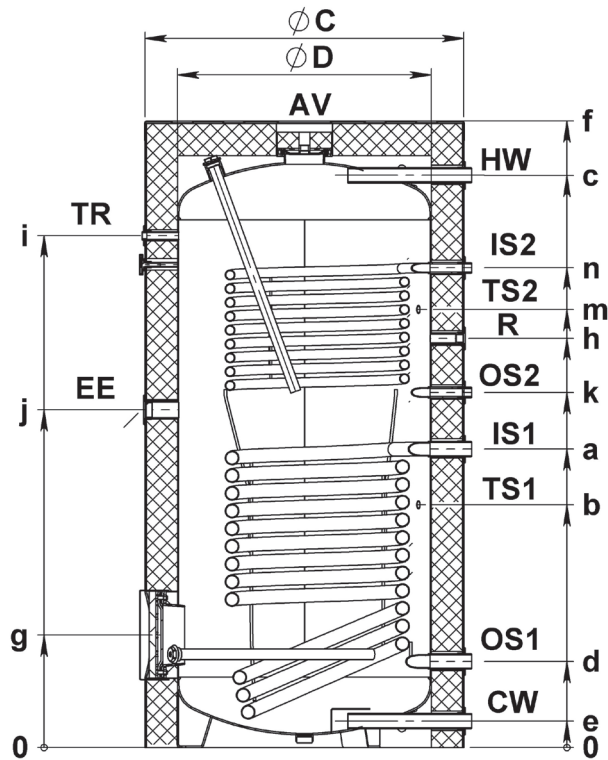
		AS 500 UNO/ 8 bar	AH 500 DUO/ 8 bar	AS 300 DUO / 8 bar	AH 300 UNO /8 bar	AS 200 DUO / 8 bar	AH 200 UNO /8 bar	AH 160 UNO /8 bar
		500	500	300	300	200	200	160
a	mm	944	944	718	804	585	671	676
b	mm	750	750	610	653	478	564	362
c	mm	1448	1448	1207	1207	993	993	788
d	mm	299	299	288	288	284	284	289
e	mm	214	214	203	203	199	199	204
f	mm	1674	1674	1420	1420	1200	1200	1007
g	mm	324	324	314	314	314	314	318
h	mm	255	-	-	206	-	100	74
i	mm	1448	1448	1207	1207	993	993	785
j	mm	986	986	760	846	628	714	318
k	mm	-	1029	803	-	671	-	-
l	mm	-	136	100	-	75	-	-
m	mm	-	1265	996	-	815	-	-
n	mm	-	1330	1104	-	886	-	-
ØC	mm	750	750	650	650	600	600	600
ØD	mm	650	650	550	550	500	500	500

R	Recirculation	G ¾"
TS1	Thermopocket 1	G ½"
TS2	Thermopocket 2	G ½"
EE (HE)	Electric heating element	G 1 ½"
T	Thermometer	G ½"
TR	Thermoregulator	G ½"
CW	Inlet of cold water	G 1"
IS2 (M)	Inlet of the heat exchanger 2	G 1"
OS2 (E)	Outlet of the heat exchanger 2	G 1"
IS1 (MS)	Inlet of the heat exchanger 1	G 1"
OS1 (ES)	Inlet of the heat exchanger 1	G 1"
HW	Outlet of hot water	G 1"
FB	Flange for service	
V	Anode	

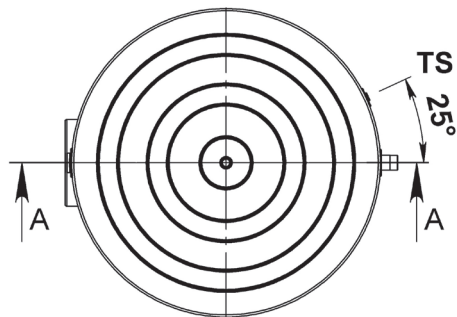
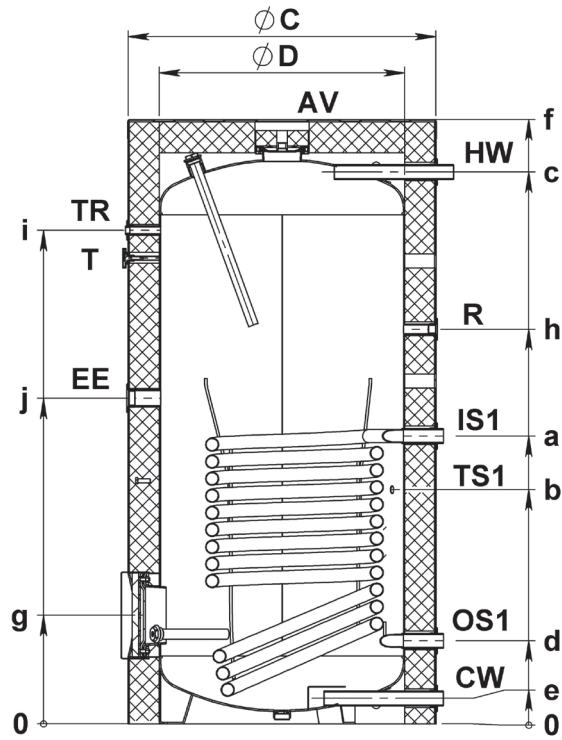
		AH 1000 UNO / 8 bar	AS 1000 DUO / 8 bar	AH 800 UNO / 8 bar	AS 800 DUO / 8 bar
		1000	1000	800	800
a	mm	987	987	929	929
b	mm	830	817	756	756
c	mm	1846	1846	1780	1780
d	mm	270	270	270	270
e	mm	82	82	82	82
f	mm	2002	2002	1937	1937
g	mm	353	353	353	353
h	mm	1274	1274	1274	1274
i	mm	1592	1592	1475	1475
j	mm	1132	1132	1051	1051
k	mm	-	1174	-	1105
m	mm	-	1374	-	1363
ØC	mm	1050	1050	990	990
ØD	mm	850	850	790	790

R	Recirculation	G ¾"
TS1	Thermopocket 1	G ½"
TS2	Thermopocket 2	G ½"
EE	Electric heating element	G 1 ½"
T	Thermometer	G ½"
TR	Thermoregulator	G ½"
CW	Inlet of cold water	G 1 ½"B
IS2	Inlet of the heat exchanger 2	G 1"B
OS2	Outlet of the heat exchanger 2	G 1"B
IS1	Inlet of the heat exchanger 1	G 1 ½"B
OS1	Outlet of the heat exchanger 1	G 1 ½"B
HW	Outlet of hot water	G 1 ½"B
AV	Air ventilation	G ¾"

II. d. Dimensions and connectors for water heaters with indirect heating, 800 - 1000 l

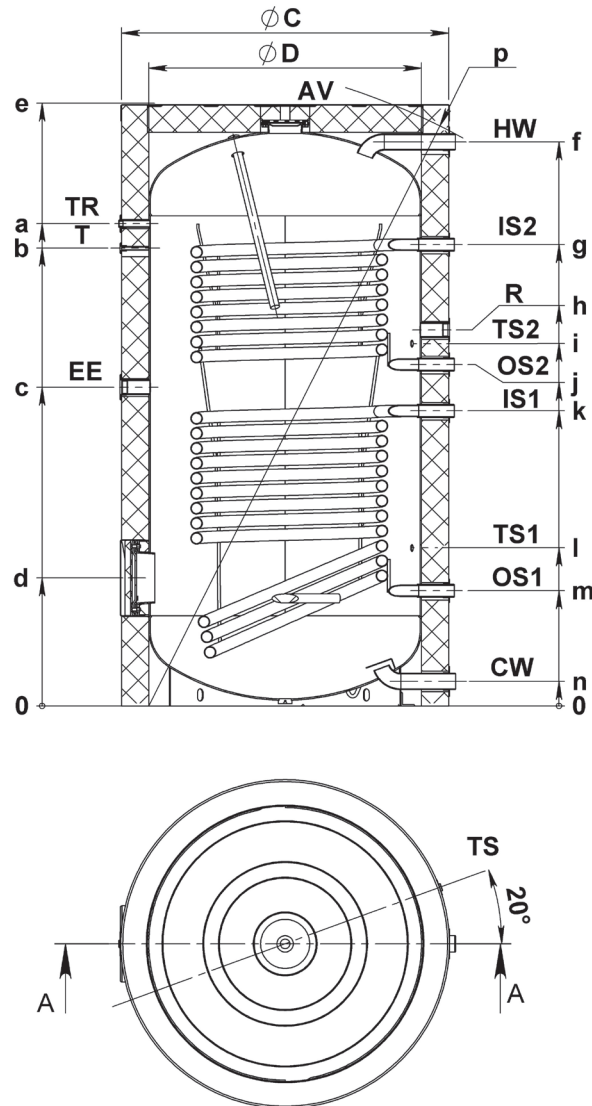


Acu Solar AS DUO 800; 1000L

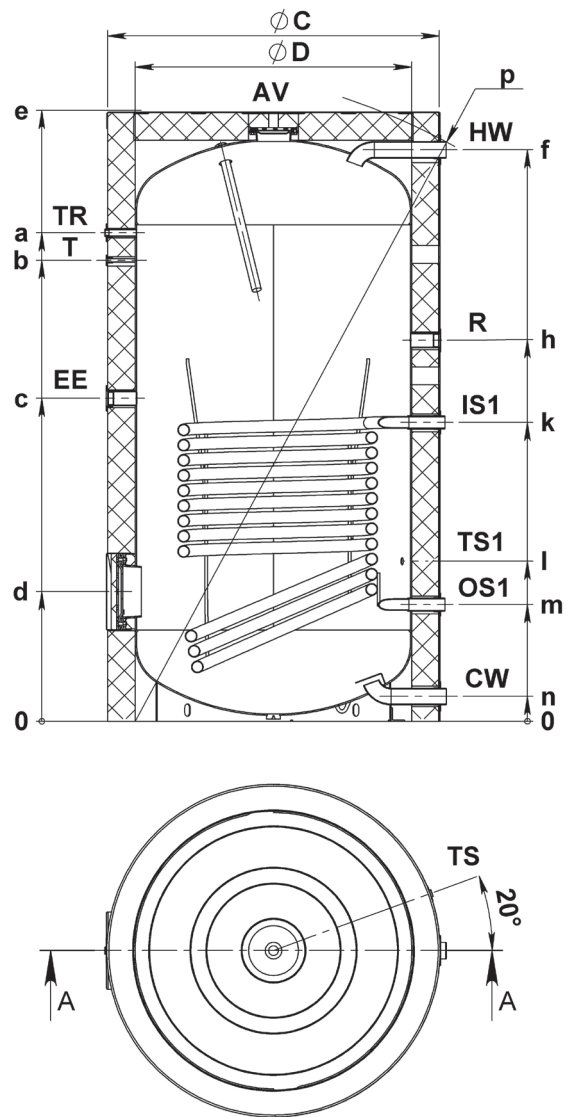


Acu Heat AH UNO 800; 1000l

II.e. Dimensions and connectors for water heaters with indirect heating, 1500 - 2000 l



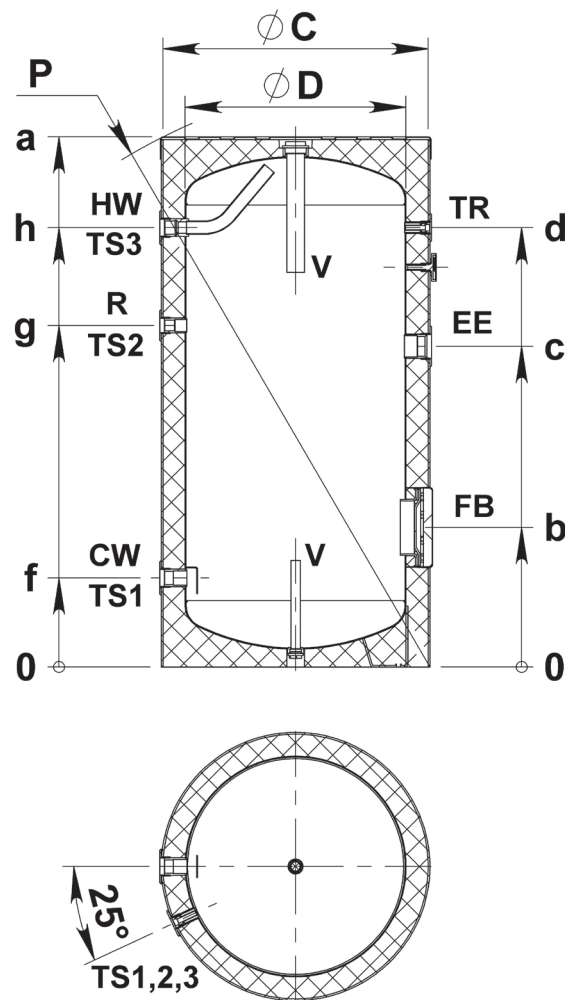
Acu Solar AS DUO 1500; 2000l



Acu Heat AH UNO 1500; 2000L

	AH 2000 UNO / 8 bar	AS 2000 DUO / 8 bar	AH 1500 UNO / 8 bar	AS 1500 DUO / 8 bar
	2000	2000	1500	1500
a	1927	1927	1768	1768
b	1827	1827	1666	1666
c	1287	1287	1168	1168
d	497	497	468	468
e	2399	2399	2193	2193
f	2263	2263	2061	2061
g	-	1875	-	1691
h	1560	1560	1378	1378
i	-	1537	-	1329
j	-	1380	-	1251
k	1244	1244	1081	1081
l	587	587	579	579
m	420	420	421	421
n	90	90	90	90
p	2565	2565	2361	2361
ØC	1300	1300	1200	1200
ØD	1100	1100	1000	1000
R	Recirculation	G 1 ½"		
TS1	Thermopocket 1	G ½"		
TS2	Thermopocket 2	G ½"		
EE	Electric heating element	G 1 ½"		
T	Thermometer	G ½"		
TR	Thermoregulator	G ½"		
CW	Inlet of cold water	G 2"B		
IS2	Inlet of the heat exchanger 2	G 1 ½"B		
OS2	Outlet of the heat exchanger 2	G 1 ½"B		
IS1	Inlet of the heat exchanger 1	G 1 ½"B		
OS1	Outlet of the heat exchanger 1	G 1 ½"B		
HW	Outlet of hot water	G 2"B		
AV	Air ventilation	G ¾"		

II. f. Dimensions and connectors for high capacity buffers, 160 - 500l



Acu Tank AP 160 - 500l

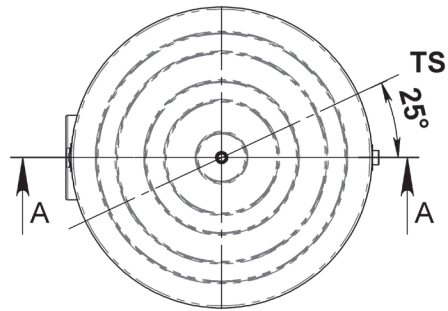
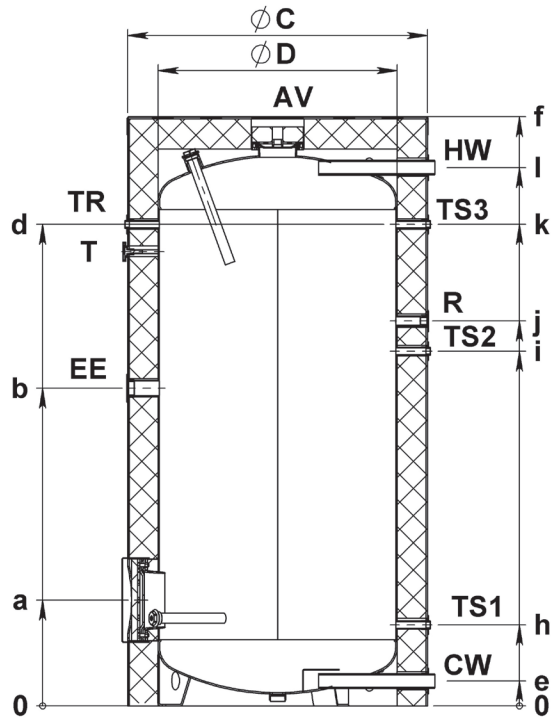
		AP 500 / 8 bar	AP 400 / 8 bar	AP 300 / 8 bar	AP 200 / 8 bar
Total capacity	l	500	400	300	200
Actual capacity	l	497	406	294	202
Insulation	mm	hard PU 50	hard PU 50	hard PU 50	hard PU 50
Max. working temperature	°C	95	95	95	95
Nominal pressure of water tank	bar	8	8	8	8
Net Weight	kg	125	117	66	45
		200L	300L	400L	500L
a		1207	1427	1407	1702
b		314	314	331	321
c		714	846.5	813	983.5
d		993	1207	1156	1445
f		199	203	220	211
g		771	1010	943	1196
h		993	1207	1156	1445
ØC		600	650	750	750
ØD		500	550	650	650
		AP 200; 300; 400; 500			
R	Recirculation			G 3/4"	
TS1	Thermopocket 1			G 1/2"	
TS2	Thermopocket 2			G 1/2"	
TS3	Thermopocket 3			G 1/2"	
EE	Electric heating element			G1 1/2"	
T	Thermometer			G1/2"	
TR	Thermoregulator			G1/2"	
CW	Inlet of cold water			G 1"	
HW	Outlet of hot water			G 1"	
FB	Flange for service				
FU	Upper flange with anode protector				
V	Lower anode protector				
AV	Air ventilation			G 3/4"	

II. g. Dimensions and connectors for high capacity buffers, 800 - 2000 l

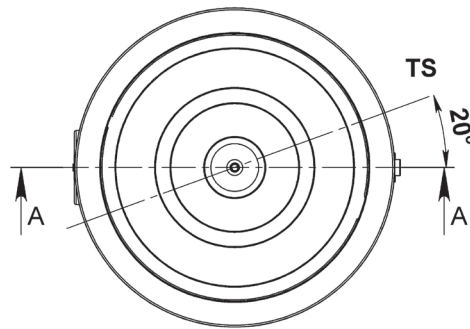
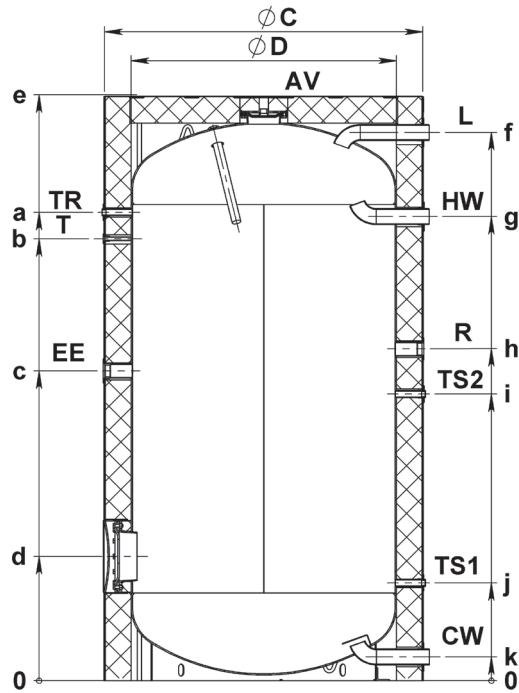
		AP 2000 / 8 bar	AP 1500 / 8 bar	AP 1000 / 8 bar	AP 800 / 8 bar
Total capacity	l	2000	1500	1000	800
Actual capacity	l	1904	1475	974	796
Insulation	mm	"Soft" PU 100	"Soft" PU 100	"Soft" PU 100	"Soft" PU 100
Max. working temperature	T°C	95	95	95	95
Nominal pressure of water tank	bar	8	8	8	8
Net Weight	kg	388	338	211	175

	800L	1000L	1500L	2000L
a	351	354	1767	1927
b	1051	1132	1665	1827
c	1502	1383	1167	1287
d	1592	1475	467	497
e	1830	1895	2193	2399
f	1937	2002	2061	2263
g	80	80	1750	1915
h	272	272	1250	1370
i	1174	1174	1080	1141
j	1273	1273	367	397
k	1592	1654	90	90
l	1780	1846	-	-
p	-	-	2214	2412
ØD	790	850	1000	1100
ØC	990	1050	1200	1300

		EP 800; EV1000	EP 1500; EV2000
R	Recirculation	G ¾"	G 1 ½"
TS1	Thermopocket 1	G ½"	G ½"
TS2	Thermopocket 2	G ½"	G ½"
TS3	Thermopocket 3	G ½"	-
EE	Electric heating element	G 1 ½"	G 1 ½"
T	Thermometer	G ½"	G ½"
TR	Thermoregulator	G ½"	G ½"
CW	Inlet of cold water	G 1 ½"B	G 2"B
HW	Outlet of hot water	G 1 ½"B	G 2"B
L	Heat source inlet	-	G 2"B
AV	Air ventilation	G ¾"	G ¾"



AP 800 – 1000L



AP 1500 – 2000L

III. Mounting and connection



ATTENTION! Qualified technicians must perform all technical and electrical assembly works.

III.1. Installation

Water heaters are delivered on an individual transport pallet for easier transport. If high capacity water heaters are used in premises with low humidity and a flat floor, you can leave the pallet as it is mounted on the appliance

Otherwise - please follow the steps below (fig. 4):

- Put the water heater in a horizontal position but before that, place a rug underneath it to prevent any damage. Unscrew the three bolts that hold the pallet on the water heater.

- Mount the adjustable feet directly on the appliance*
- Put the high capacity water heater (HCWH) in a vertical position and adjust the level using the feet.

* If the adjustment feet are delivered as separate parts you can assemble them as follows (fig. 5):

- put part 1 on bolt 2, which is unscrewed from the pallet
- put on washer 3, which is removed from the pallet
- Screw on the nuts 4



ATTENTION! In order to prevent injury to the user and/or third persons in the event of faults in the system for providing hot water, the appliance must be mounted in premises outfitted with floor hydro insulation (or) plumbing drainage.

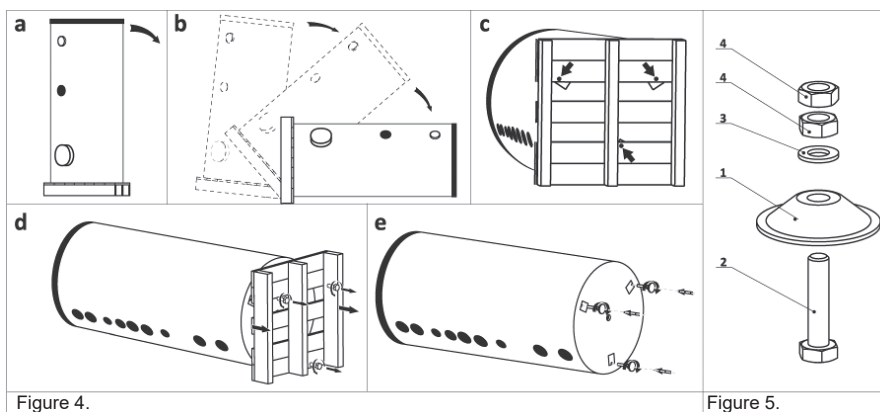


Figure 4.

Figure 5.

III.2. Connection to the main water supply network



Connecting the storage tank to mains using a scheme to that shown in fig. 6 and 7, should be fulfilled in compliance with a project created by an HVAC designer! The presence of written document for additional components is required for warranty recognition! Otherwise all the elements shown in fig. 6 and 7 are mandatory!



IMPORTANT! Before connecting the storage tank to the mains according to fig. 6 and 7, consult with a qualified HVAC designer! The presence of a safety valve Nr.5, delivered by the producer, is obligatory! Only a qualified technician may advise using other components!

The installation of the storage tank with one heat exchanger should be done in accordance with fig. 6. The installation of the storage tank with two heat exchangers should be done in accordance with fig. 7. Models without heat exchangers should be installed the same way as the models with one or two heat exchangers.

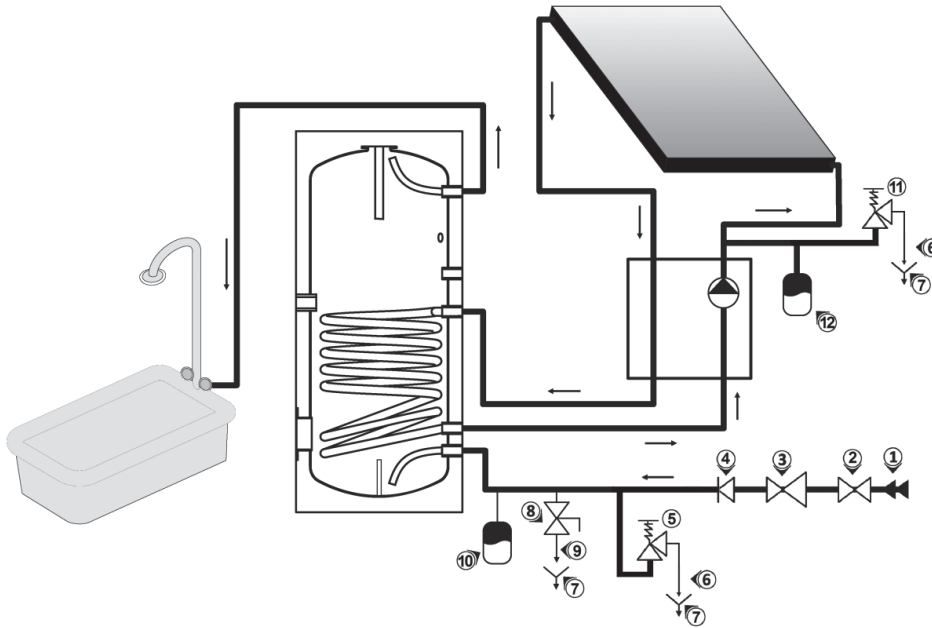


Figure 6.

Elements of installations are:

- 1- Inlet pipe;
- 2- Main water tap.
- 3- Pressure regulator (Advisable). Should be adjusted as per the HVAC Designer's calculation, but no more than 0.6 MPa.
- 4- Non-return valve. Its type should be defined by the HVAC designer according to the local and European laws, standards and technical norms.
- 5- Safety valve. When implementing scheme 6 or 7, use only safety valves in the supplied kit. For schemes other than 6 or 7, the safety valve must be defined by the HVAC designer and must be in accordance with the local and European laws, standards and technical norms (**P_{nr} = 8 bar; EN 1489:2000**).



IMPORTANT! There must not be any kind of stop valves or taps between the storage tank and safety valve!

- 6- **Safety valve drainage pipe.** Must be implemented in accordance with the local and European laws, standards and technical norms! It has to be angled enough to allow drainage. The connection should be open in order to keep the outlet of the safety valve open to the atmosphere. The draining system must be protected from freezing. Safety measures against burns due to the activation of valve must be taken when installing the pipe. Figure 9a, b, c
- 7- Drainage.

8- Non-return valve.

9- Drainage tap.

10- Expansion vessel. Its volume and type must be defined by the HVAC designer and must be in accordance with the local and European laws, standards and technical norms.

In order to ensure that you do not use the circulation outlet "R" and the outlets for the temperature sensors "TS1", TS2" and "TS3", as well as the outlet for the heating element "EE (HE)", it is necessary to put end caps on before filling the water heater with water.

For models without a heat exchanger – the outlet marked with "AV" is intended for the connection of an air vent device, which allows removing air from the water tank. For a long service life, it is advisory to always remove the air from the tank completely!

! **To fill up the water heater**, it is necessary to open the most distant tap, used for supplying hot water in the installation (of the mixing-faucet) and the tap (2) for supplying cold water near it. When the water heater is full, water will run continuously from the cold water tap.

! If you need to **empty the water heater**, first you must cut off its power supplies, if any. The inflow of water from the water mains must first be terminated (tap 2) and the most distant hot water tap of the mixing-faucet must be opened. Open the drainage tap (8) to fully empty the water tank.



IMPORTANT! The manufacturer assumes no responsibility for problems resulting from the incorrect assembly of the unit to the water supply network or because of using components with unknown origin, not in compliance with the local and European standards!

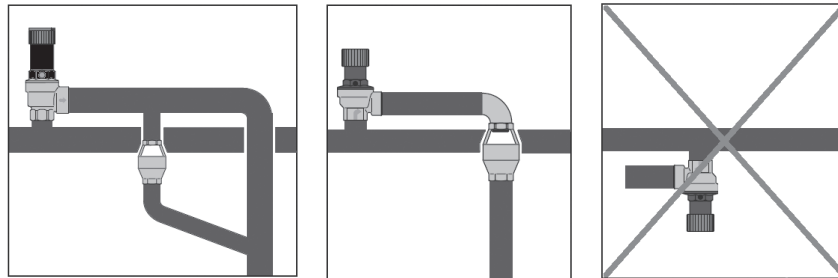


Figure 9a, b, c

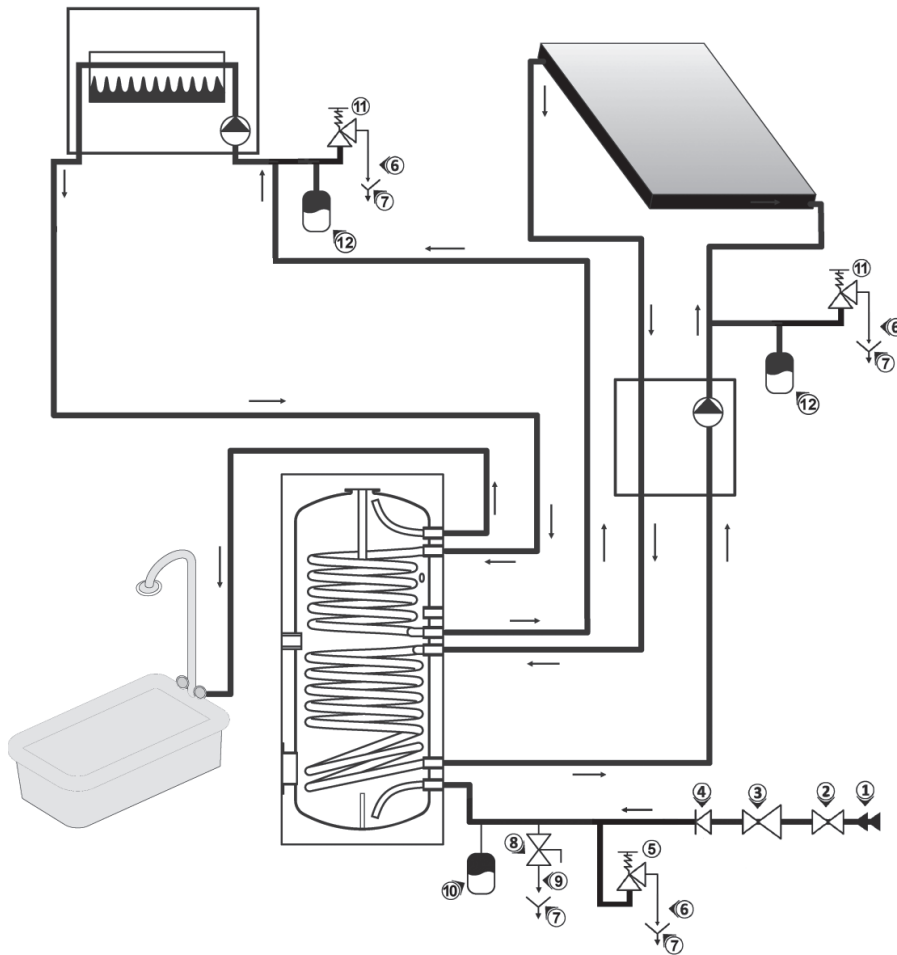


Figure 7

- 1 inlet pipe
- 2 main water pipe
- 3 pressure regulator
- 4 non-return valve.
- 5 safety valve
- 6 drainage spot
- 7 drainage
- 8 drainage tap
- 9 drainage spot
- 10 expansion vessel
- 11 safety valve
- 12 expansion vessel

III.3. Connecting the serpentine (heat exchangers) with the heating installation using alternative and renewable sources.



ATTENTION! Qualified P&P specialists and technicians must perform all the assembly works for connection to heat sources.

The connection of the serpentine (heat exchangers) with the heating installation should be done considering the marked outlets and inlets as described below:

IS1 (MS) – Inlet of the heat exchanger 1

OS1 (ES) – Outlet of the heat exchanger 1

IS2 (M) – Inlet of the heat exchanger 2

OS2 (E) – Outlet of the heat exchanger 2

When filling the system with transfer fluid, the system should be empty of air. Make sure the system is empty of air.

The presence of air may cause the incorrect functioning of the boiler.

The maximum temperature of the heat transfer fluid: 110°C. The maximum pressure of the heat transfer fluid: 0.6 MPa!

A safety valve ((11) - fig. 6, 7) inline coil heat exchanger must be fitted according to the HVAC designer's requirements but its adjustment must not be higher than $P_{nr} = 0.6\text{MPa}$. (EN 1489:2000)! An expansion vessel ((12) - fig. 6, 7) according to the HVAC Designer's requirements must be installed!



IMPORTANT! The manufacturer assumes no responsibility for problems resulting from the incorrect connection of the heat exchangers to additional heat sources!

III.4. Connecting buffers for domestic hot water. Examples

The buffers for DHW are intended for domestic hot water accumulation with its subsequent usage when there is a peak in the consumption. As an example is shown Fig. 10 for buffers from 1500 to 1000 l and for

buffers from 200 to 1000 l Fig. 11.



ATTENTION! Connecting buffers to the main water supply is shown on Fig. 6.

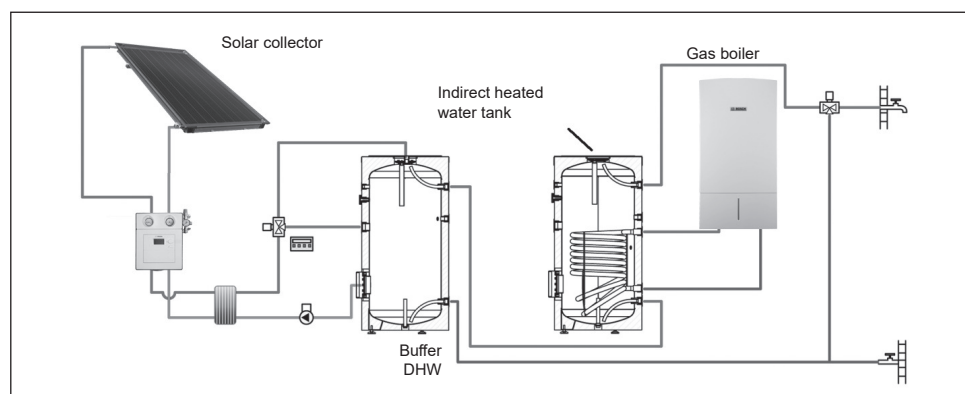


Figure 11

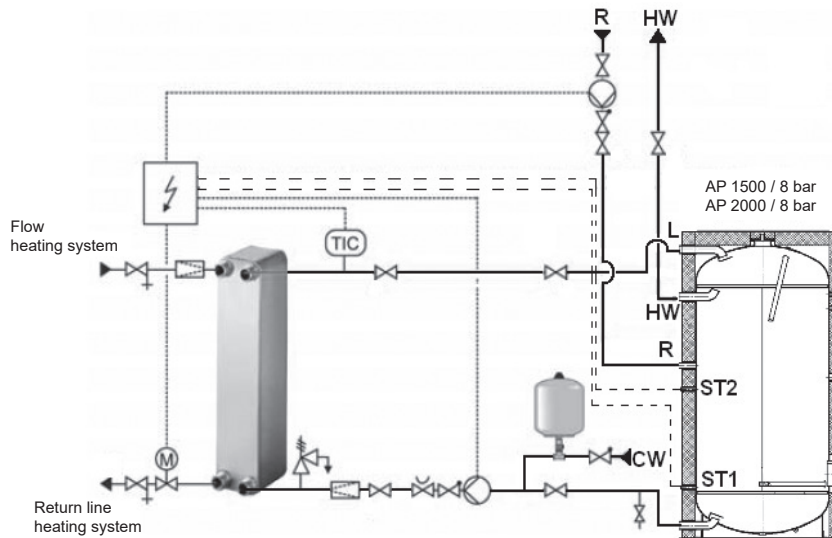


Figure 10

IV. Protection against corrosion - magnesium anode

The magnesium anode protects the water tank's inner surface from corrosion. The anode element is an element undergoing wear and requires periodic replacement.

To ensure the long-term and accident free use of your water heater, the manufacturer recommends periodic inspections of the magnesium anode's condition by a qualified technician and replacement whenever required, which could be performed during the appliance's technical preventive maintenance. For replacements, please contact the authorized service stations.

V. Operating mode

Before using the water heater, make sure that the appliance is connected to the heating installation in the correct way and is filled with water.

Only qualified P&P specialists and Electricians should put the device into operation.

VI. Important rules

- The use of the appliance for any purpose other than its intended one is prohibited.
- Do not switch on the water heater unless you have established that it is filled with water.
- The installation and maintenance must be carried out by a professional from the sector in accordance with the manufacturer's instructions.
- The water heater must only be installed in premises with normal fire resistance and out of reach of children. There should be a siphon connected to a plumbing drainage. The premises should be protected from freezing and the temperature should never be lower than 4 °C.
- Only qualified P&P specialists and Electricians should perform the connecting of the water heater to the water main, local or central water heating, solar panel and electric mains.
- If there is a likelihood of the premise's temperature falling below 0°C, the water

heater must be drained by raising the safety return-valve's lever.

- During use (water heating mode), the dripping of water from the safety return-valve's drainage opening is normal. This must be left open to the atmosphere.
- In order to ensure the water heater's safe operation, the safety return-valve must undergo regular cleaning and inspections for normal functioning /the valve must not be obstructed/, and for regions with highly calcareous water it must be cleaned of accumulated lime scale. This service is not provided under warranty maintenance.
- If upon turning the valve's knob when the water tank is full, water does not start running from the valve's drainage opening, this is a sign of a malfunction and the appliance's use must be discontinued.
- 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 instructions concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- It is necessary to maintain the water heater following the described rules, to duly change the anode protector and to clean the lime scale after the warranty period as well.



ATTENTION! Usage of this device at temperature and pressure levels above prescribed is warranty violation!

- This device is intended for heating potable water in a liquid state. Using different fluids is warranty violation!
- The device's heat exchangers are intended for use with water and a mixture of water and propylene (ethylene) glycol plus anti corrosion additives at liquid state. Using different fluids in different states is a warranty violation!

VII. Periodic maintenance

Under normal use of the heater, under the influence of high temperature, lime scale / the so-called lime scale layer/ is deposited on the heating element's surface. For this reason, the manufacturer recommends preventive maintenance of your water heater every two years by an authorized service centre or service base. This protective maintenance must include cleaning and inspection of the anode protector (for water heaters with a glass-ceramic coating), which shall be replaced with a new one if needed.

Each preventive maintenance must be entered in the appliance's warranty card and must outline the date of performing the preventive maintenance, the company performing the preventive maintenance, the name of person performing the preventive maintenance, and a signature.

Non-fulfilment of the above requirement may terminate the free of charge maintenance of your boiler.

The manufacturer does not bear responsibility for any consequences caused by not obeying the instructions given herein.

