

OPERATING AND ASSEMBLY INSTRUCTIONS



Models:

TG-BT-50
TG-BT-100
TG-BT-200
TG-BT-300
TG-BT-500

TG-BT-200-2.8
TG-BT-300-4
TG-BT-400-4
TG-BT-500-4

TG-S-CWU-100-1,8
TG-S-CWU-150-2,2
TG-S-CWU-200-2,8
TG-S-CWU-300-4
TG-S-CWU-400-4
TG-S-CWU-500-4

TG-S-CWU-200-1,8-2,4
TG-S-CWU-300-1,8-3,1
TG-S-CWU-400-1,8-3,1
TG-S-CWU-500-1,8-3,1

ORIGINAL INSTRUCTIONS

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TECHGLOBE Sp. z o.o.

12 Kolejowa St., 23-200 Kraśnik, Poland

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www.techglobe.pl



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GENERAL INFORMATION

Before operating the appliance, this user manual must be carefully read and strictly adhered to. This user manual is the basic equipment of the appliance and must be retained for future reference.




Drawings and photographs included in the manual are for reference only.


The following manual applies to all types of stainless steel tanks and all type names: DHW tank with one coil, DWH tank with two coils, buffer tank may be used interchangeably and for the purposes of this manual should be treated as equivalent.

1 PRECAUTIONS


1.1 Safety signs used

SIGNS USED IN THE USER'S MANUAL

Symbol	Description
	Caution/warning to strictly apply the information contained in the documentation to ensure safety and full functionality of the appliance.
	Information particularly useful for installation and operation of the appliance.
	Information on disposal of waste equipment.

	<p>WARNING: only a qualified person should install and service the DHW tank. Installation, commissioning and servicing of the DHW tank can be dangerous and requires specialist knowledge and training. Improperly installed, prepared or replaced equipment by unqualified persons can cause serious bodily harm and even death. Observe all safety precautions in this manual, on stickers and labels on the packaging and on the appliance itself when working on the appliance.</p>
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1.2 Basic requirements and safety of use

	<p>It is recommended that the user reads this manual before installing and commissioning the tank. This will avoid accidents and keep the tank in good working order. The manufacturer is not liable for damage resulting from improper installation, lack of proper maintenance or use not in accordance with the intended use. The equipment must only be operated by trained and authorised personnel.</p> <p>The installation should be carried out by qualified personnel with the required authorisations for the installation of heating appliances. It is the responsibility of the installer to carry out the installation in accordance with this manual and with the regulations and standards concerning the safety of sanitary installations.</p>
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2 PURPOSE OF THE VERTICAL EXCHANGER HOT WATER EXCHANGER

The vertical exchanger for domestic hot water (DHW tank with one coils, DHW tank with two coils, CH buffer tank) is designed for heating and storing hot water heated by standard and/or renewable heat sources. It can co-operate with various heat sources such as heat pumps, solar collectors, solid fuel boilers, gas boilers, etc. and, with the use of an electric heater, it can be an independent DHW heating source.

DHW tanks can be supplied with one or two coils and are made of AISI 304/1.4301 stainless steel. The tank is thermally insulated with high-quality polyurethane foam (PUR). This reduces heat loss to a minimum. The tank's coil is made of SUS304 3 stainless steel and can be made as a precision-tube (smooth) version or as a SPIRO version, i.e. a corrugated tube with a large surface area. The outer casing can be made of sheet metal, plastic or leather-like material.

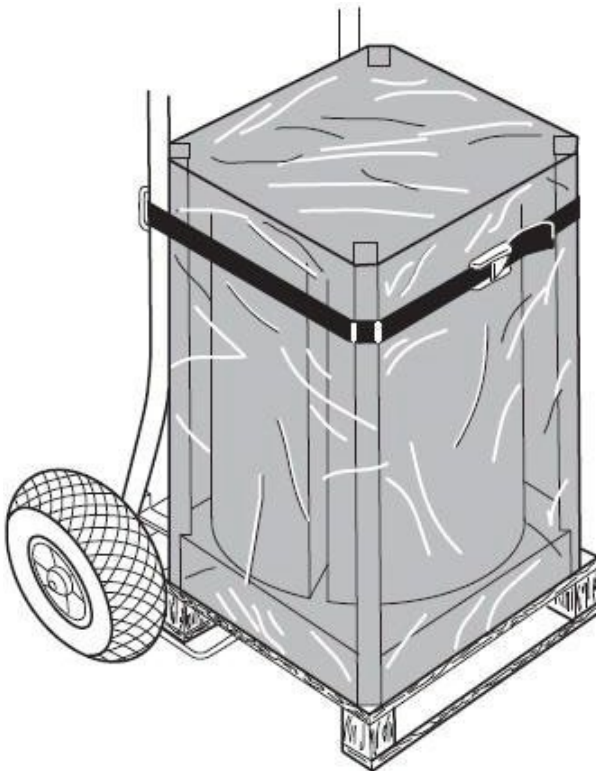
A magnesium anode or titanium anode are used as additional corrosion protection in areas particularly prone to corrosion, such as welds and seams, caused by poor water quality.

3 CONNECTION AND COMMISSIONING OF THE HOT WATER TANK

3.1 Transport of DHW tanks



WARNING: DHW tanks should be transported in a vertical position or, if this is not possible, in a slightly inclined position. Even slight bumps and shocks in the slanted or lying position can lead to damage, i.e. collapse and/or breakage of the coil.



Transport/carrying of DHW cylinders should be carried out by means of transport equipment of adequate strength and preferably in packaging and foil in order not to damage the external surface of the heater (external cover). Transport inside the building and after unpacking the tank, as well as further transport e.g. on stairs, can be carried out on conveyor belts or manually, maintaining the vertical position of the tank.

3.2 Connection

The installation and initial start-up of the DHW tank should be carried out by a suitably qualified installer. The installer should inform the user about the available functions of the tank and provide the necessary information on safe use.

If the tank is equipped with an electric heater, it should be remembered that the tank must first be filled with water before connecting it to the electrical system.

Filling and venting the DHW tank:

- open the cold water shut-off valve on the inlet from the water mains or deep well and one valve from the highest hot water outlet;
- fill the tank until the water flows out at the hot water outlet point;
- then fill the coil with water paying attention to venting;
- recheck the tightness of all connections.

Once the DHW tank and coil have been filled and bled, the unit is ready for operation. Before the first heating or after a long break in operation, check that the tank is filled with water and that the shut-off valve on the cold water line is not closed. To do this, open any hot water intake fitting (any tap).




NOTE: the nominal pressure of the DHW tank is:


- for the water supply system min 0.1 MPa (1 bar) and max 0.6 MPa (6 bar);
- for the heating system max. 0.6 MPa (6 bar).


The DHW tank should be connected to a water system with a water pressure of not less than 1 bar and not more than 6 bar. On the other hand, the heating system pressure must not exceed 6 bar. If the pressure is higher, the DHW tank should be equipped with a pressure reducer. After each heating of hot water in the tank, the pressure increases, therefore each exchanger must be equipped with a safety valve installed on the cold water inlet with a nominal pressure (not exceeding) 6 bar, which will protect the exchanger against excessive pressure increase. Please note that when heating the water, there may be a small temporary discharge from the safety valve as a result of the pressure rising above the rated value and the valve tripping. This must not be counteracted, as blockage of the safety valve can lead to appliance failure. The discharge of the safety valve should be discharged to a drain or sewer. The discharge line of the safety valve should be protected against frost and remain open to the atmosphere. The manufacturer is not responsible for flooding of the premises as a result of the safety valve tripping. A 7 bar / 90°C temperature/pressure valve should be installed on the hot water at the top of the cylinder. This is an additional protection of the cylinder against excessively high temperatures and water pressure. The outlet from this valve should also be routed to a drain. This valve does not function as protection on the cold water supply. Here it is necessary to install an additional 6 bar safety valve as indicated above.



NOTE: during filling/start-up make sure that all connections are completely tight. The hot water end of the safety valve should not be used for any other purpose.

	<p>CAUTION:</p> <ol style="list-style-type: none">1. There may be a small temporary leakage from the safety valve when heating the water. This is normal and must not be prevented as blockage of the safety valve can cause the appliance to fail.2. Do not use the appliance if there is an obstruction in the safety valve.3. A safety valve with a maximum pressure rating of 6 bar must be fitted to the cold water supply line.4. All connections to the tank's faucets should be brass and/or stainless steel. Galvanised, nickel-plated or painted fittings should not be used.5. Do not use galvanised hydrofittings before cold water enters the tank.
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	<p>NOTE: Each tank each installation must be earthed to avoid electrochemical corrosion.</p>
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	<p>INFO: The DHW tank is designed for the connection of an electric heater. The heater is not included and must be purchased from a specialist shop. When purchasing, please note that the heater must be suitable for tanks made of stainless steel.</p> <p>When selecting and installing an electric heater, the standards, safety rules and manufacturer's instructions for the specific heater must be followed.</p>
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4 EXAMPLE INSTALLATION DIAGRAM

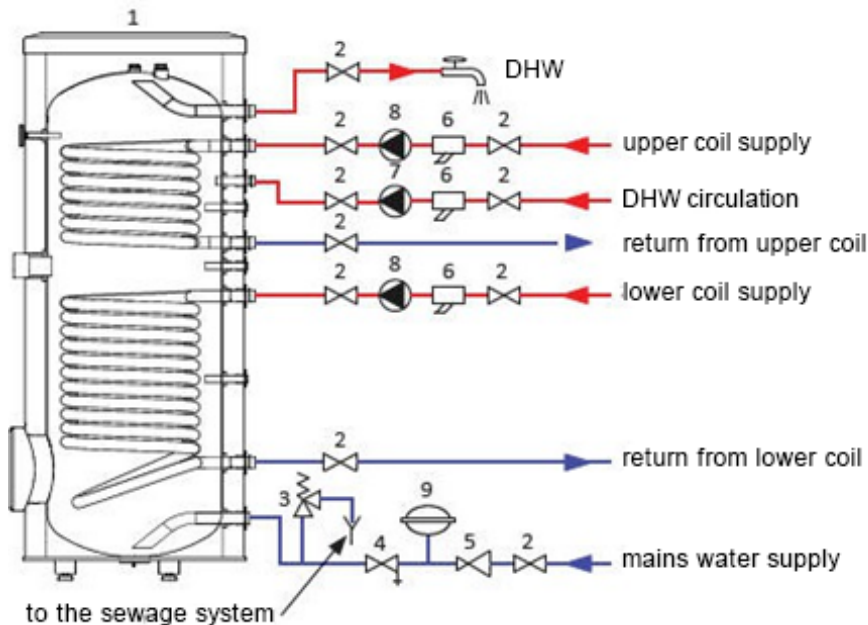
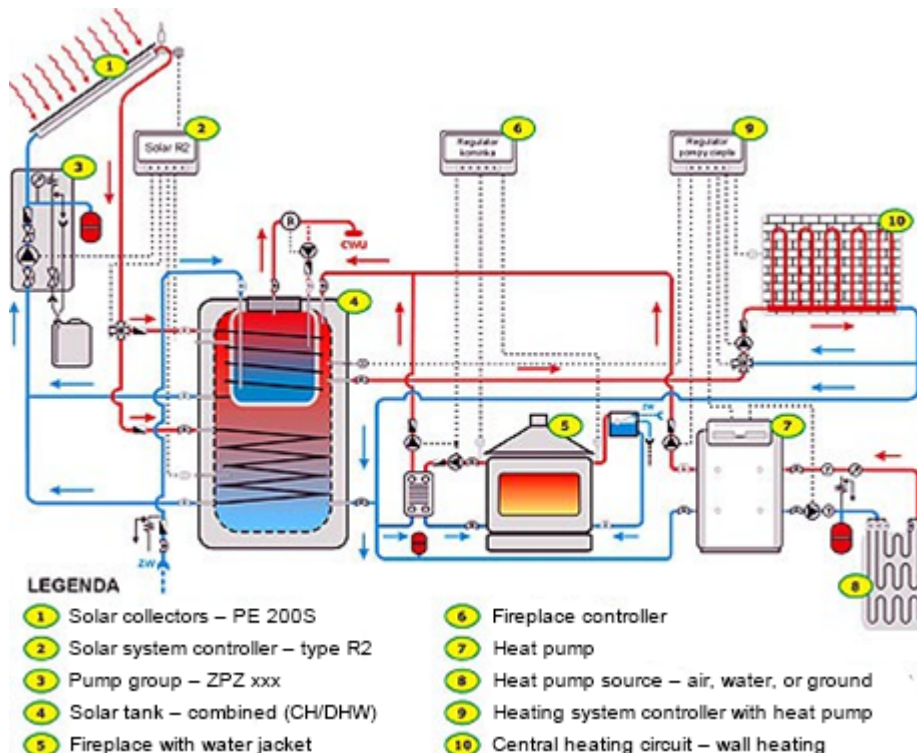


Diagram of installation of the DHW tank:

1. DHW tank
2. Shut-off valve
3. Safety valve
4. Drain valve
5. Pressure reducer (optional, if pressure in the system exceeds the permissible value)
6. Mesh filter
7. Circulation pump tank
8. Central heating circulation pump
9. Diaphragm vessel DHW



Installation diagram of domestic hot water (DHW) and central heating (CH) with the use of solar collectors, a heat pump, and a fireplace with a water jacket for CH and DHW. Heat distribution is carried out from the DHW storage tank.

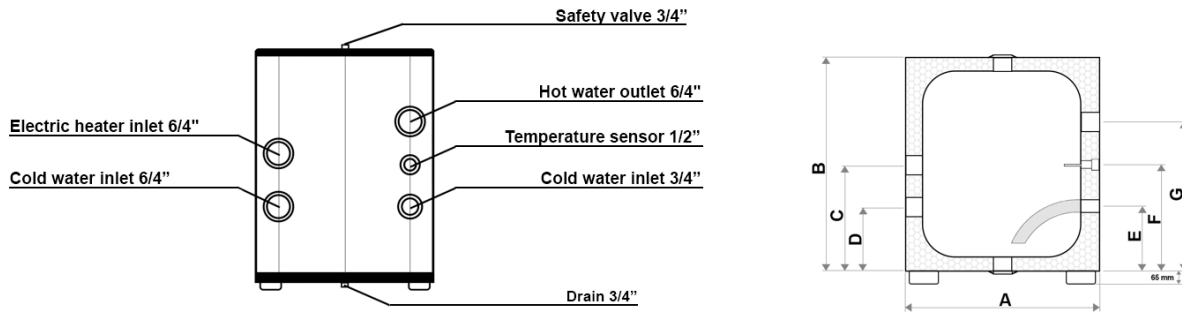


INFO: The above diagrams are for reference only and show the most important rules for connecting central heating and DHW tanks. In reality, a given central heating and DHW tank may differ slightly and its final connection must be made by a qualified installer.

5 TECHNICAL DATA

5.1 Buffer tanks without a coil.

Diagrams



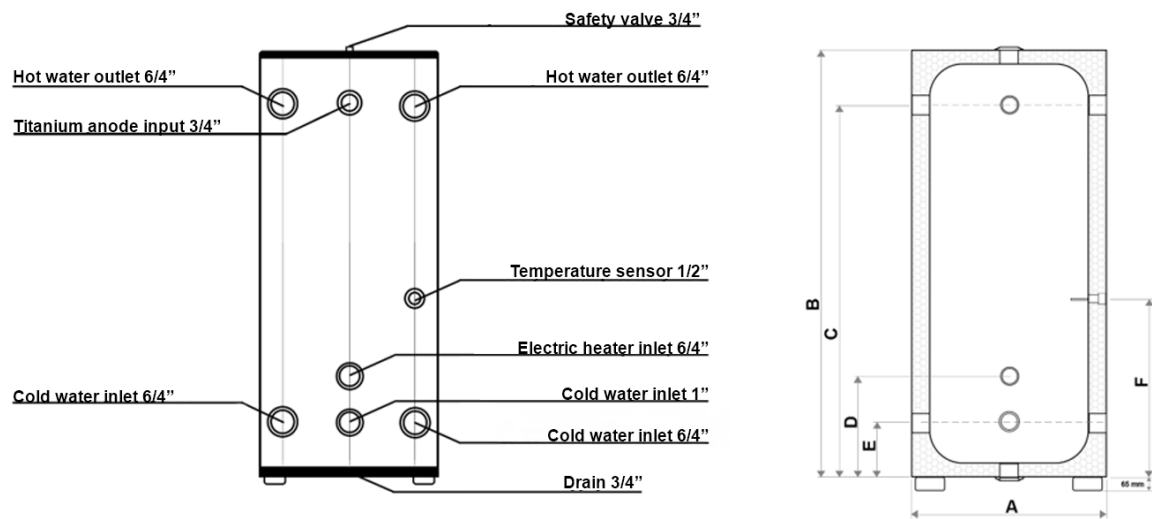
Dimensions

Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
TG-BT-50	490	590	290	170	175	300	415

Technical specifications

Model	Weight [kg]	Capacity [L]	Tank maximum working pressure [Mpa]	Tank maximum operating temperature [°C]
TG-BT-50	14	50	0,6	95

Diagrams



Dimensions

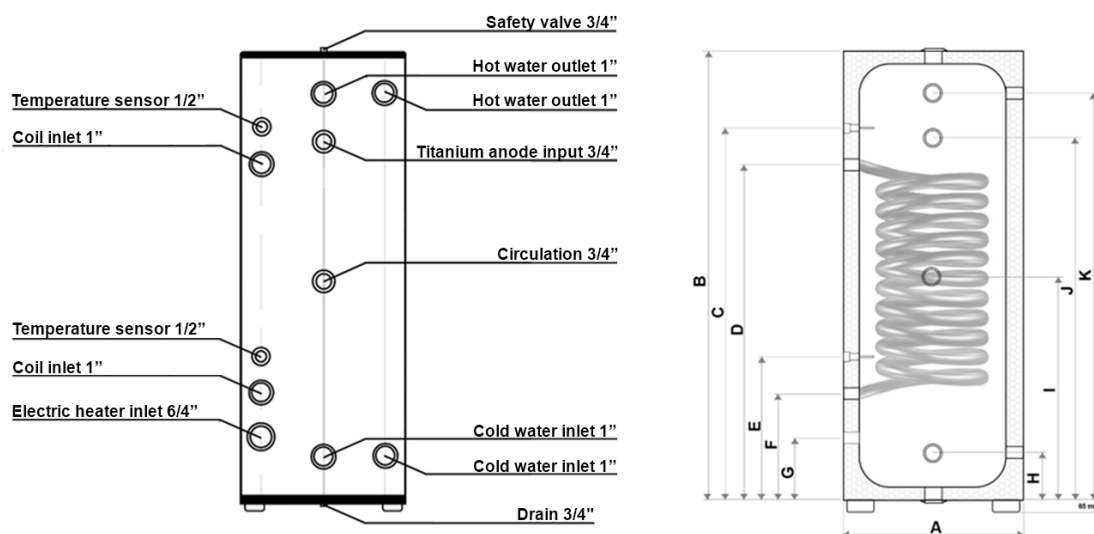
Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
TG-BT-100	480	1000	825	325	175	445
TG-BT-200	550	1400	1220	330	180	580
TG-BT-300	580	1760	1580	330	180	630
TG-BT-500	700	1790	1596	346	196	650

Technical specifications

Model	Weight [kg]	Capacity [L]	Tank maximum working pressure [Mpa]	Tank maximum operating temperature [°C]
TG-BT-100	22,5	100	0,6	95
TG-BT-200	39,6	200	0,6	95
TG-BT-300	60,8	300	0,6	95
TG-BT-500	79,0	500	0,6	95

5.2 Buffer tanks with one coil.

Diagrams



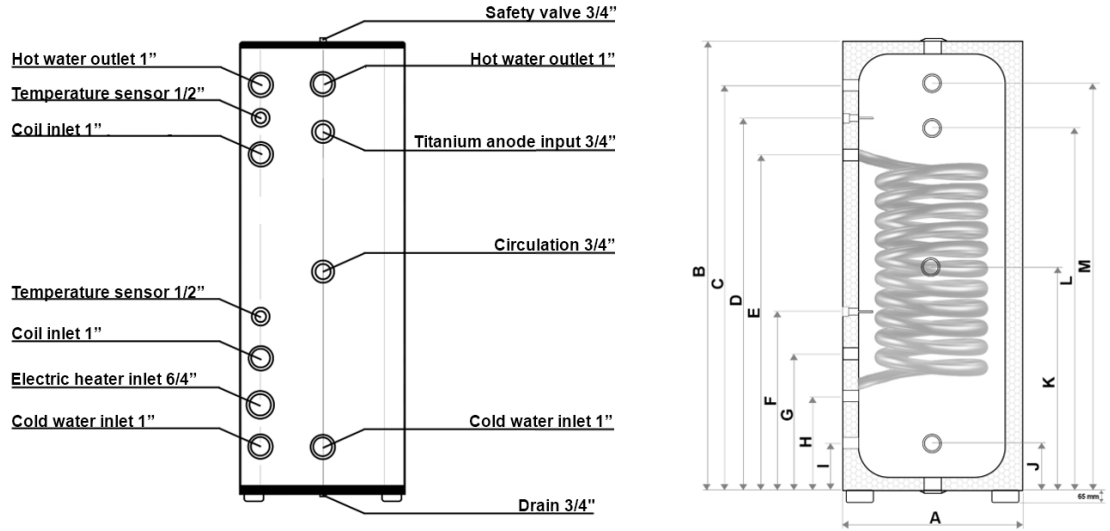
Dimensions

Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]	K [mm]
TG-BT-200-2.8	550	1400	1160	1000	510	360	210	170	660	1100	1230
TG-BT-400-4	700	1590	1330	1180	550	400	260	185	700	1225	1405

Technical specifications

Model	Weight [kg]	Capacity [L]	Maximum allowable working pressure [MPa]	Maximum allowable coil pressure [MPa]	Maximum tank operating temperature [°C]	Maximum coil operating temperature [°C]	Coil surface area [m ²]
TG-BT-200-2.8	61	200	0,6	0,5	95	110	2,8
TG-BT-400-4	101	400	0,6	0,5	95	110	4

Diagrams



Dimensions

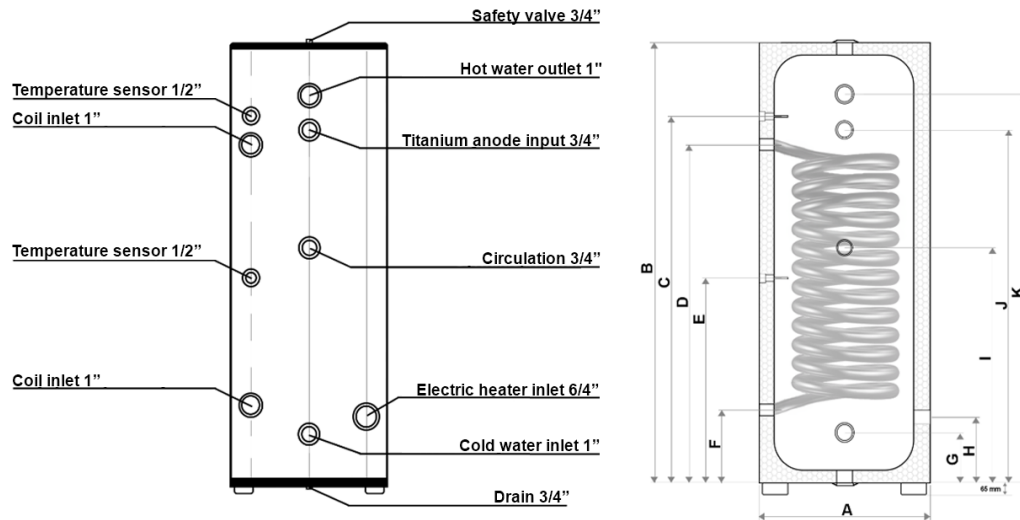
Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]	K [mm]	L [mm]	M [mm]
TG-BT-300-4	580	1766	1593	1473	1333	633	483	333	173	173	783	1433	1593
TG-BT-500-4	700	1790	1610	1490	1265	635	485	365	185	185	785	1425	1593

Technical specifications

Model	Weight [kg]	Capacity [L]	Maximum allowable working pressure [MPa]	Maximum allowable coil pressure [MPa]	Maximum tank operating temperature [°C]	Maximum coil operating temperature [°C]	Coil surface area [m²]
TG-BT-300-4	90	300	0,6	0,5	95	110	4
TG-BT-500-4	109	500	0,6	0,5	95	110	4

5.3 Domestic hot water tanks with one coil.

Diagrams



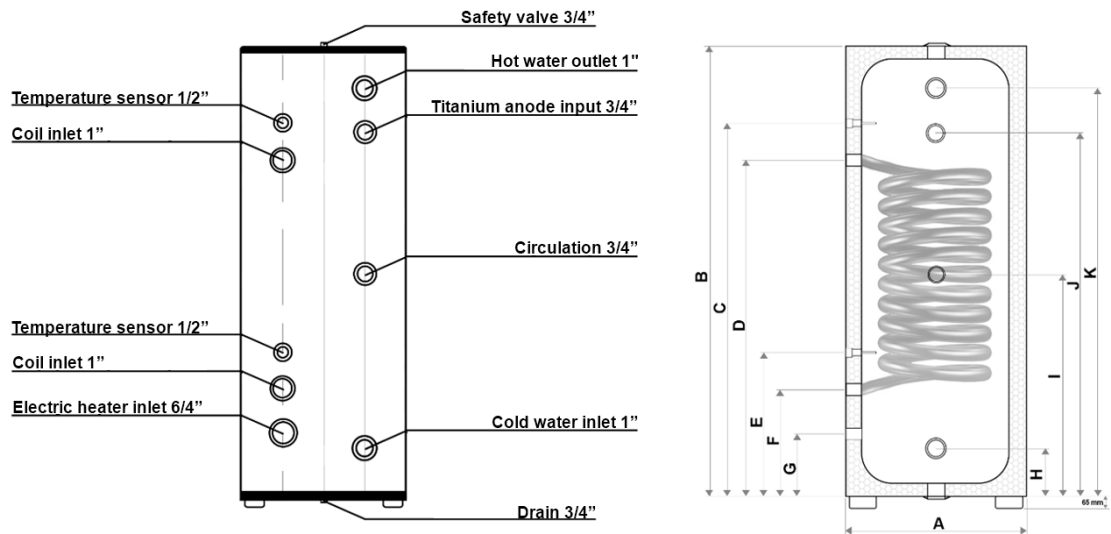
Dimensions

Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]	K [mm]
TG-S-CWU-100-1.8	480	1000	790	690	380	260	165	205	510	735	835
TG-S-CWU-150-2.2	480	1450	1255	1155	435	285	165	215	586	1195	1285

Technical specification

Model	Weight [kg]	Capacity [L]	Maximum allowable working pressure [MPa]	Maximum allowable coil pressure [MPa]	Maximum tank operating temperature [°C]	Maximum coil operating temperature [°C]	Coil surface area [m ²]
TG-S-CWU-100-1,8	42	100	0,6	0,5	95	110	1,8
TG-S-CWU-150-2,2	47	150	0,6	0,5	95	110	2,2

Diagrams



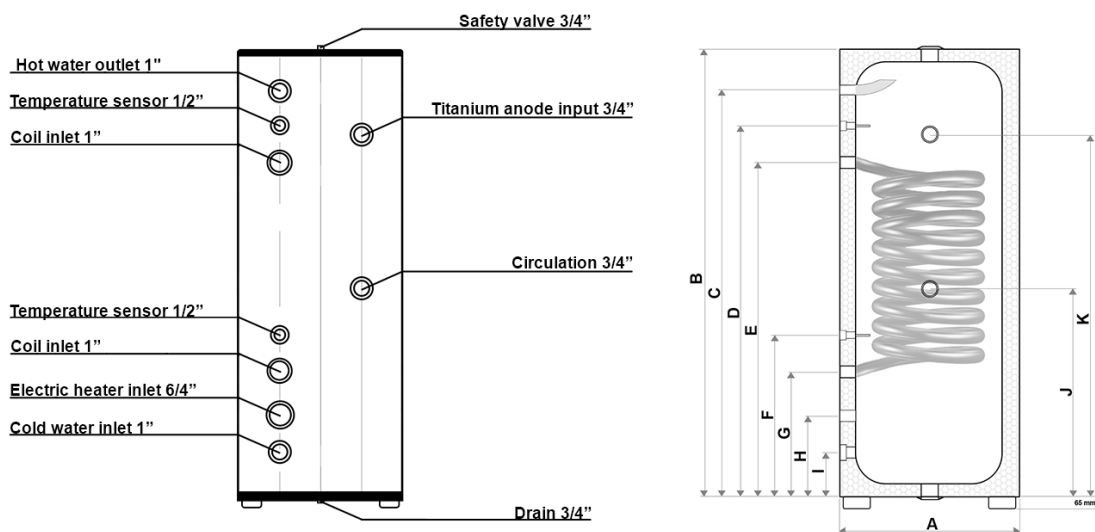
Dimensions

Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]	K [mm]
TG-S-CWU-200-2.8	550	1400	1160	1000	510	350	210	170	660	1100	1230
TG-S-CWU-400-4	700	1590	1330	1180	550	400	260	185	700	1255	1405

Technical specifications

Model	Weight [kg]	Capacity [L]	Maximum allowable working pressure [MPa]	Maximum allowable coil pressure [MPa]	Maximum tank operating temperature [°C]	Maximum coil operating temperature [°C]	Coil surface area [m²]
TG-S-CWU-200-2.8	61	200	0,6	0,5	95	110	28
TG-S-CWU-400-4	101	400	0,6	0,5	95	110	4

Diagrams



Dimensions

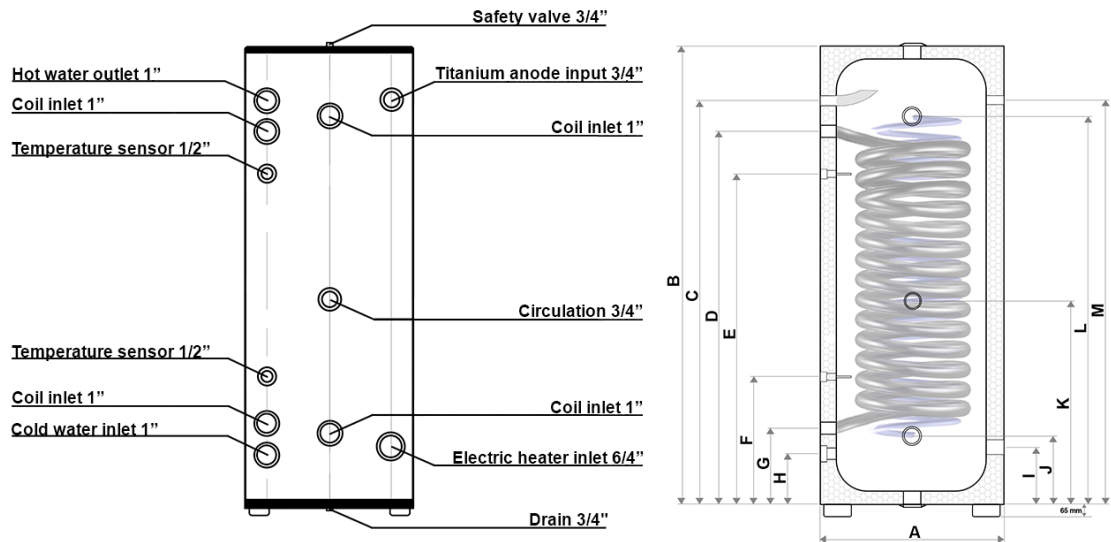
Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]	K [mm]
TG-S-CWU-300-4	580	1766	1593	1473	1333	633	483	333	173	783	1433
TG-S-CWU-500-4	700	1790	1610	1490	1265	635	485	365	185	785	1425

Technical specifications

Model	Weight [kg]	Capacity [L]	Maximum allowable working pressure [MPa]	Maximum allowable coil pressure [MPa]	Maximum tank operating temperature [°C]	Maximum coil operating temperature [°C]	Coil surface area [m ²]
TG-S-CWU-300-4	90	300	0,6	0,5	95	110	4
TG-S-CWU-500-4	109	500	0,6	0,5	95	110	4

5.4 Domestic hot water tanks with two coils

Diagrams



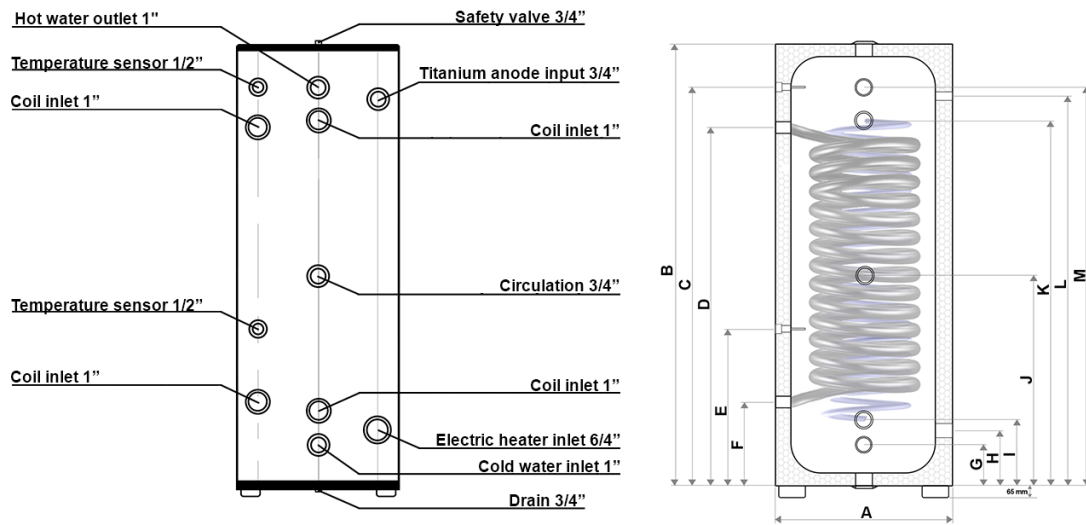
Dimensions

Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]	K [mm]	L [mm]	M [mm]
TG-S-CWU- -200-1,8-2,4	550	1400	1235	1155	1005	400	250	165	180	210	550	1195	1230

Technical specifications

Model	Weight [kg]	Capacity [L]	Maximum allowable working pressure [MPa]	Maximum allowable coil pressure [MPa]	Maximum tank operating temperature [°C]	Maximum coil operating temperature [°C]	Coils surface area [m ²]
TG-S-CWU- -200-1,8-2,4	72	200	0,6	0,5	95	110	1.8 + 2.4

Diagrams



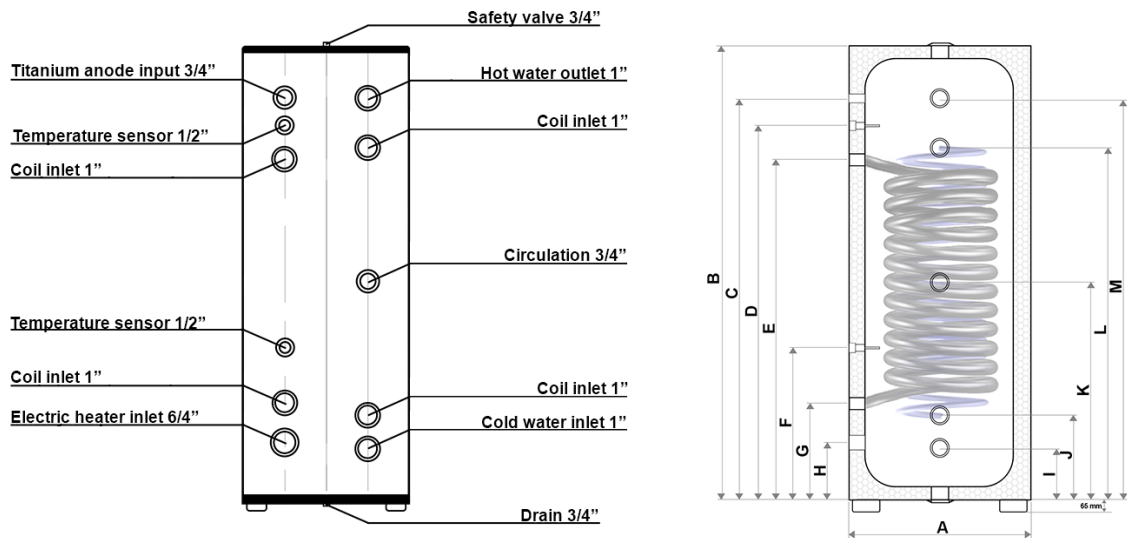
Dimensions

Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]	K [mm]	L [mm]	M [mm]
TG-S-CWU-300-1,8-3,1	580	1760	1680	1560	610	410	260	310	370	760	1590	1630	1680

Technical specification

Model	Weight [kg]	Capacity [L]	Maximum allowable working pressure [MPa]	Maximum allowable coil pressure [MPa]	Maximum tank operating temperature [°C]	Maximum coil operating temperature [°C]	Coils surface area [m ²]
TG-S-CWU-300-1,8-3,1	97	300	0,6	0,5	95	110	1.8 + 3.1

Diagrams



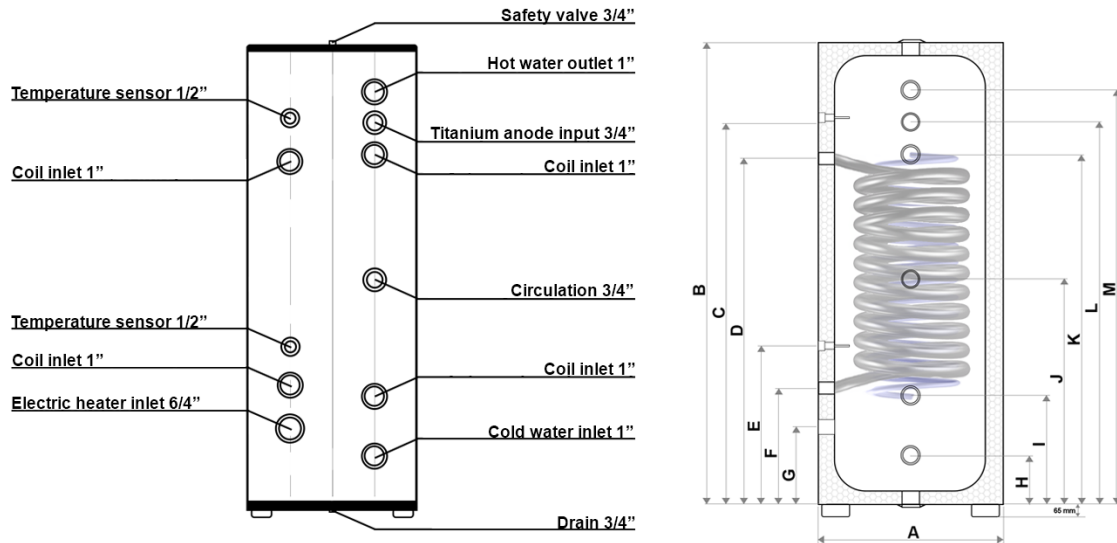
Dimensions

Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]	K [mm]	L [mm]	M [mm]
TG-S-CWU- -400-1,8-3,1	700	1590	1405	1305	1210	500	300	205	185	290	650	1235	1405

Technical specifications

Model	Weight [kg]	Capacity [L]	Maximum allowable working pressure [MPa]	Maximum allowable coil pressure [MPa]	Maximum tank operating temperature [°C]	Maximum coil operating temperature [°C]	Coils surface area [m ²]
TG-S-CWU- -400-1,8-3,1	107	400	0,6	0,5	95	110	1.8 + 3.1

Diagrams



Dimensions

Model	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	J [mm]	K [mm]	L [mm]	M [mm]
TG-S-CWU- -500-1,8-3,1	700	1790	1505	1340	630	430	295	185	420	780	1365	1485	160

Technical specifications

Model	Weight [kg]	Capacity [L]	Maximum allowable working pressure [MPa]	Maximum allowable coil pressure [MPa]	Maximum tank operating temperature [°C]	Maximum coil operating temperature [°C]	Coils surface area [m ²]
TG-S-CWU- -500-1,8-3,1	115	500	0,6	0,5	95	110	1.8 + 3.1

6 INFORMATION ON HANDLING USED EQUIPMENT

Disposal - do not dispose of the appliance with unsorted municipal waste. It is necessary to send this type of waste for special treatment. It is illegal to dispose of the appliance together with other household waste. There are several ways to 'dispose' of this type of equipment:

1. The city organises electronic waste collections during which you can donate your device at no cost.
2. When you buy a new device, the retailer will accept your old device at no charge.
3. The manufacturer will take back the product from the customer at no cost.
4. Such products, which contain valuable components, can be sold at a metal exchange.

Abandoning the appliance irresponsibly exposes you and your loved ones to health risks. Hazardous substances from the appliance may seep into the groundwater, posing a risk of these substances entering the human food chain.



Used consumable components must be selected and disposed of in accordance with the applicable law of the country in which the appliance is located.