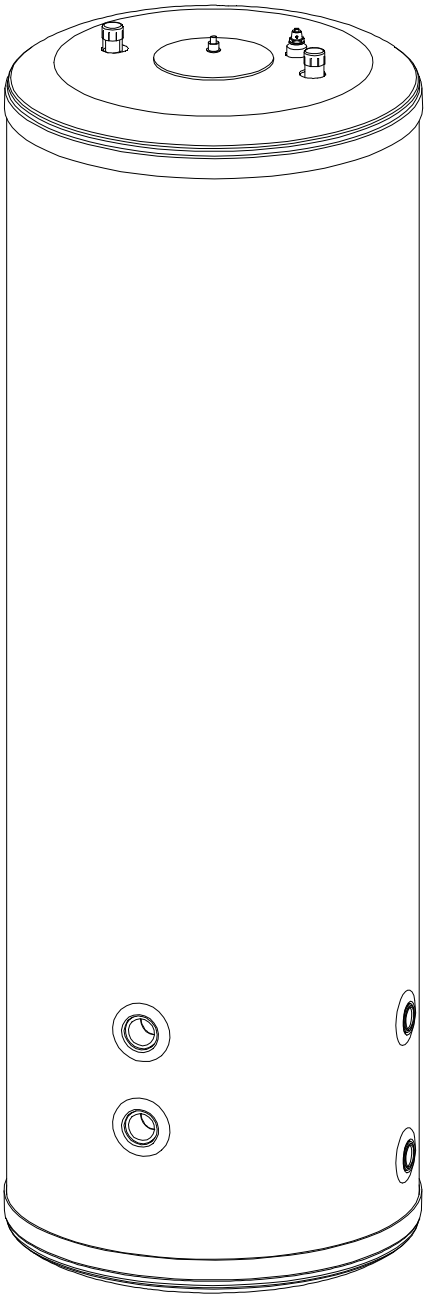
INSTALLATION AND OPERATING INSTRUCTIONS

↪ BT DUO HE HE 180/60



Applus+ ISO 14001 MA-3661/17 Systems Certification

Applus+ ISO 9001 EC-8890/17 Systems Certification

DOMUSA TEKNIK

Thank you for choosing a **DOMUSA TEKNIK** product. From the range of **DOMUSA TEKNIK** products you have chosen a **BT DUO HE,** a stainless-steel tank for the production of domestic hot water (DHW) combined with a primary buffer, which, along with a heat pump of the **DUAL CLIMA** line, is able to provide the level of comfort suitable for your home and allows you to enjoy a production of balanced and economical hot water.

This document constitutes an essential part of the product and must be delivered to the end user. It is advisable to carefully read the warnings and advice contained in this manual, as they provide important information regarding the safety of the installation, as well as use and maintenance.

The installation of these tanks should be carried out only by qualified personnel, in accordance with the regulations in force and following the manufacturer's instructions.

Both the start-up and any maintenance operation of these tanks should be carried out only by the Technical Assistance Services authorised by **DOMUSA TEKNIK**.

Incorrect installation of these tanks may cause damage to people, animals and materials, for which the manufacturer shall not be held liable

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1 SECURITY WARNINGS

The hydraulic installation should be carried out by qualified personnel, in compliance with the current installation regulations.

All interventions in the system must be carried out by a Technical Assistance Service authorized by **DOMUSA TEKNIK**, since any modification to its configuration may cause operating errors and serious damage.

This device can be used by children aged 8 years and above and people with reduced physical, sensory or mental abilities or lack of experience and knowledge, provided that they have been given appropriate supervision or training regarding the use of the device in a safe manner and the dangers involved. Children should not play with the appliance. The cleaning and maintenance to be performed by the user should not be carried out by children without supervision.

1.1 Freeze Protection

Precautions should be taken against possible frost, in order to avoid damage to the installation. It is advisable to add antifreeze to the water in the tank which should be compatible with public hygiene standards and must not be toxic. **DOMUSA TEKNIK** recommends the use of propylene glycol. Please contact the manufacturer of the product before use.

For long periods of stoppage of the installation, all **water in the tank should be emptied**.

1.2 Water Characteristics

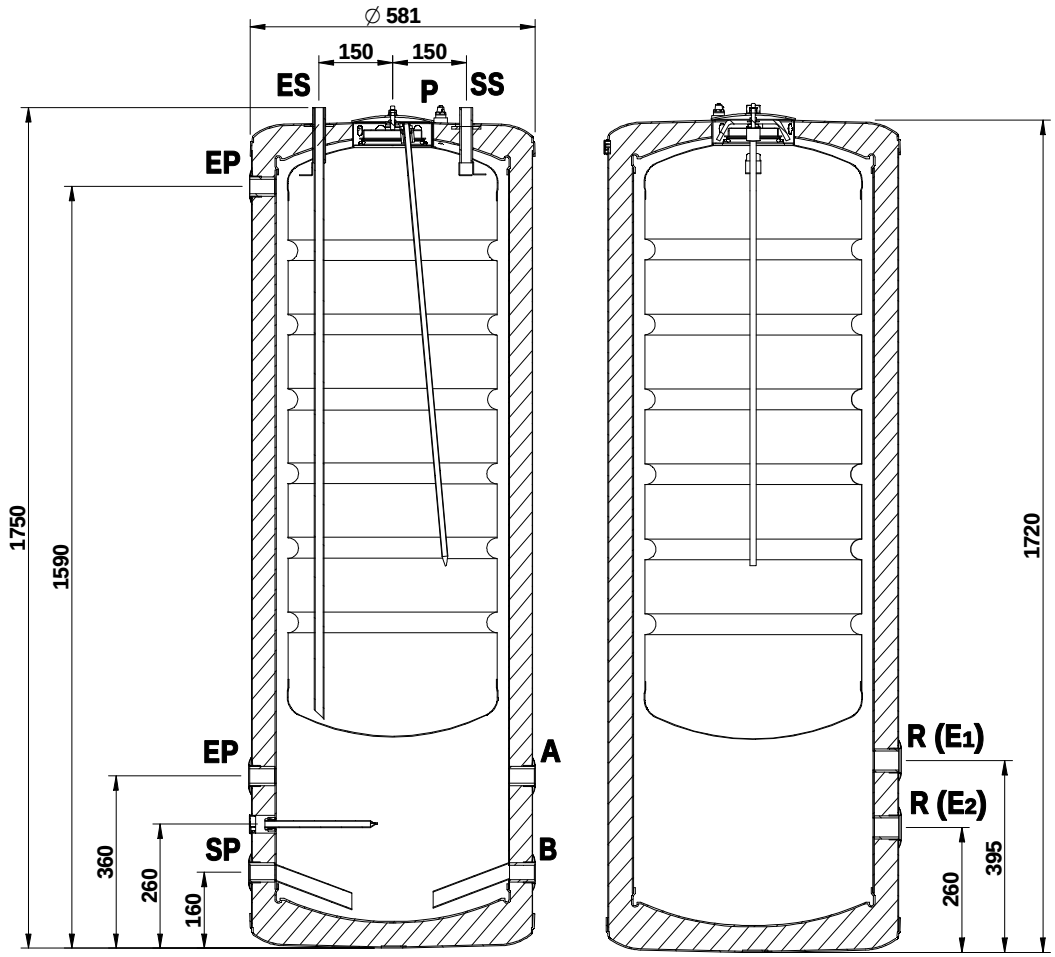
The domestic water should comply with the characteristics defined in the Technical Code of the Building . Otherwise, it should be treated.

In addition, it should comply with Directive EU 2020/2184 on the quality of water intended for human consumption. Special attention should be paid to the following parameters:

- Maximum chloride concentration: 250 mg/l.
- Maximum sulphate concentration: 250 mg/l.
- Sum of maximum chloride and sulphate concentration: 300 mg/l.
- Maximum conductivity: 600 µS/cm.

When the chloride concentration in the Domestic Water is higher than 250 mg/l, it is advisable to install an anti-corrosion protection in the interior of the tank, preventing the premature deterioration of it. **DOMUSA TEKNIK** provides as an option an electronic cathodic protection suitable for its line of **BT TRIO** buffer tanks. For installation, carefully read the installation instructions supplied with it.

2 DIAGRAMS AND MEASUREMENTS



BT DUO HE 180/60		
Domestic cold water inlet	ES ∅	3/4" M
Domestic hot water outlet	SS ∅	3/4" M
Primary inlet	EP ∅	1" H
Primary outlet	SP ∅	1" H
Optional DHW electrical heater	R (E_1) ∅	1 1/4" H
Optional Heating electrical heater	R (E_2) ∅	1 1/4" H
Buffer outlet	A ∅	1" H
Buffer inlet	B ∅	1" H
Air vent socket	P ∅	3/8 H

3 INSTALLATION INSTRUCTIONS

3.1 Hydraulic installation

The DHW circuit of the tank is prepared for permanent connection to the mains water supply through the cold-water inlet. For more information in this area, please refer to the "Technical Characteristics" section, where the maximum pressures are indicated.

The hydraulic installation must be made by qualified technicians, in compliance with current installation regulations and taking the following recommendations into account:

- The secondary circuit (or domestic hot water circuit) must be equipped with a safety valve, calibrated to a maximum of 0.7 MPa (7 bar)
- The evacuation of the safety valve should always be led to the drain. The drainage pipes should be kept open to the atmosphere. The "Maintenance" section should be followed to ensure the proper functioning of the device.
- To avoid the continuous dripping of the DHW safety valve, it is advisable to install an DHW expansion vessel.
- The primary circuit (or heating circuit) should be fitted with a safety valve, calibrated to a maximum of 0.3 MPa (3 bar).
- Place dielectric sleeves in the connections of the secondary circuit.
- When the cold water pressure is higher than the design pressure of the appliance, a calibrated pressure reducer must be installed at a value not higher than the design pressure.
- To avoid heat losses through the hot water pipe in the tank installation, an anti thermosiphon should be installed at the outlet of the tank. The hot water pipe should be heat-insulated (at least until the inlet of the anti thermosiphon).

NOTE: It is recommended not to use conical plugs, otherwise the correct tightening must be ensured to avoid deterioration of the sleeves.

3.2 Location

The tank should not be installed outdoors or in a place where it can be exposed to inclement weather.

For better energy use, the tank should be installed as close as possible to the hot water generator.

When choosing the location, the weight of the filled tank should be taken into account, and it must be protected against frost. The pipes should have thermal insulation in accordance with current regulations

3.3 Equipment / options

Although the **BT TRIO** devices are equipped with all the necessary components for their operation, **DOMUSA TEKNIK** has found it interesting to offer several optional components for cases in which special features are required.

3.3.1 Cathodic protection

When chloride concentration in Domestic Water is higher than 250 mg/cm^3, it is advisable to install a cathodic protection inside the tank to prevent premature deterioration of it. **DOMUSA TEKNIK** provides as an option an electronic cathodic protection suitable for its range of tanks. For installation, please read carefully the assembly instructions supplied with the equipment.

3.3.2 Sanit S hidraulic kit

Due to the increased temperature of the accumulated water, the pressure in the tank increases. For the protection of the tank, **DOMUSA TEKNIK** recommends placing the hydraulic kit. For installation, please read carefully the assembly instructions supplied with it.

3.3.3 Electrical Heater

The **BT TRIO** tanks have two sockets (E_1 and E_2) to connect the two electrical heaters; one for DHW and one for the heating circuit. **DOMUSA TEKNIK** supplies three 1.5, 2.5 or 3.5 kW electrical heaters as an option. For installation, please read carefully the installation instructions supplied with them.

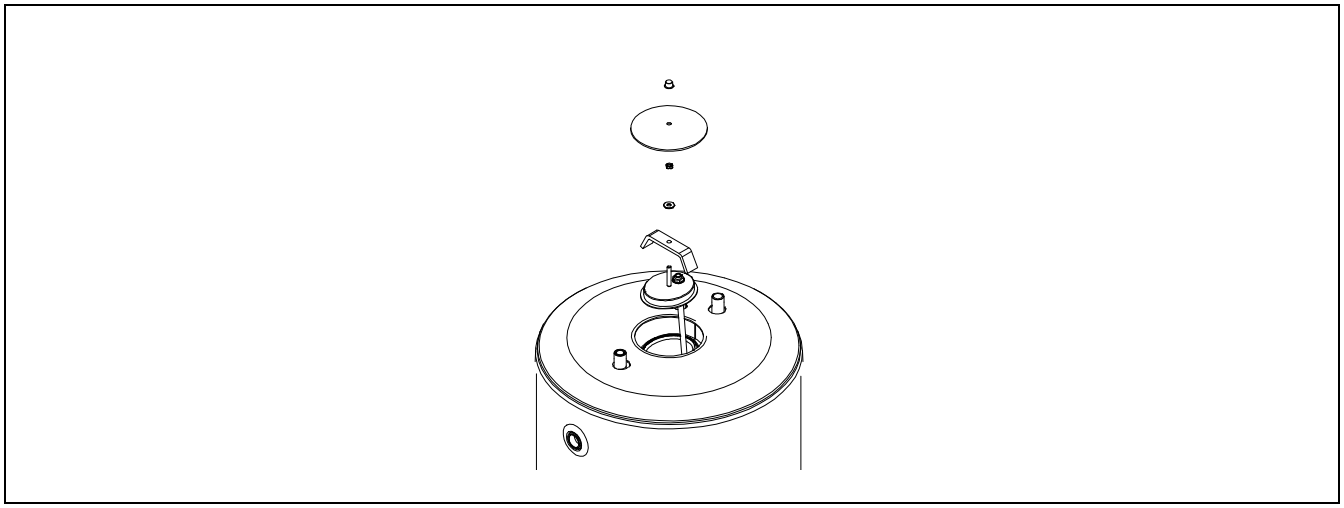
4 TANK DRAINAGE

4.1 Primary circuit drainage

For the correct drainage of the **BT DUO HE** tank, it is advisable to install a cut-off valve in the buffer inlet or in the primary inlet socket provided in the lower part of the tank.

4.2 DHW tank drainage

The DHW circuit of the tank should be depressurised before draining the tank. To perform the drainage, remove the elliptical cover of the tank and insert a flexible hose into it.



Direct the other end of the hose to a nearby floor drain, so that the drain is at a level below the base of the tank. Suction the water slightly with your mouth so that the water begins to flow and wait for the tank to be empty completely.

5 MAINTENANCE

In order to maintain the heat pump/tank unit in perfect working condition, an annual review of the two devices should be carried out by personnel authorised by **DOMUSA TEKNIK**. Particularly, the following recommendations apply to the tank:

- Once a year, carry out a thorough cleaning of the interior of the DHW tank.
- If the tank incorporates an electronic cathodic protection, once a year, its correct operation should be inspected.
- Maintain the primary circuit installation pressure between 0.1 and 0.15 MPa (1 and 1.5 bar).
- Ensure the correct operation of the safety valve and the air vent valve.
- If the system has been idle for a long period of time, ensure that the system pump works properly.

It is recommended that the user periodically check the pressure level and temperature of the tank, as well as the status of valves, fittings, and accessories

6 START UP

In order to valid the guarantee, the heat pump must be started up by personnel authorized by **DOMUSA TEKNIK**. Before beginning the start-up process, check that:

- The installation must be filled with water and well vented.
- The air vent valve should be working correctly.
- The hydraulic fittings and connections have been made correctly.
- The fittings, connections and gaskets do not leak.

7 EQUIPMENT DELIVERY

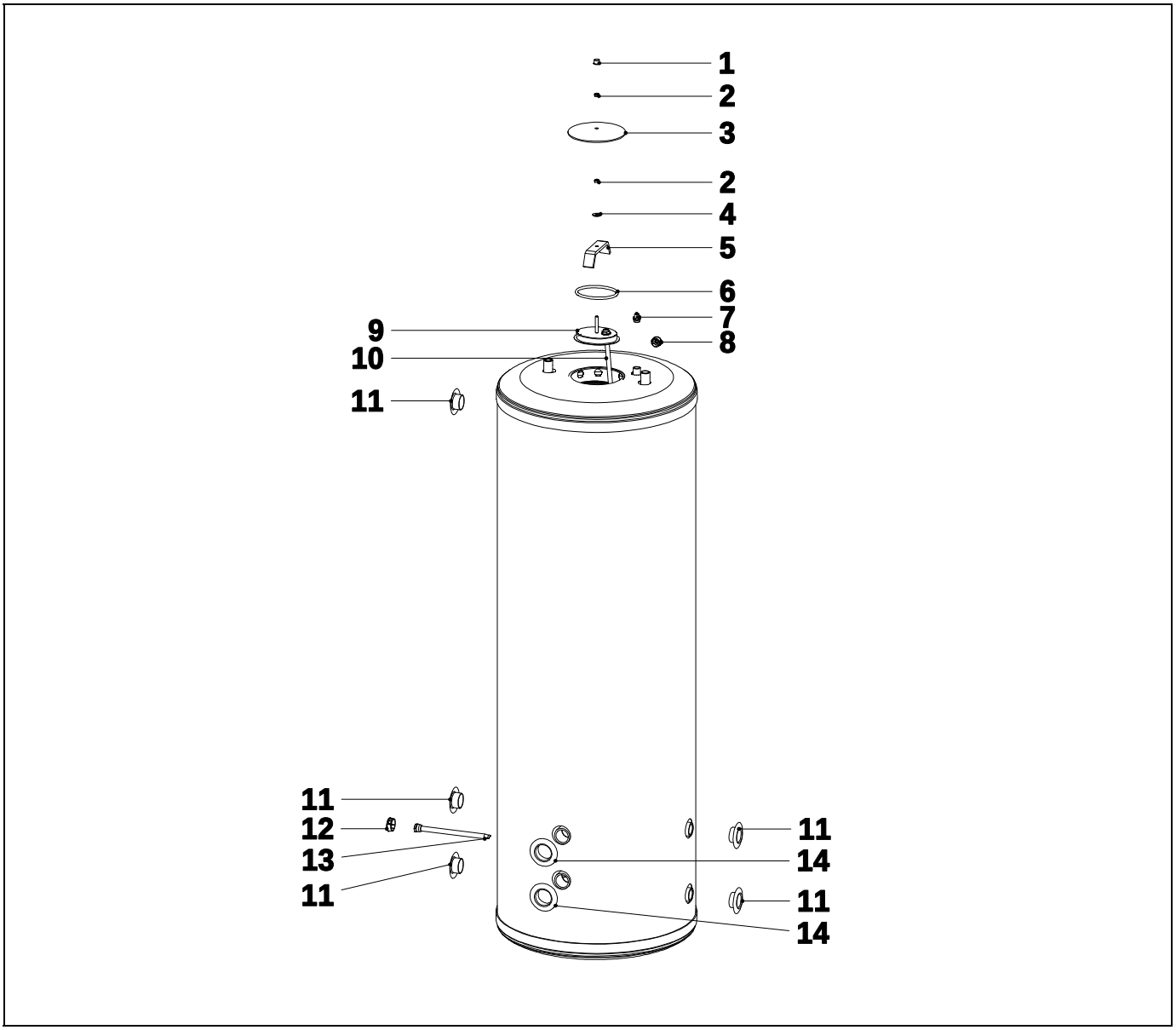
After the initial start-up, the Technical Assistance Service will explain to the user how the tank functions, making any observations they consider relevant.

The installer is responsible for clearly explaining to the user the functioning of any control or regulation device forming part of the installation but not supplied with the tank.

8 TECHNICAL DATA

		BT DUO HE 180/60
Installation		Floor standing
DHW tank volume		180
Primary buffer volume	L	60
Max. DHW temperature	ºC	70
Max. DHW working pressure	MPa bar	0,7 7
Max. primary temperature	ºC	85
Max. primary working pressure	MPa bar	0,3 3
Dry weight	Kg	101
Wet weight	Kg	341
Exchange surface	m^2	3,2

9 SPARE PARTS



Pos	Code	Denomination
1	CFER000090	Black cap
2	CTOR000092	M8 nut
3	CACU000038	Cover
4	CTOR000080	M8 washer
5	SCHA000746	Elliptic covers holder
6	COTR000006	O-ring
7	CFOV000034	Manual air vent valve
8	CFER000083	Compression gland
9	SCON001569	Elliptic cover
10	SOPE000031	Sensor holder sheath
11	CFER000086	1" black trim
12	CFER000184	Compression gland
13	SCOB012550	Sensor holder sheath
14	CFER000087	1 ¼ " black trim

NOTES:

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DOMUSA TEKNIK reserves the right to make modifications of any kind to its product characteristics without prior notice.

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