

DOMESTIC HOT WATER AND BUFFER TANKS

THERMATEC STAINLESS STEEL DUPLEX DOMESTIC HOT WATER TANKS

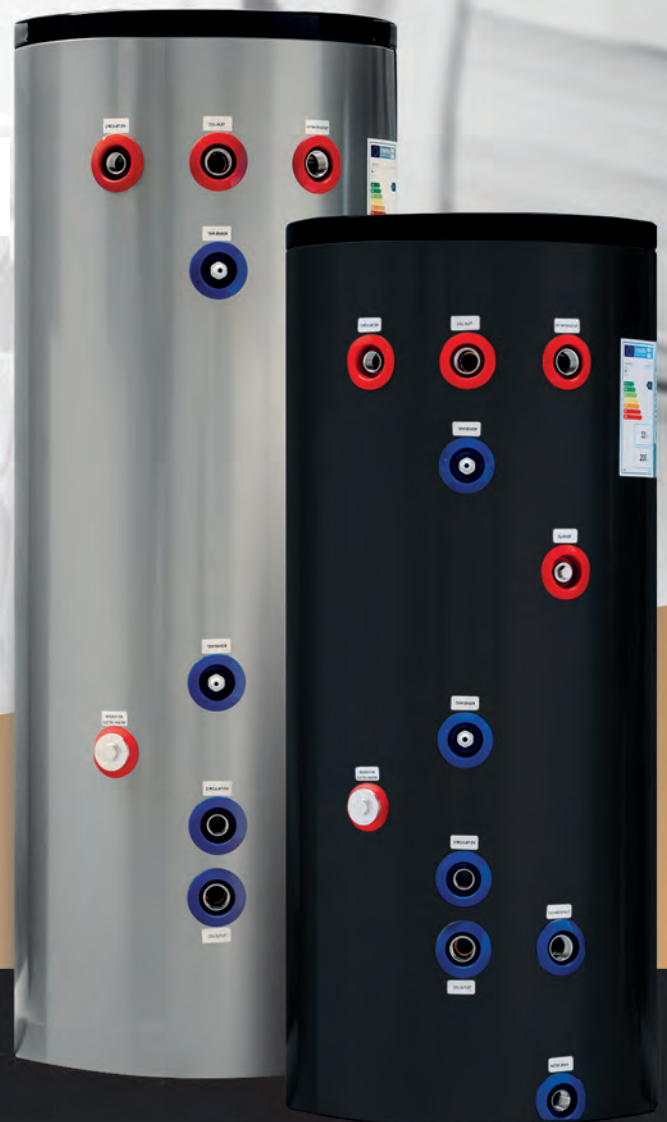
- with one coil:
TH-CWU-200L, TH-CWU-250L, TH-CWU-300L
- with two coils:
TH-CWU-250LW2, TH-CWU-300LW2
- with one coil and a buffer tank:
TH-CWU200/ZB60

THERMATEC STAINLESS STEEL SUS304 / DUPLEX BUFFER TANK

- buffer tanks:
TH-ZB-100L/W, TH-ZB-100L, TH-ZB-200L/W,
TH-ZB-300L/W

TANK VERSIONS

- SILVER - silver color | magnesium anode
- TITANIUM - matte black color | titanium anode



THERMATEC STAINLESS STEEL
DOMESTIC HOT WATER AND BUFFER TANKS

INSTALLATION AND USER MANUAL



Our primary goal is to ensure the satisfaction of our customers. To achieve this, we introduce products made from components sourced from renowned global manufacturers and materials that guarantee long-term and trouble-free operation. Since the inception of our company, we have placed significant emphasis on the aesthetics of our products.

We believe that devices such as heat pumps, hydraulic cabinet assemblies, or even domestic hot water tanks should be a part of good design. In line with these expectations, our devices perfectly complement the appearance of our customers' dream homes and offices.

We attach great importance to usability, quality of craftsmanship, and product durability. This commitment allows us to provide you with devices that are prepared for years of trouble-free and efficient operation.

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IMPORTANT!

1. This Installation and User Manual contains essential information regarding the safe use, proper installation, and operation of the domestic hot water tank / buffer tank.
2. Before using the tank, carefully read and understand this manual.
3. Keep the Installation and User Manual for future reference.
4. Pass the manual on to any subsequent owner or user of the selected tank.
5. Adhere to applicable safety regulations and workplace safety rules while using the tank.
6. Due to the rapid development of our products, the contents of this manual may change without prior notice.

1. SAFETY SYMBOLS

The safety symbols and warning signs presented below are used to emphasize particularly important safety information and principles of proper tank usage:

SYMBOL	MEANING
 DANGER	Immediate danger! Non-compliance can result in death or serious bodily harm.
 WARNING	Potential danger! Non-compliance may result in death or serious bodily harm.
 ATTENTION	Hazardous situation! Non-compliance may result in minor or moderate bodily harm or property damage.
	Please read the instructions.
	Warning of electric shock.
	Attention: Hot surface!

2. RULES FOR SAFE INSTALLATION AND USE

During the safe installation and use of the domestic hot water / buffer tank, you should:

- Use the tank only when it is in a technically sound condition and in accordance with its intended purpose.
- Entrust the installation, commissioning, and dismantling only to trained personnel.
- Avoid disassembling tank components under pressure.
- Refrain from making any modifications to the tank that are not specified in the Installation and User Manual.
- Make connections according to the markings provided in this manual and on the tank.
- When connecting the electric heating element to the electrical network, follow applicable regulations and standards, adhering to the manufacturer's instructions. This task should be performed by a person with the appropriate electrical qualifications.

3. DESCRIPTION AND APPLICATION

The domestic hot water / buffer tank is designed for heating and storing hot water using standard and renewable heat sources for sanitary purposes in households and central heating systems. The pressurized tank is made of stainless steel, which protects it from corrosion and ensures excellent quality of the heated domestic water. The buffer tank is made of SUS304/DUPLEX stainless steel, while the domestic hot water tank is made of DUPLEX stainless steel. The tank is a pressure vessel designed for vertical operation and is equipped with inlet and outlet connections for domestic and heating water, circulation connection, 6/4" electric heating element connection, temperature sensor pockets, and a magnesium or titanium anode. The heat required for heating domestic hot water is supplied by heating water from the heat pump, which, flowing through a large-surface stainless steel 316L coil inside the domestic hot water tank, heats the domestic water stored in the tank.

The domestic hot water/buffer tank also has the option of heating water in the tank using an electric heating element with a thermostat (available as an additional optional feature).

The thermal insulation of the tanks consists of a layer of polyurethane foam. The entire tank is enclosed in an external steel casing coated with powder paint.

The dimensional and connection specifications for various types of tanks are provided in drawings and tables.

4. SCOPE OF SUPPLY

The delivered domestic hot water/buffer tank is fully functional and ready for installation.

The scope of supply includes:

- Tank - 1 unit
- Installation and User Manual - 1 unit
- Warranty Card - 1 unit

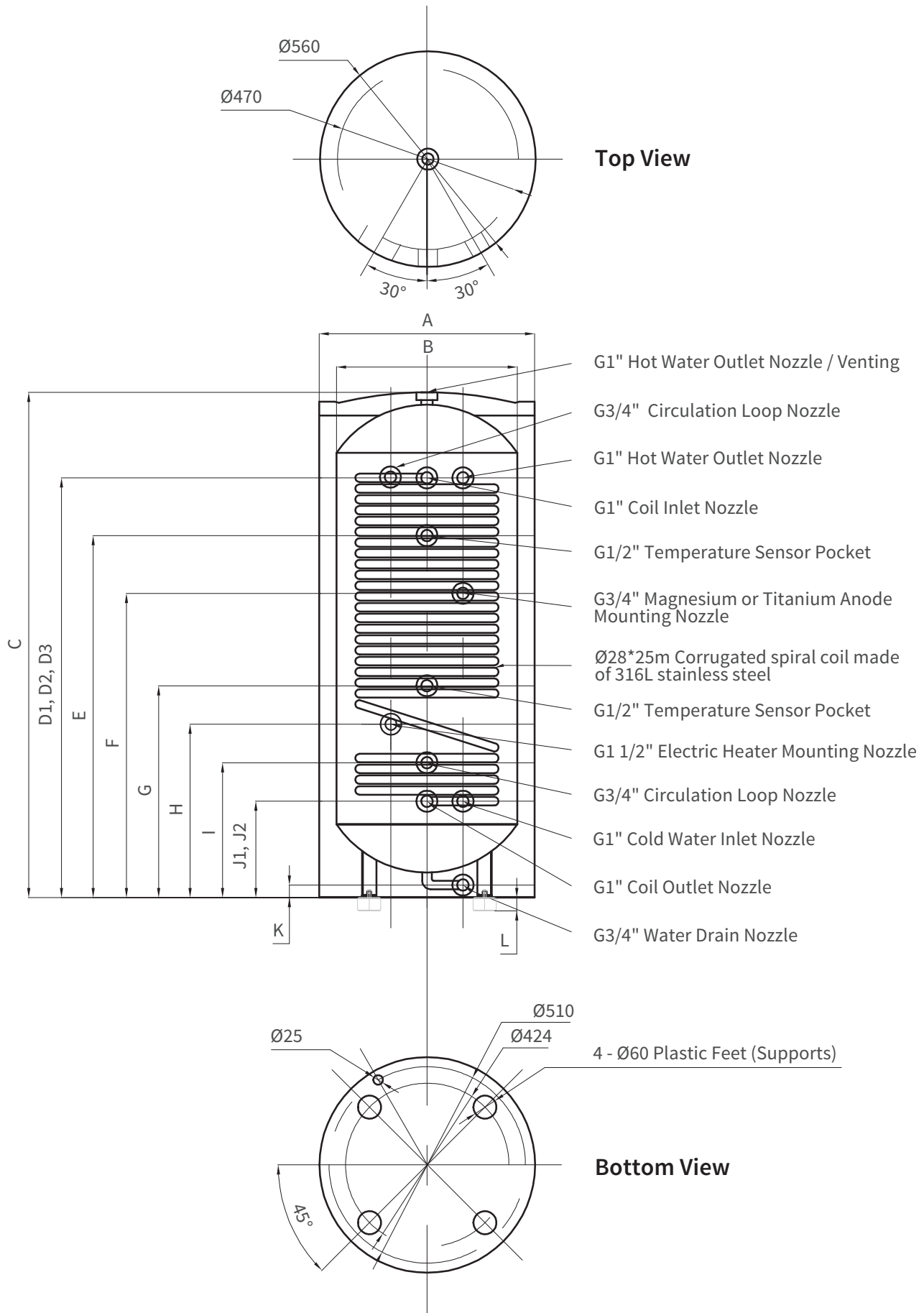
5. TECHNICAL SPECIFICATIONS

5.1. Technical Data for THERMATEC Domestic Hot Water Tank with One Coil

PARAMETERS	SYMBOL	UNIT	MODEL		
			TH-CWU-200L	TH-CWU-250L	TH-CWU-300L
Tank Capacity		l	200	250	300
Tank Enclosure Diameter	A	mm	560	560	600
Tank Diameter	B	mm	470	470	500
Hot Water Outlet Nozzle, Venting – 1"	C	mm	1312	1492	1554
Circulation Loop Nozzle – ¾"	D1	mm	1090	1270	1340
Hot Water Outlet Nozzle – 1"	D2	mm	1090	1270	1340
Coil Inlet Nozzle – 1"	D3	mm	1090	1270	1240
Temperature Sensor Pocket – ½"	E	mm	940	1120	1140
Magnesium or Titanium Anode Mounting Nozzle – ¾"	F	mm	790	970	1040
Temperature Sensor Pocket – ½"	G	mm	550	550	600
Electric Heater Mounting Nozzle – 1½"	H	mm	450	450	500
Circulation Loop Nozzle – ¾"	I	mm	350	350	350
Coil Outlet Nozzle – 1"	J1	mm	250	250	250
Cold Water Inlet Nozzle – 1"	J2	mm	250	250	250
Water Drain Nozzle – ¾"	K	mm	32,5	32,5	32,5
Feet, Supports – x 4	L	mm	35	35	35
Insulation		mm	45	45	50
Coil Surface Area		m ²	3,3	3,9	3,9
Corrugated Spiral Coil		mm / m	Ø 28 x25	Ø 28 x30	Ø 28 x30
Maximum Operating Temperature		°C	85	85	85
Maximum Pressure of Tank and Coil		bar	6	6	6
Weight		kg	45	50	54
Standstill losses		W	33	36	40
ERP Energy Class			A	A	A

5. TECHNICAL SPECIFICATIONS

5.2. Drawing of THERMATEC Domestic Hot Water Tank with One Coil



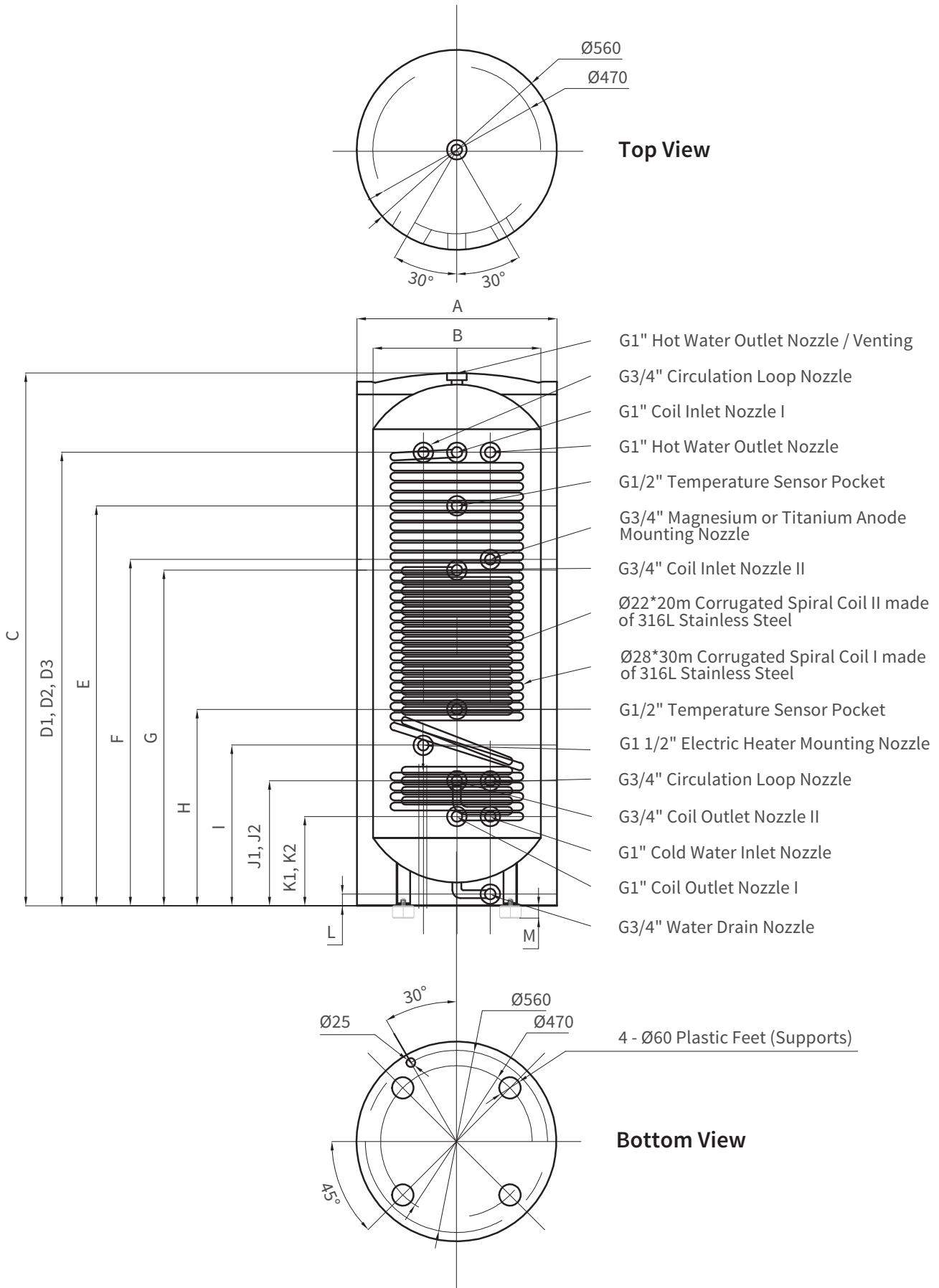
5. TECHNICAL SPECIFICATIONS

5.3. Technical Data for THERMATEC Domestic Hot Water Tank with Two Coils

PARAMETERS	SYMBOL	UNIT	MODEL	
			TH-CWU-250LW2	TH-CWU-300LW2
Tank Capacity		l	250	300
Tank Enclosure Diameter	A	mm	560	600
Tank Diameter	B	mm	470	500
Hot Water Outlet Nozzle, Venting – 1"	C	mm	1492	1554
Circulation Loop Nozzle – ¾"	D1	mm	1270	1340
Hot Water Outlet Nozzle – 1"	D2	mm	1270	1340
Coil Inlet Nozzle I – 1"	D3	mm	1270	1240
Temperature Sensor Pocket – ½"	E	mm	1120	1140
Magnesium or Titanium Anode Mounting Nozzle – ¾"	F	mm	970	1040
Coil Inlet Nozzle II – ¾"	G	mm	940	970
Temperature Sensor Pocket – ½"	H	mm	550	600
Electric Heater Mounting Nozzle – 1½"	I	mm	450	500
Coil Outlet Nozzle II – ¾"	J1	mm	350	350
Circulation Loop Nozzle – ¾"	J2	mm	350	350
Cold Water Inlet Nozzle – 1"	K1	mm	250	250
Coil Outlet Nozzle I – 1"	K2	mm	250	250
Water Drain Nozzle – ¾"	L	mm	32,5	32,5
Feet, Supports - x 4	M	mm	35	35
Insulation		mm	45	50
Corrugated Spiral Coil I		mm / m	Φ 28 x 30	Φ 28 x 30
Coil Surface Area I		m ²	3,9	3,9
Corrugated Spiral Coil II		m	Φ 22 x 20	Φ 22 x 20
Coil Surface Area II		m ²	2,0	2,0
Maximum Operating Temperature		°C	85	85
Maximum Pressure of Tank and Coil		bar	6	6
Weight		kg	56	60
Standstill losses		W	36	40
ERP Energy Class			A	A

5. TECHNICAL SPECIFICATIONS

5.4. Drawing of THERMATEC Domestic Hot Water Tank with Two Coils



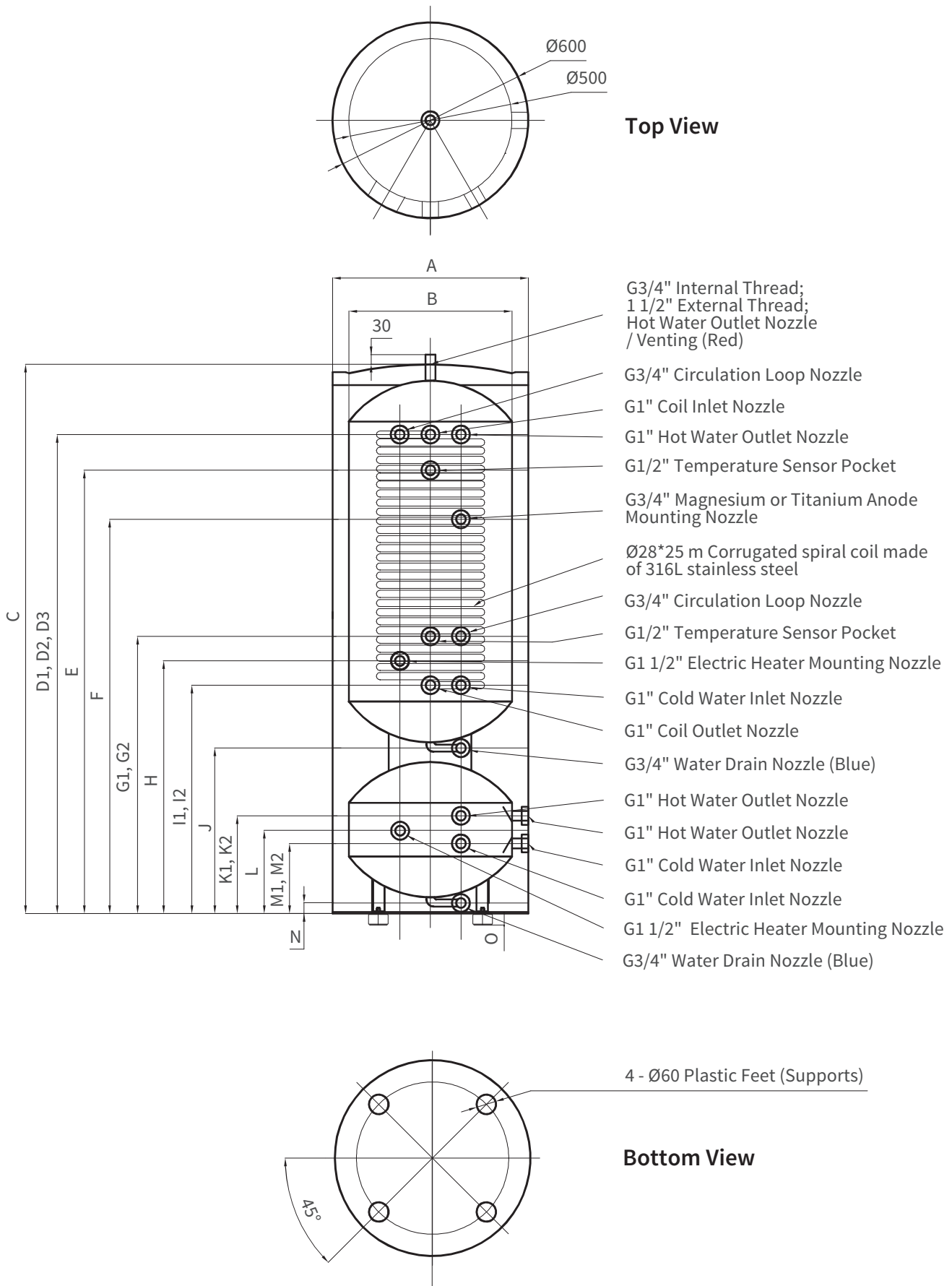
5. TECHNICAL SPECIFICATIONS

5.5. Technical Data for THERMATEC Domestic Hot Water Tank and THERMATEC Buffer Tank

PARAMETERS	SYMBOL	UNIT	MODEL
			TH-CWU200/ZB60
Tank Capacity		l	200 / 60
Tank Enclosure Diameter	A	mm	600
Tank Diameter	B	mm	500
Hot Water Outlet Nozzle, Venting – 1½"	C	mm	1684
Circulation Loop Nozzle – ¾"	D1	mm	1469
Hot Water Outlet Nozzle – 1"	D2	mm	1469
Coil Inlet Nozzle – 1"	D3	mm	1469
Temperature Sensor Pocket – ½"	E	mm	1359
Magnesium or Titanium Anode Mounting Nozzle – ¾"	F	mm	1209
Circulation Loop Nozzle – ¾"	G1	mm	850
Temperature Sensor Pocket – ½"	G2	mm	850
Electric Heater Mounting Nozzle – 1½"	H	mm	775
Coil Outlet Nozzle – 1"	I1	mm	700
Cold Water Inlet Nozzle – 1"	I2	mm	700
Water Drain Nozzle (blue) – ¾"	J	mm	507
Hot Water Outlet Nozzle – 1"	K1	mm	300
Hot Water Outlet Nozzle – 1"	K2	mm	300
Electric Heater Mounting Nozzle – 1 ½"	L	mm	250
Cold Water Inlet Nozzle – 1"	M1	mm	215
Cold Water Inlet Nozzle – 1"	M2	mm	215
Water Drain Nozzle (blue) – ¾"	N	mm	33
Feet, Supports – x 4	O	mm	35
Corrugated Spiral Coil		mm / m	Φ 28 x 25
Coil Surface Area		m ²	3,5
Insulation		mm	50
Maximum Operating Temperature		°C	85
Maximum Pressure of Tank and Coil		bar	6
Weight		kg	63
Standstill losses		W	36
ERP Energy Class			A

5. TECHNICAL SPECIFICATIONS

5.6. Drawing of THERMATEC Domestic Hot Water Tank and THERMATEC Buffer Tank



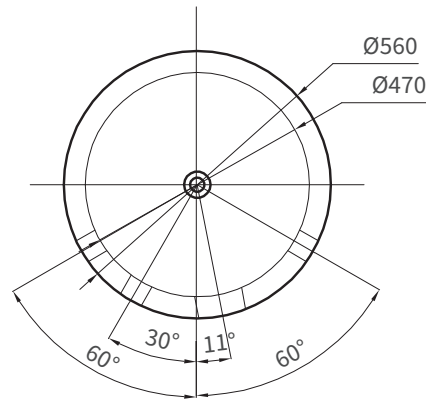
5. TECHNICAL SPECIFICATIONS

5.7. Wymiary zbiornika buforowego THERMATEC

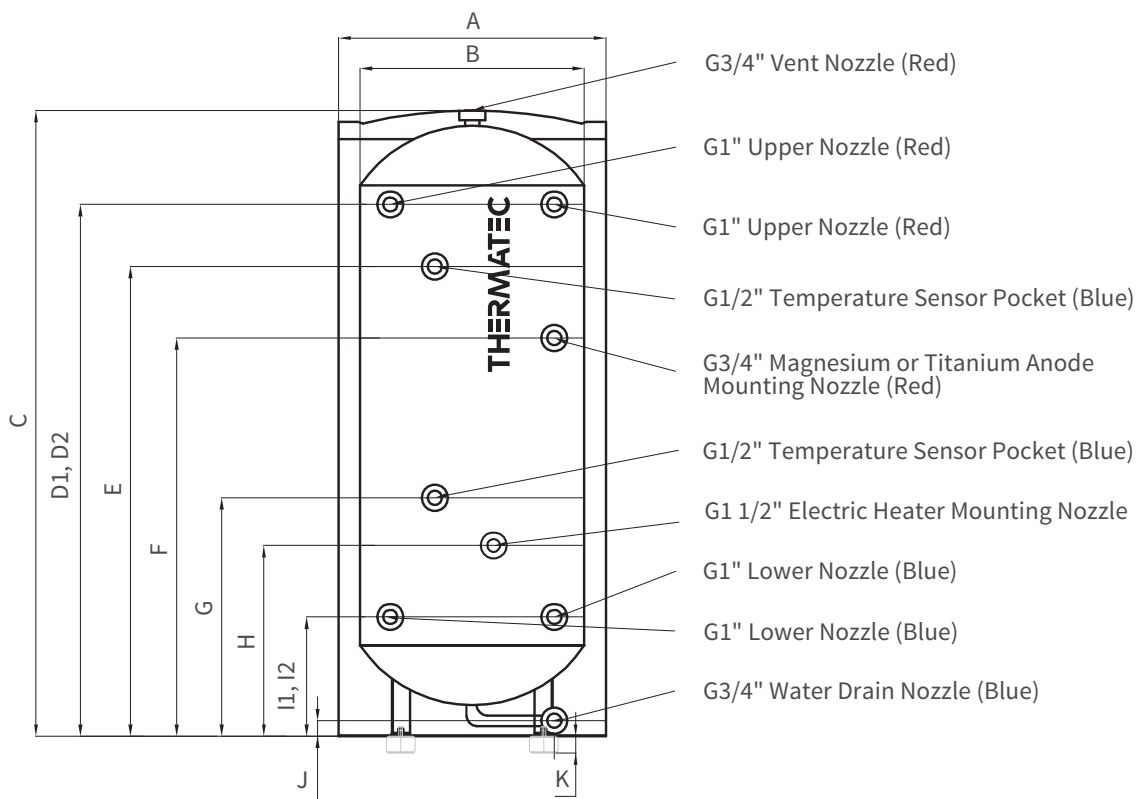
PARAMETERS	SYMBOL	UNIT	MODEL			
			TH-ZB-100L/W	TH-ZB-100L	TH-ZB-200L/W	TH-ZB-300L/W
Tank Capacity		l	100	100	200	300
Tank Enclosure Diameter	A	mm	470	560	560	600
Tank Diameter	B	mm	370	470	470	500
Vent Nozzle (Red) – ¾"	C	mm	1032	780	1312	1554
Upper Nozzle (Red) – 1"	D1	mm	850	580	1115	1355
Upper Nozzle (Red) – 1"	D2	mm	850	580	1115	1355
Temperature Sensor Pocket – ½"	E	mm	720	520	985	1255
Magnesium or Titanium Anode Mounting Nozzle – ¾"	F	mm	570	460	835	1075
Temperature Sensor Pocket – ½"	G	mm	450	330	500	500
Electric Heater Mounting Nozzle – 1½"	H	mm	350	280	400	400
Lower Nozzle (Blue) – 1"	I1	mm	200	230	250	230
Lower Nozzle (Blue) – 1"	I2	mm	200	230	250	230
Water Drain Nozzle (Blue) – ¾"	J	mm	32,5	32,5	32,5	32,5
Feet, Supports – x 4	K	mm	68	68	35	35
Insulation		mm	50	50	45	50
Maximum Operating Temperature		°C	85	85	85	85
Maximum Pressure of Tank and Coil		bar	6	6	6	6
Weight		kg	26	24	43	52
Standstill losses		W	28	28	33	40
ERP Energy Class			A	A	A	A

5. TECHNICAL SPECIFICATIONS

5.8. Drawing of THERMATEC Buffer Tank

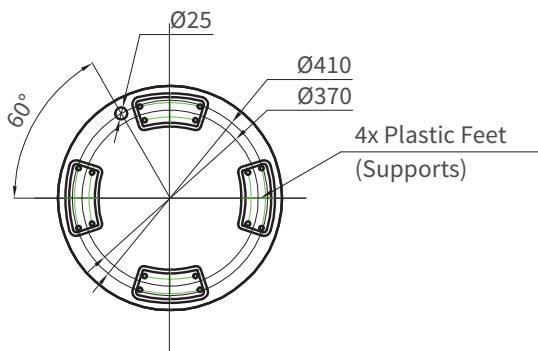


Top View



Bottom View

TH-ZB-100L/W

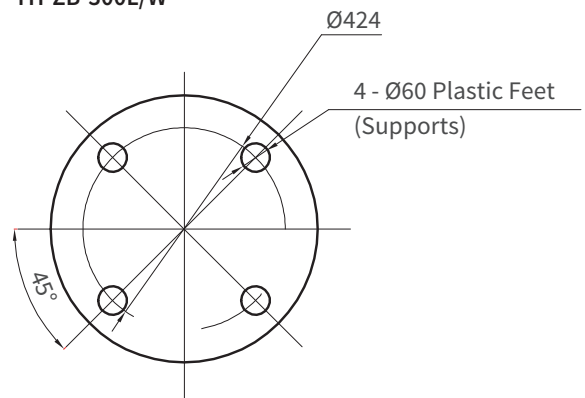


Bottom View

TH-ZB-100L

TH-ZB-200L/W

TH-ZB-300L/W



6. TANK PROTECTION

The hot water tank should be protected against excessive pressure by two pressure relief valves. The first safety valve should be installed on the upper connection of the hot water tank. It prevents pressure from rising above 6 bar by releasing water until normal operating parameters are reached. The second safety valve with a 6-bar opening pressure should be installed on the inlet of cold water supplying the hot water tank.

A diaphragm expansion tank should be installed on the cold water inlet before the hot water tank. The capacity of the expansion tank should be chosen based on the table below. The air pressure in the diaphragm should be set according to the water pressure in the mains (for example, for a mains water pressure of 4.5 bar, the air pressure in the diaphragm should be between 3.5 and 4 bar).

HOT WATER TANK CAPACITY (l)	RECOMMENDED DIAPHRAGM EXPANSION TANK CAPACITY (l)
100	12
200	18
250	18
300	24



ATTENTION

1. Do not use the hot water tank/buffer tank with a damaged or blocked safety valve.
2. Continuous water leakage from the outlet hole of the safety valve indicates a malfunction of the valve or excessive pressure in the water supply system. Under no circumstances should the outlet hole be blocked in any way.

7. TANK CONNECTION

The tank should be connected to a water installation with a maximum water pressure of 6 bar and a heating system with a pressure not exceeding 6 bar. In the event that the water pressure in the water supply network exceeds 5 bar, the installation of a reducing valve is necessary to prevent continuous water discharge through the safety valve. The installation and initial commissioning of the tank should be carried out by an Authorized Service Partner of the manufacturer or by a person with the appropriate qualifications and permissions who has undergone training in the installation of hot water / buffer tanks.



ATTENTION

Connections to the fittings of the hot water/storage tank should be made using brass fittings; do not use galvanized fittings.

7.1. Tank Filling and Venting

1. The tank should be filled with water of the appropriate quality, which must meet specified values: water hardness max. 200mg/l, chlorides max. 250mg/l, pH level from 0.6 to 9.5, electrical conductivity (EC) at a temperature of 25°C <750µS/cm. In the case of water that does not meet the specified standards, appropriate water treatment stations should be used at the inlet to the tank.
2. Open the shut-off valve for cold domestic water on the inlet from the municipal water supply to the hot water tank and one of the hot water consumption points.
3. Fill the hot water tank until water flows out at the hot water consumption point.
4. Fill the coil/buffer with the heating water from the heat pump system and vent the system according to the instructions of the external heat source.
5. Check the tightness of all connections in the hot water tank/buffer installation.

6. After filling and venting the hot water tank/buffer and coil, the device is ready for operation.
7. If the tank has a titanium anode, follow the Installation and Use Instructions for the Titanium Anode and PS Potential Controller.

7.2. Draining the Water

1. Disconnect the electrical power supply to the heating element, if present.
2. Close the cold water supply valve to the hot water tank.
3. Open the valve at the hot water consumption point to release pressure in the tank.
4. Disconnect the cold municipal water supply installation from the tank.
5. Drain the water from the tank into the sewer.



The water temperature in the tank can exceed 75°C and poses a scalding hazard. Before starting to drain, open the valve at the hot water consumption point for at least 15 minutes to release pressure and drain hot water.

8. ELECTRICITY

The hot water tank/buffer tank is equipped with a 6/4" internal thread fitting for the installation of an electric heater, which is an additional option available upon request. The installation of the electric heater must be carried out in accordance with the manufacturer's instructions for the heater.



The electric heater and the tank must be connected with a protective PE conductor led from a marked connection point on the heater's housing.

9. USAGE



1. The installer should inform the user about the functions of the hot water tank/buffer tank and provide necessary information on safe usage of the tank.
2. Before starting operation, read this Installation and User Manual carefully and thoroughly to understand its contents, and adhere to the principles outlined within.



ATTENTION

Using the hot water tank/buffer tank should not be entrusted to children or individuals with limited physical, sensory, or mental abilities, or to individuals without the required experience and knowledge, unless they are supervised or have been instructed on the use of this device by a person responsible for their safety. The device should be stored out of the reach of children.

Before starting to use the hot water tank/buffer tank, you should perform a general technical inspection.

To do this, please check the following:

1. All pipe connections to and from the hot water tank/buffer tank are tight and not leaking.
2. Safety valves are open and undamaged, and they have been installed without exposure to frost.
3. The tank is stable, upright, and level on the floor.
4. On the cold water inlet, a 6-bar water pressure reducer, a check valve, and an expansion vessel with the appropriate capacity as indicated in the table have been installed.
5. A 6-bar safety valve has been installed in the upper part of the tank.

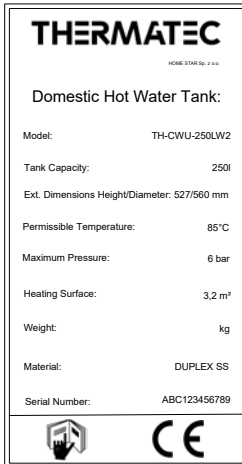
6. The tank has been filled with water of the appropriate quality, meeting specific values: maximum water hardness of 200mg/l, maximum chlorides of 250mg/l, pH level between 0.6 and 9.5, electrical conductivity (EC) at 25°C <750µS/cm.
7. All connections to the tank's nozzles are made with brass fittings.



ATTENTION

Failure to comply with the above information will result in the loss of warranty. In case of any irregularities, you should report the issue to the manufacturer's authorized service partner.

9.1. Nameplate



The nameplate has been placed on the tank's housing.

The nameplate serves to identify the product. The information it contains is necessary for the safe use of the product and for service-related issues.

An example of the nameplate format is shown in the drawing (the manufacturer reserves the right to make changes).

The nameplate should not be covered or removed from the device.

10. INSPECTIONS

Every 2 weeks, a visual inspection of the technical condition of the tank, including checking the tightness of connections for leaks, should be carried out. The first inspection of the hot water tank/buffer tank should be performed no later than 15 days after the first 12 months of use, and subsequent inspections should be carried out every 24 months after the first inspection.

11. DISPOSAL

To dispose of a used device, you should:

1. Disassemble the device.
2. Dispose of all plastic components through appropriate waste disposal channels.
3. Recycle clean metal components.

12. SERVICE



ATTENTION

Improper repair or incorrect servicing of the device can damage the equipment and/or cause bodily harm.

To ensure the best quality and safety, all repairs and servicing of the device should be conducted by an Authorized Service Partner of the manufacturer or by a person with the appropriate qualifications and authorizations who has undergone the necessary training in the installation of DHW/buffer tanks and who defines the scope and method of repair in agreement with the manufacturer.

13. TANK AND INSTALLATION DATA

DEVICE INFORMATION

DEVICE NAME AND MODEL

DATE OF PURCHASE [DD MM YYYY]

--	--	--	--	--	--	--	--

SERIAL NUMBER

PURCHASE RECEIPT NUMBER

YEAR OF MANUFACTURE

INSTALLER INFORMATION

ADDRESS

COMPANY NAME

TAX IDENTIFICATION NUMBER (NIP)

INSTALLATION DATE [DD MM YYYY]

--	--	--	--	--	--	--	--

INSTALLER'S NAME AND SURNAME

PHONE NUMBER

INSTALLER'S SIGNATURE AND SEAL

USER'S SIGNATURE

I confirm the installation of the tank.

An Authorized Service Partner or service person may refuse to perform service if:

- Access to the device for maintenance is not provided;
- Replacing the device requires the dismantling of other devices, partition walls, etc.;
- The tank does not have installed water shut-off valves.

In matters not covered by this document, the provisions of commercial and civil law shall apply.

NOTES

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NOTES

A series of horizontal dotted lines for writing notes.

MANUFACTURER'S STAMP

HOME STAR Sp. z o.o.
ul. Misjonarzy Oblatów 20A
40-129 Katowice
KRS 0000729842 NIP 634 292 88 43



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**DOMESTIC HOT WATER TANKS
AND BUFFER TANKS**

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