



Buffer Tank Manual

Incorporating: **User Instructions**
 Installation Instructions
 Commissioning Instructions
 Maintenance Instructions

Nero Buffer Tank

Stainless Steel Buffer Tanks

Products covered by this manual:

Buffer Tank BT110 BT200



INSTALLATION, COMMISSIONING & SERVICING

All works to this product including installation, commissioning, service or repair must be conducted only by appropriately certified and competent persons in accordance with all manufacturer's instructions contained herein, as well as all current related legislation, regulations, standards, codes and by-laws applicable to the territory of installation.

This product must be installed, commissioned, serviced or repaired only by a competent person in accordance with the current:

- IEE Regulations, Building Regulations,
- Building Standards (Scotland) (Consolidation),
- Building Regulations (Northern Ireland),
- Local water by-laws,
- Health and Safety Document 63S (the Electricity at Work Regulations 1989),
- IS813 (Eire)
- and other local requirements
- Where no specific instruction is given, reference should be made to the relevant codes of Practice:
 - BS7074:1 : Code of practice for domestic and hot water supply
 - EN:12828 : Central heating for domestic premises

The product must be registered with the manufacturer according to the terms and conditions of the related product guarantee. See Section 6.

This product must be serviced annually by appropriately certified and competent persons, and proof of servicing e.g., receipts/invoices, must be retained by the User.

A full statement of the guarantee applicable to this product is included in Section 6 of this manual.

⚠ FAILURE TO CORRECTLY INSTALL, REGISTER AND ANNUALLY SERVICE THIS PRODUCT WILL INVALIDATE ALL GUARANTEES

TECHNICAL, SPARES & GUARANTEE CLAIMS

For technical advice about the installation, use and servicing of this appliance, please contact the Warmflow Customer Care Centre. Please also refer to our website www.warmflow.co.uk.

Should replacement components be required, a list of available spares is provided in Section 4.2, page 7. Only Warmflow spare parts must be used with this product.

In the unlikely event that replacement components might be required within the guarantee period, please notify the Customer Care Centre stating the serial number of the appliance, the nature of the fault and the part number of the replacement components required.

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1 PRODUCT INFORMATION

1.1 Handling & Storage.

Prior to installation, this product must be handled with care and stored upright in a clean and dry location, in its original packaging. All packaging materials are environmentally friendly and can be recycled.

1.2 Intended Use

The product is designed to act as a buffer tank as part of a hydronic heating system only.

The product must only be filled with heating system water, which has been dosed with the correct concentration of corrosion inhibitor. The concentration of corrosion inhibitor chemicals present within the heating system water must be tested and maintained in accordance with the inhibitor manufacturer's instructions at installation and as part of the annual service of the heating system, and upon any occasion when water is lost from and restored to the heating system.

The product is not for use in the storage of potable water or domestic hot water.

The product is not intended for use in conjunction with water provided by a private source.

1.3 Technical Data.

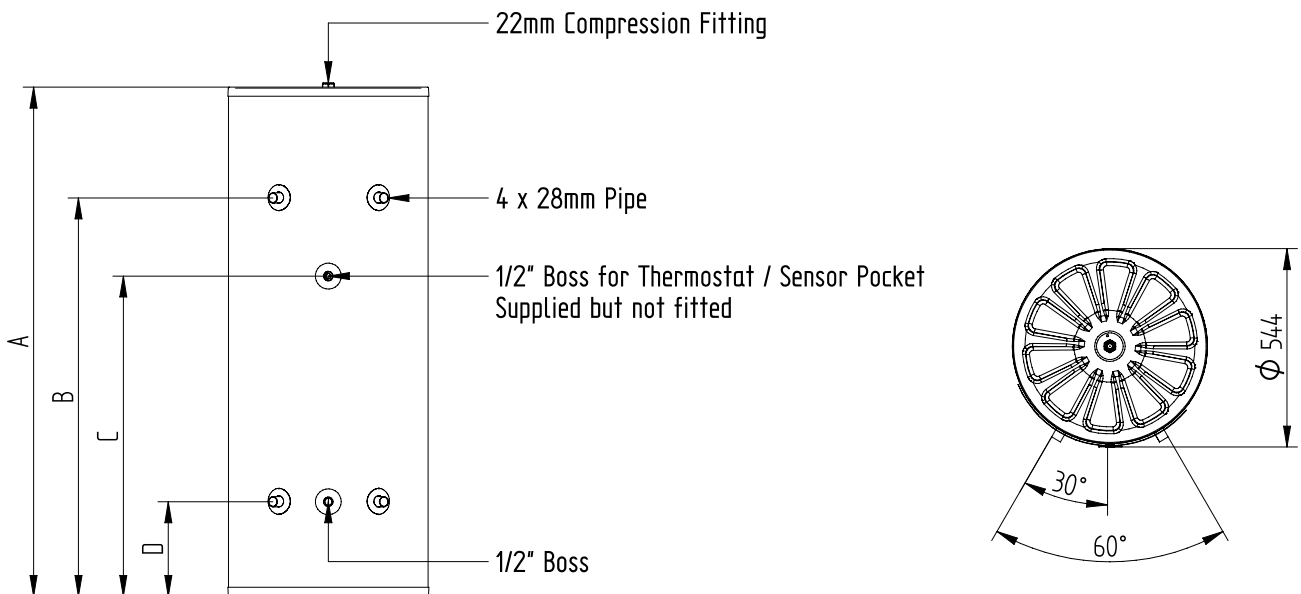


Figure 1. Buffer Tank components and dimensions

	BT110	BT200
DIMENSIONS		
(A) Height (mm)	830	1380
(B) Flow Connections (mm)	530	1080
(C) Thermostat Pocket (mm)	530	868
(D) Return Connections (mm)	257	257
OPERATING DATA		
Maximum Operating Pressure (Bar)	3.0	3.0
Rated volume (litres)	107	194
Weight when full (kg)	140	240
Standing heat loss (kWh/24h)	1.43	1.78
FICHE DATA		
Supplier Name	Warmflow	
Supplier Model Identifier	BT110	BT200
Energy Efficiency Class	C	C
Standing Loss (W)	60	74
Storage Volume (litres)	107	194

1.4 User Warnings.

Do not use the product for any purpose other than its intended use.

Use of the product in any way other than that outlined in 1.2 above is an infringement of the intended purpose of this product and invalidates all guarantees.

Damages or losses resulting from improper use are excluded from coverage by the product guarantee.

Do not remove or adjust any part of the product. Never attempt to work on or repair the product yourself.

Risk of Scalding: During the operation of this product water temperatures within may reach 60°C.

If the buffer tank develops fault, switch off the source of heat and isolate all electrical supplies.

In all cases of fault contact the original installer or other competent person before contacting Warmflow.

Frequent or routine topping up of the heating system to which this product is attached should not be necessary and may prove harmful to the heating system including its fabric, components, heating appliance(s) and this product. Should topping up prove necessary on a frequent or routine basis you must contact your installer or Warmflow immediately. Where a need for topping up applies, special consideration must be given to the concentration of inhibitors within the heating system water and concentrations of inhibitor must be restored without delay.

Documented records of the annual service of the heating system including this product must be retained by the user.

2 INSTALLATION

2.1 General Requirements.

The product must be installed only by a competent person and in accordance with all manufacturer's instructions contained herein, and all current legislation, regulations, standards, codes and by-laws applicable to the territory of installation.

The product must be installed vertically (not on its side) and in a frost-free, interior location.

Ensure adequate clearances and access around the product for the purposes of installation, service and maintenance. The installation location must not prevent component parts being removed for the purposes of service or replacement.

The appliance must be installed on a floor area that is level and capable of supporting the product when it is full of water. See Figure 1 and associated table for details of product weights.

Connection to the product is via compression fittings only (not supplied).

It is recommended that the flow and return pipework connected to the product is fitted with isolation valves, e.g., quarter-turn ball valves (not supplied), for easier maintenance.

The heating system to which the product is fitted must be installed to current HVAC codes of practice. Before installing the product to a new or existing heating system, the system must be thoroughly flushed to clear all deposits or other foreign matter such as solder, steel wool and copper filings. The heating system must be cleansed, flushed, neutralised and protected from corrosion in accordance with BS12828, BS12831, BS14336 and BS7593 using suitable cleansing agent(s) and inhibitor(s) and carried out in accordance with the cleanser/inhibitor manufacturers' instructions.

The heating system must be dosed with corrosion inhibitor to the concentration specified by the inhibitor manufacturer and in consideration of the total volume of the heating system including all components, pipework, appliances, expansion capacity and this product.

Inhibitor concentration within the heating system must be monitored and maintained as part of the annual service of the heating system, or upon any occasion when water is lost from and restored to the heating system. Failure of this product or its components due to corrosion or the presence of corrosion deposits within the heating system will not be covered by the related product guarantee.

Heating system pressures must not exceed the maximum permitted. See Figure 1 and associated table for details. The heating system must incorporate appropriately rated pressure relief valve(s).

Ensure that the volume of the buffer tank is appropriate to the intended heating system requirements and performances. Buffer tank capacity must be calculated by a competent person using recognised principles and sizing formulae.

When sizing the heating system expansion vessel, the storage volume of the buffer tank must be taken into consideration.

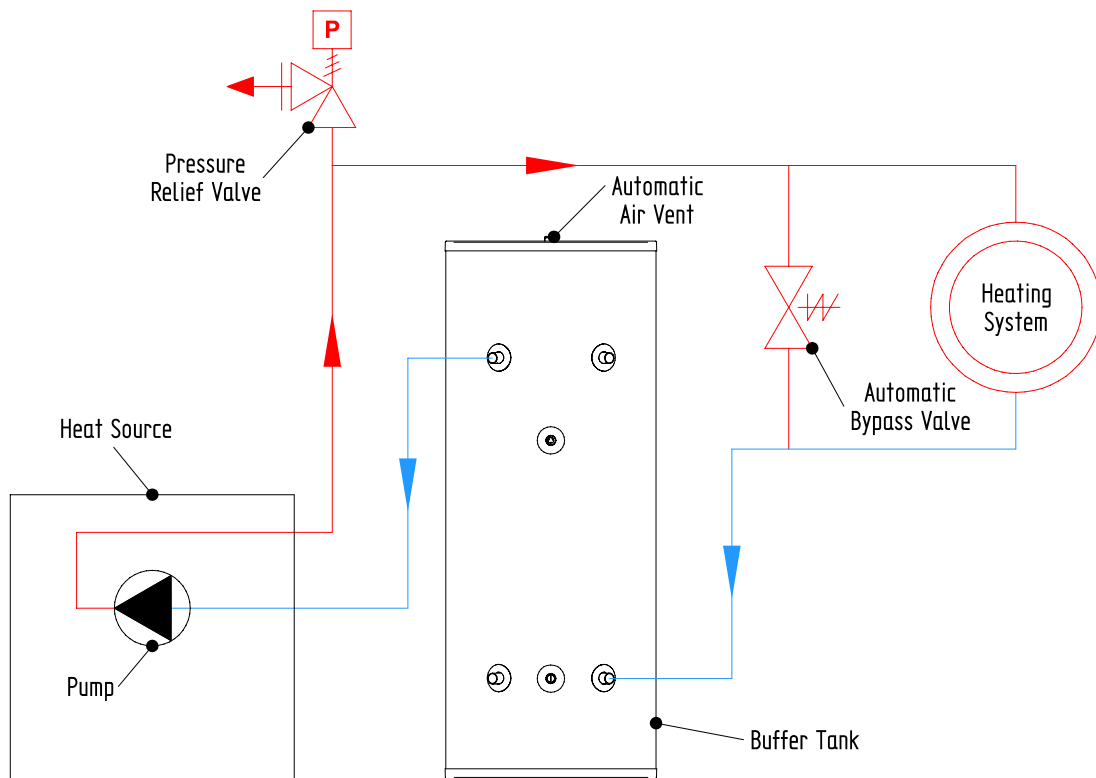


Figure 2. Typical installation schematic.

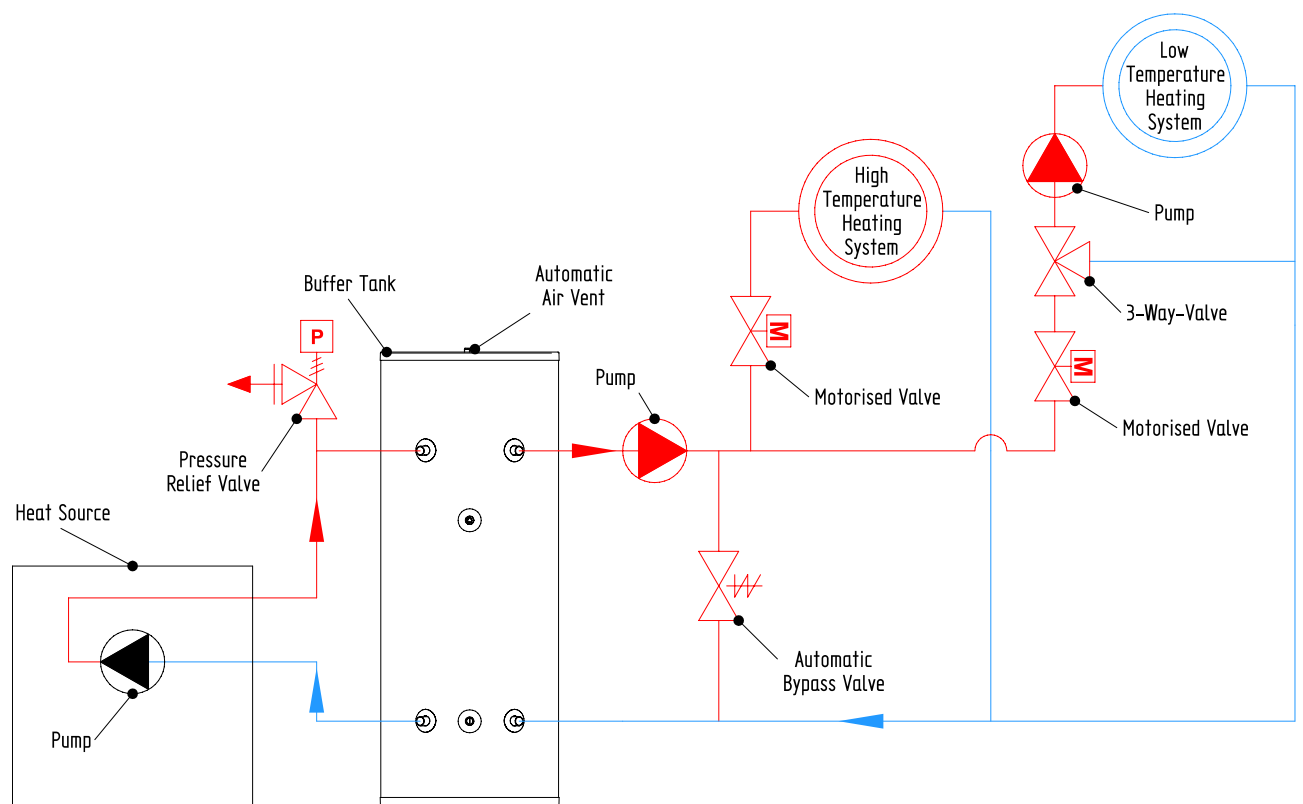


Figure 3. Typical installation schematic with additional low temperature heating system circuit.

2.2 Connections.

See Figure 4.

Connection of the product to the heating system is via the 4 × 28mm pipe connections. Connection must be via appropriate compression fittings (not supplied).

A thermostat/sensor pocket is inserted to the upper ½” boss of the product as supplied. This sensor pocket is NOT factory-fitted and is unsealed. It must be fitted and sealed as part of installation activities.

The lower ½” boss is present on the product in order to facilitate the fitment of a drain valve (not supplied).

A 22mm connection is present on top of the product in order to facilitate the fitment of an automatic air vent (not supplied). An air vent must be fitted.

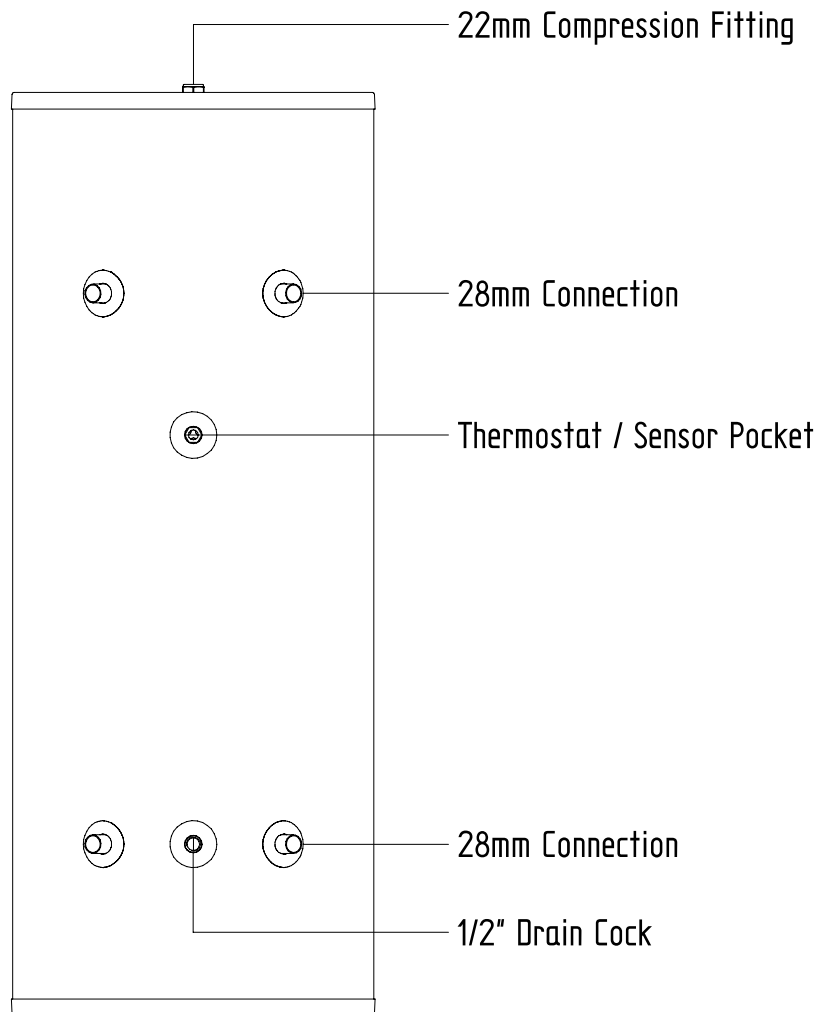


Figure 4.Connections

2.3 Fitting the Thermostat/Sensor.

Fit and seal the thermostat/sensor pocket to the product. See Section Figure 4 Connections. Insert the thermostat/sensor into the thermostat/sensor pocket as shown in 5. Ensure the sensor is secure.

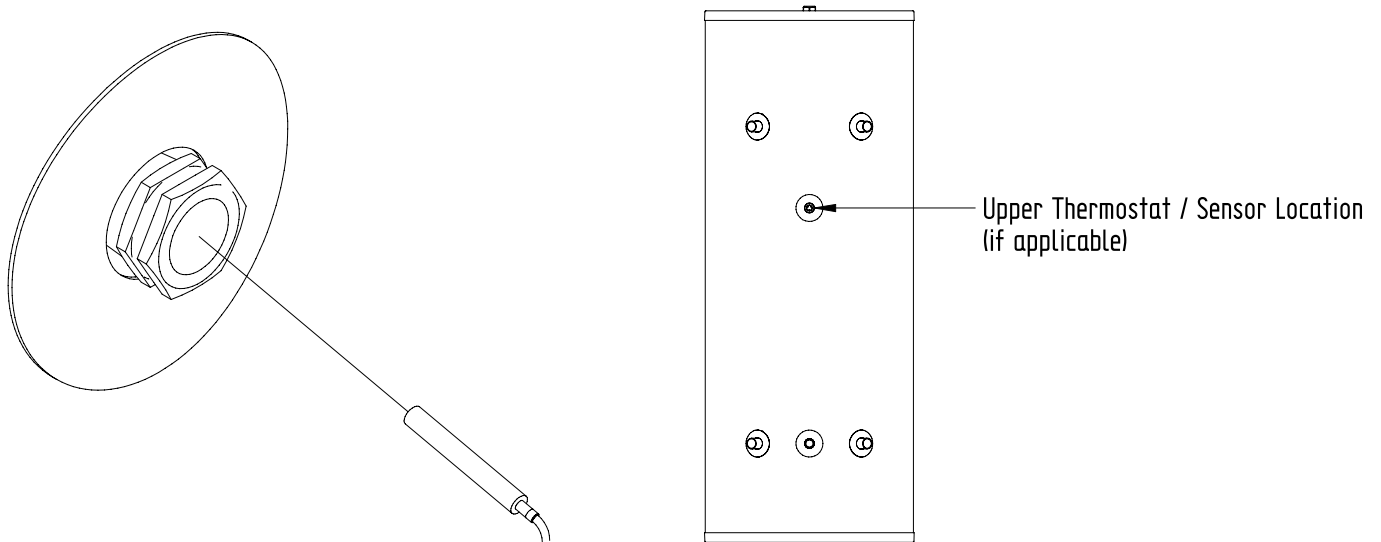


Figure 5. Thermostat/sensor pocket.

3 COMMISSIONING

3.1 General Requirements.

Initial operation of the heating system must be done with the Installer of the heating system or other competent person present.

As part of commissioning, the installer or other competent person must:

- Ensure that adequate clearances and access to the installed product have been provided.
- Ensure that all pipework is adequately supported.
- Ensure that all connections to the buffer tank are correct.
- Ensure that all connections are secure and leak-free. Tighten/correct all fittings as appropriate.
- Ensure that all air is vented from the product and wider heating system.
- Ensure that the air vent fitted to the product is fully closed after venting has been completed.
- Explain to the User the mode of operation of the heating system and its buffer tank. All documentation relating to the product must be provided directly to the User by the installer with all aspects of the user warnings being fully explained (See section 1.4).

4 SERVICING

4.1 General Requirements.

Servicing of the product must be included as part of the annual servicing of the heating system and its appliance(s) and components.

The product must be serviced only by a suitably qualified and competent person and in accordance with all manufacturer's instructions contained herein, and all current legislation, regulations, standards, codes and by-laws applicable to the territory of installation.

The product and its connections and attachments must be visually inspected for signs of leakage. Where leakage is detected/suspected, remedial action must be taken.

Ensure that all controls and safety devices within the heating system are operating correctly.

The concentration of corrosion inhibitor chemicals present within the heating system water and product must be tested and maintained in accordance with the inhibitor manufacturer's instructions as part of the annual service.

Documented records of the annual service of the heating system including this product must be retained by the User.

4.2 Replacement Parts

<u>Part description</u>	<u>Code</u>
Triple Pocket	2205



5 END-OF-LIFE INFORMATION

Warmflow Buffer tanks must be disposed of according to local regulations by using a public or private waste collection service.

5.1 Safety Risks

Prior to disassembly, the appliance should be electrically isolated and disconnected.

Any fluids within the appliance must be drained and disposed of in-line with local regulations.

Care should be taken when handling the appliance due to weight. Use appropriate PPE and lifting aids.

Polyisocyanurate foam insulation – suitable PPE should be used for respiration protection, and to avoid skin or eye contact.

5.2 Disassembly of the Product

The main materials of the components are:

- Mild Steel
- Stainless Steel
- Polyisocyanurate Foam
- Plastic Components

These may be recycled – depending on the local recycling facilities available.

The appliance is assembled by using mechanical fasteners and can be disassembled with standard tools.

The components of a typical appliance are shown below (not all components may be fitted, depending on appliance specification).

5.3 Casing and Key Components

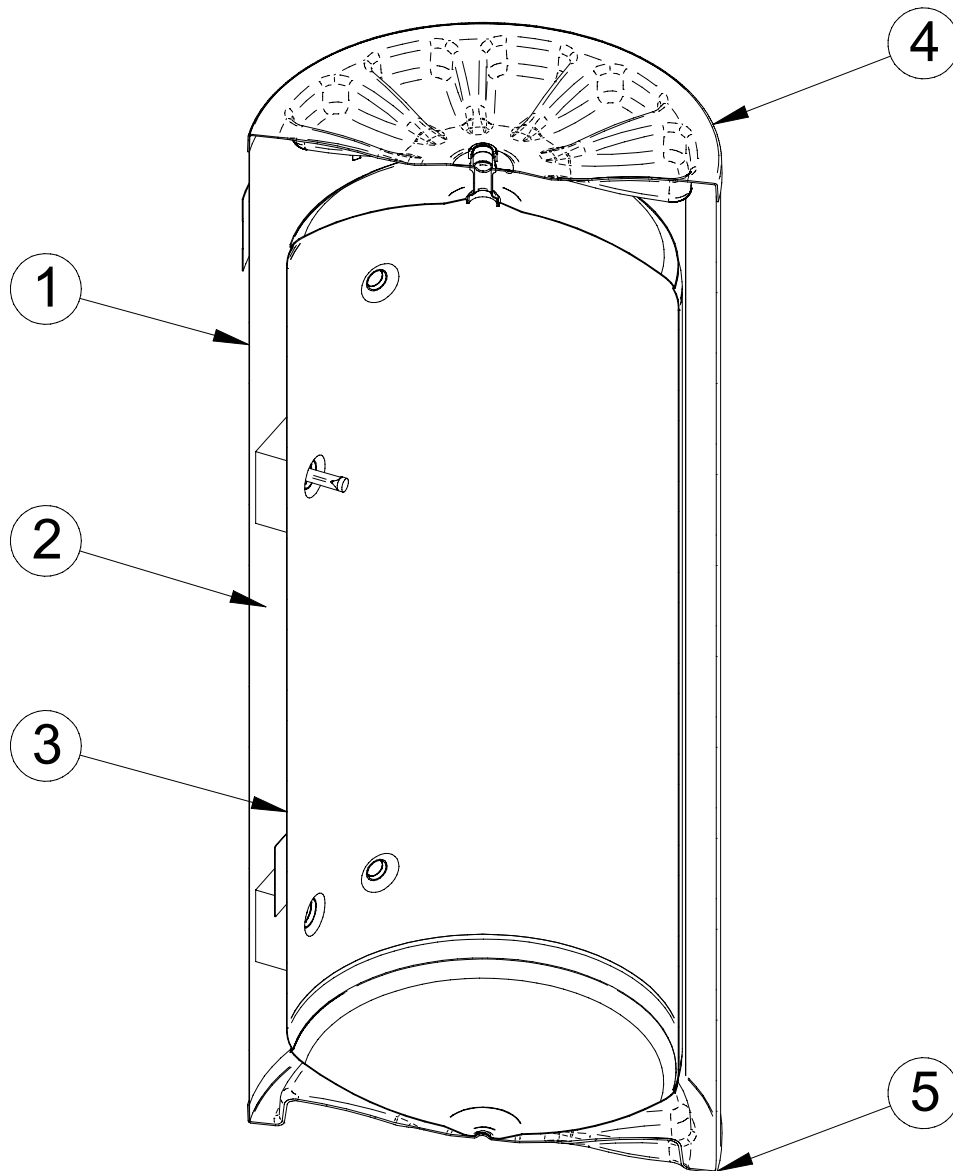


Figure 6. Casing & Key Components

Item	Description	Main Materials	Special Notes
1	Casing	Coated Galvanised Steel	
2	Foam Insulation	Polyisocyanurate Foam	Wear Appropriate PPE
3	Storage Tank	Stainless Steel	
4	Casing Top	Plastic	
5	Casing Base	Plastic	

Various other brackets, fasteners and components may be used, with up to 5% of appliance weight.

6 GUARANTEE

Warmflow Buffer tanks must be disposed of according to local regulations by using a public or private waste collection service.

Warmflow Buffer Tanks are supplied with the following guarantees from the date of purchase:

- (a) A 2-year guarantee on the duplex stainless steel buffer tank body against defects of material.
 - (b) A 2-year guarantee on all parts and components as well as any defects that may have occurred from time to time during the normal manufacturing process of the buffer tank as carried out by those exercising all relevant skill and experience and complying with all relevant legislation, regulations, standards and codes of practice relating to the manufacturing process.
1. The guarantees provided are from the date of purchase and are conditional upon:
 - 1.1 the unit being installed and commissioned by competent persons in accordance with the manufacturer's instructions and all legislation, regulations, standards, codes and by-laws in force at the time;
 - 1.2 the product being registered with Warmflow within 30 days of installation and the guarantee registration completed and returned to Warmflow along with evidence of the date of purchase;
 - 1.3 the unit not being modified in any way, or misused or subject to neglect;
 - 1.4 the unit being serviced annually by competent persons in accordance with the manufacturer's instructions and legislation, regulations, standards, codes and by-laws in force at the time;
 - 1.5 each service record being completed and proof of purchase and servicing being retained and made available to Warmflow in respect of any claim being made under the terms of this guarantee;
 - 1.6 the unit being used solely for its intended purpose, not used for the storage of potable water or domestic hot water or used in conjunction with water from a private source.

Failure to comply with any of the conditions outlined in this clause will invalidate the guarantee in its entirety.

2. The guarantee is not transferable and excludes:
 - 2.1 labour costs associated with the replacement of the unit or its components;
 - 2.2 any defects that appear after the customer makes any modification or alteration to the unit;
 - 2.3 defects caused by the improper use or storage of the unit and in particular (but without limitation) Warmflow shall not be liable in the case of defects arising from normal deterioration or improper or faulty handling, operation or processing of the unit by the customer;
 - 2.4 consequential losses however caused.
3. If within the 2-year guaranteed period, as set out at (a) and (b) above, a material defect is discovered in the Unit:

- 3.1 the customer must send written notification following discovery giving particulars and either at their own expense and risk shall return the unit to Warmflow within 2 weeks of written notice being provided by Warmflow; or (at Warmflow's sole option) shall permit Warmflow to inspect same; and
- 3.2 if such defect has arisen from faulty materials employed or workmanship carried out by Warmflow and is existing but not reasonably discoverable upon inspection at the time of receipt then Warmflow shall supply such part(s) free of charge along with the costs of transporting same to the customer.
- 3.3 The replacement parts must be fitted in accordance with the terms of the guarantee set out above.
- 3.4 The replacement parts shall be covered under this guarantee for the remainder of the unexpired term of two years.
- 3.5 Invoices for callout and/or repair by any third party or parts supplied by a third party will not be accepted unless previously authorised by Warmflow in writing.
- 4 Warmflow's liability for defective units is limited in all circumstances to delivery of parts for the defective unit and the customer shall accept same as fulfilment of Warmflow's obligations.
- 5 Warmflow disclaims all other warranties whether express, implied or statutory. Your statutory rights are not affected.
- 6 This guarantee applies to Warmflow buffer tanks installed on the UK mainland (excluding Scottish Isles), Isle of Man, Channel Islands, Northern Ireland and Republic of Ireland only. Provision of in-warranty cover elsewhere is subject to the agreement in writing of Warmflow.

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