

fiorini

Fiorini Mini HC Buffer Tank Installation Guide

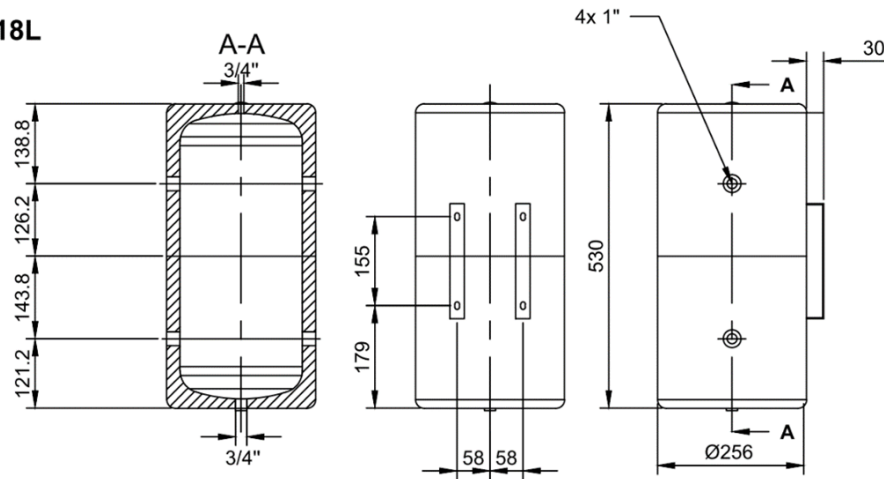
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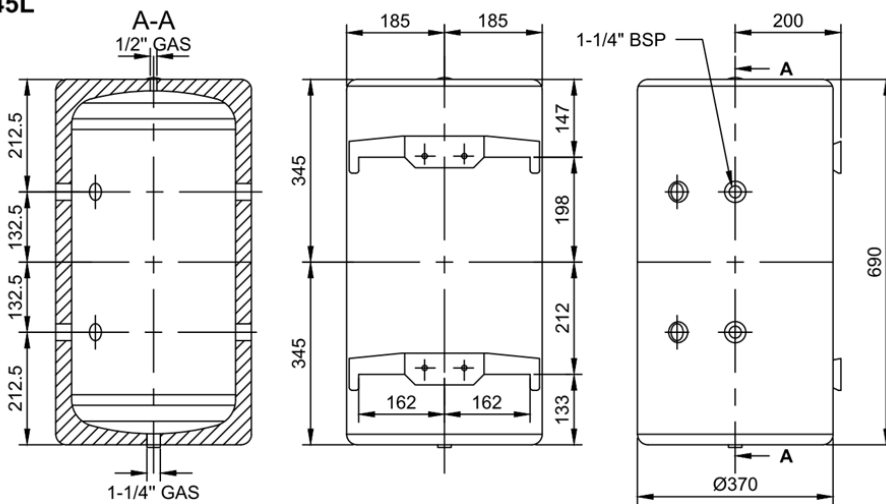
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Tank Dimensions

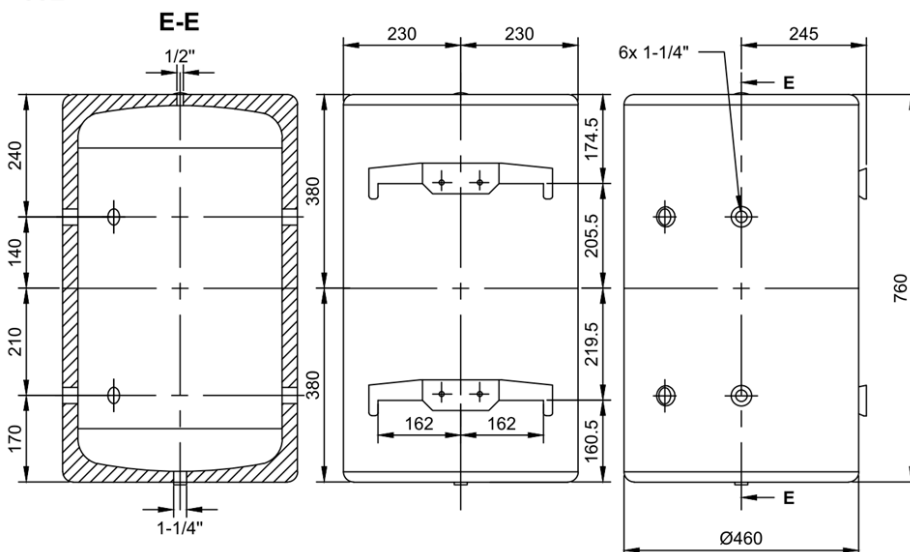
18L



45L

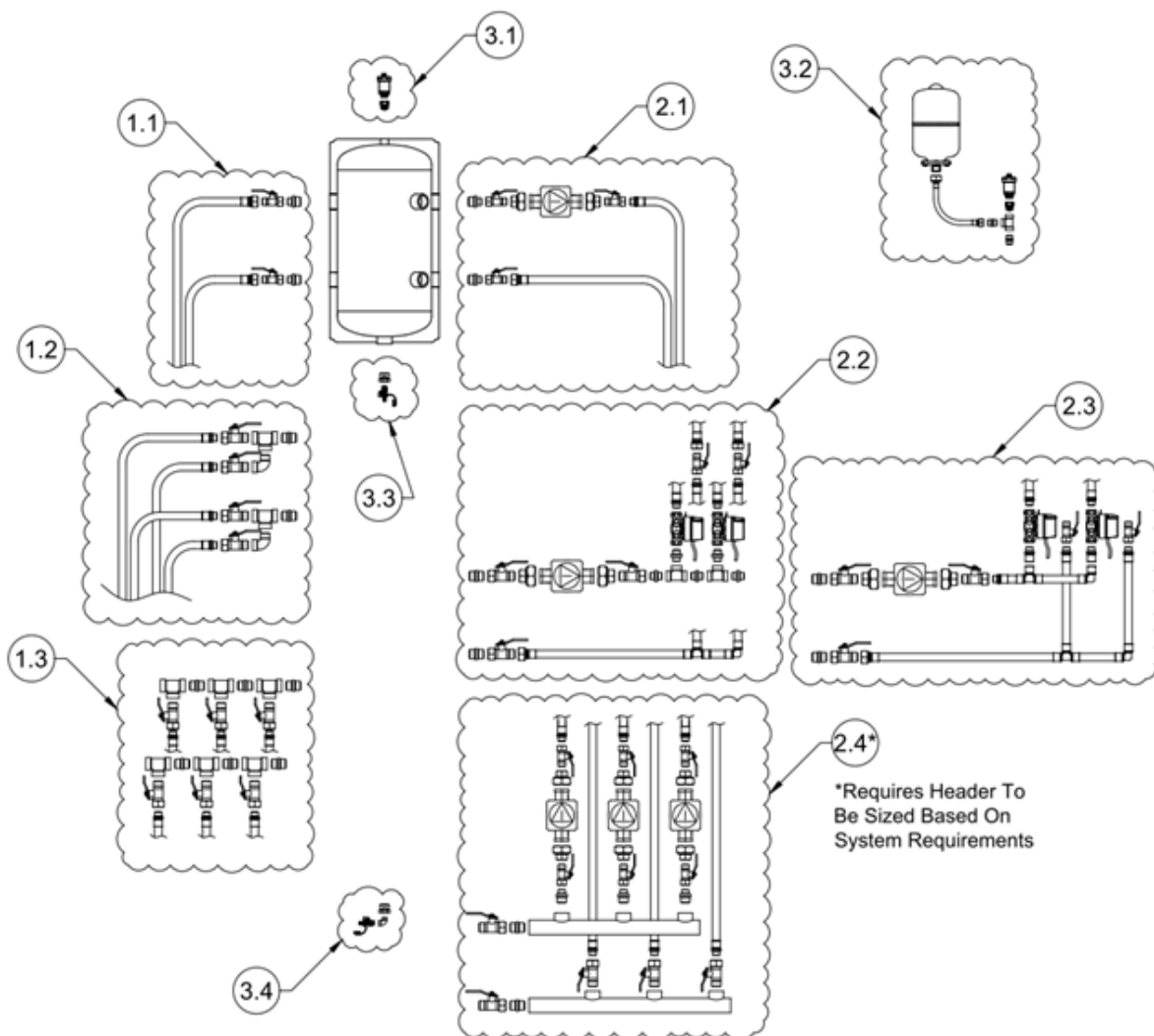


85L



Connection Options

Description	Parameter
Primary Connection: Single Heat Source	1.1
Primary Connection: Two Heat Sources	1.2
Primary Connection: Three + Heat Source	1.3
Secondary Connection: Single Pump	2.1
Secondary Connection: Single Pump & Zone Valves (Threaded Fittings)	2.2
Secondary Connection: Single Pump & Zone Valves (Multitubo Fittings)	2.3
Secondary Connection: Header with Multiple Pumps	2.4
Accessories: Auto Air Vent with Non-return Valve (18L tank requires ½ to ¾" Reducing Bush)	3.1
Accessories: Auto Air Vent & Expansion Vessel	3.2
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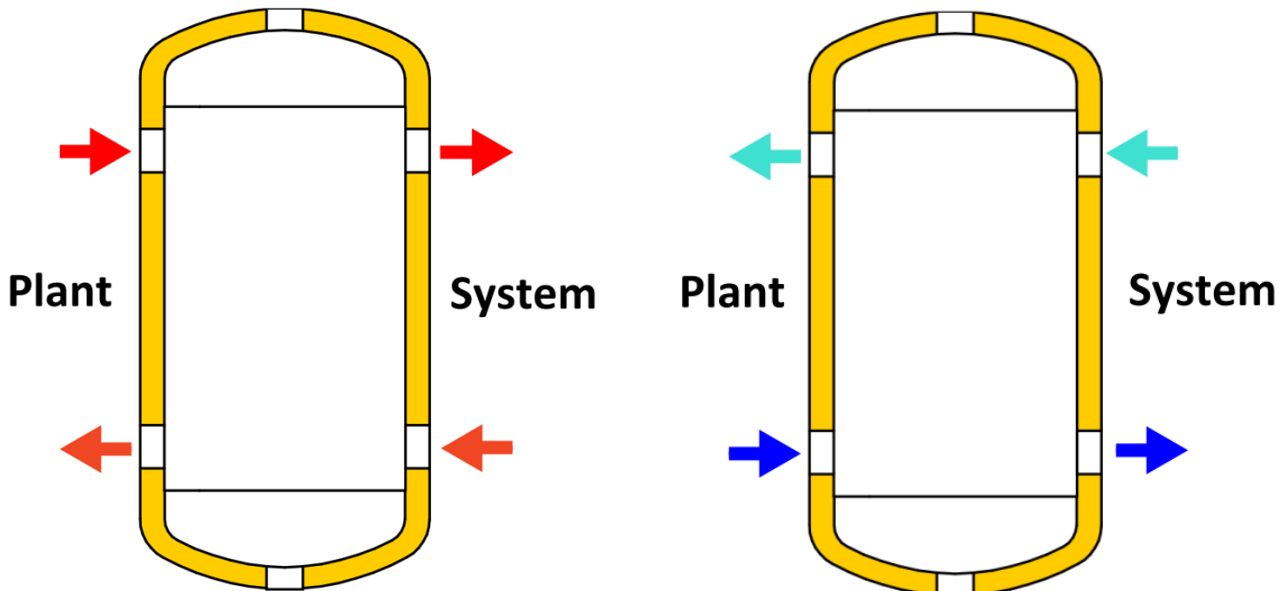


Installation Scenarios

When installing a buffer tank into a system these can be configured in two different methods, the optimal method will depend on the system design and buffer tank specified but the below options can be used as a guide for these installations.

Hydraulic Separator

Most buffer tanks are installed as a hydraulic separator and are fitted between the heat source and system, to allow the heat source to not only have suitable water volume but to also ensure the heat source has undisturbed flow.



Heating Configuration

When the system is used only for heating or at least primarily for heating the buffer tank should be configured with heating flow at the top and return at the bottom.

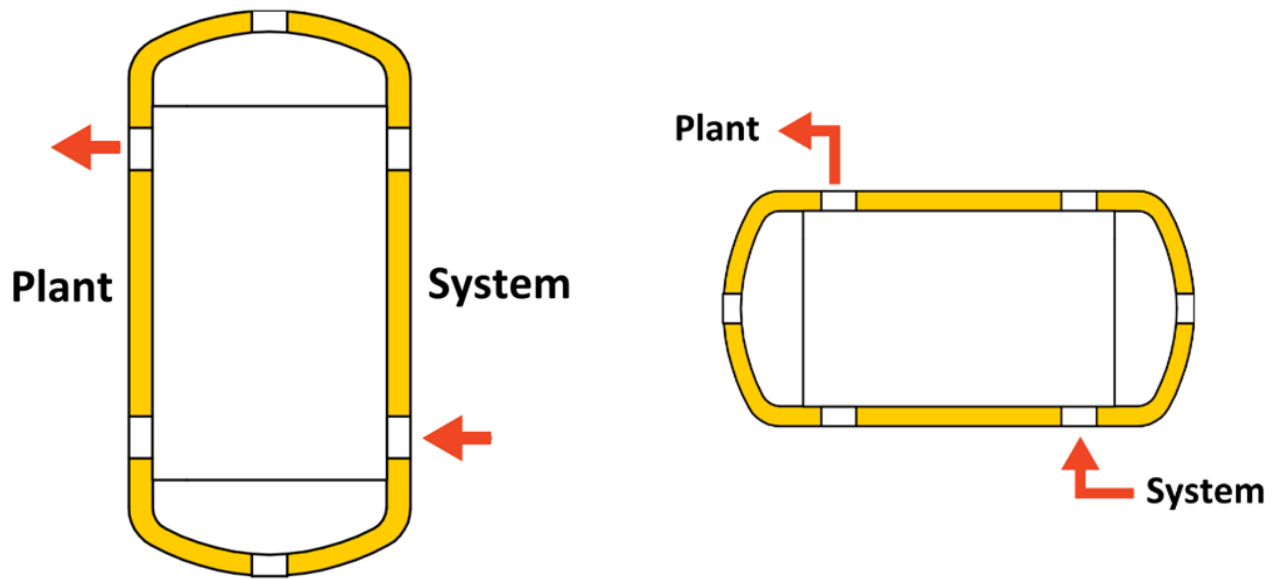
Cooling Configuration

If the system is solely used for cooling, then the flow directions should be transposed to ensure the coolest water possible is delivered to the system.

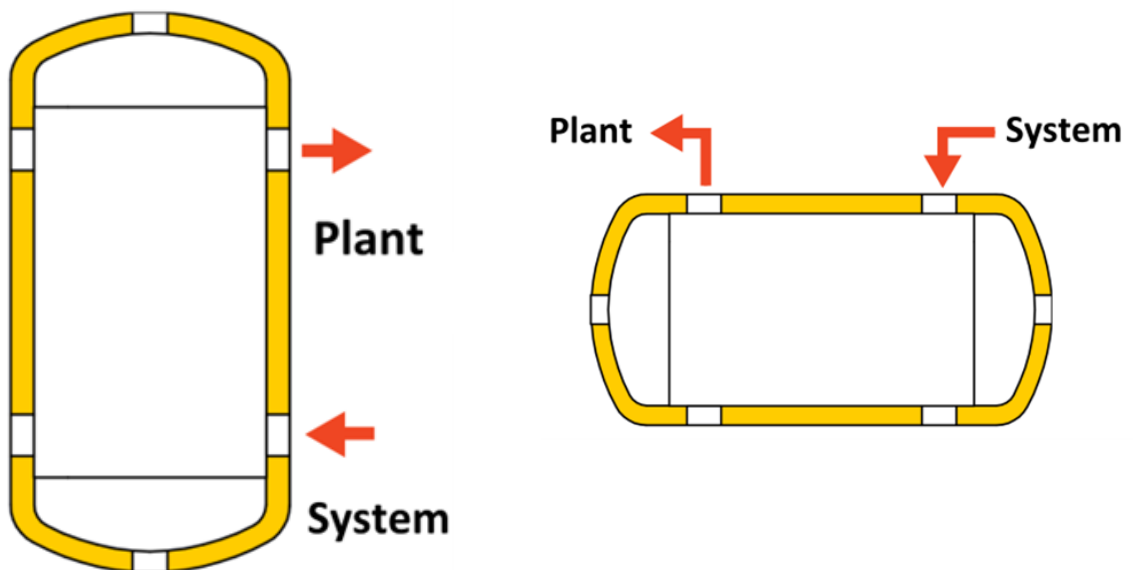
Inertia Tank

In some situations, the buffer tank's purpose is solely to add water volume to the system, in this scenario the tank is installed inline on the return to the plant.

Whether the system is used for heating, cooling, or both, the buffer tank should be configured with the system and plant return on opposite sides and from bottom to top ports on the tank. The 18L buffer tank can also be mounted horizontally when used as an inertia tank which can allow the tank to be installed into normally unusable spaces.



Where it is not possible to connect the tank on opposite sides it is acceptable to make the system and plant connections both on the same side of the tank.



Mounting Instructions 18L

The 18L buffer tank is supplied with two vertical mounting rails, each rail includes two slotted holes for fixing the tank to the wall, the steps below are a guide for this.

Step 1:

During construction of the building and at the pre-pipe stage, position two horizontal timbers within the wall framing to permit the future installation of fixings for the tank. These timbers should be positioned to align with the brackets of the tank, refer to right hand side drawing.

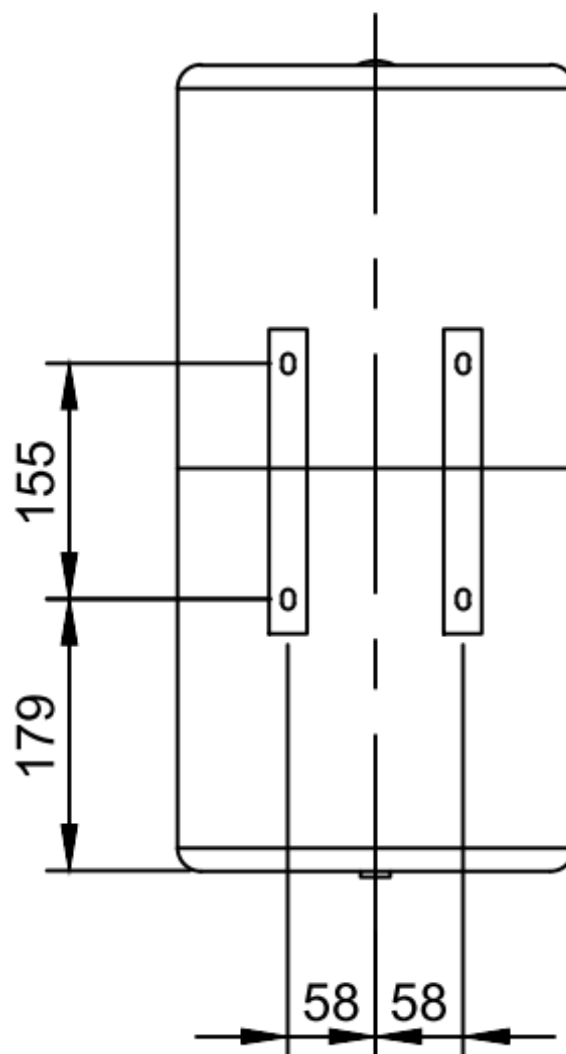
Step 2:

When the buffer tank is ready to be installed, measure out for the preferred location of the buffer tank and locate the fixing timber installed in step 1. Using 4x M6 hanger bolts - screw these into the wall to allow the tank brackets to slip over the heads of these bolts. The dimensions shown for the set out of these fixings can be used as a guide but the tank fixing holes should be marked out on the wall to make fitting the tank to the fixings easy.

Step 3:

Hang the tank on the 4 hanger bolts and using the washers and nuts secure the tank to the wall.

18L



Mounting Instructions

45L & 85L

The Fiorini 45L & 85L buffer tanks are supplied with 2 fixed brackets, these brackets allow the tank to be wall mounted and the installation steps below are a guide for this.

Step 1:

During construction of the building and at the pre-pipe stage, position two horizontal timbers within the wall framing to permit the future installation of fixings for the tank. These timbers should be positioned to align with the brackets of the tank, refer to right hand side drawing.

Step 2:

When the buffer tank is ready to be installed measure out for the preferred location of the buffer tank and locate the fixing timber installed in step 1. Using 4x M12 Hex screws and washers - screw these into the wall to allow the tank brackets to slip over the heads of these screws/washers. For any screws that will not be accessible once the tank is installed tighten these to leave only just enough space between the head of the screw/washer and the wall for the tank bracket depth.

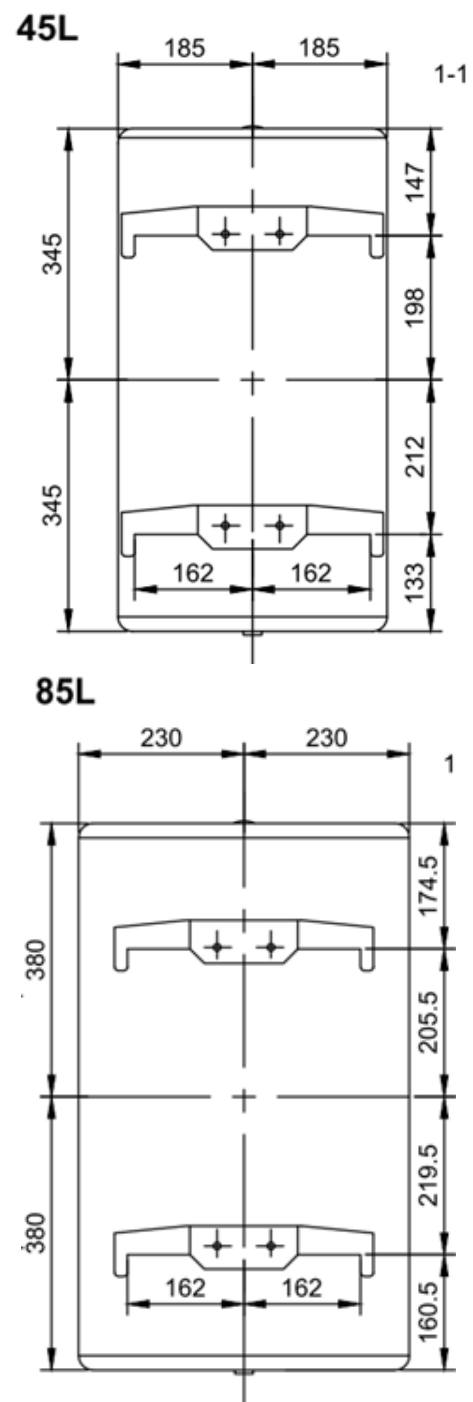
Step 3:

Hang the tank on the 4 fixing and tighten the accessible screws to allow the washers to hold the tank tightly against the wall.

Step 4:

From at least one side of the tank drill a 5mm hole through the bracket and fit a self-tapping screw through this to lock the tank in place

Note: Do not remove the brackets from the tank body

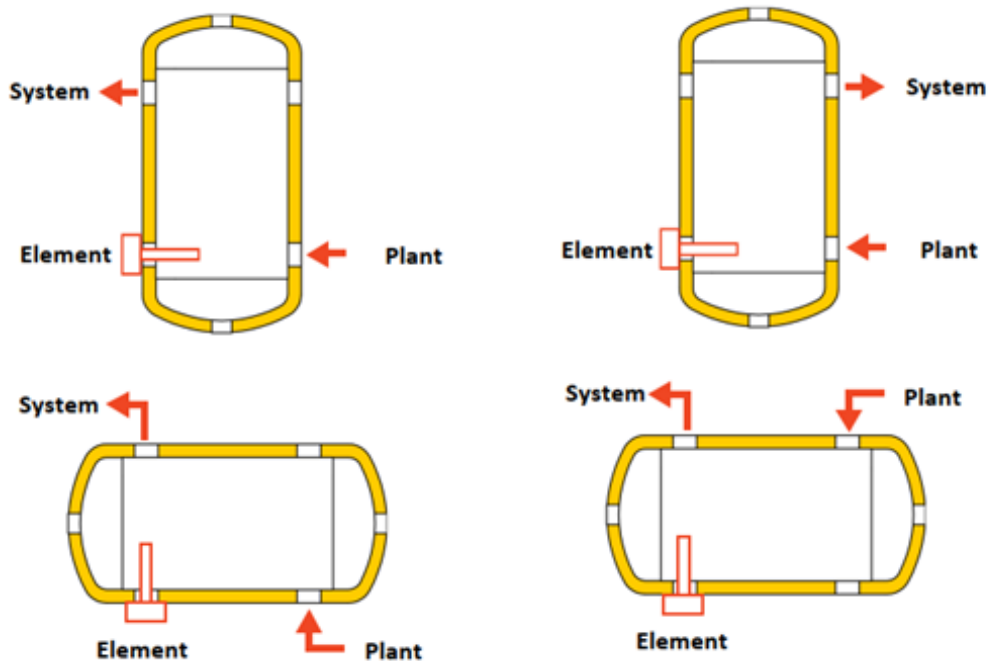


Electric Elements

The 45L & 85L Buffer tanks are suitable to be fitted with a 3kW electric elements (CHNZ product code = [TSE3KIT](#) or [TSE3KITD](#)). Please refer to our electric element installation guide on our website in the resources section for each of the previous element options.

Inertia Tanks & Elements

When installing an electric element in an inertia tank, the tank must be positioned on the heat pump's flow line so the heat pump can deliver maximum heating contribution before the element provides any additional boost. The electric element should be mounted as low as possible in the tank to maintain effective thermal stratification. The preferred port and element arrangements for these installations are shown in the drawings below:



Note: When installing an electric element, it is extremely important that the pressure relief valve cannot be isolated from the vessel/element.

Installation Requirements

This range of buffer tanks are intended for use in closed circuit, treated hydronic heating and cooling systems, no other use is permitted. The following must be considered before the installation:

- The 45L & 85L tank are suitable for external installation. Connections should be sealed with silicon or similar. The 18L tank must be installed in a dry location and must not be installed directly exposed to the elements.
- The systems must operate within the temperature and pressure limits published on the data plate of the tank.
- The 45L & 85L tanks must be installed vertically.
- The 18L tank can be installed vertically or horizontally, but at least one port must be facing down to permit draining of the tank.
- The system must be dosed with Fernox inhibitors.
- Review the manufacturers manual in full before installation of this tank.

Maintenance Requirements

To ensure a long operational life of these buffer tanks the following checks should be made during annual system maintenance:

- Checking of the system water quality, if required the water inhibitor levels shall be topped up. If the inhibitor levels are found to be low at each service, then the frequency of checking and dosing the system shall be reduced to ensure the inhibitor levels are kept at a suitable level until the source of the leak is found and resolved.
- Checking and removal of any air collected at the top of the tank.
- Checking of the system fill pressure, expansion vessel pre-charge, and operation of the system PRV/s.
- Checking and cleaning away any dust or moisture forming on the outside of the tank.



Warranty

Please refer to Central Heating New Zealand's standard warranty terms and conditions on our website.



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