



Combi - TankTM

Combined Buffer and DHW Cylinder

Installer Guide

Suitable for Heat Pump Hot water and Heating

Features as standard

Buffer coil for Pre heating of DHW via Higher COP extraction or secondary input to heating.

Dedicated Hot water reticulation connection.

Optional Solar PV inputs for both DHW and heating.

DHW Temperature gauge.

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Energy efficient heating solutions : Designed and developed for New Zealand homes.



Save more energy

Developed right here in New Zealand Combi-tank is designed to compliment our Inverter heat pumps. it's unique flexibility and energy saving features are also fully compatible with almost any brand of Air to water heat pump.

Key features

Energy saving pre heater coil for DHW Utilizes High COP energy to DHW	✓
High performance Large surface area coil for HP HW heating	✓
PV Solar ready DC element port in DHW Cylinder for PV to DHW input	✓
PV solar ready DC element port in Buffer tank for PV to heating input	✓
230V element port in optimized HP controlled position	✓
Reticulated DHW return connection point	✓
System pressure vessel anchor Tab for on case mounting	✓
Space Saving Design Buffer and Cylinder in a 550mm diameter single shell	✓
Duplex Stainless Steel with additional Anode protection in DHW Cylinder	✓
Tight space installation with all connections XX° accessible.	✓
Wipe Clean color steel shell with feet	✓

System buffering

In the base is a buffer tank providing Hydraulic separation between the heat pump and the attached heating system. Providing controlled and consistent Flow rates across the Heat pump for peak efficiency, the buffer also stabilizes demand, minimizing potential for short cycling of the HP compressor, to further enhance efficiency. The buffer is sized to ensure there is sufficient volume of water for a short and energy efficient defrost cycle. (Defrost is part a HPs normal operating process, miss managed it can be energy inefficient).

Pre heated domestic hot Water

Within the buffer tank is a coil specially designed to provide pre heating of the domestic hot water cylinder input. This pre heating coil utilizes heat energy from the Higher COP, low temperature HP input to the buffer tank body water. Contributing to the hot water heating system the pre heater reduces the cost of heating domestic hot water when the heating system is operational by up to 15% compared to a conventional HP to direct diversion to DHW cylinder coil system where heat input is at a lower COP.

Taking in the sun

Combi-Tank is configured to allow both the heating and Hot water system to benefit from Solar PV (power) input. Dedicated PV element ports are provided in both the DHW cylinder and the buffer tank for Solar DC input

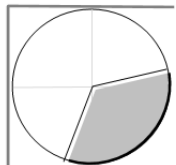
Fully managed hot water

Used with our HP's integrated hot water management system to achieve the best possible combined heat and hot water performance. The Heat-Logic system gives you complete control over DHW production including reticulation if required.

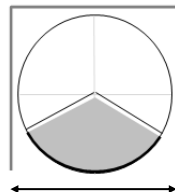
Smart and safe

Unlike some other HP systems our HPs fully manage Legionella protection of DHW with controlled, efficient and Safe dedicated scheduled programing.

DHW CYLINDER		BUFFER TANK	
Construction	Duplex SS	Construction	Duplex SS
Capacity	245L	Capacity	70L
Input Coil DHW	22mm OD 24M	Pre Heating coil*	22mm OD 6m
Hot & Cold ports	3/4" BSP Female	Coil connections	3/4" BSP male
Reticulation Return,	1/2" BSP Female	Buffer ports	1" BSP Female
TPR port	1/2" BSP Female	Element Port PV	1 1/4" BSP X1
Element Ports DC PV	1 1/4" BSP X1	Insulation	50mm PU
Element Port 230v,	1 1/4" BSP X1	Probe pockets	X 1
Probe pockets	X 2	Anode	N/A
Anode	Included	Sludge Drain	Included
Insulation	50mm PU in Shell	Insulation	50mm PU in Shell
Overall outer case dimensions . 2080 mm x 570 Diameter . Including feet			
Pre heat coil may alternatively used as an input source			



Pipe and element connections fall within a Radius allowing installation in tight cupboards and corners



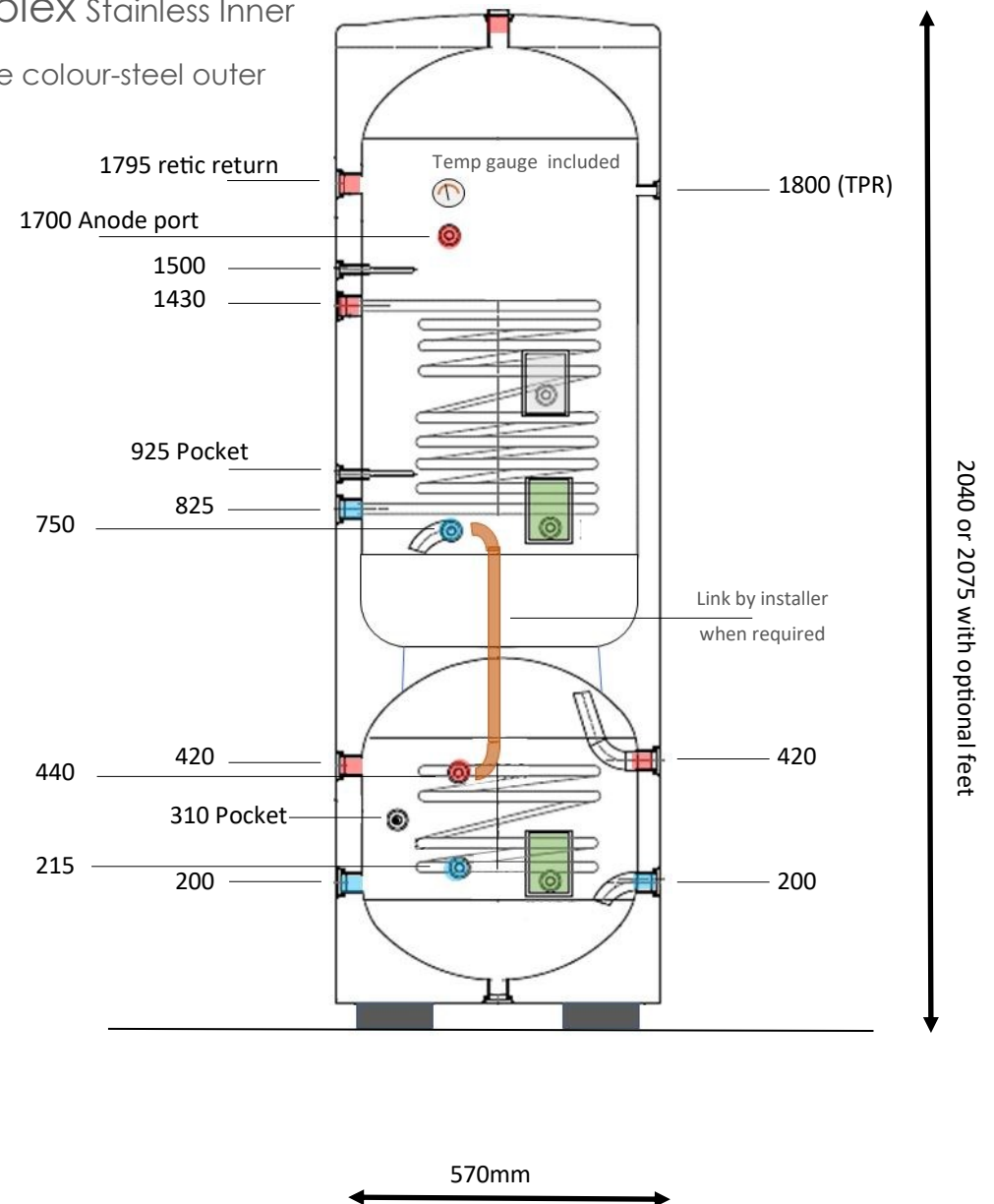
Min 650

Dimensions

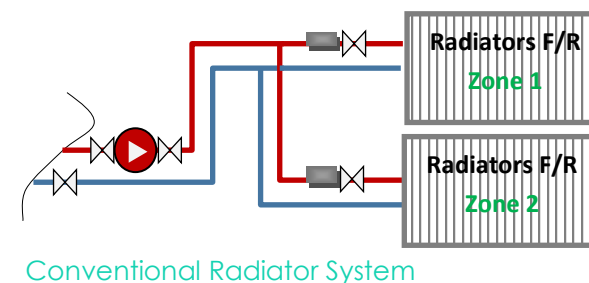
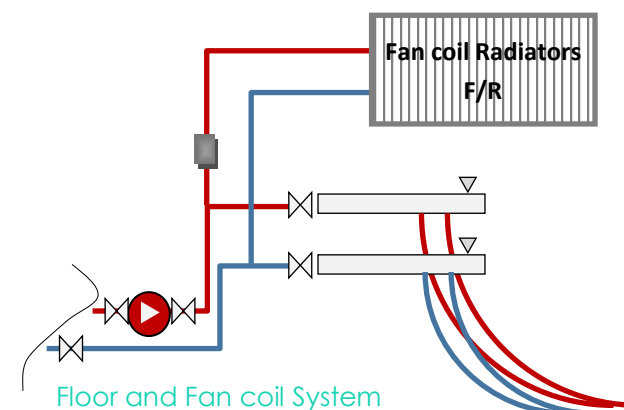
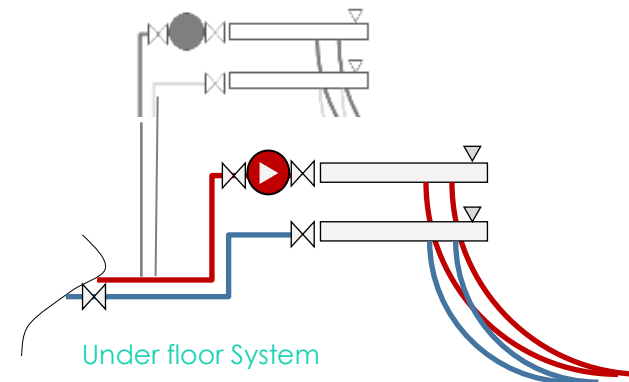
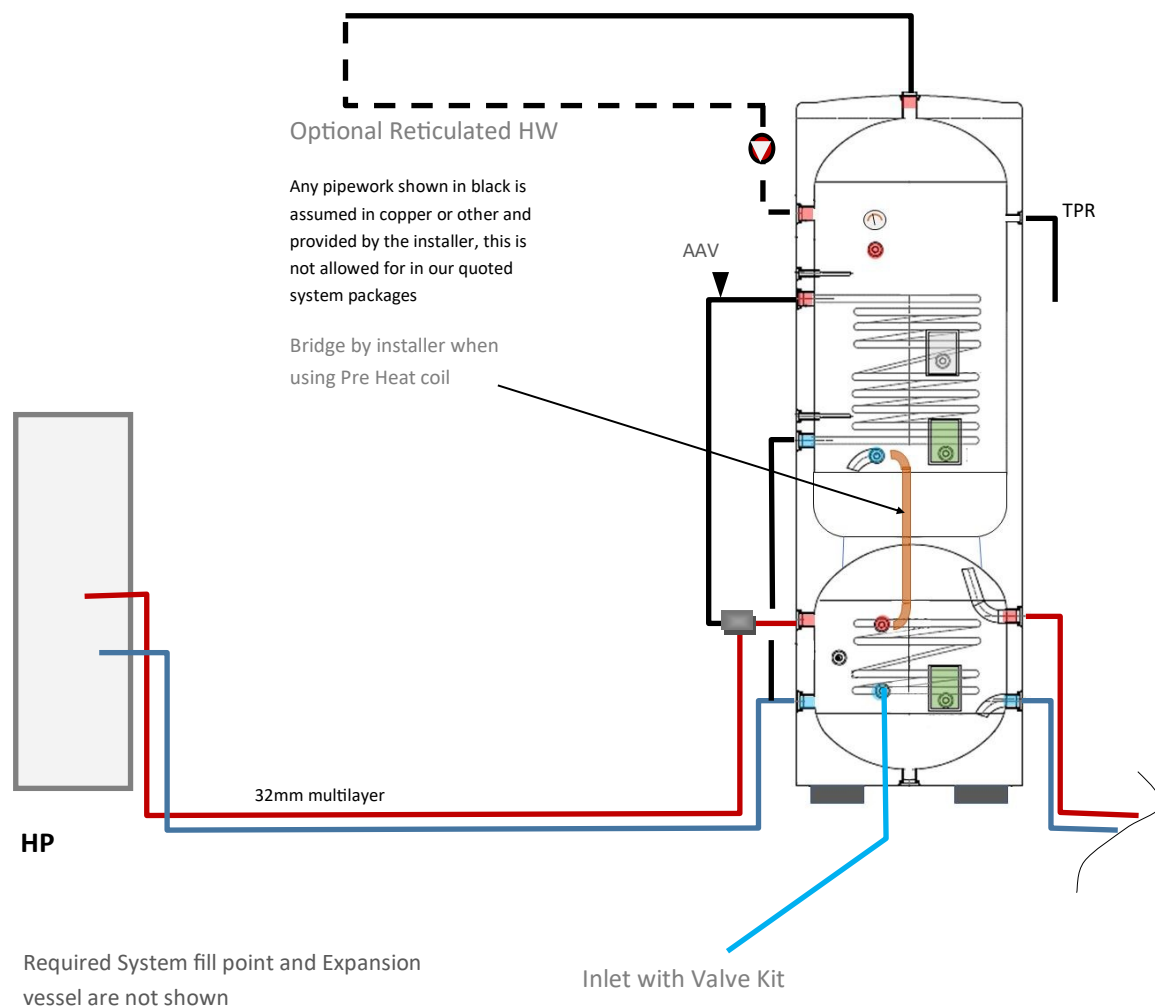
Dimensions may vary slightly due o manufacturing process

Duplex Stainless Inner

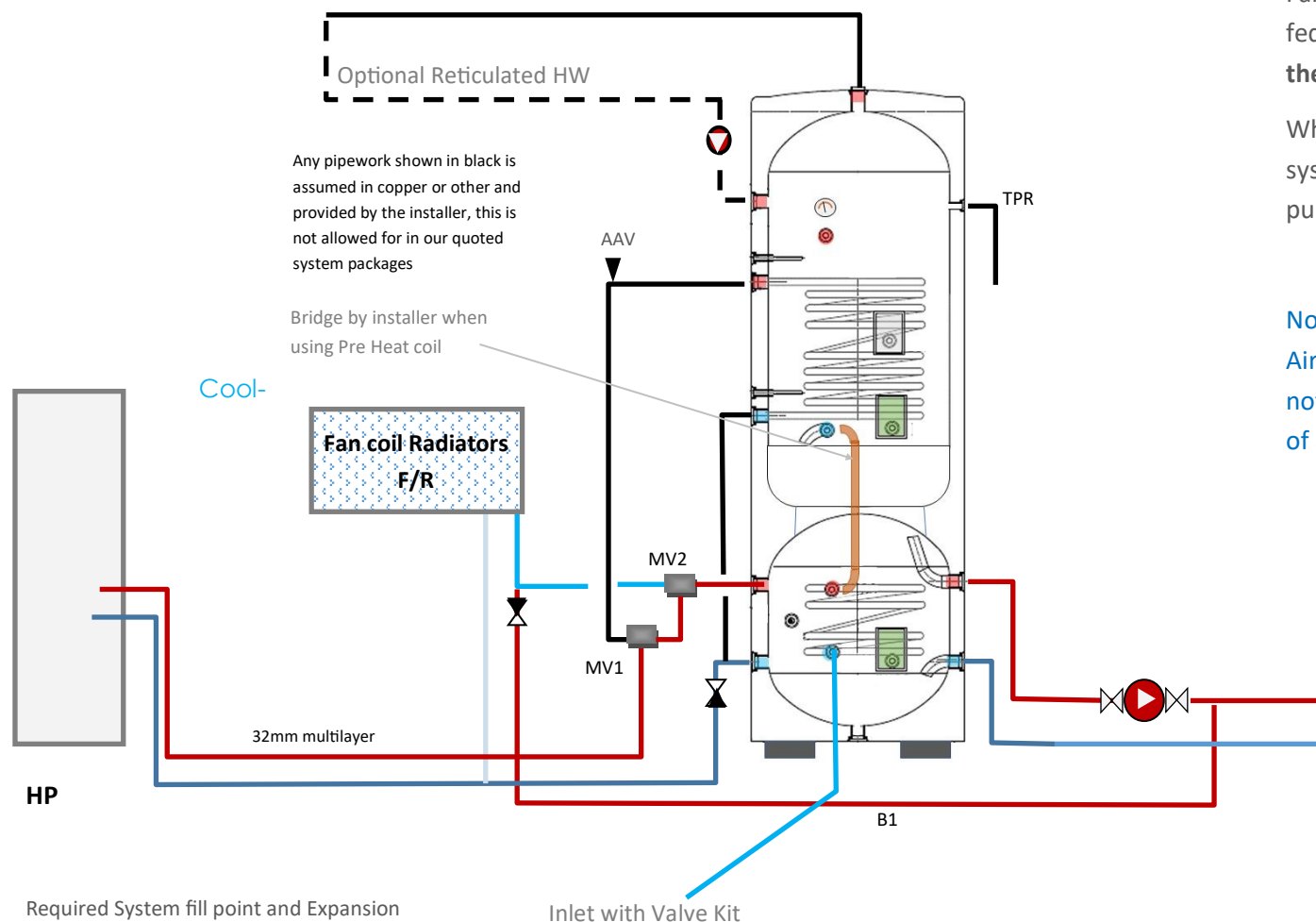
White colour-steel outer



Mechanical connections : Heating & Hot water systems



Mechanical connections : Systems with Cooling



Heat or Cool

Fan coils forming the **cooling** output system are fed via **MV2** when cooling is active, **in this mode the buffer is locked out of the system.**

When the fan coils are used as part of the **heating** system, The bridge **B1** is pumped via the system pump becoming the flow **MV2** is closed.

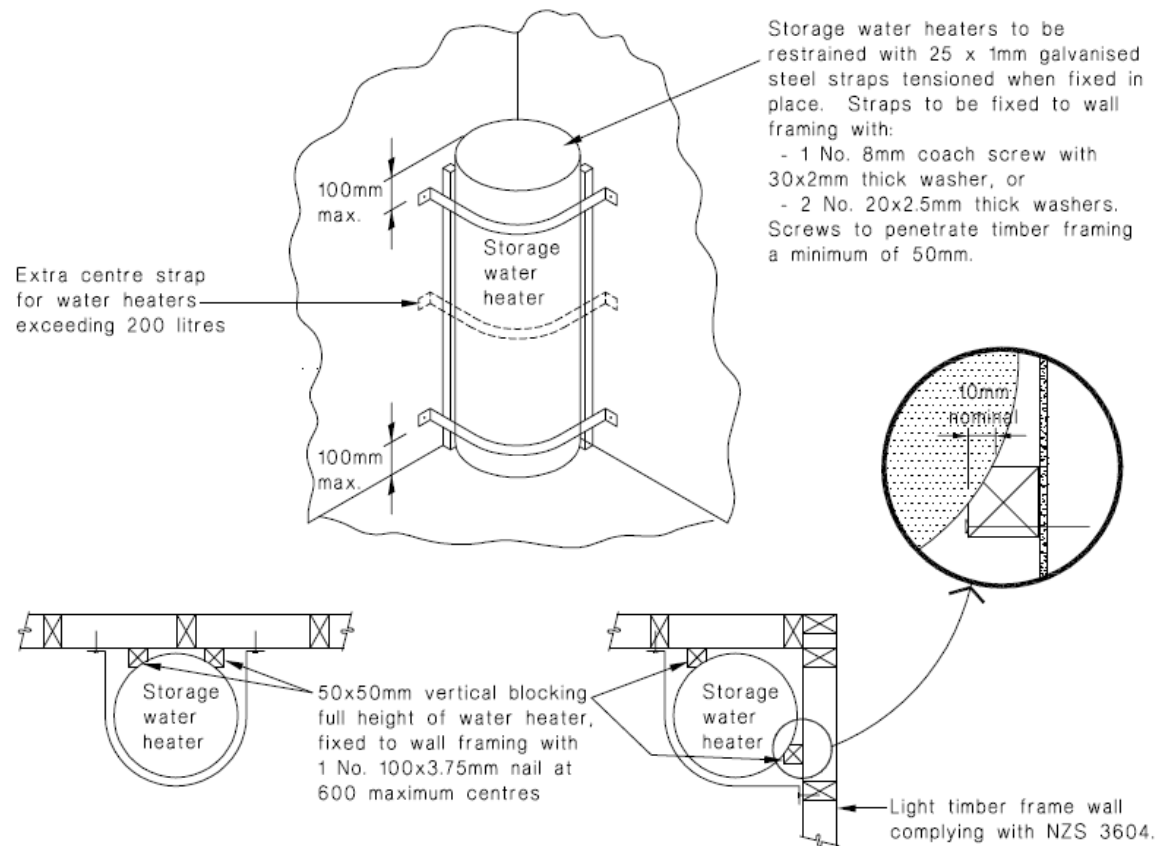
Note: cooling via an air to water heat pump is not Air conditioning. It offers limited capacity and will not notably reduce humidity. It should be thought of as a means to reduce temperatures not to chill.

Heating output

This could under-floor, fan coils or conventional radiators .

Seismic Restraint of Storage water heaters 90-360 Litres

Paragraph 6.11.4 Extract from G12 NZ



A Drain Tray must be used in all installations

Regardless of code which may require a drain tray A drain tray with a suitable drain connection must be included no claim will be accepted where failure to provide a drain tray leads to subsequential damage.

The drain tray is not Included.

Inlet valving

The following valving must be provided by the installer

A TPR valve. This must be installed using PTFE/Teflon tape not with hemp and paste.

A cold pressure relief valve.

An inlet pressure limiting valve not exceeding 500 KPA must be fitted this should include a service valve and a strainer

For 350 KPA inlet - a 700 KPA TPR with a 550 KPA cold relief

For 500 KPA inlet - a 850KPA TPR with a 700KPA cold relief

A Non return Check valve must be included on the Cold inlet line before the cold relief valve.

Warranty is void where the above items are not installed

Where the water supply is limited (Rain water supply for example an expansion tank on the hot water cylinder is recommended.

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Correct at the time of publishing specific details may be subject to change

Combi-Tank warranty **5 Years** from Date of purchase.

The following conditions apply

- 1/ This Combi-Tank must be installed Internally or in a place where it is not exposed to rain or aggressive salty or sulphureous atmosphere .
- 2/ Use and installation must be as intended, in line with the requirements in this manual.
- 3/ Temperatures within the Buffer and cylinder body must not regularly exceed 90°
- 4/ Any system connected to the buffer body or cylinder coil must include a suitably sized expansion vessel
- 5/ Inhibitor at the correct level must be included in the water within the Buffer and applied through the cylinder coil.
- 6/ **Periodic maintenance is required.** The anode fitted in the DHW section must be replaced every Max 48 months using the original manufacturers part . All connections should be checked for soundness and any leaks rectified promptly.
- 7/ The warranty on this Combi-Tank does not Cover damage as the result of Harsh water quality .

TDS up to 650 PPM - Total Hardness up to 200 PPM - Dissolved CO2 25 PPM - PH 6.5-8.5

Warranty covers reasonable time labor for replacement up to a maximum of 6 Hours at a rate not exceeding that set out in our published terms and conditions. We also cover a nominal travel expenses again as set out in our terms and conditions.

This product warranty does not cover consequential damage and does not cover additional costs such as call out fees.

Warranty is only applicable when installed and used as prescribed in a single domestic situation .

Warranty is 1 year only in any commercial application.



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