



Manifolding of Multiple Heat Pump Hot Water Heaters

Ambiheat® 270 A55127005 / AmbiPower® 280e A551E280R5

A multiple installation of Rheem heat pump water heaters on a single manifold or multiple manifolds is possible, using the Equa-Flow® manifold system, where large volumes of hot water is required. The Equa-Flow® principle will function with water heaters in line or in rows back to back or around an external corner. Due to air flow requirements, it is not recommended to install the water heaters around an internal corner.

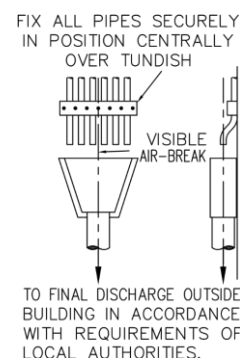
The cold water and hot water manifolds must be designed to balance the flow from each water heater. To achieve this, there are basic installation requirements and principles which must be followed:

1. The maximum number of water heaters in a bank should be 8, however several banks of water heaters can be installed.
2. The hot water line from the manifold must leave from the opposite end to which the cold water line enters the manifold.
3. The water heaters must be of the same model.
4. The cold water line, cold and hot headers and hot water line must be sized to meet the requirements of both AS/NZS 3500.4 and the application. Refer to the [table on page 2](#) for the minimum header and branch pipe sizes.
5. A non-return valve, isolation valve and if required a pressure limiting valve and expansion control valve(s), must be installed on the cold water line to the system.
6. A full flow gate valve or ball valve (not a stop tap, as used on a single water heater installation) must be installed on both the cold water branch and hot water branch of each water heater.
7. An expansion control valve for each water heater can be installed into a brass Tee on the cold branch to the tank after the gate valve or ball valve, in lieu of installing them on the cold water line to the system.
8. Non-return valves or pressure limiting valves must not be installed on the branch lines to the water heaters.
9. All fittings, valves and branch lines must be matched sets all the way along the manifold.
10. Sufficient space must be left to enable access, servicing or removal of each water heater.
11. The temperature pressure relief valve drain line from each water heater can terminate at a common tundish (funnel) with a visible air break at each drain discharge point.

Refer to the [diagrams on pages 2 to 4](#) for installation, plant layout and manifold details.

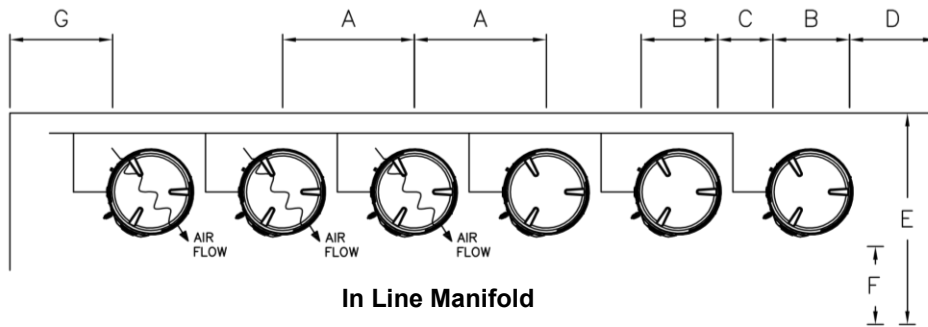
In addition to the basic installation requirements and principles of manifolding, the following requirements for manifolding heat pump water heaters of this model must be followed:

12. The heat pump water heaters can be installed in the same orientation as a standard single water heater installation, with the cold and hot water connections of the water heater parallel to the wall.
13. A minimum of 900 mm is required in front of each heat pump water heater to enable access, servicing or removal of the water heater.
14. A circulated hot water flow and return system must not be returned back into the heat pump water heaters. If a circulated hot water system is required, the flow and return line connects to either a secondary water heater to make up for the pipe heat loss in the flow and return system or to an inline booster water heater(s), not the heat pump storage tank(s).



**TPR Valve Drain Line
Common Discharge Point**

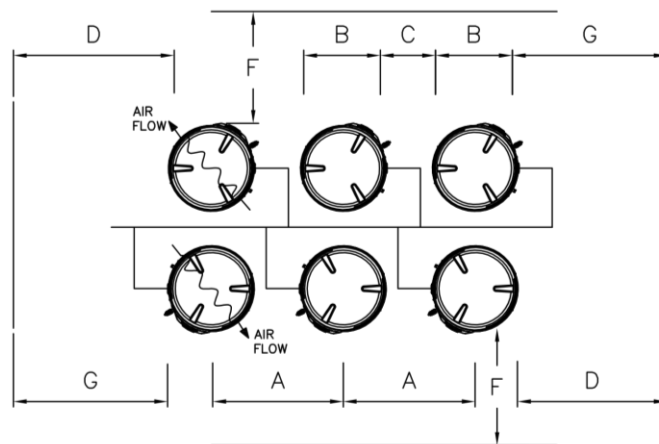
Installation Dimensions – Multiple 551270 Heat Pump Water Heaters



In Line Manifold

INSTALLATION LAYOUT MINIMUM DIMENSIONS HEAT PUMP 270

A	940
B	690
C	250
D	1000
E	1650
F	900
G	900



Back to Back Manifold

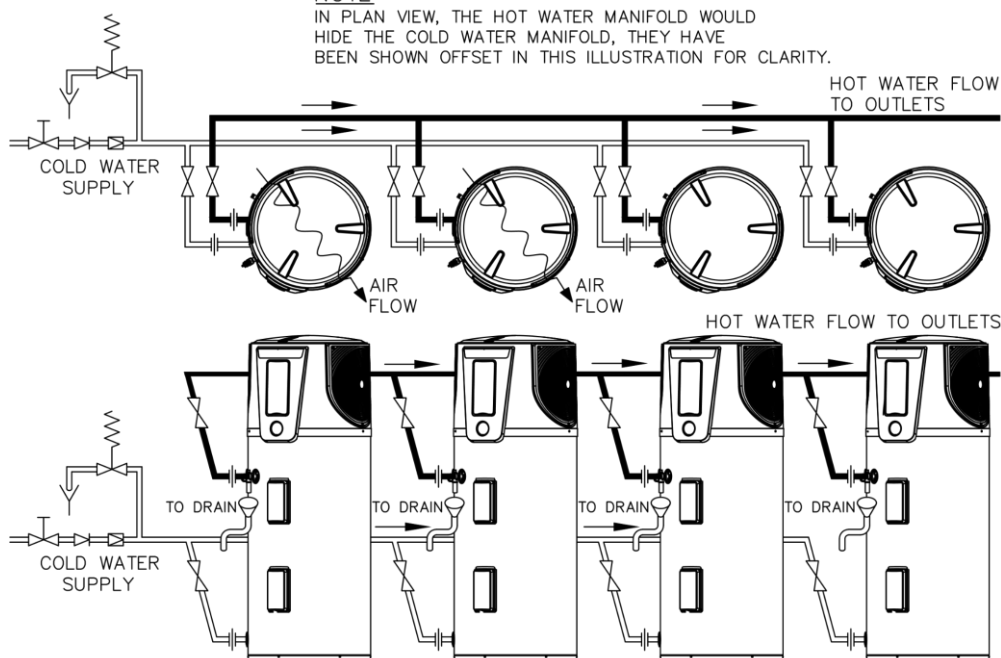
PIPE SIZE		
No. of Water Heaters	Header Size Cold/Hot	Branch Size Cold/Hot
1	DN20	DN20
2	DN25	DN20
3	DN32	DN20
4	DN40	DN20
5	DN50	DN20
6	DN50	DN20
7	DN50	DN20
8	DN50	DN20

This pipe sizing is designed for a maximum water velocity of 1.2 m/s for a maximum flow rate of 0.25L/s per water heater.

Typical Installation – Multiple 551270 Heat Pump Water Heaters – Dead Leg

NOTE

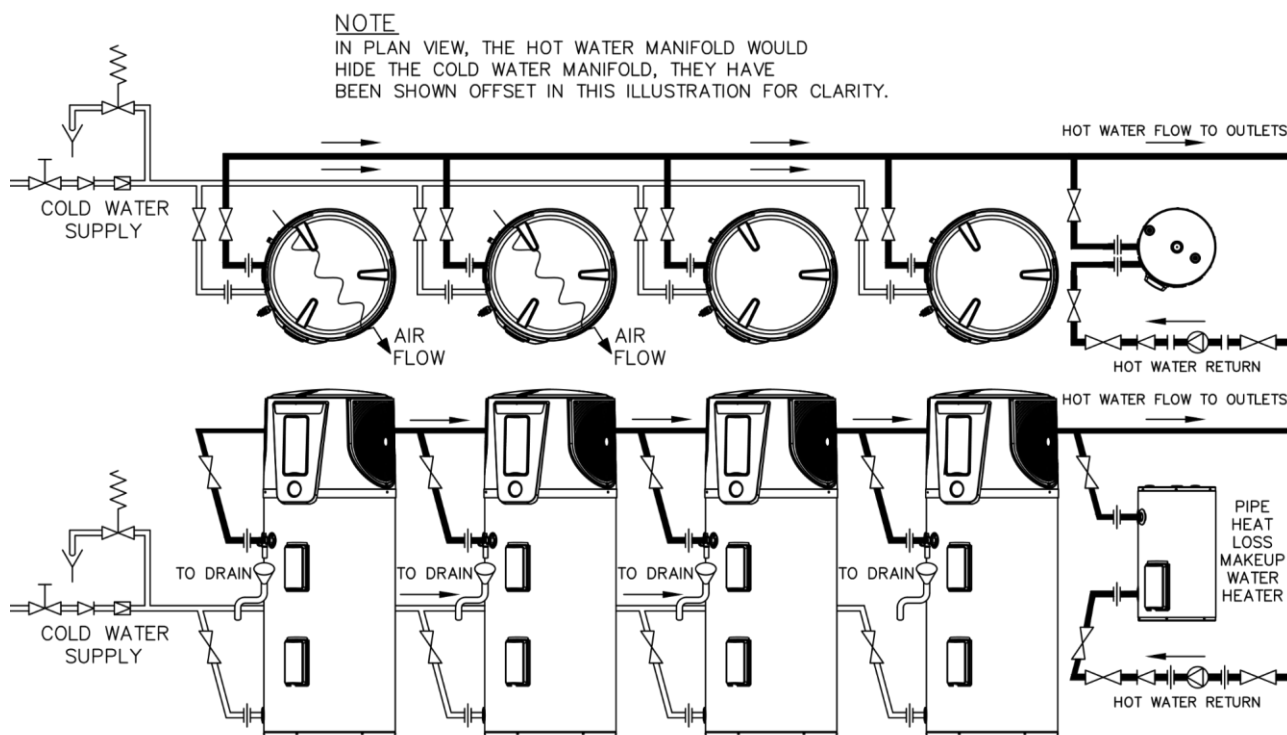
IN PLAN VIEW, THE HOT WATER MANIFOLD WOULD HIDE THE COLD WATER MANIFOLD, THEY HAVE BEEN SHOWN OFFSET IN THIS ILLUSTRATION FOR CLARITY.



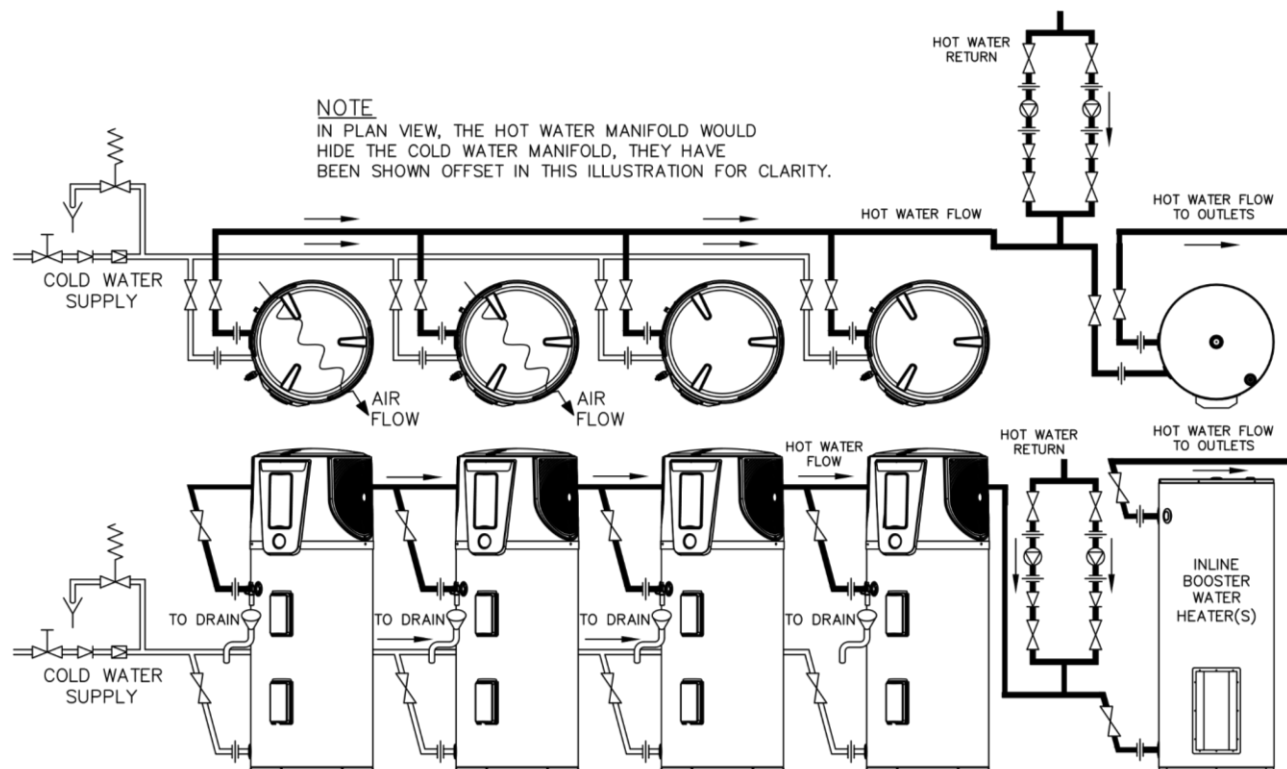
LEGEND

	STOP VALVE
	NON RETURN VALVE
	PRESSURE LIMITING VALVE
	EXPANSION CONTROL VALVE
	GATE VALVE
	CIRCULATOR
	UNION
	TUNDISH
	DIRECTION OF FLOW
	COLD WATER SUPPLY
	HOT WATER FLOW & RETURN

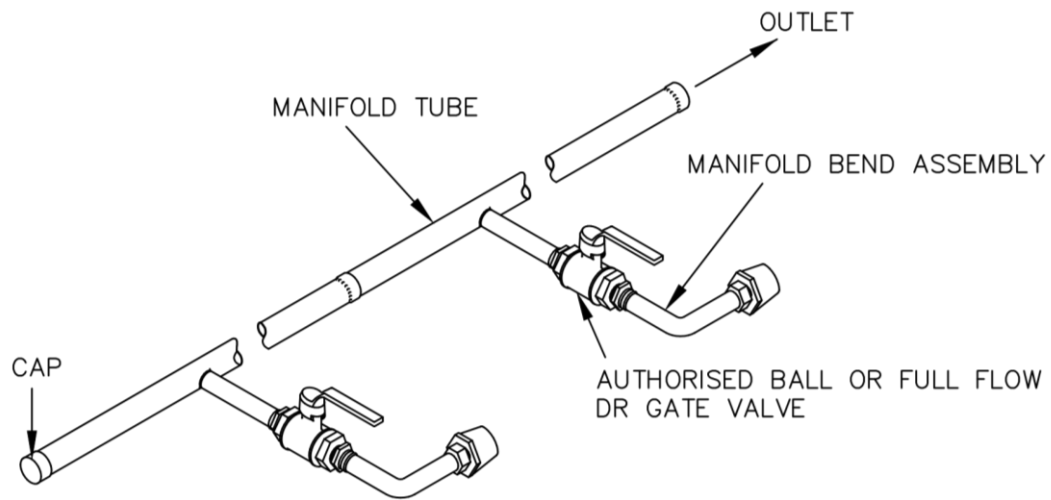
Typical Installation – Multiple 551270 Heat Pump Water Heaters – Recirculating No Boost



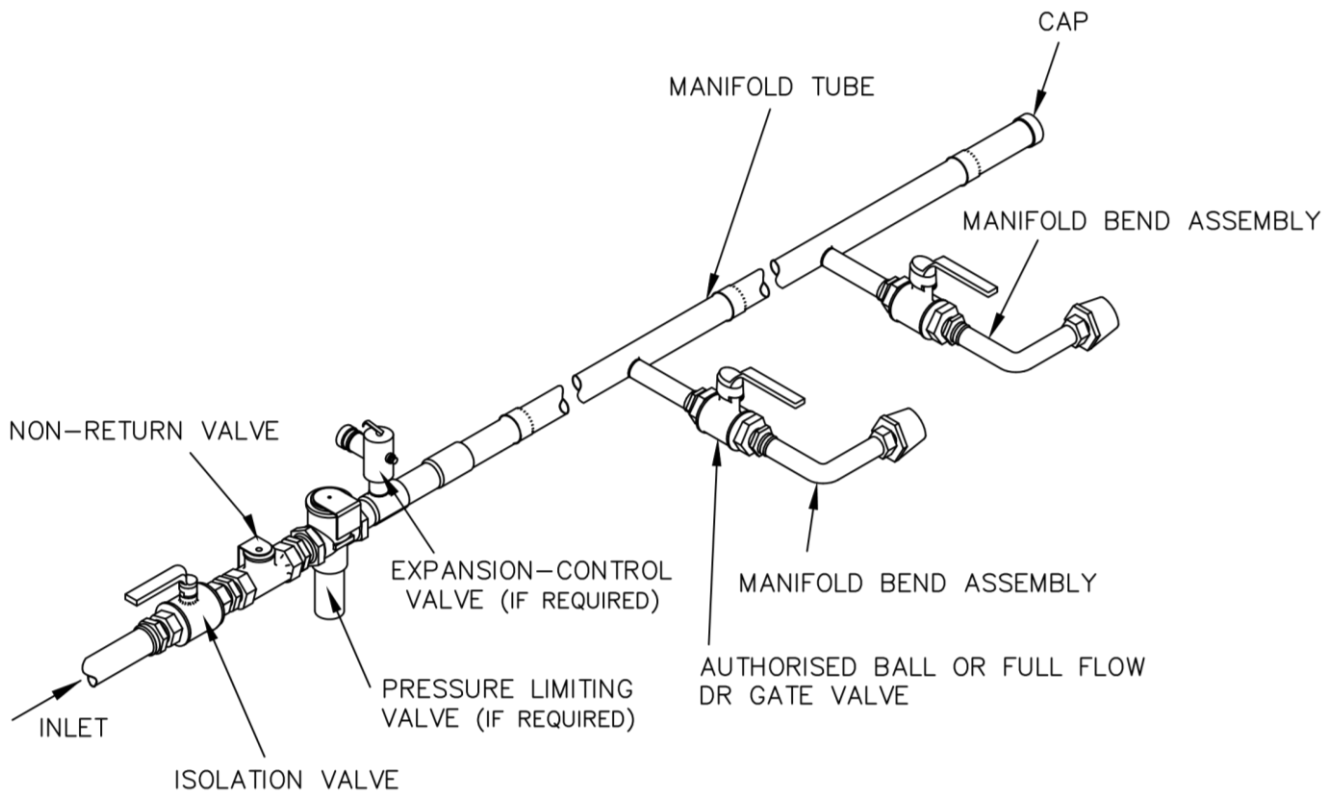
Typical Installation – Multiple 551270 Heat Pump Water Heaters – Inline Boosting



Manifold Arrangement – Multiple 551270 Heat Pump Water Heaters



HOT HEADER ASSEMBLY



COLD HEADER ASSEMBLY

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