

Sanden's Gippsland Sales & Service Agent

Sanden Eco Plus Heat Pump - Plumbers Information

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Please note: This is general information only & installation details are subject to change
Refer to detailed information in the latest [Sanden Eco Plus Installation Manual](#).

KJ Multi Maintenance has been providing quality heat pump hot water systems for approximately 15 years and strives to provide its customers with professional sales and installations.

We believe SANDEN heat pump systems are the best on the Australian market and this is backed by the Australian Government currently offering the largest rebates for any heat pump hot water system.

Tank Sizes

The system comprises of a selection of Stainless Steel tanks ranging in size from 160 Lt, 250 Lt, 300Lt or 315 Lt. All tanks are Australian made and have a 10 year full warranty and an additional 5 year pro rata warranty, giving 15 years of reassurance for your customer.* There is also a 315Lt vitreous enamel tank specifically for areas with poorer water quality. (**terms & conditions apply*)

Tanks are supplied with a 700 Kpa pressure relief valve.

Heat Pump Unit (HPU)

The Heat Pump Unit is Manufactured in Japan by Sanden and backed by Sanden Australia. This unit has a 6 year warranty.

Installation

The tank is connected via 15mm copper tubing to the Heat Pump Unit (HPU). This is done on site by the installing plumber and pipework needs to be insulated with UV stabilised thermal insulation.

To save you time, we would suggest you purchase from us an AVG connection kit making installation hassle free. It contains the following parts:

1 X 15mm isolation /non return / pressure limiting valve (500 Kpa)

1 X Tempering Valve

1 X cold expansion valve

Brass olive connections to connect the tank to HPU

Insulation covers for the above fittings.

Installing plumber to supply the following; (or if preferred we can supply)

15mm copper pipe - approximately 6 metres

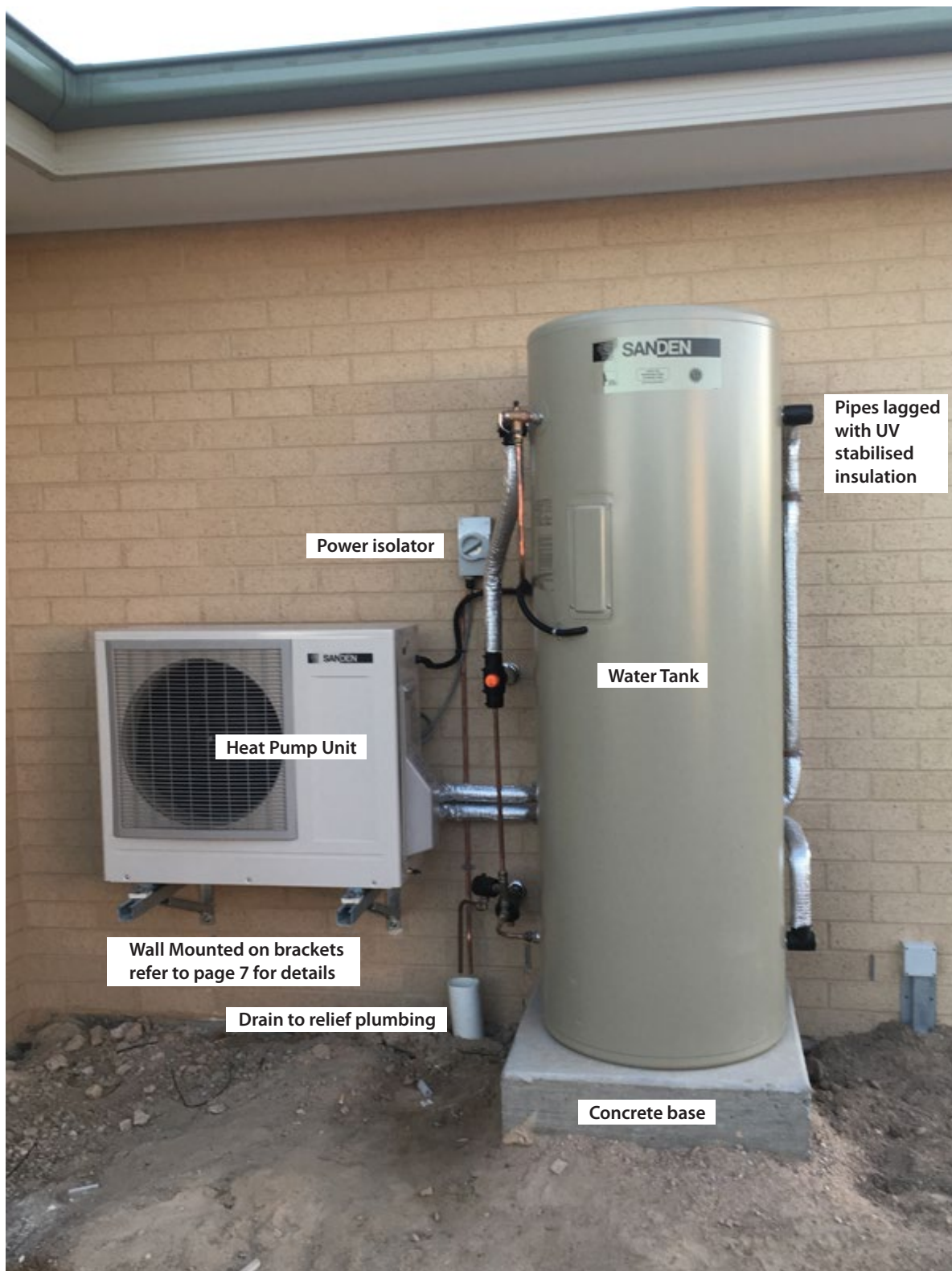
15mm thermal UV stabilised insulation approximately 6 metres

The labour content by the installing plumber is the same as a mains pressure hot water system, with the addition of approximately 1.5 hrs. to connect the tank to the Heat Pump unit.

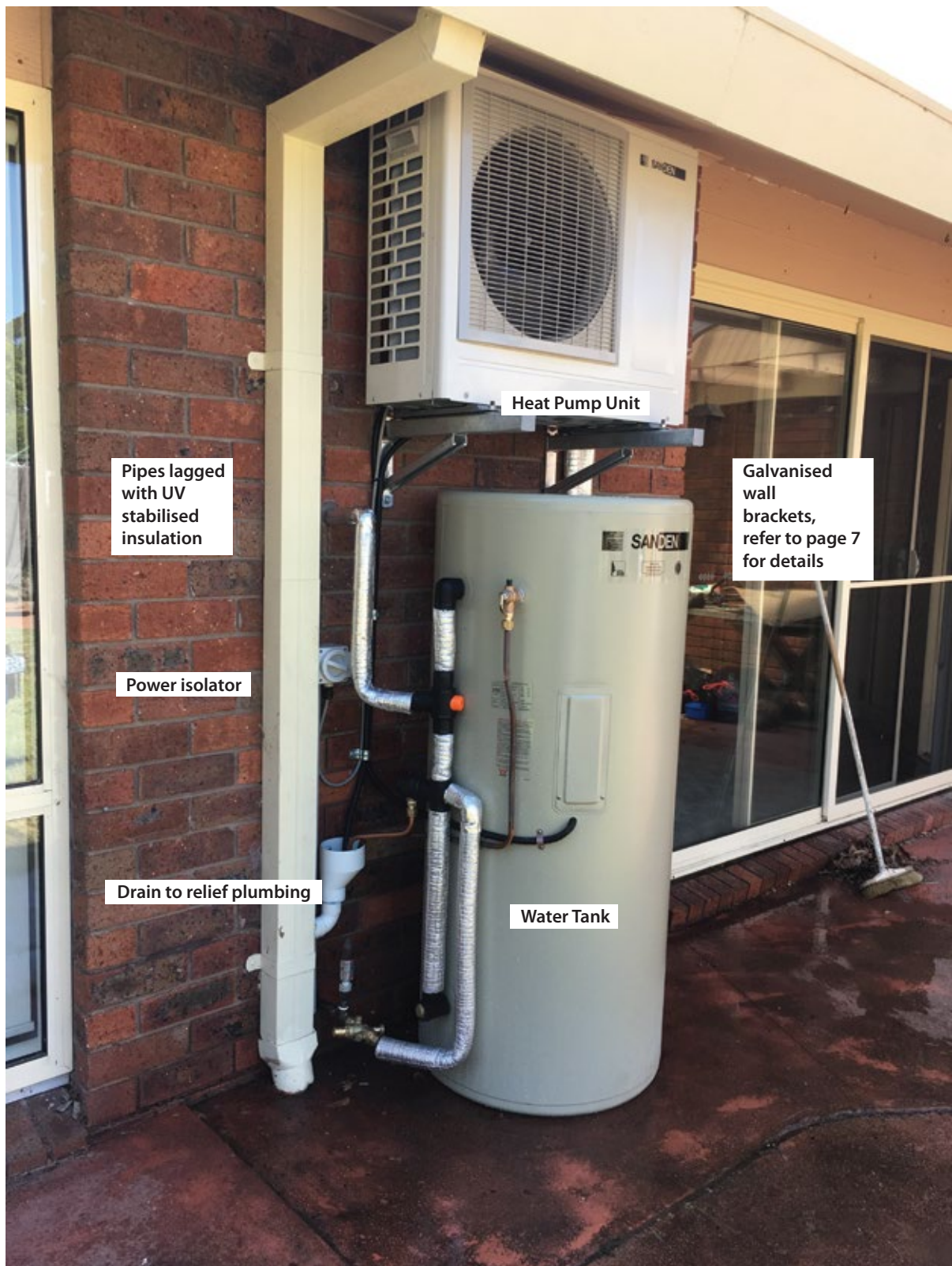
The Heat Pump unit can be up to 15 metres from the tank or 5 metres above the tank if required.

Help & Advice

Further installation details follow. More detailed information is in the Sanden Eco Plus Installation Manual. Immediate technical advice can be accessed by calling us on 1800 91 30 50 - please don't hesitate to call.



1 - In this new build installation, the heat pump is wall mounted on sturdy galvanised brackets that we can supply as part of your install kit. Alternatively, the heat pump can be mounted on a slab. We can also supply all the plumbing fittings if needed, to save you sourcing them yourself.



2 - In this installation the heat pump is mounted above the tank, saving space.
Note all pipe work is lagged to ensure optimum performance and efficiency.



3

An example of Heat Pump positioned away from tank

4

Tank indoors and raised off floor

All pipes and valves are lagged





5

Note use of water filter in this installation. This may be necessary in case of poor water quality, or when using water from mixed sources. Please refer to page 10 and 11 for important notes on the quality of water supply.

Tank on slab, heat pump on wall brackets.

All external pipework and valves must be lagged with UV stabilised insulation

Installing plumber to supply the following; (or alternatively we can supply everything as a kit)

Copper pipe - approximately 6 metres

Thermal UV stabilised insulation approximately 6 metres

Tank base if required

Suitable fixings if using wall brackets to fix heat pump unit

Heat Pump Installation - Typical arrangements

Please refer to following pages for installation clearances and to Sanden Eco Plus Installation Manual for full details

Option A - Heat Pump can be fixed to wall above cylinder using galvanised steel brackets and anchor fixings

or

Option B - Heat Pump can be positioned on the ground, ideally on a concreted area

Water Tank

Tank Unit can stand on Polyslab or 'Pizza' style base on existing concrete. If standing on earth, a suitable Polyslab is required. We can supply this if required.

Please ensure the tank is properly supported as it is a considerable weight when full of water.

Install tank so that water does not pond around the base in exposed locations.

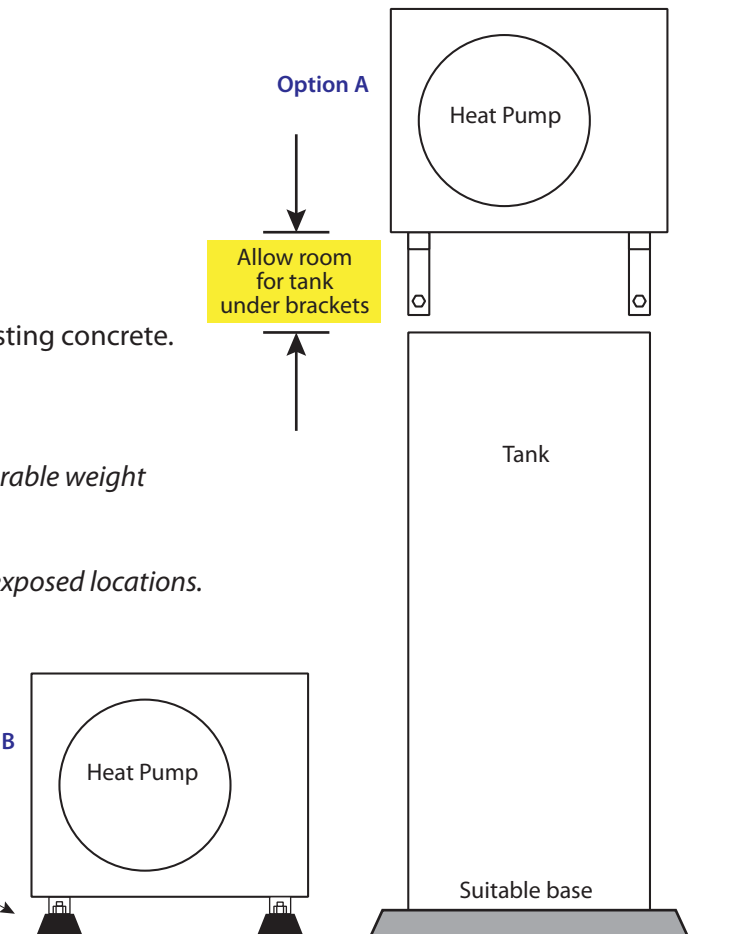
Heat Pump - if placed on concrete use rubber isolation blocks **supplied with every unit** to dampen noise

Option B

Option A

Allow room for tank under brackets

If wall mounting heat pump, allow at least 300mm above unit for servicing



Heat Pump Unit - Typical wall fitting

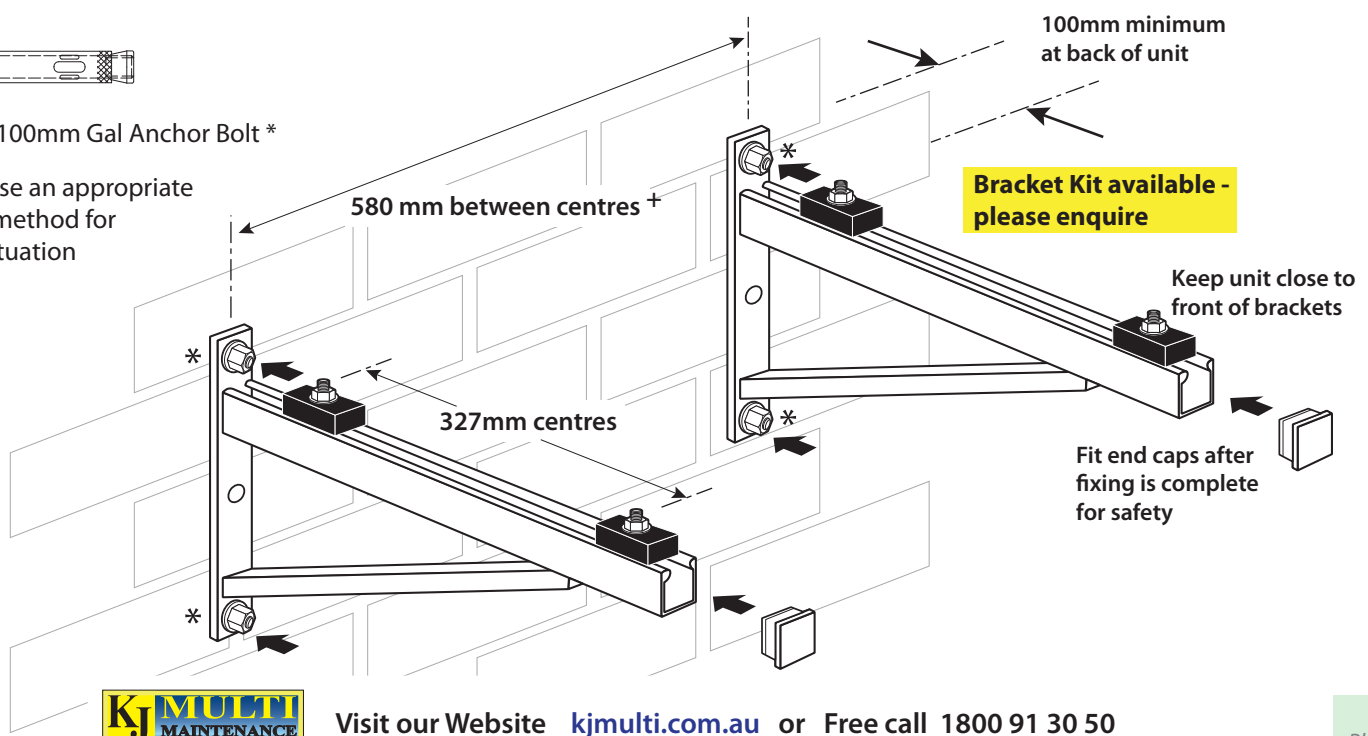
Important - If tank is directly under the Heat Pump Unit, make sure brackets do not interfere with positioning the tank

+ Important - Check measurement between centres before fixing brackets

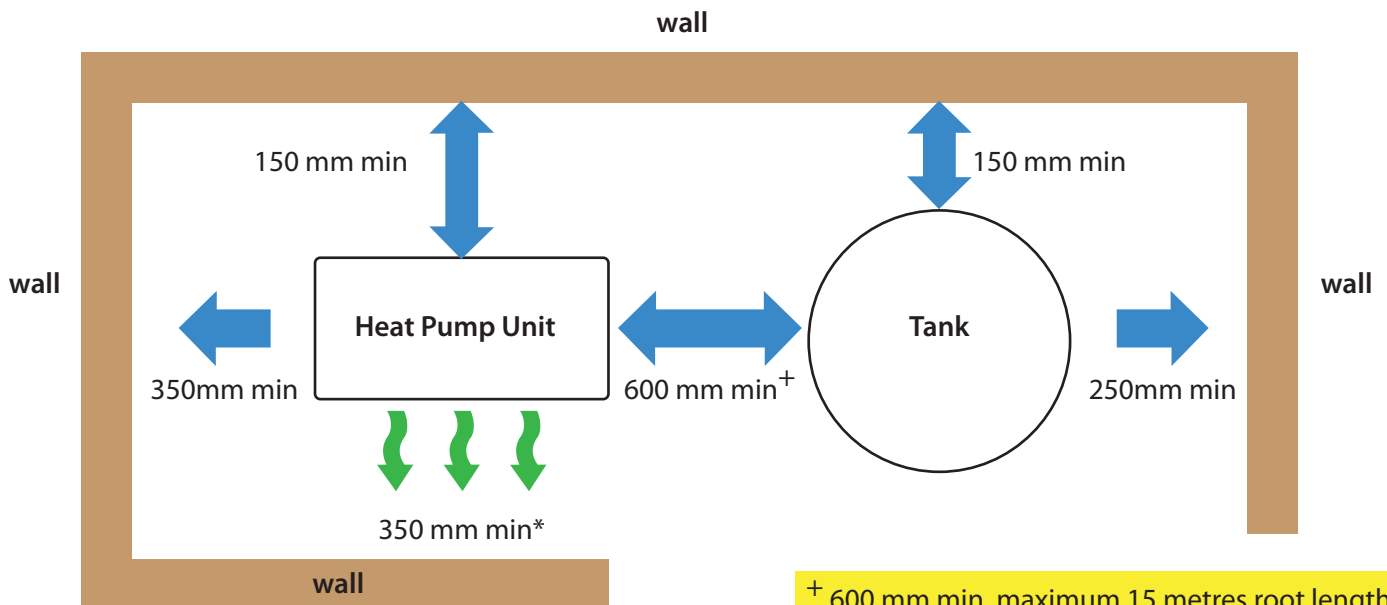


M12 x 100mm Gal Anchor Bolt *

* Choose an appropriate fixing method for your situation



The illustration shows minimum installation distances from existing walls, fences and other structures.
Important - Further notes and requirements are detailed in the Sanden Eco Plus Installation Manual



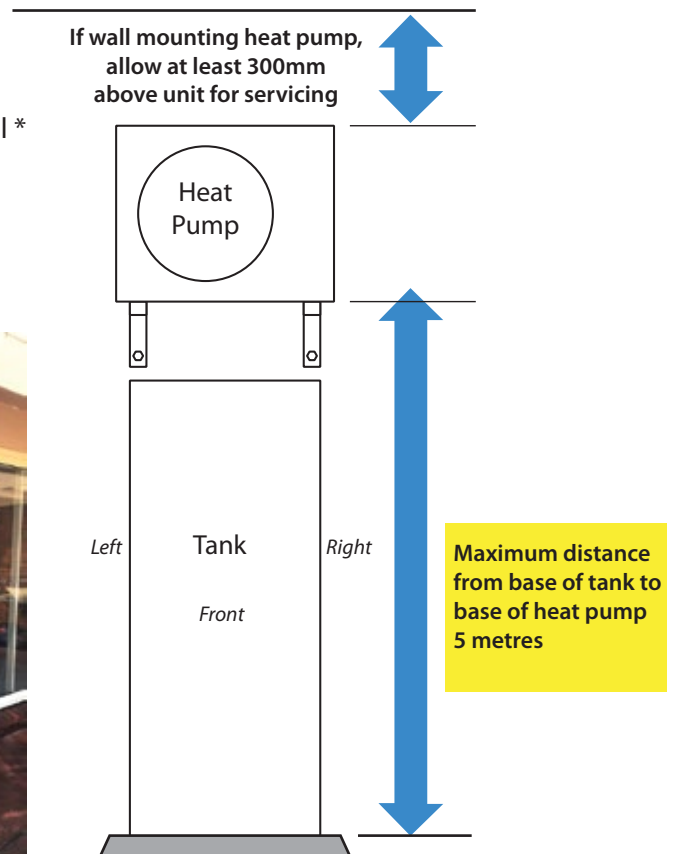
* up to 1200mm wall height.

If wall is over 1200mm, increase this clearance to 600mm

⁺ 600 mm min, maximum 15 metres root length
OR 5 metres from base of tank when mounting
Heat Pump above the tank

Heat pump Installation Notes

- 1 Heat Pump Unit may be installed on left or right side of tank
- 2 Heat Pump Unit may be installed on concrete, or fixed to wall *
- 3 Heat Pump and tank dimensions are in the Sanden Brochure
- 4 More details are in the Sanden Eco Plus Installation Manual



* See pages 9 - 13 for more installation photos

The Sanden Eco can be supplied with a 'Quickie Kit' containing AVG quality control valves and pipe fittings needed, making installation even more straightforward.

Every effort is made to ensure correct information is given. This information must be read in conjunction with the Sanden Eco Installation Manual. If you are unsure, please contact us for advice.

1. Quickie Kits: Our range of quickie kits has been modified slightly to improve the suitability of the product and bring it in line with market needs. As such, the Sanden range now consists of the following Kits:

(a) Part No. QIK15-HPUMP - This kit comprises all the necessary valves for a standard 15 mm install.

(b) Part No. QIK20-HPUMP - This kit comprises all the necessary valves for a standard 20 mm install. Please note the fittings for the heat pump side are 15 mm as there is no advantage in running 20 mm when the heat pump is reduced to 15 mm. The relevant schematic showing the layout is attached.

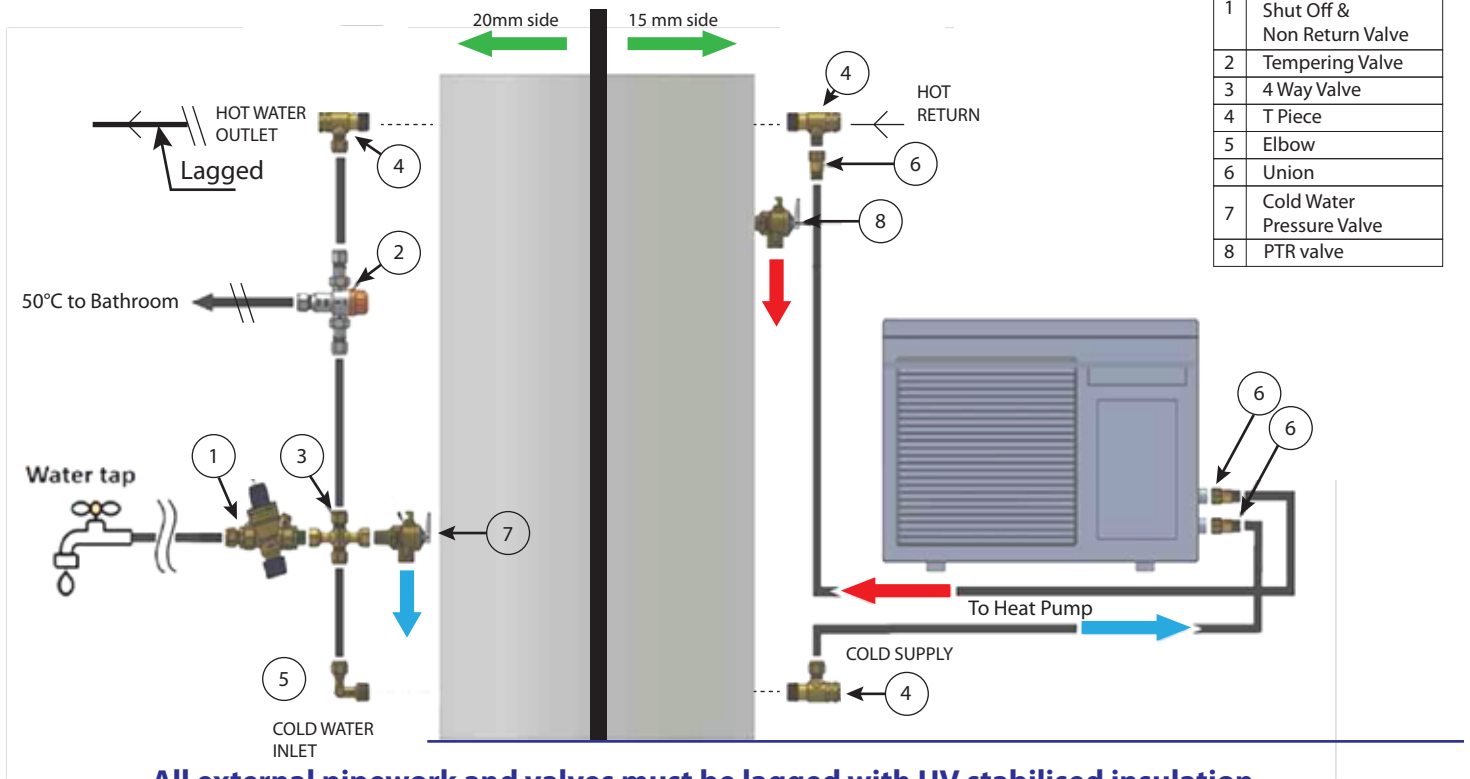
2. Cold water expansion Valves: We appreciate that in some areas a cold-water expansion valve is not a regulatory requirement, however, the system is marketed as energy efficient, so the fact that a cold-water expansion is included is an opportunity to upsell - don't waste energy heating it to only let it go....

3. Ring Main Systems: We are receiving requests about ring main systems. With the Sanden Heat Pump system, it is critical that the returning warm water go to the top of the tank, because the heat pump tank is stratified and returning warm water to the bottom will destroy the stratification. It is important that the ring main is not tempered, a tempering valve should be used at the point of delivery. A relevant schematic has been included on the next page, to assist.

Typical Install using 20mm Quickie Kit

Every effort is made to ensure correct information is given. This information must be read in conjunction with the Sanden Eco Installation Manual. If you are unsure about any aspect of the intallation, please contact us for advice.

20mm QUICKIE Kit



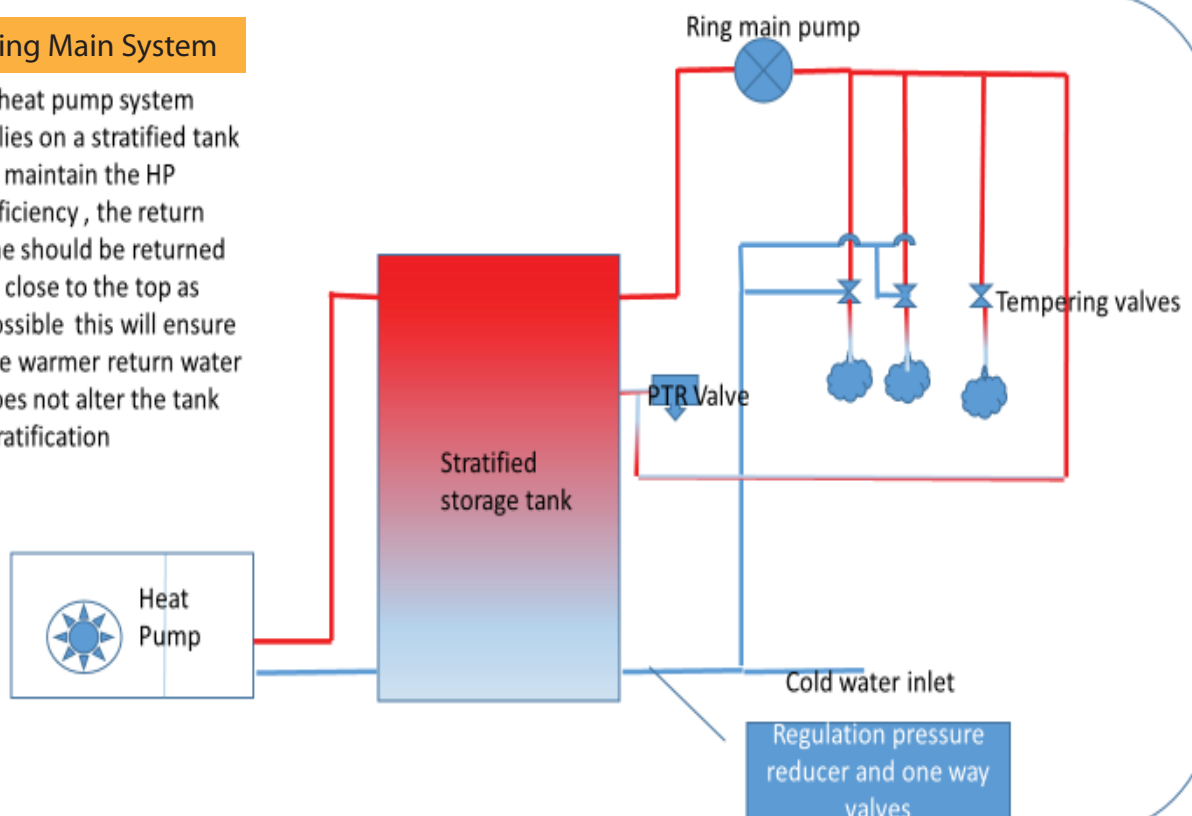
All external pipework and valves must be lagged with UV stabilised insulation

Installation layout of ring main system when using the Sanden Heat Pump System



Ring Main System

A heat pump system relies on a stratified tank to maintain the HP efficiency, the return line should be returned as close to the top as possible this will ensure the warmer return water does not alter the tank stratification



Water Supply Quality

As you know, water quality can affect the life of any HWS.

Please assess the the water quality at the premises, and if mains connected, seek advise from the local authority if unsure.

If the property has a tank water supply, a filter must be fitted. Other water sources such as bore water need to be assessed for quality and appropriate measures taken to improve quality to the specifications required to satisfy Sanden's warranty conditions.

In some areas, you may need a water filter and possibly a water softener. There is also a vitreous enamel tank available to help in these situations.

We can supply all the parts necessary to install filters and softeners, saving you time.

See next page for water quality requirements and softener.



Typical water filter installed

Water Filter (for tank water)



Typical water filter



Filter Spanner

Supplied as a kit on request



100 micron
washable
pre filter x1

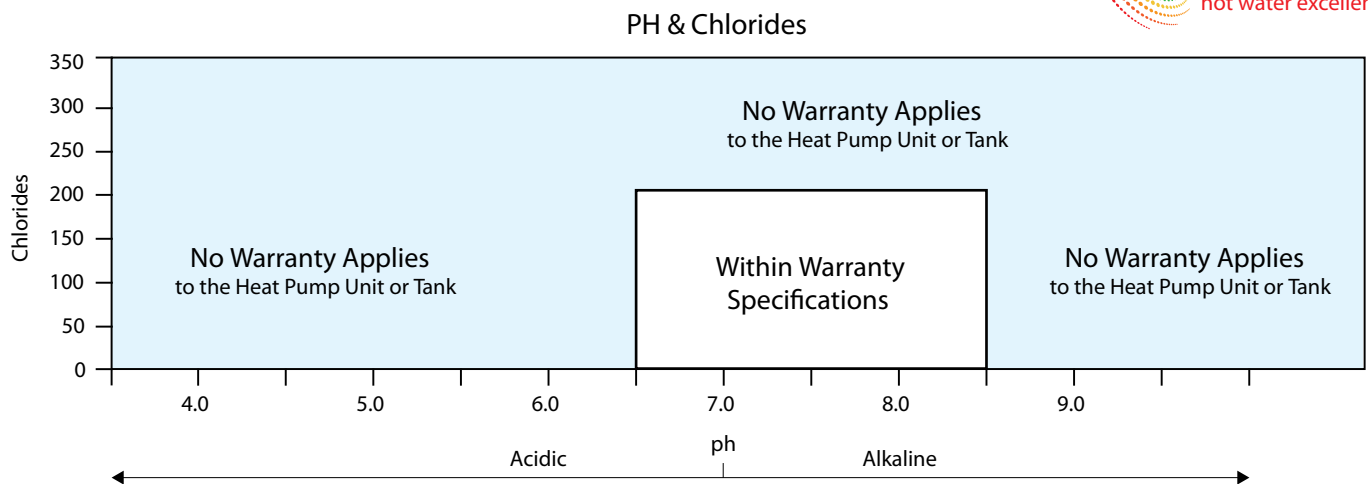


10 micron
replaceable
filter x2

Change of water supply

Changing, or alternating, from one water supply to another can have a detrimental effect on the operation and/or life expectancy of the water tank unit cylinder, PTR valve, water heating circulation and the heat exchanger in the system. Where there is a changeover from one water supply to another, for example, a rainwater tank supply, desalinated water supply, public reticulated water supply or water brought in from another supply, then water chemistry information should be sought from the supplier or the water should be tested to ensure it meets the requirements of our Sanden Eco® Plus Hot Water Heat Pump System warranties.

(continues on page 11)



Chloride and pH

In high chloride water supply areas, the water can corrode some parts and cause them to fail. Where the chloride level exceeds 200 mg/litre the warranty does not apply to the heat pump unit and tank unit.

pH is a measure of whether the water is alkaline or acid.

In an acidic water supply, the water can attack the parts and cause them to fail.

No warranty applies to the heat pump unit and tank unit where the pH is less than 6.5.

The water supply from a rainwater tank unit in a metropolitan area is likely to be corrosive due to the dissolution of atmospheric contaminants.

Water with a pH less than 6.5 may be treated to raise the pH. It is recommended that an analysis of the water from a rainwater tank be conducted before connecting this type of water supply to the system.

Tanamet Water Softening Kit (for harsh water conditions)

There are many parts of Australia where the water supply is mineralized or chlorinated, including throughout WA, South Australia and the Northern Territory, and in most rural areas of Queensland, New South Wales & Victoria.

In such circumstances, we recommend the use of the Tanamet XD50 water softening filter kit.

We also recommend use of the Tanamet filter kit if your water is supplied from a rainwater tank but is occasionally topped up with mineralized or chlorinated mains water.

Benefits of the Tanamet filter kit include:

- Softening water
- Preventing water scaling
- Providing corrosion protection
- Stabilizing copper to prevent staining
- Reducing plumbing maintenance costs



The Tanamet filter kit includes:

- A UV light resistant housing
 - The filter cartridge of slow dissolving polyphosphate crystals
 - Mounting brackets & screws
- *A replacement crystal element (Currently \$180 including GST)*

These benefits do not only apply to the hot water heater but all appliances and tapware in the home that use hot water. The action occurs by passing the water supply through the Tanamet glass crystals (polyphosphates) that are contained in the Tanamet cartridge before entering the hot water system.

The crystals are slow dissolving, meaning the life of the cartridge is usually around eight years*.

The Tanamet filter kit is approved by all the relevant authorities and the treated water is perfectly safe to drink, assuming the instructions and maintenance recommendations provided by the manufacturer are followed.

Tank Size	No of persons	Typical Dwelling	Off Peak / Continuous ?
160 Litre	1 - 2	Unit / Town House	Continuous only
250 Litre	2 - 4	Residential	Both
300 Litre	3 - 6	Residential	Both
315 Litre	3 - 6	Residential	Both

STAINLESS STEEL TANK SPECIFICATIONS				
Model No.	GAUS-160FQS	GAUS-250FQS	GAUS-300FQS	GAUS-315FQS
HOT WATER DELIVERY (L)	160	250	300	315
HEIGHT(mm)	970	1428	1891	1748
DIAMETER (mm)	621	621	580	621
WEIGHT (Approx kg)	29	45	50	55

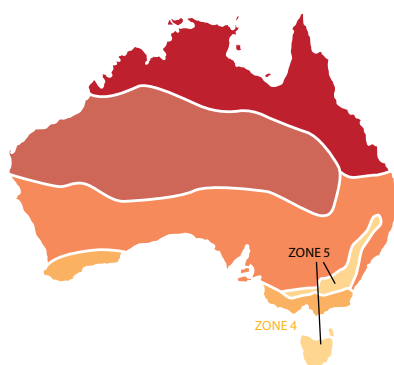
VITREOUS ENAMEL TANK SPECIFICATIONS*	
Model No.	GAUS-315FQV
HOT WATER DELIVERY (L)	315
HEIGHT(mm)	1626
DIAMETER (mm)	638
WEIGHT (Approx kg)	90

A vitreous enamel tank is recommended for areas with poor quality water source(s) such as bore water and water from combined sources. Please note this tank carries a 10 year pro rata warranty in Victoria

EXPECTED STC'S					
Model No.	IN ZONE 1	IN ZONE 2	IN ZONE 3	IN ZONE 4	IN ZONE 5
GAUS-160FQS	26	26	31	34	33
GAUS-250FQS	26	25	31	34	32
GAUS-300FQS	26	25	32	34	32
GAUS-315FQS	26	25	32	34	31
GAUS-315FQV	26	25	32	34	31

Please note STC values are subject to change, and are based on continuous tariff.

Ask us for more information.



Russell - A Thermal XChange customer located in Paynesville, Victoria - September 2016

Sanden Heat Pump experience:

' In September 2016 we replaced a not-so-old instantaneous gas HWS that we hated (noisy, bursts of cold water, minimum flow to stay hot) with a Sanden heat pump unit after discussion with Ken Ingwersen about its attributes.

I investigated the cheapies (way cheaper) on the web and even got quotes, but when I read reviews and web blogs decided to stay well away from them – noisy, break down, poor reliability and one thing you do need to be reliable is the HWS.

The ordering and installation with Ken went flawlessly, and because we had just switched to Powershop I was able to closely monitor the power consumption after installation. Two adults, cold water to dishwasher and washing machine mean that hot water consumption is not high, and over the first month the unit has averaged 2 kWh/day and using off-peak power during the night to heat up means about \$0.30/day, \$2.10/week or only about \$100/year for hot water.

If we have been away for a few days, the unit uses 1.3 kWh/day just to keep the tank hot, or about \$0.20/day so if we were away for a few weeks we might turn it off.

It will still take a few years to recoup the cost of the Sanden unit, but it is virtually silent, very well built and hopefully will still be running when electricity costs have doubled or tripled and this will be a really cost effective way to produce hot water. '

