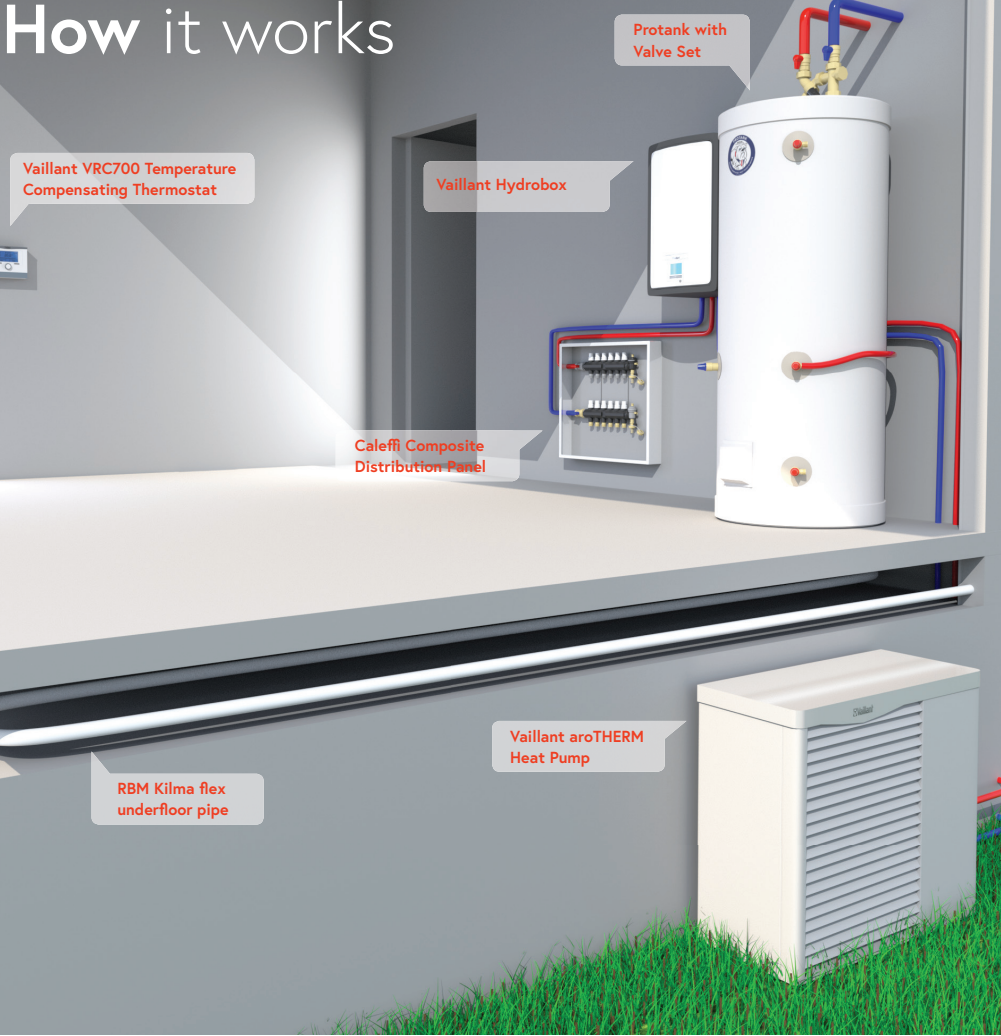


# How it works



## Major component warranty

- If comparing, consider the origin and guarantee offered on key components and if warranty terms include labour.
- Vaillant **aroTHERM** | 5 years parts and labour | Made in Germany
  - RBM Underfloor pipe | Warranty 25 years | Manifolds | 5 years parts and labour | Made in Italy
  - Protank Hot water cylinder | 20 years limited | Made in England

## Dollars and sense


Costs will vary depending on perceived comfort levels, insulation levels, ambient temperature extremes, building design/construction and regional energy prices. Below shows the estimated installation and running costs for a new 200m<sup>2</sup> home based on 0°C outside / 20°C inside temperature.


Appliance type	System Type	Heating Only	Heating & Hot water	Winter running cost/month	Calculation parameters
Heatpump	Underfloor	\$25,000*	\$32,800**	\$290	0.08c/kWh x 16hrs/day
Natural Gas	Radiators	\$14,300	\$19,700	\$160	0.07c/kWh x 6hrs/day
	Underfloor	\$14,900	\$20,300	\$220	0.07c/kWh x 8hrs/day
LPG boiler	Radiators	\$14,300	\$19,700	\$420	0.18c/kWh x 6hrs/day
	Underfloor	\$14,900	\$20,300	\$560	0.18c/kWh x 8hrs/day
Diesel boiler	Radiators	\$19,000	\$24,500	\$280	0.12c/kWh x 6hrs/day
	Underfloor	\$19,100	\$24,600	\$380	0.12c/kWh x 8hrs/day


Note: Prices include GST and exclude costs associated with network connections and local authority building consents. \*Grant Aeron heatpump only. \*\*Vaillant aroTHERM heatpump only.

Ask about **other** Comfortplus **options** that may work for you.

Central heating via underfloor or radiators share the same high level of comfort but each method has unique characteristics which suit some applications better than others. Sometimes the best choice will be influenced by the lowest cost fuel options available at your location.

- **Radiator Heating**

Radiators emit warmth via a combination of natural convection and radiant heat. They offer the lowest running cost, are suitable for renovation or new build and suit concrete or timber floor construction.
- **Gas Boiler**

Gas boilers are the most cost effective option in terms of both installation and running costs. They are ultra efficient, compact and almost silent when in use.  
Typical running cost: NG = 0.07c/kWh, LPG = 0.18c/kWh
- **Diesel Boiler**

Modern diesel boilers are quiet, clean burning and reliable. The installation of a diesel boiler is typically more involved and costly but remain a good option for areas without reticulated natural gas.  
Typical running cost: 0.12c/kWh

Our friendly tech team will design a system specifically for you and your home. We appreciate most home owners find the decision making process complex and we are here to help you make the best choices. Every new design begins with a floor plan and a heat loss calculation, if there is any information not evident on your plan our tech team will make contact to ask any relevant questions.

**WATERWARE**



waterware.co.nz  
info@waterware.co.nz  
0800 WATERWARE

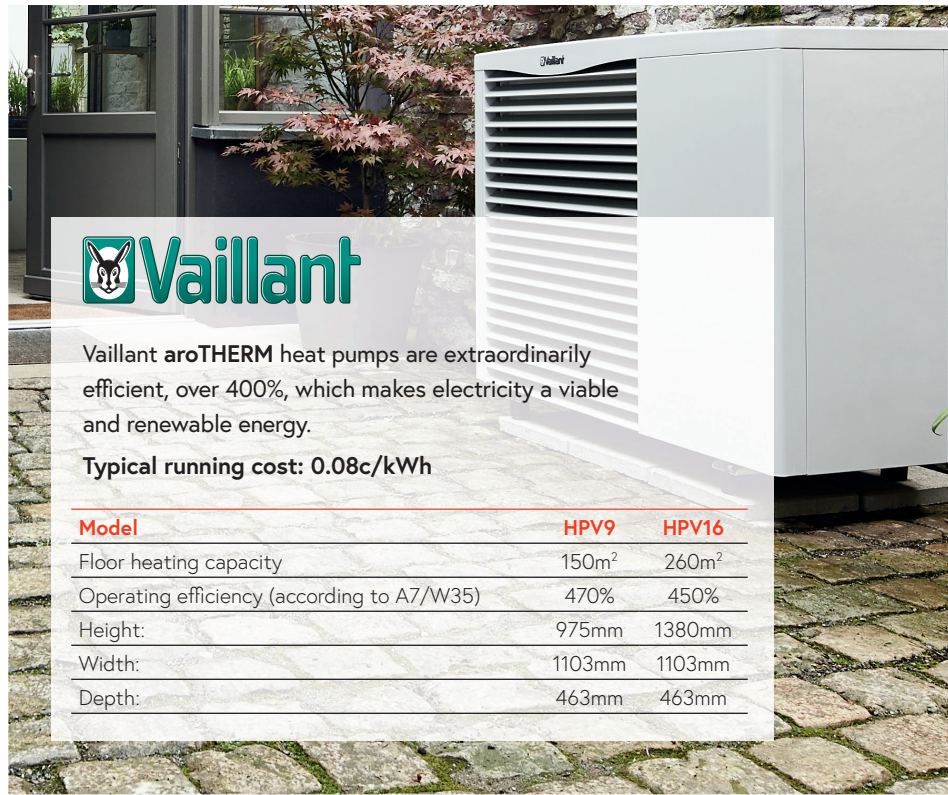


- **HEATPUMP**
- **UNDERFLOOR HEATING**
- **UNDERFLOOR COOLING**
- **DOMESTIC HOT WATER**

powered by **Vaillant aroTHERM** heatpump

waterware.co.nz





**Vaillant**

Vaillant aroTHERM heat pumps are extraordinarily efficient, over 400%, which makes electricity a viable and renewable energy.




Typical running cost: 0.08c/kWh

Model	HPV9	HPV16
Floor heating capacity	150m <sup>2</sup>	260m <sup>2</sup>
Operating efficiency (according to A7/W35)	470%	450%
Height:	975mm	1380mm
Width:	1103mm	1103mm
Depth:	463mm	463mm

# Vaillant aroTHERM heat pump

## ONE BRILLIANT INTEGRATED SYSTEM

Comfortplus systems powered by Vaillant aroTHERM air to water heat pumps harvest free energy found in the air outside the building envelope and convert it into all season comfort and convenience.

- 
**Underfloor Heating**  
 In winter it circulates warm water throughout pipes encapsulated within the concrete slab floor and radiantly warms your entire home.
- 
**Underfloor Cooling**  
 In summer it reverses the process and circulates cool water to provide background cooling.
- 
**Domestic Hot Water**  
 All year round it generates enough hot water to meet your entire household demand.

Heat pumps from Vaillant are very quiet, powerful, energy-efficient and environmentally friendly.

- Low noise level (35dBA @4meters) ensures quiet operation for the comfort of home owners and neighbours.
- A high level of performance even when its -10°C outside.
- Ultra energy efficient and compared to a gas-fired system saves the equivalent CO<sub>2</sub> emissions reduced by a forest area of around 2,500m<sup>2</sup>.

Engineered in Germany, Vaillant heat pumps offer world leading quality and reliability. Vaillant have more than 140 years of experience in heating systems, including 40 years in the area of heat pumps.

### Cascade and hybrid power

Multiple aroTHERMS and or Vaillant ecoTEC gas boilers can be seamlessly cascaded together to supersize system performance.



## Underfloor Heating

Underfloor central heating is the most discrete and most comfortable form of central heating.

**Constant temperature day and night**  
 Due to the large thermal mass of a concrete slab, it takes less energy to keep its temperature stable than allowing it to cool down resulting in a perfectly comfortable home - all of the time.

**No interior compromise**  
 Warm water is gently circulating through pipes encapsulated within the floor slab so the system is effectively invisible and silent. Enjoy total freedom when utilising wall space and arranging furniture.

**Warm floors**  
 Since heat is radiating from the floor, its surface is perfectly warm underfoot. Rooms featuring hard surfaces like tiles or polished concrete can become warm and cosy spaces. For carpeted spaces maximum recommended TOG value is 2.5.

## Underfloor Cooling

By reversing the operation of the heat pump in the summer months it can generate cold water instead of hot.

### Keeping it cool

Without any hidden complication or cost the heatpump simply decides, according to its set temperature, to switch into cooling mode and circulate chilled water throughout the underfloor pipe.

### Background cooling

The relationship between indoor humidity and the interior surface dew point ultimately confines the maximum possible cooling effect - typically a reduction of between 3°C and 5°C.

With the addition of an air management system to control humidity, greater cooling effects become possible.

## System Control | Smart & Simple

Your home can be programmed to be warm according to your schedule and budget. Options include remote system control via smart phone and 3rd party building management system integration.



**Vaillant VRC700 Temperature Compensating Thermostat**  
 VRC700 temperature compensating thermostats is the master system control. It monitors temperature changes occurring outdoors before they are felt indoors. Small pre-emptive adjustments to the indoor temperature are made resulting in an increased level of comfort and reduced running costs.

**Heatmiser neoStat Thermostat**  
 Multiple neoStats are used to build a network of wired or wireless thermostats throughout your home. Modern touch button technology and an intuitive menu navigation is simple for the home owner to program and operate.

**Vaillant**

**heatmiser**

## Domestic Hot Water

The Vaillant aroTHERM heatpump has the functionality and capacity to generate all of your homes domestic hot water requirements.

### High capacity, high pressure, low cost

Selection of the Protank stainless steel hot water cylinder completes a high capacity, high efficiency domestic hot water system. Taking advantage of the Vaillant aroTHERM low running costs not only reduces hot water production costs but also represents a significant saving over the cost of adding another plumbing system to produce hot water.

