

Domestic Air to Water **Heat Pump**

Model: aroSTOR 290 Litres



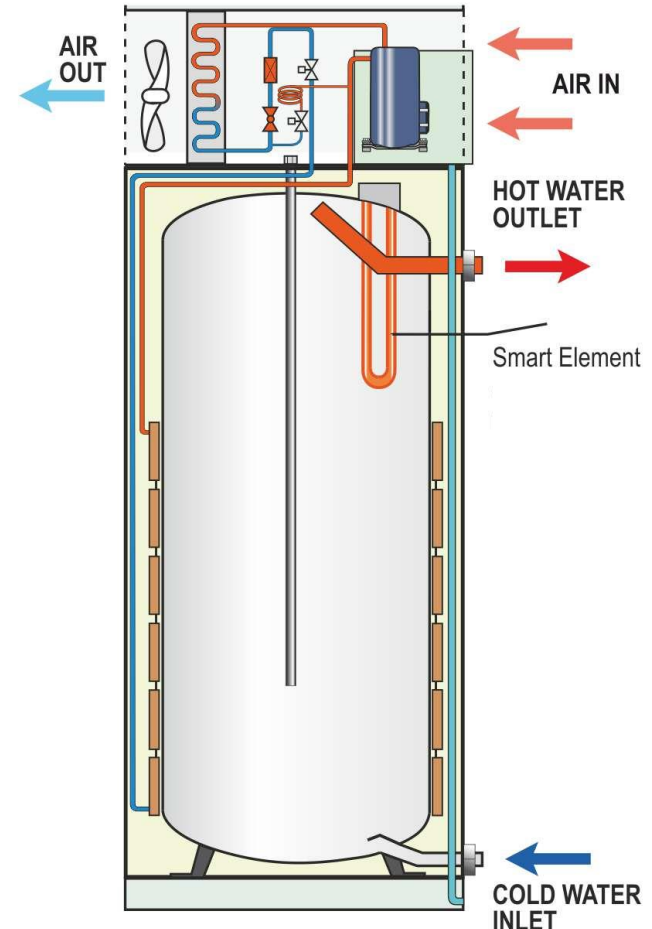
Guilt free hot
water with
beauty and
efficiency!



What is a Heat Pump?

Think of water heating – for almost free !

- A heat pump is an energy efficient renewable water heating solution for your home, much like solar energy.
- A heat pump works through utilising the ambient air temperature (thermal energy) and converting this to usable energy to create hot water. A heat pump essentially works in a similar way to a refrigerator, only in reverse. The only primary energy used in this process is to run the compressor and fan.
- Heat Pump is generally used as a centralised water heating solution supplying all draw-off points of water.

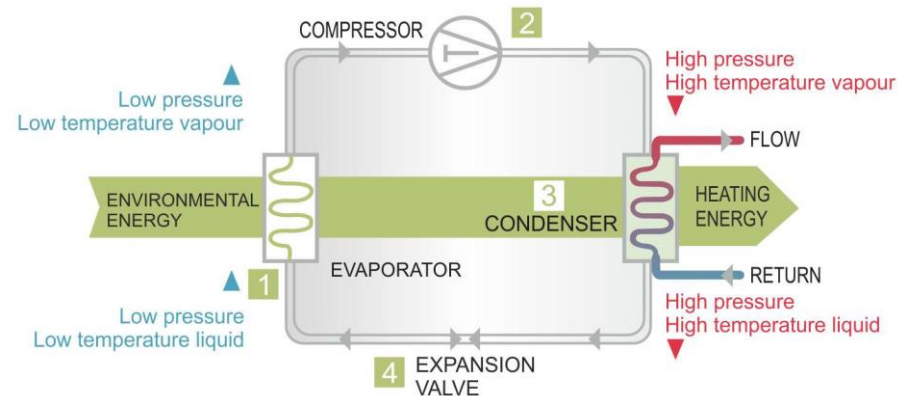




How does a heat pump work?

Think of a refrigerator – just reverse the working !

- A fan draws air through an evaporator. Thermal energy within the air is transferred to a liquid refrigerant causing it to change into a gas.
- The refrigerant gas is then drawn into a compressor which increases the pressure and as a result increases the temperature.
- A condenser (heat exchanger) then transports gas refrigerant around the outside of the water tank. This heats the water inside the tank and the gaseous refrigerant reverts back into a liquid.
- The refrigerant pressure is reduced again in the expansion valve.





Application and Installation

Indoor and Outdoor Installation



- Use in passive houses for hot water generation
- Dehumidifies cellar spaces
- Heat Recovery /Transfer from spaces within the House
- An ideal replacement for old, directly heated domestic hot water cylinders
- Simple Plug and Play

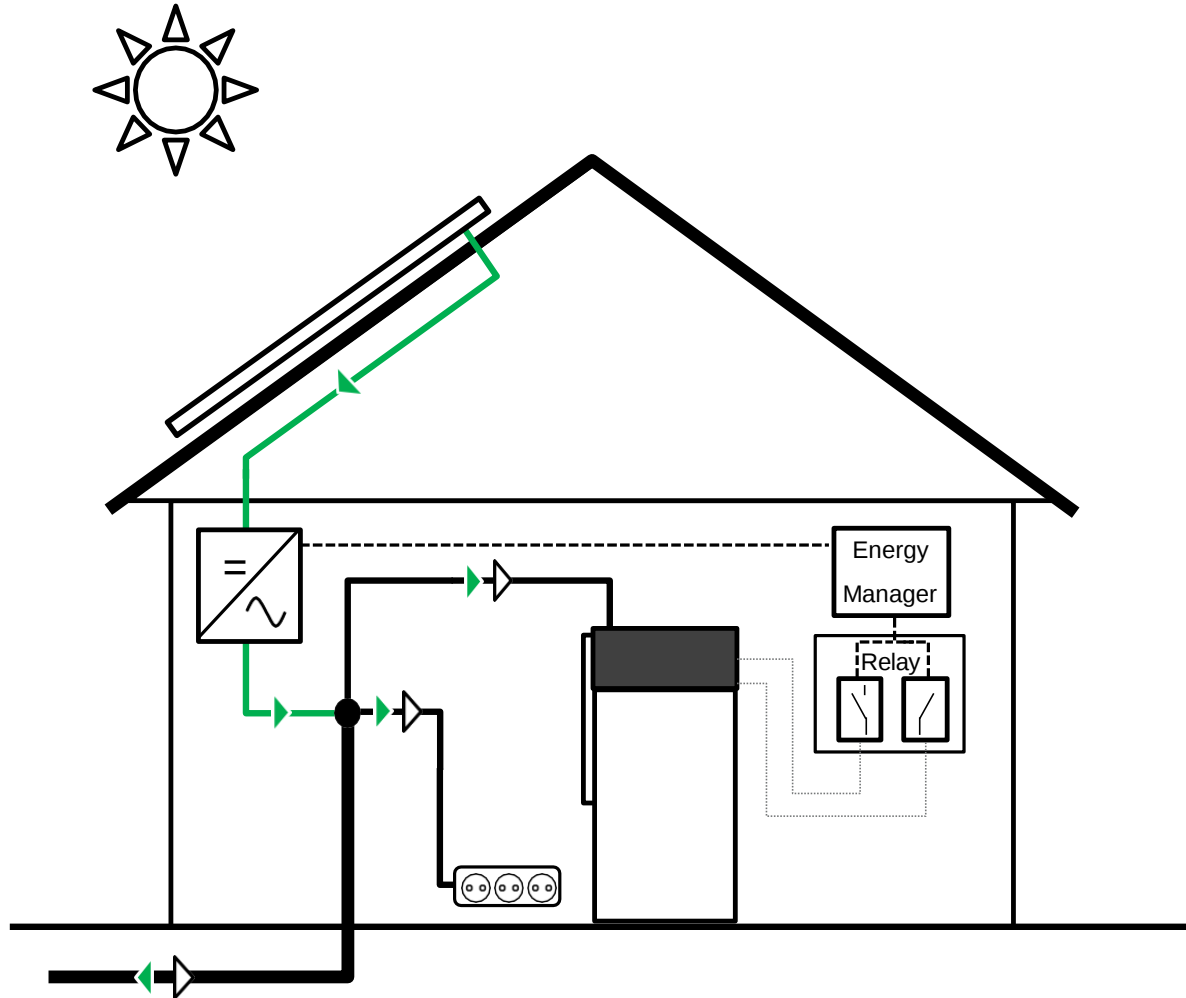


Ideal for:

- Individual Homes
- Large Apartments
- Small Commercial Spaces



PV integration



Simple, intelligent integration into photovoltaic systems with an energy manager



aroSTOR – product features



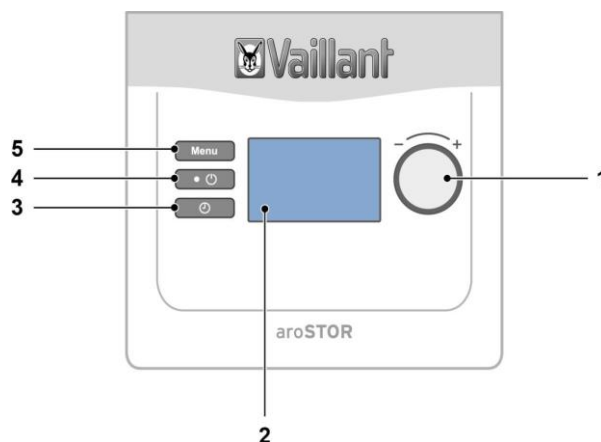
Indoor and Outdoor Installation

- Hot water temperature up to 60 °C in heat pump mode
- Easy to install thanks to **Plug & Play** system
- **Simple and clear operation** using the illuminated display, with a **pre-selector wheel** on the operator control panel
- **Legionella protection function for thermal sterilisation**, heating the water to 60 °C (at 10:00 pm)
- **Easy to operate Control system** for all three types of heat generation: Heat pump mode, electric heater cartridge, auxiliary heating



Legend

- 1 Pre-selector wheel
- 2 Display
- 3 Time button
- 4 On/off switch
- 5 Menu button





Cylinder and Coolant equipment features

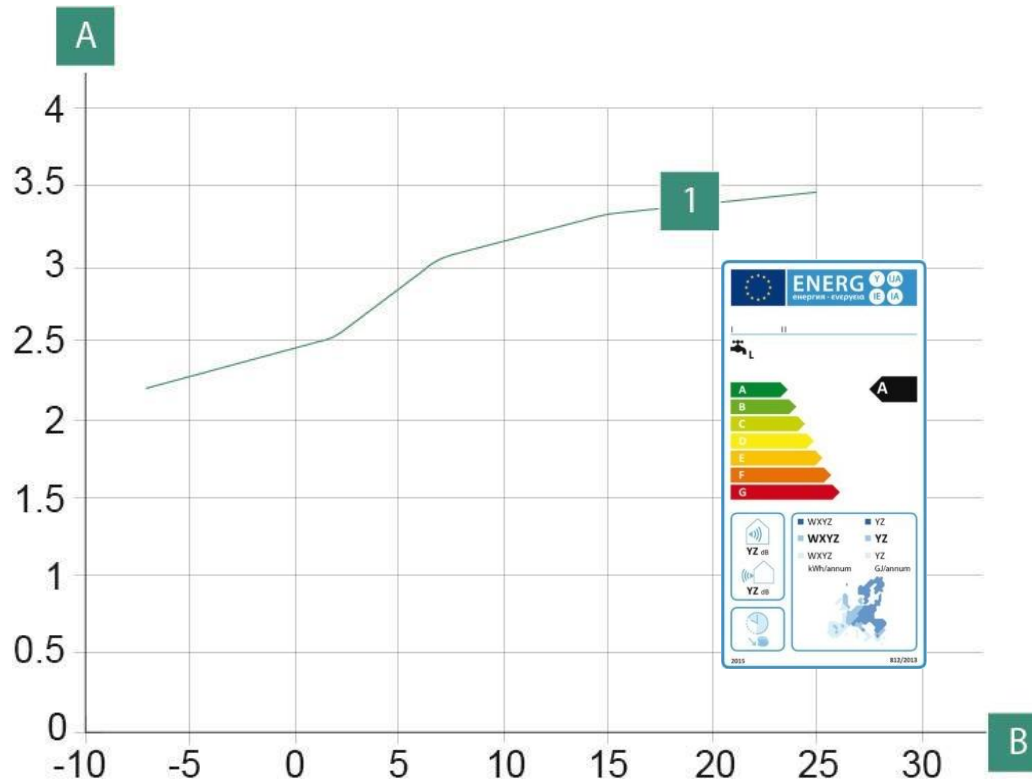
- **Enamelled** domestic hot water cylinder
- **Magnesium protection anode** to **protect against corrosion**
- **High-grade thermal insulation** (85 mm PU rigid foam insulation) – very low /negible heat loss
- **Integrated electric back up** heating element (1,5 kW)
- **Rotary** sliding vane compressor
- Thermostatic **expansion valve**
- **Efficient heat transfer** with high operational safety thanks to large-area pipe coil condenser
- **R134a** safety coolant (0,950 kg, chlorine-free, zero ozone depletion potential)





Energy Efficiency and COP

Highest Energy Efficiency and COP ratings in class



COP (air temperature 25 °C) = 3.51

COP (air temperature 15 °C) = 3.37

COP (air temperature 7 °C) = 3.14

COP (air temperature 2 °C) = 2.69

COP (air temperature -7 °C) = 2.30

Measurements for aroSTOR VWL B
290/4 according to EN 16147 / L
tapping profile

Legend

A. COP

B. Air temperature in °C

1 Water temperature 55 °C



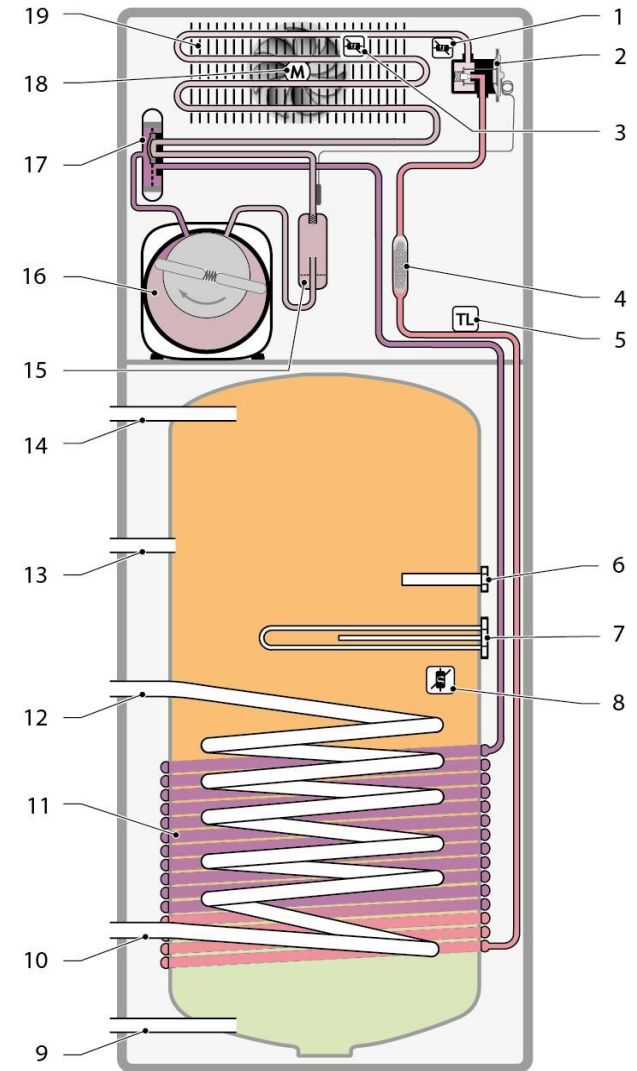
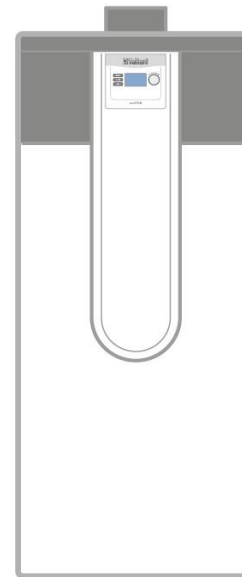
Product Key - aroSTOR VWL B 290/4



Key

- 1 Defrosting sensor
- 2 Thermostatic expansion valve
- 3 Air inlet sensor
- 4 Drying cartridge
- 5 Temperature limiter
- 6 Magnesium protection anode
- 7 Electric heater cartridge
- 8 Cylinder temperature sensor
- 9 Cold water inlet
- 10 Heating return
- 11 Condenser
- 12 Circuit Heating flow line – **BM Model only**
- 13 Circulation connection
- 14 Hot water outlet
- 15 Liquid separator
- 16 Rotary sliding vane compressor
- 17 Four-way diverter valve
- 18 Ventilator
- 19 Ribbed pipe evaporator

- (M) Motor
- Temperature sensor
- Temperature limiter





Technical data



Specifications for the heat pump	Unit	aroSTOR VWL B
Tank Capacity	Litres	290
COP		3.50
Efficiency Class (Germany)		A
Rated Power	kw	0.47
Heating Output	kw	1.65
Back up heating element	kw	1.50
Maximum Heating Output (with back up)	kw	3.15
Maximum Water Temperature	Celcius	65
Operating Application Limits	Celcius	-7 to 40
Heat Up Delta per hour - Heat Pump Mode	Celcius	6
Heat Up Delta per hour - with Back Up	Celcius	11
Operating Noise	dB(A)	33
Refrigerant type /weight		R134A/0.95kg
Tapping cycle (in accordance with EN 16147)		L
Outer diameter of the cylinder housing	mm	700
Height	mm	1658
Empty weight of the unit	kg	115
Weight of the unit filled with water in a ready-to-operate condition	kg	415
IP Rating	-	IPX1
Voltage and frequency of the product's power supply	V/Hz	230 V - 50 Hz
Maximum amperage of the power supply circuit	A	10

A woman and a young girl are sitting on a large, realistic globe of the Earth. They are positioned in front of a large window, looking out towards a bright, hazy outdoor scene. The woman is sitting behind the girl, with her arm around her. The globe shows continents and oceans in detail. The overall mood is peaceful and hopeful, suggesting a connection to the planet.

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