

RENEWABLE
HOT WATER

 Solahart®

HEAT PUMP

SOLAHART ATMOS® FROST 270QDR



MANUFACTURED

IN AUSTRALIA

HEAT PUMP

SOLAHART ATMOS® FROST 270QDR

Solahart Atmos® Frost is an energy-efficient heat pump water heater. It is a great alternative solution in areas where a traditional solar hot water system may not be suitable.

This frost-tolerant model can be installed in almost any location in Australia, as it is suitable for harsh water, cold climates, and tropical conditions. It heats water by drawing heat from the surrounding air, a reliable and efficient way to reduce energy consumption and cut greenhouse gas emissions.

Installation is quick and easy. Solahart Atmos-Frost can usually be installed in the same location as an outdoor electric water heater and connected to the existing plumbing and electrical connections.

Features and Benefits

- No need for solar collectors; perfect where roof space is limited.
- Can use the same connections as a similar-sized electric water heater.
- Advanced wrap-around microchannel heating technology for uniform and faster water heating.
- Suitable for cold climates with an operating range from -5°C to +43°C.
- Suitable for harsh water conditions.⁽¹⁾
- High recovery rate for fast heating.
- User-friendly touch screen LED display.
- Includes a backup element, delivering hot water for the coldest winter nights.
- Vitreous Enamel-lined tank.
- 7-year cylinder warranty.⁽²⁾
- Suitable for households of 2 to 5 people.



HIGH EFFICIENCY

4.4 average Coefficient Of Performance⁽³⁾ (COP) making it a highly efficient water heater.



WORKS DAY & NIGHT

A heat pump draws heat from the surrounding air to heat the water.



ELIGIBLE FOR STCS[^]

Small-Scale Technology Certificates (STCs), help you reduce the up-front cost of your purchase.*

*Additional incentives may be available in some states



FROST RESISTANT

Featuring a de-icing function to improve performance in very cold climates and frost conditions.



74% ENERGY EFFICIENCY

You could save up to 74% on your water heating energy consumption compared to an electric water heater in Zone 3.⁽⁴⁾

CONTINUOUS RENEWABLE HOT WATER NO MATTER THE WEATHER

A heat pump increases energy efficiency by extracting heat from the surrounding air.

How It Works

1. The system absorbs the heat from the surrounding air into the refrigeration system and is then drawn across the evaporator.
2. The microchannel heat exchanger transfers the heat from the refrigeration process.
3. The water reaches the set temperature through this continuous process.



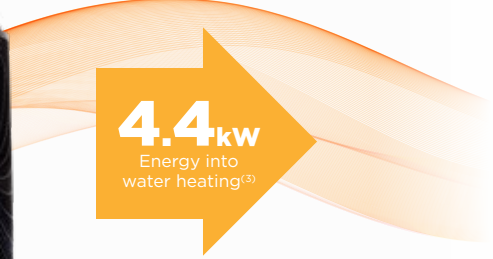
1kW
Power Input

COP

The Coefficient of Performance for a heat pump is the ratio of how much useful heat it produces for water heating to the power input into the water heater. The higher the COP number, the more efficient the heat pump is.

Ambient Air Temperature and Humidity

The performance of a Heat Pump changes with ambient air temperature, humidity, and incoming water temperature. The warmer the air temperature, the higher the Relative Humidity, and the cooler the water temperature, the higher the heating rate of the heat pump. Performance specifications stated in relation to the heat pump are measured at predefined conditions during its testing.



4.4kW
Energy into
water heating⁽³⁾

Average Heating Capacity kW

This is how much heating power is put into the water during the heating cycle by the heat pump. It is expressed as an average due to changes in power output during the refrigeration unit's heating cycle.

Recovery Rate @ 45°C rise L/hr

Is the number of litres of water that can be heated through a 45°C temperature rise in one hour, e.g., when the air temperature is 19°C and the relative humidity is 62%, this heat pump can heat 77 litres of water from 15°C to 60°C in one hour.



Note: Artistic impression of microchannels. Actual design varies.

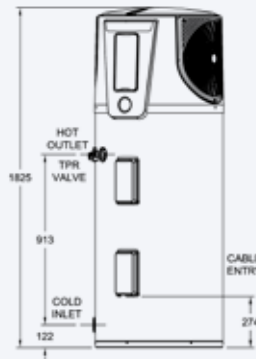
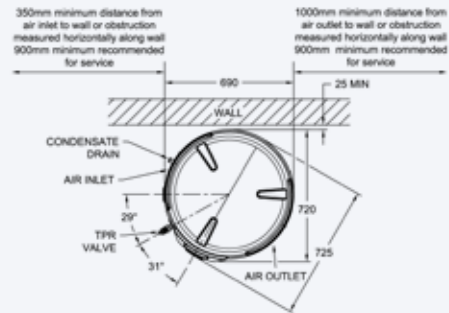
MODEL	ATMOS-FROST 270QDR
Product number - with black anode (magnesium)	270QDR24
Product number - with blue anode (aluminium)	270QDR24/B
Storage Capacity	270 L / 71.3 US Gal
Boost Capacity	195 L / 51.5 US Gal
Rated Heat Pump Power Input	985 W
Element Rating	2.4 kW
Max. rated power input @ 240 V	3600 W
Electrical Circuit	15 Amps
Average COP ⁽¹⁾ @ 19°C ambient air temperature & from 8°C to 60°C water temperature	4.4
Noise Level @ 1 metre ⁽⁵⁾	47 dB(A)
Temperature Setting	60°C / 140°F
Power Supply ⁽³⁾	220 - 240 V / 50 Hz
Minimum power connection ⁽⁷⁾	16 or 24 hrs/day
IP rating	IP24
Solahart Warranty ^(1,2)	7/3/2
Heater Weight - Cartoned	145 kg / 320 lbs
Heater Weight - Full	405 kg / 893 lbs
Refrigerant	R513a
Refrigerant circuit pressure	2600 kPa

Water Connections and Pressure Settings	
Inlet	Rp 3/4
Outlet	Rp 3/4
Temp Press Relief (TPR) Valve Setting	1000 kPa
Expansion Control Valve (ECV) Setting	850 kPa

Maximum Mains Supply Pressure	
With Expansion Control Valve ⁽⁶⁾	680 kPa
Without Expansion Control Valve	800 kPa

Electric Boost Specifications	
Heating unit type	Copper sheath immersion element
Supply Voltage	240 V

Dimensions



Heat Pump Performance Specifications

Ambient Air Temp	Relative Humidity	Recovery Rate @ 45°C Rise	Ave. Heating Capacity	Average COP ⁽¹⁾
7°C	81%	62 L/hr	3.3 kW	3.9
19°C	62%	77 L/hr	4.0 kW	4.4
34°C	36%	98 L/hr	5.1 kW	5.1
35°C	52%	101 L/hr	5.3 kW	5.3

Back up Recovery Rate @ 240 V and Temperature Rise of;

Rating	30°C	40°C	50°C
2.4 kW	69 L/hr	52 L/hr	41 L/hr

About STCs*



Small-scale Technology Certificates (STCs) provide a financial incentive to encourage the installation of Solar and Heat Pump water heaters provided under a Federal Government legislated scheme.

This map shows the climate Zones within Australia which will define the number of STCs allocated to an approved Heat Pump water heater. Your installation may be eligible for STCs (and may be eligible for additional incentives in some states).

For more information on STCs visit www.solahart.com.au/government-incentives/

Specifications and designs included in this data sheet are subject to change without notice.

- Harsh water regions - the Solahart Warranty may not apply to the water heater if it is connected to a water supply with: a Total Dissolved Solids content > 2500mg/L, or is corrosive with a Saturation Index < -1.0.
- Solahart Warranty Details: 7/3/2 warranty; 7-year cylinder supply, 3-year labour on cylinder, 2-year parts including labour. Applies to a single family domestic dwelling only. All other applications have a 3/1/1 warranty; 3-year cylinder supply, 1-year cylinder labour, 1-year parts including labour.
- An average Coefficient of Performance (COP) of 4.4 was measured under test conditions with an ambient air temperature of 19°C/15°C (Dry Bulb/Wet Bulb), Relative Humidity of 62%, heating of the water from 8°C to 60°C during water heater operation and a power supply of 240 V- 50 Hz. The Heat Pump average heating capacity of 4.0 kW and its water heating capacity of 77 litres / hour heated through a 45°C temperature rise were calculated under these conditions from the results of this test. Note that the actual COP of the product at any given time will be impacted by a number of factors, including the ambient air and cold-water inlet temperatures at the place of installation and time of day / season of operation.
- Energy savings of up to 74% shown are based on Australian Government approved TRNSYS simulation modelling of a Solahart 270QDR heat pump using a medium load in zone 3 and apply when replacing an electric water heater of a similar size. Savings and incentives will vary depending upon your location and type of water heater being replaced. The impact on an electricity account will depend on the tariff arrangement of the water heater being replaced and where you live. Before purchase consult your energy provider for more information on cost comparisons.
- A noise level of 47 dB(A) was measured at 1 m from the water heater during a Noise Test conducted to Standard GB/T 23137-2008 in a hemi-anechoic chamber of a test laboratory. The noise level, when installed, may be higher due to sound reflections from adjacent walls and structures.
- This water heater will only operate on an electricity supply with a sine wave at 50 Hz. Devices generating a square wave or a lower frequency cannot be used to supply power to the water heater.
- The 270QDR Solahart Atmos-Frost Heat Pump water heater is recommended for connection to a 24 hour continuous tariff power supply. Depending upon the size of the household and their hot water requirements and if the Electricity Retailer permits, an extended off-peak (overnight and day) or Extended time controlled power supply connection of 16 hours per day may also be suitable.
- Expansion Control Valve (ECV) is not supplied.

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Reorder code: SHDS/HP-270QDR SOLA1401_Atmos Frost_270QDR_4pp_DataSheet_JUL24