

## QVANTUM QA Series

### Air source heat pump

The Quantum compact sized hydro unit, QH175, is a pre-plumbed indoor unit with all necessary functions and connections.

Domestic hot water is produced instantaneously with heat from the integrated buffer tank. The buffer tank can also be used to avoid energy peak prices for both heating and hot water. The hydro unit also has integrated support for active cooling.

The hydro unit is suitable for up to 15 kW heating applications. Combined with a Quantum QA R290 monobloc outdoor unit, it offers a complete air-to-water heat pump solution. The QA outdoor unit is available with heating capacities of 9 kW and 15 kW. It can also be combined with Quantum's wall mounted hydro unit QH100 to enable flexible installation layouts where space is scarce.



System efficiency class room heating, 35/55 °C.



Product's efficiency class and load profile for hot water.



### THERMAL BATTERY

New patented solution that converts the hot water tank into a thermal battery up to 12 kWh, and enables your heat pump to deliver HP2G® services to the grid.



### BUILT FOR THE FUTURE

As the Quantum software evolves, your heat pump will automatically upgrade and optimize features for new conditions, such as a changed energy landscape or extended proactive service.



### FLEXREADY

All of Quantum's new heat pumps for homes are what is known as 'flexready'. This means that they are made to turn the fluctuations of the electricity market to your advantage.



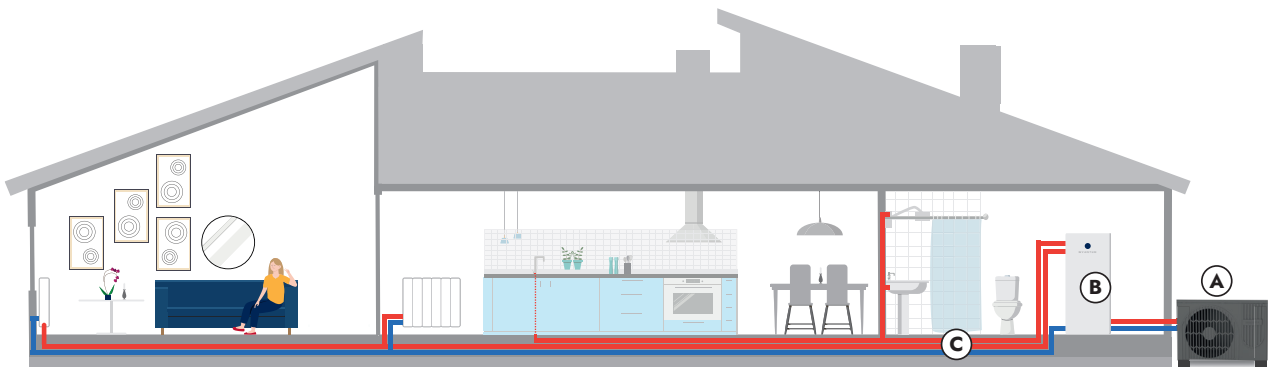
# HOW DOES AN AIR SOURCE HEAT PUMP WORK?

## PRINCIPLE

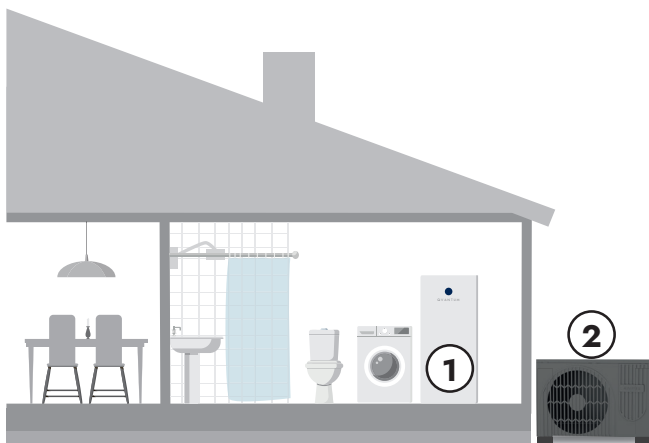
Heat pump technology is based on a very simple, well-known principle – the same as used in an ordinary refrigerator. By extracting heat energy from the outside air, even at lower temperatures, a Qvantum air source heat pump can supply your home with heating and domestic hot water. The process can also be reversed to provide cooling during the summer months.

A Qvantum air source system consists of an outdoor unit combined with an indoor unit. They work together to create a complete climate system that's easy to install, run and maintain. The integrated buffer tank makes it easy to install additional energy sources.

- A** Free energy from the outside air is captured by the outdoor unit.
- B** The heat circulates from the outdoor unit to the indoor unit, where the demand for heating, cooling or domestic hot water will be taken care of.
- C** The distribution of heating and cooling is managed by the indoor unit to accommodate the comfort demands of the home.



## INSTALLATION POSSIBILITIES



- 1** Indoor unit.
- 2** Outdoor unit.

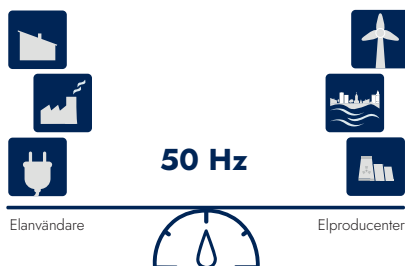
## KEY FEATURES HYDRO UNIT

- All-in-one unit with all functions pre-plumbed.
- Support for active cooling as standard.
- Excellent serviceability through click-fittings.
- Suitable for up to 15kW heating capacity.
- Instantaneous domestic hot water for comfort as well as efficient legionella prevention.
- Future proof connectivity.
- Dedicated app for installers and advanced users.
- Integrated buffer tank that enables true energy peak price shaving for both hot water and heating.
- Suitable for single - and three phase connections.
- Simple installation through low weight and compact dimensions.
- Modular design which enables multiple installation options.

# FUTURE PROOF

Quantum's heat pumps are prepared to adapt to the energy market and enable more utilisation of unplanned and climate-smart energy.

By using the heat pump as a thermal battery and with an AI control that responds quickly to flex market fluctuations, Quantum's heat pumps contribute to load balancing and the stabilisation of the electricity grid. By being able to use stored energy when the price is high, you don't have to sacrifice your comfort to reduce your electricity bill.



## INTEGRATED THERMAL BATTERY + FLEXREADY®

Quantum's patented system converts the hot water tank into a thermal battery. The battery has a capacity of up to 12 kWh and enables the heat pump to deliver HP2G® ancillary services to the grid.

Quantum heat pumps are all prepared for the flexibility markets of the energy market. You can then be paid to stabilise the frequency of the electricity grid, ease the load on the grid and reduce the climate impact of the electricity grid.

## ECONOMIC OPTIMISATION – eCOP®

By combining the thermal storage with intelligent control towards electricity prices, weather forecasts (*coming soon*) and expected consumption, economic optimisation is ensured eCOP®

Q charge allows you to avoid the highest hourly electricity prices and benefit from the lowest, sometimes even negative ones. The thermal battery, in combination with solar cells, increases the share of self-consumption of renewable electrons and further increases the eCOP® of the heat pump.

# INSTALLATION FLEXIBILITY

Quantum QA-9 (M) Quantum QA-15 (M) The Quantum QA outdoor unit comes in heating capacities of 9 kW and 15 kW and can be combined with Quantum's modular floor standing and wall mounted hydro units to enable flexible installation layouts to fit available space and desired capacity.



PRELIMINARY TECHNICAL DATA		QA-9 + QH175	QA-15 + QH175
<b>Heating efficiency and capacity</b>			
Space heating efficiency class of the system 35°C / 55°C		A+++/A+++	
Space heating efficiency class 35°C / 55°C		A+++/A+++	
SCOP <sub>EN14825</sub> average climate, 35°C / 55°C		5,16/3,85	5,05/3,88
Nominal heating output <sup>(Pdesignh)</sup>	kW	5	9
Heating capacity/COP (min) vid 7/35°C   (nom)/(max)	kW	3,56/5,65   6,00/4,80   8,90/4,24	5,83/5,05   10,00/4,81   14,95/3,88
Operational range source side	°C	-25~43	
Operational range sink side	°C	25–75	
<b>Electrical data</b>			
Rated voltage outdoor unit	V	230V 1N ~ 50Hz	400V 3N ~ 50Hz 230V 1N ~ 50Hz
Rated voltage indoor unit		400V 3N ~ 50Hz / 230V 1N ~ 50Hz / 230V 2N ~ 50Hz	
Max power immersion heater	kW	5.0 kW (1+2+2)	
<b>Sound (outdoor unit)</b>			
Sound effect level <sub>EN12102</sub> (LWA)	dB(A)	57	57/58
Sound pressure level at 2/4/6/8/10 meter*	dB(A)	46/40/36/34/32	
<b>Hot water efficiency and capacity</b>			
Amount of hot water (40°C) <sub>EN16147</sub>	l	245	260
Efficiency class hot water heating / declared tap profile		A+/XL	
<b>Refrigerant circuit</b>			
Type of refrigerant (GWP)		R290 (3)	
CO <sub>2</sub> -equivalent	kg	1,5	2,55
Refrigerant quantity	kg	0,5	0,85
<b>Weight and dimensions</b>			
Dimensions outdoor unit (W x D x H)	mm	1 167 x 407 x 795	1 287 x 458 x 928
Dimensions hydro unit (W x D x H)	mm	600 x 620 x 1 480	
Weight outdoor unit	kg	80	160
Weight hydro unit	kg	110	

\* The sound pressure levels are calculated using the guidance factor Q=4.

\*\* Depending on system settings and domestic water flow rate.

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# More than just a HEATPUMP

Quantum is a Swedish heat pump company that has been manufacturing customised industrial heat pumps since its beginning in 1993.

Since 2022, we also develop products for the residential market, with production in Åstorp outside Helsingborg. Quantum not only offers new heat pumps, but we also present the start of a completely new heat pump approach.

## QVANTUM

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