QVANTUM

QVANTUM QGM

Apartment heat pump

Qvantum QGM is a modular heat pump system with natural refrigerant, especially designed to be used for apartments in thermal networks using incoming circuit water typically at 10-20 °C as source, making it a direct replacement for individual gas boilers.

The system consists of a wall-mounted, ultra-compact sized hydronic unit and a 6 kW compressor module. The pre-plumbed hydronic unit houses all essential components for efficient operation, ensuring quick and simple installation. Its size matches that of a gas boiler, making replacements even easier.

The hydronic unit features an integrated accumulator tank, functioning as a thermal battery, allowing heat storage at up to 90°C. The heat pump is flexready – by charging during periods of low electricity prices or renewable energy surplus, it optimises energy consumption and helps balance the power grid while ensuring consistent comfort. With API communication capabilities, the QGM is prepared for flexibility markets, enabling automated energy trading based on real-time electricity prices and grid demand.

Domestic hot water is produced instantly via a heat exchanger. This means that you avoid the risk of legionella and you do not need different corrosion protection depending on the water quality.

With support for active cooling, the QGM enhances indoor comfort while maintaining high energy efficiency. Its modular design and patented technologies allow integration with various energy grids, making it a flexible and future-proof solution for urban heating, and therefore, the perfect product to replace gas boilers.

DESIGN PLUS AWARD WINNER
DESIGN PLUS
powered by: ISH

A+++
System efficiency class room heating, 55 °C.

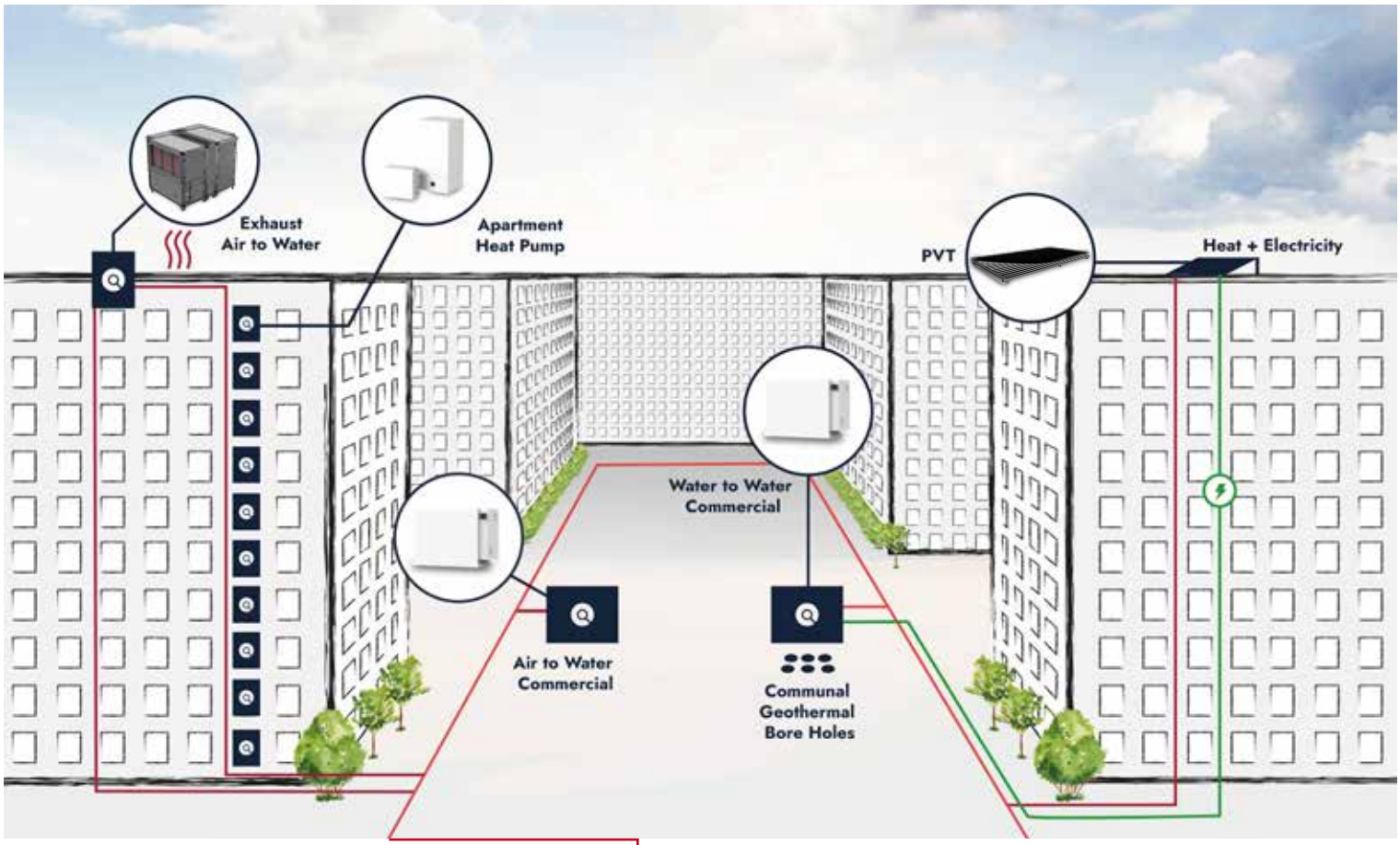
A L
Product's efficiency class and load profile for hot water.

R290
Natural refrigerant R290

THERMAL BATTERY
A patented solution where the integrated accumulator tank can be used as a thermal battery which means that the heat pump is adapted for the flexibility market.

BUILT FOR THE FUTURE
As Qvantum's software develops, the heat pump will automatically be upgraded with new features.

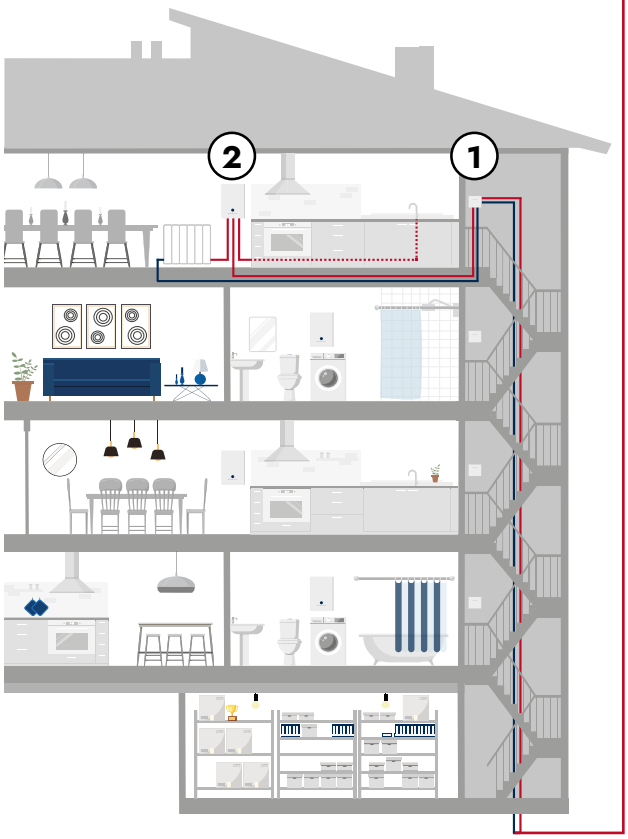
BALANCING SERVICES
By responding to fluctuations in energy availability, flexready heat pumps ease grid strain, lower energy costs, and enhance system stability.



INSTALLATION POSSIBILITIES

Modular concept enables flexible installation.

1) Qvantum Compressor unit QGM
2) Qvantum hydronic unit QH100 (wall mounted)



KEY FEATURES

- Ultra-compact design enables installation in any type of apartment.
- Low refrigerant quantity enables installation anywhere.
- Natural refrigerant R290 in the compressor unit allows >70 °C supply flow temperature.
- Hydronic unit with all necessary functions pre-plumbed.
- Support for active cooling as standard.
- Excellent serviceability through click-fittings.
- Instantaneous domestic hot water for comfort as well as efficient legionella prevention.
- Future proof connectivity.
- Dedicated app for installers and advanced users.
- Integrated thermal battery 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.

100% DIGITAL – SMART COMFORT

For installers and energy consultants, efficiency and reliability are key when working with heating systems. Qvantum's software-driven platform simplifies installation, integration and operation — making heat pumps easier to manage and more adaptable to the evolving energy landscape.

REMOTE CONTROL

Qvantum's smart control system enables remote monitoring and adjustments, ensuring optimal comfort, efficiency, and energy savings — anytime, anywhere. Installers can adjust settings, track performance, and diagnose issues from anywhere, reducing on-site visits and improving service efficiency.

flexready®

Qvantum's flexready heat pumps support balancing services by allowing heat storage at up to 90°C. Acting as thermal batteries, they store excess energy when electricity prices are low and reduce consumption during peak hours — without affecting comfort.

By responding to fluctuations in energy availability, flexready heat pumps ease grid strain, lower energy costs and enhance system stability. This ensures a more efficient and future-proof energy system while allowing users to benefit from smarter energy management.

HEAT PUMP TO GRID (HP2G®)

Fossil-free cities need more than renewable electricity — they require smarter, more integrated energy solutions. Qvantum's HP2G®-optimised heat pumps can be used as standalone solutions for single-family homes or connected in larger thermal networks to create flexible, efficient energy systems. By transforming heat pumps into active grid assets, reduces emissions, stabilises the grid and increases energy independence.

THERMAL GRID – EFFICIENT HEATING & COOLING FOR CITIES

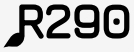
Qvantum's heat pumps are grid optimized and enables efficient heating and cooling by a shared low-temperature network. Instead of relying on gas boilers or traditional district heating, the shared network captures and redistributes excess heat from data centres, supermarkets and industrial processes etc, ensuring minimal energy losses.

By integrating both centralized and decentralized heat pumps, buildings can efficiently extract and use available thermal energy, reducing reliance on fossil fuels. The low-temperature network integrates with renewable electricity sources, optimising energy use across urban environments.

This future-ready heating and cooling solution helps cities reduce emissions, lower energy costs and transition toward a more sustainable and resilient energy system.

System efficiency class room heating, 55 °C.

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



Natural refrigerant R290

PRELIMINARY TECHNICAL DATA		QGM AND QH100
The product's efficiency class room heating, average climate 35 / 55 °C		A+++/A+++
The system's efficiency class room heating, average climate 35 / 55 °C		A+++/A+++
SCOP $_{EN14825}$ average climate, 35°C / 55°C		4,4/3,8
Nominal heating output $_{(Pdesignh)}$	kW	6
Operational range source side		-10 to 40
Operational range sink side		25–75
Electrical data		
Rated voltage	V	400V 3N ~ 50Hz / 230V 1N ~ 50Hz / 230V 2N ~ 50Hz
Max power immersion heater		5,0 kW
Sound		
Sound effect level $_{EN12102}$ (LWA)	dB(A)	36–43
Hot water efficiency and capacity		
Amount of hot water (40°C) $_{EN16147}$	l	135
Efficiency class hot water heating / declared tap profile		A/L
Refrigerant circuit		
Type of refrigerant (GWP)		R290 (3)
CO_2 equivalent	kg	0,456
Refrigerant quantity	g	152
Weight and dimensions		
Dimensions compressor module (W x D x H)	mm	230 x 430 x 410
Dimensions hydronic unit (W x D x H)		500 x 500 x 1 050
Weight compressor module	kg	30
Weight hydronic unit	kg	95

WE BRING HEAT PUMPS TO THE CITIES

Heat pumps have been available for many years, but as a technology reserved for those who have their own houses. However, most people live in apartments in densely populated urban areas, where fossil fuel heating has been the go-to solution. Traditional heat pumps have been too large and too expensive for use in apartments and have often required an outdoor unit that is usually not allowed, or even possible, to install. Heat pump systems are the missing puzzle pieces for the net-zero future and a key enabler to meeting the increasing renewable heating and cooling demands. Qvantum's heat pump technology and system design enable the installation of apartment heat pumps as replacement for gas boilers and thus contributes to the decarbonisation of the cities in Europe.

HEAT PUMPS FOR SUSTAINABLE CITIES

WE CHANGE THE WAY THE CITIES OF EUROPE ARE HEATED

Qvantum, founded in Sweden in 1993, develops high-quality heat pumps for individual buildings and innovative heat pump-based solutions for densely populated areas to enable everybody to benefit from emission free heating and cooling. The company has deep knowledge in both heat pump technology and energy systems engineering and works in close collaboration with engineering consultants, installers, project developers and utilities.

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