Commercial Heating | Product Information

MITSUBISHI ELECTRIC

QAHV

Monobloc Air Source Heat Pump

ecodan®
Renewable Heating Technology

A Highly Efficient, Carbon Saving Solution for Commercial Sanitary Hot Water Production

QAHV Monobloc Air Source Heat Pump

Specifically designed for commercial sanitary hot water application, where gas boilers, combined heat and power systems (CHP) or electric water heating have been traditionally utilised, the QAHV provides a low carbon solution for hospitals, hotels, leisure centres and student accommodation.

Utilising the natural and stable refrigerant CO_2 (R744), the environmentally clean solution enables compliance to strict local planning laws and boosts BREEAM points. Compounded by the increasing decarbonisation of the electrical grid and the UK's commitment to Net Zero 2050, the QAHV provides a high efficiency, low carbon hot water delivery solution with leaving water temperature up to 90°C.

High efficiency at high flow temperatures

Utilises CO_2 refrigerant with a GWP of 1

Uses a unique twisted and spiral gas cooler to enhance energy efficiency

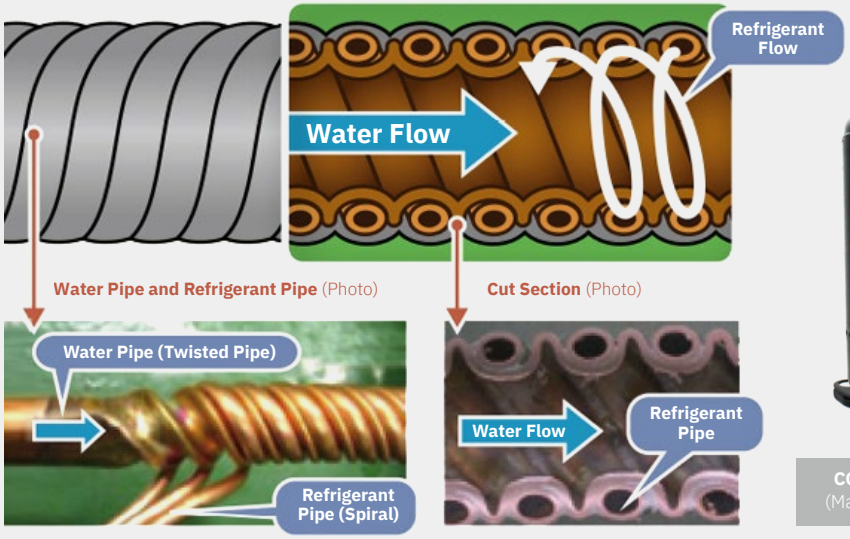
Full heating capacity down to -3°C outdoor temperature and operates down to -25°C

Super low noise levels

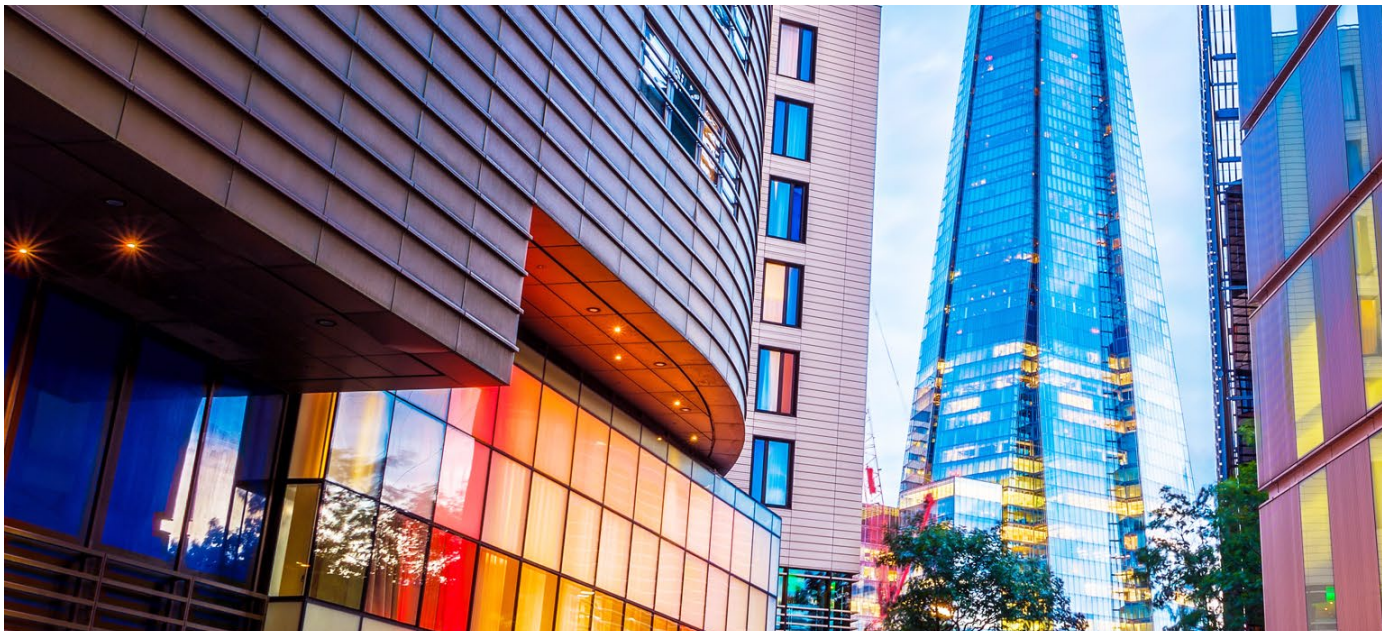
Patented Technology

QAHV utilises a unique twisted and spiral gas cooler, the 3 connected refrigerant pipes are wound around the twisted water pipe which maximizes heat transfer.

The continuous spiral grooves in the twisted pipe accelerates the turbulence effect of water and also helps to reduce pressure loss within the heat exchanger which contribute to enhance efficiency. Equipped with the latest inverter scroll compressor, QAHV can significantly increase the annual efficiency.



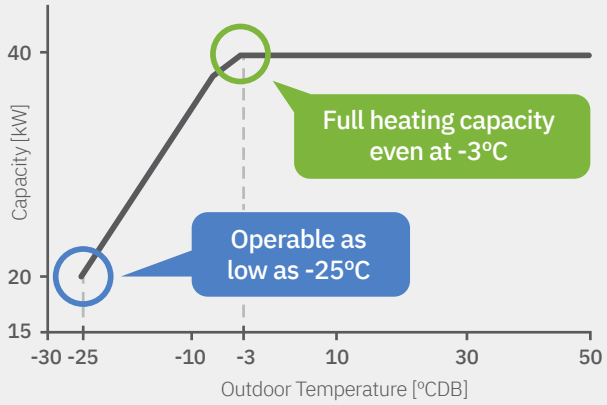
CO_2 Inverter Compressor
(Made by Mitsubishi Electric)



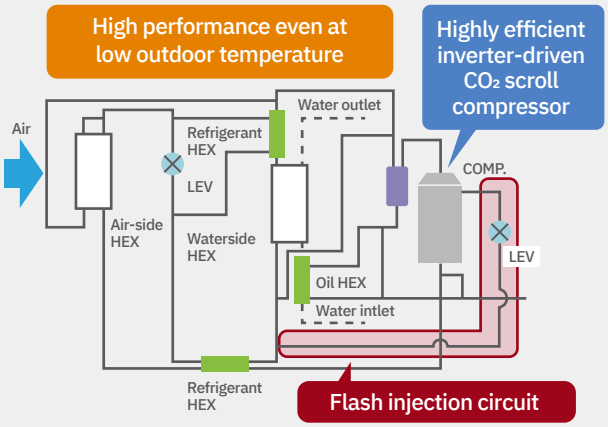
High Performance

High efficiency levels provide significant savings in running costs and carbon emissions against direct electric heating systems.

QAHV is able to provide full heating capacity even at ambient temperatures of -3ºC. Furthermore, the unit can supply hot water in ambient temperatures as low as -25ºC.



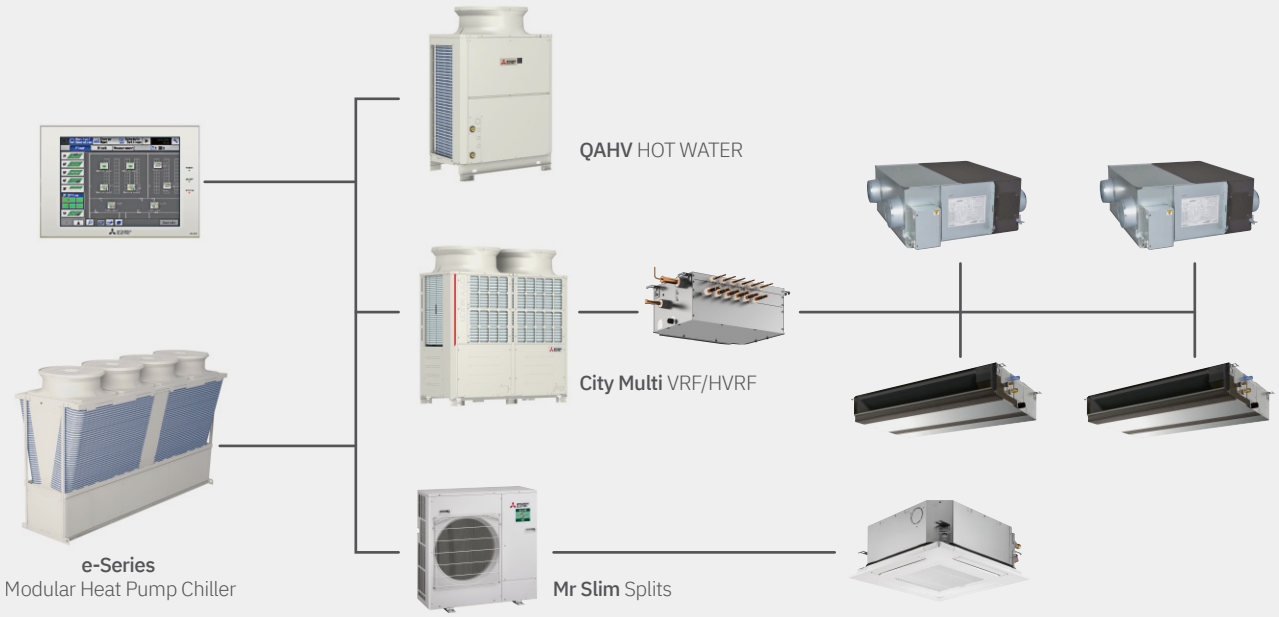
The technology behind this is an injection circuit which provides optimum amount of refrigerant to the system via a compressor through a specially designed injection port to ensure a particularly stable operation.



QAHV is ideal for applications with demand for

Low Carbon High Temperature Hot Water

With an M-NET ready connection, the QAHV solution can be controlled alongside Mitsubishi Electric's City Multi, Mr Slim, e-Series Chillers and others.



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QAHV
Monobloc Air Source Heat Pump

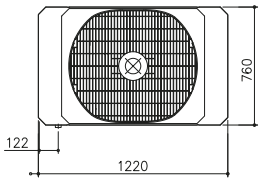
R744

OUTDOOR UNIT		QAHV-N560YA-HPB
WATER HEATING 65ºC*1	CAPACITY (kW)	40
	POWER INPUT (kW)	10.31
	CURRENT INPUT (A)	16.3
	COP	3.88
WATER HEATING 65ºC*2	CAPACITY (kW)	40
	POWER INPUT (kW)	10.97
	CURRENT INPUT (A)	18.3
	COP	3.65
WATER HEATING 65ºC*3	CAPACITY (kW)	40
	POWER INPUT (kW)	11.6
	CURRENT INPUT (A)	18.7
	COP	3.44
WATER HEATING ENERGY EFFICIENCY CLASS	FOR MEDIUM TEMPERATURE APPLICATION	A
TEMPERATURE RANGE	INLET WATER TEMPERATURE (ºC)	5 ~ 63
	OUTLET WATER TEMPERATURE (ºC)	55 ~ 90
	OUTDOOR TEMPERATURE (ºC)	-25~43
ELECTRICAL	MAX CURRENT INPUT (A)	33.8
	ELECTRICAL SUPPLY (V / Hz)	380-415v, 50Hz
	PHASE	3
	FUSE RATING - MCB SIZES (A)*5	40
WATER DETAIL	INLET / OUTLET (mm (in.))	19.05 (Rc 3/4"), screw pipe / 19.05 (Rc 3/4"), screw pipe
	ALLOWABLE EXTERNAL PUMP HEAD (kPa)	77
DIMENSIONS (mm)	WIDTH	1220
	DEPTH	760
	HEIGHT	1837 (1777 without legs)
WEIGHT (kg)		400
NOISE LEVEL	SOUND PRESSURE*4 (dB(A))	56
REFRIGERANT	TYPE	R744 (GWP 1)
	REFRIGERANT CHARGE (kg) / CO_2 EQUIVALENT (t)	6.5 / 0.0065

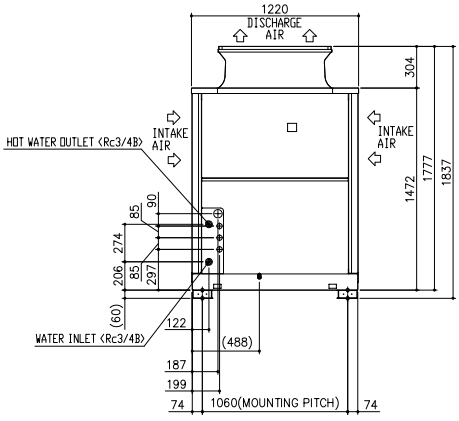
Notes: *1 Under Normal heating conditions at the outdoor temp, 16°CDB/12°CWB, the outlet water temperature 65°C, and the inlet water temperature 17°C.
*2 Under Normal heating conditions at the outdoor temp, 7°CDB/6°CWB, the outlet water temperature 65°C, and the inlet water temperature 9°C.
*3 Under Normal heating conditions at the outdoor temp, 7°CDB/6°CWB, the outlet water temperature 65°C, and the inlet water temperature 15°C.
*4 Measured 1m from the front of the unit in an anechoic room. *5 MCB Sizes BS EN60898-2 & BS EN60947-2

QAHV-N560YA-HPB DIMENSIONS

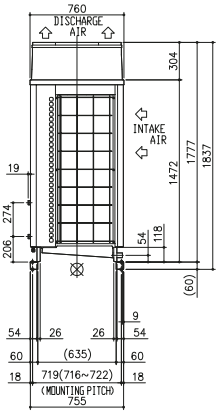
FRONT VIEW



UPPER VIEW



SIDE VIEW



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Changes for the Better

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Note: The fuse rating is for guidance only. Please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R32 (GWP:675), R407C (GWP:1774) or R134a (GWP:1430). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of May 2020

Green Gateway greengateway.mitsubishielectric.co.uk