

HOT WATER HEAT PUMP

CAHV-Z450YA-HPB



Energy-efficient high-temperature inverter heat pump

Developed for Nordic climates and delivers high performance even under extreme winter conditions. Using a natural refrigerant and advanced inverter technology, it provides high efficiency, high supply temperatures, and reliable operation in cold climates – ideal for replacing district heating or older heating systems.

- ✓ Natural refrigerant R290 (propane)
- ✓ Start-up down to -25 °C – optimized for the Nordic climates
- ✓ 75 °C supply temperature at -15 °C outdoor temperature
- ✓ Inverter with vapor injection for high cold-climate output
- ✓ Higher capacity and efficiency at low outdoor temperatures
- ✓ Fan control with increased static pressure capability
- ✓ Intelligent capacity control for optimal efficiency
- ✓ Built for Nordic climates with 20 mm insulated piping



Product information

TECHNICAL INFORMATION - CAHV-Z450YA-HPB

OUTDOOR UNIT / ARTICLE NAME			CAHV-Z450YA-HPB
HEATING ¹	Heating capacity (Min - Max)	kW	≈ 15 – 40
	Nominal capacity	kW	40
	Tillförd capacity	kW	12,62
	Pdesign (Low / Mid) ¹	kW	34 / 33
	η_s (Low / Mid) ¹	%	162 / 127
	SCOP (Low / Mid) ¹		4,1 / 3,2
	Capacity at -5 °C / 60 °C	kW	37,2
	Capacity at -10 °C / 60 °C	kW	32,3
	Capacity at -15 °C / 75 °C	kW	29,1
	Capacity at -20 °C / 70 °C	kW	26,4
Dimensions (W x H x D)			1750 x 1710 x 740
Weight			363
Compressor			Inverter-driven scroll compressor
Number of compressors			1
Sound Pressure level - Heating (SPL) ²			65
Operating current (Max)			45,6
Minimum flow			1,91
Pressure drop at minimum flow			10,2
Recommended flow			2,5
Pressure drop			17
Guaranteed operation range (Heating)			-25
Flow temperature (Heating)			75
Electric data			V / Phas / Hz
Recommended breaker size			50
Pipe size connection water			40
Refrigerant ³ / Weight			R290 / 4,8
CO2 equivalents			0,000096

(A) Moderate climate (C) Cold climate

¹ (A) Average climate zone with outlet water temperature of 35 / 55 °C.

² Measured at nominal capacity in a noise-free room at 1 m distance.

³ This product contains refrigerant type R290 with a GWP of 0.02 (CO2 = 1 kg).

GWP value based on the IPCC Sixth Assessment Report (AR6).

Intervention in the system is subject to requirements according to applicable F-gas regulations.

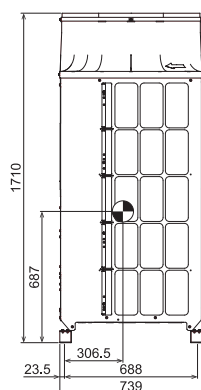
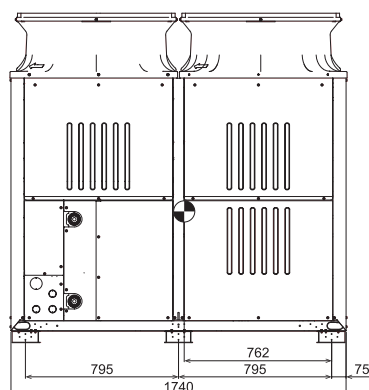
- For more detailed information, please refer to the datasheet or the technical specifications in the factory documentation.

Note! The unit is factory-filled with nitrogen for protection upon delivery. The system must be evacuated and then charged with 4.8 kg of R290.

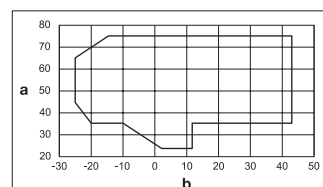
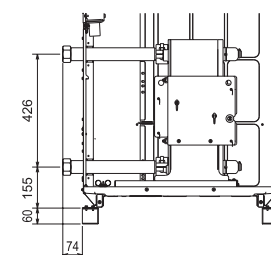
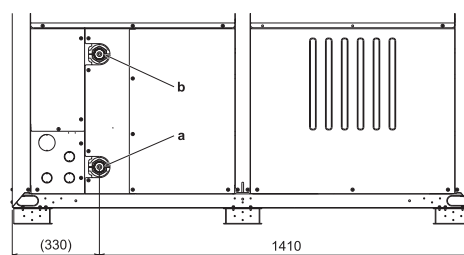
ACCESSORIES - CAHV-Z450YA-HPB

ARTICLE NAME	INFORMATION
SF-DN65	Dirt filter
VHS50M2.0	Flow switch (Approved only for recommended liquid flow 2.5 l/s)
BS-CM-XL-E2	Adjustable base frame.
MELBUS-HEATING	Intelligent BMS integration.
MAC-AUTOSTART10	Complete control box for connection of drip trays and heating cables. Controls up to 6 heaters.
MAC-AUTOSTART11	Enclosed residual current device (RCD) for outdoor installation. Recommended accessory for MAC-AUTOSTART10.
DP-CAHV450-E10	Electric heated drip tray with non-return valve for operation down to -15 °C. Connects to MAC-AUTOSTART10.
MAC-AUTO10-3	Heating cable, 3 m, with R290-approved Klaxon thermal switch (moulded). Intended for installation in the drain outlet. Operating temperature: Min. -40 °C / Max. 180 °C.
SH-HPB485 / SH-HPB486	Snow and wind hood to ensure efficient heat pump operation and shorter defrost cycles during extreme weather conditions. One of each per unit.
PROCON MELCOBEMS MINI (A1M+)	Interface for Modbus and BACnet communication. Supports TCP and RTU connectivity (Modbus), as well as BACnet MS/TP and BACnet/IP.
PAR-W31MAA-J	Remote controller for operation and monitoring of commercial heat pumps. Temperature sensor TW-TH16-E is a mandatory accessory.
TW-TH16-E	When using controller PAR-W31MAA-J: Central temperature sensor for brine systems when operating one or multiple modules with the integrated control system. Immersion sensor included. TW-TH16-E is required for multi-unit systems.
LH-HPB450	Acoustic enclosure kit including top panels and rear panel. Cannot be combined with the snow and wind hood. Noise reduction up to 6 dB(A).

DIMENSIONS (MM)



WATER PIPE CONNECTIONS (MM)



OPERATING RANGE

a: Water outlet temperature (°C)
b: Outdoor temperature (°C)

The inlet water temperature must be at least 19 °C during operation.