

Hoval Belaria-fit (53)

Air to Water Heat Pump



Description/Overview

A modulating air to water heat pump in compact design for outdoor installation.

For heating and cooling in cascades of up to 16 individual units.

Consisting of

- Hermetically sealed rotary compressors with inverter control.
- A copper-soldered plate heat exchanger made of stainless steel with polypropylene insulation and frost protection heating.
- Multi-row fin evaporator with large surface area with hydrophilic coating.
- Speed-controlled axial fans.
- A supporting frame structure with powder coating RAL 9001, External cladding made of surface-coated steel sheet RAL 9001 and including sound-insulating cladding.

The refrigeration circuit includes:

- An electronic expansion valve.
- A 4-way valve for cooling and defrosting.
- High and low-pressure monitor.
- liquid collector, liquid separator,
- oil separator.

And is filled with R32 refrigerant.

The water circuit includes

- A flow monitor.
- Frost protection heating.
- Temperature sensors on the flow and the return.
- A drain valve.
- Hydraulic connections with Victaulic couplings.
- A Safety valve with a 6 bar maximum setting.

An Electrical box internally wired ready for connection and an external operator terminal with graphical display and function keys. This can be mounted on the unit or remotely.

Heat Output A2W35 22.4-53.3kW

Cooling Capacity A35/W18 23.7-75.6kW.

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Technical Data

Performance		
Energy Efficiency Class with control at 35°C	A++	35°C
Room Heating energy efficiency 35°C η_s	152	%
SCOP moderate climate at 35°C	3.87	SCOP
Heating		
Heat Output A2W35 ⁽¹⁾	53.3	kW
COP A2W35	3.5	
Heat Output A-7W35	40.6	kW
COP A-7W35	2.8	
Cooling		
Cooling Capacity A35W18 ⁽¹⁾	75.6	kW
EER A35W18	3.3	
Cooling Capacity A35W7	55	kW
EER A35W7	2.6	
Sound Power Levels		
Standard	82	dB(A)
Silent ⁽²⁾	74	
Super silent ⁽²⁾	71	
Hydraulic Data		
Maximum flow temperature	54	°C
Heating Flow Rate at ΔT 5K (A7W35)	2.96	l/s
Heating Flow Rate at ΔT 8K (A7W35)	1.83	l/s
Cooling Flow Rate at ΔT 4K (A35W7)	3.28	l/s
Cooling Flow Rate at ΔT 4K (A35W18)	4.5	l/s
Max Op pressure for Heating	6.0	bar
Flow/Return Connections	2"	
Fan	2x axial	
Nominal air quantity	24000	m³/h
Refrigerant		
Circuits	R32	
Compressor stages	1	
Refrigerant fill quantity	Modulating	
Compressor oil fill quantity	14	kg
	4.6	l
Electrical Data		
Connections	3~400/50	
Starting current	40.5	Amps
Main current fuse	50	
Dimensions (H x W x D)		
Weight	1320x 2280 x 1060	mm
	530	kg

(1) In accordance with EN 14511

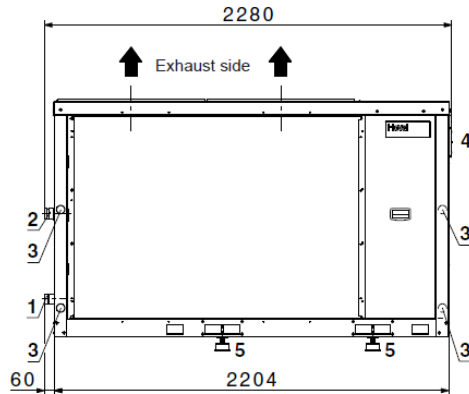
(2) Reduced heat outputs

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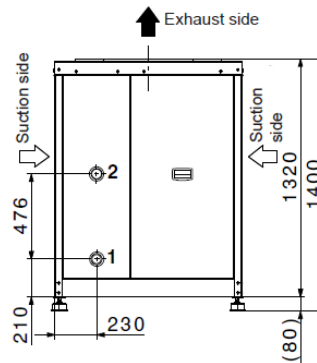
Hoval

Belaria® fit (53)
(Dimensions in mm)

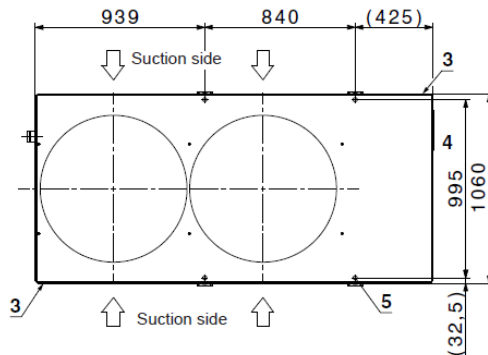
Front view (exhaust side)



Side view



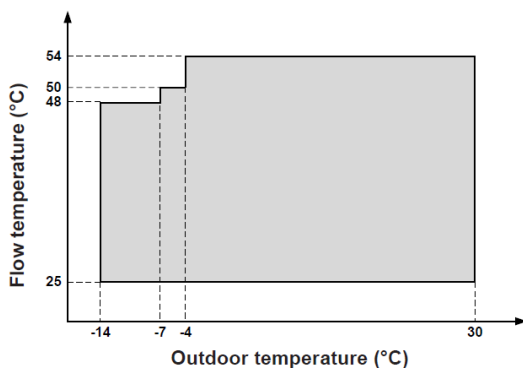
Rear (suction side)



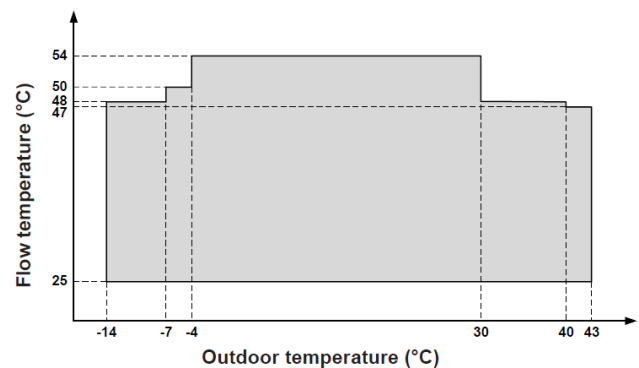
- 1 Flow heating DN 50
- 2 Return heating DN 50
- 3 Electrical connection
- 4 Control module bracket
- 5 Vibration dampers

Diagrams of areas of application

Heating Belaria® fit (53)



Hot water Belaria® fit (53)



Hoval Belaria-fit (53)

Air to Water Heat Pump

The Hoval logo consists of the word "Hoval" in a white, bold, sans-serif font, centered within a solid red rectangular background.

- Units are designed to be installed externally in fixed positions. They should be raised from the ground onto suitable plinths with the bearing points aligned and levelled (refer to O&M for details).
- Discharged condensation from the evaporator must be drained in such a way as to not cause harm or danger to people or property.
- Limit vibration transmissions using the anti-vibration feet supplied along with the flexible connection joints on the heating pipework. The spring vibration feet add to the height dimension indicated. **Anti-vibration feet and flexible couplings are included in the scope of supply.**
- Located to avoid obstacles to airflow, heat or pollution sources, stratification or recirculation of air supply by incorrect positioning.
- Refer to Technical Information Installation/Operation instructions prior to installation for necessary clearances around the units.
- Integration with heating/cooling systems requires a suitably sized thermal store (a Hoval EnerVal vessel).
- Option to include Hoval TopTronic E system control elements depending on the hydraulic arrangement. Refer to Hoval Technical.
- A water filter must be installed directly at the water inlet of the machine, the filter must have adequate mesh to prevent the entry of particles greater than 0.5mm. **A simple Y strainer filter is included in the scope of the supply for the installer to fit in the return pipework to the heat pump.**
- The unit must accommodate frost protection and be protected from freezing. This may require system separation and use of an anti-freeze solution.
- Installation to comply with all current regulations.

Electrical Connections

Electrical box: Connection terminals main supply, AC filter, phase sequence protection, surge voltage protection of the compressors, voltage-free contact for ON/OFF, voltage-free contact for summer/winter changeover, volt free fault signal.wired up ready to connect.

External operator terminal with graphical display and function keys. Control and monitoring of the modulating heat pumps, setting the heating and cooling curves, selection of operating mode, standard, silent and super silent and display of the current operating parameters. The control terminal can be installed in any room.

