

JRHB73

CEILING TYPE HEAT RECOVERY
UNIT WITH BYPASS



jakkagroup.com



Heat recovery exchangers which are selected according to criteria that high efficiency and low pressure drop, plug fans suitable for Erp 2015 criteria, filters suitable for green building classification (LEED, BREEAM), resistive and compact structure are the main components of JRHB73. Developed Senso automation system which is given together with the device controls both ventilations functions and like heating/cooling air conditioning functions provided by accessories as a standard.

As JRHB73 devices are used;

- Fresh air is provided for outside to inside.
- Free cooling is done when conditions are met.
- Decreased quality of inside air is given to outside.
- Energy economy is provided by heat transfer between disposal air and fresh air.
- As the fresh air is filtered the air quality is increased.
- By the smart control system which is given together with the device controlling is provided according to user's varying needs.

ECO
DESIGN

✓
RoHS
2002/95/EC

CE

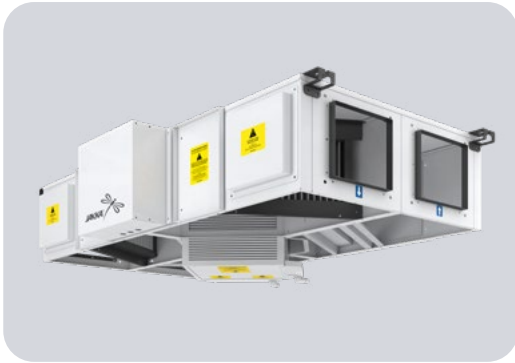
TSEK

International Organization for Standardization
ISO
9001

JRHB73

CEILING TYPE HEAT RECOVERY
UNIT WITH BYPASS





CASING

JRHB73 units are produced using polyester painted sheet metal with high corrosion resistance. The casing is patented with its low pressure drop and high stability.

Units have standard by-pass ventilation. Senso controls provides free cooling in the indoor environment by bypassing the outside air without entering the heat exchanger according to outdoor temperature, indoor air temperature and set temperature.

All components that require service, have their own service doors. This way the unit does not have to be disconnected from ducting system for servicing. Units are serviceable from left and right by design. This prevents problematic installations where service doors and electrical panel removals might cause.



FILTER

Air is cleaned with standard G4 type filters before it reaches any component in JRHB73 units. Low pressure drop filters have a rate of 98% when it comes to particle catching efficiency. Long lasting filters are easily cleaned with pressured air and after completing their lifecycle, they can be replaced easily. Optionally, F7 (MERV 13) filters can be used for if green building directives. High efficiency filters are produced especially for extending the surface area and reducing pressure drops. Filters fill up because of the particles they hold and this results in reduced air flow. In order to avoid dirty filters to affect air balance in the building, the unit has a filter cleaning alarm based on working hours.



HEAT RECOVERY EXCHANGER

The heat recovery exchangers are produced from Aluminium plates which has high corrosion resistance in JRHB73 devices. In cross flow exchangers in order to increase the heat recovery efficiency and to decrease pressure drop, the plates are designed developed with engineering methods. Thus, it reaches the highest efficiency heat recovery exchanger performance values continuity is provided with EUROVENT certificate in their class. JRHB73 devices' heat recovery exchangers, have larger heat transfer surface up to 22-35% than competitors in market. The speed in air passing section is lower 11-29% than competitors in market also. Thus, by JRHB73 devices, high heat recovery efficiency and low pressure drop are provided.



FAN

JRHB73 units are designed with high energy efficiency, low sound pressure and low power consumption plug fans. All of our fans are compliant with ECO-DESIGN criteria by European Union Energy Committee and ErP 2015. All of the fans are suitable for variable speed control. Fans up to JRHB73 5000 are controlled with built-in SENSO control. They have 3 fixed speeds or stepless control with the help of an air quality sensor.

JRHB73 units use single phase AC motors up to HR50 and 3 phase AC motors up to HR60. Required electrical protection is taken with electronic components against high temperature or locked rotor.

SENSO

SENSO Smart Control which is specifically developed and adjusted for Ceiling Type devices, controls both standard components in device and components attachable to ducts optionally to manage the desired supply air conditions. All of our devices works with plug and play logics are sent after complete comprehensive tests of control equipments and all components.



The basic functions provided by SENSO control in ventilation;

- Fan speeds are adjusted in 3 different speed independently
- Weekly time schedule
- Building automation connection (ModBUS)
- Automatic free cooling/heating control with by-pass damper.
- Afterheater Control
- Exchanger Freezing Control
- Battery Freezing Control (with Optional Sensor)
- Automatical BOOST Mode (with Optional Sensor)
- Automatical Flow Rate Control (with Optional Sensor)
- Filter Pollution Control (with Optional Sensor)

Room Control Panel

The devices have a room control panel to adjust operating status easily. This user friendly interface panel can manage flow rate, heat settings, selection of operation mode, season selection, weekly time schedule easily and fast.

Building Automation Connection

SENSO control, works in interaction with other air conditioning devices and building automation systems via Modbus protocol.



■ JRHB73 1000



■ FAN PERFORMANCE CURVES



UNIT INFORMATION

	JRHB73 1000
Exchanger Type	Aluminum Plate Cross Flow
Fan Type	AC Plug Fan
ERP Compatibility	-
Installation	Indoor
Installation Position	Horizontal
Service Location	Side and Bottom
Case structure	10 mm Insulated Single Walled

TECHNICAL INFORMATIONS

Maximum Flow Rate (m3/h)	1160
Nominal Flow Rate (m3/h)	812
Efficiency (-5°C OA, 22°C 50%RH RA Wet)	52%
Weight (kg)	75
Fresh Air Filter	Coarse (G4)
Exhaust Filter	Coarse (G4)
Operating Temperature (1) (°C)	-12/+46

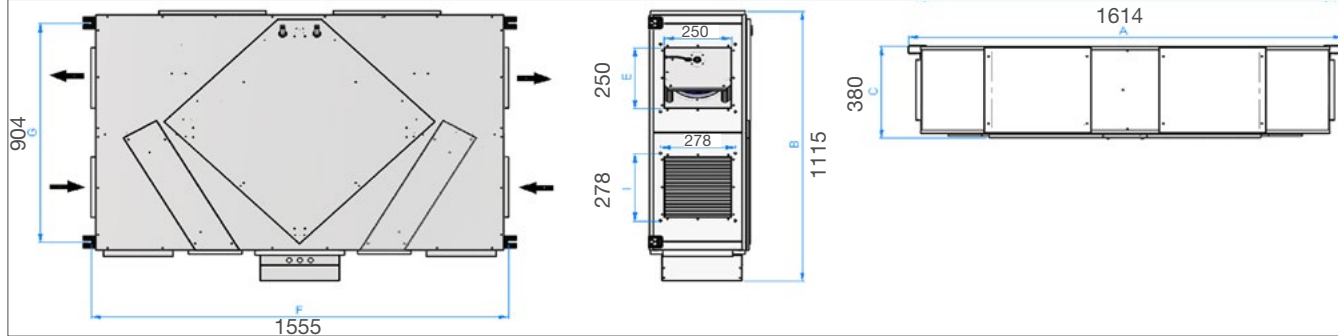
Electrical Informations

Communicating Informations	Modbus RTU
Supply Voltage	230V, 1~, 50 Hz
Total Power (1) (kW)	0,44
Maksimum Current (A)	1,8

Sound Information (2)

Surrounding Sound 3m. Distance (dBA)	59
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■ DIMENSIONS [mm]



ACCESSORIES

Electric Pre Heater	Optional	Duct Type	Page 18
Electric After Heater	Optional	Duct Type	Page 18
Water After Heater	Optional	Duct Type	Page 19

Room Control Panel	Standard	-	
VOD Sensor RH%	Optional	Page 19	
VOD Sensor CO2	Optional	Page 19	

Exhaust Filter Coarse	Standard		
Fresh Air Filter Coarse	Standard		
Fresh Air Filter ePM10 50%	Optional	Page 20	
Fresh Air Filter ePM1 65%	Optional		
Fresh Air Filter ePM1 50%	Optional	Page 20	

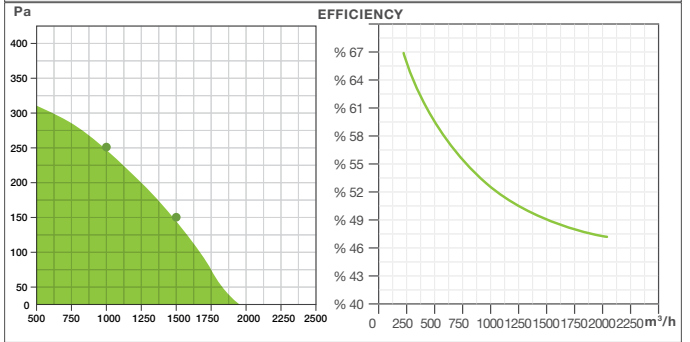
(1) Together with Electrical Preheater

(2) As a result of the measurement according to ISO 5136

■ JRHB73 2000



■ FAN PERFORMANCE CURVES



UNIT INFORMATION

	JRHB73 2000
Exchanger Type	Aluminum Plate Cross Flow
Fan Type	AC Plug Fan
ERP Compatibility	-
Installation	Indoor
Installation Position	Horizontal
Service Location	Side and Bottom
Case structure	10 mm Insulated Single Walled

TECHNICAL INFORMATIONS

Maximum Flow Rate (m3/h)	1950
Nominal Flow Rate (m3/h)	1365
Efficiency (-5°C OA, 22°C 50%RH RA Wet)	47%
Weight (kg)	110
Fresh Air Filter	Coarse (G4)
Exhaust Filter	Coarse (G4)
Operating Temperature (1) (°C)	-12/+46

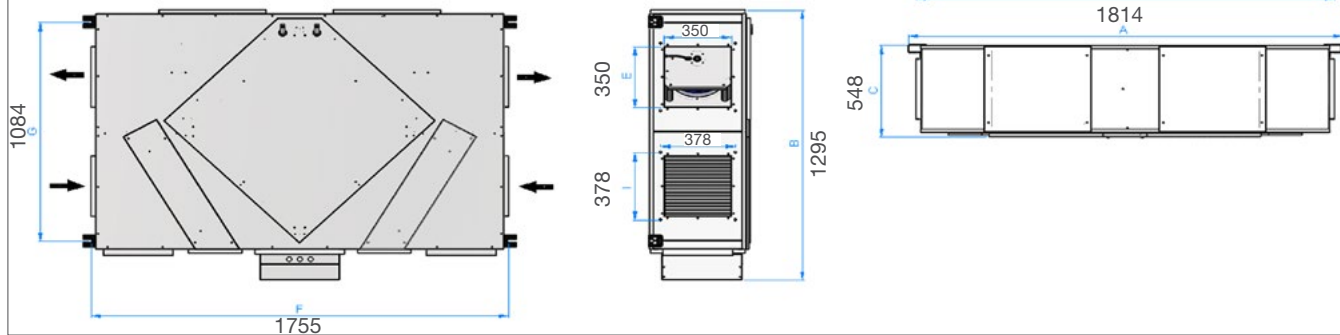
Electrical Informations

Communicating Informations	Modbus RTU
Supply Voltage	230V, 1~, 50 Hz
Total Power (1) (kW)	0,65
Maksimum Current (A)	2,9

Sound Information (2)

Surrounding Sound 3m. Distance (dBA)	60
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■ DIMENSIONS [mm]



ACCESSORIES

Electric Pre Heater	Optional	Duct Type	Page 18
Electric After Heater	Optional	Duct Type	Page 18
Water After Heater	Optional	Duct Type	Page 19

Room Control Panel	Standard	-	
VOD Sensor RH%	Optional	Page 19	
VOD Sensor CO2	Optional	Page 19	

Exhaust Filter Coarse	Standard		
Fresh Air Filter Coarse	Standard		
Fresh Air Filter ePM10 50%	Optional	Page 20	
Fresh Air Filter ePM1 65%	Optional		
Fresh Air Filter ePM1 50%	Optional	Page 20	

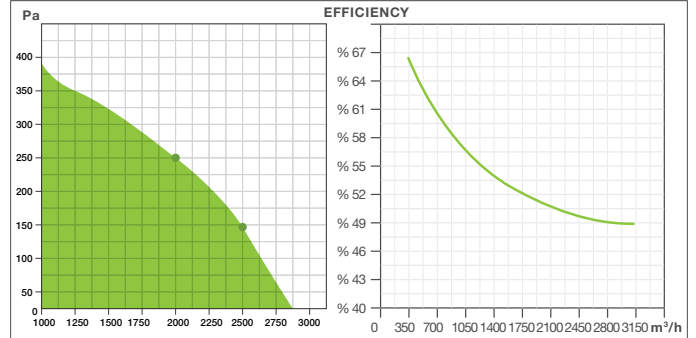
(1) Together with Electrical Preheater

(2) As a result of the measurement according to ISO 5136

■ JRHB73 3000



■ FAN PERFORMANCE CURVES



UNIT INFORMATION

	JRHB73 3000
Exchanger Type	Aluminum Plate Cross Flow
Fan Type	AC Plug Fan
ERP Compatibility	-
Installation	Indoor
Installation Position	Horizontal
Service Location	Side and Bottom
Case structure	10 mm Insulated Single Walled

TECHNICAL INFORMATIONS

Maximum Flow Rate (m3/h)	2900
Nominal Flow Rate (m3/h)	2030
Efficiency (-5°C OA, 22°C 50%RH RA Wet)	48%
Weight (kg)	140
Fresh Air Filter	Coarse (G4)
Exhaust Filter	Coarse (G4)
Operating Temperature (1) (°C)	-12/+46

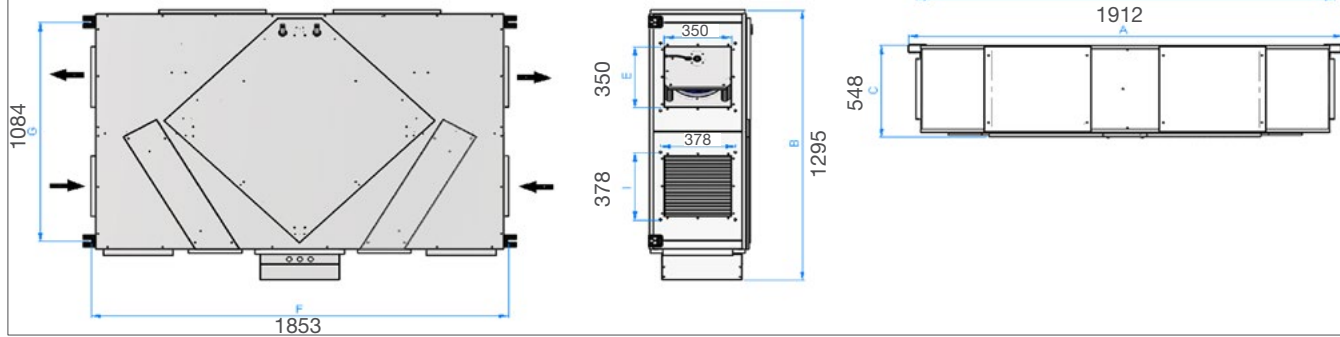
Electrical Informations

Communicating Informations	Modbus RTU
Supply Voltage	230V, 1~, 50 Hz
Total Power (1) (kW)	1
Maksimum Current (A)	4,6

Sound Information (2)

Surrounding Sound 3m. Distance (dBA)	55
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■ DIMENSIONS [mm]



ACCESSORIES

Electric Pre Heater	Optional	Duct Type	Page 18
Electric After Heater	Optional	Duct Type	Page 18
Water After Heater	Optional	Duct Type	Page 19

Room Control Panel	Standard	-	
VOD Sensor RH%	Optional	Page 19	
VOD Sensor CO2	Optional	Page 19	

Exhaust Filter Coarse	Standard		
Fresh Air Filter Coarse	Standard		
Fresh Air Filter ePM10 50%	Optional	Page 20	
Fresh Air Filter ePM1 65%	Optional		
Fresh Air Filter ePM1 50%	Optional	Page 20	

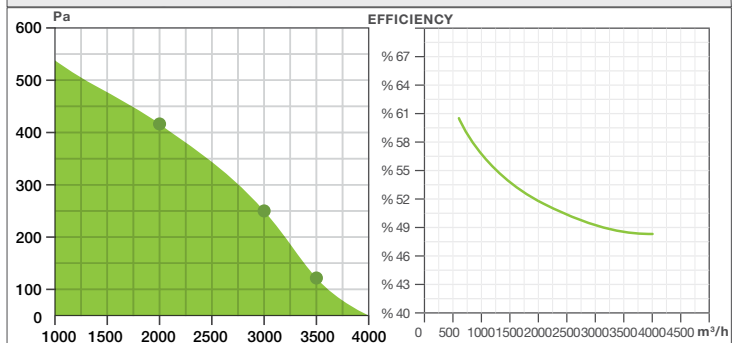
(1) Together with Electrical Preheater

(2) As a result of the measurement according to ISO 5136

■ JRHB73 4000



■ FAN PERFORMANCE CURVES



UNIT INFORMATION

	JRHB73 4000
Exchanger Type	Aluminum Plate Cross Flow
Fan Type	AC Plug Fan
ERP Compatibility	-
Installation	Indoor
Installation Position	Horizontal
Service Location	Side and Bottom
Case structure	10 mm Insulated Single Walled

TECHNICAL INFORMATIONS

Maximum Flow Rate (m3/h)	3980
Nominal Flow Rate (m3/h)	2786
Efficiency (-5°C OA, 22°C 50%RH RA Wet)	48%
Weight (kg)	170
Fresh Air Filter	Coarse (G4)
Exhaust Filter	Coarse (G4)
Operating Temperature (1) (°C)	-12/+46

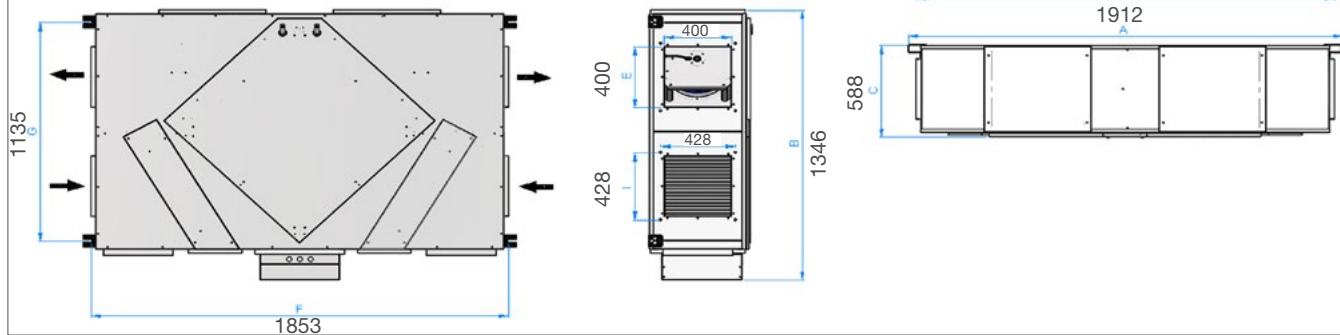
Electrical Informations

Communicating Informations	Modbus RTU
Supply Voltage	230V, 1~, 50 Hz
Total Power (1) (kW)	1,2
Maksimum Current (A)	4,8

Sound Information (2)

Surrounding Sound 3m. Distance (dBA)	53
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■ DIMENSIONS [mm]



ACCESSORIES

Electric Pre Heater	Optional	Duct Type	Page 18
Electric After Heater	Optional	Duct Type	Page 18
Water After Heater	Optional	Duct Type	Page 19

Room Control Panel	Standard	-	
VOD Sensor RH%	Optional	Page 19	
VOD Sensor CO2	Optional	Page 19	

Exhaust Filter Coarse	Standard		
Fresh Air Filter Coarse	Standard		
Fresh Air Filter ePM10 50%	Optional	Page 20	
Fresh Air Filter ePM1 65%	Optional		
Fresh Air Filter ePM1 50%	Optional	Page 20	

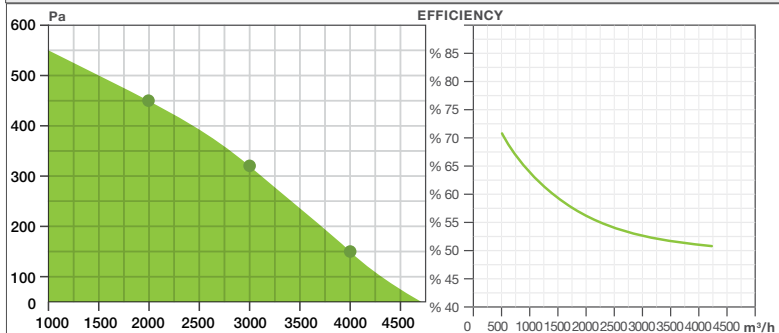
(1) Together with Electrical Preheater

(2) As a result of the measurement according to ISO 5136

■ JRHB73 5000



■ FAN PERFORMANCE CURVES



UNIT INFORMATION

	JRHB73 5000
Exchanger Type	Aluminum Plate Cross Flow
Fan Type	AC Plug Fan
ERP Compatibility	-
Installation	Indoor
Installation Position	Horizontal
Service Location	Side and Bottom
Case structure	10 mm Insulated Single Walled

TECHNICAL INFORMATIONS

Maximum Flow Rate (m³/h)	4520
Nominal Flow Rate (m³/h)	3164
Efficiency (-5°C OA, 22°C 50%RH RA Wet)	46%
Weight (kg)	190
Fresh Air Filter	Coarse (G4)
Exhaust Filter	Coarse (G4)
Operating Temperature (1) (°C)	-12/+46

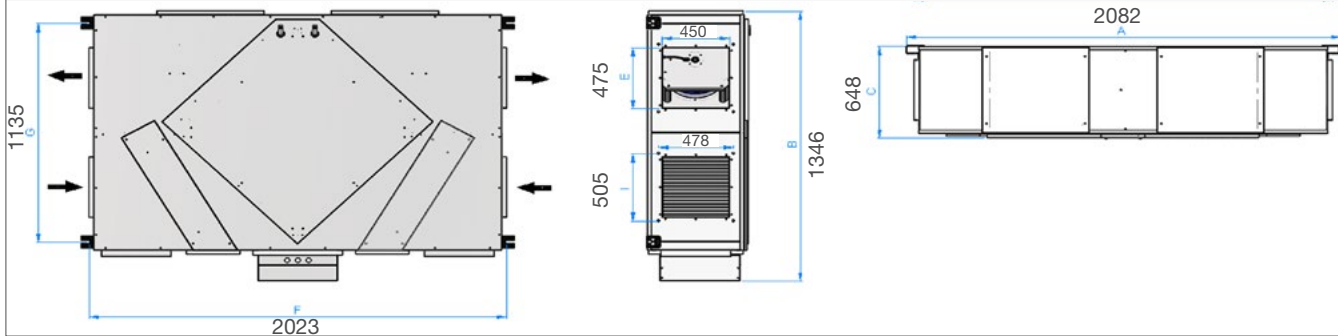
Electrical Informations

Communicating Informations	Modbus RTU
Supply Voltage	230V, 1~, 50 Hz
Total Power (1) (kW)	1,3
Maksimum Current (A)	5,4

Sound Information (2)

Surrounding Sound 3m. Distance (dBA)	58
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■ DIMENSIONS [mm]



ACCESSORIES

Electric Pre Heater	Optional	Duct Type	Page 18
Electric After Heater	Optional	Duct Type	Page 18
Water After Heater	Optional	Duct Type	Page 19

Room Control Panel	Standard	-	
VOD Sensor RH%	Optional	Page 19	
VOD Sensor CO2	Optional	Page 19	

Exhaust Filter Coarse	Standard		
Fresh Air Filter Coarse	Standard		
Fresh Air Filter ePM10 50%	Optional	Page 20	
Fresh Air Filter ePM1 65%	Optional		
Fresh Air Filter ePM1 50%	Optional	Page 20	

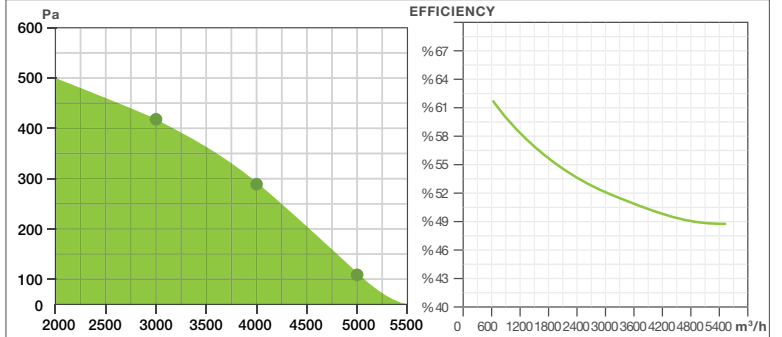
(1) Together with Electrical Preheater

(2) As a result of the measurement according to ISO 5136

■ JRHB73 6000



■ FAN PERFORMANCE CURVES



UNIT INFORMATION

	JRHB73 6000
Exchanger Type	Aluminum Plate Cross Flow
Fan Type	AC Plug Fan
ERP Compatibility	-
Installation	Indoor
Installation Position	Horizontal
Service Location	Side and Bottom
Case structure	10 mm Insulated Single Walled

TECHNICAL INFORMATIONS

Maximum Flow Rate (m3/h)	5550
Nominal Flow Rate (m3/h)	3885
Efficiency (-5°C OA, 22°C 50%RH RA Wet)	48%
Weight (kg)	225
Fresh Air Filter	Coarse (G4)
Exhaust Filter	Coarse (G4)
Operating Temperature (1) (°C)	-12/+46

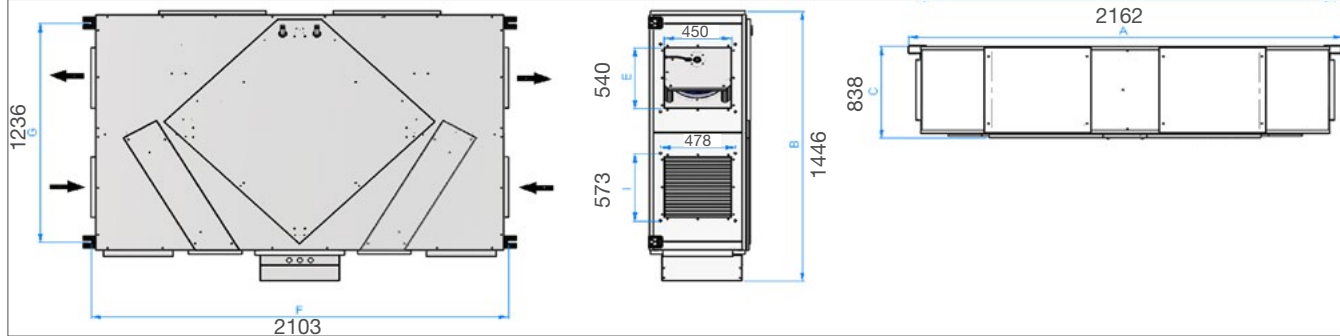
Electrical Informations

Communicating Informations	Modbus RTU
Supply Voltage	400V, 3~, 50 Hz
Total Power (1) (kW)	1,9
Maksimum Current (A)	3,8

Sound Information (2)

Surrounding Sound 3m. Distance (dBA)	52
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■ DIMENSIONS [mm]



ACCESSORIES

Electric Pre Heater	Optional	Duct Type	Page 18
Electric After Heater	Optional	Duct Type	Page 18
Water After Heater	Optional	Duct Type	Page 19

Room Control Panel	Standard	-	
VOD Sensor RH%	Optional	Page 19	
VOD Sensor CO2	Optional	Page 19	

Exhaust Filter Coarse	Standard		
Fresh Air Filter Coarse	Standard		
Fresh Air Filter ePM10 50%	Optional	Page 20	
Fresh Air Filter ePM1 65%	Optional		
Fresh Air Filter ePM1 50%	Optional	Page 20	

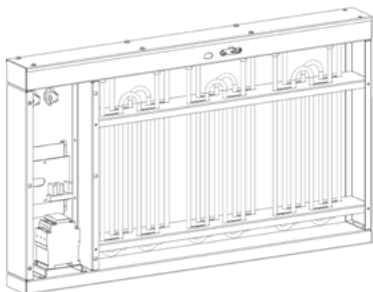
(1) Together with Electrical Preheater

(2) As a result of the measurement according to ISO 5136

ACCESSORIES

■ ELECTRICAL PREHEATER

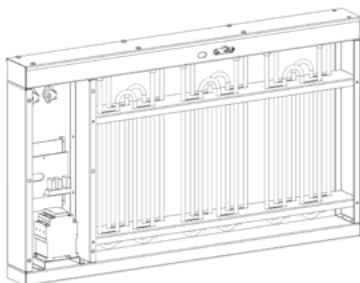
Used in order to prevent freezing at the exchanger in the situations which the outside air is very low. Controlled as a single step with SENSO control. Provides controllable energy efficiency with SENSO+ control via proportional signal.



Model	Heater Capacity (kW)	Control
VT-PREH-1000	4,5	1 Step
VT-PREH-2000	6	1 Step
VT-PREH-3000	9	1 Step
VT-PREH-4000	13,5	1 Step
VT-PREH-5000	18	1 Step
VT-PREH-6000	22,5	1 Step

■ ELECTRICAL AFTER HEATER

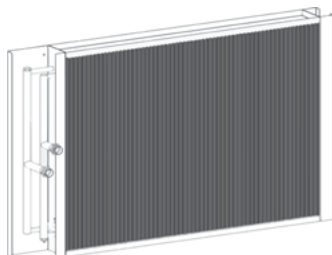
Used for increasing the supply air temperature. Operates automatically according to desired room temperature or desired supply temperature. Controlled as a single step with SENSO control. Provides controllable energy efficiency with SENSO+ control via proportional signal.



Model	Heater Capacity (kW)	Control
VT-POEH-1000	4,5	Binary 3 Step
VT-POEH-2000	6	Binary 3 Step
VT-POEH-3000	9	Binary 3 Step
VT-POEH-4000	13,5	Binary 3 Step
VT-POEH-5000	18	Binary 3 Step
VT-POEH-6000	22,5	Binary 3 Step

■ WATER AFTER HEATER

Used for increasing the supply air temperature. Operates automatically according to desired room temperature or desired supply temperature. Controlled as a single step with SENSO control. Provides controllable energy efficiency with SENSO+ control via proportional signal.



Model	Heater Capacity (kW)	Water Regime	Control
VT-POWH-1000	5,2	80-60	On/off
VT-POWH-2000	8,8	80-60	On/off
VT-POWH-3000	13	80-60	On/off
VT-POWH-4000	17,7	80-60	On/off
VT-POWH-5000	21,3	80-60	On/off
VT-POWH-6000	24,4	80-60	On/off

■ VOD

Located in inside of critical volume or return duct, the optional air quality sensor (CO₂) or relative humidity sensor (RH%) consistently measures the air quality or relative humidity. This value, as being compared with set value which is arranged on control, creates operating which changes fan speed. If the air in room is lower than desired air quality or the relative humidity is higher than the desired value, the fan speed is increased so, fresh air amount increased, if the air in room is higher than desired air quality or the relative humidity is lower than the desired value, the fan speed is decreased so, fresh air amount decreased; Thus, a significant energy save is provided at the heating or cooling loads caused by the fresh air.

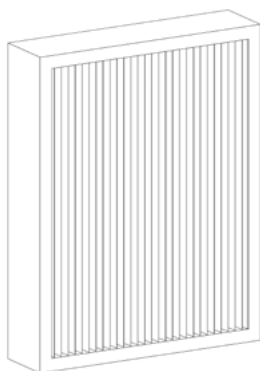
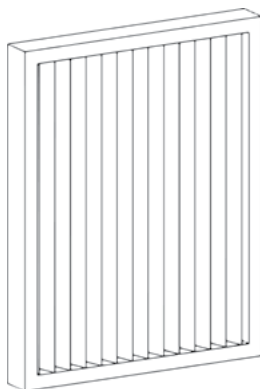


Model	Measurement	Installation Position
VOD-CO ₂ -DUCT	CO ₂	Duct
VOD-CO ₂ -RM	CO ₂	Room
VOD-RH-DUCT	RH%	Room
VOD-RH-RM	RH%	Duct

ACCESSORIES

■ FILTER

In the projects, it is designed as a standard for more sensitive than the present filter's filtering



Model	Code
Air Filter ePM10 50%	HR10EAEP10-50
	HR20EAEP10-50
	HR30EAEP10-50
	HR40EAEP10-50
	HR50EAEP10-50
	HR60EAEP10-50
Air Filter ePM10 65%	HR10FAEP10-65
	HR20FAEP10-65
	HR30FAEP10-65
	HR40FAEP10-65
	HR50FAEP10-65
	HR60FAEP10-65
Air Filter ePM1 50%	HR10FAEP1-50
	HR20FAEP1-50
	HR30FAEP1-50
	HR40FAEP1-50
	HR50FAEP1-50
	HR60FAEP1-50



NOVEMBER 2021
THE MANUFACTURER RESERVES THE RIGHT TO CHANGE THE SPECIFICATION WITHOUT PRIOR NOTICE.



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