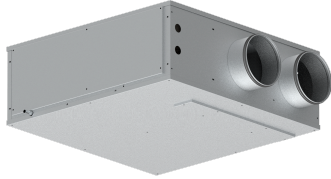


EVHRDS EC Compact unit for controlled mechanical ventilation, dehumidification and air handling systems from 300 to 500 m³/h



Description

The EVHRDS EC is a compact INVERTER-driven unit for Controlled Mechanical Ventilation systems with a dehumidification section and cooling and heating integration. The unit is supplied as a plug-and-play solution for quick and easy installation. The unit consists of a one-piece structure including every component for correct operation with wide temperature ranges.

Characteristics

Painted sheet metal self-supporting perimeter structure. The panels are insulated with 6 mm thick polyethylene. Dual-suction fans with Brushless EC motor. Very high efficiency and low noise levels in accordance with Erp regulations. Coarse filters with low pressure drop easily removable on the recirculation air. Cooling circuit made of brazed copper complete with: high efficiency compressor, filter drier, finned coils, water exchanger, solenoid valves, throttling device, liquid receiver, high pressure switches.

Use

The unit is particularly suitable for residential, commercial or collective residential buildings where dehumidification is required in addition to air exchange due to the presence of radiant systems.

Command electronics

Version K: On-board electrical panel with microprocessor and dedicated control. Fan management, motorised recirculation damper management, timed dirty filter management, recirculation and fresh air management.

Possibility of controlling the unit with these three solutions:

- 1: management via external controls and 0...10vdc signal for air flow rate control from minimum to maximum;
- 2: management via EVCNU remote panel with built-in T/H sensor;
- 3: MODBUS RTU RS 485 communication.

Accessories

- V2-1-EVHRD - 2-Way On/Off Water Valve 1/2";
- V3-1-EVHRD - 3-Way On/Off Water Valve 1/2";
- EVFHRDS - Filter Kit (for Recirculation Versions Only);
- EPIV - Insulated Supply Air Plenum.

Versions DC

Version DC all outside air: unit for the dehumidification of the air coming from the heat recovery unit and for the cooling/heating integration to the radiant air conditioning system.

During summer (compressor on) the unit can operate in 2 modes:

- dehumidification: the unit condenses partially in air and partially in water by means of the plate condenser, obtaining dehumidified air;
- dehumidification + Cooling integration: the unit condenses completely in water, thus obtaining dehumidified and cooled air.

During winter (compressor off), the water coil is supplied with hot water from the heating system and behaves like a fan coil with heat recovery unit.

Models:

- EVHRDS EC 30 H K DC
- EVHRDS EC 50 H K DC

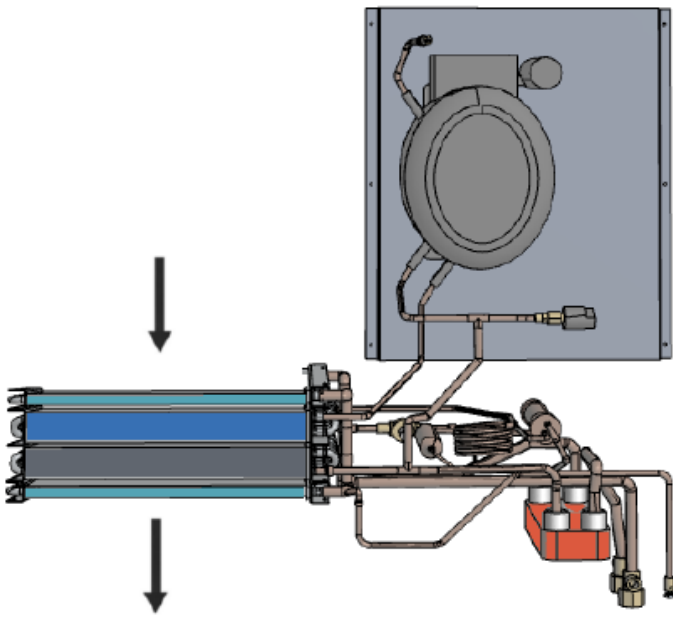
Version DC outside air and recirculation: unit for the dehumidification of the air coming partially from the heat recovery unit and partially from the indoor environment, with cooling/heating integration to the radiant air conditioning system.

During summer (compressor on) the unit can operate in 2 modes:

- dehumidification: the unit condenses partially in air and partially in water by means of the plate condenser, obtaining dehumidified air;
- dehumidification + Cooling integration: the unit condenses completely in water, thus obtaining dehumidified and cooled air.

During winter (compressor off), the water coil is supplied with hot water from the heating system and behaves like a fan coil with heat recovery unit.

- EVHRDS EC 30 H R K DC
- EVHRDS EC 50 H R K DC



General Data

Size		Horizontal Configuration	
		EVHRDS EC 30	EVHRDS EC 50
Power Supply	V/Ph/Hz	230/1/50	
Ingress Protection (IP) rating	IP	20	
Total Airflow Rate	m ³ /h	300	500
Nominal Outdoor Airflow Rate (R versions with recirculation)	m ³ /h	130	190
Pressure Drop - VMC Side	Pa	31	38
Rated Power Consumption of Recirculation Fan	kW	0,1	0,1

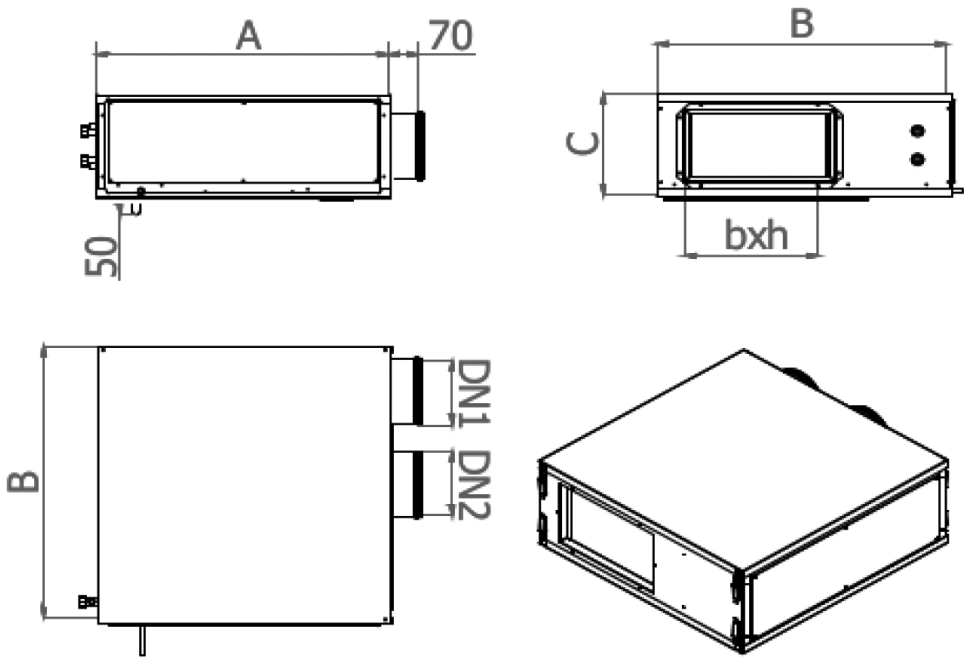
Versions DC

- (1) Outside air temperature 33°C; relative humidity 50%. room temperature 25°C; relative humidity 50%, water temperature 16°C. Nominal air and water flow rates.
- (2) Outside air temperature 33°C; relative humidity 50%. room temperature 25°C; relative humidity 50%, water temperature 16°C. Nominal air and water flow rates.
- (3) Room temperature 20°C; relative humidity 50%, nominal air flow rate; Water in 35°C.

Version DC		EVHRD EC 30	EVHRD EC 50
Net Dehumidification Capacity ¹	l/24h	56	89
Total Cooling Capacity ²	kW	2,6	3,95
Compressor Power Consumption	kW	0,69	0,95
Compressor Operating Frequency	Hz	55	73
EER		3,75	4,15
Sensible Cooling Capacity	kW	1,18	1,69
Delivered Heating Capacity ³	kW	0,53	1,15
Water Flow Rate	m ³ /h	0,12	0,18
Pressure Drop	Kpa	9	7
Sound Pressure Level Lp at 3 m	dB(A)	39,5	40,8
Electrical Supply	V/Ph/Hz	230/1/50	
Maximum Operating Current Draw	A	3,7	5,1
Maximum Operating Power Consumption	kW	0,79	1,11
Maximum Current Draw – Components	A	6,78	7
Maximum Power Consumption – Components	kW	1,49	1,55

Dimensions

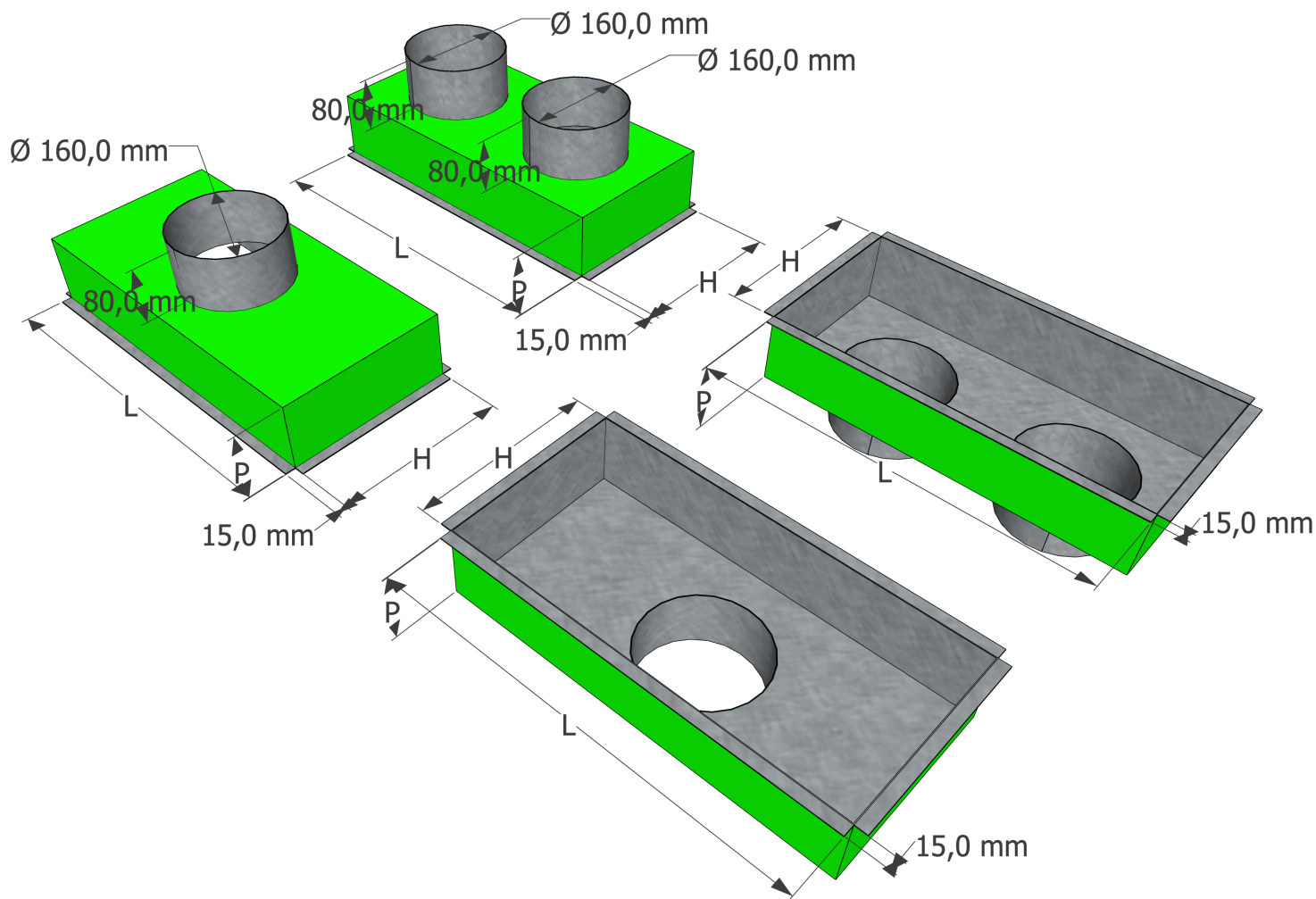
Dimensions		EVHRDS EC 30	EVHRDS EC 50
Larghezza A	mm	690	690
Depth B	mm	690	800
Altezza C	mm	270	320
Recirculation Air Inlet DN1 (not available in non-recirculation version)	mm	160	200
Primary Air Inlet (from ventilation unit) DN2	mm	160	200
Supply Air Outlet (b × h)	mm	347x177	518x252
Water Connections – Supply / Return	Ø"	1/2" - 1/2"	1/2" - 1/2"
Water Connection Diameter	Ø mm	12	12
Unit Weight DC	kg	43	56
Weight – R DC Version	kg	46	57



Supply Plenum Dimensions

All dimensions are expressed in mm.

Models	L	H	P	Ø
EVHRDS EC 30	347	177	100	1x160
EVHRDS EC 50	518	252	100	2x160



Heat Recovery Units and Accessories Price List - Version K

Models	Non-Recirculation Versions	Recirculation Version	Accessories				
	DC	R DC	EVCNU - Remote Electronic Controller	V2-1-EVHRD - 2-Way 1/2" On/Off Water Valve	V3-1-EVHRD - 3-Way 1/2" On/Off Water Valve	EVFHRDS - Filter Kit (for Recirculation Versions Only)	EPIV - Insulated Supply Air Plenum
	Eur	Eur	Eur	Eur	Eur	Eur	Eur
EVHRDS EC 30	-	-	-	-	-	-	-
EVHRDS EC 50	-	-	-	-	-	-	-

