EVDEH Dehumidifiers for residential applications.

Description

The EVDEH is a high-efficiency dehumidifier with an air handling, dehumidification, cooling and heating integration section. Thanks to its internal water coil, the unit can be connected to a heat pump or radiant system to be able to integrate hot and cold air in the room according to the season. The machine 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

EVDEH has a compact size, thanks to which it can be easily installed concealed in ceilings and walls. The structure consists of a self-supporting frame made of galvanised sheet metal with internal insulation, a water coil and a low pressure drop and easily removable filtering section. Each unit is also equipped with an EC centrifugal fan with low energy consumption, with forward blades for reduced noise. In addition to this, the motors are of the Costant Flow type, and this allows for self-adaptation to the plant made.

Use

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

Versions

Version D: neutral air dehumidification (isothermal). Unit that dehumidifies the air coming from the recirculation fan only. The air flow rate is increased by recirculating the room air, thus allowing the cooling circuit to operate, obtaining dehumidified air during summer (compressor on). The unit is equipped with a post-cooling/heating water coil which, if powered, supplies a cooling/heating integration to the radiant air conditioning system (the connection to the heating/cooling system is optional and does not affect air dehumidification).

Version DC: for dehumidification and integration in cooling/heating mode. The air flow rate is increased by recirculating the room air, thus allowing the air to be dehumidified and providing 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.

Models

EVDEH dehumidification units can be supplied suitable for ceiling installation in a horizontal configuration. This version features compact dimensions, allowing for easy recessed ceiling installation.

Available in 2 sizes:

- EVDEH 30 H – dehumidification capacity up to 18.9 l/24h;
- EVDEH 50 H – dehumidification capacity up to 36.2 l/24h.

Control electronics

On-board electrical panel with microprocessor and dedicated control, capable of controlling the operation of the unit in terms of temperature and humidity, ventilation, water temperature at the integration coil and refrigerant temperature in the cooling circuit.

The unit features three operating modes:

- SLAVE, the unit is controlled using external controls from the radiant system electronics.
- MASTER the dehumidifier is supplied with the EVCND remote touch panel control (not included, to be purchased separately), which allows the dehumidifier to become an autonomous unit.
- MODBUS the unit is controlled via Modbus RS485 communication.

Unit Performance - General Data

		Horizontal Version	
Size		EVDEH 30 H	EVDEH 50 H
Power Supply	V / ph / Hz	230 / 1 / 50	
Protection Rating	IP	20	
Total Airflow Rate	m³/h	300	500
Available Pressure	Pa	150	98

Version D

- (1) Room air temperature 26°C; relative humidity 65%, water 16°C.
- (2) Room air temperature 20°C; relative humidity 60%, water 35°C.

Version D		Horizontal Version	
		EVDEH 30 H	EVDEH 50 H
Effective Dehumidification Capacity	l/24h	18,9	36,2
Cooling Capacity of the Hydronic Coil	kW	0,58	1,22
Water Flow Rate	m³/h	0,15	0,3
Pressure Drop	Kpa	4,5	9,0
Heating Capacity[2]	kW	0,62	1,3
Sound Pressure Level Lp at 3 m	dB(A)	36	38
Electrical Supply	V/Ph/Hz	230 / 1 / 50	
Maximum Absorbed Current	A	3,2	5,3

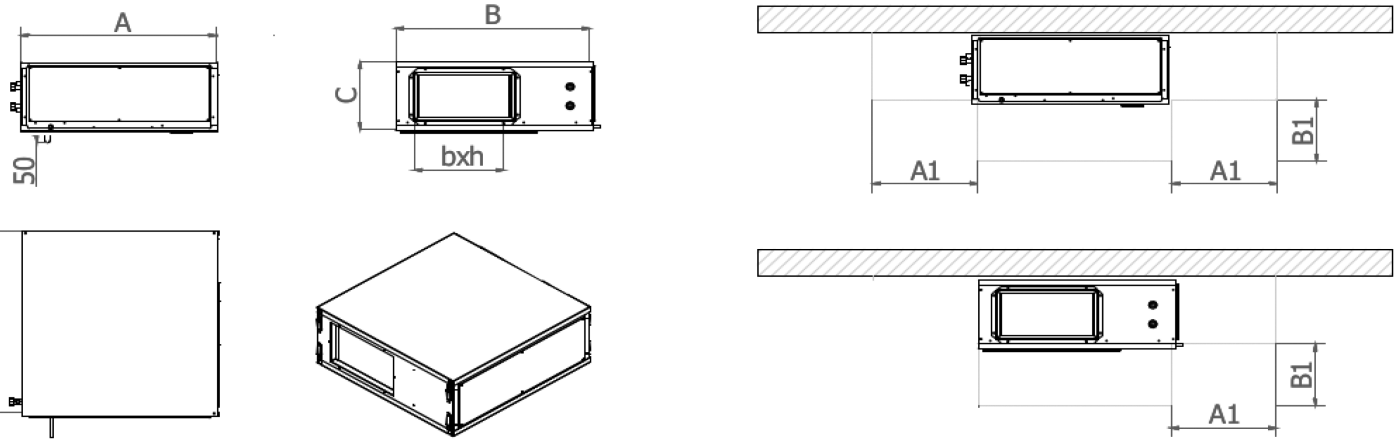
Version DC

- (1) Outside air temperature 30°; relative humidity 60%. Room temperature 25°C; relative humidity 50%, nominal air flow rate. Room temperature 25°C; relative humidity 60%, nominal air flow rate; Water in 16°C Water out 18°C.
- (2) Room temperature 20°C; relative humidity 60%, nominal air flow rate; Water in 35°C Water out 30°C.

Version DC		Horizontal Version	
		EVDEH 30 H	EVDEH 50 H
Effective Dehumidification Capacity	l/24h	18,9	36,2
Sensible Cooling Capacity	kW	0,77	1,44
Total Cooling Capacity (1)	kW	1,27	2,39
Water Flow Rate	m³/h	0,15	0,30
Pressure Drop	Kpa	4,5	9,0
Heating Capacity²	kW	0,62	1,30
Sound Pressure Level Lp at 3 m	dB(A)	36	38
Electrical Supply	V/Ph/Hz	230 / 1 / 50	
Maximum Absorbed Current	A	3,2	5,3

Dimensions of Horizontal Version

Models			EVDEH 30 H	EVDEH 50 H
Dimensions	Width A	mm	690	690
	Depht B	mm	690	800
	Height C	mm	250	310
Supply and Return bxh		mm	350x180	520x250
A1		mm	300	300
B1		mm	270	320
Water Connection Diameter – Supply / Return		Ø	1/2"-1/2"	
Water Connection Diameter		Ø mm	16	
Unit Weight D		kg	40	53
Unit Weight DC		kg	42	55



Price List and Accessories (Horizontal Version – H, Ceiling Installation)

	Models	Version		Accessories			
		D	DC	EVCNU - Remote Electronic Controller EVCND	V2-1-EVHRD - 2-Way 1/2" On/Off Water Valve	V3-1-EVHRD - 3-Way 1/2" On/Off Water Valve	Filter Kit
		Eur	Eur	Eur	Eur	Eur	Eur
Horizontal	EVDEH 30 H	2.226,92	2.731,62	236,48	324,38	378,45	35,67
	EVDEH 50 H	3.346,89	3.824,27	236,48	324,38	378,45	43,60