

EVHRA Autonomous unit with heat recuperator up to 5000 m³/h



Description

Active recovery unit for heating, cooling and room air renewal. The unit is composed of a monobloc including all components for correct operation: fans, refrigeration circuit with high efficiency compressors, air filtration sections and cross-flow heat recovery unit.

Characteristics

Panels made by double sandwich panel 38 mm thickness, with externally white painted finish and Aluzinc inside the unit. Perimeter structure with aluminium profiles, with seals and no air leakage. The insulation of the panels is made with high performance insulation which allows low noise and reduced transmittances during unit operation. Cross-flow aluminium heat exchanger has an efficiency of 50-60%. Summer and winter operation. Double suction centrifugal fans with directly coupled motor compliant with Erp regulations. The thermodynamic recovery allows, thanks to its refrigeration circuit, to supply energy to the environment in a greater quantity than that subtracted from ventilation. Upstream of the recovery unit there are two filters with easily removable ePM1 70-80% filtration class. Refrigerant circuit made of brazed copper complete with: high efficiency compressor, dehydrating filter, finned batteries, solenoid valves, electronic expansion valve, receiver liquid, pressure transducers and safety devices. On-board electrical panel with microprocessor and dedicated regulation. Fan management, visualization of internal temperature probes, temporized dirty filters management. Defrost algorithm management optimized for operation with low internal temperatures. Wide graphical interface with configuration menu and multi-lingual user menu. Predisposition for MODBUS RTU RS 485 communication with the most varied home automation systems.

Unit components

Refrigeration Circuit:

- high-efficiency rotary or scroll compressor;
- copper tube coils with aluminum fins;
- 4-way reversing valve;
- electronic expansion valve;
- filter drier;
- pressure transducers;
- liquid receiver;
- high-pressure switch and safety devices.

Air Handling Circuit:

- cross-flow aluminum heat recovery exchanger;
- double-inlet centrifugal fans;
- ePM1 70-80% filters.

Electrical Circuit:

- main disconnect switch;
- protection fuses;
- contactors and relays;
- microprocessor controller.

Use

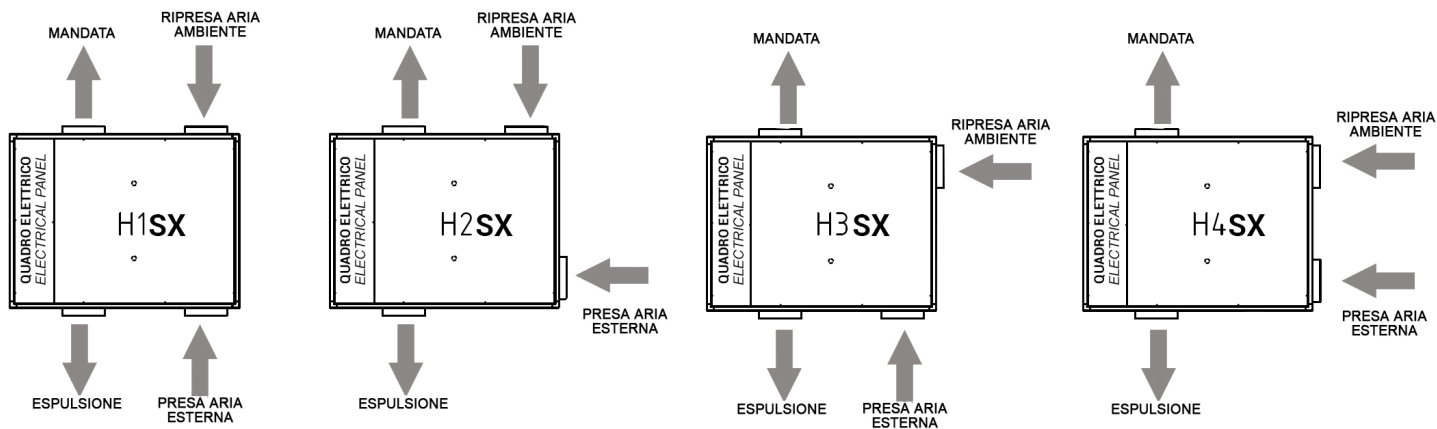
EVHRA works as a passive recuperator and as an active thermodynamic recuperator and is particularly suitable for residential, commercial or collective residential buildings, it has plug-and-play for a quick and simplified installation.

Accessories

- EVBE - ON/OFF duct electric heater.
- EVBER - Duct electric heater with integrated control.
- EVBAC - Pre-heating or post-heating coil.
- EVBAF - Pre-cooling or post-cooling coil.

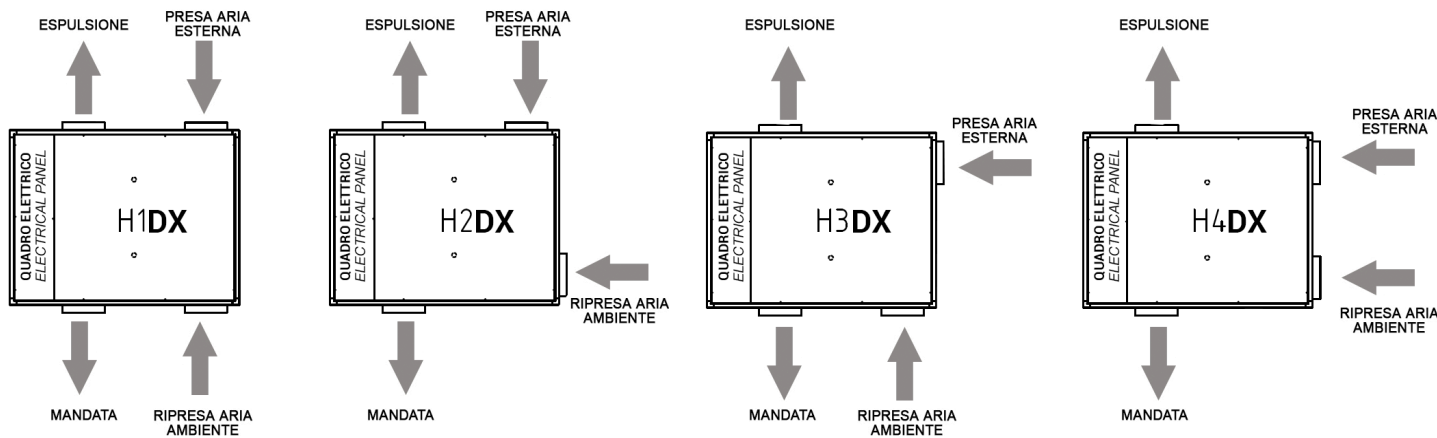
Possible Configurations - Left-Hand Version

- if not expressly indicated in the order, the configuration produced will be H1SX.



Configurazioni Possibili - Versione DX

- if not expressly indicated in the order, the configuration produced will be H1DX.

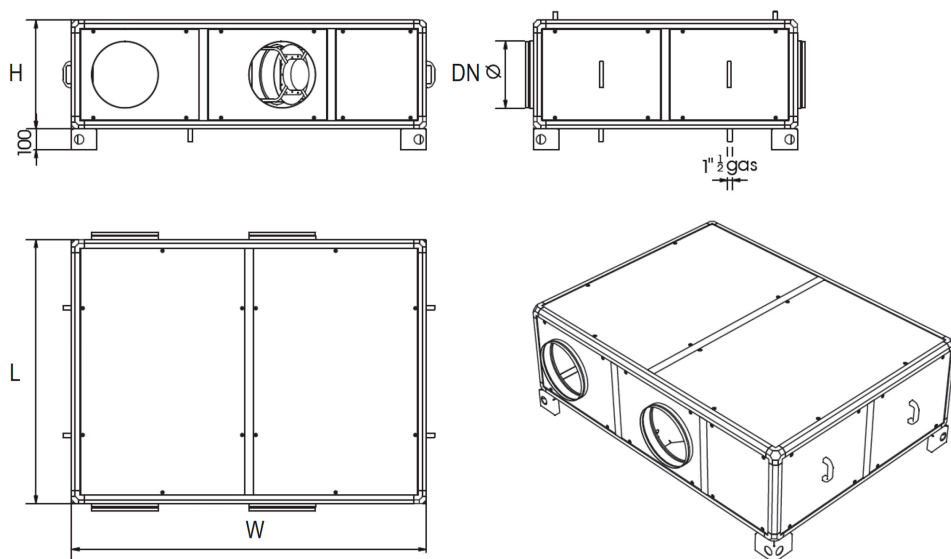


General
Technical
Data

(1) Outdoor air -5 ° / 80% RH - Indoor air 20 ° / 50% RH - Nominal flow rate.
(2) data referred to 3 meters of free field distance.

Models			60	100	150	250	350	500
Fan Type			Centrifughi a doppia aspirazione					
Number of Fans			2					
Nominal Air Flow		m³/h	600	1000	1500	2500	3500	5000
Available Static Pressure - Fresh Air Side		Pa	200	200	170	180	100	200
Available Static Pressure - Exhaust Air Side		Pa	124	180	130	140	85	200
Compressor Type			Rotativo ad alta efficienza			Scroll ad alta efficienza		
Refrigerant Type			R410A					
Passive Heat Recovery Unit			Piastre in alluminio a flussi incrociati					
Minimum Heat Recovery Efficiency (1)		%	55	50,5	50,1	53,7	52,6	51,3
Filters			ePM1 70-80%					
Maximum Fan Power Consumption		kW	0,7	0,74	0,74	1,1	1,5	3
Maximum Fan Current Draw		A	3,1	5,2	5,2	7,8	15,6	10
Maximum Compressor Power Consumption		kW	1,06	1,83	2,89	5,04	7,23	9,39
Maximum Compressor Current Draw		A	4,75	8,57	13,8	8,6	12,2	15,9
Supply Voltage		V/ph/Hz	230/1ph/50			400/3ph/50		
Maximum Total Power Consumption		kW	1,76	2,57	3,63	6,14	8,73	12,39
Maximum Total Current Draw		A	7,85	13,7	19	16,4	27,8	25,9
Ingress Protection (IP) rating		IP	20	20	20	20	20	20
Sound Pressure Level ²		dB(A)	48	53	54	56	61	68
Dimensions			60	100	150	250	350	500
Width	W	mm	1400	1680	1800	1960	1960	2240
Depht	L	mm	925	1250	1250	1430	1430	1610
Height	H	mm	415	515	515	620	720	920
Air Connections	DN	Ø mm	200	315	315	355	400	500

Condensate Drain Connections	Ø mm	20	20	20	20	20	20
Weight	kg	140	230	278	325	382	570



Technical Data Winter Operation

(1) Outdoor air -5 ° / 80% RH - Indoor air 20 ° / 50% RH - Nominal flow rate.

Models		60	100	150	250	350	500
Passive Heat Recovery							
Heating Capacity (1)	kW	2,3	4,22	6,23	11,2	15,4	22,4
Active Heat Recovery							
Heating Capacity (1)	kW	2,82	5,03	7,97	13	18,2	24,4
Power Input	kW	0,58	1,12	1,63	2,7	3,4	5,2
COP		4,86	4,49	4,88	4,81	5,35	4,69
Total Heat Recovery							
Overall COP		8,82	8,25	8,71	8,96	9,88	9
Supply Air Temperature	°C	22,1	21,9	22,5	23,2	22,6	22,1
Heating Capacity (1)	kW	5,12	9,25	14,2	24,2	33,6	46,8

Technical Data for Summer Operation

(1) Outdoor air 30 ° / 60% RH - Indoor air 25 ° / 50% RH - Nominal flow rate.

Models		60	100	150	250	350	500
Passive Heat Recovery							
Cooling Capacity (1)	kW	0,4	0,76	1,13	2,08	2,85	4,22
Active Heat Recovery							
Cooling Capacity (1)	kW	2,68	5,32	8,1	12,71	18,4	25,1
Power Input	kW	0,79	1,29	2,2	3,89	5,5	7,3
EER		3,39	4,12	3,68	3,26	3,34	3,43
Total Heat Recovery							
Overall EER		3,8	4,71	4,19	3,8	3,86	4
Supply Air Temperature / Humidity	°C / Ur%	19,7 / 87,2	19,6 / 87,9	19,8 / 86,3	19,9 / 86	19,9 / 86,9	19,9 / 85
Cooling Capacity (1)	kW	3,08	6,08	9,23	14,79	21,25	29,32

Operating Limits

Size		60	100	150	250	350	500
Heating		Aria Interna			Aria Esterna		
	°C	15 / 25°C			-20 / 20°C		
Raffrescamento		Aria Interna			Aria Esterna		
	°C	18 / 28°C			15 / 40°C		

Heat Recovery Units and Accessories Price List

Models	EVHRA-SX	EVHRA-DX	EVTGF	EVSAT	T-EVHRA	EVFHRA - Filter Kit
	Eur	Eur	Eur	Eur	Eur	Eur
60	-	-	-	-	-	-
100	-	-	-	-	-	-
150	-	-	-	-	-	-
250	-	-	-	-	-	-
350	-	-	-	-	-	-
500	-	-	-	-	-	-

