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.

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.

Unit components

REFRIGERANT CIRCUIT:
- high efficiency rotary or scroll compressor;
- copper tube batteries with aluminium fins;
- 4-way reversing valve;
- electronic expansion valve;
- dehydrator filter;
- pressure transducers;
- liquid receiver;
- high pressure pressure and safety devices.

AERAULIC CIRCUIT:
- cross-flow aluminium heat recovery unit;
- double suction centrifugal fans;
- ePM1 70-80% filters.

ELECTRICAL CIRCUIT:
- general actuator;
- protection fuses;
- contactors and relays;
- microprocessor.

Characteristics

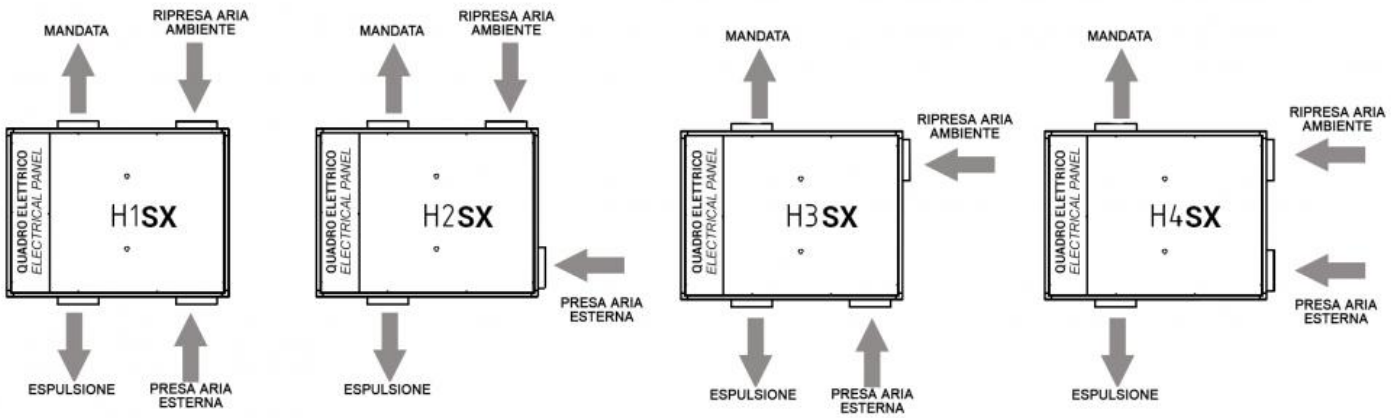
Panels made by double sandwich panel 38 mm thickness, with externally white painted finish and Aluzinc inside the unit.
Perimeter structure with aluminium profiles, with seals and no air leakage. The insulation of the panels is made with high performance insulation which allows low noise and reduced transmittances during unit operation.
Coss-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.

Accessories

Batteria elettrica da canale ON/OFF modello EVBE.
Batteria elettrica da canale CON REGOLAZIONE INTEGRATA modello EVBER.
Batteria di preriscaldamento o post riscaldamento modello EVBAC.
Batteria di preraffreddamento o post raffreddamento modello EVBAF.

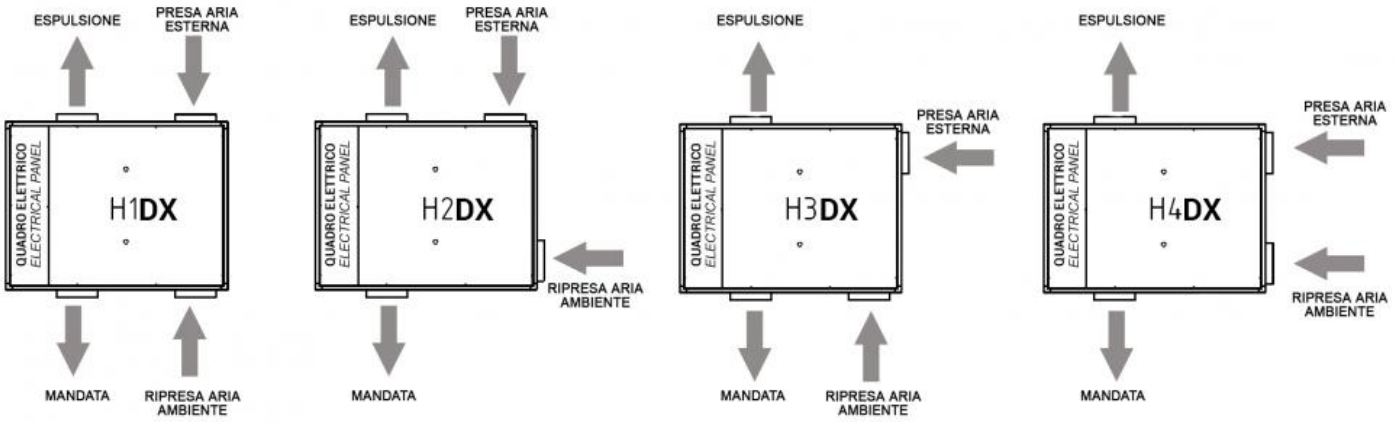
Possible configurations in the LEFT version:

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



Possible configurations in the RIGHT version:

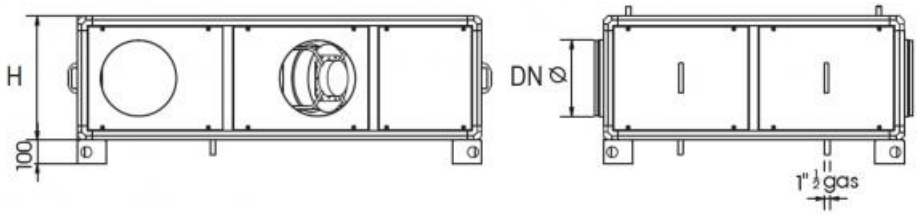
- if not expressly indicated in the order, the configuration produced will be H1DX.

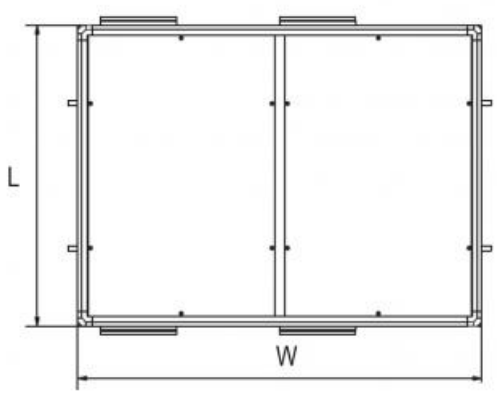


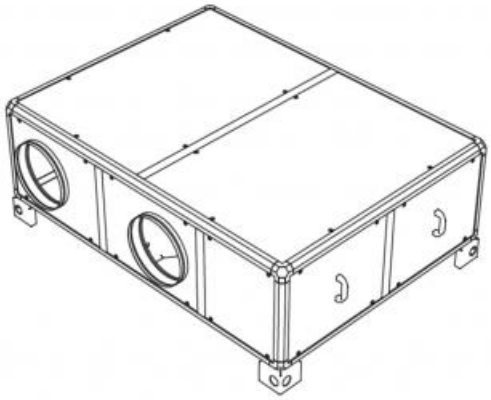
General technical data:

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

Modello EVHRA			60	100	150	250	350	500
Tipo di ventilatori			Centrifughi a doppia aspirazione					
N° Ventilatori			2					
Portata aria nominale		m^3/h	600	1000	1500	2500	3500	5000
Pressione utile lato rinnovo		Pa	200	200	170	180	100	200
Pressione utile lato espulsione		Pa	124	180	130	140	85	200
Tipo di compressore			Rotativo ad alta efficienza			Scroll ad alta efficienza		
Gas refrigerante			R410A					
Recuperatore di calore passivo			Piastre in alluminio a flussi incrociati					
Efficienza minima recuperatore(1)		%	55	50,5	50,1	53,7	52,6	51,3
Filtri			ePM1 70-80%					
Max Potenza assorbita ventilatori		kW	0,7	0,74	0,74	1,1	1,5	3
Max Corrente assorbita ventilatori		A	3,1	5,2	5,2	7,8	15,6	10
Max Potrenza assorbita compressori		kW	1,06	1,83	2,89	5,04	7,23	9,39
Max Corrente assorbita compressori		A	4,75	8,57	13,8	8,6	12,2	15,9
Tensione di alimentazione		V/ph/Hz	230/1ph/50			400/3ph/50		
Max Potenza assorbita totale		kW	1,76	2,57	3,63	6,14	8,73	12,39
Max Corrente assorbita totale		A	7,85	13,7	19	16,4	27,8	25,9
Grado di protezione IP		IP	20	20	20	20	20	20
Pressione sonora(2)		dB(A)	48	53	54	56	61	68
Dimensioni EVHRA			60	100	150	250	350	500
Larghezza	**W**	mm	1400	1680	1800	1960	1960	2240
Profondità	**L**	mm	925	1250	1250	1430	1430	1610
Altezza	**H**	mm	415	515	515	620	720	920
attacchi aeraulici	**DN**	Ø mm	200	315	315	355	400	500
attacchi scarico condensa		Ø mm	20	20	20	20	20	20
Peso		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

Modello		60	100	150	250	350	500
RECUPERO PASSIVO							
Potenzialità termica(1)	kW	2,3	4,22	6,23	11,2	15,4	22,4
RECUPERO ATTIVO							
Potenzialità termica(1)	kW	2,82	5,03	7,97	13	18,2	24,4
Potenzialità assorbita	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
RECUPERO TOTALE							
COP globale		8,82	8,25	8,71	8,96	9,88	9
Temperatura aria immissione	°C	22,1	21,9	22,5	23,2	22,6	22,1
Potenzialità termica(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

Modello		60	100	150	250	350	500
RECUPERO PASSIVO							
Potenzialità frigorifera(1)	kW	0,4	0,76	1,13	2,08	2,85	4,22
RECUPERO ATTIVO							
Potenzialità frigorifera(1)	kW	2,68	5,32	8,1	12,71	18,4	25,1
Potenzialità assorbita	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
RECUPERO TOTALE							
EER globale		3,8	4,71	4,19	3,8	3,86	4
Temperatura / Umidità aria immissione	°C / Ur%	19,7 / 87,2	19,6 / 87,9	19,8 / 86,3	19,9 / 86	19,9 / 86,9	19,9 / 85
Potenzialità frigorifera(1)	kW	3,08	6,08	9,23	14,79	21,25	29,32

Operating limits:

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

Listino recuperatori e accessori:

modello	EVHRA Configurazione sinistra	EVHRA Configurazione destra	controllo elettronico remoto EVTGF	sensore temperatura ambiente EVSAT	tetto di protezione	kit coppia filtri
	euro	euro	euro	euro	euro	euro
60	11678,11	12145,03	472,17	144,37	295,49	168,95
100	14818,84	15404,42	472,17	144,37	399,46	344,25
150	15879,08	16509,81	472,17	144,37	532,15	344,25
250	18941,13	19691,81	472,17	144,37	697,68	646,58
350	19996,21	20797,20	472,17	144,37	822,17	522,09
500	27607,49	28712,87	472,17	144,37	1027,37	964,15