

EVHRA EC Unità di climatizzazione autonoma con recupero calore passivo efficienza > 50% e recupero di calore attivo.

Ventilatori e compressori modulanti. Portata aria da 600 m³/h a 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 rotary inverter high efficiency compressors, air filtration sections and cross-flow heat recovery unit.

Characteristics

Double-skin sandwich panels, 38 mm thick, with external white pre-painted finish and internal Aluzinc lining. Perimeter structure made of aluminum profiles, complete with sealing gaskets to ensure airtight construction and zero air leakage. Panel insulation is made of high-performance insulating material, providing low noise levels and reduced thermal transmittance during unit operation.

Cross-flow aluminum heat exchanger with 50-60% efficiency. Suitable for both summer and winter operation.

Plug fans equipped with EC motors compliant with ERP regulations.

The thermodynamic heat recovery system, thanks to its refrigerant circuit, is capable of supplying more energy to the conditioned space than the energy removed by ventilation.

Upstream of the heat recovery section, two easily removable filters with filtration class ePM1 70-80% are installed.

Refrigeration circuit made of brazed copper tubing, complete with: inverter-driven rotary compressor, filter drier, finned coils, solenoid valves, electronic expansion valve, liquid receiver, pressure transducers, and safety devices.

Electrical control panel installed on-board the unit, complete with dedicated microprocessor controller and regulation system. Functions include fan management, onboard temperature probe monitoring, and timed dirty filter alarm management.

Operation with fixed supply air temperature control or with return air probe combined with outdoor air temperature probe.

Defrost management algorithm optimized for operation at low outdoor temperatures.

Large graphical user interface with configuration menu and multilingual user menu.

MODBUS RTU RS485 communication protocol available for integration with a

Unit components

Refrigeration Circuit:

- inverter-driven rotary 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 exchanger;
- plug fans with EC motors;
- ePM1 70-80% filters.

Electrical Circuit:

- inverter compressor drive;
- 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.

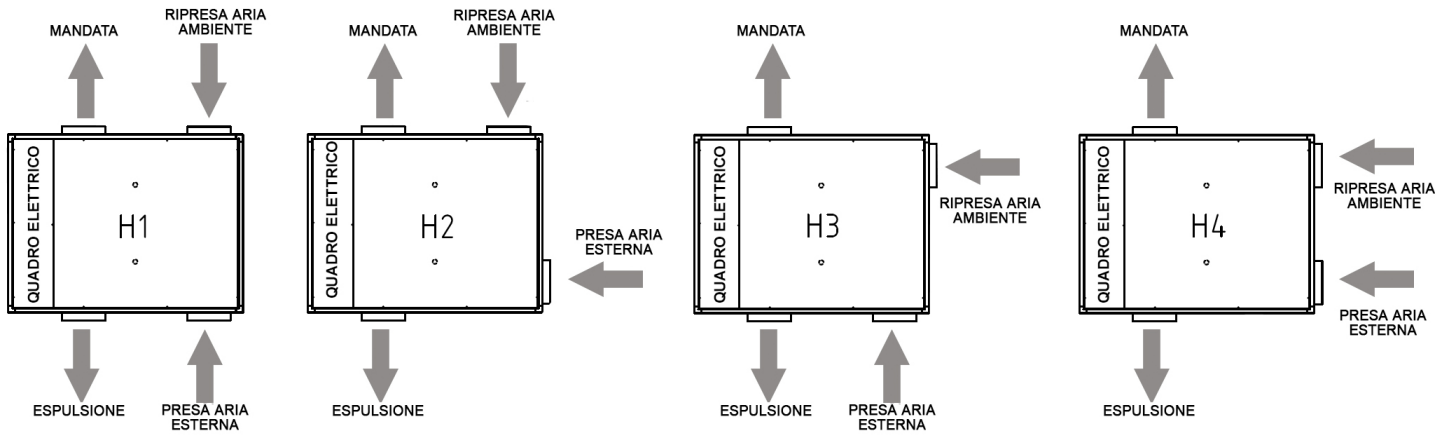
Accessories

- 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.

wide range of building automation systems
(BMS).

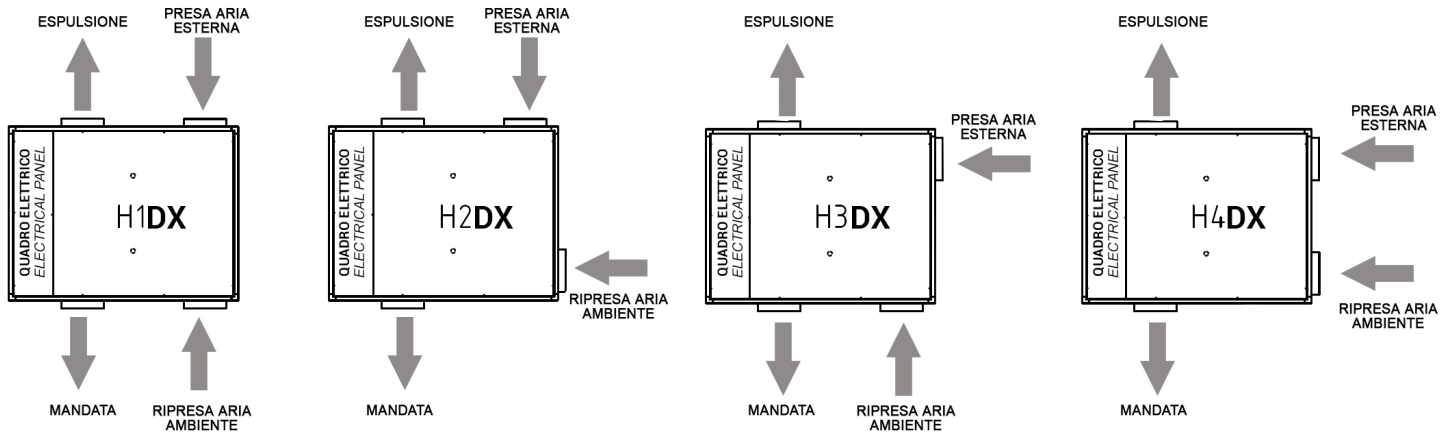
Possible Configurations in the Left Version

- 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 Dato riferito a potenza generata dalla cassa con ventilatori al 80% e secondo EN3747.
² Dato riferito a pressione sonora a 3mt in campo libero con ventilatori 80% e secondo EN3747.

Model			60	100	200	300	450
Fan Type			Plug Fan con motore EC				
Number of Fans			2				
Minimum Air flow		m³/h	360	600	1000	1800	3000
Nominal Air Flow		m³/h	500	1200	2200	3500	5000
Maximum Air flow		m³/h	700	1500	2500	3500	5000
Available Static Pressure - Fresh Air Side		Pa	335	570	390	460	310
Available Static Pressure - Exhaust Air Side		Pa	360	575	470	465	260
Compressor Type			Rotativo BLDC			Scroll BLDC	
Refrigerant Type			R410A				
Passive Heat Recovery Unit			Piastre in alluminio a flussi incrociati				
Filters			ePM1 70-80%				
Maximum Fan Power Consumption		kW	0,17 x 2	0,45 x 2	1,0 x 2	1,65 x 2	1,85 x 2
Maximum Fan Current Draw		A	1,4 x 2	2,8 x 2	1,6 x 2	2,5 x 2	2,9 x 2
Maximum Compressor Power Consumption		kW	1,06	1,83	5,04	7,23	9,39
Maximum Compressor Current Draw		A	4,75	8,57	8,6	12,2	15,9
Supply Voltage		V/ph/Hz	220/1/50	220/1/50	400/3/50	400/3/50	400/3/50
Maximum Total Power Consumption		kW	1,87	3,43	6,19	12,4	17,98
Maximum Total Current Draw		A	9,75	17,25	11,05	20,95	30,65
Ingress Protection (IP) rating		IP	20	20	20	20	20
Sound power level Lw¹		dB(A)	59	64	70	71	76
Sound pressure level Lp²		dB(A)	38	43	49	50	56
Dimensions			60	100	200	300	450
Width	W	mm	1400	1680	1960	1960	2240
Depht	L	mm	925	1250	1430	1430	1615
Height	H	mm	415	515	620	720	920
Air Connections	DN	Ø mm	200	315	355	400	500
F		mm	240	252	285	285	333
G		mm	472	682	615	615	653

Technical Data Winter Operation

Indoor temperature 20°C / Indoor relative humidity 60% (20°C DB / 15°C WB).

		Compressor Frequency: 30 Hz					Compressor Frequency: 60 Hz					Compressor Frequency: 90 Hz				
Model		60	100	200	300	450	60	100	200	300	450	60	100	200	300	450
Passive Heat Recovery (kW)	-5°C / 98%	3,0	4,6	9,9	14,5	21,3	3,0	4,6	9,9	14,5	21,3	3,0	4,6	9,9	14,5	21,3
	7°C / 94%	1,3	2,0	4,5	6,7	9,7	1,3	2,0	4,5	6,7	9,7	1,3	2,0	4,5	6,7	9,7
	15°C / 88%	0,5	0,8	1,7	2,5	3,7	0,5	0,8	1,7	2,5	3,7	0,5	0,8	1,7	2,5	3,7
Heating Capacity (kW)	-5°C / 98%	1,31	3,74	5,97	10,21	13,6	2,55	5,09	8,85	15,93	22,18	3,64	6,9	12,0	21,62	32,1
	7°C / 94%	1,47	4,07	6,14	10,25	13,8	2,90	5,57	10,1	17,73	26,91	4,16	6,74	13,1	23,78	33,2
	15°C / 88%	0,83	4,24	6,32	10,27	15,3	3,04	5,82	10,2	17,91	25,88	4,2	7,02	13,5	25,05	34,9
Power Input (kW)	-5°C / 98%	0,225	0,58	0,87	1,61	2,11	0,455	0,85	1,61	3,15	3,98	0,85	1,35	2,40	5,65	7,9
	7°C / 94%	0,231	0,62	0,89	1,55	2,10	0,501	0,95	1,69	3,25	4,51	1,01	1,4	2,71	6,60	8,3
	15°C / 88%	0,240	0,63	0,91	1,47	2,22	0,595	1,07	1,73	3,31	5,03	1,14	1,62	2,92	7,10	9,3
Cop	-5°C / 98%	5,84	6,44	6,86	6,34	6,45	5,61	5,98	5,49	5,05	5,57	4,27	5,11	5,0	3,82	4,06
	7°C / 94%	6,36	6,51	6,87	6,61	6,57	5,79	5,86	5,97	5,45	5,96	4,11	4,81	4,84	3,60	4,00
	15°C / 88%	6,37	6,73	6,94	6,98	6,90	5,11	5,43	5,91	5,41	5,14	3,68	4,33	4,63	3,52	3,75
Supply Air Temperature (°C)	-5°C / 98%	16,9	18,3	18,2	19,4	18,0	22,2	23,2	22,6	24,2	23,8	27,3	28,1	27,2	30,2	29,4
	7°C / 94%	21,0	24,7	22,8	23,3	22,7	27,9	29,5	28,8	30,3	29,9	33,6	33,1	33,0	35,6	35,3
	15°C / 88%	25,2	29,7	26,9	27,8	28,0	32,7	34,6	33,1	34,1	34,7	38,5	38,6	37,2	41,5	39,8

Technical Data – Summer Operation

Indoor temperature 27°C / Indoor relative humidity 62% (27°C DB / 19°C WB).

		Compressor Frequency: 30 Hz					Compressor Frequency: 60 Hz					Compressor Frequency: 90 Hz				
Model		60	100	200	300	450	60	100	200	300	450	60	100	200	300	450
Passive Heat Recovery (kW)	26°C / 60%	0,2	0,3	0,7	1,0	1,5	0,2	0,2	0,7	1,0	1,5	0,2	0,2	0,7	1,0	1,5
	35°C / 53%	1,0	1,2	2,7	3,0	5,9	1,0	1,0	2,7	3,0	5,9	1,0	1,0	2,7	3,0	5,9
	38°C / 40%	1,3	1,7	3,8	5,5	8,1	1,3	1,3	3,8	5,5	8,1	1,3	1,3	3,8	5,5	8,1
Cooling Capacity (kW)	26°C / 60%	1,46	3,98	5,40	8,97	13,4	2,51	5,52	9,43	14,5	23,1	3,55	5,99	11,4	18,62	29,6
	35°C / 53%	1,68	4,81	6,08	10,3	15,9	2,56	6,21	10,38	17,7	25,8	3,4	7,1	12,8	21,4	32,5
	38°C / 40%	1,70	4,50	6,17	10,6	16,6	2,48	6,15	10,31	17,2	25,0	3,16	6,81	12,0	19,85	29,6
Power Input (kW)	26°C / 60%	0,78	0,70	0,92	1,67	2,4	0,629	1,12	1,98	3,38	4,31	1,12	1,71	3,26	7,05	9,71
	35°C / 53%	0,315	0,79	1,01	1,82	2,81	0,71	1,3	2,31	4,23	4,10	1,30	2,12	3,72	8,15	11,8
	38°C / 40%	0,325	0,82	1,08	1,98	2,98	0,715	1,42	2,35	4,51	3,81	1,41	2,18	3,98	8,61	11,8
EER	26°C / 60%	5,25	5,66	5,86	5,37	5,58	3,99	4,92	4,76	4,28	4,31	3,16	3,50	3,50	2,64	3,04
	35°C / 53%	5,33	6,05	6,01	5,65	5,65	3,6	4,77	4,49	4,18	4,10	2,61	3,34	3,44	2,62	2,75
	38°C / 40%	5,23	5,46	5,71	5,35	5,57	3,46	4,33	4,38	3,81	3,81	2,24	3,12	3,01	2,30	2,50
Supply Air Temperature (°C)	26°C / 60%	19,3	17,2	18,7	19,1	17,2	17,3	15,8	15,5	17,1	16,8	15,5	14,9	15,5	15,5	14,9
	35°C / 53%	21,8	23,5	23,5	24,8	24,8	19,7	22,1	21,9	22,8	22,8	18,2	21,3	21,9	21,4	21,5
	38°C / 40%	22,5	23,6	24,6	24,5	24,2	20,8	22,4	22,3	22,7	22,7	19,5	21,6	22,3	21,6	21,67

Operating Limits

Mode	Conditions Applicable to All Models	
Heating	Aria Interna	Aria Esterna
	15 / 25 °C	-20 / 20 °C
Raffrescamento	Aria Interna	Aria Esterna
	18 / 28 °C	15 / 40 °C

Heat Recovery Units and Accessories Price List

Model	EVHRA EC - LH Standard	EVHRA EC - RH Version	EVTGF	EVSAT	T-EVHRA - Rain Protection Roof	EVFHRA - Filter Kit
	€	€	€	€	€	€
60	-	-	-	-	-	-
100	-	-	-	-	-	-
200	-	-	-	-	-	-
300	-	-	-	-	-	-
450	-	-	-	-	-	-

