

HRD V

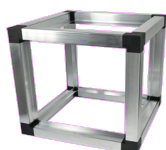
Compact unit for controlled mechanical ventilation, dehumidification and air treatment with high efficiency heat recovery for application with radiant panels and vertical wall or floor installation



GENERAL FEATURES

STRUCTURE

High resistance structure with self-supporting frame in aluzink sheet with aesthetics painted RAL9003. Choice of materials with high thermal and acoustic insulation characteristics



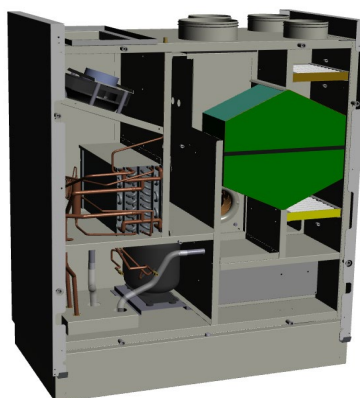
FANS

The unit is equipped with Erp2018 centrifugal fans with low energy consumption electronic motor.



RECOVERER

High efficiency countercurrent cross flow polypropylene heat exchanger.



COMPRESSOR

High efficiency reciprocating compressor



FILTRATION

There are flat filters with ePM1 filtration class on the external and supply air inlet, while on the recirculation there are Coarse filters



2 ELECTRONICS

The management of the system is entrusted to two possible advanced electronic systems that are easy to manage. An on-line help guarantees correct use via the control keyboard.

TECHNICAL FEATURES

HRD V is a controlled mechanical ventilation unit with high efficiency heat recovery unit, air handling section with dehumidification, cooling and heating. The unit is particularly suitable for residential, commercial or collective residential buildings and is supplied plug-and-play for quick and simplified installation. The unit consists of a monobloc including each component for correct operation and allows operation with wide external temperature ranges.

RECOVERY SECTION:	High efficiency counter-current polypropylene exchanger > 90%. Summer and winter operation.
VENTILATION:	Brushless plug-fan fans with electronic motor and modulating control. Very high efficiency and low noise levels Compliant with Erp2018 legislation.
AIR TREATMENT SECTION:	The unit can be equipped with a refrigeration circuit for dehumidification or integration of cooling and heating. In the various configurations, it will be possible to select the type of air treatment desired between dehumidification only or dehumidification with heating and cooling of the primary air.
FILTRATION:	PM1 80% filters easily removable on the external air intake on the extract air. G2 filters with low pressure drop, easily removable on the recirculation air.
STRUCTURE:	Panels made of double sandwich panel, with externally painted finish with aesthetic panels; Self-supporting perimeter structure in Aluzink. The insulation of the panels is made with high-performance insulation 20 mm thick;
REFRIGERANT CIRCUIT:	Made of brazed copper complete with: High efficiency compressor, filter drier, finned coils, water exchanger, solenoid valves, lamination device, liquid receiver, high pressure switches and thermal insulation of pipes.
ADJUSTMENT:	K VERSION Electrical panel on board the unit with microprocessor and dedicated regulation. Management of the fans, display of the internal temperature probes of the machine, management of timed dirty filters, management of recirculation and renewal air. Possibility of controlling the unit with these three solutions: 1: Management through external commands and 0-10vdc signal for air flow control from minimum to maximum; 2: Management via remote panel with integrated T / H sensor 3: MODBUS RTU RS 485 communication

CONTROLS FUNCTIONALITY

Here Of following he comes defined there composition of the three possible electronic of unit And of the functions of the various versions:



PANEL REMOTE WITH T / H PROBE



MANAGEMENT WITH EXTERNAL CONTACTS OR MODBUS RTU



Modbus

ECODESIGN CLASSIFICATION

The regulation, which entered into force on 15 December 2014, defines the energy consumption labels to be applied to the ventilation units and the information to be placed in the instruction booklets of the appliances, so that consumers are fully informed about consumption and energy efficiency. of appliances.

DEFINITIONS: By "ventilation unit" we mean an electrically powered appliance equipped with at least one impeller, a motor and a casing, designed to exchange the exhausted air with air coming from outside a building or part of it. The residential ventilation units subject to the obligation are those with a maximum range of 250 m³/h. The rules are extended to those of range between 250 and 1,000 m³/h only if they are intended, as declared by the manufacturer, exclusively for the ventilation of residential buildings.

LABEL: The label will inform the consumer about the supplier's name or brand, the supplier's model identifier, the energy efficiency class of the appliance, the sound power level (LWA), in dB and maximum range, in m³/h.

LIABILITY OF SUPPLIERS: Suppliers who place residential ventilation units on the market shall ensure that, starting from 1 January 2016, the following conditions are met:

1. Each residential ventilation unit is accompanied by a printed label, in the format set out in Annex III, and containing the information indicated therein; the label must be present at least in the unit packaging. For each model of residential ventilation unit, an electronic label with the format and information set out in Annex III is available to distributors;

2. A product fiche is available as indicated in Annex IV. The card is present at least in the unit packaging. An electronic product sheet, as described in Annex IV, is available to distributors and on public websites for each model of residential ventilation unit;

3. The technical documentation referred to in Annex V is provided upon request to the authorities of the Member States and the Commission;

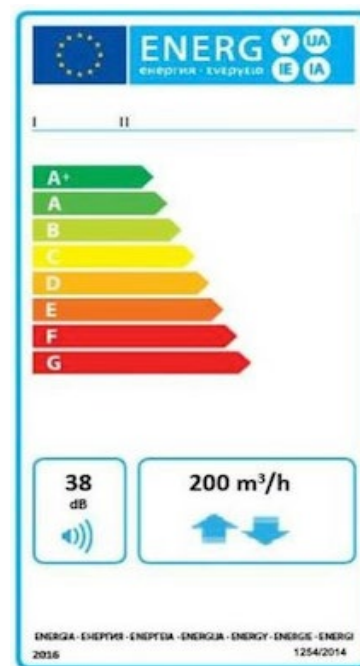
4. Instructions for use are provided;

5. Any advertisement relating to a specific model of residential ventilation unit that contains information concerning energy or price indicates the specific energy consumption class of that model;

6. Any technical promotional material relating to a specific model of residential ventilation unit, describing its specific technical parameters, indicates its specific energy consumption class.





RESPONSIBILITY OF THE DISTRIBUTORS: Distributors, on the other hand, provide for:

1. At the point of sale, each residential ventilation unit carries the label made available by suppliers pursuant to Article 3 (1) (a) on the outside of the front or top of the appliance so that it is clearly visible;



<p>2. The residential ventilation units offered for sale, for hire or for sale by installments in situations where the end user is not expected to view the product displayed, are marketed accompanied by the information provided by suppliers in accordance with Annex VI, unless the offer is made via the Internet, in which case the provisions of Annex VII apply;</p> <p>3. Any advertisement relating to a specific model of residential ventilation unit that contains information concerning energy or price indicates the specific energy consumption class of the unit;</p> <p>4. Any technical promotional material relating to a specific model, which describes the technical parameters of a residential ventilation unit, includes the specific energy consumption class of the model, as well as the instruction manual provided by the supplier.</p>	
--	--

The classification of the various models according to the European regulation 1253/2014 and 1254/2014 is summarized below

Size	30/15 VD - DC	40/20 VD - DC	50/25 VD - DC	60/30 VD - DC
				

UNIT CONFIGURATION

	-1-	-2-	-3-
HRD V	30/15	K	D

(1) Defines the total flow and the fresh air flow

300/150 m models³/ ha 600/300 m³/ h

2) Electronic type

K: Electronic versions K

2) Type of construction

D: Version for dehumidification with neutral air (isothermal)

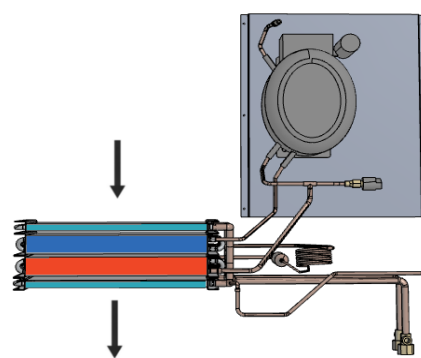
DC: Version for dehumidification and integration in cold and heat

BRIEF DESCRIPTION OF THE VERSIONS

Version for dehumidification with neutral air (isothermal) (D)

Unit for the renewal of the ambient air with the external one through a high efficiency recuperator, the air flow is increased by partially recirculating the ambient air thus allowing the operation of the refrigeration circuit, obtaining during the summer period (active compressor) dehumidified air.

Equipped with pre- and post-cooling / heating hydronic batteries which, if powered, allow to supply an integration of the cooling / heating capacity to the radiant air conditioning system (the connection to the heating / cooling system does not block the operation of the unit even if decreases the dehumidification performance;



Version D in dehumidification phase

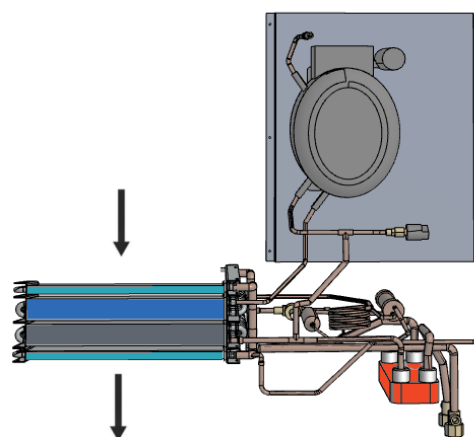
Version for dehumidification and integration in cooling / heating (DC)

Unit for the renewal of the ambient air with the external one through a high efficiency recuperator, the air flow is increased by partially recirculating the ambient air thus allowing to dehumidify the air and to provide an integration of the cooling / heating capacity to the 'radiant air conditioning system.

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

- 1. Renewal + Dehumidification:** The unit condenses partially in air and partially in water through the plate condenser, obtaining dehumidified air;
- 2. Renewal + Dehumidification + Cooling integration:** The unit condenses totally in water, thus obtaining dehumidified and cooled air.

During the winter period (compressor off) the hydronic coil is supplied with hot water from the heating system and behaves like a thermo-ventilated with recuperator.



DC version in the summer integration phase

COMPOSITION OF THE UNIT

	<i>Version -D-</i>	<i>Version -DC-</i>
REFRIGERANT CIRCUIT		
Hermetic reciprocating compressor	•	•
Copper tube air condenser with aluminum fins	•	•
Hydronic condenser with stainless steel exchanger	/	•
Copper tube heat exchanger with aluminum fins	•	•
Laminating organ	•	•
Filter drier	•	•
High pressure switches	•	•
HYDRAULIC CIRCUIT		
Post-cooling / heating hydronic coil	•	•
Hydronic pre-cooling / heating coil	•	•
AERAULIC CIRCUIT		
Polypropylene heat exchanger	•	•
N ° 2 plug-fun radial fans with Brushless motors	•	•
EPM1 filters on the external air intake and on the supply air	•	•
Coarse filters on the recirculation air intake	•	•
ELECTRICAL CIRCUIT		
Microprocessor	•	•
Graphic interface	•	•

• = Installed as standard

/ = Not available

OPERATION OF THE UNIT

VENTILATION ONLY OPERATION

The HRD unit will satisfy mechanical ventilation with high efficiency heat recovery.

It will be possible to select the fan speeds in order to obtain the desired flow rate to satisfy the requests for air renewal.

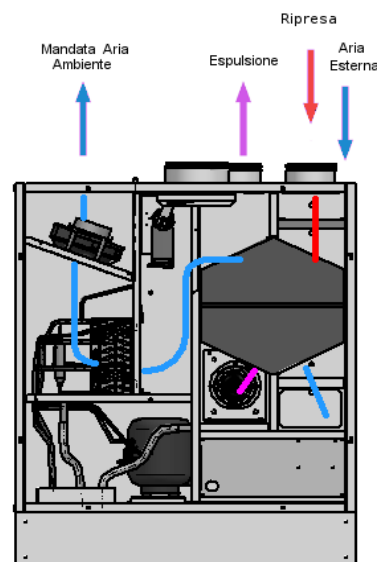
The selectable ranges are:

On size 30-15 from 0 to 150 m³/h

On size 40-20 from 0 to 200 m³/h

On size 50-25 from 0 to 250 m³/h

On size 60-30 from 0 to 300 m³/h



VENTILATION, DEHUMIDIFICATION AND INTEGRATION OPERATION

The HRD unit will continue to satisfy mechanical ventilation with high efficiency heat recovery but will increase the air flow, recirculating from a dedicated ambient air duct to increase the air volume on the integration part.

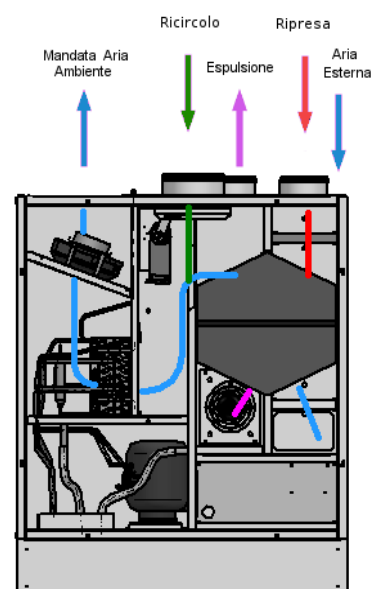
The integration part can consist of a version with dehumidification (Version D), from a version with dehumidification and integration (DC version) and supplementary hydronic coils.

Version D finds its most common application in radiant systems where only dehumidification is required in the summer. During operation, the unit through humidity and temperature probes activates the refrigeration circuit consisting of the compressor, the air evaporation coil and the air condenser, thus carrying out dehumidification.

It is possible by feeding the pre-post hydronic battery with the water from the radiant system (the lack of power supply of the battery does not compromise the functioning of the refrigeration circuit) it is possible to integrate the summer cooling and winter heating.

The DC version finds its most common application in radiant systems where there is a need for dehumidification and the integration of cooling in the summer. During operation, the unit through humidity and temperature probes activates the refrigeration circuit consisting of the compressor, the air evaporation coil and the air and water condenser fed by the radiant system, thus realizing the dehumidification of the air and integration cooling.

In the winter period, however, it is possible to use the unit to integrate radiant heating through the hot water supply of the hydronic battery, obtaining a rapid heat input to the environment.



PERFORMANCE UNIT

GENERAL TECHNICAL DATA

Size		HRD 30/15	HRD 40/20	HRD 50/25	HRD 60/30
Nominal recovery efficiency 1	%	83.9	81.5	86	81.8
Nominal external air flow	m ³ /h	161	204	258	319
Total air flow	m ³ /h	302	401	538	640

(1) External air temperature 7 °C; relative humidity 72%. ambient temperature 20 °C; relative humidity 28%, nominal air flow

(3) Nominal flow rate and useful head in ventilation mode

VERSION D-

Useful dehumidification capacity	l / 24h	22	30.5	40	56
Cooling capacity yielded by hydronic battery 2	kW	0.53	0.7	1.25	1.56
Thermal power output 3	kW	0.62	0.86	1.3	1.4
Water flow	m ³ /h	0.15	0.25	0.3	0.35
Loss of pressure	Kpa	4.5	8.5	9.0	10.5
Sound pressure Lp at 3 m	dB (A)	38.6	40.8	40.2	40.9
Power supply	V / Ph / Hz	230/1/50	230/1/50	230/1/50	230/1/50
Maximum absorbed current	TO	3.5	5.5	5.9	7

(1) External air temperature 30 °C; relative humidity 60%. ambient temperature 25 °C; relative humidity 50%, nominal air flow

(2) Ambient temperature 25 °C; relative humidity 60%, nominal air flow; Water in 16 °C;

(3) Ambient temperature 20 °C; relative humidity 60%, nominal air flow; Water in 35 °C;

DC VERSION-

Useful dehumidification capacity	l / 24h	22	30.5	40	56
Cooling capacity delivered by compressor 2	kW	1.14	1.55	2.02	2.4
Cooling capacity yielded by hydronic battery 2	kW	0.53	0.7	1.25	1.56
Thermal power output 3	kW	0.62	0.86	1.3	1.4
Water flow	m ³ /h	0.15	0.25	0.3	0.35
Loss of pressure	Kpa	4.5	8.5	9.0	10.5
Sound pressure Lp at 3 m	dB (A)	38.6	40.8	40.2	40.9
Power supply	V / Ph / Hz	230/1/50	230/1/50	230/1/50	230/1/50
Maximum absorbed current	TO	3.5	5.5	5.9	7

(1) External air temperature 30 °C; relative humidity 60%. ambient temperature 25 °C; relative humidity 50%, nominal air flow

(2) Ambient temperature 25 °C; relative humidity 60%, nominal air flow; Water in 16 °C;

(3) Ambient temperature 20 °C; relative humidity 60%, nominal air flow; Water in 35 °C

HRD V 30-15

Fans

Type of Fans		Reverse blade radials - directly coupled electronic motor - 0/10 V signal
Number of fans	Nr	2
Air flow ventilation	m ³ / h	161
Integration air flow	m ³ / h	302
Useful pressure	Pa	100

Heat exchanger

Type of exchanger		Counter-current plates - polypropylene material
Number of Exchangers	Nr	1
Recovery efficiency	%	83.9

Data Thermal and cooling capacities / dehumidification capacity

Useful dehumidification capacity (net of the enthalpy content of the external air) 1	l / 24h	22
Cooling capacity yielded by hydronic battery 2	kW	0.53
Water flow in summer operation	m ³ / h	0.15
Pressure drop in summer operation	Kpa	4.5
Summer compressor cooling capacity	kW	1.14 (DC VERSION ONLY)
Compressor absorbed power	kW	0.35
Thermal power output 3	kW	0.62
Water flow for winter operation	m ³ / h	0.15
Pressure drop in winter operation	Kpa	4.5
Refrigerant gas		R134a

(1) External air temperature 30 °; relative humidity 60%. ambient temperature 25 ° C; relative humidity 50%, nominal air flow

(2) Ambient temperature 25 ° C; relative humidity 60%, nominal air flow; Water in 16 ° C

(3) Ambient temperature 20 ° C; relative humidity 60%, nominal air flow; Water in 35 ° C

(4) Ambient temperature 25 °; relative humidity 60%, nominal air flow;

Filters

Type of filters		Flat Filters
Filtration class		Coarse + PM1 + PM1

Acoustic data

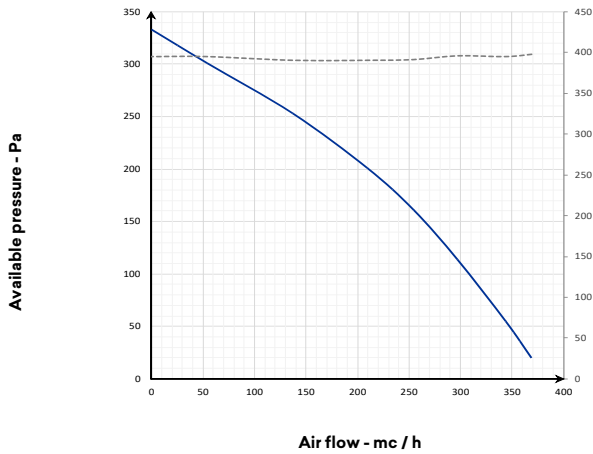
Sound power Lw transmitted by the structure	dB (A)	60.1
Sound power Lw radiated into the canal	dB (A)	66.5
Average sound pressure Lp at 1 m	dB (A)	46.2
Average sound pressure Lp to 3 m	dB (A)	38.6

Electrical Data

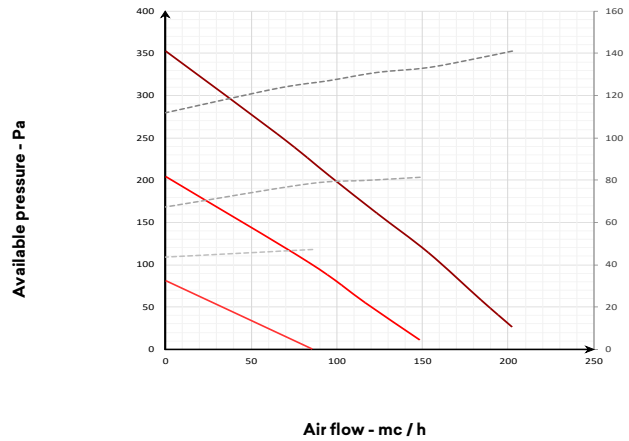
Supply voltage	V.	230/1/50 Hz.
Current consumption	TO	3.5
Degree of protection	IP	44

HRD V 30-15 CURVES

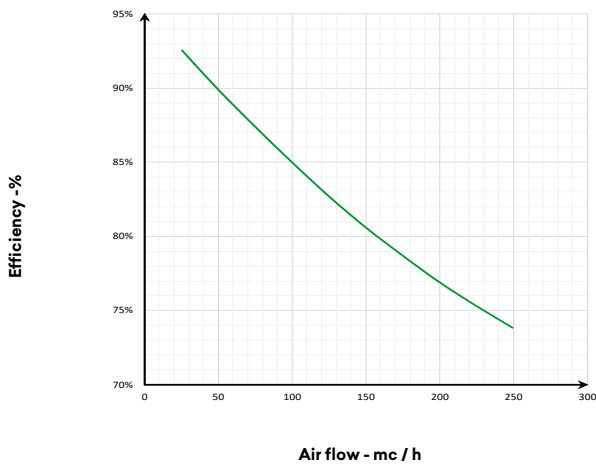
AEREAULIC PERFORMANCE INTEGRATION / DEHUMIDIFICATION



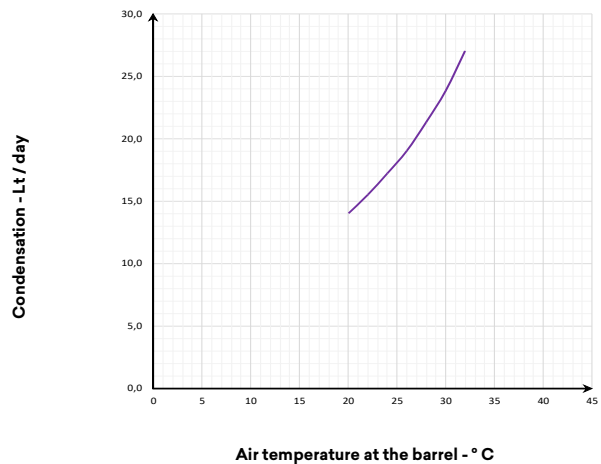
AEREAULIC PERFORMANCE VENTILATION



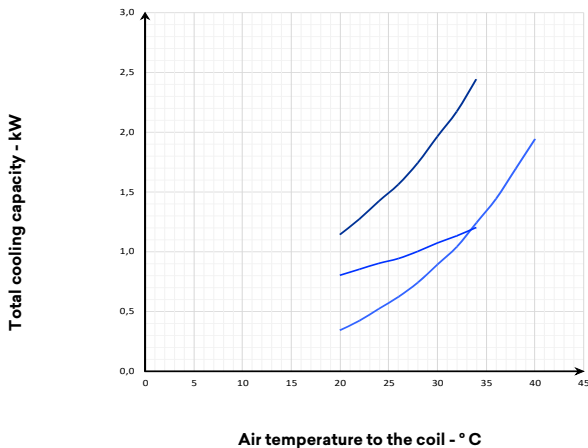
THERMAL EFFICIENCY (1)



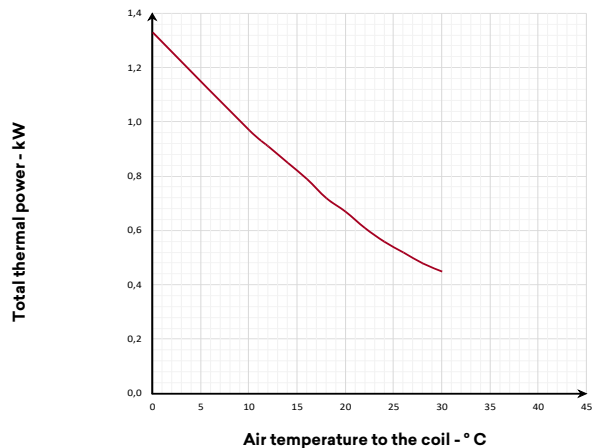
DEHUMIDIFYING CAPACITY (2)



REFRIGERANT YIELD (3)



THERMAL OUTPUT (4)




- 1) - External air temperature 7 °; relative humidity 72%. ambient temperature 20 ° C; relative humidity 28%,
 2) - Ambient temperature 25 °; relative humidity 60%, nominal external air flow, water inlet temperature 16 ° C
 3) - Ambient temperature 25 °; relative humidity 60%, nominal external air flow, water inlet temperature 16 ° C
 4) - Ambient temperature 20 °; relative humidity 60%, nominal external air flow, water inlet temperature 35 ° C

ERP DATA ECODESIGN HRD V 30-15

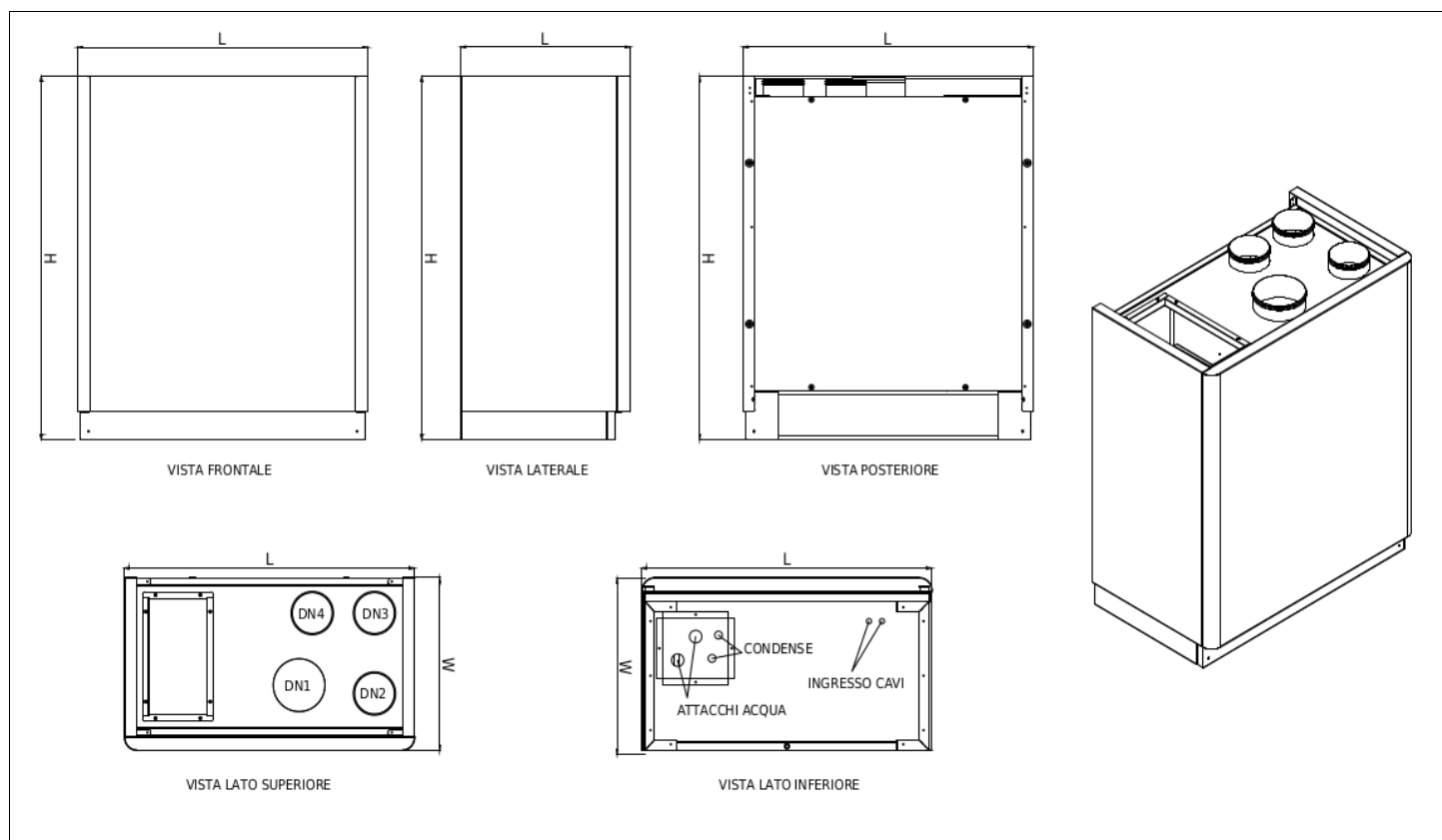
TO	Supplier's name or brand			
B.	Model identifier			
C.	Version		Standard unit / Central demand control	
	SEC	Kwh / mQ	COLD	-68.5
			AVERAGE	-31.2
			WARM	-7.2
SEC CLASS			B	
D.	Type declared		UVR - Bidirectional	
AND	Drive type installed		Speed variator	
F.	Heat recovery system		In recovery	
G.	Thermal efficiency of heat recovery	%	83.9	
H.	Maximum capacity	Mc / s	0.04	
THE	Electric power absorbed at maximum flow rate	W / h	130	
J	Sound power level	Lwa	48.4	
K	Reference range	Mc / s	0.03	
L	Reference pressure	Pa	50	
M.	SPI	W / mc / h	0.57	
No.	Control factor	CLTR	0.85	
OR	Maximum percentages of leakage declared	%	4.8 ext. / 5.2int.	
Q	Location and description of the signal related to the filter		Displayed on the unit and remote control display e on the instruction manual	
S.	Internet address for disassembly instructions			

Specifications item

	<p>Ventilation and dehumidification unit with very high efficiency heat recovery, compact size for wall or floor installation. Specific unit for ventilation in single residential buildings and collective apartments with low energy requirements in combination with systems requiring dehumidification and room air treatment. Tested and classified according to the European Ecodesign regulation ref. 1253/2014 and 1254/2014</p> <p><u>CONSTRUCTION FEATURES</u></p> <p>lateral structure in double Aluzink paneling internally and externally with internal insulation thickness 20 mm; Aesthetic design finishing panels with RAL9003 finish; compact dimensions for simplified installation with front panel easily accessible for maintenance and inspection. Circular inlets with sealing gasket for connection to the air ducts Quick filter inspection, without tools and double drain for condensate evacuation; Refrigeration circuit with high efficiency hermetic compressor, heat exchange coils, lamination device and safety devices. Electrical panel, excluded from the flow of air with management cards and control terminal boards centrifugal fans of the radial type with backward blades with EC motors with electronic speed control and low consumption static heat exchanger in polypropylene with counter-current flows for very high efficiency in recovering sensitive heat filters class Pm1 a low pressure drop of external air and stale air, Coarse on recirculation. Electrical panel on board the unit with microprocessor and dedicated regulation. Management of the fans, display of the internal temperature probes of the machine, management of timed dirty filters, management of recirculation and renewal air. Wide graphic interface with configuration menu and multilingual user menu. Predisposition for MODBUS RTU communication Management of the fans, display of the internal temperature probes of the machine, management of timed dirty filters, management of recirculation and renewal air. Wide graphic interface with configuration menu and multilingual user menu. Predisposition for MODBUS RTU communication Management of the fans, display of the internal temperature probes of the machine, mana-</p>
---	---

gement of timed dirty filters, management of recirculation and renewal air. Wide graphic interface with configuration menu and multilingual user menu. Predisposition for MODBUS RTU communication RS 485 with the most varied home automation systems.

DIMENSIONAL AND FUNCTIONAL SPACES



Template	HRD	30/15
Width L	mm	885
Depth W	mm	515
Height H.	mm	1085
Recirculation air inlet DN1	mm	160
Stale air inlet DN2	mm	125
Fresh air inlet DN3	mm	125
Stale air expulsion DN4	mm	125
Delivery bxb	mm	345x175
Delivery / return water connections	OR	1/2" - 1/2"
Condensation	OR	20
Weight version D	kg	74

HRD V 40-20

Fans

Type of Fans		Reverse blade radials - directly coupled electronic motor - 0/10 V signal
Number of fans	Nr	2
Air flow ventilation	mc / h	204
Integration air flow	mc / h	401
Useful pressure	Pa	100

Heat exchanger

Type of exchanger		Counter-current plates - polypropylene material
Number of Exchangers	Nr	1
Recovery efficiency	%	81.5

Data Thermal and cooling capacities / dehumidification capacity

Useful dehumidification capacity (net of the enthalpy content of the external air) (1)	l / 24h	30.5
Cooling capacity yield of hydronic coil (2)	kW	0.7
Water flow in summer operation	mc / h	0.25
Pressure drop in summer operation	Kpa	8.5
Summer compressor cooling capacity	kW	1.55 (DC VERSION ONLY)
Compressor absorbed power	kW	0.47
Thermal power output (3)	kW	0.86
Water flow for winter operation	mc / h	0.25
Pressure drop in winter operation	Kpa	8.5
Refrigerant gas		R134a

(1) External air temperature 30 °; relative humidity 60%. ambient temperature 25 ° C; relative humidity 50%, nominal air flow rate

(2) Ambient temperature 25 ° C; relative humidity 60%, nominal air flow; Water in 16 ° C

(3) Ambient temperature 20 ° C; relative humidity 60%, nominal air flow; Water in 35 ° C

Filters

Type of filters		Flat Filters
Filtration class		Coarse + PM1 + PM1

Acoustic data

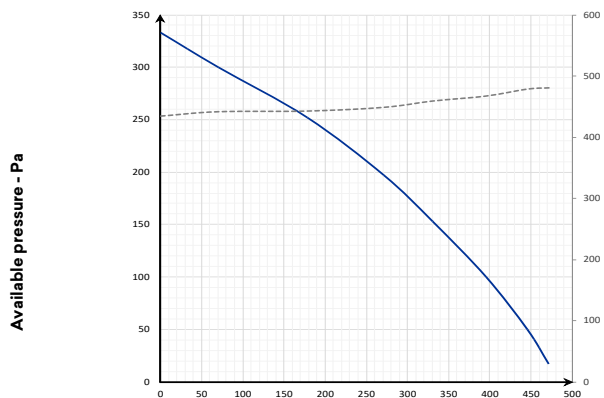
Sound power Lw transmitted by the structure	dB (A)	62.3
Sound power Lw radiated in the channel	dB (A)	67.2
Average sound pressure Lp at 1 m	dB (A)	48.4
Average sound pressure Lp at 3 m	dB (A)	40.8

Electrical Data

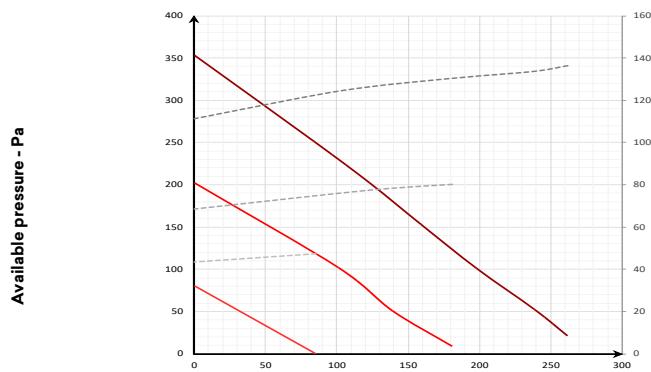
Supply voltage	V.	230/1/50 Hz.
Current consumption	TO	5.5
Degree of protection	IP	44

HRD V 40/20 CURVES

AERAUIC PERFORMANCE INTEGRATION /

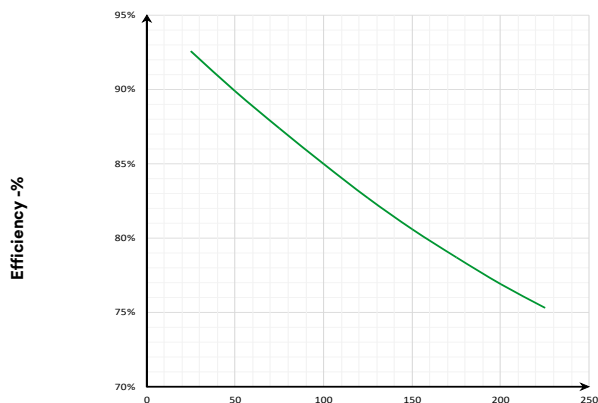


AERAUIC PERFORMANCE VENTILATION



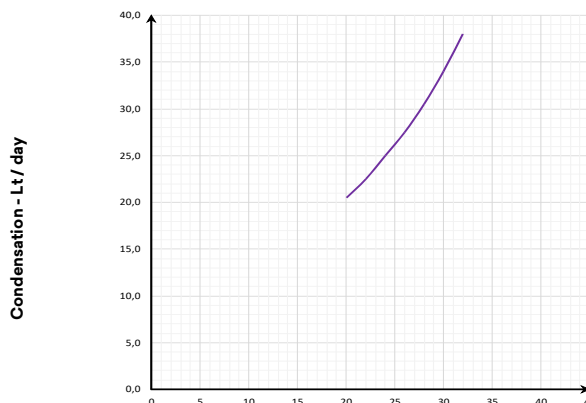
Air flow - mc / h

THERMAL EFFICIENCY (1)



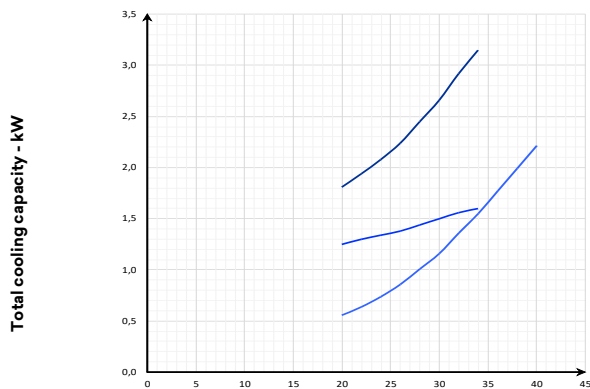
Air flow - mc / h

DEHUMIDIFYING CAPACITY (2)



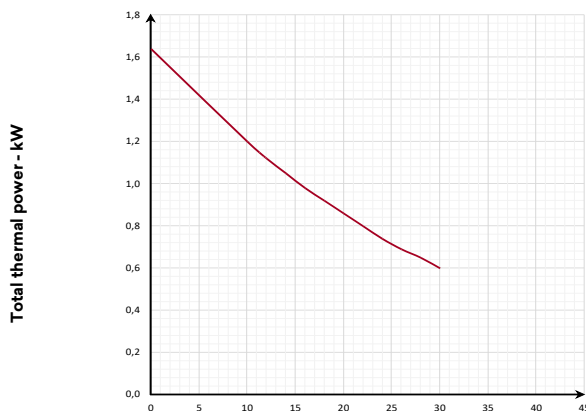
Air temperature at the barrel - °C

REFRIGERANT YIELD (3)



Air temperature to the coil - °C

THERMAL OUTPUT (4)




Air temperature to the coil - °C

- 1) - External air temperature 7 °; relative humidity 72%. ambient temperature 20 ° C; relative humidity 28%.
- 2) - Ambient temperature 25 °; relative humidity 60%, nominal external air flow, water inlet temperature 16 ° C
- 3) - Ambient temperature 25 °; relative humidity 60%, nominal external air flow, water inlet temperature 16 ° C
- 4) - Ambient temperature 20 °; relative humidity 60%, nominal external air flow, water inlet temperature 35 ° C

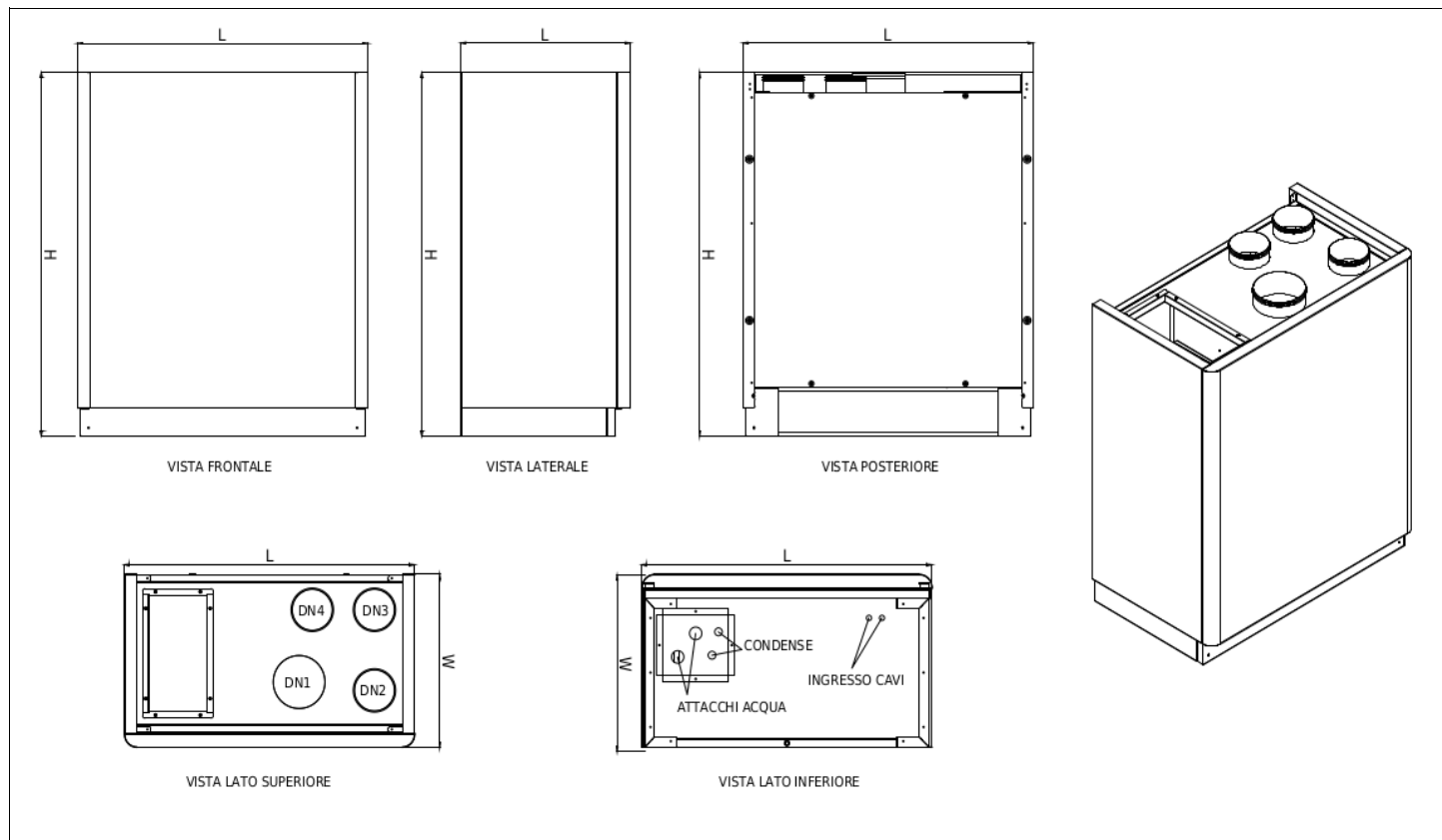
ECODESIGN HRD V 40/20 ERP DATA

TO	Supplier's name or brand			
B.	Model identifier			
C.	Version		Standard unit / Central demand control	
	SEC	Kwh / mQ	COLD	-67.1
			AVERAGE	-30.4
			WARM	-6.8
SEC CLASS			B	
D.	Type declared		UVR - Bidirectional	
AN D	Drive type installed		Speed variator	
F.	Heat recovery system		In recovery	
G.	Thermal efficiency of heat recovery	%	81.5	
H.	Maximum capacity	Mc / s	0.56	
THE	Electric power absorbed at maximum flow rate	W / h	190	
J	Sound power level	Lwa	50.2	
K	Reference range	Mc / s	0.04	
L	Reference pressure	Pa	50	
M.	SPI	W / mc / h	0.57	
No.	Control factor	CLTR	0.85	
OR	Maximum percentages of leakage declared	%	4.9 ext. / 5.4int.	
Q	Location and description of the signal related to the filter		Displayed on the unit and remote control display e on the instruction manual	
S.	Internet address for disassembly instructions			

Specifications item

	<p>Ventilation and dehumidification unit with very high efficiency heat recovery, compact size for wall or floor installation. Specific unit for ventilation in single residential buildings and collective apartments with low energy requirements in combination with systems requiring dehumidification and room air treatment. Tested and classified according to the European Ecodesign regulation ref. 1253/2014 and 1254/2014</p> <p>CONSTRUCTION FEATURES</p> <p>lateral structure in double Aluzink paneling internally and externally with internal insulation thickness 20mm; Aesthetic design finishing panels with RAL9003 finish; compact dimensions for simplified installation with front panel easily accessible for maintenance and inspection.</p> <p>Circular inlets with sealing gasket for connection to the air ducts. Quick filter inspection, without tools and double drain for condensate evacuation; Refrigeration circuit with high efficiency hermetic compressor, heat exchange coils, lamination device and safety devices.</p> <p>Electrical panel, excluded from the air flow with management cards and terminal blocks for controlling centrifugal fans of the radial type with backward blades with EC motors with electronic speed control and low consumption Static heat exchanger in polypropylene with counter-current flows for very high efficiency Sensible heat recovery Pm1 class filters with low pressure drop outside air and stale air, Coarse on recirculation. Electrical panel on board the unit with microprocessor and dedicated regulation. Management of the fans, display of the internal temperature probes of the machine, management of timed dirty filters, management of recirculation and renewal air. Wide graphic interface with configuration menu and multilingual user menu.</p>
---	--

DIMENSIONAL AND FUNCTIONAL SPACES



Template	HRD	40/20
Width L	mm	885
Depth W	mm	515
Height H.	mm	1085
Recirculation air inlet DN1	mm	160
Stale air inlet DN2	mm	125
Fresh air inlet DN3	mm	125
Stale air expulsion DN4	mm	125
Delivery bxh	mm	345x175
Delivery / return water connections	OR	1/2" - 1/2"
Condensation	OR	20
Weight version D	kg	76

HRD V 50/25

Type of Fans		Reverse blade radials - directly coupled electronic motor - 0/10 V signal
Number of fans	Nr	2
Air flow ventilation	m ³ / h	258
Integration air flow	m ³ / h	538
Useful pressure	Pa	100

Heat exchanger

Type of exchanger		Counter-current plates - polypropylene material
Number of Exchangers	Nr	1
Recovery efficiency	%	86

Data Thermal and cooling capacities / dehumidification capacity

Useful dehumidification capacity (net of the enthalpy content of the external air) 1	l / 24h	40
Cooling capacity yielded by hydronic battery 2	kW	1.25
Water flow in summer operation	m ³ / h	0.3
Pressure drop in summer operation	Kpa	9
Summer compressor cooling capacity	kW	2.02 (DC VERSION ONLY)
Compressor absorbed power	kW	0.65
Thermal power output 3	kW	1.3
Water flow for winter operation	m ³ / h	0.3
Pressure drop in winter operation	Kpa	9
Refrigerant gas		R134a

(1) External air temperature 30 °; relative humidity 60%. ambient temperature 25 ° C; relative humidity 50%, nominal air flow

(2) Ambient temperature 25 ° C; relative humidity 60%, nominal air flow; Water in 16 ° C

(3) Ambient temperature 20 ° C; relative humidity 60%, nominal air flow; Water in 35 ° C

Filters

Type of filters		Flat Filters
Filtration class		Coarse + PM1 + PM1

Acoustic data

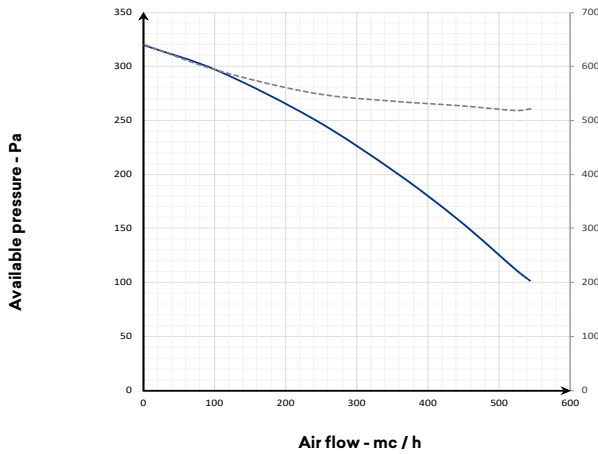
Sound power Lw transmitted by the structure	dB (A)	62.1
Sound power Lw radiated in the channel	dB (A)	66.3
Average sound pressure Lp at 1 m	dB (A)	47.4
Average sound pressure Lp at 3 m	dB (A)	40.2

Electrical Data

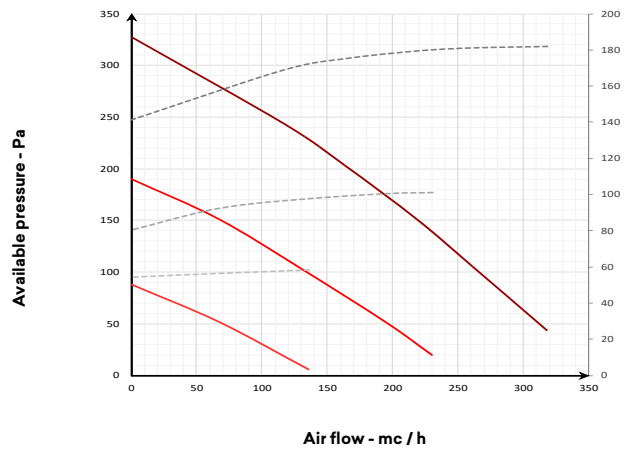
Supply voltage	V.	230/1/50 Hz.
Current consumption	TO	5.9
Degree of protection	IP	44

HRD V 50/25 CURVES

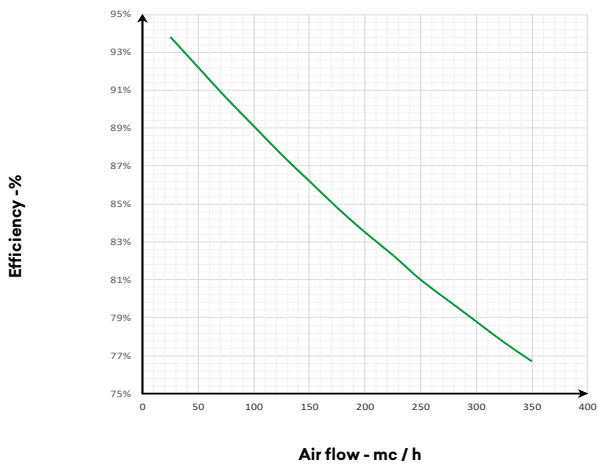
AEREAULIC PERFORMANCE INTEGRATION / DEHUMIDIFICATION



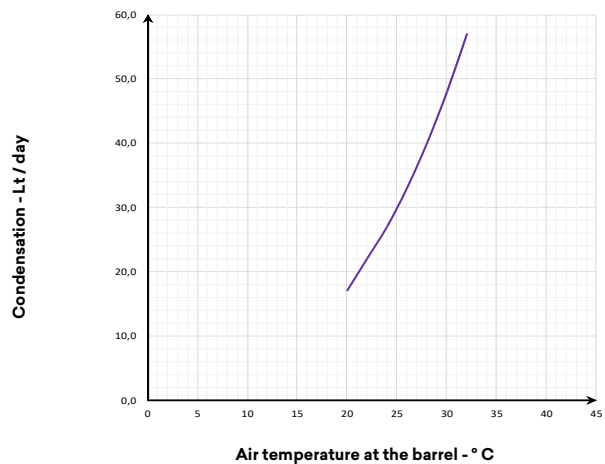
AEREAULIC PERFORMANCE VENTILATION



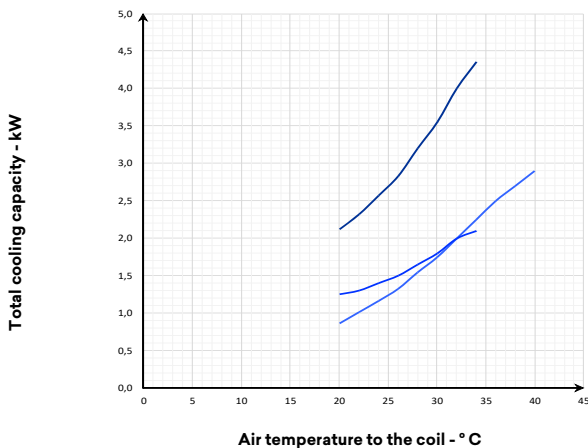
THERMAL EFFICIENCY (1)



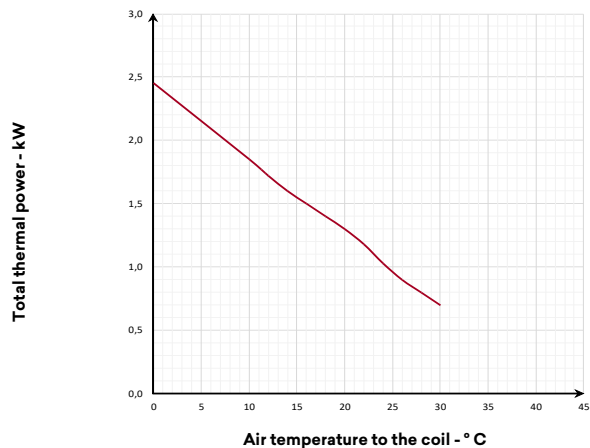
DEHUMIDIFYING CAPACITY (2)



REFRIGERANT YIELD (3)



THERMAL OUTPUT (4)




- 1) - External air temperature 7 °; relative humidity 72%. ambient temperature 20 ° C; relative humidity 28%,
- 2) - Ambient temperature 25 °; relative humidity 60%, nominal external air flow, water inlet temperature 16 ° C.
- 3) - Ambient temperature 25 °; relative humidity 60%, nominal external air flow, water inlet temperature 16 ° C
- 4) - Ambient temperature 20 °; relative humidity 60%, nominal external air flow, water inlet temperature 35 ° C

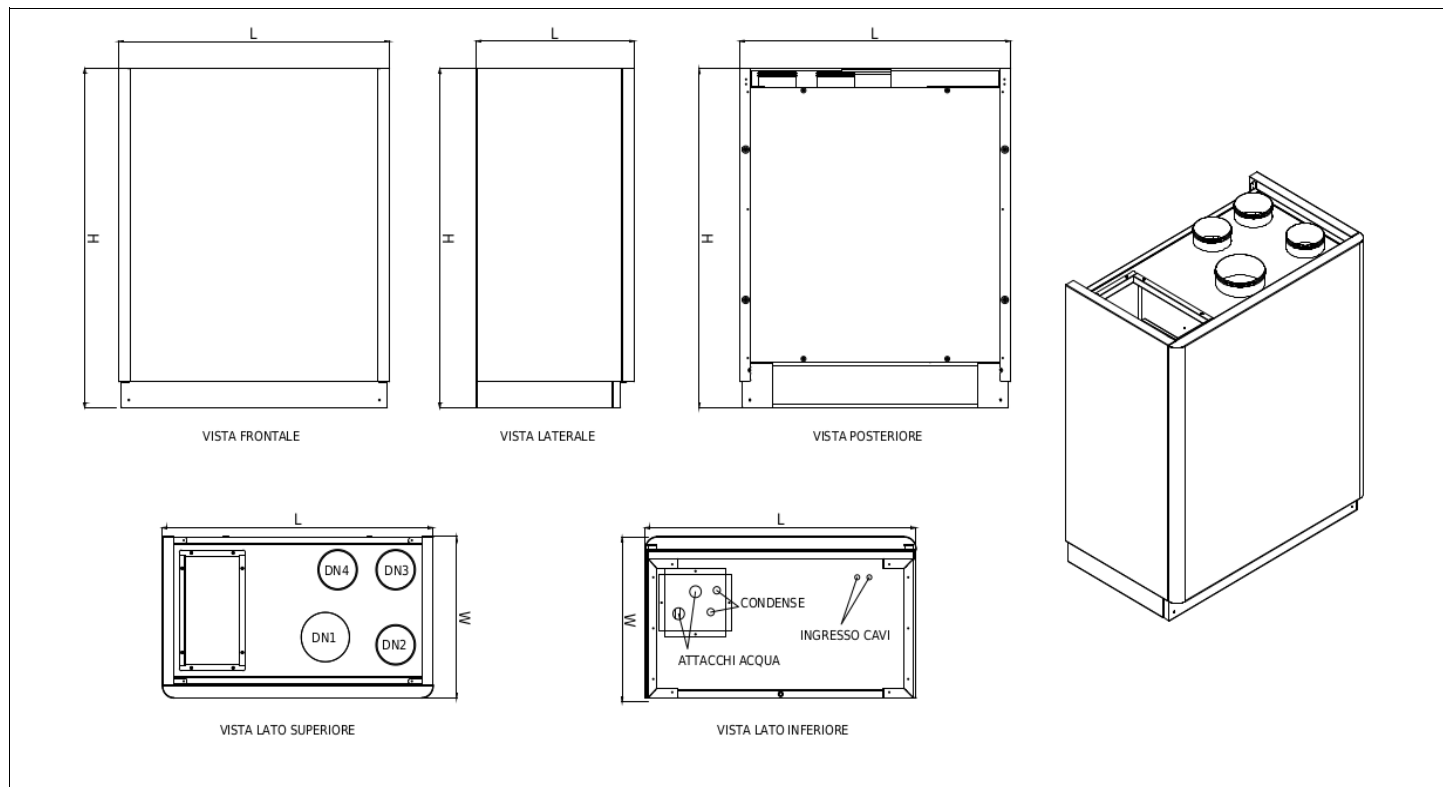
ERP DATA ECODESIGN HRD V 50-25

TO	Supplier's name or brand			
B.	Model identifier			
C.	Version		Standard unit / Central demand control	
	SEC	Kwh / mQ	COLD	-71.8
			AVERAGE	-34.3
			WARM	-10.2
SEC CLASS		A		
D.	Type declared		UVR - Bidirectional	
AND	Drive type installed		Speed variator	
F.	Heat recovery system		In recovery	
G.	Thermal efficiency of heat recovery	%	86	
H.	Maximum capacity	Mc / s	0.073	
THE	Electric power absorbed at maximum flow rate	W / h	230	
J	Sound power level	Lwa	49.6	
K	Reference range	Mc / s	0.0544	
L	Reference pressure	Pa	50	
M.	SPI	W / mc / h	0.44	
No.	Control factor	CLTR	0.85	
OR	Maximum percentages of leakage declared	%	5.2 ext. / 5.3int.	
Q	Location and description of the signal related to the filter		Displayed on the unit and remote control display e on the instruction manual	
S.	Internet address for disassembly instructions			

Specifications item

	<p>Ventilation and dehumidification unit with very high efficiency heat recovery, compact size for wall or floor installation. Specific unit for ventilation in single residential buildings and collective apartments with low energy requirements in combination with systems requiring dehumidification and room air treatment. Tested and classified according to the European Ecodesign regulation ref. 1253/2014 and 1254/2014</p> <p><u>CONSTRUCTION FEATURES</u></p> <p>lateral structure in double Aluzink paneling internally and externally with internal insulation thickness 20mm; Aesthetic design finishing panels with RAL9003 finish; compact dimensions for simplified installation with front panel easily accessible for maintenance and inspection. Circular inlets with sealing gasket for connection to the air ducts. Quick filter inspection, without tools and double drain for condensate evacuation; Refrigeration circuit with high efficiency hermetic compressor, heat exchange coils, lamination device and safety devices. Electrical panel, excluded from the flow of air with management cards and control terminal boards centrifugal fans of the radial type with backward blades with EC motors with electronic speed control and low consumption static heat exchanger in polypropylene with counter-current flows for very high efficiency in recovering sensitive heat filters class Pm1 a low pressure drop of external air and stale air, Coarse on recirculation. Electrical panel on board the unit with microprocessor and dedicated regulation. Management of the fans, display of the internal temperature probes of the machine, management of timed dirty filters, management of recirculation and renewal air. Wide graphic interface with configuration menu and multilingual user menu. Predisposition for MODBUS RTU RS 485 communication with the most varied home automation systems.</p>
---	--

DIMENSIONAL AND FUNCTIONAL SPACES



Template	HRD	50/25
Width L	mm	985
Depth W	mm	740
Height H.	mm	1185
Recirculation air inlet DN1	mm	200
Stale air inlet DN2	mm	160
Fresh air inlet DN3	mm	160
Stale air expulsion DN4	mm	160
Delivery b x h	mm	510x240
Delivery / return water connections	OR	1/2" - 1/2"
Condensation	OR	20
Weight version D	kg	83

HRD V 60/30

Type of Fans		Reverse blade radials - directly coupled electronic motor - 0/10 V signal
Number of fans	Nr	2
Air flow ventilation	m ³ / h	319
Integration air flow	m ³ / h	640
Useful pressure	Pa	100

Heat exchanger

Type of exchanger		Counter-current plates - polypropylene material
Number of Exchangers	Nr	1
Recovery efficiency	%	81.8

Data Thermal power refrigeration / dehumidification capacity

Useful dehumidification capacity (net of the enthalpy content of the external air) 1	l / 24h	56
Cooling capacity yielded by hydronic battery 2	kW	1.56
Water flow in summer operation	mc / h	0.35
Pressure drop in summer operation	Kpa	10.5
Summer compressor cooling capacity	kW	2.4 (DC VERSION ONLY)
Compressor absorbed power	kW	0.77
Thermal power output 3	kW	1.4
Water flow for winter operation	m ³ / h	0.35
Pressure drop in winter operation	Kpa	10.5
Refrigerant gas		R134a

(1) External air temperature 30 °; relative humidity 60%. ambient temperature 25 ° C; relative humidity 50%, nominal air flow

(2) Ambient temperature 25 ° C; relative humidity 60%, nominal air flow; Water in 16 ° C

(3) Ambient temperature 20 ° C; relative humidity 60%, nominal air flow; Water in 35 ° C

Filters

Type of filters		Flat Filters
Filtration class		PM! + PM1 + COARSE

Acoustic data

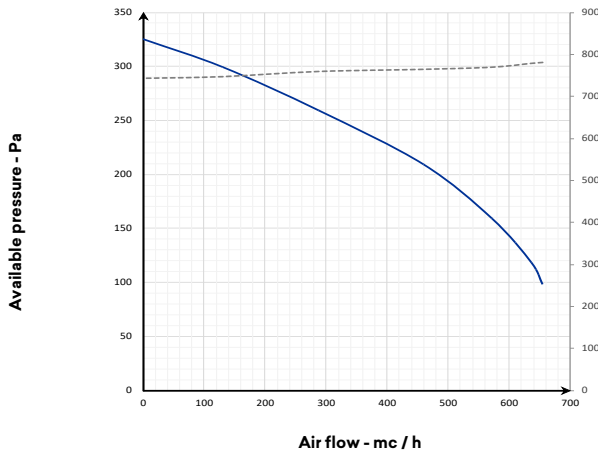
Sound power Lw transmitted by the structure	dB (A)	62.8
Sound power Lw radiated in the channel	dB (A)	67.7
Average sound pressure Lp at 1 m	dB (A)	48.1
Average sound pressure Lp at 3 m	dB (A)	40.9

Electrical Data

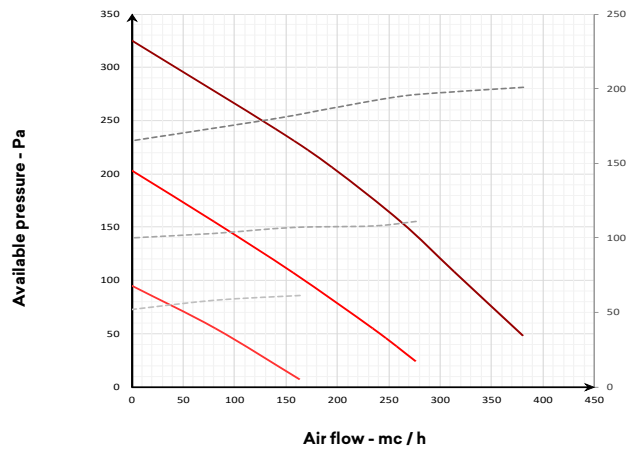
Supply voltage	V.	230/1/50 Hz.
Current consumption	TO	7
Degree of protection	IP	44

HRD V 60/30 CURVES

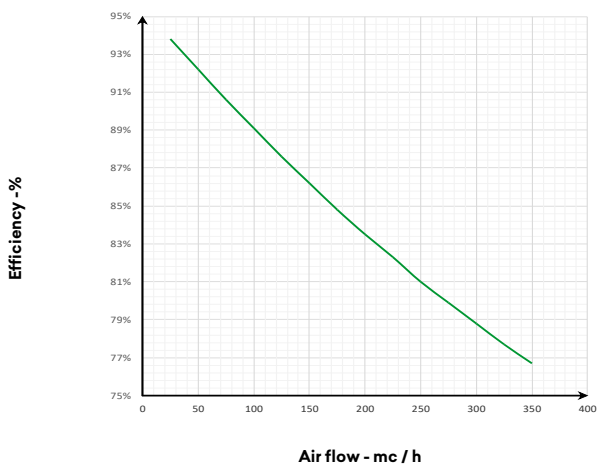
AEREAULIC PERFORMANCE INTEGRATION / DEHUMIDIFICATION



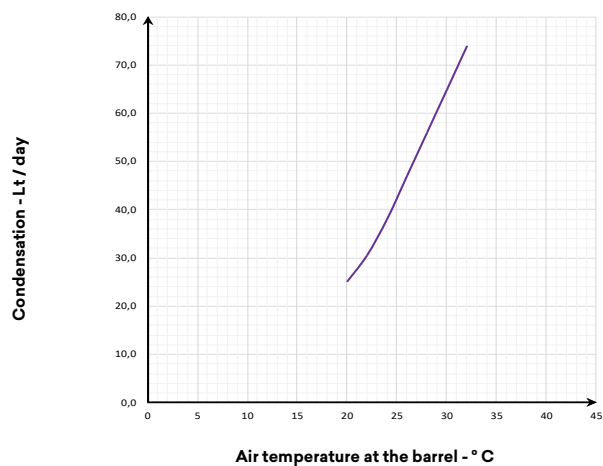
AEREAULIC PERFORMANCE VENTILATION



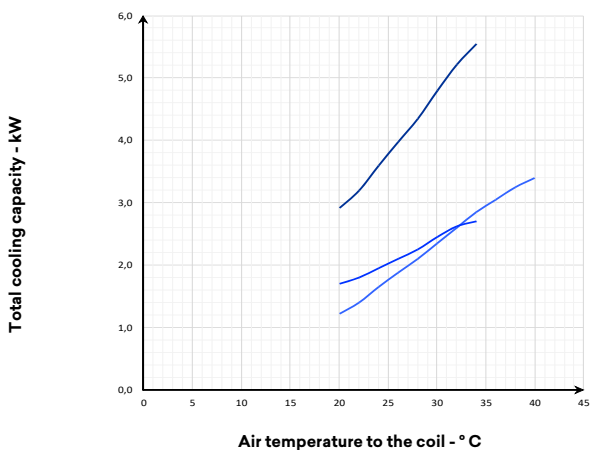
THERMAL EFFICIENCY (1)



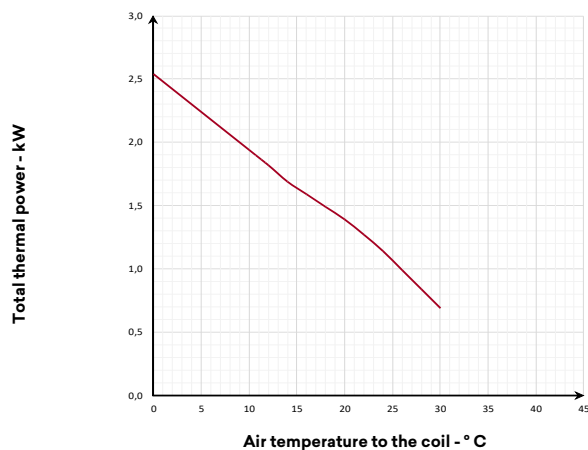
DEHUMIDIFYING CAPACITY (2)



REFRIGERANT YIELD (3)




THERMAL OUTPUT (4)




- 1) - External air temperature 7 °; relative humidity 72%. ambient temperature 20 ° C; relative humidity 28%,
- 2) - Ambient temperature 25 °; relative humidity 60%, nominal external air flow, water inlet temperature 16 ° C
- 3) - Ambient temperature 25 °; relative humidity 60%, nominal external air flow, water inlet temperature 16 ° C.
- 4) - Ambient temperature 20 °; relative humidity 60%, nominal external air flow, water inlet temperature 35 ° C

ERP DATA ECODESIGN HRD V 60/30

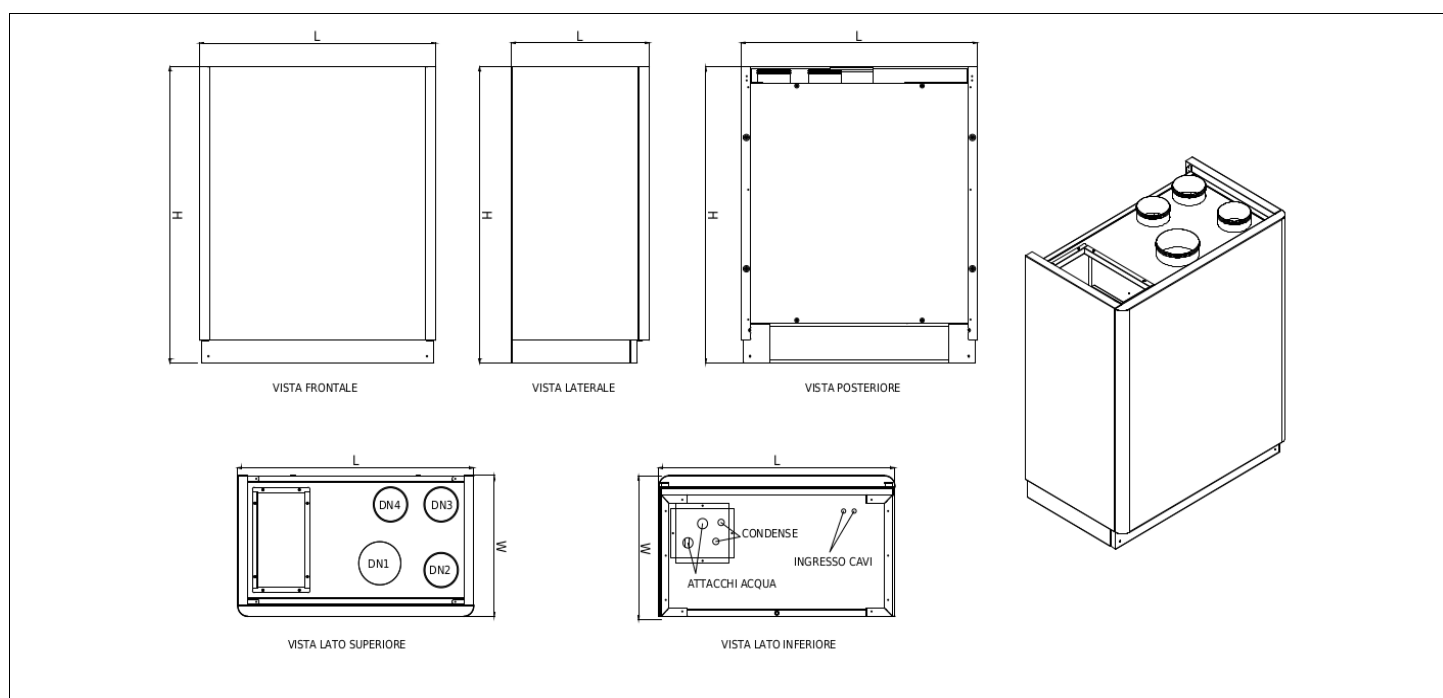
TO	Supplier's name or brand			
B.	Model identifier			
C.	Version		Standard unit / Central demand control	
	SEC	Kwh / mQ	COLD	-71.1
			AVERAGE	-34.3
			WARM	-10.6
SEC CLASS				
D.	Type declared		UVR - Bidirectional	
AND	Drive type installed		Speed variator	
F.	Heat recovery system		In recovery	
G.	Thermal efficiency of heat recovery	%	81.8	
H.	Maximum capacity	Mc / s	0.09	
THE	Electric power absorbed at maximum flow rate	W / h	250	
J	Sound power level	Lwa	51.5	
K	Reference range	Mc / s	0.06	
L	Reference pressure	Pa	50	
M.	SPI	W / mc / h	0.41	
No.	Control factor	CLTR	0.85	
OR	Maximum percentages of leakage declared	%	5.0 ext. / 4.0 int.	
Q	Location and description of the signal related to the filter		Displayed on the unit and remote control display e on the instruction manual	
S.	Internet address for disassembly instructions			

Specifications item

	<p>Ventilation and dehumidification unit with very high efficiency heat recovery, compact size for wall or floor installation. Specific unit for ventilation in single residential buildings and collective apartments with low energy requirements in combination with systems requiring dehumidification and room air treatment. Tested and classified according to the European Ecodesign regulation ref. 1253/2014 and 1254/2014</p> <p>CONSTRUCTION FEATURES</p> <p>lateral structure in double Aluzink paneling internally and externally with internal insulation thickness 20mm; Aesthetic design finishing panels with RAL9003 finish; compact dimensions for simplified installation with front panel easily accessible for maintenance and inspection. Circular inlets with sealing gasket for connection to the air ducts Quick filter inspection, without tools and double drain for condensate evacuation; Refrigeration circuit with high efficiency hermetic compressor, heat exchange coils, lamination device and safety devices. Electrical panel, excluded from the flow of air with management cards and control terminal boards centrifugal fans of the radial type with backward blades with EC motors with electronic speed control and low consumption static heat exchanger in polypropylene with counter-current flows for very high efficiency in recovering sensitive heat filters class Pm1 a low pressure drop of external air and stale air, Coarse on recirculation. Electrical panel on board the unit with microprocessor and dedicated regulation. Management of the fans, display of the internal temperature probes of the machine, management of timed dirty filters, management of recirculation and renewal air. Wide graphic interface with configuration menu and multilingual user menu.</p> <p>Predisposition for MODBUS RTU RS 485 communication with the most varied home automation systems display of the temperature probes inside the machine, management of timed dirty filters, management of recirculation and renewal air. Wide graphic interface with configuration menu and multilingual user menu. Predisposition for MODBUS RTU RS 485</p>
--	--

communication with the most varied home automation systems display of the temperature probes inside the machine, management of timed dirty filters, management of recirculation and renewal air. Wide graphic interface with configuration menu and multilingual user menu. Predisposition for MODBUS RTU RS 485 communication with the most varied home automation systems.

DIMENSIONAL AND FUNCTIONAL SPACES



Template	HRD	60/30
Width L	mm	985
Depth W	mm	740
Height H.	mm	1185
Recirculation air inlet DN1	mm	200
Stale air inlet DN2	mm	160
Fresh air inlet DN3	mm	160
Stale air expulsion DN4	mm	160
Delivery bxh	mm	510x240
Delivery / return water connections	OR	1/2" - 1/2"
Condensation	OR	20
Weight version D	kg	85

OPERATING LIMITS

Size		HRD 30/15 - 40/20 - 50/25 - 60/30	
WARM UP		Internal Air	Outdoor Air
	° C - U%	15 ° / 30 ° - 40% / 90%	-20 ° / 20 °
COOLING		Internal Air	Outdoor Air
	° C - U%	18 ° / 30 ° - 40% / 90%	20 ° / 40 °

LIST OF ACCESSORIES

DIGITAL REMOTE CONTROL WITH T / H SENSOR

Remote panel to be placed on a 503 horizontal box or on the wall with graphic interface

and various control functions of the unit.

Maximum connection length 15 m with power supply from the unit while 50 m with external 12 Vac power supply;



2-WAY VALVE

2-way zone valve operated directly by the unit to allow the hydronic battery to be powered. It is equipped with a micro-auxiliary contact for possible circulator control.



3-WAY VALVE

3-way zone valve operated directly by the unit to allow the hydronic battery to be powered. It is equipped with a micro-auxiliary contact for possible circulator control.



DIRECT DELIVERY PLENUM FLEXIBLE HOSES SIZE 30/15 - 40/20

Delivery plenum with 3 circular inlets Dn125 mm
Flanges for fixing to the unit.
Internal polyethylene insulation.



<i>DIRECT DELIVERY PLENUM FLEXIBLE HOSES SIZE 50/25 - 60/30</i>	
<p>Delivery plenum with 5 circular inlets Dn125 mm Flanges for fixing to the unit. Internal polyethylene insulation.</p>	
<i>DIRECT DELIVERY PLENUM CORRUGATED PIPES SIZE 30/15 - 40/20</i>	
<p>Delivery plenum with 8 front inlets + 8 side inlets for DN75 / DN90 mm connection</p>	
<i>DIRECT DELIVERY PLENUM 12 CORRUGATED PIPES SIZE 50/25 - 60/30</i>	
<p>Delivery plenum with 12 front inlets + 8 side inlets for DN75 / DN90 mm connection</p>	
<i>DIRECT DELIVERY PLENUM FOR MANIFOLD REMOTE SIZE 30/15 - 40/20</i>	
<p>Delivery plenum with 1 circular inlets Dn200 mm for remote control of the delivery manifold. Flanges for fixing to the unit. Internal polyethylene insulation.</p>	
<i>DIRECT DELIVERY PLENUM FOR MANIFOLD REMOTE SIZE 50/25 - 60/30</i>	
<p>Delivery plenum with 1 circular inlets Dn200 mm for remote control of the delivery manifold. Flanges for fixing to the unit. Internal polyethylene insulation</p>	
<i>SPARE FILTERS PM1</i>	
<p>Kit consisting of three spare filters (2 PM1 And a Coarse) for unit maintenance; The filters are easily removable through the dedicated inspectionable ports;</p>	
<i>ACTIVATED CARBON FILTER PM1</i>	
<p>Active filter consisting of an activated filter media with mini activated carbon granules; Recommended for areas with a high rate of contaminating gases in the outdoor air (VOC, PAC, OZONE, SO2, NOX) The activated carbon filter must be replaced regular³ly to ensure its effectiveness.</p>	

UNIT ORDER CODES

Unit codes

Code	Description
HRD VD - Vertical installation	
VRVD30VC3II	HRD 30/15 VD ON-OFF - Unit with recovery + recirculation + dehumidification. Vertical installation.
VRVD40VC3II	HRD 40/20 VD ON-OFF - Unit with recovery + recirculation + dehumidification. Vertical installation.
VRVD50VC3II	HRD 50/25 VD ON-OFF - Unit with recovery + recirculation + dehumidification. Vertical installation.
VRVD60VC3II	HRD 60/30 VD ON-OFF - Unit with recovery + recirculation + dehumidification. Vertical installation.
HRD V DC - Vertical installation	
VRVI30VC2II	HRD 30/15 V DC INVERTER - Unit with recovery + recirculation + dehumidification. Vertical installation.
VRVI40VC2II	HRD 40/20 V DC INVERTER - Unit with recovery + recirculation + dehumidification. Vertical installation.
VRVI50VC2II	HRD 50/25 V DC INVERTER - Unit with recovery + recirculation + dehumidification. Vertical installation.
VRVI60VC2II	HRD 60/30 V DC INVERTER - Unit with recovery + recirculation + dehumidification. Vertical installation.

ACCESSORIES ORDERING CODES

Remote control panel

Template	All models
Description	SMART TOUCH wall-mounted control panel with thermostat and probe for temperature, relative humidity and ambient air quality. Black color / White color
Code	EQA649II / EQB649II

Remote control panel

Template	All models
Description	SMART TOUCH wall-mounted control panel with thermostat and temperature, relative humidity and air quality probe in the room with integrated WiFi module, InnovAPP. Black color / White color
Code	ERA649II / ERB649II

Remote control

Template	All models
Description	Digital remote control with sensor
Code	GR1156II

Motorized 2-way valve ON OFF

Template	All models
Description	2-way ON / OFF zone valve for water flow regulation. 3/4 "valve diameter
Code	GR0848II

Motorized 3-way valve ON OFF

Template	All models
Description	3-way ON / OFF zone valve for water flow regulation. 3/4 "valve diameter
Code	GR0849II

Air delivery plenum - 3 inlets Dn 125 -

Template	HRD 30/15 - HRD 40/20
Description	Delivery plenum for flexible pipes with 3 circular inlets, DN 125 mm. Flanges for fixing the unit. Internal insulation in propylene
Code	GR0850II

Air delivery plenum - 5 inlets Dn 125 -

Template	HRD 50/25 - HRD 60/30
Description	Delivery plenum for flexible pipes with 5 circular inlets, DN 125 mm. Flanges for fixing the unit. Internal insulation in propylene
Code	GR0852II

Air delivery plenum - 8 inlets Dn 75/90

Template	HRD 30/15 - HRD 40/20
Description	Delivery plenum for flexible pipes with 8 front inlets and 8 side inlets for DN 75 / DN 90 mm connection
Code	GR0854II

Air delivery plenum - 12 inlets Dn 75/90

Template	HRD 50/25 - HRD 60/30
Description	Delivery plenum for flexible pipes with 12 front inlets and 8 side inlets for DN 75 / DN 90 mm connection
Code	GR0856II

Air delivery plenum - 1 inlets Dn 200

Template	HRD 30/15 - HRD 40/20
Description	Single duct delivery plenum 1xDN 200mm. Dimensions 315x200mm. Flanges for fixing the unit. Internal insulation in propylene
Code	GR1091II

Air delivery plenum - 1 inlets Dn 200

Template	HRD 50/25 - HRD 60/30
Description	Single duct delivery plenum 1xDN 200mm. Dimensions 500x200 mm. Flanges for fixing the unit. Internal insulation in propylene
Code	GR1092II

Kit Activated carbon filter

Template	HRD 30/15 - 40/20	HRD 50/25 - 60/30
Description	Activated carbon filter	Activated carbon filter
Code	GR0861II	GR0862II

Replacement filters

Template	HRD 30/15 - 40/20	HRD 50/25 - 60/30
Description	Kit of 2 spare filters (ePM1 80% and Coarse filter)	Kit of 2 spare filters (ePM1 80% and Coarse filter)
Code	GR0863II	GR0864II

Acoustic silencer

Template	HRD 30/15 - 40/20
Description	Silencer module for coupling between the air inlet plate and the main plenum body. Silencer module and extension / 3x DN 125 mm - 8x DN 75/90 mm
Code	GR0835II

Acoustic silencer

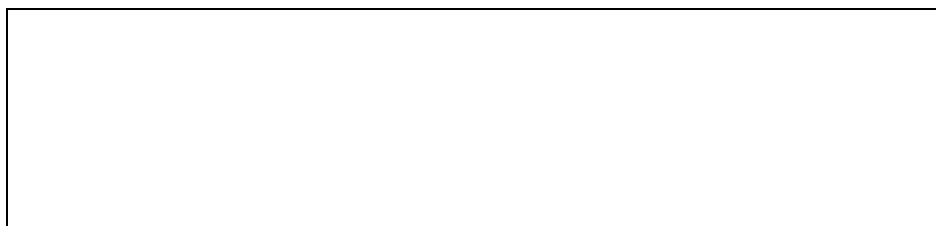
Template	HRD 50/25 - 60/30
Description	Silencer module for coupling between the air inlet plate and the main plenum body. Silencer module and extension / 5x DN 125 mm - 12x DN 75/90 mm
Code	GR0836II

CE marking

The CE marking (present on each machine) certifies compliance with the following Community standards:

- Low Voltage Directive 2014/35 / EC
- Electromagnetic Compatibility Directive 2014/30 / EC
- Ecodesign 2009/125 / EC

Rev.00 01-2022



The data contained in this technical catalog can be changed by the manufacturer without prior notice.