

## HRA-i SLIM

Air conditioning unit with passive heat recovery efficiency > 90%

Active heat recovery heating & cooling and air exchange with DC Inv. compressor and BLDC fans



- **ALL IN ONE** - The HRA units are units capable of autonomously integrating the heating, cooling and ventilation requirements of the rooms served. The unit is complete with every component for its operation and ready for use.
- **RECOVERY SECTION** - High efficiency polypropylene exchanger > 90%.
- **VENTILATION** - Brushless plug-fan fans with electronic motor and modulating control. Very high efficiency and low noise levels.  
Compliant with Erp2018 regulations;
- **ACTIVE THERMODYNAMIC RECOVERY** - The inverter refrigeration unit allows the recovery of energy from the expelled air, through a dedicated circuit. The thermodynamic recovery allows to supply higher energy to the rooms than that subtracted from the ventilation with very high efficiencies.
- **FILTRATION** - 80% ePM1 filter with low pressure drop, easily removable.
- **STRUCTURE** - Self-supporting structure made of double sandwich panel, with painted finish on the outside and galvanized on the inside of the unit. High density internal insulation with excellent thermal and acoustic characteristics.
- **ADJUSTMENT** - Electrical panel on board the unit with microprocessor and dedicated regulation. Fan management, machine internal temperature display, timed dirty filter management, heat pump management according to thermal and refrigerator needs, air flow management both in ventilation and with heat pump active. Remote graphic interface and WIFI connection through APP;



## GENERAL FEATURES

### STRUCTURE

High strength structure with frame self-supporting in sheet metal  
Choice of materials with high characteristics of thermal and acoustic insulation



### FANS

The unit is equipped with centrifugal fans with low consumption electronic motor and constant flow rate



### RECOVERER

High efficiency countercurrent cross flow polypropylene heat exchanger.



### BLDC COMPRESSOR

High efficiency rotary compressor with BLDC motor and control Driver;



### FILTRATION

Upstream of the recuperator they are present two filters with PM1 filtration class 80%;  
Removal can take place without the aid of any tools



### MICROPROCESSOR

System management entrusted to electronics evolved but easy to manage. Remote control with WIFI card and management with APP for the main functions of the unit;

## TECHNICAL FEATURES

The HRA DOMO is an active recovery unit for heating, cooling and air renewal of the rooms.

The unit consists of a monobloc including every component for correct operation: fans, refrigeration circuit with high efficiency compressors, air filtration sections and high efficiency counter-current heat recovery unit.

HRA can work as a passive heat recovery unit and as a thermodynamic active heat recovery unit and is particularly suitable for residential premises, it is supplied plug-and-play for a quick and simplified installation.

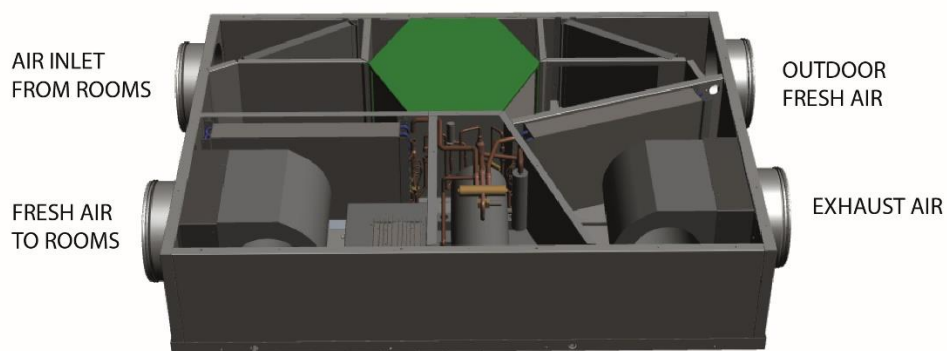
<b>ALL IN ONE:</b>	Complete unit capable of exchanging the air and integrating the cooling thermal demands of the served environments. The unit is complete with every component for its operation and ready for use.
<b>RECOVERY SECTION:</b>	High efficiency countercurrent cross flow polypropylene exchanger. Low freezing temperatures and operation down to -25 °. Very high exchange efficiency
<b>VENTILATION:</b>	Forward curved centrifugal fans with directly brushless motor directly coupled with constant flow function;
<b>ACTIVE THERMODYNAMIC RECOVERY:</b>	The unit allows the passive and active recovery of the energy of the expelled air. Thanks to its refrigeration circuit, the thermodynamic recovery allows to supply energy to the environment in a higher quantity than that subtracted from ventilation.
<b>FILTRATION:</b>	Upstream of the recuperator there is an ePM1 filter on the supply air and an ePM1 filter on the exhaust air at low pressure drops.
<b>STRUCTURE:</b>	Self-supporting frame in sheet metal Sandwich panels in galvanized sheet, painted externally, with interposed insulation in polystyrene, internal infill panels in thick galvanized sheet.
<b>REFRIGERANT CIRCUIT:</b>	Made of brazed copper complete with: High efficiency BLDC compressor, filter drier, finned coils, electronic expansion valve and safety devices.
<b>ADJUSTMENT:</b>	Electrical panel on board the unit with microprocessor and dedicated regulation. Fans management, display and temperature setpoint, timed dirty filter management. Defrosting algorithm management optimized for operation with low external temperatures; Panel with graphic interface and WIFI with connection up to 15 m from the unit;

## UNIT CONFIGURATION

	-1-
HRA-i SLIM	30

**(1) Defines the total flow and the fresh air flow**  
 Models 14/20/30 - 210/235/318 m<sup>3</sup> / h outside air

**CONFIGURATION HRA 14/20/30**



**UNITS SEEN FROM ABOVE**

## COMPOSITION OF THE UNIT

<b>HRA-I SLIM 20/30</b>	
<b>REFRIGERANT CIRCUIT</b>	
BLDC high efficiency horizontal rotary compressor	●
Copper tube coils with aluminum fins	●
4-way reversing valve	●
Electronic expansion valve	●
Filter drier	●
Coils and compressor discharge probes	●
<b>AEREAULIC CIRCUIT</b>	
High efficiency polypropylene heat recovery unit	●
Forward blade fans with EC motor	●
PM1 filter 80%	●
Coarse recirculation filter	/
Radial fans with EC motor for VMC	/
<b>ELECTRICAL CIRCUIT</b>	
Compressor driver	●
Command MCU card	●
Air quality sensor	●
Humidity sensor	●

● = Installed as standard  
/ = not available

## PERFORMANCE UNIT

### GENERAL TECHNICAL DATA VERSIONS WITH ALL OUTDOOR AIR

Size	14	20	30	
Type of fans	Forward curved blades with Brushless motor			
N ° Fans	2			
Nominal air flow	m <sup>3</sup> / h	210	235	318
Useful pressure	Pa	100	100	100
Compressor type	Rotary BLDC			
Refrigerant gas	R410A			
Passive heat recovery	Polypropylene in countercurrent			
Minimum winter recuperator efficiency 1	%	87	85	83
Filters	2x PM1 80%			
Max power absorbed fans	kW	0.28	0.28	0.28
Max Power absorbed compressors	kW	1.4	1.4	1.4
Supply voltage	V / ph / Hz	220/1/50	220/1/50	220/1/50
Max Total absorbed power	kW	1.7	1.7	1.7
Max total absorbed current	TO	8.5	8.5	8.5
IP protection degree	IP	20	20	20
Sound pressure 2	dB (A)	37	38	40

(1) External air -5 ° / 80% RH - Internal air 20 ° / 50% RH - Nominal flow rate

(2) Sound pressure at 3m in free field according to 3744

### TECHNICAL DATA WINTER OPERATION

Size	14	20	30	
<b>ACTIVE RECOVERY</b>				
Total heat output 1	kW	3.58	3.98	5.15
Useful thermal power excluding ventilation	kW	2.01	2.22	2.76
Passive Recovery 1	kW	1.53	1.69	2.23
Thermal potential 1	kW	2.05	2.29	2.92
Absorbed potential	kW	0.64	0.75	0.95
Total COP		5.6	5.3	5.4

(1) External air -5 ° / 80% RH - Internal air 20 ° / 50% RH - Nominal flow rate

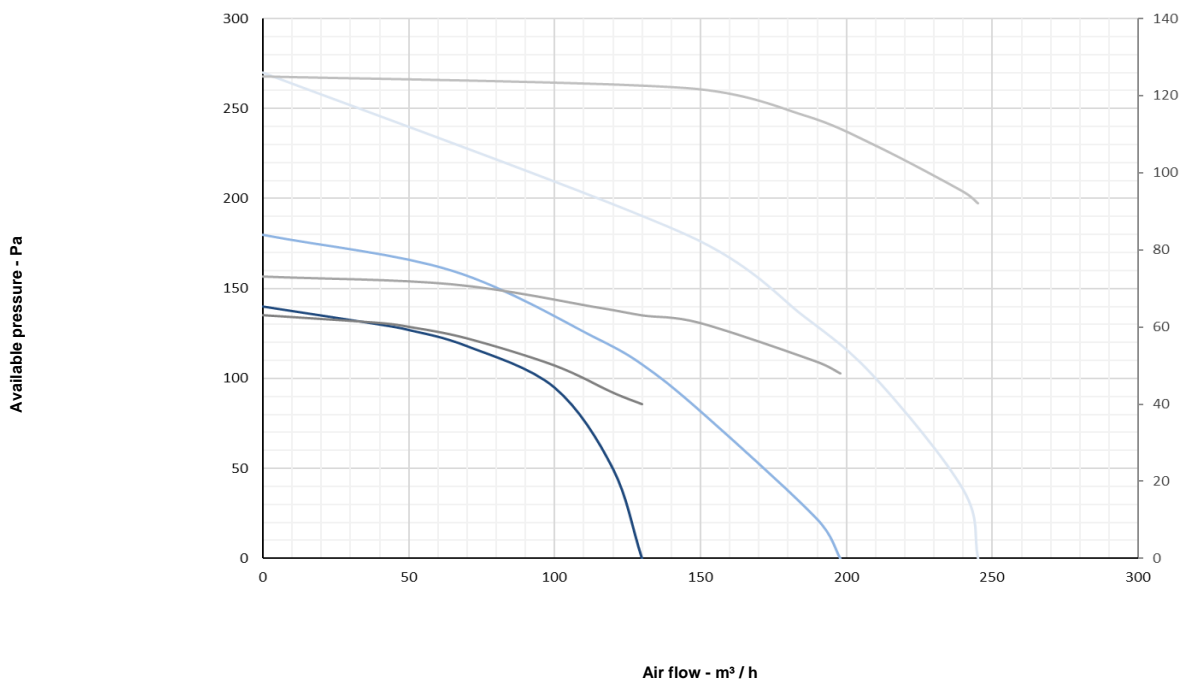
### TECHNICAL DATA SUMMER OPERATION

Size	14	20	30	
Total cooling capacity 1	kW	2.18	2.46	2.99
Useful cooling capacity excluding ventilation	kW	1.03	1.12	1.37
Passive Recovery 1	kW	0.43	0.48	0.62
Cooling capacity 1	kW	1.75	1.98	2.37
Absorbed potential	kW	0.59	0.68	0.84
Total EER		3.69	3.61	3.55

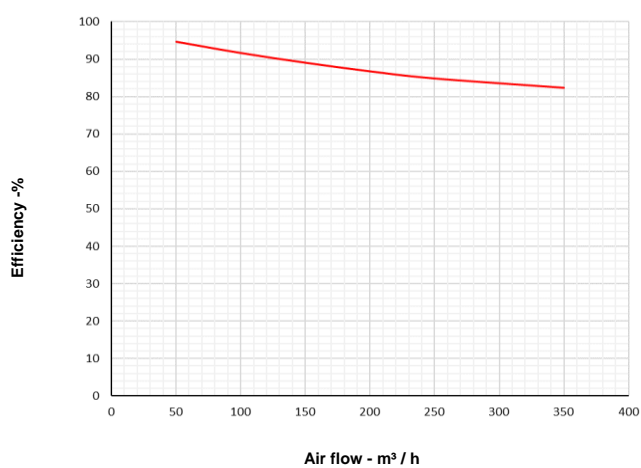
(1) External air 35 ° / 50% RH - Internal air 27 ° / 60% RH - Nominal flow rate

## HRA-I SLIM CURVES 14

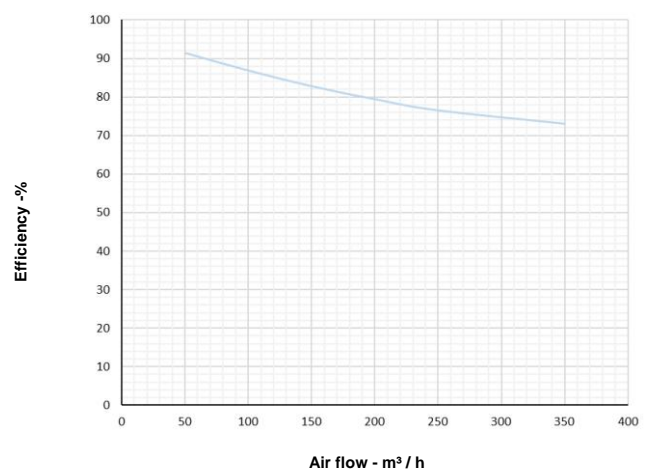
### AERAULIC PERFORMANCE



### WINTER RECOVERY EFFICIENCY (1)



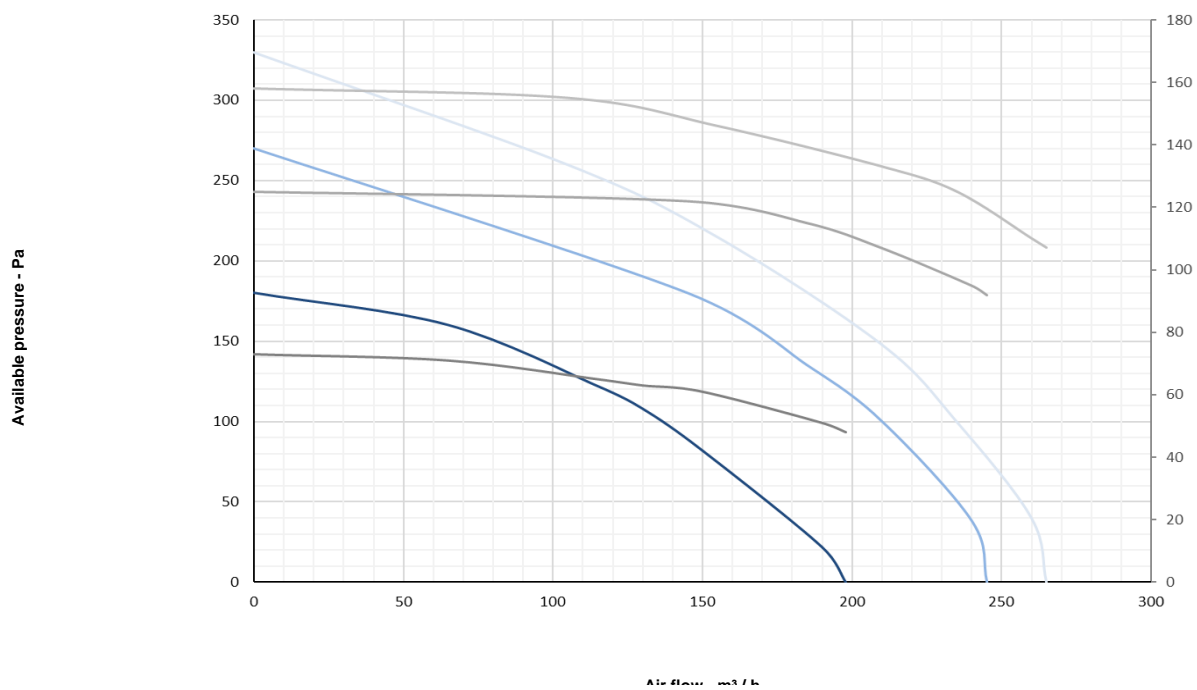
### SUMMER RECOVERY EFFICIENCY (2)



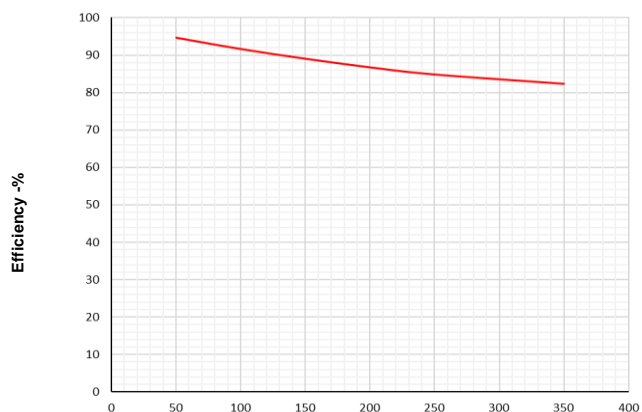
- 1) - External air temperature -5 ° relative humidity 80%. ambient temperature 20 ° C; relative humidity 50%,  
 2) - External air temperature 35 ° relative humidity 50%. ambient temperature 27 ° C; relative humidity 60%,

## CURVES HRA-I SLIM 20

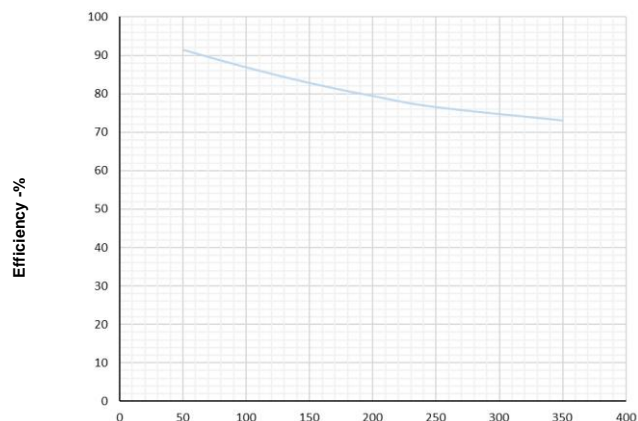
### AERAULIC PERFORMANCE



WINTER RECOVERY EFFICIENCY (1)



SUMMER RECOVERY EFFICIENCY (2)

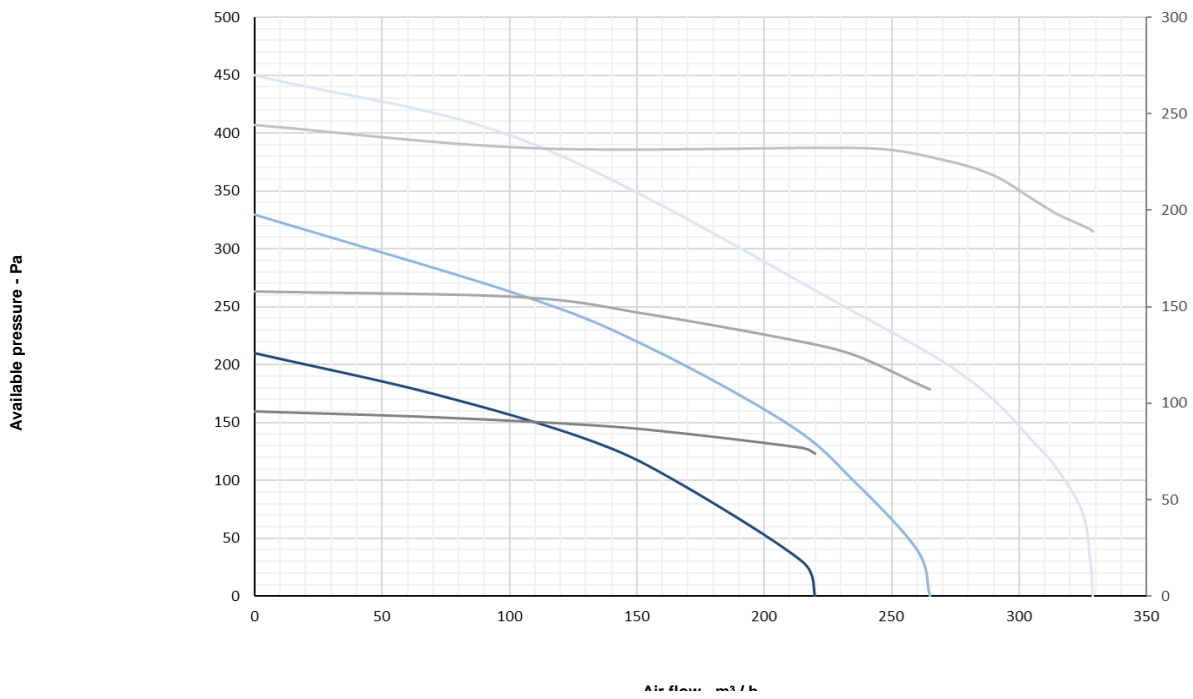


- 1) - External air temperature -5 ° relative humidity 80%. ambient temperature 20 ° C; relative humidity 50%,
- 2) - External air temperature 35 ° relative humidity 50%. ambient temperature 27 ° C; relative humidity 60%,

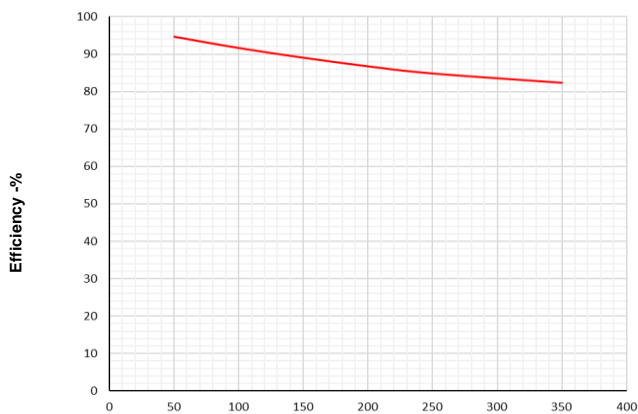


## HRA-I SLIM CURVES 30

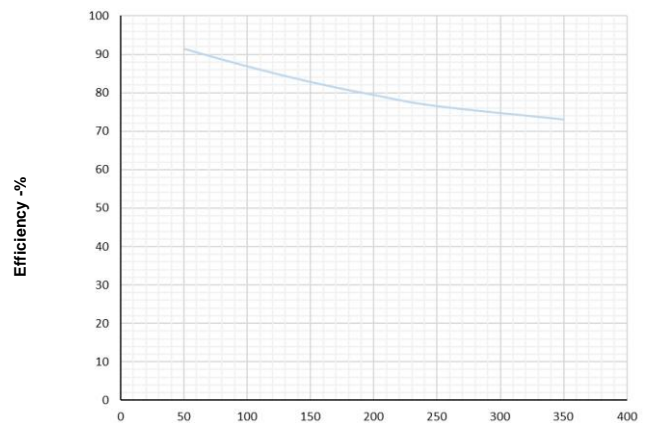
### AERAULIC PERFORMANCE



WINTER RECOVERY EFFICIENCY (1)

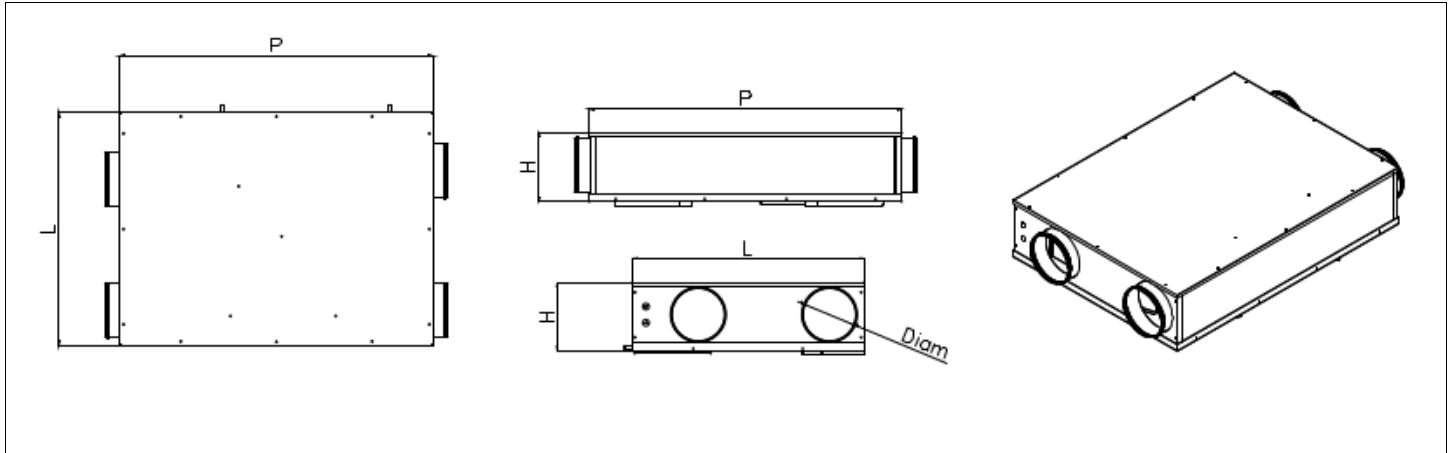


SUMMER RECOVERY EFFICIENCY (2)



- 1) - External air temperature -5 ° relative humidity 80%. ambient temperature 20 ° C; relative humidity 50%.
- 2) - External air temperature 35 ° relative humidity 50%. ambient temperature 27 ° C; relative humidity 60%


## DIMENSIONAL DATA AND OPERATING SPACES VERSIONS 14/20/30 H



Template	HRA-I SLIM	14/20/30
Width L	mm	850
Depth P	mm	1150
Height H.	mm	255
DN	mm	200
Condensation	OR	16
Weight	kg	82

## SPECIFICATION ITEMS

### HRA-I SLIM unit 14 - 20 - 30

	<p>Residential ventilation unit with high efficiency static and thermodynamic heat recovery, compact dimensions for ceiling or floor installation;</p> <p>Specific unit for ventilation in single residential buildings and collective apartments with low energy requirements in combination with systems requiring ventilation and air treatment in the rooms.</p> <p><b><u>CONSTRUCTION FEATURES</u></b></p> <p>side structure in double paneling in galvanized internally and painted externally with internal insulation thickness 20mm; Aesthetic finishing panels with RAL9003 finish;</p> <p>Compact dimensions for simplified installation with easily accessible bottom panel for maintenance and inspection.</p> <p>Circular inlets with sealing gasket for connection to the air ducts</p> <p>Quick filter inspection, without tools and double drain for condensate evacuation;</p> <p>Refrigeration circuit with high efficiency horizontal rotary compressor bldc, heat exchange coils, lamination device and safety devices.</p> <p>Electric panel, excluded from the air flow with management cards and control terminal blocks</p> <p>centrifugal fans of the centrifugal type with blades having EC motors with electronic speed control and low consumption</p> <p>Static counter-flow polypropylene heat exchanger for very high sensible heat recovery efficiencies</p> <p>PM1 class filters with low pressure drop for external air and stale air;</p> <p>Electrical panel on board the unit with microprocessor and dedicated regulation. Fan management, temperature display, timed dirty filter management, air quality sensor management with flow modulation, humidity sensor management for dehumidification mode;</p> <p>Control panel with WIFI and APP for wall installation with box for built-in support 503 or wall fixing, length 15m</p>
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## OPERATING LIMITS

<b>Size</b>		<b>14/20/30</b>
HEATING		Internal Air
	° C	10/25 °
COOLING		Internal Air
	° C	18/28

## UNIT ORDER CODES

### STANDARD VERSIONS

Template	Description	Code
HRA-I SLIM 14	Horizontal heat recovery unit with integrated 140 m <sup>3</sup> / h inverter heat pump	VRVA14OC4II
HRA-I SLIM 20	Horizontal heat recovery unit with integrated 200 m <sup>3</sup> / h inverter heat pump	VRVA20OC4II
HRA-I SLIM 30	Horizontal heat recovery unit with integrated 300 m <sup>3</sup> / h inverter heat pump	VRVA30OC4II

## ACCESSORIES ORDERING CODES

### BLACK remote control panel

Template	All models
Description	Smart touch electronic wall control panel with thermostat and room probe with integrated WI-FI module (supplied with 8 m connection cable). Black colour
Code	ECA031II

### WHITE remote control panel

Template	All models
Description	Smart touch electronic wall control panel with thermostat and room probe with integrated WI-FI module (supplied with 8 m connection cable). White color
Code	ECB031II

### BLACK remote control panel

Template	All models
Description	Smart touch electronic wall control panel with thermostat and ambient probe with integrated ModBus port (supplied with 8 m connection cable). Black colour.
Code	ECA032II

### WHITE remote control panel

Template	All models
Description	Smart touch electronic wall control panel with thermostat and ambient probe with integrated ModBus port (supplied with 8 m connection cable). White color.
Code	ECB032II

### Electric heating coils complete with regulation

Template	All models
Description	BER - Electric heating coil complete with regulation / DN 200 mm. 1 kW
Power supply voltage	230 V
Code	GR1090II

NOTE:



## 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



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

TECHNICAL DATA SHEET - HRA-i SLIM Rev.1 03-2021