TECHNICAL DATA SHEET

VALSIR® HRV SYSTEMS

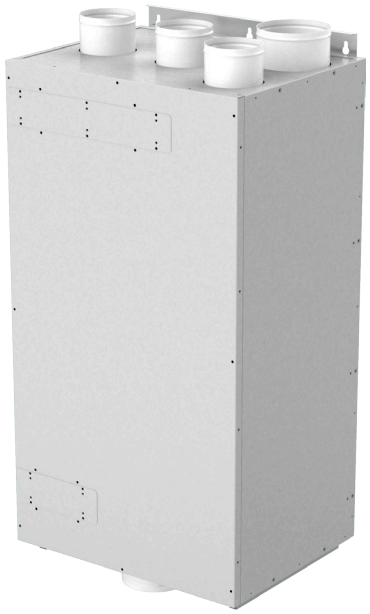
ISOTERMA VERTICAL

valsir®
QUALITY FOR PLUMBING

HRVSYSTEMS

ISOTERMA VERTICAL

Air treatment units, recirculating and partial renewal, equipped with high efficiency regenerator. The unit is equipped with a compressor on board, so in the summer the unit must be supplied with water at the same plant radiant temperature (flow between 15° and 20° C). Thanks to the post-heating coil, the treated air, during the summer, is fed into the ambients with room temperature. In winter, feeding the battery with hot water, you can integrate the radiant system operation.



Self-supporting double panel made of galvanized sheet steel, overall thickness of 20 mm for the outer panels, 10 mm for interior panels.

The sturdy structure prevents vibrations and includes the fixing brackets to ceiling or wall. The accessibility to the internal components is ensured by opening the front panel for easy access.

Class G4 filter, 25 mm thick, made of synthetic material, extraction of the filters by means of independent branches. Fan brushless EC motor with low consumption to modulating control, IP54 protection, complete with thermal protection of the motor and electronics.

The impeller is reinforced with nylon charge PA6-25GF with backward curved blades directly coupled to the motor.

Battery made from copper tube and high efficiency corrugated aluminum fins.

Nominal pressure PN10; hydrophilic treatment to increase the heat exchange also in the presence of high humidity. Water trap in galvanized powder coated steel.

The pan shape facilitates the outflow and ensures minimum water stagnation. 3 mm thick polyethylene foam insulation. Thermal and acoustic insulation in polyurethane foam with a thickness of 20 mm for the outer panels, foam insulation of 10 mm thick polyethylene for the inner panels.

High efficency countercurrent cross flow recuperator, made of polystyrene, material resistant to major corrosive agents.

Refrigeration circuit complete of hermetic compressor, condenser, evaporator, filter, expansion member, sensors positioned in suction and discharge, copper pipes with thermal insulation, pressure taps. Refrigerant preloaded at the factory.

Electrical panel made in an easily accessible galvanized steel sheet.

Table Technical data

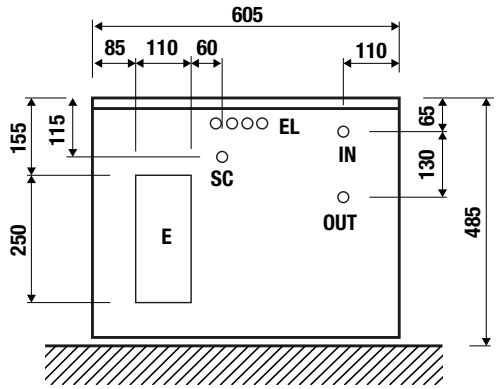
	Isoterma	
	260	**520**
Dehumidification capacity [l/24h]	26,5	62,4
Total cooling capacity [W]	nd	nd
Total thermal power (50°C water) [W]	940	1880
Total thermal power (35°C water) [W]	470	940
Nominal winter recovery efficiency [%]	93	91
Nominal summer recovery efficiency [%]	89	85
Supply [V-Hz]	230V-50Hz	230V-50Hz
Absorbed power of the compressor [W]	300	600
Inlet Ventilator power [W] (*)	57	129
Outlet Ventilator power [W] (*)	22	55
Inlet Ventilator useful prevalence [Pa] (*)	170	230
Outlet Ventilator useful prevalence [Pa] (*)	140	195
Water flor rate [l/h]	230	480
Pressure losses in the circuit [kPa]	25	30
External air flow rate [mc/h]	130	260
Renewal air flow rate [mc/h]	130	260
Renewal + recirculation air flow rate [mc/h]	260	520
Max absorbed current [A]	3,6	6,5
Refrigerant gas	R134a	R410a
Weight (Horizontal) [kg]	100	130
Weight (Vertical) [kg]	120	150
Acoustic power [dB(A)] (**)	47	52
Acoustic pressure [dB(A)] (***)	38	43

(*) Data referred to the fans calibrated at 8V (on a scale with a maximum of 10V) to the nominal flow rate of air
(**) Sound power radiated with ducted machine at 50Pa
(***) Sound pressure under the conditions as above, measured at a distance of 1m

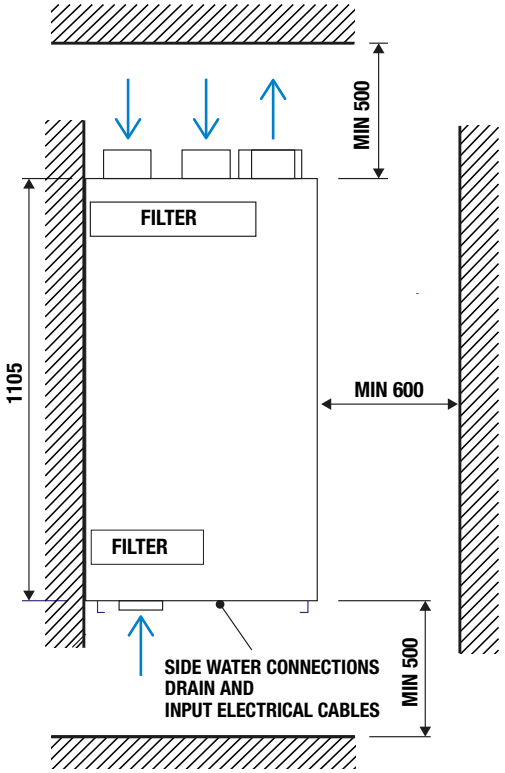
The performances are referred to the following conditions:
SUMMER:
Room temperature 26°C; relative humidity 65%,
External air temperature 35°C; relative humidity 50%
Inlet water temperature 15°C.

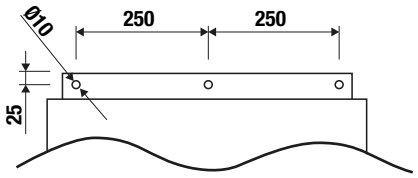
WINTER:
External air temperature -5°C; relative humidity 80%,
Room temperature 20°C; relative humidity 50%
Inlet water temperature 35°/50°C

Figure Unit 260 vertical dimentions

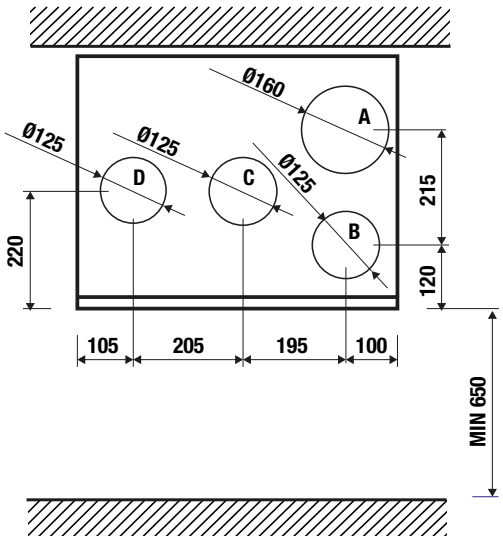


IN	Primary Battery IN	1/2"
OUT	Primary Battery OUT	1/2"
SC	Condensation	d.12
EL	Electrical wires inlet	



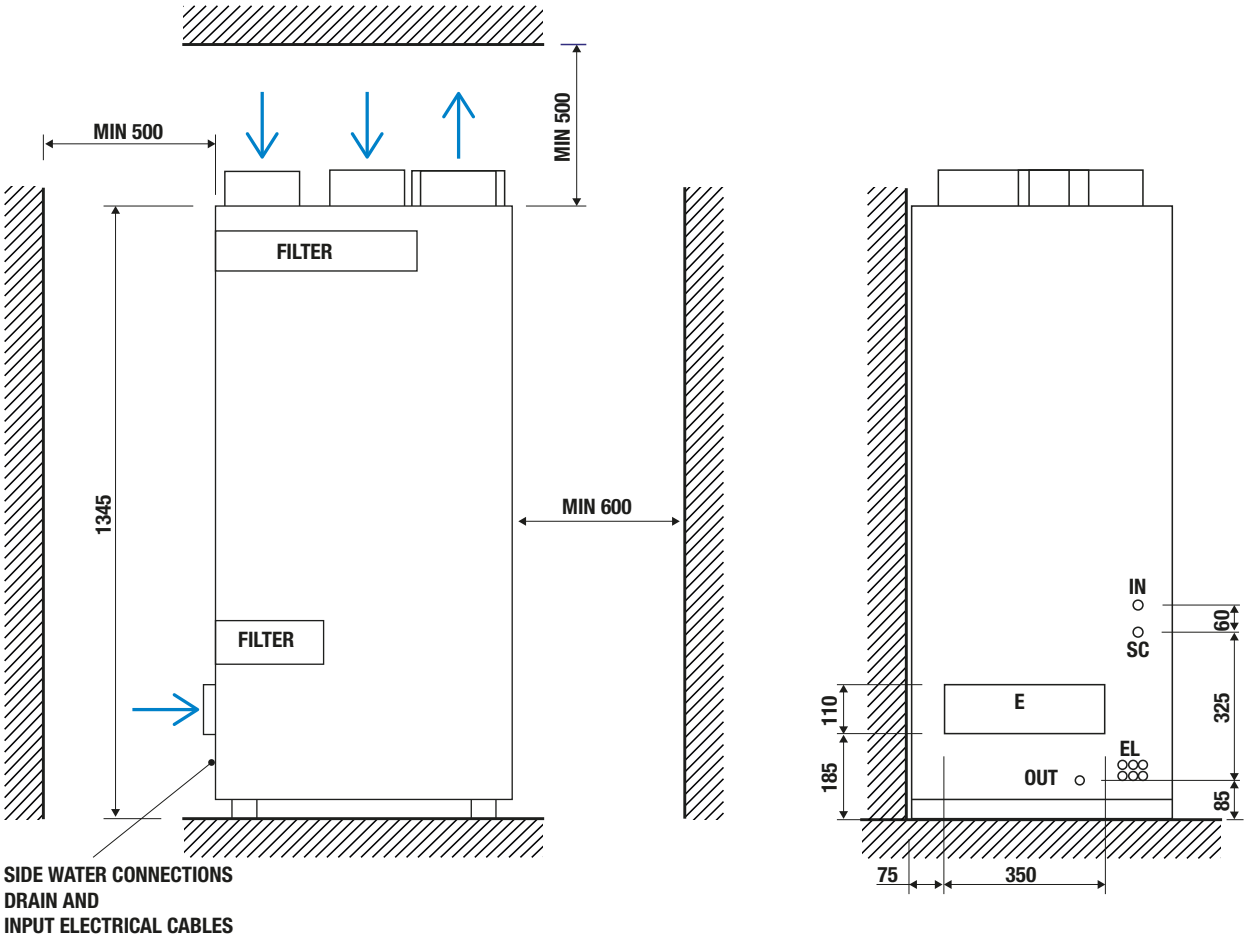


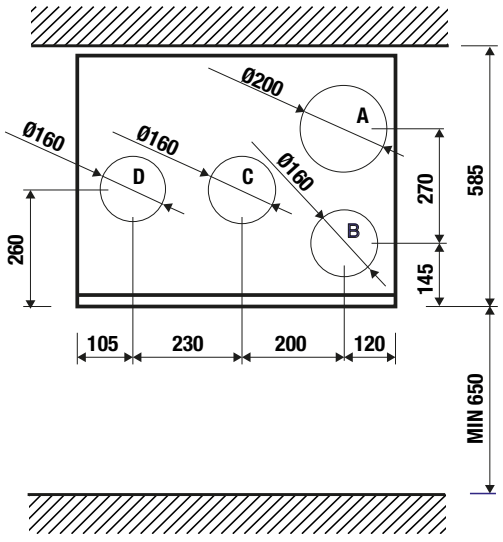
Holes for fixing brackets to the wall.



A	Flow to environment
B	Expulsion
C	External Air Intake
D	Foul Air Intake
E	Recirculation Air Intake

Figure Unit 520 vertical dimentions





A	Flow to environment	
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C	External Air Intake	
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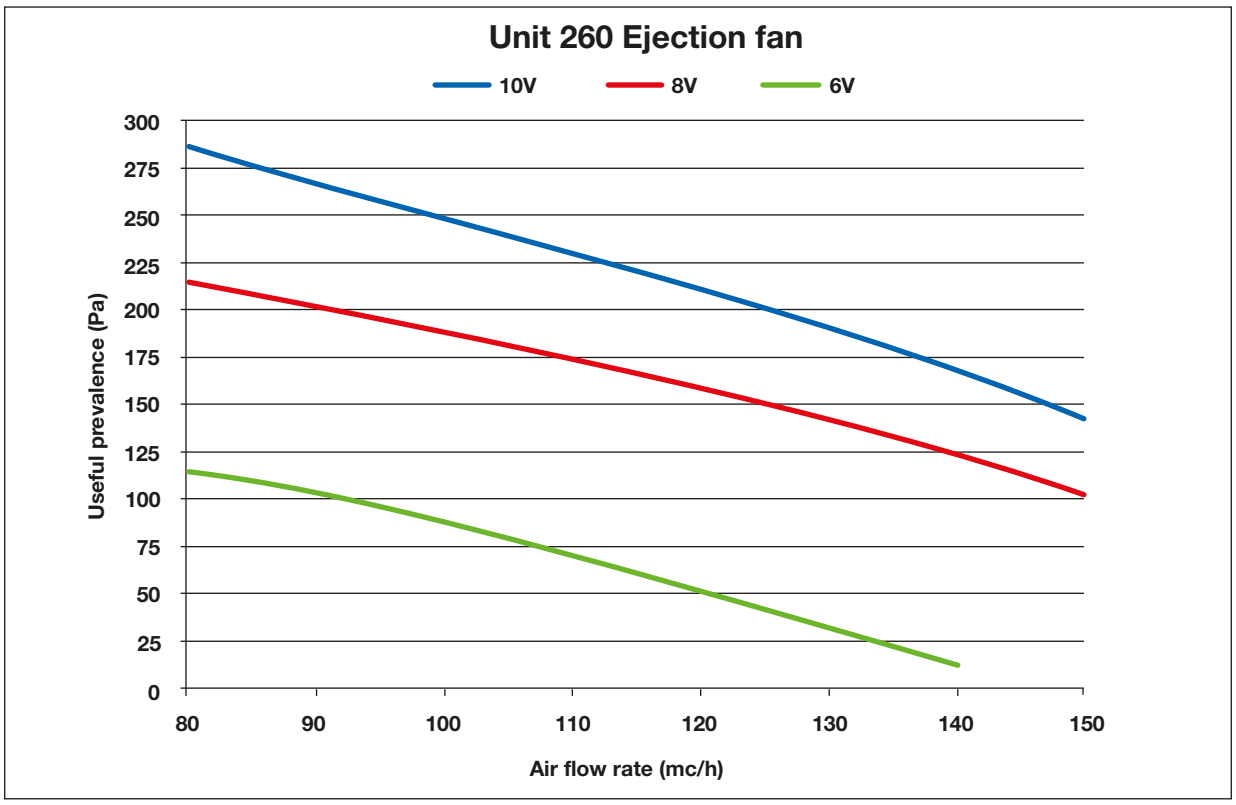
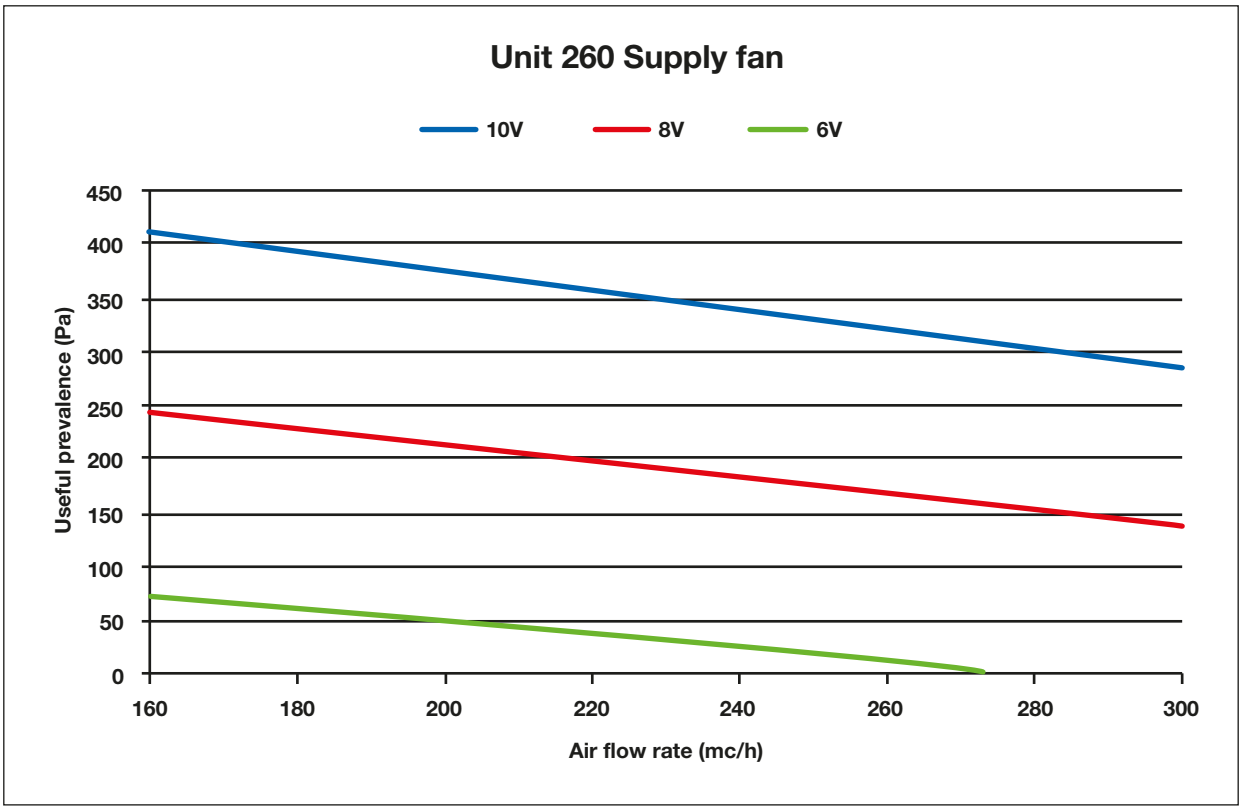
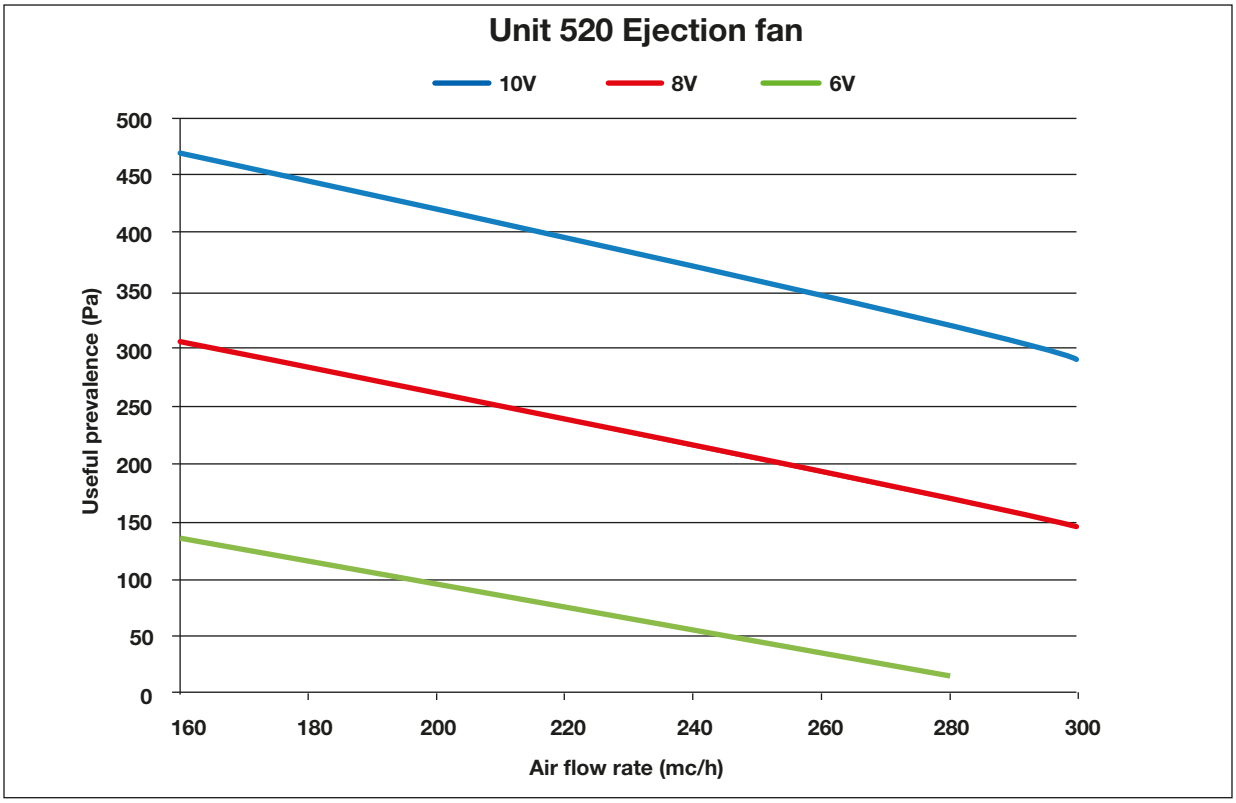
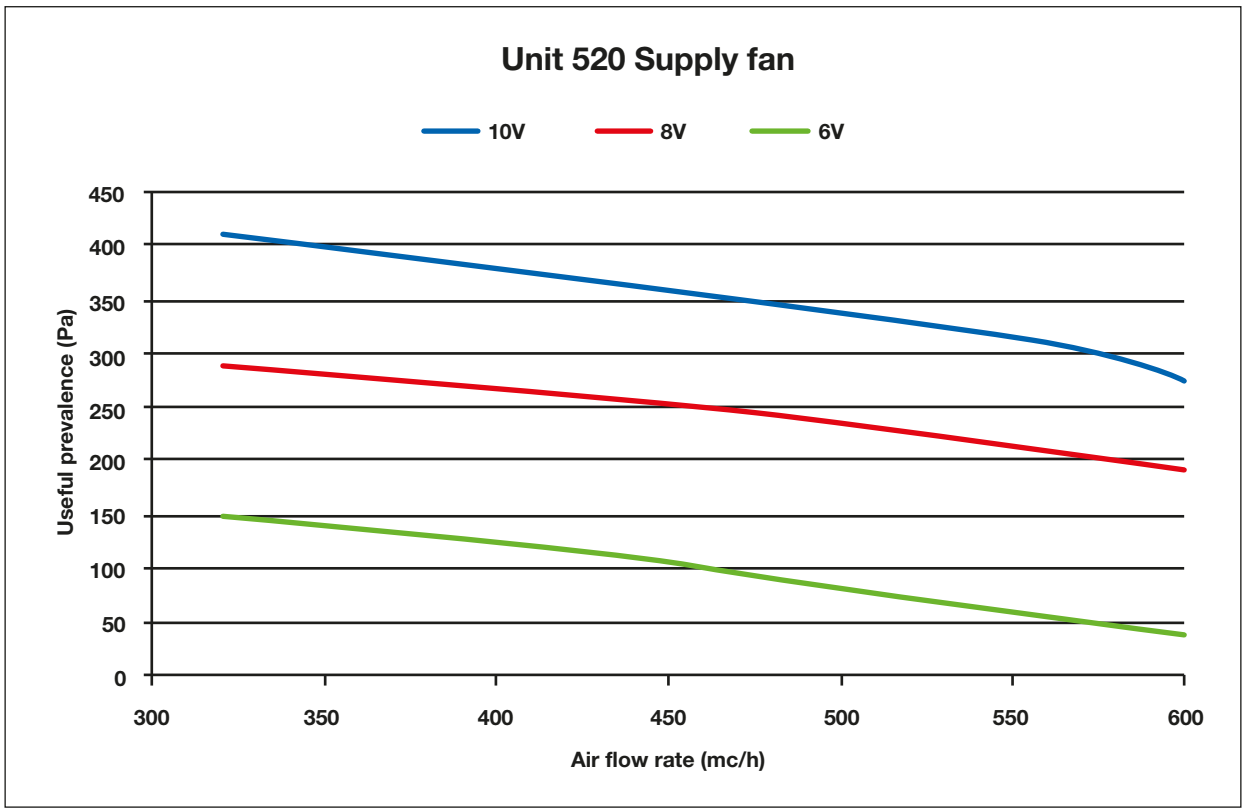
E	Recirculation Air Intake	
IN	Primary Battery IN	1/2"
OUT	Primary Battery OUT	1/2"
SC	Condensation	d.12
EL	Electrical wires inlet	

Figure Fan graphs





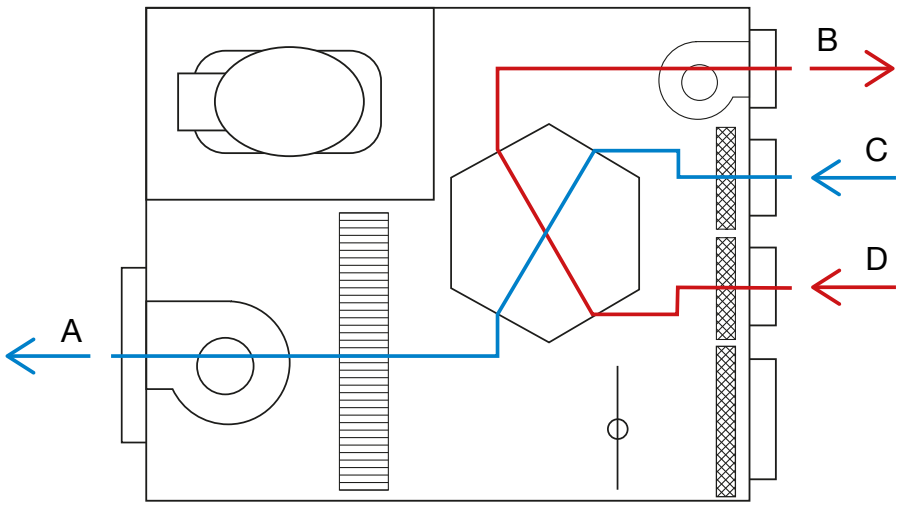

Unit 520 Ejection fan
10V
8V
6V
Useful prevalence (Pa)
500
450
400
350
300
250
200
150
100
50
0
160
180
200
220
240
260
280
300
Air flow rate (mc/h)


Unit 520 Supply fan
10V
8V
6V
Useful prevalence (Pa)
450
400
350
300
250
200
150
100
50
0
300
350
400
450
500
550
600
Air flow rate (mc/h)

Operating mode

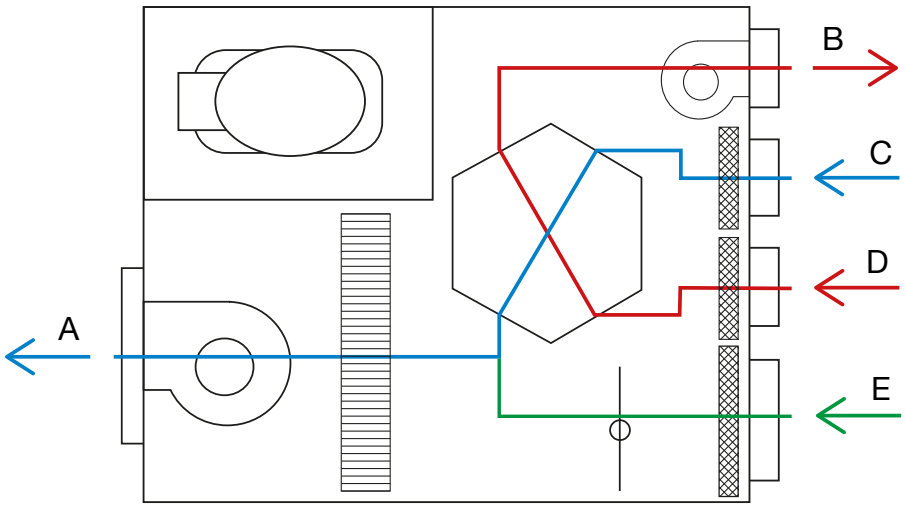
Renewal

In this operation, the compressor is switched off and water does not circulate in the battery. The supplied air is 100% fresh and is treated only by passing through the heat exchanger.



Renewal with recirculation

In this operation, in summer the compressor is operating and water circulates in the battery; in winter the compressor is off and water circulates in the battery. The air inlet is composed by fresk air (treated passing through the heat exchanger) and recirculated air.
Before being reveased into the environment, the air is treated by the dehumidificating battery.



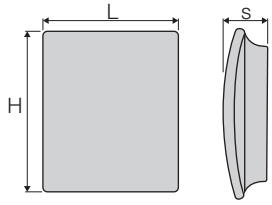
		260	520
A	Flow to environment	260mc/h	520mc/h
B	Expulsion	80 -130mc/h	160-260 mc/h
C	Esternal Air Intake	80 -130mc/h	160-260 mc/h
D	Foul Air Intake	80 -130mc/h	160-260 mc/h
E	Recirculation Air Intake	130-180mc/h	260-360 mc/h

Table Isoterma accessories

Wall VOC sensor for ARIA, IDRONICA, ISOTERMA and MAXIMA recovery unit models

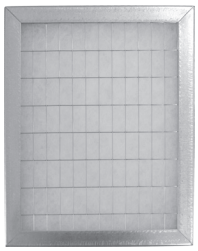
HxLxP	Air quality
81x79x26	0... 100%

CO2 and temperature wall sensor for ARIA, IDRONICA, ISOTERMA and MAXIMA recovery unit models



L	H	s	Mod.
85	100	26	Aria, Idronica, Isoterma, Maxima

3-filter kit for IDRONICA, ISOTERMA and MAXIMA recovery unit models



Air Flow rate	Typea
260 m^3/h	Horizontal
260 m^3/h	Vertical
520 m^3/h	Horizontal
520 m^3/h	Vertical

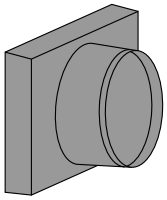
Humidity wall sensor for heat recovery unit with dehumidification for IDRONICA, ISOTERMA and MAXIMA models

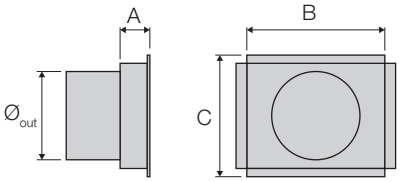
Mod.
Idronica, Isoterma, Maxima

Remote panel spare part for heat recovery units with dehumidification IDRONICA, ISOTERMA and MAXIMA models

Mod.
Idronica, Isoterma, Maxima

Plenum with circular duct adapter IDRONICA, ISOTERMA and MAXIMA recovery unit models





Mod.	Ø out	A	B	C
Idronica, Isoterma, Maxima	160	50	250	290
Idronica, Isoterma, Maxima	200	50	350	230

Approvals:

The approvals of Valsir® HRV systems are available on the website: www.valsir.com

PLUMBING

WASTE SYSTEMS

SUPPLY SYSTEMS

GAS SYSTEMS

FLUSH SYSTEMS

BATHROOM SYSTEMS

TRAPS

RADIANT SYSTEMS

DRAINAGE SYSTEMS

HRV SYSTEM

ACADEMY

BUILDING

SEWER SYSTEMS

WATER TREATMENT

valsir®

QUALITY FOR PLUMBING

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