

## TECHNICAL DATA



UNIT	CONTROL	ENERGETIC CLASS
FLAT 1	CTR-S	B
	EVO(D)-PH	A
	EVO(D)-PH + probe	A
FLAT 2	CTR-S	B
	EVO(D)-PH	A
	EVO(D)-PH + probe	A
FLAT 1 ENT	EVO(D)-PH	B
	EVO(D)-PH + probe	A
FLAT 2 ENT	EVO(D)-PH	B
	EVO(D)-PH + probe	A
FLAT 3	CTR-S	A
	EVO(D)-PH	A
	EVO(D)-PH + probe	A
FLAT 4	CTR-S	B
	EVO(D)-PH	A
	EVO(D)-PH + probe	A
FLAT 3 ENT	CTR-S	B
	EVO(D)-PH	A
	EVO(D)-PH + probe	A
FLAT 4 ENT	CTR-S	B
	EVO(D)-PH	B
	EVO(D)-PH + probe	B



# FLAT





## FLAT

High efficiency heat recovery ventilation unit with double flow for residential buildings. There are 4 sizes.

### EQUIPPED

It is equipped with an aluminum counterflow heat exchanger (Eurovent®certified). EC backward curved centrifugal fans allow the FLAT to reach a maximum capacity of about: 140 m³/h at 100 Pa (FLAT 1) with 62 Watt power consumption, 220 m³/h at 100 Pa (FLAT 2) with 97 Watt power consumption, 414 m³/h at 100 Pa (FLAT 3) with 161 Watt power consumption and 582 m³/h at 100 Pa (FLAT 4)with 339 Watt power consumption. The unit includes the total by-pass, which permits to take advantage of favorable climatic conditions outside the building for automatic free cooling (or free heating).

### STRUCTURE

The FLAT is realized with a self-supporting casing made by panels, thickness 22 mm, sandwiched on injected polyurethane foam insulation. The casing and the internal parts are realized in zinc magnesium, material with a high resistance to corrosion and an outside attractive appearance. A hinge-opening panel makes easy the filters replacement (ePM10 50% (G4) for fresh air and ePM10 50% (G4) for exhaust air). The FLAT can be installed in ambient with temperature between 0° C and 45° C, can have floor or ceiling installation (for size 3 and 4 the machine must not be turned upside down)

### CONTROLS

The FLAT is supplied with control system and easy connection to the power supply. It's also available the versions with simplified CTR08-PH control, the version with EVO-PH control and the version with EVOD-PH-IP control ready for integration in home automation systems (Modbus protocol with Ethernet connection or, upon request , with the addition of the RS485 connection). The new version of our control systems allows the user to shift from one control system to another very quickly and easily by replacing the remote panel even after the installation.

The CTR-S control allows the user to select three levels of fan speed or the possibility to stop them, It automatically manages the bypass and prevents the heat exchanger freezing by programming the fan speed; The control advises the user if filters needs to be replaced or any other fault. It is available a version without filters pressure switches (dirty control with hour counter, factory setting), filters G4 renewal / G4 recovery and by-pass made by fans unbalance (recommended a ventilation grid)

The EVO-PH control has a colorful touch screen interface, it gives an intuitive operating status of the unit and it allows programming the fan speed. This control has a weekly time schedule for automatic fans, it can be controlled by an external switch to activate the booster and it can automatically adjust the air flow when connected to an air quality sensor. It supports post-air treatment accessories ( in the duct) and it advises the user if filters needs to be replaced (the filter clogging is monitored by hour counter, factory setting) or if there is any other fault showing where it comes from. If the unit has included the Kit COP Kit and Kit CAV (installed in the duct outside the unit) you can program the heat recovery ventilator either as constant pressure or as constant flow.

The EVOD-PH-IP control has the same characteristics of the EVO-PH version with the addition of the Modbus communication protocol and it allows full control of the unit by the Home Automation software system. If the unit is in a Home Automation network, the webserver lets the user interact with it throughout a device connected to an Internet browser.

For a more complete view of the characteristics of the control panels, please read the specific manuals



Counterflow heat exchanger made of aluminum manufactured by RECUTECH. RECUTECH participates in the Eurovent Certification Program

STANDARD Configuration FLAT 1 and 2



STANDARD Configuration FLAT 3 and 4



MIRRORED Configuration FLAT 1 and 2



MIRRORED Configuration FLAT 3 and 4

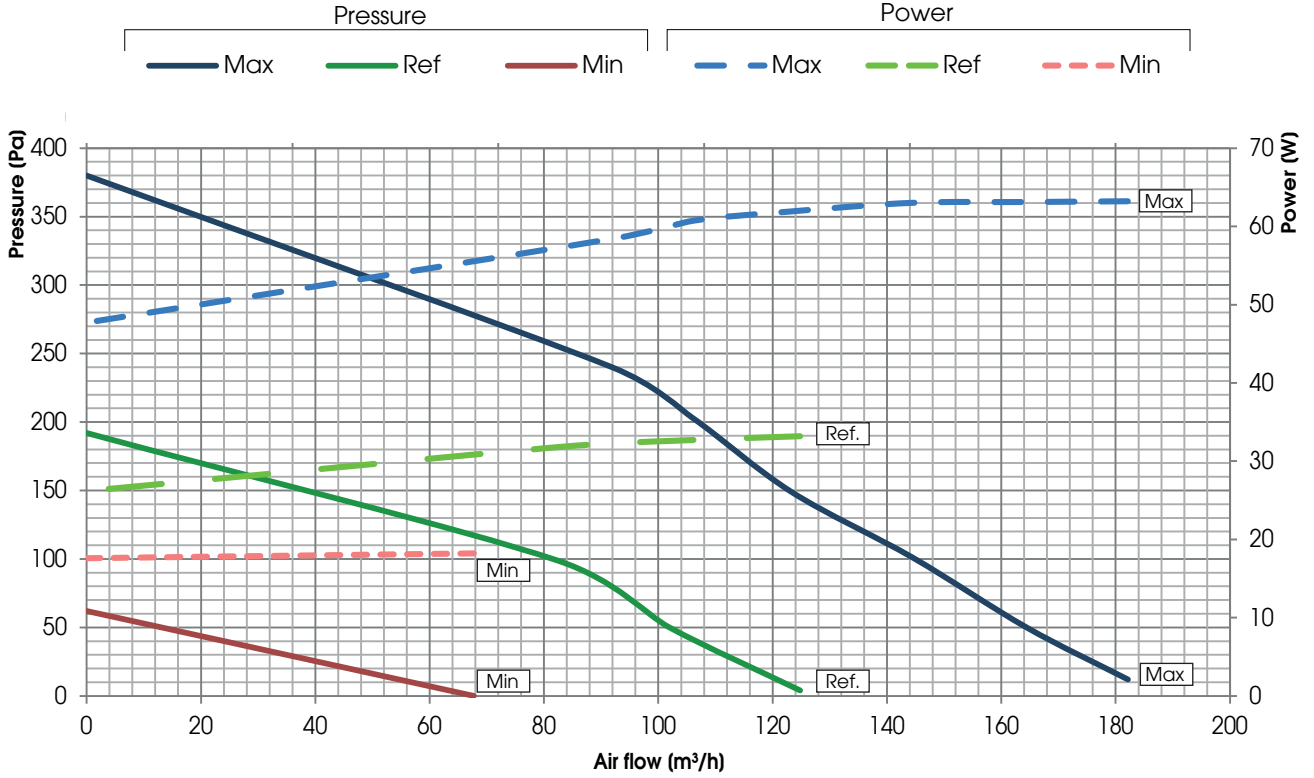




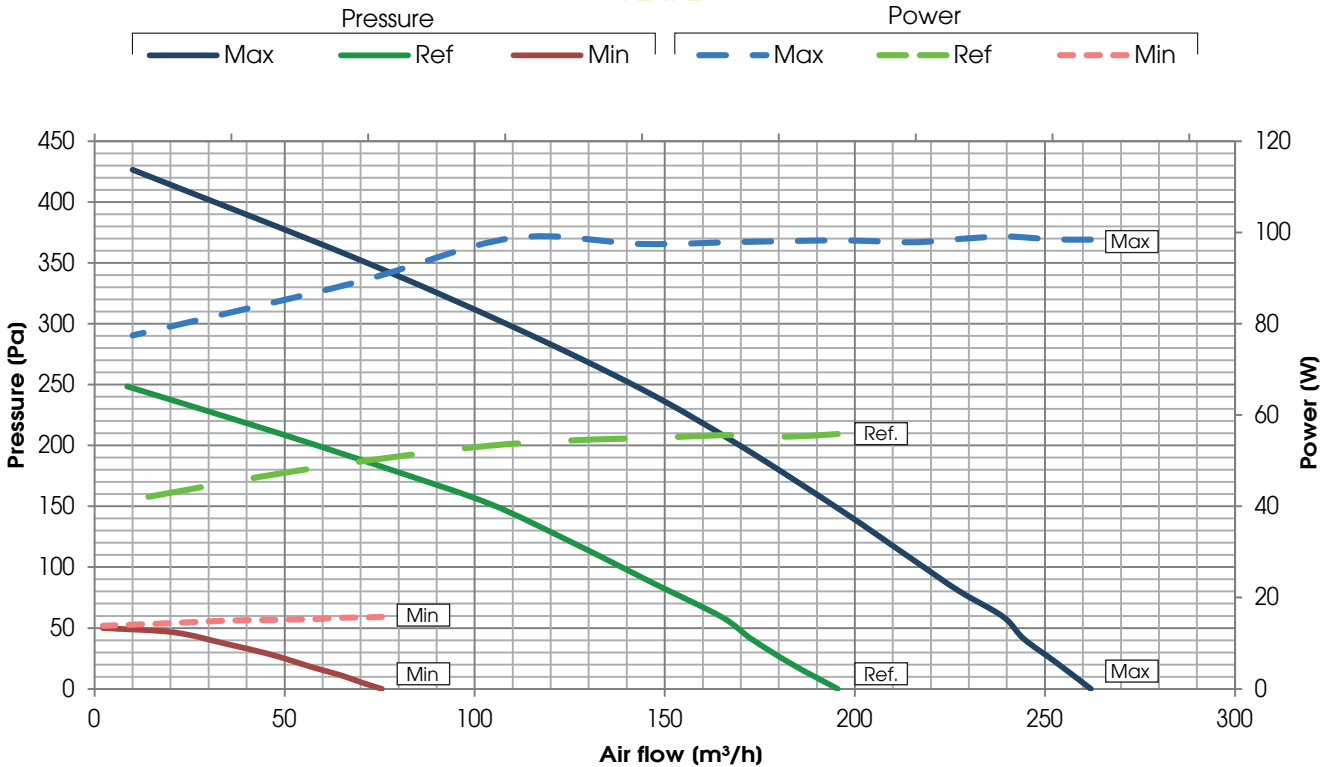
PERFORMANCES (UNI EN 13141-7)

The unit must be ducted properly: UTEK authorizes the use only according to its performance diagram shown into this catalogue  
 The declared performances are with CLEAN filters, and guaranteed ONLY with the original filters UTEK low pressure drop.

FLAT 1



FLAT 2

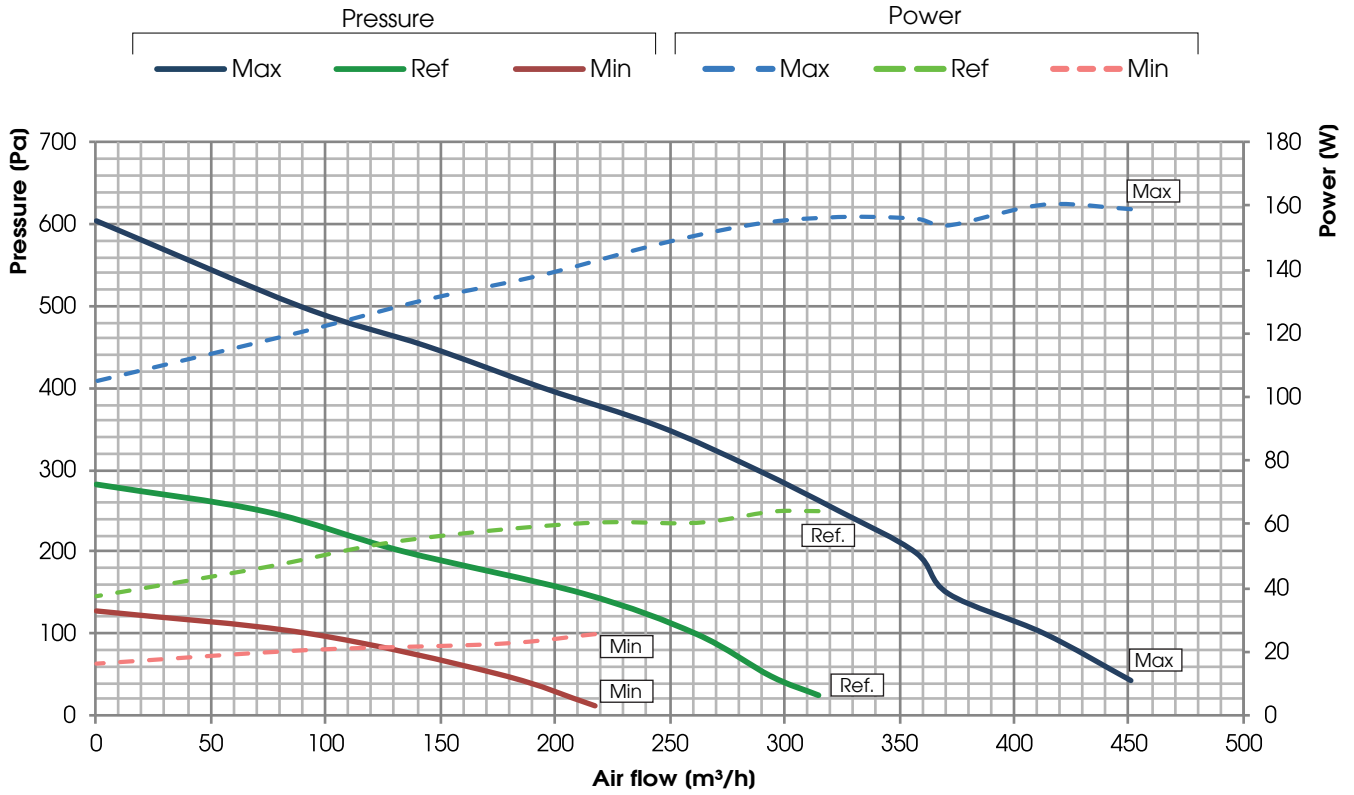




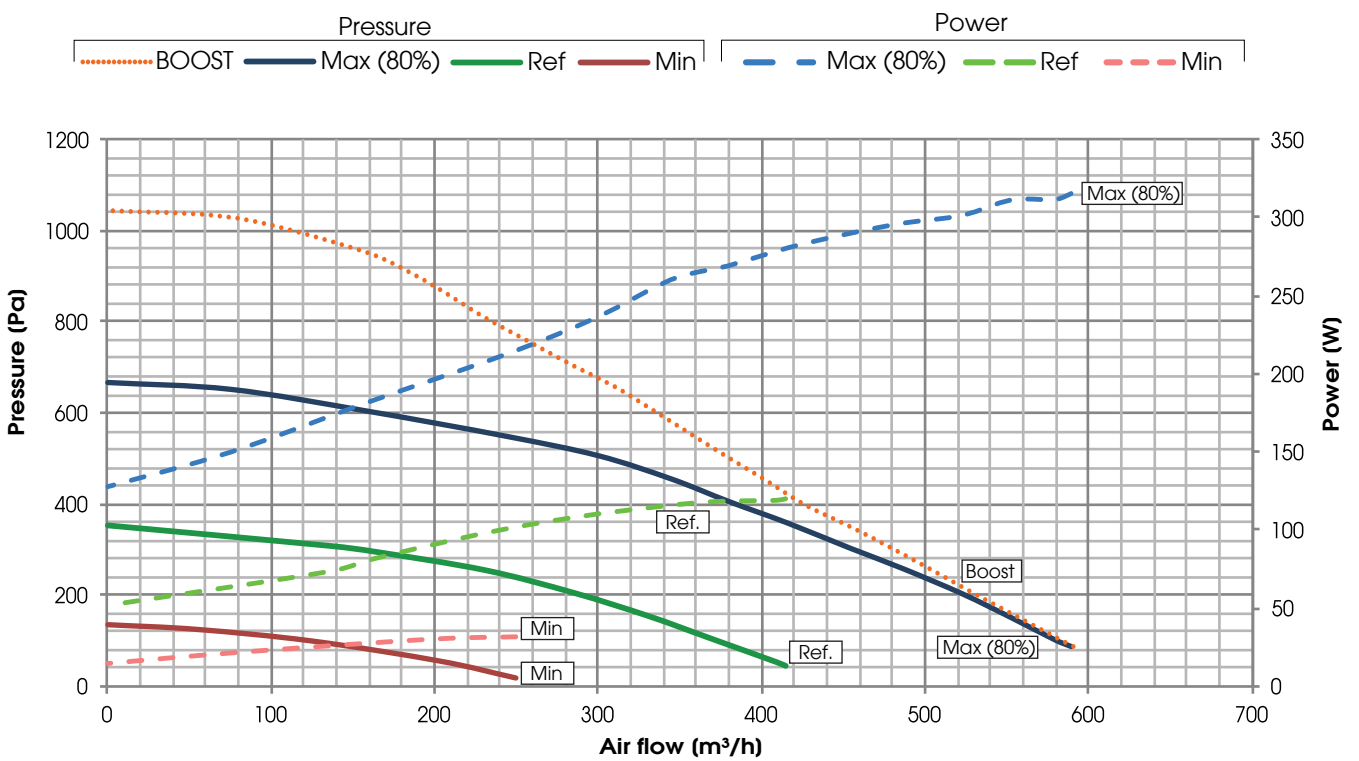
PERFORMANCES (UNI EN 13141-7)

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FLAT 3



FLAT 4

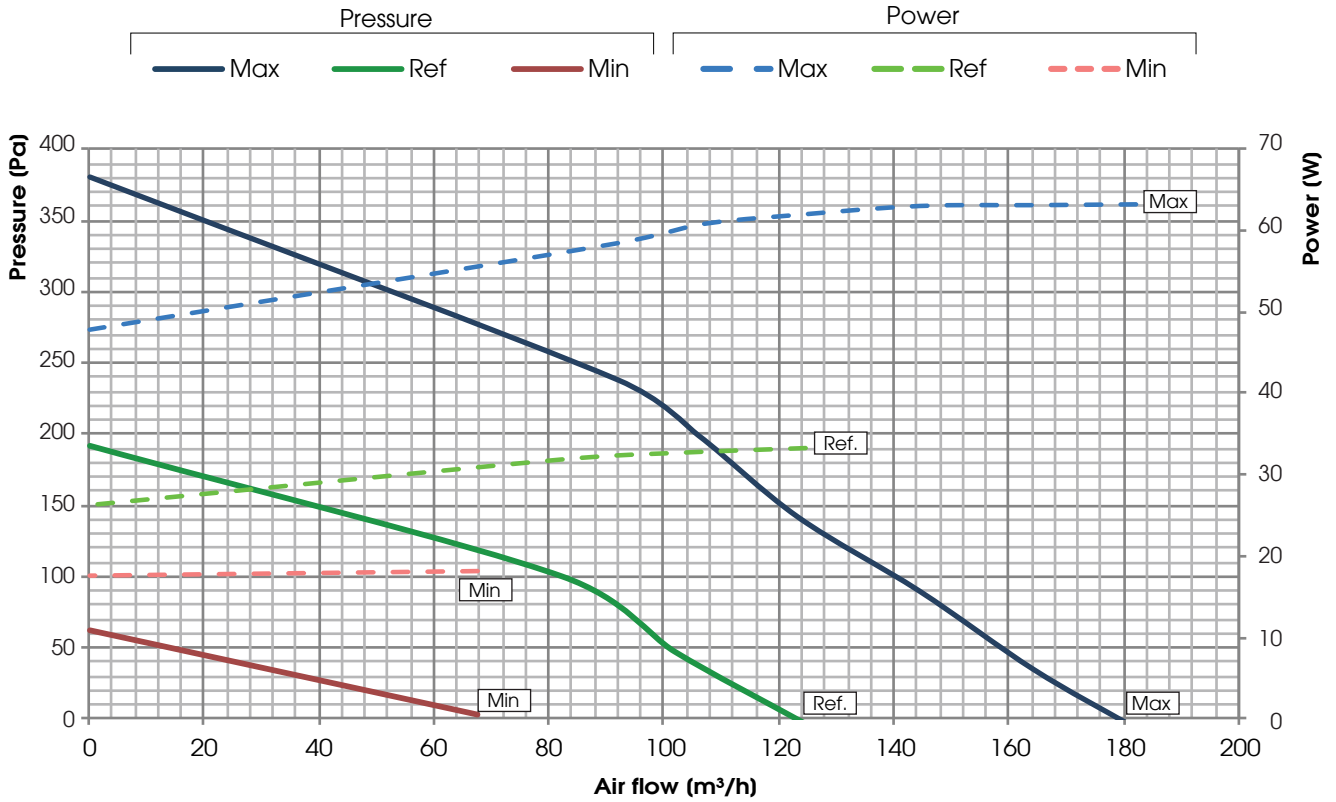




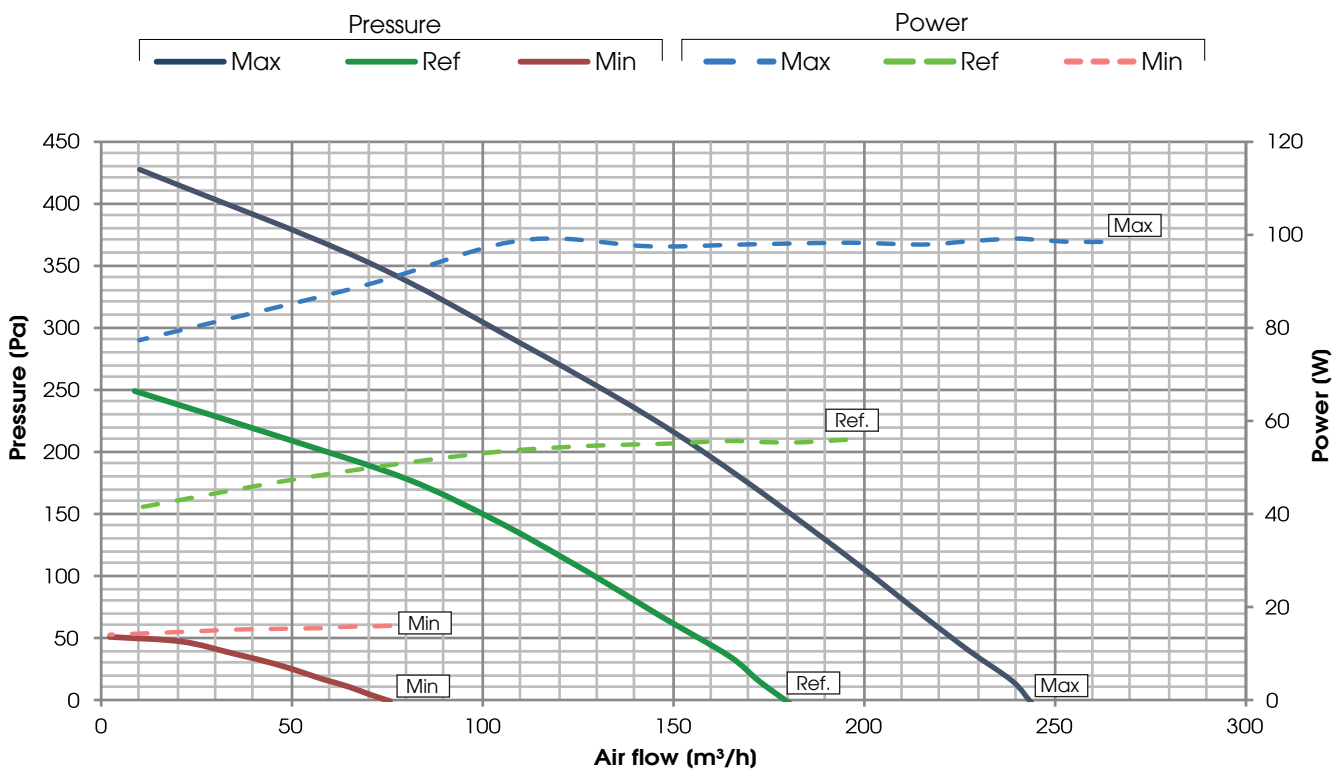
### PERFORMANCES (UNI EN 13141-7)

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#### FLAT 1 ENTHALPIC



#### FLAT 2 ENTHALPIC

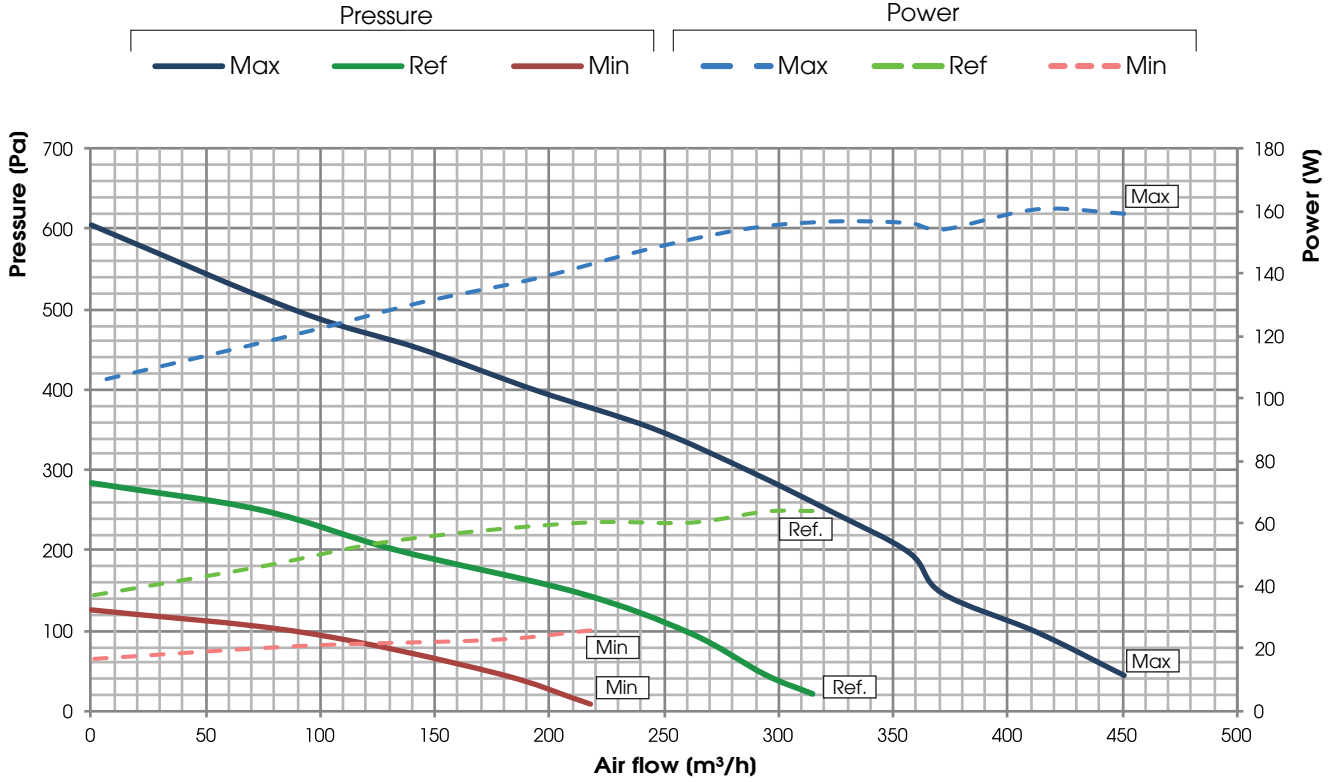




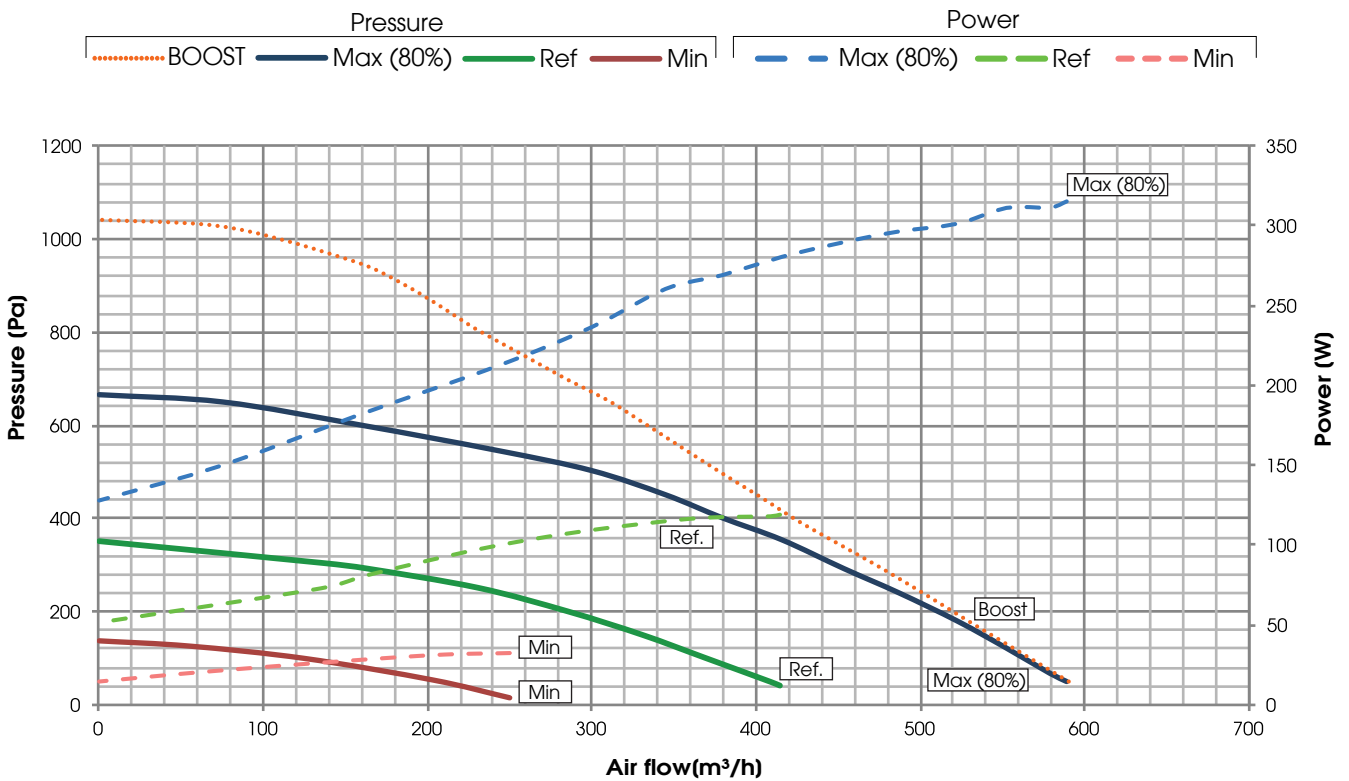
PERFORMANCES (UNI EN 13141-7)

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**FLAT 3 ENTHALPIC**



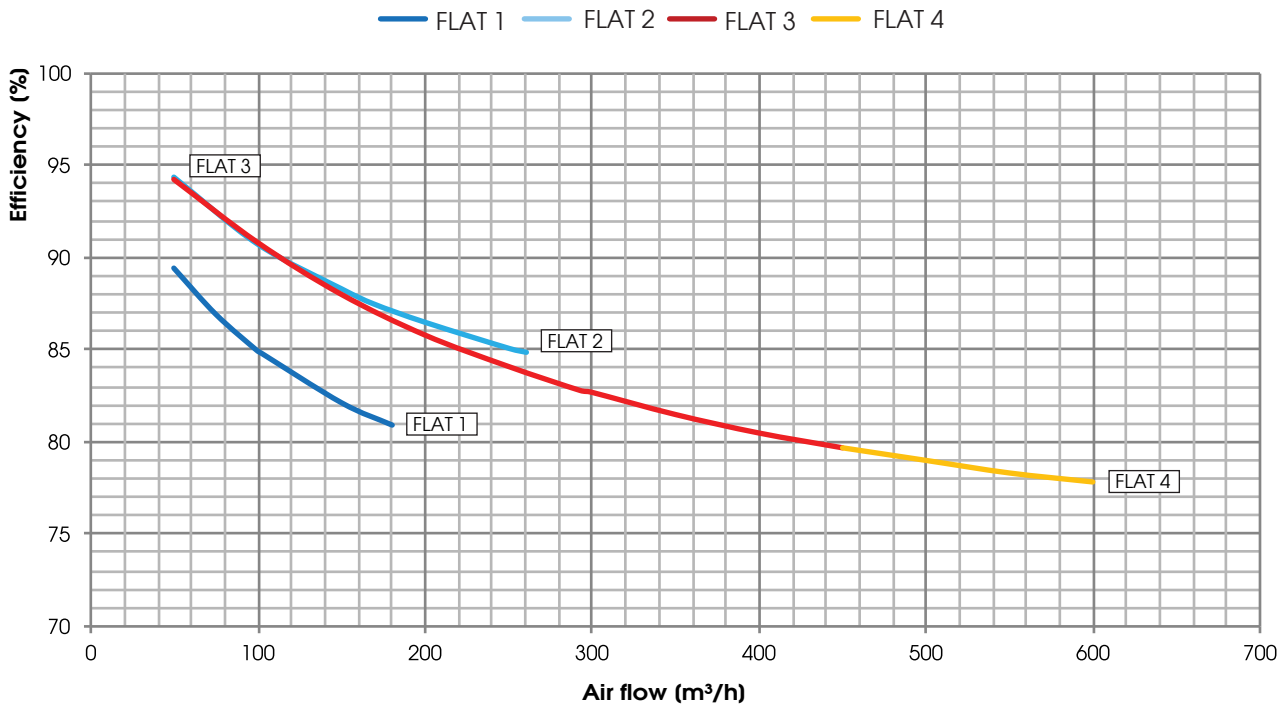
**FLAT 4 ENTHALPIC**





### HEAT RECOVERY PERFORMANCE (sensible efficiency)

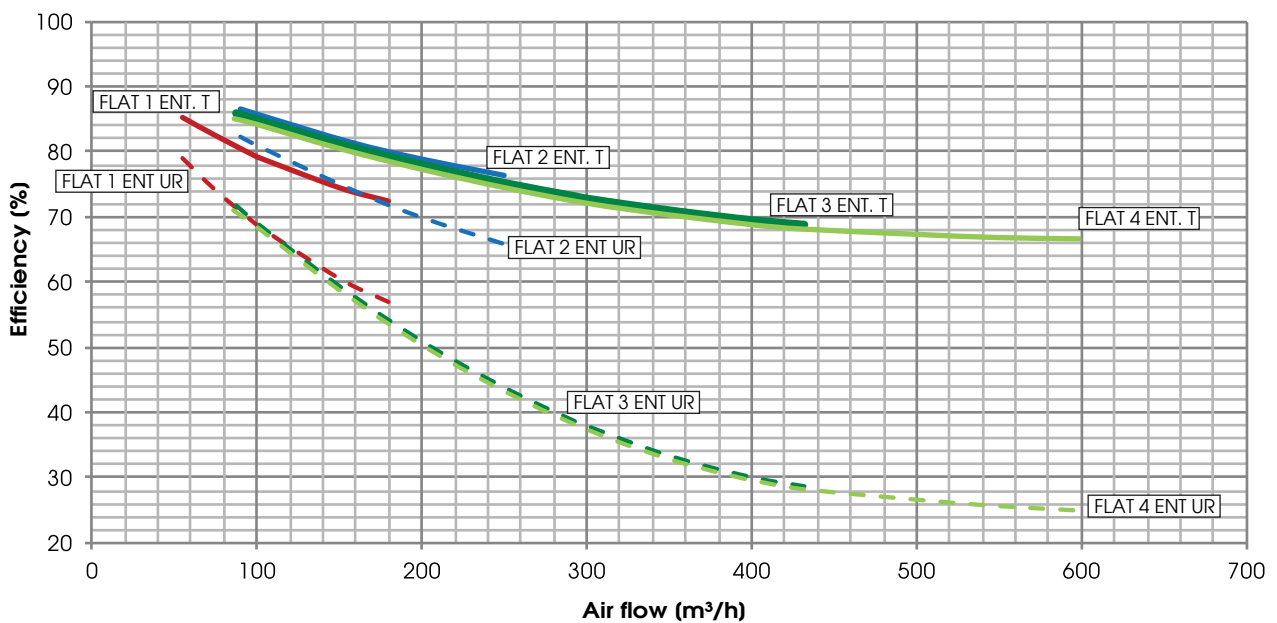
Values referred to the following conditions (UNI EN 13141-7): T<sub>bs</sub> external air 7°C; U.R. external 72%; T<sub>bs</sub> environment 20°C; U.R. environment 38%



### HEAT RECOVERY PERFORMANCE SENSIBLE AND LATENT

Values referred to the following conditions (UNI EN 13141-7): T<sub>bs</sub> external air 7°C; U.R. external 72%; T<sub>bs</sub> environment 20°C; U.R. environment 38%

- FLAT 1 ENT. T = Sensible heat recovery
- - FLAT 1 ENT. HR = Latent heat recovery
- FLAT 2 ENT. T = Sensible heat recovery
- - FLAT 2 ENT. HR = Latent heat recovery
- FLAT 3 ENT. T = Sensible heat recovery
- - FLAT 3 ENT. HR = Latent heat recovery
- FLAT 4 ENT. T = Sensible heat recovery
- - FLAT 2 ENT. HR = Latent heat recovery





## TEST LEAKAGE FLAT according UNI EN 13141-7

LEAKAGE	TEST CONDITIONS	FLAT 1 CLASS	FLAT 2 CLASS	FLAT 3 CLASS	FLAT 4 CLASS
OUTDOOR	Positive pression 250 Pa	A2	A1	A1	A1
OUTDOOR	Negative pression 250 Pa	A2	A1	A1	A1
INDOOR	Pressure difference 100 Pa	A2	A1	A2	A2

## NOISE LEVEL

L<sub>w</sub> Sound power level taken in accordance to UNI EN ISO 3747 CLASS 3 (FLAT 1, 3, 4) and UNI EN ISO 3741 CLASS 1 (FLAT 2 - tested BRE)

		NOISE FROM THE CASE (dB)							
Unit FLAT 1/ENT		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L <sub>w</sub> dB(A)
MAX		50,9	62,6	59,5	48,2	41,5	34,9	38,6	58,9
REF		52,4	58,5	52,1	41,2	35,9	32,3	40,3	53,2

		NOISE IN THE DUCTS (dB)							
Unit FLAT 1/ENT		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L <sub>w</sub> dB(A)
MAX		59,2	65,5	68,5	56,5	53,5	54,4	58,3	67,4
REF		54,0	65,2	61,5	47,9	43,7	43,4	44,0	61,1

		NOISE FROM THE CASE (dB)								
Unit FLAT 2/ENT		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L <sub>w</sub> dB(A)
MAX		49,4	49,1	55,9	63,6	54,4	50,6	41,7	26,4	62,0
REF		55,8	44,9	53,6	53,6	49,5	43,6	33,2	20,8	53,7

		NOISE IN THE DUCTS (dB)								
Unit FLAT 2/ENT		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L <sub>w</sub> dB(A)
MAX		59,8	61,6	64,4	74,0	59,5	60,1	59,6	49,7	72,1
REF		57,9	56,0	61,5	67,8	53,4	54,1	51,5	41,2	65,2

		NOISE FROM THE CASE (dB)							
Unit FLAT 3/ENT		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L <sub>w</sub> dB(A)
MAX		62,6	66,9	69,6	49,4	48,6	42,9	45,9	67,3
REF		55,6	63,0	56,9	47,2	41,8	35,2	41,1	57,8

		NOISE IN THE DUCTS (dB)							
Unit FLAT 3/ENT		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L <sub>w</sub> dB(A)
MAX		62,1	69,9	72,9	60,6	58,6	59,1	67,7	72,7
REF		58,9	66,0	66,6	56,6	54,8	53,3	59,4	66,6

		NOISE FROM THE CASE (dB)							
Unit FLAT 4/ENT		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L <sub>w</sub> dB(A)
MAX		62,2	69,7	73,2	54,4	51,2	46,5	44,1	70,7
REF		56,1	69,2	62,8	49,7	44,8	40,3	42,5	63,5

		NOISE IN THE DUCTS (dB)							
Unit FLAT 4/ENT		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	L <sub>w</sub> dB(A)
MAX		70,6	76,5	79,8	68,8	65,5	65,7	70,7	78,9
REF		64,8	75,5	69,9	60,2	58,6	58,0	61,8	71,4

## ELECTRICAL DATA

UNIT	FAN				UNIT FLAT/ENT	
	Power (W)	Supply	Current max.(A)	Insulation class	Supply	Current max.(A)
FLAT 1/ENT	2 X 27	230 V, 50/60 Hz 1F	2 X 0,27	IP 44 class B	230 V, 50 Hz 1F	0,6
FLAT 2/ENT	2 X 50	230 V, 50/60 Hz 1F	2 X 0,46	IP 44 class B	230 V, 50 Hz 1F	1,1
FLAT 3/ENT	2 X 85	230 V, 50/60 Hz 1F	2 X 0,75	IP 54, class B	230 V, 50 Hz 1F	1,6
FLAT 4/ENT	2 X 170	230 V, 50/60 Hz 1F	2 X 1,65	IP 54, class B	230 V, 50 Hz 1F	3,5

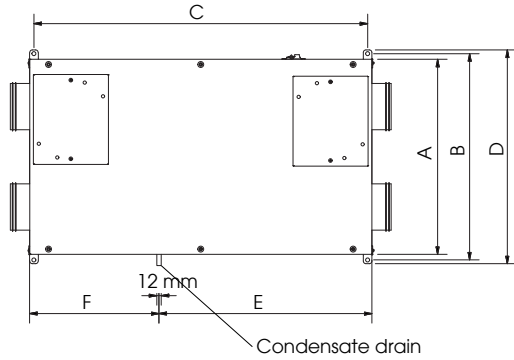
(\*) Fan data, it's referred to the global absorbed power graph of the machine in the working point





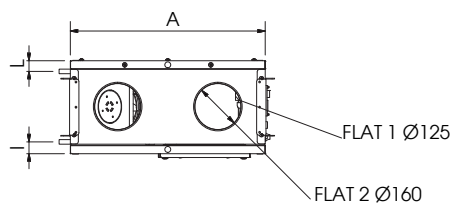
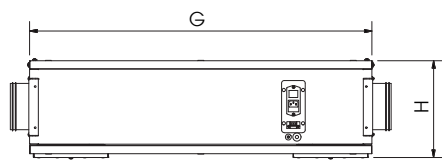
### FLAT 1 and 2

DIMENSIONS (mm) WEIGHT(kg)



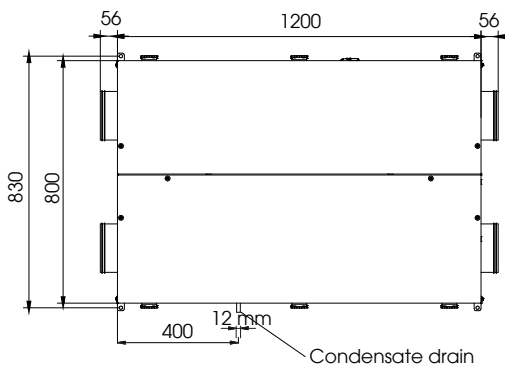
UNIT	A	B	C	D	E	F	G	H	I	L
FLAT 1	520	550	890	570	568	345	913	258	32	29
FLAT 2	580	610	1211	630	858	376	1234	258	32	29

Weight FLAT 1 = 31 kg  
Weight FLAT 2 = 42 kg

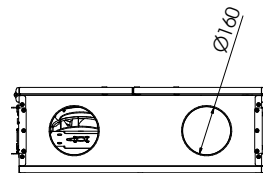


### FLAT 3 and 4

DIMENSIONS (mm) WEIGHT (kg)



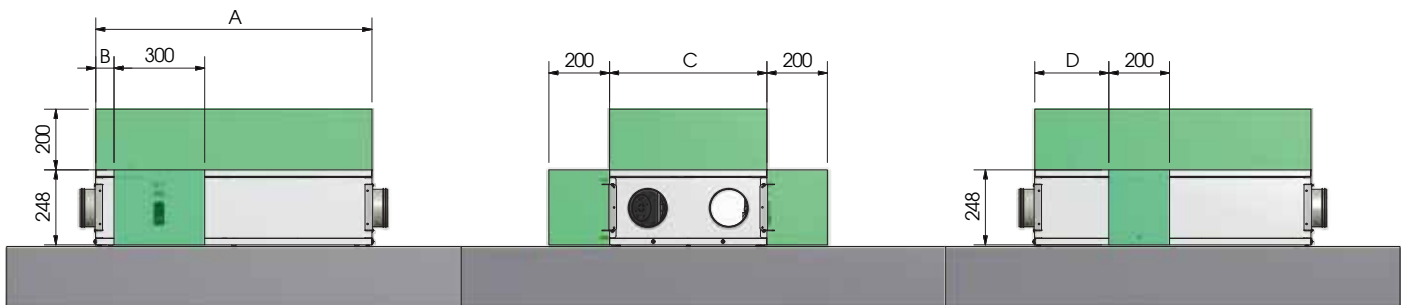
Weight FLAT 3 = 60 kg  
Weight FLAT 4 = 61 kg



### INSTALLATION FLAT 1 and 2

FLOOR INSTALLATION

■ Minimum required space for maintenance (mm)

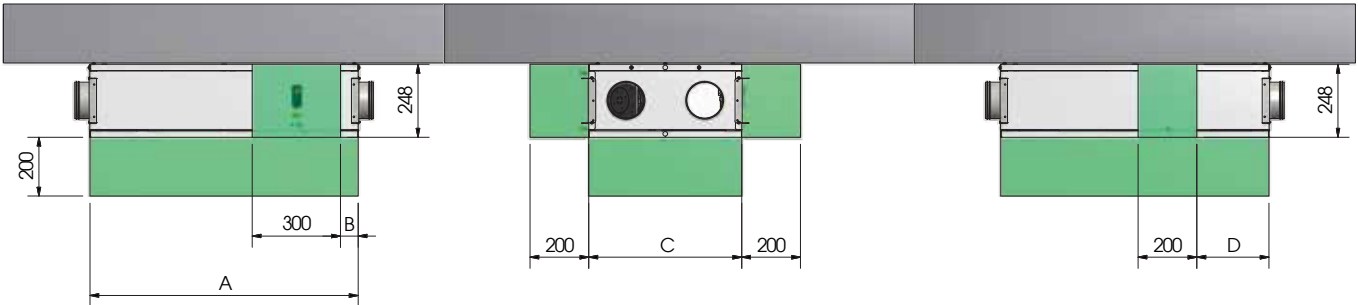


UNIT	A (mm)	B (mm)	C (mm)	D (mm)
FLAT 1	912	60	520	245
FLAT 2	1234	0	580	275



### INSTALLATION FLAT 1 and 2 CEILING INSTALLATION

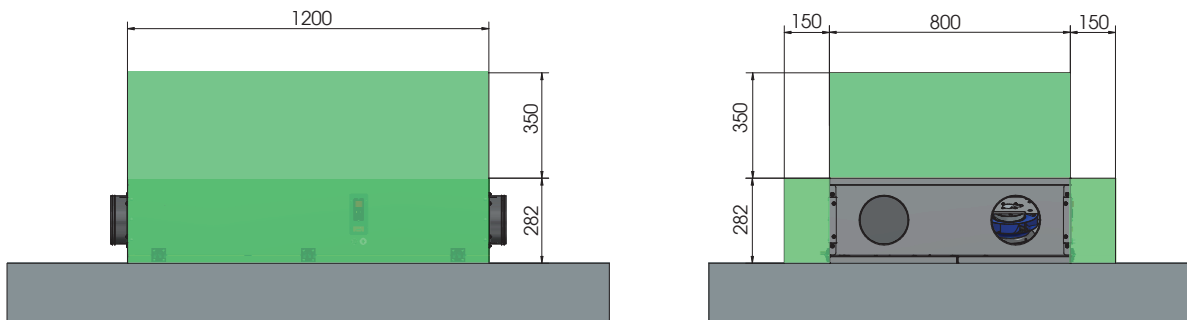
Minimum required space for maintenance (mm)



UNIT	A (mm)	B (mm)	C (mm)	D (mm)
FLAT 1	912	60	520	245
FLAT 2	1234	0	580	275

### INSTALLATION FLAT 3 and 4 FLOOR INSTALLATION

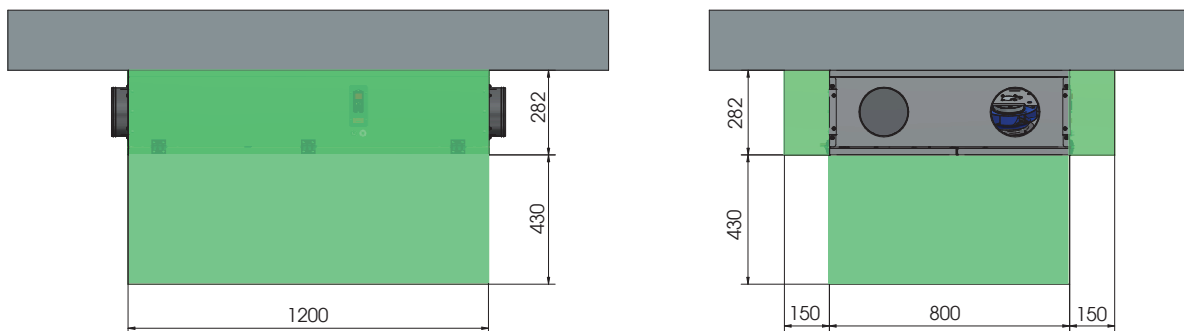
Minimum required space for maintenance (mm)



NOTES: For sizes 3 and 4 the machine must not be turned upside down

### CEILING INSTALLATION

Minimum required space for maintenance (mm)



NOTES: For sizes 3 and 4 the machine must not be turned upside down



## Electrical resistance

PRE-HEATING ELECTRIC RESISTANCE DATA				
Model	Supply	Power (kW)	Courrent (A)	No. of stages
FLAT 1/2	230V, 50Hz, 1F	0,5	2,2	1
FLAT 3/4	230V, 50Hz, 1F	1,0	4,4	1

N.B. - for POST treatment batteries see the Tecno-price list ACCESSORIES

A	Manufacturer's name	C.L.A. S.r.l			
B	Manufacturer's model identifier	FLAT 1 BP EVO-PH SH	FLAT 1 BP CTR-S SH	FLAT 2 BP EVO-PH SH	FLAT 2 BP CTR-S SH
C	Specific energy consumption (SEC) (kWh/m <sup>2</sup> .a)	COLD	-70,6	-70,6	-69,0
		TEMPERATE	-34,9	-33,7	-32,8
D	Declared typology	WARM	-10,0	-10,5	-9,4
		SEC class	A	B	B
E	Type of drive installed	UVR - UVB	UVR - UVB	UVR - UVB	UVR - UVB
F	Type of heat recovery system	Variable speed Recovery	Variable speed Recovery	Variable speed Recovery	Variable speed Recovery
G	Thermal efficiency of heat recovery (%)	84,8	84,8	82,8	82,8
H	Maximum flow rate (m <sup>3</sup> /s)	0,040	0,040	0,061	0,061
I	Electrical power input at maximum flow rate (W)	63	63	98	98
J	Sound power level (L <sub>wa</sub> )(dB)	53	52	54	54
K	Reference flow rate (m <sup>3</sup> /s)	0,028	0,028	0,047	0,047
L	Reference pressure difference (Pa)	50	50	50	50
M	SPI (W/m <sup>3</sup> /h)	0,323	0,323	0,328	0,328
N	Control typology	Control factor CLTR	0,95	0,95	1
		Timer control (no DCV)	3,9 / 5,9	3,9 / 5,9	1,7 / 2,6
O	Declared maximum internal / external leakage rates (%)	-	-	-	-
P	Mixing rate of non-ducted bidirectional ventilation units (%)	-	-	-	-
Q	Position and description of visual filter warning for RVUs intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit	The filter alarm is signaled on the Control System display: the intermittent "Dirty Filters" message will appear. "To maintain the energy efficiency of the UVR, it is recommended to replace the filters when reported." The writing is positioned near the filter inspection.			
R	For unidirectional ventilation systems, instructions to install regulated supply/exhaust grilles in the façade for natural air supply/extraction	-			
S	Internet address for pre-/dis-assembly instructions	www.uttek-air.it			
T	For non-ducted units only: the airflow sensitivity to pressure variations at + 20 Pa and - 20 Pa	-			
U	For non-ducted units only: the indoor/outdoor air tightness	-			
V	The annual electricity consumption (AEC) (kWh/a)	410	450	420	460
W	The annual heating saved (AHS) for each type of climate (kWh/a)	2010 (WARM)	2000 (WARM)	1980 (WARM)	1970 (WARM)
		8690 (COLD)	8640 (COLD)	8570 (COLD)	8510 (COLD)
		4440 (TEMPERATE)	4420 (TEMPERATE)	4380 (TEMPERATE)	4350 (TEMPERATE)

A	Manufacturer's name	C.L.A. S.r.l	FLAT 1/ENT BP EVO-PH SH	FLAT 2/ENT BP EVO-PH SH	FLAT 3 BP EVO-PH SH	FLAT 3 BP CTR-S SH
B	Manufacturer's model identifier					
C	Specific energy consumption (SEC) (kWh/m².a)	COLD	-68,5	-69,2	-73,7	-72,5
		TEMPERATE	-33,1	-33,0	-37,2	-36,3
	SEC class	WARM	-10,2	-9,7	-13,7	-12,9
			B	B	A	A
D	Declared typology		UVR - UVB	UVR - UVB	UVR - UVB	UVR - UVB
E	Type of drive installed		Variable speed	Variable speed	Variable speed	Variable speed
F	Type of heat recovery system		Recovery	Recovery	Recovery	Recovery
G	Thermal efficiency of heat recovery (%)		79,1	81,6	82,8	82,8
H	Maximum flow rate (m³/s)		0,039	0,056	0,125	0,125
I	Electrical power input at maximum flow rate (W)		63	98	170	170
I	Sound power level (L <sub>wa</sub> ) (dB)		53	54	58	58
K	Reference flow rate (m³/s)		0,028	0,044	0,081	0,081
L	Reference pressure difference (Pa)		50	50	50	50
M	SPI (W/m³/h)		0,323	0,353	0,217	0,217
	Control factor CLTR		0,95	0,95	0,95	1
N	Control typology		Clock control (no DCV)	Clock control (no DCV)	Clock control (no DCV)	Manual control (no DCV)
O	Declared maximum internal / external leakage rates (%)		4.0 / 5.9	1.8 / 2.8	7.2 / 2.4	7.2 / 2.4
P	Mixing rate of non-ducted bidirectional ventilation units (%)		-	-	-	-
Q	Position and description of visual filter warning for RVUs intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit		The filter alarm is signaled on the Control System display: the intermittent "Dirty Filters" message will appear. "To maintain the energy efficiency of the UVR, it is recommended to replace the filters when reported." The writing is positioned near the filter inspection.			
R	For unidirectional ventilation systems, instructions to install regulated supply/exhaust grilles in the façade for natural air supply/extraction					
S	Internet address for pre-/dis-assembly instructions		www.ufek-air.it			
T	For non-ducted units only: the airflow sensitivity to pressure variations at + 20 Pa and - 20 Pa					
U	For non-ducted units only: the indoor/outdoor air tightness					
V	The annual electricity consumption (AEC) (kWh/a)		410	440	291	317
W	The annual heating saved (AHS) for each type of climate (kWh/a)	1930 (WARM)	1960 (WARM)	1981 (WARM)	1968 (WARM)	1968 (WARM)
		8350 (COLD)	8500 (COLD)	8568 (COLD)	8515 (COLD)	8515 (COLD)
		4270 (TEMPERATE)	4340 (TEMPERATE)	4380 (TEMPERATE)	4353 (TEMPERATE)	4353 (TEMPERATE)

A	Manufacturer's name	C.L.A. S.r.l	FLAT 4 BP EVO-PH SH	FLAT 4 BP CTR-S SH	FLAT 3 ENT BP EVO-PH SH	FLAT 4 ENT BP EVO-PH SH
B	Manufacturer's model identifier					
C	Specific energy consumption (SEC) (kWh/m <sup>2</sup> .a)	COLD	-70.2	-68.8	-68.0	-63.6
		TEMPERATE	-34.4	-33.2	-34.3	-31.0
		WARM	-11.3	-10.3	-12.3	-9.7
	SEC class	A	B	A	B	
D	Declared typology	UVR - UVB	UVR - UVB	UVR - UVB	UVR - UVB	
E	Type of drive installed		Variable speed	Variable speed	Variable speed	
F	Type of heat recovery system		Recovery	Recovery	Recovery	
G	Thermal efficiency of heat recovery (%)		80.4	80.4	73.2	69.3
H	Maximum flow rate (m <sup>3</sup> /s)		0.164	0.164	0.125	0.164
I	Electrical power input at maximum flow rate (W)		340	340	170	340
I	Sound power level (L <sub>wa</sub> )(dB)		63	63	58	63
K	Reference flow rate (m <sup>3</sup> /s)		0.114	0.114	0.081	0.113
L	Reference pressure difference (Pa)		50	50	50	50
M	SPI (W/m <sup>3</sup> /h)		0.29	0.29	0.218	0.291
	Control factor CLTR		0.95	1	0.95	0.95
N	Control typology		Clock control (no DCV)	Manual control (no DCV)	Clock control (no DCV)	Clock control (no DCV)
O	Declared maximum internal / external leakage rates (%)		5.1 / 1.7	5.1 / 1.7	7.2 / 2.4	5.1 / 1.7
P	Mixing rate of non-ducted bidirectional ventilation units (%)		-	-	-	-
Q	Position and description of visual filter warning for RVUs intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit		The filter alarm is signaled on the Control System display; the intermittent "Dirty Filters" message will appear. To maintain the energy efficiency of the UVR, it is recommended to replace the filters when reported." The writing is positioned near the filter inspection.			
R	For unidirectional ventilation systems, instructions to install regulated supply/exhaust grilles in the façade for natural air supply/extraction					
S	Internet address for pre-/dis-assembly instructions					
T	For non-ducted units only: the airflow sensitivity to pressure variations at + 20 Pa and - 20 Pa					
U	For non-ducted units only: the indoor/outdoor air tightness					
V	The annual electricity consumption (AEC) (kWh/a)		373	408	291	374
W	The annual heating saved (AHS) for each type of climate (kWh/a)		1948 (WARM)	1934 (WARM)	1849 (WARM)	1796 (WARM)
			8426 (COLD)	8365 (COLD)	8000 (COLD)	7769 (COLD)
			4307 (TEMPERATE)	4276 (TEMPERATE)	4090 (TEMPERATE)	3971 (TEMPERATE)

CLA & UTEK reserves the right to at any time the necessary changes to improve products without prior notice .

Dear Customer

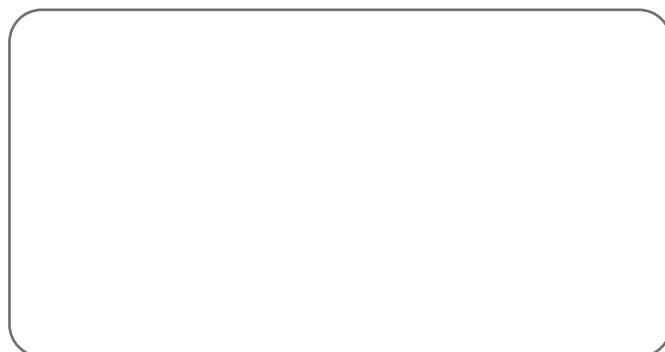
Thanks for your attention to the product UTEK , designed and manufactured to ensure the real values to the User: Quality, Safety and Savings on working.



Made in Italy

**AZIENDA CON SISTEMA  
DI GESTIONE QUALITÀ  
CERTIFICATO DA DNV GL**  
ISO 9001

**AZIENDA CON  
SISTEMA DI GESTIONE  
AMBIENTALE CERTIFICATO  
DA DNV**  
ISO 14001



the Dealer  
FLAT\_2020\_3\_EN



HEAT RECOVERY VENTILATION UNITS for RESIDENTIAL BUILDINGS