



indoor air quality and energy saving

TECHNICAL DATA



UNIT	CONTROL	ENERGETIC CLASS
REVERSUS 1	CTR08-PH	A
	EVO(D)-PH	A
	EVO(D)-PH + probe	A
REVERSUS 2	CTR08-PH	B
	EVO(D)-PH	B
	EVO(D)-PH + probe	A
REVERSUS 3	CTR08-PH	B
	EVO(D)-PH	A
	EVO(D)-PH + probe	A
REVERSUS 1 ENT	EVO(D)-PH	B
	EVO(D)-PH + probe	B
REVERSUS 2 ENT	EVO(D)-PH	B
	EVO(D)-PH + probe	B
REVERSUS 3	EVO(D)-PH	B
ENT	EVO(D)-PH + probe	A



REVERSUS

AVAILABLE THE ENTHALPIC VERION FOR ALL SIZES
 AVAILABLE THE MIRRORED VERSION ONLY FOR SIZE 3



HEAT RECOVERY VENTILATION UNITS for RESIDENTIAL BUILDINGS



REVERSUS

Residential ventilator unit with dual flow and high yield heat recovery.

PERFORMANCE

Equipped with a counter current heat exchanger in thermoplastic material (polystyrene) for the sizes 1 and 2 and a counter current heat exchanger in aluminium for the size 3 and electronic backward blade ventilators. The total bypass as standard allows favourable climatic conditions to be taken advantage of outside the building for free cooling (or free heating) in automatic mode.

STRUCTURE

REVERSUS is manufactured using a self-supporting structure in 23 mm thick sandwich panels, insulated in polyurethane foam. The external part of the structure is manufactured in plastofilmed sheet metal in grey. Inside, REVERSUS 1 and 2 is in expanded polypropylene (material that ensures a high level of thermal insulation between air flows) while the interior of REVERSUS 3 is made in Aluzinc[®]. The access to filters (ePM2,5 70% (F7) for the renewed air flow and ePM10 50% (G4) for the extraction air flow) is particularly easy thanks to the two specific openings on the front panel. The enthalpy heat exchanger allows to recover sensible and latent energy from the air, that is, to transfer the water vapor from one flow to the other: the moist air water vapor is absorbed on a side of the porous membrane of the exchanger and transferred to the air on the other side. No transmission of vapors, odors, etc. It is not necessary to drain condensate, routine maintenance. Ideal for cold climates because the heated supply air is dry, resulting a dry indoor environment (without enthalpy exchanger); in summer removes moisture from the air inlet (more hot and humid than indoor air). Is prepared for installation inside buildings with an ambient temperature between 0°C and 45°C. It can be installed on a wall with connections for renewal air and expulsion on the upper part; for connections to supply and extraction ducts, you can choose to use the connections available on the top or bottom of REVERSUS (or both).

CONTROLS

The REVERSUS is supplied with control system and easy connection to the power supply. It's also available the versions with simplified CTR-S 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 simplified CTR-S control allows you to select three speed levels for the fans or stop them, automatically manages the By-pass and prevents frosting of the heat exchanger by managing the speed of the fans; warns the user of the need to replace the filters or the occurrence of an anomaly. An "inlet" version is available without filter pressure switches (contamination control by hour counter with factory calibration), renewal G4 / G4 recovery filters and by-pass created by unbalancing fans (it is recommended to install a ventilation grid).

The EVO-PH control has a coloured, backlit touch screen interface with intuitive viewing of the working status of the machine. It enables precise adjustment of ventilator speed and has a weekly, time schedule for automatic management of the ventilators. It can be controlled by an external switch to activate the booster function, it can automatically adjust the air flow rate if connected to an air quality probe, it can manage any air post treatment accessories, it automatically manages the bypass and prevents heat exchanger freezing by managing the speed of the ventilators or, if installed, an electrical pre-heating resistor (optional accessory outside the machine); it signals to the user the need to replace the filters (the clogging status of the filters is monitored by a pair of different pressure switches, supplied as standard) or an anomaly, indicating the origin. With the addition of optional accessories (COP kit and CAV kit installed on the channel) you can manage the ventilation machine in constant pressure or constant flow rate mode.

The EVOD-PH-IP control has the same characteristics as the EVO-PH version with the addition of Modbus communication protocol which allows full control of the machine by the supervision software of the home automation system. The implemented webserver allows interaction with the machine, even with an internet browser of a device connected (even from remote) to the home automation system in which the machine is inserted.

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



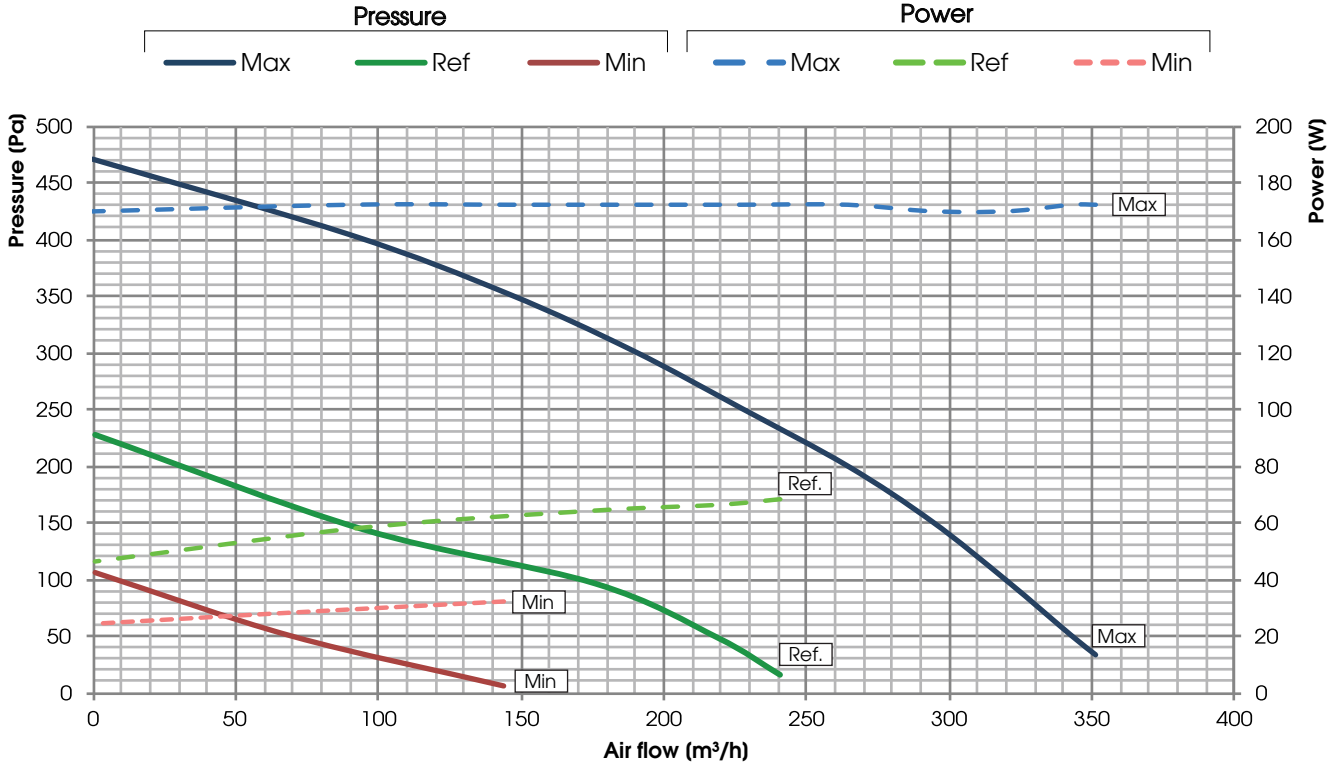
Counterflow heat exchanger manufactured by RECUTECH
RECUTECH participates in the Eurovent Certification Program



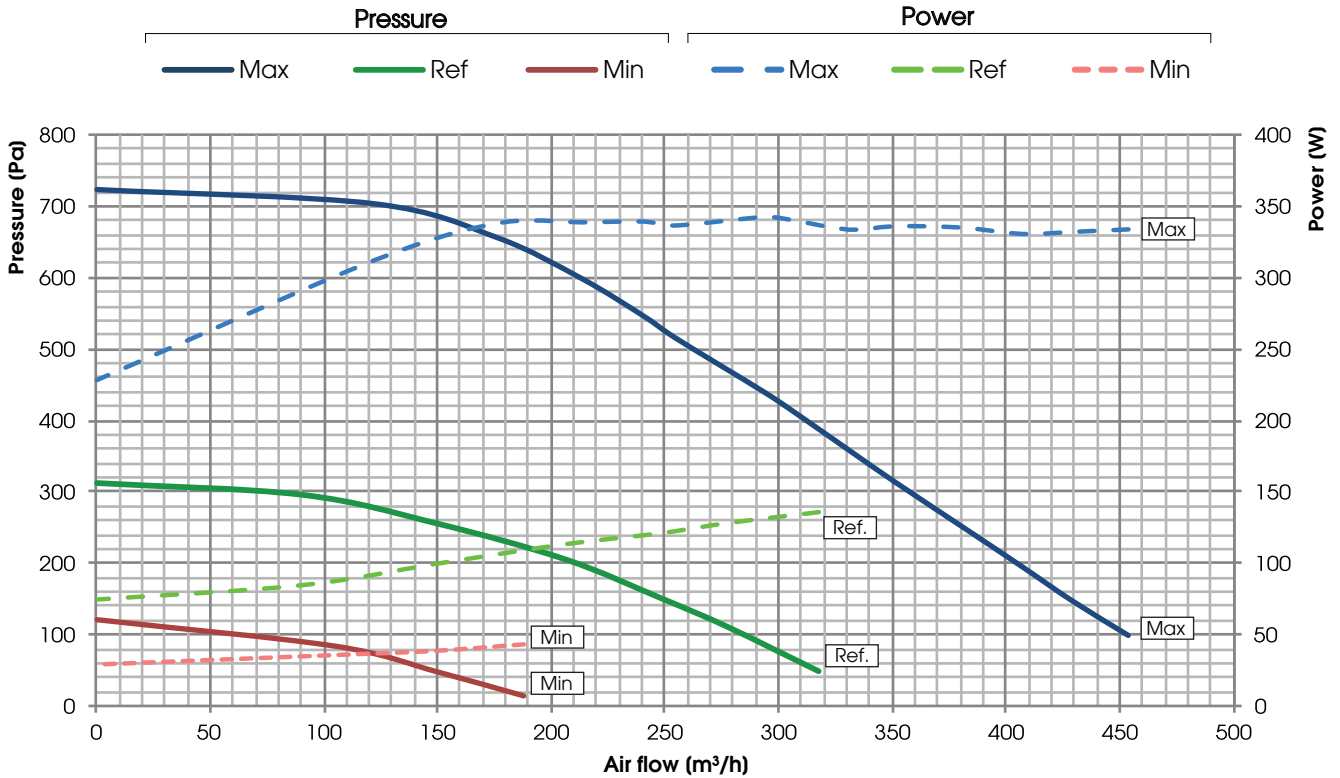
PERFORMANCES (UNI EN 13141-7)

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.

REVERSUS 1



REVERSUS 2

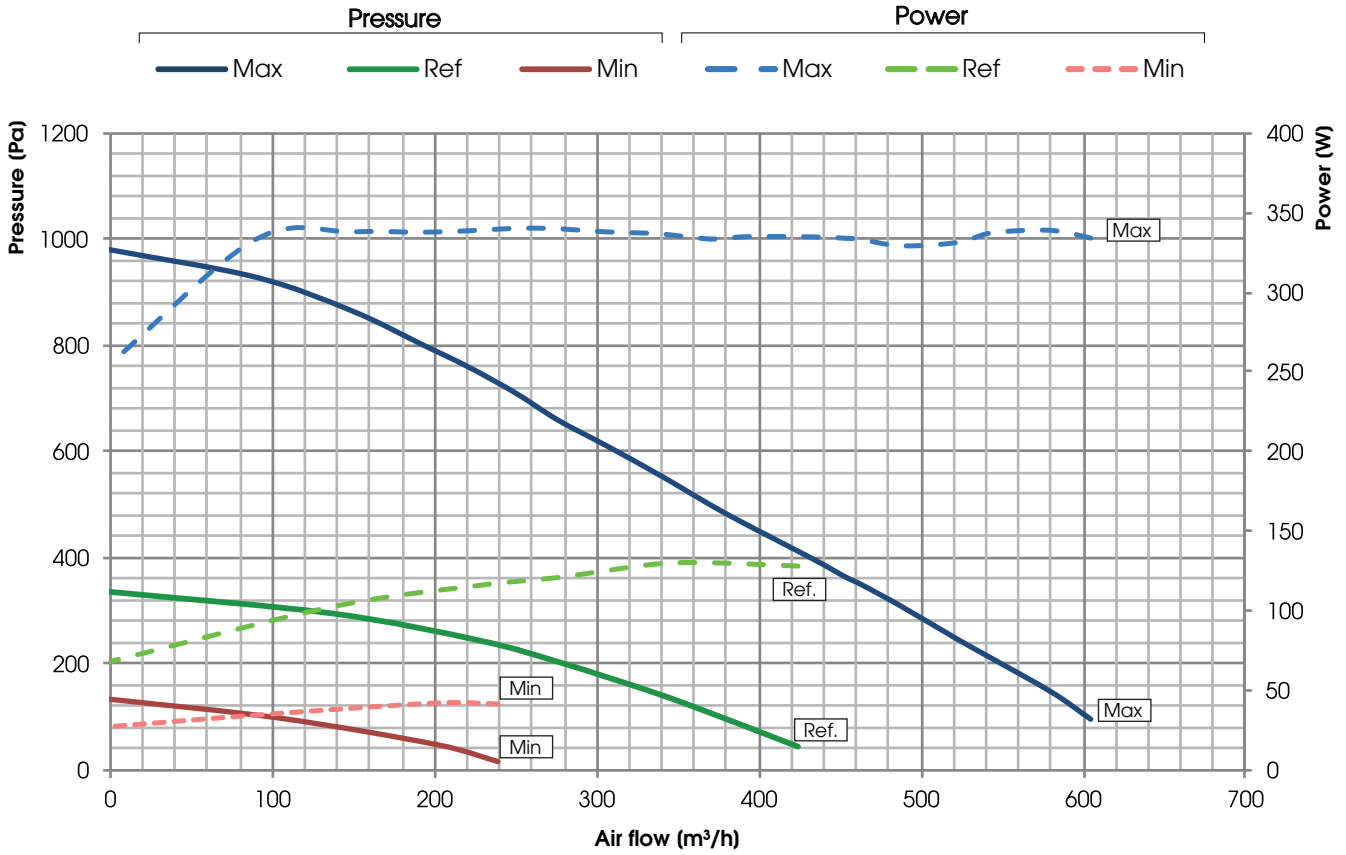




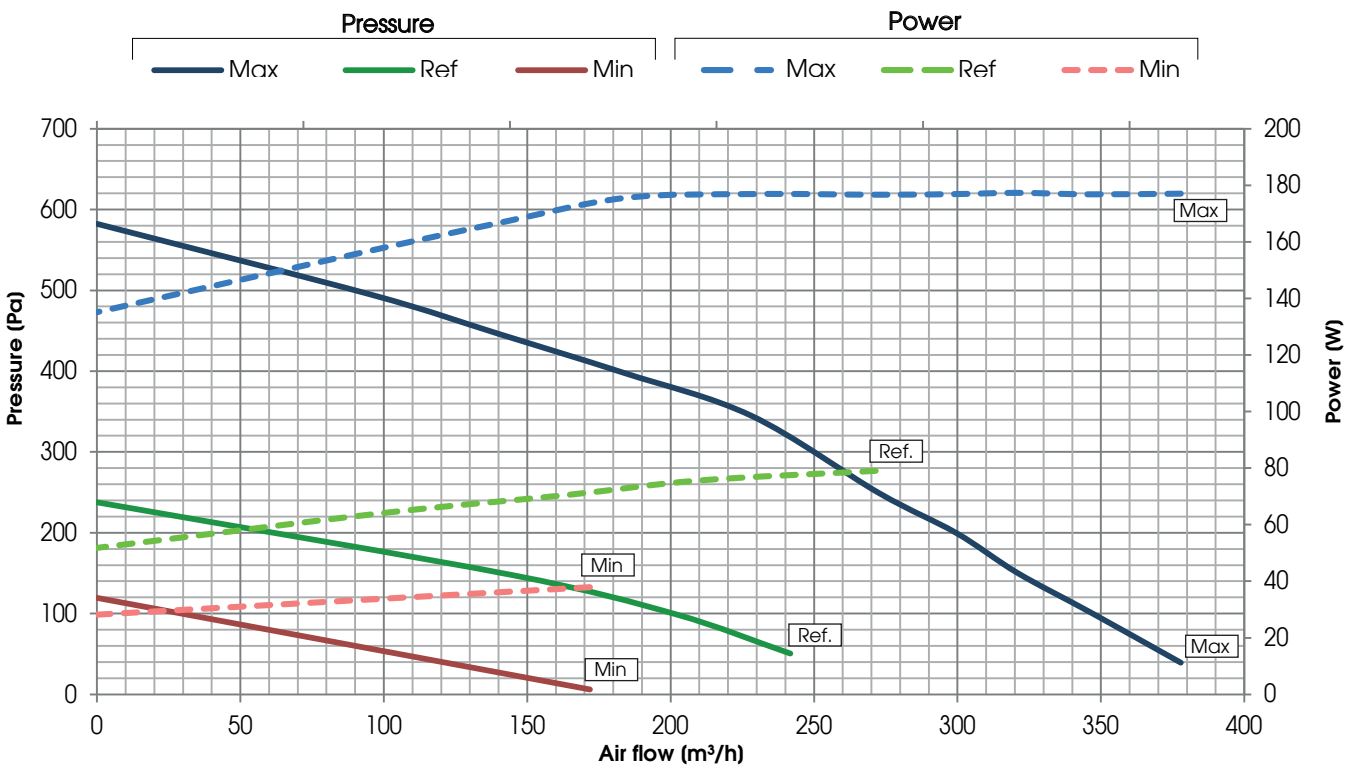
PERFORMANCES (UNI EN 13141-7)

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REVERSUS 3



REVERSUS ENTHALPIC 1

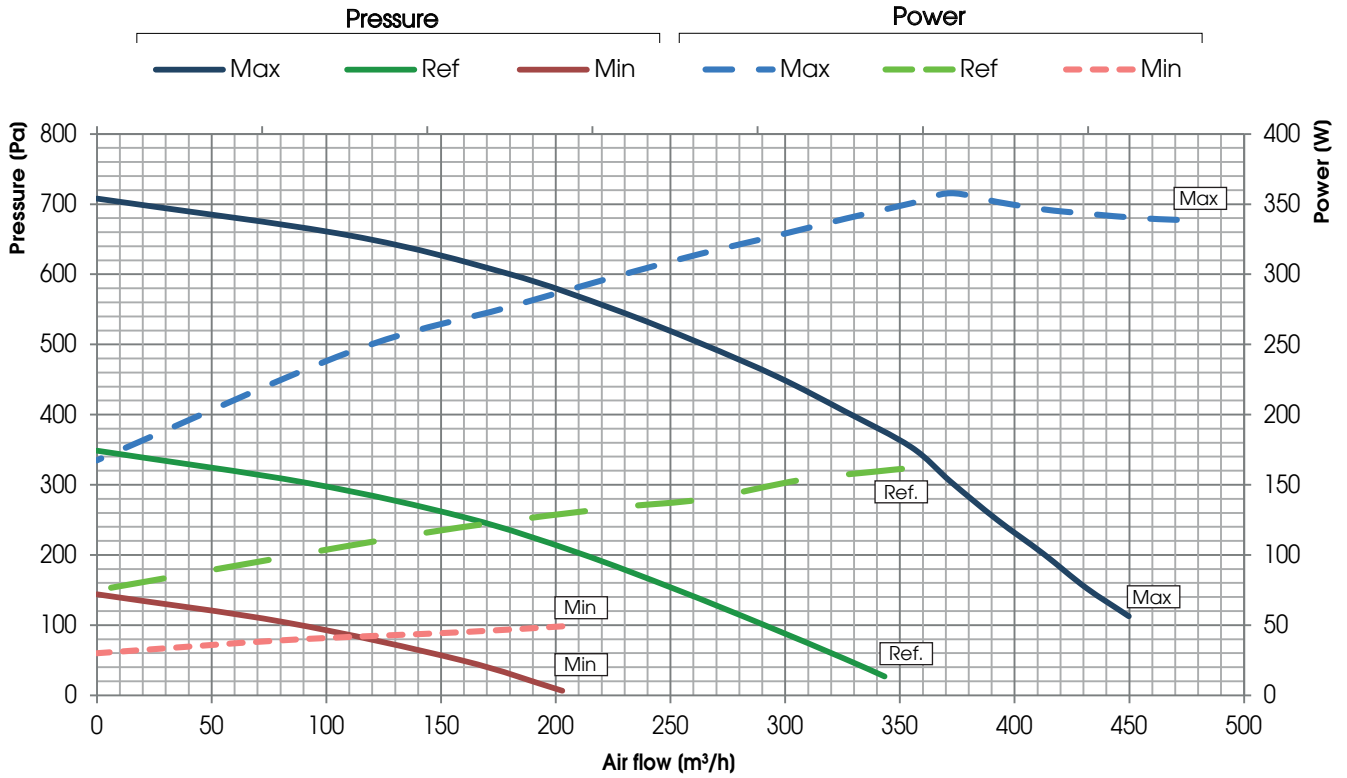




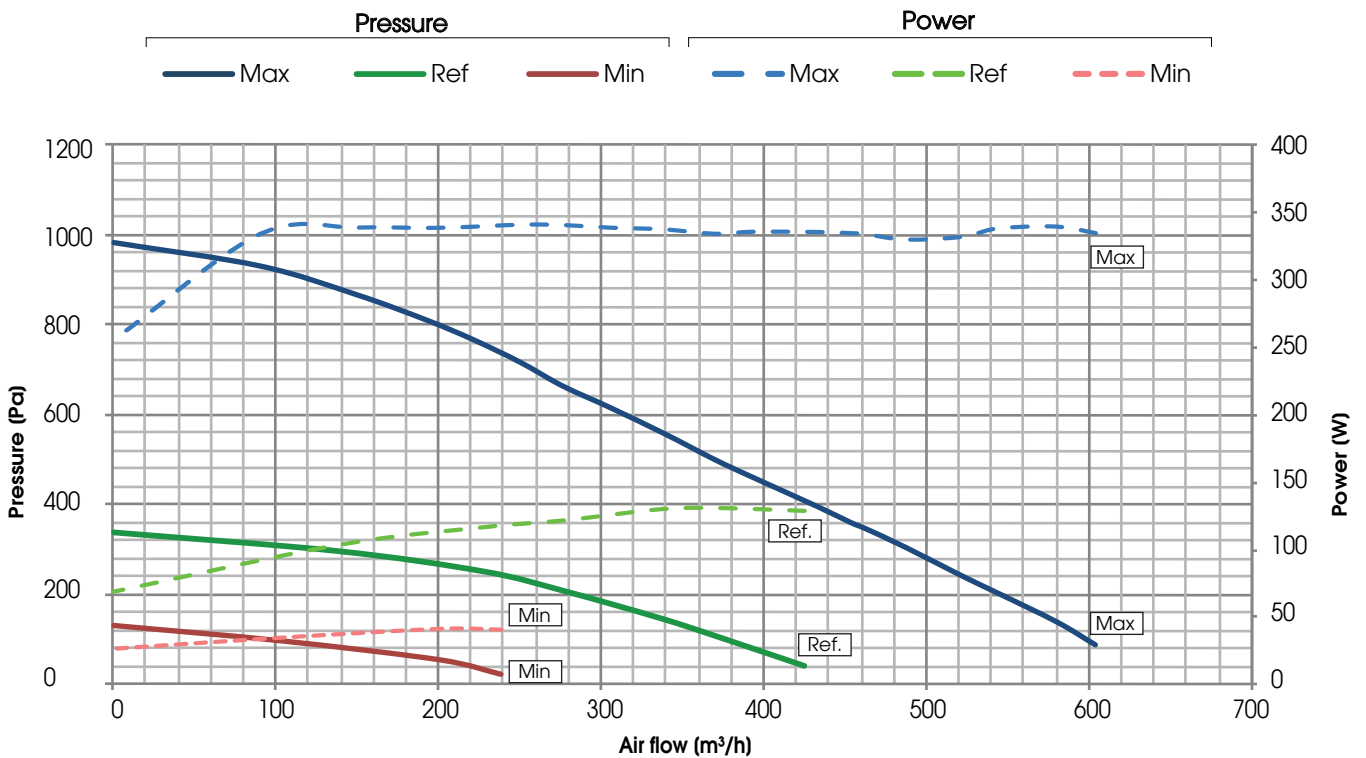
PERFORMANCES (UNI EN 13141-7)

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The declared performances are with CLEAN filters, and guaranteed ONLY with the original filters UTEK low pressure drop.

REVERSUS ENTHALPIC 2



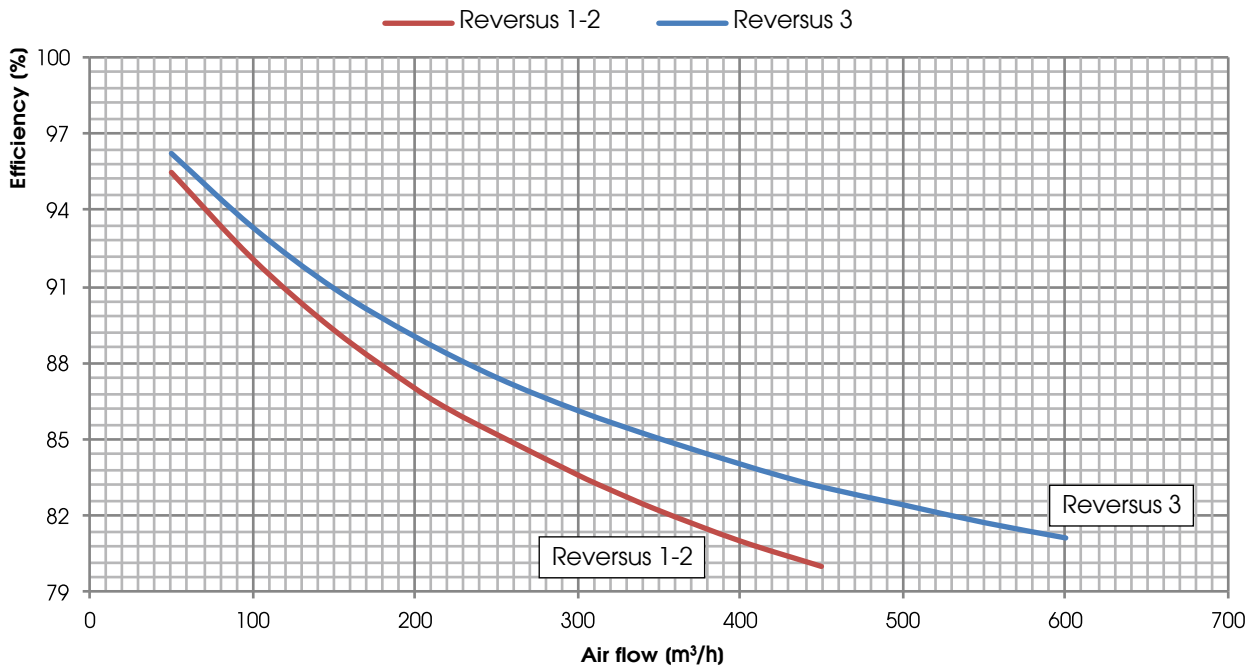
REVERSUS ENTALPICO 3





HEAT RECOVERY PERFORMANCE (sensible efficiency)

Values referred to the following conditions (UNI EN 13141-7): T_{bs} external air 5°C; U.R. external 72%; T_{bs} environment 20°C; U.R. environment 38%

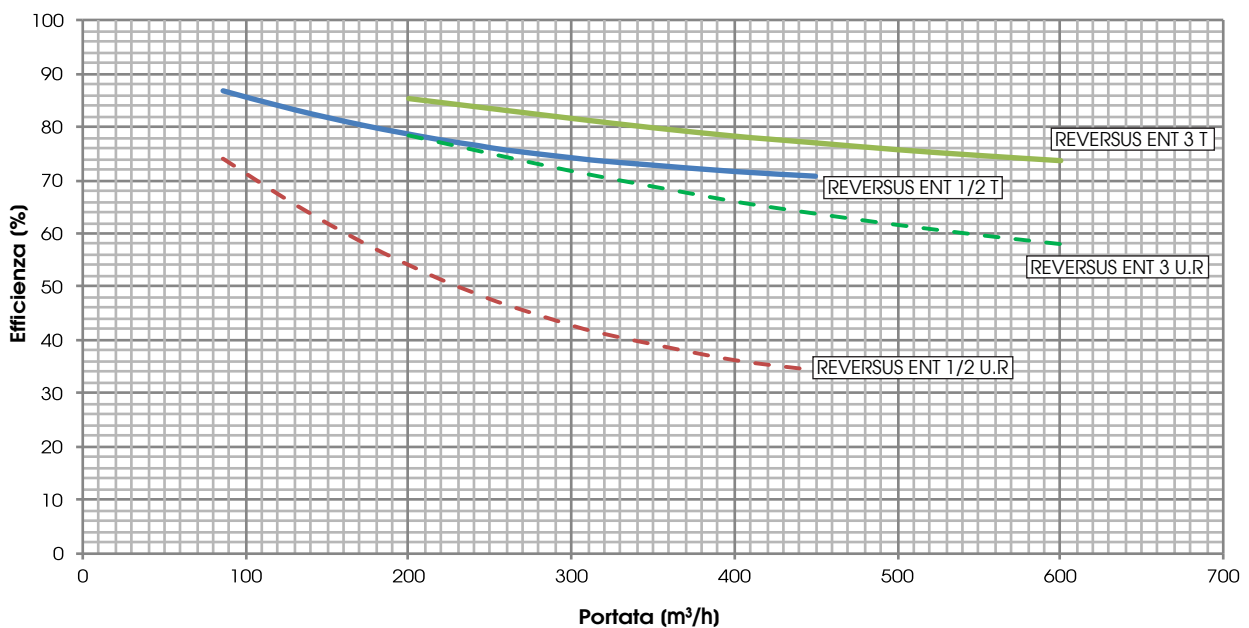


NOTE: same heat exchanger to REVERSUS 1 and REVERSUS 2 (only one graph)

HEAT RECOVERY PERFORMANCE SENSIBLE AND LATENT REVERSUS ENTHALPIC

Values referred to the following conditions (UNI EN 13141-7): T_{bs} external air 5°C; U.R. external 72%; T_{bs} environment 20°C; U.R. environment 38%

- - - REVERSUS ENTHALPIC 1 and 2 / H.R. = Latent heat recovery
- REVERSUS ENTHALPIC 1 and 2 / T = Sensible heat recovery
- - - REVERSUS ENTHALPIC 3 / H.R. = Latent heat recovery
- REVERSUS ENTHALPIC 3 / T = Sensible heat recovery



T = temperature, recovery of sensible heat / R.H. = umidity, recovery of latent heat



TEST LEAKAGE REVERSUS 1/ENTHALPIC according UNI EN 13141-7

LEAKAGE	TEST CONDITIONS	CLASS
OUTDOOR	Positive pressure 250 Pa	A2
INDOOR	Negative pressure 250 Pa	A2
INDOOR	Pressure difference 100 Pa	A2

TEST LEAKAGE REVERSUS 2/1/ENTHALPIC according UNI EN 13141-7

LEAKAGE	TEST CONDITIONS	CLASS
OUTDOOR	Positive pressure 250 Pa	A1
INDOOR	Negative pressure 250 Pa	A1
INDOOR	Pressure difference 100 Pa	A1

TEST LEAKAGE REVERSUS 3/ENTHALPIC according UNI EN 13141-7

LEAKAGE	TEST CONDITIONS	CLASS
OUTDOOR	Positive pressure 250 Pa	A2
INDOOR	Negative pressure 250 Pa	A2
INDOOR	Pressure difference 100 Pa	A2

NOISE LEVEL REVERSUS/REVERSUS ENTHALPIC

L_w Sound power level taken in accordance to UNI EN ISO 3741 CLASS 1

Unit REVERSUS 1/ENTHALPIC	NOISE FROM THE CASE (dB)								L _w dB(A)
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
MAX	48,3	52,9	52,2	47,7	52,5	41,2	31,1	56,1	
REF	41,6	48,9	41,8	38,9	42,6	30,7	21,2	47,1	

Unit REVERSUS 1/ENTHALPIC	NOISE IN THE DUCTS (dB)								L _w dB(A)
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
MAX	52,6	66,2	63,8	56,1	53,5	53,1	63,7	66,5	
REF	47,7	60,7	56,7	47,4	43,7	42,4	46,7	57,2	

Unit REVERSUS 2/ENTHALPIC	NOISE FROM THE CASE (dB)								L _w dB(A)
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
MAX	53,1	57,9	61,1	55,3	59,3	47,4	32,6	63,5	
REF	47,1	55,1	50,2	47,2	50,7	37,5	25,9	55,1	

Unit REVERSUS 2/ENTHALPIC	NOISE IN THE DUCTS (dB)								L _w dB(A)
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
MAX	61,5	63,4	69,8	65,9	64,3	56,8	50,8	71,0	
REF	54,1	60,1	60,8	57,1	56,4	48,3	42,1	62,8	

Unit REVERSUS 3/ENTHALPIC	NOISE FROM THE CASE (dB)								L _w dB(A)
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
MAX	50,0	52,3	57,4	51,7	56,7	42,2	22,6	60,3	
REF	43,5	50,4	46,1	43,9	48,3	32,8	20,7	52,0	

Unit REVERSUS 3/ENTHALPIC	NOISE IN THE DUCTS (dB)								L _w dB(A)
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz		
MAX	55,6	56,8	67,4	62,7	62,8	56,6	47,0	68,7	
REF	48,0	51,3	56,0	54,1	54,0	46,8	40,2	59,3	

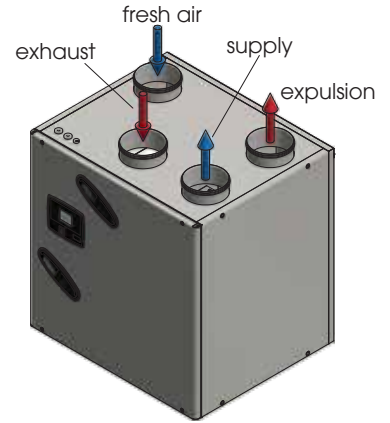
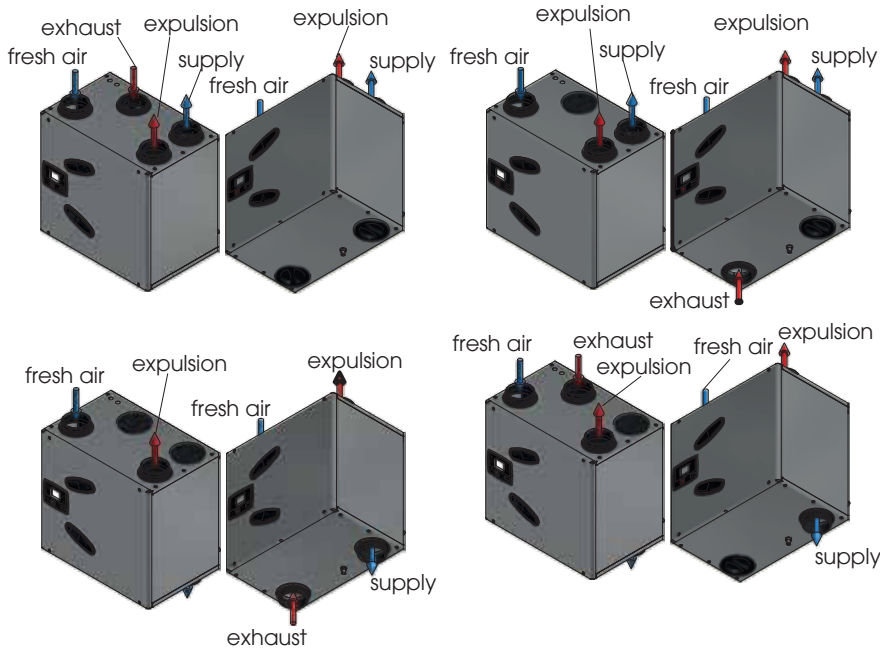
ELECTRICAL DATA

MATCHING	FAN				UNIT REVERSUS/ENT	
	Power* (W)	Supply	Current max. (A)	Insulation class	Supply	Current max. (A)
REVERSUS 1/ENT	2 X 85	230 V, 50/60 Hz 1F	2 X 0,75	IP 54 classe A	230 V, 50 Hz 1F	1,6
REVERSUS 2/ENT	2 X 170	230 V, 50/60 Hz 1F	2 X 1,65	IP 54 classe A	230 V, 50 Hz 1F	3,5
REVERSUS 3/ENT	2 X 170	230 V, 50/60 Hz 1F	2 X 1,65	IP 54 classe A	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

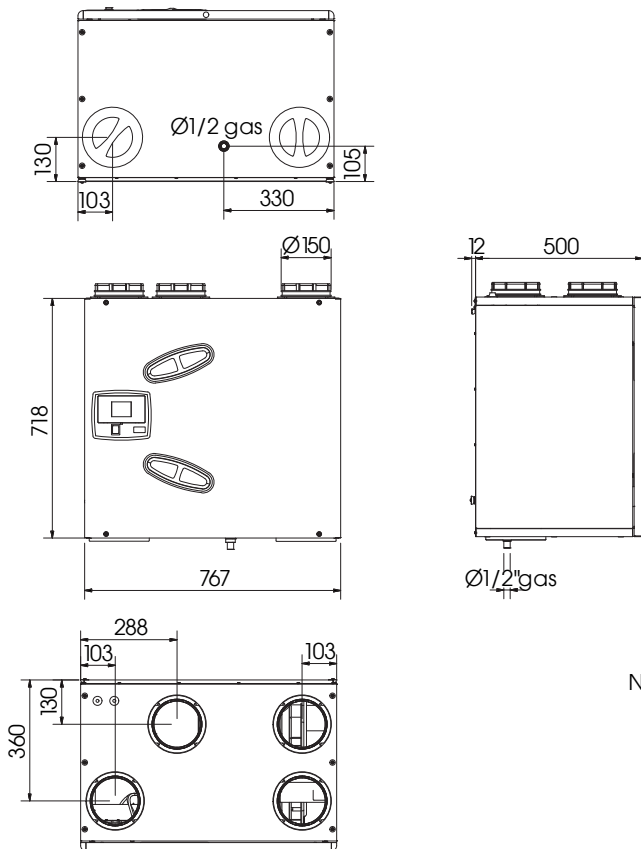


CONFIGURATIONS size 1 and 2
 The size 3 does not have openings below



REVERSUS 3

DIMENSIONS (mm) WEIGHT (kg)

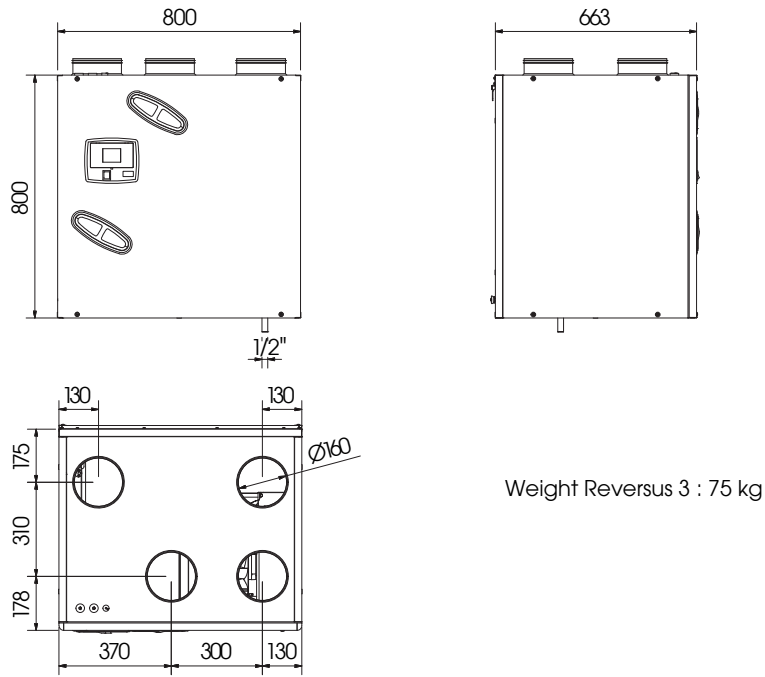


Weight Reversus 1 : 43 kg
 Weight Reversus 2 : 45 kg
 Weight Reversus 1 entalpico : 48 kg
 Weight Reversus 2 entalpico : 50 kg

NOTA: stessa cassa per REVERSUS 1 e REVERSUS 2

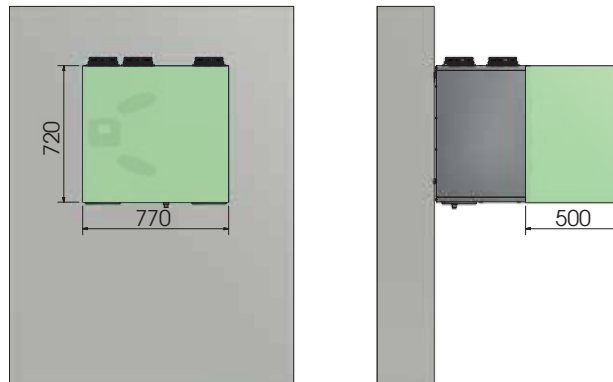


DIMENSIONS (mm) WEIGHT (kg)



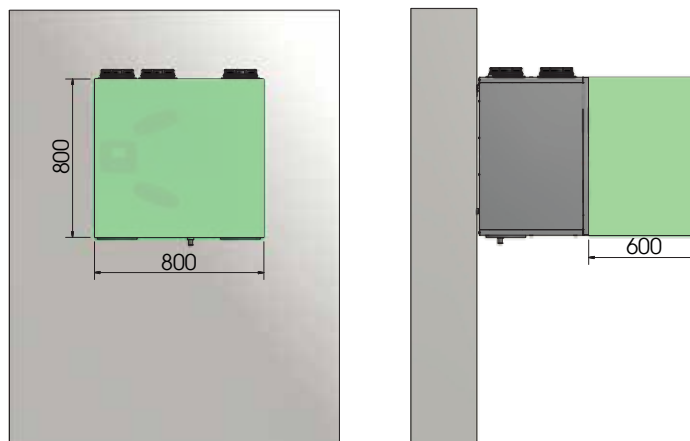
WALL INSTALLATION REVERSUS/ENTHALPIC size 1 and 2

■ Minimum required space for maintenance (mm)



WALL INSTALLATION REVERSUS 3

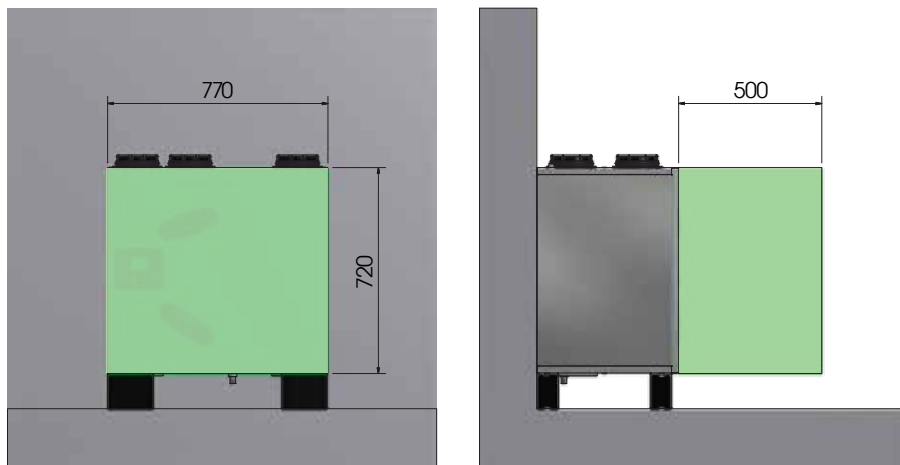
■ Minimum required space for maintenance (mm)





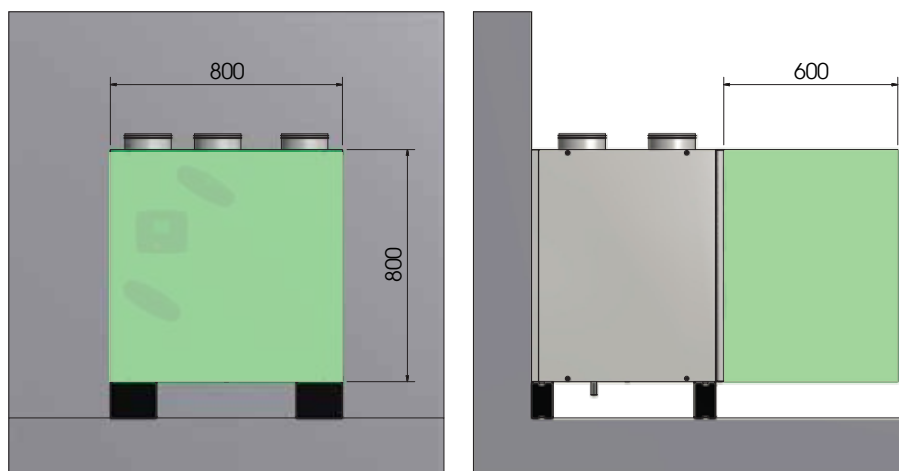
FLOOR INSTALLATION REVERSUS/ENTHALPIC size 1 and 2

■ Minimum required space for maintenance (mm)

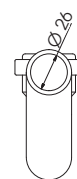
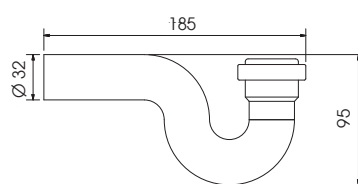


FLOOR INSTALLATION REVERSUS 3

■ Minimum required space for maintenance (mm)



STANDARD SIPHON (mm)



A	Manufacturer's name	C.L.A. S.r.l											
B	Manufacturer's model identifier		REVERSUS 1 BP EVO-PH SV	REVERSUS 1 BP CTR-S SV	REVERSUS 2 BP EVO-PH SV	REVERSUS 2 BP CTR-S SV							
C	Specific energy consumption (SEC) (kWh/m².a)	COLD	-73,4	-72,1	-68,0	-66,2							
		AVERAGE	-35,9	-34,8	-31,4	-29,8							
	SEC class	WARM	-11,9	-10,8	-7,8	-6,4							
		A	A	A	B	B							
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		Recuperative	Recuperative	Recuperative	Recuperative							
G	Thermal efficiency of heat recovery (%)		86,1	86,1	83,1	83,1							
H	Maximum flow rate (m³/s)		0,089	0,089	0,126	0,126							
I	Electrical power input at maximum flow rate (W)		170	170	340	340							
I	Sound power level (Lwa)(dB)		47	47	55	55							
K	Reference flow rate (m³/s)		0,062	0,062	0,088	0,088							
L	Reference pressure difference (Pa)		50	50	50	50							
M	SPI (W/m³/h)		0,297	0,297	0,344	0,427							
	Control factor CLTR		0,95	1	0,95	1							
N	Control typology		Clock control (No DCV)	Manual control (No DCV)	Clock control (No DCV)	Manual control (No DCV)							
O	Declared maximum internal / external leakage rates (%)		4.0 / 4.0	4.0 / 4.0	2.8/2.8	2.8/2.8							
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		Filter warning is signalled on the display of the control system: the flashing writing "DirtyFilters" will appear. "To preserve the energy efficiency of the NRVU, it's recommended to replace the filters when signaled." Positioned near the filters 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)		381	417	527	579							
W	The annual heating saved (AHS) for each type of climate (kWh/a)	WARM	2026 (WARM)	2016 (WARM)	1985 (WARM)	1973 (WARM)							
		COLD	8764 (COLD)	8720 (COLD)	8586 (COLD)	8534 (COLD)							
		(AVERAGE)	4480 (AVERAGE)	4458 (AVERAGE)	4389 (AVERAGE)	4362 (AVERAGE)							

A	Manufacturer's name	C.L.A. S.r.l	
B	Manufacturer's model identifier	REVERSUS-ENT 3 BP EVO-PH SV	
C	Specific energy consumption (SEC) (kWh/m².a)	COLD	-68,2
		AVERAGE	-33,1
		WARM	-10,4
	SEC class	B	
D	Declared typology	UVR - UVB	
E	Type of drive installed	Variable speed	
F	Type of heat recovery system	Recuperative	
G	Thermal efficiency of heat recovery (%)	77,7	
H	Maximum flow rate (m³/s)	0,16	
I	Electrical power input at maximum flow rate (W)	340	
I	Sound power level (Lwa)(dB)	52	
K	Reference flow rate (m³/s)	0,11	
L	Reference pressure difference (Pa)	50	
M	SPI (W/m³/h)	0,307	
	Control factor CLTR	0,95	
N	Control typology	Clock control (No DCV)	
O	Declared maximum internal / external leakage rates (%)	4.3 / 6.9	
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	Filter warning is signaled on the display of the control system; the flashing writing "DirtyFilters" will appear. "To preserve the energy efficiency of the NRVU, it's recommended to replace the filters when signaled." Positioned near the filters 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)	392	
W	The annual heating saved (AHS) for each type of climate (kWh/a)	1911 (WARM)	
		8266 (COLD)	
		4226 (AVERAGE)	

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

REVERSUS/REVERSUS ENTHALPIC_2016_5_EN



HEAT RECOVERY VENTILATION UNITS for RESIDENTIAL BUILDINGS