



# VORT PROMETEO PLUS RANGE

HEAT RECOVERY UNIT

A

CENTRALIZED VENTILATION

WALL AND FLOOR MOUNTING

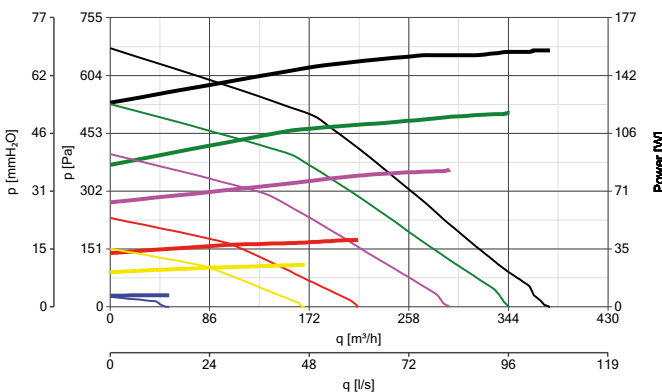
UP TO 240 M<sup>2</sup>

Centralized dual flow unit with heat recovery for floor and wall installation, horizontal and vertical, ideal for ventilation of homes and residential and commercial premises with a surface of up to 240 m<sup>2</sup>.



- Internal and external structure in high density expanded polypropylene 40kg/m<sup>3</sup>.
- Connection spigots to pipes with a nominal diameter of 150 mm, centrifugal fans with backward curved blades directly coupled to EC motors.
- High efficiency counter flow heat exchanger in plastic material (PS).
- Automatic mechanical by-pass for free-cooling.
- Pair of filters Class ePM10 (M5) 50% (F5)
- Automatic anti frost function, temperature, relative humidity and CO<sub>2</sub> concentration probes.
- RF radio control and silencer included.
- Floor or wall installation. Can be integrated into residential home automation systems (ModBus protocol) on RS485 SLAVE mode.

## PERFORMANCE AND ABSORPTION

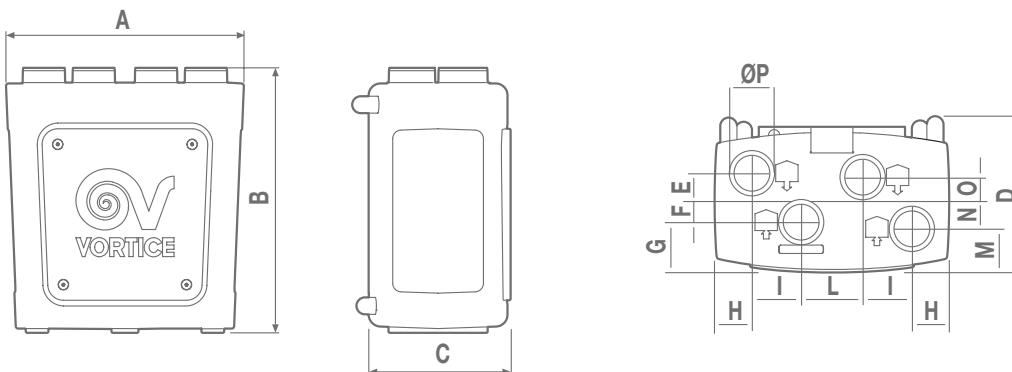


## TECHNICAL DATA

CODE	Nom. Ø (mm)	(m <sup>3</sup> /h)	(W)	(PA)	Lp [dB (A)] 3m
11582	150	380	160	675	41

- 700 RPM
- 1600 RPM
- 2100 RPM
- 2650 RPM
- 3000 RPM
- 3350 RPM

## DIMENSIONS



Dimensions in mm

PRODUCTS	A	B	C	D	E	F	G	H	I	L	M	N	O	ØP
VORT PROMETEO PLUS HR 400	840	935	502	560	85	100	156.7	133.6	176	220	180.7	76	99	150



**SOUND LEVELS**

RPM		Lw dB (A)							Lw dB (A)	Lw dB (A)
		125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	3m*	
700	Delivery	8.4	9.3	14.0	22.6	5.0	9.2	10.1	28.0	7.5
	Intake	5.7	15.0	18.1	16.4	13.9	12.2	7.5	27.5	7.0
	Casing	14.3	39.2	18.3	20.6	2.9	7.1	na**	44.0	23.5
1600	Delivery	18.5	24.1	29.4	37.5	24.8	15.6	13.3	43.2	22.7
	Intake	16.0	25.6	27.9	28.4	18.8	6.8	3.3	37.6	17.1
	Casing	21.7	31.9	38.3	34.0	23.8	11.8	7.5	48.4	27.9
2100	Delivery	16.9	32.3	36.6	48.3	35.8	24.7	10.2	56.7	36.2
	Intake	14.9	34.7	32.8	38.4	29.2	15.7	na**	46.4	25.9
	Casing	24.6	41.1	41.6	47.1	34.8	20.8	5.6	58.0	37.5
2650	Delivery	20.3	40.9	46.0	64.7	41.8	33.7	18.5	65.5	45.0
	Intake	19.1	42.5	38.4	60.0	36.0	25.6	13.8	60.7	40.2
	Casing	31.3	43.0	48.1	59.2	41.4	29.1	13.6	61.3	40.8
3000	Delivery	23.5	41.3	47.5	52.0	44.1	37.1	22.8	59.4	38.9
	Intake	19.7	42.7	40.6	43.2	38.0	27.1	12.2	53.6	33.1
	Casing	28.9	45.7	47.9	47.4	43.9	33.3	16.2	59.5	39.0
3350	Delivery	25.3	44.4	49.7	54.8	48.4	42.3	28.8	62.7	42.2
	Intake	23.6	43.4	43.2	45.7	41.5	31.6	13.5	55.5	35.0
	Casing	31.8	46.7	51.5	55.2	47.5	37.4	22.0	62.4	41.9

\* Acoustic pressure calculated at 3 m in free field in compliance with ISO 9614.

**ENERGY DATA**

	UNIT OF MEASURE	VORT PROMETEO PLUS HR 400
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	A
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m <sup>2</sup> year	-37.6
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-76.1
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		-12.9
DECLARED TYPE OF THE VENTILATION UNIT	-	UVR-B**
DRIVE TYPE	-	VSD***
HRS TYPE HEAT EXCHANGER	-	recovery
THERMAL EFFICIENCY OF HEAT RECOVERY AT THE HRS REFERENCE FLOW RATE	%	88.3
MAXIMUM FLOW RATE	m <sup>3</sup> /h	340
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	156.0
Sound LEVEL	LWA [dB(A)]	62
REFERENCE FLOW RATE	m <sup>3</sup> /s	0.0661
REFERENCE PRESSURE DIFFERENCE	Pa	118
SPI****	W/(m <sup>3</sup> /h)	0.34454
CTRL CONTROL FACTOR	-	0.85
CONTROL TYPE	-	centralized env.
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	1.2
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	3.2
MIXING RATE	-	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	see instruction booklet
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	NA*
INDOOR/OUTDOOR AIR SEALING	m <sup>3</sup> /h	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	357
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	4584
COLD AHS ANNUAL HEATING SAVINGS		8967
WARM AHS ANNUAL HEATING SAVING		2073

\* NA: Not applicable. \*\* UVR-U: Residential Ventilation Unit - Uni-directional. \*\*\* VM: Multiple speeds. VSD: Variable Speed Drive.

\*\*\*\* SPI: Specific power input.



# VORT PROMETEO PLUS RANGE

## HEAT RECOVERY UNIT

### TECHNICAL CHARACTERISTICS

- **1 model.**
- **Expanded polypropylene casing** fire resistant (DIN EN 13501). Brackets for wall installation included in the standard equipment.
- **Front panel in plastic resin** loaded with panels for direct access to the filters.
- **Intake** and delivery spigots compatible with pipes with a nominal diameter of 150 mm.
- **Pair of motor fans driven by EC motors** (brushless) of the external rotor type, with shafts mounted on ball bearings, directly coupled to backward curved centrifugal impellers to guarantee high aeraulic efficiency. 3 operating speeds, independently settable at installation.
- **High efficiency heat exchanger**, of the cross-flow type with counterflow, made of plastic resin (PS).
- **By-pass 100%** automatic or manual control.
- **Equipped with bidirectional remote control** with radio frequency for the initial setting, selecting the operating mode and diagnosing the product.
- Equipped with **Temperature + Relative Humidity (RH) sensor and CO sensor<sub>2</sub>**, whose readings enable the automatic adjustment of the operating speed for the best balance between ambient air quality, consumption and sound emissions
- Automatic control of the filter clogging status.
- **Condensate drain tube**
- **Pipette for connecting the drain tube**
- **Silencer**, with a nominal diameter of 150 mm and 0.5 m long, to be positioned downstream of the product, on the delivery pipe
- **Automatic anti frost protection**, to prevent the formation of frost at the heat exchanger.
- **Pair of M5 filters** (F7 filter available as an option for the delivery duct), easily accessible for periodic maintenance.
- **Safety certified by a third party** (CE)
- **Degree of dust and water protection:** IPX2.
- **Electrical insulation class:** II (grounding not required).

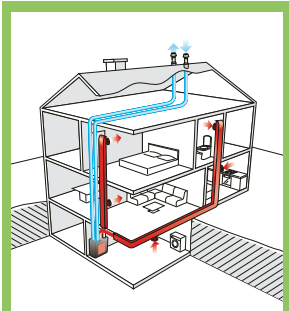
### TECHNICAL DATA

PRODUCTS	CODE	V~50HZ	W max	A max	MAX FLOW RATE		MAX PRESSURE		°C* MAX	KG
					m³/h	l/s	mmH <sub>2</sub> O	Pa		
VORT PROMETEO PLUS HR 400	11582	230	160	1.3	380	106	68.8	675	50	25

\* Maximum temperature with continuous operation of the product.



DETAILS



Examples of installations.



Intake and delivery spigots.



4 feet for horizontal installation supplied.

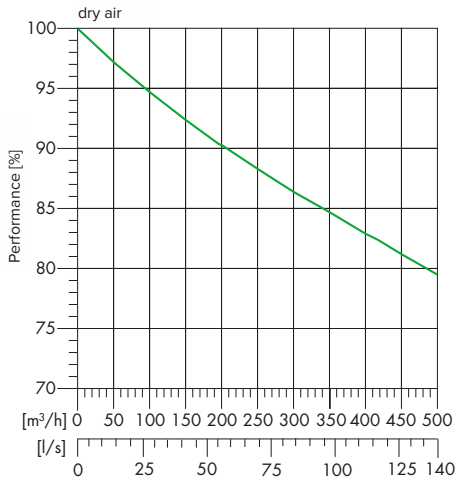


# VORT PROMETEO PLUS RANGE

HEAT RECOVERY UNIT

## CURVES

EFFICIENCY IN ACCORDANCE WITH FLOW RATE



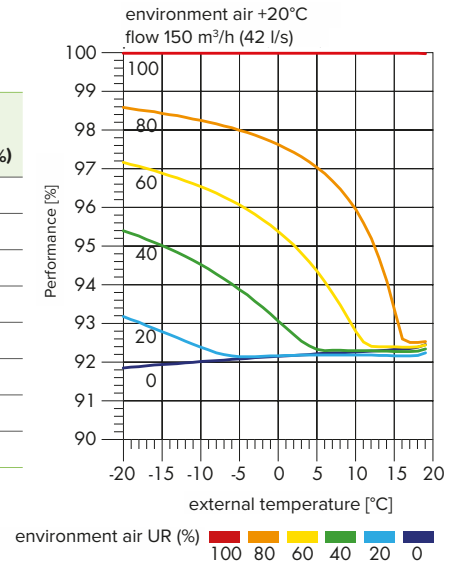
Efficiency according to flow rate

**RESULTS**  
(tests according to EN 308)


AIR FLOW RATE IN EXTRACTION (m³/h)	HEAT RECOVERY PERFORMANCE (%)
54	93
76	91
98	90
119	89
140	89
162	88
184	88
205	87

Test conditions: +5°C/70%; +25°C/28%.



EFFICIENCY IN ACCORDANCE WITH CONDENSATION HEAT



## FILTERS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT PROMETEO PLUS code 11582
	M5 FILTER	192x395x24	22342	✓

## REGULATORS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT PROMETEO PLUS code 11582
	REMOTE CONTROL	-	22464	✓
	EXTERNAL RF MODULE	-	22479	✓

System components (description and data from page 96).

Regulators (description and data from page 152).

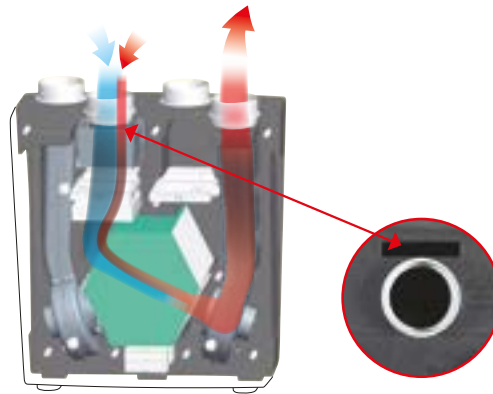


**FUNCTIONS AND EQUIPMENT OF THE VORT PROMETEO PLUS RANGE**



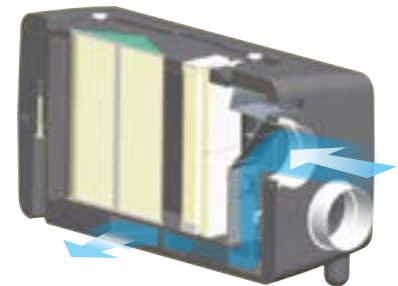
**BY-PASS**

In ISOTHERMAL situations (when the temperature of the internal and external environment is the same) or external temperature coinciding with the desired internal setting, the by-pass valve is activated by excluding the exchanger and enabling direct ventilation (FREE-COOLING).



**FROST PROTECTION (DEFROSTING)**

In situations where the outside air has a temperature and RH% such as to cause the formation of ice in the exchanger, the anti frost valve is automatically activated to allow the intake of more temperate air from the environment, which mixing with the air coming from the outside mitigates the temperature. At the same time, an appropriate speed variation of the motors driven by the electronic control makes the defrosting action faster and more effective. In particularly harsh climates, we recommend the additional installation of a 500 W, 1200 W or 1800 W pre-heater which is automatically activated by the on-board electronics.

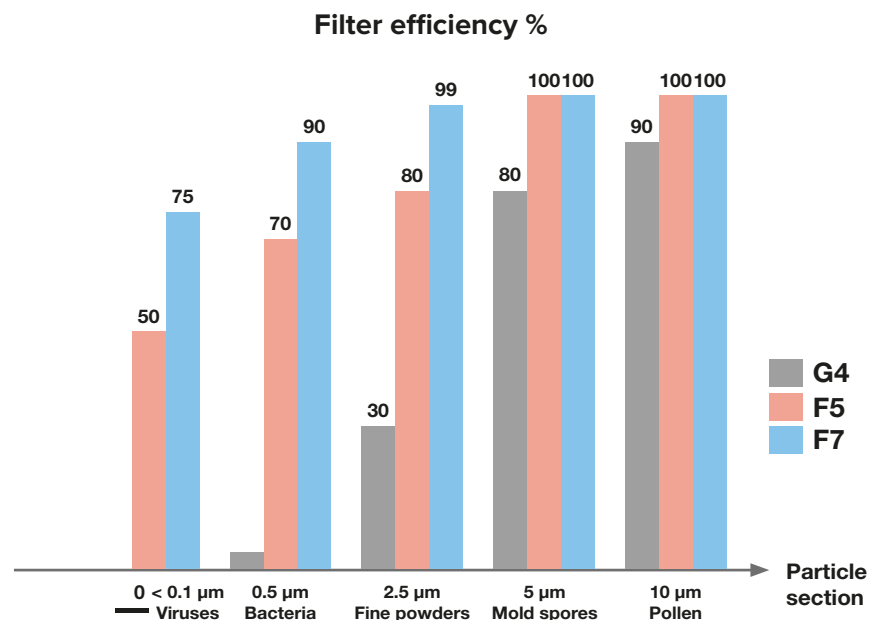


**FILTERS**

The VORT PROMETEO PLUS Range is equipped with 2 F5 filters, respectively dedicated to the incoming air and to the exchanger protection. An additional optional F7 filter is available for further removal of impurities from the incoming air. An F5 filter box is also provided as an accessory to be installed outside the machine. The efficiency of the filters is monitored by the on-board electronics, which visually and acoustically trigger a maintenance alarm on the RF remote control.

**FILTERS**

- The air we breathe contains a large number of harmful particles; more than 90% of these particles are less than 1 µm in size, for example: fine particles emitted by motor vehicles and heating systems; viruses; bacteria. For this reason, it is very important to use air exchange systems that are equipped with high efficiency filters, i.e. they allow the retention of most of these harmful particles.
- The controlled mechanical ventilation systems such as the VORT PROMETEO PLUS HR 400 heat recovery units filter the air entering the home and preserve the health and well-being of the people living in the premises in which the product is installed.
- Filters can be identified based on their filtration efficiency in 2 main classes: Type G: wide mesh filter and Type F: fine mesh filter. These classes are defined by the European standard EN779. Within the two classes, a progressive number indicates the efficiency level of the filter: the higher the number, the more effective the filter is in the treatment of particles, as shown in the graph below.



F filters are most effective on small particles.



**DON'T FORGET**

With prolonged use, the filters become clogged, increasing the pressure drops of the aeraulic circuit; periodic maintenance must be carried out to replace the filters when they are exhausted.