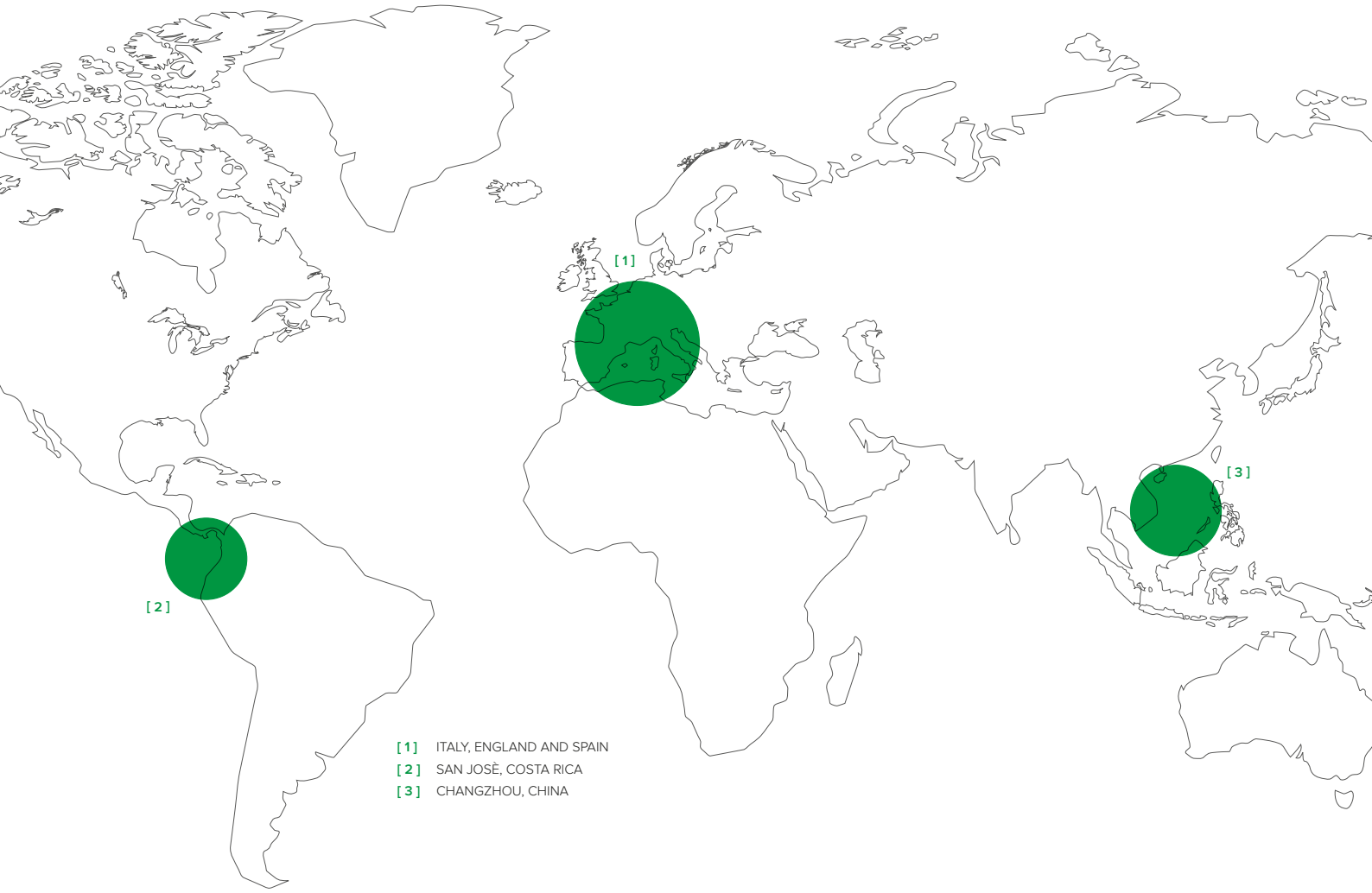
VORTICE

vortice.com

RESIDENTIAL VENTILATION

CONTROLLED MECHANICAL VENTILATION AND HEAT RECOVERY

VORTICE GROUP



[1] ITALY, ENGLAND AND SPAIN
[2] SAN JOSÈ, COSTA RICA
[3] CHANGZHOU, CHINA

Vortice Headquarters

Today **VORTICE S.p.A.** is part of a multinational group, **VORTICE GROUP**, which operates through its own companies or local distributors in over 90 countries worldwide and has a rich portfolio of products that guarantee air quality and climate comfort. The historical headquarters of **VORTICE S.p.A.** are in Tribiano (Milan).

The **VORTICE GROUP** also includes:

1


2


3


4


5


1 **VORTICE UK Ltd**, English branch opened in 1977 based in Burton on Trent.

2 **VORTICE INDUSTRIAL ,** born from the acquisition in 2010 of Loran srl, based in Isola della Scala (VR).

3 **CASALS** historic Spanish brand of VENTILACIÓN INDUSTRIAL IND. S.L., based in Sant Joan de les Abadesses, Girona, acquired in 2019.

4 **VORTICE Ventilation System**, company inaugurated in 2013 with headquarters in Changzhou China.

5 **VORTICE Latam**, based in San Josè, Costa Rica, established in 2012.

INDEX

VORT NOTUS RANGE

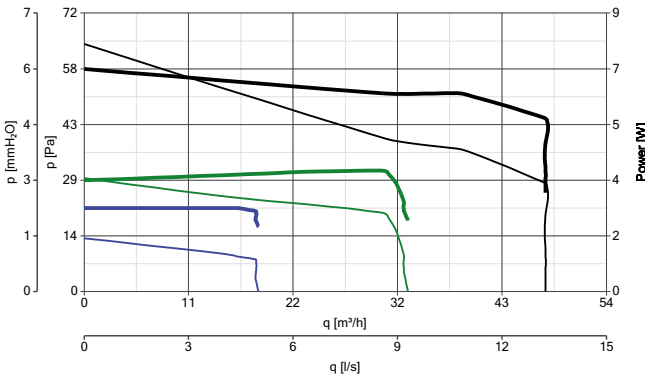
AXIAL FANS FOR CONTINUOUS VENTILATION

CENTRALIZED VENTILATION | **WALL MOUNTED** | **UP TO 60/90 M²**

Axial wall and ceiling fans compatible with in-line installation, ideal for continuous ventilation, thanks to the very low consumption of the EC (brushless) motor used, of small and medium-sized residential and commercial premises whose plan allows direct or short ducted discharge.

- Self-extinguishing polypropylene casing.
- DC-EC motor with very low electrical consumption (max 6.4W), constant flow operation.
- Built-in adjustable timer (3'-20'), built-in humidity control sensor (adjustable from 60% to 90%).
- Protection degree IPX4.
- Power supply 220-230V - 50Hz

PERFORMANCE AND ABSORPTION



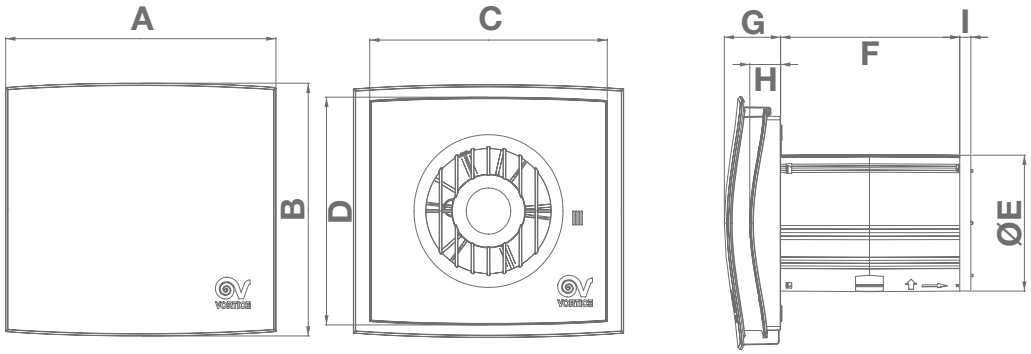
TECHNICAL DATA

PRODUCTS	CODE	Nom. Ø (mm)	(m³/h)	(W)	(PA)	Lp [dB (A)] 3m
VORT NOTUS	11177	100	42	6.4	86.3	17.3
VORT NOTUS T-HCS	11903	100	42	2.8	86.3	17.3

CONSUMPTION CURVES
max
med
min

PERFORMANCE CURVES
max
med
min

DIMENSIONS



PRODUCTS	CODE	A	B	C	D	ØE	F	G	H	I
VORT NOTUS	11177	194.6	182	171	164	97.8	129	40.5	22.2	8
VORT NOTUS T-HCS	11903	194.6	182	171	164	97.8	129	40.5	22.2	8

Dimensions in mm

ENERGY DATA

	UNIT OF MEASURE	VORT NOTUS VORT NOTUS T-HCS
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	NA*
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-6.2
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-19.5
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		1.5
DECLARED TYPE OF THE VENTILATION UNIT	-	UVR-U**
DRIVE TYPE	-	NA*
HRS TYPE HEAT EXCHANGER	-	absent
THERMAL EFFICIENCY OF HEAT RECOVERY AT THE HRS REFERENCE FLOW RATE	%	NA*
MAXIMUM FLOW RATE	m3/h	43
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	3.5
Sound LEVEL	LWA [dB(A)]	32.4
REFERENCE FLOW RATE	m3/s	0.0084
REFERENCE PRESSURE DIFFERENCE	Pa	62
SPI****	W/(m3/h)	0.22591
CTRL CONTROL FACTOR	-	1
CONTROL TYPE	-	manual
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	NA*
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	NA*
MIXING RATE	-	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	na*
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	NA*
INDOOR/OUTDOOR AIR SEALING	m3/h	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	311
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	1397
COLD AHS ANNUAL HEATING SAVINGS		2732
WARM AHS ANNUAL HEATING SAVING		632

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

VORT NOTUS RANGE

AXIAL FANS FOR CONTINUOUS VENTILATION

TECHNICAL CHARACTERISTICS

- **2 models** with a nominal diameter of 100 mm, also in version with timer and humidistat.
- **Plastic resin construction** (ABS) white, resistant TO impact and aging due to exposure to the sun ("UV resistant").
- **EC motors (brushless)**, thermally protected, with external rotor, with shafts mounted on ball bearings to guarantee prolonged continuous service (at least 30,000 h) at the maximum plate temperature, characterized by very low consumption and capable of delivering 3 different flow levels, 2 of which can be set as an alternative at the time of installation.
- Helical impellers with wing profile blades **optimized to combine high efficiency with low sound emissions**.
- T-HCS model **equipped with an electronic board with relative humidity sensor (RH**) which automatically switches from the minimum flow previously set to the maximum flow. The board integrates an electronic timer that restores operation at minimum speed, after the return of the RH below the threshold value, with a delay that can be set during installation in the 3'-20' interval (default setting 3').
- Performance and safety certified by third parties (and BRE).
- **Degree of dust and water protection**: IPX4 (suitable for Zone 1 installation).
- **Electrical insulation class**: II (grounding not required).

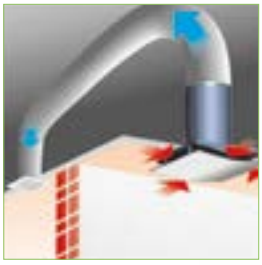
TECHNICAL DATA

PRODUCTS	CODE	V~50HZ	W min/max	A min/max	MAX FLOW RATE		MAX PRESSURE		Lp dB(A)* 3m min/max	°C* MAX	KG
					m^3/h min/max	l/s min/max	mmH_2O min/max	Pa min/max			
VORT NOTUS	11903	220-230	1.5 2.8	0.018 0.025	11.7 42.0	3.3 11.7	2.4 8.8	23.5 86.3	10.1 17.3	50	0.80
VORT NOTUS T-HCS	11177	220-230	2.1 6.4	0.028 0.037	11.7 42.0	3.3 11.7	2.4 8.8	23.5 86.3	10.1 17.3	50	0.80

** Acoustic pressure measured from 3 m in free field, in compliance with ISO 3741.*

*** Maximum continuous operating temperature of the product.*

DETAILS



Reduced thickness (approx. 40 mm) which minimizes visual impact.

Reliability over time: the duration of the motors is guaranteed for at least 30,000h of continuous operation at the maximum certified temperature.

LONG LIFE 30.000 h

Strong water protection, suitable for use in Zone 1 of the bathrooms and in the presence of high humidity levels.

VORT PLATT RANGE

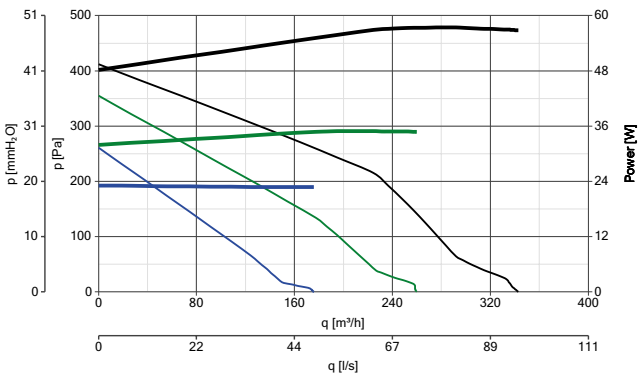
CENTRALIZED MECHANICAL VENTILATION UNIT

C **CENTRALIZED VENTILATION** **FALSE CEILING MOUNT**

Unit for simple flow centralized mechanical ventilation, reduced thickness. Installed in a false ceiling or in the attic, it extracts stale air from service rooms and facilitate the return of fresh external air through openings appropriately positioned in living rooms. A pair of relative humidity sensors enable the automatic adjustment of the performance provided to the actual needs of the moment.

- Enclosure in galvanized sheet metal and flanges in ABS, centrifugal-axial motor-fan unit mounted on ball bearings.
- Low consumption DC-EC single phase motor, absorption 12/50W.
- Delivery spigot Ø125mm, intake spigots 3 x Ø80mm + 1 x Ø125mm.
- Class II insulation.
- Integrated adjustable timer (max 30 ').
- Protection grade IPX4.

PERFORMANCE AND ABSORPTION



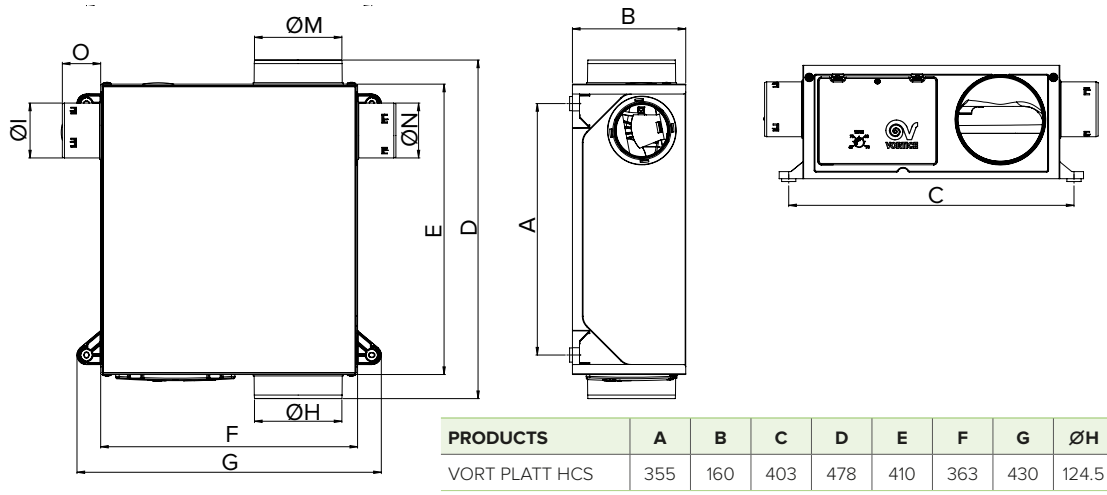
TECHNICAL DATA

PRODUCT	CODE	Nom. Ø (mm)	(m³/h)	(W)	(PA)	Lp [dB (A)] 3m
VORT PLATT HCS	12108	80-125	343	56	411.7	34.9

CONSUMPTION CURVES
max
med
min

PERFORMANCE CURVES
max
med
min

DIMENSIONS



Dimensions in mm

PRODUCTS	A	B	C	D	E	F	G	ØH	ØI	ØM	ØN	O
VORT PLATT HCS	355	160	403	478	410	363	430	124.5	77.5	124.5	77.5	45

ENERGY DATA

	UNIT OF MEASURE	VORT PLATT HCS
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	C
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-25.4
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-52.4
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		-9.9
DECLARED TYPE OF THE VENTILATION UNIT	-	UVR-U**
DRIVE TYPE	-	VM***
HRS TYPE HEAT EXCHANGER	-	absent
THERMAL EFFICIENCY OF HEAT RECOVERY AT THE HRS REFERENCE FLOW RATE	%	NA*
MAXIMUM FLOW RATE	m³/h	280
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	57.6
Sound LEVEL	LWA [dB(A)]	57
REFERENCE FLOW RATE	m³/s	0.05
REFERENCE PRESSURE DIFFERENCE	Pa	100
SPI****	W/(m³/h)	0.18
CTRL CONTROL FACTOR	-	0.65
CONTROL TYPE	-	local premise
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	NA*
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	7.4
MIXING RATE	-	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	NA*
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	NA*
INDOOR/OUTDOOR AIR SEALING	m³/h	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	117
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	2830
COLD AHS ANNUAL HEATING SAVINGS		5536
WARM AHS ANNUAL HEATING SAVING		1280

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

TECHNICAL CHARACTERISTICS

- **1 model**.
- Cover in **galvanized sheet steel**.
- Rear flange in black plastic resin (ABS) **resistant to impact and aging** due to sun exposure ("UV resistant") integral with the fixing brackets to the target surface and the seat, protected by a black ABS sealed cover, of the terminals for connection to the electricity grid.
- **4 intake spigots**, three of nominal diameter of 80 mm and one of 125 mm and 1 discharge spigot, also 125 mm large, on the lateral surface of the product.
- **3 speed AC motor**, thermally protected, shaft mounted on ball bearings, guarantees prolonged service (at least 30,000 h) at the maximum rated temperature; speed selector and ON/OFF control available as an option.
- Impeller, of the centrifugal type with backward curved blades, **in plastic resin loaded with glass fibers**, to combine dimensional stability, strength and resistance to aggressive agents.
- Relative humidity sensors, electronically managed, with **adjustable threshold at installation.**
- **2 connection sleeves to the intake pipes in plastic resin** (PP), designed for interlocking in the 80 mm spigots. Special integral mylar valves to maintain at 30 m^3/ h the extracted flow rate, regardless of pressure drops and the number of connected rooms.
- 1 cap with a diameter of 80 mm, for closing the spigot that may not be used, supplied as standard.
- **Safety certified by a third party** (Ⓨ).
- **Electrical insulation class**: II (grounding not required).

TECHNICAL DATA

PRODUCTS	CODE	V~50HZ	W min/max	A min/max	RPM min/max	MAX FLOW RATE		MAX PRESSURE		Lp dB(A)* 3m max	°C* MAX	KG
						m^3/h min/max	l/s min/max	mmH_2O min/max	Pa min/max			
VORT PLATT HCS	12108	230	23 56	0.21 0.25	1300 2610	176 343	48.8 95.2	26.6 41.9	261 411.7	34.9	60	5.4

** Acoustic pressure measured from 3 m in free field, in compliance with ISO 3741.*

*** Maximum continuous operating temperature of the product.*

ACCESSORIES

MODELS	DESCRIPTION		CODE	VORT PLATT HCS code 12108
	FLOW REGULATOR	15m^3/h	22324	✓
		30m^3/h	22325	
	SPIGOT 80 HYGRO		22847	✓

DETAILS

The internal duct design guarantees high performance, low consumption and lower sound levels.

Light and at the same time robust construction.

Reliability over time: the duration of the motors is guaranteed for at least 30,000h of continuous operation at the maximum certified temperature.

LONG LIFE 30.000 h

VORT PENTA RANGE

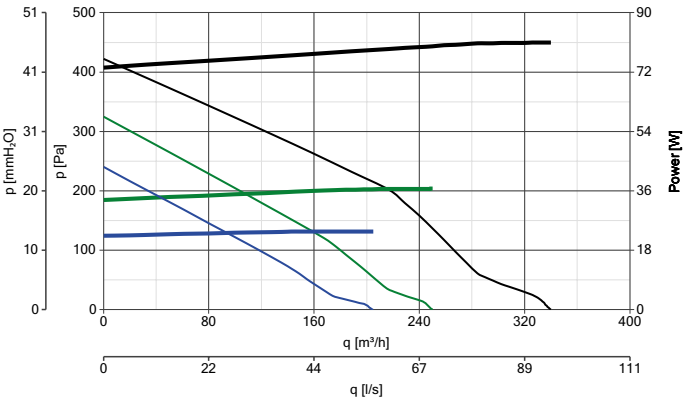
CENTRALIZED MECHANICAL VENTILATION UNIT

C | **CENTRALIZED VENTILATION** | **FALSE CEILING MOUNT**

Unit for simple flow centralized mechanical ventilation. Installed in a false ceiling or in the attic, it extracts stale air from service rooms and facilitate the return of fresh external air through openings appropriately positioned in living rooms. A pair of relative humidity sensors enables the automatic adjustment of the performance to the actual needs of the moment.

- Centralized unit for single flow residential MCV for up to 6 rooms.
- ABS casing, centrifugal-axial motor-fan mounted on ball bearings.
- Low consumption single phase DC-EC motor.
- Delivery spigot Ø125mm, intake spigots 5 x Ø80mm + 1 x Ø125mm.
- Class II insulation.
- Integrated adjustable timer (max 30').
- Protection degree IPX4.
- Integrated relative humidity sensor.

PERFORMANCE AND ABSORPTION



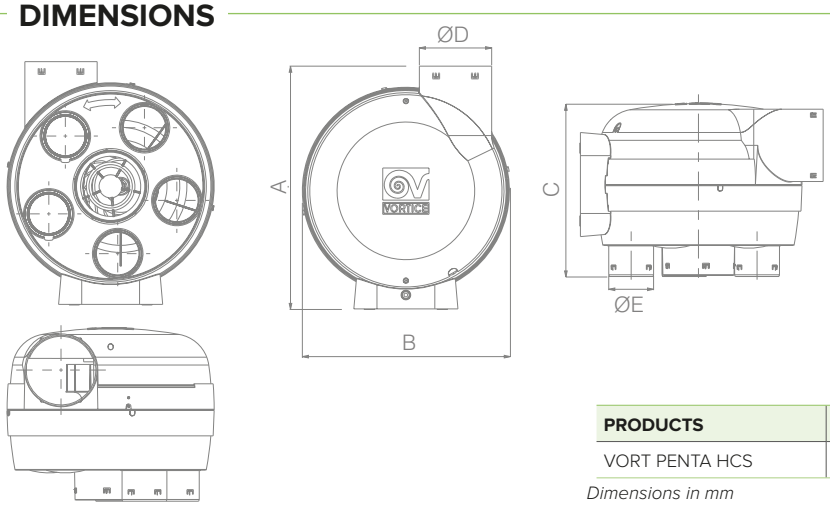
TECHNICAL DATA

PRODUCT	CODE	Nom. Ø (mm)	(m³/h)	(W)	(PA)	Lp [dB (A)] 3m
VORT PENTA HCS	12103	125	340	73	421.9	31.9

CONSUMPTION CURVES
- max
- med
- min

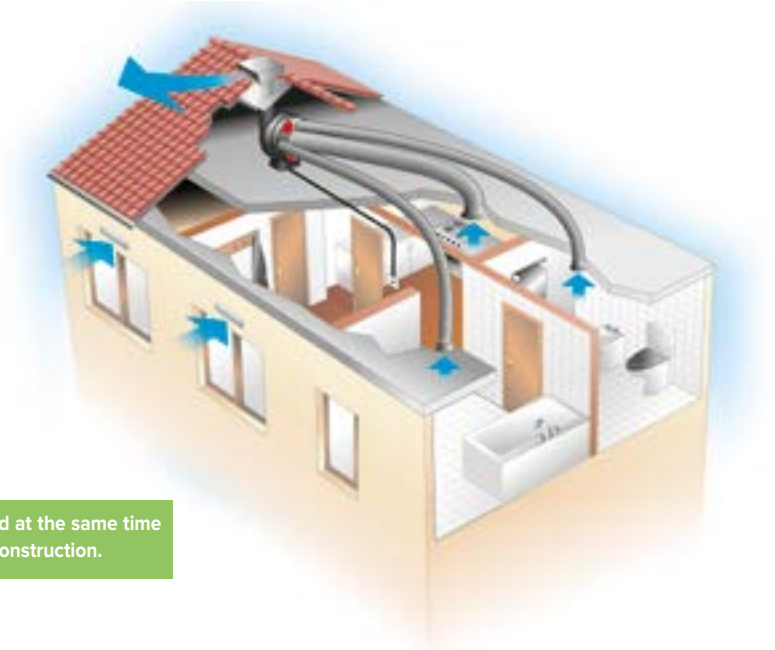
PERFORMANCE CURVES
- max
- med
- min

DIMENSIONS



PRODUCTS	A	B	C	ØD	ØE
VORT PENTA HCS	420	358	300	125	77.5

Dimensions in mm



Light and at the same time robust construction.

ENERGY DATA

	UNIT OF MEASURE	VORT PENTA HCS
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	C
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-25,124
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-52,187
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		- 9,621
DECLARED TYPE OF THE VENTILATION UNIT	-	UVR-U**
DRIVE TYPE	-	VM***
HRS TYPE HEAT EXCHANGER	-	absent
THERMAL EFFICIENCY OF HEAT RECOVERY AT THE HRS REFERENCE FLOW RATE	%	NA*
MAXIMUM FLOW RATE	m³/h	268
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	80
Sound LEVEL	LWA [dB(A)]	50
REFERENCE FLOW RATE	m³/s	0.052
REFERENCE PRESSURE DIFFERENCE	Pa	90
SPI****	W/(m³/h)	0.193
CTRL CONTROL FACTOR	-	0.65
CONTROL TYPE	-	local premise
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	NA*
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	9.6
MIXING RATE	-	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	NA*
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	NA*
INDOOR/OUTDOOR AIR SEALING	m³/h	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	127
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	2830
COLD AHS ANNUAL HEATING SAVINGS		5536
WARM AHS ANNUAL HEATING SAVING		1280

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

TECHNICAL CHARACTERISTICS

• **1 model.**

• **Black plastic resin (ABS) casing** resistant to impact and aging due to sun exposure ("UV resistant"); the lower surface integrates 6 intake spigots, 5 with a nominal diameter of 80 mm and one with a 125 mm diameter. The discharge mouth, with a nominal diameter of 125 mm, is on the lateral surface.
On the upper surface, protected by a sealed black ABS cover.

• **Plastic resin bracket** (ABS) black, sliding along the side of the products and integrating the holes for fixing the appliance to the target surface

• **3 speed AC motor,** thermally protected, shaft mounted on ball bearings, guarantees prolonged service (at least 30,000 h) at the maximum rated temperature.

• Impeller, of the centrifugal type with backward curved blades, in plastic resin loaded with glass fibers, to combine **dimensional stability, strength and resistance to aggressive agents**.

• **Relative humidity sensors**, electronically managed, with threshold adjustable at installation.

• 2 sleeves connecting to the intake pipes in plastic resin (PP), designed for interlocking in the 80 mm spigots, integrating special mylar valves to maintain the extracted flow rate at 30 m^3/h, regardless of pressure drops and the number of connected rooms.

• **4 caps** with an 80 mm diameter, for closing any spigot that may not be used, supplied as standard.

• **Safety certified by a third party** (Ⓨ)

• **Degree of dust and water protection**: IPX4.

• **Electrical insulation class**: II (grounding not required).

TECHNICAL DATA

PRODUCTS	CODE	V~50HZ	W min/max	A min/max	RPM min/max	MAX FLOW RATE		MAX PRESSURE		Lp dB(A)* 3m min/max	°C* MAX	KG
						m^3/h min/max	l/s min/max	mmH_2O min/max	Pa min/max			
VORT PENTA HCS	12103	230	21 73	0.19 0.34	1245 2160	205 340	59.9 94.4	24.4 43.0	240.1 421.9	- 31.9	40	4.4

** Acoustic pressure measured from 3 m in free field, in compliance with ISO 3741.*

*** Maximum continuous operating temperature of the product.*

ACCESSORIES

MODELS	DESCRIPTION		CODE	VORT PENTA HCS code 12103
	FLOW REGULATOR	$15^3/h$	22324	✓
		$30^3/h$	22325	
	SPIGOT 80 HYGRO		22847	✓

DETAILS

Suitable for installation in false ceilings or attics, they are designed for suspended mounting using a cable supplied as standard.

The internal duct design guarantees high performance, low consumption and reduced sound levels.

Alternatively, an integrated rotating bracket is available, which facilitates the installation of the fan in any position, ensuring the correct arrangement for the needs of the system.

Reliability over time: the duration of the motors is guaranteed for at least 30,000 h of continuous operation at the maximum certified temperature.

LONG LIFE 30.000 h

VORT HRW MONO RANGE

DECENTRALIZED HEAT RECOVERY UNITS

A | **CENTRALIZED VENTILATION** | **WALL MOUNTED** | **UP TO 20 M²**

Decentralized ventilation unit with heat recovery specifically designed for the exchange of air in residential and commercial premises, newly built or renovated, characterized by high levels of thermal insulation. They can be installed on perimeter walls between 300 mm and 700 mm thick, available in a manual control version, with on-board controls or remote control, and an automatic control version with humidistat.

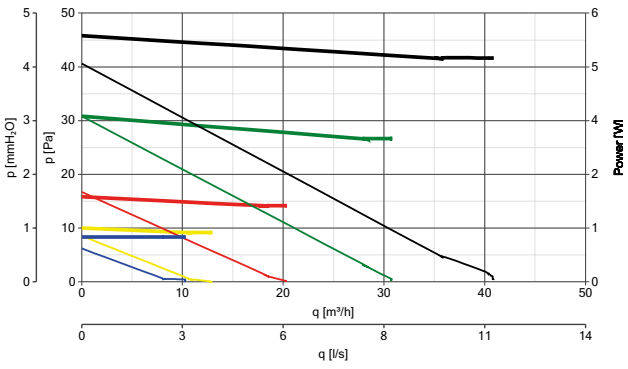
VORT HRW 20 MONO CODE 11634
VORT HRW 20 MONO HCS CODE 11631

REMOTE CONTROL UNIT
CODE 22693

VORT HRW 20 MONO RC CODE 11635

- Single room alternating flow MCV unit with a very high efficiency heat recovery unit (up to 90%), piping Ø 160mm, ceramic exchange pack.
- 5 adjustable speeds (from 18 to 40 m³/h).
- G3 Filters (F5 opt.).
- Controls on the machine.
- Relative humidity sensor on the machine (extraction at max speed if the set threshold is exceeded).

PERFORMANCE AND ABSORPTION



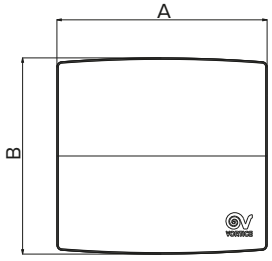
TECHNICAL DATA

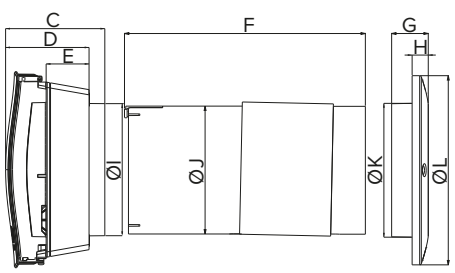
PRODUCT	CODE	Nom. Ø (mm)	(m³/h)	(W)	(PA)	Lp [dB (A)] 3m
VORT HRW 20 MONO	11634	160	41	5.5	40.6	23.6
VORT HRW 20 MONO RC	11635	160	41	5.5	40.6	23.6
VORT HRW 20 MONO HCS	11631	160	41	5.5	40.6	23.6

CONSUMPTION CURVES:
- 5th sp. (max)
- 4th sp.
- 3th sp.
- 2th sp.
- 1th sp. (min)

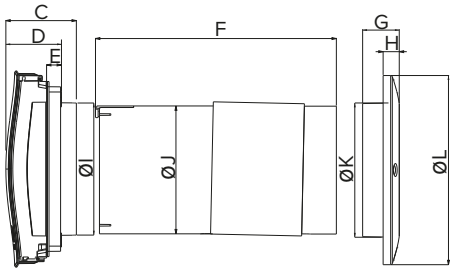
PERFORMANCE CURVES:
- 5th sp. (max)
- 4th sp.
- 3th sp.
- 2th sp.
- 1th sp. (min)

DIMENSIONS





VORT HRW 20 MONO (code 11634)
VORT HRW 20 MONO HCS (code 11631)



VORT HRW 20 MONO RC (code 11635)

Dimensions in mm

PRODUCTS	A	B	C	D	E	F	G	H	ØI	ØJ	ØK	ØL
VORT HRW 20 MONO	240	224	113	95	49	275	42	18	151	146	153	216
VORT HRW 20 MONO RC	240	224	80	64	17	275	42	18	151	146	153	216
VORT HRW 20 MONO HCS	240	224	113	95	49	275	42	18	151	146	153	216

ENERGY DATA

	UNIT OF MEASURE	VORT HRW 20 MONO
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	A
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-39.8
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-83.3
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		-14.9
DECLARED TYPE OF THE VENTILATION UNIT	-	UVR-U**
DRIVE TYPE	-	VM***
HRS TYPE HEAT EXCHANGER	-	recovery
THERMAL EFFICIENCY OF HEAT RECOVERY AT THE HRS REFERENCE FLOW RATE	%	90
MAXIMUM FLOW RATE	m³/h	31
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	5.1
Sound LEVEL	LWA [dB(A)]	44
REFERENCE FLOW RATE	m³/s	0.006
REFERENCE PRESSURE DIFFERENCE	Pa	10
SPI****	W/(m³/h)	0.166
CTRL CONTROL FACTOR	-	1
CONTROL TYPE	-	manual
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	NA*
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	NA*
MIXING RATE	-	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	NA*
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	0.48
INDOOR/OUTDOOR AIR SEALING	m³/h	0
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	229
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	4550
COLD AHS ANNUAL HEATING SAVINGS		8901
WARM AHS ANNUAL HEATING SAVING		2057

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

VORT HRW MONO RANGE

DECENTRALIZED HEAT RECOVERY UNITS

TECHNICAL CHARACTERISTICS

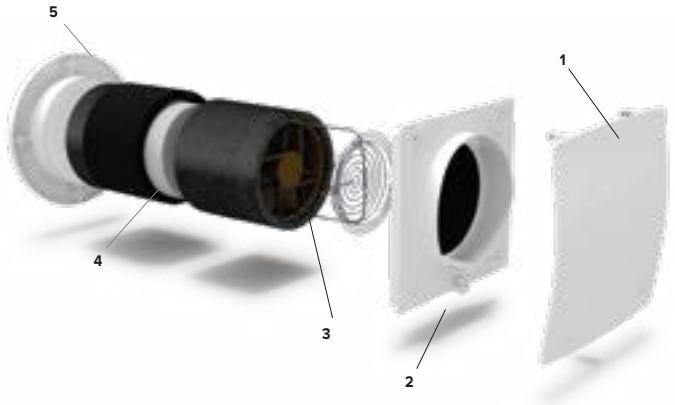
- **3 models**, also in version with relative humidity sensor, with integrated or remote controls, compatible with recessed housing in standard UNI 503 and DIN boxes.
- **Wall frames and internal panels in plastic resin** (ABS) self-extinguishing (V0) white resistant to impact and aging due to sun exposure ("UV resistant").
- The panels, **internally lined with thermal insulation material** to avoid condensation, are without frontal openings (perimeter intake and delivery) for better aesthetic integration in the target environment.
- In the VORT HRW 20 MONO and VORT HRW 20 MONO HCS models, **the frames house the controls**, the power supply of the fan motor and the relative humidity sensor and integrate the spigot of the ventilation duct.
  They are also prepared for in-wall wiring.
- **Casings in expanded polypropylene** (PPE), designed for housing in a hole, with a nominal diameter of 160 mm, drilled in the target perimeter wall.
- **External molded rubber grilles**, fit from the inside through the hole in the target wall, to simplify the installation of the product. They include an easily removable insect net to simplify cleaning operations.
- EC motor fans, to guarantee **very low consumption**, powered by low voltage and with shafts mounted on ball bearings. Characterized by 5 operating speeds, for the best compromise between air flow rate, consumption and sound emission, they are designed to work in a clockwise and anti-clockwise direction, and thus allow the product to operate in the Intake, Ventilation and Ventilation with heat recovery modes.
- **High efficiency storage heat exchangers**, made of ceramic material of the hexagonal cell type to maximize the heat exchange surface. In winter operation (in summer the logic is reversed), thanks to the periodic inversion of the rotation direction of the motor fan, the exchange pack is cyclically heated by the extracted hot air and subsequently transfers most of this heat to the incoming cold renewal air.
- **Washable and easily accessible G3 filters** for maintenance/cleaning.
- **Pre-filters**, housed on the external side.
- The VORT HRW 20 MONO models, designed to **maximize the simplicity of installation**, are complete with controls, integrated in the wall frames, for switching the appliance on or off and selecting the operating mode and speed. They also include diagnostic and signaling LEDs concerning the filter status and the power supply of the fan motor. The VORT HRW 20 MONO HCS models differ from the previous ones for the presence of a relative humidity (RH) sensor, with an alternatively adjustable threshold value, at installation, of 60%, 70%, 80% or 90%, for switching the automatic operation to intake mode when the concentration of RH in the target environment exceeds the preset limit.
- The VORT HRW 20 MONO RC models, **designed to minimize the aesthetic impact** of the installed product, are characterized by a particularly thin wall frame (17 mm only). They are combined with the HRW RC remote control unit, (available as an accessory), with wired connection, wall-mountable in a recessed housing like a standard UNI 503 box.
- **Degree of dust and water protection**: IPX4.
- **Electrical insulation class**: II (grounding not required).

TECHNICAL DATA

PRODUCTS	CODE	V~50	W min/max	A min/max	MAX FLOW RATE		MAX PRESSURE		Lp dB(A)* 3m min/max	°C* MAX	KG
					m^3/h min/max	l/s min/max	mmH_2O min/max	Pa min/max			
VORT HRW 20 MONO	11634	230	1.0 5.0	0.015 0.050	10 41	2.77 11.3	0.64 4.10	6.2 40.6	<16.0 23.6	30	2.55
VORT HRW 20 MONO RC	11635	230	1.0 5.5	0.015 0.050	10 41	2.77 11.3	0.64 4.10	6.2 40.6	<16.0 23.6	30	2.55
VORT HRW 20 MONO HCS	11631	230	1.0 5.5	0.015 0.050	10 41	2.77 11.3	0.64 4.10	6.2 40.6	<16.0 23.6	30	2.60

** Acoustic pressure measured from 3 m in free field, in compliance with ISO 3741. ** Maximum continuous operating temperature of the product.*

MAIN COMPONENTS



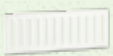
1 - Aesthetic plastic panel in self-extinguishing V0 polymer (ABS), internally covered with heat-insulating material.
2 - Wall frame of the Vort HRW 20 Mono and VORT HRW 20 MONO HCS models.
3 - EC brushless motor with high performance and extremely low consumption, with low sound emissions.
4 - Accumulation heat exchanger made of high efficiency ceramic material.
5 - Molded rubber external grille, mountable on the outside with dowels or internally insertable through the hole in the wall without having to use external scaffolding.
6 - 3-position slide selector for the ventilation mode: position 1 → heat recovery (cyclic inversion of the direction of rotation every 60 sec); position 2 → extraction; position 3 → delivery.
7 - Speed Knob: 0 = Off, 1-5 = fan speed.
8 - LED indicator for filter status: LED off → clean filters; LED on → filters to be cleaned or replaced.
9 - Humidity sensor only in HCS models (code 11631)

REGULATORS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HRW MONO code 11631	VORT HRW MONO code 11634	VORT HRW MONO code 11635	REMOTE CONTROL UNIT code 22693
	HRW RC Control box	116x83x68.5	22693			✓	
	**C TEMP** Temperature detector	144x54x55.8	12992		✓	✓	
	**C HCS** Humidity detector	144x54x55.8	12994		✓	✓	
	**WALL BOX HRW RC**	-	22732				✓
	**BUILT-IN BOX TYPE 503**	-	22461				✓

System components (description and data from page 96).
Regulators (description and data from page 152).

ACCESSORIES

MODELS	DESCRIPTION	CODE	VORT HRW MONO code 11631	VORT HRW MONO code 11634	VORT HRW MONO code 11635
	**PVC HRW PIPE** Rigid PVC duct (diameter 160 and length 700 mm) for wall mounting.	22599	✓	✓	✓
	**MWS** Metal grille	21148	✓	✓	✓
	**WA KIT** Circular or rectangular adapter for mounting the window grille.	21191	✓	✓	✓
	**WSG-INOX** Rectangular stainless steel grille for WA KIT	21193	✓	✓	✓
	**WSG-W** White rectangular grille for WA KIT	21192	✓	✓	✓

VORT HRW MONO D RANGE

DECENTRALIZED HEAT RECOVERY UNITS

A | **CENTRALIZED VENTILATION** | **WALL MOUNTED** | **UP TO 20 M²**

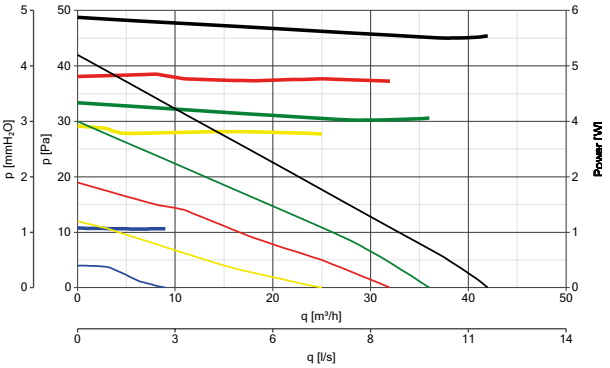
Decentralized ventilation system with heat recovery, high efficiency, suitable for recessed installation (nominal hole diameters 160 mm) in outside walls of thickness between 300 mm and 700 mm. Quiet, efficient, energy saving and antiallergic (thanks to built-in filers preventing the release of pollutants and allergens into the surrounding air), easy to install and maintain, the VORT HRW 20 MONO D (code 11671), represents the ideal alternative to traditional dual flow centralized ventilation systems.

VORT HRW 20 MONO D CODE 11671

REMOTE CONTROL UNIT
CODE 11671

- Single room alternating flow MCV unit with a very high efficiency heat recovery unit (up to 90%), piping Ø 160mm, ceramic exchange pack.
- Recessed wall-mount installation with housing made of expanded polypropylene (PPE).
- 5 adjustable speeds (from 18 to 40 m^3/h).
- G3 Filters (F5 opt.).
- High efficiency storage heat exchanger, made of ceramic honeycomb material designed to maximize the heat exchange surface.

PERFORMANCE AND ABSORPTION



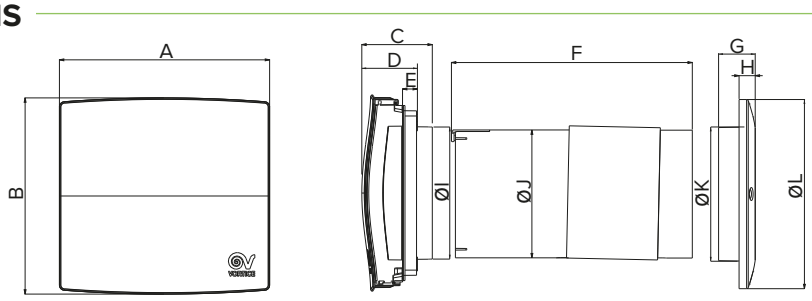
TECHNICAL DATA

PRODUCT	CODE	Nom. Ø (mm)	(m^3/h)	(W)	(PA)	Lp [dB (A)] 3m
VORT HRW 20 MONO D	11671	160	42	5	40.6	26

CONSUMPTION CURVES:
- 5th sp. (max)
- 4th sp.
- 3th sp.
- 2th sp.
- 1th sp. (min)

PERFORMANCE CURVES:
- 5th sp. (max)
- 4th sp.
- 3th sp.
- 2th sp.
- 1th sp. (min)

DIMENSIONS



VORT HRW 20 MONO D (code 11671)

PRODUCTS	A	B	C	D	E	F	G	H	ØI	ØJ	ØK	ØL
VORT HRW 20 MONO HCS	240	224	80	64	17	275	42	18	151	146	153	216

Dimensions in mm

ENERGY DATA

	UNIT OF MEASURE	VORT HRW 20 MONO D
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	A
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-40.2
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-83.3
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		2.5
DECLARED TYPE OF THE VENTILATION UNIT	-	UVR-U**
DRIVE TYPE	-	VSD***
HRS TYPE HEAT EXCHANGER	-	recovery
THERMAL EFFICIENCY OF HEAT RECOVERY AT THE HRS REFERENCE FLOW RATE	%	89
MAXIMUM FLOW RATE	m³/h	35
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	5
Sound LEVEL	LWA [dB(A)]	46
REFERENCE FLOW RATE	m³/s	25
REFERENCE PRESSURE DIFFERENCE	Pa	19
SPI****	W/(m³/h)	0.12598
CTRL CONTROL FACTOR	-	1
CONTROL TYPE	-	manual
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	NA*
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	NA*
MIXING RATE	-	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	NA*
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	0.27
INDOOR/OUTDOOR AIR SEALING	m³/h	0
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	174
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	4515
COLD AHS ANNUAL HEATING SAVINGS		2732
WARM AHS ANNUAL HEATING SAVING		2042

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

TECHNICAL CHARACTERISTICS

- **Ultra low power consumption** (2.8 W to 8.6 W), perfectly compatible with operation 24/7.
- **High heat exchange efficiency (up to 89%),** certified by independent body, guaranteeing comfort and minimal waste of energy.
- **Extremely low noise levels**, compatible with installation in living rooms (lounge, study, bedroom), and use during the night.
- Offering **compact dimensions,** plus ease of installation and set-up, these VORT HRW 20 MONO D units are ideal both for new buildings and for renovation projects.
- **Wide range of alternative operating modes**, allowing selection of the best balance between performance, power consumption and noise levels.
- **Simple and intuitive to use.**
- **Ventilation duct with damper mechanism**, to prevent the risk of contaminants entering from outside and maximize heat insulation in the event that the room will not be occupied for extended periods.
- **Facility of operation in conjunction with an extractor fan**, to ensure continuous and correct ventilation of the dwelling.
- **Option of operation** in automatic mode, enabled by installing temperature and relative humidity sensors (optional).
- Possibility of installation on outside walls of thickness between 300 mm and 700 mm (with optional accessory).
- Operation permissible across a wide range of outdoor temperatures (-20° / 50° C).
- **Internal panel made of self-extinguishing plastic polymer (ABS V0)**, coated with heat-insulating material to avoid condensation and designed without frontal vents so as to blend effortlessly into the interior decor (peripheral intake and outlet vents). Provision made for chased wiring.
- External grille made of plastic resin, complete with fly screen.
- F**an unit with EC motor, guaranteeing ultra low energy usage**, powered at low voltage and with shaft mounted on ball bearings to ensure virtually “maintenance free” operation. 5 fan speeds, favouring selection of the best balance between volume of air handled, power consumption and noise level.
- **G3 filter, mounted in separate frame to facilitate user serviceability,** washable and easily accessible for cleaning and maintenance.
- **Mesh prefilter** housed adjacent to the external grille.
- **Wired remote control unit supplied as standard accessory (code 21145)**, wall-mounted and compatible with DIN standard circular back box, diameter 60 mm. Complete with circuit board designed for use in combination with three alternative power adapters (optional), in versions for recessed mounting or panel installation (DIN rail) and designed to serve a maximum of 4 or 6 products, the control unit includes 2 Leds (indicating the operational status of the product and warning when the filter is clogged) and is factory prepared for use in combination with IR remote control.
- **Degree of dust and water protection**: IPX4.
- **Electrical insulation class**: II (grounding not required).

TECHNICAL DATA

SPEED	1	2	3	4	BOOST
Supply/extract airflow at different speed leves m^3/h	9	16	25	33	42
Fan power W	2	2,7	3,7	5,0	
Heat recovery efficciency	up to 89%				
Supply voltage V	input 230 V - 50/60 Hz /output 12 V				
Nominal current A	0,026	0,035	0,048	0,056	-
Weight Kg	2,55				
Temperature Max C°			-20° / 50° C		

SOUNDS LEVELS

Sound pressure LPA dB(A)*	16/22/26
Standard sound pressure difference Dn,e,w**	32 - 48 dB

** Sound pressure levels have been calculated at 3 mt in free field according to UNI EN ISO 3741:2010. ** Rating according to EN ISO 10140-2-2010 depending on accessories.*

MAIN COMPONENTS

REGULATORS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HRW MONO D code 11671
	**C SMOKE** Smoke sensor	**116x83x68.5**	**12992**	✓
	**C TEMP** Temperature detector	**144x54x55.8**	**12992**	✓
	**C HCS** Humidity detector	**144x54x55.8**	**12994**	✓

System components (description and data from page 96).
Regulators (description and data from page 152).

ACCESSORIES

MODELS	DESCRIPTION	CODE	VORT HRW MONO D code 11671
	**PVC HRW PIPE** Rigid PVC duct (diameter 160 and length 700 mm) for wall mounting.	**22599**	✓
	**MWS** Metal outer grille	**21148**	✓
	**MWS-A** Outside stainless steel windshield panel	**21219**	✓
	**WA KIT** Circular or rectangular adapter for mounting the window grille.	**21191**	✓
	**WSG-INOX** Rectangular stainless steel grille for WA KIT	**21193**	✓
	**WSG-W** White rectangular grille for WA KIT	**21192**	✓
	**M 5** Filter	**22699**	✓
	**M 5** Filter Kit	**22466**	✓

ADVANCED ELECTRONICS SUITE

Mode Selection:
→ extraction
→
→ Normal ventilation (without heat recovery)
→
← Heat recovery

HRW RCD D - code 21145
Remote control

Filter status indicator LED:
LED off → filter clean;
LED on → filters to be cleaned or replaced

Boost speed

Speed selection

PS24W - code 21187
Power supply for wall mounting - up to 4 units

PS36W - code 21188
Power supply for wall mounting - up to 6 units

PS36WDIN - code 21189
Power supply for electrical panel (DIN bar) - up to 6 units

VORT HR NETI RANGE

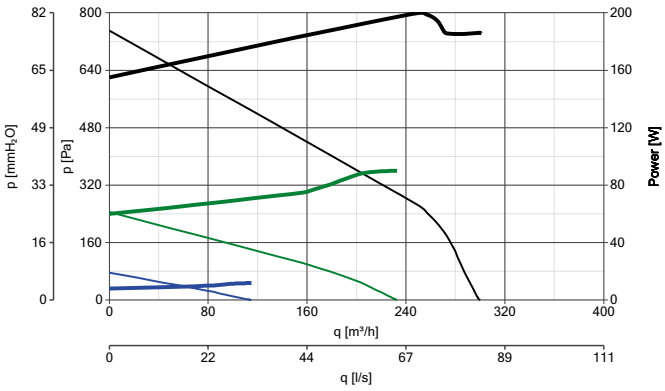
WALL-MOUNTED HEAT RECOVERY UNIT

A | **CENTRALIZED VENTILATION** | **WALL AND FLOOR MOUNTING** | **UP TO 180 M²**

Centralized dual flow ventilation unit with heat recovery for floor and wall installation, ideal for ventilation of homes and residential and commercial premises with a surface area of up to 180 m^2.

- Internal structure in high density expanded polypropylene 40kg/m^3.
- Aesthetic front panel in plastic resin, glossy white finish.
- Connection spigots to pipes with a nominal diameter of 125 mm, backward curved centrifugal fans directly coupled to EC motors.
- High efficiency counter flow heat exchanger in plastic material (PS).
- Automatic mechanical by-pass for free-cooling.
- Filters ePM10 50% (M5) and Coarse 65% (G4), located respectively in correspondence with the inlet and outlet ducts.
- Integrated control panel (Remote control panel with optional wired connection)
- Supporting bracket for wall installation integrated in the product
- Can be integrated into residential home automation systems (ModBus protocol) on RS485 SLAVE mode.

PERFORMANCE AND ABSORPTION



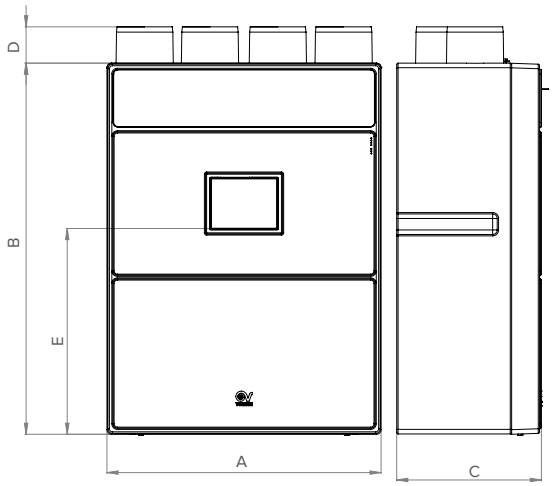
TECHNICAL DATA

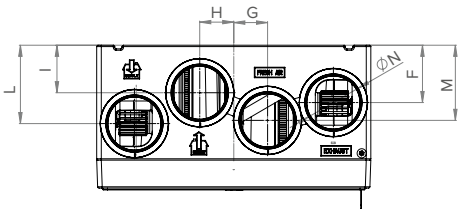
PRODUCT	CODE	Nom. Ø (mm)	(m^3/h)	(W)	(PA)	Lp [dB (A)] 3m
VORT HR 300 NETI	10935	125	300	190	735	24

CONSUMPTION CURVES
- max
- med
- min

PERFORMANCE CURVES
- max
- med
- min

DIMENSIONS





PRODUCTS	A	B	C	D	E	F	G	H	I	L	M	ØN
VORT HR 300 NETI	600	812	317	80	450	125	74	74	104	172	165	125

Dimensions in mm

ENERGY DATA

	UNIT OF MEASURE	VORT HR 300 NETI
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	A
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	- 35
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		- 74
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		- 11
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	%	87.9
MAXIMUM FLOW RATE	m³/h	270
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	190
Sound LEVEL	LWA [dB(A)]	57.2
REFERENCE FLOW RATE	m³/s	0.0525
REFERENCE PRESSURE DIFFERENCE	Pa	56
SPI****	W/(m3/h)	0.4392
CTRL CONTROL FACTOR	-	0.85
CONTROL TYPE	-	centralized env.
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	2.8
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	2.3
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	m³/h	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	442
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	4573
COLD AHS ANNUAL HEATING SAVINGS		8946
WARM AHS ANNUAL HEATING SAVING		2068

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

VORT HR NETI RANGE

WALL-MOUNTED HEAT RECOVERY UNIT

TECHNICAL CHARACTERISTICS

- **1 model**.
- Fire resistant expanded polypropylene casing (DIN EN 13501). Brackets for wall installation included in the standard equipment.
- Aesthetic front panels in white polycarbonate (alternative colors available on request), integrating the panels for direct access to the filters.
- Intake and delivery spigots compatible with the connection to pipes with a nominal diameter of 125 mm.
- Pair of motor fans driven by EC (brushless) motors of the external rotor type, with shafts mounted on ball bearings to ensure a virtually “maintenance free” operation, directly coupled to backward curved centrifugal impellers to guarantee high aeraulic efficiency. 3 operating speeds, independently settable at installation.
- High efficiency counter flow heat exchanger in plastic material (PS).
- Anti frost protection with automatic activation, to prevent the formation of frost at the heat exchanger.
- Mechanical, automatic and 100% filtered by-pass, to guarantee the comfort of the occupants of the rooms in mid seasons, or whenever the outside temperature does not require the action of the heat exchanger.
- Control unit with LCD display, for:
  - turning the product on and off;
  - the initial configuration of the product;
  - manual setting of the operating mode;
  - automatic management of the product and monitoring of its correct operation;
  - system diagnostics;
  - constant monitoring of the filters condition and signaling the need for their maintenance/replacement;
  - updating the firmware release.
- Pair of M5 filters (F7 filter available as an option for the delivery duct), easily accessible for periodic maintenance.
- Condensate collection tray with drain devices.
- Possibility of integration in home automation environments through the ModBus communication protocol.
- Possibility of interlocking with external environmental sensors (optional), for the automatic control of the operating mode.
- Degree of protection from dust and water: IPX2.
- Electrical insulation class: I (grounding required).

TECHNICAL DATA

PRODUCTS	CODE	V~50 / 60HZ	W max	A max	MAX FLOW RATE		MAX PRESSURE		°C* MAX	KG
					m^3/h	l/s	mmH_2O	Pa		
VORT HR 300 NETI	10935	220 - 240	190	1.33	300	83	75	735	40	15

** Maximum temperature with continuous operation of the product.*

FILTERS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HR NETI code 10935
	**M5 FILTER**	**275X125X48**	**21410**	✓
	**G4 FILTER**	**275X125X48**	**21411**	✓

REGULATORS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HR NETI code 10935	CB LCD R code 21194
	**CB LCD R** remote control unit with wired LCD panel, For recessed installation.	**116x83x65**	**21194**	✓	
	**WALL BOX HRW RC**	-	**22732**	✓	✓
	**BUILT-IN BOX TYPE 503**	-	**22461**	✓	✓
	**C HCS** Humidity detector	**144x54x55.8**	**12994**	✓	
	**C PIR** Presence detector	**144x54x55.8**	**12998**	✓	
	**C TEMP** Temperature detector	**144x54x55.8**	**12992**	✓	
	**C SMOKE** Polluted air detector	**144x54x55.8**	**12993**	✓	

System components (description and data from page 96).
Regulators (description and data from page 152).

ACCESSORIES

MODELS	DESCRIPTION	CODE	VORT HR NETI code 10935
	**HEATER 750** Pre-heater to prevent the formation of frost in correspondence of the heat exchanger, also in particularly harsh climates. Power 750W	**22735**	✓

VORT HR AVEL RANGE

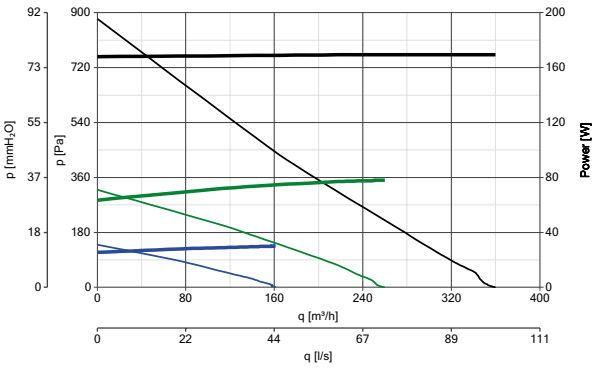
WALL-MOUNTED HEAT RECOVERY UNIT

A | **CENTRALIZED VENTILATION** | **WALL MOUNTED** | **UP TO 240 M²**

Centralized dual flow units with heat recovery for floor and wall installation, ideal for ventilation of homes and residential and commercial premises with a surface area of up to 240 m², characterized by high levels of thermal insulation.

- Internal and external structure in high density expanded polypropylene 40kg/m³.
- 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.
- Filters ePM10 50% (M5) and Coarse 30% (G3), located respectively in correspondence with the inlet and outlet ducts.
- Automatic anti frost function.
- Wired remote LCD control panel, can be housed in a 503 box.
- Bracket for wall installation supplied as an option
- Floor or wall installation. Can be integrated into residential home automation systems (ModBus protocol) on RS485 SLAVE mode.

PERFORMANCE AND ABSORPTION



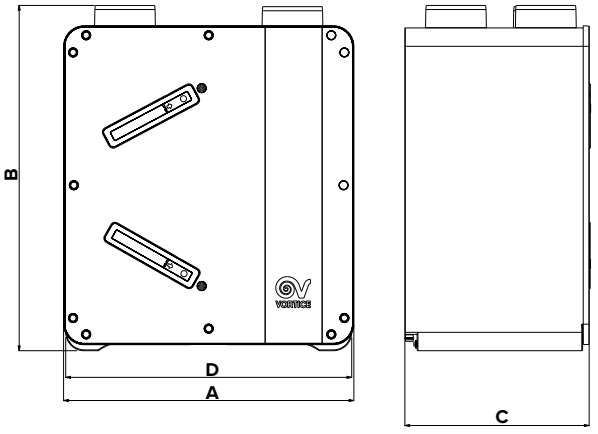
CONSUMPTION CURVES
max
med
min

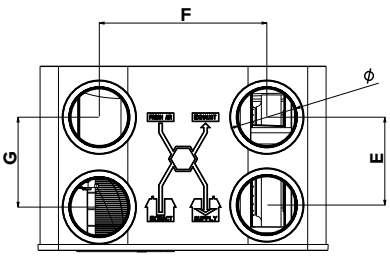
PERFORMANCE CURVES
max
med
min

TECHNICAL DATA

CODE	Nom. Ø (mm)	(m³/h)	(W)	(PA)	Lp [dB (A)] 3m
12106	150	350	165	880	23.1

DIMENSIONS





PRODUCTS	A	B	C	D	E	F	G	Ø
VORT HR 350 AVEL	712	845	455	700	215	410	220	150

Dimensions in mm

ENERGY DATA

	UNIT OF MEASURE	VORT HR 350 AVEL
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	A
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-38.4
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-77.0
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		-13.6
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	%	88.9
MAXIMUM FLOW RATE	m³/h	315
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	170.0
Sound LEVEL	LWA [dB(A)]	57
REFERENCE FLOW RATE	m3/s	0.0613
REFERENCE PRESSURE DIFFERENCE	Pa	70
SPI****	W/(m³/h)	0.31746
CTRL CONTROL FACTOR	-	0.85
CONTROL TYPE	-	centralized env.
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	3.4
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	3.3
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	m³/h	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	332
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	4600
COLD AHS ANNUAL HEATING SAVINGS		8999
WARM AHS ANNUAL HEATING SAVING		2080

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

VORT HR AVEL RANGE

WALL-MOUNTED HEAT RECOVERY UNIT

TECHNICAL CHARACTERISTICS

- Fire resistant expanded polypropylene casings (DIN EN 13501). Front panel in loaded plastic resin with panels for direct access to the filters.
- Spigots for **intake and delivery** 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 to ensure a virtually “maintenance free” operation, directly coupled to centrifugal impellers with backward curved blades to guarantee high aeraulic efficiency. 2 operating speeds.
- **High efficiency heat exchanger**, of the cross-flow type with counterflow, made of plastic resin (PS).
- **Automatic activation anti frost protection**, to prevent the formation of frost at the heat exchanger.
- **Mechanical, automatic and 100% filtered by-pass**, to guarantee the comfort of the occupants of the rooms in mid seasons, or whenever the outside temperature does not require the action of the heat exchanger.
- **Pair of M5 filters** (F7 filter available as an option for the delivery pipe) and **pair of filters Class ePM1 70%**
- **Condensate collection tray** with drain devices.
- **Brackets for wall installation** included in the standard equipment.
- Possibility of **interlocking with external environmental sensors** (optional), for the automatic control of the operating mode.
- **Degree of protection from dust and water**: IPX2
- **Electrical insulation class**: I (grounding required).

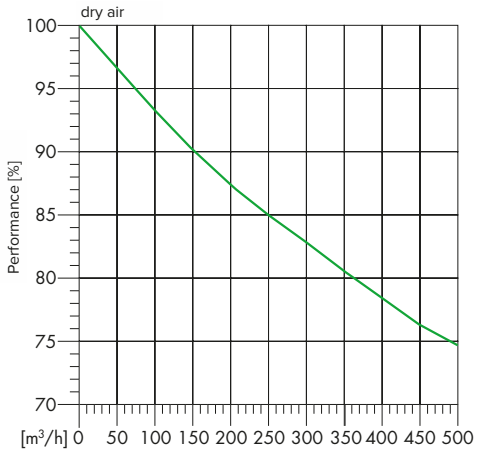
TECHNICAL DATA

PRODUCTS	CODE	V~50HZ	W max	A max	MAX FLOW RATE		MAX PRESSURE		°C* MAX	KG
					m^3/h	l/s	mmH_2O	Pa		
VORT HR 350 AVEL	12106	230	165	1.4	350	100	90	880	40	23

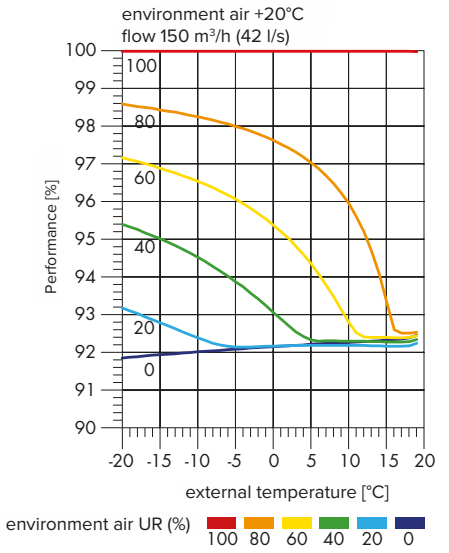
** Maximum temperature with continuous operation of the product.*

EFFICIENCY CURVES

EFFICIENCY IN ACCORDANCE WITH FLOW RATE



EFFICIENCY IN ACCORDANCE WITH CONDENSATION HEAT



VORT HR AVEL RANGE

WALL-MOUNTED HEAT RECOVERY UNIT

FILTERS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HR AVEL 350 code 12106
	G3 FILTER	198x398x15	22661	✓
	M5 FILTER	198X398X15	22662	✓

REGULATORS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HR AVEL 350 code 12106
	C TEMP Temperature detector	144x54x55.8	12992	✓
	C SMOKE Polluted air detector	144x54x55.8	12993	✓
	C HCS Humidity detector	144x54x55.8	12994	✓
	C PIR Presence detector	144x54x55.8	12998	✓

ACCESSORIES

MODELS	DESCRIPTION	CODE	VORT HR AVEL 350 code 12106
	AVEL WALL FIXING KIT	22663	✓
	750W HEATER Pre-heater to prevent the formation of frost in corre-spondenceof the heat exchanger, also in particularly harsh climates	22735	✓

System components (description and data from page 96).
Regulators (description and data from page 152).

NOTES

VORT AVEL HR 450 D RANGE

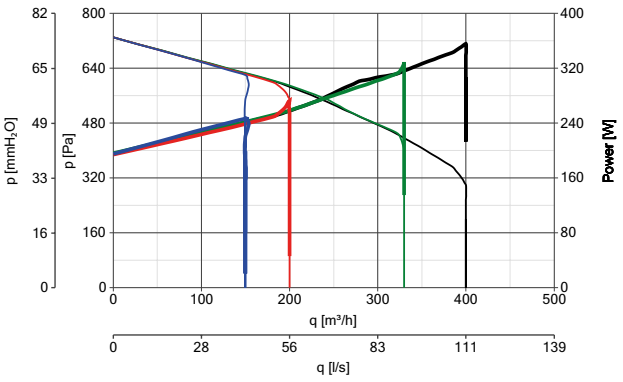
WALL-MOUNTED HEAT RECOVERY UNIT

A | **CENTRALIZED VENTILATION** | **WALL MOUNTED**

Double flow centralised unit with heat recovery for wall installation. Ideal for ventilation of homes and residential and commercial premises with surface areas up to 260 m^2.

- Vertical wall installation.
- Galvanised and painted steel sheet casing. Brackets for wall-installation included in standard supply.
- Aesthetic plastic resin (ABS) front panel.
- Plastic resin (PPE) internal parts.
- Extraction and delivery spigots compatible with ducts having nominal iameter equal to 160 mm.
- Pair of electric fans driven by external rotor constant flow regulation IEC motors (brushless) with shafts mounted on ball bearings to ensure virtually "maintenance-free" operation, directly coupled to forward-blade centrifugal impellers. 4 operating speeds, can be set independently on installation.
- High efficiency counter cross flow heat exchanger, made in plastic resin.

PERFORMANCE AND ABSORPTION



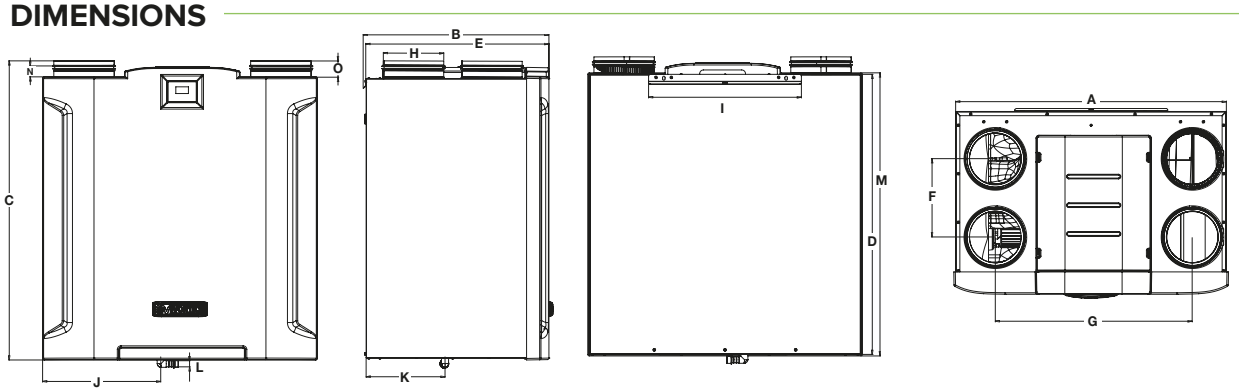
TECHNICAL DATA

CODE	Nom. Ø (mm)	(m^3/h)	(W)	(PA)	Lp [dB (A)] 3m
12101	158	400	350	680	23.1

Power consumption
- Min. Speed
- Med. Speed
- Max Speed
- Boost Speed

Performance curves
- Min. Speed
- Med. Speed
- Max Speed
- Boost Speed

DIMENSIONS



PRODUCTS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
VORT AVEL HR 450 D	709	486	783	733	479	205	516	Ø158	400	308	207	Ø16	741	26.5	40

Dimensions in mm

SOUND LEVELS

VORT AVEL HR 450 D	Lw db (A)	Lp db (A) 3 m*
Supply to internal	61,5	25,2
Extract to internal	45,7	41
Breakout	47,2	26,7

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

ENERGY DATA

MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	A
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-37
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-75
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		-12
DECLARED TYPE OF THE VENTILATION UNIT	-	UVR-B**
DRIVE TYPE	-	VSD***
HRS TYPE HEAT EXCHANGER	-	with recovery
THERMAL EFFICIENCY OF HEAT RECOVERY AT THE HRS REFERENCE FLOW RATE	%	88
MAXIMUM FLOW RATE	m³/h	400
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	258.5
Sound LEVEL	LWA [dB(A)]	47,2
REFERENCE FLOW RATE	m3/s	0.0778
REFERENCE PRESSURE DIFFERENCE	Pa	50
SPI**	W/(m³/h)	0.384
CTRL CONTROL FACTOR	-	0.85
CONTROL TYPE	-	local demand control
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	0.3
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	0.6
MIXING RATE	-	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	See user manual
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	NA*
INDOOR/OUTDOOR AIR SEALING	m³/h	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	393
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	4576
COLD AHS ANNUAL HEATING SAVINGS		8951
WARM AHS ANNUAL HEATING SAVING		2069

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

VORT AVEL HR 450 D RANGE

WALL-MOUNTED HEAT RECOVERY UNIT

TECHNICAL CHARACTERISTICS

- **Automatic frost protection** to prevent the formation of frost at the heat exchanger.
- **100%,mechanical by-pas**s, automatic operation and filtered to guarantee the comfort of the occupants of the rooms in mid-season, or when the outdoor temperature does not require the action of the heat exchanger.
- **Three ISO Coarse 90% (G4) class filters**, set respectively on the extraction duct, on the air delivery duct and on the by-pass (M5 and F7 filters available as an optional for the delivery duct and the by-pass), easily accessible for periodic maintenance.
- Condensate collection tray with drain devices.
- Possibility of interlocking to outdoor environmental sensors (optionals) for automatic control of the operating mode.
- **High performance**, suitable for the correct ventilation of large apartments and villas.
- **Easy installation and maintenance**: the front panel gives direct access to the main internal components. The position of the electrical contacts and the electronics, located on the upper facade of the product, facilitates connection to the mains and maintenance operations.
- **Low consumption,** perfectly compatible with 24-hour continuous operation.
- **Full compliance with German standards.**

TECHNICAL DATA

PRODUCTS	CODE	V~50HZ	W max	A max	MAX FLOW RATE		MAX PRESSURE		°C* MAX	KG
					m^3/h	l/s	mmH_2O	Pa		
VORT HR AVEL 450 D	12101	220-240	350	1.6	400	110	69	680	40	40

** Maximum temperature with continuous operation of the product.*

DETAILS

Can operate with environmental sensors

Control panel with display integrated

*Full compliance with PassivHaus requirements

High heat exchange efficiency

Automatic By-pass

Can be integrated into home automation environments by means of ModBus communication protocol

Magnetic cover easily removable for filter replacement

*in association with F7 filters, pre heater and silencer. Please refer to system accessories page 11

VORT AVEL HR 450 D RANGE

WALL-MOUNTED HEAT RECOVERY UNIT

FILTERS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HR AVEL 450 D code 12101
	FTR EPM10 50% (M5)	184x398x21	21625	✓
	FTR EPM1 55% (F7)	184x398x21	21624	✓
	FTR ISO COARSE 90% (G4)	200x420x5	21628	✓
	FTR EPM10 50% (M5)	54x200x21	21627	✓
	FTR EPM1 55% (F7)	54x200x21	21626	✓
	FTR ISO COARSE 90% (G4)	59x420x5	21629	✓

REGULATORS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HR AVEL 450 D code 12101
	**C SMOKE** Polluted air detector	144x54x55.8	12993	✓
	**C HCS** Humidity detector	144x54x55.8	12994	✓

ACCESSORIES

MODELS	DESCRIPTION	CODE	VORT HR AVEL 450 D code 12101
	**1200W HEATER** Pre-heater to prevent the formation of frost in correspondenceof the heat exchanger, also in particularly harsh climates	21622	✓
	**2400W HEATER** Pre-heater to prevent the formation of frost in correspondenceof the heat exchanger, also in particularly harsh climates	21623	✓
	**NA 160 PHI** Circular silencer for ducts	21643	
	**AF 169** Filter box	12993	✓

ADVANCED ELECTRONICS SUITE

Control panel with LCD for:

- Product switch-on and switch-off;
- Initial configuration of the product;
- Selection of operating speed;
- Weekly operating mode programming;
- Monitoring of the correct operation of the product (any malfunctioning is highlighted through error messages shown on the display)
- Display of the operating status (set speed, by-pass status, active defrosting procedure, any pre and/or post heater on, etc.)
- Indication of the condition of the saturated filters on the display

CB LCD D - code 21381
Wired remote control panel with
LCD display and menu

The Remote Control user interface allows users to:
Regulate fan speed
Modify weekly programming
View and manage any alarm situations

System components (description and data from page 96).
Regulators (description and data from page 152).

VORT PROMETEO PLUS RANGE

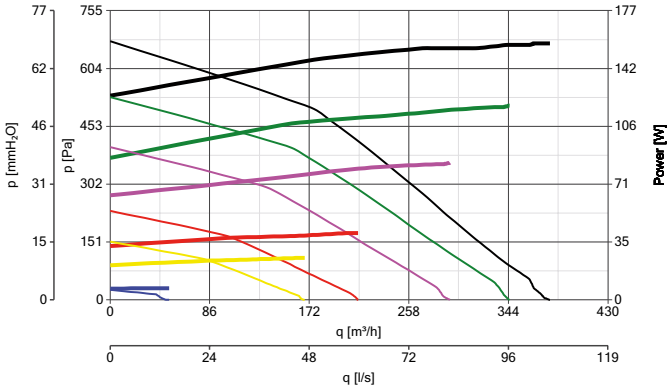
HEAT RECOVERY UNIT

A | CENTRALIZED VENTILATION | WALL AND FLOOR MOUNTING | UP TO 240 M²

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 m².

- Internal and external structure in high density expanded polypropylene 40kg/m³.
- 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 CO2 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.

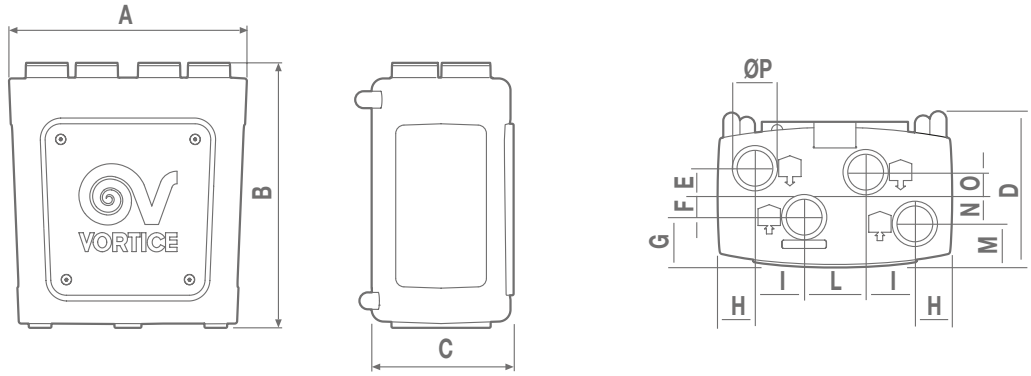
PERFORMANCE AND ABSORPTION



TECHNICAL DATA

CODE	Nom. Ø (mm)	(m³/h)	(W)	(PA)	Lp [dB (A)] 3m
11582	150	380	160	675	41

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) 125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Lw dB (A)	Lw dB (A) 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/m² 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	m3/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	m3/s	0.0661
REFERENCE PRESSURE DIFFERENCE	Pa	118
SPI****	W/(m3/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	m3/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

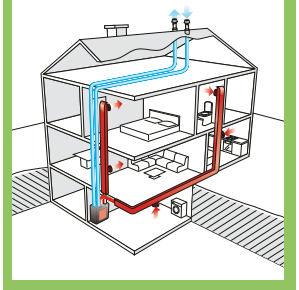
- **1 model**.
- **Expanded polypropylene casing** fire resistant (DIN EN 13501). Brackets for wall installation included in the standard equipment.
- **Front panel in plastic resin** loaded with panels for direct access to the filters.
- **Intake** and delivery spigots compatible with pipes with a nominal 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**$_2$ 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** (Ⓨ)
- **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_2O	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



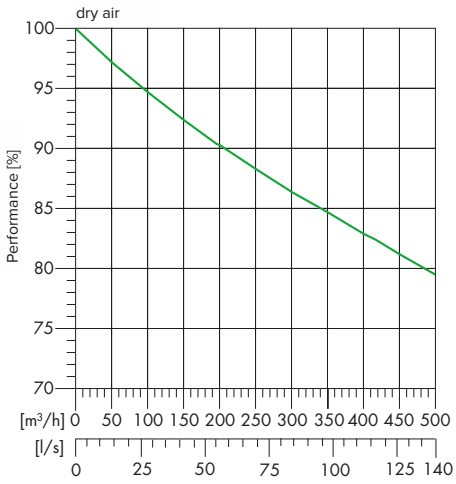
Examples of installations.

Intake and delivery spigots.

4 feet for horizontal installation supplied.

CURVES

EFFICIENCY IN ACCORDANCE WITH FLOW RATE



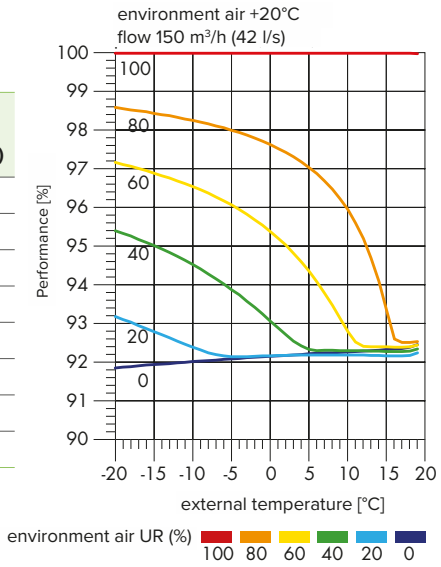
Efficiency according to flow rate

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

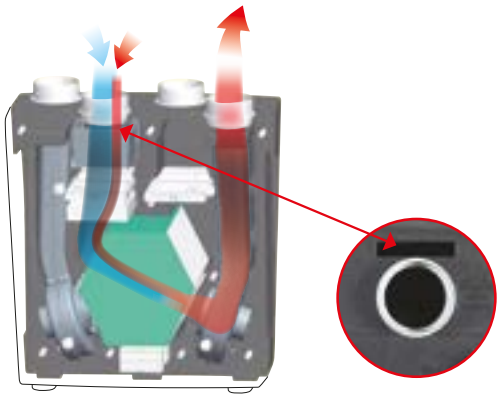
MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT PROME-TEO PLUS code 11582
	M5 FILTER	192x395x24	22342	✓

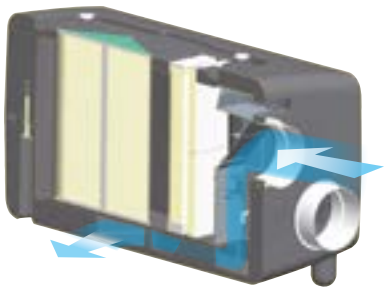
REGULATORS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT PROME-TEO 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





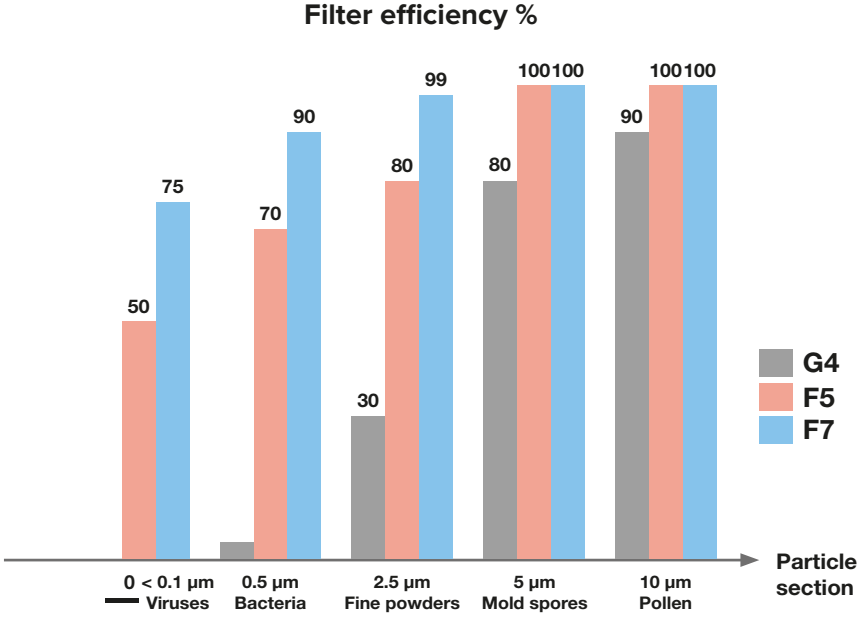
BY-PASS
In ISOTHERMAL situations (when the temperature of the internal and external environment is the same) or external temperature coinciding with the desired internal setting, the by-pass valve is activated by excluding the exchanger and enabling direct ventilation (FREE-COOLING).

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.

VORT HRI MINI RANGE

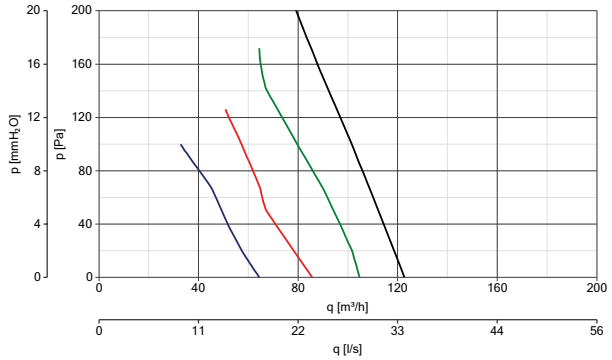
FALSE CEILING MOUNTED HEAT RECOVERY UNIT

A | **CENTRALIZED VENTILATION** | **FOR FALSE CEILING** | **UP TO 80 M²**

Centralized dual-flow ventilation unit with heat recovery for false ceiling mounting, ideal for the ventilation of homes, hotel rooms or general premises with a surface area of up to 80 m², characterized by high levels of thermal insulation.

- Suitable for false ceiling installation.
- Internal structure in high density expanded polypropylene 40kg/m³.
- Aesthetic paneling in galvanized sheet.
- Connection spigots to pipes with a nominal diameter of 100/125 mm, backward curved centrifugal fans directly coupled to EC motors.
- High efficiency counter flow heat exchanger in plastic material (PS).
- G2 Class filters (Coarse 30% UNI ISO 16890).
- Wired remote LCD control panel supplied (optional LCD panel housed in a 503 box).
- Automatic thermodynamic bypass, based on the temperature probes present in the machine.
- Its small size makes the product suitable for installation in niches (inside or outside).

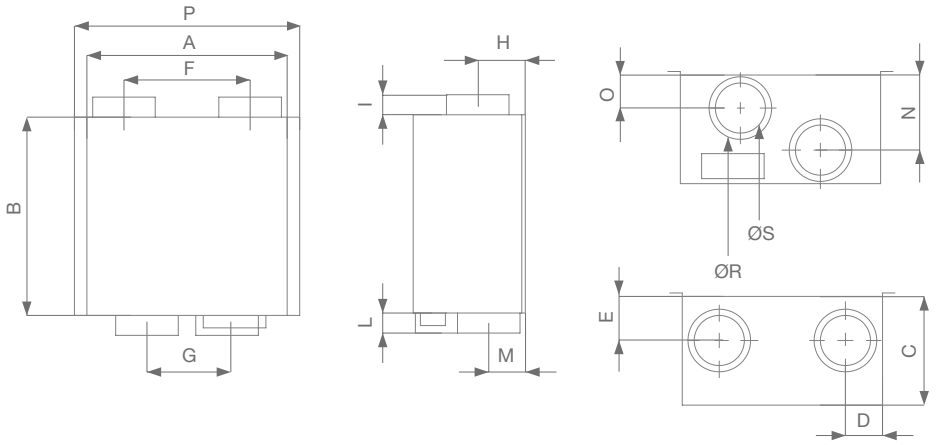
PERFORMANCE AND ABSORPTION



TECHNICAL DATA

PRODUCT	CODE	Nom. Ø (mm)	(m³/h)	(W)	(PA)	Lp [dB (A)] 3m
VORT HRI MINI	12163	100-125	122	86	200	-

DIMENSIONS



Dimensions in mm

PRODUCTS	A	B	C	D	E	F	G	H	I	L	M	N	O	P	ØR	ØS
VORT HRI MINI	400	396	224	74	88	252	160	95	40	40	73	150	66	450	125	100

ENERGY DATA

	UNIT OF MEASURE	VORT HRI MINI
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	A
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-39.4
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-78.4
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		-14.4
DECLARED TYPE OF THE VENTILATION UNIT	-	UVR-B**
DRIVE TYPE	-	VM ***
HRS TYPE HEAT EXCHANGER	-	recovery
THERMAL EFFICIENCY OF HEAT RECOVERY AT THE HRS REFERENCE FLOW RATE	%	87.7
MAXIMUM FLOW RATE	m³/h	103
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	79.0
Sound LEVEL	LWA [dB(A)]	42
REFERENCE FLOW RATE	m³/s	0.0200
REFERENCE PRESSURE DIFFERENCE	Pa	50
SPI****	W/(m³/h)	0.50000
CTRL CONTROL FACTOR	-	0.65
CONTROL TYPE	-	local env.
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	5
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	5
MIXING RATE	-	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	NA*
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	NA*
INDOOR/OUTDOOR AIR SEALING	m³/h	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	310
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	4646
COLD AHS ANNUAL HEATING SAVINGS		9088
WARM AHS ANNUAL HEATING SAVING		2101

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

VORT HRI MINI RANGE

FALSE CEILING MOUNTED HEAT RECOVERY UNIT

TECHNICAL CHARACTERISTICS

- **1 model**.
- **Casings in galvanized sheet steel** integrating support brackets for false ceiling mounting; internal shell covered in sound-absorbing and heat-insulating fire-resistant material (DIN EN 13501).
- **Intake and delivery spigots compatible** with pipes with a nominal diameter of 100 mm and 125 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. 2 operating speeds, independently settable at the time of installation, managed by the control electronics which include the monitoring function of any malfunctions, recorded in the microcontroller memory.
- **High efficiency heat exchanger**, of the cross-flow type with counterflow, made of plastic resin (PS).
- **Automatic activation frost protection**, to prevent the formation of frost at the heat exchanger.
- **Thermodynamic by-pass**, manually and automatically operated and 100% filtered, to guarantee the comfort of the occupants of the rooms in mid seasons, or whenever the outside temperature does not require the action of the heat exchanger.
- **Remote control unit**, wire connected, for:
  - selecting the minimum or maximum operating speed;
  - manual opening/closing of the thermodynamic by-pass;
  - setting the operation of the product in Manual or Automatic mode (see instruction booklet);
  - signaling, by means of an indicator light, the saturated filters condition.
- **Pair of G2 filters**, at the intake and delivery spigots.
- **Condensate collection tray** with overflow protection and discharge devices.
- **Degree of dust and water protection**: IPX2.
- Electrical insulation class: II (grounding not required).

TECHNICAL DATA

PRODUCTS	CODE	V~50HZ	W min/max	A min/max	MAX FLOW RATE		MAX PRESSURE		°C* MAX	KG
					m^3/h min/max	l/s min/max	mmH_2O min/max	Pa min/max		
VORT HRI MINI	12163	230	6 86	0.1 0.37	64 122	17 34	10 20	100 200	40	8.3

** Maximum temperature with continuous operation of the product.*

REGULATORS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HR MINI EP code 12163
	**BUILT-IN BOX TYPE 503**		**22461**	✓
	**HRI MINI CB** Optional remote control panel for 503 box	**116X83X75**	**12868**	✓

System components (description and data from page 96).
Regulators (description and data from page 152).

DETAILS

Low thickness, which makes it ideal for false ceiling installations.

Filters easily removable for replacement.

G2 FILTERS

Remote control unit supplied as standard.

VORT HRI FLAT RANGE

HEAT RECOVERY UNITS FOR FALSE CEILING MOUNTING

A | **CENTRALIZED VENTILATION** | **FOR FALSE CEILING** | **UP TO 240 M²**

Centralized dual flow ventilation units with heat recovery for false ceiling. The ideal balance between performance, functions and purchase and operating costs makes the VORT HRI FLAT range the most cost-effective solution for the ventilation of homes and residential and commercial premises with an area of up to 90 m² (VORT HRI 200 FLAT) or 240 m² (VORT HRI 350 FLAT), characterized by high levels of thermal insulation.

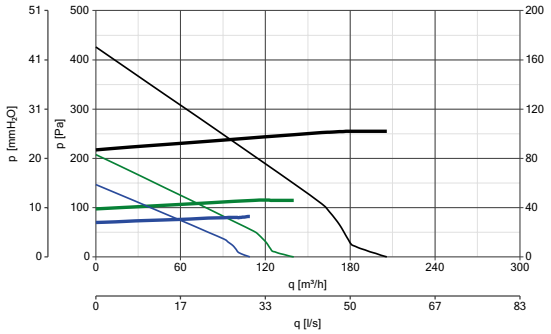
- Suitable for false ceiling installation.
- Self-supporting casing in galvanized sheet metal (10/10), with internal sound-absorbing coating.
- Connection spigots to pipes with a nominal diameter of 125mm (FLAT200) and 150mm (FLAT350), centrifugal fans backward with curved blades directly coupled to EC motors.
- High efficiency heat exchanger of the counterflow type in plastic material (PS).
- Automatic thermodynamic bypass, based on the temperature probes present in the machine.
- Pair of filters Class ePM10 (M5) 50% (F5).
- Three-speed control panel supplied as standard, suitable for a 503 box.

PERFORMANCE AND ABSORPTION

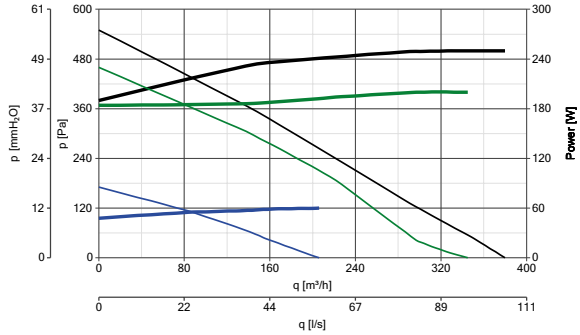
TECHNICAL DATA

PRODUCTS	CODE	Nom. Ø (mm)	(m³/h)	(W)	(PA)	Lp [dB (A)] 3m
VORT HRI 200 FLAT	11281	125	206	102	426	22.8
VORT HRI 350 FLAT	11282	150	380	250	550	16.7

VORT HRI 200 FLAT



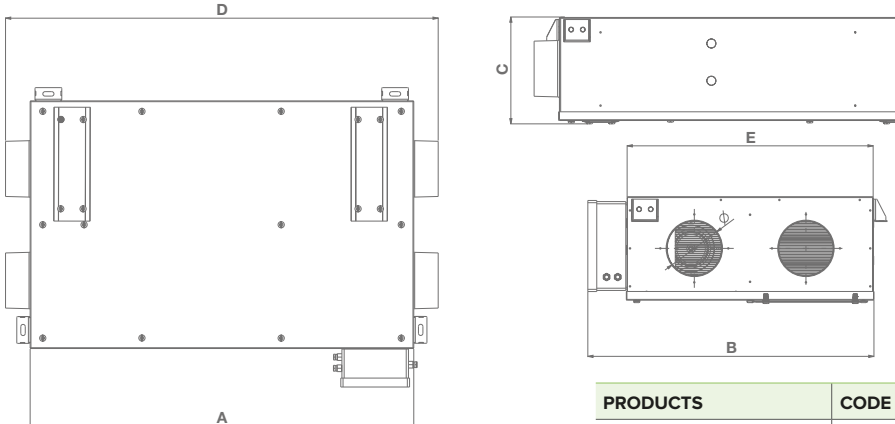
VORT HRI 350 FLAT



CONSUMPTION CURVES
max
med
min

PERFORMANCE CURVES
max
med
min

DIMENSIONS



PRODUCTS	CODE	A	B	C	D	E	Ø
VORT HRI 200 FLAT	11281	860	643	240	969	551	125
VORT HRI 350 FLAT	11282	1183	740	288	1287	650	150

Dimensions in mm

SOUND LEVELS

VORT HRI 200 FLAT		Lw dB (A) 125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Lw dB (A)	Lw dB (A) 3m*
MIN. SPEED	Delivery	22.7	31.4	17.4	14.9	10.1	na**	na**	43.3	22.8
	Intake	24.2	36.8	23.0	15.4	14.0	7.3	na**	36.5	16.0
	Casing	35.7	36.9	29.2	22.2	17.0	9.8	na**	43.1	22.6

VORT HRI 350 FLAT		Lw dB (A) 125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Lw dB (A)	Lw dB (A) 3m*
MIN. SPEED	Delivery	16.7	27.4	24.3	17.1	16.9	7.1	na**	37.2	16.7
	Intake	16.3	32.1	22.2	11.3	15.5	6.2	na**	37.8	17.3
	Casing	33.4	35.6	41.6	38.0	37.2	30.4	27.3	51.0	30.5

** Acoustic pressure measured at 3 m in free field with the intensimetric method in a semi-anechoic cabin at maximum speed in accordance with ISO 9614. ** Data not available.*

ENERGY DATA

	UNIT OF MEASURE	VORT HRI 200 FLAT	VORT HRI 350 FLAT
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	A	A
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-36.3	-38.0
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-74.7	-77.0
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		-11.7	-13.0
DECLARED TYPE OF THE VENTILATION UNIT	-	UVR-B**	UVR-B**
DRIVE TYPE	-	VSD***	VSD***
HRS TYPE HEAT EXCHANGER	-	recovery	recovery
THERMAL EFFICIENCY OF HEAT RECOVERY AT THE HRS REFERENCE FLOW RATE	%	87.8	90.4
MAXIMUM FLOW RATE	m³/h	163	280
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	100.0	165.0
Sound LEVEL	LWA [dB(A)]	43	51
REFERENCE FLOW RATE	m³/s	0.0317	0.0544
REFERENCE PRESSURE DIFFERENCE	Pa	50	70
SPI****	W/(m³/h)	0.39474	0.35204
CTRL CONTROL FACTOR	-	0.85	0.85
CONTROL TYPE	-	centralized env.	centralized env.
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	8.5	8.7
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	8.5	5.2
MIXING RATE	-	NA*	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	see instruction booklet	see instruction booklet
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	NA*	NA*
INDOOR/OUTDOOR AIR SEALING	m³/h	NA*	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	402	364
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	4570	4641
COLD AHS ANNUAL HEATING SAVINGS		8940	9078
WARM AHS ANNUAL HEATING SAVING		2067	2098

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

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

VORT HRI FLAT RANGE

HEAT RECOVERY UNITS FOR FALSE CEILING MOUNTING

TECHNICAL CHARACTERISTICS

- **2 models**, different in size and performance provided.
- **Casings in galvanized sheet steel** integrating support brackets for false ceiling mounting; internal shell covered in sound-absorbing and heat-insulating fire-resistant material (DIN EN 13501). Tie rods for suspended installation included in the standard equipment.
- **Intake and delivery spigots** compatible with pipes with a nominal diameter of 125 mm

  (VORT HRI 200 FLAT) and 150 mm (VORT HRI 350 FLAT).
- **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).
- **Automatic activation frost protection**, to prevent the formation of frost at the heat exchanger.
- **Mechanical by-pass**, automatic and 100% filtered, to guarantee the comfort of the occupants of the rooms in mid seasons, or whenever the outside temperature does not require the action of the heat exchanger.
- **Remote control unit**, wire connected, for:
  - switching the product on and off;
  - selecting the product's minimum, average or maximum speed;
  - signaling, by means of an indicator light, the saturated filters condition.
- **Pair of M5 filters** (F7 filter available as an option for the delivery duct), easily accessible for periodic maintenance.
- **Condensate collection tray** with drain devices.
- **Possibility of interlocking with external environmental sensors** (optional), for the automatic control of the operating mode.
- **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
					m^3/h	l/s	mmH_2O	Pa		
VORT HRI 200 FLAT	11281	230	102	1.0	210	58.3	48.4	475	40	24
VORT HRI 350 FLAT	11282	230	250	2.0	380	105	56.0	550	50	33

** Maximum temperature with continuous operation of the product.*

DETAILS

Condensate drain nozzles.

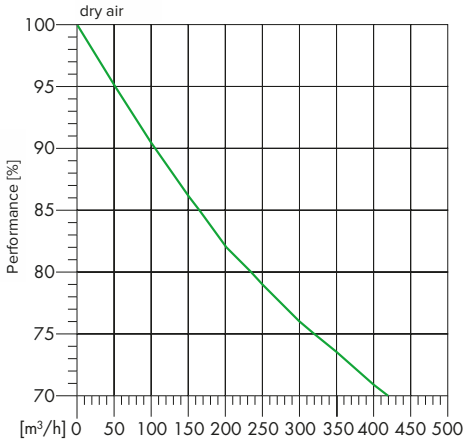
Easily removable filters.

Remote control unit supplied as standard.

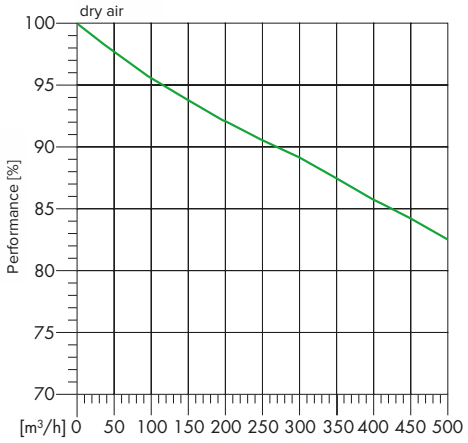
VORT HRI 200 FLAT code 11281
VORT HRI 350 FLAT cod. 11282

EFFICIENCY CURVES

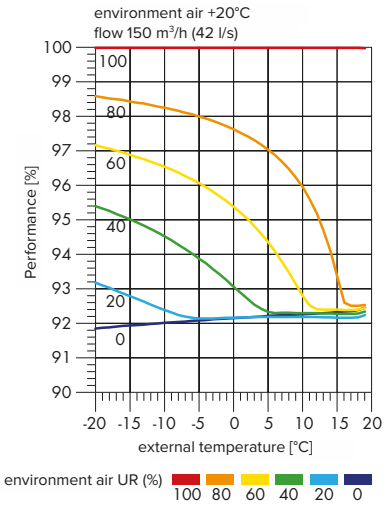
Efficiency in accordance with flow rate
VORT HRI 200 FLAT



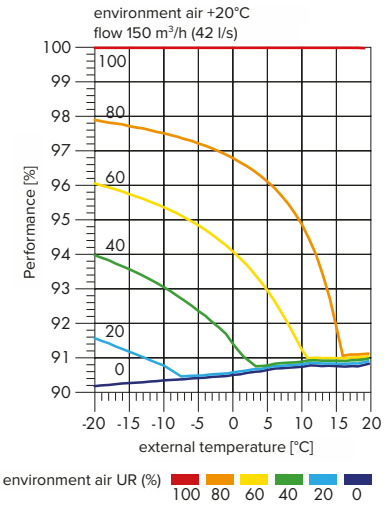
Efficiency in accordance with flow rate
VORT HRI 350 FLAT



Efficiency in accordance with condensation heat



Efficiency in accordance with condensation heat



FILTERS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HRI 200 FLAT code 11281	VORT HRI 350 FLAT cod. 11282
	F7 FILTER	228X224X24	22625	✓	
	F7 FILTER	230X250X48	22628		✓

ACCESSORIES

MODELS	DESCRIPTION	CODE	VORT HRI 200 FLAT code 11281	VORT HRI 350 FLAT cod. 11282
	**500W HEATER** Pre-heater to prevent the formation of frost in correspondenceof the heat exchanger, also in particularly rigid climates	22734	✓	
	750W HEATER Pre-heater to prevent the formation of frost in correspondenceof the heat exchanger, also in particularly rigid climates	22735		✓

System components (description and data from page 96).
Regulators (description and data from page 152).

VORT HRI PHANTOM RANGE

HEAT RECOVERY UNITS FOR FALSE CEILING MOUNTING

A | **CENTRALIZED VENTILATION** | **FOR FALSE CEILING** | **UP TO 240 M²**

Centralized dual-flow ventilation units with heat recovery for false ceilings, ideal for ventilation of homes and residential and commercial premises with a surface area of up to 90 m² (VORT HRI 200 PHANTOM) or 240 m² (VORT HRI 350 PHANTOM), characterized by high levels of thermal insulation.

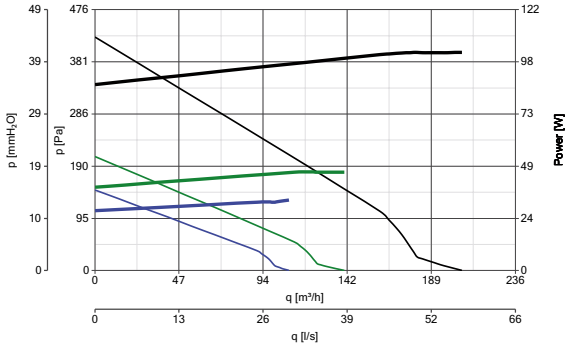
- Suitable for false ceiling installation
- Self-supporting casing in galvanized sheet metal (10/10), with internal fire-resistant sound-absorbing coating, lower cover in ABS.
- Connection spigots to pipes with a nominal diameter of 125mm (PHANTOM 200) and 150mm (PHANTOM 350), backward curved centrifugal fans directly coupled to EC motors.
- High efficiency counter flow heat exchanger in plastic material (PS).
- Automatic thermodynamic bypass, based on the temperature probes present in the machine.
- Automatic mechanical bypass, based on the temperature probes present in the machine (BP MODELS)
- Pair of filters Class ePM10 (M5) 50% (F5)
- Wired remote LCD control panel supplied as standard.

PERFORMANCE AND ABSORPTION

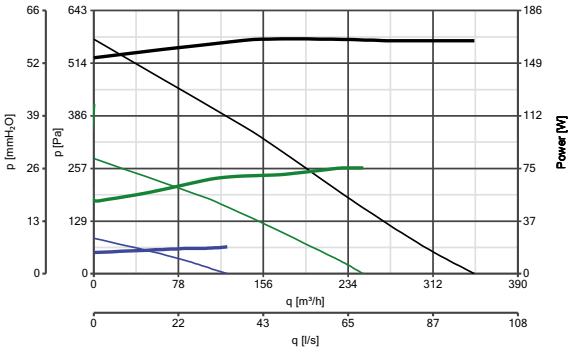
TECHNICAL DATA

PRODUCTS	CODE	Nom. Ø (mm)	(m³/h)	(W)	(PA)	Lp [dB (A)] 3m
VORT HRI 200 PHANTOM BP	11291	125	206	102	426	22.8
VORT HRI 350 PHANTOM BP	11293	150	350	165	568	16.7

VORT HRI 200 PHANTOM BP



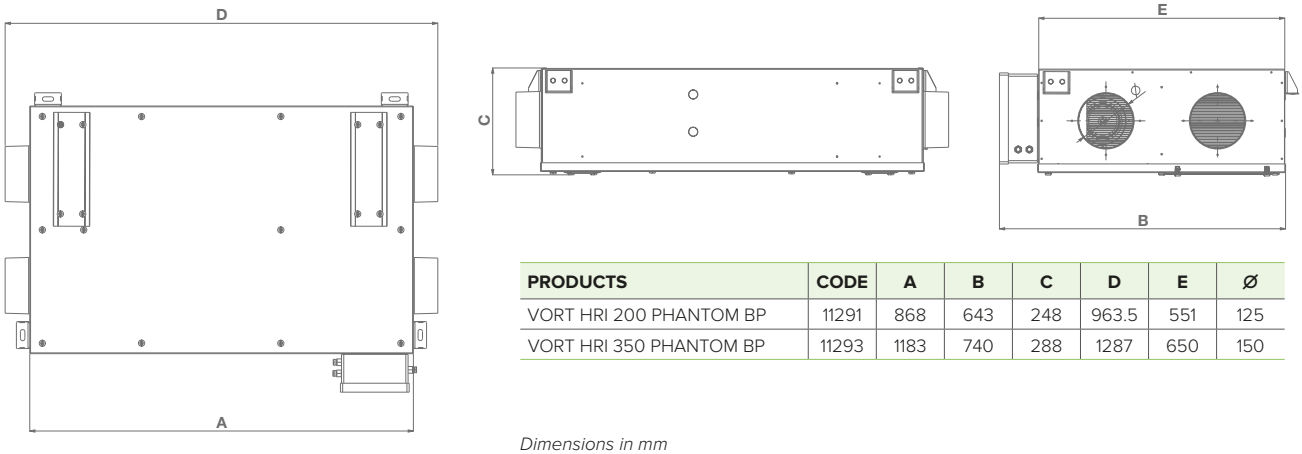
VORT HRI 350 PHANTOM BP



CONSUMPTION CURVES
max
med
min

PERFORMANCE CURVES
max
med
min

DIMENSIONS



PRODUCTS	CODE	A	B	C	D	E	Ø
VORT HRI 200 PHANTOM BP	11291	868	643	248	963.5	551	125
VORT HRI 350 PHANTOM BP	11293	1183	740	288	1287	650	150

Dimensions in mm

SOUND LEVELS

VORT HRI 200 PHANTOM BP		125 Hz	250 Hz	500 Hz	Lw dB (A) 1000 Hz	2000 Hz	4000 Hz	8000 Hz	Lw dB (A)	Lw dB (A) 3m*
MIN. SPEED	Delivery	22.7	31.4	17.4	14.9	10.1	na**	na**	43.3	22.8
	Intake	24.2	36.8	23.0	15.4	14.0	7.3	na**	36.5	16.0
	Casing	35.7	36.9	29.2	22.2	17.0	9.8	na**	43.1	22.6

VORT HRI 350 PHANTOM BP		125 Hz	250 Hz	500 Hz	Lw dB (A) 1000 Hz	2000 Hz	4000 Hz	8000 Hz	Lw dB (A)	Lw dB (A) 3m*
MIN. SPEED	Delivery	16.7	27.4	24.3	17.1	16.9	7.1	na**	37.2	16.7
	Intake	16.3	32.1	22.2	11.3	15.5	6.2	na**	37.8	17.3
	Casing	33.4	35.6	41.6	38.0	37.2	30.4	27.3	51.0	30.5

** Acoustic pressure measured at 3 m in free field with the intensimetric method in a semi-anechoic cabin at maximum speed in accordance with ISO 9614. ** Data not available.*

ENERGY DATA

	UNIT OF MEASURE	VORT HRI 200 PHANTOM BP	VORT HRI 350 PHANTOM BP
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	A	A
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-36.3	-38.0
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-74.7	-77.0
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		-11.7	-13.0
DECLARED TYPE OF THE VENTILATION UNIT	-	UVR-B**	UVR-B**
DRIVE TYPE	-	VSD***	VSD***
HRS TYPE HEAT EXCHANGER	-	recovery	recovery
THERMAL EFFICIENCY OF HEAT RECOVERY AT THE HRS REFERENCE FLOW RATE	%	87.8	90.4
MAXIMUM FLOW RATE	m³/h	163	280
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	100.0	165.0
Sound LEVEL	LWA [dB(A)]	43	51
REFERENCE FLOW RATE	m³/s	0.0317	0.0544
REFERENCE PRESSURE DIFFERENCE	Pa	50	70
SPI****	W/(m3/h)	0.39474	0.35204
CTRL CONTROL FACTOR	-	0.85	0.85
CONTROL TYPE	-	centralized env.	centralized env.
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	8.5	8.7
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	8.5	5.2
MIXING RATE	-	NA*	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	see instruction booklet	see instruction booklet
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	NA*	NA*
INDOOR/OUTDOOR AIR SEALING	m³/h	NA*	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	402	364
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	4570	4641
COLD AHS ANNUAL HEATING SAVINGS		8940	9078
WARM AHS ANNUAL HEATING SAVING		2067	2098

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

VORT HRI PHANTOM RANGE

HEAT RECOVERY UNITS FOR FALSE CEILING MOUNTING

TECHNICAL CHARACTERISTICS

- **4 models**, different in size and performance, equipped with thermodynamic or mechanical by-pass.
- **Casings in galvanized sheet steel** integrating support brackets for false ceiling mounting; internal shell covered in sound-absorbing, heat-insulating and fire-resistant material (DIN EN 13501). Tie rods for suspended installation included in the standard equipment.
- **Plastic resin bottom covers** (PP) thermoformed, integrating the panels for direct access to the air filters.
- **Intake and delivery spigots**compatible with pipes with a nominal diameter of 125 mm (VORT HRI 200 PHANTOM) and 150 mm (VORT HRI 350 PHANTOM).
- **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).
- **Automatic activation frost protection**, to prevent the formation of frost at the heat exchanger.
- **By-pass, thermodynamic or mechanical (BP models), automatic and 100% filtered**, to guarantee the comfort of the occupants of the rooms in mid seasons, or whenever the outside temperature does not require the action of the heat exchanger.
- **Remote control unit with LCD display**, of the wired connection type, for:
  - turning the product on and off;
  - the initial configuration of the product;
  - selecting the minimum, average or maximum speed of operation;
  - programming the operation;
  - displaying the time and room temperature;
  - monitoring the correct operation of the product (any malfunctions are highlighted through error messages shown on the display);
  - signaling the saturated filters condition on the display.
- **Pair of M5 filters** (F7 filter available as an option for the delivery duct), easily accessible for periodic maintenance.
- **Condensate collection tray** with drain devices.
- **Possibility of interlocking** with external environmental sensors (optional), for the automatic control of the operating mode.
- **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
					m^3/h	l/s	mmH_2O	Pa		
VORT HRI 200 PHANTOM	11290	230	102	1.0	206	57.2	43.5	426	40	24
VORT HRI 200 PHANTOM B.P.	11291	230	102	1.0	206	57.2	43.5	426	40	24
VORT HRI 350 PHANTOM	11292	230	165	1.4	350	97.0	58.0	568	50	33
VORT HRI 350 PHANTOM B.P.	11293	230	165	1.4	350	97.0	58.0	568	50	33

** Maximum temperature with continuous operation of the product.*

DETAILS

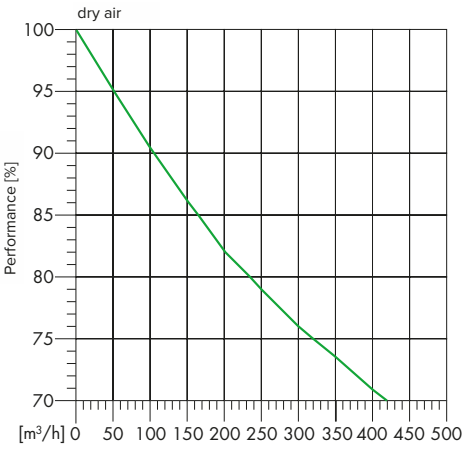
Condensate drain nozzles.

Full version lcd display supplied as standard (see operating detail on page 76).

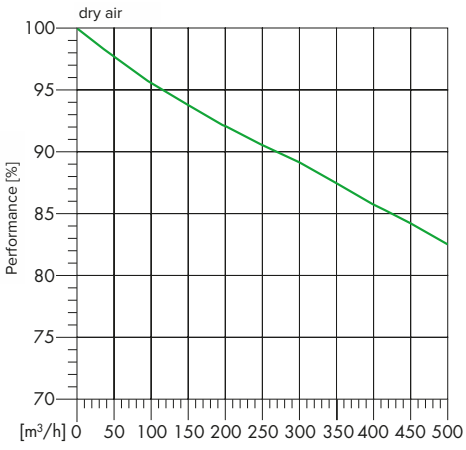
Side profile, versions with by-pass.

EFFICIENCY CURVES

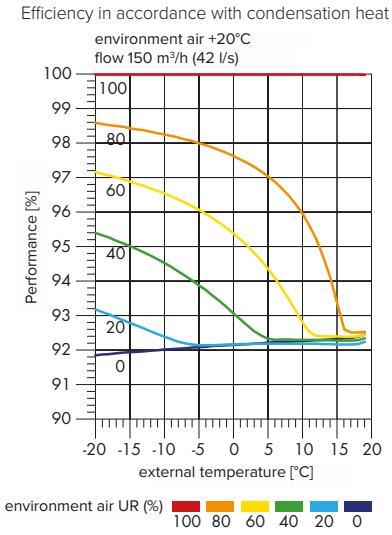
Efficiency in accordance with flow rate
VORT HRI 200 PHANTOM



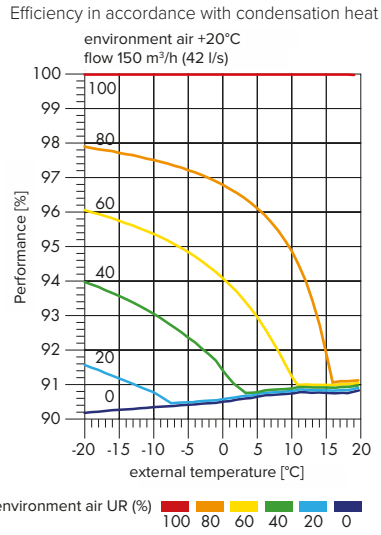
Efficiency in accordance with flow rate
VORT HRI 350 PHANTOM



Efficiency in accordance with condensation heat



Efficiency in accordance with condensation heat



FILTERS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HRI 200 PHANTOM code 11290	VORT HRI 200 PHANTOM BP code 11291	VORT HRI 350 PHANTOM code 11292	VORT HRI 350 PHANTOM BP code 11293
	F7 FILTER	228X224X24	22625	✓	✓		
	F7 FILTER	230X250X48	22628			✓	✓
	FM5 FILTER	230X250X48	22646			✓	✓
	FM5 FILTER	212X227X24	22647	✓	✓		

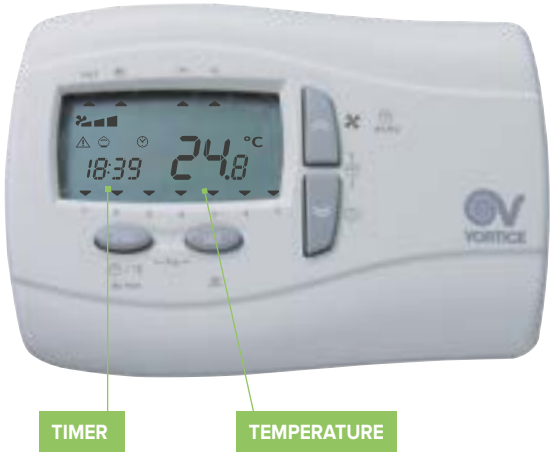
REGULATORS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HRI 200 PHANTOM code 11290	VORT HRI 200 PHANTOM BP code 11291	VORT HRI 350 PHANTOM code 11292	VORT HRI 350 PHANTOM BP code 11293
	**C TEMP** Temperature detector	144x54x55.8	12992	✓	✓	✓	✓
	**C SMOKE** Polluted air detector	144x54x55.8	12993	✓	✓	✓	✓
	**C HCS** Humidity detector	144x54x55.8	12994	✓	✓	✓	✓
	**C PIR** Presence detector	144x54x55.8	12998	✓	✓	✓	✓
	**SKP10 INSTALLER PANEL** Installer panel	-	22629	✓	✓	✓	✓

ACCESSORIES

MODELS	DESCRIPTION	CODE	VORT HRI 200 PHANTOM code 11290	VORT HRI 200 PHANTOM BP code 11291	VORT HRI 350 PHANTOM code 11292	VORT HRI 350 PHANTOM BP code 11293
	**500W HEATER** Pre-heater to prevent the formation of frost in correspondence of the heat exchanger, also in the presence of particularly harsh climates	22734	✓	✓		
	750W HEATER Pre-heater to prevent the formation of frost in correspondence of the heat exchanger, also in the presence of particularly harsh climates	22735			✓	✓
	**DCW 250 D.150** Cold battery	24146	✓	✓	✓	✓

LCD DISPLAY - SUPPLIED AS STANDARD



SOME ICONS SHOWN ON THE PANEL

ICONS	FUNCTIONS
	No-Frost
P1 - P2	Time profiles
	Speed
	OFF
	Alarm
	By-pass
	Time schedule programming
FILT	Filter replacement notice
HA	Antibacterial function

Please note: For a complete and in-depth explanation of the icons and the associated functions, please refer to the instruction booklet.

The LCD display controls the electronics of the product. Among the various functions, the control panel can be used for:

- turning the machine on and off,
- the initial configuration,
- the manual setting of the operating mode,
- the selection of the 3 speeds,
- the automatic management of the free-cooling function (only models with By-pass),
- setting the time slots and the room temperature,
- the display of the time or outside temperature,
- continuous monitoring of correct operation (any problems are signaled by error messages displayed on the control panel),
- constant monitoring of the filter status (need for maintenance highlighted on the control panel display).

System components (description and data from page 96).
Regulators (description and data from page 152).

VORT INVISIBLE MINI TOP

HEAT RECOVERY UNIT

A | **CEILING-MOUNTED CENTRALIZED** | **FALSE CEILING** | **UP TO 80 M²**

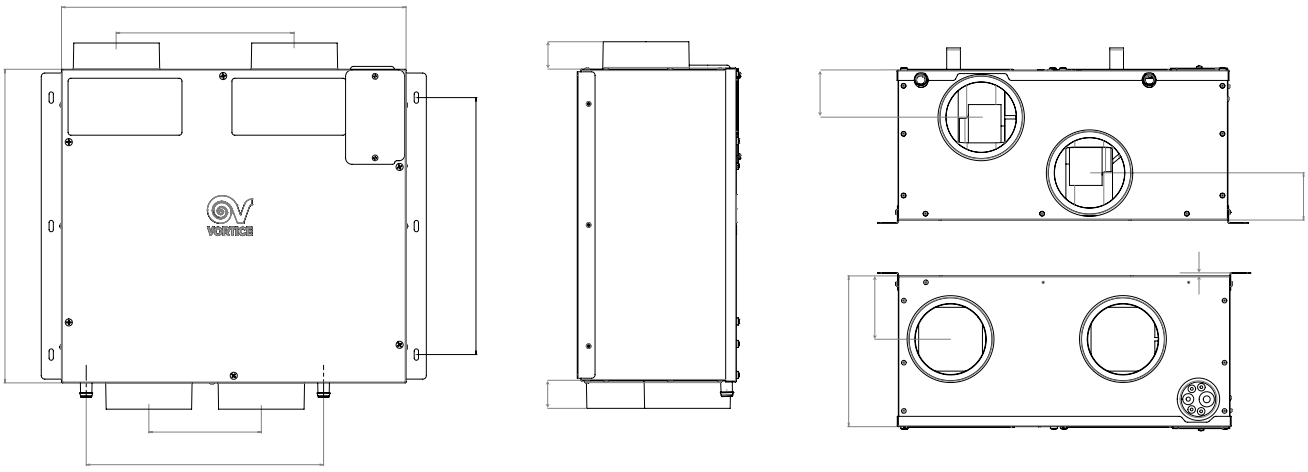
Dual flow centralized unit with heat recovery for false ceiling installation. Specifically designed for the ventilation of small flats, offices, holiday apartments and hotel rooms with surfaces up to 80 m^2.

- Great installation flexibility thanks to its small size, which facilitates installation in limited spaces typical of renovations.
- Easy to handle and set up thanks to its light weight.
- Easy maintenance: the filters, electrical connections and all main components are directly accessible from the lower part of the product.
- Guaranteed energy savings as a result of its high heat exchange efficiency (up to 87% according to European standard EN 308).
- Suitable for continuous 24/7 operation thanks to its low consumption.
- Operation can be optimized on cool summer nights, thanks to the free cooling function.
- Easy to use, thanks to the automatic operation functions.

TECHNICAL DATA

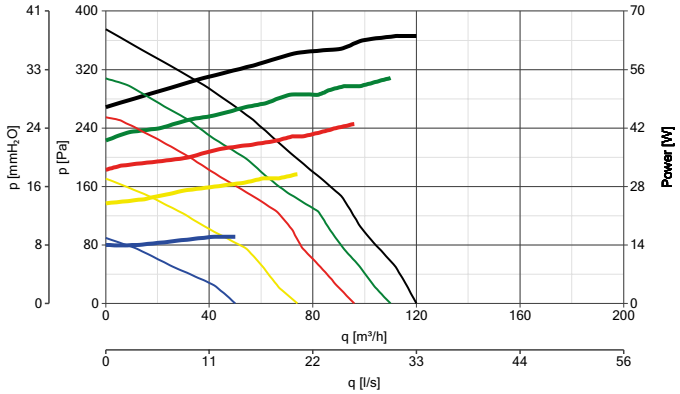
MODEL	CODE	V~50HZ	W min/ max	A min/ max	RPM min/ max	MAX AIRFLOW		MAX PRESSURE		IP	KG
						m^3/h min/max	l/s min/max	mmH_2O	Pa		
VORT INVISIBLE MINI TOP	12219	220-240	16 64	0.30 0.65	1830 3900	50 120	13.9 33.3	38.2	375	X2	14

DIMENSIONS



MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M
VORT HRI PHANTOM MINI BP HCS	484	440.5	218	40	40	250	158	69	69	92	333	5	361

PERFORMANCE AND ABSORPTION



ENERGY DATA

	UNIT OF MEASURE	VORT INVISIBLE MINI TOP
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	A
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-35
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-73
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		-10
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	%	87
MAXIMUM FLOW RATE	m³/h	100
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	W	63
Sound LEVEL	LWA [dB(A)]	46
REFERENCE FLOW RATE	m³/s	0.0194
REFERENCE PRESSURE DIFFERENCE	Pa	60
SPI****	W/(m³/h)	0.457
CTRL CONTROL FACTOR	-	0.85
CONTROL TYPE	-	centralized env.
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	3.0
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	3.0
MIXING RATE	-	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	see user manual
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	NA*
INDOOR/OUTDOOR AIR SEALING	m³/h	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	459
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	4548
COLD AHS ANNUAL HEATING SAVINGS		8898
WARM AHS ANNUAL HEATING SAVING		2057

** NA: Not applicable. ** UVR-U: Residential Ventilation Unit - Uni-directional. *** UVR-B: Residential Ventilation Unit - Bi-directional.*

***** VM: Multiple speeds. VSD: Variable Speed Drive. ***** SPI: Specific power input.*

VORT INVISIBLE MINI TOP

Heat Recovery Unit

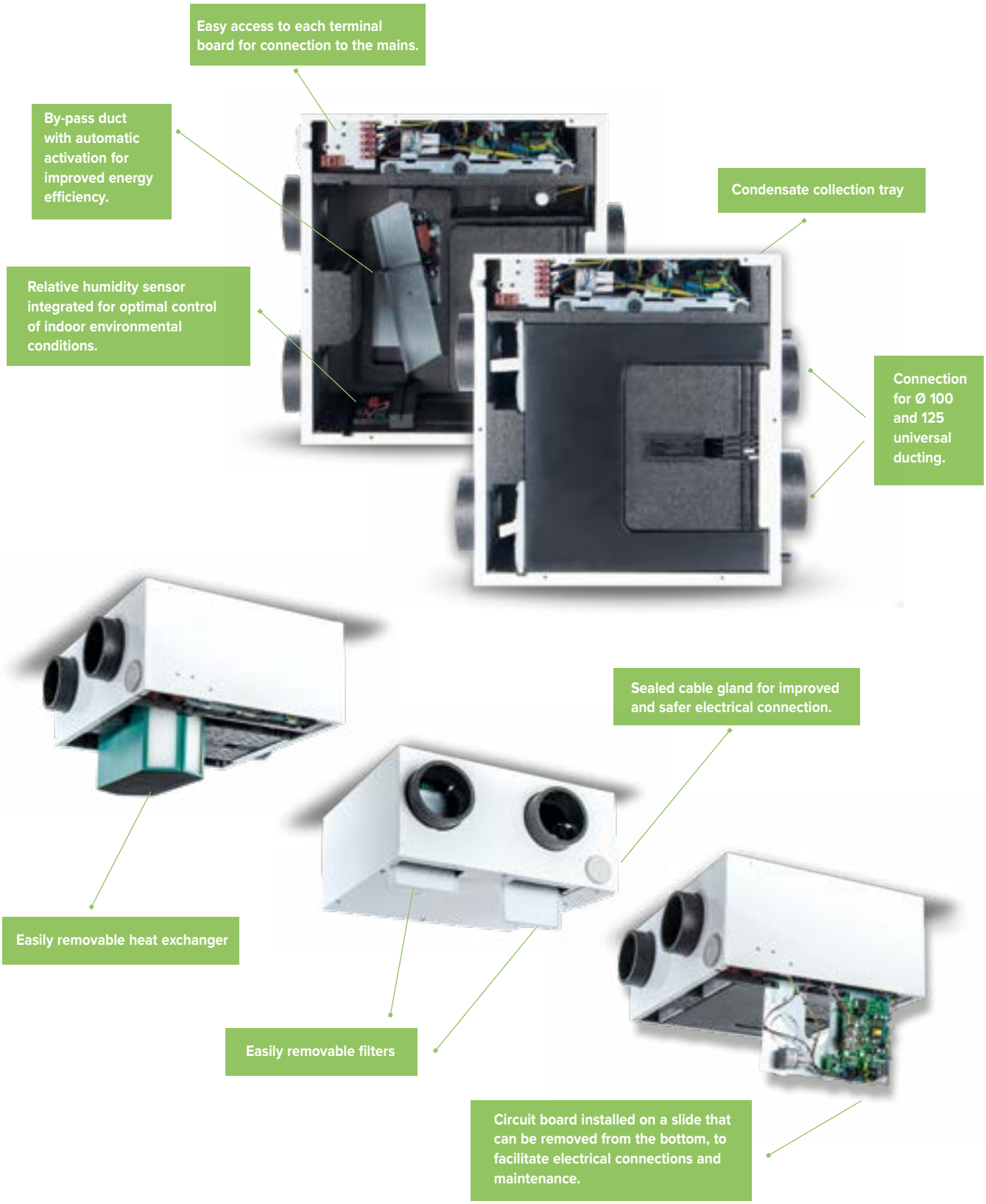
TECHNICAL CHARACTERISTICS

- White galvanized and painted steel sheet casing, including brackets in galvanized and painted steel sheet, supplied as standard and necessary for hanging installation of the unit.
- Expanded polypropylene (PPE) internal parts, integrating the connection inlets with the extraction and delivery piping with nominal diameter 100 and 125mm.
- Special panels located at the bottom of the product for easy access to the filters and to the main internal components (fans, heat exchanger, electronics and connection terminal board to the mains).
- Condensate collection tank in plastic resin, complete with "overflow" sensor to prevent the risk of overflowing.
- Pair of centrifugal fans driven by 3-speed EC motors (brushless) that can be adjusted independently.
- High efficiency counter cross flow heat exchanger in plastic resin.
- 100% filtered mechanical by-pass with automatic activation.
- Multiple cable gland in compliance with international safety standards UNI EN 60335-2-80.
- Pair of ISO Coarse 45% (G3) class filters set near the extraction and delivery ducts.
  As an option, ISO Coarse 65% G4 filters are available for the extraction duct and ePM10 50% (M5), and PM1 55% F7 and ePM1 80% (F9) class for the delivery duct.

SOUNDS LEVES

		SOUND POWER LwA dB(A)								SOUND PRESSURE dB(A)
		125	250	500	1k	2k	4k	8k	LwA	LpA 3m
100%	DELIVERY	37	44	51	42	39	25	8	53	35
	INTAKE	47	58	65	64	61	51	46	69	52
	CASING	35	45	48	43	46	47	36	53	36
90%	DELIVERY	35	43	51	40	38	24	8	52	34
	INTAKE	46	56	66	62	59	49	43	69	51
	CASING	32	44	49	41	44	45	34	53	35
80%	DELIVERY	35	41	53	38	35	8	8	53	36
	INTAKE	46	56	66	62	59	49	43	69	51
	CASING	32	42	47	38	41	42	32	50	33
60%	DELIVERY	31	49	37	31	27	7	8	50	32
	INTAKE	41	55	50	50	47	37	33	58	40
	CASING	28	44	34	32	34	34	34	46	25
40%	DELIVERY	26	31	30	21	7	7	8	34	17
	INTAKE	35	45	43	42	37	26	8	49	31
	CASING	26	34	27	23	22	7	8	36	16

DETAILS


Easy access to each terminal board for connection to the mains.
By-pass duct with automatic activation for improved energy efficiency.
Condensate collection tray
Relative humidity sensor integrated for optimal control of indoor environmental conditions.
Connection for Ø 100 and 125 universal ducting.
Sealed cable gland for improved and safer electrical connection.
Easily removable heat exchanger
Easily removable filters
Circuit board installed on a slide that can be removed from the bottom, to facilitate electrical connections and maintenance.

VORT INVISIBLE MINI TOP

Heat Recovery Unit

INSTALLATION

False ceiling. The area intended to contain the product must include an inspection hatch of adequate size to allow for filters, electrical connections and the circuit board.

FUNCTIONS

- **HOLIDAY** mode: the product operates at trickle speed to ensure adequate ventilation of the premises when not occupied for prolonged periods.
- **MIN**: the product operates at minimum speed to ensure the necessary air exchange in the presence of occupants.
- **MAX**: the product operates at maximum speed to reduce relative humidity and the concentration of pollutants.
- **AUTO**: the changeover from minimum speed to minimum speed is performed automatically based on the concentration of relative humidity detected by the relative humidity sensor (the threshold can be set at installation).
- **MAN**: selection of the product operating speed among those previously set is left to the user.
- **BOOST/ROOM LIGHT**: operation at maximum speed is set automatically when the bathroom light is switched on.
- **QUIET**: product operation at maximum speed is restricted within a pre-set time period, which can be set during installation.
- **BY-PASS**: when the outdoor temperature allows it, fresh, suitably filtered outside air is released into the premises without passing through the heat exchanger.
- **NO-FROST** mode: in the presence of low outdoor temperatures, the speeds of the two fans are automatically adjusted to prevent the formation of ice on the heat exchanger. Automatic start-up of the pre-heater (optional) ensures correct operation of the product in particularly harsh climates.

ADVANCED ELECTRONICS SUITE

- Setting during installation of the product operating parameters: fan speed, relative humidity threshold, SLEEP mode time inter val, automatic activation temperatures of free-cooling mode.
- Display of the set operating mode.
- Monitoring of filter occlusion conditions and signaling of the necessary cleaning/maintenance operations via optical signal on the remote control panel display.
- Possibility of subordinating the changeover to BOOST mode for consent of a remote presence sensor (PIR) wired to the device.

WIRED REMOTE CONTROL UNIT WITH LCD DISPLAY for:

- Initial product setting
- Start-up/stop
- Selection of the desired operating mode
- Display of the selected operating speed
- Display of the set relative humidity threshold
- Display of the defrosting procedure activation
- Display of saturated filter conditions
- Display of any error codes

RECESSED CONTROL UNIT IN STANDARD DIN BOX

PRE-HEATER

MODEL	DESCRIPTION	CODE
	**AH 125 (0,5kW)** Electronic Pre-heater	**22797**

CONTROLS

MODELS	DESCRIPTION	DIMENSIONS	CODE
	**C SMOKE** Smoke sensor	**144x54x55.8**	**12993**
	**C HCS** Humidity sensor	**144x54x55.8**	**12994**
	**BUILT-IN BOX TYPE 503**	**144x54x55.8**	**22461**
	**BUILT-IN DIN BOX**	**102x95x50**	**12898**

FILTER

	DESCRIPTION	DIMENSIONS	CODE
	**ISO Coarse 45% (G3)**	**206x132x5**	**21805**
	**ISO Coarse 65% (G4)**	**206x132x5**	**21806**
	**ePM10 50% (M5)**	**208x127x25**	**21802**
	**ePM1 55% (F7)**	**208x127x25**	**21803**
	**ePM1 80% (F9)**	**208x127x25**	**21804**

System components (description and data from page 96).
Regulators (description and data from page 152).

VORT HRI E RANGE

HEAT RECOVERY UNITS FOR FALSE CEILING MOUNTING

A | **CENTRALIZED VENTILATION** | **FOR FALSE CEILING** | **UP TO 240 M²**

Dual flow centralized ventilation unit with heat recovery for false ceiling mounting, ideal for ventilation of homes and residential and commercial premises with a surface of up to 120 m² (HRI- AND ONE) or 240 m² (HRI- TWO), characterized by high levels of thermal insulation.

- Suitable for false ceiling installation
- Internal and external structure in high density expanded polypropylene 40kg/m³
- Connection spigots to pipes with a nominal diameter of 125mm (HRI E ONE) and 150mm (HRI E TWO), backward curved centrifugal fans directly coupled to EC motors.
- High efficiency heat exchanger of the counter flow type in plastic material (PS).
- Automatic mechanical bypass, based on the temperature probes present in the machine (BP MODELS)
- Pair of filters Class ePM10 (M5) 50% (F5)
- Wired remote LCD control panel supplied as standard.
- Floor or wall installation. Can be integrated into residential home automation systems (ModBus protocol) on RS485 SLAVE mode.

PERFORMANCE AND ABSORPTION

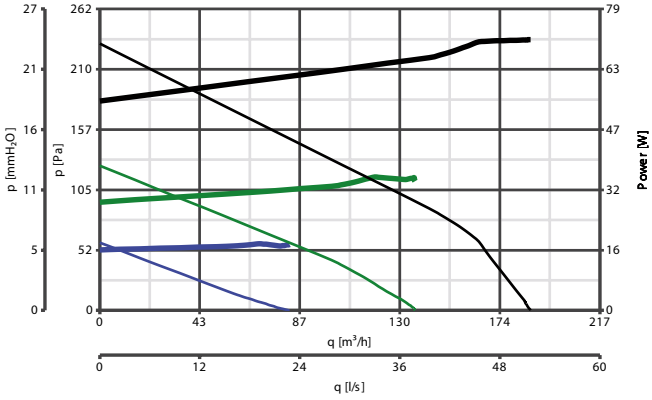
TECHNICAL DATA

PRODUCTS	CODE	Nom. Ø (mm)	(m³/h)	(W)	(PA)	Lp [dB (A)] 3m
HRI-E ONE F	11218	125	187	71	232	23
HRI-E TWO F	11228	125	365	167	758	57

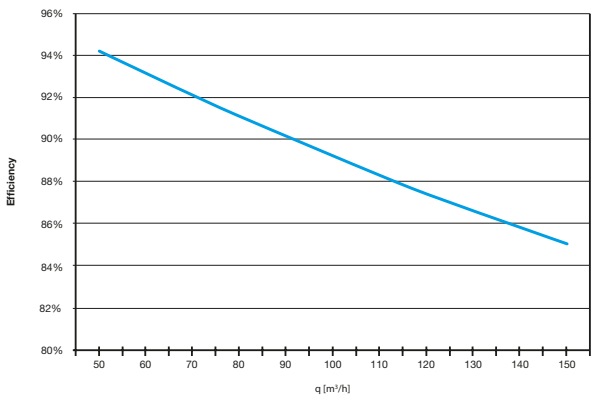
CONSUMPTION CURVES
max
med
min

PERFORMANCE CURVES
max
med
min

HRI-E ONE - HRI-E ONE F

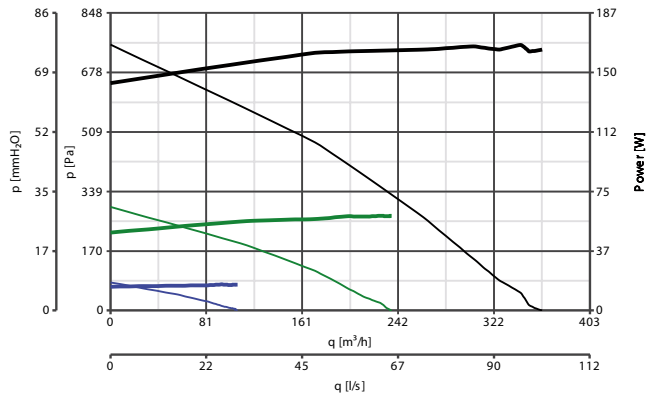


HRI-E ONE - HRI-E ONE F EFFICIENCY

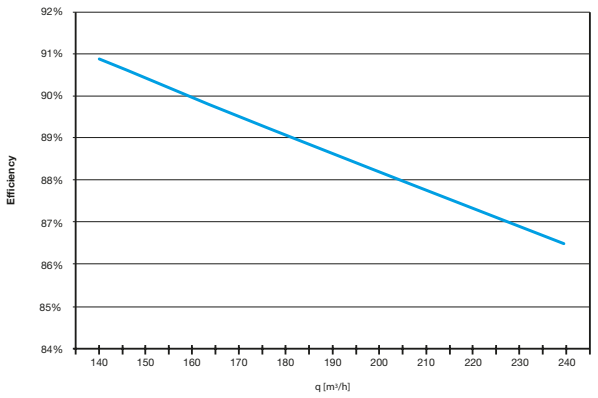


Test conditions according to EN 308: +5°C/70%; +25°C/28%.

HRI-E TWO - HRI-E TWO F

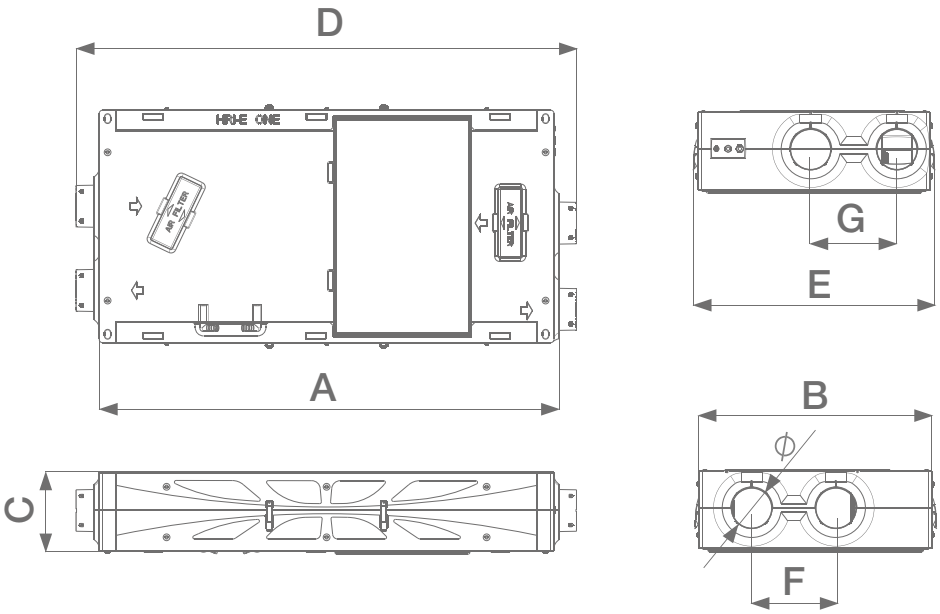


HRI-E TWO - HRI-E TWO F EFFICIENCY



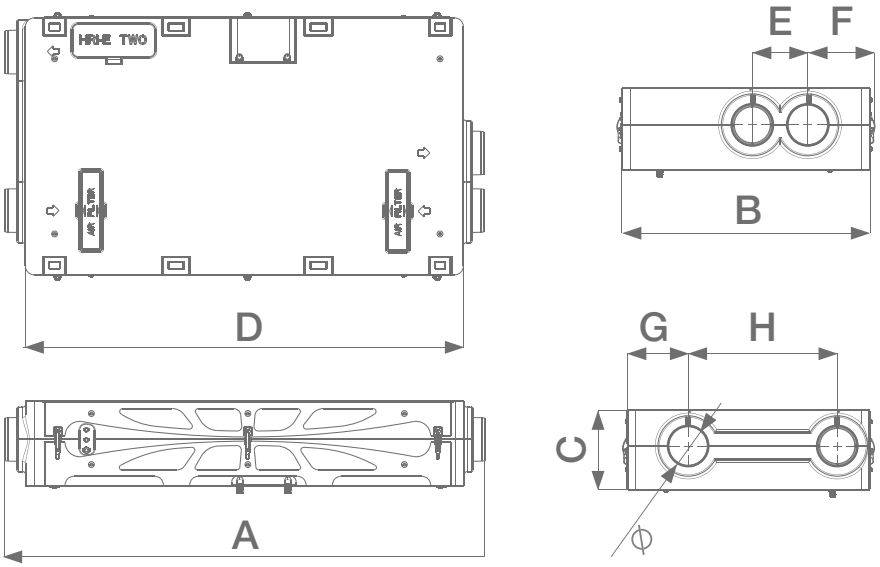
Test conditions according to EN 308: +5°C/70%; +25°C/28%.

DIMENSIONS



PRODUCT	CODE	A	B	C	D	E	F	G	Ø
HRI-E ONE F	11218	1350	690	244	1485	720	250	256	123

Dimensions in mm



PRODUCT	CODE	A	B	C	D	E	F	G	H	Ø
HRI-E TWO F	11228	1640	916	290	1500	197	238	238	543	149

Dimensions in mm

ENERGY DATA

	UNIT OF MEASURE	HRI-E ONE F	HRI-E TWO F
MANUFACTURER'S NAME OR TRADE NAME	-	VORTICE	VORTICE
CLASS OF SPECIFIC ENERGY CONSUMPTION FOR TEMPERATE CLIMATE	-	A	A
SPECIFIC ENERGY CONSUMPTION SEC (TEMPERATE CLIMATE)	kWh/m² year	-38.0	-38.8
SPECIFIC ENERGY CONSUMPTION SEC (COLD CLIMATE)		-76.8	-77.1
SPECIFIC ENERGY CONSUMPTION SEC (WARM CLIMATE)		-13.1	-14.3
DECLARED TYPE OF THE VENTILATION UNIT	-	UVR-B**	UVR-B**
DRIVE TYPE	-	VSD***	VSD***
HRS TYPE HEAT EXCHANGER	-	recovery	recovery
THERMAL EFFICIENCY OF HEAT RECOVERY AT THE HRS REFERENCE FLOW RATE	%	89.8	87.5
MAXIMUM FLOW RATE	m³/h	134	335
TOTAL ELECTRIC POWER ABSORBED BY THE FAN AT MAXIMUM FLOW RATE	w	65.5	170.0
Sound LEVEL	LWA [dB(A)]	56	69
REFERENCE FLOW RATE	m³/s	0.0261	0.0651
REFERENCE PRESSURE DIFFERENCE	Pa	50	370
SPI****	W/(m³/h)	0.34648	0.28145
CTRL CONTROL FACTOR	-	0.85	0.85
CONTROL TYPE	-	centralized env.	centralized env.
MAXIMUM PERCENTAGE OF INTERNAL LEAKAGE	%	<1	6.7
MAXIMUM PERCENTAGE OF EXTERNAL LEAKAGE	%	3.9	2.5
MIXING RATE	-	NA*	NA*
POSITION AND DESCRIPTION OF THE VISUAL FILTER SIGNAL	-	see instruction booklet	see instruction booklet
AIR FLOW SENSITIVITY AT PRESSURE VARIATIONS OF ± 20 PA	-	NA*	NA*
INDOOR/OUTDOOR AIR SEALING	m³/h	NA*	NA*
AEC ANNUAL ELECTRICITY CONSUMPTION	kWh of electricity/year	359	300
TEMPERATE AHS ANNUAL HEATING SAVINGS	kWh of primary energy /year	4624	4562
COLD AHS ANNUAL HEATING SAVINGS		9046	8924
WARM AHS ANNUAL HEATING SAVING		2091	2063

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

SOUND LEVELS

HRI-E ONE F RPM		Lw dB (A) 125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Lw dB (A)	Lw dB (A) 3m*
MIN. SPEED	Casing	3.1	14.7	17.4	20.5	2.7	7.2	24.2	27.3	6.8
	Delivery	7.3	17.6	20.4	27.6	14.6	0.4	14.1	33.4	12.9
	Intake	11.4	21.9	31.4	32.4	19.2	9.3	4.0	39.1	18.6
MED. SPEED	Casing	13.7	23.9	25.8	31.2	14.8	7.5	9.0	37.0	16.5
	Delivery	15.3	23.0	25.6	35.5	23.0	12.8	3.0	40.2	19.7
	Intake	19.7	28.9	36.7	42.4	30.5	25.4	15.5	48.1	27.6
MAX. SPEED	Casing	22.3	30.7	32.1	36.5	23.7	16.7	3.9	43.7	23.2
	Delivery	22.5	29.9	32.9	40.9	31.1	21.1	9.3	46.8	26.3
	Intake	23.4	35.7	50.9	46.9	38.5	33.9	25.7	55.5	35.2

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

HRI-E TWO F RPM		Lw dB (A) 125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Lw dB (A)	Lw dB (A) 3m*
MIN. SPEED	Casing	23.7	32.0	37.6	34.8	28.9	20.0	15.2	47.5	26.96
	Delivery	17.1	24.7	23.5	16.3	15.2	13.6	14.9	31.8	11.26
	Intake	23.8	32.5	39.4	33.1	27.4	18.2	17.7	45.5	24.96
MED. SPEED	Casing	31.3	52.4	54.0	53.4	48.4	43.2	29.2	64.7	44.16
	Delivery	16.7	39.2	35.3	28.5	24.7	16.0	15.4	45.7	25.16
	Intake	36.1	48.7	51.1	46.8	43.6	35.3	22.0	58.2	37.66
MAX. SPEED	Casing	39.2	53.4	64.0	63.2	59.8	55.6	43.9	78.3	57.76
	Delivery	24.1	41.7	44.3	34.6	35.2	23.6	15.2	54.7	24.16
	Intake	42.5	51.3	60.2	55.5	53.9	47.2	33.2	69.3	48.76

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

VORT HRI E RANGE

HEAT RECOVERY UNITS FOR FALSE CEILING MOUNTING

TECHNICAL CHARACTERISTICS

- **2 models**, different in size and performance, equipped with mechanical by-pass.
- **Fire resistant expanded polypropylene casings** (DIN EN 13501). Side closing plates in galvanized steel. Tie rods for suspended installation included in the standard equipment.
- **Intake and delivery spigots** compatible with pipes with a nominal diameter of 125 mm (HRI E ONE) and 150 mm (HRI E TWO).
- **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).
- **Automatic activation frost protection**, to prevent the formation of frost at the heat exchanger.
- **Mechanical by-pass**, automatic and 100% filtered, to guarantee the comfort of the occupants of the rooms in mid seasons, or whenever the outside temperature does not require the action of the heat exchanger.
- **Remote control unit with LCD display**, of the wired connection type, for:
  - turning the product on and off;
  - the initial configuration of the product;
  - selecting the minimum, average or maximum speed of operation;
  - programming the operation;
  - displaying the time and room temperature;
  - monitoring the correct operation of the product (any malfunctions are highlighted through error messages shown on the display);
  - signaling the saturated filters condition on the display.
- **Pair of M5 filters** (F7 filter available as an option for the delivery duct), easily accessible for periodic maintenance.
- **Condensate collection tray** with drain devices.
- **Possibility of interlocking with external environmental sensors** (optional), for the automatic control of the operating mode.
- **Safety certified by a third party** (Ⓨ).
- **Degree of protection from dust and water**: 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
					m^3/h	l/s	mmH_2O	Pa		
HRI-E ONE F	11218	230	71	0.55	187	52	23.7	232	45	17.5
HRI-E TWO F	11228	230	167	1.4	365	101	77.3	758	45	29.5

** Maximum temperature with continuous operation of the product.*

DETAILS

Pair of Brushless motors.

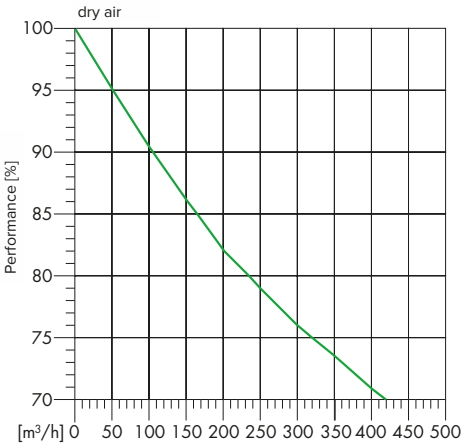
M5 FILTERS

LCD display supplied as standard

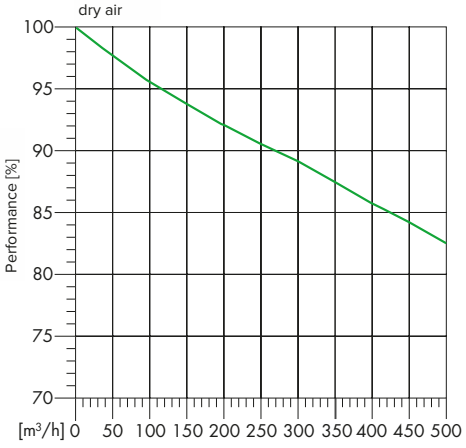
Condensate drain nozzles.

EFFICIENCY CURVES

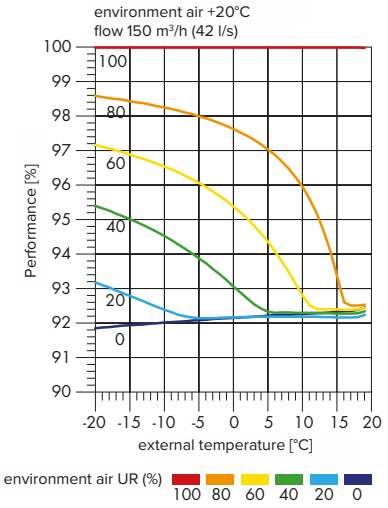
Efficiency in accordance with flow rate
HRI-E ONE



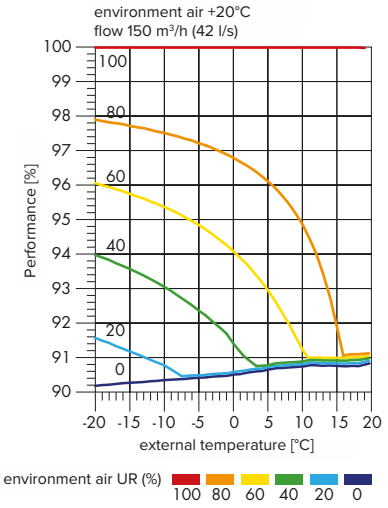
Efficiency in accordance with flow rate
HRI-E TWO



Efficiency in accordance with condensation heat



Efficiency in accordance with condensation heat



FILTERS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HRI-E ONE F code 11218	VORT HRI-E TWO F code 11228
	**F7 FILTER**	**200X183X48**	**22549**	✓	
	F7 FILTER	**230X250X48**	**22628**		✓
	M5 FILTER	**200X183X43**	**22645**	✓	
	M5 FILTER	**230X250X48**	**22646**		✓

REGULATORS

MODELS	DESCRIPTION	DIMENSIONS	CODE	VORT HRI-E ONE F code 11218	VORT HRI-E TWO F code 11228
	**C TEMP** Temperature detector	**144x54x55.8**	**12992**	✓	✓
	**C SMOKE** Polluted air detector	**144x54x55.8**	**12993**	✓	✓
	**C HCS** Humidity detector	**144x54x55.8**	**12994**	✓	✓
	**C PIR** Presence detector	**144x54x55.8**	**12998**	✓	✓
	**INSTALLER PANEL SKP10** Installer panel	-	**22629**	✓	✓

ACCESSORIES

MODELS	DESCRIPTION	CODE	VORT HRI-E ONE code 11218	VORT HRI-E TWO code 11228
	**BRACKET KIT** Bracket kit for fixing	**22548**	✓	
	**BRACKET KIT** Bracket kit for fixing	**22648**		✓
	**500W HEATER** PRE-HEATING BOX HRI-E ONE	**22598**	✓	
	**750W HEATER** PRE-HEATING BOX HRI-E TWO	**22627**		✓

LCD DISPLAY - SUPPLIED AS STANDARD

SOME ICONS SHOWN ON THE PANEL

ICONS	FUNCTIONS
	No-Frost
P1 - P2	Time profiles
	Speed
	OFF
	Alarm
	By-pass
	Time schedule programming
FILT	Filter replacement notice
HA	Antibacterial function

Please note: For a complete and in-depth explanation of the icons and the associated functions, please refer to the instruction booklet.

The LCD display controls the electronics of the product. Among the various functions, the control panel can be used for:

- turning the machine on and off,
- the initial configuration,
- the manual setting of the operating mode,
- the selection of the 3 speeds,
- the automatic management of the free-cooling function (only models with By-pass),
- setting the time slots and the room temperature,
- the display of the time or outside temperature,
- continuous monitoring of correct operation (any problems are signaled by error messages displayed on the control panel),
- constant monitoring of the filter status (need for maintenance highlighted on the control panel display).

System components (description and data from page 96).
Regulators (description and data from page 152).

VORT HRI DH RANGE

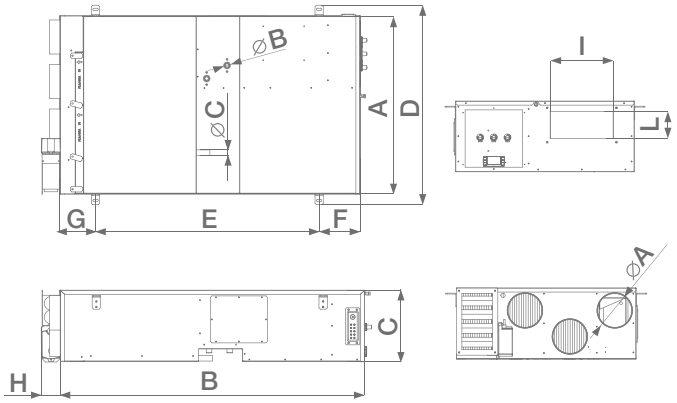
HEAT RECOVERY UNITS WITH DEHUMIDIFICATION FUNCTION

CENTRALIZED VENTILATION | **FOR FALSE CEILING** | **UP TO 240 M²**

Centralized dual-flow ventilation units with heat recovery for false ceiling installation, including direct expansion cooling circuit, designed for ventilation and dehumidification of residential and commercial premises with a surface of up to 120 m² (VORT HRI DH 260) and at 240 m² (VORT HRI DH 500) which feature a radiant water cooling system.

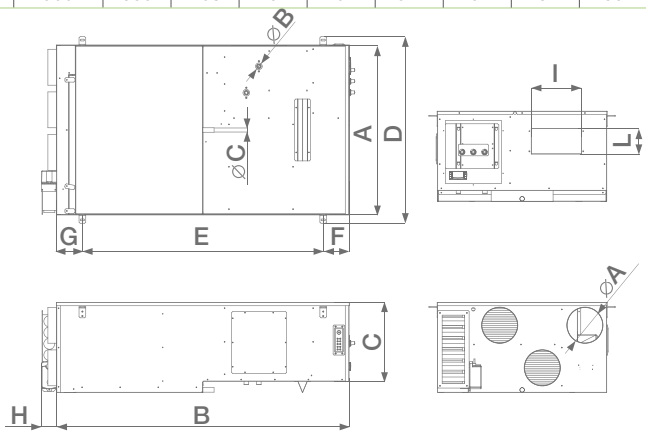
- Double flow with very high efficiency heat recovery (up to 90%) and integrated dehumidifier, galvanized sheet steel casing, exchange pack of the cross-flow type in polyethylene (PE), condensate collection tray, DC EC motors with very low electricity consumption, adjustable speeds, G4 filters on intake and delivery; automatic anti-frost function.
- Total cooling capacity 1400W/2800W; useful dehumidification capacity 30l/24h/62l/24h.
- Reciprocating compressor operating with R 134 A gas, double water and air condenser, flow switch, 3-way modulating valve, control electronics with microprocessor including LCD display on the machine controlling the refrigerant circuit, integrated management of the aeraulic and hydronic sections, summer/winter switching, frost protection, diagnostics of any malfunctions, supervision via RS485 serial port and/or via the Internet (opt.), filter monitoring (opt.).
- False ceiling installation.
- Remote control panel with display (opt.) .
- Can be combined with a dedicated electronic temperature and humidity probe.
- External air intake/stale air expulsion/return air spigots Ø 125mm / Ø 160mm rectangular delivery spigot.
- Automatic motorized recirculation damper.

DIMENSIONS



Dimensions in mm

PRODUCTS	CODE	A	B	C	D	E	F	G	H	I	L	ØA	ØB	ØC
VORT HRI 260 DH	45091	655	1103	262	702	821	152	132	65	232	99	125	1/2”	20
VORT HRI 260 DH RC	45092	655	1103	262	702	821	152	132	65	232	99	125	1/2”	20



Dimensions in mm

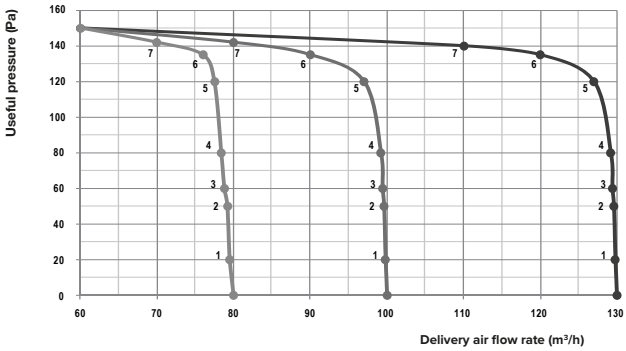
PRODUCTS	CODE	A	B	C	D	E	F	G	H	I	L	ØA	ØB	ØC
VORT HRI 500 DH	45093	756	1304	405	802	1074	116	152	65	224	114	160	1/2”	20
VORT HRI 500 DH RC	45094	756	1304	405	802	1074	116	152	65	224	114	160	1/2”	20

PERFORMANCE AND ABSORPTION

VORT HRI 260 DH
DELIVERY FAN

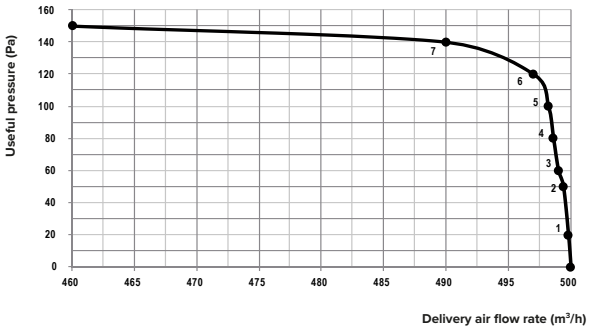
Absorbed power	1	2	3	4	5	6	7
260 M³/H	18W	30W	36W	40W	46W	51W	60W

VORT HRI 260 DH
EXPULSION FAN



Absorbed power	1	2	3	4	5	6	7
80 M³/H	10W	11W	11W	12W	12W	12W	12W
100 M³/H	11W	13W	15W	15W	17W	18W	18W
130 M³/H	11W	13W	15W	19W	22W	30W	34W

VORT HRI 500 DH
DELIVERY FAN



Absorbed power	1	2	3	4	5	6	7
500 m³/h	38W	60W	72W	80W	92W	103W	120W

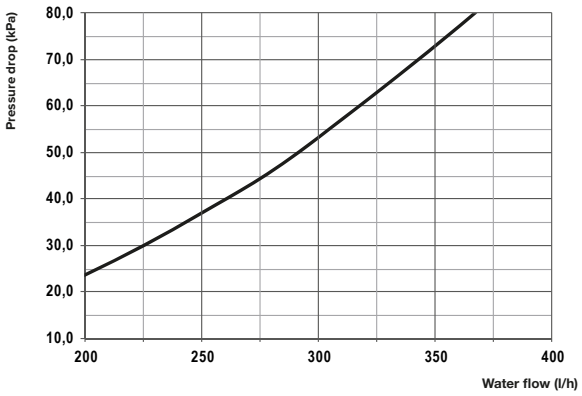
VORT HRI 500 DH
EXPULSION FAN

Absorbed power	1	2	3	4	5	6	7
160 m³/h	20W	22W	22W	24W	24W	24W	24W
200 m³/h	22W	26W	30W	30W	34W	36W	36W
260 m³/h	22W	26W	30W	38W	44W	60W	68W

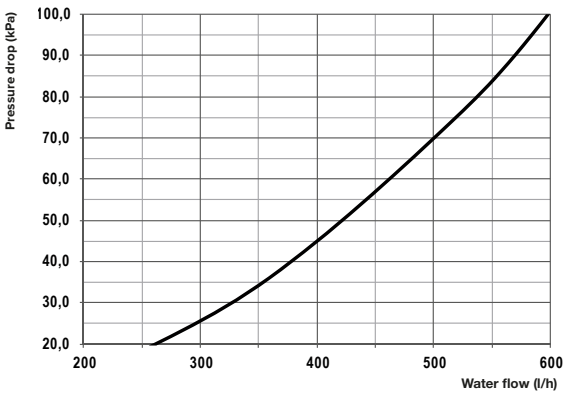
PERFORMANCE AND ABSORPTION

HYDRAULIC CIRCUIT PRESSURE DROPS

VORT HRI 260 DH - VORT HRI 260 DH RC



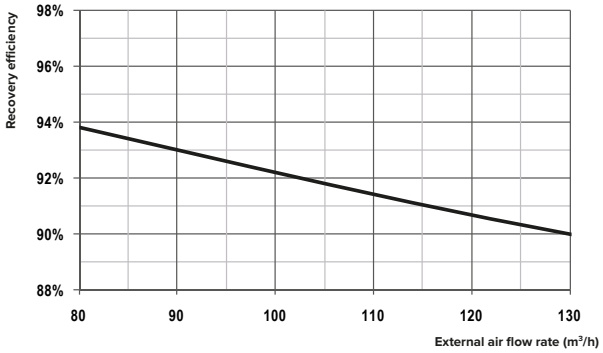
VORT HRI 500 DH - VORT HRI 500 DH RC



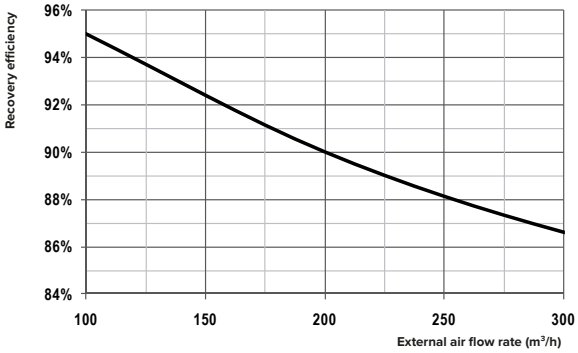
RECOVERY EFFICIENCY

Winter: internal conditions 20 °C, 50% RH external air conditions: -5°C, 80% RH

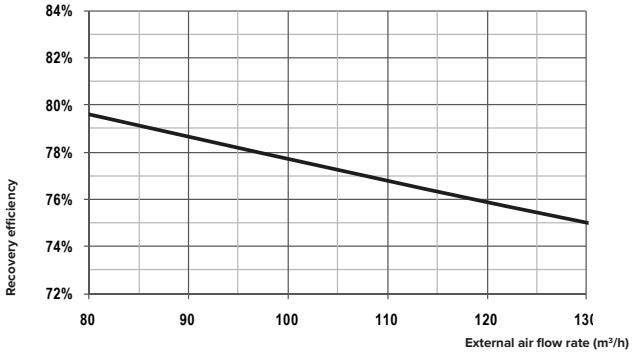
VORT HRI 260 DH - VORT HRI 260 DH RC



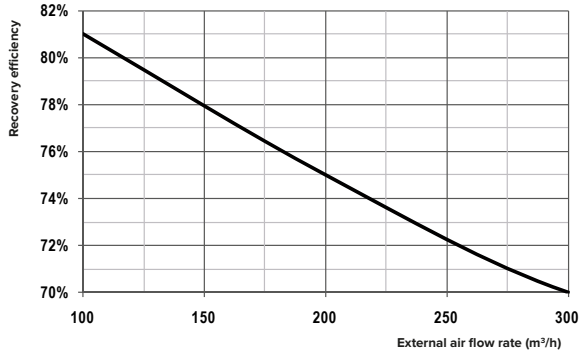
VORT HRI 500 DH - VORT HRI 500 DH RC



VORT HRI 260 DH - VORT HRI 260 DH RC



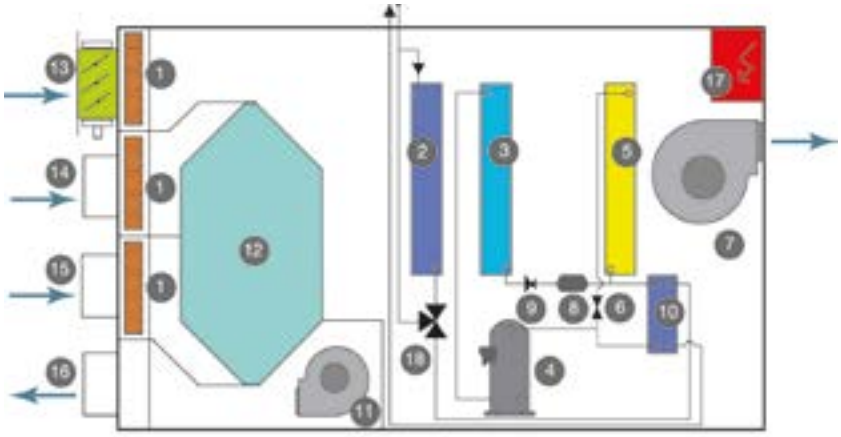
VORT HRI 500 DH - VORT HRI 500 DH RC



TECHNICAL DATA

PRODUCTS	CODE	Nom. Ø (mm)	(m³/h)	(W)	(PA)	Lp [dB (A)] 3m
VORT HRI 260 DH	45091	125	130-260	86	150	39
VORT HRI 260 DH RC	45092	125	130-260	86	150	39
VORT HRI 500 DH	45093	160	250-500	150	150	44
VORT HRI 500 DH RC	45094	160	250-500	150	150	44

MAIN COMPONENTS



1 - Air filter.
2 - Hydronic coil pre-cooling (summer function) post-heating (winter function).
3 - Evaporator.
4 - Compressor.
5 - Air condenser.
6 - Solenoid.
7 - Supply fan with EC motor.
8 - Dehydrator filter.
9 - Lamination.
10 - Water condenser.
11 - Exhaust fan with EC.
12 - Very high efficiency cross-flow recovery system.
13 - Motorized return damper (recirculation).
14 - Return air damp rooms.
15 - External air.
16 - Expelled air.
17 - Electrical cabinet.
18 - Three-way modulating valve.

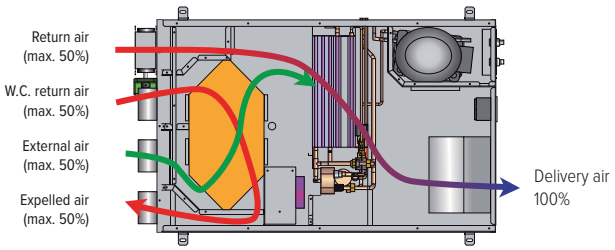
OPERATING MODE

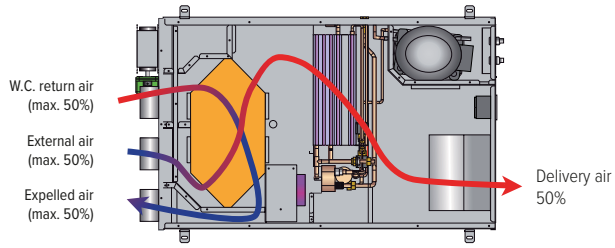
SUMMER OPERATION (COMPRESSOR ACTIVE) WITH EXTERNAL AIR

- By setting this function, the unit renews the ambient air with external one through the extremely high efficiency heat recovery unit.
- The possible functions in this configuration are:
  - Renewal + Dehumidification with neutral air: the unit condenses partially in air and partially in water through the plate condenser, obtaining dehumidified and thermally neutral air.
  - Renewal + Dehumidification with cooling: the unit operates with 100% condensation in water, obtaining dehumidified and cooled air.

OPERATION IN WINTER AND BETWEEN SEASONS (COMPRESSOR OFF) WITH EXTERNAL AIR

- By setting this function, the unit renews the ambient air with external one through the extremely high efficiency heat recovery unit.
- Renewal with air heating: The compressor is off, the battery can be supplied with hot water from the radiant system, (even if by virtue of the very high efficiency of the heat recovery unit it is possible to obtain a delivery air temperature of 17 °C, without using hot water, with an outside air temperature of -5 °C), and behaves like a normal thermoventilator with recuperator).





Please note: In summer mode the appliance cannot operate without the aid of cold and/or hot water. In the event of low or no water flow, the unit is turned off and the safety devices are activated.

Please note: In winter mode the appliance has the compressor off and operates as a thermo fan with very high efficient heat recovery.

VORT HRI DH RANGE

HEAT RECOVERY UNITS WITH DEHUMIDIFICATION FUNCTION

TECHNICAL CHARACTERISTICS

- **4 models**, different in size, performance, equipment and offered features.
- **Casing in galvanized sheet steel** with removable panels for direct access to internal filters. VORT HRI 260 DH models have the lower cover in thermoformed plastic resin. Tie rods for suspended installation supplied as standard.
- **Intake and delivery spigots** compatible with pipes with a nominal diameter of 125 mm (VORT HRI 260 DH) and 160 mm (VORT HRI 500 DH).
- **Pair of centrifugal fans driven by EC motors** (brushless) of the external rotor type, with shafts mounted on ball bearings, directly coupled to centrifugal impellers. 2 operating speeds, independently settable at installation.
- **High efficiency heat exchanger**, of the cross-flow type with counterflow, made of plastic resin (PS).
- **Automatic activation frost protection**, to prevent the formation of frost at the heat exchanger.
- **Motorized circulation damper**.
- **Ready for the connection** to mechanical (optional) or electronic (DH versions) hygrostats (optional).
- **Compressor running on gas type HFC R134a.**
- **Modulating valve** 3-way.
- **Double condenser** (water + air).
- Flow meter.
- Control electronics with microprocessor, including **LCD display**.
- **Pair of G4 filters**, easily accessible for periodic maintenance.
- **Condensate collection tray** with drain devices.
- **Three operating modes**:
  - SUMMER: ventilation with heat recovery (neutral air) and dehumidification;
  - SUMMER + COOLING: ventilation with heat recovery (cooled air) and dehumidification;
  - WINTER: ventilation with heat recovery.
- **Degree of dust and water protection**: IPX2.
- **Electrical insulation class**: I (grounding required).

TECHNICAL DATA

PRODUCTS	VORT HR 260 DH CODE 45091	VORT HR 260 DH RC CODE 45092	VORT HR 500 DH CODE 45093	VORT HR 500 DH RC CODE 45094
POWER SUPPLY	230 V /50 Hz	230 V /50 HZ	230 V /50 HZ	230 V /50 HZ
DELIVERY FAN ABSORBED POWER (MIN/NOM/MAX) (W)	10-30-86	10-30-86	30-60-130	30-60-130
RECOVERY FAN ABSORBED POWER (MIN/NOM/MAX) (W)	11-22-43	11-22-43	22-44-68	22-44-68
TOTAL FRIDGE POWER IN THE ENVIRONMENT (W)	1380	1380	2820	2820
NOMINAL ABSORBED POWER OF THE COMPRESSOR (W)	340	340	480	480
WINTER THERMAL POWER RECOVERED (W)	950	950	1850	1850
TYPE OF REFRIGERANT	R134A	R134A	R134A	R134A
USEFUL DEHUMIDIFICATION CAPACITY (L/24H)	30.1	30.1	61.8	61.8
RECOVERED NOMINAL EFFICIENCY (%) IN SUMMER	70	70	70	70
RECOVERED NOMINAL EFFICIENCY (%) IN WINTER	90	90	90	90
HYDRAULIC CIRCUIT PRESSURE DROPS (NOM) (KPA)	38	38	35	35
BATTERY WATER FLOW RATE (MIN/NOM/MAX) (L/H)	150-250-400	150-250-400	200-350-600	200-350-600
SUMMER DELIVERY AIR FLOW (M3/H)	260	260	500	500
DELIVERY AIR FLOW RATE IN WINTER (M3/H)	0-130	0-130	0-250	0-250
Sound LEVEL LW DB (A)	47	47	52	52
ACOUSTIC PRESSURE LP DB(A) 3M	39	39	44	44
USEFUL PRESSURE OF DELIVERY FAN (NOM/MAX) (PA)	50-140	50-140	50-140	50-140
USEFUL RECOVERY FAN PRESSURE (NOM/MAX) (PA)	50-140	50-140	50-140	50-140
KG	60	60	80	80

VORT HRI DH RANGE

HEAT RECOVERY UNITS WITH DEHUMIDIFICATION FUNCTION

DETAILS

Predisposition for combination with mechanical (RC versions) or electronic (DH versions) hygrostats (optional).

Adapter available for circular duct passage:
R2T 260 - R2T 500

Control electronics with microprocessor, including LCD display.

Back of the product.

CONTROL PANEL supplied as standard. (see details of operation below).

CONTROL DISPLAY - SUPPLIED AS STANDARD

Summer mode button

Winter mode button

SET button
(set-point display, access to menus, confirmation of parameter value during modification)

UP button
(menu navigation, parameter scrolling, parameter value scrolling)

DOWN button
(menu navigation, parameter scrolling, parameter value scrolling)

MENU button
(access to menu navigation)

Please note: For a complete and in-depth explanation of the icons and the associated functions, please refer to the instruction booklet.

REGULATORS

MODELS	DESCRIPTION	CODE	VORT HR 260 DH CODE 45091	VORT HR 260 DH RC CODE 45092	VORT HR 500 DH CODE 45093	VORT HR 500 DH RC CODE 45094
	**RCP (HRI DH)** Remote control panel	**22607**	✓	✓	✓	✓
	**ETRH (HRI DH)** Electronic probe for humidity and temperature detection.	**22608**	✓		✓	
	**MTRH (HRI DH)** Remote mechanical hygrostat.	**22609**		✓		✓

System components (description and data from page 96).
Regulators (description and data from page 152).

ACCESSORIES

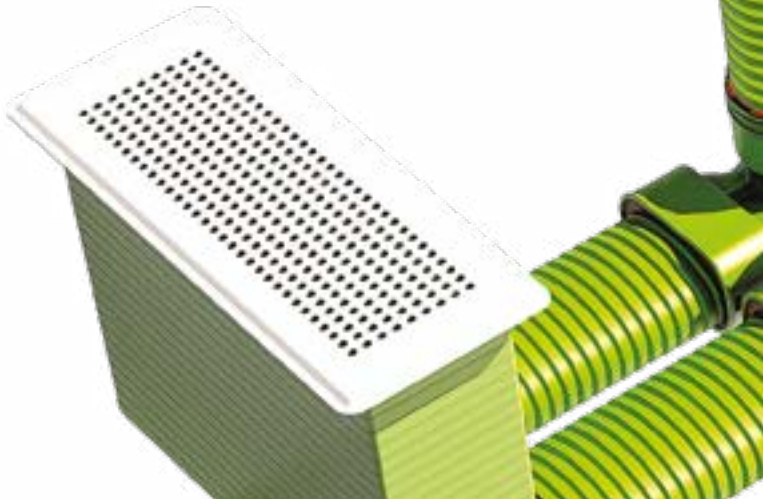
MODELS	DESCRIPTION	CODE	VORT HR 260 DH CODE 45091	VORT HR 260 DH RC CODE 45092	VORT HR 500 DH CODE 45093	VORT HR 500 DH RC CODE 45094
	R2T 260 (HRI DH) Conveyor	**22656**	✓	✓		
	R2T 500 (HRI DH) Conveyor	**22657**			✓	✓

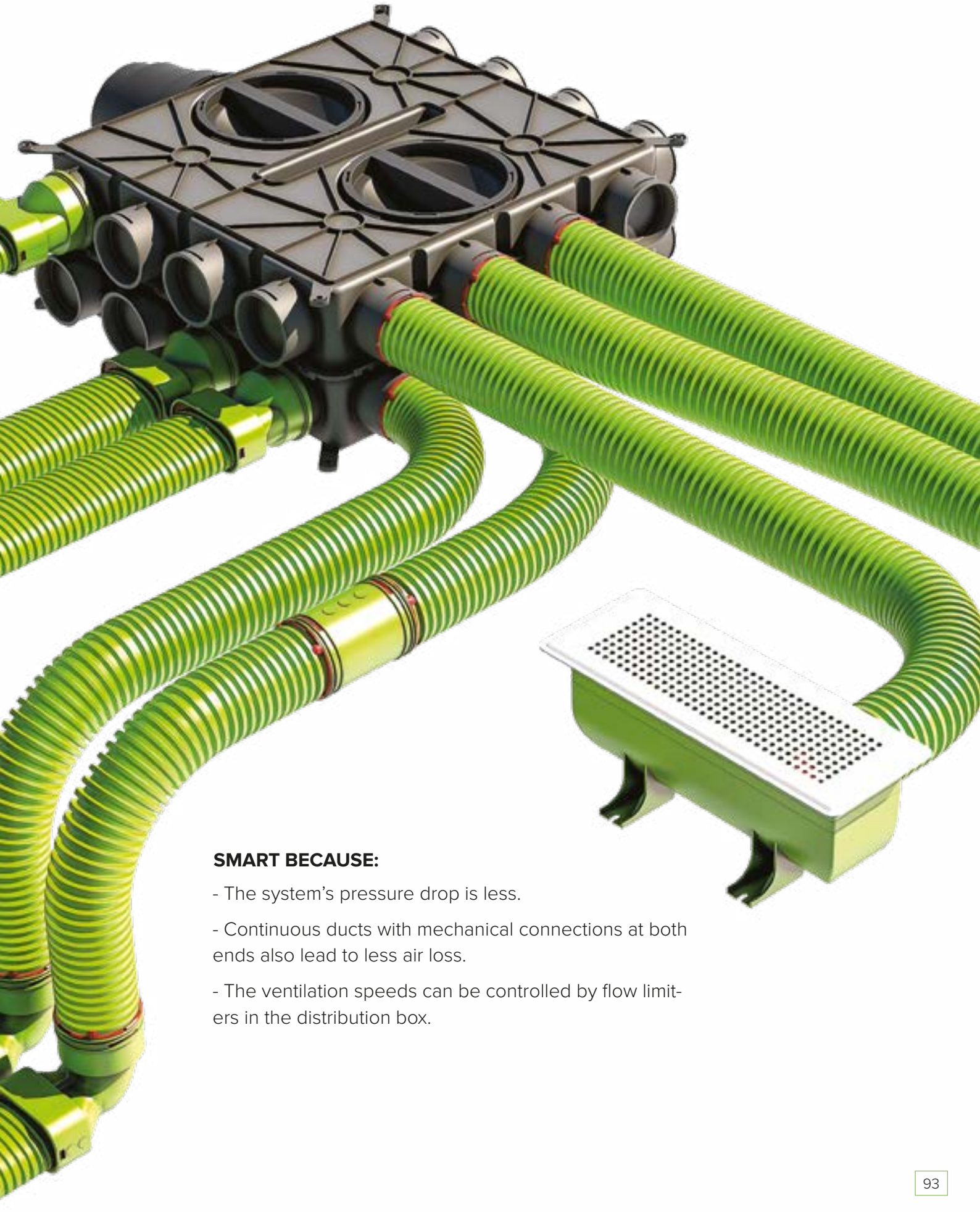
COMPONENTS

A SMART SYSTEM IS AN EFFECTIVE SYSTEM

The distribution plenums are a very important part of the distribution system, regulating the air flow of the individual lines. The air volumes of the individual ducts are managed through the flow regulators connected directly to the distribution plenum.

SYSTEMS		
WDG75	Ø 75	plastic
WDG63	Ø 63	plastic
WDG35	Ø 35	plastic
WD63	Ø 63	galvanized sheet





SMART BECAUSE:

- The system's pressure drop is less.

- Continuous ducts with mechanical connections at both ends also lead to less air loss.

- The ventilation speeds can be controlled by flow limiters in the distribution box.

SYSTEM WDG63 - WDG75 - WDG35

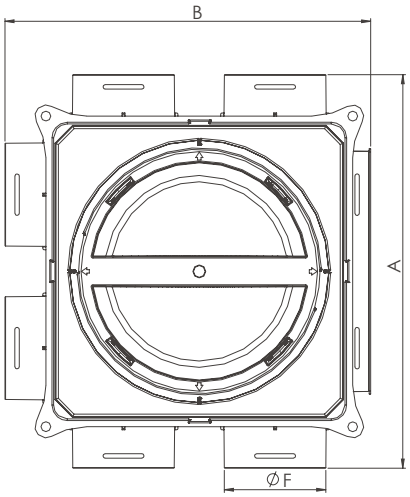
DISTRIBUTION PLENUM

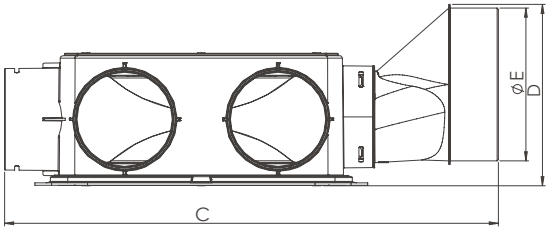
CENTRALIZED VENTILATION

The PE distribution system plenum **WDG-PH PLUS-C** is compact and light, it comes with **6** standard connections. Ideal for residential applications of limited volume or in case of small installation spaces.

- Air flow adjustable with the use of 12-level static flow regulators (code 25074) easy to clean and easy reassembly of the flow regulators (maintenance).
- Made from exclusively virgin PP granulate.
- With adapter for 125 mm flow duct (code 25074).
- Including adjustment diaphragms and 3 caps.

DIMENSIONS





	CODE	A	B	C	D	ØE	ØF
WDG-PH PLUS-C 6X63	21323	318	299	399	148	125	85

Dimensions in mm

TECHNICAL DATA

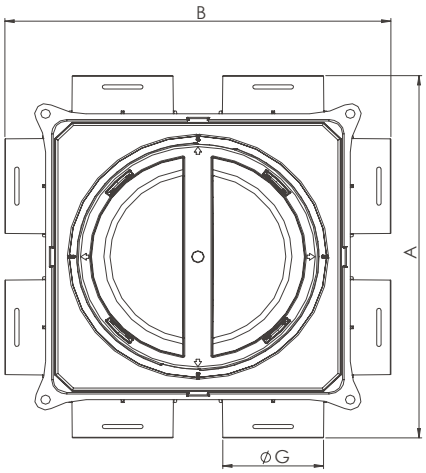
Box configuration	with adapter for 125 mm flow duct
Qv (Volume) [m3/h]	Pressure drop (Pa)
50	2.0
75	3.0
100	4.0
125	5.0
150	8.0
175	10.0
200	12.0
225	14.0
250	-
300	-
350	-

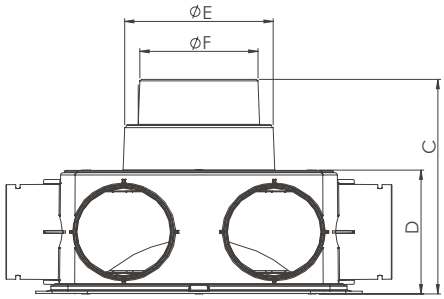
CENTRALIZED VENTILATION

The distribution plenum in PE of the system Range **WDG-PH PLUS-C** is compact and light, it comes with **8 connections**. The distribution plenum is ideal for residential applications of limited volume or in case of small installation spaces.

- Air flow adjustable with the use of 12-level static flow regulators (code 25074).
- Easy to clean and easy reassembly of the flow regulators (maintenance).
- Made from exclusively virgin PP granulate.
- Including adjustment diaphragms and 4 caps.

DIMENSIONS





	CODE	A	B	C	D	ØE	ØF	ØG
WDG-PH PLUS-C 8X63	21324	318	318	188	109	125	100	85

Dimensions in mm

TECHNICAL DATA

Box configuration	1	2
Qv (Volume) [m3/h]	Pressure drop (Pa)	
50	1.0	1.0
75	1.5	1.5
100	2.0	2.0
125	3.0	3.0
150	5.0	5.0
175	6.5	6.5
200	8.0	8.0
225	9.0	9.0
250	10.0	-
300	-	-
350	-	-

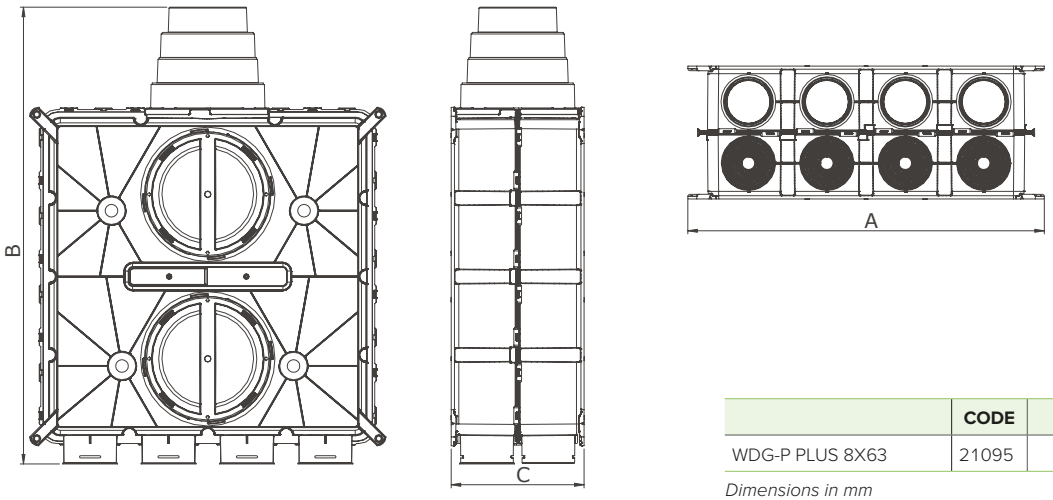
1 with adapter for multi-diameter flow duct 125-180 mm
2 with adapter for multi-diameter flow duct 100-125 mm

CENTRALIZED VENTILATION

WDG-P PLUS is a duct system specifically designed for controlled mechanical ventilation of rooms with or without heat recovery, for homes or small commercial areas. The ventilation unit is connected to the distribution plenums by means of insulated ducts and silencers, the air is distributed through the semi-rigid ducts to supply fresh air to the habitable rooms and extract the exhausted one from the damp rooms.

- Distribution plenum **8 connections** for WDG system
- Including adjustment diaphragms and 4 caps.
- Made from exclusively virgin PP granulate.

DIMENSIONS



	CODE	A	B	C
WDG-P PLUS 8X63	21095	565	722	210

Dimensions in mm

TECHNICAL DATA

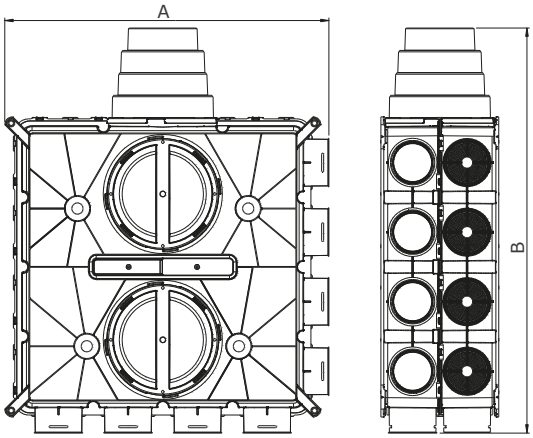
Pressure drop

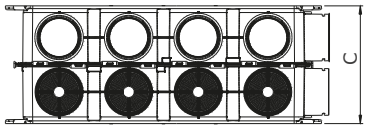
Qv (Volume) [m3/h]	Pressure drop (Pa)
100	1.0
150	1.7
200	2.7
250	4.0
300	5.7
350	7.6
400	9.9
450	12.4

WDG-P PLUS is a duct system specifically designed for controlled mechanical ventilation of rooms with or without heat recovery, for homes or small commercial areas. The ventilation unit is connected to the distribution plenums by means of insulated ducts and silencers, the air is distributed through the semi-rigid ducts to supply fresh air to the habitable rooms and extract the exhausted one from the damp rooms.

- Distribution plenum connection Ø 125-150-160-180 mm.
- **16 connections** for WDG system.
- Including adjustment diaphragms and 8 caps.

DIMENSIONS





	CODE	A	B	C
WDG-P PLUS 16X63	21096	578	722	210

Dimensions in mm

TECHNICAL DATA

Pressure drop

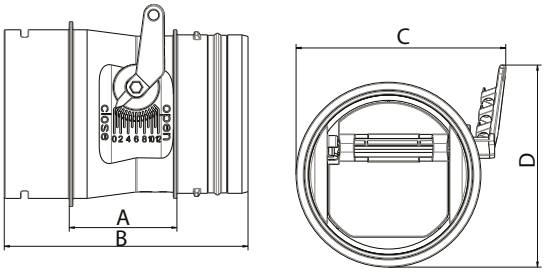
Qv (Volume) [m3/h]	Pressure drop (Pa)
100	1.0
150	1.7
200	2.7
250	4.0
300	5.7
350	7.6
400	9.9
450	12.4

ACCESSORIES

The **flow regulator** makes it possible to set the air flow determined for each duct.
It is connected directly to the distribution plenum and with the use of adapters it can be connected to any type of duct. The setting can be defined by aeraulic calculations. The air flow can be easily adjusted thanks to the lever without the need to intervene on the system.

- Enables the precise setting of the air flow between the distribution plenums and the various rooms.
- Easy flow rate adjustment in case of system changes
- Quick and easy installation.
- Installable on distribution plenums, compatible with the whole range of ducts through the use of adapters.
- Made from exclusively virgin PP granulate.

DIMENSIONS



	CODE	A	B	C	D
WDG-RRM	25074	53	120	103	99

Dimensions in mm

TECHNICAL DATA

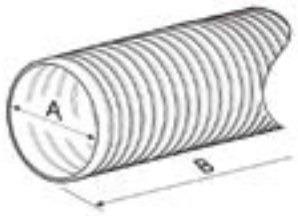
Qv (Volume) [m3/h]	V (Speed) [m3/h]	Pressure drop (Pa)												
		Pos. 0	Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5	Pos. 6	Pos. 7	Pos. 8	Pos. 9	Pos. 10	Pos. 11	Pos. 12
5.6	0.5	38.8	28.6	11.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
11.2	1.0	89.1	70.9	35.6	12.0	0.4	0.0	0.0	0.0	0.2	0.1	0.3	0.4	0.3
16.8	1.5	150.8	127.0	73.8	33.1	10.9	0.4	0.0	0.0	1.6	0.9	0.8	0.9	0.7
22.4	2.0	218.4	193.3	124.0	64.9	30.3	13.9	5.8	6.2	5.2	3.1	1.8	0.9	0.5
28.1	2.5	307.0	279.5	190.5	105.8	53.8	26.0	11.5	9.5	8.1	4.8	3.0	2.0	1.5
33.7	3.0	405.8	378.4	270.4	156.8	84.3	42.6	20.1	14.4	11.9	7.1	4.4	3.2	2.5
39.3	3.5	514.9	490.0	363.6	217.9	121.8	63.7	31.7	20.9	16.7	9.9	6.2	4.6	3.7
44.9	4.0	634.3	614.3	470.2	289.2	166.3	89.5	46.1	29.0	22.5	13.3	8.2	6.2	5.0
50.5	4.5	764.0	751.2	590.2	370.5	217.8	119.7	63.5	38.6	29.2	17.3	10.6	7.9	6.4
56.1	5.0	904.0	900.8	723.5	462.1	276.3	154.6	83.7	49.9	36.8	21.9	13.2	9.8	8.0
61.7	5.5	-	-	870.2	563.7	341.8	193.9	106.9	62.7	45.4	27.0	16.2	11.9	9.7
67.3	6.0	-	-	1030.3	675.5	414.2	237.9	132.9	77.1	54.9	32.7	19.5	14.1	11.5
72.9	6.5	-	-	-	797.3	493.6	286.4	161.9	93.1	65.5	38.9	23.1	16.5	13.4
78.6	7.0	-	-	-	929.4	580.0	339.4	193.7	110.7	76.8	45.7	26.9	19.0	15.5
84.2	7.5	-	-	-	-	673.4	397.1	228.5	129.9	89.1	53.1	31.1	21.8	17.7
89.8	8.0	-	-	-	-	773.8	459.2	266.1	150.6	102.4	61.1	35.6	24.6	20.0
95.5	8.5	-	-	-	-	881.2	526.0	306.7	172.0	116.7	69.6	40.4	27.7	22.4
101.0	9.0	-	-	-	-	-	597.3	350.1	196.9	131.8	78.6	45.5	30.9	25.0
106.6	9.5	-	-	-	-	-	673.1	396.5	222.4	148.0	88.3	50.9	34.3	27.7
112.2	10.0	-	-	-	-	-	753.5	445.7	249.5	165.1	98.5	56.6	37.8	30.6

DUCTS

Double-walled semi-flexible corrugated hose internally smooth in PEAD (high density polyethylene). Self-extinguishing external and antistatic internal treatment.
It can be used for a floor distribution system (walkable).

- Quick and easy to install.
- Corrugated external surface to protect against any installation damage.
- Smooth internal surface to minimize pressure drops and ensure long-term cleaning.
- Antistatic and antibacterial properties.
- Suitable for new and renovated buildings.
- Made from exclusively virgin PE granulate.

DIMENSIONS



	CODE	ØA	B
WD 63	23209	63	50000
WD 75	21325	75	50000

Dimensions in mm

TECHNICAL DATA

WD63 **WD63**

Radius [mm]	0		150	
Duct route	1		1	
Qv (Volume) [m³/h]	v [m/s]	(Pa)	v [m/s]	(Pa)
0	0.0	0.0	0.0	0.0
5	0.4	0.0	0.4	0.1
10	0.9	0.2	0.9	0.4
15	1.3	0.6	1.3	0.9
20	1.8	1.2	1.8	1.7
25	2.2	2.0	2.2	2.6
30	2.7	2.9	2.7	3.8
35	3.1	4.1	3.1	5.2
40	3.6	5.4	3.6	6.7
45	4.0	7.0	4.0	8.5
50	4.5	8.7	4.5	10.5
55	4.9	10.6	4.9	12.8
60	5.3	12.7	5.3	15.2

WD75 **WD75**

Radius [mm]	0		150	
Duct route	1		1	
Qv [m³/h]	v [m/s]	(Pa)	v [m/s]	(Pa)
0	0.0	0.0	0.0	0.0
5	0.3	0.0	0.3	0.1
10	0.6	0.1	0.6	0.1
15	0.9	0.2	0.9	0.3
20	1.3	0.4	1.3	0.5
25	1.6	0.6	1.6	0.9
30	1.9	0.9	1.9	1.2
35	2.2	1.3	2.2	1.7
40	2.5	1.7	2.5	2.2
45	2.8	2.2	2.8	2.8
50	3.1	2.7	3.1	3.4
55	3.5	3.3	3.5	4.2
60	3.8	3.9	3.8	4.9
65	4.1	4.6	4.1	5.8
70	4.4	5.4	4.4	6.7
75	4.7	6.2	4.7	7.7
80	5.0	7.1	6.0	8.8

DUCTS

Circular reduction from WDG63 to WDG75 system.

	CODE
WDG - R 63-75	21355

Straight connector for WDG63 and WDG75 systems.

	CODE
WDG-J 63	21085
WDG-J 75	21325

Cap for WDG63 system

	CODE
WDG-X 63	21087

Anti-slip ring for WDG63 and WD75 system (10 pieces).

	CODE
WDG-RR 63	21088
WDG-RR 75	21329

Flexible aluminum pipe with glass wool insulation circular section.

	CODE	ØA	B
INSULATED PIPE AL. Ø 127	46272	127	10000
INSULATED PIPE AL. Ø 154	46428	154	10000

Dimensions in mm

Silencer pipe.

	CODE	ØA	B
SILENCER PIPE Ø 125	22366	127	5000
SILENCER PIPE Ø 150	22316	154	5000

Dimensions in mm

DUCTS

Sealing ring **(10 pieces)** for systems WDG63 and WDG75.

	CODE
WDG-OR 63	21086
WDG-OR 75	21328

SUGGESTION

Flow duct adapter for WDG-PH PLUS-C plenum
The flow duct can be connected vertically by means of the 125/150/160/180 mm multi-diameter adapter or with a 100/125 mm adapter.

	CODE
WDG - CO	21356

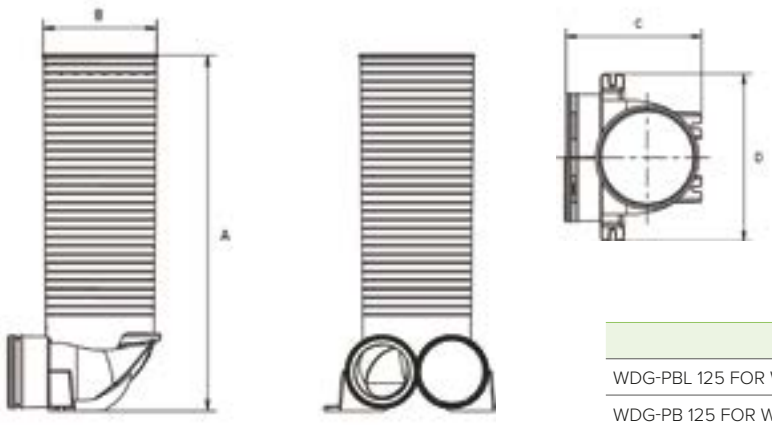
Positioning of the sealing ring (black) and anti-slipping ring (red)

DIFFUSION TERMINALS

The valve adapter has been developed for ceiling or wall installations. It has been designed to cross most of structures such as walls, screeds or false ceilings. The adapter can be cut to size with common equipment and then assembled with the termination of the ventilation system: the air delivery or extraction valve.

- For air intake and extraction.
- For ceiling or wall installations.
- Easy to cut to the desired size.
- Antistatic and antibacterial properties.
- Made from exclusively virgin PP granulate.

DIMENSIONS



	CODE	A	B	C	D
WDG-PBL 125 FOR WDG 75	21326	396	125	173	190
WDG-PB 125 FOR WDG 63	21090	411	125	175	215

Dimensions in mm

TECHNICAL DATA

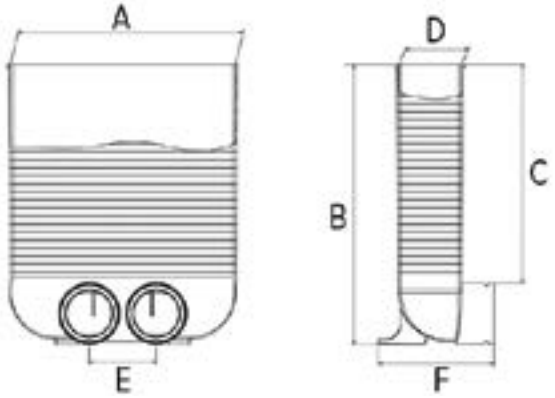
	Air intake				Air extraction			
Duct route	1		2		1		2	
Qv (Volume) [m³/h]	v [m/s]	(Pa)	v [m/s]	(Pa)	v [m/s]	(Pa)	v [m/s]	(Pa)
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.7	0.3	0.3	0.0	0.7	0.2	0.3	0.1
10	1.3	1.0	0.7	0.2	1.3	0.9	0.7	0.2
15	2.0	2.3	1.0	0.4	2.0	2.1	1.0	0.5
20	2.6	4.1	1.3	0.7	2.6	3.7	1.3	1.0
25	3.3	6.4	1.6	1.2	3.3	5.7	1.6	1.5
30	3.9	9.2	2.0	1.7	3.9	8.3	2.0	2.2
35	4.6	12.5	2.3	2.3	4.6	11.3	2.3	2.9

DIFFUSION TERMINALS

The grille adapter has been originally developed only for the introduction of air and for floor or wall installations. It can be cut in length with common equipment. It comes with a dust cap on the outlet and a removable cap on one of the two connections for circular duct.

- For air intake.
- For wall or floor installations.
- Easy to cut to the desired size.
- Antistatic and antibacterial properties.
- Made from exclusively virgin PP granulate.

DIMENSIONS



	CODE	A	B	C	D	E	F
WDG-PB 310X85	21093	309	384	300	86	92	159

Dimensions in mm

TECHNICAL DATA

Air intake with grille

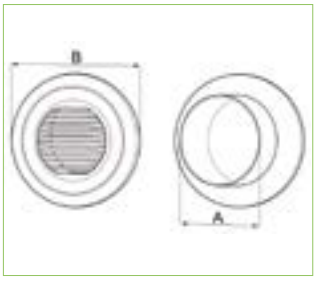
Duct route	1		2	
Qv (Volume) [m³/h]	v [m/s]	(Pa)	v [m/s]	(Pa)
0	0.0	0.0	0.0	0.0
5	0.4	0.1	0.2	0.1
10	0.9	0.5	0.4	0.3
15	1.3	1.2	0.7	0.7
20	1.8	2.1	0.9	1.2
25	2.2	3.3	1.1	1.8
30	2.7	4.8	1.3	2.6
35	3.0	6.0	1.6	3.5
40	3.1	6.5	1.8	4.6
45	3.6	8.5	2.0	5.9
50	4.0	10.7	2.2	7.2
55	4.5	13.2	2.5	8.8

Air intake with grille

Duct route	1		2	
Qv (Volume) [m³/h]	v [m/s]	(Pa)	v [m/s]	(Pa)
60	4.9	16.0	2.7	10.4
65	5.3	19.1	2.9	12.2
67	-	-	3.0	13.1
70	-	-	3.1	14.2
75	-	-	3.3	16.3
80	-	-	3.6	18.5
85	-	-	3.8	20.9
90	-	-	4.0	23.5
95	-	-	4.2	26.1
100	-	-	4.5	28.9
105	-	-	4.7	31.9
110	-	-	4.9	35.0
115	-	-	5.1	38.3

DIFFUSION TERMINALS

Flow/return spigot with adjustable launch. White polystyrene casing, manual opening/closing/ adjustment system.

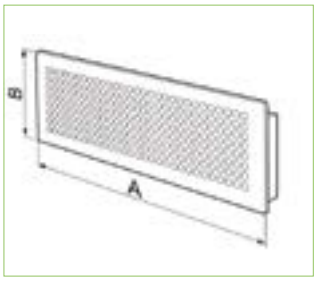


	CODE	ØA	B
BOREA 125	23199	125	165

Dimensions in mm

Example of Borea 125 terminal installation with Plenum WDG.

High induction spigot 300x100, with perforated front in white powder-coated galvanized steel. Suitable for delivery and extraction.

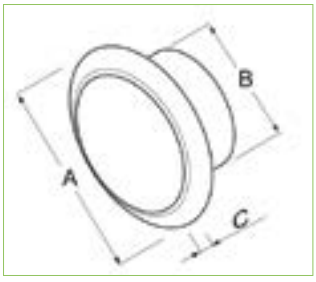


	CODE	A	B
WDG-BF 310X85	21094	310	85

Dimensions in mm

Example of perforated terminal installation with WDG rectangular Plenum.

Extraction/delivery spigot in white thermoplastic polystyrene. Enables air flow regulation with a simple adjustment of the rotating core. To be applied to ceilings, ventilation ducts, false ceilings, etc.

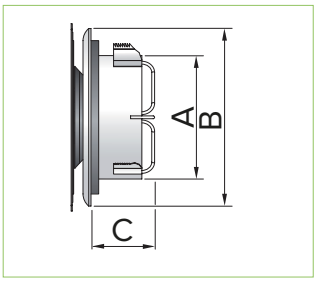


	CODE	ØA	ØB	C
AV 125	22190	166	125	15

Dimensions in mm

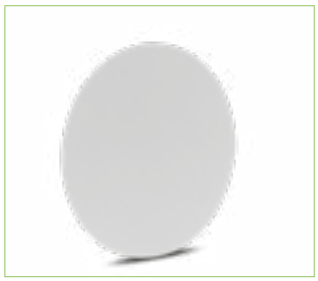
DIFFUSION TERMINALS

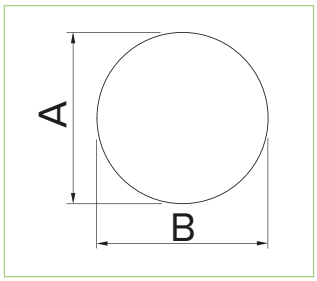
Steel extraction/intake spigots. They enable the regulation of the air flow with a simple adjustment of the rotating core. To be applied to ceilings, ventilation ducts, false ceilings, etc. To be combined with an aesthetic mask (circular, square and rectangular). Revolutionary sound data that guarantee excellent sound levels.



	CODE	ØA	ØB	C
AV PLUS BD 125	26794	114	156	57

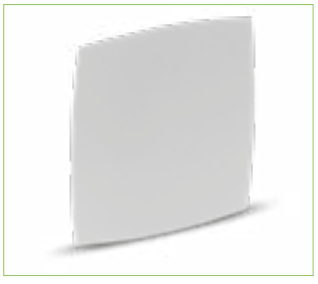
Dimensions in mm

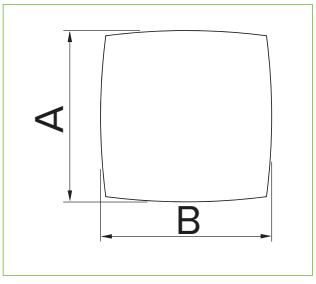




	CODE	ØA	ØB
AV PLUS RND (CIRCULAR)	26797	165	165

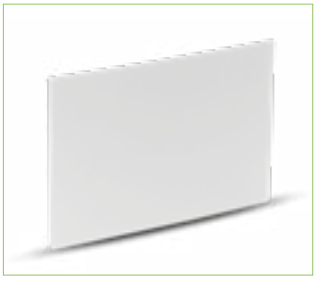
Dimensions in mm

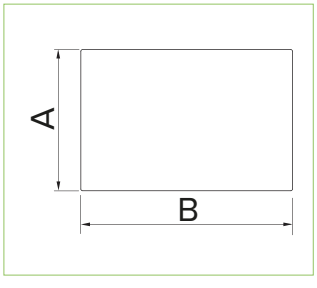




	CODE	A	B
AV PLUS BOW (SQUARE)	26795	165	165

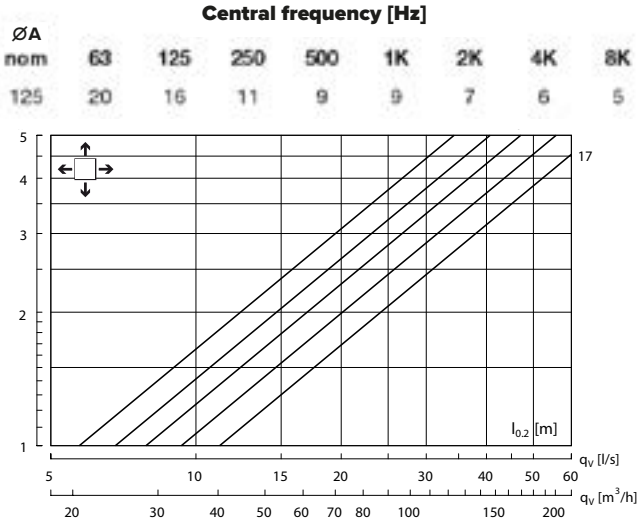
Dimensions in mm



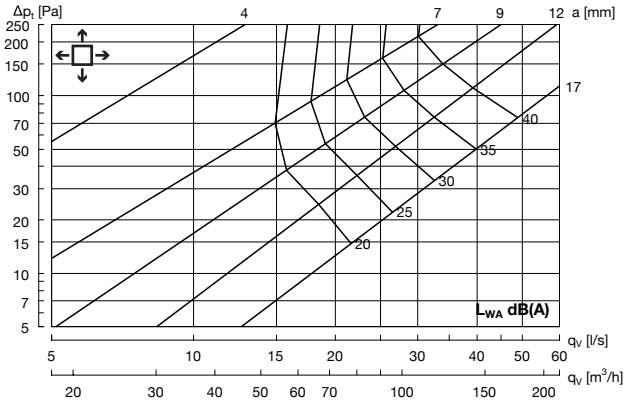


	CODE	A	B
AV PLUS RCT (RECTANGULAR)	26796	165	248

Dimensions in mm

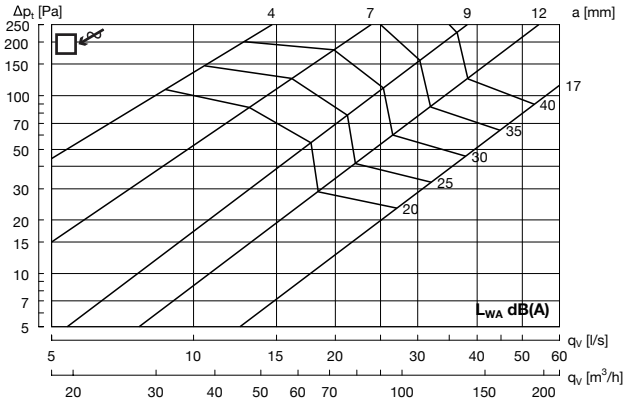


Delivery curve



Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	4	-6	-1	0	-6	-11	-15	-15

Recovery curve



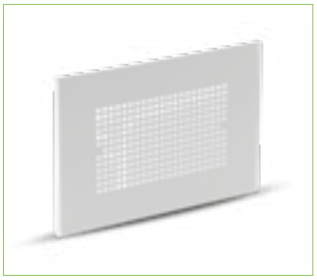
Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	8	-9	-3	-3	-5	-6	-17	-21

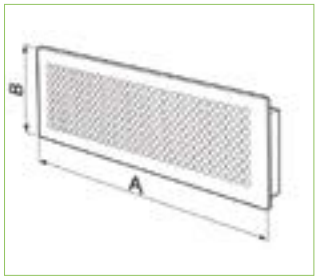
DIFFUSION TERMINALS

Rectangular plenum spigot multiple connection in PE, size 170x 120. Includes connection for WD63 (75mm) or WD75 (90mm). Brackets for wall or plasterboard fixing included. Filter included. Possibility to connect several spigot plenums in Range and to choose the position of the joint.

	CODE
WDPE-PB 170X120	26798

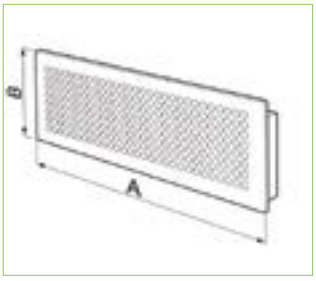
High induction spigot, with perforated front in white powder coated galvanized steel. Suitable for delivery and extraction.





	CODE	A	B
WDPE-BF 193X140	26799	193	140

Dimensions in mm



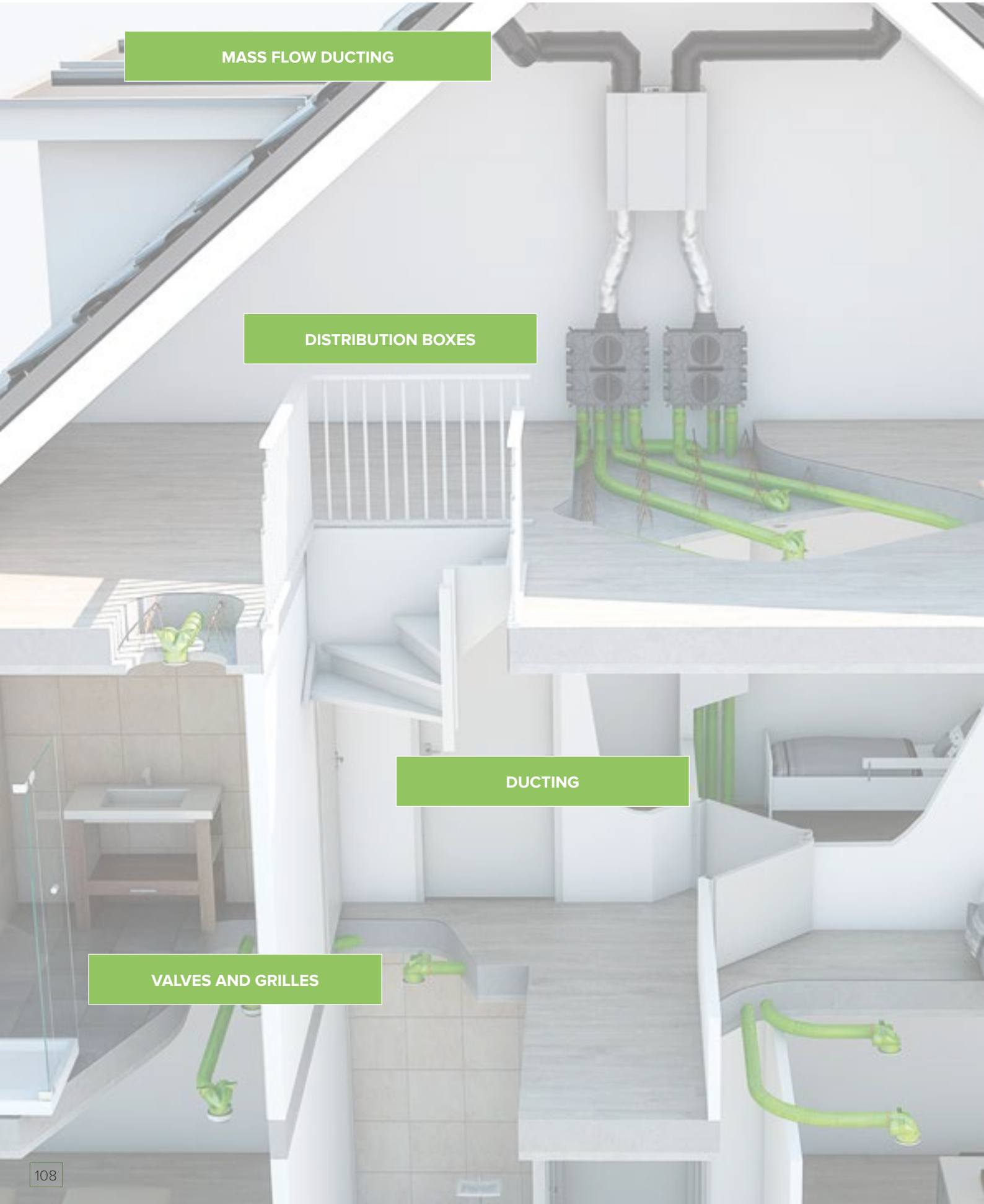
	CODE	A	B
WDPE-BF 366X140	25073	366	140

Dimensions in mm

NOTES

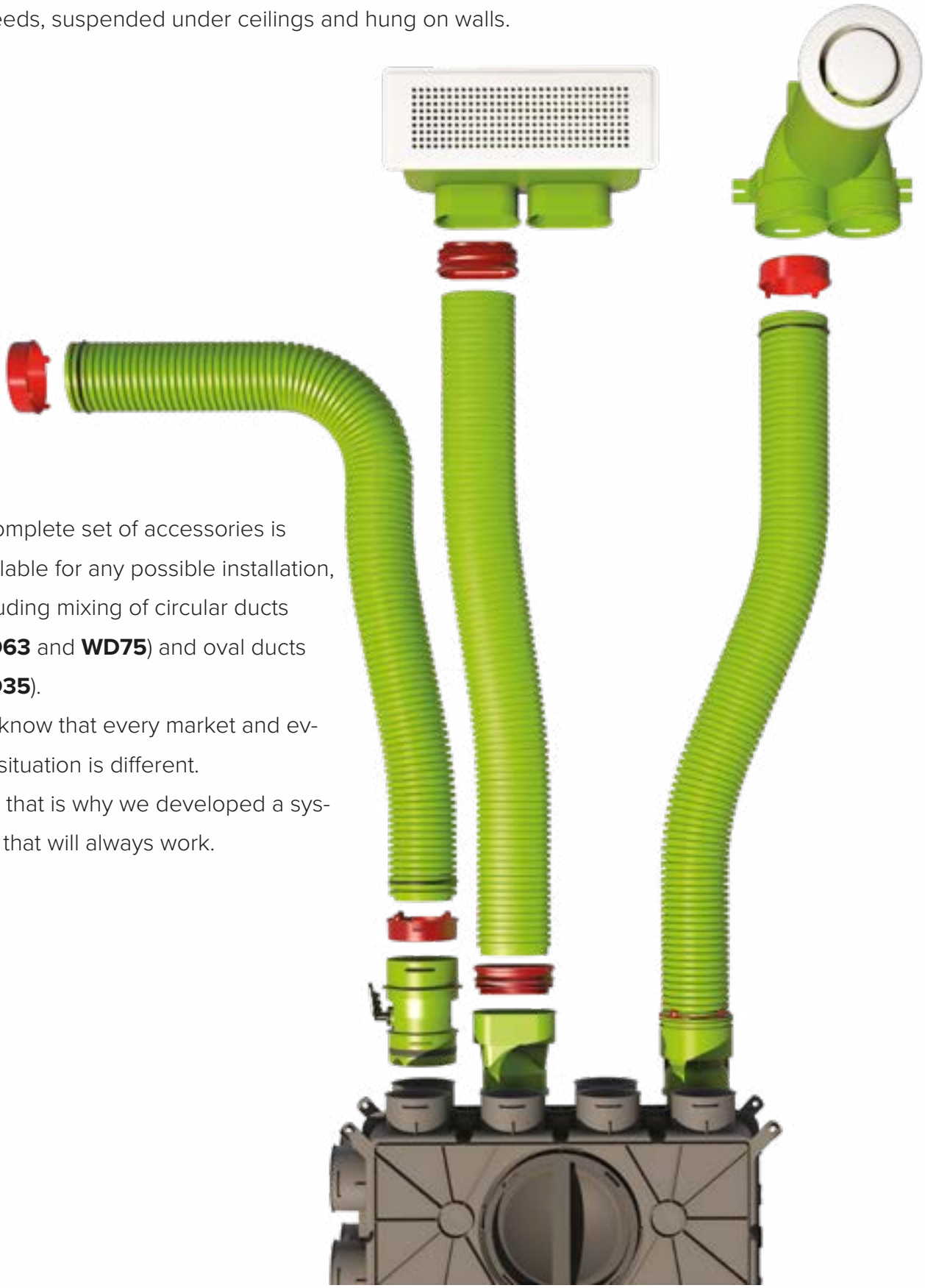
SYSTEM **WDG35**

OVAL



FOR ALL NEW CONSTRUCTION AND RENOVATION APPLICATIONS.

Rolled ducting is easy to roll out, cut to size and fold around obstacles. The ducting can be laid under screeds, suspended under ceilings and hung on walls.



A complete set of accessories is available for any possible installation, including mixing of circular ducts (**WD63** and **WD75**) and oval ducts (**WD35**).

We know that every market and every situation is different.

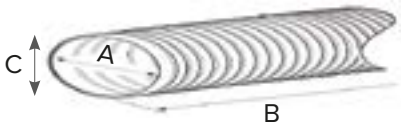
And that is why we developed a system that will always work.

DUCTS

The circular WDG35 ducting enables the efficient distribution of air from the distribution plenums to the various environments. Thanks to its oval section, the ducting is easy to install and ensures minimal pressure drops.

- Quick and easy to install.
- Corrugated external surface to protect against any installation damage.
- Smooth internal surface to minimize pressure drops and ensure long-term cleaning.
- Antistatic and antibacterial properties.
- Suitable for new and renovated buildings.
- Made from exclusively virgin PE granulate.

DIMENSIONS



	CODE	A	B	C
WD 35	21478	102	50000	50

Dimensions in mm

TECHNICAL DATA



	WD 35		WD 35 vertical		WD 35 horizontal	
Radius [mm]	**0**		**150**		**200**	
Duct route	**1**		**1**		**1**	
Qv (Volume) [m³/h]	**v [m/s]**	**(Pa)**	**v [m/s]**	**(Pa)**	**v [m/s]**	**(Pa)**
0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.5	0.3	0.5	0.1	0.5	0.1
10	0.9	0.7	0.9	0.2	0.9	0.3
15	1.4	1.1	1.4	0.6	1.4	0.6
20	1.8	1.7	1.8	1.0	1.8	1.1
25	2.3	2.3	2.3	1.5	2.3	1.8
30	2.7	3.0	2.7	2.2	2.7	2.6
35	3.2	3.8	3.2	3.0	3.2	3.5
40	3.6	4.7	3.6	3.9	3.6	4.6
45	4.1	5.7	4.1	5.0	4.1	5.8
50	4.6	6.8	4.6	6.1	4.6	7.1
55	5.0	8.0	5.0	7.4	5.0	8.6

SUGGESTION

Use adapter code 21492 WDG-R 63-35 to connect the oval channel to the plenums of the WDG Range.

TECHNICAL DATA

WD 35

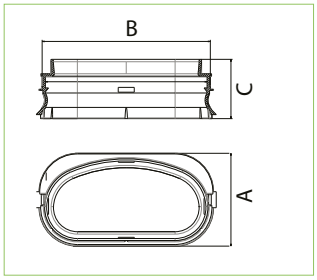
WD 35 vertical

WD 35 horizontal

Radius [mm]	0		150		200	
Duct route	1		1		1	
Qv (Volume) [m³/h]	v [m/s]	(Pa)	v [m/s]	(Pa)	v [m/s]	(Pa)
0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.2	0.1	0.2	0.0	0.2	0.0
10	0.5	0.3	0.5	0.1	0.5	0.1
15	0.7	0.5	0.7	0.1	0.7	0.2
20	0.9	0.7	0.9	0.2	0.9	0.3
25	1.1	0.9	1.1	0.4	1.1	0.4
30	1.4	1.1	1.4	0.6	1.4	0.6
35	1.6	1.4	1.6	0.8	1.6	0.9
40	1.8	1.7	1.8	1.01	1.8	1.1
45	2.1	2.0	2.1	1.2	2.1	1.4
50	2.3	2.3	2.3	1.5	2.3	1.8
55	2.5	2.6	2.5	1.9	2.5	2.2
60	2.7	3.0	2.7	2.2	2.7	2.6
65	3.0	3.4	3.0	2.6	3.0	3.0
70	3.2	3.8	3.2	3.0	3.2	3.5
75	3.4	4.3	3.4	3.5	3.4	4.0
80	3.6	4.7	3.6	3.9	3.6	4.6
85	3.9	5.2	3.9	4.4	3.9	5.1
90	4.1	5.7	4.1	5.0	4.1	5.8
95	4.3	6.3	4.3	5.5	4.3	6.4
100	4.6	6.8	4.6	6.1	4.6	7.1
105	4.8	7.4	4.8	6.8	4.8	7.8
110	5.0	8.0	5.0	7.4	5.0	8.6

DUCTS

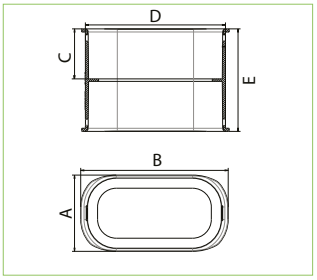
The **sealing ring** for the oval duct is an essential component of the WDG35 system for the hermetic sealing of the connections between the ducts, accessories and distribution plenums. The composite material (PP and TPE) make the sealing ring flexible for easy assembly and the creation of hermetic connections **(1 piece)**.



	CODE	ØA	B	C
WDG-OR 35	21485	58	105	37

Dimensions in mm

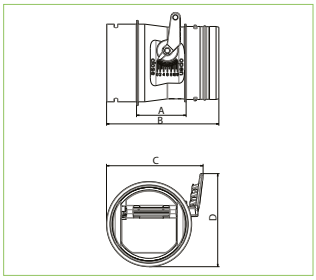
For the straight connection of the oval duct, for ceiling or wall installations.
Easy to assemble with gasket and sealing ring.
Antistatic and antibacterial properties, made from exclusively virgin PP granulate.



	CODE	A	B	C	D	E
WDG-J 35	21482	61	118	40	118	82

Dimensions in mm

The **regulator** makes it possible to set the air flow for each duct. It is connected directly to the distribution plenum and with the use of adapters it can be connected to any type of duct. The setting can be defined by aeraulic calculations. The air flow can be easily adjusted thanks to the lever without the need to intervene on the system.



	CODE	A	B	C	D
WDG-RRM	25074	53	120	103	99

Dimensions in mm

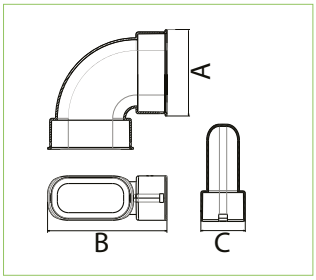
Circular/oval connection from WDG63 to WDG35.

	CODE
WDG-R 63-35	21492

DUCTS

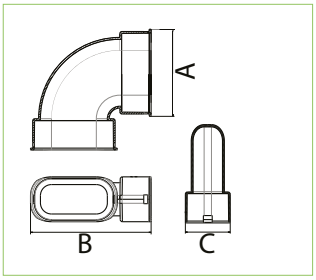
The 90° accessory has been developed to create precise curves with minimal pressure drop around obstacles and to change the direction from horizontal to vertical.

Possibility of making narrow, vertical or horizontal curved lines for wall, floor and ceiling installation. Antistatic and antibacterial properties. Made from exclusively virgin PP granulate.



	CODE	A	B	C
WDG-CV 35	21483	107	118	61

Dimensions in mm



	CODE	ØA	B	C
WDG-CH 35	21484	118	164	61

Dimensions in mm

TECHNICAL DATA

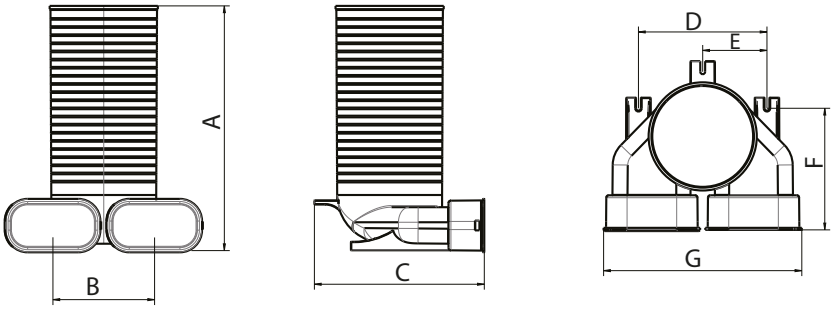
	Horizontal curve		Vertical curve	
Duct route	1		1	
Qv (Volume) [m³/h]	v [m/s]	(Pa)	v [m/s]	(Pa)
0	0.0	0.0	0.0	0.0
5	0.5	0.0	0.5	0.1
10	0.9	0.1	0.9	0.3
15	1.4	0.3	1.4	0.6
20	1.8	0.5	1.8	1.1
25	2.3	0.7	2.3	1.7
30	2.7	1.0	2.7	2.4
35	3.2	1.4	3.2	3.3
40	3.6	1.8	3.6	4.3
45	4.1	2.3	4.1	5.5
50	4.6	2.8	4.6	6.8
55	5.0	3.4	5.0	8.2

DIFFUSION TERMINALS

The 90° valve adapter has been developed for ceiling or wall installations. It has been designed to cross most of the structures such as walls, screeds or false ceilings. The adapter can be cut to size with common equipment and then assembled with the termination of the ventilation system: the air intake or extraction valve. The adapter has two connections for the oval duct and is supplied with a dust cap on the valve connection (125 mm) and a removable cap on one of the two connections for the oval duct.

- For air intake and extraction.
- For ceiling or wall installations.
- Easy to cut to the desired size.
- Antistatic and antibacterial properties.
- Made from exclusively virgin PP granulate.

DIMENSIONS



	CODE	A	B	C	D	E	F	G
WDG-PB 125-35	21479	301	125	209	158	79	149	244

Dimensions in mm

TECHNICAL DATA

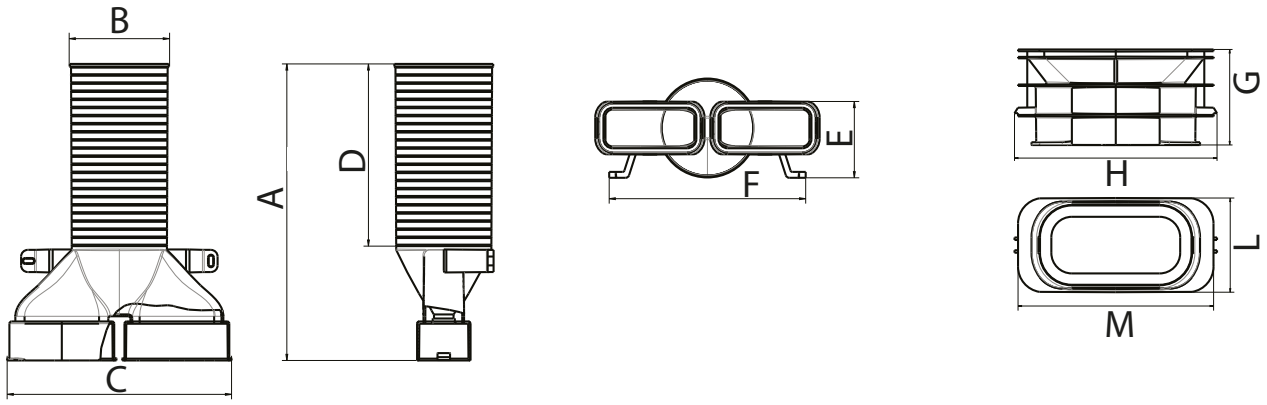
	Air intake				Air extraction			
Duct route	1		2		1		2	
Qv (Volume) [m³/h]	v [m/s]	(Pa)	v [m/s]	(Pa)	v [m/s]	(Pa)	v [m/s]	(Pa)
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.5	0.1	0.2	0.0	0.5	0.2	0.2	0.0
10	0.9	0.5	0.5	0.1	0.9	0.6	0.5	0.2
15	1.4	1.2	0.7	0.2	1.4	1.4	0.7	0.4
20	1.8	2.1	0.9	0.4	1.8	2.5	0.9	0.7
25	2.3	3.3	1.1	0.6	2.3	4.0	1.1	1.2
30	2.7	4.8	1.4	0.9	2.7	5.7	1.4	1.7
35	3.2	6.5	1.6	1.3	3.2	7.8	1.6	2.3
40	3.6	8.5	1.8	1.6	3.6	10.1	1.8	3.0
45	4.1	10.7	2.1	2.1	4.1	12.8	2.1	3.8
50	4.6	13.3	2.3	2.6	4.6	15.8	2.3	4.7
55	5.0	16.0	2.5	3.1	5.0	19.2	2.5	5.6
60	-	-	2.7	3.7	-	-	2.7	6.7
65	-	-	3.0	4.4	-	-	3.0	7.9
70	-	-	3.2	5.1	-	-	3.2	9.1
75	-	-	3.4	5.8	-	-	3.4	10.5
80	-	-	3.6	6.6	-	-	3.6	11.9
85	-	-	3.9	7.4	-	-	3.9	13.5
90	-	-	4.1	8.4	-	-	4.1	15.1
95	-	-	4.3	9.3	-	-	4.3	16.8
100	-	-	4.6	10.3	-	-	4.6	18.7
105	-	-	4.8	11.4	-	-	4.8	20.6
110	-	-	5.0	12.5	-	-	5.0	22.6

DIFFUSION TERMINALS

The 180° valve adapter has been developed for ceiling or wall installations. It has been designed to cross most of the structures such as walls, screeds or false ceilings. The adapter can be cut to size with common equipment and then assembled with the termination of the ventilation system: the air intake or extraction valve. The adapter has two connections for the oval duct and comes with a dust cap on the valve connection (125mm) and a removable cap on one of the two connections for the oval duct.

- For air intake and extraction.
- For ceiling or wall installations.
- Easy to cut to the desired size.
- Antistatic and antibacterial properties.
- Made from exclusively virgin PP granulate.

DIMENSIONS



	CODE	A	B	C	D	E	F	G	H	L	M
WDG-PBH 125-35	21480	402	125	304	247	103.5	266	67	143	66	138

Dimensions in mm

TECHNICAL DATA

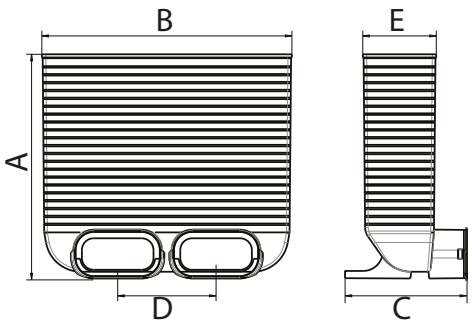
	Air intake				Air extraction			
Duct route	1		2		1		2	
Qv (Volume) [m³/h]	v [m/s]	(Pa)	v [m/s]	(Pa)	v [m/s]	(Pa)	v [m/s]	(Pa)
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.5	0.1	0.2	0.0	0.5	0.2	0.2	0.1
10	0.9	0.4	0.5	0.1	0.9	0.6	0.5	0.2
15	1.4	0.9	0.7	0.2	1.4	1.4	0.7	0.5
20	1.8	1.7	0.9	0.3	1.8	2.5	0.9	0.8
25	2.3	2.6	1.1	0.5	2.3	3.9	1.1	1.3
30	2.7	3.8	1.4	0.7	2.7	5.7	1.4	1.8
35	3.2	5.1	1.6	0.9	3.2	7.7	1.6	2.5
40	3.6	6.7	1.8	1.6	3.6	10.1	1.8	3.2
45	4.1	8.5	2.1	1.5	4.1	12.7	2.1	4.1
50	4.6	10.4	2.3	1.8	4.6	15.7	2.3	5.0
55	5.0	12.6	2.5	2.2	5.0	19.0	2.5	6.1
60	-	-	2.7	2.6	-	-	2.7	7.2
65	-	-	3.0	3.1	-	-	3.0	8.5
70	-	-	3.2	3.5	-	-	3.2	9.9
75	-	-	3.4	4.1	-	-	3.4	11.3
80	-	-	3.6	4.6	-	-	3.6	12.9
85	-	-	3.9	5.2	-	-	3.9	14.5
90	-	-	4.1	5.9	-	-	4.1	16.3
95	-	-	4.3	6.5	-	-	4.3	18.2
100	-	-	4.6	7.2	-	-	4.6	20.1
105	-	-	4.8	8.0	-	-	4.8	22.2
110	-	-	5.0	8.8	-	-	5.0	24.4

DIFFUSION TERMINALS

The 90° grille adapter was originally developed only for air intake and for floor or wall installations. It can be cut in length with common equipment. It comes with a dust cap on the outlet and a removable cap on one of the two connections for the oval duct. The adapter has two connections for the oval duct and comes with a dust cap on the connection to the rectangular grille and a removable cap on one of the two connections for the oval duct.

- For air delivery.
- For wall or floor installations.
- Easy to cut to the desired size.
- Antistatic and antibacterial properties.
- Made from exclusively virgin PP granulate.

DIMENSIONS



	CODE	A	B	C	D	E
WDG-PB 310X85	21481	287	318	155	125	96

Dimensions in mm

TECHNICAL DATA

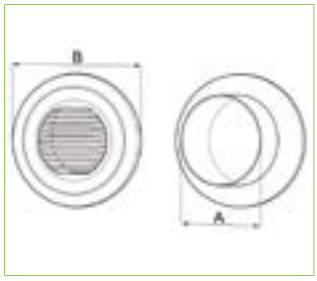
Air delivery without grille

Air intake with grille

Duct route	1		2		1		2	
Qv (Volume) [m³/h]	v [m/s]	(Pa)	v [m/s]	(Pa)	v [m/s]	(Pa)	v [m/s]	(Pa)
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.5	0.1	0.2	0.0	0.5	0.2	0.2	0.1
10	0.9	0.4	0.5	0.1	0.9	0.6	0.5	0.3
15	1.4	0.9	0.7	0.2	1.4	1.4	0.7	0.7
20	1.8	1.6	0.9	0.3	1.8	2.5	0.9	1.2
25	2.3	2.6	1.1	0.5	2.3	3.8	1.1	1.8
30	2.7	3.7	1.4	0.7	2.7	5.5	1.4	2.6
35	3.0	4.5	1.6	1.0	3.0	6.6	1.6	3.6
40	3.2	5.1	1.8	1.3	3.2	7.5	1.8	4.7
45	3.6	6.6	2.1	1.6	3.6	9.8	2.1	5.9
50	4.1	8.4	2.3	2.0	4.1	12.4	2.3	7.3
55	4.6	10.3	2.5	2.4	4.6	15.3	2.5	8.9
60	5.0-	12.5	2.7	2.8	5.0-	18.6	2.7	10.6
65	-	-	3.0	3.3	-	-	3.0	12.4
66	-	-	3.0	3.4	-	-	3.0	12.7
70	-	-	3.2	3.8	-	-	3.2	14.4
75	-	-	3.4	4.4	-	-	3.4	16.5
80	-	-	3.6	5.0	-	-	3.6	18.8
85	-	-	3.9	5.7	-	-	3.9	21.2
90	-	-	4.1	6.4	-	-	4.1	23.8
95	-	-	4.3	7.1	-	-	4.3	26.5
100	-	-	4.6	7.9	-	-	4.6	29.3
105	-	-	4.8	8.7	-	-	4.8	32.3
110	-	-	5.0	9.5	-	-	5.0	35.5

DIFFUSION TERMINALS

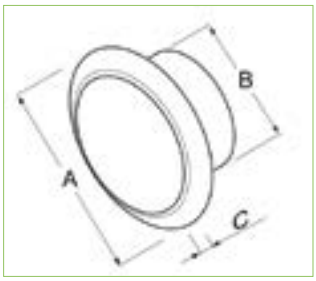
Supply/return launch spigot, manual opening/closing/adjustment system.



	CODE	ØA	B
BOREA 125	23199	125	165

Dimensions in mm

Extraction/delivery spigot in white thermoplastic polystyrene. Enables air flow regulation with a simple adjustment of the rotating core. To be applied to ceilings, ventilation ducts, false ceilings, etc.

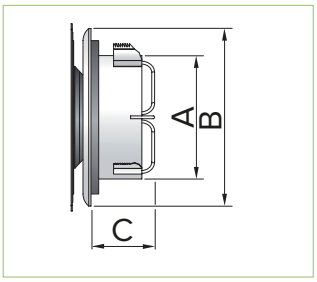


	CODE	ØA	ØB	C
AV 125	22190	166	125	15

Dimensions in mm

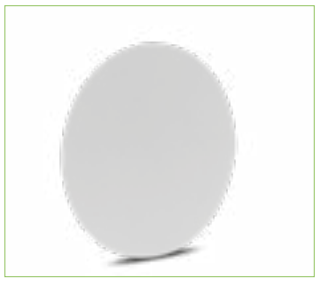
DIFFUSION TERMINALS

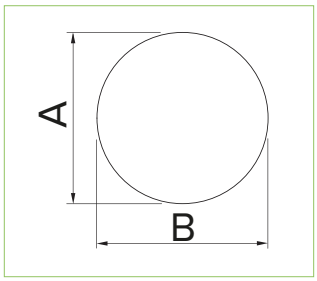
Steel extraction/intake spigots. They enable the regulation of the air flow with a simple adjustment of the rotating core. To be applied to ceilings, ventilation ducts, false ceilings, etc. To be combined with an aesthetic mask (circular, square and rectangular). Revolutionary sound data that guarantee excellent sound levels.



	CODE	ØA	ØB	C
AV PLUS BD 125	26794	114	156	57

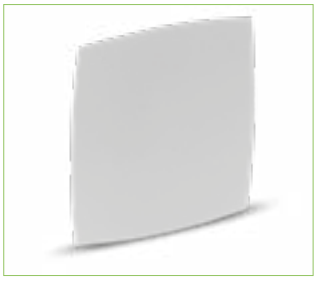
Dimensions in mm

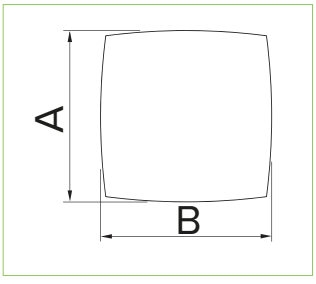




	CODE	ØA	ØB
AV PLUS RND (CIRCULAR)	26797	165	165

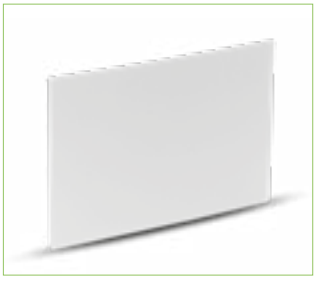
Dimensions in mm

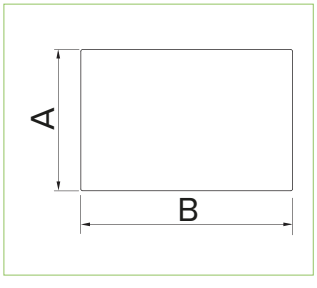




	CODE	A	B
AV PLUS BOW (SQUARE)	26795	165	165

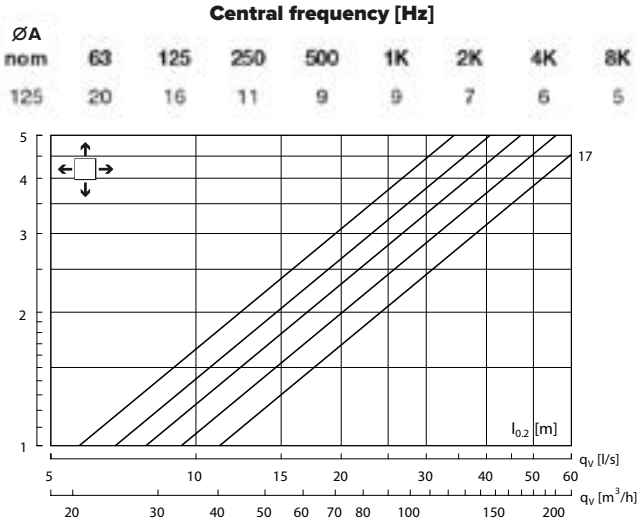
Dimensions in mm



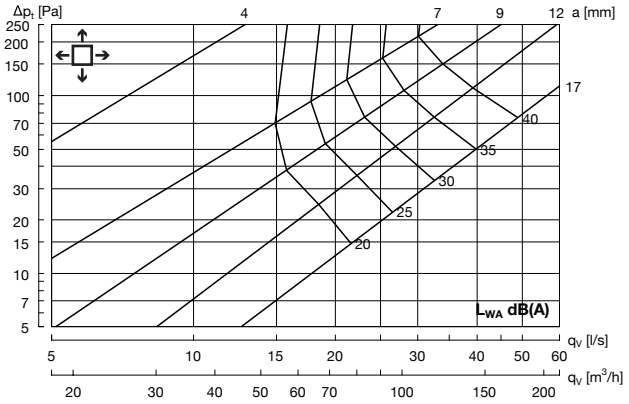


	CODE	A	B
AV PLUS RCT (RECTANGULAR)	26796	165	248

Dimensions in mm

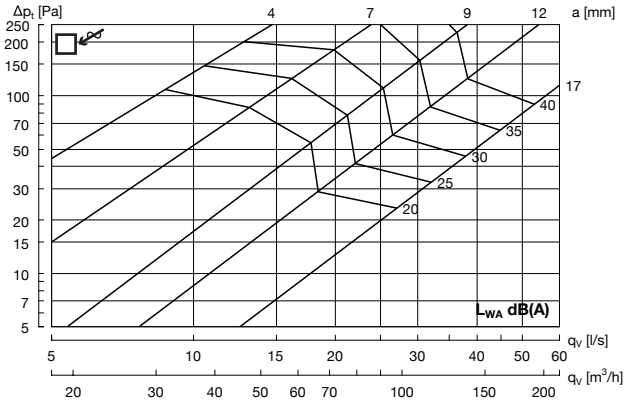


Delivery curve



Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	4	-6	-1	0	-6	-11	-15	-15

Recovery curve



Hz	63	125	250	500	1K	2K	4K	8K
K_{ok}	8	-9	-3	-3	-5	-6	-17	-21

DUCTS

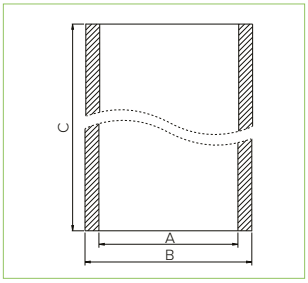
Rigid insulated ducting systems ideal for connecting the machine to the outside air intakes.

In ventilation (heating/cooling), insulating ducts are used to minimize heat loss or prevent condensation from forming inside or outside the duct.

Duct that reduces the pressure drop due to its very smooth internal surface. Light, easy to cut and foldable, impact resistant (for example dent free) does not rust. Duct length 2 meters, diameters 125 and 150 mm. Easy to disassemble, which makes maintenance very simple

DUCTS

EPE rigid duct, circular section.

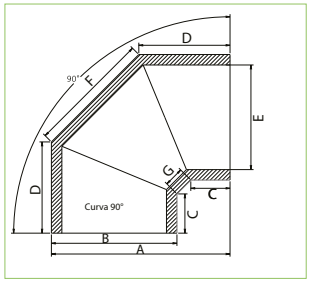


	CODE	ØA	B	C
RIGID EPE DUCT Ø 125 2MT	21468	125	157	2000
RIGID EPE DUCT Ø 150 2MT	21473	150	182	2000

Dimensions in mm

VOLUME [M³/H]	PRESSURE DROP [PA]	
	Ø 125	Ø 150
100	1.0	1.0
200	2.7	1.1
300	6.1	2.5
400	10.8	4.5
500	16.9	7.0
600	24.3	10.1

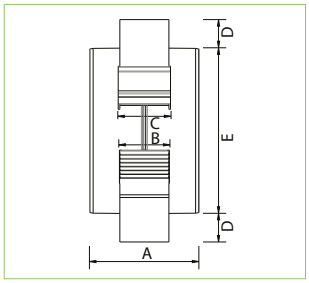
90° curve in EPE circular section diameter 125-150mm.



	CODE	ØA	ØB	C	D	ØE	F	G
90° CURVE IN EPE Ø 125	21469	238	157	60	125	125	159	30
90° CURVE IN EPE Ø 150	21474	263	182	60	135	150	181	30

Dimensions in mm

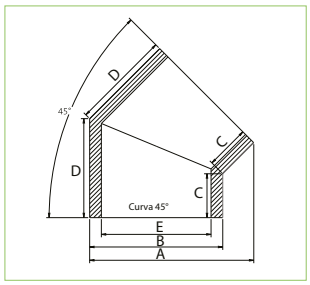
Connector in EPE diameter 125mm and 150mm.



	CODE	A	B	C	D	E
CONNECTOR IN EPE Ø 125	21471	100	45	48	15	125
CONNECTOR IN EPE Ø 150	21476	100	45	48	15	150

Dimensions in mm

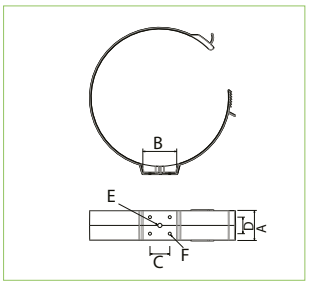
45° curve in EPE circular section diameter 125-150mm.



	CODE	ØA	ØB	C	D	ØE
45° CURVE IN EPE Ø 125	21470	199	157	60	125	125
45° CURVE IN EPE Ø 150	21475	224	182	60	135	150

Dimensions in mm

Fixing clip for circular ducts in EPE.



	CODE	A	B	C	D	E	ØF
CLIP IN EPE Ø 125	21472	45	50	30	25	M8	4.5
CLIP IN EPE Ø 150	21477	45	50	30	25	M8	4.5

Dimensions in mm

EXTERNAL GRILLES

Vertical ejection terminal connection diameter 125-150mm.

	CODE
TE-V Ø 125	21486
TE-V Ø 150	21487

Black tile diam. 125/150/160mm 5-25°/ 25-45°/ 35-55° for roof ejection terminal.

	CODE
TEG Ø 125/150 5-25°	21489
TEG Ø 125/150 25-45°	21490
TEG Ø 125/150 35-55°	21491

Flat tile Diam. 125/150mm for roof ejection terminal.

	CODE
TEG Ø 125/150 FLAT	21488

Polypropylene grille with anti-bird protection.

	CODE	A	B
OUTDOOR ANTI-BIRD GRILLE Ø 125	46058	155	155
OUTDOOR ANTI-BIRD GRILLE Ø 150	46059	185	185

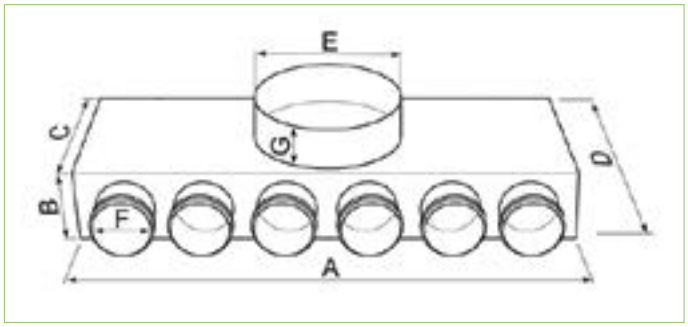
Dimensions in mm

NOTES

PLENUM GALVANIZED SHEET

Distribution plenum in galvanized sheet metal with connections for WD63 ducts.

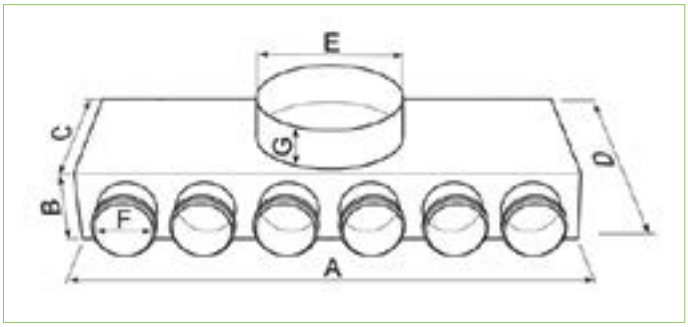
6 CONNECTIONS
connection Ø 125 mm
6 connections Ø 63 mm



	CODE	A	B	C	D	ØE	ØF	G
WD-P 6X63	23649	525	90	190	232	125	63	45

Dimensions in mm

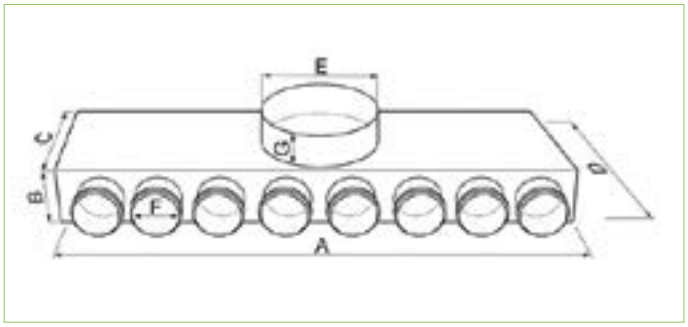
10 CONNECTIONS
connection Ø 160 mm
10 connections Ø 63 mm



	CODE	A	B	C	D	ØE	ØF	G
WD-P 10x63	23212	515	82	180	265	160	63	45

Dimensions in mm

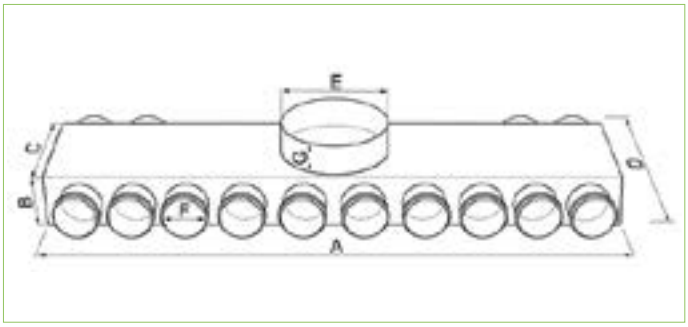
8 CONNECTIONS
connection Ø 160 mm
8 connections Ø 63 mm



	CODE	A	B	C	D	ØE	ØF	G
WD-P 8X63	23650	695	90	190	232	160	63	45

Dimensions in mm

14 CONNECTIONS
connection Ø 160 mm
10 connections Ø 63 mm

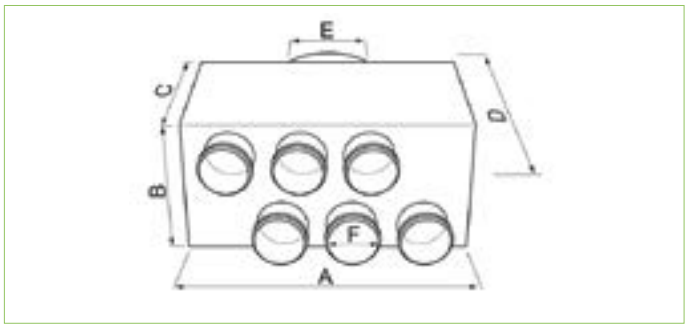


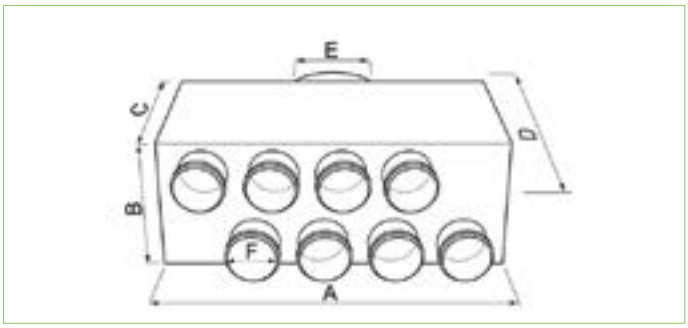
	CODE	A	B	C	D	ØE	ØF	G
WD-P 14x63	23213	850	82	180	265	160	63	45

Dimensions in mm

6 CONNECTIONS
connection Ø 125 mm
6 Ø 63 mm IN LINE
connections

8 CONNECTIONS
connection Ø 160 mm
10 connections Ø 63 mm





	CODE	A	B	C	D	ØE	ØF
WD-PH 6X63	23651	355	200	190	277	125	63

Dimensions in mm

	CODE	A	B	C	D	ØE	ØF
WD-PH 8X63	23652	440	200	190	277	160	63

Dimensions in mm

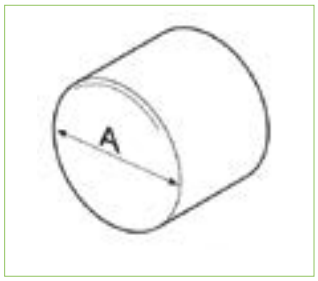
DUCTS

Smooth semi-flexible corrugated channel internally in PEAD.

	CODE	ØA	B
WD 63	23209	63	50000

Dimensions in mm

Steel cap Ø 63mm.



	CODE	ØA
WD-X 63	23219	63

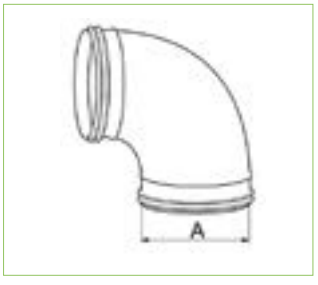
Dimensions in mm

Connection for internal ducts Ø 63 mm, in galvanized steel, with rubber seals.

	CODE
WD-R 63-80	23200

Dimensions in mm

90° curve for duct internal Ø 63 mm, in galvanized steel, with rubber seals.

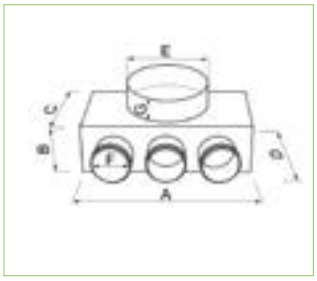


	CODE	ØA
WD-C 63	23211	63

Dimensions in mm

DIFFUSION TERMINALS

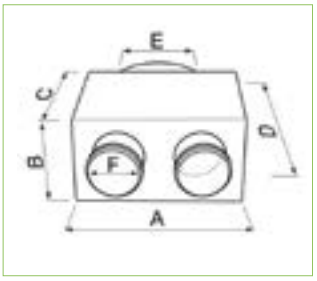
Plenum in galvanized steel sheet for return air delivery for false ceiling installations. Corner configuration. Designed for mounting circular spigots. Connections with seals. Code 23218 - 2 connections Ø 63 mm.
Code 23217 - 3 connections Ø 63 mm.



	CODE	A	B	C	D	ØE	ØF	G
WD-PB 100	23218	170	87	122	163	100	63	45
WD-PB 125	23217	245	87	190	125	125	63	45

Dimensions in mm

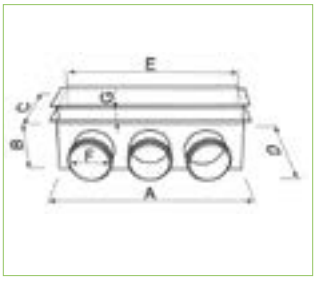
Plenum in galvanized steel sheet for return air delivery for false ceiling installations. In-line configuration. Designed for mounting circular spigots. Connections with seals. Code 23658 - 2 connections Ø 63 mm.
Code 23657 - 3 connections Ø 63 mm.



	CODE	A	B	C	D	ØE	ØF
WD-PBH 100	23658	170	122	87	175	100	63
WD-PBH 125	23657	245	147	87	175	125	63

Dimensions in mm

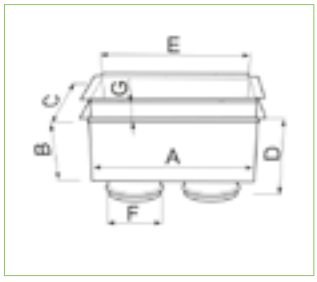
Plenum in galvanized steel sheet for return air delivery for false ceiling installations. Corner configuration. Designed for mounting rectangular spigots. Connections with seals. Code 23653 - 2 connections Ø 63 mm.
Code 23214 - 3 connections Ø 63 mm.



	CODE	A	B	C	D	E	ØF	G
WD-PB 200X100	23653	200	85	100	144	195	63	37
WD-PB 300X100	23214	300	85	100	144	295	63	37

Dimensions in mm

Plenum in galvanized steel sheet for return air delivery for false ceiling installations. In-line configuration. Designed for mounting rectangular spigots. Connections with seals.
Code 23655 - 2 connections Ø 63 mm.
Code 23654 - 3 connections Ø 63 mm.

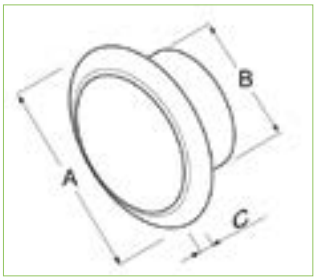


	CODE	A	B	C	D	E	ØF	G
WD-PBH 200X100	23655	200	85	100	130	195	63	37
WD-PBH 300X100	23654	300	85	100	130	295	63	37

Dimensions in mm

DIFFUSION TERMINALS

Extraction/delivery spigot in white thermoplastic polystyrene. Enables air flow regulation with a simple adjustment of the rotating core. To be applied to ceilings, ventilation ducts, false ceilings, etc.



	CODE	ØA	ØB	C
AV 100	22189	140	100	13
AV 125	22190	166	125	15

Dimensions in mm

High induction spigot, with perforated front in white powder coated galvanized steel. Suitable for delivery and extraction.

	CODE	A	B
WD-BF 200X100	23656	200	100
WD-BF 300X100	23215	300	100

Dimensions in mm

High induction spigot 300x100, with adjustable fins in white powder coated galvanized steel. Suitable for horizontal launch delivery.

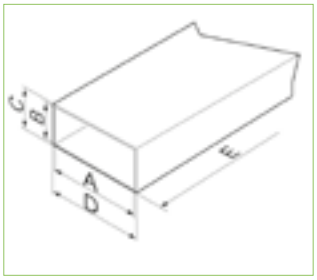
	CODE	A	B
WD-BA 300X100	23216	300	100

Dimensions in mm

SYSTEM **204x60**
RECTANGULAR DUCTING

DUCTS

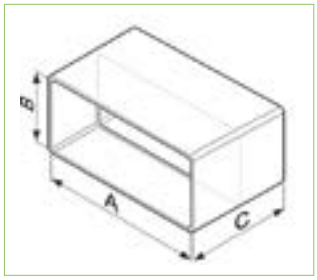
Connector for flat duct in polystyrene.



	CODE	A	B	C	D	E
RECTANGULAR PIPE 1MT	46155	200	54	60	204	1000
RECTANGULAR PIPE 2MT	46157	200	54	60	204	1000

Dimensions in mm

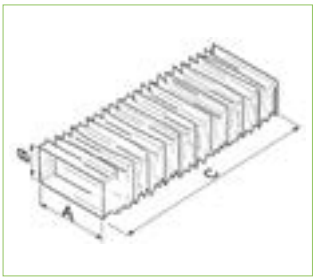
Connector for flat duct in polystyrene.



	CODE	A	B	C
SYSTEM 204 FLAT DUCT CONNECTOR	46162	205	60	74

Dimensions in mm

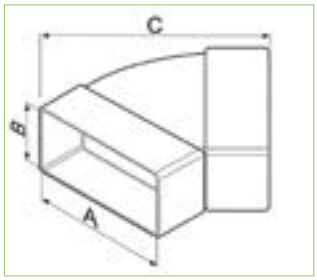
PVC flexible duct rectangular section.



	CODE	A	B	C
PVC FLEX PIPE 204X60	46244	206	62	3000

Dimensions in mm

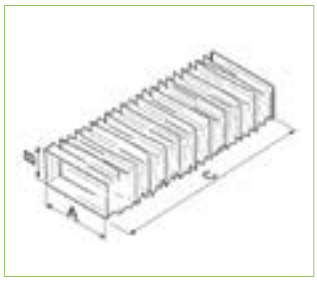
Horizontal curve rectangular section in polystyrene.



	CODE	A	B	C
HORIZONTAL CURVE 45° SYSTEM 204	46167	204	60	203
HORIZONTAL CURVE 90° SYSTEM 204	46159	204	60	244

Dimensions in mm

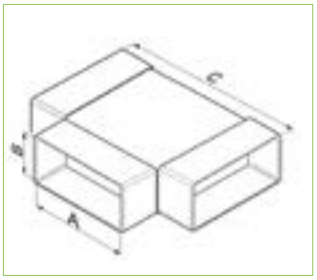
Flexible/extendable curve rectangular section in polystyrene/PVC.



	CODE	A	B	C
FLEXIBLE CURVE SYSTEM 204	46170	204	60	660

Dimensions in mm

T-junction rectangular section in polystyrene.

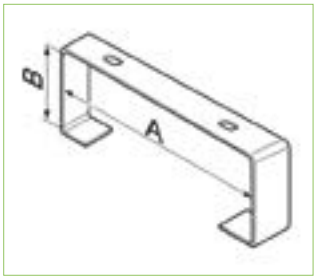


	CODE	A	B	C
T PIECE SYSTEM 204	46171	204	60	279

Dimensions in mm

DUCTS

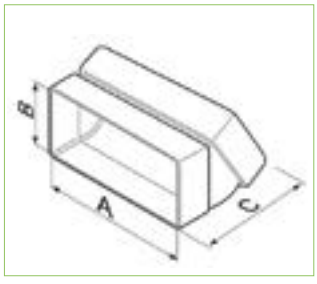
Fixing clip for flat polystyrene ducts.



	CODE	A	B
FLAT DUCT FASTENING SYSTEM 204	46163	204	60

Dimensions in mm

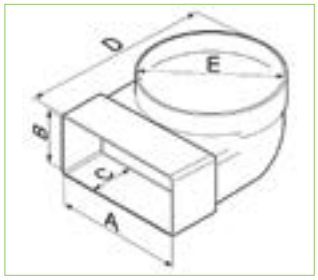
Vertical curve rectangular section in polystyrene.



	CODE	A	B	C
VERTICAL CURVE 90° SYSTEM 204	46164	204	60	98

Dimensions in mm

90° curve with rectangular polystyrene adapter.

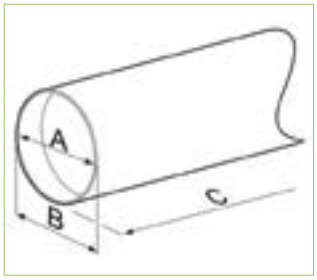


	CODE	A	B	C	D	ØE
ROTATING ELBOW CURVE SYSTEM 204/125	46160	204	60	35	240	125

Dimensions in mm

DUCTS

Rigid PVC pipe circular section, 1 and 2 meters in length.



	CODE	ØA	ØB	C
ROUND PIPE Ø 100 1MT	46184	100	103	1000
ROUND PIPE Ø 100 2MT	46186	100	103	2000
RIGID PIPE Ø 125 1MT	46197	125	128	1000
RIGID PIPE Ø 125 2MT	46199	125	128	2000
RIGID PIPE Ø 150 1MT	46209	149	153	1000
RIGID PIPE Ø 150 2MT	46211	149	153	2000

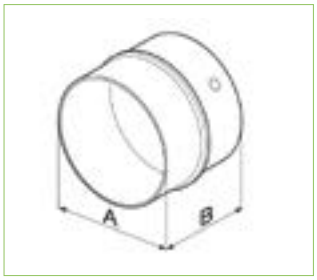
Dimensions in mm

Flexible PVC duct circular section.

	CODE	ØA	B
PVC FLEX PIPE Ø 102	46224	102	15000
PVC FLEX PIPE Ø 127	46230	127	15000
PVC FLEX PIPE Ø 152	46235	152	15000

Dimensions in mm

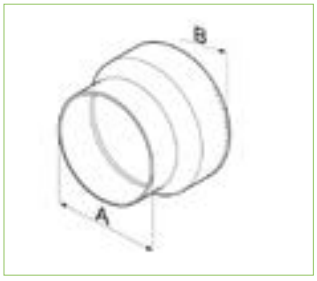
Connector for circular duct in polystyrene.



	CODE	ØA	B
PIPE-PIPE CONNECTOR Ø 100	46188	98	60
PIPE-PIPE CONNECTOR Ø 125	46205	124	62
PIPE-PIPE CONNECTOR Ø 150	46216	149	62

Dimensions in mm

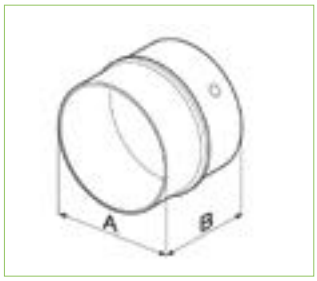
Circular reduction in polystyrene.



	CODE	ØA	ØB
REDUCER Ø 100-80	46415	80	100
REDUCER Ø 125-100	46312	100	125
REDUCER Ø 150-100	46314	100	150
REDUCER Ø 150-125	46313	125	150
REDUCER Ø 200-150	46315	150	160

Dimensions in mm

Connector with damper for circular polystyrene channel.



	CODE	ØA	B
ROUND CONNECTOR Ø 150	46215	149	62

Dimensions in mm

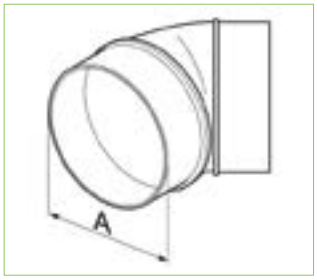
T junction circular section in polystyrene.

	CODE	ØA	B
T JOINT Ø 100	46193	99	168
T JOINT Ø 125	46203	124	197
T JOINT Ø 150	46214	149	223

Dimensions in mm

DUCTS

45° and 90° curves circular section in polystyrene.



	CODE	ØA
45° ELBOW CURVE Ø 100	46192	99
45° ELBOW CURVE Ø 125	46202	124
90° ELBOW CURVE Ø 100	46191	99
90° ELBOW CURVE Ø 125	46201	124
90° ELBOW CURVE Ø 150	46213	149

Dimensions in mm

Fixing clip for circular duct in polystyrene.

	CODE	ØA
CLIP Ø 100	46195	99
CLIP Ø 125	46204	124
CLIP Ø 150	46217	180

Dimensions in mm

Manual duct calibration damper.

	CODE
RRM Ø 80	24825
RRM Ø 100	24827
RRM Ø 125	24828
RRM Ø 150	24829

Dimensions in mm

Duct flow regulator in thermoplastic material. Maximum temperature 60 °C. Complete with rubber seal. Activated by pressures between 50 and 200 Pa.

	CODE	ØA
RD 15 M/H Ø 80	23050	80
RD 30 M/H Ø 80	23052	80
RD 45 M/H Ø 80	23053	80
RD 15 M/H Ø 100	23056	100
RD 30 M/H Ø 100	23058	100
RD 45 M/H Ø 100	23059	100
RD 60 M/H Ø 100	23061	100
RD 75 M/H Ø 100	23062	100
RD 90 M/H Ø 100	23063	100
RD 15 M/H Ø 125	23066	126
RD 30 M/H Ø 125	23068	126
RD 45 M/H Ø 125	23069	126
RD 60 M/H Ø 125	23071	126
RD 75 M/H Ø 125	23072	126
RD 90 M/H Ø 125	23073	126
RD 120 M/H Ø 125	23075	126
RD 150 M/H Ø 125	23076	126
RD 180 M/H Ø 125	23077	126
RD 120 M/H Ø 150	23079	150
RD 150 M/H Ø 150	23080	150
RD 180 M/H Ø 150	23081	150
RD 210 M/H Ø 150	23082	150
RD 240 M/H Ø 150	23083	150
RD 270 M/H Ø 150	23084	150
RD 300 M/H Ø 150	23085	150
RD 210 M/H Ø 200	23095	200
RD 240 M/H Ø 200	23096	200
RD 270 M/H Ø 200	23097	200
RD 350 M/H Ø 200	23098	200
RD 300 M/H Ø 201	23099	200

Dimensions in mm

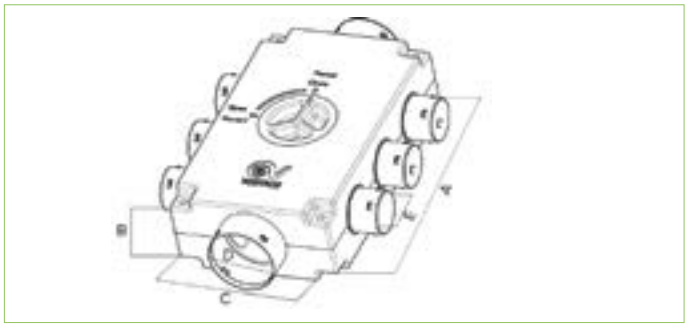
VORT **PLENUM**
PPE

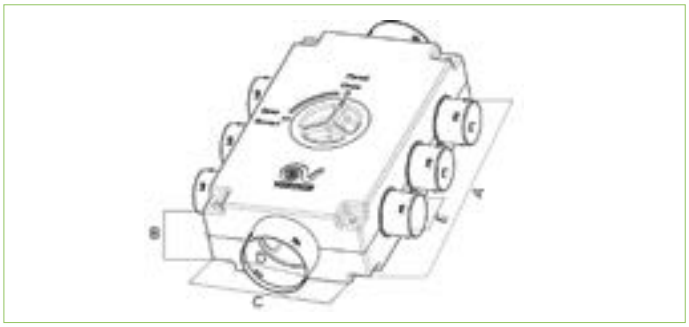
CENTRALIZED VENTILATION

DISTRIBUTION PLENUM

Vort plenum 6+1
for air delivery/extraction ducts
up to 6 rooms+kitchen
Ø pipes: inlet 125 mm
outlets 1x125mm - 6x80mm

Vort Plenum 5+1 AR
for air extraction ducts
up to 5 rooms+kitchen
self-adjusting spigots pipes
Ø: inlet 1x125 mm outlets
125 mm + 5x80 mm





	CODE	A	B	C	ØD	ØE
VORT PLENUM 6+1	22343	490	150	300	125	77.5

Dimensions in mm

	CODE	A	B	C	ØD	ØE
VORT PLENUM 5+1 AR	22347	490	150	300	125	77.5

Dimensions in mm

ACCESSORIES

Flow regulator 15 m^3/h and 30 m^3/h
for plenum 5+1 R and 6+1.

	CODE
REGULATOR 15	22324
REGULATOR 30	22325

CAP

Plenum cap 5+1 AR and 6+1.

	CODE
CAP Ø 80 RED	22605
CAPØ 80 GRAY	22606

DUCTS

Flexible pipe with thermal and acoustic insulation. Internal duct in perforated aluminum, insulation in glass wool, external covering in aluminum film reinforced with fiberglass.

	CODE	ØA	B
AFD-ACU 80-10	23201	82	10000
AFD-ACU 125-10	23203	127	10000

Dimensions in mm

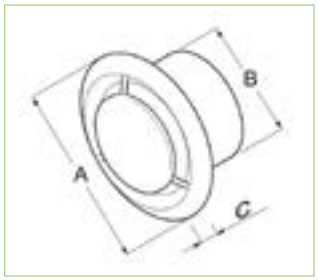
Circular section flexible aluminum duct.

	CODE	ØA	B
ALUMINUM PIPE Ø 80 10MT	46257	82	10000
ALUMINUM PIPE Ø 127 10MT	46259	127	10000

Dimensions in mm

DIFFUSION TERMINALS

Intake/injection spigot not adjustable.



	CODE	ØA	ØB	C
EXTRACTION SPIGOT Ø 80	22326	119	80	19
EXTRACTION SPIGOT Ø 125	22327	169	125	27

Dimensions in mm

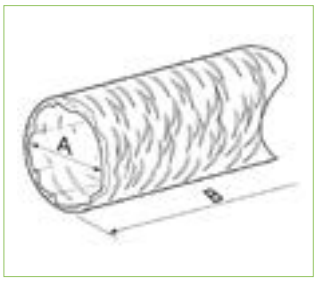
DUCTS

Flexible aluminum pipe with glass wool insulation circular section.

	CODE	ØA	B
INSULATED PIPE AL. Ø 102 10MT	46271	102	10000
INSULATED PIPE AL. Ø 127 10MT	46272	127	10000
INSULATED PIPE AL. Ø 154 10MT	46428	154	10000
INSULATED PIPE AL. Ø 202 10MT	46274	202	10000
INSULATED PIPE AL. Ø 254 10MT	46276	254	10000
INSULATED PIPE AL. Ø 315 10MT	46278	315	10000

Dimensions in mm

Flexible pipe with thermal and acoustic insulation. Internal duct in perforated aluminum, insulation in glass wool, external covering in aluminum film reinforced with fiberglass.



	CODE	ØA	B
AFD-ACU 80-10	23201	82	10000
AFD-ACU 100-10	23202	102	10000
AFD-ACU 125-10	23203	127	10000
AFD-ACU 150-10	23204	152	10000
AFD-ACU 160-10	23205	162	10000

Dimensions in mm

Silencer pipe.

	CODE	ØA	B
SILENCER PIPE Ø 125	22366	125	500
SILENCER PIPE Ø 150	22316	150	500

Dimensions in mm

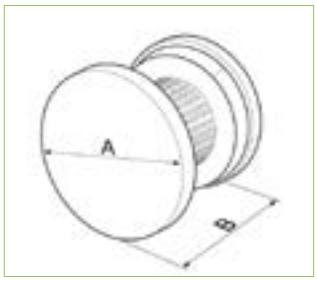
Circular section flexible aluminum duct.

	CODE	ØA	B
ALUMINUM PIPE Ø 102 10 MT	46258	102	10000
ALUMINUM PIPE Ø 127 10MT	46259	127	10000
ALUMINUM PIPE Ø 152 10MT	46260	152	10000
ALUMINUM PIPE Ø 160 10MT	46261	160	10000
ALUMINUM PIPE Ø 203 10MT	46263	203	10000
ALUMINUM PIPE Ø 254 10MT	46264	254	10000
ALUMINUM PIPE Ø 315 10MT	46266	315	10000
ALUMINUM PIPE Ø 80 10MT	46257	82	10000

Dimensions in mm

DUCTS

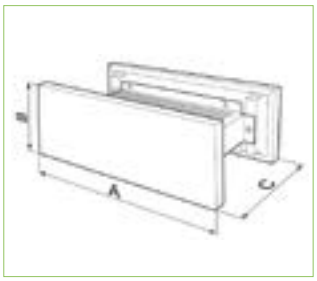
Circular aphonic transit grille with telescopic sleeve for thicknesses from 90 to 170 mm. White powder coated galvanized steel deflectors. Perforated stainless steel through section - internal insulation in mineral wool.



	CODE	ØA	B
GTA Ø 100	23207	160	90/170
GTA Ø 125	23208	200	90/170

Dimensions in mm

Rectangular aphonic transit grille with telescopic sleeve for thicknesses from 90 to 170 mm. White powder coated galvanized steel deflectors. Pre-drilled through section in stainless steel internal insulation in mineral wool.



	CODE	A	B	C
GTA 400X100	23206	400	130	90/170

Dimensions in mm

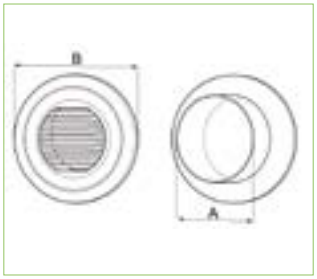
Fixing clip for circular aluminum ducts.

	CODE
CLIP Ø 100	46309
CLIP Ø 125	46310

Dimensions in mm

DIFFUSION TERMINALS

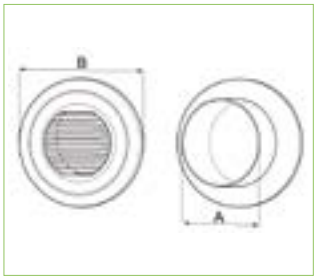
Flow/return spigot with adjustable launch. White polystyrene casing, manual opening/closing/adjustment system.



	CODE	ØA	ØB
BOREA 80	23198	80	110
BOREA 125	23199	125	165

Dimensions in mm

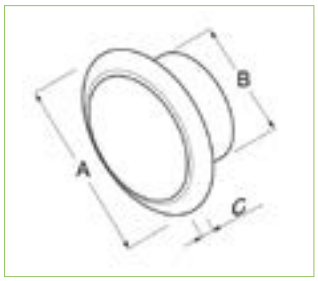
Self-adjusting extraction spigot.
White polystyrene casing. Internal self-regulating module activated by pressures between 50 and 160 Pa. Code 23197 Vortpack Alize Self Insulation - accessory component that can be combined with Vortpack Alize spigots.



	CODE	ØA	ØB
VORTPACK ALIZE' AUTO TEMPO 20/75	24820	125	160
VORTPACK ALIZE' AUTO TEMPO 30/90	24821	125	160
VORTPACK ALIZE' AUTO TEMPO 45/105	24822	125	160
VORTPACK ALIZE' AUTO TEMPO 45/120	24823	125	160
VORTPACK ALIZE' AUTO TEMPO 45/135	24824	125	160
VORTPACK ALYZE AUTO 15	22912	125	160
VORTPACK ALYZE AUTO 30	22911	125	160
VORTPACK ALYZE AUTO 45	23193	125	160
VORTPACK ALYZE AUTO 60	23194	125	160
VORTPACK ALYZE AUTO 75	23195	125	160
VORTPACK ALYZE AUTO 90	23196	125	160
VORTPACK ALYZE AUTO ACOUSTIC INSULATION	23197	125	160

Dimensions in mm

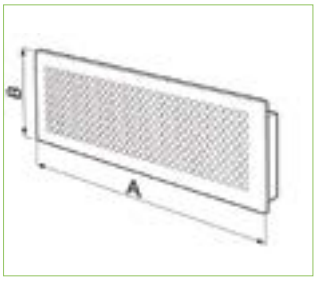
Extraction/delivery spigot in white thermoplastic polystyrene. Enables air flow regulation with a simple adjustment of the rotating core. To be applied to ceilings, ventilation ducts, false ceilings, etc.



	CODE	ØA	ØB	C
AV 100	22189	140	100	13
AV 125	22190	166	125	15
AV 150	22191	204	150	17
AV 160	22192	204	160	17
AV 200	22193	242	200	17

Dimensions in mm

High induction spigot 300x100, with perforated front in white powder-coated galvanized steel. Suitable for delivery and extraction.

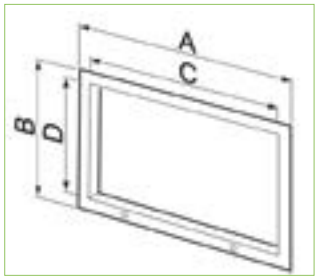


	CODE	A	B
WD-BF 200X100	23656	200	100
WD-BF 300X100	23215	300	100
WDG-BF 310X85	21094	310	85
WDPE-BF 193X140	26799	193	140
WDPE-BF 366X140	25073	366	140

Dimensions in mm

DIFFUSION TERMINALS

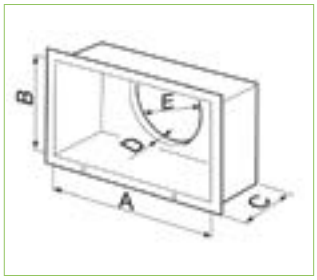
Duct counterframe.



	CODE	A	B	C	D
CO 200X100	22227	235	135	200	100
CO 300X100	22228	335	135	300	100
CO 300X150	22229	388	185	300	150
CO 500X200	22230	535	235	500	200

Dimensions in mm

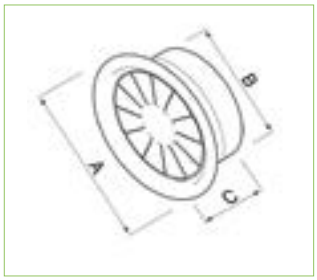
Galvanized steel plenum for grilles.



	CODE	A	B	C	D	ØE
PGB 200X100	22231	200	100	200	50	97
PGB 300X100	22232	300	100	200	50	97
PGB 300X150	22233	300	150	200	50	125
PGB 500X200	22234	500	200	200	50	160
PGB 500X350	22244	500	350	200	50	315

Dimensions in mm

Circular diffuser to be applied to ceilings, ventilation ducts, false ceilings, etc.



	CODE	A	B	C
DE 160	22237	260	157	84
DE 250	22238	350	247	84
DE 315	22239	415	312	84

Dimensions in mm

Rectangular delivery/return spigot with fixed horizontal fins and movable vertical fins, with manual adjustment. To be applied to square or rectangular ventilation ducts by means of a counter frame, or to circular ducts by means of related plenums.

	CODE	A	B	C
BM 200X100	22215	200	100	85
BM 300X100	22216	300	100	85
BM 300X150	22217	300	150	85
BM 500X200	22218	500	200	85

Dimensions in mm

Return grille with fixed inclined fins, pitch 25 mm, in natural anodized extruded aluminum, fixing with clips.

	CODE	A	B	C
GA 200X100	22219	200	100	25
GA 300X100	22220	300	100	25
GA 300X150	22221	300	150	25
GA 500X200	22222	500	200	25
GA 500X350	22243	500	350	25

Dimensions in mm

DIFFUSION TERMINALS

Self-regulating air inlet suitable for applications in single flow VMC systems.

Self-regulating air inlet 15 m^3.

	CODE	A	B	C	D
EA 15 BL	91012	295	20	23	12
EA 30 BL	91014	295	20	23	12

Dimensions in mm

Self-regulating delivery spigot with acoustic thickness.

	CODE	A	B	C	D
EAA22 BL	91016	400	38	36	12
EAA30 BL	91018	400	38	36	12
EAA45 BL	91035	400	38	36	12

Dimensions in mm

Self-adjusting delivery spigot with acoustic thickness and Ø 125 rear connection (30 m^3/ H).

	CODE	A	B	C
EM A 30	24639	220	150	52

Dimensions in mm

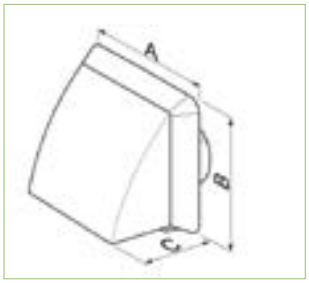
EXTERNAL GRILLES

Polypropylene grille with anti-bird protection.

	CODE	A	B
OUTDOOR ANTI-BIRD GRILLE Ø 100	46056	155	155
OUTDOOR ANTI-BIRD GRILLE Ø 125	46058	155	155
OUTDOOR ANTI-BIRD GRILLE Ø 150	46059	185	185

Dimensions in mm

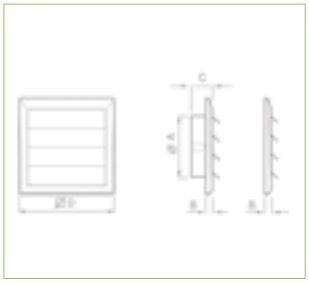
White polypropylene expulsion grille with gravity shutter and rain cover.



	CODE	A	B	C
WHITE ANTI-WIND GRILLE Ø 100	46072	155	155	60
WHITE ANTI-WIND GRILLE Ø 125	46074	155	155	70

Dimensions in mm

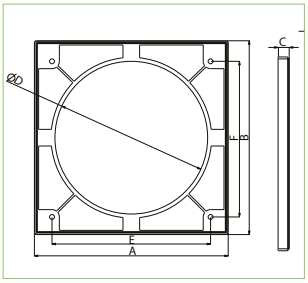
Gravity grille to be installed on the wall.
It prevents the return of air and objects from outside. Made entirely of UV resistant shockproof thermoplastic resin.



	CODE	ØA	B	C	D
GGR 100	22332	99	8	28	140
GGR 120/125	22333	119	8	28	160
GGR 150/160	22334	155	8	28	198
GGR 200	22335	199	14	28	254
GGR 250	22336	249	14	28	299
GGR 315	22337	324	14	28	391

Dimensions in mm

Spacer flange for external wiring.



	CODE	A	B	C	ØD	E	F
SPACER FLANGE Ø 100/4	22253	140	140	12	100	105	102
SPACER FLANGE Ø 120/5	22254	160	160	12	120	125	120
SPACER FLANGE Ø 150/6	22255	200	200	12	160	160	162

Dimensions in mm

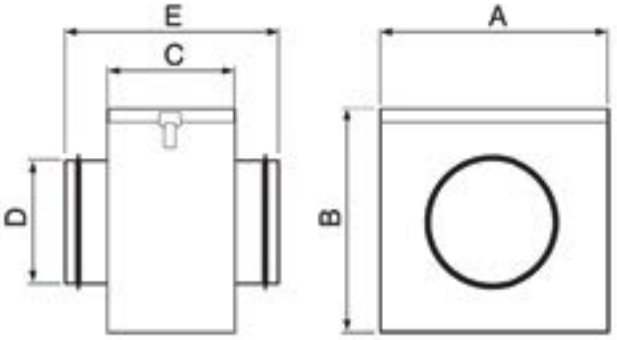
FILTER BOX AND HEATERS

FILTERS

The AF Range air filters have been designed to enable remote filtration in forced ventilation systems and especially to be coupled to ventilation units. The filter media is composed of fibers coated with a highly adhesive substance to improve the collection of dust. A metal wire structure keeps the mattress flat to facilitate the uniform passage of air. The container is made of galvanized steel with an inspection hatch that can be easily opened for the ordinary maintenance of the filter elements. The connection with the ducts is provided with circular joints with unified diameters of 100-125-150-160-200-250-315 mm (DIN 24145).

- Intended for indoor environments with max temperature of 60 °C.
- They have the function of separating ordinary impurities such as: dust, fluff, dirt, etc.
- It is connected to the system by forced insertion on two cylindrical galvanized steel connections with built-in circular rubber "T" seals.

DIMENSIONS

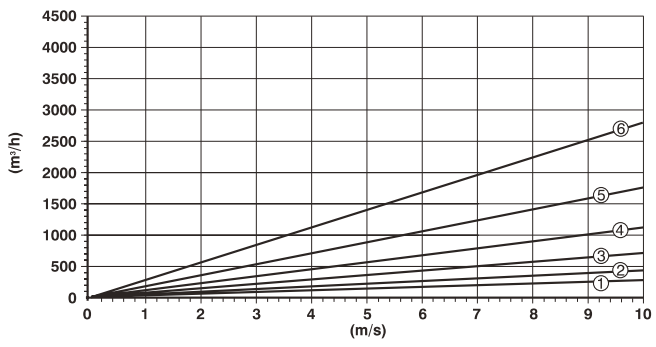


	CODE	A	B	C	ØD	E	KG
AF 100	22793	210	170	125	100	227	2.1
AF 125	22794	220	205	145	125	252	2.1
AF 150	22799	270	235	160	150	267	2.3
AF 160	22795	270	235	160	160	267	2.3
AF 200	22787	320	275	185	200	302	3.5
AF 250	22788	355	320	235	250	352	3.5
AF 315	22789	430	390	335	315	452	6.1

Dimensions in mm

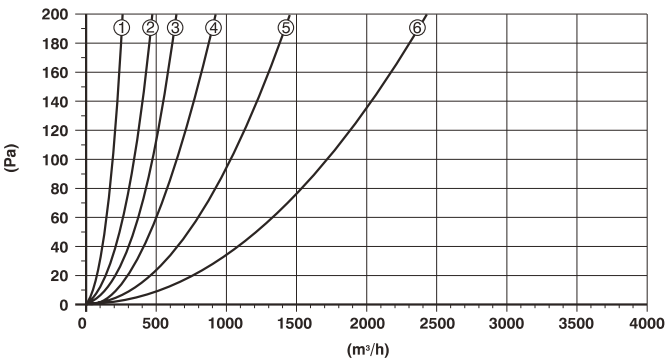
CURVES

Graph to calculate the air flow rate based on the average speed.



① AF - 100
② AF - 125
③ AF - 150 AF - 160
④ AF - 200
⑤ AF - 250
⑥ AF - 315

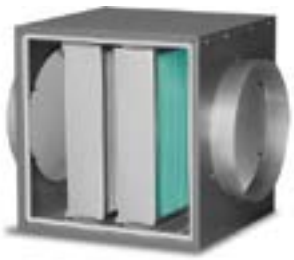
Initial pressure drop curves, filtration class G4.



① AF - 100
② AF - 125
③ AF - 150 AF - 160
④ AF - 200
⑤ AF - 250
⑥ AF - 315

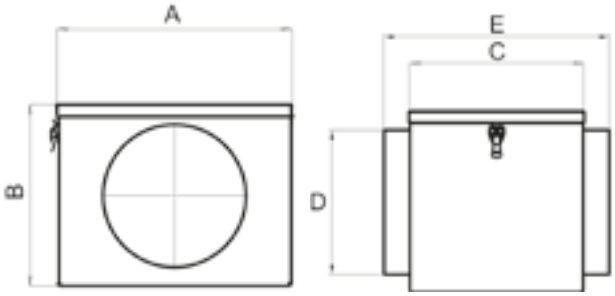
FILTERS

The FB Range air filters have been designed to enable remote filtration in forced ventilation systems. These appliances have the function of separating ordinary impurities such as: dust, fluff, dirt, etc. In the case of use in combination with products already originally equipped with filters, in order not to compromise performance, we recommend removing them at the time of installation.
The filter media is composed of composite polypropylene (filter F7). The container is made of galvanized steel with an inspection hatch that can be easily opened for the ordinary maintenance of the filter elements. The connection with the ducts is provided with circular joints with unified diameters of 200- 250- 315- 355- 450 mm (DIN 24145). The FB Range air filters are intended for use in covered environments with a maximum temperature of 70 °C (with F7 filter).



- Intended for use in covered environments with a maximum temperature of 70 °C (with F7 filter)
- Filtration class: F7;
- Filter media: non-flammable synthetic microfibers
- Maximum operating temperature: 70 °C
- It is connected to the system by forced insertion on two cylindrical galvanized steel connections with built-in circular rubber "T" seals.

DIMENSIONS

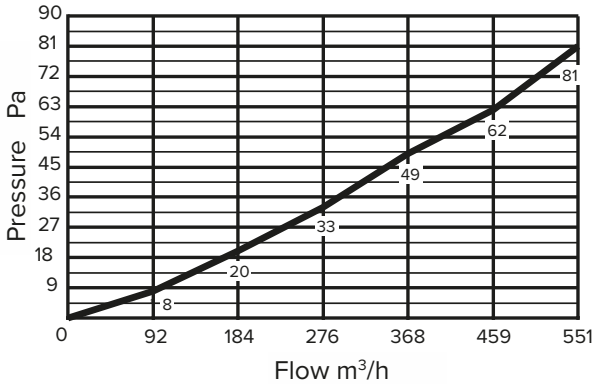


	CODE	A	B	C	D	E	KG
FB 500 Ø 200	24139	240	285	300	200	390	6.5
FB 800 Ø 250	24140	410	315	300	250	440	9
FB 1200 Ø 315	24141	470	370	600	315	735	16
FB 2000 Ø 315	24142	560	485	600	315	735	20
FB 2500/3000 Ø 350	24143	630	500	700	355	830	27
FB 4000/5000 Ø 450	24145	710	608. 5	900	450	1080	34
FB 6000 Ø 450	24147	710	805	900	450	1080	40

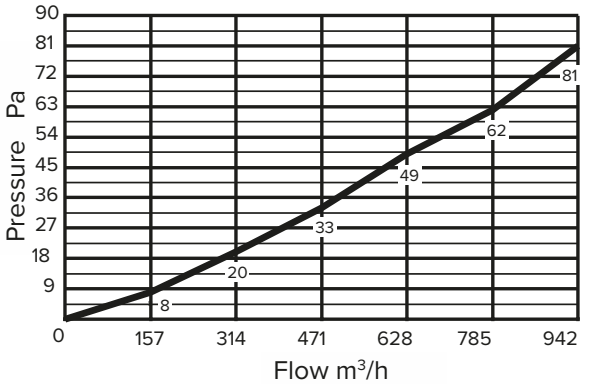
Dimensions in mm

CURVES

FB 500- F7



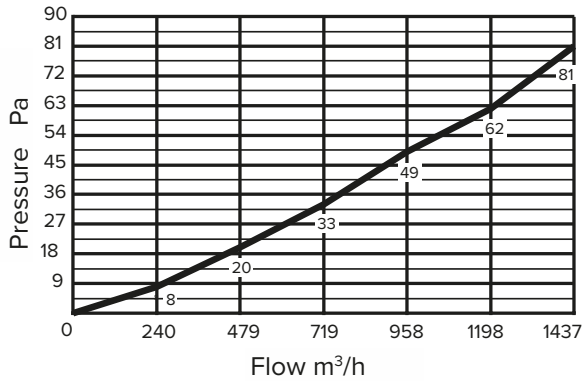
FB 800- F7



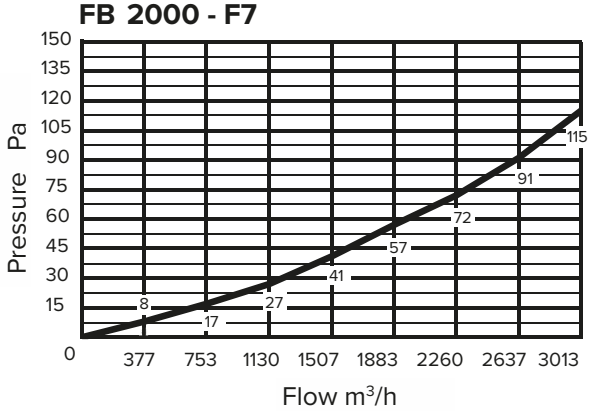
FILTERS

CURVES

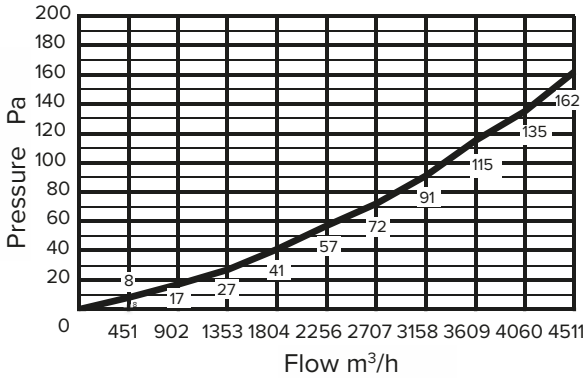
FB 1200 - F7



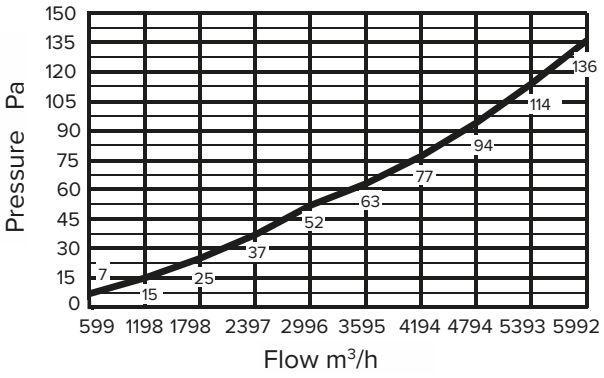
FB 2000 - F7



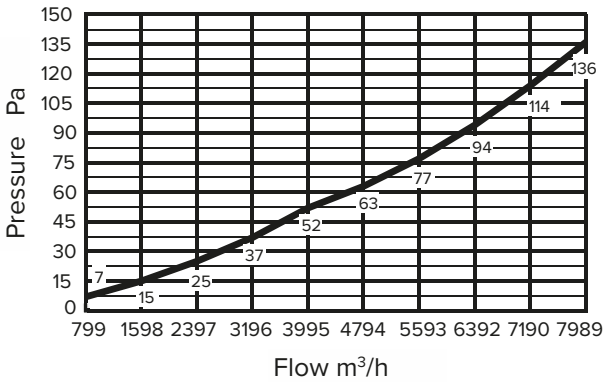
FB 2500/3000 -F7



FB 4000/5000 - F7



FB 6000 -F7

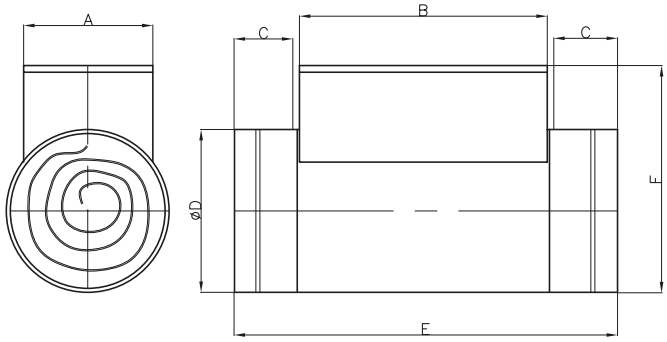


HEATERS

Heater to be installed in the ventilation system, always downstream of the fan, and/or the sound attenuator/air filter. To optimize the efficiency of the heater it is possible, by means of regulators, to adjust the thermal power according to the desired temperature in the room. The installation must always be carried out in covered spaces, with an ambient temperature between -30 °C and + 50 °C, with free air, without dust, fluff and chemical impurities.
The casing is made of galvanized sheet metal with T-shaped rubber seals on both sides, diameters for standard circular ducts mm 100 125-150-160-200-250-315 (DIN 24145).

- Equipped with circular section electric batteries consisting of armored elements in stainless steel.
- To be used in covered places with ambient temperature from + 30 to + 50 °C with free air without dust or chemical impurities.
- Degree of protection of the electrical connection box IP43.
- Does not require special maintenance except for periodic operating checks.

DIMENSIONS



	CODE	A	B	C	ØD	E	F	KG
AH 100	22796	100	285	40	100	325	185	2.01
AH 125	22797	125	285	40	125	325	225	2.57
AH 150	22759	150	285	40	150	380	250	2.6
AH 160	22798	160	285	40	160	380	260	2.95
AH 200	22790	200	285	40	200	380	300	3.5
AH 250	22791	250	285	40	250	380	350	3.83
AH 315	22792	150	285	60	315	380	315	5.1
H3-315	22779	150	285	60	315	380	315	5.3

Dimensions in mm

TECHNICAL DATA

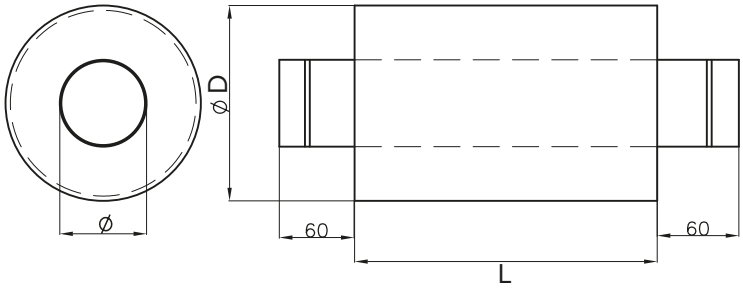
	CODE	(KW)	NO. OF PHASES	NO. OF RESISTANCES	NO. OF SECTIONS	(A)	M3/H	(V)	(HZ)	(IP)
AH 100	22796	0.4	1	1X0.4	1/1	1.7	21	230	50	40
AH 125	22797	0.5	1	1X0.5	1/1	2.2	27	230	50	40
AH 150	22759	1.2	1	1X1.2	1/1	5.2	64	230	50	40
AH 160	22798	1.2	1	1X1.2	1/1	5.2	64	230	50	40
AH 200	22790	2.0	1	1X2,0	1/1	8.7	107	230	50	40
AH 250	22791	3.0	1	2X1,5	2/2	13	161	230	50	40
AH 315	22792	1.0	1	1X1,0	1/1	4.3	54	230	50	40
H3-315	22779		1	-	-	13	161	230	50	40

SOUND ATTENUATOR

Attenuator to be installed in the ventilation system always after the fan and/or the filter box and/or the heater in the duct. Useful when a particularly low sound level is required.

- Operating temperature from - 30 °C to + 60 °C.
- Maximum operating pressure: 2000 Pa.
- Maximum air speed: 25 m/s.
- Internal pipe made with spiral of perforated aluminum sheet, 0.1 mm thick.
- PE film containment heads.
- Wool insulation, 40 mm thick basalt. Heat resistance R = 1.00 m2k/W.
- External spiral pipe in aluminum sheet, thickness 0.1 mm.

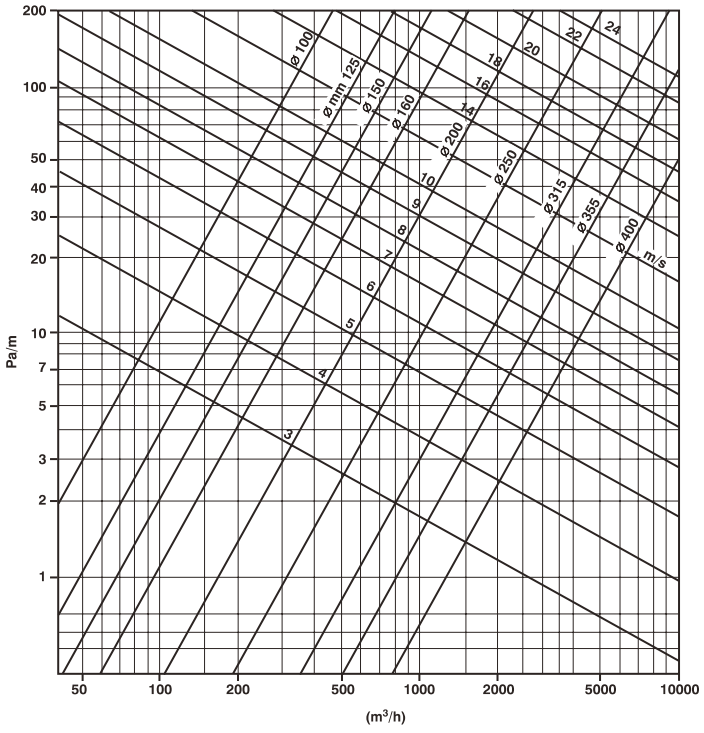
DIMENSIONS



	CODE	Ø	ØD	L	KG
NA 100	22780	100	211	1000	2
NA 125	22781	125	241	1000	2
NA 150	22756	150	266	1000	2
NA 160	21425	260	160	1000	9.1
NA 200	22784	200	316	1000	2
NA 250	22785	250	367	1000	3
NA 315	21428	415	315	1000	15.2
NA 125/6	23222	125/6	-	600	-
NA 160/6	23223	160/6	-	600	-

Dimensions in mm

Graph to calculate pressure losses

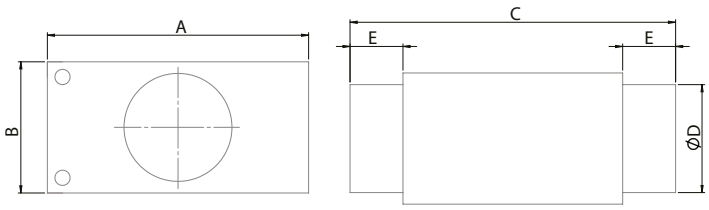


BATTERIES
HOT AND COLD

HOT BATTERY

Hot water battery for duct.

DIMENSIONS



	CODE	A	B	C	ØD	KG
DHW 500 Ø 200	24148	465	320	700	200	4
DHW 800 Ø 250	24149	490	350	700	250	4.5
DHW 1500 Ø 315	24150	650	400	700	315	7.2
DHW 3000 Ø 350	24151	900	530	700	350	10
DHW 5000 Ø 450	24152	1180	740	700	450	17

Dimensions in mm

HOT WATER BATTERY THERMAL YIELDS

TABLE LEGEND:

RH = Relative Humidity
Q = Air flow rate
A iT = Air inlet temp
A PΔ = Air pressure drop
A oT = Air outlet temp
Pow. = Power
W q = Water flow rate
W PV = Water pressure drops

DHW 500 - CODE 24148

AIR (70% RH)			WATER IN/OUT 80/70 °C				WATER IN/OUT 80/60°C				WATER IN/OUT 60/40°C				WATER IN/OUT 55/45°C			
Q	A iT	A PΔ	A Ot	Pow.	kW	W PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ
m³/h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
430	-15	8	5.16	3.31	0.29	3.00	2.78	2.92	0.13	1.00	- 2.84	2.92	0.09	0.01	- 1.90	2.15	0.19	1.00
430	-10	8	9.10	3.08	0.27	3.00	6.79	2.71	0.12	1.00	1.35	1.83	0.08	0.01	2.17	1.96	0.17	1.00
430	-5	8	13.04	2.86	0.25	2.00	10.75	2.50	0.11	1.00	5.54	1.67	0.07	0.01	6.23	1.78	0.15	1.00
430	0	7	16.97	2.51	0.22	2.00	14.97	2.21	0.10	0.01	9.73	1.44	0.06	0.01	11.00	1.62	0.14	1.00
430	5	8	20.91	2.36	0.20	2.00	18.80	2.04	0.09	0.01	13.53	1.26	0.05	0.01	14.36	1.39	0.12	1.00
430	10	8	24.81	2.24	0.19	2.00	22.45	1.88	0.08	0.01	16.86	1.04	0.05	0.01	18.42	1.27	0.11	1.00

DHW 800 - CODE 24149

AIR (70% RH)			WATER IN/OUT 80/70 °C				WATER IN/OUT 80/60°C				WATER IN/OUT 60/40°C				WATER IN/OUT 55/45°C			
Q	A iT	A PΔ	A Ot	Pow.	kW	W PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ
m³/h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
800	-15	20	9.01	7.34	0.631	16.0	6.51	6.57	0.283	4.00	0.57	4.76	0.205	2.00	1.60	5.07	0.436	8.00
800	-10	20	12.84	6.85	0.589	14.0	10.33	6.10	0.262	3.00	4.33	4.30	0.185	2.00	5.42	4.62	0.398	7.00
800	-5	20	16.63	6.37	0.548	12.0	13.04	5.32	0.229	3.00	8.06	3.85	0.166	1.00	9.23	4.19	0.361	6.00
800	0	18	20.97	5.76	0.496	10.0	18.37	5.05	0.217	2.00	12.13	3.33	0.143	1.00	13.04	3.58	0.308	4.00
800	5	19	24.10	5.45	0.469	9.0	20.91	4.54	0.195	2.00	15.29	2.94	0.126	1.00	16.63	3.32	0.286	4.00
800	10	19	27.78	5.00	0.430	8.0	24.85	4.17	0.179	2.00	19.11	2.56	0.110	1.00	20.28	2.89	0.248	3.00

HOT WATER BATTERY THERMAL YIELDS

TABLE LEGEND:

RH = Relative Humidity
Q = Air flow rate
A iT = Air inlet temp
A PΔ = Air pressure drop
A oT = Air outlet temp
Pow. = Power
W q = Water flow rate
W PV = Water pressure drops

DHW 1500 - CODE 24150

AIR (70% RH)			WATER IN/OUT 80/70 °C				WATER IN/OUT 80/60°C				WATER IN/OUT 60/40°C				WATER IN/OUT 55/45°C			
Q	A iT	A PΔ	A Ot	Pow.	kW	W PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ
m³/h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
1200	-15	14	12.16	12.45	1.07	18.00	9.37	11.17	0.48	4.00	2.63	8.08	0.35	2.00	3.35	8.41	0.72	9.00
1200	-10	13	15.85	11.63	1.00	16.00	13.01	10.36	0.45	4.00	6.23	7.30	0.31	2.00	7.04	7.67	0.59	7.00
1200	-5	13	19.41	10.79	0.93	14.00	16.63	9.56	0.41	3.00	9.80	6.45	0.28	2.00	10.73	6.95	0.60	6.00
1200	0	13	22.97	9.88	0.85	12.00	20.31	8.73	0.38	3.00	12.73	5.47	0.24	1.00	14.42	6.20	0.53	5.00
1200	5	13	26.54	9.22	0.79	10.00	22.79	7.61	0.33	2.00	16.67	5.00	0.22	1.00	18.11	5.61	0.48	4.00
1200	10	13	30.10	8.47	0.73	9.00	26.60	7.00	0.30	2.00	20.30	4.34	0.19	1.00	21.63	4.90	0.42	3.00
1800	-15	26	6.88	15.04	1.29	25.00	4.50	13.41	0.58	6.00	- 0.96	9.65	0.42	3.00	- 0.15	10.21	0.88	12.00
1800	-10	26	10.78	14.03	1.21	22.00	8.42	12.43	0.54	5.00	2.96	8.75	0.38	3.00	3.79	9.31	0.80	11.00
1800	-5	26	14.68	13.05	1.12	19.00	12.34	11.49	0.49	4.00	6.80	7.83	0.34	2.00	7.73	8.44	0.73	9.00
1800	0	25	18.67	12.04	1.04	17.00	16.27	10.50	0.45	4.00	10.70	6.90	0.30	2.00	11.67	7.53	0.65	7.00
1800	5	25	22.40	11.17	0.96	15.00	20.01	9.64	0.41	3.00	13.92	5.73	0.25	1.00	15.55	6.78	0.58	6.00
1800	10	17	26.21	10.24	0.88	12.00	23.10	8.28	0.36	2.00	18.11	5.12	0.22	1.00	19.32	5.89	0.51	5.00

DHW 3000 - CODE 24151

AIR (70% RH)			WATER IN/OUT 80/70 °C				WATER IN/OUT 80/60°C				WATER IN/OUT 60/40°C				WATER IN/OUT 55/45°C			
Q	A iT	A PΔ	A Ot	Pow.	kW	W PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ
m³/h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
2500	-15	16	9.91	23.78	2.05	28.00	7.53	21.52	0.93	7.00	2.21	16.43	0.71	4.00	3.30	17.47	1.50	16.00
2500	-10	16	14.78	23.33	2.00	27.00	11.35	20.01	0.86	6.00	5.86	14.87	0.64	4.00	6.69	15.90	1.37	14.00
2500	-5	16	18.50	21.64	1.86	24.00	15.16	18.57	0.80	5.00	8.79	12.70	0.55	3.00	10.60	14.37	1.24	12.00
2500	0	15	22.27	19.95	1.72	21.00	18.97	17.00	0.73	5.00	12.73	11.40	0.49	2.00	14.28	12.79	1.10	9.00
2500	5	15	25.74	18.50	1.59	18.00	22.79	15.86	0.68	4.00	16.67	10.41	0.45	2.00	17.76	11.38	0.98	8.00
2500	10	15	29.32	16.97	1.46	16.00	26.60	14.59	0.63	3.00	20.20	8.97	0.39	1.00	21.29	9.92	0.85	6.00
3000	-15	22	7.53	25.82	2.22	33.00	5.16	23.10	0.99	8.00	0.54	17.81	0.77	5.00	1.56	18.98	1.63	19.00
3000	-10	21	11.35	24.01	2.07	29.00	9.10	21.48	0.92	7.00	4.36	16.15	0.69	4.00	5.37	17.30	1.49	16.00
3000	-5	21	16.31	23.56	2.03	28.00	13.04	19.93	0.86	6.00	8.10	14.48	0.62	3.00	9.12	15.60	1.34	13.00
3000	0	20	20.22	21.73	1.87	24.00	16.97	18.25	0.79	5.00	11.23	12.07	0.52	2.00	12.94	13.91	1.20	11.00
3000	5	20	23.82	20.14	1.73	20.00	20.91	17.03	0.73	5.00	15.29	11.02	0.47	2.00	16.55	12.36	1.06	9.00
3000	10	18	27.57	18.85	1.59	18.00	24.85	15.64	0.67	4.00	19.23	9.72	0.42	2.00	20.25	10.79	0.93	7.00

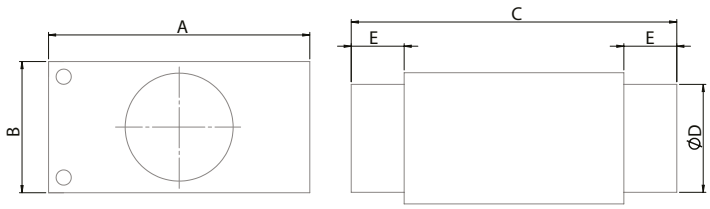
DHW 5000 - CODE 24152

AIR (70% RH)			WATER IN/OUT 80/70 °C				WATER IN/OUT 80/60°C				WATER IN/OUT 60/40°C				WATER IN/OUT 55/45°C			
Q	A iT	A PΔ	A Ot	Pow.	kW	W PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ
m³/h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
4000	-15	12	13.89	44.13	3.80	23.00	11.15	39.96	1.72	6.00	4.13	29.22	1.26	3.00	5.10	30.71	2.64	12.00
4000	-10	11	17.48	41.21	3.54	21.00	13.60	35.39	1.52	5.00	7.64	24.46	1.14	3.00	8.67	28.00	2.41	10.00
4000	-5	11	21.04	38.38	3.30	18.00	17.29	32.84	1.41	4.00	10.42	22.72	0.98	2.00	12.23	25.39	2.18	9.00
4000	0	11	24.67	35.37	3.04	16.00	20.97	30.06	1.29	3.00	14.23	20.40	0.88	2.00	15.79	22.64	1.95	7.00
4000	5	11	27.99	32.80	2.82	14.00	24.66	28.06	1.21	3.00	17.97	18.51	0.80	1.00	19.14	20.19	1.74	6.00
4000	10	11	31.41	30.11	2.59	12.00	28.35	25.81	1.11	3.00	21.33	15.93	0.69	1.00	22.52	17.61	1.52	5.00
5000	-15	17	9.91	47.57	4.09	27.00	7.05	43.03	1.85	6.00	1.98	32.44	1.40	4.00	3.08	34.53	2.97	15.00
5000	-10	16	13.60	44.24	3.81	23.00	11.35	40.02	1.71	6.00	4.85	27.85	1.20	3.00	6.67	31.42	2.70	13.00
5000	-5	16	17.29	41.05	3.53	20.00	15.16	37.13	1.60	5.00	8.79	25.40	1.09	3.00	10.41	28.39	2.44	11.00
5000	0	16	22.02	39.46	3.39	19.00	18.97	33.99	1.46	4.00	12.73	22.81	0.98	2.00	14.11	25.28	2.17	9.00
5000	5	16	24.66	35.07	3.02	15.00	22.79	31.73	1.36	4.00	16.50	20.51	0.88	2.00	17.60	22.48	1.93	7.00
5000	10	15	28.55	32.22	2.77	13.00	26.56	29.07	1.25	3.00	20.07	17.67	0.76	1.00	20.67	18.47	1.61	5.00
5800	-15	21	8.78	52.68	4.53	32.00	6.46	47.55	2.05	8.00	0.63	34.63	1.49	4.00	1.60	36.78	3.16	17.00
5800	-10	21	12.64	49.24	4.24	28.00	10.28	44.10	1.89	7.00	4.42	31.35	1.35	4.00	5.42	33.53	2.88	14.00
5800	-5	20	16.44	45.80	3.94	25.00	13.04	38.54	1.66	6.00	8.18	28.17	1.21	3.00	9.22	30.39	2.61	12.00
5800	0	20	20.35	42.29	3.64	22.00	16.97	35.28	1.52	5.00	11.23	23.34	1.00	2.00	13.01	27.04	2.33	10.00
5800	5	20	23.96	39.23	3.37	19.00	20.91	32.92	1.42	4.00	15.29	21.30	0.92	2.00	16.63	24.07	2.07	8.00
5800	10	20	27.68	36.00	3.10	16.00	24.85	30.25	1.30	3.00	19.27	18.87	0.81	1.00	20.30	20.98	1.81	6.00

COLD BATTERY

Attenuator to be installed in the ventilation system always after the fan and/or the filter box and/or the heater in the duct. Useful when a particularly low sound level is required.

DIMENSIONS



	CODE	A	B	C	ØD	E	KG
DCW 250 Ø 150	24146	-	-	-	150	-	-
DCW 500 Ø 200	24153	465	320	700	200	150	8.5
DCW 800 Ø 250	24154	520	350	700	250	150	10.8
DCW 1500 Ø 315	24155	655	405	700	315	150	18
DCW 3000 Ø 350	24156	900	540	700	350	150	23.4
DCW 5000 Ø 450	24157	1250	740	700	450	150	43

Dimensions in mm

THERMAL YIELDS OF COLD WATER BATTERY

TABLE LEGEND:

RH = Relative Humidity
Q = Air flow rate
A iT = Air inlet temp
A PΔ = Air pressure drop
A oT = Air outlet temp
Pow. = Power
W q = Water flow rate
W PV = Water pressure drops

DCW 250 - CODE 24146

AIR (80% RH)

Q m³/ h	A iT °C	A PΔ Pa
300	25	38
300	30	43
250	25	28
250	30	32
200	25	20
200	30	23
150	25	13
150	30	15
100	25	6
100	30	8

WATER IN/OUT 7/12°C

A Ot °C	Pow kW	kW m³/ h	W PΔ kPa	condensate l/h
17.1	1.84	0.32	18.6	1.5
19.9	2.65	0.45	35.7	2.4
16.6	1.65	0.28	14.5	1.4
19.2	2.38	0.41	29.8	2.1
16.0	1.40	0.24	10.8	1.2
18.5	2.05	0.35	22.1	1.8
15.2	1.16	0.20	7.7	0.9
17.4	1.69	0.29	15.5	1.5
14.0	0.86	0.15	4.5	0.7
16.0	1.26	0.22	9.2	1.2

WATER IN/OUT 55/45 °C

A Ot °C	Pow kW	W q m³/ h	W PΔ kPa	condensate l/h
20.9	0.90	0.16	4.9	0.7
23.6	1.74	0.30	16.2	1.6
20.6	0.79	0.16	3.8	0.6
23.3	1.54	0.30	13.2	1.4
20.4	0.67	0.14	2.9	0.5
22.6	1.34	0.27	9.8	1.2
19.9	0.54	0.12	1.7	0.4
21.9	1.10	0.23	6.8	1.0
19.3	0.39	0.07	1.1	0.3
20.9	0.82	0.14	3.8	0.7

DCW 500 - CODE 24153

AIR (50% RH)

Q m³/h	A iT °C	A PΔ Pa
430	25	30
430	30	34
430	35	34

WATER IN/OUT 7/12°C

A Ot °C	Pow. kW	kW m³/h	W PΔ kPa
16.54	1.48	0.26	3.00
19.04	2.51	0.43	7.00
21.46	3.83	0.66	14.00

AIR (70% RH)

W °m³/ h	A iT °C	A PΔ Pa
430	-10	24
430	0	21
430	10	22

AIR (70% RH)

A Ot °C	Pow. kW	W q m³/h	W PΔ kPa
25.85	5.78	0.25	2.00
30.62	4.52	0.19	1.00
34.36	3.68	0.18	1.00

WATER IN/OUT 55/45 °C

A Ot °C	Pow. kW	W q m³/h	W PΔ kPa
26.54	5.89	0.51	7.00
31.71	4.68	0.40	5.00
34.96	3.77	0.32	3.00

THERMAL YIELDS OF COLD WATER BATTERY

TABLE LEGEND:

RH = Relative Humidity
Q = Air flow rate
A iT = Air inlet temp
A PΔ = Air pressure drop
A oT = Air outlet temp
Pow. = Power
W q = Water flow rate
W PV = Water pressure drops

DCW 800 - CODE 24154

AIR (50% RH)			WATER IN/OUT 7/12°C				AIR (70% RH)			AIR (70% RH)				WATER IN/OUT 55/45 °C			
Q	A iT	A PΔ	A Ot	Pow.	kW	W PΔ	W	A iT	A PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ
m³/h	°C	Pa	°C	kW	m³/h	kPa	°m³/ h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
800	25	47	16.96	2.64	0.45	9.00	800	-10	36	24.10	10.23	0.44	7.00	24.92	10.47	0.90	0.90
800	30	52	19.63	4.44	0.76	22.00	800	0	32	29.12	8.00	0.34	4.00	29.43	8.43	0.73	0.73
800	35	53	22.31	6.68	1.15	45.00	800	10	33	32.86	6.31	0.27	3.00	33.67	6.54	0.56	0.56

DCW 1500 - CODE 24155

AIR (50% RH)			WATER IN/OUT 7/12°C				AIR (70% RH)			AIR (70% RH)				WATER IN/OUT 55/45 °C			
Q	A iT	A PΔ	A Ot	Pow.	kW	W PΔ	W	A iT	A PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ
m³/h	°C	Pa	°C	kW	m³/h	kPa	°m³/ h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
1200	25	46	16.02	4.36	0.751	10.00	1200	-10	38	27.60	16.92	0.728	7.00	28.17	17.17	1.477	26.00
1200	30	49	18.29	7.27	1.251	24.00	1200	0	33	32.23	13.28	0.571	5.00	32.29	13.31	1.145	17.00
1200	35	48	20.56	10.79	1,856	49.00	1200	10	35	35.23	10.63	0.457	3.00	35.95	10.93	0.940	12.00
1800	25	94	17.18	5.48	0.943	15.00	1800	-10	76	22.35	21.84	0.939	12.00	23.29	22.47	1.932	42.00
1800	30	102	19.94	9.05	1.556	36.00	1800	0	67	27.73	17.14	0.737	8.00	28.17	17.42	1.498	27.00
1800	35	100	22.66	13.48	2.318	73.00	1800	10	71	31.75	13.75	0.591	5.00	32.59	14.27	1.228	19.00

DCW 3000 - CODE 24156

AIR (50% RH)			WATER IN/OUT 7/12°C				AIR (70% RH)			AIR (70% RH)				WATER IN/OUT 55/45 °C			
Q	A iT	A PΔ	A Ot	Pow.	kW	W PΔ	W	A iT	A PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ
m³/h	°C	Pa	°C	kW	m³/h	kPa	°m³/ h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
2500	25	59	16.74	8.29	1.43	4.00	2500	-10	45	26.67	29.16	1.25	2.00	28.51	30.86	2.65	9.00
2500	30	66	19.35	13.98	2.41	10.00	2500	0	41	29.23	25.10	1.08	2.00	30.92	26.55	2.28	7.00
2500	35	67	21.92	21.26	3.66	21.00	2500	10	42	33.11	19.94	0.86	1.00	34.17	20.86	1.79	5.00
3000	25	81	17.25	9.17	1.58	5.00	3000	-10	62	25.04	33.20	1.43	3.00	25.73	33.96	2.92	11.00
3000	30	92	20.07	15.36	2.64	12.00	3000	0	56	27.73	28.57	1.23	2.00	29.20	30.09	2.59	9.00
3000	35	94	22.84	23.41	4.03	24.00	3000	10	57	31.86	22.64	0.97	2.00	33.05	23.87	2.05	6.00

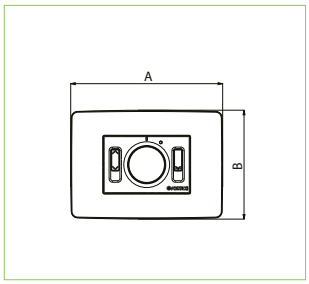
DCW 5000 - CODE 24157

AIR (50% RH)			WATER IN/OUT 7/12°C				AIR (70% RH)			AIR (70% RH)				WATER IN/OUT 55/45 °C			
Q	A iT	A PΔ	A Ot	Pow.	kW	W PΔ	W	A iT	A PΔ	A Ot	Pow.	W q	W PΔ	A Ot	Pow.	W q	W PΔ
m³/h	°C	Pa	°C	kW	m³/h	kPa	°m³/ h	°C	Pa	°C	kW	m³/h	kPa	°C	kW	m³/h	kPa
4000	25	34	15.48	16.25	2.80	7.00	4000	-10	27	30.49	60.73	2.61	5.00	30.95	61.43	5.28	18.00
4000	30	37	17.64	27.27	4.69	18.00	4000	0	23	33.73	46.34	1.99	3.00	34.91	47.96	4.12	12.00
4000	35	37	19.80	40.81	7.02	38.00	4000	10	25	38.86	37.72	1.62	2.00	37.55	38.69	3.33	8.00
5000	25	51	16.16	18.45	3.17	9.00	5000	-10	39	27.60	70.50	3.03	7.00	28.17	71.56	6.15	24.00
5000	30	55	18.57	30.97	5.33	23.00	5000	0	34	32.07	55.08	2.37	4.00	32.29	55.46	4.77	15.00
5000	35	56	21.00	46.41	7.98	47.00	5000	10	36	35.11	44.08	1.90	3.00	35.30	44.41	3.82	10.00
6000	25	66	16.60	20.06	3.45	11.00	6000	-10	51	25.80	77.86	3.35	8.00	26.45	79.27	6.82	29.00
6000	30	73	19.18	33.61	5.78	27.00	6000	0	44	30.50	60.76	2.61	5.00	30.92	61.60	5.30	18.00
6000	35	73	21.80	50.28	8.65	54.00	6000	10	46	33.98	48.02	2.07	3.00	34.17	48.40	4.16	12.00

NOTES

REGULATORS

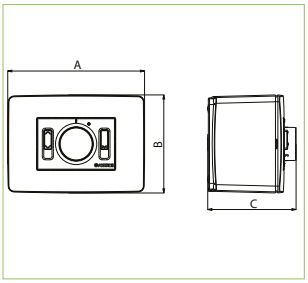
Control box



	CODE	A	B
HRW RC	22693	116	83

Dimensions in mm

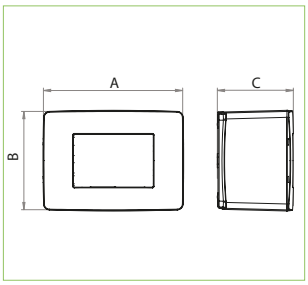
Control unit for VORT HRI MINI.
Single phase power supply 220-240 V / 50-60 Hz.
Wall and recessed installation in a standard UNI 503 electrical box.
Functions: On/Off, speed selection (3 alternatives), by-pass On/Off selection, saturated filter signal.



	CODE	A	B	C
HRI MINI CB	12868	116	83	75

Dimensions in mm

Remote control unit with wired LCD panel, for recessed installation.



	CODE	A	B	C
CB LCD R	21194	116	83	29

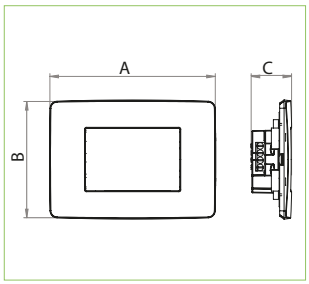
Dimensions in mm

Wall box for housing the control unit.

	CODE
WALL BOX HRW RC	22732

Dimensions in mm

Remote control unit with wired LCD panel, for wall installation.



	CODE	A	B	C
CB LCD W	21195	116	83	65

Dimensions in mm

Recessed box type 503 for housing the control unit.

	CODE
BUILT IN BOX TYPE 503	22461

Dimensions in mm

REGULATORS

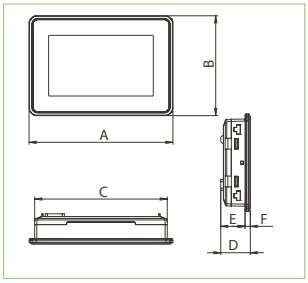
Installer panel.

	CODE
SKP10 INSTALLER PANEL	22629

Radio frequency remote control with large display is the only command/control instrument of VORT PROMETEO PLUS HR 400; each function is activated, regulated and monitored through it.

	CODE
VORT HR 400 PLUS REMOTE CONTROL	22464

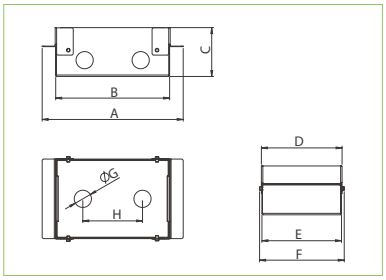
Wired remote control unit (maximum distance from the unit 150 m) with color LCD touch display for VORT HR 550 AVEL heat recovery unit. Wall or recessed installation in SI TNF box.



	CODE	A	B	C	D	E	F
TNF	21603	134	93	123.5	28.1	23.1	5

Dimensions in mm

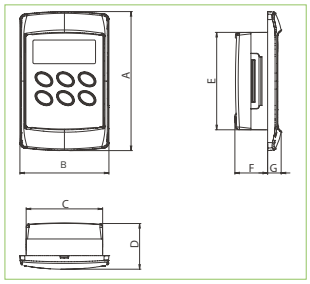
Recessed-mounting box, complete with brackets for fixing on plasterboard walls, for housing the TNF remote control panel.



	CODE	A	B	C	D	E	F	ØG	H
SI TNF	21604	156	126	54	89.2	88	93.6	19	66

Dimensions in mm

Wired remote control unit (maximum distance from the unit 50 m) with LCD display for VORT HR 550 AVEL heat recovery unit. Vertical recessed installation in a standard 503 box. The interface, functions, keys etc. do not differ from the control unit installed on the machine.

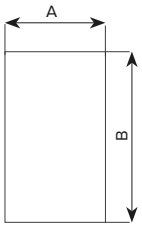


	CODE	A	B	C	D	E	F	G
TAL	21602	100	64	55	32.8	70	23.5	9.7

Dimensions in mm

REGULATORS

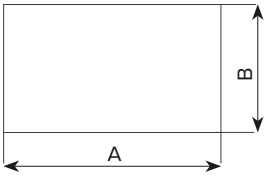
Control panel with LCD display for remote control (wired connection) of the VORT HRI DH Range heat recovery units.



	CODE	A	B
CPR (HRI DH)	22607	62	102

Dimensions in mm

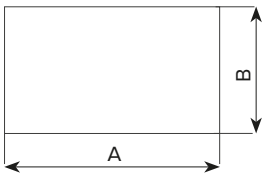
Electronic thermo-hygrostat for heat recovery units VORT HRI 260 DH and VORT HRI 500 DH. To be installed in the relevant room at a height between 1.2 and 1.5 m from the floor and at a maximum distance of 20 m from the combined heat recovery unit.



	CODE	A	B
ETRH (HRI DH)	22608	120	80

Dimensions in mm

Mechanical hygrostat for VORT HRI 260 DH RC and VORT HRI 500 DH RC heat recovery units. To be installed in the relevant room at a height between 1.2 and 1.5 m from the floor.



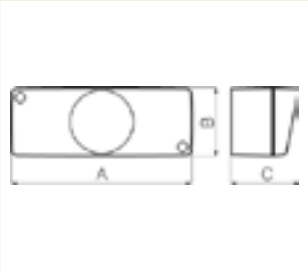
	CODE	A	B
MTRH (HRI DH)	22609	127	75

Dimensions in mm

SENSORS

TEMPERATURE DETECTOR

Controls the ambient air temperature: the fan is automatically activated when it detects an adjustable temperature with an external trimmer from 10° to 40° higher than the set threshold value.

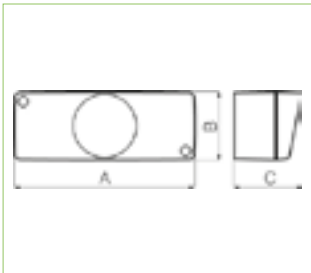


	CODE	A	B	C
C TEMP	12992	144	54	55.8

Dimensions in mm

POLLUTED AIR DETECTOR

Controls the air quality in the presence of cigarette smoke, odors and other pollutants: the fan is automatically activated when it detects a concentration of odors higher than the set value adjustable with an external trimmer.

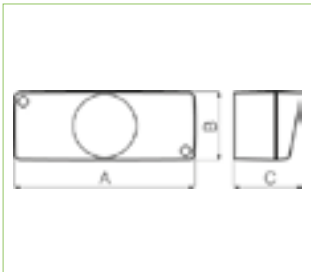


	CODE	A	B	C
C SMOKE	12993	144	54	55.8

Dimensions in mm

HUMIDITY DETECTOR

Checks the relative humidity of the air: the fan is automatically activated when the percentage of relative humidity exceeds 65%.

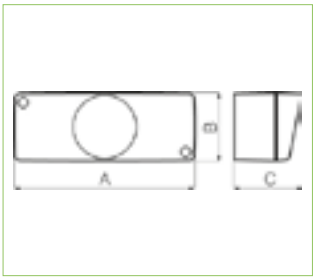


	CODE	A	B	C
C HCS	12994	144	54	55.8

Dimensions in mm

PRESENCE DETECTOR

Checks for the presence of people in the environment: the fan is automatically activated when it detects the presence of a person in its range.

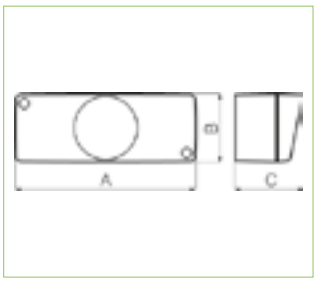


	CODE	A	B	C
C PIR	12998	144	54	55.8

Dimensions in mm

TIMER

Checks the operating time of the product to which it is connected: the fan is automatically activated a few seconds after the light is turned on and continues to operate for a preset time, adjustable with an internal trimmer from 3 to 20 minutes, after the shutdown.



	CODE	A	B	C
C TIMER	12999	144	54	55.8

Dimensions in mm

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cod. 5.170.084.995 - January 2020