



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



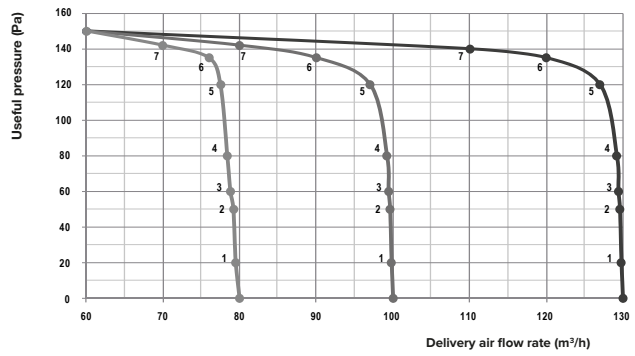
PERFORMANCE AND ABSORPTION

VORT HRI 260 DH
DELIVERY FAN



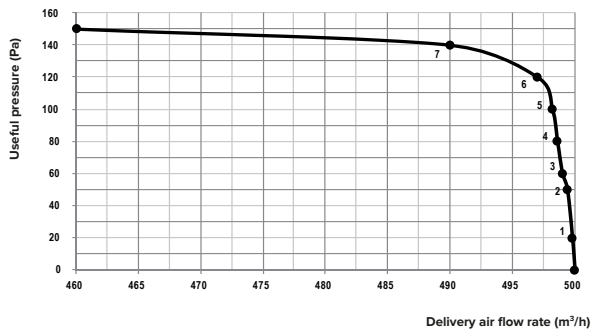
Absorbed power	1	2	3	4	5	6	7
260 M ³ /H	18W	30W	36W	40W	46W	51W	60W

VORT HRI 260 DH
EXPULSION FAN



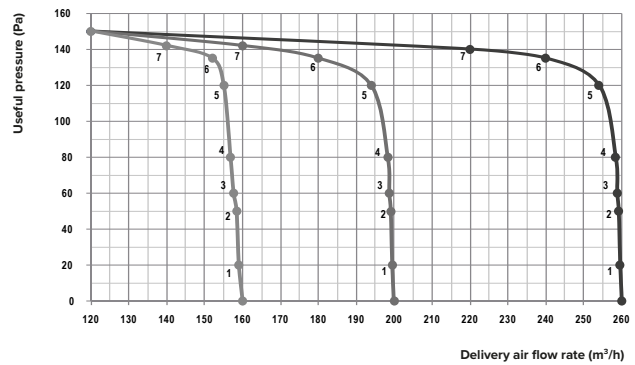
Absorbed power	1	2	3	4	5	6	7
80 M ³ /H	10W	11W	11W	12W	12W	12W	12W
100 M ³ /H	11W	13W	15W	15W	17W	18W	18W
130 M ³ /H	11W	13W	15W	19W	22W	30W	34W

VORT HRI 500 DH
DELIVERY FAN



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

VORT HRI 500 DH
EXPULSION FAN



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



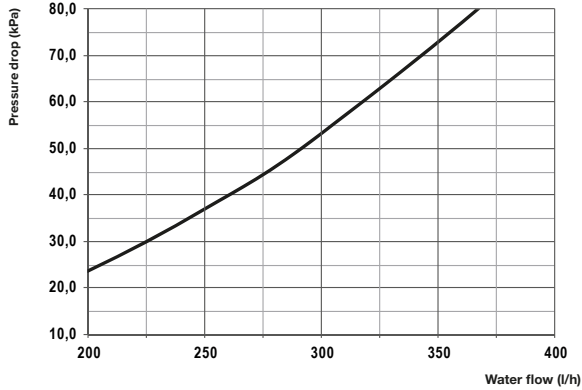
VORT HRI DH RANGE

HEAT RECOVERY UNITS WITH DEHUMIDIFICATION FUNCTION

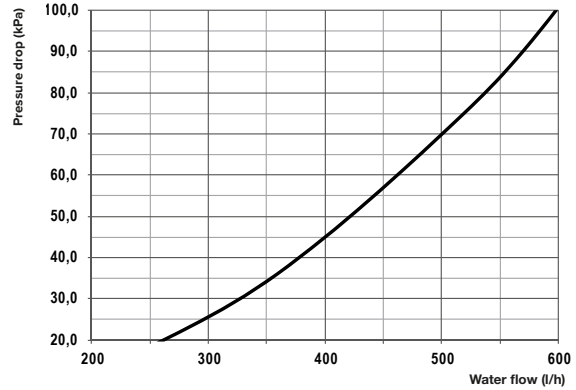
PERFORMANCE AND ABSORPTION

HYDRAULIC CIRCUIT PRESSURE DROPS

VORT HRI 260 DH - VORT HRI 260 DH RC



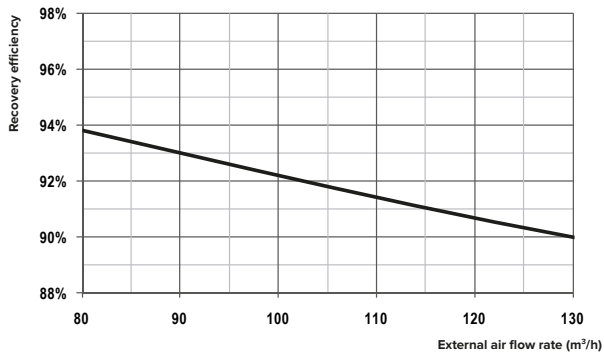
VORT HRI 500 DH - VORT HRI 500 DH RC



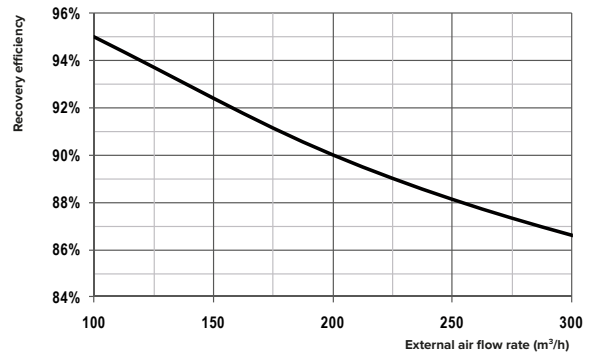
RECOVERY EFFICIENCY

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

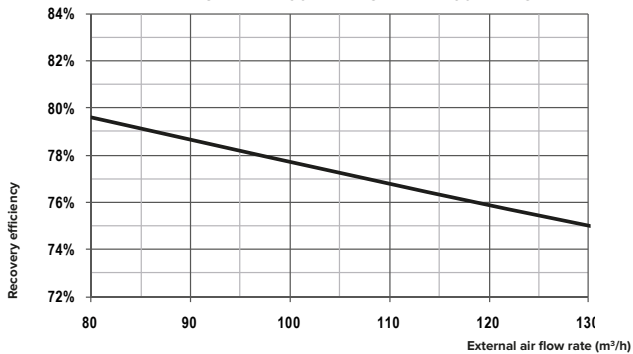
VORT HRI 260 DH - VORT HRI 260 DH RC



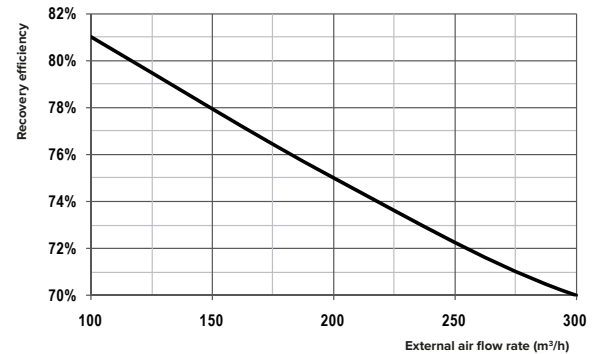
VORT HRI 500 DH - VORT HRI 500 DH RC



VORT HRI 260 DH - VORT HRI 260 DH RC



VORT HRI 500 DH - VORT HRI 500 DH RC

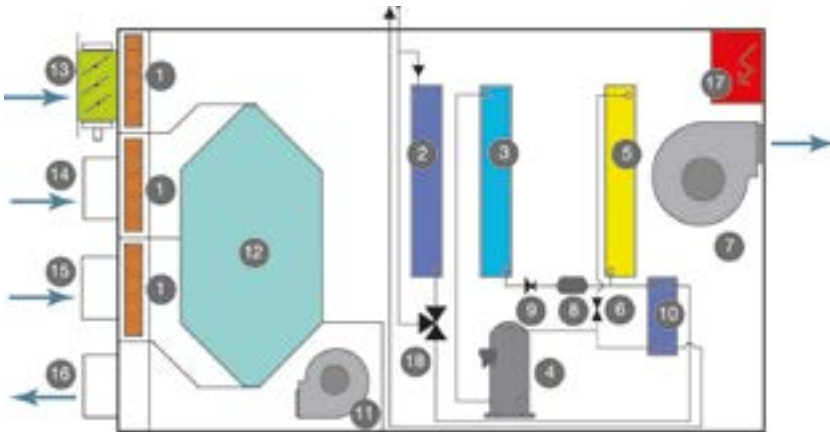


TECHNICAL DATA

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

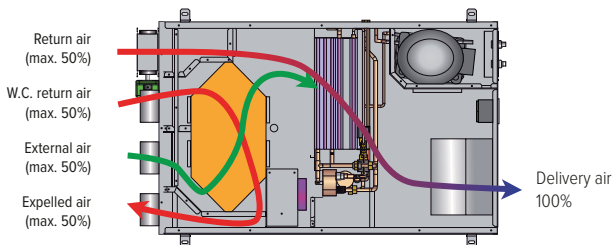


- 1 - Air filter.
- 2 - Hydronic coil pre-cooling (summer function) post-heating (winter function).
- 3 - Evaporator.
- 4 - Compressor.
- 5 - Air condenser.
- 6 - Solenoid.
- 7 - Supply fan with EC motor.
- 8 - Dehydrator filter.
- 9 - Lamination.
- 10 - Water condenser.
- 11 - Exhaust fan with EC.
- 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

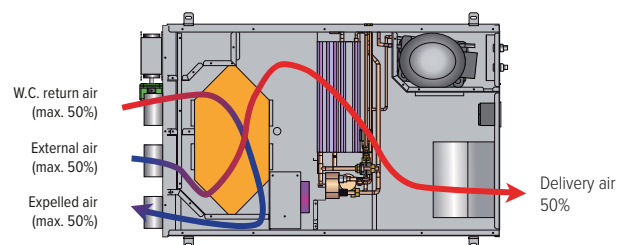
- By setting this function, the unit renews the ambient air with external one through the extremely high efficiency heat recovery unit.
- The possible functions in this configuration are:
 - Renewal + Dehumidification with neutral air: the unit condenses partially in air and partially in water through 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.



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.

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 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) hygrometers (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



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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 hygostat.	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			✓	✓