DOUBLE FLOW HEAT RECOVERY UNITS WITH ROTATING EXCHANGER PERFORMANCE (UP TO 86%)

RADT-D/DI/DC HE Series

NEW

ENERGY EFFICIENT e VENTILATION SYSTEM

Double flow heat recovery units equipped with a rotating exchanger.

Main characteristics:

- Free standing frame in extruded aluminium.
- Double skin casing 40 mm panel, with white painted galvanised steel and injected polyurethane foam insulation.
- Base frame, 100 mm high in 2 mm thickness aluminium.
- Access to filters and heat exchanger via hinged front panel.
- Circular duct connectors with seal.
- Double inlet supply fan with direct driven motor.
- Motorised by-pass for 100% of airflow. Free cooling control via wheel stoppage.
- Aluminium rotating heat exchanger. Thermal efficiency between 75% and 86%.s
- Wheel rotation speed is constant, with 1 speed motor, 230V single phase power supply (RADT HE 1000 & 2000) or 400V three phase in other models.
- F7 filter for the fresh air and G4 filter for the extract air.
- Horizontal (H) and Vertical (V) configuration.
- Floor mounted.

Can be used indoors or outdoors (in line connection configuration only) with rain protection cover.

3 models:

- RADT-D HE: without heating element.
- RADT-DI HE: with built-in electric heating element.
- RADT-DC HE: with a built-in hot water (LPHW) coil. Adjustment via built-in remote control display (non-communicating) CTR07.

Ranges of product according to the type of operating control:

Model VAV - variable airflow systems = controlled with humidity or CO2 sensors (As accessories, not included with the product).

The built-in variable frequency drive varies fan speed according to the sensor.

Model CAV - constant airflow systems = controlled by built-in airflow sensors. The built-in variable frequency drive varies fan speed to maintain a constant airflow in ductwork.

- Manual configuration (%) of desired operating speed: maximum 100% of unit speed.
- No additional adjustment system.

Model COP - constant pressure systems = controlled by built-in pressure sensors. The built-in variable frequency drive varies fan speed to maintain a constant pressure in ductwork.

Programmable, remote controlled adjustment.

The CTR07 remote control unit enables:

- All operation parameters to be set.
- Control of all fan speeds.
- Full display of all parameters and alarm settings.

Motors

AC motor with built-in thermal protection.

Power supply:

- RADT HE 1000/2000: three phase 230V, 50Hz, IP 55, class F, driven by frequency inverter single phase input, three phase output.
- RADT HE 3000: three phase 400V, 50Hz, IP 55, class F, driven by frequency inverter three phase input, three phase output.
- RADT HE 4000/5000: three phase 400V, 50Hz, IP 20, class B, driven by frequency inverter three phase input, three phase output.

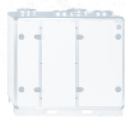
On request

Direct expansion cooling coil R 410 A, connects to a separate heat pump (not supplied by S&P).

A P P L I C A T I O N S

Commercial offices

Offices



Reference

R	A	D	T	/	D	-	H	E	-	1	0	0	0	/	H	-	D	P	-	V	A	V
			1		2		3			4					5		6			7		

1 - : Range: RADT
2 - D : Range without battery
DI : Range with electric heater
DC : Range with water battery
3 - : High performance
4 - : Size
5 - H : Horizontal unit
V : Vertical unit
6 - DP : Range with double skin insulated panels
7 - VAV : Variable airflow
CAV : Constant airflow
COP : Constant pressure

Technical characteristics

CTR07 DATA SHEET			
MAIN CHARACTERISTICS	**RADT-D**	**RADT-DI**	**RADT-DC**
Terminal cabinet includes:			
- Disconnecting proximity switch.	●	●	●
- Integrated microprocessor and terminal box inside the unit.	●	●	●
Remote control to be connected to the cabinet (100 m max.).	●	●	●
Ready-mounted, ready-wired temperature sensors:			
- Exhaust air temperature sensor (Tx).	●	●	●
- Fresh air temperature sensor (Te).	●	●	●
- Extract air temperature sensor (Tr).	●	●	●
- Supply air temperature sensor (Ti).	-	●	●
Pressure measuring device mounted & wired.			
- Filter clogging.	●	●	●
- Security (operation of fans).	●	●	●
Static relay on the electrical battery.	-	●	-
Defrost system on the water coil.	-	-	●
Frequency inverter.	●	●	●
Pressure reading system at the outlet of the supply fan (models CAV and COP).	●	●	●
OPTIONAL FUNCTIONS			
3 way motorized valve and 230V/24V transformer for water coil.	-	-	○
Sensors for variable speeds running (VAV model): - SCO2-010A ambient sensor with display / SCO2-010G duct sensor / SHUR 010 wall mounting.	○	○	○
FUNCTIONS			
Airflow adjustment.			
VAV models			
Manual fan speed adjustment. Function temporized "boost".	●	●	●
- Automatic modulation by built- in clock: daily and weekly settings.	●	●	●
- Automatic modulation based on an air quality sensor (sensor supplied as optional).	●	●	●
CAV models			
- Manual adjustment of the requested airflow (% of the reference airflow from the unit), possibility to enter up to 3 airflows.	●	●	●
- Automatic changeover by built-in clock daily and weekly settings.	●	●	●
COP models - Manual configuration of the desired pressure (pressure measured by measurement blade at fan outlet) with possibility of setting up to 3 different operating pressures.	●	●	●
- Automatic changeover by built-in clock daily and weekly settings.	●	●	●

● Included, ○ Delivered unassembled, **-** Not applicable.

Technical characteristics

CTR07 DATA SHEET			
MAIN CHARACTERISTICS	**RADT-D**	**RADT-DI**	**RADT-DC**
Temperature settings			
Electric battery regulation.			
- Regulation of the power of the battery from a temperature setting and the value measured by the blowing sensor.	-	●	-
- Temporizing of the fans stop for the cooling of the electrical battery.	-	●	-
Water coil regulation.			
- Regulation of the power of the battery from a temperature setting and the value measured by the blowing sensor.	-	-	●
- Protection against frost of the water battery by sensor (opening of the 2 ways valve prior to the unit shutdown).	-	-	●
- Manual season setting (summer/winter) for hot/cold coil operation.	-	-	●
Free cooling control via wheel stoppage.	●	●	●
Safety functions			
- Filter dirty alarm / or default of the pressure measuring device.	●	●	●
- Temperature sensor error alarm (cable cut, connection fault…)	●	●	●
- Fan fault alarm.	●	●	●
- Connection failure between the console and the regulation electrical board.	●	●	●
Communicating regulation	**NO**	**NO**	**NO**

● Included, O Delivered unassembled, **-** Not applicable.

Models without heater (D)

Model	**Frequency inverter (1)**		**Fan (2)**		
	Power supply	**Maximum current**	**Power supply**	**Unit power (W)**	**Unit current (A)**
RADT-D HE 1000	Single 230 V	5 A	Three 230 V	300	2.4
RADT-D HE 2000	Single 230 V	9 A	Three 230 V	550	4.3
RADT-D HE 3000	Three 400 V	7 A	Three 400 V	750	3.1
RADT-D HE 4000	Three 400 V	11 A	Three 400 V	1500	4.8
RADT-D HE 5000	Three 400 V	11 A	Three 400 V	1500	4.8

(1) Each unit comprises one frequency inverter for two fans.
(2) Data for one fan, each unit comprises 2 fans.

Models with integrated electrical heater (DI)

Model	**Power supply**	**Unit power (kW)**	**Unit current (A)**	**Number of rows**
RADT-DI HE 1000	Single 230 V	4	17.5	2
RADT-DI HE 2000	Single 230 V	6	26	2
RADT-DI HE 3000	Three 400 V	8	12.17	2
RADT-DI HE 4000	Three 400 V	12	31.6	2
RADT-DI HE 5000	Three 400 V	12	31.6	2

Technical characteristics

Models with integrated water coil (DC)

RADT-DC HE 1000										
Airflow (m^3/h)	T° fresh air	T° extract air	T° air after the exchanger (battery input)	Water rating (°C)	Power (W)	T° air outlet	Δ Pa air (Pa)	Water flow rate (l/h)	Δ Pa water (kPa)	Connection Ø (")
850				45/35	3.8	25	22	331	2.9	3/4"
	-10°C	20°C	12	80/60	8.4	41	23	370	3	3/4"
				90/70	10.1	47	23	451	3.2	3/4"
	32°C	26°C	27	7/12	1.6	21	23	275	2.8	3/4"

Recommended for use with 3-way motorized valve type R312 15-2,5 + SR24A-SR 20Nm motor.

RADT-DC HE 2000										
Airflow (m^3/h)	T° fresh air	T° extract air	T° air after the exchanger (battery input)	Water rating (°C)	Power (W)	T° air outlet	Δ Pa air (Pa)	Water flow rate (l/h)	Δ Pa water (kPa)	Connection Ø (")
2000				45/35	8.5	23.8	34	740	3.4	3/4"
	10°C	20°C	11	80/60	18.3	38.3	35	811	3.5	3/4"
				90/70	22	43.9	35	984	3.8	3/4"
	32°C	26°C	27	7/12	7.6	20.5	58	1309	5.3	3/4"

Recommended for use with 3-way motorized valve type R312 15-2,5 + SR24A-SR 20Nm motor.

RADT-DC HE 3000										
Airflow (m^3/h)	T° fresh air	T° extract air	T° air after the exchanger (battery input)	Water rating (°C)	Power (W)	T° air outlet	Δ Pa air (Pa)	Water flow rate (l/h)	Δ Pa water (kPa)	Connection Ø (")
3000				45/35	13	25.1	33	1179	5.4	1"
	-10°C	20°C	11.8	80/60	29	40.4	33	1287	5.6	1"
				90/70	34	46.2	33	1548	6.8	1"
	32°C	26°C	27.4	7/12	12.8	20	55	2141	13.2	1"

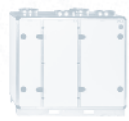
Recommended for use with 3-way motorized valve type R312 15-2,5 + SR24A-SR 20Nm motor.

RADT-DC HE 4000										
Airflow (m^3/h)	T° fresh air	T° extract air	T° air after the exchanger (battery input)	Water rating (°C)	Power (W)	T° air outlet	Δ Pa air (Pa)	Water flow rate (l/h)	Δ Pa water (kPa)	Connection Ø (")
4000				45/35	18	24.6	35	1564	4.6	1 1/4"
	-10°C	20°C	11.6	80/60	38.4	39.6	35	1695	4.7	1 1/4"
				90/70	45.9	45.2	35	2039	5.5	1 1/4"
	32°C	26°C	27.4	7/12	16.5	20	58	2836	9.5	1 1/4"

Recommended for use with 3-way motorized valve type R312 15-2,5 + SR24A-SR 20Nm motor.

RADT-DC HE 5000										
Airflow (m^3/h)	T° fresh air	T° extract air	T° air after the exchanger (battery input)	Water rating (°C)	Power (W)	T° air outlet	Δ Pa air (Pa)	Water flow rate (l/h)	Δ Pa water (kPa)	Connection Ø (")
5000				45/35	23.2	25	35	2015	6.8	11/4"
	-10°C	20°C	11.3	80/60	49	40.2	35	2165	7	11/4"
				90/70	58.4	45.7	35	2594	8.5	11/4"
	32°C	26°C	27.7	7/12	20.7	20	58	3570	18.8	11/4"

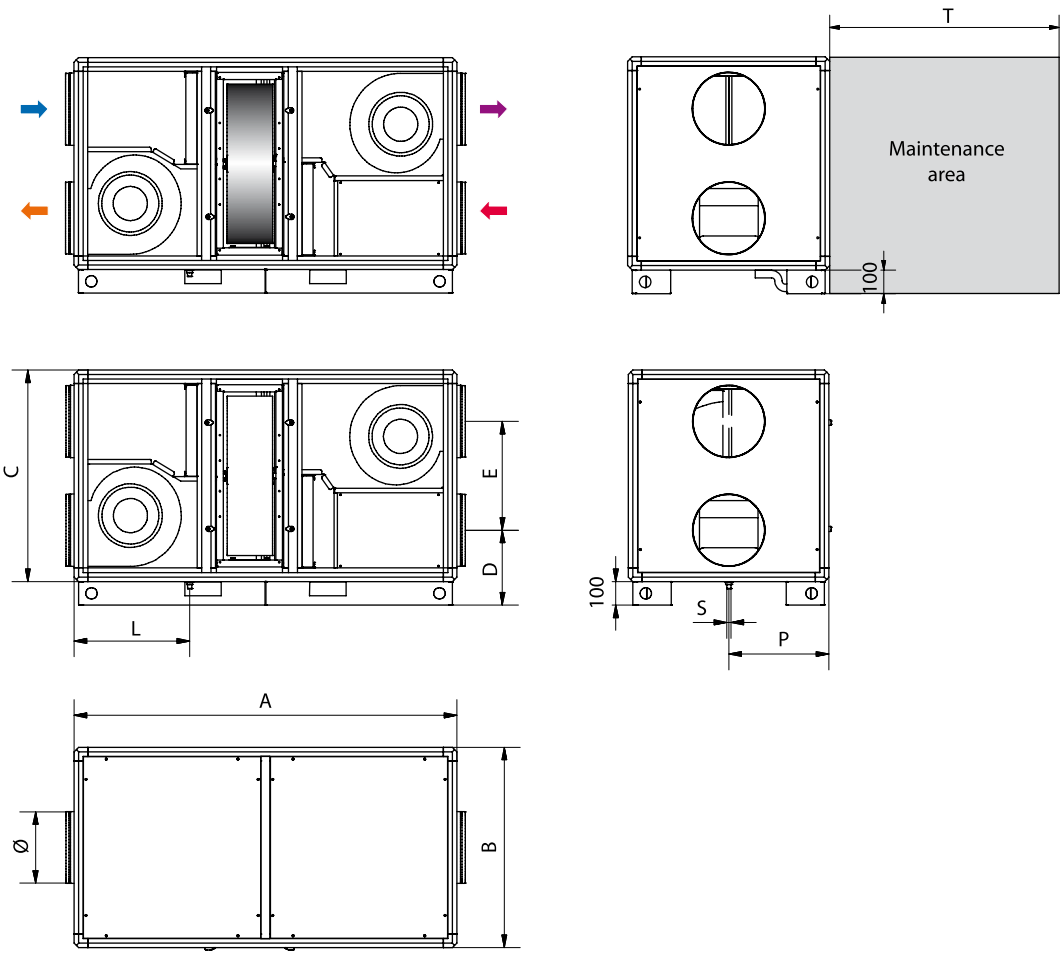
Recommended for use with 3-way motorized valve type R312 15-2,5 + SR24A-SR 20Nm motor.



Dimensions (mm)

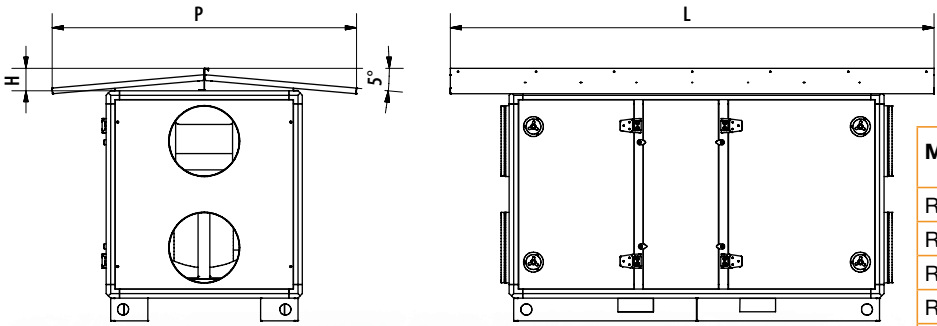
Horizontal configuration (H)

Fresh air
Supply air
Extract air
Exhaust air (expelled)



Model	A	B	C	D	E	L	P	S	Ø	T	Weight (kg)
RADT HE 1000	1680	680	930	448	363	500	340	1/2”	250	1000	195
RADT HE 2000	1680	880	930	329	478	500	440	1/2”	315	1200	265
RADT HE 3000	1680	1080	1130	372	588	500	540	1/2”	400	1400	320
RADT HE 4000	1880	1180	1230	445	595	550	590	1/2”	450	1500	365
RADT HE 5000	1980	1280	1330	470	645	600	640	1/2”	500	1600	430

External rain protection cover for horizontal configuration (H)

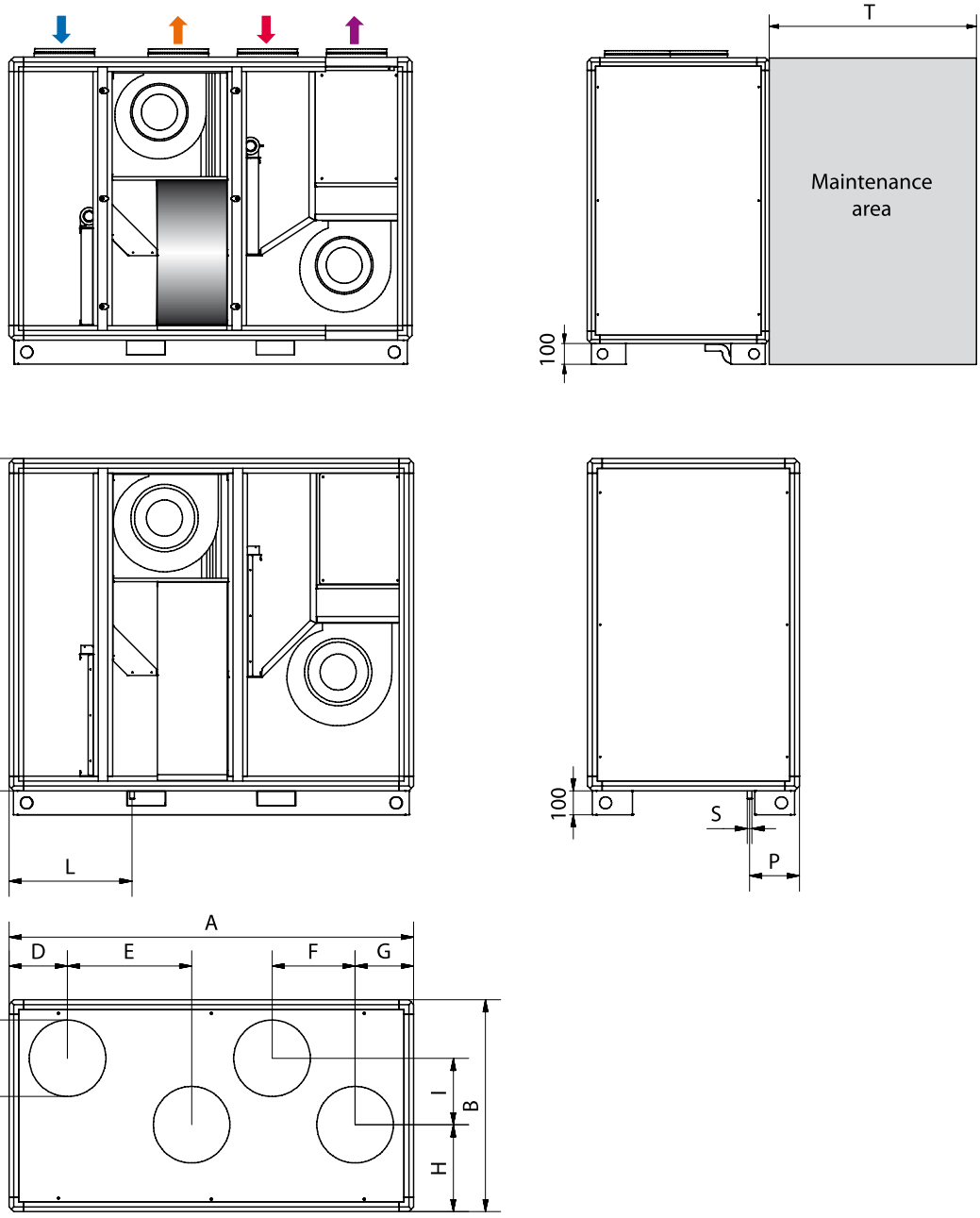


Model	L	P	H
RADT HE 1000	2170	1170	95
RADT HE 2000	2170	1370	95
RADT HE 3000	2280	1680	110
RADT HE 4000	2530	1830	115
RADT HE 5000	2680	1980	125

Dimensions (mm)

Vertical configuration (V)

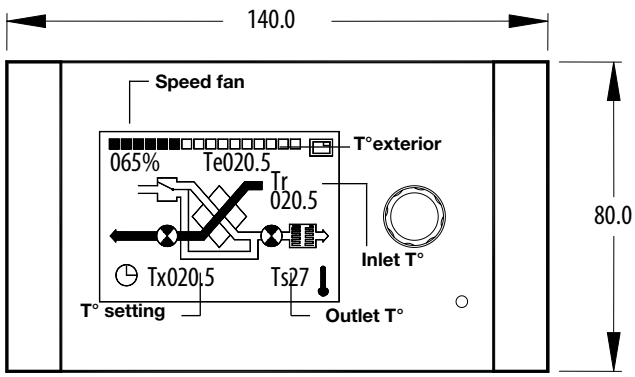
Fresh air
Supply air
Extract air
Exhaust air (expelled)



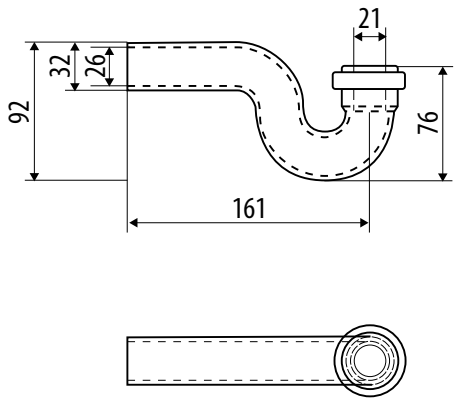
Model	A	B	C	D	E	F	G	H	I	L	P	S	Ø	T	Weight (kg)
RADT HE 1000	1680	680	1180	237	470	370	237	340	110	400	100	1/2”	250	1000	215
RADT HE 2000	1680	880	1380	243	515	345	243	360	277	400	100	1/2”	315	1200	295
RADT HE 3000	1850	1080	1680	297	445	445	297	405	386	380	100	1/2”	400	1400	370
RADT HE 4000	2000	1180	1780	290	516	458	290	440	400	380	100	1/2”	450	1500	425
RADT HE 5000	2200	1280	1880	327	570	500	327	440	450	480	100	1/2”	500	1600	500

Dimensions (mm)

CTR07* remote control unit



Siphon

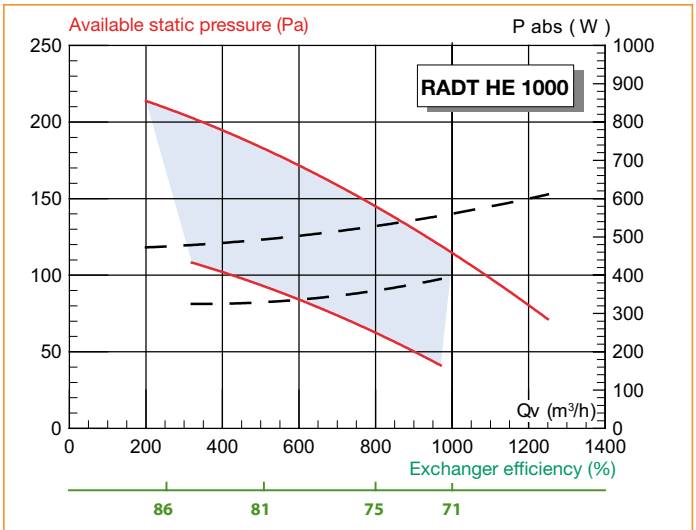


Recommended cable type: shielded twisted pair, section 0.26-0.75 mm^2 - max. length 100 m

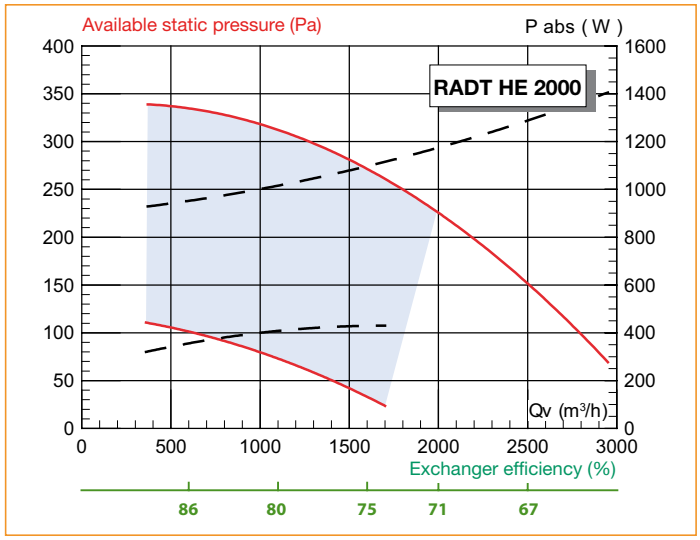
Performance curves

– Qv = Airflow in m^3/h.
– Ps = Static pressure in Pa.
– Pabs = Absorbed power at the maximum velocity (W).
– Normal dry air at 20°C and 760 mmHg.
– Performance data in accordance with ISO 5801 and AMCA 210-99 Standards.

Diagrams valid for air density 1.2 kg/m^3, with inlet ande outlet ducted.
Lw, sound power level in accordance with regulation EN ISO 3747.



Selection zone at constant speed



Selection zone at constant speed

RADT HE 1000	Sound level - transmitted duct							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
Lw V maxi	70	59	53	54	48	45	33	59
Lw V mini	65	56	50	50	43	39	25	55

RADT HE 2000	Sound level - transmitted duct							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
Lw V maxi	64	57	55	56	51	46	32	66
Lw V mini	61	52	47	47	40	36	24	47

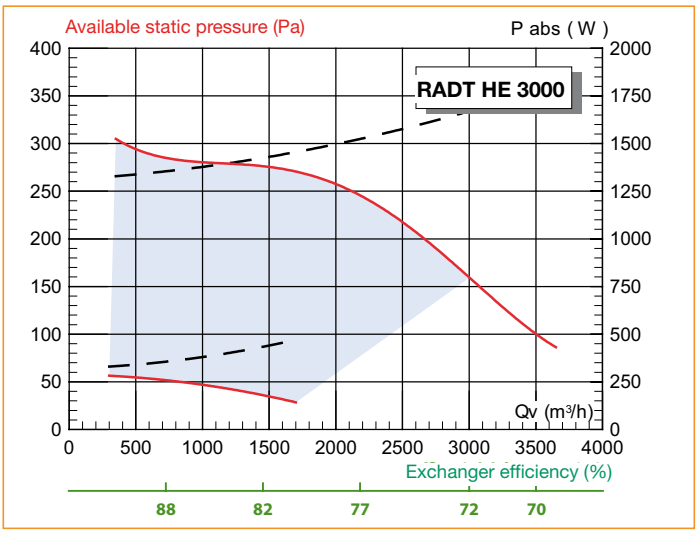
RADT HE 1000	Sound level - radiated duct							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
Lw V maxi	66	56	50	50	43	39	24	55
Lw V mini	62	52	47	46	38	33	19	52

RADT HE 2000	Sound level - radiated duct							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
Lw V maxi	60	53	52	52	46	40	24	55
Lw V mini	58	49	44	44	36	31	18	48

Performance curves

– Qv = Airflow in m^3/h.
– Ps = Static pressure in Pa.
– Pabs = Absorbed power at the maximum velocity (W).
– Normal dry air at 20°C and 760 mmHg.
– Performance data in accordance with ISO 5801 and AMCA 210-99 Standards.

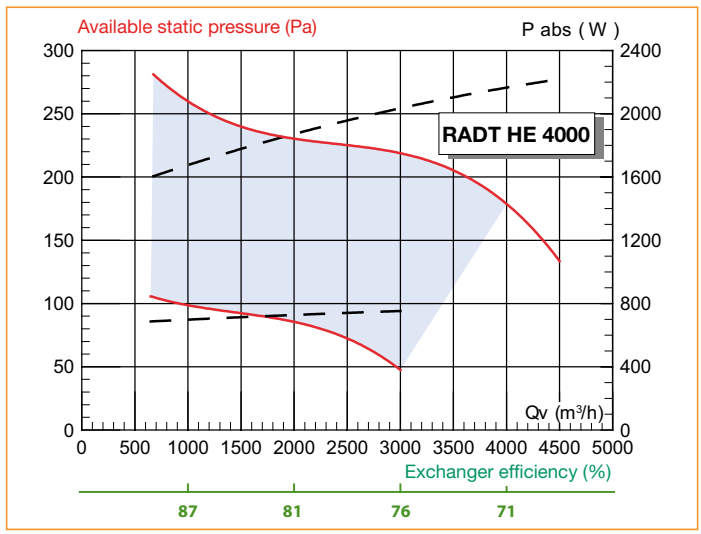
Diagrams valid for air density 1.2 kg/m^3, with inlet ande outlet ducted.
Lw, sound power level in accordance with regulation EN ISO 3747.



Selection zone at constant speed

RADT HE 3000	Sound level - transmitted duct							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
Lw V maxi	79	69	62	60	54	52	39	67
Lw V mini	70	59	50	47	40	40	34	57

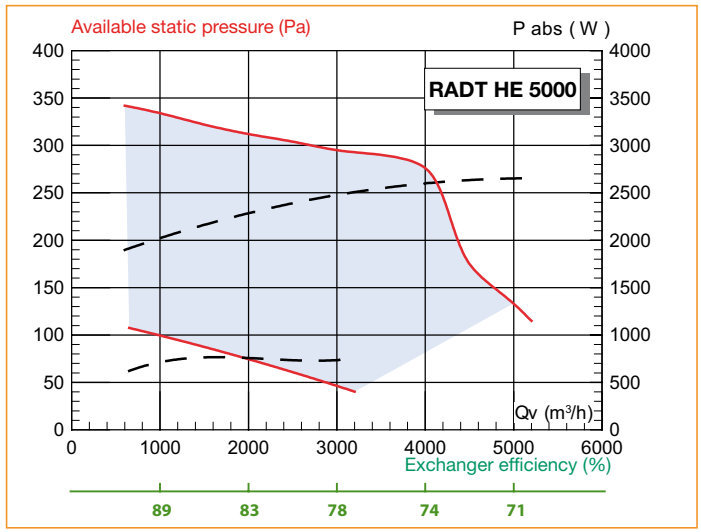
RADT HE 3000	Sound level - radiated duct							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
Lw V maxi	75	65	58	56	49	44	29	63
Lw V mini	66	55	46	43	36	34	25	53



Selection zone at constant speed

RADT HE 4000	Sound level - transmitted duct							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
Lw V maxi	74	69	63	62	56	55	40	67
Lw V mini	60	54	51	46	41	39	37	53

RADT HE 4000	Sound level - radiated duct							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
Lw V maxi	70	64	57	57	49	45	29	62
Lw V mini	57	50	46	42	37	32	26	48



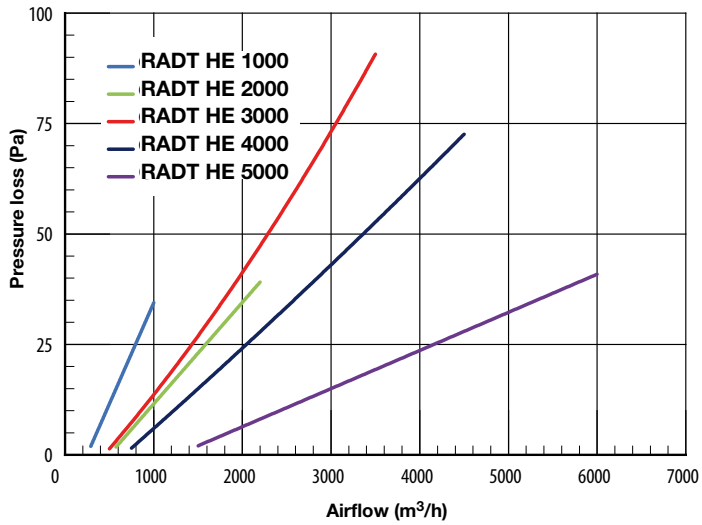
Selection zone at constant speed

RADT HE 5000	Sound level - transmitted duct							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
Lw V maxi	74	69	64	65	60	58	43	69
Lw V mini	61	55	52	48	44	40	33	54

RADT HE 5000	Sound level - radiated duct							
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dB(A)
Lw V maxi	70	64	58	60	53	48	31	63
Lw V mini	58	51	47	44	39	33	24	50

Performance curves

Pressure loss of the original filters G4 and F7



Mounting accessories

MSO
Flexible connector

- Rain-proof cover (th. 10/10) for in-line configuration only.
- F9 filter on the fresh air.
- Siphon.

Electrical accessories

- CO2 sensor (variable speed VAV).
- Hygrometer (VAV).
- Motorized 3-way valve.
- Direct expansion cooling coil R410A (ask us for more information).