Series
RECOM RT EC

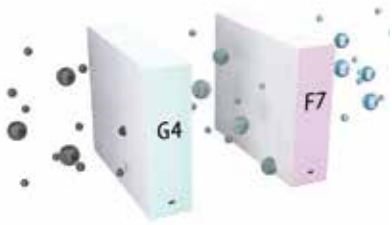
Air handling units in heat- and sound-insulated casing.
Air flow up to **710 m³/h.**
Heat recovery efficiency up to **87 %.**

Description
The air handling units RECOM RT EC are the fully-featured ventilation units that ensure air filtration, fresh air supply and stale air extract. During the operation process the extract air heat is transferred to the supply air through the rotary heat exchanger. The units are used in ventilation systems installed in various premises that require reasonable energy saving solutions and controllable ventilation systems. EC motors reduce energy demand by 1.5-3 times and ensure high performance and low noise operation. All models are designed for connection to ø160 and 200 mm round air ducts.

Modifications
RECOM RT EC – models with an electric heater.

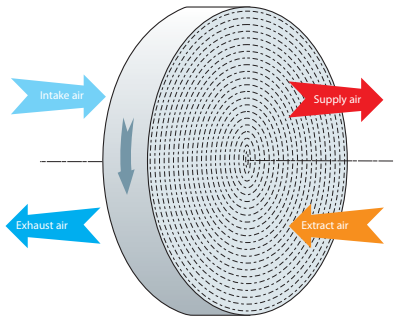
Casing
Made of galvanized steel, internally filled with a mineral wool heat- and sound-insulating layer. The insulation thickness is 40 mm for the RECOM RT EC models. Unit maintenance is performed from the bottom panel side.

Filter
Two built-in filters with filtering class G4 and F7 provide efficient supply air filtration. Extract air is cleaned by the integrated G4 filter. The optional H13 filter is available for supply air filtration.



Motor
The units are equipped with high-efficient EC motors with an external rotor and a centrifugal impeller. These state-of-the-art motors offer the very best in energy efficiency today. EC motors are characterised with high performance and optimum control across the entire speed range. In addition to that, the efficiency of the electronically commutated motor reaches very impressive levels of up to 90 %.

Rotary heat exchanger
The rotary heat exchanger is a short rotating cylinder filled with layers of corrugated aluminium tape packaged in a such way so as to enable free passage of the supply and extract air flows.
As the cylinder rotates the aluminium tape contained in the heat exchanger is first exposed to the supply air stream and then – to the extract air stream.
As a result the material undergoes repeated warming and heating cycles thereby transferring heat and humidity from the warm air stream to the cold one.
As compared to plate heat exchangers, the rotary heat exchangers are distinguished with no condensate forming, ability to maintain comfortable air humidity and extremely low freezing danger.



Rotary heat exchanger operation principle

Heater
The RECOM RT EC units are equipped (with an electric heater). If heat recovery is not sufficient to reach the set supply air temperature, the heater is activated to warm up supply air. The heaters are equipped with protecting devices to ensure safe and reliable operation of the unit.

Automation
The remote control panel is not included in the delivery set (purchased separately). To control the unit using a mobile application via Wi-Fi, you need to download the RECOM AHU mobile application.

Mounting
The unit is designed for wall or floor mounting.
The access for unit and filter maintenance is available from the front panel.

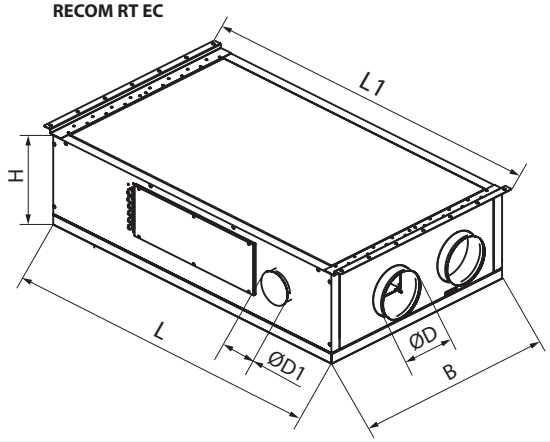
Designation key

Series	Heat exchanger type	Rated air flow [m³/h]	Spigot orientation	Casing design	Heater type	Motor type	Control panel
RECOM RT EC	**R**: rotary	250, 350, 650	**P**: suspended mounting	_: standard (insulation thickness 40 mm) **2**: low-profile (insulation thickness 20 mm)	_: without a heater **E**: (with an electric heater)	**EC**: synchronous electronically commutated motor	**RECOM**

Overall dimensions

Model	Dimensions [mm]					
	Ø D	Ø D1	L1	L	B	H
RECOM 2 RT EC	160	125	1100	1003	688	345
RECOM 4 RT EC	160	125	1365	1270	818	361
RECOM 6 RT EC	200	125	1542	1445	932	422

RECOM RT EC



Calculation of air temperature at heat exchanger outlet:

$$t = t_{int} + k_{eff} * (t_{ext} - t_{int})/100,$$

where

t_{int} – intake air temperature [°C]
t_{ext} – extract air temperature [°C]
k_{eff} – heat recovery efficiency (as per diagram) [%]

Control and automation

Functions	**RECOM**
Control via Wi-Fi using a mobile application	+
Control via a wired remote control panel	FP (option) 
Control via a wireless remote control panel	FP Wi-Fi (option) 
Control via a wired remote LCD control panel	FPD (option) 
BMS	RS-485
	WI-FI
	Ethernet
	MODBUS (RTU, TCP)
Service RECOM Cloud Server	+
Speed selection	+
Filter replacement indication	according to hour meter readings
Alarm indication	full alarm description in the mobile application
Week-scheduled operation	+
Timers	+
Boost mode	+
Fireplace mode	+
Reheater connection	integrated in E models, external reaheater cannot be connected
Cooler connection	option
Kitchen hood connection	option
Minimum supply air temperature control	+
Humidity control	option
CO_2 controller	option
VOC controller	option
Fire alarm sensor connection	option

*Option. The functionality is available when you purchase the appropriate accessory.

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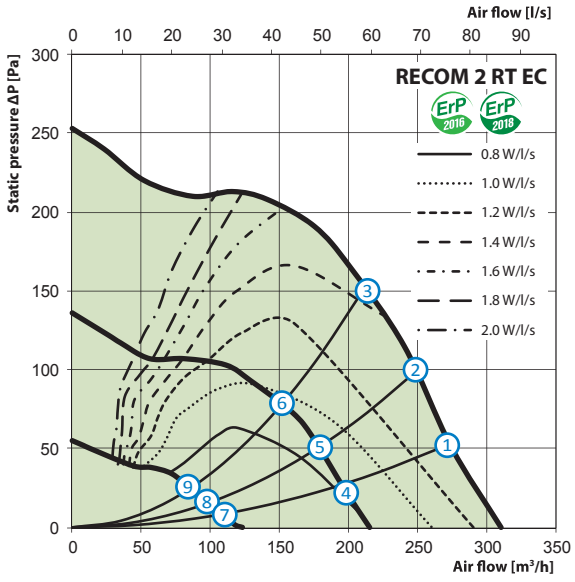
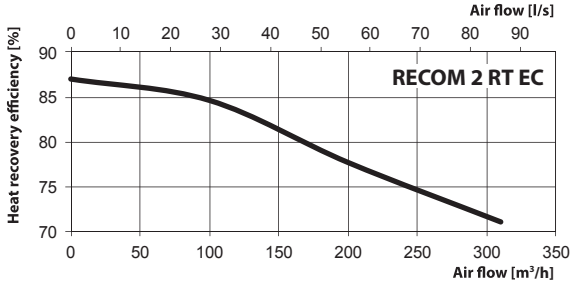
	RECOM 2 RT EC	RECOM 4 RT EC
Unit voltage [V/50 (60) Hz]	1~220-240	
Maximum unit power (without an electric heater) [W]	135	185
Maximum unit power (with an electric heater) [W]	835	1585
Maximum unit current (without an electric heater) [A]	1,0	1,3
Maximum unit current (with an electric heater) [A]	4,1	6,9
Maximum air flow [m³/h]	310	430
RPM [min⁻¹]	2200	3570
Sound pressure level at 3 m distance [dBA]	21	31
Transported air temperature [°C]	-25 up to +40	
Casing material	galvanized steel	
Insulation	40 mm mineral wool	
Extract filter	G4	
Supply filter	G4, F7 (H13 option)	
Connected air duct diameter [mm]	160	
Weight [kg]	56	82
Heat recovery efficiency [%]	from 71 up to 87	from 72 up to 87
Heat exchanger type	Rotacinis	
Heat exchanger material	Aliuminis	
SEC class	A	

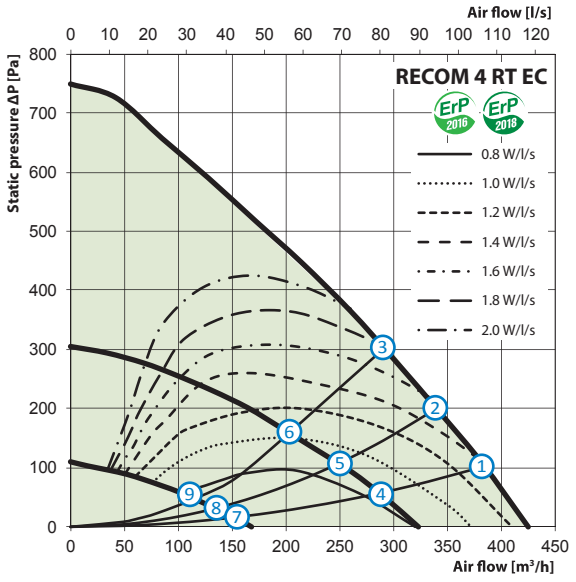
RECOM 2 RT EC

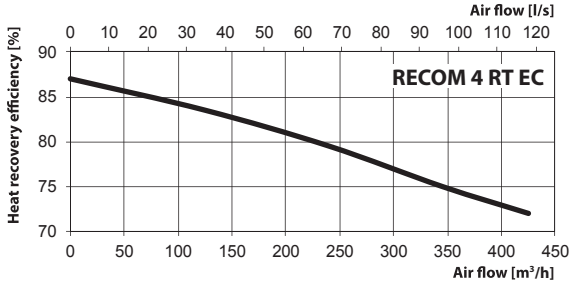




A-weighted sound power level		Gen.	Octave frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to supply air inlet	dBA	58	21	42	45	56	53	42	32	21		
L_{wA} to supply air outlet	dBA	59	21	43	45	56	53	42	32	21		
L_{wA} to exhaust air inlet	dBA	53	20	38	42	52	44	36	29	18		
L_{wA} to exhaust air outlet	dBA	54	20	38	43	53	44	36	29	18		
L_{wA} to environment	dBA	43	10	28	39	38	35	32	31	29	23	33

RECOM 4 RT EC





A-weighted sound power level		Gen.	Octave frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{wA} to supply air inlet	dBA	56	24	43	51	52	50	46	42	33		
L_{wA} to supply air outlet	dBA	80	41	55	65	72	72	76	72	69		
L_{wA} to exhaust air inlet	dBA	52	23	38	47	48	42	39	37	29		
L_{wA} to exhaust air outlet	dBA	72	40	50	61	67	61	65	64	60		
L_{wA} to environment	dBA	51	16	33	44	47	46	41	36	32	31	41

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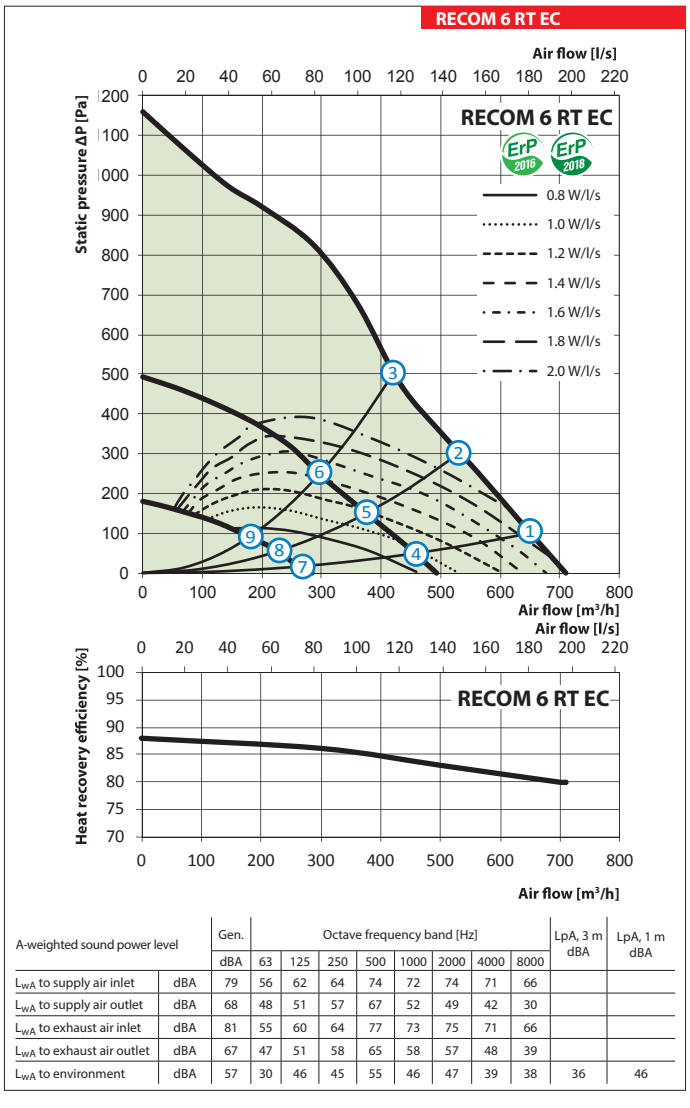
	RECOM 6 RT EC
Unit voltage [V/50 (60) Hz]	1~220-240
Maximum unit power (without an electric heater) [W]	367
Maximum unit power (with an electric heater) [W]	3167
Maximum unit current (without an electric heater) [A]	2,5
Maximum unit current (with an electric heater) [A]	13,7
Maximum air flow [m^3/h]	710
RPM [min^{-1}]	3600
Sound pressure level at 3 m distance [dBA]	36
Transported air temperature [°C]	-25 up to +40
Casing material	galvanized steel
Insulation	40 mm mineral wool
Extract filter	G4
Supply filter	G4, F7 (H13 option)
Connected air duct diameter [mm]	200
Weight [kg]	104
Heat recovery efficiency [%]	from 80 up to 87
Heat exchanger type	rotary
Heat exchanger material	aluminium
SEC class	A



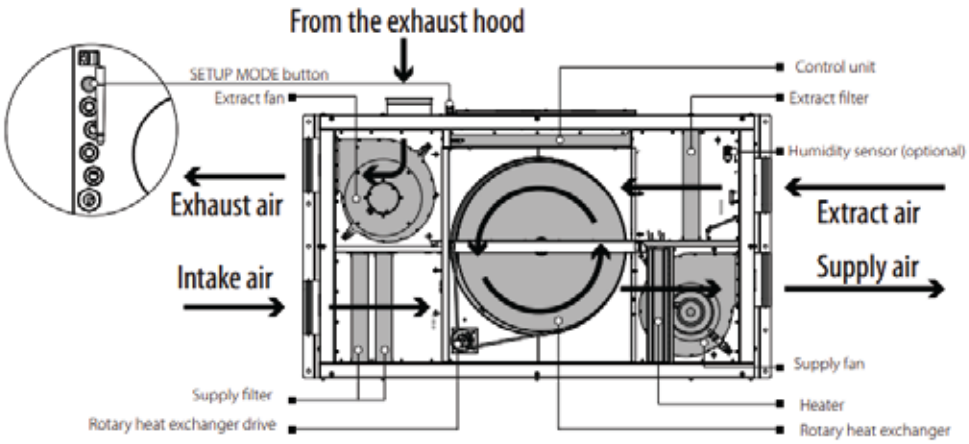
A-weighted sound power level		Gen.	Octave frequency band [Hz]								LpA, 3 m dBA	LpA, 1 m dBA
		dBA	63	125	250	500	1000	2000	4000	8000		
L_{WA} to supply air inlet	dBA	79	56	62	64	74	72	74	71	66		
L_{WA} to supply air outlet	dBA	68	48	51	57	67	52	49	42	30		
L_{WA} to exhaust air inlet	dBA	81	55	60	64	77	73	75	71	66		
L_{WA} to exhaust air outlet	dBA	67	47	51	58	65	58	57	48	39		
L_{WA} to environment	dBA	57	30	46	45	55	46	47	39	38	36	46

Point	Power [W]			Sound pressure level at 3 m distance [dBA]		
	RECOM 2 RT EC	RECOM 4 RT EC	RECOM 6 RT EC	RECOM 2 RT EC	RECOM 4 RT EC	RECOM 6 RT EC
1	101	154	342	21 (31)	31 (41)	36 (46)
2	115	151	342	21 (31)	31 (41)	36 (46)
3	80	149	342	20 (30)	30 (40)	35 (45)
4	45	116	122	18 (28)	27 (37)	31 (41)
5	42	116	122	17 (27)	26 (36)	29 (39)
6	40	115	122	17 (27)	26 (36)	29 (39)
7	17	76	34	16 (26)	24 (34)	27 (37)
8	17	75	33	16 (26)	21 (31)	24 (34)
9	16	63	33	16 (26)	21 (31)	24 (34)

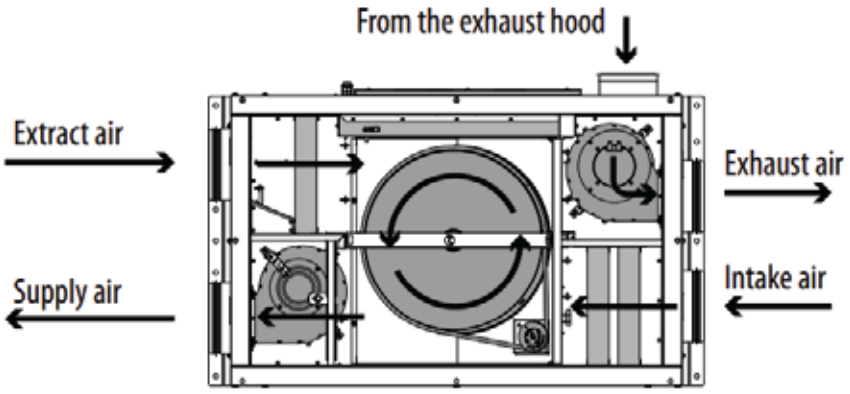
Accessories

Model	G4 panel filter	F7 panel filter	H13 panel filter	LCD control panel	Control panel	Control panel with Wi-Fi
						
RECOM 2 RT EC	RT 260x220x48 G4	RT 260x220x48 F7	RT 260x220x48 H13	FPD	FP	FP Wi-Fi
RECOM 4 RT EC	RT 320x235x48 G4	RT 320x235x48 F7	RT 320x235x48 H13			
RECOM 6 RT EC	RT 378x295x48 G4	RT 378x295x48 F7	RT 378x295x48 H13			

Right-handed modification RECOM 2/4/6 RT EC
(service side view)



Left-handed modification RECOM 2/4/6 RT EC
(service side view)



INSTALLATION OF A CEILING RECUPERATOR

We recommend installing the unit in a separate room or in an insulated attic on a level, level base with a vibration isolation gasket. When hanging the unit on a wall or ceiling, it is necessary to use vibration isolation gaskets. When hanging the equipment, care must be taken to ensure that its vibrations are not transmitted to the building structure, as this may cause additional noise in the living areas. Vibration isolation gaskets shall be applied to the back wall of the unit to eliminate vibrations. When selecting the location for the installation or suspension, clear and safety-compliant access to the installation for servicing or inspection must be provided. The service opening shall not be smaller than the dimensions of the installation and the installation shall be installed in such a way that it can be easily dismantled if necessary (e.g. in the event of a difficult reminder).