

RFM

Heat recovery unit WITH REFRIGERANT CIRCUIT BUILT-IN ON/OFF AND PLATE RECOVERY UNIT from 900 to 4.000 m³/h

The RFM heat recovery units dedicated to exchange of air and to its heat treatment (with the possibility to control the ambient input temperature) have been designed and developed in order to reconcile the many typical needs of both commercial and tertiary applications.

The RFM series is based on six sizes, for air flow rates ranging from 900 to 4000 m³/h.



HEAT PUMP



PLATES



EFFICIENCY



PLUG&PLAY

INDOOR
INSTALLATIONOUTDOOR
INSTALLATION

R410A

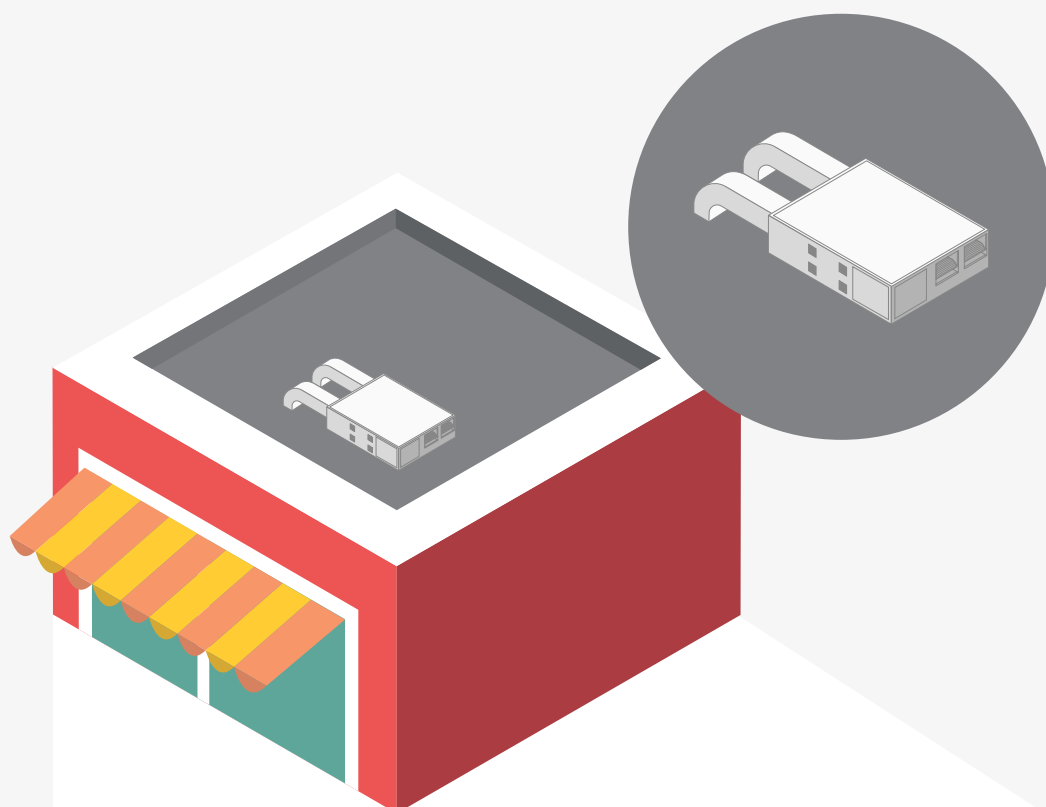
ADVANTAGES

- Reduced energy consumption
- Indoor installation (in false ceiling) and outdoor installation (with cover)
- Integration with the most popular supervision systems
- Compactness and ease of installation
- Integration of "ALL-IN-ONE" functions (air recirculation and heat treatment)

RFM OPERATION

The units of the RFM range recirculate the air in the rooms, particularly where the presence of smokers is permitted, recovering up to 50% of the exhaust air and neutralising

the thermal loads associated with the recirculation air. All this process is performed by integrating the unit with other heating/cooling systems.



TECHNICAL SPECIFICATIONS

- Supporting frame made of sheet metal and double-shell infill panels in pre-painted sheet metal completely removable with mineral wool thermal-acoustic insulation with a minimum thickness of 20 mm.
- Static heat recovery unit of cross-flow air-air type with condensate collection tank.
- Synthetic cell filters in G4 class
- Centrifugal electric fans with forward blades with double intake at 1 speed, possibly equipped with constant flow inverter motors.
- Refrigerant circuit with heat pump (R410A) consisting of condenser made of copper tubes and fins in hermetic scroll compressor, evaporating coil and aluminium coil, bi-directional thermostatic valve, liquid separator and receiver, 4-way valve for reverse cycle, safety valve, high and low pressure switches, freon filter and liquid light.
- Internal electrical panel for the management of all powercommands; temperature and defrost probes for winter evaporator.
- Microprocessor regulation, for automatic management of the room temperature, of hot/cold switching and defrost cycles; display for parametric setting and display of probe and set-point values with remote control up to 30 m from the unit.

ACCESSORIES

Sanitation module with UVC plasma and antivirus filter	Kvir-P
Additional electric heater	SKE
ISO ePM2,5 50% (ex M6) class compact filter	FC6
ISO ePM1 50 % (ex F7) class compact filter	FC7
Inverter driven fan motors	DDE
Roof cover	TPR
Adjusting damper	SKR
Flexible joint	GAT
External hood	CFA
Air filter pressure switch	PSTD
On/off damper actuator	SSE



High efficiency aluminium heat exchanger



Refrigerant circuit with R410A gas



The technical compartment outside the air flow allows very easily operation

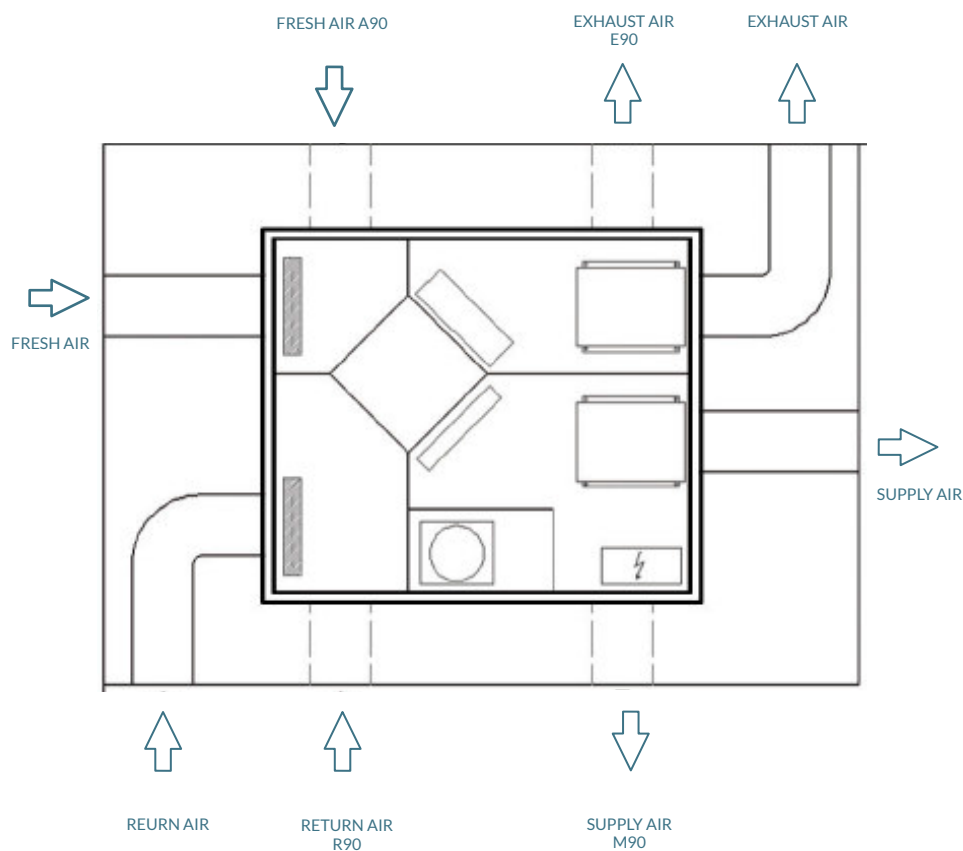
MODELS

RFM		14	19	25	30	40	50
Airflow	m³/h	900	1400	2000	2600	3300	4000
Sound pressure at 1 m	dB(A)	55	52	59	58	58	62
Total max current absorbed	A	14,6	21,6	36,3	22,6	26,9	24,8
Electrical power supply	V-Ph-Hz	230-1-50			400-3+N-50		
Recovery efficiency (1)	%	46,7	44,6	51,2	49,5	50,6	49,3
Recovered refrigeration capacity	W	803	1184	1888	2336	3033	3594
Compressor refrigeration capacity (1)	W	4597	7010	10352	12705	17548	19928
Total refrigeration capacity (1)	W	5400	8194	12240	15041	20581	23522
Refrigeration capacity available (1)	W	1838	2678	4085	4804	6740	7521
EER (1)		2,80	2,57	2,60	2,86	2,94	2,78
Supply temperature (1)	°C	19,7	20,1	19,7	20,3	19,7	20,2
Recovery efficiency (2)	%	54,0	51,4	57,5	55,5	56,7	55,2
Recovered heating capacity (2)	W	4015	6004	9446	11892	15463	18296
Compressor heating capacity (2)	W	4860	7672	11612	14571	19629	22137
Total heating capacity (2)	W	8875	13676	21058	26464	35092	40433
Available heating capacity (2)	W	796	1095	3060	3094	5386	4488
COP (2)		6,12	5,65	5,69	5,88	6,03	5,62
Supply temperature (2)	°C	22,6	22,3	24,5	23,5	24,8	23,3
FANS							
Max current absorbed	A	2 x 2,90	2 x 3,10	2 x 7,10	2 x 6,00	2 x 6,00	2 x 4,20
Max total absorbed power	W	2 x736	2 x742	2 x1644	2 x1398	2 x 1398	2 x2555
Fan specific power	W/(m³/s)	1860	1067	1231	1177	1165	1170
Electrical power supply	V-Ph-Hz	230-1-50					400-3-50
COMPRESSOR							
Refrigerator gas		R410A					
Type		rotary	rotary	scroll	scroll	scroll	scroll
Max current absorbed	A	8,83	15,4	22,1	9,3	14,9	16,4
Max absorbed power	W	1930	3360	4860	5630	7965	8735
Electrical power supply	V-Ph-Hz	230-1-50			400-3-50		
SKE ELECTRIC POST OR PRE-HEATING ACCESSORY							
Stages		1	1	1	1	1	1
Heating capacity	kW	2,50	2,50	5,00	5,00	7,00	7,00
ΔT air side	°C	8,2	5,3	7,4	5,7	6,7	5,5
Pressure drop	Pa	5	9	6	9	7	9
Electrical power supply	V-Ph-Hz	400-3+N-50					

(1) External air 32°C 50% RH, return air 26°C 50% RH

(2) External air -5°C 80% RH, return air 20°C 50% RH

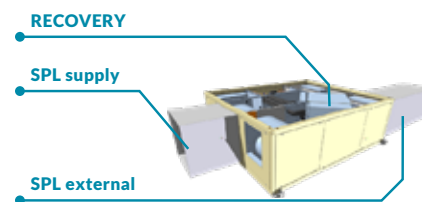
CONFIGURATIONS



SOUND LEVELS

The table shows the sound power values (SWL) in octave band and totals; the sound pressure values (SPL) at 1m, 5m and 10m in supply, in return and outside of the unit.

All values refer to the operation of the ducted unit at MAXIMUM speed and nominal airflow.



RFM	SWL [dB] IN OCTAVE BAND [HZ]								SWL		SPL SUPPLY			SPL RETURN			SPL OUTSIDE		
	63	125	250	500	1000	2000	4000	8000	dB	dB(A)	1 m	5 m	10 m	1 m	5 m	10 m	1 m	5 m	10 m
	63	125	250	500	1000	2000	4000	8000	dB	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
14	95,6	80,4	84,1	75,0	77,3	76,9	73,7	67,5	96	83	68	57	52	65	54	49	55	44	39
19	84,6	78,0	82,8	74,6	75,0	74,6	71,6	65,6	88	81	66	55	50	63	52	47	52	41	36
25	103,4	83,2	88,7	78,6	80,0	79,9	77,6	72,6	104	87	72	61	56	69	58	53	59	48	43
30	102,2	82,9	88,1	78,8	79,0	79,1	77,2	72,5	102	86	71	60	55	68	57	52	58	47	42
40	102,8	83,0	88,4	79,0	78,9	79,0	77,6	73,1	103	87	71	61	56	67	57	52	58	48	43
50	79,1	76,6	87,8	89,5	85,2	87,2	88,7	86,6	96	95	79	69	64	74	64	59	62	52	47

DIMENSIONS AND WEIGHTS

RFM		14	19	25	30	40	50
A	mm	1450	1450	1700	1700	1900	1900
B	mm	1230	1230	1560	1560	1700	1700
C	mm	470	470	530	530	705	705
L	mm	235	235	303	330	335	335
H	mm	265	265	266	290	290	290
L1	mm	331	331	502	502	545	545
H1	mm	323	323	387	387	545	545
Peso	kg	212	225	258	258	405	415

