

RCFA

Heat recovery packaged units
Air flow rates from 750 to 3.300 m³/h

The RCFA series is a one block solution designed for the system requirements typical of civil rooms such as bars, restaurants, offices and meeting rooms.

The RCFA units include in a single block unit in addition to the ventilation sections, filtration, heat recovery, **a cooling circuit in heat pump version with high-performance low-noise scroll compressors**. The fresh air is heated or cooled according to the season, thanks to the heat pump refrigeration circuit charged with R410A refrigerant installed inside the unit. All this means it is possible to have **a complete machine** with autonomous operation in every season and able to combine the necessary renewal of air for the rooms with efficient heat recovery.

The precise design of the machine combines **very small dimensions** that permit easy installation in suspended ceilings with excellent accessibility for all the internal components.



> Versions

5 sizes available in **horizontal configuration** for suspended ceiling installation.

Unit with heat regulation and ready for installation.

> Accessories

MBC module with two-row hot water coil.

MBX module with electric coil with double safety thermostat.

RBX module with pre-heating electric coil with double safety thermostat.

G4F G4 efficiency filters.

SUF module with silencers.


FGC circular flanges.

RS485 serial interface RS485.

FCE free-cooling set.



>Main technical data

RCFA Model		07	10	15	21	33
Supply and exhaust nominal air flow rates	m ³ /h	750	1.000	1.500	2.100	3.300
Minimum air flow rates	m ³ /h	640	850	1.275	1.785	2.800
Available static pressure on supply ¹	Pa	293/248	250/218	250/233	166/163	280/273
Total heating capacity (recov. + compress.) ³	kW	8,8	10,8	15,8	22,8	33,3
Total cooling capacity (recov. + compress.) ²	kW	6,1	7,3	10,2	15,0	23,0
Available heating capacity ³	kW	2,4	2,3	3,0	4,8	5,2
Available cooling capacity ²	kW	1,4	1,7	2,2	3,4	5,1
Heat recuperator efficiency ³	%	46,2	51,2	53,2	53,6	53,6
Maximum absorbed power (1 fan)	kW	0,92	0,92	0,92	0,92	1,5
Maximum absorbed current (1 fan)	A	4,20	4,20	4,20	4,20	6,80
Number of fans		2	2	2	2	2
Winter operation compressor input power ³	kW	1,3	1,3	1,8	2,5	3,0
Summer operation compressor input power ²	kW	1,8	2,1	2,3	3,5	4,4
Maximum compressor absorbed current	A	8,2	12,5	7	11,1	19,7
Total input power on heating ³	kW	2,0	2,0	3,3	4,0	5,5
Total input power on cooling ²	kW	2,6	2,8	3,8	5,0	6,9
Unit power supply	ph-V-Hz	1-230-50	1-230-50	3+N 400 50	3+N 400 50	3+N 400 50
Sound pressure level at 1 m 	dB(A)	53	55	57	59	62
Refrigerant		R410A	R410A	R410A	R410A	R410A
MBC water heating coil		MBC07	MBC10	MBC15	MBC21	MBC33
Heating capacity ⁴	kW	5,0	6,0	8,7	10,3	16,8
Heating capacity ⁵	kW	1,9	2,2	3,4	3,7	7,5
MBX Electric heating coil		MBX07	MBX10	MBX15	MBX21	MBX33
Heating capacity	kW	3,0	4,5	6,0	9,0	12,0
Electrical heating coil current	A	4,6	6,8	9,1	13,7	18,2
MBX Electric pre-heating coil		RBX07	RBX10	RBX15	RBX21	RBX33
Heating capacity	kW	4,0	6,0	8,0	12,0	18,0
Electrical heating coil current	A	5,8	8,6	11,4	17,2	26,0

1 Fan power supply 230V; nominal air flow rate without accessories.

2 Performances referring to: fresh air flow equal to the exhaust air flow; external air temperature 34°C, RH 50%; room air temperature 26°C, 50% RH.

3 Performances referring to: fresh air flow equal to the exhaust air flow; external air temperature -5°C, RH 80%; room air temperature 20°C, 50% RH.

4 Performances referring to: inlet/outlet water temperature 70/60°C under conditions 3) with compressor operating.

5 Performances referring to: inlet/outlet water temperature 45/40°C under conditions 3) with compressor operating. at 1 m in free field with ducted vents.

Air handling units

FM - FE

Air handling units for specific sectors

FM-H EtaMax
HygRoMax-AlfaMini/Max

Heat recovery units

HRA/HRB - HRF
HRR - RCFA - RHE

Roof-top units

RFM - RFE
RTSA - RTPA - RTLA
MFS - MFSE

Air conditioning units

FTA - TFA

>Characteristics

Self-bearing 20 mm thick sandwich panels made of galvanized steel sheet for the external and internal surfaces with injected polyurethane insulation (density 40kg/m³).

Undulated filters class G3 gravimetric efficiency 80% in accordance with EN 779, 48 mm thick, positioned before the heat recuperator on both supply and exhaust airflow.

Heat recuperator of the cross-flow type with aluminium plates of efficiency above 50% in winter operation.

Double-intake radial fans with forward-curved blades with driven motor. The motor, single phase 230V-50Hz, is at single speed. The

air flow rate is controlled within the limit of +/- 15% on the nominal flow rate through standard electronic controllers.

Condensate **drain pan** made of aluminium.

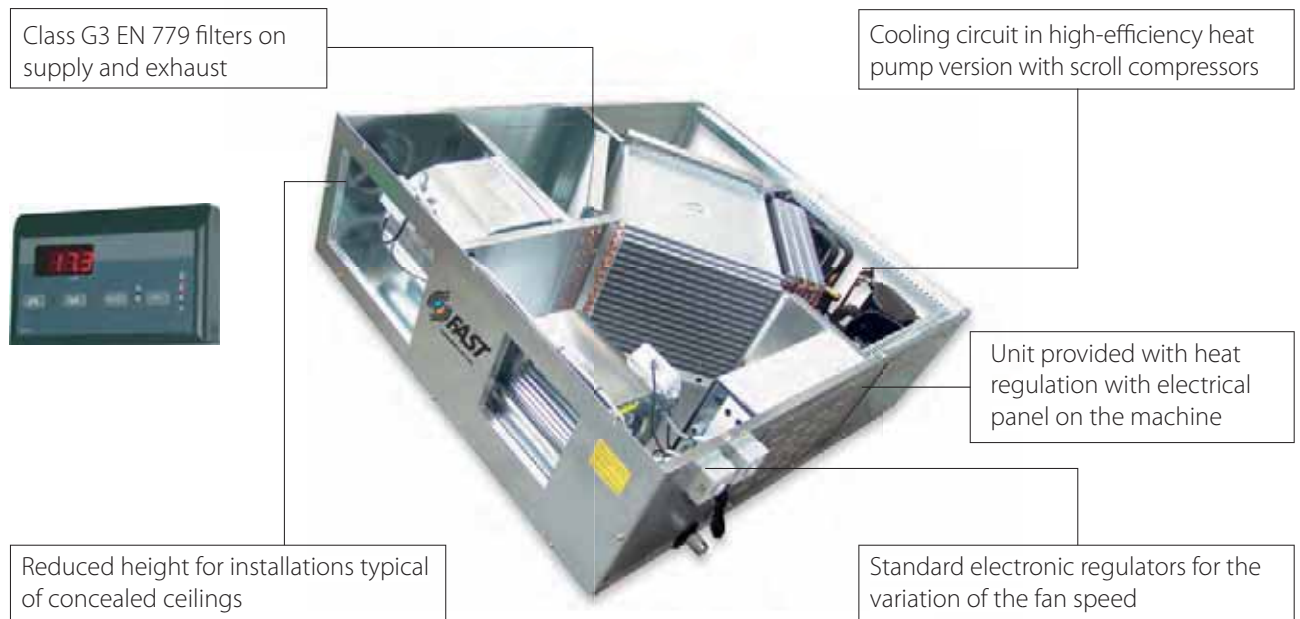
Cooling circuit in heat pump version complete with efficient and very quiet scroll compressors, four-way valve for cycle inversion, evaporating coil, condensing coil, liquid receiver, liquid separator, double thermostatic valve, sight glass (only for models 15, 21, 33), drier filter, high/low pressure switches.

The unit is provided with **electrical panel complete with power section and regulators** (three-way valves for the supplementary hot

water coil and the relative actuators are included), able to guarantee the control of all the cooling circuit functions.

The following components are available: NTC temperature probe on the exhaust duct, external air temperature probe, dampers and relative actuators in the free-cooling version, pressure switch on the filter in the supply. A control terminal that can be operated remotely is supplied for the automatic control of the unit.

Inspection from underneath for the heat recuperator, the filters, the condensate drain pan and the fans.



Class G3 EN 779 filters on supply and exhaust

Cooling circuit in high-efficiency heat pump version with scroll compressors

Unit provided with heat regulation with electrical panel on the machine

Standard electronic regulators for the variation of the fan speed

Reduced height for installations typical of concealed ceilings



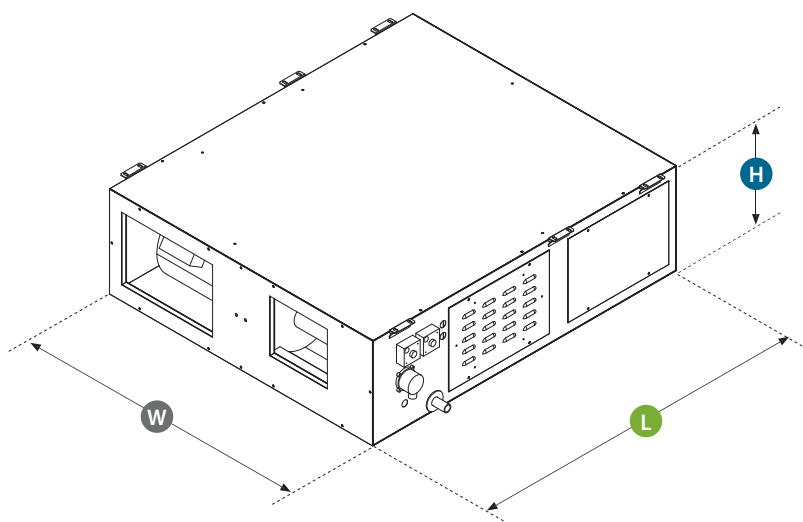
> Accessories compatibility

	07	10	15	21	33
MBC	MBC07	MBC10	MBC15	MBC21	MBC33
MBX	MBX07	MBX10	MBX15	MBX21	MBX33
RBX	RBX07	RBX10	RBX15	RBX21	RBX33
G4F	G4F07	G4F10	G4F15	G4F21	G4F33
SUF	SUF07	SUF10	SUF15	SUF21	SUF33
FGC	FGC07	FGC10	FGC15	FGC21	-
FCE	FCE07	FCE10	FCE15	FCE21	FCE33

- Not available.

> Sizes and weights

RCFA Model		07	10	15	21	33
Length	L mm	1.500	1.500	1.800	1.800	1.800
Width	W mm	1.300	1.300	1.500	1.500	1.600
Height	H mm	450	450	550	550	600
Weight	kg	205	218	272	298	328



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