RHE

Heat recuperators with cooling circuit without external unit.
Air flow rates from 1000 to 3.300 m³/h

The units of the RHE series have been designed to satisfy the requirements for thermo-hygrometric wellness and air change-over, typical of public ambiences. They are very efficient, since **they use a cross-flow heat recuperator with high efficiency** together with a c**ooling circuit in heat pump working with refrigerant R410A**.
The adoption of the cross-flow heat recuperator with high efficiency allows to significantly reduce the start-up phase of the cooling circuit over the year, giving as result an elevate saving in energy consumptions.
The precise design of the machine combines very small dimensions that permit easy installation in suspended ceilings with **excellent accessibility for all internal components.**
Many accessories, available on request, **such as high efficiency filter**, water coils or silencers, integrate the functions of the unit which is generally combined with a separate air conditioning equipment.

R410A

>Versions

4 available **sizes** in **horizontal configuration** for installation:
- suspended ceiling (RHExxA) or
- floor (RHExxB).

Unit with heat regulation and ready for installation.

>Accessories

MBCH module with hot water coil.
MBCX module with electric coil.
FCT F7 effiency filters.
BIT base frame for floor installation (only for RHExxB).
BIM base frame for floor installation of additional modules (only for RHExxB)
TPE roof for external installation (only for RHExxB).
TPM roof for external installation of additional modules (only for RHExxB)
FCH free-cooling set
RS485 serial interface RS485.
MSS module with silencers.
TPMSS roof for silencers (only for RHExxB)
FGE circular flanges.

high efficiency

>Main technical data

Modello RHE		10	15	25	33
Nominal supply and exhaust air flows	m³/h	1.000	1.500	2.500	3.300
Minimum air flow	m³/h	800	1.000	2.000	2.500
Supply and exhaust static available pressure [1]	Pa	320	245	140	220
Recovered heating capacity [2]	kW	3,6	10,0	15,3	19,6
Recovered cooling capacity [3]	kW	2,2	3,2	4,5	5,8
Total heating capacity (recuperator + compressor) [2]	kW	7,5	14,2	24,8	33,1
Total cooling capacity (recuperator + compressor) [3]	kW	6,6	8,7	13,8	19,8
Available heating capacity [2]	kW	2,8	2,9	3,9	7,0
Available cooling capacity [3]	kW	1,8	3,1	3,3	5,4
Recuperator efficiency [2]	%	82	80	73	71
Recuperator efficiency [3]	%	82	80	68	65
Total maximum fan input power	kW	0,9	0,9	2,1	2,1
Total maximum fan absorbed current	A	7,6	7,6	10,5	10,5
Total input power on heating [2]	kW	2,2	2,4	4,2	4,9
Total input power on cooling[3]	kW	2,6	2,9	5,1	6,5
COP [4]		4,1	5,5	5,9	6,1
EER [5]		3,5	3,9	3,8	3,5
Maximum absorbed current compressor	A	10	11	7	10,3
Sound power level	dB(A)	66	69	72	75
Power supply	ph-V-Hz	1-230-50	1-230-50	3+N 400-50	3+N 400-50
MBCH water heating coil		**10**	**15**	**25**	**33**
Heating capacity [6]	kW	7,7	10,4	15,6	19,7
Heating capacity [7]	kW	2,6	4,0	6,5	7,6
MBCX Electric heating coil		**10**	**15**	**25**	**33**
Heating capacity	kW	5	7,5	12,5	16,5
Electric coil absorbed current	A	7,6	11,4	19,0	25,1

cooling

heating

1 nominal air flow rate without accessories.
2 Performances referring to: fresh air flow equal to the exhaust air flow; external air temperature -5°C, 80% RH; room air temperature 20°C, 50% RH.
3 Performances referring to: fresh air flow equal to the exhaust air flow; external air temperature 34°C, 50% RH room air temperature 26°C, 50% RH.
4 Coefficient of performance referring to the following conditions: external air temperature 7°C dry bulbe, 6°C wet bulbe; room air temperature 20°C dry bulbe, 15°C wet bulbe
5 Coefficient of performance referring to the following conditions: external air temperature 7°C dry bulbe, 6°C wet bulbe; room air temperature 20°C dry bulbe, 15°C wet bulbe
6 Performances referring to: inlet/outlet water temperature 70/60°C; under conditions 2) with operating compressor.
7 Performances referring to: inlet/outlet water temperature 45/40°C ; under conditions 2) with operating compressor.

Supply fan (not ducted) sound pressure level with static useful pressure equal to 0 Pa.

>Characteristics

Frame in aluminium profiles with nylon corners reinforced with fiberglass.
Self-bearing 25 mm thick sandwich panels made of galvanized steel sheet for the external and internal surfaces with injected polyurethane insulation (density 42 kg/m^3).

Undulated filters class G4 gravimetric efficiency 80% in accordance with EN 779, 48 mm thick, positioned before the heat recuperator on both supply and exhaust airflows.

Double intake radial fans with forward-curved blades with driven motor. The air flow rate is controlled through standard electronic controllers.

Aluminium condensate drain pan.

Cooling circuit in heat pump version (refrigerant R410A) complete with efficient and very silent scroll compressors, four-way valve for cycle inversion, evaporating coil, condensing coil, liquid receiver, thermostatic valve, sight glass, drier filter, high/low pressure switches, safety valve, by-pass valve (for the smallest sizes).

The unit is provided with **electrical panel complete with power section and regulators** (the three-way valve control for the supplementary hot water coil and the relative actuators are included), able to grant the control of all 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, filters, the condensate drain pan and fans, side for electric panel and cooling circuit

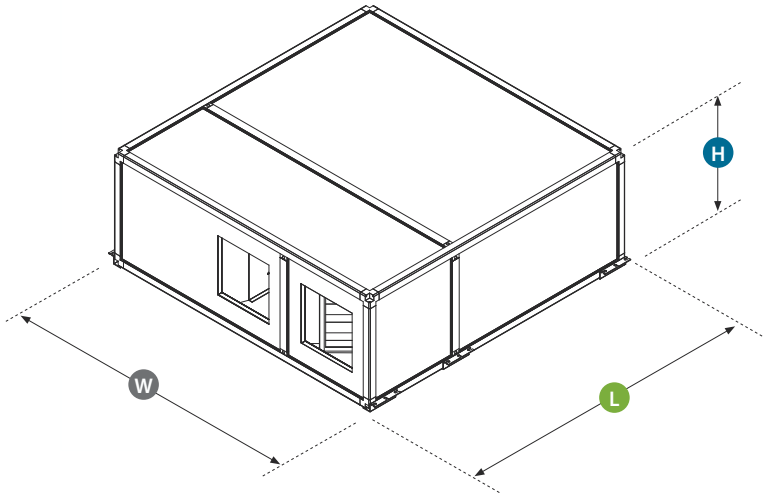
Heat recuperator of the cross-flow type with aluminium plates with high performances.

>Accessories compatibility

RHE model	10	15	25	33
MBCH	MBCH1			MBCH2
MBCX	MBCX1	MBCX2	MBCX3	MBCX4
FCT	FCT1		FCT2	FCT3
BIT	BIT1	BIT1	BIT2	BIT3
BIM	BIM1	BIM1	BIM1	BIM1
TPE	TPE1	TPE1	TPE2	TPE3
TPM	TPM1	TPM1	TPM1	TPM2
FCH	FCH1		FCH2	
RS485	RS485			
MSS	MSS1			MSS2
TPMSS	TPMSS1	TPMSS1	TPMSS1	TPMSS2
FGE	FGE1			

>Sizes and weights

RHE Model			10	15	25	33
Length	L	mm	1.500	1.500	1.990	2.310
Width	W	mm	1.640	1.640	1.640	1.970
Height	H	mm	580	580	580	580
Weight		kg	300	310	373	410



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