

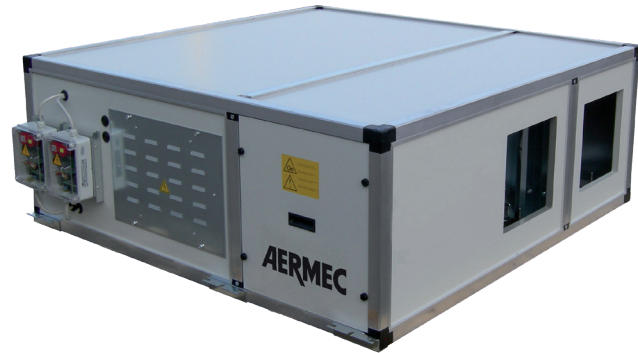
URHE-CF

High-efficiency heat recovery unit with cooling circuit without an external unit

Air flow rates 1000 ÷ 3300 m³/h



- **Technology high efficiency**



The units from the URHE_CF series represent a high-efficiency solution to satisfy the temperature and humidity comfort and ventilation requirements in air conditioning systems that serve public spaces and the commercial sector, such as offices, bars, restaurants, etc.

The URHE_CF units are particularly efficient units in that they use a high yield cross flow plate heat exchanger of high capacity combined with a heat pump cooling circuit operating with refrigerant R410A.

The use of a high yield cross flow heat recovery unit permits a significant reduction in the operating time of the cooling circuit throughout the year, thereby reducing to the minimum the electrical energy consumption.

The small unit dimensions allow for easy installation even in suspended ceilings, allowing excellent accessibility for the maintenance of all the internal components.

The numerous accessories available on request, for example the high-efficiency compact filters, the hot water coil or the silencers, complete the functions of the unit, which is usually combined to an air conditioning system.

VERSIONS

4 sizes available in horizontal configuration for ground or suspended ceiling installation.

Unit complete with temperature controller and ready for installation.

STRUCTURE AND PANELS

Structure in aluminium profiles with glass fibre reinforced nylon corner pieces.

Sandwich panel 25 mm thick with galvanised steel for the internal surface, prepainted for the external surface with injected polyurethane insulation (density 42 kg/m³).

HEAT RECOVERY

Cross flow plate heat exchanger in aluminium optimised to ensure high outputs.

PLEATED FILTERS

Class G4, 80% gravimetric efficiency according to EN 779, thickness 48 mm, located before the recovery unit both in the supply and return air flow.

CENTRIFUGAL FANS

Forward curved impellers with directly coupled high static pressure motor. The air flow rate is maintained constant by the use of an electronic controller.

COOLING CIRCUIT

Heat pump with refrigerant R410A, complete with high-efficiency low noise rotary or scroll compressors (depending on size), 4 way cycle reversing valve, evaporator coil, condenser coil, liquid receiver, thermostatic valve, liquid sight glass, dehydrator filter, high pressure manostat, low pressure manostat, safety valve, bypass valve (for the smaller sizes).

ELECTRICAL PANEL

The unit is provided with an electrical panel complete with power and control cross-section (including the control for the 3 way valve for the supplementary hot water coil and associated actuators), ensuring the control of all the cooling circuit functions. Included are: NTC return air temperature sensor, external air temperature sensor, dampers and actuators in the free-cooling version, manostat on the flow filter. Supplied loose is a remote control terminal for automatic control of the unit.

ENVIRONMENTALLY FRIENDLY

Through the applied technology and the use of ozone friendly refrigerant R410A, the URHE_CF series is environmentally friendly. R410A is a refrigerant with high thermodynamic efficiency and this, together with the use of scroll compressors, allows for reduced CO₂ emissions.

ACCESSORIES

MBCH: Hot water coil module

MBCX: Electric coil module

FCT: High-efficiency compact filters F7

BIT: Base for floor mounting

BIM: Base for floor mounting for additional modules

TPE: Roof for external installation

TPM: Roof for external installation of additional modules

FCH: Free-cooling kit

RS485: Board RS485
MSS: n° 1 silencer splitter module

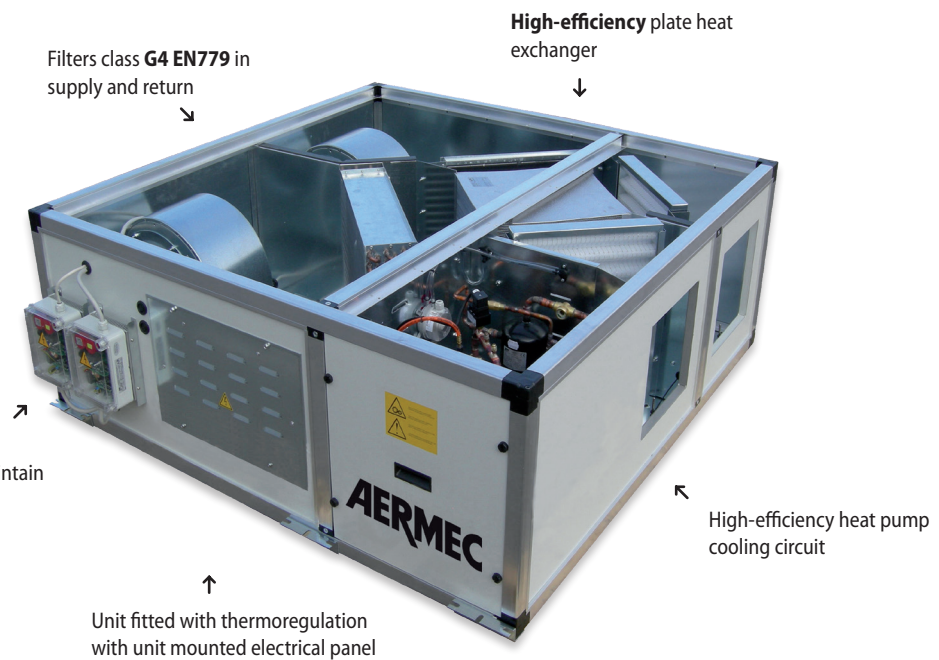
TPMSS: Roof for silencer splitter module
FGE: Circular flanges

ACCESSORIES COMPATIBILITY

Size	10	15	25	33
MBCH	MBCH1	MBCH1	MBCH1	MBCH2
MBCX	MBCX1	MBCX2	MBCX3	MBCX4
FCT	FCT1	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	FCH1	FCH2	FCH2
RS485	RS485	RS485	RS485	RS485
MSS	MSS1	MSS1	MSS1	MSS2
TPMSS	TPMSS1	TPMSS1	TPMSS1	TPMSS2
FGE	FGE1	FGE1	FGE1	FGE1



Remote panel
(standard)



Standard inverter for fans to maintain constant air flow rate

TECHNICAL DATA

Size		10	15	25	33
Maximum air flow and recovery flow rate	(m ³ /h)	1000	1500	2500	3300
Air flow minimum	(m ³ /h)	800	1100	2000	2500
Available flow and return static pressure	(1) (Pa)	320	245	140	220
Heating capacity recovered	(2) (kW)	7	10	15,3	19,6
Cooling capacity recovered	(3) (kW)	2,2	3,2	4,5	5,8
Total heating capacity (recovery unit + compressor)	(2) (kW)	10,9	14,2	24,8	33,1
Total cooling capacity (recovery unit + compressor)	(3) (kW)	6,6	8,7	13,8	19,8
Available heating capacity	(2) (kW)	2,8	2,9	3,9	7
Available cooling capacity	(3) (kW)	1,8	3,1	3,3	5,4
Recovery unit					
Efficiency in winter condition	(%)	82	80	73	71
Efficiency in summer condition	(%)	82	80	68	65
Fans					
Number of fans		2	2	2	2
1 fan maximum input power	(kW)	0,42	0,46	1,1	1,1
1 fan maximum input current	(A)	3,10	3,10	5,3	5,3
Heating total input power	(2) (kW)	2,2	2,4	4,2	4,9
Cooling total input power	(3) (kW)	2,6	2,9	5,1	6,5
Protection rating	IP	55	55	55	55
Sound power level	dB(A)	66	69	72	75
Filters (standard)					
EN779 Classification		G4	G4	G4	G4
Gravimetric efficiency	(%)	90	90	90	90
EN779 Classification (accessory filters)		F7	F7	F7	F7
Additional pressure drop for filters F7 (accessory)	Δ (Pa)	35	59	58	63
Cooling circuit (compressor)					
Refrigerant		R410A	R410A	R410A	R410A
Compressor maximum current input	(A)	10	11	7	10,3
Condensate drain tray					
Condensate drain tray discharge diameter	(in)	1"	1"	1"	1"
MBCH - Hot water coil (accessory)					
Rows	(n)	2	2	2	2
Air side pressure drop (nominal flow rate)	(Pa)	7	18	37	37
Heating capacity	(4) (kW)	7,7	10,3	15,6	19,7
Heating capacity	(5) (kW)	2,6	4	6,5	7,6
Water flow rate at nominal conditions	(4) (l/h)	673	906	1363	1725
Water side pressure drop (nominal conditions)	(4) (kPa)	11	8	18	32
Water flow rate at nominal conditions	(5) (l/h)	446	700	1118	1311
Water side pressure drop (nominal conditions)	(5) (kPa)	3	6	14	22
Water coil manifold diameter	(in)	3/4"	3/4"	3/4"	3/4"
MBCX - Electric heating coil (accessory)					
Power supply		400V/3/50Hz (separate power supply from the unit)			
Heating capacity	(kW)	5	7,5	12,5	16,5
Air side pressure drops (nominal flow rate)	(Pa)	10	10	10	10
Stages	(n)	1	1	1	1
Electric coil current input	(A)	7,6	11,4	19	25,1

(1) Fan power supply: 230V; nominal air flow rate; without accessories;

(2) Fresh air flow rate equal to exhaust air flow rate; incoming external air temperature -5°C, 80% UR; Room temperature 20°C, 50% UR

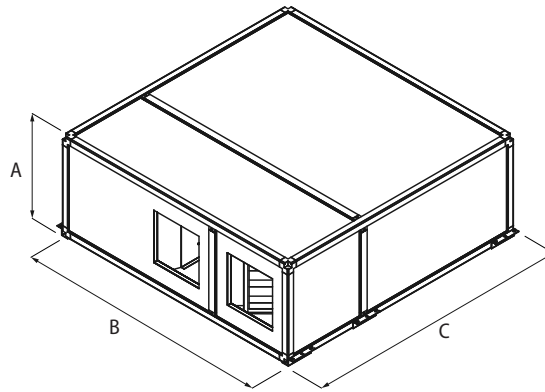
(3) Performance referring to: fresh air flow rate equal to exhaust air flow rate; incoming external air temperature 34°C, 50% UR; room temperature 26°C, 50% UR.

(4) Performance referred to: inlet/outlet water temperature 70/60°C; at conditions 2) with compressor operating

(5) Performance referred to: inlet/outlet water temperature 45/40°C at conditions 2) with compressor operating

Sound power level of the flow fan not ducted with useful static pressure equivalent to 0 Pa.

DIMENSIONS



Size		10	15	25	33
Dimensions and weights					
A	mm	580	580	580	580
B	mm	1640	1640	1640	1970
C	mm	1500	1500	1990	2310
Weight	kg	300	310	373	410

Aermec reserves the right to make any modifications deemed necessary.
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