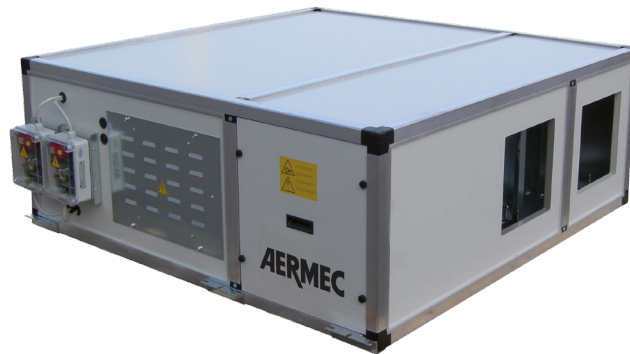


## URHE\_CF High-efficiency heat recovery unit with cooling circuit without an external unit. Air flow rates from 1,000 to 3,300 m<sup>3</sup>/h.

### R410A



### Features

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/m<sup>3</sup>).

#### 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 CO<sub>2</sub> emissions.

## Accessories

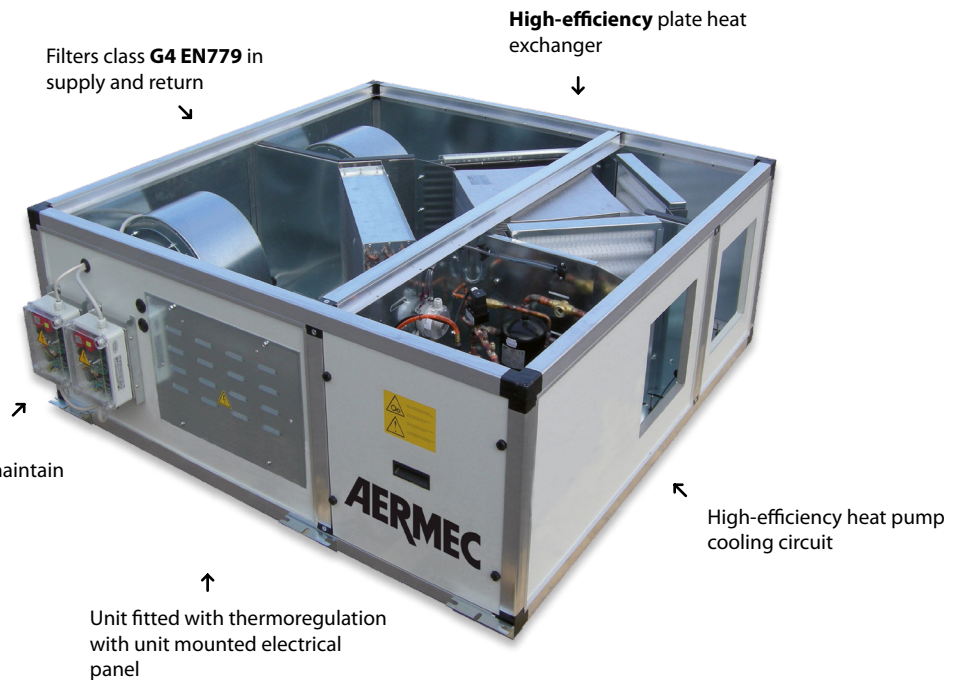
- **MBCH** hot water coil module
- **MBCX** electric coil module
- **FCT** high-efficiency compact filters F7
- **BIT** base for floor mounting
- **BIM** base for floor mounting for additional modules
- **TPE** roof for external installation
- **TPM** roof for external installation of additional modules
- **FCH** free-cooling kit
- **RS485** board RS485
- **MSS** n° 1 silencer splitter module
- **TPMSS** roof for silencer splitter module
- **FGE** circular flanges

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



**Remote panel**  
(standard)

**Standard inverter** for fans to maintain constant air flow rate



## Technical data

URHE_CF		10	15	25	33
Maximum air flow and recovery flow rate		1000	1500	2500	3300
Air flow minimum		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
<b>RECOVERY UNIT</b>					
Efficiency in winter condition	(%)	82	80	73	71
Efficiency in summer condition	(%)	82	80	68	65
<b>FANS</b>					
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
<b>FILTERS (standard)</b>					
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
<b>COOLING CIRCUIT (COMPRESSOR)</b>					
Refrigerant		R410A	R410A	R410A	R410A
Compressor maximum current input	(A)	10	11	7	10.3
<b>CONDENSATE DRAIN TRAY</b>					
Condensate drain tray discharge diameter	(in)	1"	1"	1"	1"
<b>MBCH - HOT WATER COIL (accessory)</b>					
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"
<b>MBCX - Electric heating coil (accessory)</b>					
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.

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

### Cooling

(2) Operating conditions: return air 26°C 50%, external air 34°C 50%;

### Heating

(3) Operating conditions: return air 20°C 50%, external air -5°C 80%;

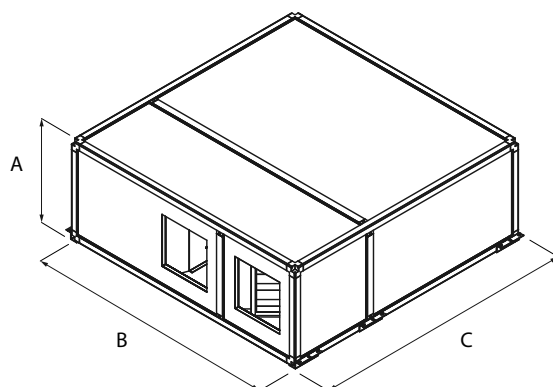
(4) This value offers an indication of the capacity produced by the unit net of the capacity used to bring the external air conditions to neutral values (specifically, 20°C with 50% UR in winter and 26°C with 50% UR in summer)

(5) At 1 m distance in free field with ducted connections.

(6) Inlet/outlet water temperature 70/60°C. Compressor operating. Operating conditions: return air 20°C 50%, external air -5°C 80%;

(7) Inlet/outlet water temperature 45/40°C. Compressor operating. Operating conditions: return air 20°C 50%, external air -5°C 80%;

## Dimensions (mm)



URHE_CF			10	15	25	33
Height	A	(mm)	580	580	580	580
Width	B	(mm)	1640	1640	1640	1970
Depth	C	(mm)	1500	1500	1990	2310
Weight		(kg)	300	310	373	410