

AIR COOLED CONDENSING UNITS WITH SCROLL COMPRESSORS AND AXIAL FANS

REFRIGERANT R407C



MCE 482 K



Series MCE ... K

Cooling capacity from 44 to 75 kW - 2 circuits

The air cooled condensing units of **MCE K series**, to be matched to remote evaporating units, are designed for outdoor installation and are particularly suitable for small and medium sized air conditioning systems, in residential and commercial applications.

They are all available with 2 refrigerant circuits.

All sizes are standard provided with an isolated compressors section and the external frame is completely closed.

Thanks to their compact dimensions and to the several options available, these units are particularly easy to install in small spaces.

They are completely assembled and tested in the factory and supplied with nitrogen and oil charge.

The following versions are available:

MCE...K standard version

MCE...U K ultrasilenced version

Operation limits: (standard units): external air temperature from 15 to 45°C.

Main components:

Frame made of galvanized steel plate, suitably treated to resist to external agents and then painted in RAL 7035 colour. The compressor section is completely closed and suitably isolated from the air flow; inside of it, the compressor and the main components are placed so to facilitate also the service operations. For ultrasilenced version, it is insulated with soundproofing material. The external panels, easy to be dismantled, allow the full access in case of service.

High-efficiency scroll compressor (EER 3,7 at ARI conditions), with low sound level, internal heat protection, installed on rubber vibration dampers, supplied with crankcase heater, when necessary. Being 2 circuit units, in case of problem on one of the circuit, the 50% operation of the unit is anyway granted.

Heat-exchange external coil with copper tube and specially corrugated aluminium fins for a better efficiency. It is suitably sized with a wide exchange surface, so to allow the unit operation also at very high external air temperatures. On request, in case of installation in aggressive environments, several coil protection treatments are available.

Low rpm axial fans, of directly coupled type, with 6-8 pole electrical motor complete with in-built overload protection, electronic balance, low sound level blades with wing profile and safety protection grid. On request, it is available the modulating fans speed regulation (option BT).

Cooling circuit composed of dehydrating filter, sight glass, safety device, high and low pressure switches, shut-off valve on discharge side, liquid receiver.

Electric board in compliance with CE norms, contained in a suitable partition protected by the internal safety panel, provided with a main switch and an external panel to be opened. It is complete with remote switches, overload protections, transformer for auxiliaries and terminal board.

Unit management microprocessor installed on the internal safety panel of the electrical board, complete with compressors hour counter.

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Accessories

- AE** **Electrical power supply different from standard:** mainly, 230V three-phase, 460V three-phase. Frequency 50/60 Hz.
- BT** **Low temperature operation (-20°C):** electronic device for the continuous modulating voltage control of the condensing pressure through the variation of the fan rotation speed.
- CS** **Compressors inrush counter:** Electromechanical device positioned inside the electrical board, recording the total inrush starts of compressors.
- GP** **Condensing coil protection grid:** metal protection grid against accidental impacts.
- IH** **RS 485 serial interface:** electronic card to be connected to microprocessor, to allow communication between the units and a Carel supervision system. It is possible to fully control the unit from remote. For connection to other supervision systems, the protocol of the controlled parameters is available on request.
- IM** **Seawood packing:** fumigated seawood case and protection bag with hygroscopic salts, suitable for long sea transports.
- MF** **Phase monitor:** electronic device controlling the correct sequence and/or the eventual lack of one of the 3 phases, switching off the unit if necessary.
- MT** **High and low pressure gauges** for measuring circuit pressure.

- PA** **Rubber-type vibration dampers:** bell-shaped vibration dampers supports for insulating the unit (supplied in kit), made of base and bell in galvanized steel and natural rubber mixture.
- PQ** **Remote microprocessor:** remote terminal, allowing to display the temperature and humidity values detected by probes, the alarm digital inputs, the outputs and the remote ON/OFF of the unit, to change and program of the parameters, the sound signal and the display of the present alarms.
- RL** **Compressors overload relays:** electromechanical protection devices against compressor's overload.
- RM** **Condensing coil with pre-painted fins:** superficial treatment of the condensing coils with epoxy coating.
- RR** **Copper/copper condensing coils:** special execution of the condensing coils with copper pipe and fins.
- RV** **Personalized frame painting in RAL colour**
- SC** **Insulated compressors housing** with sound proofing material (included on ultra-silenced version).
- VS** **Solenoid valve:** electromagnetic solenoid valve on each cooling circuit to prevent refrigerant migrations and consequent flooding of compressors.



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Technical data - Standard version

MCE		482 K	562 K	702 K	822 K
Cooling capacity					
Cooling capacity	kW	43,6	49,1	63,8	75,0
Nominal input power	kW	17,3	20,8	23,5	29,9
EER		2,52	2,36	2,71	2,51
Axial fans					
Quantity	n.	3			
Rotation speed	rpm	860			
Air flow	m ³ /h	25'200		21'300	
Air flow	l/s	7'000		5'917	
Motor input power	kW	1,9			
Input current	A	9,0			
Scroll compressors					
Quantity	n.	2			
Circuits	n.	2			
Standard capacity steps	%	0 – 50 – 100			
Nominal input current	A	29,0	35,0	38,0	49,0
Maximum input current	A	40,0	44,0	54,0	64,0
Inrush current	A	143,0	149,0	194,0	230,0
Electrical data					
Total input power	kW	19,2	22,7	25,4	31,8
Sound pressure level					
Sound pressure at 1 m	dB(A)	69			
Dimensions					
Length	mm	2'130			
Width	mm	1'100			
Height	mm	1'760			
Transport weight	kg	607	611	682	693
Electrical power supply					
Electrical power supply	V / ph / Hz	400 / 3 / 50 + N + T			

REMARKS:

- Operating conditions: External air temperature 35°C; evaporating temperature 2°C
- Sound pressure level at 1 m in open field (ISO 3744).

Technical data - Ultrasilenced version

MCE		482 UK	562 UK	702 UK
Cooling capacity				
Cooling capacity	kW	42,1	51,0	60,2
Nominal input power	kW	18,2	19,7	22,2
EER		2,31	2,59	2,71
Axial fans				
Quantity	n.	3		
Rotation speed	rpm	650		
Air flow	m ³ /h	17'700		14'200
Air flow	l/s	4'917		3'945
Motor input power	kW	0,93		
Input current	A	4,7		
Scroll compressors				
Quantity	n.	2		
Circuits	n.	2		
Standard capacity steps	%	0 – 50 – 100		
Nominal input current	A	30,0	33,0	41,0
Maximum input current	A	40,0	44,0	54,0
Inrush current	A	143,0	149,0	194,0
Electrical data				
Total input power	kW	19,1	20,6	21,9
Sound pressure level				
Sound pressure at 1 m	dB(A)	61		
Dimensions				
Length	mm	2'130		
Width	mm	1'100		
Height	mm	1'760		
Transport weight	kg	614	618	689
Electrical power supply				
Electrical power supply	V / ph / Hz	400 / 3 / 50 + N + T		

REMARKS:

- Operating conditions: External air temperature 35°C; evaporating temperature 2°C
- Sound pressure level at 1 m in open field (ISO 3744).