

CRAC SYSTEM

DIRECT EXPANSION CLOSE CONTROL UNITS WITH REMOTE CONDENSERS- REFRIGERANT R410A

Designed for use in data centers, data processing rooms, in telecom centers and in other applications where it is important to keep the thermo-hygrometric conditions constant all over the year, so that the correct operation of the equipments installed in these sites is secured. Thanks to their technologically advanced design, these close control units are able to control the ambient temperature with remarkably high precision and when the humidity level is required, adapting their cooling capacity to the room requirements, all automatically managed by the microprocessor on board. The high technology employed during their design together with the use of the best components available on the markets, make these units extremely reliable and therefore able to work for long periods, without a break. These units can be also installed easily in small spaces and easily accessible on the front side for ordinary and extraordinary service operations. Assembling and testing are made in the factory.



Technical Features

Enclosure of the unit is supported by a rigid frame and manufactured with parts made of galvanized steel, making the structure strong and suitable also for extreme transport and handling conditions. The external panels, fixed to frame with quick opening connections, are made of pre-painted steel sheet (RAL 9005), ensuring a long-term durability to the unit. They are internally insulated with class 1 sound-proof material, in conformity to the main international regulations in force, reducing the overall sound level of the unit and allowing a good air tightness. All the front and side panels can be dismantled so to allow an easy access to the main components.

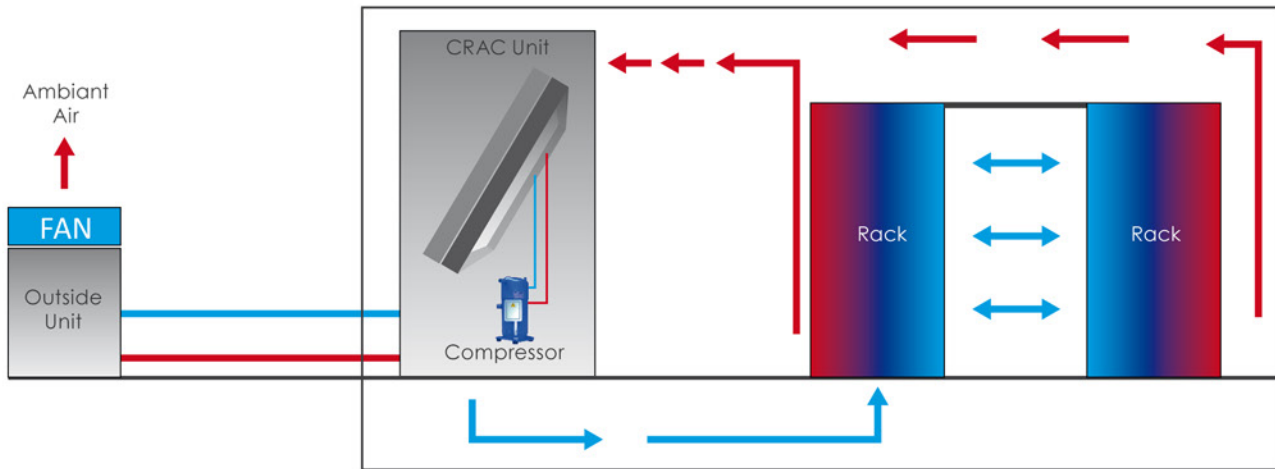
EC centrifugal fans with backward curved blade made of high performance composite material, directly coupled to a three-phase electrical rotor with IP54 protection grade, which have the possibility of a continuous regulation of the speed by means of 0-10V signal, sent and integrated to the control. The fans are fixed on suitable supports reducing the transmission of vibration to the frame and the impeller is statically and dynamically balanced with long-life bearings. Thanks to their technology, the EC fans ensure a lower electrical absorption and sound level, if compared to the traditional centrifugal fans. Adjusting their air flow to the head pressure requested on site is possible.

Chilled water coil, realized with copper tube and aluminium fins, suitably sized with a wide exchange surface and a low air crossing speed so to allow a remarkable heat exchange and reduce the pressure drops on the air side. It is provided with a hydrophilic treatment, reducing the surface tension between water and metal surface, promoting film condensation and avoiding the risk of condensing drops outside the drain tray. Condensing drain tray, made in corrosion proof stainless steel, placed underneath the evaporating coil, it is provided with a flexible pipe for condensing water discharge.

Water circuit realized with pipes entirely coated with insulated material and complete with 3-way valve with modulating control and temperature probe. Electric board in compliance with CE norms, protected by a panel is separated by the air flow.

Canovate CRAC Units have adiabatic humidity pads to adjust humidity level of incoming ambient air so that we can achieve a better and energy efficient cooling performance and spend %30 percent energy less than competitors.

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CRAC unit is cooled via compressor. There is DX-Mode , Mixed-Mode and Free Cooling Mode operation options

Application Areas

- Data center rooms
- Telecommunication
- Finance and banking
- Universities/ Schools
- Hospitals, Operating Rooms
- Laboratories
- ISP (Internet Service Providers)
- Industrial Application

CRAC						
Cooling Capacity(kW)	15	30	60	75	90	120
Nominal Air Flow (m3/h)	4479	8958,3	17916	22395	26875	35833
COP	4,03	4,3	3,92	3,41	3,6	3,8
Sound Power Level	62	64	66	66	66	67
With Adiabatic Humidify						
Cooling Capacity(kW)	16,5	35,5	71	88,5	106,5	141,5
COP	4,75	5	4,6	4,02	4,25	4,5
Compressor						
Speed (rpm)	3333	5251	5389	5113	5989	5460
Power consumption (kW)	2,718	5,464	12,09	15,68	17,7	22,92
Current (A)	13,34	7,919	33,84	15,61	27,24	59,98
Frequency (Hz)	50	50	50	50	50	50
Power supply		380-400V 3ph	200-220V 3ph	500V 3ph	380-400V 3ph	200-220V 3ph
Mass Flow (kg/h)	304,6	609,1	1218	1523	1827	2436
Dimensions						
Height(H)	2000	2000	2000	2000	2000	2000
Width(W)	1000	1500	1500	1500	2000	2500
Length(L)	870	870	870	870	870	870
Fans						
No. EC Radial Fans	1	2	2	3	3	3
Power Supply	380-480 3Ph	380-480 3Ph	380-480 3Ph	380-480 3PH	380-480 3Ph	380-480 3Ph
Power consumption (kW)	0,7	1,2	2,7	5,8	6,9	8,4