

Unit description

The indoor vertical air conditioning units RACK COOLER is an effective management system of the Hot Spots in the data center, ensuring low energy consumption and usage possibilities even under extremely high loads for HIGH DENSITY rack up and over 40 kW/m² rack. The use of EC fan systems, featuring last-generation electronic-switching brushless motors, assures excellent performance and low consumption. The Rack Cooler, coupled with the condensing water unit, combines the direct expansion system with the use of indirect free cooling water to ensure the cooling capacity required by the server with the maximum energy savings. The works in free cooling mode when the outside temperature permits using outdoor air as a source of indirect cooling, allowing the simultaneous operation between direct expansion system and water to maximize efficiency. For an easy integration in the plant, the water condensing unit fitted with plate heat exchanger, is equipped with dry cooler axial fans, circulation pump and expansion vessel. Fitted with INVERTER-DRIVEN HERMETIC SCROLL compressor for operation on R410A refrigerant, mounted on rubber vibration dampers, complete with oil charge, supplied with oil separator to ensure correct lubrication even at minimum speed, and fitted with thermal protector.

Versions

- **ENCLOSURE** - Basic, ENCLOSURE air flow configuration
- **IN-RROW** - Basic, IN-RROW air flow configuration

Features

- **EFFICIENCY**
The unit combines the efficiency of use of last EC fans generation and a direct expansion system with inverter compressor (fitted in water condensing unit) and the integration of indirect freecooling allowing a great EER value. Thanks to the adoption of inverter DC brushless compressors and the the advantages of variable air flow enabled by EC fans, these units, compared to a traditional ON/OFF compressor, can reduce by 50% consumptions at part load, and more than 60% with indirect freecooling use.
- **FLEXIBILITY**
The InRow and Enclosure versions are both arranged with hydraulic/ refrigerant connections and electric supply from top or bottom side, so as to allow a quick and easy installation in any condition, whether or not foreseen the presence of a raised floor.
- **IDM - INTEGRATED DYNAMIC MANAGEMENT OF TEMPERATURE**
The units are supplied with a new management algorithm called IDM- INTEGRAL DYNAMIC MANAGEMENT able to prevent stratification of

temperature within the rack through the use of 4 sensors (2 on the suction and 2 on the outlet) integrated and independent on the basis the real load in the single stratified BLADE work to optimize the ventilation only when required so as to maximize energy benefits. The IDM also provides the optimal management of the outlet temperatures of the treated integrating the various resources in a DYNAMIC and INTELLIGENT way.

- **MODULARITY**

These units, with their characteristics of dimensional standardization based on the rack, are ideal for all those datacentres where SCALABILITY of the system is a strategic factor.

- **COMPARTIZATION**

Perfect integration with systems that minimize the mixing hot and cold air between the aisles and that emphasize the efficiency of such systems.