Unit description

This unit is the most innovative and efficient system for managing Hot spots inside data centers, in other words, HIGH DENSITY racks up to and over 40 kW/m2 per rack. The Cooling door unit is housed at the rear of the rack and is managed by a DYNAMIC system, especially designed to handle the rack exhaust air, which SELF-ADAPTS to rack requirements. MAIN CARATTERISTICS - New generationEC fans - 42U / 48U racks adapdability - Can be supplied with with rack - Dinamic control of Air stratification - Configuration R (N+1) and T - Integration into DUAL CIRCUIT, FREECOOLING + BACK UP system - Dehumidification Less Management. WORKING MODE This unit is to be considered both as a stand alone cooling unit for the exhaust air of the single rack in the small data center as a system for managing Hot spots in large data center for integration of hot and cold aisle or compartization structures. While the cooling of RACK is delegated to the perimetral conditioning units that provide cold air 18-20° C in the cold aisle, this cooling door handles rack at higher thermal load (called HOT SPOTS) generally due to the use of modern blade servers.

Versions

- **STD** - Single chilled water coil
- **DUAL** - Double chilled water coil

Features

- EFFICIENCY
  This unit combines the efficiency of a hydronic heat extraction system with the use of last-generation electronic-switching EC fans in order to achieve EER values of over 100. The reduction in the temperature of the exhaust air allows the unit to use cooling water with higher temperatures (14-20°C). This feature prevents unwanted condensation phenomena (SHR=1) whilst

allowing just the Freecooling system to be used on external Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. chillers.

- FLEXIBILITY
  To assure quick and easy installation, the unit is fitted with flexible steel connectors on the water side and the electrical power input at the bottom. This allows the unit to be comfortably opened and closed like a normal door for access to the rack at any time and without any difficulties in wiring, servicing and expanding the servers.
- FOR EVERY KIND OF RACK
  Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. can supply the unit complete with Rack or just the unit for installation in different types of rack using a “surround” which self-adapts to every kind of rack.
- REDUNDANCY
  The unit is designed to ensure maximum reliability ´of the system through full redundancy of the cooling system guaranteed by the new DUAL version with dual power feed, dual battery and dual valve, which are completely independent; the result is the 100% back-up in conditioning system. This allows you to connect the new DUAL version from one side to a primary FREECOOLING system (Circuit 1) and the other to a chiller in total back up.
- MINIMUN FLOORSPACE OCCUPANCY
  The great advantage of the unit lies in the fact that it is installed at the back of the RACK (hot island) without occupying space that can be used for the racks, unlike other solutions which, instead, reduce the number of racks per row.
- DYNAMIC RACK CONTROL
  Optimal control of temperature stratification depending on the load of individual BLADES using 4 independent temperature probes connected to the 4 fans operating in the MODULATING and INDEPENDENT modes.
- MODULARITY
  As these units must ONLY cater for the T° GRADIENT, they are required to dissipate much less heat than local conditioning units (in the row) and therefore, unlike the latter, they never risk having a limited cooling capacity.
- COMPARTIZATION
  Perfect integration with compartization systems as, being installed on the hot island, they do not require an entrance in the cold corridor for maintenance.
- INTEGRATION
  INTEGRATION with all the HYDRONIC products in the Mitsubishi Electric Hydronics & IT Cooling Systems S.p.A. range via supervision software.