

OVERVIEW

Designed to address the needs of rack-mounted systems in data center environments, M-Series dramatically decreases power consumption per server and increases processing capacity without the installation of additional forced air systems. By removing the heat from servers, and rejecting it completely from the facility, the closed-loop liquid-cooling system of the SprayCool M-Series offers significant cost and energy savings in densely populated data centers.

HOW IT WORKS

M-Series is a rack-level solution that supports SprayCool EnhancED™ servers from major manufacturers. Each SprayCooled™ server contains SprayModule™ Kits which replace the traditional heat sinks. Each kit consists of a SprayModule which attaches to the processor using existing mounting hardware and can be installed and removed individually. Flexible tubing and quick-connect fluid couplings connect each server to the M-Series I/O manifold. The manifold system will support any EIA standard rack up to 42U in height and is adaptable for 1U, 2U and 3U servers.

Inside the SprayModule, a fine mist of coolant is sprayed onto the processor contact area resulting in an evaporative cooling effect. The vapor and any excess coolant are then captured and the heat is rejected as it circulates through a heat exchanger in the Thermal Server. The Thermal Server is a 4U unit located in the bottom of the rack that supplies SprayCoolant™ to the I/O Manifold and accepts return liquid and vapor.

Individual servers may be removed or pulled for maintenance while the system is operational without affecting SprayCool system operation or other servers in the rack.

BUSINESS BENEFITS

- 99.99% uptime for cooling system
- Plug & play ease of serviceability
- Modular design allows for server flexibility
- Solve power and cooling problems with high density computing
- Increased computing power in data centers
- Fully populated server racks without a significant increase in heat load
- Reduced floor space required for cooling equipment
- Decreased power costs per server
- Revolutionized design, construction, and operation of data centers
- Decreased server failure due to heat damage



TECHNICAL SPECS

PHYSICAL FEATURES

DIMENSIONS	2000mm H x 600mm W x 1050mm D
WEIGHT	275lbs (M-SERIES AND RACK, EXCLUDING SERVERS)
CAPACITY	Holds up to 36 1U servers. Adaptable for 2U & 3U servers and blade servers.
POWER REQUIRED	Requires less than 200W to run cooling system per rack
COOLING CAPACITY	Reduces air cooling requirements per server by about 45%
RELIABILITY	99.99% uptime for cooling system. Redundant, hot-swappable pumps are standard. SprayCoolant™ guaranteed not to damage electronics.

SPRAYCOOLANT™

SprayCool™ technology uses a non-conductive, non-corrosive liquid in its closed-loop system and is guaranteed not to damage your electronic hardware.

M-SERIES SYSTEMS MANAGER

The SprayCool M-Series installation includes Systems Manager software, responsible for monitoring and controlling M-Series system performance. The System Manager is linked to servers in the rack to monitor critical information, e.g. processor temperatures. A Graphical User Interface (GUI) displays several views available to the operator such as M-Series Thermal Server status, node status, cluster status, and associated graphs. The software integrates into all major network and facility management software.

SERVERS SUPPORTED*

DELL	HP	IBM
PowerEdge	Proliant DL	X-Series
PE 1850	DL140	x326
PE 1950	DL145	x336
PE 2850	DL360	
PE 2950		
PE 1425		

* Call for other server models and manufacturers

