

FEATURES

- Meets demanding environmental requirements of MIL-STD-810F
- EMI per MIL-STD-461,462
- Sealed construction prevents moisture and dust contamination
- Open system architecture for 6U x 160mm VME or cPCI
- Customer specified I/O, backplane and power supply
- Optional dry bay for removable mass storage or network device
- No air filters or other frequent maintenance items
- Fins on enclosure provide cooling capacity without heat exchanger
- Reconfigurable 4, 8, and 11 slots
- Front and rear access panels
- Shock isolation
- Wash-down cleaning of the exterior during operation



OVERVIEW

The SprayCool Enclosure meets the harshest requirements for ground mobile applications, protecting high performance electronics from salt spray, dust, ballistic shock, nuclear and biological contamination and many other environmental threats. The enclosure will not only keep electronics cool and protected from the environment, they also pre-heat electronics to provide operation over a broad temperature range of -40°C to 60°C. For these reasons, SprayCool enclosures are being used for a variety of advanced command, control and electronics applications where high performance electronics, harsh environments and size, weight and power constraints are simultaneously required. Enclosures are available in four, eight and eleven slot 6U (10.5") x 160mm configurations for cPCI and VME64X. System integrators have the flexibility to define I/O, backplane, form factor, power supply, integrated or remote heat exchanger and shock isolation method to meet their specific application needs.

SprayCool Enclosures are high performance, small, lightweight and rugged enclosures that can operate with or without a supplemental heat exchanger.



CAPABILITIES

- Light weight – meets payload requirements of an armored HMMWV/JLTV
- COTS deployed in hostile environments with severe vibration requirements
- Remote network node in unmanned environments
- Vehicle applications without Rigid Wall Shelter
- Proven on-the-move operation using vehicle power
- Tent applications without HVAC
- Below ground applications (buried)
- Unsheltered Navy applications utilizing COTS electronics
- Low altitude (below 40,000 ft)
- Sealed enclosure providing maximum protection against contamination
- Finned enclosure rejects heat to ambient without additional heat exchanger

GENERAL SPECIFICATIONS

- Configurations: 4, 8 or 11 user slots, 6U x 160mm x 0.8"
- Size: 12.3"L x 15"W x 15"H (11 user slot unit)
- Cooling Capacity: 400W (w/o heat exchanger)
- Cooling Capacity: 1000W (w/ heat exchanger)
- Storage Temperature: -40° to 85°C
- Operating Temperature: -40° to 60°C
- Reliability: 10,000 hours MTBF
- Power Consumption: 80W maximum (for cooling system)
- Input Power: MIL-STD-704 and 1275B
- Weight: 52 lbs (11 user slot enclosure with cooling system)
- Backplanes: cPCI, VME64X or RACE++
- Environmental: Exceeds humidity, salt fog, fungus, thermal shock, sand, and dust requirements of VITA 47



OPTIONAL ACCESSORIES

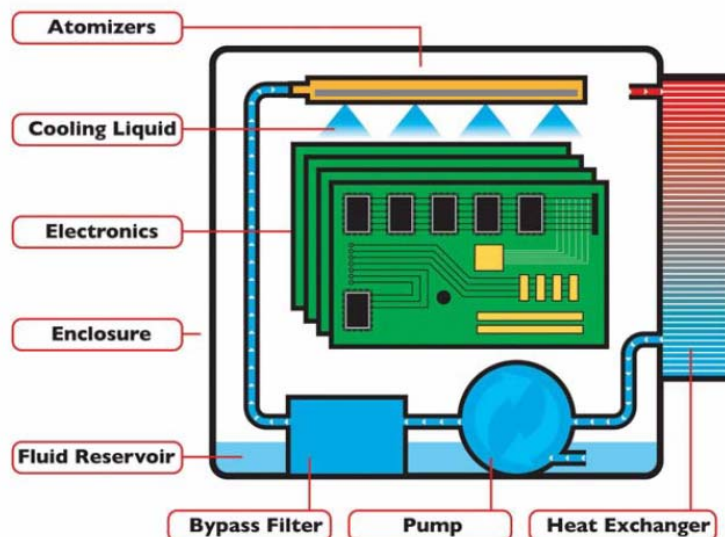
- Custom backplane can accommodate any configuration of power supply or system slots
- Attitude Independent (AI) valves can be customized to adhere to requirements of platform (the need for inverted operation)
- Custom I/O panel
- Fluid fill and drain system
- Fluid heaters (extreme cold operation)
- Operational redundancy (n+1) electronics

OPTIONAL SERVICES

- Design for Support (Acquisition Logistics/Logistics Engineering)
- DoD Logistics Service
- SprayCool Education and Training Services
- Technical Assistance Center (TAC)
- Depot repair and Reverse Logistics capabilities

HOW SPRAYCOOL™ TECHNOLOGY WORKS

A non-conductive and non-corrosive coolant is atomized and sprayed directly onto electronics to provide cooling. The coolant vaporizes and heat is rejected to the enclosure and/or through a heat exchanger, condensing the vapor back into a liquid state. The process continuously cycles within a closed loop sealed enclosure that prevents corrosive environmental contamination from harming sensitive electronics.



SPRAYCOOL™ BENEFITS

- Increased processor density
- Reduced overall system size & weight
- Protects electronics from harsh environments like dirt, salt, water, and sand.
- Energy savings due to increased cooling efficiency
- Reduced noise levels
- Effective EMI and RFI shielding
- Self-cleaning system with flexible service options
- Ability to pre-heat electronics for cold temperature applications