

DATA SHEET

M9 ACE, NBC Microclimate Cooling System Model 3176



01 Description

The model 3176 Microclimate Cooling System (MCS) is a self-contained Vapor Cycle System (VCS) that cools and ventilates the MOPP IV NBC protective Vest and face mask of the operator of the armored tracked combat engineering vehicle, the M9 Earthmover.

The VCS is positioned directly behind the Operator's compartment in order to facilitate the necessary electrical and air flow connections. Operational mode selection and control is provided by a remote console located within the Operators' compartment and provides both heat, ventilation or cooling while maintaining NBC and environmental protection.

The MCS is designed to MIL-STD-810 and is thus able to withstand the tracked vehicle's severe shock and vibration. The Centricip main ambient air intake filter provides up to 96% dust efficiency for cooling and condenser heat sink air.

Meggitt Defense Systems is currently in production and is also providing repair and engineering support services to TACOM and other M9ACE prime contractors.

Meggitt Defense Systems is proud to be part of the M9 ACE program. With over 120 units fielded, the MCS has proven itself for many years and takes second place to no one for dependability and ruggedness.

02 Key features and benefits

- Provides for operator thermal/nbc protection
- Uses environmentally friendly refrigerant
- Complies with AR70-71 and NBC contamination survivability methodology
- M12/M13 gas and particulate filters
- Easy filter removal and replacement at unit maintenance level
- Advanced NBC/crew cooling vapor cycle system
- Currently under production
- Fielded with proven performance

03 Applications

M9 Earthmover

04 Contact

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05 Specifications

Capacity	600 watts cooling
Fluid	R-134a refrigerant
Input voltage	28Vdc Nominal
Power consumption	65 AMPS
Air circuit flow rate	13 scfm at 6 in. of water, static pressure rise external to unit in cool and vent mode; 4 scfm at 3 in. of water, static pressure rise external to unit in heat mode.
Air delivered temperature	Cool Mode 60° F in a 140° F/3% relative humidity ambient Vent mode 13 scfm of ambient air Heat mode 85° F in a 25°F ambient
Environmental conditions	Sea level to 10,000 ft., 25° F to 150° F ambient; shock at 40 Gs per MIL-STD-810E; method 516.4, procedure I Vibration per MIL-STD-810E, method 514.4, procedure I, category 8 EMI, humidity, salt, fog, sand, dust, and fungus.
Weight	140 lbs

06 Outline details
