

Model 3212 Thermal Management System (TMS)TM

In production for
General Dynamics Land Systems

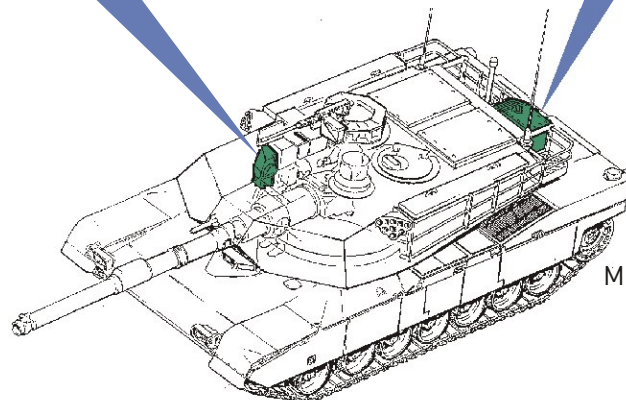
TMS is a registered Trademark of
General Dynamics Land Systems



AIR
HANDLING
UNIT (AHU)



VAPOR
COMPRESSION
SYSTEM UNIT
(VCSU)



M1A2 SEP ABRAMS TANK

Description

Under contract with General Dynamics Land Systems, Meggitt Defense Systems is producing the Model 3212 Thermal Management System (TMS)TM in the M1A2-SEP (System Enhancement Package) Abrams Tank.

The TMSTM is designed to remove the excess heat produced by modern electronic equipment employed in today's ground combat systems. The TMSTM ensures that combat performance is not degraded due to heat stress.

The modular design was developed to maximize the flexibility of the TMSTM and to limit its intrusion into the fighting compartment. A Vapor Compression System Unit (VCSU), which houses the hydraulically driven refrigeration equipment, is mounted in an armored container located in the left corner of the turret bustle

rack. The VCSU connects to the Air Handling Unit (AHU) by armor-protected tubes that deliver cooled propylene glycol and water. The AHU in turn provides more than two tons of cooling via a bulk air discharge into the crew compartment.

Designed for the M1A2 SEP Tank, the TMSTM is readily adapted to other ground combat systems. The system's VCSU and AHU units are linked only by the power supply, electronic controls, and the propylene glycol-water cooling fluid. The reconfiguration of the modular units to meet space and power requirements, and method of heat extraction, provides the inherent design flexibility to meet the design and performance demands of the Abrams Tank as well as most other ground combat manned and future unmanned vehicles.

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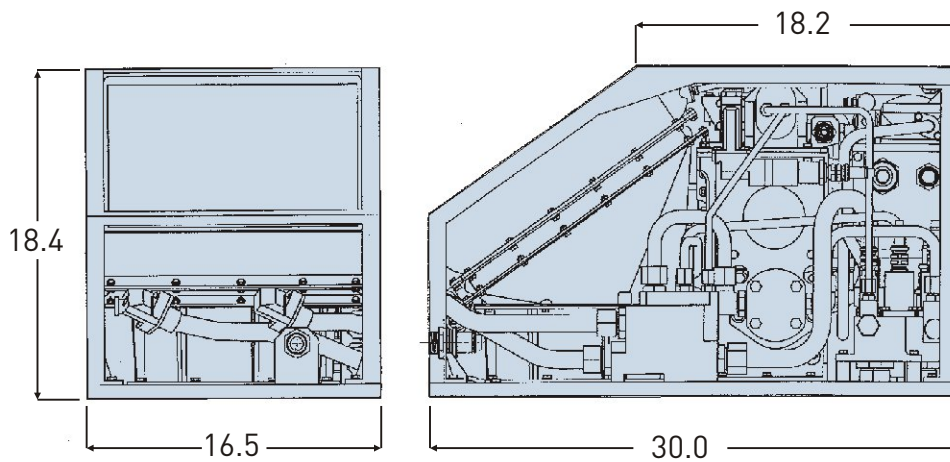
Significant Features

- Modular Design Adaptable to other Platforms
- Provides up to 7.5Kw (25,600 BTU/HR) Cooling Capacity
- Closed Loop R134a Refrigerant
- Cooled Propylene Glycol - Water provides for Macro (Micro) Cooling
- Hydraulically Powered, Electronically Controlled
- Automatic Catastrophic Hydraulic Leak Protection
- Quick Disconnects for Ease of Maintenance
- Built-in Test (BIT) for Crew Maintenance
- NBC Hardened

Benefits:

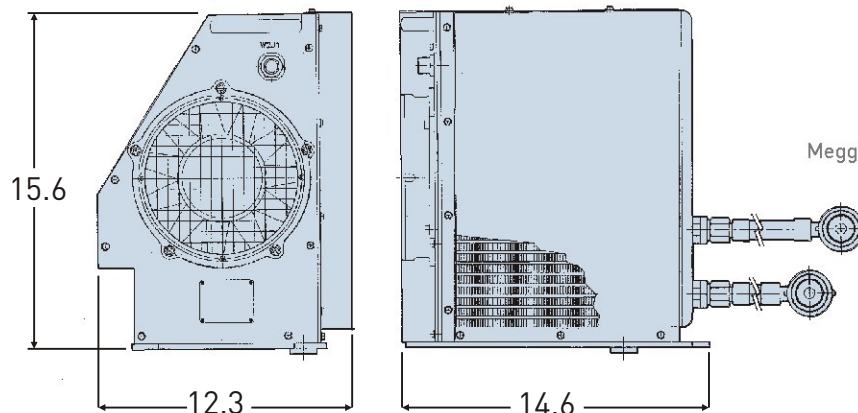
- Cooler Touch Panels and Electronics
- Increased Equipment Reliability
- Improved Crew Fightability
- Greater Tank Sustainability

TECHNICAL SPECIFICATIONS



VAPOR COMPRESSION SYSTEM UNIT (VCSU)

AIR HANDLING UNIT (AHU)



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extreme environments