



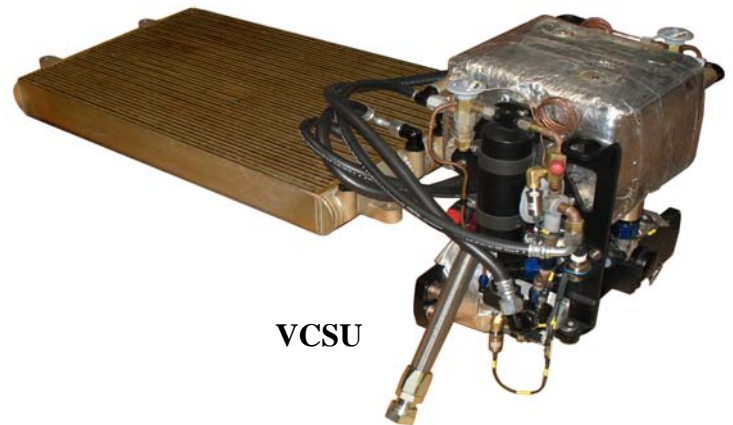
FCS MGV



AHU

KEY FEATURES:

- 700 CFM Inlet Air Flow (AHU)
- 8 kW Net Heating Capacity (AHU)
- 40 kW Net Cooling Capacity (VCSU)
- 4.31 kg/sec Condenser airflow (VCSU)



VCSU

GENERAL PRODUCT DESCRIPTION:

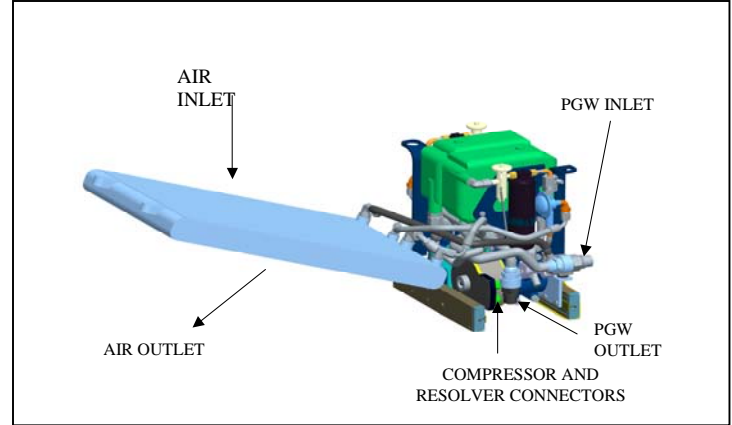
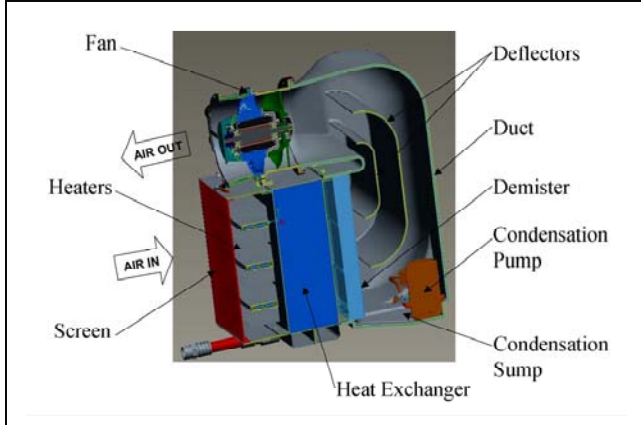
The MLS Air Handling Unit (AHU) is designed to provide heating and cooling to the crew of the Manned Ground Vehicle portion of the Future Combat Systems (FCS) program, currently under a contract with General Dynamics Land Systems. The AHU is designed to provide heated or cooled air as part of an integrated environmental control system. The system provides up to 6.3kW of cooling capacity or 8 kW of heating capacity with a flow rate of up to 700CFM.

Air-cooling is provided by the use of a liquid to air heat exchanger using chilled Polyethylene Glycol/Water (PGW) as the working fluid. The PGW is chilled by the Vapor Compression System Unit (VCSU), and is distributed in the vehicle through Air Handling Unit (AHU). Air heating is provided through the use of electric resistive elements.

An electrically driven fan pulls incoming air through the heating

elements and heat exchanger. The air is then turned 180 degrees through a duct assembly with integral air deflectors where it is then discharged through the fan assembly.

Under the current contract MLS is delivering the units to GDLS for integration and testing.



Overall AHU Specifications:

| | |
|--------------------------------------|-----------------------|
| Exterior Dimensions (L x W x H)..... | 350mm x 480mm x 395mm |
| Gross Weight | 59 Kg |
| Net cooling capacity | 6.3 kW @ 30 C° |
| Net heating capacity | 8.0 kW |
| Inlet air flow | 700 CFM |
| PGW flow rate | 20 liters/min |
| PGW proof pressure..... | 1034 kPa (150 PSI) |
| PGW burst pressure | 1723 kPa (250 PSI) |

Overall VCSU Specifications:

| | |
|--------------------------------------|----------------------------|
| Exterior Dimensions (L x W x H)..... | 585mm x 520mm x 340mm |
| Exterior Dimensions Condenser | 863 (core) x 559 x 76.2 mm |
| Condenser Total length | 940 mm |
| Gross Weight | 130 Kg |
| Net Cooling capacity | 40 kW |
| Motor Type | Brushless DC 600V |
| Compressor | Scroll type automotive |
| Refrigerant Type..... | R-134a |
| Condenser airflow | 4.31 kg/sec |

Operating Parameters:

| | |
|-------------------------|------------------------|
| Temperature (AHU)..... | -32 °C to 49 °C |
| Temperature (VCSU)..... | -32 °C to 49 °C |
| Altitude | Sea level up to 10,000 |