MICRO VAPOR CYCLE SYSTEM

Thermal Management Solutions for Defense Platforms

Honeywell

MICRO VAPOR CYCLE SYSTEM (VCS)

Providing unparalleled thermal management keeping motors, batteries, avionics, and other systems cool regardless of mission and environment.

The Honeywell Micro VCS is our most advanced, compact cooling system designed for a wide range of military platforms, including aircraft, ground vehicles, and naval vessels required to operate under demanding environments.

It's based on vapor cycle technology, an efficient method for air conditioning and temperature control in aerospace applications.

STRONG LEGACY. RELENTLESS INNOVATION.

Honeywell takes immense pride in being a relentless innovator, consistently breaking new ground in technology to offer state-of-the-art solutions that drive progress and revolutionize industries worldwide. The Honeywell Micro VCS exemplifies this unwavering commitment, providing outstanding temperature management and providing the exact environment in essential spaces like aircraft cabins, cockpits, and other areas.

Two key advances include:

- Low Maintenance and Eco-friendly:
  - High-speed, oil-free centrifugal compressor, significantly reducing maintenance and operational costs.
  - Incorporates newest certified environment-friendly refrigerant. Honeywell's (R-1233zd) Solstice ZD refrigerant is a next generation, environmentally friendly refrigerant. It is non-flammable, non-toxic, non-ozone-depleting and is more thermally efficient than R-134a.
- System Compatibility: compatible with 270-900 VDC power input or 115/230 VAC with converters.

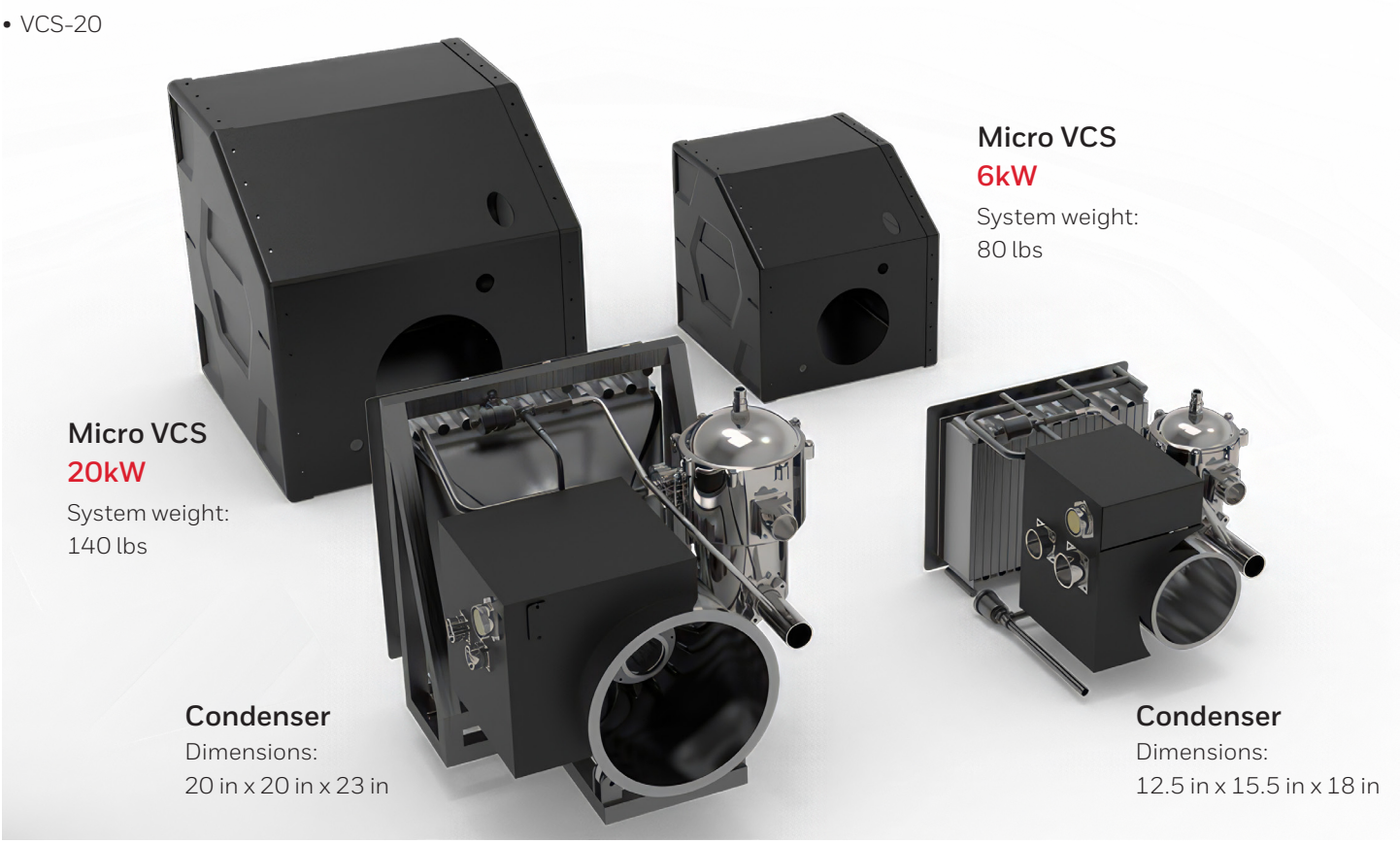
KEY FEATURES AND BENEFITS:

- **Light & Compact:** up to 35 percent lighter. The small size and lightweight nature of the Micro VCS make it an ideal choice for defense platforms, where weight and space constraints are critical factors.
- **Easy Integration:** can be easily integrated into various defense platform types, making it a versatile solution for a wide range of applications.
- **Low Maintenance:** highly reliable and virtually maintenance free, thanks to its unique oil-free technology and small number of moving parts, resulting in low total cost of ownership.
- **Improved System Performance:** By maintaining optimal operating temperatures for electronics and avionics systems, the Micro VCS ensures that these components perform at their peak efficiency, reducing the risk of system failures or malfunctions.
- **Enhanced Mission Endurance:** vapor cycle systems are known for their energy efficiency, as they require less power to provide the necessary level of cooling compared to other types of cooling systems.
  - 20 percent more efficient than conventional vapor cycle systems with comparable cooling capacity. Variable speed compressors maximize power efficiency – speed matched to capacity demand.
  - Precise cooling helps reduce power consumption of the aircraft systems, which in turn can extend the battery life and overall mission endurance.
- **Reduced Thermal Signature:** efficient cooling enables the thermal signature of the aircraft to be minimized, making it less detectable by enemy sensors and improving its stealth capabilities.
- **Increased Reliability:** The rugged design ensures that it can withstand the harsh conditions often encountered during critical missions, such as high altitudes, temperature extremes, and vibration.

SCALED TO MEET YOUR NEEDS

Three (3) variants offer efficient cooling for 6-20 kilowatts:

- VCS-6
- VCS-10
- VCS-20



PRODUCT DETAILS	
Motor Controller	• Sensor-less rotor position technique. • Air-cooled, silicon-carbide power electronics. • Mature architecture & components.
Compressor	• 2-stage, 70,000 RPM • 7” diameter x 10” long, 14 lbs. • Maintenance free & oil-less
Installation Design	• 2 Subassemblies • Comp/Cond: 20 x 20 x 23 in. • Evaporator: 12 x 12 x 16 in • Integrated into fan housing; air cooled

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