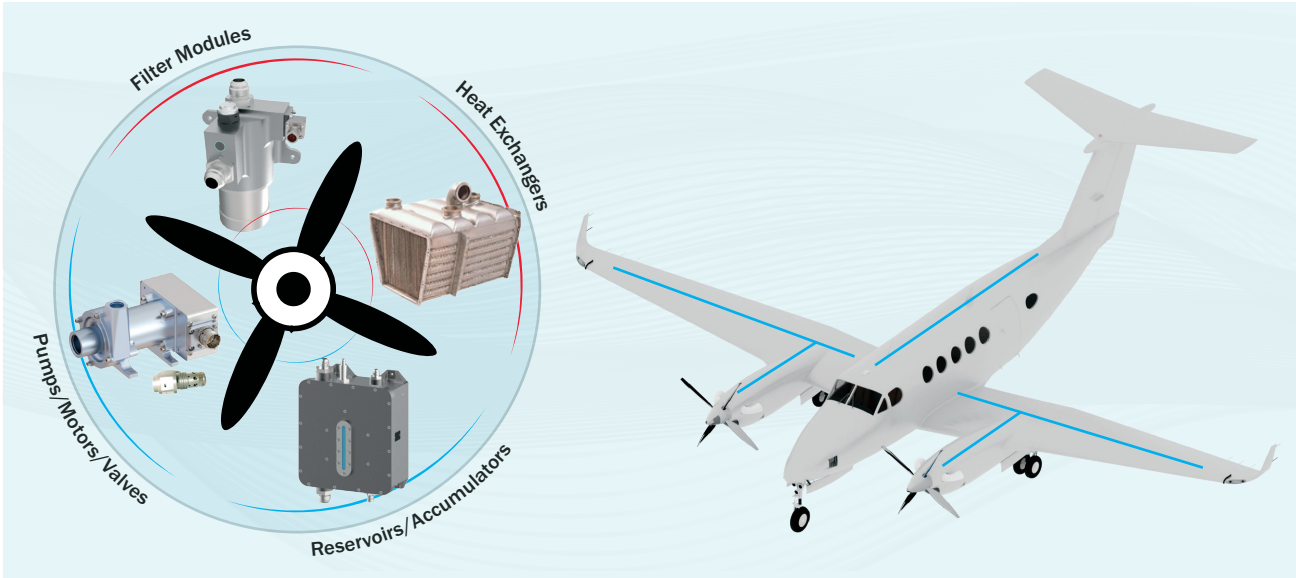


# Thermal Management Solutions

**HIGH HEAT. CRANE COOLED.**

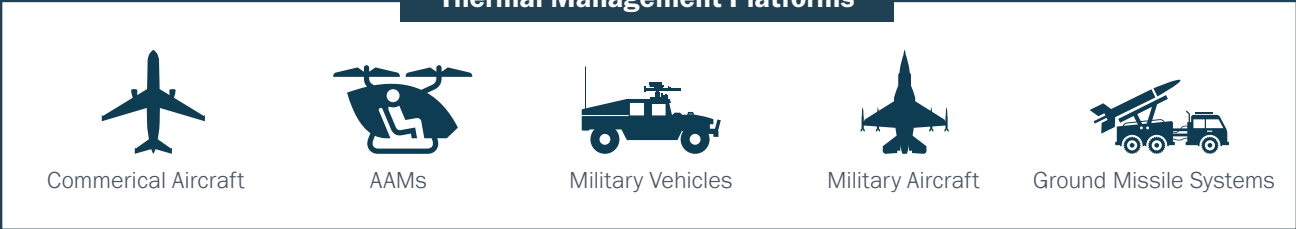


### Key Capabilities

- Rapidly configurable and custom designed, high reliable liquid cooling system components
- Motor-driven pumps, tanks, reservoirs, accumulators, heat exchangers, valves and filter modules
- High heat removal for harsh electronic environments
- Over 100 years of Fluid Management expertise

For more than a century, Crane Aerospace & Electronics' Fluid Management solution has designed and manufactured fluid products for aerospace & defense applications. Crane A&E's liquid cooling solutions are proven and trusted industry wide. Today, everything from all-electric aircraft to military electric vehicles feature high power electronics that need efficient thermal management systems. Crane A&E is pleased to offer a variety of highly reliable fluid products to meet a customer's thermal management needs.

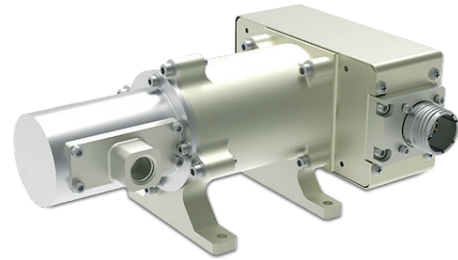
### Thermal Management Platforms



### Liquid Cooling Pumps

Crane A&E's positive displacement and centrifugal pumps are rapidly configurable or custom designed to meet a customer's liquid cooling needs. Our brushless DC motor-driven pumps, offered in a wide range of voltages up to 15kW, are perfect for any thermal management system.

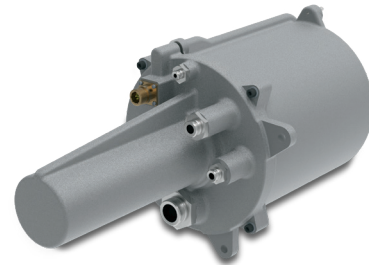
- Gearbox driven
- Hydraulic motor driven
- 400 Hz fixed frequency AC
- 28 VDC brush and brushless
- 270/540/600/800 VDC brushless



### Tanks, Reservoirs, Accumulators, Heat Exchangers

Crane A&E provides rapidly configurable or custom designed reservoirs, tanks, accumulators and heat exchangers to best match a customer's needs. Our products are optimized for peak system performance and have proven reliability in harsh aerospace & defense environments.

- Accommodates fluid expansion and contraction
- Fill or drain features
- Temperature and volume sensing
- Thermal relief valve



### Filter Modules, Valves

Crane A&E offers a wide variety of rapidly configurable or custom designed filter modules and valves. Our industry-leading fluid management products are cost-effective and excel in harsh aerospace & defense environments.

- Pressure relief, bypass valves for system/pump protection
- Pressure regulation valves for flow/pressure control
- Check valves for system/pump fluid isolation
- Ports for customer sensors



### Learn More



Visit [www.craneae.com/fluid-management-thermal-management-solutions](http://www.craneae.com/fluid-management-thermal-management-solutions)

### Contact Us

Seamus O'Brien  
seamus.obrien@craneae.com  
+1 (440) 463-5977

Brian Komar  
brian.komar@craneae.com  
+1 (440) 610-4504

Crane Aerospace & Electronics - Fluid Management [www.craneae.com/fluid-management-thermal-management-solutions](http://www.craneae.com/fluid-management-thermal-management-solutions)

ELDEC • Hydro-Aire • Interpoint • Lear Romec • Merrimac • P.L. Porter • Polyflon • Signal Technology

241 South Abbe Rd. • Elyria, OH 44035 • phone +1. 440.323.3211 • email: [info@craneae.com](mailto:info@craneae.com)