

NEWSPACE MARKET · COMPANY PROFILE



Thermavant

United States · founded 2007 · thermavant.com

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PRODUCTS

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as of 20 August 2026

Thermavant

ThermAvant Technologies is a US thermal management company manufacturing oscillating heat pipe (OHP) solutions for aerospace, defence, and high-tech industries requiring highly reliable thermal control systems. The company's product line includes OHP-based heat frames, chassis systems, space radiators, and cold plates engineered for mission-critical applications in space environments, airborne platforms, and high-temperature electronics cooling, providing passive two-phase thermal management with no moving parts and extreme reliability. ThermAvant's oscillating heat pipe technology offers superior thermal spreading performance compared to conventional heat pipes, serving spacecraft manufacturers, defence contractors, and avionics integrators requiring high-performance, lightweight, passive thermal management for harsh environments. Founded in 2007 by Dr. Bill Ma, Dr. Bin Wu, and Joe Boswell, ThermAvant filed its first OHP patent that year and received its first National Science Foundation grant in 2009. In 2017 the company delivered OHP thermal straps for the AFRL-led ASETS-II spaceflight experiment, which operated successfully aboard the X-37B space plane for 780 days, and has since grown its aerospace and defense OHP sales by more than 50% per year. ThermAvant is the first and only AS9100/ISO9001-certified manufacturer of oscillating heat pipe thermal solutions, operating a 33,000 sq ft vertically integrated design, manufacturing, and test facility in Columbia, Missouri, and has co-developed OHP-based spacecraft thermal control systems with customers such as Albedo. Its oscillating heat pipes have surpassed 10 million on-orbit operating hours and serve 11 of the top 18 U.S. defense contractors.

This profile is generated from the live NewSpace Market catalogue. Specifications are as published by the manufacturer; every product links to a page where a request for quotation reaches the company directly.

SERVICES

Services

Analytical Services

ThermAvant offers analytical services including calculators for hot spots, OHP operating limits, thermal conductance, fluid selection, and experimental results.

Design Services

ThermAvant works with businesses and agencies to design, analyze, fabricate, and/or test custom thermal solutions to meet their challenging requirements.

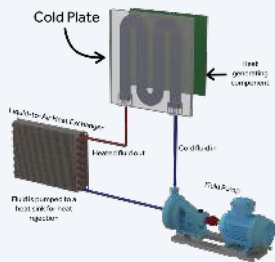
Software services

ThermAvant utilizes various software for design, analysis, and manufacturing, including CAD, FEA, CFD, CAM, and PCB development tools.

Thermal-mechanical testing

ThermAvant performs empirical verification of designs' powers, temperatures, flow rates, and structural integrity in simulated real-world environments.

Product catalogue



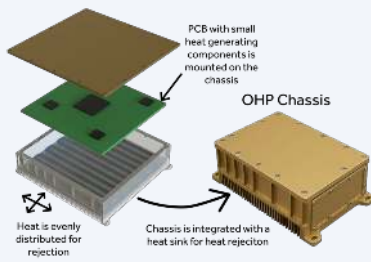
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Cold Plates

Single- and two-phase pumped fluid cold plates for high-power electronics, from simple welded and inlaid-tube designs to complex brazed microchannel plates, optionally combined with

Materials	Al and Al composites (0 to T6 temper, most common); Cu and Cu composites incl. Copper-Moly
Working fluids	Deionized water (with corrosion inhibitors and internal channel chem film); EGW; PGW; PAO
Heat flux capability	Up to 50 W/cm ² (higher when integrated with an oscillating heat pipe)
Operating temperature range	Fluid-dependent, from cryogenic to traditional electronics-cooling temperatures to interme
Shapes and sizes	From less than 1 mm thickness up to 2 m length; customizable widths from < 2 cm to > 1 m;
Platings and coatings	Chemical conversion coating and anodization
Typical lead time	As short as 4 weeks for recurring hardware; 4-6 months for custom new builds/first unit de

price on request



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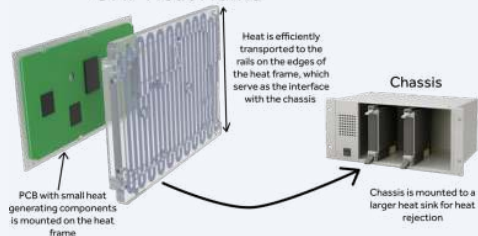
OHP Chassis

Oscillating heat pipe (OHP) embedded electronics chassis and enclosures that structurally house circuit cards, RF modules, and Li-ion cells while conducting heat directly to space

Simple chassis example thermal performance (OHP)	11 °C rise per 120 W
Simple chassis example thermal performance (solid Al)	35 °C rise per 120 W (3.2x worse than OHP)
Simple chassis example mass (OHP)	995 g
Simple chassis example mass (solid Al)	1,049 g (1.1x worse than OHP)
Simple chassis shape & structure	Al 6061 T4/T6, approx. 12" x 8" x 1.0" thick, min. 0.1" thickness at center
Simple chassis temperature range	-20 °C to +75 °C
Complex chassis example thermal performance (OHP)	5 °C rise per 150 W

price on request

OHP Heat Frame



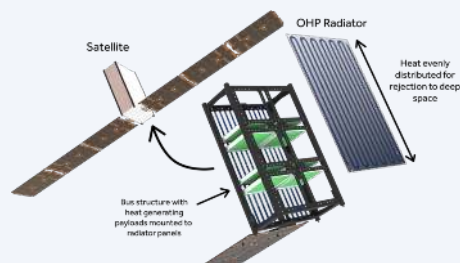
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OHP Heat Frames

Oscillating heat pipe (OHP) embedded structural heat frames for VPX/VITA circuit cards and RF/power electronics, offering up to 3x-5x the thermal conductance of solid aluminum with

3U example thermal performance (OHP)	10 °C rise per 130 W
3U example thermal performance (solid Al)	30 °C rise per 130 W (3x worse than OHP)
3U example thermal performance (solid Cu)	14 °C rise per 130 W (1.4x worse than OHP)
3U example mass	135 g (Al 6061 T4 w/ ChemFilm)
3U shape & structure	Standard VITA 3U (~3.9" x 5.9"), min. thickness 0.06", equipped with COTS wedgelocks
3U temperature range	-55 °C to +95 °C
6U example thermal performance (OHP)	5 °C rise per 110 W

price on request



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OHP Radiators

Oscillating heat pipe (OHP) embedded spacecraft radiators and structural panels for on-orbit waste-heat rejection, delivering up to 9x higher thermal conductance and 40% lower dens

Simple radiator example thermal performance (OHP)	2 °C rise per 150 W
Simple radiator example thermal performance (solid Al)	18 °C rise per 150 W (9x worse than OHP)
Simple radiator effective density (OHP)	1.6 g/cm ³ (Al 6061 T4 w/ selective coating)
Simple radiator effective density (solid Al)	2.7 g/cm ³ (1.7x worse than OHP)
Simple radiator shape & size	Al 6061 T4, approx. 19" x 19" x 0.04-0.16" thick (variable thickness)
Simple radiator temperature range	-20 °C to +100 °C
Complex (lunar rover) radiator thermal performance (OHP)	1 °C per 20 W (e.g. 6 °C / 125 W)

price on request

Contact Thermavant

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

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