

NEWSPACE MARKET · COMPANY PROFILE



Neumann Space

Australia · neumannspace.com

2

PRODUCTS

5

SERVICES

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as of 20 August 2026

Neumann Space

Neumann Space is an Adelaide, South Australia-based electric propulsion company developing the Neumann Drive — an innovative cathodic arc thruster that uses solid metal propellant, with magnesium as the primary fuel. Unlike conventional ion thrusters that require gaseous propellant tanks, the Neumann Drive operates by vaporizing solid metal rods through electrical arcs, making the system simpler, safer, and more compact. The Neumann Drive offers high specific impulse (Isp) competitive with conventional ion propulsion, while eliminating the pressurized propellant storage systems that add complexity, mass, and risk to spacecraft propulsion. The technology was invented by Dr. Patrick Neumann during his PhD research at the University of Sydney and has been independently verified to achieve record-breaking Isp values. Neumann Space has demonstrated its technology on Earth and is developing flight-ready versions for commercial small satellites, targeting constellation operators, LEO Earth observation missions, and government spacecraft requiring efficient, reliable propulsion for orbit raising, maintenance, and deorbit. The company is part of Australia's growing commercial space sector.

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

Mission Capability Optimization Neumann Space optimizes critical mission capability by offering an efficient and scalable in-space electric propulsion system.	Pre-launch Integration The company pre-loads inert, solid propellant during unit integration, removing pre-launch propellant loading risks and costs.
Propulsion Integration Design The company's system design simplifies integration, reducing spacecraft design costs for customers.	Regulatory & Logistics Support The company's non-hazardous propellant simplifies transport, storage, and launch safety clearance for customers.
Tests & Integration The company offers simple and safe unit testing and integration campaigns for its solid-state propulsion systems.	

Product catalogue



NEUMANN SPACE

ND-25TC Neumann Drive — Low-Power Nanosatellite Thruster

Neumann Space's ND-25TC is a 14 W, 1.9 kg solid-metal-propellant pulsed cathodic arc thruster for nanosatellites: 880+ Ns total impulse, 1,800–2,000 s Isp, sharing the same propell

Thruster type	Centre-Triggered Pulsed Cathodic Arc Thruster (CT-PCAT)
Max input power	~14 W
Total wet mass	~1.9 kg
Total impulse	≥880 Ns
Max pulse frequency	~83 mHz
Specific impulse (Isp)	1,800–2,000 s
Propellant	Solid metal rod (molybdenum standard; also Mg, Ti, V, Al, C)

price on request



NEUMANN SPACE

ND-50 Neumann Drive — Pulsed Cathodic Arc Thruster

Neumann Space's ND-50 is a solid-metal-propellant pulsed cathodic arc thruster: 50 W max power, 1,400–2,000 s Isp, 1.4 kg total mass, 100 × 96 × 96 mm, TRL 8–9 with flight heritage

Thruster type	Centre-Triggered Pulsed Cathodic Arc Thruster (CT-PCAT)
Max input power	50 W
Specific impulse (Isp)	1,400–2,000 s (operational); up to ~14,690 s (laboratory, magnesium)
Thrust efficiency	~20 μN/W
Estimated peak thrust	~1 mN at 50 W
Total wet mass	1.4 kg
Dimensions	100 × 96 × 96 mm

flight proven · TRL 9 price on request

Contact Neumann Space

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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