

NEWSPACE MARKET · COMPANY PROFILE



EXA (Astro-und Feinwerktechnik)

Germany · founded 1993 · astrofein.com/en

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as of 20 August 2026



EXA (Astro-und Feinwerktechnik)

Astro- und Feinwerktechnik Adlershof GmbH (ASTROFEIN) is a German aerospace manufacturer based in Berlin-Adlershof, officially launched on 12 October 1993 as a spin-off from the German Aerospace Center (DLR). Starting as a five-person precision engineering company, ASTROFEIN has grown into a recognized, certified (DIN EN ISO 9001:2015 and DIN EN 9100:2018) supplier of space components and systems, now employing around 85 people across engineering, manufacturing, and quality assurance. The company's product portfolio centers on actuators for small-satellite attitude and orbit control systems (AOCS) — including a wide range of reaction wheels from the RW1 up to the RW6000 — as well as ejection mechanisms for CubeSats under the ASTROFEIN PicoSatellite Launcher (PSL) product line, available from PSL1U up to PSL16U. ASTROFEIN is considered one of the world market leaders in reaction wheels and has been described by a customer as "the Ferrari among deployers" for its patented modular launcher design. Beyond actuators and deployers, ASTROFEIN develops additional AOCS components such as gyro systems, GPS receivers, and magnetometers, along with the ASTROFEIN ACS Test Stand for attitude control system testing and qualification of small satellites and microsatellite buses. The company offers full in-house capability across engineering, manufacturing, and environmental simulation/qualification testing, and has contributed system integration work to missions such as TET and BIROS. ASTROFEIN's customers and partners include Airbus, DLR, OHB, Jena-Optronik, Spaceflight Inc., and Nanoracks, reflecting its position as an established supplier within the European and international small-satellite supply chain.

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

Aerospace Engineering Services

ASTROFEIN provides comprehensive engineering services, including design, system, software, electrical, thermal, and structural engineering, for complex aerospace projects.

Design Engineering

ASTROFEIN specializes in space engineering, developing and designing parts, components, and devices for commercial and scientific payloads, from prototypes to flight patterns.

Software Engineering

ASTROFEIN's software team develops firmware for embedded systems, programming microcontrollers and FPGAs, and creating support tools in close collaboration with customers.

System Engineering

ASTROFEIN's system engineers manage the technical coordination of satellite component and subsystem development, overseeing the entire development cycle from requirements to verification.

Thermal and Structure Engineering

ASTROFEIN's specialists simulate and test physical relationships using FEM for structural analysis and predict temperature distributions for thermal analysis.

Product catalogue



EXA (ASTRO-UND FEINWERKTECHNIK)

ASTROFEIN ACM Magnetometer

The ASTROFEIN ACM Magnetometer is a high-precision, space-qualified magnetometer designed for attitude control in small and larger satellites, offering an optimal balance of low ma

Range	±60 000 nT (up to 140 000 nT on request)
Resolution	100 pT/LSB
Noise	50 pT/ √Hz@60 000 nT
Linearity	0.025%
Mass	< 280 g
Dimension (without connector)	138 mm x 55 mm x 39 mm
Voltage	18 V to 36 V

price on request [datasheet](#)



EXA (ASTRO-UND FEINWERKTECHNIK)

ASTROFEIN ACS Test Bed

The ASTROFEIN ACS Test Bed is a comprehensive test stand for verifying the attitude control systems of mini and microsatellites, offering end-to-end testing capabilities including

Rotation around vertical axis	free 360°
Rotation around horizontal axis	20° – 30°
Magnetic field simulation	High-precision in-orbit
CoG calibration	Electronic
Sun simulation	Adjustable and movable
Command interface	WLAN
Power supply	For the test object

price on request



EXA (ASTRO-UND FEINWERKTECHNIK)

ASTROFEIN GPS receiver unit- ARGO

ARGO-L1 is a configurable, redundant GPS receiver unit designed for LEO missions, offering improved solution availability through a dual independent passive receive antenna system.

Frequency	GPS L1 Band, C/A code
Number of correlator channels	12
Signal acquisition threshold	35 dB-Hz
Receiver startup mode TTFF warm start	< 3 min (90%)
Receiver startup mode TTFF cold start	< 15 min (90%)
Timing accuracy (1PPS signal)	< 0.1 us (1 sigma)
Navigation accuracy position	10 m (3D rms)

price on request [datasheet](#)



EXA (ASTRO-UND FEINWERKTECHNIK)

ASTROFEIN Gyro System AGS-1

The ASTROFEIN Gyro System AGS-1 is a tri-axial rotation measurement system designed for small satellites, offering temperature-compensated data and low power consumption.

Channels	3
Range (per channel)	± 40 °/s
Bias (per channel)	≤ 1 °/h
Noise (random walk per channel)	≤ 0.1 °/ √ h
Measurement frequency	200 Hz
Start-up time	< 0.3 s
Mass	< 1 kg

price on request [datasheet](#)



EXA (ASTRO-UND FEINWERKTECHNIK)

ASTROFEIN PicoSatellite Launcher PSL1U / PSL2U / PSL3U

The ASTROFEIN PicoSatellite Launcher (PSL) series offers deployers for 1U, 2U, and 3U CubeSats, featuring a flight-proven non-explosive lock and release mechanism.

CubeSat Rail Length (Z) [mm]	113.5 (PSL1U), 227.0 (PSL2U), 340.5 (PSL3U)
CubeSat Rail Width (X) [mm]	100 (PSL1U), 100 (PSL2U), 100 (PSL3U)
CubeSat Rail Height (Y) [mm]	100 (PSL1U), 100 (PSL2U), 100 (PSL3U)
Number of Tuna Cans	1 (PSL1U), 1 (PSL2U), 1 (PSL3U)
Maximum Satellite Mass [kg]	<=1.33 (PSL1U), <=2.66 (PSL2U), <=4.0 (PSL3U)

[price on request](#) [datasheet](#)



EXA (ASTRO-UND FEINWERKTECHNIK)

MicroCMG

The MicroCMG is a Control Moment Gyroscope designed for small satellites, providing attitude control with high angular momentum and torque capabilities.

Angular momentum	8.0 Nms
Nominal rotation speed	3820rpm
Nomial torque	14.0 Nm
Mass	≤ 8.0 kg
Dimension	188 x 188 x 240 mm³
Temperature Range	-20 °C to +50 °C
Lifetime Hardware (years)	11

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EXA (ASTRO-UND FEINWERKTECHNIK)

PicoSatellite Launcher PSL12U / PSL12U XL

The ASTROFEIN PSL12U and PSL12U XL are flight-proven CubeSat deployers designed for 1U to 12U CubeSats and combinations, featuring non-explosive lock and release mechanisms and ver

Parameter	PSL12U
(Pack: 1-, 2-, 3- and 4-way available)	(Pack: 1-, 2-, 3- and 4-way available)
CubeSat Rail Length (Z) [mm]	340.5
CubeSat Rail Width (X) [mm]	226.3
CubeSat Rail Height (Y) [mm]	226.3
Number of Tuna Cans	5*
Maximum Satellite Mass [kg]	<=24.0

[price on request](#) [datasheet](#)



EXA (ASTRO-UND FEINWERKTECHNIK)

PicoSatellite Launcher PSL6U / PSL6U XL

The ASTROFEIN PSL6U and PSL6U XL are CubeSat deployers designed for 1U, 2U, 3U, or 6U CubeSats, featuring non-explosive mechanisms and a user-friendly, resettable system.

Parameter	PSL6U
(Pack: 1-way & 2-way available)	(Pack: 1-way & 2-way available)
CubeSat Rail Length (Z) [mm]	340.5
CubeSat Rail Width (X) [mm]	226.3
CubeSat Rail Height (Y) [mm]	100
Number of Tuna Cans	2
Maximum Satellite Mass [kg]	<=12.0

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EXA (ASTRO-UND FEINWERKTECHNIK)

Reaction Wheel RW1

The RW1 is a reaction wheel designed for small satellites, featuring separate wheel drive electronics and available with two different rotating masses (Type A or Type B) to provide

Parameter	Type A
Angular momentum	5.8 E-4 Nms
Nominal rotation speed	8000 rpm
Maximum rotation Speed	~ 16 380 rpm
Speed Resolution	0.25 rpm (1LSB)
Nominal Torque (max. commandable)	23 E-6Nm
Torque Deviation – rms value	<2.2 E-6Nm

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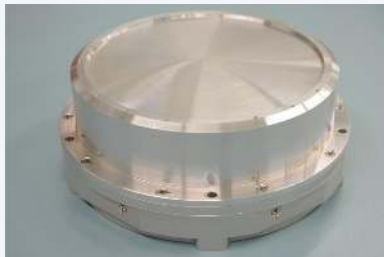
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Reaction Wheel RW100

The RW100 is a reaction wheel for small satellites, optimized for constellation applications and based on the RW90 design.

Angular momentum	0.4 Nms @ nominal speed
Nominal rotation speed	6000 rpm
Nominal reaction torque	0.02 Nm Max. commandable deliverable output torque over the whole speed range
Supply voltage	18 to 34 V
Power consumption	≤ 2 W Stand by (motor off)
Power consumption	≤ 5.0 W @ 6000 rpm
Power consumption	20 W Maximum (max. torque/max. speed)

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EXA (ASTRO-UND FEINWERKTECHNIK)

Reaction Wheel RW150

The RW150 is a reaction wheel designed for small satellites, featuring integrated wheel drive electronics, various operation modes, and high torque and speed stability.

Angular momentum	1.0 Nms
Nominal rotation speed	6000 rpm
Nominal reaction torque	0.03 Nm
Supply voltage	18 to 34 V
Power consumption Stand by (motor off)	≤ 2 W
Power consumption @ 1500 rpm	≤ 5.0 W
Power consumption @ 6000 rpm	≤ 10 W

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EXA (ASTRO-UND FEINWERKTECHNIK)

Reaction Wheel RW1500

The RW1500 is a reaction wheel currently under development, designed for satellite attitude control with an angular momentum of 25.0 Nms and a nominal rotation speed of 4000 rpm.

Angular momentum	25.0 Nms @ nominal speed
Nominal rotation speed	4000 rpm
Nominal reaction torque	0.2 Nm Max. commandable reaction torque
Supply voltage	22 to 37 V
Power consumption	≤ 2.5 W Stand by (motor off)
Power consumption	≤ 30.0 W @ nominal speed 0.1 Nm/max speed
Power consumption	≤ 140 W Maximum (0.2 Nm/max. speed)

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EXA (ASTRO-UND FEINWERKTECHNIK)

Reaction Wheel RW25

The RW25 is a compact reaction wheel designed for nano-satellite applications, featuring integrated electronics for independent operation via a digital interface.

Angular momentum	30 mNms
Nominal rotation speed	5000 rpm
Nomial Torque (max. commandable)	2 mNm (more by design possible)
Communication	SPI preferred (CAN possible)
Supply voltage	5 V
maintaining nominal rotation speed	< 1.5 W
maximum consumption (max. torque @ max. speed)	< 2.8 W

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EXA (ASTRO-UND FEINWERKTECHNIK)

Reaction Wheel RW250

The RW250 is a reaction wheel for small satellites, featuring integrated wheel drive electronics, various operation modes, and extensive housekeeping data.

Angular momentum	4.0 Nms @ nominal speed
Nominal rotation speed	5000 rpm
Nomial reaction torque	0.1 Nm Max. commandable deliverable output torque over the whole speed range
Supply voltage	23 to 34 V
Power consumption	≤ 2.5 W Stand by (motor off)
Power consumption	≤ 7.0 W @ 1500 rpm
Power consumption	≤ 13 W @ 5000 rpm

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EXA (ASTRO-UND FEINWERKTECHNIK)

Reaction Wheel RW3000

The RW3000 is a reaction wheel designed for satellite attitude control, currently under development. It offers an angular momentum of 50 Nms and a nominal reaction torque of 0.2 Nm

Angular momentum	50.0 Nms @ nominal speed
Nominal rotation speed	4000 rpm
Nomial reaction torque	0.2 Nm Max. commandable reaction torque
Supply voltage	22 to 37 V
Power consumption	≤ 2.5 W Stand by (motor off)
Power consumption	≤ 30.0 W @ nominal speed 0.1 Nm/max speed
Power consumption	≤ 75 W Maximum (0.2 Nm/max. speed)

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EXA (ASTRO-UND FEINWERKTECHNIK)

Reaction Wheel RW35

The RW35 is a reaction wheel designed for small satellites, featuring integrated drive electronics, high torque and speed stability, and extensive housekeeping capabilities.

Angular momentum	0.1 Nms
Nominal rotation speed	5000 rpm
Nomial Torque (max. commandable)	0.005 Nm
Moment of inertia (rotating mass)	1.9 x 10 ⁻⁴ kgm ²
Supply voltage	18 V - 34 V
Stand by (motor off)	≤ 2.0 W
Conservation of rotation speed	≤ 4 W @ nominal rotation speed

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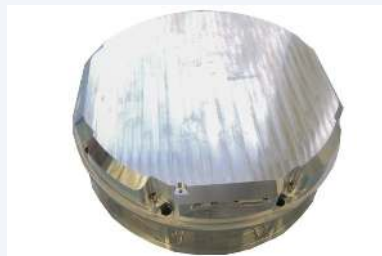
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Reaction Wheel RW6000

The RW6000 is a large reaction wheel currently under development by ASTROFEIN, designed for satellite attitude control with high angular momentum and reaction torque capabilities.

Angular momentum	100.0 Nms @ nominal speed
Nominal rotation speed	4200 rpm
Nominal reaction torque	0.2 Nm Max. commandable reaction torque
Supply voltage	23 to 34 V
Power consumption	≤ 5.0 W Stand by (motor off)
Power consumption	≤ 30.0 W @ nominal speed
Power consumption	≤ 75 W 0.1 Nm/max. speed

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EXA (ASTRO-UND FEINWERKTECHNIK)

Reaction Wheel RW800

The RW800 is a reaction wheel for satellites, currently under development with an engineering model available, designed for attitude control.

Angular momentum	12.0 Nms
Remark	@ nominal speed
Nominal rotation speed	3600 rpm
Nominal reaction torque	0.2 Nm
Remark	Max. commandable reaction torque
Supply voltage	23 to 34 V
Power consumption	≤ 2.5 W

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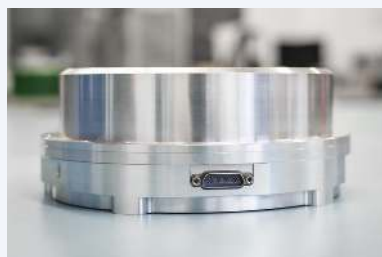
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Reaction Wheel RW90

The RW90 is a reaction wheel designed for small satellites, featuring integrated drive electronics, multiple operation modes, and high torque and speed stability.

Angular momentum	0.35 Nms @7800 rpm
Nominal rotation speed	6000 rpm
Nominal reaction torque	0.015 Nm Max. commandable deliverable output torque over the whole speed range
Power consumption	≤ 1.8 W Stand by (motor off)
Power consumption	≤ 2.7 W @ 3000 rpm
Power consumption	≤ 3.5 W @ 6000 rpm
Power consumption	15 W Maximum (max. torque/max. speed)

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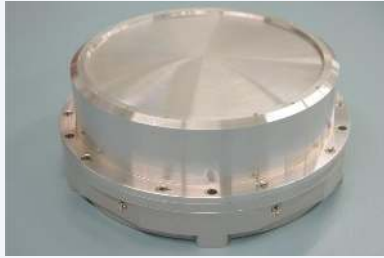
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Reaction Wheel RWT250

The RWT250 is a reaction wheel designed for small satellites, featuring integrated wheel drive electronics, various operation modes, and extensive housekeeping data.

Angular momentum	4.0 Nms @ nominal speed
Nominal rotation speed	5000 rpm
Nominal reaction torque	0.3 Nm Max. commandable deliverable output torque over the whole speed range
Supply voltage	23 to 34 V
Power consumption	≤ 3.0 W Stand by (motor off)
Power consumption	≤ 15.0 W @ 5000 rpm
Power consumption	≤ 200 W Maximum (max. torque/max. speed)

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EXA (ASTRO-UND FEINWERKTECHNIK)

Reaction Wheel RWT150

The RWT150 is an upscaled reaction wheel for small satellites, currently under development, designed to provide attitude control with a nominal angular momentum of 1.0 Nms.

Angular momentum	1.0 Nms @ nominal speed
Nominal rotation speed	6000 rpm
Nomial reaction torque	0.1 Nm Max. commandable deliverable output torque over the whole speed range
Supply voltage	18 to 34 V
Power consumption	≤ 2.5 W Stand by (motor off)
Power consumption	≤ 7 W @ steady state
Power consumption	< 60 W Maximum (max. torque/max. speed)

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Contact EXA (Astro-und Feinwerktechnik)

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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