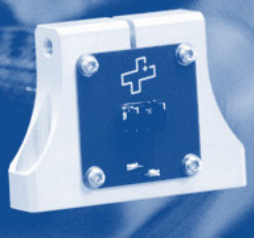
MAGNETORQUERS

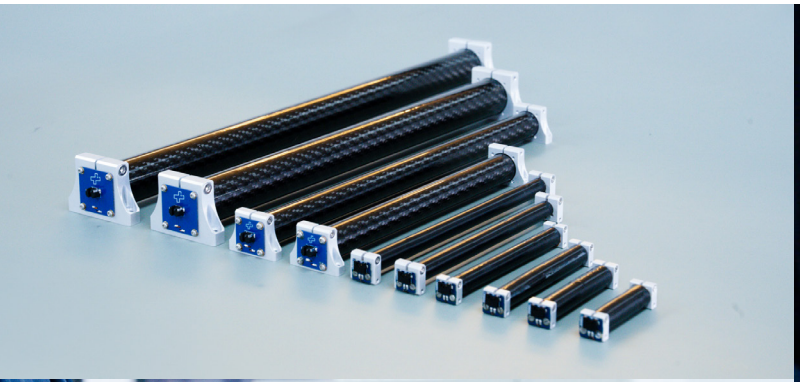
Compact, Customisable Range of Rods



CubeSpace (CS) offers magnetic torquer rods ranging from 0.2Am² for a 2U CubeSat, to 20Am² for larger Microsat platforms. Our torquer rod manufacturing process has been almost fully automated using robotics. This both ensures absolute repeatability of our manufacturing process, but also reduces costs. The windings of our rods are protected from external damage during handling using a protective carbon fibre covering, which is integrated into the mounting of the rod. The cores of our rods are annealed and tempered to ensure excellent linearity and almost zero magnetic remnance, optimising performance in orbit. Our rods are not only class-leading in performance, they are designed to meet the volume and pricing needs of a more mature future space industry.

KEY FEATURES

- High-magnetic gain for low power consumption
- Repeatable, fully automated, tension controlled winding
- Annealed and tempered high performance ferrous core
- Integrated carbon fibre protective sleeve
- Wide range from 0.2Am² to 20 Am²



MAGNETORQUER	CR0002	CR0004	CR0006	CR0010	CR0012	CR0020	CR0050	CR0100	CR0150	CR0200
PERFORMANCE										
Linear Voltage Range [V] * High voltage version can be made on request	±5	±5	±5	±5	±5	±5	±5	±5	±5	±5
Dipole Moment [Am²] at 5V, 20°C	0.2	0.4	0.6	1.0	1.2	2.0	5.0	10.0	15.0	20.0
Magnetic Gain [Am²/A]	2.3	3.3	5.8	7.8	8.6	13.2	22.0	45.4	63.0	74.5
Linearity Error [0-5V]	<2.50%									
Nominal Resistance [Ω] at 20°C	51.0	39.5	45.0	37.5	36.5	32.5	21.0	21.5	20.0	17.5
PHYSICAL										
Mass [g]	16.5	23	31	37	45	54	164	272	598	743
Dimensions [mm]	10.5x10.5x47	10.5x10.5x59	10.5x10.5x77	10.5x10.5x92	13x13x122	13x13x152	20x27.4x167	20x27.4x247	29x40.5x277	29x40.5x337
POWER & DATA										
Connector	Molex Pico-Lock						Molex Micro-Lock Plus / Harwin Gecko SL			
QUALIFICATION TEST										
Radiation	24 kRad									
Vibration	14.16g RMS (NASA GEVS)									
Shock	1500g									
Thermal (Vacuum) [°C]	-20 to 80 °C									
Thermal (Hot & Cold Start) [°C]	-35 to 70 °C									