

miniCMG

- FOR 250 kg SATELLITES AND MORE -

ULTRA HIGH TORQUE/ LOW VOLUME

2.8 Nms Momentum capacity with 4.4 Nm Torque fitting into a 120 x 120 x 217.5 mm³ volume. This performance is 10X a traditional reaction wheel.

HIGH POWER EFFICIENCY

Each module is using less than 15 W / Nm power efficiency compared to 50 W / Nm for a reaction wheel.



SINGULARITY AVOID- ANCE

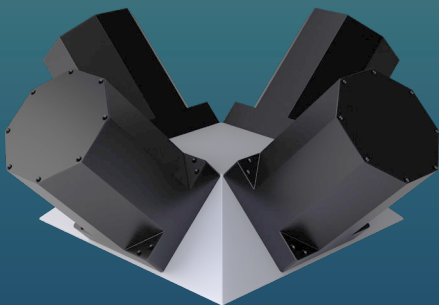
Internal CMG gimbal management to avoid singularities providing a spherical momentum envelope.

LOW MICRO VIBRATION

5 years lifetime with microvibrations mitigation for high pointing stability missions.

miniCMG

Large satellites have used this state-of-the-art actuator technology for decades to enable high-agility missions. VEOWARE miniaturized it for small satellite applications and made it **MODULAR & SCALABLE**.



1x miniCMG*

4x miniCMG

Momentum	2.8 Nms	9 Nms
Torque	4.4 Nm (max)	14 Nm (max)
Power (nominal)	< 15 W	< 60 W
Power (peak)	< 45 W (1 sec)	< 180 W (1 sec)
Volume	120 x 120 x 217.5 mm ³	4x (120 x 120 x 215.5) mm ³
Mass	3.5 kg	13 kg
Interface (integrated electronics)	28V – CAN/UART RS422 & RS485	

*equivalent to a reaction wheel of 4 Nms

VEOWARE TECHNOLOGY IMPROVING 10x THE AGILITY OF ANY SPACECRAFT



	RW50	RW500	microCMG	miniCMG
Momentum	42 - 50 mNms (nominal - max)	0.5 - 0.7 Nms (nominal - max)	0.7 Nms	2.8 Nms
Torque	3 - 5 mNm (nominal - max)	0.05 - 0.1 Nm (nominal - max)	1.1 Nm (max)	4.4 Nm (max)
Power (nominal)	< 0.55 W	< 3 W	< 15 W	< 15 W
Power (peak)	< 5 W	< 30 W	< 30 W (1 sec)	< 45 W (1 sec)
Volume	50 x 50 x 25 mm ³	97 x 97 x 40 mm ³	97 x 97 x 189 mm ³	120 x 120 x 217.5 mm ³
Mass	0.165 kg	0.8 kg	2.75 kg	3.5 kg
Interface (integrated electronics)	12-16V - CAN/UART RS422	28V - CAN/UART RS485	28V - CAN/UART RS422 & RS485	