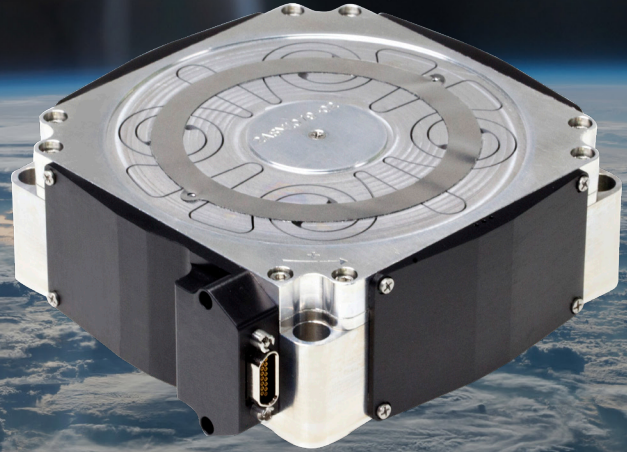




Spacecraft Buses, Systems & Solutions

# REACTION WHEELS



## High Performance Attitude Control

***BCT's Reaction Wheels are currently operating on-orbit, providing turnkey attitude control in support of successful customer missions.***

BCT Reaction Wheels provide an efficient, high-performance solution for spacecraft attitude control. These wheels are available in a range of sizes, providing the combination of torque and momentum storage to suit your spacecraft and mission requirements. Control electronics are available in each reaction wheel, simplifying your system integration and operations. Brushless DC motors, ultra-smooth bearings, and the BCT Reaction Wheel advanced lubrication system ensure low-jitter performance, and long life for your mission.

### **Drive Electronics**

Flexible interface options include direct analog torque command as well as a digital command and telemetry option. Standalone control electronics can drive up to four reactions wheels. RWp500 can be driven by its own integrated drive electronics.

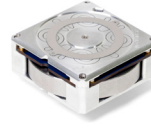
# Reaction Wheels



**RWP015**



**RWP050**



**RWP100**



**RWP500**

<b>Momentum</b>	0.015 Nms	0.050 Nms	0.10 Nms	0.50 Nms
<b>Max Torque *</b>	0.004 Nm	0.007 Nm	0.007 Nm	0.025 Nm
<b>Mass</b>	0.130 kg	0.24 kg	0.35 Kg	0.75 kg
<b>Volume</b>	42 x 42 x 19 mm	58 x 58 x 25 mm	70 x 70 x 25 mm	11 x 11 x 3.8 cm
<b>Voltage</b>	12 VDC	12 VDC	12 VDC	28 VDC
<b>Power @ 1/2 Momentum</b>	< 0.6 W	< 0.5 W	< 0.5 W	< 3.0 W
<b>Power @ Full Momentum</b>	< 1.0 W	< 1.0 W	< 1.0 W	< 6.0 W
<b>Design Life</b>	> 5 years	> 5 years	> 5 years	> 10 years
<b>Static Unbalance * (Fine)</b>	< 1.2 g-mm (0.25 g-mm)	< 1.2 g-mm (0.35 g-mm)	< 1.5 g-mm (0.5 g-mm)	< 3 g-mm (1 g-mm)
<b>Dynamic Unbalance * (Fine)</b>	< 20 g-mm <sup>2</sup> (2.5 g-mm <sup>2</sup> )	< 20 g-mm <sup>2</sup> (2.5 g-mm <sup>2</sup> )	< 20 g-mm <sup>2</sup> (5 g-mm <sup>2</sup> )	< 25 g-mm <sup>2</sup> (10 g-mm <sup>2</sup> )



**RW1**



**RW4**



**RW8**

<b>Momentum</b>	1.0 Nm	4.0 Nms	8.0 Nms
<b>Max Torque *</b>	0.1 Nm	0.3 Nm	0.3 Nm
<b>Mass</b>	0.75 kg	3.0 kg	4.1 kg
<b>Volume</b>	11 x 11 x 3.8 cm	17 x 17 x 7 cm	19 x 19 x 9 cm
<b>Voltage</b>	28 VDC	28 VDC	28 VDC
<b>Power @ 1/2 Momentum</b>	< 4.5 W	< 5 W	< 5 W
<b>Power @ Full Momentum</b>	< 9 W	< 10 W	< 10 W
<b>Design Life</b>	> 10 years	> 10 years	> 10 years
<b>Static Unbalance * (Fine)</b>	< 3 g-mm (1 g-mm)	< 6 g-mm (2 g-mm)	< 8 g-mm (2.8 g-mm)
<b>Dynamic Unbalance * (Fine)</b>	< 25 g-mm <sup>2</sup> (10 g-mm <sup>2</sup> )	< 150 g-mm <sup>2</sup> (75 g-mm <sup>2</sup> )	< 200 g-mm <sup>2</sup> (100 g-mm <sup>2</sup> )

*\* Custom options are available*



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