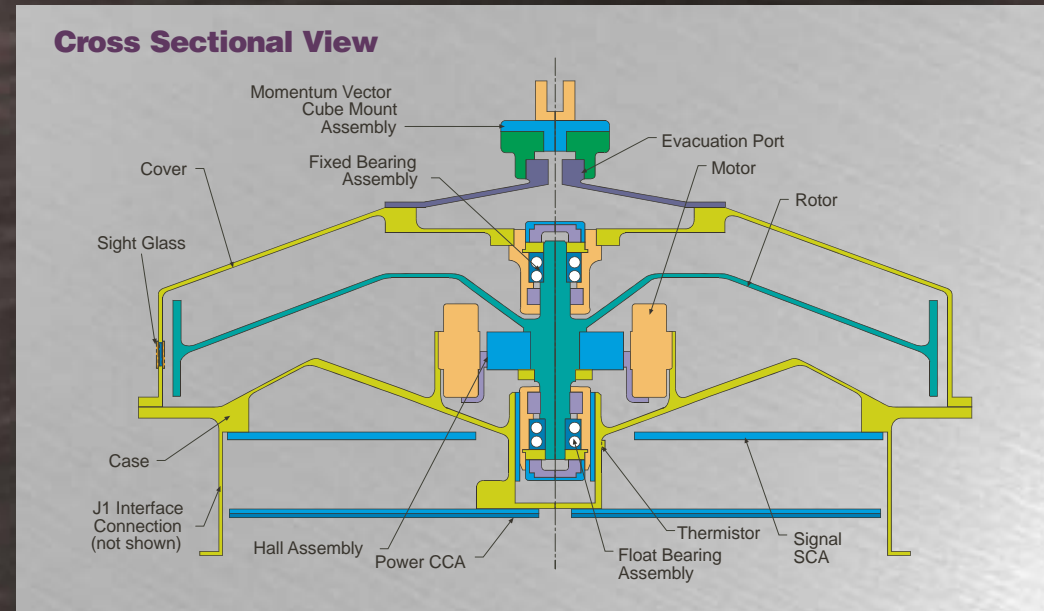


Honeywell Model HR 0610 Reaction Wheel

Economical,
Compact,
Lightweight

AEROSPACE

Our Model HR 0610 Reaction Wheel provides a high-speed, low-weight solution for small spacecraft. Standard microelectronics provide flexibility for wheel performance over a wide range of spacecraft interfaces.



Mechanical Design

- Advanced momentum package design
- Single-piece tuned inertia rotor for controlled balance stability
- Low emitted vibration
- Interchangeable modular rotor momentum sizing
- Innovative lightweight housing chassis
- Compact design with high momentum-to-mass efficiency
- Lightweight magnesium alloy chassis
- Electronics physically isolated from the precision rotating system

Heritage duplex bearing and lubrication

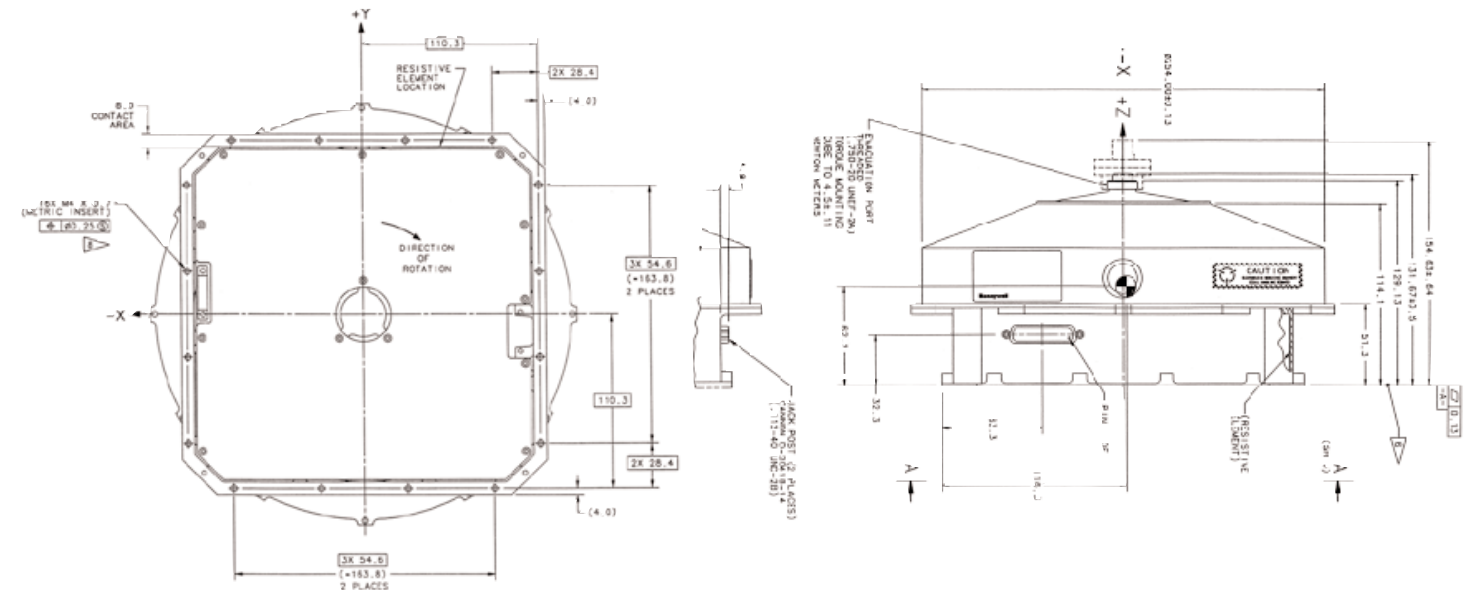
- Space-proven extended on-orbit life capability
- Wide temperature environmental range

Electrical Design

- Simplified electrical interface
- Standard analog IF
- Low to medium bus voltage application
- Return power limiting feature
- DC brushless motor
- Integrated motor drive electronics
- Signal noise filtering and fault isolation
- Radiation hardened for LEO and GEO applications
- Over/under voltage and over-speed protection

Integrated Hall commutation and speed telemetry

HR0610 Envelope Specification:



Performance Characteristics:

PARAMETER	UNIT	CAPABILITY
Angular Momentum at Max.Speed	N-m-s	4 to 12
Output Torque at Max.Speed	N-m	.055
Peak Power at Max. Torque and Speed	Watts	<80
Power Holding at Max.Speed	Watts	<15
Power Bus Voltage	Volts	14 to 23
Wheel Speed	rpm	6000
Mass	kg	3.6 to 5.0
Outside Diameter	mm	267
Height	mm	120
Integrated Electronics	Yes/No	Yes
Life Requirement	Years	>10
Radiation Hard	krad(Si)	300
Part Screening	Level	S
Bearing	Size	R4
Operational Temperature Range	deg C-Lo	-15
	deg C-Hi	+60
Vibration	Grms	19.8
Motor Type	AC/DC	DC
Interface	Analog/Digital	Analog
Static Unbalance	gm-cm	<0.2*
Dynamic Unbalance	gm-cm ²	<3.1*

*Balance performance represents BOL, Fine Balance Option, in a fully flight assembled configuration following ATP environmental exposure, as delivered. Further improvement of balance performance of > 2X is possible.



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Aerospace Electronic Systems
Defense & Space Electronic Systems
Honeywell
P.O. Box 52199
Phoenix, Arizona 85072-2199
Telephone: (602) 822-3000
www.honeywell.com/dses/space