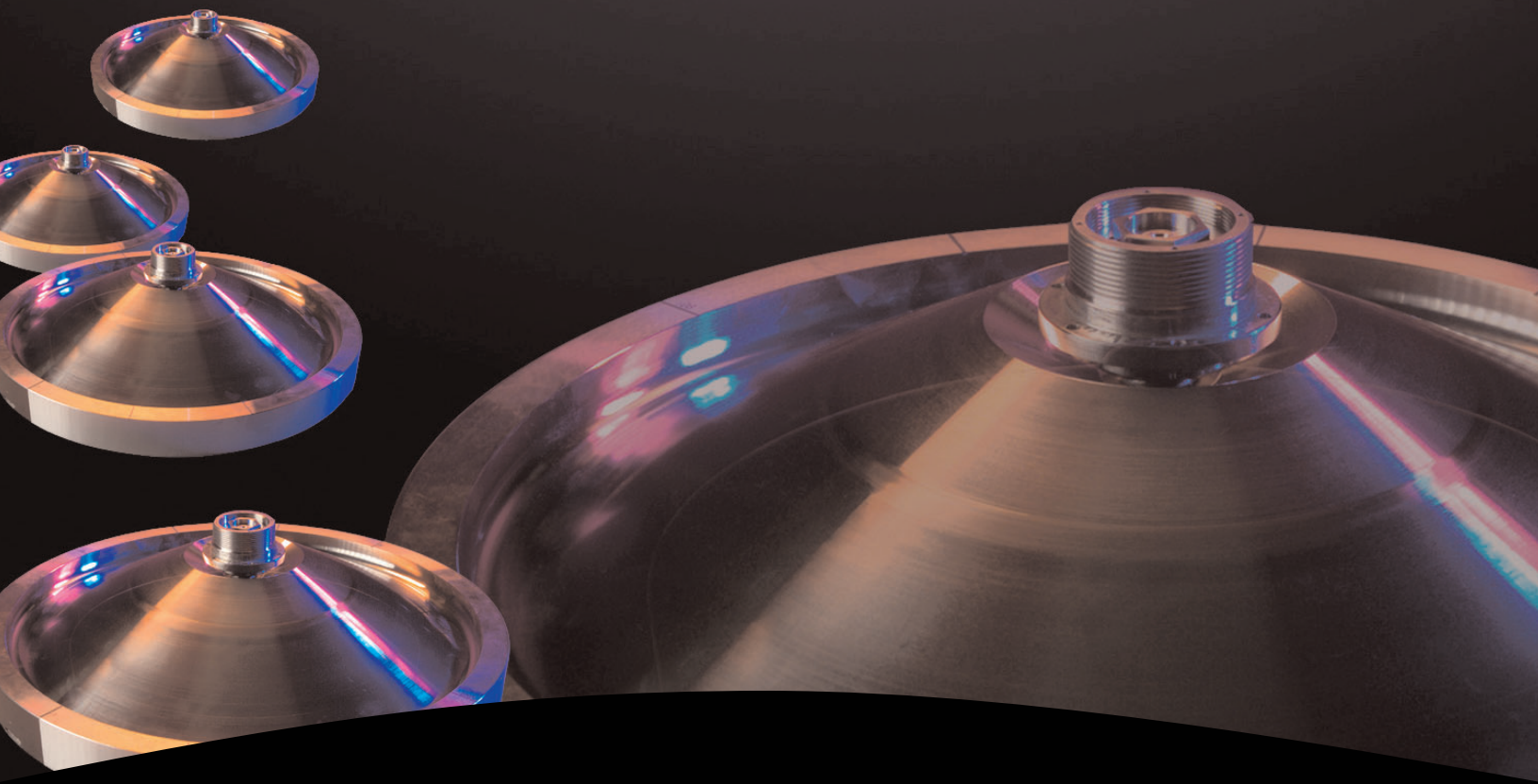


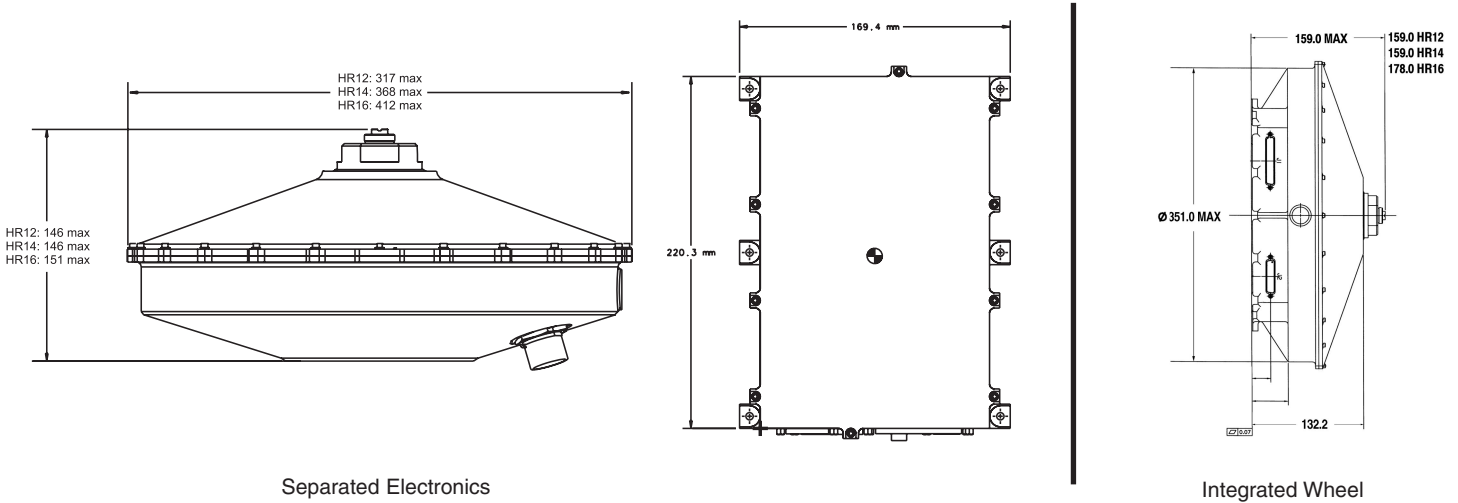
**Constellation Series Reaction Wheels**

**Honeywell**



**Economical, Reliable, High Performance**

## Constellation Series Envelope Specifications:



Separated Electronics

Integrated Wheel

## Performance Characteristics:

PERFORMANCE ITEM	UNIT	HR12	CAPABILITY HR14	HR16
Momentum	N-m-s	12, 25, 50 <sup>2</sup>	25, 50, 75	50, 75, 100 <sup>1</sup>
Reaction torque				
Nominal	N-m		0.1 to 0.2 <sup>3</sup>	
Extended	N-m		up to 0.4 (@3000 rpm) <sup>4</sup>	
Rotor Balance <sup>6</sup>				
Static	g-cm	0.15, 0.24, 0.44	0.22, 0.35, 0.48	0.28, 0.38, 0.48
Dynamic	g-cm <sup>2</sup>	2.2, 4.6, 9.1	4.6, 9.1, 13.7	7.7, 11.5, 15.4
Peak Power	Watts		105, 195 <sup>5</sup>	
Steady State (@ 6000 rpm)	Watts		< 22 typical	
Bus Voltage Range	Volts		14 up to 80	
Wheel Speed	rpm		± 6000	
Mass	kg	6.0, 7.0, 9.5	7.5, 8.5, 10.6	9, 10.4, 12
Integrated Wheel Outline (Height x Width)	mm	159 x 316	159 x 366	178 x 418
Separate Electronics Outline	mm	WU H148X316D WDE H60XW169XL230	WU H148X366D WDE H60XW169XL230	WU H152X418D WDEH60XW169XL230
Life				
Storage	Years		> 5	
On-orbit Operation	Years		> 15	
Radiation Hardness Capability	Krads (Si)		> 300	
Parts Screening			S	
Operational Temperature Range (Qual)	°C		-30 to 70	
Vibration	Grms		13.8	
Interface	NA		Analog/Digital	

Note 1: Additional momentum designs are available including 68, 125 and 150 N-m-s.

Note 2: Additional momentum designs are available including 18 and 37.5 N-m-s.

Note 3: At maximum speed.

Note 4: Extended high torque capability exists at specified operating conditions relative to bus voltage, duty cycle and operating temperature.

Note 5: At 0.1 N-m and 0.2 N-m and a 50V regulated bus respectively.

Note 6: 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.

## Find out more

For more information regarding the Constellation Series, contact us at:

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