

ASTROFEIN Reaction Wheel Family



Astro- und Feinwerktechnik Adlershof GmbH

CubeSat Line			
	RW1 Type A	RW1 Type B	RW25
Angular Momentum	5.8*10 ⁻⁴ Nms (@8000rpm)	1.0*10 ⁻⁴ Nms (@8000rpm)	0.03 Nms (@5000rpm)
Nominal Rotation Speed	8000rpm	8000rpm	5000rpm
Maximum Rotation Speed	16,380rpm	16,380rpm	5500 rpm
Nominal Torque	23*10 ⁻⁶ Nm	4*10 ⁻⁶ Nm	0.002 Nm
Wheel Mass	<=24g	<=12g	<=200g
Dimensions	21mm*21mm*12 mm	21mm*21mm*12 mm	50mm*50mm*25 mm
Operational Temperature Range	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C
Lifetime Hardware (years)	1	1	2 (5)



ASTROFEIN RW150

SmallSat Line					
	RW35	RW90	RW100	RW150	RW250 2.0
Angular Momentum	0.1Nms (@5000rpm)	0.35 Nms (@7800rpm)	0.4 Nms (@6000rpm)	1.0 Nms (@6000rpm)	4.0 Nms (@5000rpm)
Nominal Rotation Speed	5000 rpm	6000 rpm	6000 rpm	6000 rpm	5000 rpm
Maximum Rotation Speed	5000 rpm	7800 rpm	7000 rpm	7080 rpm	5000 rpm
Nominal Torque	0.005 Nm	0.015 Nm	0.02 Nm	0.03 Nm	0.1 Nm
Wheel Mass	<=0.5 kg	<=0.9 kg	<=0.8 kg	<=1.3 kg	<=2.7 kg
Moment of Inertia	1.9*10 ⁻⁴ kgm ²	4.2*10 ⁻⁴ kgm ²	6.52*10 ⁻⁴ kgm ²	1.592*10 ⁻³ kgm ²	7.65*10 ⁻³ kgm ²
Dimensions	102mm*102mm*58mm	103mm*101*80mm	100mm*100mm*60mm	150mm*150mm*60mm	180mm*180mm*82mm
Operational Temperature Range	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C
Lifetime Hardware (years)	5	7	7	7	7

SmallSat TorqueLine			
	RWT150	RWT250	μCMG
Angular Momentum	1.0 Nms (@6000rpm)	4.0 Nms (@5000rpm)	8 Nms (@3820rpm)
Nominal Rotation Speed	6000 rpm	5000 rpm	3820 rpm
Maximum Rotation Speed	7080 rpm	5000 rpm	
Nominal Torque	0.1 Nm	0.3 Nm	14.0 Nm
Wheel Mass	<=1.5 kg	<=3.0 kg	<=8.0 kg
Moment of Inertia	1.592*10 ⁻³ kgm ²	7.65*10 ⁻³ kgm ²	
Dimensions	150mm*150mm*60mm	200mm*200mm*100mm	188mm*188mm*240mm
Operational Temperature Range	-20°C to +50°C	-20°C to +50°C	-20°C to +50°C
Lifetime Hardware (years)	7	7	11 years



ASTROFEIN RW25 & ASTROFEIN RW6000

HighLine					
	RW800	RW1500	RW3000	RW6000	MBRW
Angular Momentum	12.0 Nms (@3600rpm)	25.0 Nms (@4000rpm)	50.0 Nms (@4000rpm)	100 Nms (@4200rpm)	25 Nms (@10,000rpm)
Nominal Rotation Speed	3600 rpm	4000 rpm	4000 rpm	4200 rpm	
Maximum Rotation Speed					10,000 rpm
Nominal Torque	0.2 Nm	0.2 Nm	0.2 Nm	0.2 Nm	0.2 Nm (max)
Wheel Mass	<=6.0 kg	<=6.0 kg	<=9.0kg	<=12.5 kg	< 11 kg
Moment of Inertia	3.183e ⁻² kgm ²	5.968e ⁻¹ kgm ²	1.19e ⁻¹ kgm ²	2.274e ⁻¹ kgm ²	0.025 kg m ²
Dimensions	250mm*250mm*100mm	320mm*320mm*120mm	370mm*370mm*120mm	446mm*442mm*149mm	275mm*275mm*170mm
Operational Temperature Range	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	0°C to +60°C	-20°C . +50°C
Lifetime Hardware (years)	15 years	15 years	15 years	15 years	10 years



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