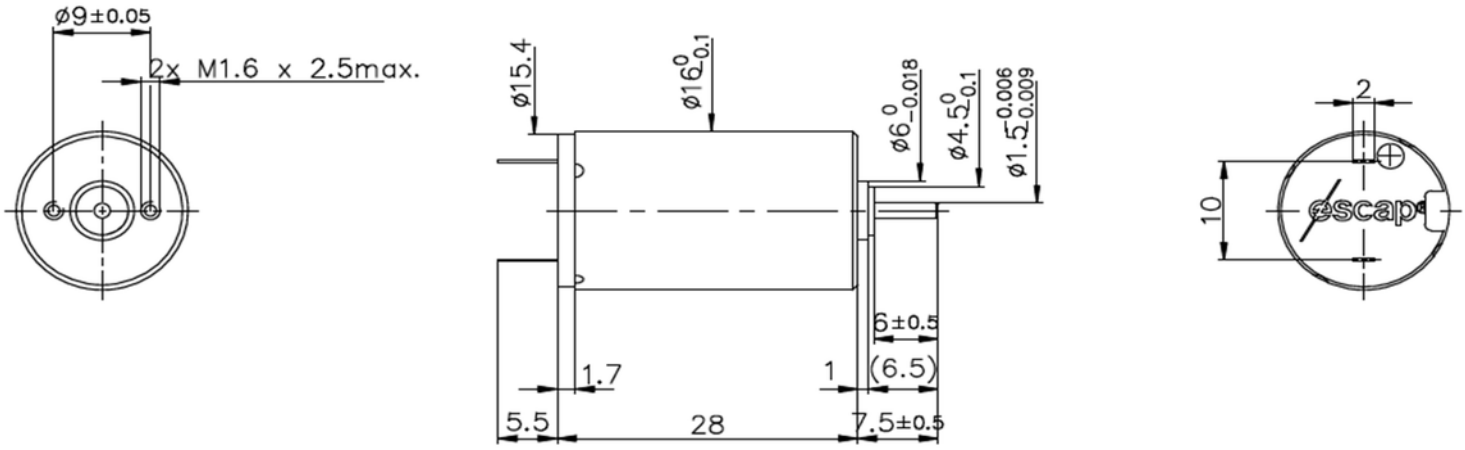
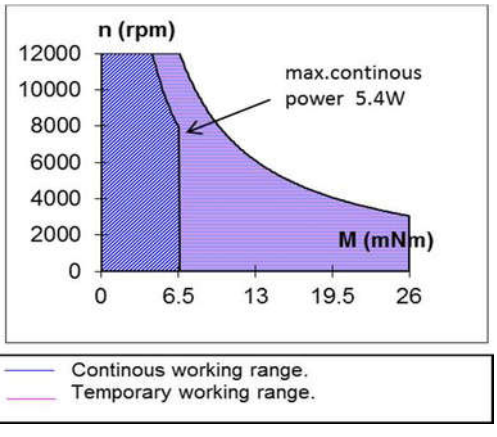
16N78 Athlonix Precious metal commutation Ø16mm 6.9 mNm



16N78 ** .1001**

Electrical Data	****	135	212P	214E	212E	210E	208E	
1 Nominal Voltage	V	1.5	6	9	12	18	24	Volt
2 No-Load Speed	n_0	9,475	8,350	8,275	8,380	9,270	8,200	rpm
3 No-Load Current	I_0	60.0	18.0	10.0	5.0	5.0	4.0	mA
4 Terminal Resistance	R	0.2	3.0	7.5	13.2	27.5	60.5	Ω
5 Output Power	$P_{2max.}$	4.7	5.4	5.2	5.2	4.9	4.9	W
6 Stall Torque	mNm	11.5 (1.63)	13.6 (1.93)	12.4 (1.76)	12.4 (1.76)	12 (1.7)	11 (1.56)	mNm (oz-in)
7 Efficiency	$\eta_{max.}$	83	82	83	86	83	81	%
8 Max continuous speed	$n_{e\ max.}$	12,000	12,000	12,000	12,000	12,000	12,000	rpm
9 Max continuous torque	$M_{e\ max.}$	6 (0.98)	6.9 (0.98)	6.6 (0.94)	6.6 (0.94)	6.2 (0.88)	6.3 (0.9)	mNm (oz-in)
10 Max continuous current	$I_{e\ max.}$	4.00	1.03	0.65	0.49	0.34	0.23	A
11 Back-EMF Constant	k_E	0.16	0.71	1.08	1.42	1.93	2.90	mV/rpm
12 Torque Constant	k_M	1.50	6.80	10.30	13.60	18.40	27.70	mNm/A
13 Motor Regulation	R/k^2	88.9	64.9	70.7	71.37	81.23	78.85	10^3/Nms
14 Friction Torque	T_F	0.09 (0.02)	0.12 (0.02)	0.1 (0.02)	0.07 (0.01)	0.09 (0.02)	0.08 (0.02)	mNm (oz-in)
15 Rotor Inductance	L	0.01	0.10	0.30	0.50	1.00	2.40	mH
16 Mechanical Time Constant	τ_m	9.8	6.8	8.8	8.6	9.7	9.3	ms
17 Rotor Inertia	J	1.10	1.05	1.25	1.20	1.20	1.18	$g.cm^2$
18 Thermal Resistance (rotor/body)	R_{th1} / R_{th2}	6 /25	6 /25	6 /25	6 /25	6 /25	6 /25	°C/W
19 Thermal Time Constant (rotor/stator)	τ_{w1}/t_{w2}	12/250	12/250	12/250	12/250	12/250	12/250	°C/W
20 Operating Temperature Range:	motor	-30°C to 85°C (-22°F to 185°F)						°C (°F)
	rotor	100°C (212°F)						°C (°F)
21 Shaft Load max.:		With sleeve bearings						
at 3,000 rpm (5mm from bearing)	-radial	1.5 (5.4)						N (oz)
at 3,000 rpm	-axial	100 (359.6)						N (oz)
22 Shaft play:	-radial	<0.03 (0.0012)						mm (inch)
	-axial	0.15 (0.0059)						mm (inch)
23 Weight	g	24 (0.85)						g (oz)

Execution		
Gearbox	**Single Shaft**	**MR2**
	16N78	**16N98**
B16	1005	1008
BA16	1005	1008
R16	1001	1007



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