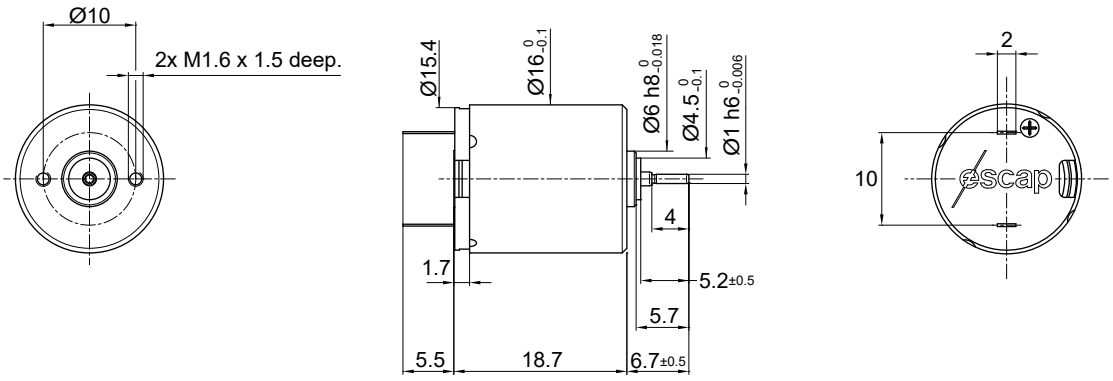
16S78 Athlonix™

Ø 16 mm • Precious metal commutation • 2.8 mNm



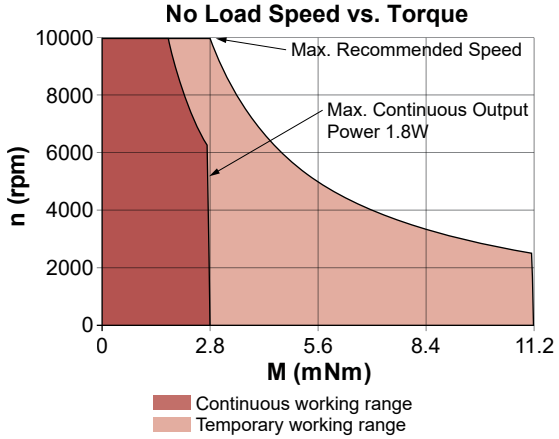
Dimensions in mm.

Electrical Data	Symbol	16S78 •••• .1 208P	16S78 •••• .1 210E	Unit
1 Nominal Voltage	V	6	7.5	Volt
2 No-Load Speed	n_0	10,280	10,865	rpm
3 No-Load Current	I_0	25.0	18.0	mA
4 Terminal Resistance	R	7.5	12.2	Ω
5 Output Power	$P_{2max.}$	1.7	1.6	W
6 Stall Torque	mNm	4.3	3.9	mNm (oz-in)
7 Efficiency	$h_{max.}$	68	69	%
8 Max Continuous Speed	$n_{e\ max.}$	10,000	10,000	rpm
9 Max Continuous Torque	$M_{e\ max.}$	2.6 (0.34)	2.4 (0.34)	mNm (oz-in)
10 Max Continuous Current	$I_{e\ max.}$	0.50	0.38	A
11 Back-EMF Constant	k_E	0.57	0.67	mV/rpm
12 Torque Constant	k_M	5.40	6.40	mNm/A
13 Motor Regulation	R/k^2	255.0	300.0	10^3/Nms
14 Friction Torque	T_F	0.12 (0.02)	0.12 (0.02)	mNm (oz-in)
15 Rotor Inductance	L	0.15	0.23	mH
16 Mechanical Time Constant	τ_m	12.8	15.0	ms
17 Rotor Inertia	J	0.50	0.50	g-cm²
General Data				
18 Thermal Resistance (rotor/body)	R_{th1}/R_{th2}	13/38		°C/W
19 Thermal Time Constant (rotor/stator)	t_{W1}/t_{W2}	7/400		S
20 Operating Temperature Range:	motor rotor	-30°C to 85°C (-22°F to 185°F) 100°C (212°F)		°C (°F) °C (°F)
21 Shaft Load Max.: (5 mm. from bearing)	 -radial -axial	With sleeve bearings 1.5 (5.4) 100 (359.6)		 N (oz) N (oz)
22 Shaft Play:	-radial -axial	<0.03 (0.0012) 0.15 (0.0059)		mm (inch) mm (inch)
23 Weight	g	19 (0.68)		g (oz)
24 Commutation Segment	-	9		segment

Execution Table

Gearbox	Single Shaft	MR2
B16	2	3
BA16	2	3
R16	2	3

No Load Speed vs. Torque



▶ Motor shaft rotates CW when seen from motor front face when +ve and -ve supply is given to respective terminals.

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