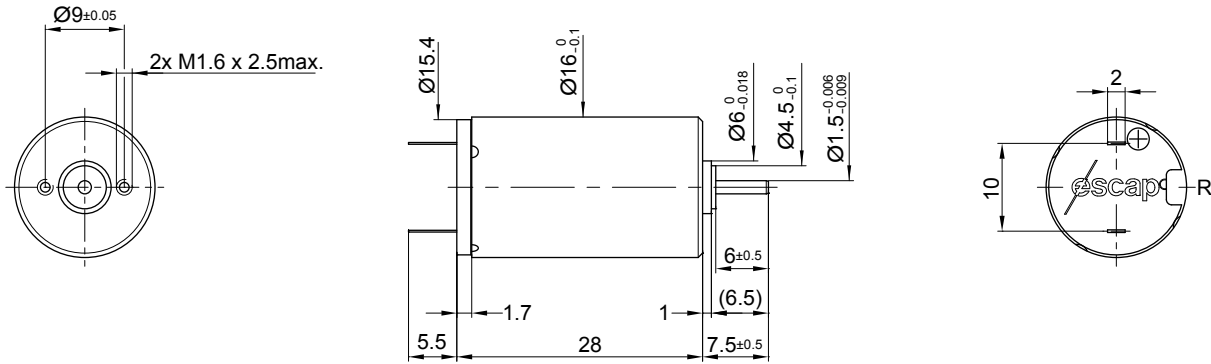


16N78 Athlonix™

Ø 16 mm • Precious metal commutation • 6.9 mNm



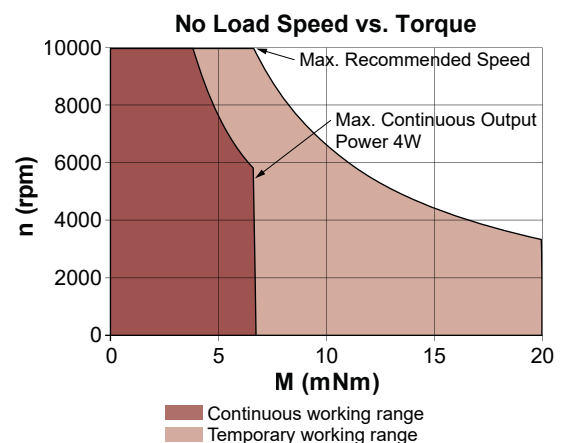
Dimensions in mm.

Electrical Data	Symbol	16N78 .... .1001						Unit
		135	212P	214E	212E	210E	208E	
1 Nominal Voltage	V	1.5	6	9	12	18	24	Volt
2 No-Load Speed	$n_0$	7,894	8,350	8,275	8,380	8,530	8,200	rpm
3 No-Load Current	$I_0$	90.0	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	$\Omega$
5 Output Power	$P_{2max}$	4.7	5.4	5.2	5.2	4.9	4.9	W
6 Stall Torque	mNm	13.5 (1.91)	13.6 (1.93)	12.4 (1.76)	12.4 (1.76)	13.1 (1.86)	11 (1.56)	mNm (oz-in)
7 Efficiency	$\eta_{max}$	83	82	83	86	83	81	%
8 Max Continuous Speed	$n_{e max}$	10,000	10,000	10,000	10,000	10,000	10,000	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	$I_{e max}$	3.41	1.03	0.65	0.49	0.34	0.23	A
11 Back-EMF Constant	$k_E$	0.19	0.71	1.08	1.42	2.09	2.90	mV/rpm
12 Torque Constant	$k_M$	1.80	6.80	10.30	13.60	20.00	27.70	mNm/A
13 Motor Regulation	$R/k^2$	62.0	64.9	70.7	71.37	69.0	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	$\tau_m$	6.8	6.8	8.8	8.6	8.3	9.3	ms
17 Rotor Inertia	J	1.10	1.05	1.25	1.20	1.20	1.18	g-cm <sup>2</sup>

General Data				
18 Thermal Resistance (rotor/body)	$R_{th1}/R_{th2}$	6/25		°C/W
19 Thermal Time Constant (rotor/stator)	$t_{W1}/t_{W2}$	12/250		S
20 Operating Temperature Range:	motor	-30°C to 85°C (-22°F to 185°F)		°C (°F)
	rotor			100°C (212°F)
21 Shaft Load Max.: (5 mm. from bearing)	-radial -axial	With sleeve bearings		N (oz)
				1.5 (5.4) 100 (359.6)
22 Shaft Play:	-radial	<0.03 (0.0012)		mm (inch)
	-axial			0.15 (0.0059)
23 Weight	g	24 (0.85)		g (oz)
24 Commutation Segment	-	9		segment

Execution Table

Gearbox	Single Shaft	MR2
B16	1005	1008
BA16	1005	1008
R16	1001	1007



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