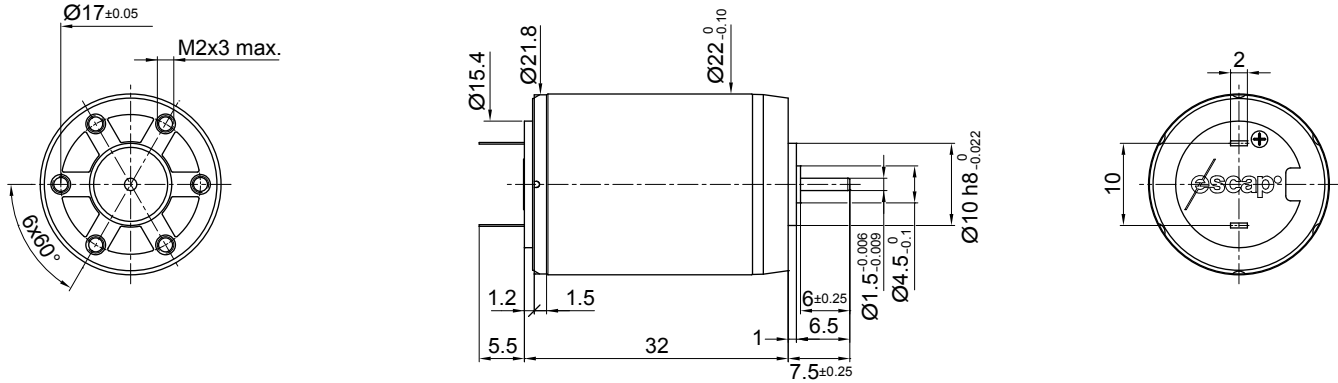


22N78 Athlonix™

Ø 22 mm • Precious metal commutation • 15.7 mNm



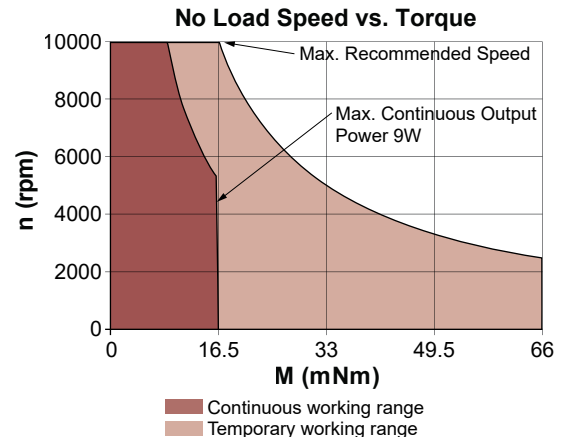
Dimensions in mm.

Electrical Data	Symbol	22N781001						Unit
		319P	313P	311P	216E	215E	208E	
1 Nominal Voltage	V	6	9	12	18	24	48	Volt
2 No-Load Speed	n_0	8,660	6,860	7,280	8,250	9,075	6,350	rpm
3 No-Load Current	I_0	28.0	20.0	11.0	6.0	5.0	1.5	mA
4 Terminal Resistance	R	0.6	2.5	3.9	7.7	11.0	107.0	Ω
5 Output Power	P_{2max}	13.0	12.0	12.0	11.3	11.5	10.0	W
6 Stall Torque	mNm	66 (9.35)	45 (6.38)	48 (6.8)	49 (6.94)	55 (7.79)	32 (4.54)	mNm (oz-in)
7 Efficiency	η_{max}	90	90	88	90	91	91	%
8 Max Continuous Speed	$n_{e max}$	10,000	10,000	10,000	10,000	10,000	10,000	rpm
9 Max Continuous Torque	$M_{e max}$	15.7 (2.06)	14.5 (2.06)	14.8 (2.1)	13.8 (1.96)	14.5 (2.06)	12.9 (1.83)	mNm (oz-in)
10 Max Continuous Current	$I_{e max}$	2.40	1.18	0.95	0.67	0.58	0.18	A
11 Back-EMF Constant	k_E	0.69	1.31	1.64	2.18	2.64	7.54	mV/rpm
12 Torque Constant	k_M	6.60	12.50	15.70	20.80	25.20	72.00	mNm/A
13 Motor Regulation	R/k^2	13.8	16.0	15.8	17.80	17.32	20.64	$10^3/Nms$
14 Friction Torque	T_F	0.07 (0.01)	0.25 (0.04)	0.11 (0.02)	0.12 (0.02)	0.12 (0.02)	0.07 (0.01)	mNm (oz-in)
15 Rotor Inductance	L	0.04	0.16	0.25	0.50	0.60	7.00	mH
16 Mechanical Time Constant	τ_m	6.7	7.0	6.6	8.4	7.8	6.9	ms
17 Rotor Inertia	J	4.90	4.39	4.20	4.74	4.50	3.32	$g\text{-cm}^2$

General Data					
18 Thermal Resistance (rotor/body)	R_{th1}/R_{th2}	6/22		$^{\circ}\text{C/W}$	
19 Thermal Time Constant (rotor/stator)	t_{W1}/t_{W2}	9/550		S	
20 Operating Temperature Range:	motor	-30°C to 85°C (-22°F to 185°F)		$^{\circ}\text{C}$ ($^{\circ}\text{F}$)	
	rotor			100°C (212°F)	$^{\circ}\text{C}$ ($^{\circ}\text{F}$)
21 Shaft Load Max.: (5 mm. from bearing)	-radial -axial	With sleeve bearings		N (oz)	
				3.0 (10.8)	N (oz)
				150 (539.5)	mm (inch)
22 Shaft Play:	-radial	<0.03 (0.0012)		mm (inch)	
	-axial	0.15 (0.0059)		mm (inch)	
23 Weight	g	53 (1.87)		g (oz)	
24 Commutation Segment	-	9		segment	

Execution Table

Gearbox	Single Shaft	MR2	E9
R22	1001	1008	1005
K24	1001	1008	1005
K27	1001	1008	1005
R22HT	1024	Upon Request	1025



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