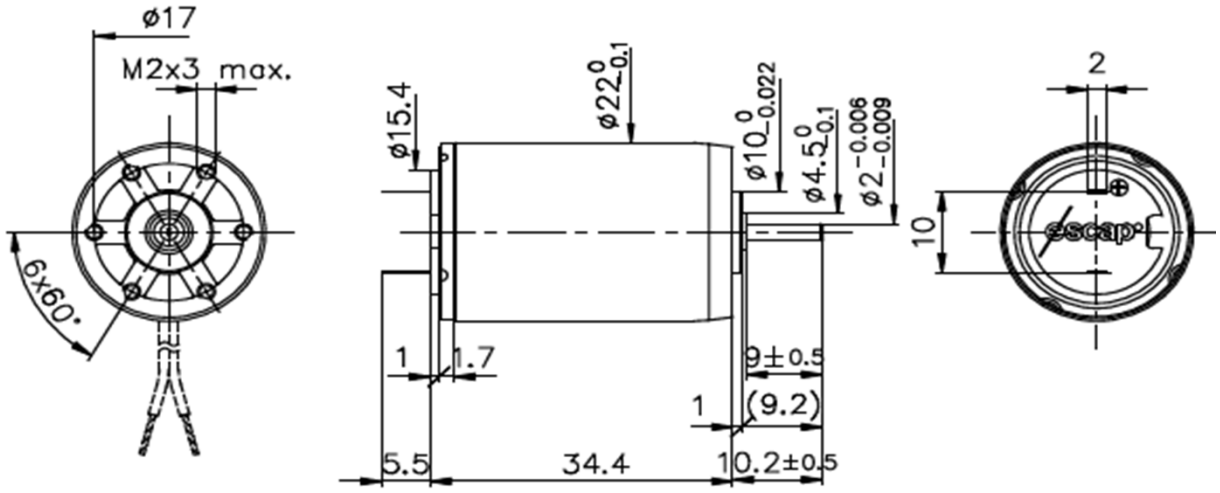
22V28 Precious metal commutation Ø22mm 9.7 mNm



22V28 ** .201**

Electrical Data	****	213P	216E	213E	210E	208E	
1 Nominal Voltage	V	6	9	12	15	24	Volt
2 No-Load Speed	n_0	7,100	6,725	7,630	7,550	6,340	rpm
3 No-Load Current	I_0	15.0	9.0	7.6	6.0	3.2	mA
4 Terminal Resistance	R	3.0	6.7	11.9	24.5	75.0	Ω
5 Output Power	$P_{2max.}$	4.1	4.4	3.8	3.3	3.6	W
6 Stall Torque	mNm	16 (2.27)	17.1 (2.43)	15 (2.13)	11.5 (1.63)	11.5 (1.63)	mNm (oz-in)
7 Efficiency	$\eta_{max.}$	83	84	83	81	81	%
8 Max continuous speed	$n_{e\ max.}$	12,000	12,000	12,000	12,000	12,000	rpm
9 Max continuous torque	$M_{e\ max.}$	9.1 (1.38)	9.7 (1.38)	8.5 (1.21)	7.4 (1.05)	8.1 (1.15)	mNm (oz-in)
10 Max continuous current	$I_{e\ max.}$	1.15	0.77	0.58	0.40	0.23	A
11 Back-EMF Constant	k_E	0.84	1.33	1.56	1.97	3.75	mV/rpm
12 Torque Constant	k_M	8.00	12.70	14.90	18.80	35.80	mNm/A
13 Motor Regulation	R/k^2	47.0	42.0	54.0	69.00	58.00	10^3/Nms
14 Friction Torque	T_F	0.12 (0.02)	0.12 (0.02)	0.11 (0.02)	0.11 (0.02)	0.11 (0.02)	mNm (oz-in)
15 Rotor Inductance	L	0.15	0.50	0.55	0.80	3.30	mH
16 Mechanical Time Constant	τ_m	15.0	16.4	17.3	20.0	13.9	ms
17 Rotor Inertia	J	3.20	3.90	3.20	2.90	2.40	$g.cm^2$
18 Thermal Resistance (rotor/body)	R_{th1} / R_{th2}	7/16	7/16	7/16	7/16	7/16	°C/W
19 Thermal Time Constant (rotor/stator)	τ_{w1}/t_{w2}	8/460	8/460	8/460	8/460	8/460	°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	3.0 (10.8)					N (oz)
at 3,000 rpm	-axial	150 (539.5)					N (oz)
22 Shaft play:	-radial	<0.03 (0.0012)					mm (inch)
	-axial	0.15 (0.0059)					mm (inch)
23 Weight	g	68 (2.4)					g (oz)

Execution					
Gearbox	**Single Shaft**	**F16**	**E9**	**HEDS**	**MR2**
	22V28	**22V28**	**22V48**	**22V48**	**22V48**
R22	202	202	225	Contact Us	Contact Us
M22	201	201	204	Contact Us	Contact Us
K24	202	202	225	Contact Us	Contact Us
K27	202	202	225	Contact Us	Contact Us