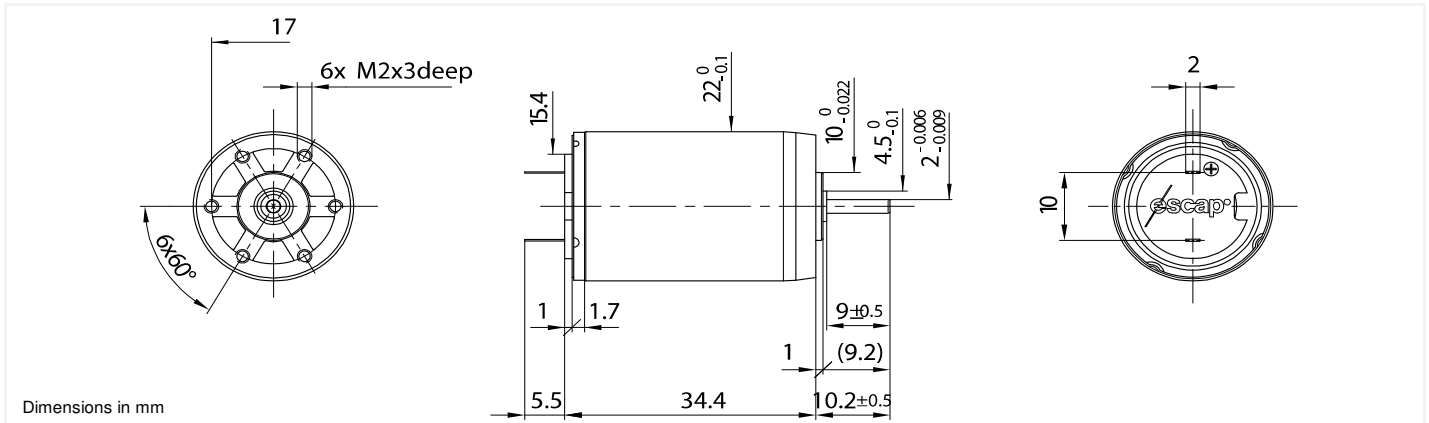


22V28

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	η_{max}	83	84	83	81	81	%
8 Max Continuous Speed	$n_{e max}$	10,000	10,000	10,000	10,000	10,000	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	t_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	$g.cm^2$
General Data							
18 Thermal Resistance (rotor/body)	R_{th1} / R_{th2}			7/16			$^{\circ}C/W$
19 Thermal Time Constant (rotor/stator)	t_{w1}/t_{w2}			8/460			S
20 Operating Temperature Range:	motor			-30 $^{\circ}C$ to 85 $^{\circ}C$ (-22 $^{\circ}F$ to 185 $^{\circ}F$)			$^{\circ}C$ ($^{\circ}F$)
	rotor			100 $^{\circ}C$ (212 $^{\circ}F$)			$^{\circ}C$ ($^{\circ}F$)
21 Shaft Load Max.:				With sleeve bearings			
(5mm from bearing)	-radial			3.0 (10.8)			N (oz)
	-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 Table				
Gearbox	Single Shaft	F16	E9	MR2
R22	202	202	225	Upon Request
M22	201	201	204	Upon Request
K24	202	202	225	Upon Request
K27	202	202	225	Upon Request

