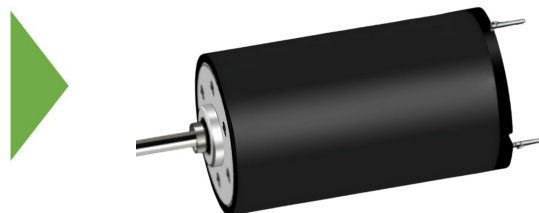


BDCM Series

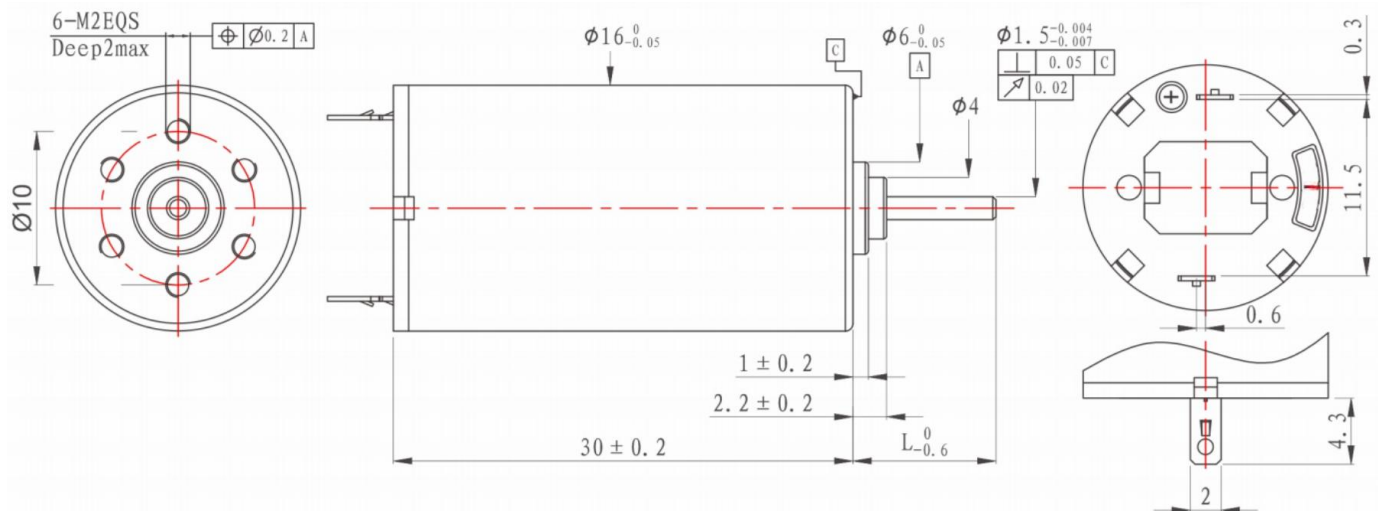
Coreless Precious Metal Brushed DC Motor



BDCM1630 Motor Data

3-7W

Motor Model	Unit	BDCM1630-01	BDCM1630-02	BDCM1630-03	BDCM1630-04
Value at Rated voltage					
At Nominal					
1. Nominal voltage	V/DC	3	6	12	24
2. Nominal speed	rpm	9600	7760	6240	6240
3. Nominal current	A	1.9	0.8	0.3	0.1
4. Nominal torque	mNm	4.2	4.4	4.2	3.6
Free Load					
5. No-load speed	rpm	12000	9700	7800	7800
6. No-load current	mA	95	50	15	10
At Max. Efficiency					
7. Max. efficiency	%	80.5	78.5	80.7	76.6
8. Speed	rpm	10920	8730	7098	6942
9. Current	A	0.9	0.4	0.1	0.1
10. Torque	mNm	1.9	2.2	1.9	2.0
At Max. Output power					
11. Max.output power	W	6.6	5.6	4.3	3.7
12. Speed	rpm	6000	4850	3900	3900
13. Current	A	4.5	2.0	0.7	0.3
14. Torque	mNm	10.5	11.1	10.4	9.1
At Stall					
15. Stall current	A	9.0	3.9	1.5	0.6
16. Stall torque	mNm	21.0	22.2	20.9	18.2
Motor Constants					
17. Terminal resistance	Ω	0.33	1.56	8.28	37.50
18. Terminal inductance	mH	0.02	0.08	0.39	1.05
19. Torque constant	mNm/A	2.36	5.83	14.54	28.92
20. Speed constant	rpm/V	4000.0	1616.7	650.0	325.0
21. Speed/torque constant	rpm/mNm	570.5	437.8	373.9	428.1
22. Mechanical time constant	ms	8.1	6.2	4.7	5.4
23. Rotor inertia	gcm ²	1.36	1.36	0.90	0.90
24. Number of pole pairs		1			
25. Number of phase		5			
26. Weight of motor	g	30			
27. Typical noise level	dB	≤38			

Motor Drawing (mm)**Φ16*L30mm****Technical Specifications**

1. Axial play: 0.05–0.15 mm
2. Sintered metal bearing load limits:
 - Max. axial load (dynamic): 0.5 N
 - Max. radial load (5 mm from flange): 5 N
 - Max. press fit force (static): 15 N
3. Radial play: ≤ 0.012 mm
4. Ambient temperature range: -20 to +80°C
5. Relative humidity: <90% RH at 25°C
6. Highest rotor temperature: 125°C

Motor terminal definition

1. + Vcc
2. - GND

Optional Parts

1. Planetary gearbox
2. Photoelectric encoder/magnetoelectric encoder

