

CD16 Serials



DC Coreless Motor

Maximum Sleeve Bearing Loads

Axial (Dynamic)	≤0.8N
Radial (4mm From Jamming Ring)	≤1.4N
Press-Fit Force (Static)	≤15N
Axial Play (Measured Under Less Than 4N Axial Force)	0.05 - 0.15mm
Maximum Radial Play	0.02mm

Maximum Allowable Screw Depth into flange 2.5mm

Table 1

		Motor data (at 25°C)								
		CD16-0105	CD16-0106	CD16-0109	CD16-0112	CD16-0103	CD16-1306	CD16-1309	CD16-1012	
Assigned power rating	W	0.8	0.8	0.8	0.7	1.0	1.3	1.3	1.0	
Nominal voltage	V	4.5	6	9	12	3	6	9	12	
Terminal resistance ±10%	Ω	4.26	8	17.2	39.4	1.03	5.05	10.3	26.0	
No load speed ±10%	rpm	8800	8590	8480	8280	10900	10100	10600	10400	
No load current	mA	21.6	12.8	8.4	5.7	60.0	13	13.5	8.70	
Speed constant	rpm/V	1956	1432	942	690	3633	1683	1178	867	
Torque constant	mN.m/A	4.79	6.56	9.98	13.59	2.58	5.61	7.99	10.82	
Starting current	mA	1056	750	523	304	2913	1188	874	462	
Stall torque	mN.m	5.06	4.92	5.22	4.13	7.50	6.67	6.98	4.99	
Max. efficiency	%	73	76	76	74	73	80	77	74	
Limits for continuous operating range	Current	mA	240	187	120	76	394	297	190	115
	Torque	mN.m	1.15	1.23	1.2	1.03	1.01	1.67	1.52	1.24
	Speed	rpm	6801	6448	6535	6212	9426	7575	8295	7809
	Output power	W	0.818	0.828	0.819	0.671	1.00	1.32	1.32	1.02
Max. permissible winding temperature	°C	+85	+85	+85	+85	+85	+85	+85	+85	
Ambient temperature range	°C	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	
Weight	g	19.7	19	19	19	19	19	19	19	

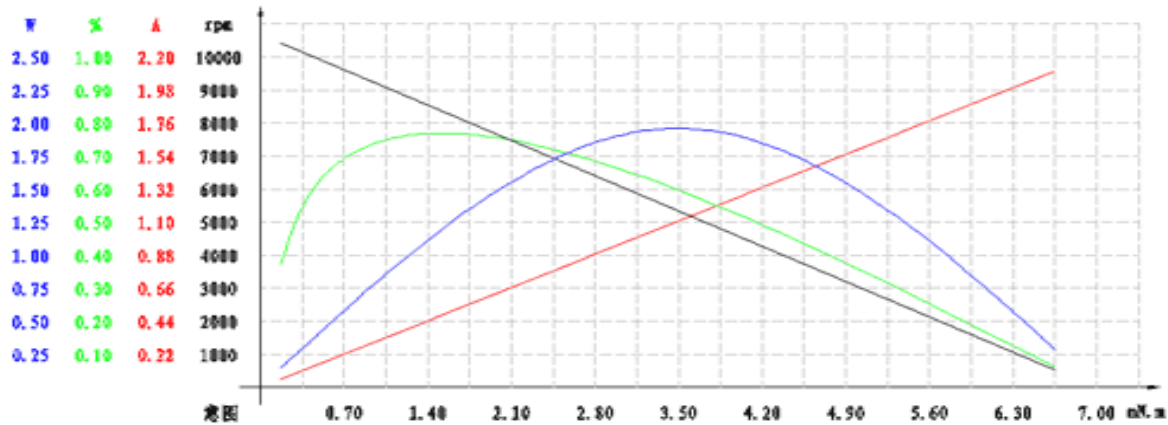
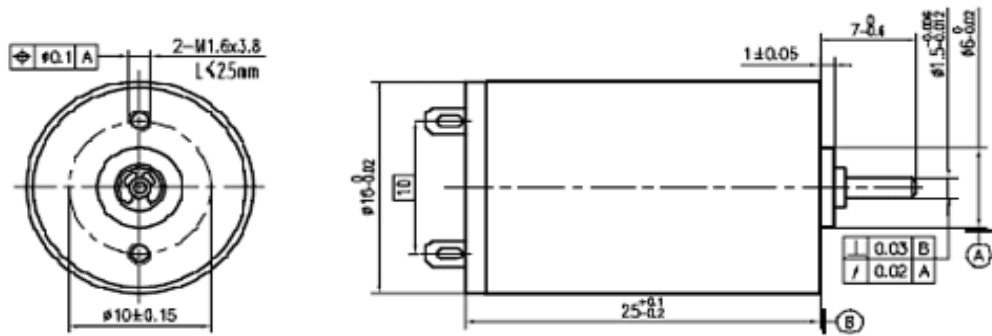
Table 2

		Motor data (at 25°C)				
		CD16-1403	CD16-1406	CD16-1709	CD16-1412	
Assigned power rating	W	1.4	1.4	1.7	1.4	
Nominal voltage	V	3.0	6.0	9.0	12	
Terminal resistance ±10%	Ω	0.932	4.44	8.73	18.4	
No load speed ±10%	rpm	10200	10300	10600	10200	
No load current	mA	45.0	20.2	15.2	8.1	
Speed constant	rpm/V	3400	1717	1178	850	
Torque constant	mN.m/A	2.77	5.48	7.99	11.1	
Starting current	mA	3219	1351	1031	652	
Stall torque	mN.m	8.92	7.41	8.24	7.24	
Max. efficiency	%	78	77	77	79	
Limits for continuous operating range	Current	mA	580	310	257	163
	Torque	mN.m	1.61	1.7	2.05	1.81
	Speed	rpm	8362	7937	7958	7651
	Output power	W	1.41	1.41	1.71	1.45
Max. permissible winding temperature	°C	+85	+85	+85	+85	
Ambient temperature range	°C	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	
Weight	g	22.9	22	22	22	

Table 3

		Motor data (at 25°C)							
		CD16-1503	CD16-1806	CD16-1906	CD16-1909	CD16-1512	CD16-2518	CD16-1824	
Assigned power rating	W	1.5	1.8	1.9	1.9	1.5	2.5	1.8	
Nominal voltage	V	3.0	4.5	6.0	9	12	18	24	
Terminal resistance ±10%	Ω	0.658	1.21	2.45	6.1	13.4	20.2	50.5	
No load speed ±10%	rpm	8400	8450	8700	8580	8570	8530	8640	
No load current	mA	70.0	28	36.7	22.8	13.4	212.1	8.90	
Speed constant	rpm/V	2800	1878	1450	953	714	474	360	
Torque constant	mN.m/A	3.36	5.05	6.49	9.87	13.18	19.89	26.04	
Starting current	mA	4559	3719	2449	1475	896	891	475	
Stall torque	mN.m	15.32	18.78	15.89	14.56	11.80	17.72	12.38	
Max. efficiency	%	77	83	77	77	77	78	75	
Limits for continuous operating range	Current	mA	582	460	381	260	155	178	95
	Torque	mN.m	1.96	2.32	2.47	2.57	2.04	3.54	2.47
	Speed	rpm	7328	7405	7346	7068	7087	6826	6913
	Output power	W	1.50	1.8	1.9	1.9	1.52	2.53	1.79
Max. permissible winding temperature	°C	+85	+85	+85	+85	+85	+85	+85	
Ambient temperature range	°C	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	
Weight	g	36.1	35	35	34.4	34.9	34.9	34.9	

Representative drawings and performance Curve for models in tabel 1



Note

1. Motor data tested at ambient temperature 25°C. Data varies when the temperature changes.
2. Motor service life different from operating conditions. In common condition, service life is achievable between approx. 1000 to 3000 hours.

