

Features	
Axial (Dynamic)	≤1.0N
Radial (4mm From Jamming Ring)	≤2.7N
Press-Fit Force (Static)	≤80N
Axial Play (Measured Under Less Than 4N Axial Force)	0.05 - 0.15mm
Maximum Radial Play	0.02mm



Specifications		CD22-0203	CD22-0206	CD22-0309	CD22-0312	CD22-04-15	CD22-0318		
Assigned power rating	W	2.0	2.0	2.8	3.4	3.6	2.6		
Nominal voltage	V	3.0	6	9	12	15	18		
Terminal resistance ±10%	Ω	0.38	2	4.6	6.8	9.84	19.90		
No load speed ±10%	rpm	8500	8330	8200	8160	8400	8170		
No load current	mA	75.0	24.0	15.3	14.1	12.1	9		
Speed constant	rpm/V	2833	13898	911	680	560	454		
Torque constant	mN.m/A	3.34	6.83	10.40	13.94	16.93	20.84		
Starting current	mA	7874	3209	1957	1770	1524	905		
Stall torque	mN.m	26.30	21.92	20.36	24.67	25.80	18.85		
Max. efficiency	%	81	83	83	83	83	81		
Current	mA	742	381	391	354	305	181		
Torque	mN.m	2.48	2.60	4.1	4.93	5.16	3.77		
Speed	rpm	7699	7341	6561	6528	6719	6535		
Output power	W	2.000	2.000	2.790	3.370	3.63	2.58		
Max. permissible winding temp.	°C	85	85	85	85	85	85		
Ambient temperature range	°C	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65		
Weight	g	48.0	48	48	48	48	48		

Specifications		CD22-0409	CD22-0412	CD22-0618	CD22-0624				
Assigned power rating	W	4.0	4.0	6.0	6.0				
Nominal voltage	V	9.0	12	18	24				
Terminal resistance ±10%	Ω	1.33	2	6.3	9.1				
No load speed ±10%	rpm	8240	8240	8120	8180				
No load current	mA	38.2	22.7	12.5	13.3				
Speed constant	rpm/V	916	687	451	341				
Torque constant	mN.m/A	10.38	13.86	21.09	27.89				
Starting current	mA	6767	5455	2880	2652				
Stall torque	mN.m	70.22	75.58	60.73	73.97				
Max. efficiency	%	86	88	87	86				
Current	mA	481	358	387	394				
Torque	mN.m	4.99	4.96	8.2	10.99				
Speed	rpm	7654	7699	7029	6965				
Output power	W	4.000	4.000	6.000	8.010				
Max. permissible winding temp.	°C	85	85	85	85				
Ambient temperature range	°C	-20 -- +65	-20 -- +65	-20 -- +65	-20 -- +65				
Weight	g	70.0	70	70	70				

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.
3. Excessive bending of motor terminals may result in breakage when more than 3 times.