



Scale:3:1 Unit:mm

Specifications		
	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		7.5g

CM1016 Series				744169	121364								
Motor Data													
1	Nominal voltage	U_N	V	7.4	12.0								
2	No load speed	n_0	rpm	40900	12800								
3	No load current	I_0	A	0.06	0.01								
4	Nominal speed	n_N	rpm	34986	3980								
5	Nominal torque	T_N	mN.m	0.54	0.7								
6	Nominal current	I_N	A	0.35	0.15								
7	Stall torque	T_s	mN.m	3.8	1.2								
8	Stall current	I_s	A	2.1	0.25								
9	Max. efficiency	η	%	69	64								
Characteristics													
10	Terminal resistance	R_{t-h}	Ω	3.5	48								
11	Terminal inductance	L_{t-h}	mH	0.08	0.90								
12	Torque constant	K_T	mN.m/A	1.86	5.0								
13	Speed constant	K_n	rpm/V	5698	1111								
14	Speed/torque gradient	K_v	rpm/mN.m	10722	18335								
15	Mechanical time constant	K_m	ms	6.7	12.5								
16	Rotor inertia	J	gcm ²	0.066	0.065								

Thermal data		
17	Thermal resistance housing-ambient	45.5K/W
18	Thermal resistance winding-housing	19.5K/W
19	Thermal time constant winding	3.16 s
20	Thermal time constant motor	108 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C
Mechanical data (sleeve bearings)		
23	Max. permissible speed	42000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.012 mm
26	Max. axial load (dynamic)	0.15 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	0.4 N

Configuration

Housing: Integer style/split style (Include iron flange and aluminium flange)

Commutator: Pressure-sensitive/electric capacity (with precious metal brushes or graphite)

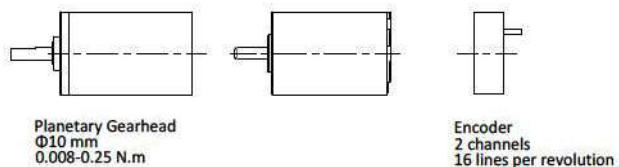
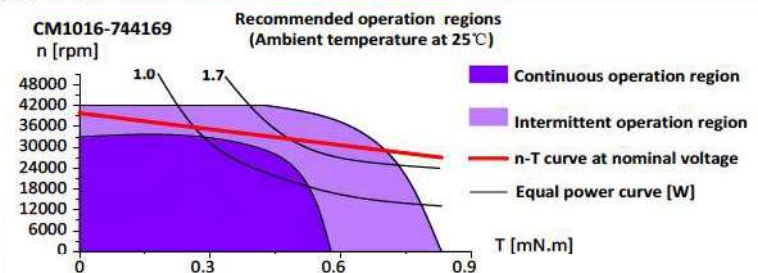
Bearing: Ball bearing/sleeve bearing

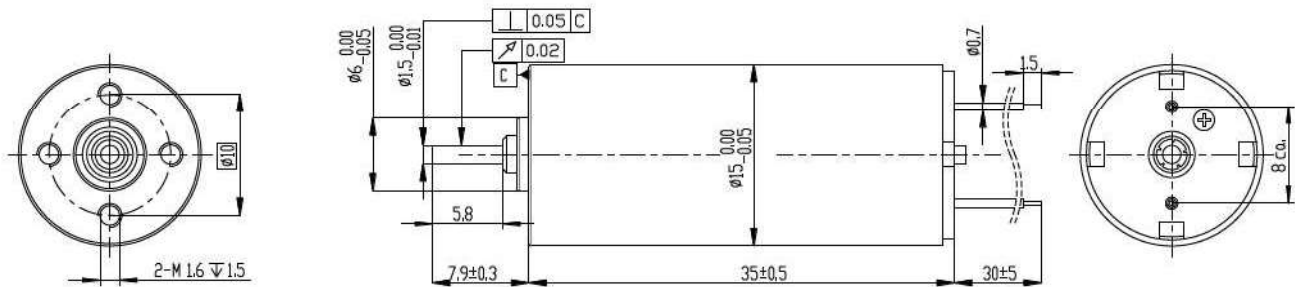
Shaft: Length/diameter/flat face

Electric connection: Terminals or cable/alignment of connection/
cable length/connector type

More: Customized according to customer requirements, please contact our sales engineers

Operating Characteristic Curve





Scale:2.5:1 Unit:mm

Specifications		
	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	29.5g	

CM1535 Series				031185	060988	091088							
Motor Data													
1	Nominal voltage	U _N	V	3.0	6.0	9.0							
2	No load speed	n ₀	rpm	10500	9400	9800							
3	No load current	I ₀	A	0.03	0.011	0.007							
4	Nominal speed	n _N	rpm	9715	8846	9225							
5	Nominal torque	T _N	mN.m	1.57	1.18	1.20							
6	Nominal current	I _N	A	0.371	0.175	0.112							
7	Stall torque	T _s	mN.m	21.0	20.0	20.5							
8	Stall current	I _s	A	4.6	2.8	1.8							
9	Max. efficiency	η	%	84.5	87.9	87.9							

Characteristics												
10	Terminal resistance	R_{th}	Ω	0.65	2.14	5.0						
11	Terminal inductance	L_{th}	mH	0.036	0.09	0.17						
12	Torque constant	K_T	mN.m/A	4.60	7.17	11.43						
13	Speed constant	K_n	rpm/V	3523	1573	1093						
14	Speed/torque gradient	K_v	rpm/mN.m	295	398	365						
15	Mechanical time constant	K_m	ms	2.93	3.96	3.63						
16	Rotor inertia	J	gcm ²	0.95	0.95	0.95						

Thermal data			Operating Characteristic Curve	
17	Thermal resistance housing-ambient	39KW	CM1535-031185 n [rpm] Recommended operation regions (Ambient temperature at 25°C) Continuous operation region Intermittent operation region	
18	Thermal resistance winding-housing	9.0KW		
19	Thermal time constant winding	5.1 s		
20	Thermal time constant motor	250 s		
21	Ambient temperature	-20...+65°C		
22	Max. permissible winding temperature	+85°C		

Mechanical data (sleeve bearings)		
23	Max. permissible speed	15000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

Configuration

Housing: Integer style/split style (Include iron flange and aluminium flange)

Commutator: Pressure-sensitive/electric capacity (with precious metal brushes or graphite)

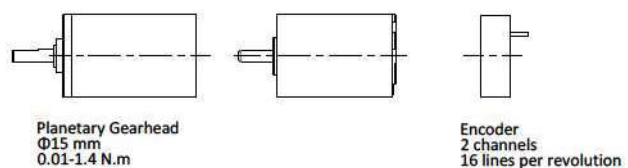
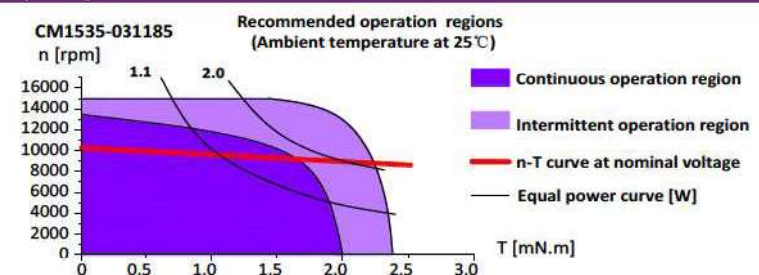
Bearing: Ball bearing/sleeve bearing

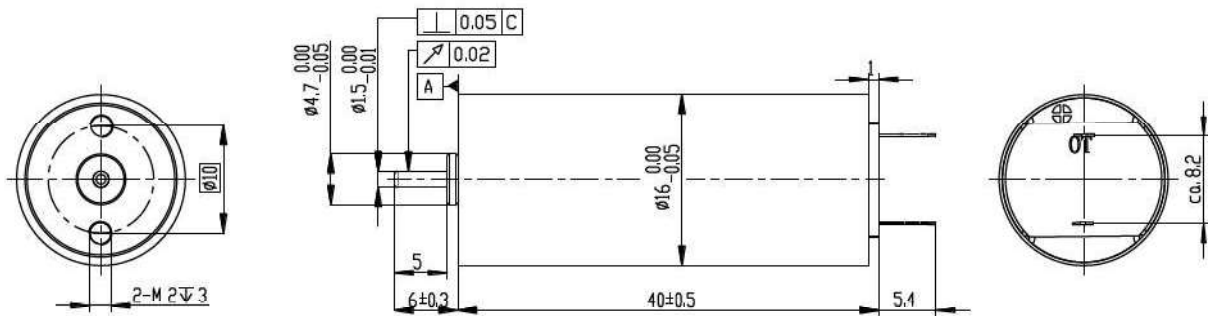
Shaft: Length/diameter/flat face

Electric connection: Terminals or cable/alignment of connection/
cable length/connector type

More: Customized according to customer requirements, please contact our sales engineers

Operating Characteristic Curve





Scale:2:1 Unit:mm

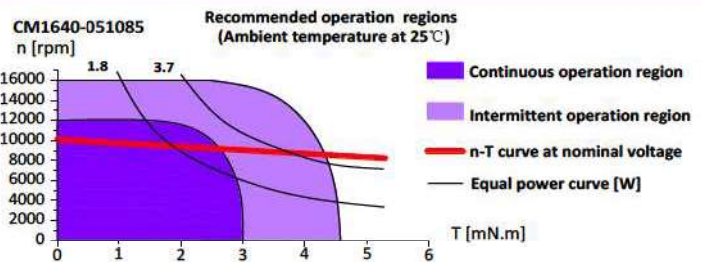
Specifications		
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	37.5g	

CM1640 Series			051085	120975										
Motor Data														
1	Nominal voltage	U_N	V	5.0	12.0									
2	No load speed	n_0	rpm	10350	8890									
3	No load current	I_0	A	0.035	0.028									
4	Nominal speed	n_N	rpm	9616	7824									
5	Nominal torque	T_N	mN.m	1.99	2.27									
6	Nominal current	I_N	A	0.458	0.2									
7	Stall torque	T_s	mN.m	28	19									
8	Stall current	I_s	A	6.0	1.51									
9	Max. efficiency	η	%	85.3	74.6									
Characteristics														
10	Terminal resistance	R_{t-h}	Ω	0.83	7.94									
11	Terminal inductance	L_{t-h}	mH	0.11	0.45									
12	Torque constant	K_T	mN.m/A	4.69	12.8									
13	Speed constant	K_n	rpm/V	2082	755									
14	Speed/torque gradient	K_v	rpm/mN.m	361	463									
15	Mechanical time constant	K_m	ms	6.85	7.25									
16	Rotor inertia	J	gcm ²	1.81	1.5									

Thermal data		
17	Thermal resistance housing-ambient	30K/W
18	Thermal resistance winding-housing	8.5K/W
19	Thermal time constant winding	10.6 s
20	Thermal time constant motor	436 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C

Mechanical data (sleeve bearings)		
23	Max. permissible speed	16000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

Operating Characteristic Curve



Configuration

Housing: Integer style/split style (Include iron flange and aluminium flange)

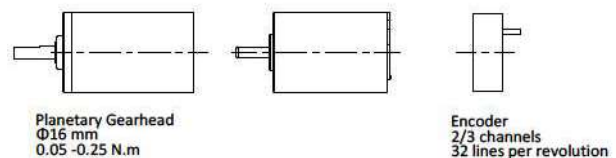
Commutator: Pressure-sensitive/electric capacity(with precious metal brushes or graphite)

Bearing: Ball bearing/sleeve bearing

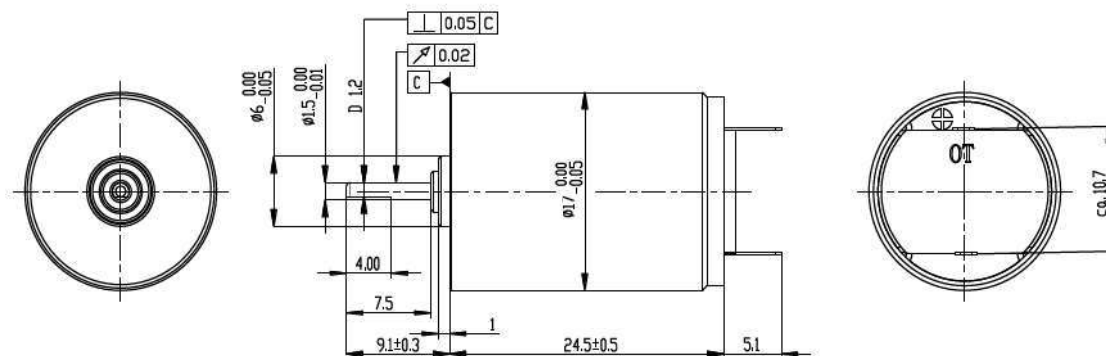
Shaft: Length/diameter/flat face

Electric connection: Terminals or cable/alignment of connection/ cable length/connector type

More: Customized according to customer requirements, please contact our sales engineers



CM 1725 $\Phi 17$ Coreless Brush DC Motor



Scale:2.5:1 Unit:mm

Specifications		
	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	27g	

CM1725 Series				061175	741337	091086	121384						
Motor Data													
1	Nominal voltage	U_N	V	6.0	7.4	9.0	12.0						
2	No load speed	n_0	rpm	10500	13200	10200	13150						
3	No load current	I_0	A	0.038	0.016	0.008	0.015						
4	Nominal speed	n_N	rpm	9255	12354	9522	12114						
5	Nominal torque	T_N	mN.m	1.30	1.22	1.0	1.61						
6	Nominal current	I_N	A	0.282	0.234	0.112	0.175						
7	Stall torque	T_s	mN.m	11.0	19.0	15.0	20.4						
8	Stall current	I_s	A	2.1	3.42	1.58	2.05						
9	Max. efficiency	η	%	74.9	86.8	86.3	83.6						
Characteristics													
10	Terminal resistance	R_{t-h}	Ω	2.86	2.16	5.704	5.85						
11	Terminal inductance	L_{t-h}	mH	0.06	0.06	0.07	0.18						
12	Torque constant	K_T	mN.m/A	5.33	5.58	9.5	10.02						
13	Speed constant	K_n	rpm/V	1782	1792	1139	1104						
14	Speed/torque gradient	K_v	rpm/mN.m	959	663	597	556						
15	Mechanical time constant	K_m	ms	7.83	5.42	5.94	7.69						
16	Rotor inertia	J	gcm ²	0.78	0.78	0.95	1.32						

Thermal data		
17	Thermal resistance housing-ambient	30K/W
18	Thermal resistance winding-housing	8.5K/W
19	Thermal time constant winding	10.6 s
20	Thermal time constant motor	436 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C

Mechanical data (sleeve bearings)		
23	Max. permissible speed	18000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

Configuration

Housing: Integer style/split style (Include iron flange and aluminium flange)

Commutator: Pressure-sensitive/electric capacity (with precious metal brushes or graphite)

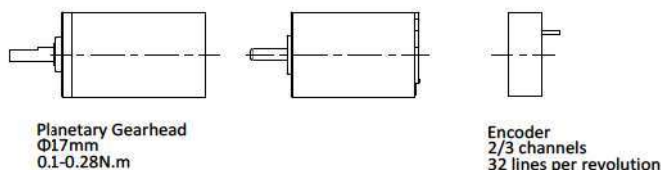
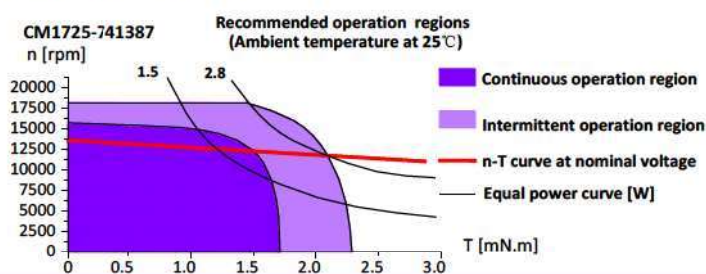
Bearing: Ball bearing/sleeve bearing

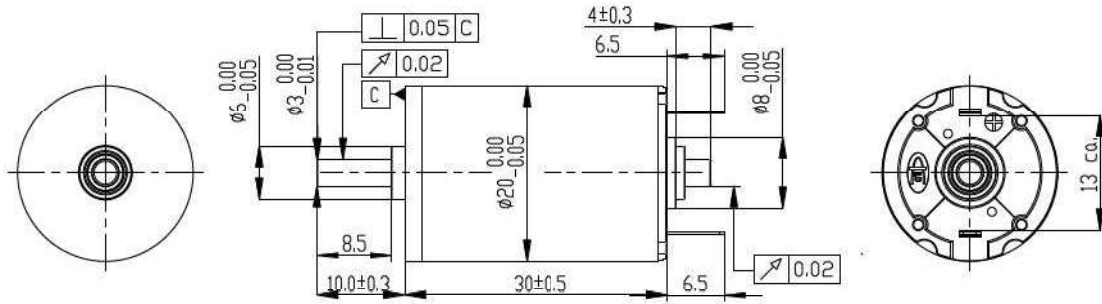
Shaft: Length/diameter/flat face

Electric connection: Terminals or cable/alignment of connection/
cable length/connector type

More: Customized according to customer requirements, please contact our sales engineers

Operating Characteristic Curve





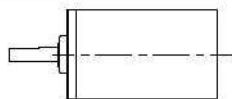
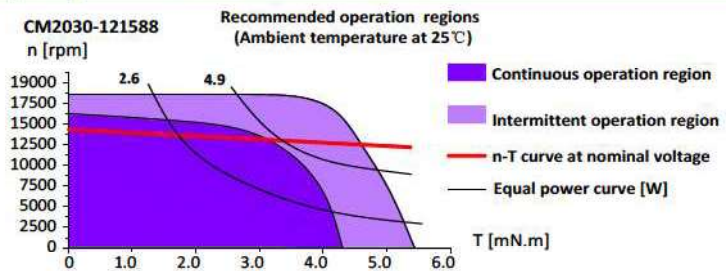
Scale:1.5:1 Unit:mm

Specifications		
	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		48g

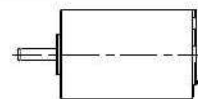
CM2030 Series				120789	121489									
Motor Data														
1	Nominal voltage	U_N	V	6.5	12.0									
2	No load speed	n_0	rpm	7380	14800									
3	No load current	I_0	A	0.018	0.019									
4	Nominal speed	n_N	rpm	6979	14005									
5	Nominal torque	T_N	mN.m	2.20	2.93									
6	Nominal current	I_N	A	0.279	0.335									
7	Stall torque	T_s	mN.m	40.5	54.6									
8	Stall current	I_s	A	4.85	5.9									
9	Max. efficiency	η	%	88.8	89.0									
Characteristics														
10	Terminal resistance	$R_{\Omega n}$	Ω	1.34	2.03									
11	Terminal inductance	$L_{\Omega n}$	mH	0.06	0.08									
12	Torque constant	K_T	mN.m/A	8.38	9.28									
13	Speed constant	K_n	rpm/V	1139	1237									
14	Speed/torque gradient	K_v	rpm/mN.m	182	225									
15	Mechanical time constant	K_m	ms	7.37	9.11									
16	Rotor inertia	J	gcm ²	3.86	3.86									

Thermal data		
17	Thermal resistance housing-ambient	30K/W
18	Thermal resistance winding-housing	8.5K/W
19	Thermal time constant winding	10.6 s
20	Thermal time constant motor	436 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C
Mechanical data (sleeve bearings)		
23	Max. permissible speed	18000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

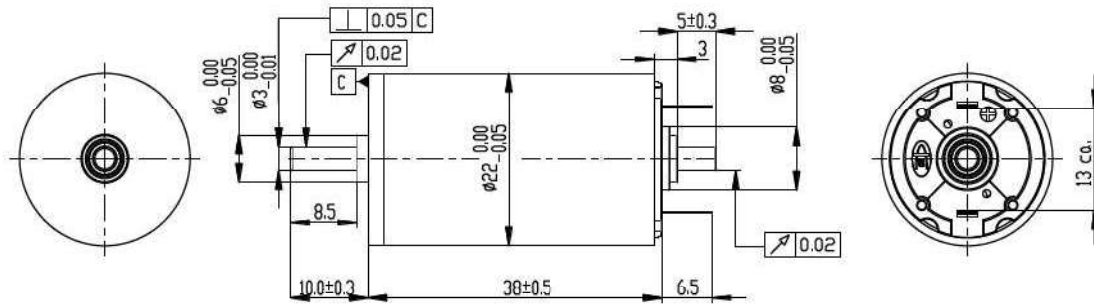
Operating Characteristic Curve



Planetary Gearhead
Φ20mm
0.15-0.40N.m



Encoder
3 channels
128 lines per revolution



Scale:1.5:1 Unit:mm

Specifications		
Brushes	Graphite Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5/7 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	72g	

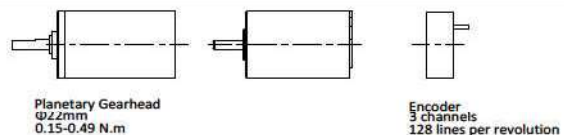
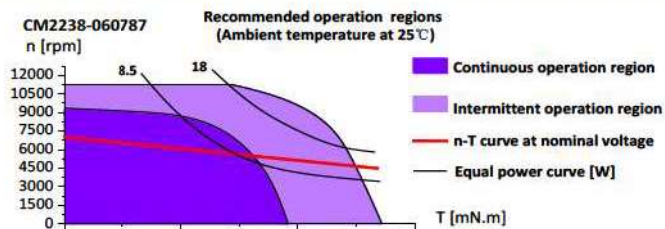
CM2238 Series			060787	120787	180786								
Motor Data													
1	Nominal voltage	U_N	V	6.0	12.0	18.0							
2	No load speed	n_0	rpm	6950	6850	6880							
3	No load current	I_0	A	0.065	0.055	0.045							
4	Nominal speed	n_N	Rpm	6504	6401	6399							
5	Nominal torque	T_N	mN.m	4.37	6.88	7.07							
6	Nominal current	I_N	A	0.947	0.785	0.598							
7	Stall torque	T_s	mN.m	68.0	105	101							
8	Stall current	I_s	A	13.8	11.2	7.95							
9	Max. efficiency	η	%	86.7	86.5	85.5							
Characteristics													
10	Terminal resistance	R_{th}	Ω	0.43	1.07	2.26							
11	Terminal inductance	L_{th}	mH	0.022	0.052	0.144							
12	Torque constant	K_T	mN.m/A	4.95	9.42	12.78							
13	Speed constant	K_n	rpm/V	1164	574	384							
14	Speed/torque gradient	K_v	rpm/mN.m	168	115	132							
15	Mechanical time constant	K_m	ms	8.16	6.29	7.23							
16	Rotor inertia	J	gcm ²	4.6	5.21	5.21							

Thermal data		
17	Thermal resistance housing-ambient	20K/W
18	Thermal resistance winding-housing	6.5K/W
19	Thermal time constant winding	20.2 s
20	Thermal time constant motor	513 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+155°C

Mechanical data (sleeve bearings)		
23	Max. permissible speed	11000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	10 N
27	Max. force for press fits (static)	60 N
28	Max. radial loading, 5 mm from flange	25 N

Configuration
Housing: Integer style/split style (Include iron flange and aluminium flange)
Commutator: Pressure-sensitive/electric capacity(with precious metal brushes or graphite)
Bearing: Ball bearing/sleeve bearing
Shaft: Length/diameter/flat face
Electric connection: Terminals or cable/alignment of connection/
cable length/connector type
More: Customized according to customer requirements, please
contact our sales engineers

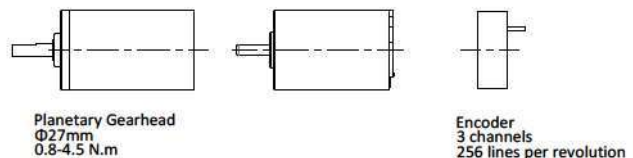
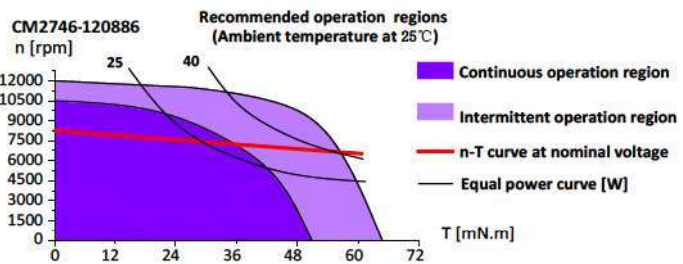
Operating Characteristic Curve



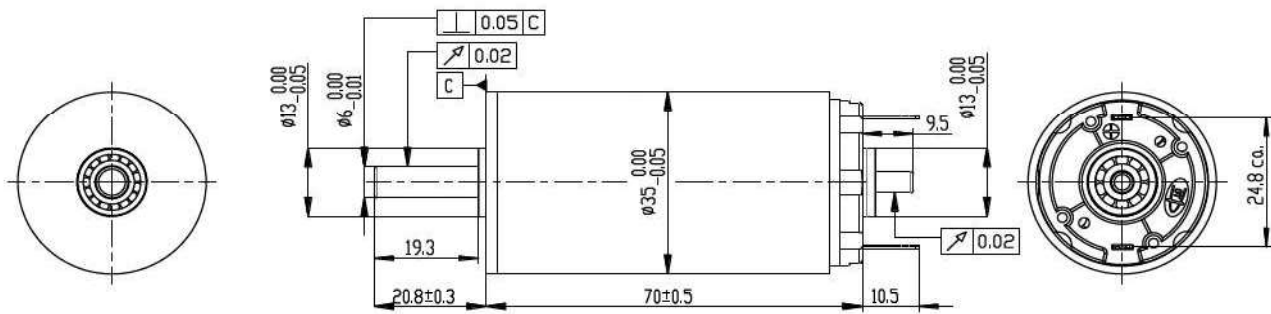


Specifications		
	A	B
Brushes	Graphite Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	11 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	120g	

Operating Characteristic Curve



CM 3570 Φ35 Coreless Brush DC Motor



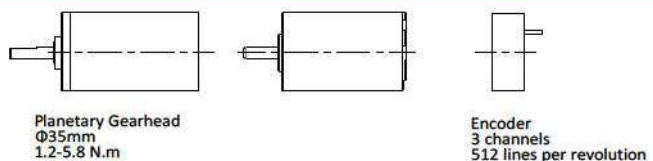
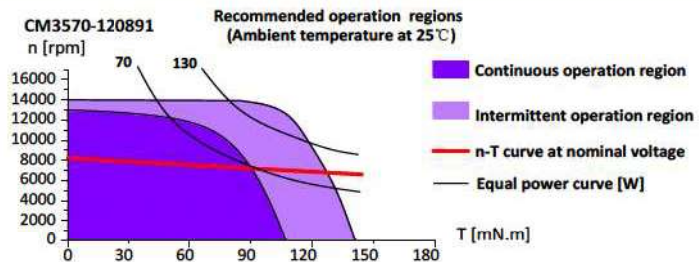
Scale:1:1 Unit:mm

Specifications		
Brushes	Graphite Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	13 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	370g	

CM3570 Series				120891	240890	480790							
Motor Data													
1	Nominal voltage	U_N	V	12.0	24	48							
2	No load speed	n_0	rpm	8200	7900	6900							
3	No load current	I_0	A	0.35	0.20	0.068							
4	Nominal speed	n_N	rpm	7826	7499	6576							
5	Nominal torque	T_N	mN.m	93.57	102.5	89.24							
6	Nominal current	I_N	A	7.32	3.74	1.38							
7	Stall torque	T_s	mN.m	2050	2020	1900							
8	Stall current	I_s	A	153	70	28							
9	Max. efficiency	η	%	90.7	89.6	90.4							
Characteristics													
10	Terminal resistance	R_{th}	Ω	0.08	0.34	1.71							
11	Terminal inductance	L_{th}	mH	0.09	0.29	0.87							
12	Torque constant	K_T	mN.m/A	13.43	28.94	68.02							
13	Speed constant	K_n	rpm/V	685	330	144							
14	Speed/torque gradient	K_v	rpm/mN.m	4.2	3.9	3.5							
15	Mechanical time constant	K_m	ms	4.78	4.58	4.15							
16	Rotor inertia	J	gcm ²	110	112	112							

Thermal data		
17	Thermal resistance housing-ambient	6.2K/W
18	Thermal resistance winding-housing	2.0K/W
19	Thermal time constant winding	30.2 s
20	Thermal time constant motor	644 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+155°C
Mechanical data (ball bearings)		
23	Max. permissible speed	14000 rpm
24	Axial play at axial load < 7.5N	0 mm
	> 7.5N	Max 0.25 mm
25	Radial play	preloaded
26	Max. axial load (dynamic)	5.6 N
27	Max. force for press fits (static)	110 N
	(static, shaft supported)	1200 N
28	Max. radial loading, 5 mm from flange	28 N

Operating Characteristic Curve



Configuration
Housing: Integer style/split style (Include iron flange and aluminium flange)
Commutator: Pressure-sensitive/electric capacity(with precious metal brushes or graphite)
Bearing: Ball bearing/sleeve bearing
Shaft: Length/diameter/flat face
Electric connection: Terminals or cable/alignment of connection/ cable length/connector type
More: Customized according to customer requirements, please contact our sales engineers