

Scale:3:1 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	26g	

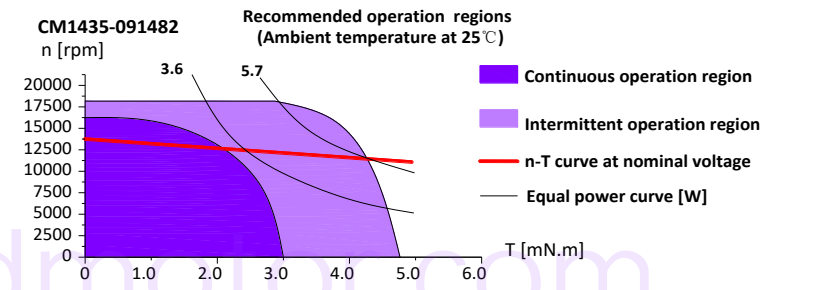
CM1435 Series			091482	121380	151382	
Motor Data						
1	Nominal voltage	U_N	V	9.0	12.0	15.0
2	No load speed	n_0	rpm	13700	13000	13100
3	No load current	I_0	A	0.035	0.025	0.018
4	Nominal speed	n_N	rpm	12500	11748	11938
5	Nominal torque	T_N	mN.m	2.19	2.23	2.32
6	Nominal current	I_N	A	0.365	0.235	0.185
7	Stall torque	T_S	mN.m	25	23.2	16.2
8	Stall current	I_S	A	3.8	2.2	1.9
9	Max. efficiency	η	%	81.7	79.8	81.5

Characteristics						
10	Terminal resistance	R_{t-h}	Ω	2.37	5.45	7.89
11	Terminal inductance	L_{t-h}	mH	0.02	0.11	0.16
12	Torque constant	K_T	mN.m/A	6.64	10.67	13.92
13	Speed constant	K_n	rpm/V	1536	1096	882
14	Speed/torque gradient	K_v	rpm/mN.m	513	458	389
15	Mechanical time constant	K_m	ms	5.26	4.70	3.99
16	Rotor inertia	J	gcm ²	0.98	0.98	0.98

Thermal data		
17	Thermal resistance housing-ambient	38K/W
18	Thermal resistance winding-housing	8.5K/W
19	Thermal time constant winding	5.0 s
20	Thermal time constant motor	240 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C

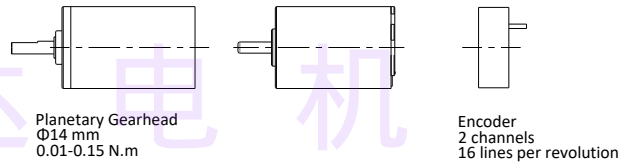
Mechanical data (sleeve bearings)		
23	Max. permissible speed	18000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

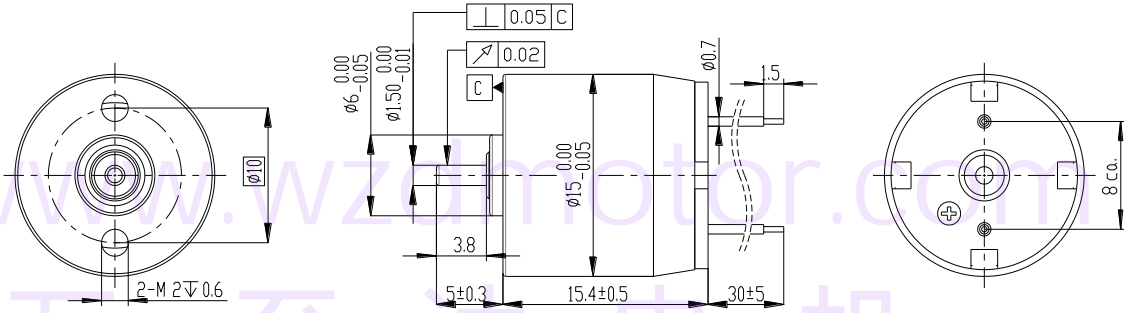
Operating Characteristic Curve



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



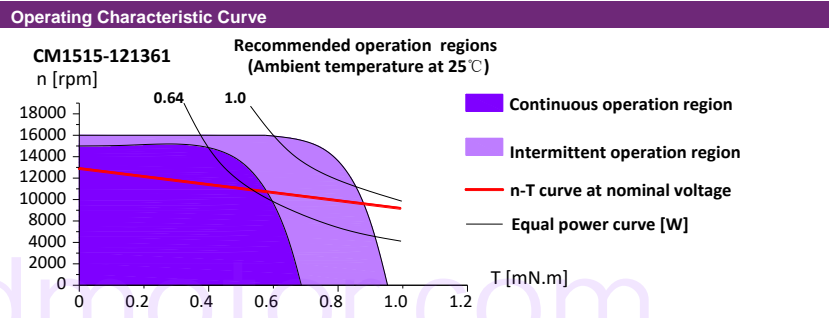


Scale:2.5:1 Unit:mm

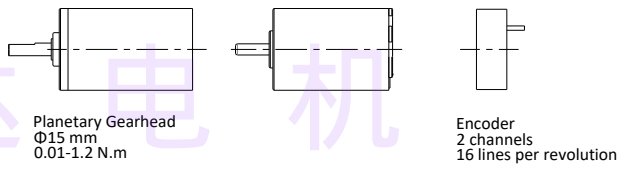
Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	13g	

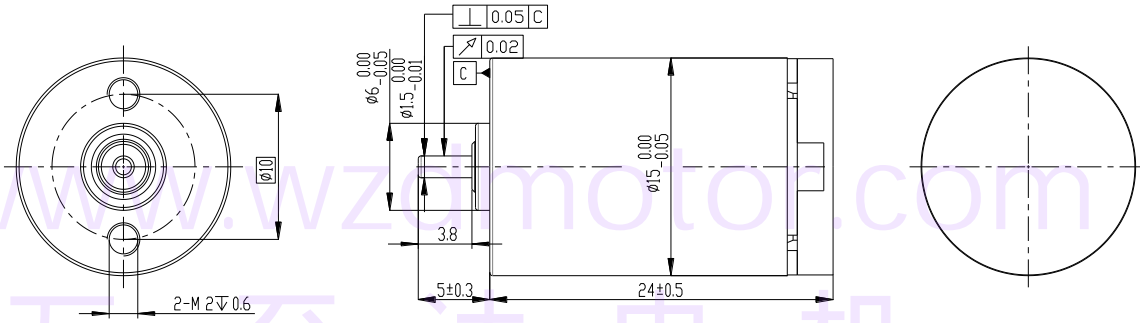
CM1515 Series			371365	061364	091362	121361	
Motor Data							
1	Nominal voltage	U_N	V	3.7	6.0	9.0	12.0
2	No load speed	n_0	rpm	12500	12700	12800	12900
3	No load current	I_0	A	0.03	0.022	0.018	0.015
4	Nominal speed	n_N	rpm	10472	10583	10560	10574
5	Nominal torque	T_N	mN.m	0.48	0.48	0.53	0.50
6	Nominal current	I_N	A	0.15	0.11	0.085	0.068
7	Stall torque	T_S	mN.m	3.0	2.9	3.0	2.8
8	Stall current	I_S	A	0.8	0.55	0.4	0.31
9	Max. efficiency	η	%	65	64	62.1	60.8
Characteristics							
10	Terminal resistance	R_{th}	Ω	4.62	10.91	22.5	38.71
11	Terminal inductance	L_{th}	mH	0.08	0.12	0.12	0.2
12	Torque constant	K_T	mN.m/A	3.9	5.49	7.85	9.49
13	Speed constant	K_n	rpm/V	3510	2205	1489	1130
14	Speed/torque gradient	K_v	rpm/mN.m	2910	3453	3484	4103
15	Mechanical time constant	K_m	ms	6.7	7.96	8.03	9.88
16	Rotor inertia	J	gcm ²	0.22	0.22	0.22	0.23

Thermal data		
17	Thermal resistance housing-ambient	39K/W
18	Thermal resistance winding-housing	9.0K/W
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	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



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





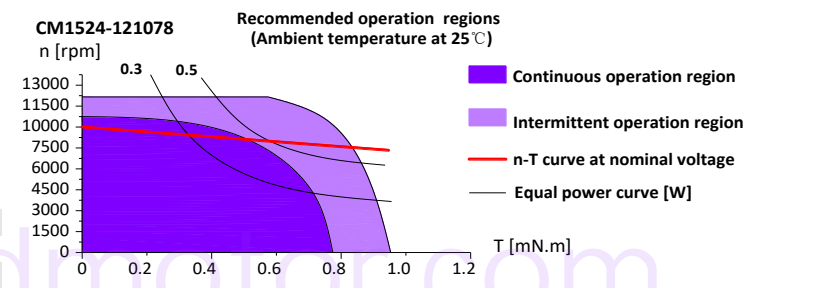
Scale:3:1 Unit:mm

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		19g	

			CM1524 Series									
Motor Data			031178	061079	091079	121078	241082					
1	Nominal voltage	U_N	V	3.0	6.0	9.0	12.0	24.0				
2	No load speed	n_0	rpm	10650	9560	10350	9845	9000				
3	No load current	I_0	A	0.04	0.015	0.011	0.010	0.005				
4	Nominal speed	n_N	rpm	9548	8617	9303	8825	8209				
5	Nominal torque	T_N	mN.m	0.68	0.66	0.73	0.7	1.23				
6	Nominal current	I_N	A	0.346	0.134	0.098	0.087	0.052				
7	Stall torque	T_s	mN.m	6.55	6.58	7.2	6.8	14				
8	Stall current	I_s	A	3	1.2	0.87	0.75	0.54				
9	Max. efficiency	η	%	78.2	78.9	78.8	78.2	81.7				
Characteristics												
10	Terminal resistance	R_{t-h}	Ω	1.0	5.0	10.3	16.0	44.44				
11	Terminal inductance	L_{t-h}	mH	0.025	0.120	0.242	0.410	1.62				
12	Torque constant	K_T	mN.m/A	2.21	5.55	8.38	9.2	26.17				
13	Speed constant	K_n	rpm/V	3598	1617	1165	832	379				
14	Speed/torque gradient	K_v	rpm/mN.m	1950	1549	1406	1809	620				
15	Mechanical time constant	K_m	ms	7.76	7.30	8.1	8.53	7.92				
16	Rotor inertia	J	gcm ²	0.38	0.45	0.55	0.45	1.22				

Thermal data		
17	Thermal resistance housing-ambient	39K/W
18	Thermal resistance winding-housing	9.0K/W
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

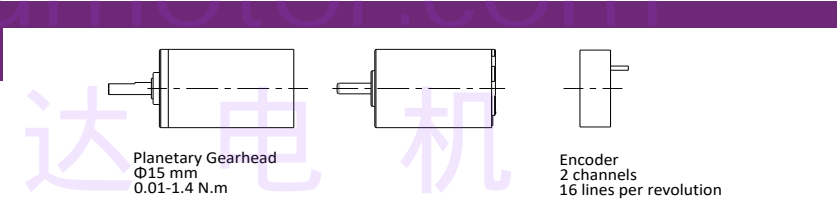
Operating Characteristic Curve

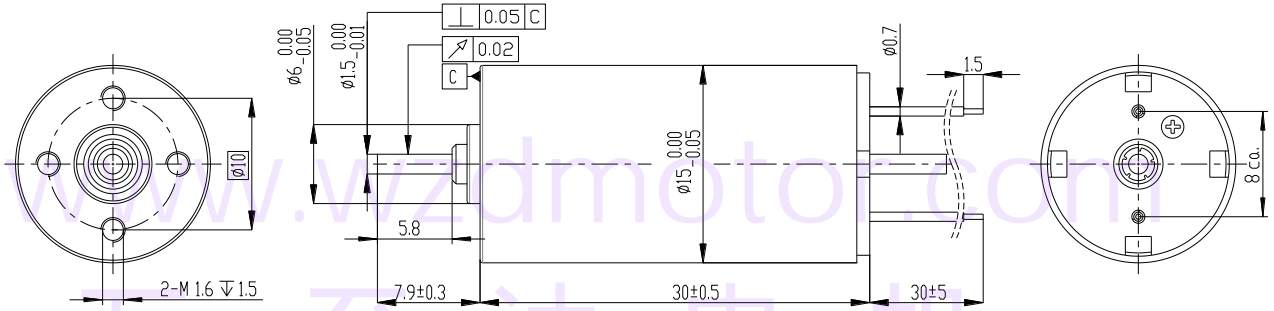


Mechanical data (sleeve bearings)		
23	Max. permissible speed	12000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

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





www.wzd-motor.com

万至达电机

Scale:2.5:1 Unit:mm



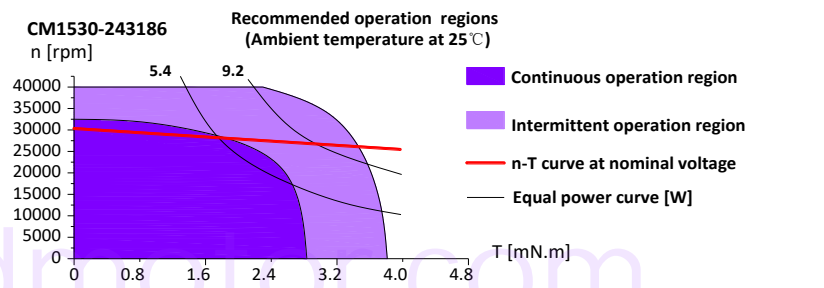
Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	28g	

CM1530 Series			123185	243186							
Motor Data											
1	Nominal voltage	U_N	V	12.0	24						
2	No load speed	n_0	rpm	30500	31200						
3	No load current	I_0	A	0.020	0.01						
4	Nominal speed	n_N	rpm	28232	29036						
5	Nominal torque	T_N	mN.m	2.30	2.19						
6	Nominal current	I_N	A	0.249	0.134						
7	Stall torque	T_S	mN.m	31	31.5						
8	Stall current	I_S	A	3.11	1.8						
9	Max. efficiency	η	%	84.6	85.6						

Characteristics											
10	Terminal resistance	R_{t-h}	Ω	3.87	13.3						
11	Terminal inductance	L_{t-h}	mH	0.04	0.15						
12	Torque constant	K_T	mN.m/A	10.06	17.6						
13	Speed constant	K_n	rpm/V	2558	1307						
14	Speed/torque gradient	K_v	rpm/mN.m	365	411						
15	Mechanical time constant	K_m	ms	4.20	9.04						
16	Rotor inertia	J	gcm ²	1.10	2.10						

Thermal data		
17	Thermal resistance housing-ambient	39K/W
18	Thermal resistance winding-housing	9.0K/W
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

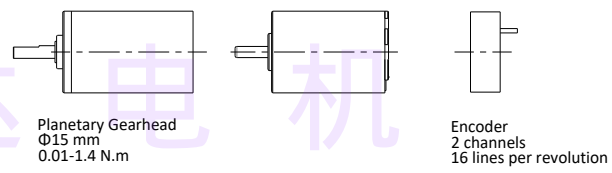
Operating Characteristic Curve

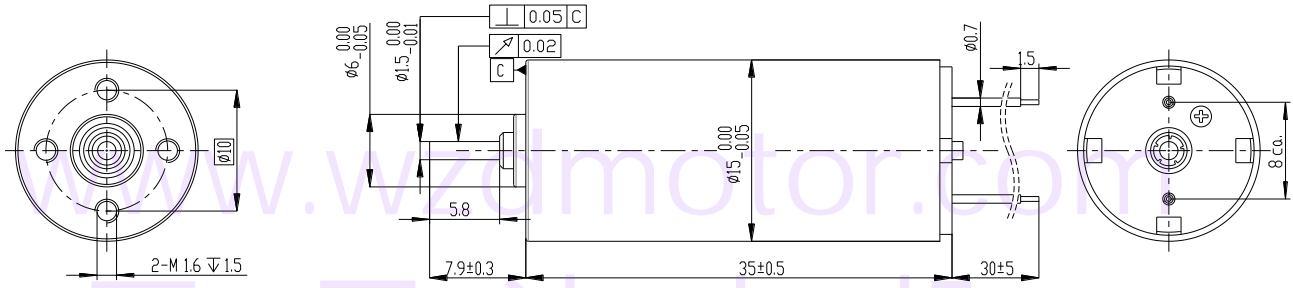


Mechanical data (sleeve bearings)		
23	Max. permissible speed	40000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

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





Scale:2.5:1 Unit:mm



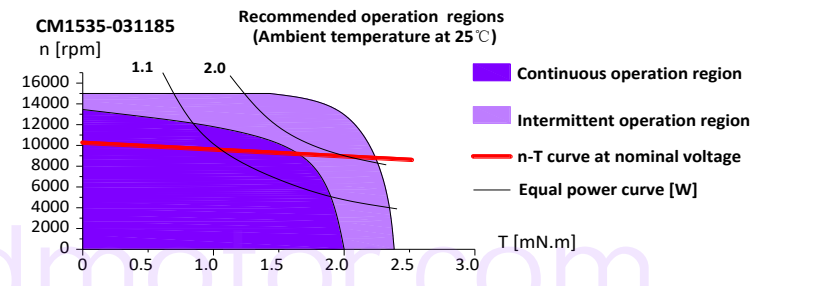
Specifications		A	B
Brushes		Precious Metal Brushes	
Bearings		Ball Bearings	Sleeve Bearings
Segments of Commutator		5 Segments	
Number of pole pairs		1	
Style of leadwire		Cable	Terminals
Weight		29.5g	

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_{t-h}	Ω	0.65	2.14	5.0
11	Terminal inductance	L_{t-h}	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		
17	Thermal resistance housing-ambient	39K/W
18	Thermal resistance winding-housing	9.0K/W
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

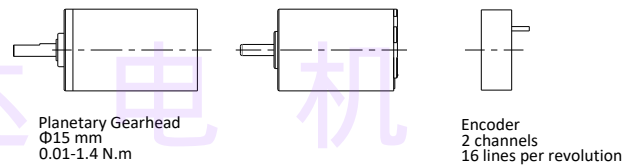
Operating Characteristic Curve

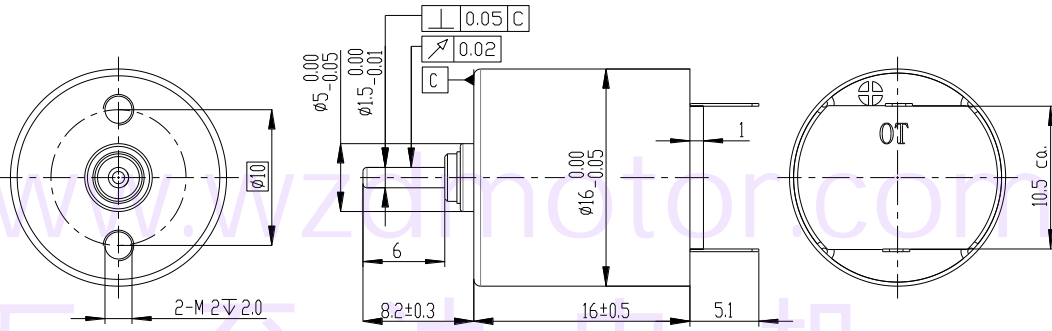


Mechanical data (sleeve bearings)		
23	Max. permissible speed	15000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

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





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	18g	

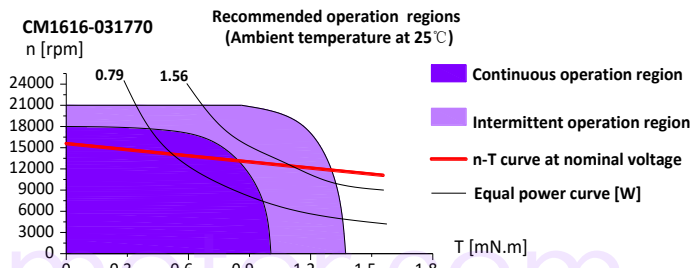
CM1616 Series			031770	061769						
Motor Data										
1	Nominal voltage	U_N	V	3.0	6.0					
2	No load speed	n_0	rpm	16700	16500					
3	No load current	I_0	A	0.105	0.08					
4	Nominal speed	n_N	rpm	14346	14077					
5	Nominal torque	T_N	mN.m	0.63	0.72					
6	Nominal current	I_N	A	0.64	0.465					
7	Stall torque	T_S	mN.m	4.5	4.9					
8	Stall current	I_S	A	3.9	2.7					
9	Max. efficiency	η	%	69.9	68.5					

Characteristics										
10	Terminal resistance	R_{t-h}	Ω	0.77	2.22					
11	Terminal inductance	L_{t-h}	mH	0.046	0.18					
12	Torque constant	K_T	mN.m/A	1.19	1.87					
13	Speed constant	K_n	rpm/V	5721	2834					
14	Speed/torque gradient	K_v	rpm/mN.m	5224	6067					
15	Mechanical time constant	K_m	ms	8.21	9.53					
16	Rotor inertia	J	gcm ²	0.15	0.15					

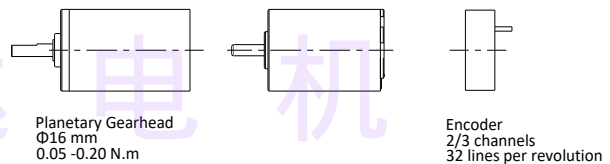
Thermal data		
17	Thermal resistance housing-ambient	40.6K/W
18	Thermal resistance winding-housing	9.5K/W
19	Thermal time constant winding	5.33 s
20	Thermal time constant motor	268 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C

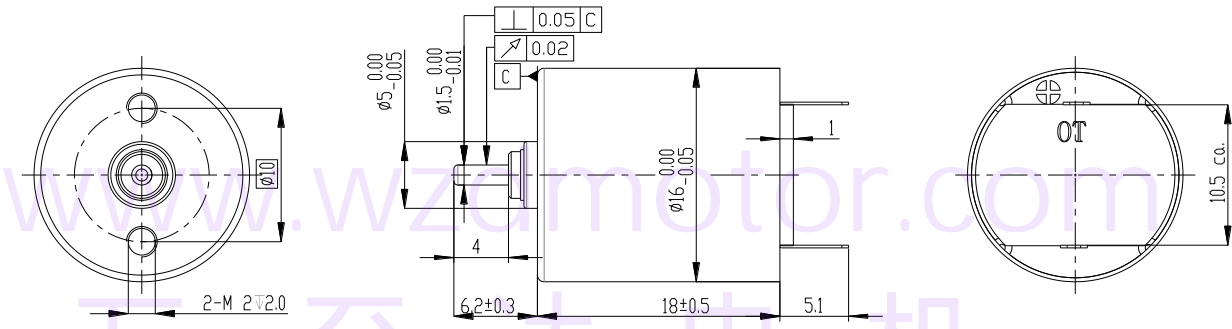
Mechanical data (sleeve bearings)		
23	Max. permissible speed	21000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

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





Scale:2.5:1 Unit:mm

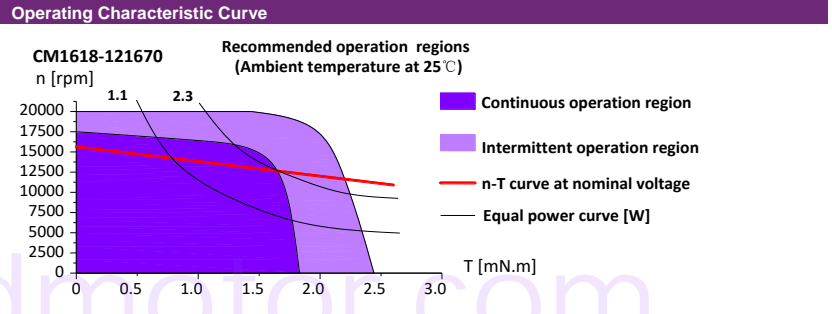


Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	19.5g	

CM1618 Series			030672	061472	121670	
Motor Data						
1	Nominal voltage	U_N	V	3.0	6.0	12.0
2	No load speed	n_0	rpm	6432	14300	15780
3	No load current	I_0	A	0.011	0.035	0.02
4	Nominal speed	n_N	rpm	5571	12405	13565
5	Nominal torque	T_N	mN.m	0.59	0.79	1.19
6	Nominal current	I_N	A	0.071	0.229	0.122
7	Stall torque	T_S	mN.m	4.4	6.0	8.5
8	Stall current	I_S	A	0.461	1.5	0.75
9	Max. efficiency	η	%	71.5	71.8	70.0

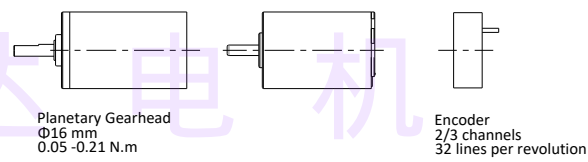
Characteristics						
10	Terminal resistance	R_{t-h}	Ω	6.51	4.0	16.0
11	Terminal inductance	L_{t-h}	mH	0.046	0.10	0.18
12	Torque constant	K_T	mN.m/A	9.78	4.1	11.64
13	Speed constant	K_n	rpm/V	2196	2440	1351
14	Speed/torque gradient	K_v	rpm/mN.m	650	2277	1127
15	Mechanical time constant	K_m	ms	3.81	9.54	6.61
16	Rotor inertia	J	gcm ²	0.56	0.40	0.56

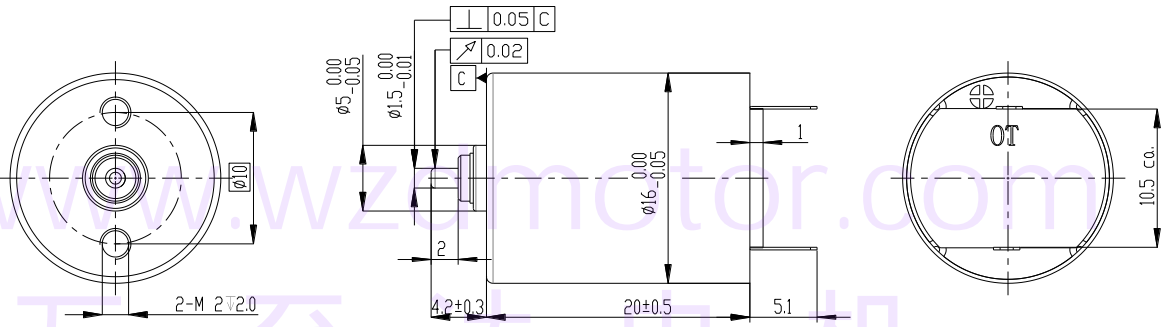
Thermal data		
17	Thermal resistance housing-ambient	40.6K/W
18	Thermal resistance winding-housing	9.5K/W
19	Thermal time constant winding	5.33 s
20	Thermal time constant motor	268 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C



Mechanical data (sleeve bearings)		
23	Max. permissible speed	20000 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





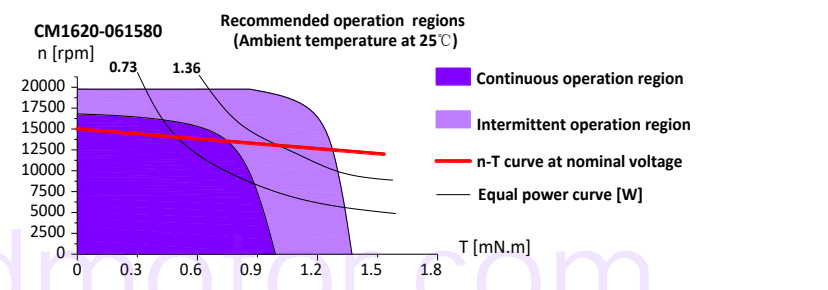
Scale:2.5:1 Unit:mm

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	20g	

CM1620 Series			371478	061580						
Motor Data										
1	Nominal voltage	U_N	V	3.7	6.0					
2	No load speed	n_0	rpm	14100	14800					
3	No load current	I_0	A	0.045	0.019					
4	Nominal speed	n_N	rpm	12639	13377					
5	Nominal torque	T_N	mN.m	0.76	0.77					
6	Nominal current	I_N	A	0.389	0.179					
7	Stall torque	T_S	mN.m	7.3	8.0					
8	Stall current	I_S	A	3.37	1.68					
9	Max. efficiency	η	%	78.2	79.9					
Characteristics										
10	Terminal resistance	R_{t-h}	Ω	1.10	3.57					
11	Terminal inductance	L_{t-h}	mH	0.046	0.18					
12	Torque constant	K_T	mN.m/A	2.2	4.82					
13	Speed constant	K_n	rpm/V	3862	2495					
14	Speed/torque gradient	K_v	rpm/mN.m	21750	1470					
15	Mechanical time constant	K_m	ms	9.79	8.62					
16	Rotor inertia	J	gcm ²	0.43	0.56					

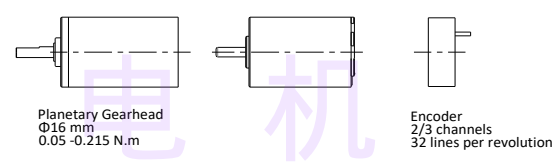
Thermal data		
17	Thermal resistance housing-ambient	40.6K/W
18	Thermal resistance winding-housing	9.5K/W
19	Thermal time constant winding	5.33 s
20	Thermal time constant motor	268 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C
Mechanical data (sleeve bearings)		
23	Max. permissible speed	19000 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

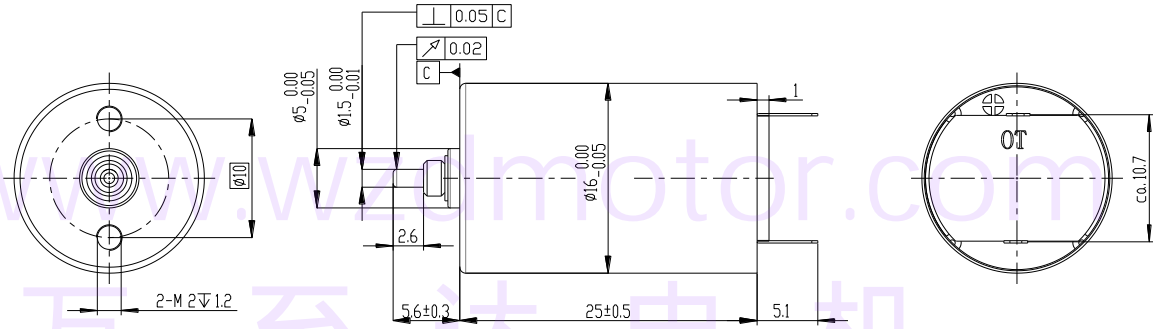
Operating Characteristic Curve



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





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	25g	

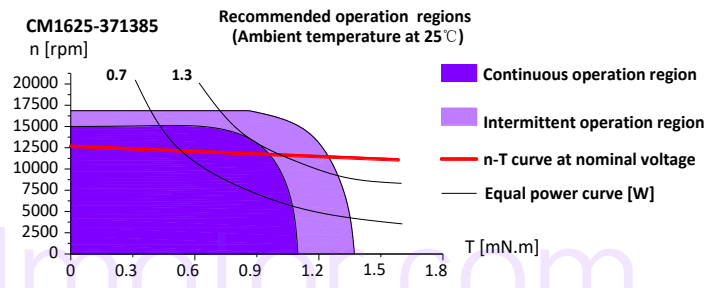
CM1625 Series			371385	071388	101086	120982	
Motor Data							
1	Nominal voltage	U_N	V	3.7	7.0	10.0	12.0
2	No load speed	n_0	rpm	12600	12900	10400	8530
3	No load current	I_0	A	0.024	0.011	0.008	0.007
4	Nominal speed	n_N	rpm	11706	12123	9696	7787
5	Nominal torque	T_N	mN.m	0.89	0.78	0.95	0.91
6	Nominal current	I_N	A	0.314	0.172	0.11	0.073
7	Stall torque	T_s	mN.m	12.5	13	14.0	10.5
8	Stall current	I_s	A	4.12	2.68	1.52	0.77
9	Max. efficiency	η	%	85.3	87.6	86.0	81.8

Characteristics							
10	Terminal resistance	R_{th}	Ω	0.90	2.61	6.58	15.58
11	Terminal inductance	L_{th}	mH	0.046	0.11	0.15	0.18
12	Torque constant	K_T	mN.m/A	3.05	4.87	9.26	13.76
13	Speed constant	K_n	rpm/V	3425	1850	1046	717
14	Speed/torque gradient	K_v	rpm/mN.m	921	1051	733	786
15	Mechanical time constant	K_m	ms	6.07	6.94	7.29	9.05
16	Rotor inertia	J	gcm^2	0.63	0.63	0.95	1.10

Thermal data		
17	Thermal resistance housing-ambient	40.6K/W
18	Thermal resistance winding-housing	9.5K/W
19	Thermal time constant winding	5.33 s
20	Thermal time constant motor	268 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C

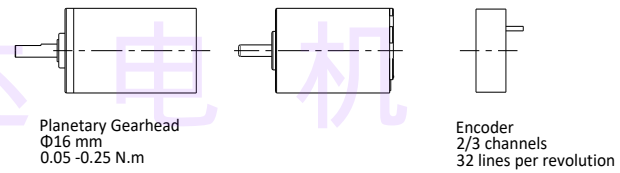
Mechanical data (sleeve bearings)		
23	Max. permissible speed	17000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

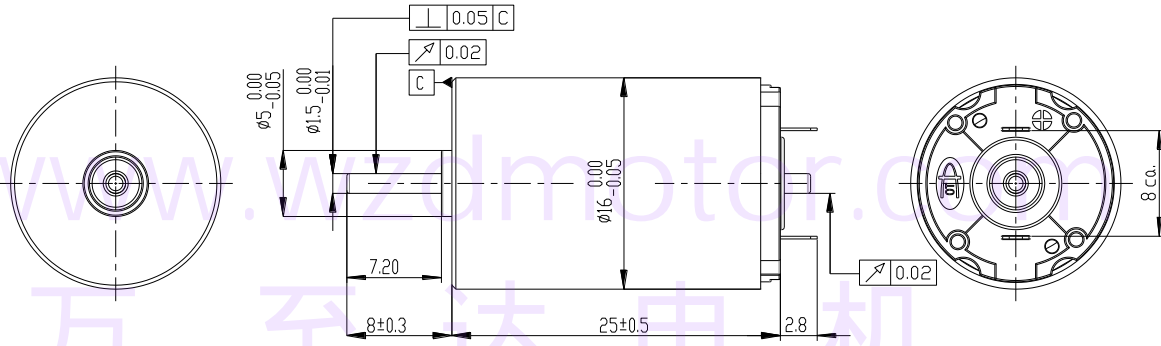
Operating Characteristic Curve



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





Scale:2.5:1 Unit:mm

Specifications	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		25g

CM1625 Series	101083	120982												
---------------	--------	--------	--	--	--	--	--	--	--	--	--	--	--	--

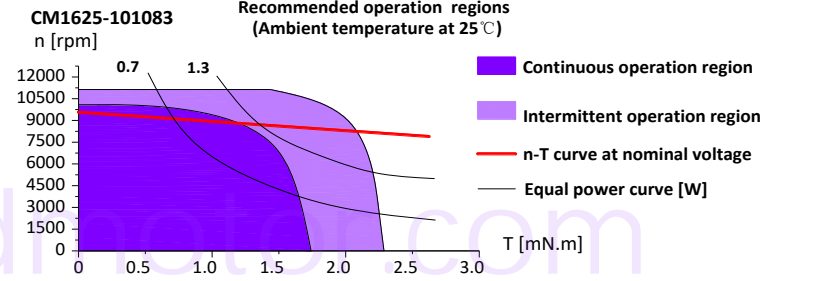
Motor Data			101083	120982
1	Nominal voltage	U_N V	10.0	12.0
2	No load speed	n_0 rpm	9610	8956
3	No load current	I_0 A	0.001	0.007
4	Nominal speed	n_N rpm	8824	8167
5	Nominal torque	T_N mN.m	1.23	0.88
6	Nominal current	I_N A	0.112	0.072
7	Stall torque	T_s mN.m	15.0	9.95
8	Stall current	I_s A	1.26	0.75
9	Max. efficiency	η %	83	81.6

Characteristics			101083	120982
10	Terminal resistance	R_{th} Ω	7.94	16.0
11	Terminal inductance	L_{th} mH	0.046	0.15
12	Torque constant	K_T mN.m/A	12.0	13.4
13	Speed constant	K_n rpm/V	969	753
14	Speed/torque gradient	K_v rpm/mN.m	526	852
15	Mechanical time constant	K_m ms	6.72	8.48
16	Rotor inertia	J gcm ²	1.22	0.95

Thermal data	
17	Thermal resistance housing-ambient 40.6K/W
18	Thermal resistance winding-housing 9.5K/W
19	Thermal time constant winding 5.33 s
20	Thermal time constant motor 268 s
21	Ambient temperature -20...+65°C
22	Max. permissible winding temperature +85°C

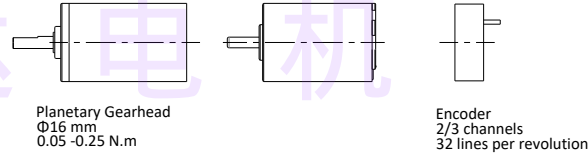
Mechanical data (sleeve bearings)	
23	Max. permissible speed 11000 rpm
24	Axial play 0.05-0.15 mm
25	Radial play 0.014 mm
26	Max. axial load (dynamic) 0.8 N
27	Max. force for press fits (static) 15 N
28	Max. radial loading, 5 mm from flange 1.5 N

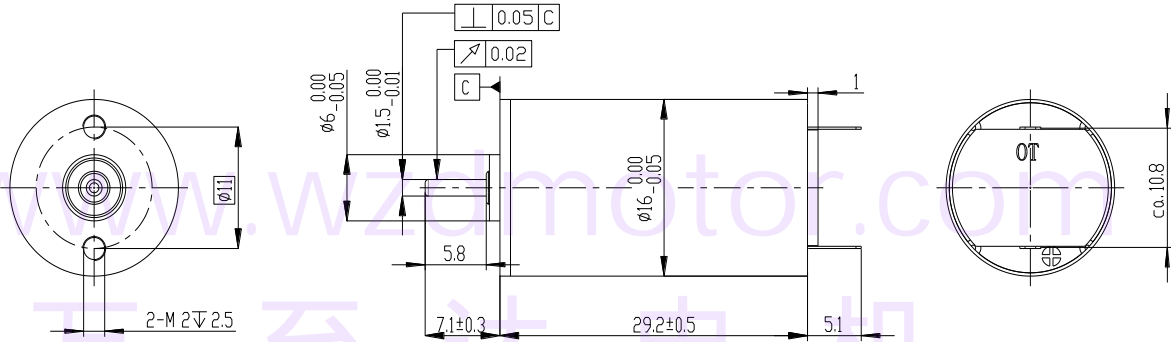
Operating Characteristic Curve



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





Scale:2:1 Unit:mm

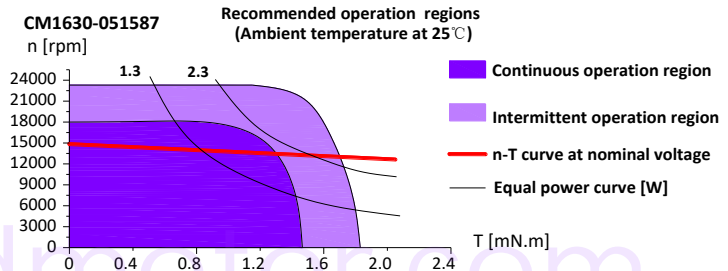
Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	25g	

CM1630 Series			051587	062186	100983	121083				
Motor Data										
1	Nominal voltage	U_N	V	5.0	6.0	10.0	12.0			
2	No load speed	n_0	rpm	14600	20600	9167	9783			
3	No load current	I_0	A	0.035	0.030	0.012	0.010			
4	Nominal speed	n_N	rpm	13705	19241	8333	8965			
5	Nominal torque	T_N	mN.m	1.35	1.32	1.27	1.09			
6	Nominal current	I_N	A	0.536	0.425	0.12	0.11			
7	Stall torque	T_s	mN.m	22.0	20	14	13			
8	Stall current	I_s	A	8.21	6.01	1.5	1.2			
9	Max. efficiency	η	%	87.4	86.4	82.9	82.6			

Characteristics										
10	Terminal resistance	R_{t-h}	Ω	0.61	1.0	6.67	10.0			
11	Terminal inductance	L_{t-h}	mH	0.046	0.08	0.1	0.18			
12	Torque constant	K_T	mN.m/A	2.69	3.34	9.41	10.92			
13	Speed constant	K_n	rpm/V	2933	3451	924	822			
14	Speed/torque gradient	K_v	rpm/mN.m	803	852	924	800			
15	Mechanical time constant	K_m	ms	6.9	7.32	7.15	7.96			
16	Rotor inertia	J	gcm ²	0.82	0.82	0.95	0.95			

Thermal data		
17	Thermal resistance housing-ambient	30K/W
18	Thermal resistance	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

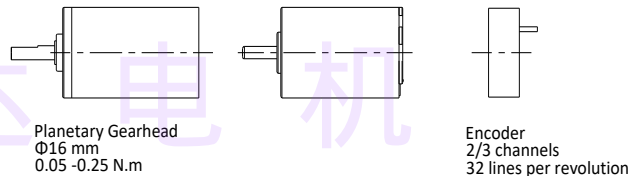
Operating Characteristic Curve

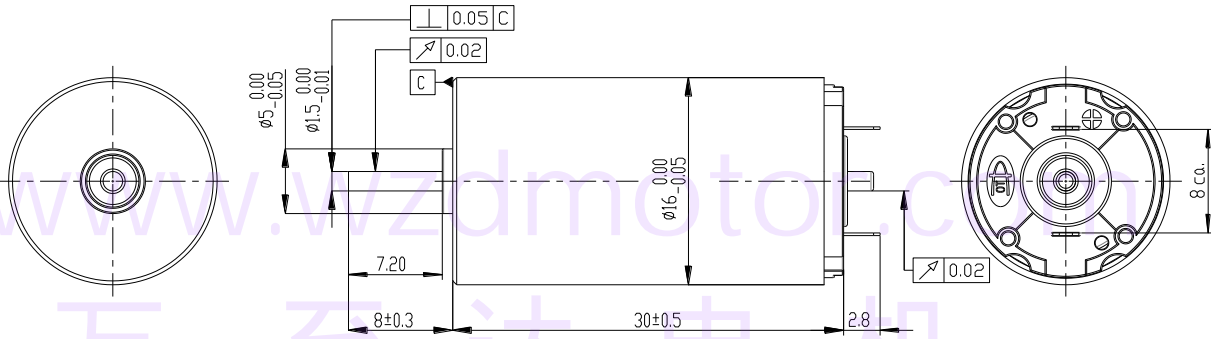


Mechanical data (sleeve bearings)		
23	Max. permissible speed	23000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

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





Scale:2.5:1 Unit:mm

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

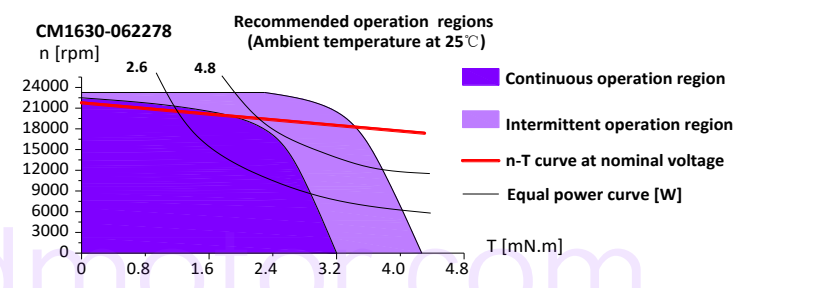
CM1630 Series			062178	120985						
Motor Data										
1	Nominal voltage	U_N	V	6.0	12.0					
2	No load speed	n_0	rpm	21630	8700					
3	No load current	I_0	A	0.07	0.015					
4	Nominal speed	n_N	rpm	19381	8086					
5	Nominal torque	T_N	mN.m	2.70	1.73					
6	Nominal current	I_N	A	0.603	0.197					
7	Stall torque	T_S	mN.m	26.0	24.5					
8	Stall current	I_S	A	5.2	2.6					
9	Max. efficiency	η	%	78.1	85.4					

Characteristics										
10	Terminal resistance	R_{t-h}	Ω	1.15	4.62					
11	Terminal inductance	L_{t-h}	mH	0.046	0.18					
12	Torque constant	K_T	mN.m/A	5.07	9.48					
13	Speed constant	K_n	rpm/V	3654	729					
14	Speed/torque gradient	K_v	rpm/mN.m	429	491					
15	Mechanical time constant	K_m	ms	4.274	4.88					
16	Rotor inertia	J	gcm ²	0.95	0.95					

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

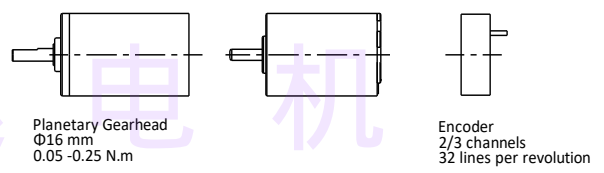
Mechanical data (sleeve bearings)		
23	Max. permissible speed	23000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

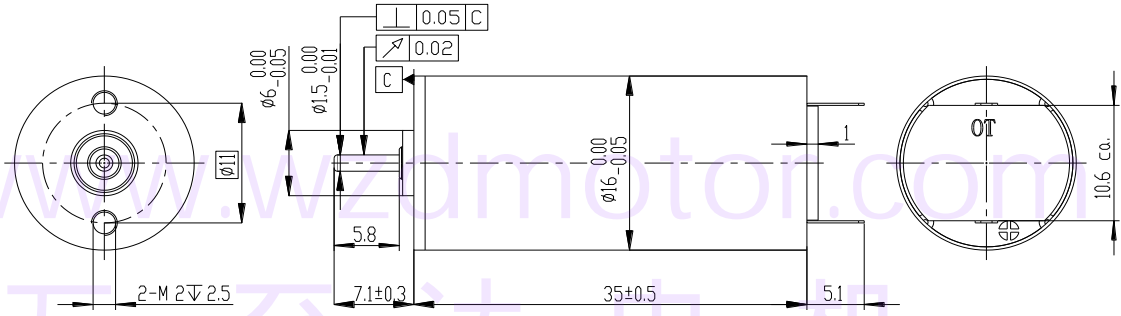
Operating Characteristic Curve



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





Scale:2:1 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	30g	

CM1635 Series			740883	120788										
---------------	--	--	--------	--------	--	--	--	--	--	--	--	--	--	--

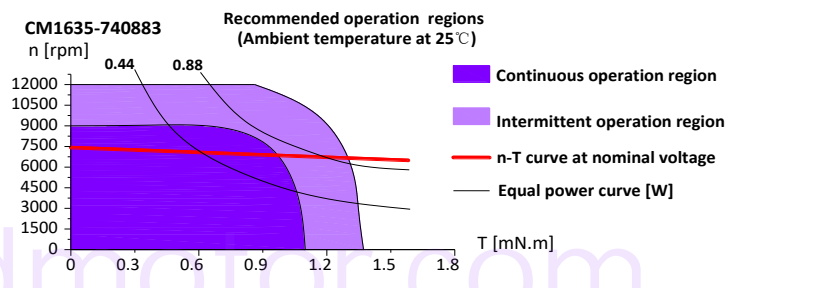
Motor Data			740883	120788	
1	Nominal voltage	U_N	V	7.4	12.0
2	No load speed	n_0	rpm	7500	7000
3	No load current	I_0	A	0.011	0.008
4	Nominal speed	n_N	rpm	6874	6589
5	Nominal torque	T_N	mN.m	1.04	1.64
6	Nominal current	I_N	A	0.121	0.128
7	Stall torque	T_S	mN.m	12.5	28.1
8	Stall current	I_S	A	1.33	2.06
9	Max. efficiency	η	%	82.6	87.9

Characteristics			740883	120788	
10	Terminal resistance	R_{t-h}	Ω	5.56	5.83
11	Terminal inductance	L_{t-h}	mH	0.046	0.18
12	Torque constant	K_T	mN.m/A	9.48	13.7
13	Speed constant	K_n	rpm/V	1022	586
14	Speed/torque gradient	K_v	rpm/mN.m	592	297
15	Mechanical time constant	K_m	ms	7.43	6.52
16	Rotor inertia	J	gcm ²	1.20	2.10

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

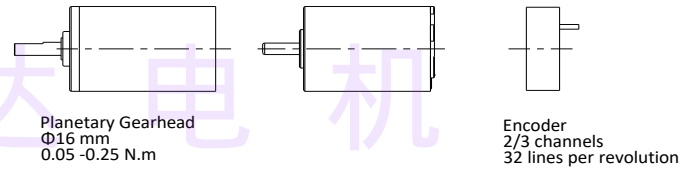
Mechanical data (sleeve bearings)		
23	Max. permissible speed	12000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

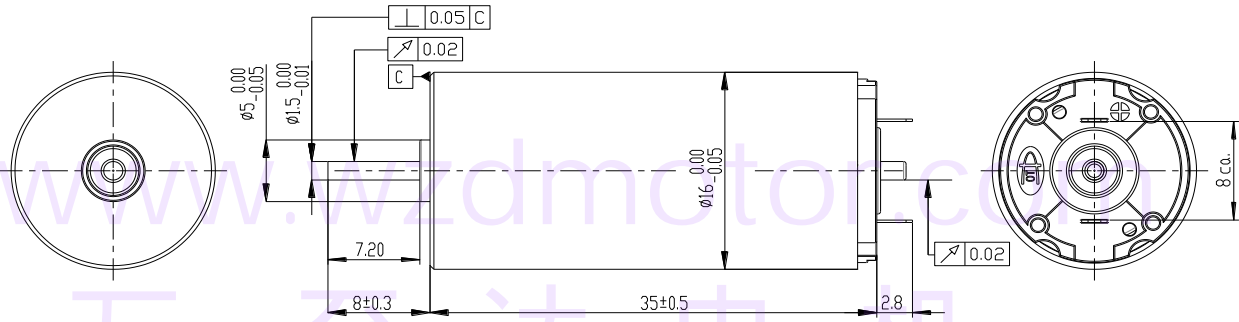
Operating Characteristic Curve



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





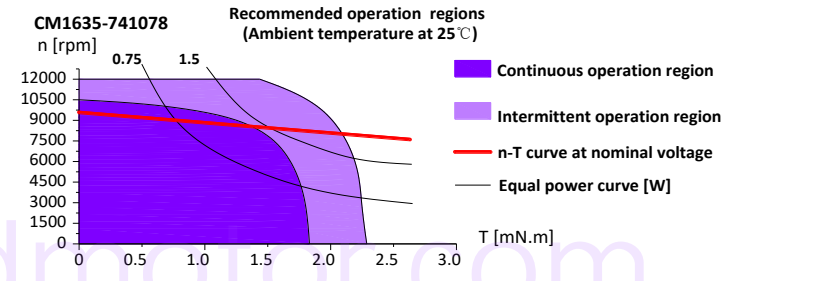
Scale:2.5:1 Unit:mm

Specifications	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		32.5g

CM1635 Series			741078	120986						
Motor Data										
1	Nominal voltage	U_N	V	7.4	12.0					
2	No load speed	n_0	rpm	9500	9100					
3	No load current	I_0	A	0.02	0.012					
4	Nominal speed	n_N	rpm	8485	8369					
5	Nominal torque	T_N	mN.m	1.38	2.41					
6	Nominal current	I_N	A	0.167	0.171					
7	Stall torque	T_S	mN.m	13.0	33					
8	Stall current	I_S	A	1.4	2.3					
9	Max. efficiency	η	%	77.5	86.1					
Characteristics										
10	Terminal resistance	R_{t-h}	Ω	5.29	5.22					
11	Terminal inductance	L_{t-h}	mH	0.046	0.18					
12	Torque constant	K_T	mN.m/A	9.42	14.42					
13	Speed constant	K_n	rpm/V	1302	762					
14	Speed/torque gradient	K_v	rpm/mN.m	569	240					
15	Mechanical time constant	K_m	ms	7.45	6.14					
16	Rotor inertia	J	gcm ²	1.25	2.45					

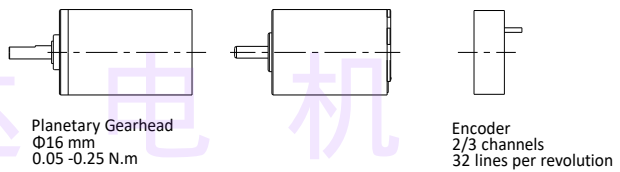
Thermal data		
17	Thermal resistance housing-ambient	30K/W
18	Thermal resistance winding-housing	8.5K/W
19	Thermal time constant winding	10.6 s
20	Thermal time constant motor	436 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C
Mechanical data (sleeve bearings)		
23	Max. permissible speed	12000 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

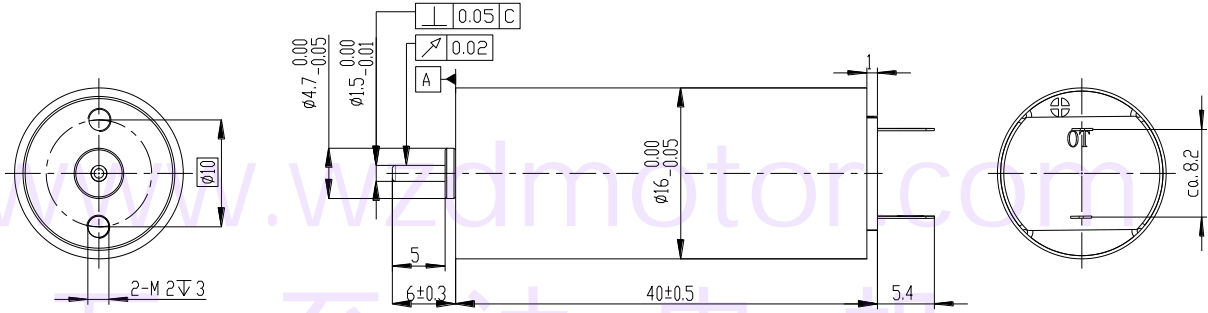
Operating Characteristic Curve



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



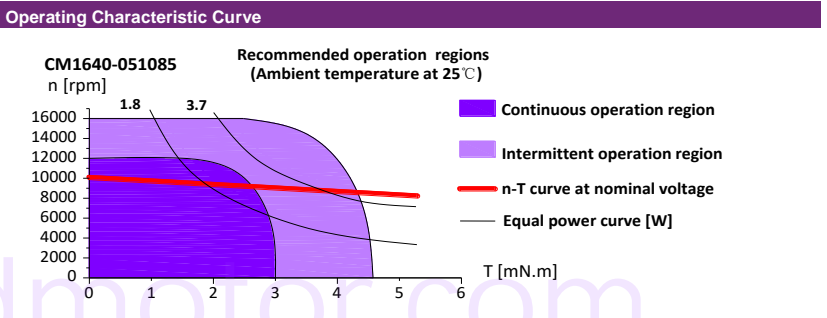


Scale:2:1 Unit:mm

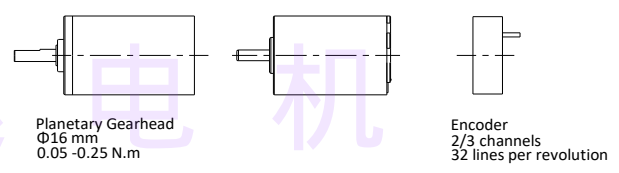
Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	37.5g	

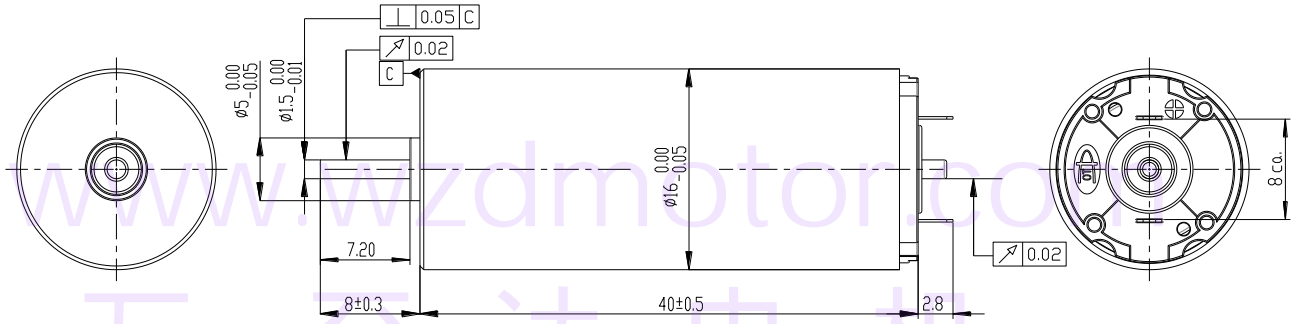
CM1640 Series			051085	120975						
Motor Data										
1	Nominal voltage	U_N	V	5.0	12.0					
2	No load speed	n_0	rpm	10350	8890					
3	No load current	I_0	A	0.035	0.028					
4	Nominal speed	n_N	rpm	9616	7824					
5	Nominal torque	T_N	mN.m	1.99	2.27					
6	Nominal current	I_N	A	0.458	0.2					
7	Stall 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



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





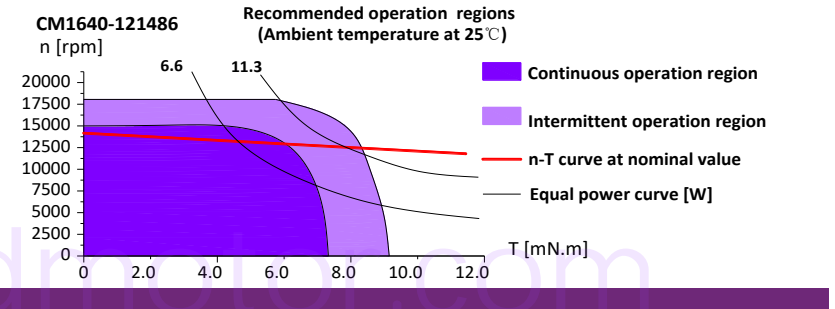
Scale:2.5:1 Unit:mm

Specifications	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		41.3g

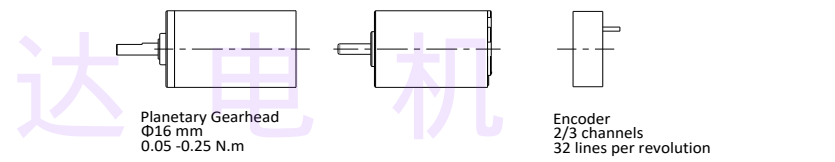
CM1640 Series			121486	241588	481487	
Motor Data						
1	Nominal voltage	U_N	V	12.0	24.0	36.0
2	No load speed	n_0	rpm	14000	15000	14000
3	No load current	I_0	A	0.039	0.017	0.013
4	Nominal speed	n_N	rpm	13052	14095	13107
5	Nominal torque	T_N	mN.m	4.33	4.26	4.67
6	Nominal current	I_N	A	0.537	0.265	0.191
7	Stall torque	T_S	mN.m	64.0	70.5	73.2
8	Stall current	I_S	A	7.4	4.12	2.8
9	Max. efficiency	η	%	86.0	87.6	86.8
Characteristics						
10	Terminal resistance	R_{t-h}	Ω	1.62	5.83	12.86
11	Terminal inductance	L_{t-h}	mH	0.090	0.410	0.950
12	Torque constant	K_T	mN.m/A	8.69	17.18	26.3
13	Speed constant	K_n	rpm/V	1173	628	391
14	Speed/torque gradient	K_v	rpm/mN.m	205	188	178
15	Mechanical time constant	K_m	ms	5.15	4.46	4.38
16	Rotor inertia	J	gcm^2	2.40	2.26	2.35

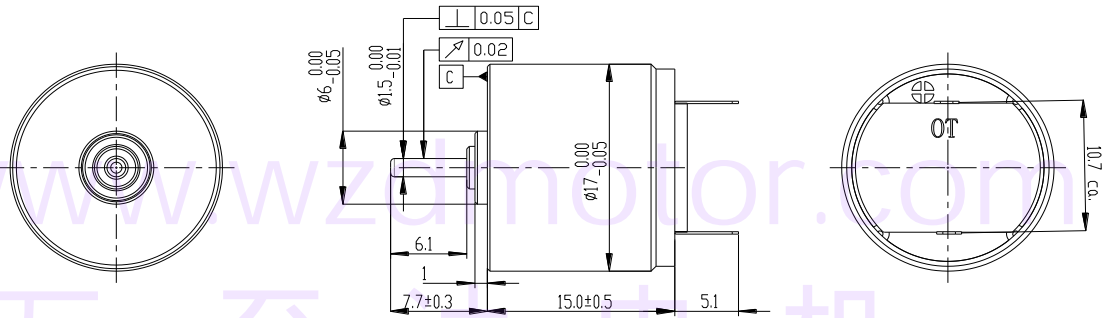
Thermal data		
17	Thermal resistance housing-ambient	30K/W
18	Thermal resistance winding-housing	8.5K/W
19	Thermal time constant winding	10.6 s
20	Thermal time constant motor	436 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C
Mechanical data (sleeve bearings)		
23	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



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





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	17g	

CM1715 Series	371573	371571								
---------------	--------	--------	--	--	--	--	--	--	--	--

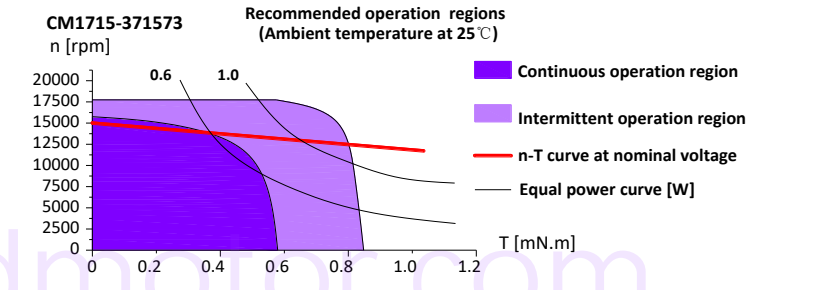
Motor Data										
1	Nominal voltage	U_N	V	3.7	3.7					
2	No load speed	n_0	rpm	15000	15000					
3	No load current	I_0	A	0.032	0.038					
4	Nominal speed	n_N	rpm	13104	12975					
5	Nominal torque	T_N	mN.m	0.45	0.54					
6	Nominal current	I_N	A	0.22	0.243					
7	Stall torque	T_S	mN.m	3.6	4.0					
8	Stall current	I_S	A	1.53	1.56					
9	Max. efficiency	η	%	73.2	71.2					

Characteristics										
10	Terminal resistance	R_{t-h}	Ω	2.42	2.37					
11	Terminal inductance	L_{t-h}	mH	0.057	0.06					
12	Torque constant	K_T	mN.m/A	2.40	2.63					
13	Speed constant	K_n	rpm/V	4141	4155					
14	Speed/torque gradient	K_v	rpm/mN.m	3999	3279					
15	Mechanical time constant	K_m	ms	7.54	6.52					
16	Rotor inertia	J	gcm ²	0.18	0.19					

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

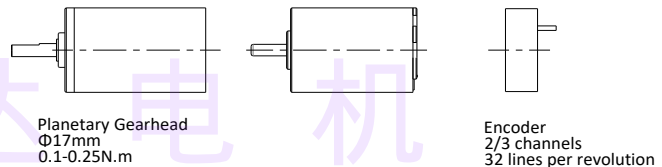
Mechanical data (sleeve bearings)		
23	Max. permissible speed	18000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

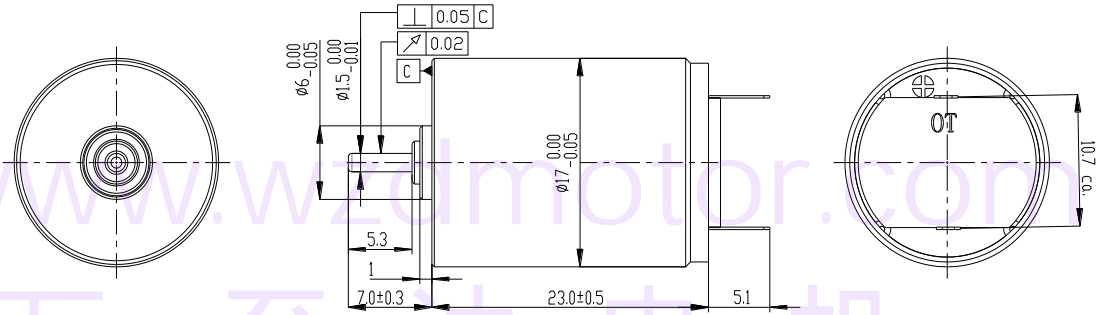
Operating Characteristic Curve



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





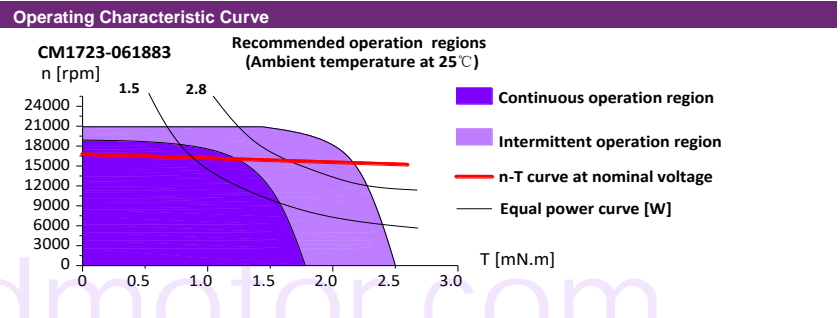
Scale:2.5:1 Unit:mm

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	25g	

CM1723 Series			370879	061883	740778	091082	120880				
Motor Data											
1	Nominal voltage	U_N	V	3.7	6	7.4	9.0	12			
2	No load speed	n_0	rpm	8080	17850	7354	10200	8040			
3	No load current	I_0	A	0.027	0.06	0.013	0.018	0.009			
4	Nominal speed	n_N	rpm	7269	16410	6583	9318	7277			
5	Nominal torque	T_N	mN.m	1.0	1.93	0.94	1.73	0.99			
6	Nominal current	I_N	A	0.242	0.684	0.111	0.19	0.086			
7	Stall torque	T_S	mN.m	10.0	24.0	9.0	20.0	10.5			
8	Stall current	I_S	A	2.17	7.8	0.95	2.01	0.82			
9	Max. efficiency	η	%	78.9	83.2	78.0	82.0	80.1			
Characteristics											
10	Terminal resistance	R_{t-h}	Ω	1.71	0.77	7.79	4.48	14.63			
11	Terminal inductance	L_{t-h}	mH	0.057	0.06	0.10	0.18	0.2			
12	Torque constant	K_T	mN.m/A	4.67	3.1	9.61	10.04	12.95			
13	Speed constant	K_n	rpm/V	2211	2998	1008	1144	677			
14	Speed/torque gradient	K_v	rpm/mN.m	748	764	806	42	834			
15	Mechanical time constant	K_m	ms	5.32	5.44	5.74	3.24	6.37			
16	Rotor inertia	J	gcm ²	0.68	0.68	0.68	0.73	0.73			

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	21000 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
17	Thermal resistance housing-ambient	30K/W



Configuration

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

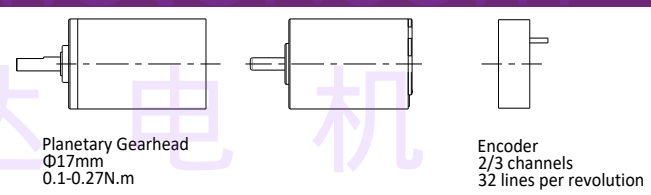
Commutator: Pressure-sensitive/electric capacity(with precious metal brushes or graphite)

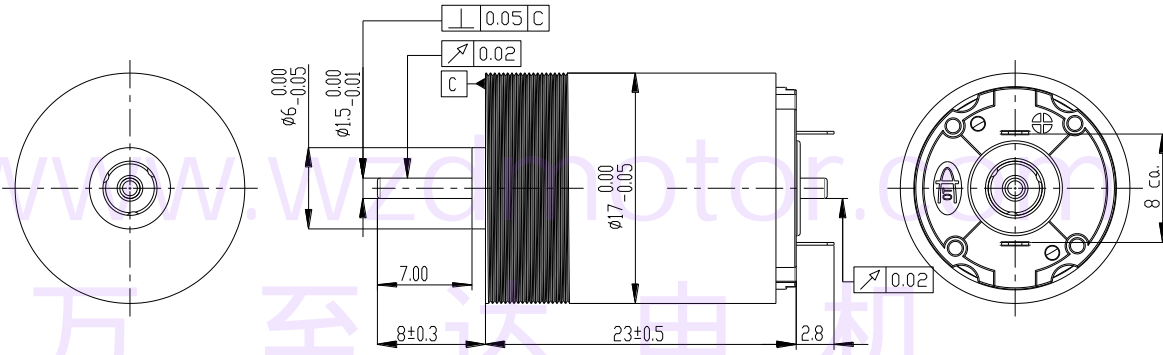
Bearing: Ball bearing/sleeve bearing

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





Scale:2.5:1 Unit:mm

Specifications	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		24.5g

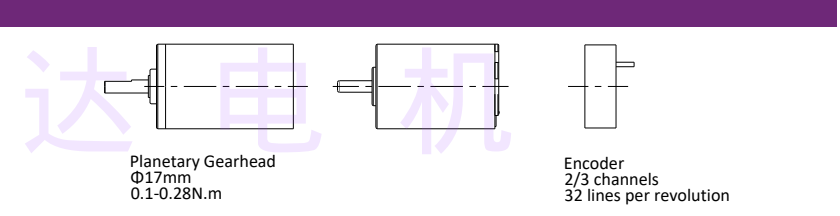
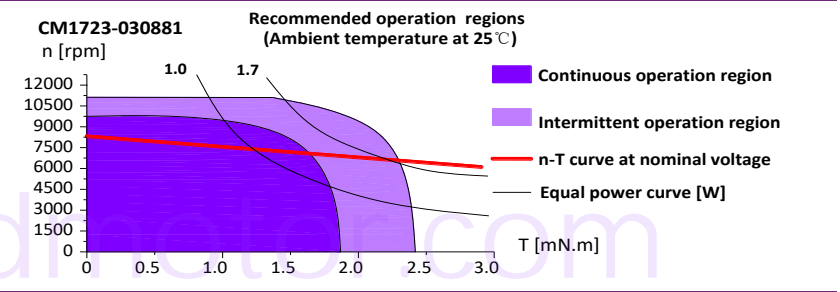
CM1723 Series			030881	060983	120882	
Motor Data						
1	Nominal voltage	U_N	V	3.0	6.0	12.0
2	No load speed	n_0	rpm	8400	8800	8100
3	No load current	I_0	A	0.04	0.02	0.008
4	Nominal speed	n_N	rpm	7636	8061	7402
5	Nominal torque	T_N	mN.m	1.05	1.05	0.78
6	Nominal current	I_N	A	0.4	0.218	0.085
7	Stall torque	T_s	mN.m	11.5	12.5	9.0
8	Stall current	I_s	A	4.0	2.38	0.9
9	Max. efficiency	η	%	81.0	82.5	82.0
Characteristics						
10	Terminal resistance	R_{t-h}	Ω	0.75	2.52	13.33
11	Terminal inductance	L_{t-h}	mH	0.06	0.10	0.2
12	Torque constant	K_T	mN.m/A	2.9	5.3	10.1
13	Speed constant	K_n	rpm/V	2828	1479	681
14	Speed/torque gradient	K_v	rpm/mN.m	849	858	1251
15	Mechanical time constant	K_m	ms	6.31	6.38	9.3
16	Rotor inertia	J	gcm ²	0.71	0.71	0.71

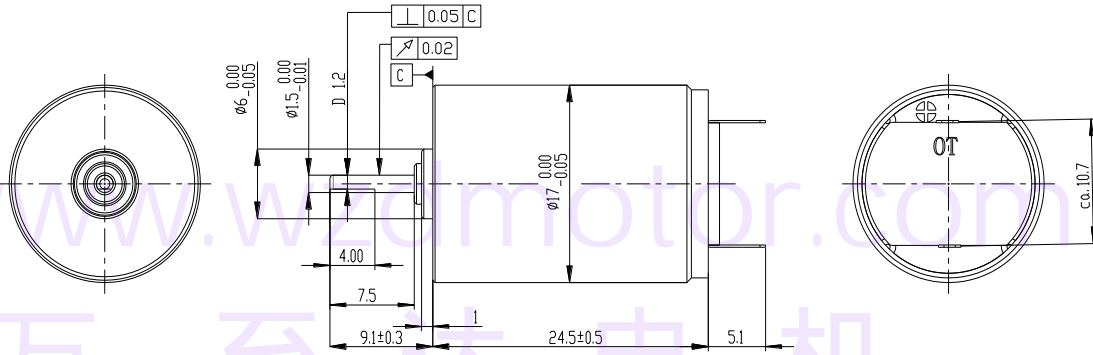
Thermal data		
17	Thermal resistance housing-ambient	30K/W
18	Thermal resistance winding-housing	8.5K/W
19	Thermal time constant winding	10.6 s
20	Thermal time constant motor	436 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C

Mechanical data (sleeve bearings)		
23	Max. permissible speed	11000 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:2.5:1 Unit:mm

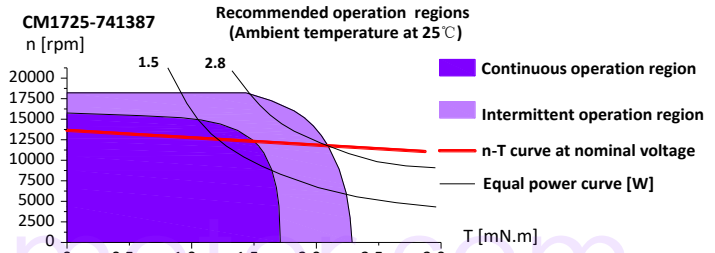
Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	27g	

CM1725 Series			061175	741387	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

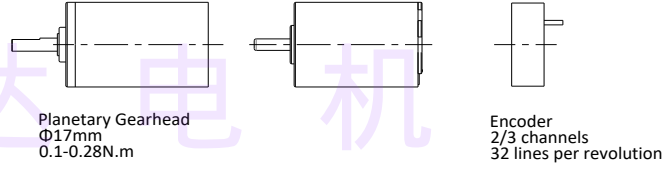
Operating Characteristic Curve

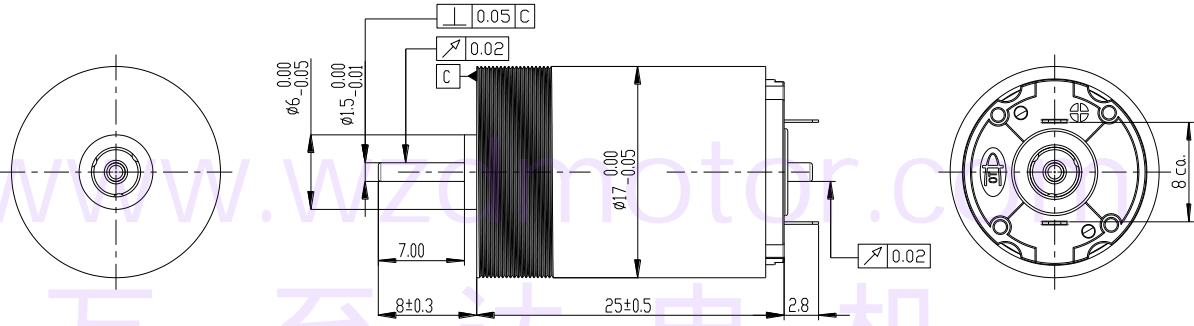


Mechanical data (sleeve bearings)		
23	Max. permissible speed	18000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

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





Scale:2.5:1 Unit:mm

Specifications		A	B
Brushes			Graphite Brushes
Bearings		Ball Bearings	Sleeve Bearings
Segments of Commutator			5 Segments
Number of pole pairs			1
Style of leadwire		Cable	Terminals
Weight			28g

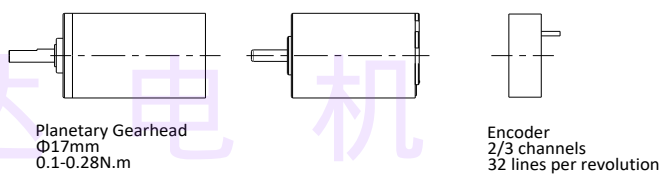
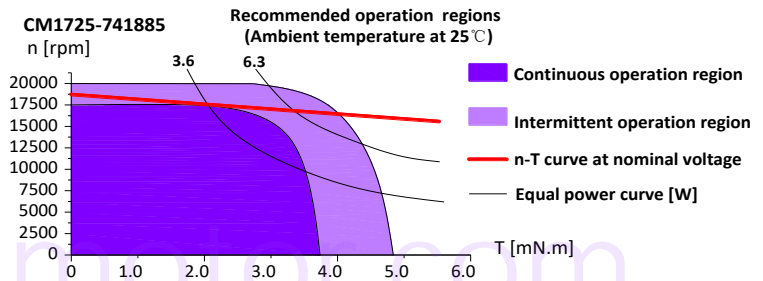
CM1725 Series			741885	121387						
Motor Data										
1	Nominal voltage	U_N	V	7.4	12.0					
2	No load speed	n_0	rpm	18400	13300					
3	No load current	I_0	A	0.048	0.01					
4	Nominal speed	n_N	rpm	17095	12447					
5	Nominal torque	T_N	mN.m	2.28	1.16					
6	Nominal current	I_N	A	0629	0.146					
7	Stall torque	T_S	mN.m	32.1	18.1					
8	Stall current	I_S	A	8.24	2.13					
9	Max. efficiency	η	%	85.3	86.8					
Characteristics										
10	Terminal resistance	R_{t-h}	Ω	0.90	5.63					
11	Terminal inductance	L_{t-h}	mH	0.06	0.2					
12	Torque constant	K_T	mN.m/A	3.92	8.54					
13	Speed constant	K_n	rpm/V	2501	1114					
14	Speed/torque gradient	K_v	rpm/mN.m	559	738					
15	Mechanical time constant	K_m	ms	7.72	6.72					
16	Rotor inertia	J	gcm ²	1.32	0.87					

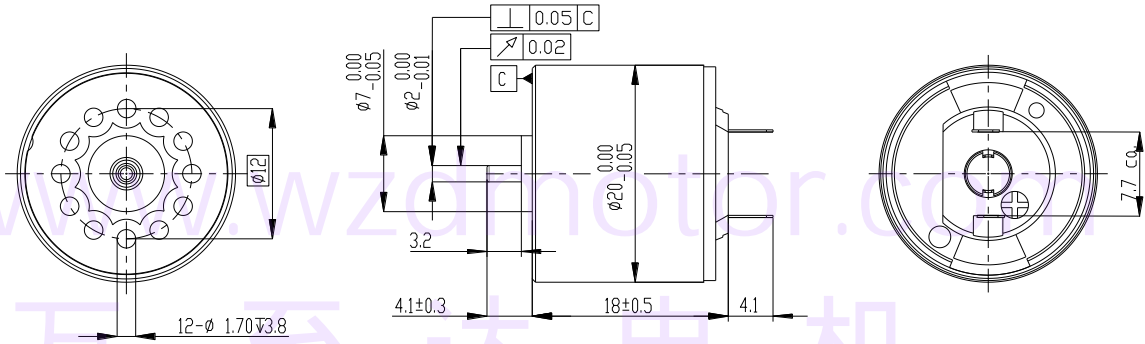
Thermal data		
17	Thermal resistance housing-ambient	30K/W
18	Thermal resistance winding-housing	8.5K/W
19	Thermal time constant winding	10.6 s
20	Thermal time constant motor	436 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C

Mechanical data (sleeve bearings)		
23	Max. permissible speed	20000 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





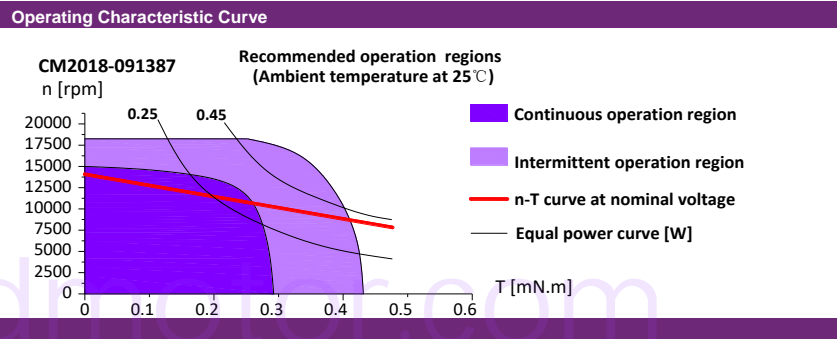
Scale:2:1 Unit:mm

Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5/7 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	21.5g	

CM2018 Series			091387											
Motor Data														
1	Nominal voltage	U_N	V	9.0										
2	No load speed	n_0	rpm	13200										
3	No load current	I_0	A	0.012										
4	Nominal speed	n_N	rpm	12345										
5	Nominal torque	T_N	mN.m	1.09										
6	Nominal current	I_N	A	0.173										
7	Stall torque	T_s	mN.m	16.8										
8	Stall current	I_s	A	2.5										
9	Max. efficiency	η	%	86.6										

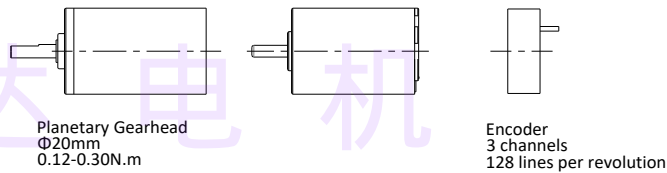
Characteristics														
10	Terminal resistance	R_{t-h}	Ω	3.6										
11	Terminal inductance	L_{t-h}	mH	0.05										
12	Torque constant	K_T	mN.m/A	6.75										
13	Speed constant	K_n	rpm/V	1474										
14	Speed/torque gradient	K_v	rpm/mN.m	754										
15	Mechanical time constant	K_m	ms	6.74										
16	Rotor inertia	J	gcm ²	0.85										

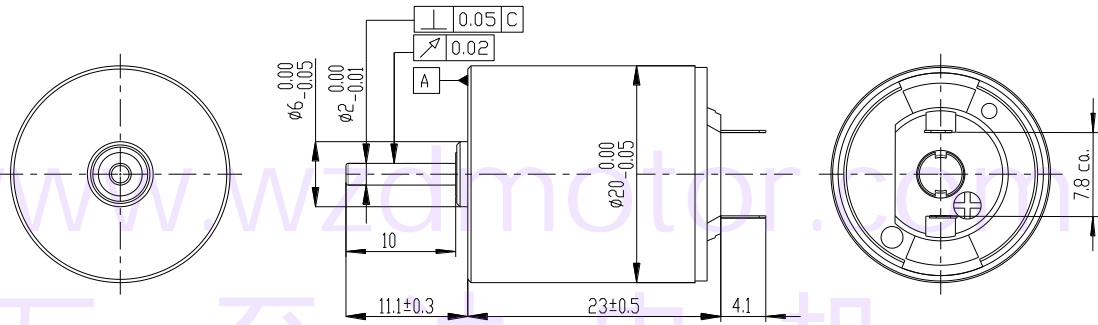
Thermal data		
17	Thermal resistance housing-ambient	30K/W
18	Thermal resistance winding-housing	8.5K/W
19	Thermal time constant winding	10.6 s
20	Thermal time constant motor	436 s
21	Ambient temperature	-20...+65°C
22	Max. permissible winding temperature	+85°C



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





Scale:2:1 Unit:mm

Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5/7 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	25.5g	

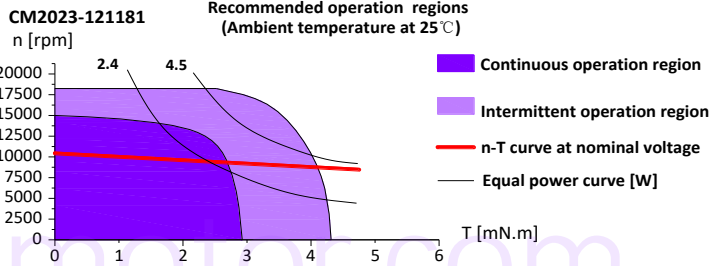
CM2023 Series		121181								
Motor Data										
1	Nominal voltage	U_N	V	12						
2	No load speed	n_0	rpm	10500						
3	No load current	I_0	A	0.023						
4	Nominal speed	n_N	rpm	9532						
5	Nominal torque	T_N	mN.m	2.3						
6	Nominal current	I_N	A	0.226						
7	Stall torque	T_s	mN.m	25.0						
8	Stall current	I_s	A	2.23						
9	Max. efficiency	η	%	80.7						

Characteristics										
10	Terminal resistance	R_{t-h}	Ω	5.38						
11	Terminal inductance	L_{t-h}	mH	0.06						
12	Torque constant	K_T	mN.m/A	11.33						
13	Speed constant	K_n	rpm/V	884						
14	Speed/torque gradient	K_v	rpm/mN.m	400						
15	Mechanical time constant	K_m	ms	7.55						
16	Rotor inertia	J	gcm ²	1.80						

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	

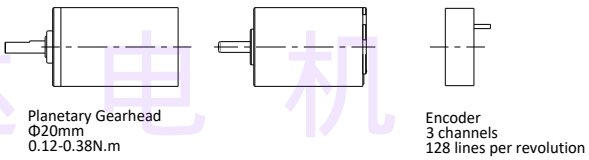
Mechanical data (sleeve bearings)			
23	Max. permissible speed	18000 rpm	
24	Axial play	0.05-0.15 mm	
25	Radial play	0.014 mm	
26	Max. axial load (dynamic)	0.8 N	
27	Max. force for press fits (static)	15 N	
28	Max. radial loading, 5 mm from flange	1.5 N	

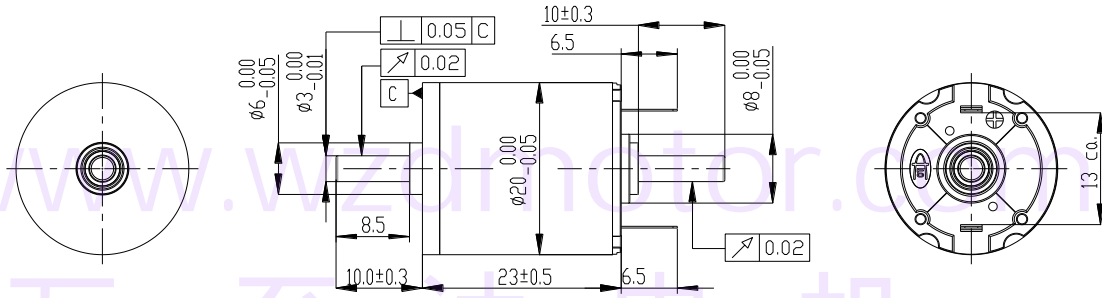
Operating Characteristic Curve



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





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		28g

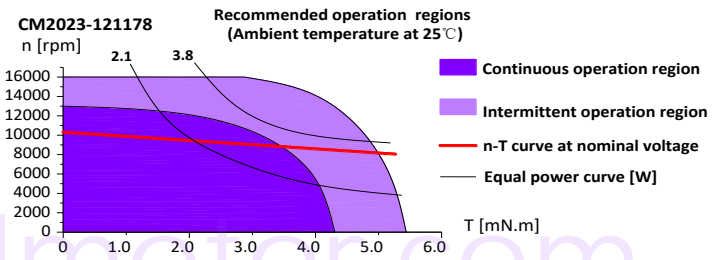
CM2023 Series			121181											
---------------	--	--	--------	--	--	--	--	--	--	--	--	--	--	--

Motor Data				
1	Nominal voltage	U_N	V	12
2	No load speed	n_0	rpm	11050
3	No load current	I_0	A	0.023
4	Nominal speed	n_N	Rpm	10049
5	Nominal torque	T_N	mN.m	2.59
6	Nominal current	I_N	A	0.231
7	Stall torque	T_s	mN.m	28.6
8	Stall current	I_s	A	2.32
9	Max. efficiency	η	%	81.1

Characteristics				
10	Terminal resistance	R_{t-h}	Ω	5.17
11	Terminal inductance	L_{t-h}	mH	0.07
12	Torque constant	K_T	mN.m/A	12.45
13	Speed constant	K_n	rpm/V	930
14	Speed/torque gradient	K_v	rpm/mN.m	319
15	Mechanical time constant	K_m	ms	7.37
16	Rotor inertia	J	gcm^2	2.21

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

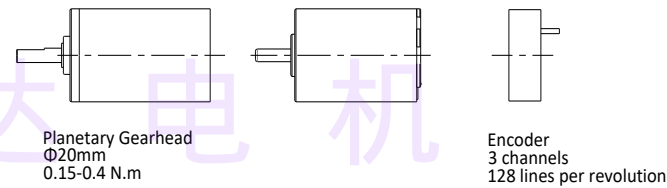
Operating Characteristic Curve

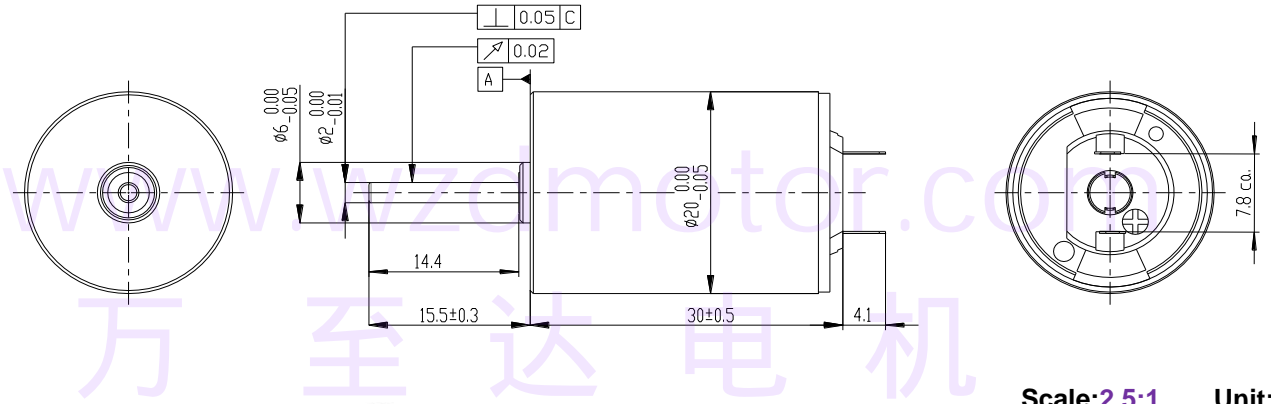


Mechanical data (sleeve bearings)		
23	Max. permissible speed	16000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

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



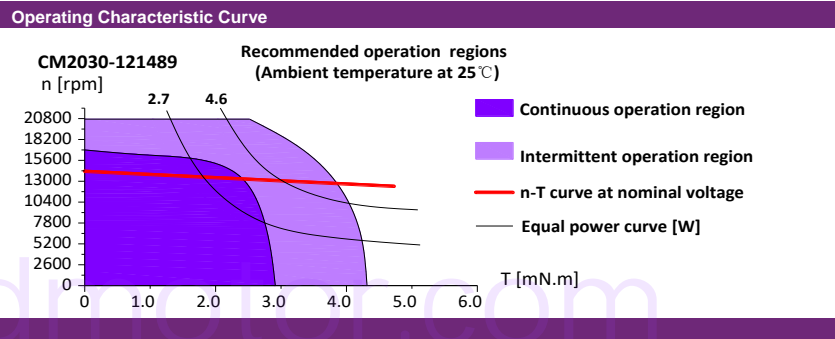


Specifications		A	B
Brushes		Precious Metal Brushes	
Bearings		Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments	
Number of pole pairs		1	
Style of leadwire		Cable	Terminals
Weight		46g	

CM2030 Series			120890	121091	121489
Motor Data					
1	Nominal voltage	U_N V	6.5	12.0	12.0
2	No load speed	n_0 rpm	7030	7900	14100
3	No load current	I_0 A	0.014	0.006	0.019
4	Nominal speed	n_N rpm	6680	7550	13362
5	Nominal torque	T_N mN.m	2.14	1.77	1.99
6	Nominal current	I_N A	0.267	0.130	0.344
7	Stall torque	T_s mN.m	43.0	40.0	38.1
8	Stall current	I_s A	5.1	2.8	6.23
9	Max. efficiency	η %	89.8	91.0	89.3

Characteristics					
10	Terminal resistance	R_{t-h} Ω	1.27	4.29	1.93
11	Terminal inductance	L_{t-h} mH	0.07	0.08	0.09
12	Torque constant	K_T mN.m/A	8.45	14.32	6.13
13	Speed constant	K_n rpm/V	1085	660	1179
14	Speed/torque gradient	K_v rpm/mN.m	170	200	489
15	Mechanical time constant	K_m ms	6.86	8.05	14.59
16	Rotor inertia	J gcm ²	3.85	3.85	2.85

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 20000 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)

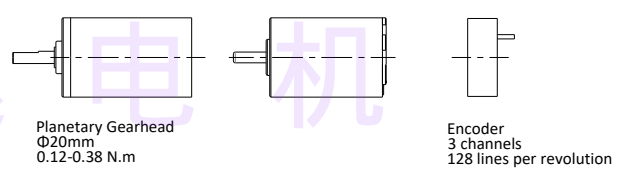
Commutator: Pressure-sensitive/electric capacity (with precious metal brushes or graphite)

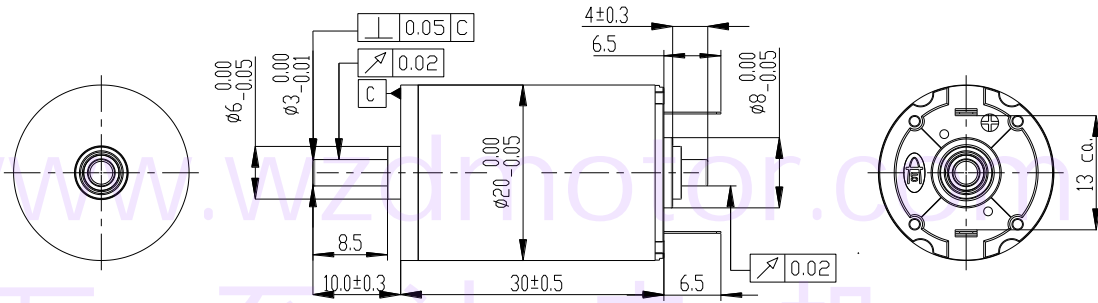
Bearing: Ball bearing/sleeve bearing

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





Scale:1.5:1 Unit:mm

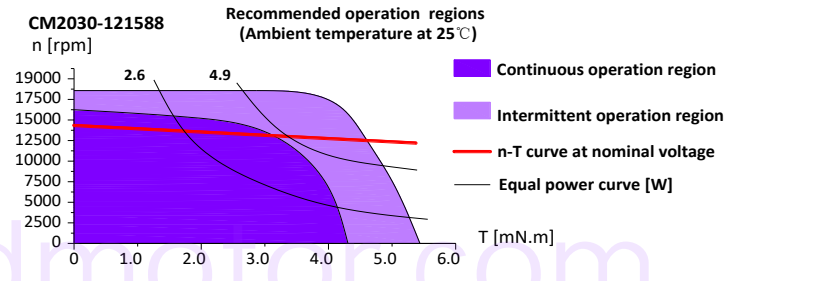
Specifications	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		48g

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_{t-h}	Ω	1.34	2.03						
11	Terminal inductance	L_{t-h}	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

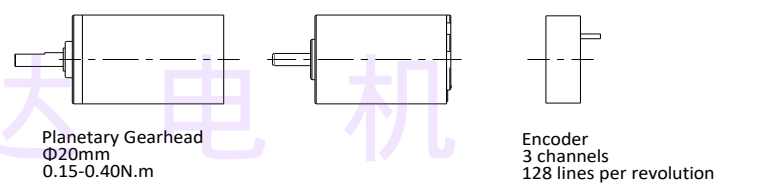
Operating Characteristic Curve

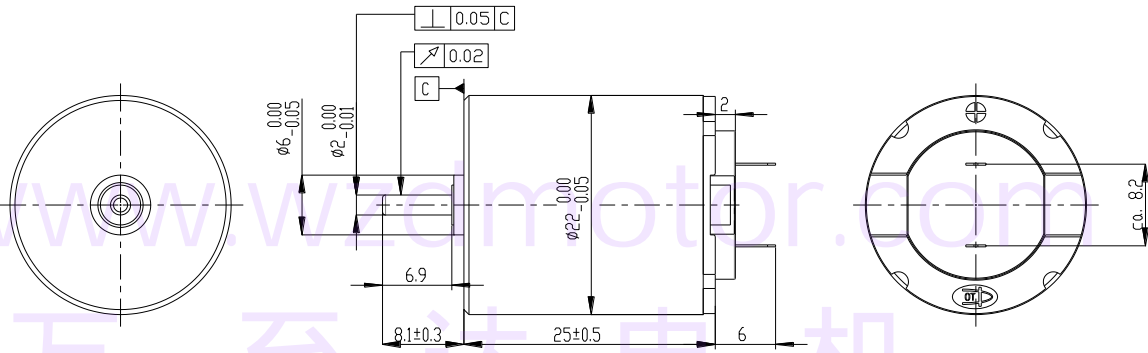


Mechanical data (sleeve bearings)		
23	Max. permissible speed	18000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.014 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	15 N
28	Max. radial loading, 5 mm from flange	1.5 N

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





Scale:2:1 Unit:mm

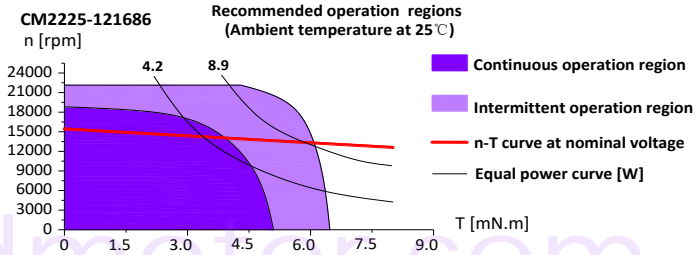
Specifications		A	B
Brushes		Precious Metal Brushes	
Bearings		Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments	
Number of pole pairs		1	
Style of leadwire		Cable	Terminals
Weight		48g	

CM2225 Series			090884	121485	121688	
Motor Data						
1	Nominal voltage	U_N	V	9.0	12.0	12.0
2	No load speed	n_0	rpm	7850	13600	15500
3	No load current	I_0	A	0.018	0.017	0.025
4	Nominal speed	n_N	rpm	7138	12614	14599
5	Nominal torque	T_N	mN.m	2.45	2.65	3.25
6	Nominal current	I_N	A	0.25	0.217	0.405
7	Stall torque	T_s	mN.m	27.0	36.5	55.9
8	Stall current	I_s	A	2.51	2.78	6.56
9	Max. efficiency	η	%	83.8	85.0	88.0

Characteristics						
10	Terminal resistance	R_{t-h}	Ω	3.59	4.32	1.83
11	Terminal inductance	L_{t-h}	mH	0.042	0.25	0.024
12	Torque constant	K_T	mN.m/A	10.87	13.21	8.55
13	Speed constant	K_n	rpm/V	881	1140	1297
14	Speed/torque gradient	K_v	rpm/mN.m	290	236	239
15	Mechanical time constant	K_m	ms	8.66	9.03	9.63
16	Rotor inertia	J	gcm^2	2.85	3.65	3.85

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

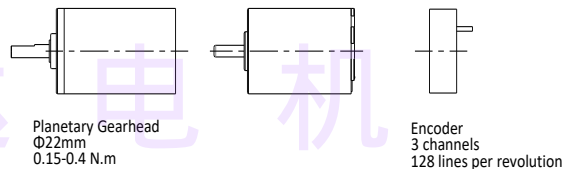
Operating Characteristic Curve

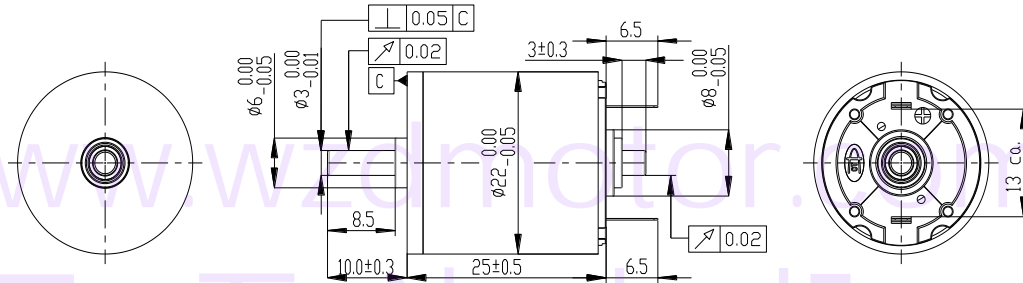


Mechanical data (sleeve bearings)		
23	Max. permissible speed	22000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	10 N
27	Max. force for press fits (static)	60 N
28	Max. radial loading, 5 mm from flange	25 N

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





Scale:1.5:1 Unit:mm

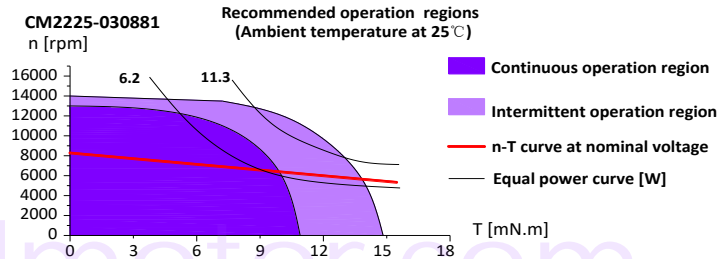
Specifications	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		50g

CM2225 Series			030881	060881	120886	
Motor Data						
1	Nominal voltage	U_N	V	3.0	6.0	12.0
2	No load speed	n_0	rpm	8200	8300	7990
3	No load current	I_0	A	0.05	0.031	0.035
4	Nominal speed	n_N	Rpm	7468	7534	7448
5	Nominal torque	T_N	mN.m	3.26	3.46	4.36
6	Nominal current	I_N	A	0.51	0.305	0.481
7	Stall torque	T_s	mN.m	36.5	37.5	64.3
8	Stall current	I_s	A	5.2	3.0	6.6
9	Max. efficiency	η	%	81.3	80.7	86.0

Characteristics						
10	Terminal resistance	R_{t-h}	Ω	0.58	2.0	1.82
11	Terminal inductance	L_{t-h}	mH	0.022	0.023	0.044
12	Torque constant	K_T	mN.m/A	7.09	12.63	9.79
13	Speed constant	K_n	rpm/V	2760	13.98	669
14	Speed/torque gradient	K_v	rpm/mN.m	110	120	181
15	Mechanical time constant	K_m	ms	5.86	6.39	9.67
16	Rotor inertia	J	gcm^2	5.10	5.10	5.10

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

Operating Characteristic Curve



Mechanical data (sleeve bearings)		
23	Max. permissible speed	14000 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)

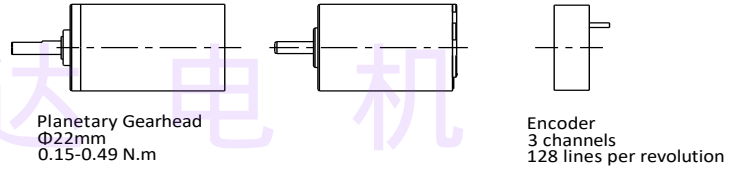
Commutator: Pressure-sensitive/electric capacity (with precious metal brushes or graphite)

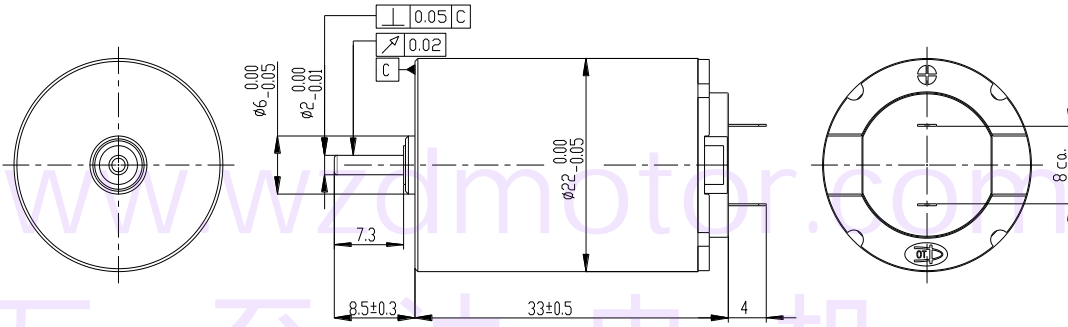
Bearing: Ball bearing/sleeve bearing

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





Scale:2:1 Unit:mm

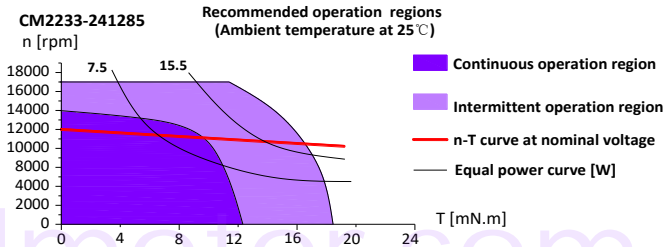
Specifications		A	B
Brushes		Precious Metal Brushes	
Bearings		Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments	
Number of pole pairs		1	
Style of leadwire		Cable	Terminals
Weight		60g	

CM2233 Series			121182	120684	241285	
Motor Data						
1	Nominal voltage	U_N	V	12.0	12.0	24.0
2	No load speed	n_0	rpm	11000	6250	12000
3	No load current	I_0	A	0.04	0.044	0.026
4	Nominal speed	n_N	rpm	10056	5777	11104
5	Nominal torque	T_N	mN.m	3.65	4.36	4.74
6	Nominal current	I_N	A	0.426	0.537	0.322
7	Stall torque	T_s	mN.m	42.5	57.6	63.4
8	Stall current	I_s	A	4.54	6.56	3.99
9	Max. efficiency	η	%	82.1	84.3	84.5

Characteristics						
10	Terminal resistance	R_{t-h}	Ω	2.64	1.83	6.02
11	Terminal inductance	L_{t-h}	mH	0.022	0.033	0.124
12	Torque constant	K_T	mN.m/A	9.44	8.84	15.99
13	Speed constant	K_n	rpm/V	925	524	503
14	Speed/torque gradient	K_v	rpm/mN.m	283	224	225
15	Mechanical time constant	K_m	ms	11.44	9.86	9.9
16	Rotor inertia	J	gcm ²	3.86	4.21	4.21

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

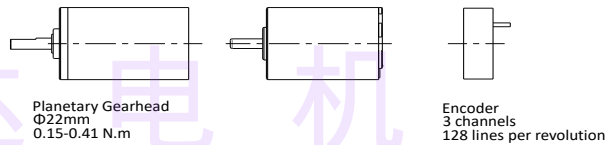
Operating Characteristic Curve

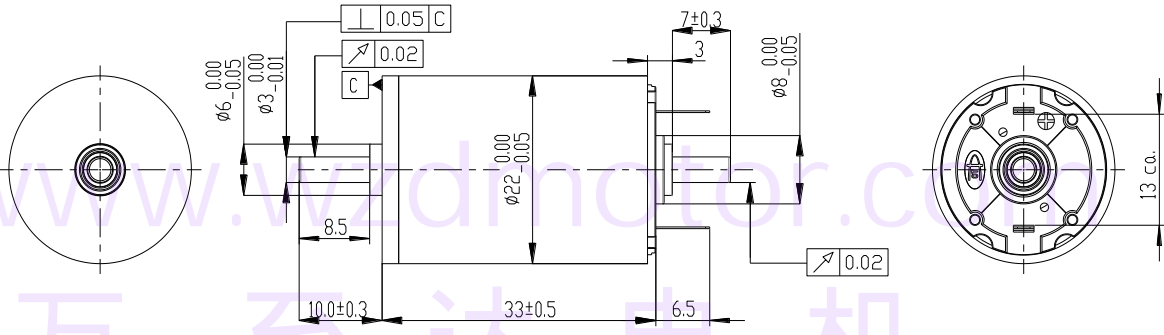


Mechanical data (sleeve bearings)		
23	Max. permissible speed	17000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	10 N
27	Max. force for press fits (static)	60 N
28	Max. radial loading, 5 mm from flange	25 N

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





Scale:1.5:1 Unit:mm

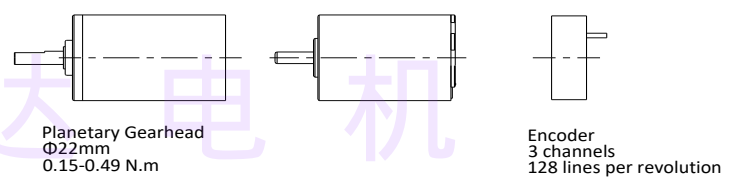
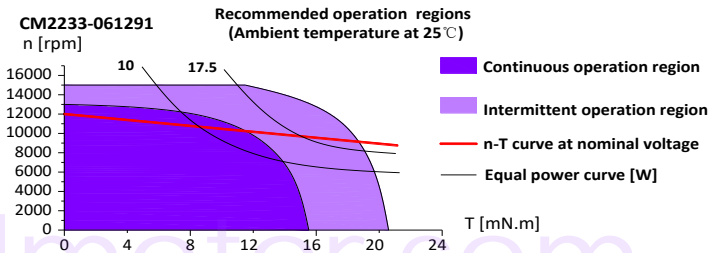
Specifications		A	B
Brushes			Graphite Brushes
Bearings		Ball Bearings	Sleeve Bearings
Segments of Commutator			5/7 Segments
Number of pole pairs			1
Style of leadwire		Cable	Terminals
Weight			62g

CM2233 Series			061291	121285	181286	
Motor Data						
1	Nominal voltage	U_N	V	6.0	12.0	18.0
2	No load speed	n_0	rpm	12000	11900	11600
3	No load current	I_0	A	0.035	0.06	0.043
4	Nominal speed	n_N	Rpm	11476	11052	10798
5	Nominal torque	T_N	mN.m	3.93	6.57	7.08
6	Nominal current	I_N	A	0.767	0.782	0.579
7	Stall torque	T_s	mN.m	90.0	92.2	102.5
8	Stall current	I_s	A	16.8	10.2	7.8
9	Max. efficiency	η	%	91.1	85.2	85.7
Characteristics						
10	Terminal resistance	R_{t-h}	Ω	0.36	1.18	2.31
11	Terminal inductance	L_{t-h}	mH	0.022	0.063	0.224
12	Torque constant	K_T	mN.m/A	5.37	9.09	13.21
13	Speed constant	K_n	rpm/V	2004	998	6.48
14	Speed/torque gradient	K_v	rpm/mN.m	118	136	126
15	Mechanical time constant	K_m	ms	6.87	7.88	7.32
16	Rotor inertia	J	gcm^2	5.54	5.54	5.54

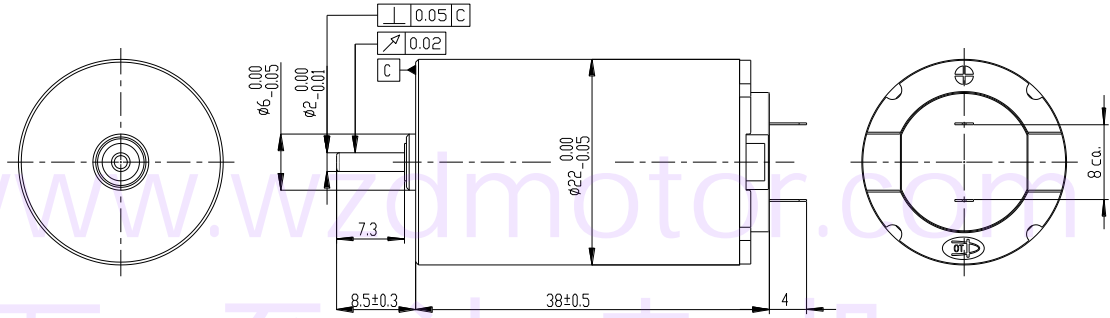
Thermal data		
17	Thermal resistance housing-ambient	20K/W
18	Thermal resistance winding-housing	6.5K/W
19	Thermal time constant winding	20.2 s
20	Thermal time constant motor	513 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+155°C

Mechanical data (sleeve bearings)		
23	Max. permissible speed	15000 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

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



Scale:2:1 Unit:mm

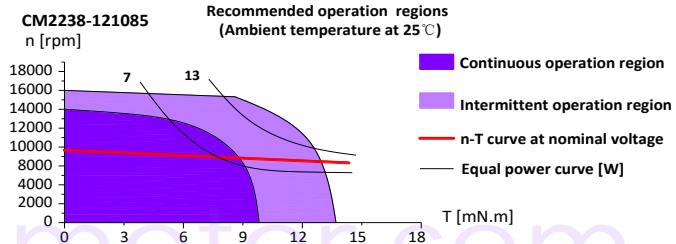
Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5/7 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	68.9g	

CM2238 Series			061183	121085							
Motor Data											
1	Nominal voltage	U_N	V	6.0	12.0						
2	No load speed	n_0	rpm	11200	9800						
3	No load current	I_0	A	0.04	0.018						
4	Nominal speed	n_N	rpm	10263	9095						
5	Nominal torque	T_N	mN.m	3.56	2.67						
6	Nominal current	I_N	A	0.438	0.232						
7	Stall torque	T_S	mN.m	42.5	37.2						
8	Stall current	I_S	A	4.8	3.0						
9	Max. efficiency	η	%	82.6	85.1						

Characteristics											
10	Terminal resistance	R_{t-h}	Ω	1.25	4.0						
11	Terminal inductance	L_{t-h}	mH	0.062	0.024						
12	Torque constant	K_T	mN.m/A	8.93	12.47						
13	Speed constant	K_n	rpm/V	1882	822						
14	Speed/torque gradient	K_v	rpm/mN.m	150	245						
15	Mechanical time constant	K_m	ms	8.47	12.2						
16	Rotor inertia	J	gcm ²	5.4	4.75						

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

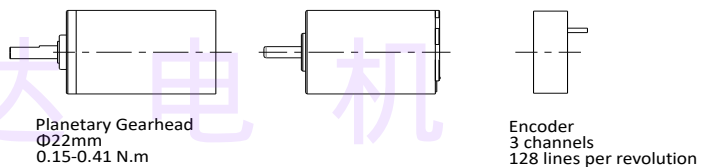
Operating Characteristic Curve

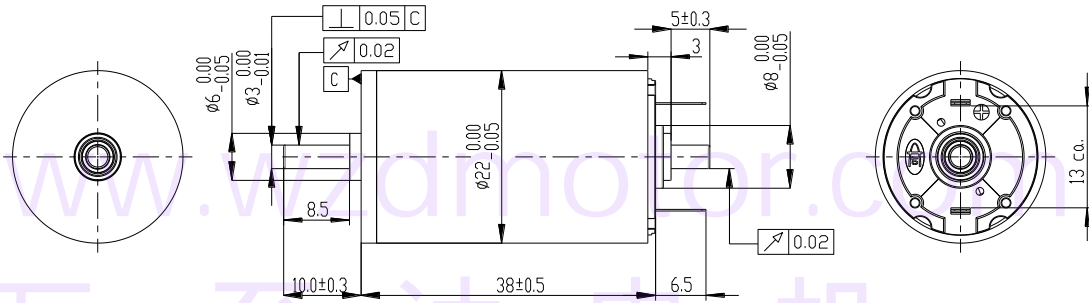


Mechanical data (sleeve bearings)		
23	Max. permissible speed	16000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	10 N
27	Max. force for press fits (static)	60 N
28	Max. radial loading, 5 mm from flange	25 N

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





Scale:1.5:1 Unit:mm

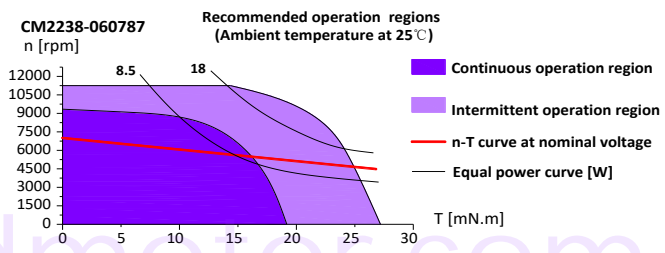
Specifications	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		72g

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_{t-h}	Ω	0.43	1.07	2.26
11	Terminal inductance	L_{t-h}	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

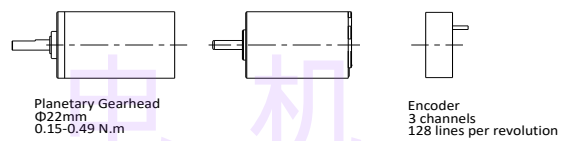
Operating Characteristic Curve

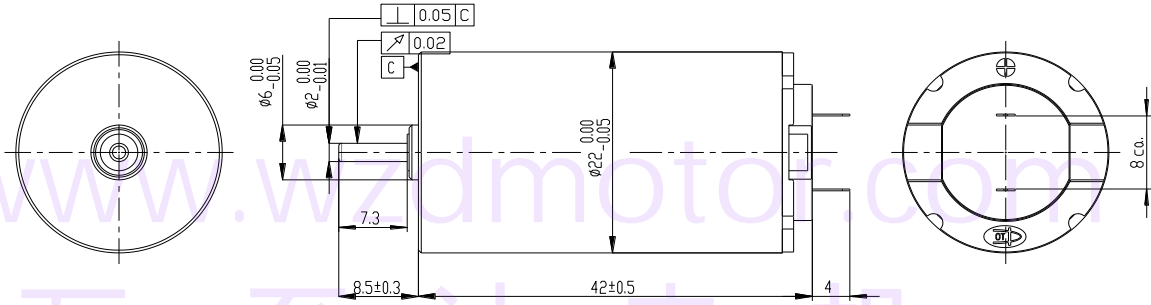


Mechanical data (sleeve bearings)		
23	Max. permissible speed	11000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	10 N
27	Max. force for press fits (static)	60 N
28	Max. radial loading, 5 mm from flange	25 N

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





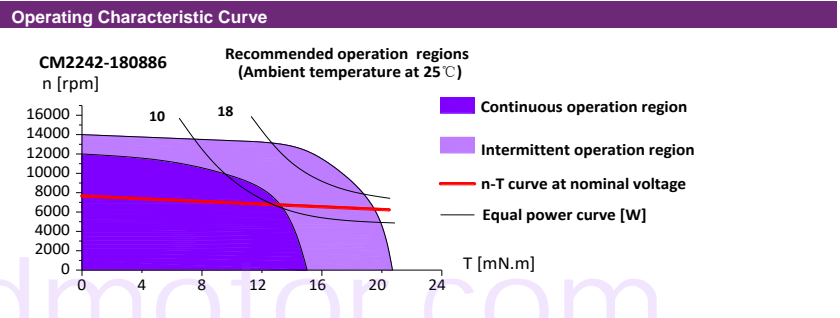
Scale:2:1 Unit:mm

Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5/7 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	81g	

CM2242 Series			180886											
Motor Data														
1	Nominal voltage	U_N	V	18.0										
2	No load speed	n_0	rpm	7900										
3	No load current	I_0	A	0.045										
4	Nominal speed	n_N	rpm	7378										
5	Nominal torque	T_N	mN.m	6.6										
6	Nominal current	I_N	A	0.636										
7	Stall torque	T_s	mN.m	100										
8	Stall current	I_s	A	9.0										
9	Max. efficiency	η	%	86.4										

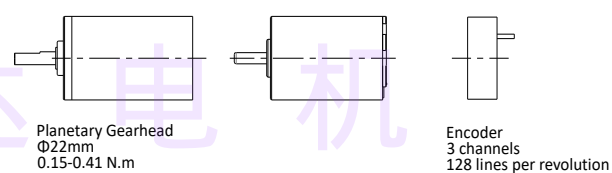
Characteristics														
10	Terminal resistance	R_{t-h}	Ω	2.0										
11	Terminal inductance	L_{t-h}	mH	0.123										
12	Torque constant	K_T	mN.m/A	11.17										
13	Speed constant	K_n	rpm/V	441										
14	Speed/torque gradient	K_v	rpm/mN.m	153										
15	Mechanical time constant	K_m	ms	8.53										
16	Rotor inertia	J	gcm^2	5.32										

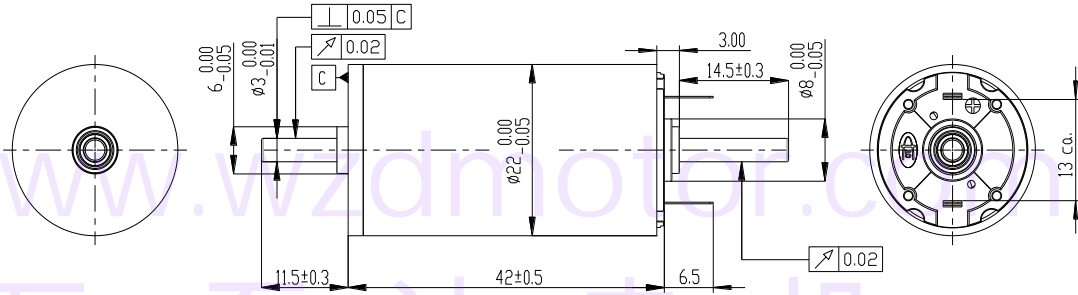
Thermal data		
17	Thermal resistance housing-ambient	20K/W
18	Thermal resistance winding-housing	6.5K/W
19	Thermal time constant winding	20.2 s
20	Thermal time constant motor	513 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+155°C



Mechanical data (sleeve bearings)		
23	Max. permissible speed	14000 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





Scale:1.5:1 Unit:mm

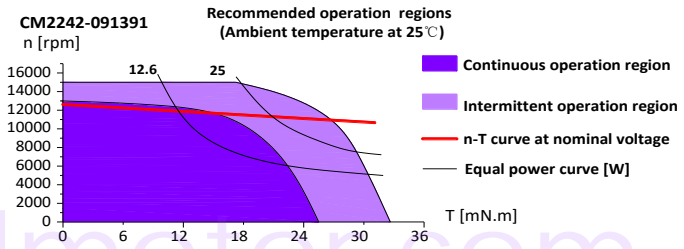
Specifications	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		84g

CM2242 Series			091391	121287	181289	
Motor Data						
1	Nominal voltage	U_N	V	9.0	12.0	18.0
2	No load speed	n_0	rpm	12600	12050	12100
3	No load current	I_0	A	0.050	0.030	0.020
4	Nominal speed	n_N	Rpm	12033	11299	11434
5	Nominal torque	T_N	mN.m	6.39	8.78	7.92
6	Nominal current	I_N	A	1.06	0.452	3.44
7	Stall torque	T_s	mN.m	142	141	144
8	Stall current	I_s	A	22.5	6.8	5.94
9	Max. efficiency	η	%	90.8	87.2	88.7

Characteristics			091391	121287	181289	
10	Terminal resistance	R_{t-h}	Ω	0.40	1.76	3.05
11	Terminal inductance	L_{t-h}	mH	0.062	0.223	0.384
12	Torque constant	K_T	mN.m/A	6.33	20.83	24.49
13	Speed constant	K_n	rpm/V	1403	1009	675
14	Speed/torque gradient	K_v	rpm/mN.m	95	39	49
15	Mechanical time constant	K_m	ms	7.25	3.75	5.34
16	Rotor inertia	J	gcm^2	7.25	9.22	10.5

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

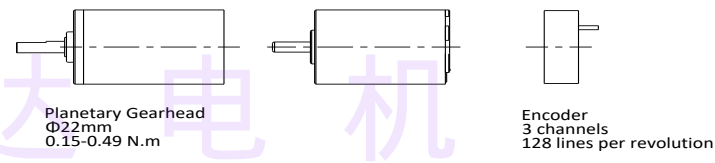
Operating Characteristic Curve

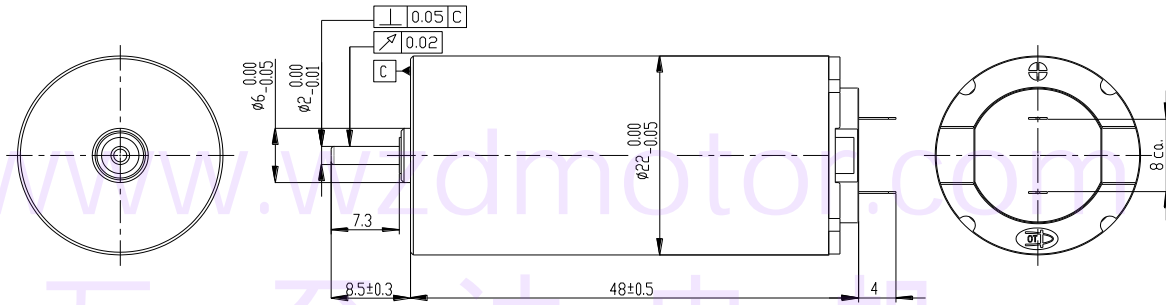


Mechanical data (sleeve bearings)		
23	Max. permissible speed	15000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	10 N
27	Max. force for press fits (static)	60 N
28	Max. radial loading, 5 mm from flange	25 N

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





Scale:2:1 Unit:mm

Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5/7 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	92g	

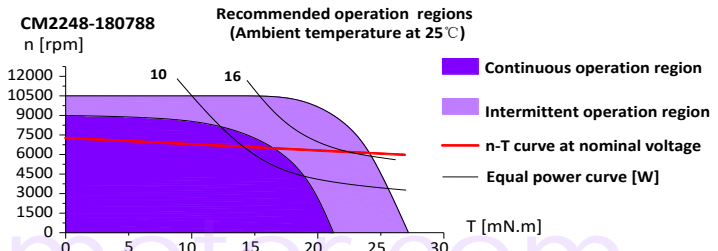
CM2248 Series		180788								
---------------	--	--------	--	--	--	--	--	--	--	--

Motor Data			
1	Nominal voltage	U_N	V 18.0
2	No load speed	n_0	rpm 7300
3	No load current	I_0	A 0.022
4	Nominal speed	n_N	rpm 6880
5	Nominal torque	T_N	mN.m 8.75
6	Nominal current	I_N	A 0.36
7	Stall torque	T_S	mN.m 152
8	Stall current	I_S	A 5.9
9	Max. efficiency	η	% 88.2

Characteristics			
10	Terminal resistance	R_{t-h}	Ω 3.05
11	Terminal inductance	L_{t-h}	mH 0.423
12	Torque constant	K_T	mN.m/A 25.86
13	Speed constant	K_n	rpm/V 407
14	Speed/torque gradient	K_v	rpm/mN.m 44
15	Mechanical time constant	K_m	ms 4.61
16	Rotor inertia	J	gcm^2 10.1

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

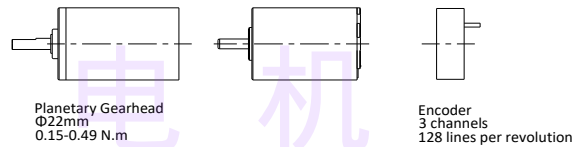
Operating Characteristic Curve

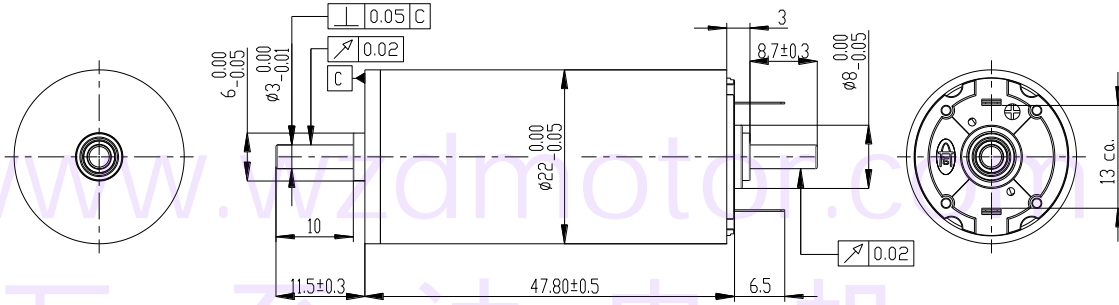


Mechanical data (sleeve bearings)		
23	Max. permissible speed	12000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	10 N
27	Max. force for press fits (static)	60 N
28	Max. radial loading, 5 mm from flange	25 N

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





Scale:1.5:1 Unit:mm

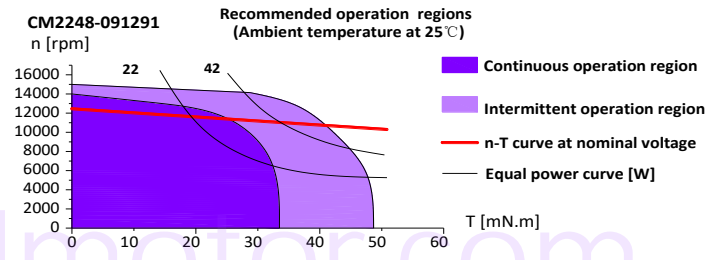
Specifications	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		95g

CM2248 Series			09129	121291	181292
Motor Data					
1	Nominal voltage	U_N V	9.0	12.0	18.0
2	No load speed	n_0 rpm	12400	11800	11900
3	No load current	I_0 A	0.120	0.080	0.049
4	Nominal speed	n_N Rpm	11836	11264	11409
5	Nominal torque	T_N mN.m	16.37	15.22	15.75
6	Nominal current	I_N A	2.52	1.68	1.14
7	Stall torque	T_S mN.m	360	335	382
8	Stall current	I_S A	52.9	35.3	26.5
9	Max. efficiency	η %	90.7	90.7	91.6

Characteristics					
10	Terminal resistance	R_{t-h} Ω	0.17	0.34	0.68
11	Terminal inductance	L_{t-h} mH	0.02	0.038	0.04
12	Torque constant	K_T mN.m/A	6.82	9.51	14.44
13	Speed constant	K_n rpm/V	1381	986	662
14	Speed/torque gradient	K_v rpm/mN.m	35	36	31
15	Mechanical time constant	K_m ms	3.58	3.68	3.19
16	Rotor inertia	J gcm ²	9.80	9.80	9.80

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

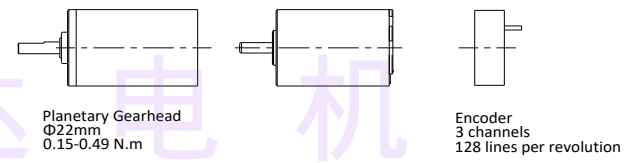
Operating Characteristic Curve

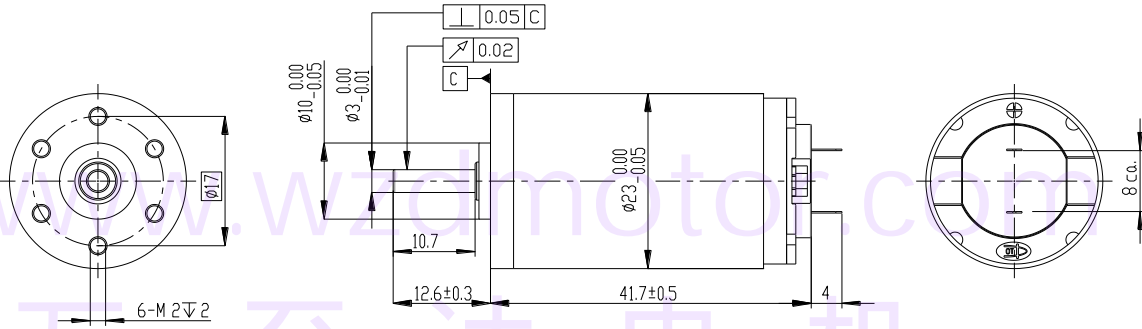


Mechanical data (sleeve bearings)		
23	Max. permissible speed	15000 rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	10 N
27	Max. force for press fits (static)	60 N
28	Max. radial loading, 5 mm from flange	25 N

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





Scale:1.5:1 Unit:mm

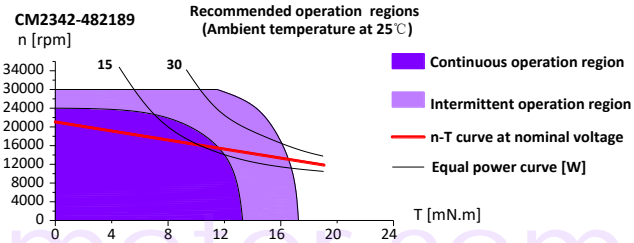
Specifications	A	B
Brushes	Precious Metal Brushes	
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator	5/7 Segments	
Number of pole pairs	1	
Style of leadwire	Cable	Terminals
Weight	89g	

CM2342 Series			180886	242190	482189	
Motor Data						
1	Nominal voltage	U_N	V	18	24.0	48.0
2	No load speed	n_0	rpm	7800	21200	20500
3	No load current	I_0	A	0.024	0.018	0.010
4	Nominal speed	n_N	rpm	7258	20170	19354
5	Nominal torque	T_N	mN.m	6.81	4.47	5.20
6	Nominal current	I_N	A	0.3211	0.352	0.169
7	Stall torque	T_s	mN.m	98	92	93
8	Stall current	I_s	A	4.3	6.9	2.85
9	Max. efficiency	η	%	85.6	90.0	88.5

Characteristics						
10	Terminal resistance	R_{t-h}	Ω	4.19	3.48	16.84
11	Terminal inductance	L_{t-h}	mH	0.072	0.323	0.924
12	Torque constant	K_T	mN.m/A	22.92	13.37	32.75
13	Speed constant	K_n	rpm/V	436	886	429
14	Speed/torque gradient	K_v	rpm/mN.m	76	186	150
15	Mechanical time constant	K_m	ms	6.8	9.93	8.56
16	Rotor inertia	J	gcm^2	8.53	5.10	5.45

Thermal data		
17	Thermal resistance housing-ambient	14K/W
18	Thermal resistance winding-housing	3.1K/W
19	Thermal time constant winding	12.5 s
20	Thermal time constant motor	612 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+125°C

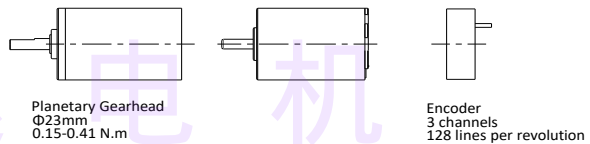
Operating Characteristic Curve

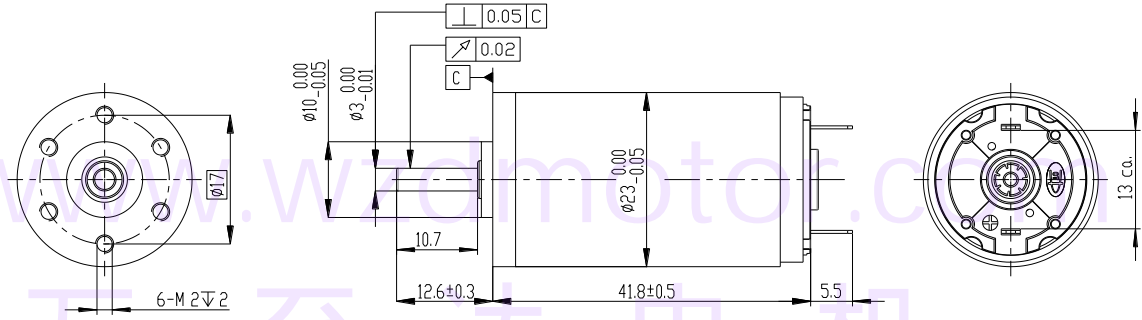


Mechanical data (sleeve bearings)		
23	Max. permissible speed	30000rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	3.2 N
27	Max. force for press fits (static)	5 N
28	Max. radial loading, 5 mm from flange	16 N

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





Scale:1.5:1 Unit:mm

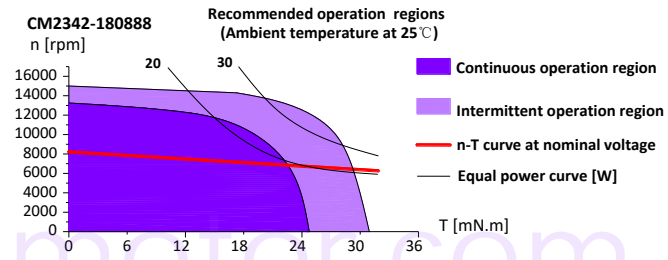
Specifications	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		93g

CM2342 Series			180888
Motor Data			
1	Nominal voltage	U_N	V 18.0
2	No load speed	n_0	rpm 8200
3	No load current	I_0	A 0.031
4	Nominal speed	n_N	rpm 7732
5	Nominal torque	T_N	mN.m 7.71
6	Nominal current	I_N	A 0.512
7	Stall torque	T_S	mN.m 135
8	Stall current	I_S	A 8.45
9	Max. efficiency	η	% 88.3

Characteristics			
10	Terminal resistance	R_{t-h}	Ω 2.13
11	Terminal inductance	L_{t-h}	mH 0.223
12	Torque constant	K_T	mN.m/A 16.04
13	Speed constant	K_n	rpm/V 457
14	Speed/torque gradient	K_v	rpm/mN.m 79
15	Mechanical time constant	K_m	ms 4.52
16	Rotor inertia	J	gcm ² 5.45

Thermal data	
17	Thermal resistance housing-ambient 14K/W
18	Thermal resistance winding-housing 3.1K/W
19	Thermal time constant winding 12.5 s
20	Thermal time constant motor 612 s
21	Ambient temperature -30...+100°C
22	Max. permissible winding temperature +125°C

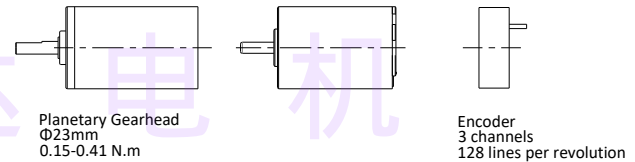
Operating Characteristic Curve

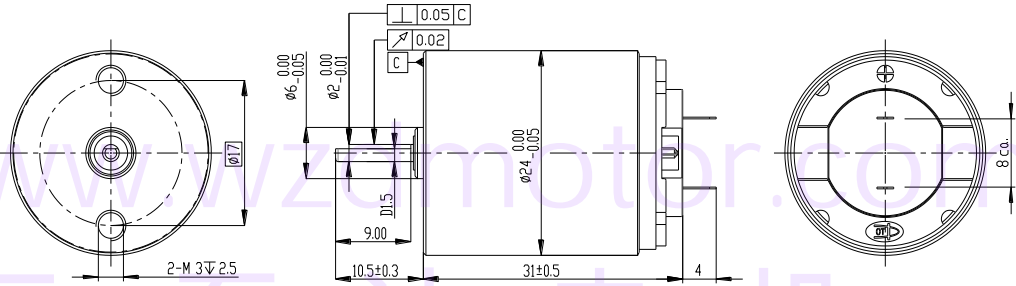


Mechanical data (sleeve bearings)	
23	Max. permissible speed 15000rpm
24	Axial play 0.05-0.15 mm
25	Radial play 0.025 mm
26	Max. axial load (dynamic) 3.2 N
27	Max. force for press fits (static) 5 N
28	Max. radial loading, 5 mm from flange 16 N

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





Scale:2:1 Unit:mm

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

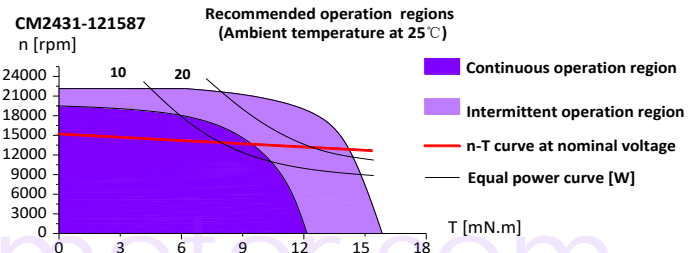
CM2431 Series			121485	121587							
Motor Data											
1	Nominal voltage	U_N	V	12.0	12.0						
2	No load speed	n_0	rpm	13900	15200						
3	No load current	I_0	A	0.022	0.017						
4	Nominal speed	n_N	rpm	12872	14210						
5	Nominal torque	T_N	mN.m	5.03	4.69						
6	Nominal current	I_N	A	0.275	0.244						
7	Stall torque	T_S	mN.m	68	72						
8	Stall current	I_S	A	3.45	3.5						
9	Max. efficiency	η	%	84.7	86.5						

Characteristics											
10	Terminal resistance	R_{t-h}	Ω	3.48	3.43						
11	Terminal inductance	L_{t-h}	mH	0.33	0.35						
12	Torque constant	K_T	mN.m/A	19.84	20.67						
13	Speed constant	K_n	rpm/V	1166	1273						
14	Speed/torque gradient	K_v	rpm/mN.m	84	77						
15	Mechanical time constant	K_m	ms	4.82	4.37						
16	Rotor inertia	J	gcm ²	5.45	5.45						

Thermal data		
17	Thermal resistance housing-ambient	14K/W
18	Thermal resistance winding-housing	3.1K/W
19	Thermal time constant winding	12.5 s
20	Thermal time constant motor	612 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+125°C

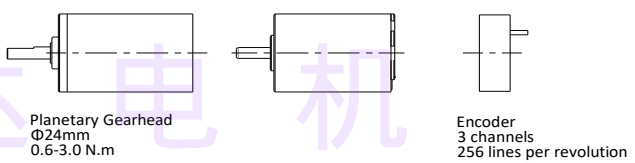
Mechanical data (sleeve bearings)		
23	Max. permissible speed	22000rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	3.2 N
27	Max. force for press fits (static)	5 N
28	Max. radial loading, 5 mm from flange	16 N

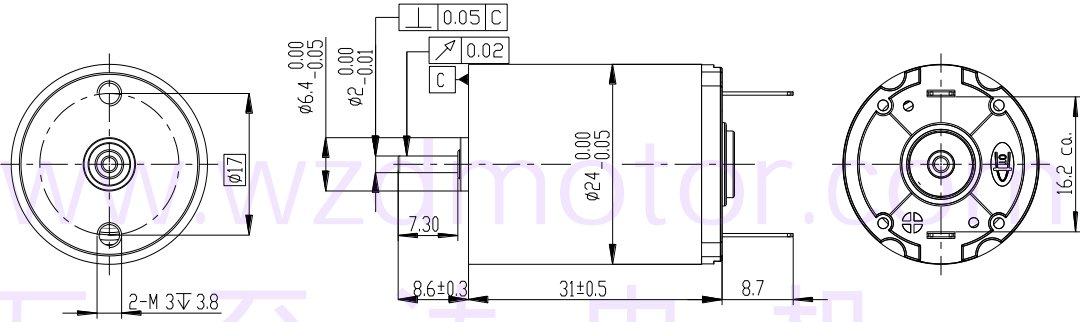
Operating Characteristic Curve



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





Scale:2:1 Unit:mm

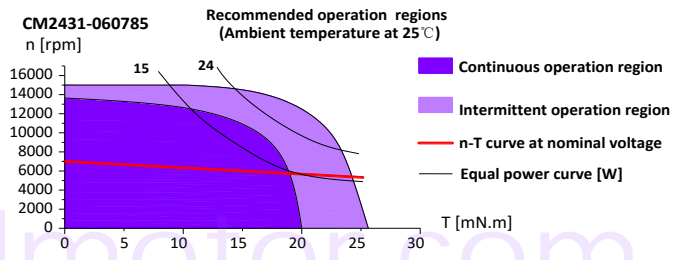
Specifications	A	B
Brushes		Graphite Brushes
Bearings	Ball Bearings	Sleeve Bearings
Segments of Commutator		5/7 Segments
Number of pole pairs		1
Style of leadwire	Cable	Terminals
Weight		75g

CM2431 Series		060785												
Motor Data														
1	Nominal voltage	U_N	V	6.0										
2	No load speed	n_0	rpm	7000										
3	No load current	I_0	A	0.112										
4	Nominal speed	n_N	rpm	6495										
5	Nominal torque	T_N	mN.m	7.80										
6	Nominal current	I_N	A	1.439										
7	Stall torque	T_s	mN.m	108										
8	Stall current	I_s	A	18.5										
9	Max. efficiency	η	%	85.0										

Characteristics														
10	Terminal resistance	R_{t-h}	Ω	0.32										
11	Terminal inductance	L_{t-h}	mH	0.03										
12	Torque constant	K_T	mN.m/A	5.87										
13	Speed constant	K_n	rpm/V	1174										
14	Speed/torque gradient	K_v	rpm/mN.m	90										
15	Mechanical time constant	K_m	ms	5.12										
16	Rotor inertia	J	gcm^2	5.45										

Thermal data		
17	Thermal resistance housing-ambient	14K/W
18	Thermal resistance winding-housing	3.1K/W
19	Thermal time constant winding	12.5 s
20	Thermal time constant motor	612 s
21	Ambient temperature	-30...+100°C
22	Max. permissible winding temperature	+125°C

Operating Characteristic Curve



Mechanical data (sleeve bearings)		
23	Max. permissible speed	15000rpm
24	Axial play	0.05-0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	3.2 N
27	Max. force for press fits (static)	5 N
28	Max. radial loading, 5 mm from flange	16 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

