

# MOTOR CATALOG

Design Manufacturing R&D

DC Brushless Motor • DC Reduction Motor • DC Brushed motor



## // Company Profile

Shenzhen Zhongda Motor Co., Ltd. was established in 2016, focusing on the design, research and development, and manufacturing of DC brushless motors. Our main business is manufacturing brushless motors. Including brushless outer and inner rotor motors, brushless gearbox motors, brushless coreless motors, etc., widely used in medical equipment, smart homes, household appliances, water pumps, high-end gaming machines, electric tools, fitness equipment, underwater robots, security, personal care products and other fields. The company currently has a team of 9 engineers with over 15 years of experience in the development of DC brushless motors. And we have introduced precision testing instruments and equipment from both domestic and international sources, committed to providing customers with higher quality and better performance brushless motors. The company has 10 DC brushless motor production lines with large-scale production capacity, which can quickly respond to customer needs. At the same time, the company has obtained ISO9001 quality management system certification and SGS certification for national high-tech enterprises. The company always adheres to the principle of quality first, implements complete quality control throughout the entire process, from raw material procurement to production process control, and finally to finished product inspection and testing, to ensure that each motor meets customer requirements. Shenzhen Zhongda Motor Co., Ltd. is a member of Alibaba's Jinpin Strength Factory, with a very good commercial reputation and reputation. The company relies on a professional R&D team, advanced production equipment, a comprehensive quality control system, and excellent customer service to provide global customers with higher quality DC brushless motor products and services.

## // Company Certificates



## Company Environment



## Business Partners



Focusing On DC Motor, Surpassing Your Expectations !

## DC Brushless Motor

04.....	BLDC1625
05.....	BLDC1632
06.....	BLDC1840
07.....	BLDC2418
08.....	BLDC2430
09.....	BLDC2819
10.....	BLDC2830
11.....	BLDC2838
12.....	BLDC3334
13.....	BLDC3630
14.....	BLDC3657
15.....	BLDC3816-1
16.....	BLDC3816-2
17.....	BLDC3925
18.....	BLDC4210
19.....	BLDC4235
20.....	BLDC4260
21.....	BLDC4555
22.....	BLDC4818
23.....	SBLDC5520
24.....	BLDC29
25.....	BLDCT252

## DC Reduction Motor

26.....	16FP030
27.....	16FP050
28.....	20FP180
29.....	22FP310
30.....	24FP370
31.....	28FP395
32.....	36FP555
33.....	42FP775
34.....	12GAN20
35.....	12UN20
36.....	16GA030
37.....	16GA050
38.....	20GA130
39.....	20GA180
40.....	25GA310
41.....	25GA370
42.....	25GA385
43.....	32B310
44.....	37BY520
45.....	37BY528
46.....	37BY545
47.....	37BY555
48.....	37BY3525
49.....	37BY3540
50.....	37BY3530
51.....	48E528
52.....	60A775
53.....	60A555

## DC Brushed Motor

54.....	M20SA
55.....	N20SA
56.....	N30SA
57.....	020NA
58.....	030SA
59.....	030SA-1
60.....	050SA
61.....	130S/NA
62.....	130S/NA1
63.....	130S/NH
64.....	140S/NA
65.....	180SH
66.....	180SA
67.....	250SA
68.....	260S/NA
69.....	260S/WA
70.....	280S/WA
71.....	280S/NA
72.....	300EA
73.....	310EA
74.....	360/365S/WA
75.....	360/365S/WH
76.....	370E/SH
77.....	380/385S/WA
78.....	380/385S/WH
79.....	390/395S/WA
80.....	390/395S/WH
81.....	500EA
82.....	540/545S/WA
83.....	540/545S/WH
84.....	550/555S/WA
85.....	550/555S/WH
86.....	1215EA
87.....	1220EA
88.....	1230EA
89.....	JS2725-280



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC1625

OUTPUT: APPROX 0.1W-5W

INNER ROTOR

WEIGHT: 14g (APPROX)



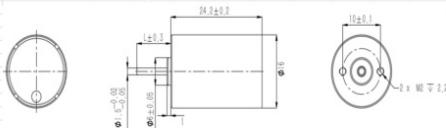
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	FG
3	CW/CCW
4	GND
5	PWM

### ● External Dimensions



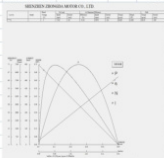
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL1625-V1	4.5V-12V	5V	7145	0.034	5678	0.132	8.409	0.49	40.95	0.509
BL1625-V2	4.5V-12V	12V	8100	0.02	6430	0.077	9.825	0.648	47.65	0.296

### ● Performance Curves

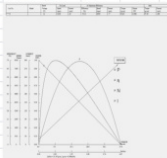
BL1625-V1

5V



BL1625-V2

12V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC1632

OUTPUT: APPROX 0.1W-7W

INNER ROTOR

WEIGHT: 23.5g (APPROX)



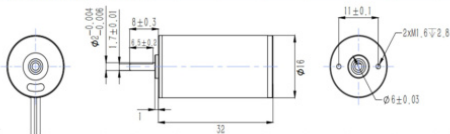
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	FG
3	CW/CCW
4	GND
5	PWM

### ● External Dimensions



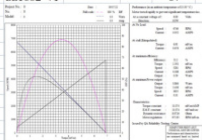
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL1632-V1	5V-12V	6V	6750	0.052	5281	0.188	15.31	0.59	70.5	0.676
BL1632-V2	5V-12V	12V	8000	0.023	6524	0.102	14.756	0.987	80	0.45

### ● Performance Curves

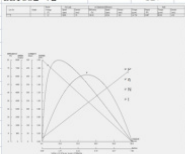
BL1632-V1

6V



BL1632-V2

12V



# Shenzhen Zhongda Motor Co., Ltd.

## Sonic motor-1840

Frequency range:170-350Hz

INNER ROTOR

WEIGHT:40g (APPROX)



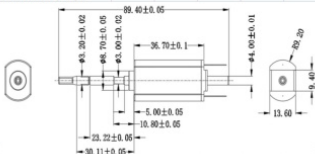
### ◆ Typical Application

 (Home Application)  
 (Power Tools)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	GND

### ● External Dimensions



### ● Major Characteristic Parameters

MODEL	Voltage		Rated frequency (Hz)	Rated load (g)	Rated current (A)	Stall current (A)	Motor Position
	Operating Range	Rated					
1840-V1	3V-4.5V	3.7V	260	3.8	0.4	1.18	All position

### ● ELECTRICAL CHARACTERISTICS

Insulation resistance 100VDC between motor terminal and case:10M Ω Min

# Shenzhen Zhongda Motor Co., Ltd.

## BLDC2418

OUTPUT: APPROX 0.1W-15W

INNER ROTOR

WEIGHT: 30g (APPROX)



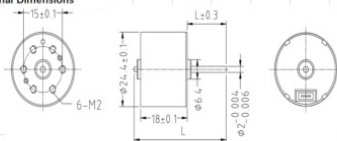
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	FG
3	CW/CCW
4	GND
5	PWM

### ● External Dimensions



### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL2418-V1	3V-24V	6V	5600	0.08	4200	0.228	18.6	0.6	72.37	0.66
BL2418-V2	3V-24V	12V	6000	0.05	4787	0.169	27.44	1.07	128.1	0.619
BL2418-V3	3V-24V	24V	7500	0.03	5966	0.121	35.89	1.57	171.7	0.458

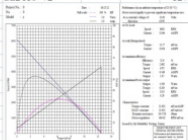
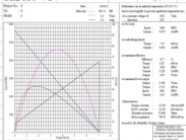
### ● Performance Curves

BL2418-V1

6V

BL2418-V2

12V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC2430

OUTPUT: APPROX. 2W-25W

INNER ROTOR

WEIGHT: 60g (APPROX)



### ◆ Typical Application

### Motor Terminations

(Personal Care)	NO	PIN ARRANGEMENT
(Home Application)	1	VCC
(Power Tools)	2	FG
(Business Equipment)	3	CW/CCW
(Medical Apparatus)	4	GND
	5	PWM

### ● External Dimensions



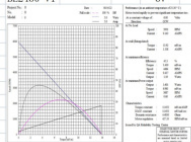
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency				Stall	
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL2430-V1	3V-24V	6V	6000	0.143	4484	0.437	34.96	1.19	141.89	1.338
BL2430-V2	3V-24V	12V	6900	0.086	5566	0.367	54.39	2.58	286.3	1.564
BL2430-V3	3V-24V	24V	3000	0.02	2314	0.07	58.29	0.86	262.69	0.246

### ● Performance Curves

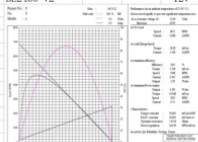
BL2430-V1

6V



BL2430-V2

12V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC2819

OUTPUT: APPROX. 2W-20W

INNER ROTOR

WEIGHT: 30g (APPROX)



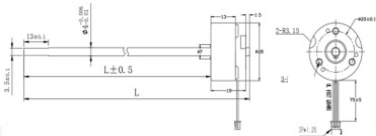
### ◆ Typical Application

(Personal Care)  
(Home Application)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	U
2	V
3	W

### ● External Dimensions

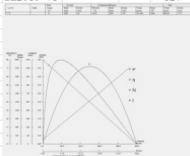


### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL2819-V1	6V-12V	12V	3000	0.065	2429	0.276	114.249	2.846	600	1.175

### ● Performance Curves

BL2819-V1 12V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC2830

OUTPUT: APPROX 1W-50W

INNER ROTOR

WEIGHT: 100g (APPROX)



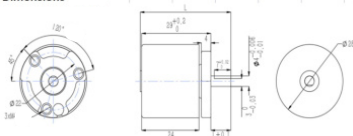
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	U
2	V
3	W

### ● External Dimensions

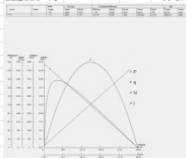


### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL2830-V1	7V-12V	7.4V	3600	0.18	3120	1.04	386	12	2650	6.35

### ● Performance Curves

BL2830-V1      7.4V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC2838

OUTPUT: APPROX. 2W-35W

INNER ROTOR

WEIGHT: 80g (APPROX)



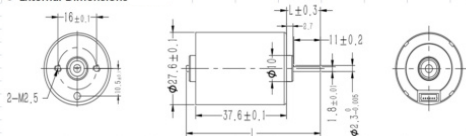
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)  
 (Clipper)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	FG
3	CW/CCW
4	GND
5	PWM

### ● External Dimensions



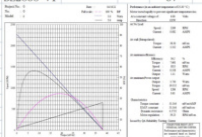
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g·cm	Output W	Torque g·cm	Current A
BL2838-V1	3V-24V	6V	2260	0.082	1815	0.328	78.17	1.11	390.8	1.3
BL2838-V2	3V-24V	12V	5400	0.11	4474	0.562	129.1	4.25	754.59	2.722
BL2838-V3	3V-24V	24V	2430	0.028	1935	0.11	99.17	1.46	487.1	0.429

### ● Performance Curves

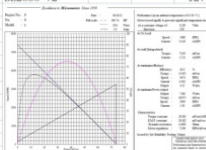
BL2838-V1

6V



BL2838-V2

12V





# Shenzhen Zhongda Motor Co., Ltd.

## BLDC3334

OUTPUT: APPROX 2W-70W

INNER ROTOR

WEIGHT: 120g (APPROX)



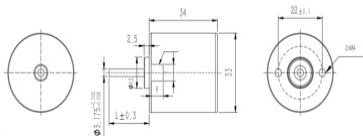
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	FG
3	CW/CCW
4	GND
5	PWM

### ● External Dimensions



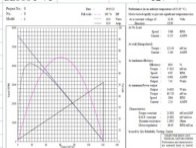
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL3334-V1	6V-12V	12V	5586	0.155	4767	0.901	181.85	7.41	1239.18	5.24
BL3334-V2	6V-12V	12V	4600	0.13	3861	0.68	153.24	5.34	954.69	3.556

### ● Performance Curves

BL3334-V1

12V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC3630

OUTPUT: APPROX 1W-30W

INNER ROTOR

WEIGHT: 90g (APPROX)

### ◆ Typical Application

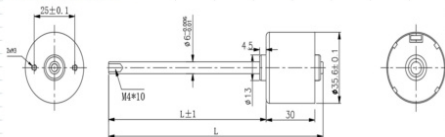
 (Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	FG
3	CW/CCW
4	GND
5	PWM



### ● External Dimensions



### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL3630-V1	8V-24V	12V	6100	0.107	4956	0.46	87.632	3.25	464.08	1.974
BL3630-V2	8V-24V	12V	2800	0.1	2196	0.36	134.31	2.25	617.44	1.294

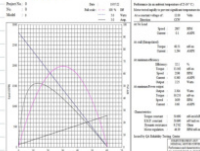
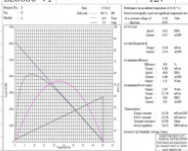
### ● Performance Curves

BL3630-V1

12V

BL3630-V2

12V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC3657

OUTPUT: APPROX 2W-70W

INNER ROTOR

WEIGHT: 200g (APPROX)



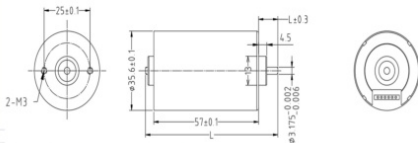
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	FG
3	CW/CCW
4	GND
5	PWM
6	BRK

### ● External Dimensions



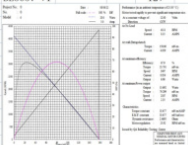
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL3657-V1	6V-24V	12V	4100	0.15	3497	0.854	241.8	6.96	1618.3	4.859
BL3657-V2	6V-24V	24V	3670	0.064	3136	0.375	262.3	6.2	1800.4	2.2

### ● Performance Curves

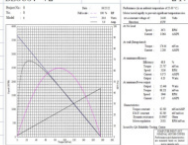
BL3657-V1

12V



BL3657-V2

24V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC3816

OUTPUT: APPROX 2W-50W

INNER ROTOR

WEIGHT: 100g (APPROX)



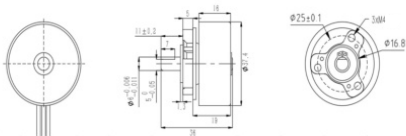
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	U
2	V
3	W

### ● External Dimensions



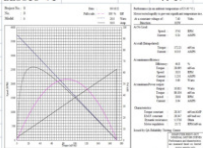
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g. cm	Output W	Torque g. cm	Current A
BL3816-V1	5V-12V	7.4V	3740	0.24	3131	1.231	286.68	5.9	1757.24	6.315

### ● Performance Curves

BL3816-V1

7.4V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC3817

OUTPUT: APPROX 2W-50W

INNER ROTOR

WEIGHT: 100g (APPROX)



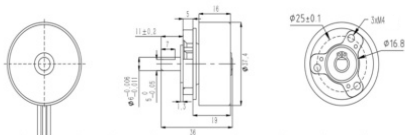
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	U
2	V
3	W

### ● External Dimensions



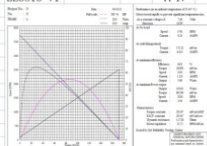
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency		Stall			
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g. cm	Output W	Torque g. cm	Current A
BL3816-V1	5V-12V	7.4V	3740	0.24	3131	1.231	286.68	5.9	1757.24	6.315

### ● Performance Curves

BL3816-V1

7.4V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC3925

OUTPUT: APPROX 2W-50W

INNER ROTOR

WEIGHT: 125g (APPROX)



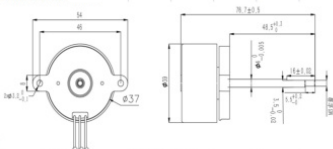
### ◆ Typical Application

### ◆ Motor Terminations

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

NO	PIN ARRANGEMENT
1	U
2	V
3	W

### ● External Dimensions



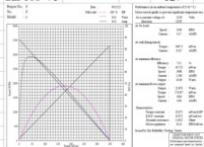
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BLPC03-V1	6V-24V	12V	3540	0.17	3098	1.19	446.14	10.45	3568.46	8.327

### ● Performance Curves

BLPC03-V1

12V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC4210

OUTPUT: APPROX 2W-60W

INNER ROTOR

WEIGHT: 120g (APPROX)



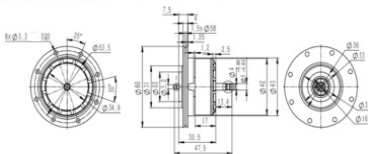
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	U
2	V
3	W

### ● External Dimensions



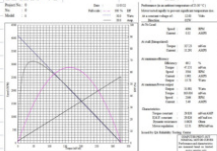
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL4210-V1	6V-24V	12V	4090	0.32	3504	1.9	480.64	15.78	3335.67	11.29

### ● Performance Curves

BL4210-V1

12V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC4235

OUTPUT: APPROX 3W-120W

INNER ROTOR

WEIGHT: 170g (APPROX)



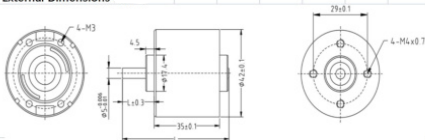
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	FG
3	CW/CCW
4	GND
5	PWM
6	BRK

### ● External Dimensions



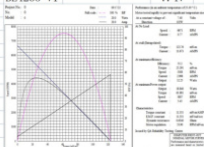
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL4235-V1	6V-24V	7.4V	6600	0.7	5309	2.998	258	12.25	1262.8	11.673
BL4235-V2	6V-24V	12V	7000	0.635	5655	2.614	372.16	17.98	1903.9	10.758
BL4235-V3	6V-25V	24V	5100	0.2	4188	0.88	453.3	19.39	2447.6	3.871

### ● Performance Curves

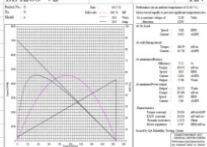
BL4235-V1

7.4V



BL4235-V2

12V





# Shenzhen Zhongda Motor Co., Ltd.

## BLDC4260

OUTPUT: APPROX 5W-170W

INNER ROTOR

WEIGHT: 300g (APPROX)



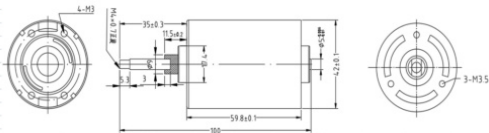
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	PG
3	CW/CCW
4	GND
5	PWM
6	BRK

### ● External Dimensions



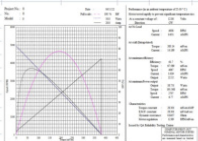
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL4260-V1	7V-24V	7V	2100	0.24	1430	2	410	14.3	2573	6.1
BL4260-V2	7V-24V	12V	5000	0.65	4067	3.03	688.78	22.5	3905	14.1
BL4260-V3	7V-24V	24V	6700	0.28	5893	1.51	518.3	25.56	3714.7	9.35

### ● Performance Curves

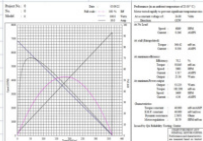
BL4260-V2

12V



BL4260-V3

24V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC4555The vacuum cleaner

OUTPUT: APPROX60-150W      INNER ROTOR      WEIGHT:120g (APPROX)



### ◆ Typical Application

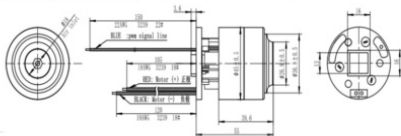
(Home Application)

(Power Tools)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	GND
3	PWM

### ● External Dimensions



### ● Major Characteristic Parameters

MODEL	Voltage		Max vacuum degree	Max air flow	Max suction n	Input power	Noise	Direction of Rotation	Position of motor
	Operating Range	Rated							
4560-V1	6.5V-8.5V	7.4V	≥13Kpa	≥10L/S	≥50W	85W	≤90db	CCW	All position
4560-V2	10V-13V	12V	≥13Kpa	≥10L/S	≥60W	90W	≤90db	CCW	All position

### ● ELECTRICAL CHARACTERISTICS

Voltage protection	During operation over voltage and under Voltage protection shutdown After power on again the voltage can be started normally within the starting range
Main motor over current protection	20A@0.01S
One hole protection of main motor	Full hole plugging for 6S shutdown
Speed regulation mode	Single key short press to adjust the gear cycle
Motor high voltage test	500VAC test time 1s leakage current less than 5mA/Frequency 50Hz or 60Hz Except for the drive circuit.
Motor insulation	500VDC test time 1s insulation resistance ≥50MΩ Except for the drive circuit.

# Shenzhen Zhongda Motor Co., Ltd.

## BLDC4818

OUTPUT: APPROX 2W-150W

INNER ROTOR

WEIGHT: 160g (APPROX)



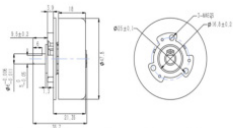
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	FG
3	CW/CCW
4	GND
5	PWM

### ● External Dimensions



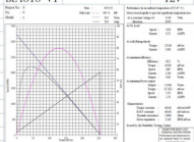
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g.cm	Output W	Torque g.cm	Current A
BL4818-V1	8V-24V	12V	3220	0.25	2667	1.204	448.38	9.8	2608.57	5.803
BL4818-V2	8V-24V	24V	3246	0.1	2814	0.652	495.24	11.21	3723.46	4.249

### ● Performance Curves

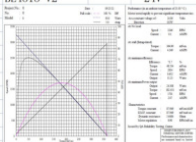
BL4818-V1

12V



BL4818-V2

24V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC5520

OUTPUT: APPROX 2W-170W

INNER ROTOR

WEIGHT: 200g (APPROX)



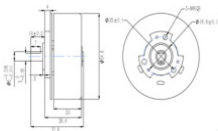
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	VCC
2	FG
3	CW/CCW
4	GND
5	PWM

### ● External Dimensions



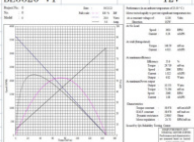
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed r/min	Current A	Speed r/min	Current A	Torque g·cm	Output W	Torque g·cm	Current A
BL5520-V1	8V-24V	12V	3633	0.26	2896	1.022	303.25	6.82	1495.81	4.021
BL5520-V2	8V-24V	24V	3409	0.145	2944	0.918	668.34	15.63	4901.42	5.817

### ● Performance Curves

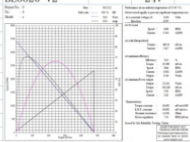
BL5520-V1

12V



BL5520-V2

24V



# Shenzhen Zhongda Motor Co., Ltd.

## BLDC29 High speed brushless motor

OUTPUT: APPROX 50W-90W

INNER ROTOR

WEIGHT: 70g (APPROX)

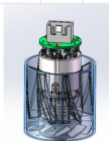
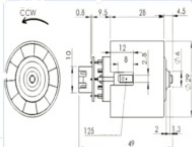


◆ Typical Application  
 (Home Application)  
 (Power Tools)

◆ Motor Terminations

NO	PIN ARRANGEMENT
1	U
2	V
3	W

### ● External Dimensions



### ● Major Characteristic Parameters

Gear	Current Rating (A)	Speed (r/min)	Power Rating (W)	Air velocity (M/S)	Air flow (CMM)	Air force (Pa)	Voltage Rating
Level 1	0.8	85000	55	16.5	2.9	1300	220V
Level 2	1.0	95000	75	17.5	3.05	1400	
Level 3	1.5	107000	90	18.5	3.2	1600	

### ● ELECTRICAL CHARACTERISTICS

Insulation resistance

Tested with 500VDC between terminal and the body of flow-path: 5MΩ Min

Withstand Voltage

1800VAC/0.5mA/1S No sparks or breakdown

Lifetime

Continuous running 500Hs Min

# Shenzhen Zhongda Motor Co., Ltd.

## BLDT252

OUTPUT: APPROX 2W-30W

INNER ROTOR

WEIGHT: 130g (APPROX)



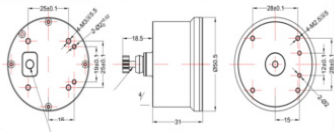
### ◆ Typical Application

(Personal Care)  
 (Home Application)  
 (Power Tools)  
 (Business Equipment)  
 (Medical Apparatus)

### ◆ Motor Terminations

NO	PIN ARRANGEMENT
1	U
2	V
3	W

### ● External Dimensions



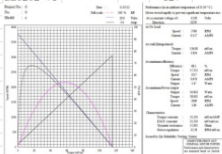
### ● Major Characteristic Parameters

MODEL	Voltage		NO Load		At Maximum Efficiency			Stall		
	Operating Range	Rated	Speed	Current	Speed	Current	Torque	Output	Torque	Current
			r/min	A	r/min	A	g·cm	W	g·cm	A
BLT252-V1	6V-24V	12V	3780	0.117	3217	0.67	175.85	5.47	1182.46	1.183

### ● Performance Curves

BLT252-V1

12V



# ZD-16FP030

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

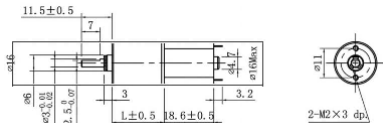
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	1	2	3	4	5
Reduction ratio	4K 4.7K	16K 19K 22.5K	64K 76K 90K 107K	255K 304K 361K 428K 509K	1024K 1216K 1444K 1714K 2036K 2418K
Gearbox length * L * mm	15.8	15.8	19.4	23	26.6
Gearbox efficiency	90%	81%	73%	65%	59%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				.Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Power(W)	Touque(Kg.cm)	Current(A)
ZD-0300038500	3	≤ 0.075	8500	≤ 0.28	6550	0.005	0.34	≥ 0.02	≥ 0.6
ZD-0300061040	6	≤ 0.065	10400	≤ 0.19	7800	0.005	0.39	≥ 0.018	≥ 0.4

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-16FP050

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

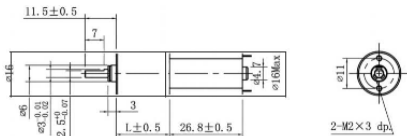
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	1	2	3	4	5
Reduction ratio	4K 4.75K	16K 19K 22.5K	64K 76K 90K 107K	256K 304K 361K 428K 509K	1024K 1216K 1444K 1714K 2036K 2418K
Gearbox length "L" mm	15.8	15.8	19.4	23	26.6
Gearbox efficiency	90%	81%	73%	65%	59%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Torque(Kg.cm)	Power(W)	Torque(Kg.cm)	Current(A)
ZD-0500068000	6	$\leq 0.065$	8000	$\leq 0.2$	6500	0.0075	0.5	$\geq 0.036$	$\geq 0.5$
ZD-0500061200	6	$\leq 0.075$	12000	$\leq 0.3$	9300	0.001	0.97	$\geq 0.04$	$\geq 1.0$
ZD-0500098000	9	$\leq 0.05$	8000	$\leq 0.15$	6500	0.007	0.47	$\geq 0.033$	$\geq 0.36$
ZD-0500128000	12	$\leq 0.035$	8000	$\leq 0.11$	6500	0.0065	0.44	$\geq 0.031$	$\geq 0.17$
ZD-0500121790	12	$\leq 0.068$	17900	$\leq 0.3$	12800	0.012	1.58	$\geq 0.054$	$\geq 0.126$

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;



# ZD-20FP180

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

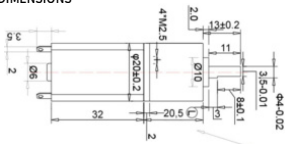
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	1	2	3	4
Reduction ratio	4.38K 5.4K	19K 24K 29K	84K 104K 128K 157K	370K 455K 560K 690K 850K
Gearbox length * L * mm	14.3	18.5	22.7	26.9
Gearbox efficiency	90%	81%	73%	65%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load				Load		Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Power(W)	Touque(Kg.cm)	Current(A)
ZD-20FP1801	5.0	≤ 0.075	5000	≤ 0.158	4000	0.019	0.8	≥ 0.085	≥ 0.79
ZD-20FP1802	12.0	≤ 0.035	8000	≤ 0.300	6200	0.026	1.69	≥ 0.104	≥ 0.77
ZD-20FP1803	24.0	≤ 0.036	9000	≤ 0.12	7600	0.015	1.17	≥ 0.086	≥ 0.47

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-22FP310

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

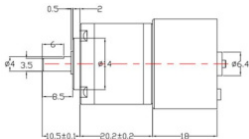
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Motor model	Rated voltage (V)	No-load		Load			Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Touque(Kg.cm)	Current(A)
ZD-3100011400	5	≤0.05	520	≤0.1	440	0.0045	≥0.025	≥0.35
ZD-3100007730	12	≤0.03	3300	≤0.08	2400	0.0067	≥0.02	≥0.083

## MOTOR DATA:

Reduction stage	1	2	3	4
Reduction ratio	3.5K 4K 4.75K	14K 16K 19K 22.5K 24K 28.5K 36K	49K 56K 64K 76K 84K 96K 107K 114K 135K 144K 171K	196K 224K 233K 256K 266K 276K 294K 304K 316K 336K 349K 361K 384K 399K 428K 456K 474K 509K 541K 576K 643K 684K 812K 864K 1026K
Gearbox length* L "mm	13.2	16.6	20.2	23.6
Gearbox efficiency	0.9	0.81	0.73	0.65

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-24FP370

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

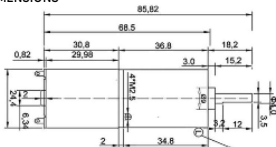
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	1	2	3	4
Reduction ratio	4K 5K	16K 20K 22K 25K 27.5K	64K 80K 88K 100K 110K 125K 138K 151K	256K 320K 352K 400K 500K 550K 625K 688K 756K 832K
Gearbox length " L " mm	17.5	23.3	29	34.7
Gearbox efficiency	90%	81%	73%	65%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load				Load		Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Power(W)	Touque(Kg.cm)	Current(A)
ZD-3700065000	6	≤ 0.045	5000	≤ 0.24	4200	0.02	0.88	≥ 0.112	≥ 1.1
ZD-3700126000	12	≤ 0.042	6000	≤ 0.15	5000	0.02	1.05	≥ 0.108	≥ 0.98
ZD-3700121200	12	≤ 0.09	12000	≤ 0.052	10300	0.028	2.96	≥ 0.177	≥ 2.5
ZD-3700246000	24	≤ 0.021	6000	≤ 0.11	5100	0.021	1.12	≥ 0.126	≥ 0.44
ZD-3700249000	24	≤ 0.043	9000	≤ 0.21	7800	0.027	2.2	≥ 0.182	≥ 0.95

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-28FP395

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	1	2	3	4
Reduction ratio	3.7K 5.2K	14K 19K 27K	51K 71K 100K 139K	189K 264K 369K 515K 721K
Gearbox length * L "mm	27.5	35.5	43.5	51.5
Gearbox efficiency	90%	81%	73%	65%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load			Stall		
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Output(W)	Touque(Kg.cm)	Current(A)
ZD-3950123000	12	≤ 0.08	3000	≤ 0.45	2100	0.1	2.2	≥ 0.3	≥ 1.02
ZD-3950124500	12	≤ 0.12	4500	≤ 0.69	3600	0.1	3.77	≥ 0.45	≥ 2.4
ZD-3950126000	12	≤ 0.16	6000	≤ 0.93	5200	0.1	5.45	≥ 0.675	≥ 4.5
ZD-3950243000	24	≤ 0.05	3000	≤ 0.2	2100	0.09	1.98	≥ 0.27	≥ 0.42
ZD-3950244500	24	≤ 0.06	4500	≤ 0.2	3480	0.09	3.28	≥ 0.375	≥ 0.96
ZD-3950246000	24	≤ 0.07	6000	≤ 0.43	5000	0.1	5.24	≥ 0.54	≥ 1.73

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-36FP555

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	1	2	3	4	5
Reduction ratio	3.7K 5.2K	14K 19K 27K	51K 71K 100K 139K	189K 264K 369K 515K 721K	977K 1367K 1910K 2671K 3736K
Gearbox length* L, "mm	26.5	34.5	42.5	50.5	58.5
Gearbox efficiency	90%	81%	73%	65%	59%

## MOTOR DATA:

Motor model	Rated voltage (V)	/No-load		/Load				/Still	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Output(W)	Touque(Kg.cm)	Current(A)
ZD-3950123000	12	≤ 0.07	3000	≤ 0.26	1950	0.05	1.02	≥ 0.128	≥ 0.52
ZD-3950124500	12	≤ 0.09	4500	≤ 0.46	3500	0.05	1.83	≥ 0.202	≥ 1.3
ZD-3950126000	12	≤ 0.2	9000	≤ 0.67	7800	0.05	4	≥ 0.34	≥ 2.9
ZD-3950243000	24	≤ 0.08	3500	≤ 0.25	2750	0.074	2.13	≥ 0.4	≥ 0.44
ZD-3950244500	24	≤ 0.12	7400	≤ 0.37	6400	0.06	4.02	≥ 0.4	≥ 1.58

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;



# ZD-12GAN20

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

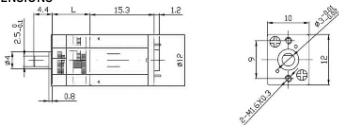
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	2	3	4	5	7
Reduction ratio	10K	20K 30K	50K 63K 100K	150K 210K 250K 298K	1000K
Gearbox length* L, " mm	9	9	9	9	12
Gearbox efficiency	81%	73%	65%	59%	48%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load			/Stall		
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Output(W)	Touque(Kg.cm)	Current(A)
ZD-N2000316000	3.0	$\leq 0.07$	16000	$\leq 0.21$	13000	0.005	0.68	$\geq 0.024$	$\geq 0.7$
ZD-N2000610400	6.0	$\leq 0.02$	10400	$\leq 0.04$	8000	0.003	0.25	$\geq 0.012$	$\geq 0.15$
ZD-N2000615500	6.0	$\leq 0.035$	15500	$\leq 0.08$	12400	0.004	0.52	$\geq 0.018$	$\geq 0.35$

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-12UN20

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

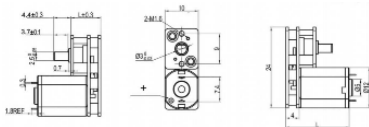
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps. ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Gearbox length " L " mm	Motor	Motor length " L " mm
9	N20	15

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load				Load		/Stall		Reduction ratio
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Torque(Kg.cm)	Torque(mN.m)	Torque(Kg.cm)	Current(A)	
ZD-12UN20-38	3	0.103	518	0.4	265	0.09	8.6	0.41	1.47	38
ZD-12UN20-51	3	0.103	396	0.4	198	0.12	11.5	0.55	1.47	51
ZD-12UN20-72	3	0.103	273	0.4	140	0.17	16.5	0.77	1.47	72
ZD-12UN20-97	3	0.114	203	0.44	104	0.22	21.8	1.04	1.47	97
ZD-12UN20-120	3	0.114	164	0.44	84	0.28	27	1.28	1.47	120
ZD-12UN20-38	3	0.114	122	0.44	62	0.37	36.5	1.73	1.47	162
ZD-12UN20-38	3	0.114	86	0.44	44	0.53	51.5	2.45	1.47	229
ZD-12UN20-38	3	0.114	78	0.44	40	0.58	56.9	2.71	1.47	253
ZD-12UN20-38	3	0.129	64	0.5	33	0.71	39.3	3.3	1.47	308

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;



# ZD-16GA030

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Diswasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

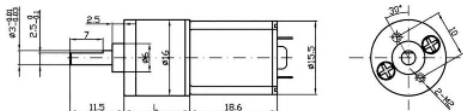
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps. ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	3	4	5	6	7
Reduction ratio	10k 14k	23k 28k 32k 40k	45k 56k 65k 75k 91k 112k	130K 159K 183K 224K 257K 315K	365K 448K 515K 631k 725k 889k
Gearbox length* L, mm	11	12.5	14	15.5	17
Gearbox efficiency	73%	65%	59%	53%	48%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load			Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Touque(Kg.cm)	Current(A)
ZD-0300038500	3	≤ 0.075	8500	≤ 0.28	6550	0.005	≥ 0.02	≥ 0.6
ZD-0300061040	6	≤ 0.065	10400	≤ 0.19	7800	0.005	≥ 0.018	≥ 0.4

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-16GA050

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Diswasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

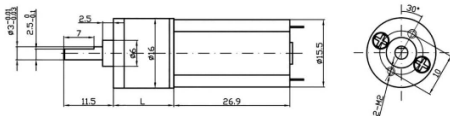
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps. ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	3	4	5	6	7
Reduction ratio	10K 14K	23K 28K 32K 40K	45K 56K 65K 79K 91K 112K	130K 159K 183K 224K 257K 315K	385K 448K 515K 631K 725K 889K
Gearbox length " L " mm	11	12.5	14	15.5	17
Gearbox efficiency	73%	65%	59%	53%	48%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load			Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Touque(Kg.cm)	Current(A)
ZD-0500068000	6	$\leq 0.065$	8000	$\leq 0.2$	6500	0.0075	$\geq 0.036$	$\geq 0.5$
ZD-0500061200	6	$\leq 0.075$	12000	$\leq 0.3$	9300	0.001	$\geq 0.04$	$\geq 1.0$
ZD-0500098000	9	$\leq 0.05$	8000	$\leq 0.15$	6500	0.007	$\geq 0.033$	$\geq 0.36$
ZD-0500012800	12	$\leq 0.035$	8000	$\leq 0.11$	6500	0.0065	$\geq 0.031$	$\geq 0.17$
ZD-05001217900	12	$\leq 0.068$	17900	$\leq 0.3$	12800	0.012	$\geq 0.054$	$\geq 0.126$

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-20GA130

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

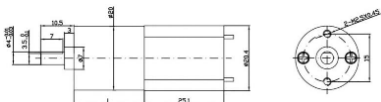
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	4	5	6	7	8
Reduction ratio	18K 23K	35K 44K 55K	67K 84K 105K 132K	161K 202K 105K 316K	386K 484K 606K 758K
Gearbox length * L, mm	16.2	17.7	19.2	20.7	22.2
Gearbox efficiency	65%	59%	53%	48%	43%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load			Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Touque(Kg.cm)	Current(A)
ZD-1300033600	3	≤ 0.035	3600	≤ 0.12	2900	0.006	≥ 0.027	≥ 0.53
ZD-1300097300	9	≤ 0.035	7300	≤ 0.15	5900	0.012	≥ 0.056	≥ 0.68
ZD-1300127500	12	≤ 0.035	7500	≤ 0.098	5904	0.0124	≥ 0.052	≥ 0.42

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-20GA180

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

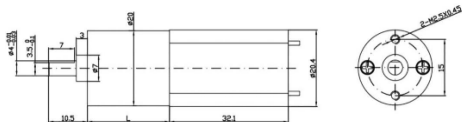
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	4	5	6	7	8
Reduction ratio	18K 23K	35K 44K 55K	67K 80K 105K 132K	161K 202K 252K 316K	395K 484K 606K 758K
Gearbox length* L, *mm	16.2	17.7	19.2	20.7	22.2
Gearbox efficiency	65%	59%	53%	48%	43%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Torque(Kg.cm)	Power(w)	Torque(Kg.cm)	Current(A)
ZD-1800055000	5	≤ 0.075	5000	≤ 0.158	4000	0.019	0.8	≥ 0.085	≥ 0.79
ZD-1800128000	12	≤ 0.035	8000	≤ 0.300	6200	0.026	1.69	≥ 0.104	≥ 0.77
ZD-1800249000	24	≤ 0.036	9000	≤ 0.12	7600	0.015	1.17	≥ 0.086	≥ 0.47

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-25GA310

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

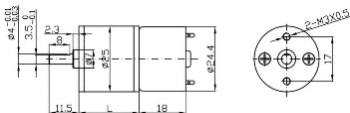
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps. ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	4	5	6	7	8
Reduction ratio	20.4K	35.8K 45K 50K	79K 99K 110K 122K 127K	217K 241K 268K 298K 331K	478K 531K 590K 656K 729K
Gearbox length* L, "mm	20.8	23.2	25.6	28	29
Gearbox efficiency	65%	59%	53%	48%	43%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load			Stall		
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Power(W)	Touque(Kg.cm)	Current(A)
ZD-3100066000	6	≤0.033	6000	≤0.16	4800	0.01	0.5	≥0.045	≥0.55
ZD-3100129200	12	≤0.033	9200	≤0.1	8400	0.005	0.44	≥0.051	≥0.51
ZD-3100066000	24	≤0.02	8000	≤0.07	6400	0.01	0.67	≥0.045	≥0.19

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-25GA370

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

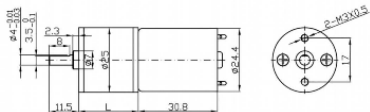
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	4	5	6	7	8
Reduction ratio	20.4K	35.8K 45K 50K	79K 99K 110K 122K 127K	217K 241K 268K 298K 331K	478K 531K 590K 656K 729K
Gearbox length * L, *mm	20.8	23.2	25.6	28	29
Gearbox efficiency	65%	59%	53%	48%	43%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Power(w)	Touque(Kg.cm)	Current(A)
ZD-3700065000	6	≤ 0.045	5000	≤ 0.24	4200	0.02	0.88	≥ 0.112	≥ 1.1
ZD-3700126000	12	≤ 0.042	6000	≤ 0.15	5000	0.02	1.05	≥ 0.108	≥ 0.98
ZD-3700121200	12	≤ 0.09	12000	≤ 0.52	10300	0.028	2.96	≥ 0.177	≥ 2.5
ZD-3700246000	24	≤ 0.021	6000	≤ 0.11	5100	0.021	1.12	≥ 0.126	≥ 0.44
ZD-3700249000	24	≤ 0.043	9000	≤ 0.21	7800	0.027	2.2	≥ 0.182	≥ 0.95

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-25GA385

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

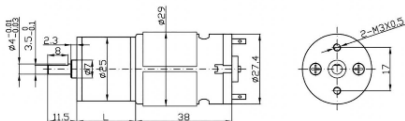
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	4	5	6	7	8
Reduction ratio	20.4K	35.8K 45K 50K	79K 99K 110K 122K 127K	217K 241K 268K 298K 331K	478K 531K 590K 656K 729K
Gearbox length "L" mm	20.8	23.2	25.6	28	29
Gearbox efficiency	65%	59%	53%	48%	43%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load			Stall		
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Power(W)	Touque(Kg.cm)	Current(A)
ZD-3850123000	12	≤0.07	3000	≤0.26	1950	0.05	1.02	≥0.128	≥0.52
ZD-3850124500	12	≤0.09	4500	≤0.46	3500	0.05	1.83	≥0.202	≥1.3
ZD-3850129000	12	≤0.2	9000	≤0.67	7800	0.05	4	≥0.34	≥2.9
ZD-3850243500	24	≤0.08	3500	≤0.25	2750	0.074	2.13	≥0.4	≥0.44
ZD-3850247400	24	≤0.12	7400	≤0.37	6400	0.06	4.02	≥0.4	≥1.58

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-32B310

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

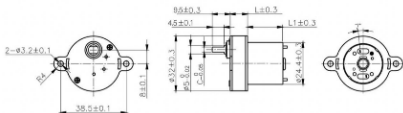
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Gearbox length " L " mm	Motor	Motor length " L " mm
10.2	RF/RK-310	18.1

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load			Load				Stall		Reduction ratio
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Torque(mN.m)	Torque(Kg.cm)	Torque(Kg.cm)	Current(A)		
ZD-32B310-10	3.0	0.01	114	0.02	85	1.4	0.01	0.05	0.12	10	
ZD-32B310-44	3.0	0.01	26	0.02	19	6.1	0.06	0.2	0.12	44	
ZD-32B310-56	3.0	0.011	20	0.022	15	7.7	0.08	0.26	0.12	56	
ZD-32B310-90	3.0	0.011	13	0.022	9	12.4	0.13	0.42	0.12	90	
ZD-32B310-130	3.0	0.011	9	0.022	7	17.9	0.18	0.6	0.12	130	
ZD-32B310-142	3.0	0.011	8	0.022	6	19.6	0.2	0.66	0.12	142	
ZD-32B310-227	3.0	0.013	5	0.025	4	31.3	0.32	1.05	0.12	227	
ZD-32B310-360	3.0	0.013	3	0.025	2	49.7	0.51	1.67	0.12	360	

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;



# ZD-37BY520

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

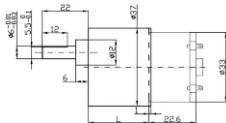
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	2	3	4	5	6	7
Reduction ratio	6.8K 10K	20K 30K	61K 90K	104K 122K 184K 270K	311K 552K 414K 810K	1243K 1656K 2430K
Gearbox length "L" mm	18	21.5	24	26.5	29	31.5
Gearbox efficiency	81%	73%	65%	59%	53%	48%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Torque(mNm)	Power(W)	Torque(Kg.cm)	Current(A)
ZD-32B310-10	6.0	$\leq 0.027$	3000	$\leq 0.13$	2600	0.015	0.41	$\geq 0.1$	$\geq 0.63$
ZD-32B310-44	12.0	$\leq 0.016$	3000	$\leq 0.07$	2400	0.02	0.5	$\geq 0.09$	$\geq 0.33$
ZD-32B310-56	12.0	$\leq 0.054$	6000	$\leq 0.15$	5500	0.015	0.86	$\geq 0.162$	$\geq 1.22$
ZD-32B310-90	12.0	$\leq 0.04$	12000	$\leq 0.136$	9600	0.045	4.5	$\geq 0.202$	$\geq 3.78$
ZD-32B310-130	24.0	$\leq 0.025$	4500	$\leq 0.09$	3400	0.033	1.4	$\geq 0.122$	$\geq 0.35$
ZD-32B310-142	24.0	$\leq 0.03$	6000	$\leq 0.2$	4800	0.038	2.3	$\geq 0.171$	$\geq 0.66$
ZD-32B310-227	24.0	$\leq 0.054$	9000	$\leq 0.2$	7200	0.047	3.5	$\geq 0.211$	$\geq 1.67$

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-37BY528

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

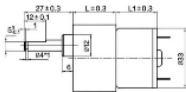
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

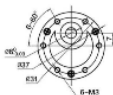
Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



(Weight: 10g)



## GEARBOX DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall		Reduction ratio
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Torque(mN.m)	Torque(Kg.cm)	Torque(Kg.cm)	Current(A)	
ZD-378528-5	12.0	0.07	1386	0.32	1116	17.4	0.18	0.91	1.7	5
ZD-378528-10	12.0	0.07	693	0.32	558	34.9	0.36	1.82	1.7	10
ZD-378528-20	12.0	0.07	347	0.32	279	69.8	0.71	2.14	1.7	20
ZD-378528-30	12.0	0.07	231	0.32	186	104.7	1.07	2.67	1.7	30
ZD-378528-40	12.0	0.07	173	0.32	140	139.6	1.42	5	1.7	40
ZD-378528-50	12.0	0.07	139	0.32	112	174.4	1.78	6	1.7	50
ZD-378528-60	12.0	0.078	116	0.36	93	209.3	2.13	6.83	1.7	60
ZD-378528-70	12.0	0.078	99	0.36	80	244.2	2.49	7.97	1.7	70

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-37BY545

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	2	3	4	5	6	7
Reduction ratio	6.8K 10K	20K 30K	61K 90K	104K 122K 184K 270K	311K 552K 414K 810K	1243K 1656K 2430K
Gearbox length* L "mm	19	22.5	25	27.5	30	32.5
Gearbox efficiency	81%	73%	65%	59%	53%	48%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Power(W)	Touque(ng.cm)	Current(A)
ZD-54501230000	12.0	≤ 0.12	3000	≤ 0.282	2400	0.112	2.8	≥ 0.5	≥ 1.2
ZD-54502430000	24.0	≤ 0.092	3000	≤ 0.229	2400	0.086	2.2	≥ 0.387	≥ 0.97
ZD-54502460000	24.0	≤ 0.192	6000	≤ 0.785	4800	0.172	8.7	≥ 0.77	≥ 3.25

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-37BY555

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

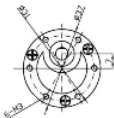
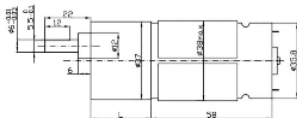
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	2	3	4	5	6	7
Reduction ratio	6.8K 10K	20K 30K	61K 90K	104K 122K 184K 270K	311K 552K 414K 810K	1243K 1656K 2430K
Gearbox length* L, " mm	19	22.5	25	27.5	30	32.5
Gearbox efficiency	81%	73%	65%	59%	53%	48%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Power(W)	Touque(Kg.cm)	Current(A)
ZD-5550066000	6.0	≤ 0.898	6000	≤ 2.25	4500	0.3	13.8	≥ 1.08	≥ 10
ZD-5550123000	12.0	≤ 0.171	3000	≤ 0.961	2400	0.126	3.2	≥ 0.56	≥ 2.39
ZD-5550126000	12.0	≤ 0.36	6000	≤ 2.3	4500	0.28	13	≥ 1	≥ 10.23
ZD-5550128500	12.0	≤ 0.638	8500	≤ 2.8	6450	0.3	20.3	≥ 1.12	≥ 11.9
ZD-5550243000	24.0	≤ 0.12	3000	≤ 0.336	2400	0.198	5	≥ 0.89	≥ 1.43
ZD-5550244500	24.0	≤ 0.174	4500	≤ 0.62	3600	0.309	11.7	≥ 1.39	≥ 3.63
ZD-5550246000	24.0	≤ 0.27	6000	≤ 0.8	4500	0.28	13	≥ 1	≥ 5.82

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-37BY3525

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	2	3	4	5	6	7
Reduction ratio	6.8K 10K	20K 30K	61K 90K	104K 122K 184K 270K	311K 552K 414K 810K	1243K 1656K 2430K
Gearbox length* L, "mm	18	21.5	24	26.5	29	31.5
Gearbox efficiency	81%	73%	65%	59%	53%	48%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Power(W)	Touque(Kg.cm)	Current(A)
ZD-35250126000	12.0	≤ 0.047	6000	≤ 0.269	4800	0.04	2	≥ 0.18	≥ 1.14
ZD-35250121100	12.0	≤ 0.131	11000	≤ 0.756	8800	0.056	5.2	≥ 0.252	≥ 3.21
ZD-35250243000	24.0	≤ 0.012	3000	≤ 0.038	2400	0.026	0.7	≥ 0.117	≥ 0.16
ZD-35250244500	24.0	≤ 0.015	4500	≤ 0.084	3600	0.038	1.4	≥ 0.171	≥ 0.36
ZD-35250246000	24.0	≤ 0.03	6000	≤ 0.111	4800	0.04	2	≥ 0.18	≥ 0.47

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-37BY3540

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

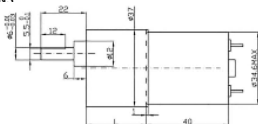
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	2	3	4	5	6	7
Reduction ratio	6.8K 10K	20K 30K	61K 90K	104K 122K 184K 270K	311K 552K 414K 810K	1243K 1656K 2430K
Gearbox length "L" mm	19	22.5	25	27.5	30	32.5
Gearbox efficiency	81%	73%	65%	59%	53%	48%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(Kg.cm)	Power(W)	Touque(Kg.cm)	Current(A)
ZD-35400124500	12.0	≤ 0.05	4500	≤ 0.42	3600	0.096	3.6	≥ 0.43	≥ 1.79
ZD-35400126000	12.0	≤ 0.059	6000	≤ 0.513	5100	0.1	5.3	≥ 0.6	≥ 2.18
ZD-35400244500	24.0	≤ 0.045	4500	≤ 0.215	3600	0.097	3.7	≥ 0.436	≥ 0.91
ZD-35400247000	24.0	≤ 0.038	7000	≤ 0.411	5100	0.115	6.1	≥ 0.38	≥ 1.75

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-37BY3530

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Reduction stage	2	3	4	5	6	7
Reduction ratio	6.8K 10K	20K 30K	61K 90K	104K 122K 184K 270K	311K 552K 414K 810K	1243K 1656K 2430K
Gearbox length "L" mm	19	22.5	25	27.5	30	32.5
Gearbox efficiency	81%	73%	65%	59%	53%	48%

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall	
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Torque(Kg.cm)	Power(W)	Torque(Kg.cm)	Current(A)
ZD-35300123000	12.0	$\leq 0.023$	3000	$\leq 0.17$	2250	0.04	0.5	$\geq 0.144$	$\geq 0.4$
ZD-35300124500	12.0	$\leq 0.045$	4500	$\leq 0.211$	3600	0.046	1.7	$\geq 0.207$	$\geq 1.06$
ZD-35300126000	12.0	$\leq 0.054$	6000	$\leq 0.367$	4800	0.062	3.1	$\geq 0.279$	$\geq 1.84$
ZD-35300243000	24.0	$\leq 0.02$	3000	$\leq 0.05$	2400	0.045	1.1	$\geq 0.202$	$\geq 0.21$
ZD-35300244500	24.0	$\leq 0.033$	4500	$\leq 0.114$	3600	0.05	1.9	$\geq 0.225$	$\geq 0.48$
ZD-35300246000	24.0	$\leq 0.03$	6000	$\leq 0.2$	4800	0.76	3.8	$\geq 0.342$	$\geq 0.84$

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-48E528

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS

(Weight: 200g)



## GEARBOX DATA:

Gearbox length " L " mm	Motor	Motor length " L " mm
12.4	RF/RK-528	30

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall		Reduction ratio
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Torque(mNm)	Torque(Kg.cm)	Torque(Kg.cm)	Current(A)	
ZD-48E528-30	24.0	0.05	274	0.26	230	129.5	1.32	3.96	1.32	30
ZD-48E528-56	24.0	0.05	147	0.26	123	241.8	2.47	7.4	1.32	56
ZD-48E528-75	24.0	0.066	109	0.29	92	323.9	3.3	9.25	1.32	75
ZD-48E528-112	24.0	0.066	73	0.29	62	483.6	4.93	11.84	1.32	112
ZD-48E528-160	24.0	0.066	51	0.29	43	690.9	7.04	16.2	1.32	160
ZD-48E528-216	24.0	0.066	38	0.29	32	750.8	7.66	17.85	1.32	216
ZD-48E528-427	24.0	0.063	19	0.33	16	860.2	8.77	19.22	1.32	427
ZD-48E528-538	24.0	0.063	15	0.33	13	1050.3	10.71	21.93	1.32	538

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;



# ZD-60E775

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

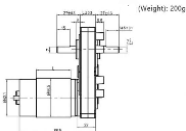
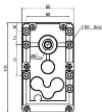
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Gearbox length " L " mm	Motor	Motor length " L " mm
18	RS-775	66.5

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall		Reduction ratio
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Torque(mN.m)	Torque(Kg.cm)	Torque(Kg.cm)	Current(A)	
ZD-60A775-59	24.0	0.35	65	1.36	52	2536.6	25.89	77.6	5.25	59
ZD-60A775-73	24.0	0.35	53	1.36	42	3138.5	31	96.01	5.25	73
ZD-60A775-132	24.0	0.39	29	1.51	23	4050.2	41.3	126.24	5.25	132

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# ZD-60A555

## Typical applications:

IA: Smart lock, Smart closetool, Auto-curtain, Robot Vacuum, Dishwasher, Range hood.

Personal care: Hair clipper, Massage chair, Hair Curler, Hair dryer

Office Equipment: Cash Registers, Printer, Paper Shredder, Projector.

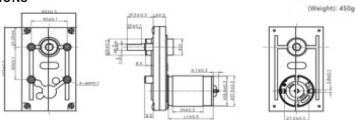
Medical Equipment: Trolley, Adjustable Bed, Electric Surgical Tools, Medical Pump, Blood Shaker

Business Equipment: New Retail Device, Vending Machine, Car zip, Smart lamps, ATM.

Robot: Service robot, Drone, Manipulator.



## DIMENSIONS



## GEARBOX DATA:

Gearbox length "L" mm	Motor	Motor length "L" mm
14	RS-555	57

## MOTOR DATA:

Motor model	Rated voltage (V)	No-load		Load				Stall		Reduction ratio
		Current(A)	Speed(rpm)	Current(A)	Speed(rpm)	Touque(mNm)	Touque(Kg.cm)	Touque(Kg.cm)	Current(A)	
ZD-60A555-73	24.0	0.38	90	1.79	70	2530	25.8	82.13	6.73	73

## NOTE:

The motor parameters are for reference only, please refer to the actual sample

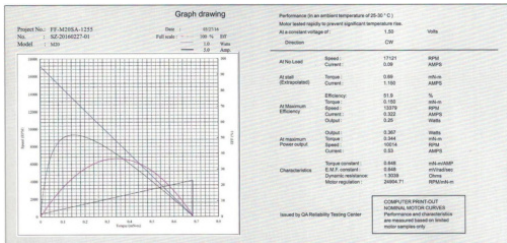
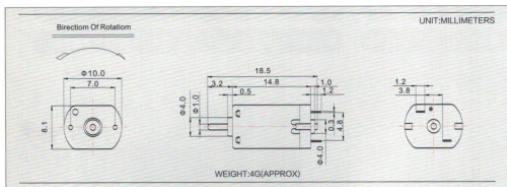
Gearbox motor output speed: motor output speed/reduction ratio.

Gearbox motor output torque: motor output torque\*reduction ratio\*gearbox efficiency;

# Shenzhen Zhongda Motor Co., Ltd.

## ZD-M20SA

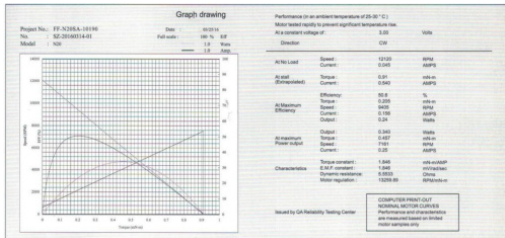
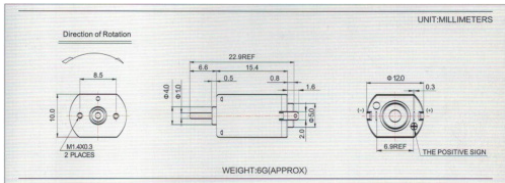
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-M20SA-1255	1.2-2.0	1.5	17100	0.094	13300	0.33	1.15	0.21	7	1.15
ZD-M20SA-07230	3-4.5	3.7	12100	0.023	9280	0.076	1.4	0.13	5.8	0.25
ZD-M20SA-10120	1.5-4.0	2.8	17800	0.052	14050	0.19	1.8	0.26	8.7	0.73



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-N20SA

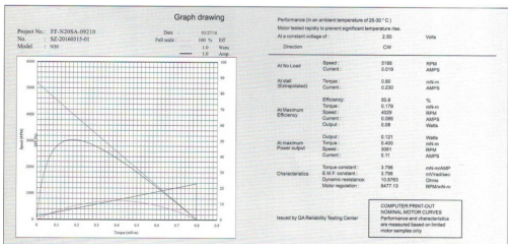
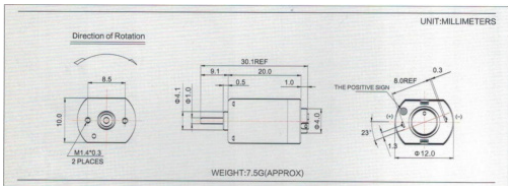
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-N20SA-10190	2.4-4.5	3	12120	0.045	9400	0.156	2	0.24	9	0.54
ZD-N20SA-13115	2.4-4	3	15770	0.096	12240	0.332	2.9	0.5	13	1.15
ZD-N20SA-13100	1-2.4	1.5	9800	0.043	7760	0.143	1.4	0.13	7	0.62



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-N30SA

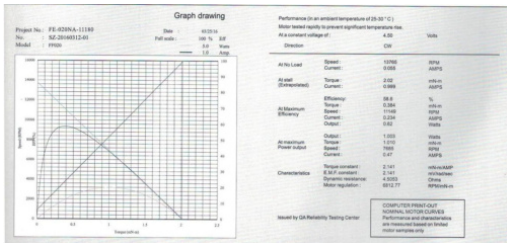
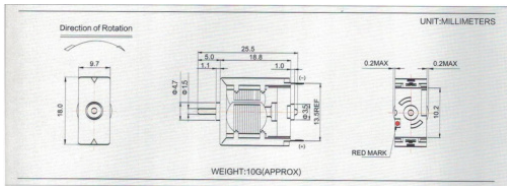
MODEL	Voltage		No-load		At Maximum efficiency					Stall	
	Operating range	Rated voltage	Speed	Current	Speed	Current	Torque	Output	Torque	Current	
			rpm	A	rpm	A	g.cm	W	g.cm	A	
ZD-N30SA-09210	2.0-5.0	2.5	5200	0.019	4030	0.066	1.8	0.08	8	0.23	
ZD-N30SA-06370	2.0-6.0	3	4900	0.007	3780	0.024	0.85	0.04	3.8	0.08	
ZD-N30SA-1595	2.0-3.5	3	20000	0.065	16950	0.312	4.2	0.59	25	1.5	



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-020NA

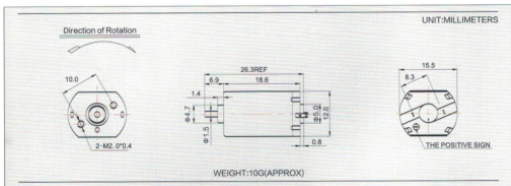
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-020NA-11180	3.0-5.0	4.5	13700	0.055	11100	0.234	3.9	0.6	20	1
ZD-020NA-10170	3.0-5.0	4.5	14130	0.04	11300	0.164	2.9	0.42	16	0.67
ZD-020NA-2652	1.0-3.0	1.5	10700	0.146	8650	0.619	6.9	0.62	34	2.63



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-030SA

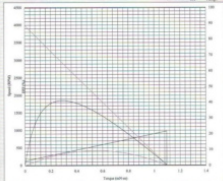
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-030SA-09190	1.5-4.5	2.3	4000	0.028	2940	0.078	3	0.07	11	0.218
ZD-030SA-10200	1.5-4.5	2.5	3980	0.024	2990	0.079	3.3	0.09	14	0.263
ZD-030SA-1955	1.0-2.0	1.5	11500	0.33	8080	0.781	6.1	0.39	21	1.85



Graph drawing

Project No.: ZD-030SA-09190  
 No.: SZ-20140513-05  
 Model: 030SA

Date: 04/17/16  
 Full scale: 100 % 0.5  
 --- 1.0 Volt  
 --- 1.0 Amp



Performance (in an ambient temperature of 25-30 °C)

Motor tested rapidly to prevent significant temperature rise.

At a constant voltage of:

2.30

Volts

Direction		Value	Unit
At No Load	Speed:	2990	rpm
	Current:	0.028	ASPS
At stall (Estimated)	Torque:	1.13	mlt-gm
	Current:	0.218	ASPS
At Maximum Efficiency	Efficiency:	41.2	%
	Torque:	0.291	mlt-gm
	Speed:	2944	rpm
	Current:	0.078	ASPS
At maximum Power output	Output:	0.07	Watts
	Output:	0.085	Watts
	Torque:	0.581	mlt-gm
Characteristics	Speed:	2940	rpm
	Torque:	2580	rpm
	Current:	0.08	ASPS
	Torque constant:	0.788	mlt-mA/PS
	K.M.F. constant:	0.788	mlt/mA/PS
	Dynamic resistance:	16.5110	Ohm
	Motor regulation:	3630.30	rpm/mA/PS

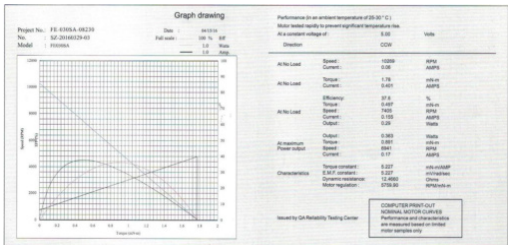
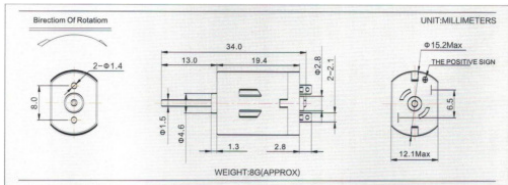
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COMPUTER PRINT-OUT  
 NOMINAL MOTOR CURVES  
 Performance and characteristics  
 are measured based on limited  
 model samples only

# Shenzhen Zhongda Motor Co., Ltd.

## ZD-030SA-1

MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed	Current	Speed	Current	Torque	Output	Torque	Current
			rpm	A	rpm	A	g.cm	W	g.cm	A
ZD-030SA-08230	2.0-6.0	5	10269	0.06	7400	0.155	5	0.29	18	0.401
ZD-030SA-11115	1.5-4.5	3	10330	0.06	8110	0.412	4	0.35	20	0.806
ZD-030SA-07318	2.0-5.0	3	2935	0.15	2140	0.041	1.4	0.05	5	0.112

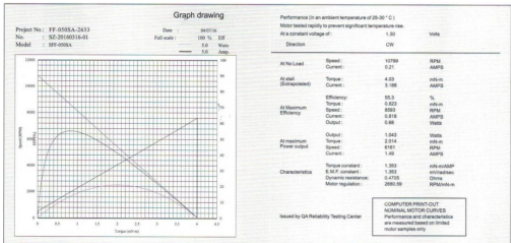
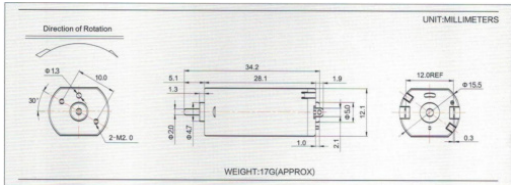




# Shenzhen Zhongda Motor Co., Ltd.

## ZD-050SA

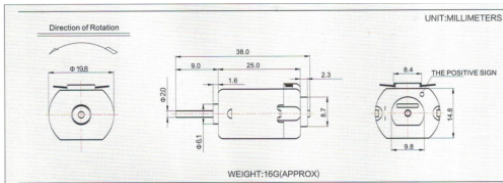
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-050SA-2633	1.0-2.0	1.5	10800	0.21	8600	0.818	8.2	0.68	40	3.18
ZD-050SA-09236	2.0-4.5	2.4	2640	0.023	1900	0.059	4.14	0.05	15	0.15
ZD-050SA-11170	3.0-6.0	4.5	7510	0.031	6050	0.128	5.8	0.33	30	0.53



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-130S/NA

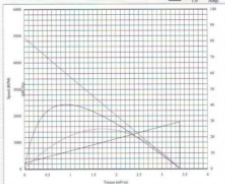
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-130SA-10300	3.0-6.0	4.5	4900	0.039	3600	0.107	10	0.2	34	0.296
ZD-130SA-07480	6.0-12.0	9	9900	0.031	4290	0.083	8.5	0.29	30	0.223
ZD-130SA-10280	2.4-6.0	3	3940	0.073	2640	0.148	5	0.11	15	0.301



Graph drawing

Project No.: FE-130SA-10300-3KV  
 No.: SZ-20160513-01  
 Model: 130

Date: 05/30/16  
 Full scale: 100 % EE  
 Mod: 1.0 Vrms  
 Amp: 1.0 Amp



Performance (in an ambient temperature of 25-30 °C)  
 Motor tested rapidly to prevent significant temperature rise  
 At a constant voltage of: 4.50 Volts

Direction	CCW		
At No Load	Speed:	4900	RPM
	Current:	0.039	AMPS
At stall (S&H regulated)	Torque:	3.40	mN-m
	Current:	0.306	AMPS
At Maximum Efficiency	Efficiency:	40.8	%
	Torque:	8.50	mN-m
	Speed:	3617	RPM
	Current:	0.107	AMPS
At maximum Power output	Output:	0.20	Watts
	Output:	0.251	Watts
	Torque:	1.751	mN-m
Characteristics	Speed:	3213	RPM
	Current:	0.13	AMPS
	Torque constant:	13.243	mN-m/AMP
	S.M.F. constant:	13.243	mN-m/Sec
	Dynamic resistance:	15.203	Ohms
	Motor regulation:	1448.97	RPM/mV-m

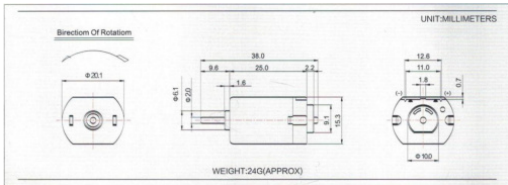
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 NOMINAL MOTOR CURVES  
 Performance and characteristics  
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# Shenzhen Zhongda Motor Co., Ltd.

## ZD-130S/NA1

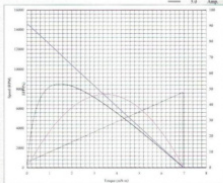
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-130SA-18100	1.5-6.0	4.5	14600	0.175	11500	0.05	15	0.65	70	2.4
ZD-130SA-11230	3.0-9.0	4.5	8330	0.086	5930	0.213	7	0.34	24	0.53
ZD-130SA-07460	6.0-12.0	9	6000	0.038	4300	0.095	10	0.31	33	0.237



Graph drawing

Project No.: F5-130SA-18100  
 No.: SZ-20160228-01  
 Model: 130

Date: 03/04/16  
 Full scale: 100 % 0.5  
 1.0  
 5.0 Amp



Performance (in an ambient temperature of 25.00 °C):  
 Motor tested rapidly to prevent significant temperature rise.

At a constant voltage of: 4.50 Volts

Direction	COOL		
At No Load:	Speed:	14630	RPM
	Current:	0.175	AMPS
At stall (Extrapolated):	Torque:	6.98	mN-m
	Current:	2.408	AMPS
At Maximum Efficiency:	Efficiency:	53.3	%
	Torque:	1.484	mN-m
	Speed:	11530	RPM
	Current:	0.848	AMPS
At maximum Power output:	Output:	2.328	Watts
	Torque:	3.482	mN-m
	Speed:	8488	RPM
Characteristics:	Current:	1.12	AMPS
	Torque constant:	3.131	mN-m/AMP
	E.M.F. constant:	3.131	mV/AMP
Dynamic resistance:		1.8752	Ohms
	Motor regulation:	2055.85	RPM/0.5V

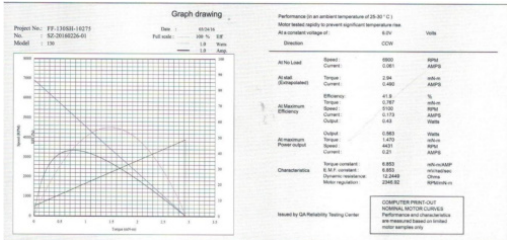
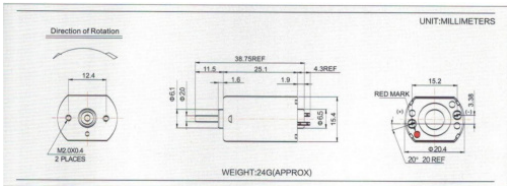
Issued by QA Reliability Testing Center

COMPUTER PRINT-OUT  
 NOMINAL FACTOR CURVES  
 Performance and characteristics  
 are measured based on limited  
 motor samples only.

# Shenzhen Zhongda Motor Co., Ltd.

## ZD-130S/NH

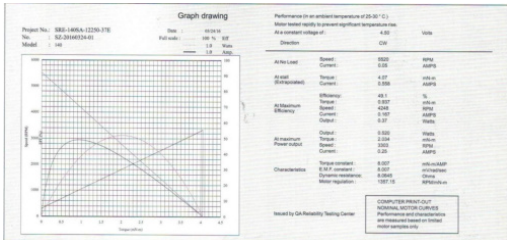
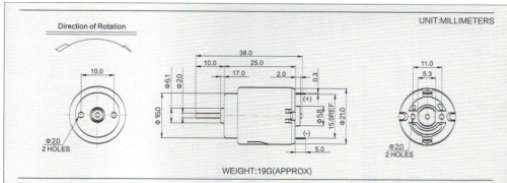
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed	Current	Speed	Current	Torque	Output	Torque	Current
			rpm	A	rpm	A	g.cm	W	g.cm	A
ZD-130SH-10275	4.5-9.0	6	6900	0.061	5100	0.173	8	0.43	30	0.49
ZD-130SH-15170	4.5-9.0	6	5150	0.116	3700	0.299	11	0.67	40	0.77
ZD-130SH-16140	3.0-6.0	4.5	1300	0.139	10060	0.476	11	1.07	40	1.63



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-140S/NH

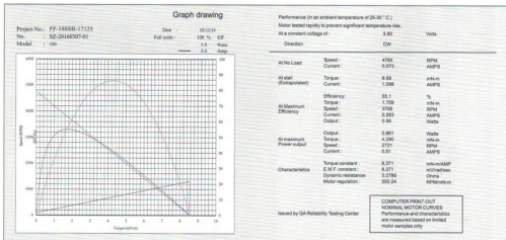
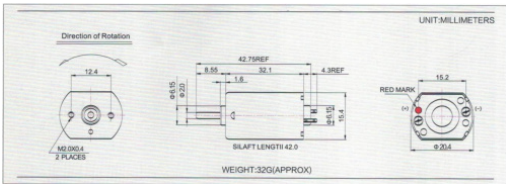
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-140SA-12250	3.0-6.0	4.5	5520	0.05	4248	0.167	9.5	0.37	40	0.558
ZD-140SA-14175	3.0-6.0	4.5	10000	0.081	7787	0.285	9.5	0.66	42	1
ZD-140SA-18100	3.0-6.0	4.5	14300	0.256	10577	0.724	14	1.36	55	2.046



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-180SH

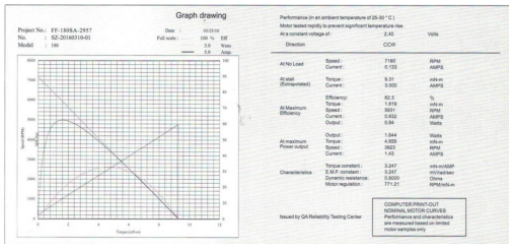
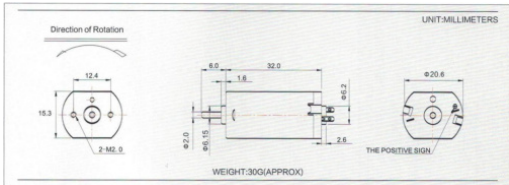
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-180SH-2852	1.0-3.0	2.4	8300	0.16	6900	0.86	18	1.27	116	4.57
ZD-180SH-17123	1.5-4.5	3.6	4700	0.073	3800	0.28	20	0.78	95	1.1
ZD-180SH-10320	5.0-12.0	12	6600	0.028	5300	0.12	7.5	0.41	82	0.52



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-180SA

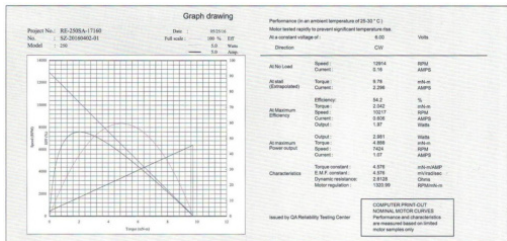
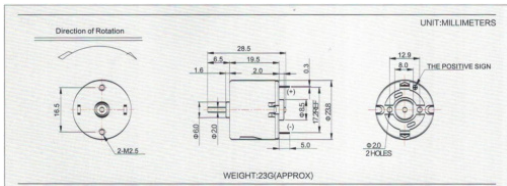
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-180SA-2957	1.2-3.6	2.4	7180	0.133	5930	0.632	16	0.94	95	3
ZD-180SA-2760	1.2-3.6	2.4	7240	0.158	5970	0.744	23	1.11	130	3.5
ZD-180SA-15145	4.5-7.5	6	6000	0.084	4700	0.304	27	0.95	130	1.1



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-250SA

MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-250SA-17160	4.5-6.0	6	13000	0.16	10200	0.606	21	1.97	98	2.3
ZD-250SA-17160	1.5-4.5	3	7360	0.122	5580	0.384	9.6	0.54	40	1.21
ZD-250SA-17160	3.0-12.0	3	2900	0.031	2100	0.079	6	0.09	20	0.2

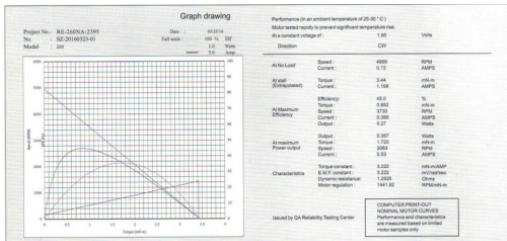
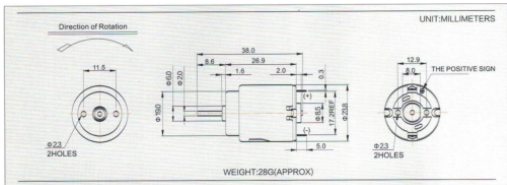




# Shenzhen Zhongda Motor Co., Ltd.

## ZD-260S/NA

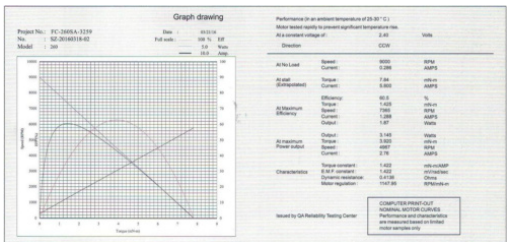
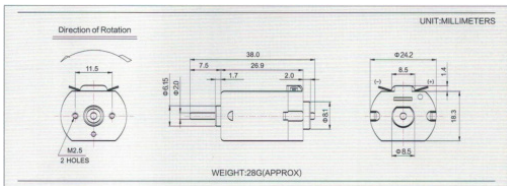
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed	Current	Speed	Current	Torque	Output	Torque	Current
			rpm	A	rpm	A	g.cm	W	g.cm	A
ZD-2505A-17160	1.2-3.0	1.5	5000	0.13	3730	0.395	9	0.27	35	1.2
ZD-2505A-17160	3.0-6.0	4.5	9530	0.084	7750	0.366	13	0.366	70	1.6
ZD-2505A-17160	6.0-11.0	9	15000	0.12	12600	0.653	30	3.8	192	3.55



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-260S/WA

MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g/cm	Output W	Torque g/cm	Current A
ZD-260SA-3259	1.0-3.0	2.4	9000	0.286	7300	1.28	15	1.15	80	5.8
ZD-260SA-12320	4.0-18.0	14.4	10400	0.064	8300	0.265	24	2.09	125	1.1
ZD-260SA-3250	3.0-5.0	4.5	26000	0.665	20800	2.68	30	6.53	155	10.8



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-280S/WA

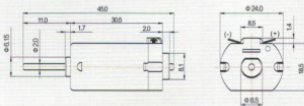
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed	Current	Speed	Current	Torque	Output	Torque	Current
			rpm	A	rpm	A	g.cm	W	g.cm	A
ZD-280WA-10380	12.0-24.0	24	9000	0.035	7500	0.18	35	2.81	220	0.929
ZD-280WA-11440	9.0-18.0	14.4	5200	0.03	4240	0.135	32	1.18	175	0.61
ZD-280WA-13275	8.0-14.0	10.8	6000	0.057	4850	0.239	34	1.5	180	1



Direction of Rotation



UNIT:MILLIMETERS

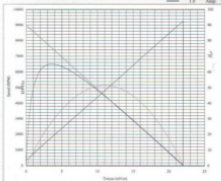


WEIGHT:37.5G(APPROX)

### Graph drawing

Project No.: ZD-280WA-10380-07V  
 No.: SZ-20160118-04  
 Model : 28

Date : 05/20/16  
 Full scale: 100 % EF  
 10.0 W/m  
 1.0 Amp



Performance (in an ambient temperature of 25-30 °C)

Motor tested rapidly to prevent significant temperature rise.

At a constant voltage of: 24.00 Volts

Direction: CCW

At No Load	Speed:	9000	RPM
	Current:	0.035	AMPS
At stall (Blocked)	Torque:	22.07	in-oz
	Current:	0.929	AMPS
At Maximum Efficiency	Efficiency:	65.0	%
	Torque:	3.58	in-oz
	Speed:	7637	RPM
	Current:	0.180	AMPS
	Output:	2.81	Watts
At maximum Power output	Output:	5.184	Watts
	Torque:	11.034	in-oz
	Speed:	4852	RPM
	Current:	0.45	AMPS
Characteristics	Torque constant:	24.672	in-oz/AMP
	EMF constant:	24.672	in-oz/AMP
	Dynamic resistance:	25.828	Ohm
	Motor regulation:	407.83	RPM/Hz

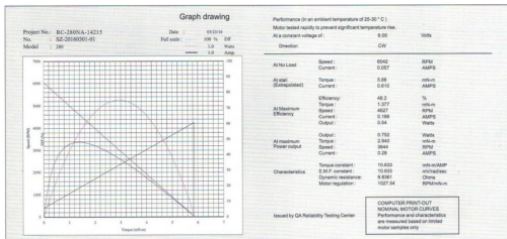
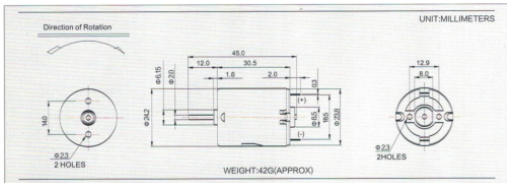
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# Shenzhen Zhongda Motor Co., Ltd.

## ZD-280S/NA

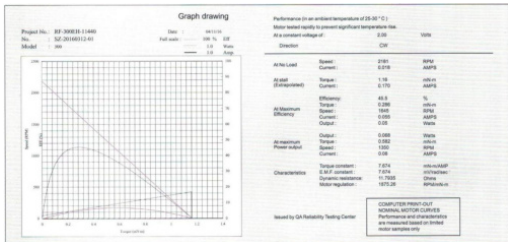
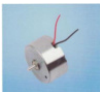
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g/cm	Output W	Torque g/cm	Current A
ZD-280SA-11420	6.0-18.0	12	4550	0.035	3650	0.142	29	0.97	150	0.58
ZD-280SA-14215	4.5-9.0	6	6040	0.057	4620	0.186	14	0.54	60	0.61
ZD-280SA-2853	1.5-6.0	3	8720	0.25	6970	0.999	25	1.68	130	3.99



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-300EA

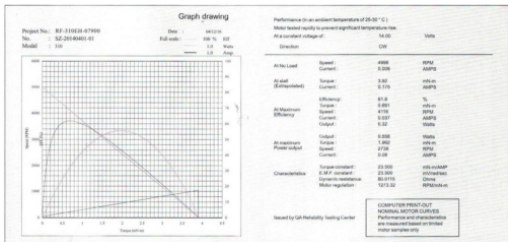
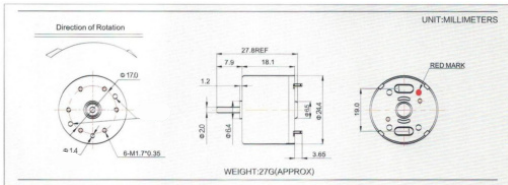
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed	Current	Speed	Current	Torque	Output	Torque	Current
			rpm	A	rpm	A	g.cm	W	g.cm	A
ZD-300EH-11440	1.5-5.0	2	2180	0.018	1645	0.055	2.9	0.05	12	0.17
ZD-300EH-06460	3.0-6.0	4.5	4770	0.022	3600	0.386	3.9	0.14	16	0.208
ZD-300EH-13310	3.0-6.0	5	8400	0.045	6670	0.175	6.9	0.48	34	0.677



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-310EA

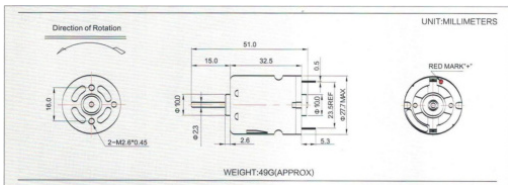
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-300EA-07900	10.0-18.0	14	5000	0.008	4110	0.037	7	0.32	39	0.175
ZD-300EA-12340	4.5-9.0	6	7150	0.038	5720	0.152	9	0.51	45	0.609
ZD-300EA-12385	4.5-8.0	6	8870	0.066	7280	0.304	15	1.12	83	1.4



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-360/365S/WA

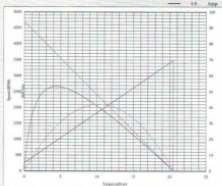
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed	Current	Speed	Current	Torque	Output	Torque	Current
			rpm	A	rpm	A	g.cm	W	g.cm	A
ZD-360SA-12450	10.0-18.0	14	4700	0.051	3700	0.189	43	1.41	210	0.7
ZD-360SA-15330	10.0-18.0	14	6400	0.1	5120	0.4	65	3.15	330	1.6
ZD-360SA-15135	18.0-24.0	24	13500	0.106	11100	0.494	60	7.31	340	2.3



Graph drawing

Project No.: ZC-3695A-12450  
No.: SZ-20140304-01  
Model: 360

Date: 03/21/14  
Full scale: 100 % EF  
Wire: 1.0  
Any: 1.0



Performance (in an ambient temperature of 25-30 °C)  
Motor tested rapidly to prevent significant temperature rise.  
At a constant voltage of:

Direction	COV	Units
At No Load	Speed: 4700 Current: 0.051	rpm AMPS
At 1/2 (24Vapplied)	Torque: 26.58 Current: 0.700	mNm AMPS
At Maximum Efficiency	Efficiency: 55.3 % Speed: 3701 rpm Current: 0.189 AMPS Output: 1.41 Watts	% rpm AMPS Watts
At maximum Power output	Output: 2.106 Watts Torque: 12.280 mNm Speed: 2712 rpm Current: 0.52 AMPS	Watts mNm rpm AMPS
Characteristics	Torque constant: 31.711 mNm/AMP S.M.F. constant: 31.711 Dynamic resistance: 35.0000 Ohm Motor regulation: 228.38 RPM/mV	mNm/AMP mNm/AMP Ohm RPM/mV

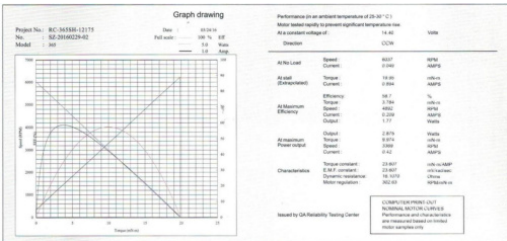
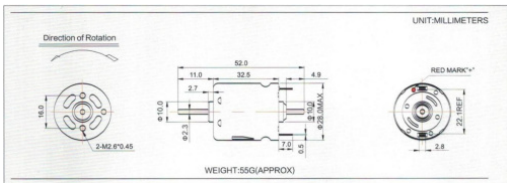
Issued by QA Reliability Testing Center

COMPUTER PRINT-OUT  
NOMINAL MOTOR CURVES  
Performance and characteristics  
are measured based on limited  
motor samples only.

# Shenzhen Zhongda Motor Co., Ltd.

## ZD-360/365S/WH

MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed	Current	Speed	Current	Torque	Output	Torque	Current
			rpm	A	rpm	A	g.cm	W	g.cm	A
ZD-365SH-12175	6.0-18.0	14.4	6050	0.049	4900	0.209	38	1.77	200	0.895
ZD-365SH-15330	6.0-18.0	14	6500	0.103	5110	0.38	60	2.82	280	1.4
ZD-365SH-0200	18.0-26.0	24	10200	0.09	7780	0.289	44	3.3	190	0.93

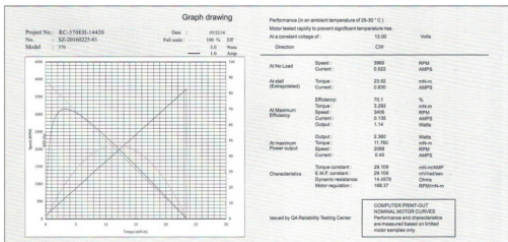
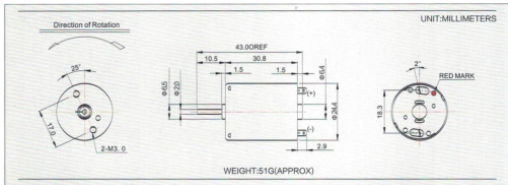




# Shenzhen Zhongda Motor Co., Ltd.

## ZD-370E/SH

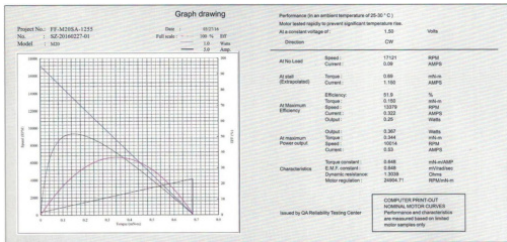
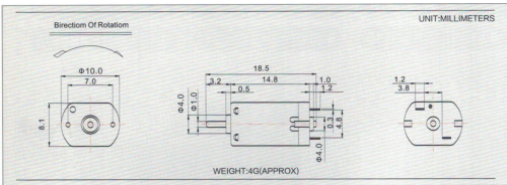
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-370EH-14420	6.0-18.0	12	3960	0.022	3400	0.135	33	1.14	240	0.83
ZD-370EH-15240	4.5-9.0	6	4700	0.032	3940	0.165	24	1.29	150	0.85
ZD-370EH-16300	6.0-18.0	14	6620	0.15	5120	0.514	71	3.09	320	1.76



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-380/385S/WA

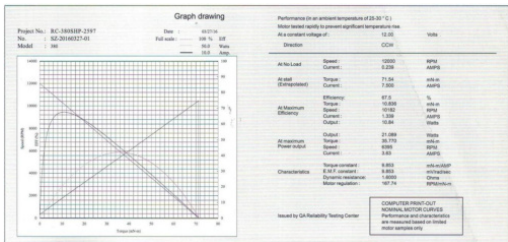
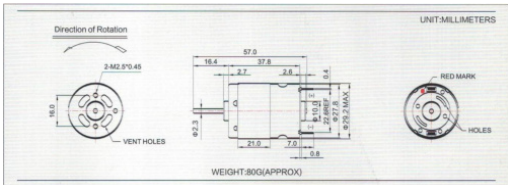
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-385SA-17205	14.0-21.0	19	10400	0.118	8750	0.624	87	7.8	540	3.3
ZD-385SA-13170	12.0-30	24	8600	0.07	7040	0.324	66	4.78	380	1.5
ZD-385SA-15116	6.0-18.0	14.4	6360	0.08	5190	0.356	65	3.07	350	1.58



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-380/385S/WH

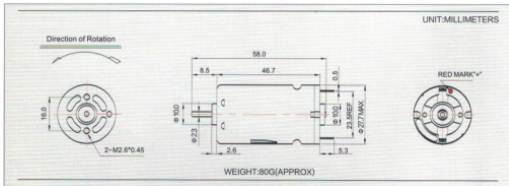
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-3805HP-2597	1.0-3.0	2.4	8300	0.16	6900	0.86	18	1.27	116	4.57
ZD-3805HP-17123	1.5-4.5	3.6	4700	0.073	3800	0.28	20	0.78	85	1.1
ZD-3805HP-10320	5.0-12.0	12	6500	0.028	5300	0.12	7.5	0.41	82	0.52



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-390/385S/WA

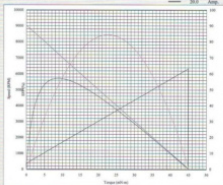
MODEL	Voltage		No-load		At Maximum efficiency					Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A	
ZD-390SA-4730	2.4-4.5	3	9000	0.751	7240	3.1	88	5.31	490	12.7	
ZD-390SA-13395	12.0-24.0	24	5000	0.04	4080	0.179	72	2.59	400	0.8	
ZD-390SA-1976	8.0-16.0	12	6070	0.12	5050	0.6	81	4.61	500	3	



### Graph drawing

Project No.: BC-390SA-4730  
 No.: SZ-0116021-01  
 Model: 390

Item: 002116  
 Full scale: 100 % Eff  
 — 10.0 Vrms  
 — 35.0 Amp



Performance (in an ambient temperature of 25-30 °C)

Motor tested rapidly to prevent significant temperature rise.

At a constant voltage of:

Direction	COV	Units
At No Load	Speed: 9000 Current: 0.751	RPM AMPS
At stall (Extrapolated)	Torque: 45.08 Current: 12.709	mNm AMPS
At Maximum Efficiency	Efficiency: 87.3 Torque: 8.818 Speed: 7240 Current: 3.098 Output: 5.31	% mNm RPM AMPS Watts
At maximum Power output	Output: 8.432 Torque: 22.545 Speed: 5058 Current: 5.97	Watts mNm RPM AMPS
Characteristics	Torque constant: 3.773 E.M.F. constant: 3.773 Dynamic resistance: 0.2382 Motor regulation: 189.94	mNm/AMP mVrad/sec Ohms RPM/ohm

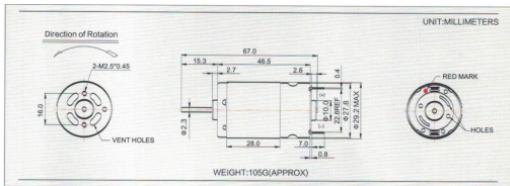
Issued by QA Reliability Testing Center

COMPUTER PRINT-OUT  
 INCLUDING VECTOR CURVES  
 Performance and characteristics  
 are measured based on limited motor samples only.

# Shenzhen Zhongda Motor Co., Ltd.

## ZD-390/395S/WH

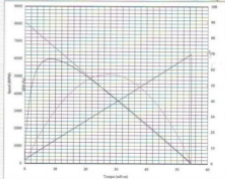
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g/cm	Output W	Torque g/cm	Current A
ZD-390SH-21140	9.0-18.0	14	8100	0.12	6840	0.648	85	6.02	950	3.5
ZD-390SH-3335	6.0-15.0	14.4	30500	0.93	25700	5.067	214	48.5	1390	27.5
ZD-390SH-3130	6.0-12.0	9	13300	0.33	11320	1.88	88	11.67	990	10.8



### Graph drawing

Project No.: ZC-390SH-21140  
 No.: SZ-20160101-01  
 Model: 390

Date: 03/24/16  
 Full scale: 100 % 8F  
 Scale: 30.0 W/m  
 Step: 3.0 4mm



Performance (in an ambient temperature of 25-30 °C)

Motor tested rapidly to prevent significant temperature rise

At a constant voltage of 14.20 Volts

Direction	CCW	W
At No Load	Speed	8100 RPM
	Current	0.12 AMP
At stall (Extrapolated)	Torque	94.88 mNm
	Current	3.080 AMP
At Maximum Efficiency	Efficiency	88.4 %
	Speed	6824 RPM
At maximum Power output	Current	0.648 AMP
	Output	6.02 Watts
At maximum Power output	Output	11.674 Watts
	Torque	27.440 mNm
	Current	4.058 AMP
Characteristics	Current constant	18.237 mA/AMP
	E.M.F. constant	18.237 mV/rpm
	Dynamic resistance	4.058 Ohm
	Motor regulation	147.5%

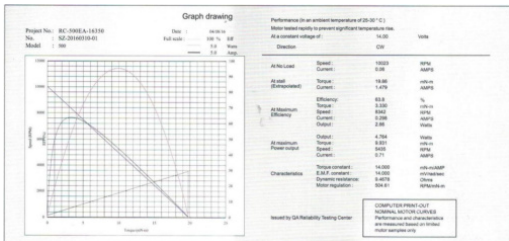
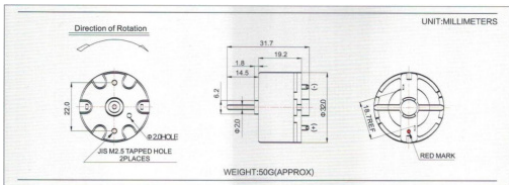
Issued by QA Reliability Testing Center

COMPUTER PRINT-OUT  
 NOMINAL MOTOR CURVES  
 Performance characteristics are measured based on limited motor samples only

# Shenzhen Zhongda Motor Co., Ltd.

## ZD-500EA

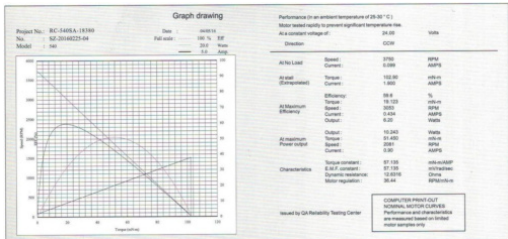
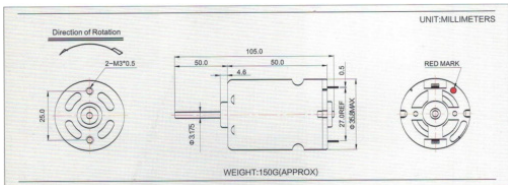
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed	Current	Speed	Current	Torque	Output	Torque	Current
			rpm	A	rpm	A	g.cm	W	g.cm	A
ZD-500EA-16350	12.0-18.0	14	10020	0.06	8340	0.3	33	2.66	200	1.47
ZD-500EA-23150	3.0-6.0	4.5	6000	0.109	5000	0.54	29	1.55	170	2.7
ZD-500EA-24108	3.0-6.0	5	11800	0.25	9500	1.03	28	2.99	150	4.3



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-540/545S/WA

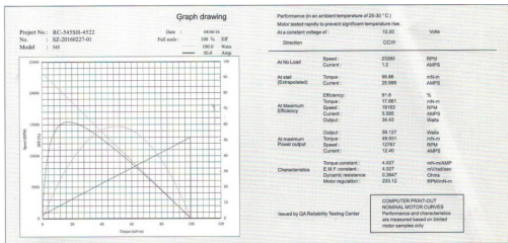
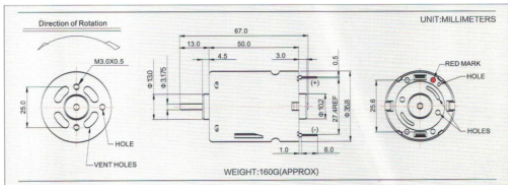
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-540SA-18380	18.0-24.0	24	3750	0.099	3050	0.434	200	6.2	1030	1.9
ZD-540SA-25185	6.0-12.0	7.4	2400	0.134	1930	0.543	130	2.28	640	2.2
ZD-540SA-3155	6.0-18.0	12	7000	0.282	6000	1.548	190	12.4	1300	8.5



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-540/545S/WH

MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque gcm	Output W	Torque gcm	Current A
ZD-545SH-4522	3.6-12.0	10	23280	1.2	19160	5.58	180	34.43	1000	26
ZD-545SH-5018	4.5-12.0	12	24000	1.3	20500	7.65	300	63.23	2050	45
ZD-545SH-23230	10.0-24.0	12	2800	0.12	2340	0.61	160	4.72	980	3.1

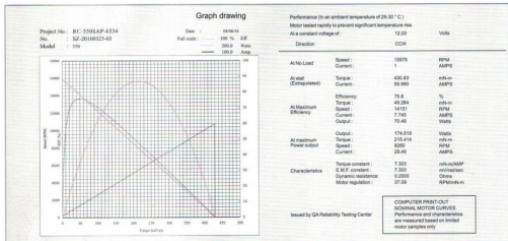
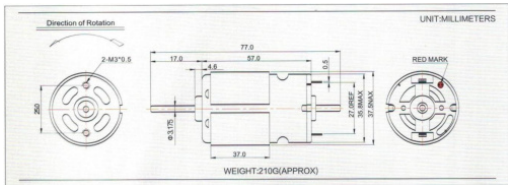




# Shenzhen Zhongda Motor Co., Ltd.

## ZD-550/555S/WA


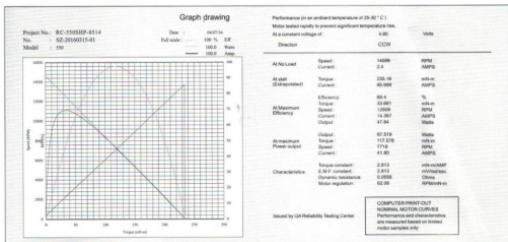
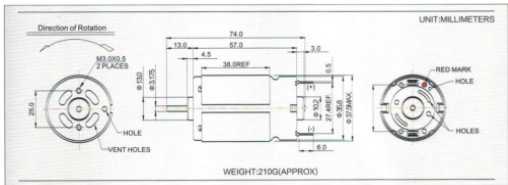
MODEL	Voltage		No-load		At Maximum efficiency					Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A	
ZD-550SAP-6534	6.0-15.0	12	16000	1	14100	7.7	500	70.49	4300	60	
ZD-550SAP-7523	6.0-9.6	9.6	19200	1.87	16650	11.8	500	80.36	3600	74.6	
ZD-550SAP-2980	12.0-30	24	6600	0.201	5700	1.26	330	21.55	2400	8	



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-550/555S/WH

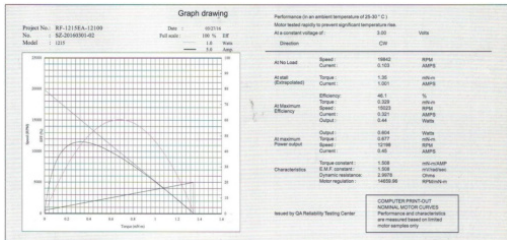
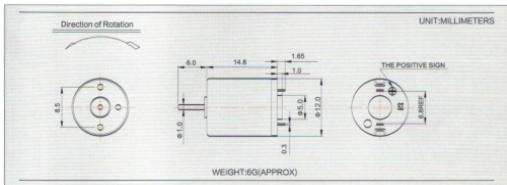
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-550S4P-8514	3.6-7.2	4.8	14600	2.4	12500	14.4	330	47.84	2300	86
ZD-550S4P-8020	6.0-8.4	7.2	15800	2	13600	12.5	410	63.43	3000	78
ZD-550S4P-22120	9.0-30	18	3400	0.085	2800	0.48	186	5.34	1230	2.65

# Shenzhen Zhongda Motor Co., Ltd.

## ZD-1215EA

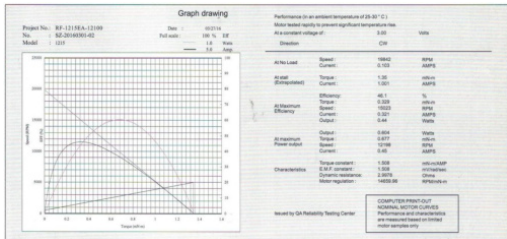
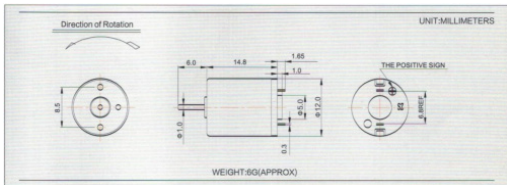
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed	Current	Speed	Current	Torque	Output	Torque	Current
			rpm	A	rpm	A	g.cm	W	g.cm	A
ZD-1215EA-12100	2.0-4.0	3	19840	0.103	15000	0.321	3.5	0.44	14	1
ZD-1215EA-13115	1.5-3.5	2.4	15200	0.084	11550	0.266	3	0.3	12	0.84
ZD-1215EA-11130	2.5-4.0	3	15500	0.08	11400	0.249	2.8	0.33	11.4	0.6



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-1220EA

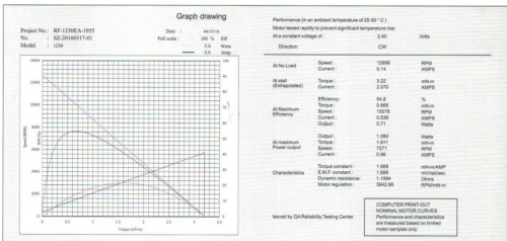
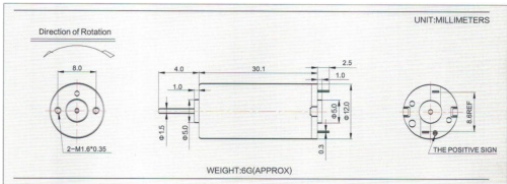
MODEL	Voltage		No-load		At Maximum efficiency					Stall	
	Operating range	Rated voltage	Speed	Current	Speed	Current	Torque	Output	Torque	Current	
			rpm	A	rpm	A	g.cm	W	g.cm	A	
ZD-1215EA-12100	2.0-4.0	3	19840	0.103	15000	0.321	3.5	0.44	14	1	
ZD-1215EA-13115	1.5-3.5	2.4	15200	0.084	11550	0.266	3	0.3	12	0.84	
ZD-1215EA-11130	2.5-4.0	3	15500	0.08	11400	0.249	2.8	0.33	11.4	0.6	



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-1230EA

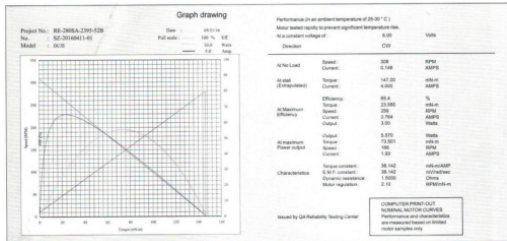
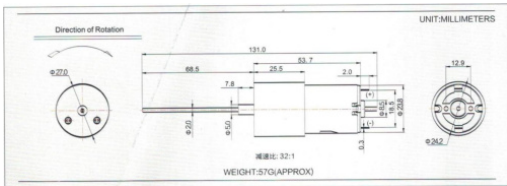
MODEL	Voltage		No-load		At Maximum efficiency				Stall	
	Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
ZD-1230EA-1955	1.2-3.0	2.4	12700	0.14	10070	0.538	6.7	0.71	32	2.07
ZD-1230EA-1553	1.0-3.0	1.5	7860	0.118	5700	0.305	2.7	0.17	10	0.79
ZD-1230EA-07230	4.0-7.5	6	8000	0.05	5650	0.12	12	0.25	40	0.29



# Shenzhen Zhongda Motor Co., Ltd.

## ZD-JS2725-280

Voltage		No-load		At Maximum efficiency				Stall	
Operating range	Rated voltage	Speed rpm	Current A	Speed rpm	Current A	Torque g.cm	Output W	Torque g.cm	Current A
3.0-12.0	6	308	0.146	259	0.764	240	3	1470	4





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