



DC BRUSHED MOTOR CATALOG

驱动世界向前
让生活更美好

DRIVING THE
WORLD FORWARD
MAKES LIFE MORE CONVENIENT

GUDE & BG MOTOR
博工&故德

www.china-bgmotor.com



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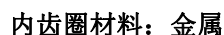


电机型号说明 / Description Of Motor Type

直流有刷电机 / DC Brush Motor

BG - **90 ZYTDC** - **24 30S** - **RV30** - **20K** - **M**
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

①	公司名称 Company Name	博工电机 / BG MOTOR
②	电机外形尺寸 Motor Dimensions	31mm、42mm、50mm、52mm、63mm、76mm、80mm、90mm、110mm、130mm
③	电机种类 Motor Type	ZYT: 直流有刷电机 / DC Brush Motor
④	电源电压 Supply Voltage	(例 / Example) 24: 24V DC
⑤	电机转速 Motor Speed	(例 / Example) 30S: 3000rpm
⑥	减速箱类型及型号 Type And Model Of Gearbox	RV : RV蜗轮蜗杆减速箱 / RV Worm Gear Reducer PG : 行星减速箱 / Planetary Gearbox
⑦	速比 Speed Ratio	K: 速比 (例 / Example) 20K (1: 20的速比)
⑧	电机附加配件 Motor Can Add Accessories	M: 电磁刹车器 / M: Electromagnetic brake BFE: 闭环反馈方式, 一般指电机增加编码器 (包括简易型霍尔编码器) / BFE: Closed loop feedback mode, generally refers to equipping the motor with an encoder (including the simple hall encoder)



轴承类型: 高质量滚珠轴承

Bearing Type: High Quality Ball Bearing

最大允许径向力: $\leq 30\text{N}$

Max.Radial load: $\leq 30\text{N}$

最大允许轴向力： $\leq 10\text{N}$

Radial play of shaft: $\leq 10\mu\text{m}$

轴向间隙: $\leq 0.03\text{mm}$

Axial play of shaft: $\leq 0.03\text{mm}$

额定允许负载: 20Kg.cm

Rated tolerance torque: 20Kg.cm

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Kg.cm	A	Kg.cm	A	L:mm
BG-395DC-1252S	12	6500	0.15	3.2	5200	0.06	0.5	0.18	1.50	46.5
BG-395DC-2441S	24	5400	0.10	2.5	4100	0.06	0.2	0.18	0.69	46.5

型号 Model	减速比 Reduction ratio	1: X	1: 4	1: 14	1: 19	1: 27	1: 51	1: 71	1: 100	1: 139
	减速箱长度 Gearbox length	L: mm	28.5	36.0			43.0			
BG-395DC-1252S- PG28	空载转速 NO-load speed	rpm	1625	464	342	241	127	92	65	47
	负载转速 Rated speed	rpm	1300	371	274	193	102	73	52	37
	额定扭矩 Rated torque	Kg.cm	0.20	0.70	0.90	1.30	2.20	3.20	4.50	6.30

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直流有刷电机 31mm系列

DC Brush Motor 31mm Series



使用环境：-20℃~50℃
Environmental Condition: -20℃~50℃
绝缘等级：B-F
Insulation Class: B-F
轴承类型：高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
防护等级：IP40
Protection Level: IP40
功率范围：5-16W
Power Range: 5-16W
寿命：600-800h
Life: 600-800h

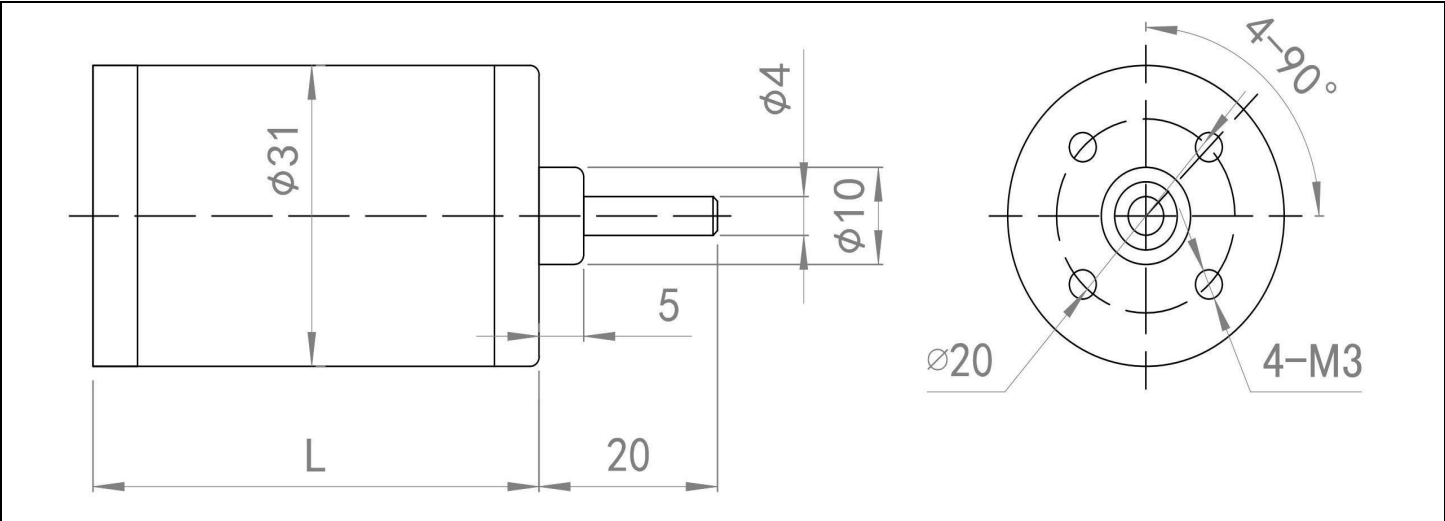
定制 / Customizable solutions

可提供定制电压、性能、电路等。
Can provide custom voltage, electrical performance, circuit, etc. .
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。
And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-31ZYT-1230S	12	6600	0.12	9.5	5000	0.02	1.0	0.05	2.97	50
BG-31ZYT-2430S	24	8000	0.08	12.5	6000	0.02	0.7	0.06	1.95	50
BG-31ZYT-3630S	36	9200	0.07	15	7000	0.02	0.5	0.06	1.56	50
BG-31ZYT-4830S	48	10000	0.05	16	8000	0.02	0.4	0.06	1.25	50

外形图 / Mechanical Dimensions





直流有刷行星减速电机 555系列

DC Brush Planetary Gear Motor 555 Series



内齿圈材料：金属

Gear material: Metal

轴承类型：高质量滚珠轴承

Bearing Type: High Quality Ball Bearing

最大允许径向力：≤50N

Max.Radial load: ≤50N

最大允许轴向力：≤20N

Radial play of shaft: ≤20N

轴向间隙：≤0.03mm

Axial play of shaft: ≤0.03mm

额定允许负载：30Kg.cm

Rated tolerance torque: 30Kg.cm

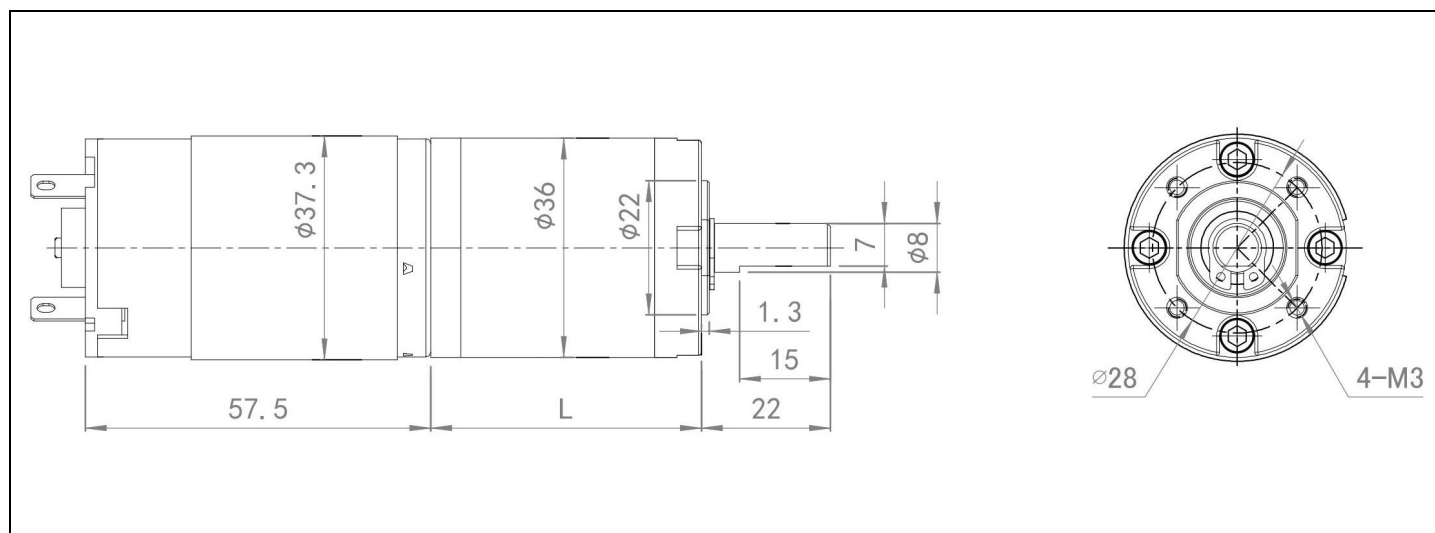
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length L:mm
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Kg.cm	A	Kg.cm	A	
BG-555DC-1244S	12	5000	0.25	9	5300	0.16	1.7	0.48	5.10	57.5
BG-555DC-2431S	24	4000	0.15	6.4	3400	0.18	0.7	0.54	2.10	57.5

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 4	1: 14	1: 19	1: 27	1: 51	1: 71	1: 100	1: 139
	减速箱长度 Gearbox length	L: mm	26.0	33.5			40.5			
BG-555DC-1244S- PG36	空载转速 NO-load speed	rpm	1250	357	263	185	98	70	50	36
	负载转速 Rated speed	rpm	1325	379	279	196	104	75	53	38
	额定扭矩 Rated torque	Kg.cm	0.70	2.30	3.00	4.32	7.68	10.06	15.32	20.81

外形图 / Mechanical Dimensions





直流有刷电机 42mm系列

DC Brush Motor 42mm Series



使用环境：-20℃~50℃

Environmental Condition: -20℃~50℃

绝缘等级：B-F

Insulation Class: B-F

轴承类型：高质量滚珠轴承

Bearing Type: High Quality Ball Bearing

防护等级：IP40

Protection Level: IP40

功率范围：14-50W

Power Range: 14-50W

寿命：800-1200h

Life: 800-1200h

定制 / Customizable solutions

可提供定制电压、性能、电路等。

Can provide custom voltage, electrical performance, circuit, etc. .

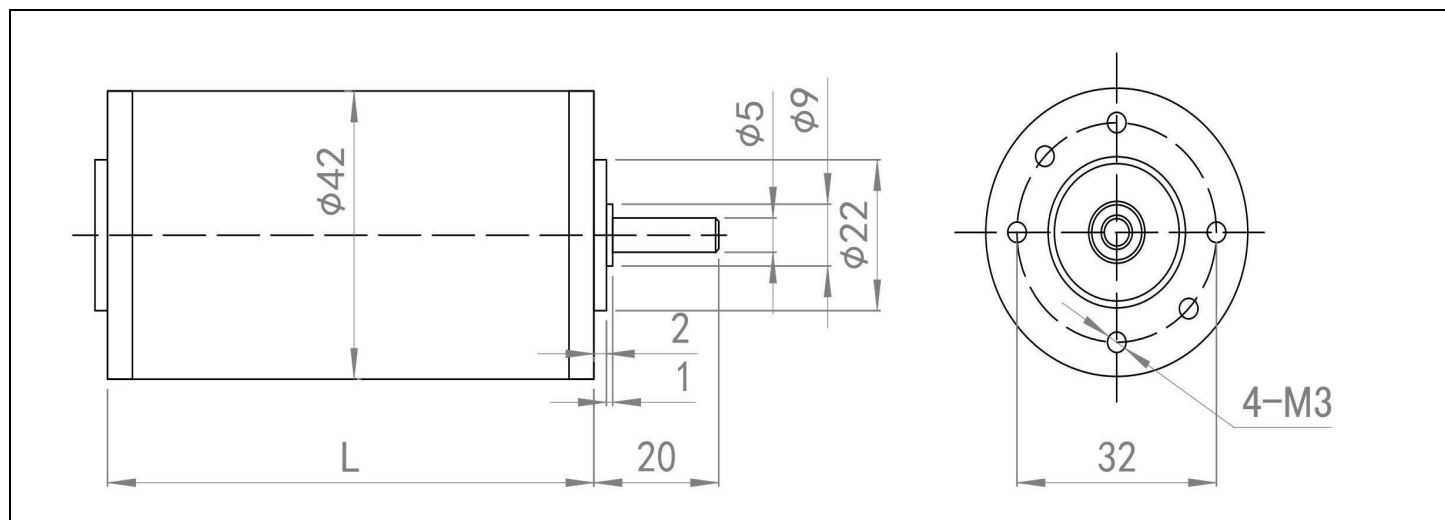
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。

And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length L:mm
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	
BG-42ZYT-1235S	12	4200	0.18	14	3500	0.04	1.5	0.11	4.38	70
BG-42ZYT-2431S	24	3800	0.12	19	3100	0.06	1.0	0.18	2.97	80
BG-42ZYT-2433S	24	4000	0.16	25	3350	0.07	1.3	0.21	3.91	90
BG-42ZYT-4847S	48	6000	0.16	49	4700	0.10	1.3	0.30	3.83	90

外形图 / Mechanical Dimensions





直流有刷行星减速电机 775系列

DC Brush Planetary Gear Motor 775 Series



内齿圈材料: 金属

Gear material: Metal

轴承类型: 高质量滚珠轴承

Bearing Type: High Quality Ball Bearing

最大允许径向力: $\leq 80\text{N}$

Max.Radial load: $\leq 80\text{N}$

最大允许轴向力: $\leq 30\text{N}$

Radial play of shaft: $\leq 30\text{N}$

轴向间隙: $\leq 0.03\text{mm}$

Axial play of shaft: $\leq 0.03\text{mm}$

额定允许负载: 60Kg.cm

Rated tolerance torque: 60Kg.cm

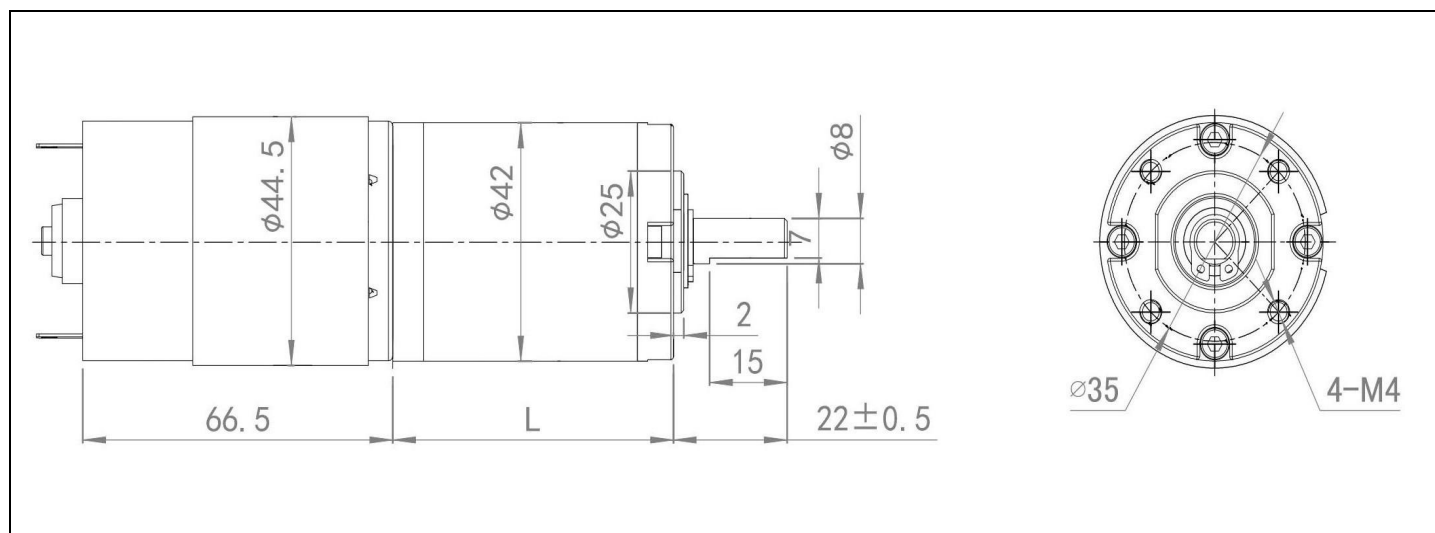
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Kg.cm	A	Kg.cm	A	L:mm
BG-775DC-1235S	12	4600	0.60	32	3500	0.90	4.4	2.70	13.20	66.5
BG-775DC-2445S	24	6000	0.30	40	4500	0.90	2.2	2.70	6.60	66.5

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 4	1: 14	1: 19	1: 27	1: 51	1: 71	1: 100	1: 139
	减速箱长度 Gearbox length	L: mm	31.5	42.0			52.0			
BG-775DC-1235S- PG42	空载转速 NO-load speed	rpm	1150	329	242	170	90	65	46	33
	负载转速 Rated speed	rpm	875	250	184	130	69	49	35	25
	额定扭矩 Rated torque	Kg.cm	3.24	10.26	13.85	19.68	34.43	47.92	60.00	60.00

外形图 / Mechanical Dimensions





有刷蜗轮蜗杆减速电机 50mm系列

Brush Worm Gear Motor 50mm Series



齿轮材料: 金属

Gear material: Metal

轴承类型: 高质量滚珠轴承

Bearing Type: High Quality Ball Bearing

最大允许径向力: $\leq 80N$

Max.Radial load: $\leq 80N$

最大允许轴向力: $\leq 30N$

Radial play of shaft: $\leq 30N$

轴向间隙: $\leq 0.08mm$

Axial play of shaft: $\leq 0.08mm$

额定允许负载: 20N.m

Rated tolerance torque: 20N.m

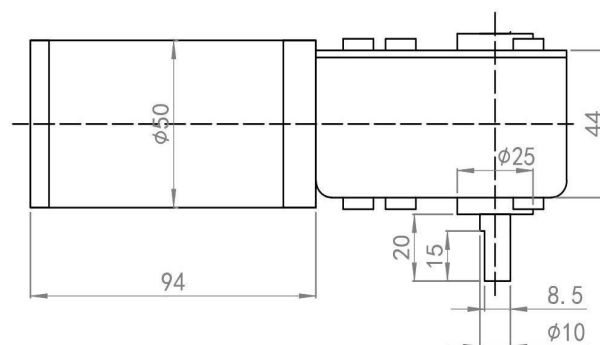
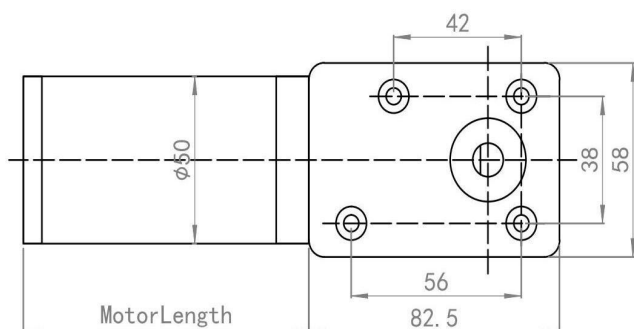
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-50ZYT-1237S	12	4200	0.56	43	3700	0.11	4.5	0.33	13.44	94
BG-50ZYT-2435S	24	4200	0.33	50	3500	0.14	2.6	0.41	7.81	94

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 16	1: 32	1: 48	1: 89	1: 120	1: 169	1: 225	1: 326
BG-50ZYT-1237S-XK	空载转速 NO-load speed	rpm	263	131	88	47	35	25	19	13
	负载转速 Rated speed	rpm	231	116	77	42	31	22	16	11
	额定扭矩 Rated torque	N.m	0.89	1.78	2.66	4.94	6.66	9.38	12.49	18.09

外形图 / Mechanical Dimensions





直流有刷电机 52mm系列

DC Brush Motor 52mm Series



使用环境：-20℃~50℃

Environmental Condition: -20℃~50℃

绝缘等级：B-F

Insulation Class: B-F

轴承类型：高质量滚珠轴承

Bearing Type: High Quality Ball Bearing

防护等级：IP40

Protection Level: IP40

功率范围：40-100W

Power Range: 40-100W

寿命：800-1200h

Life: 800-1200h

定制 / Customizable solutions

可提供定制电压、性能、电路等。

Can provide custom voltage, electrical performance, circuit, etc. .

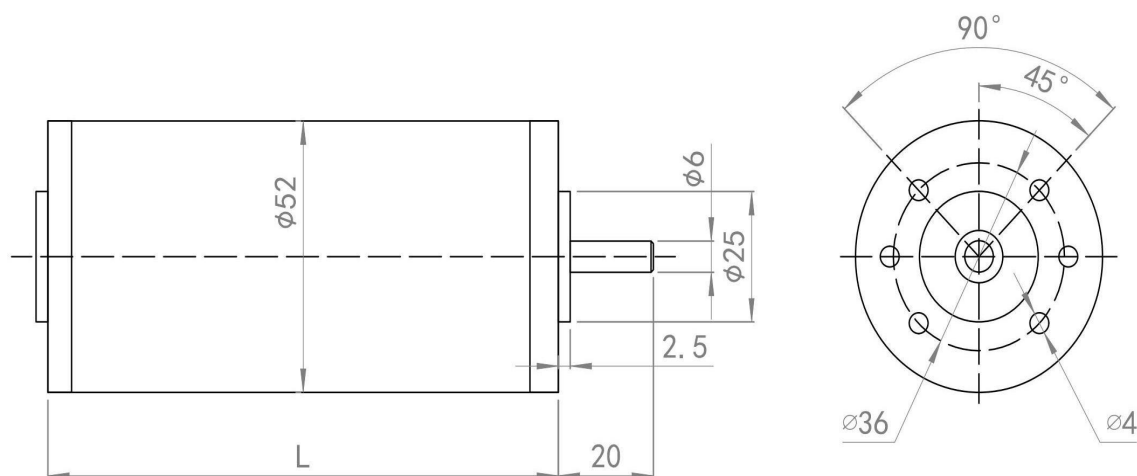
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。

And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-52ZYT-1237S	12	4200	0.56	43	3700	0.11	4.5	0.33	13.44	95
BG-52ZYT-2435S	24	4200	0.48	73	3500	0.20	3.8	0.60	11.41	110
BG-52ZYT-4833S	48	4000	0.30	93	3300	0.27	2.4	0.81	7.27	125
BG-52ZYT-4842S	48	5200	0.33	100	4200	0.23	2.6	0.68	7.81	125

外形图 / Mechanical Dimensions





直流有刷行星减速电机 52mm系列

DC Brush Planetary Gear Motor 52mm Series



内齿圈材料：金属

Gear material: Metal

轴承类型：高质量滚珠轴承

Bearing Type: High Quality Ball Bearing

最大允许径向力：≤250N

Max.Radial load: ≤250N

最大允许轴向力：≤100N

Radial play of shaft: ≤100N

轴向间隙：≤0.08mm

Axial play of shaft: ≤0.08mm

额定允许负载：20N.m

Rated tolerance torque: 20N.m

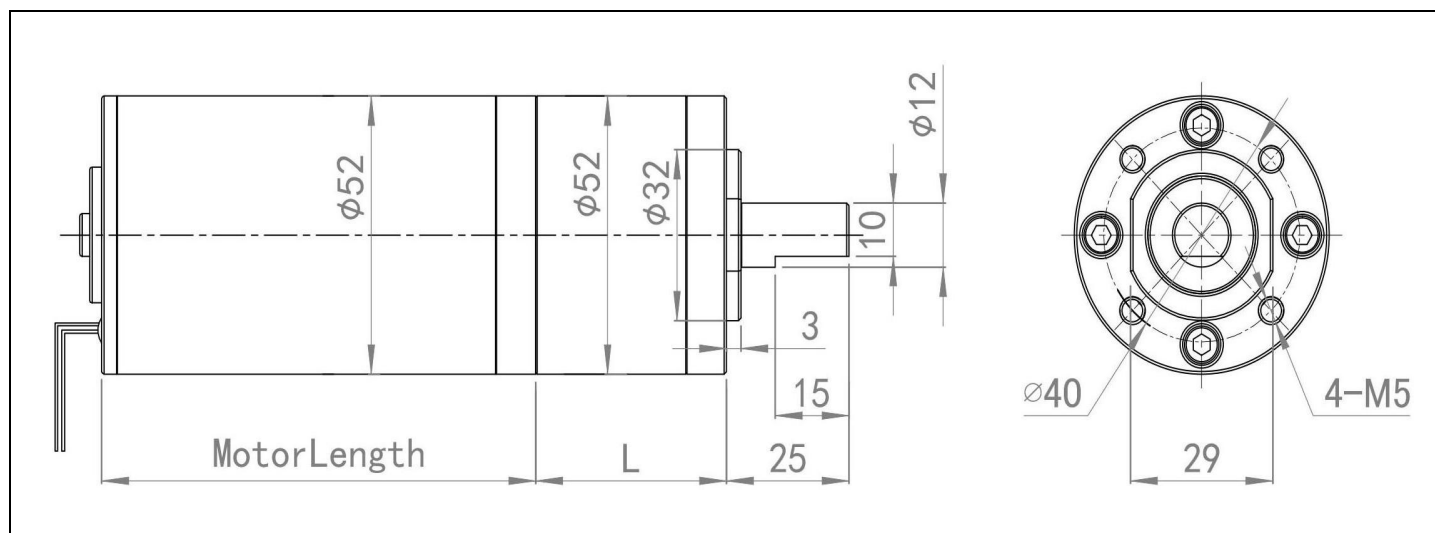
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length L:mm
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	
BG-52ZYT-1237S	12	4933	0.56	43	3700	0.11	4.5	0.33	13.44	88.5
BG-52ZYT-2435S	24	4667	0.35	53	3500	0.14	2.8	0.43	8.28	88.5

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 3.6	1: 13	1: 15	1: 18	1: 168	1: 198	1: 234	1: 276
	减速箱长度 Gearbox length	L: mm	45.70	57.20			79.80			
BG-52ZYT-1237S- PG52	空载转速 NO-load speed	rpm	1167	323	280	233	25	21	18	15
	负载转速 Rated speed	rpm	1028	285	247	206	22	19	16	13
	额定扭矩 Rated torque	N.m	0.36	1.16	1.34	1.60	13.86	16.34	19.31	20.00

外形图 / Mechanical Dimensions





直流有刷电机 60mm系列

DC Brush Motor 60mm Series



使用环境：-20℃~50℃
Environmental Condition：-20℃~50℃
绝缘等级：B-F
Insulation Class：B-F
轴承类型：高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
防护等级：IP40
Protection Level: IP40
功率范围：52-230W
Power Range： 52-230W
寿命：800-1000h
Life: 800-1000h

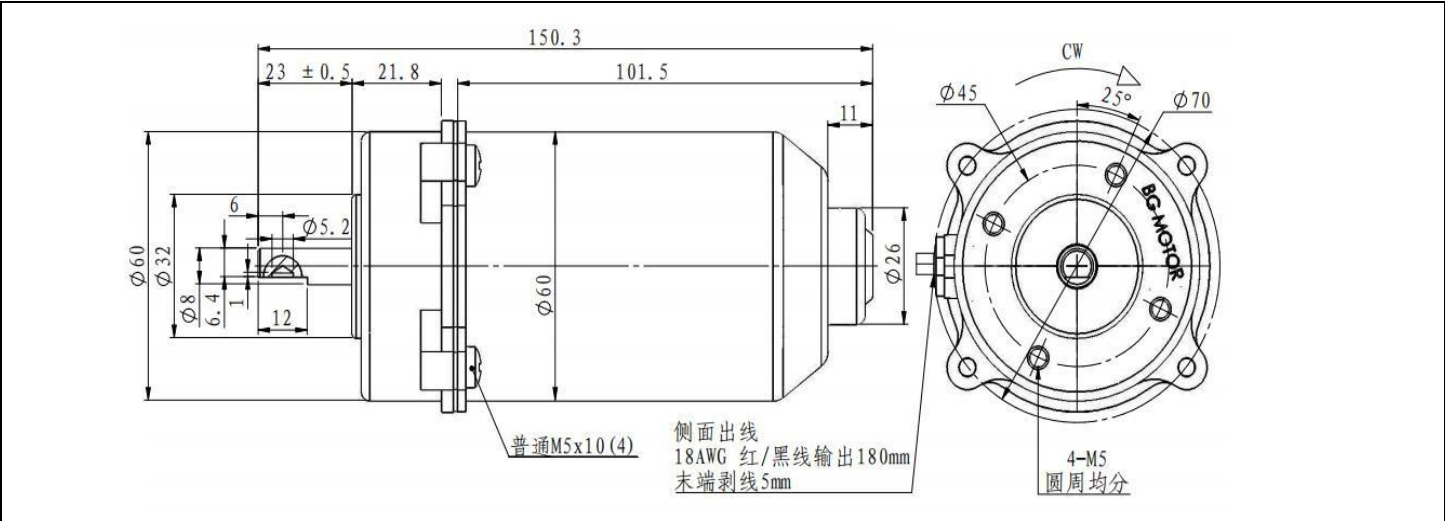
定制 / Customizable solutions

可提供定制电压、性能、电路等。
Can provide custom voltage, electrical performance, circuit, etc. .
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。
And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-60ZYT-1240S	12	4700	1.30	100	4000	0.24	10.4	0.72	31.25	127.3
BG-60ZYT-2440S	24	4700	0.81	125	4000	0.30	6.5	0.90	19.53	127.3
BG-60ZYT-1243S	12	4700	2.60	200	3000	0.64	20.8	1.91	62.50	127.3
BG-60ZYT-2443S	24	4700	1.50	230	3000	0.73	12.0	2.20	35.94	127.3

外形图 / Mechanical Dimensions





直流有刷电机 63mm系列

DC Brush Motor 63mm Series



使用环境：-20℃~50℃
Environmental Condition：-20℃~50℃
绝缘等级：B-F
Insulation Class：B-F
轴承类型：高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
防护等级：IP40
Protection Level: IP40
功率范围：52-125W
Power Range： 52-125W
寿命：1000-1600h
Life: 1000-1600h

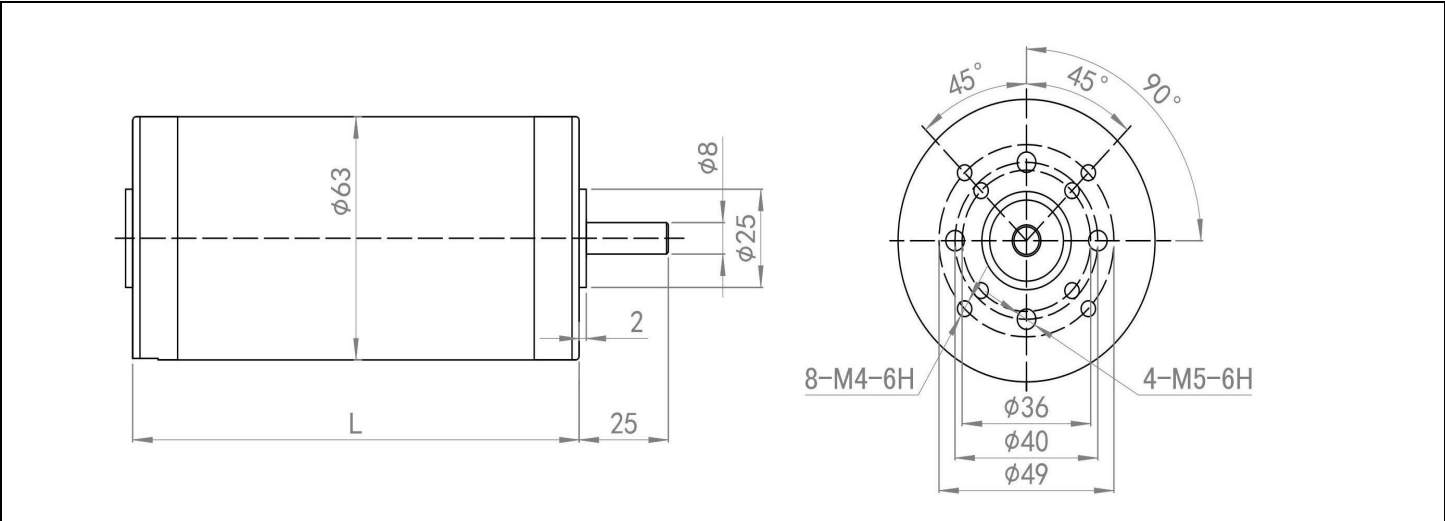
定制 / Customizable solutions

可提供定制电压、性能、电路等。
Can provide custom voltage, electrical performance, circuit, etc. .
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。
And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-63ZYT-1233S	12	3800	0.68	52	3300	0.15	5.4	0.45	16.25	95
BG-63ZYT-2440S	24	4700	0.55	84	4000	0.20	4.4	0.60	13.13	95
BG-63ZYT-2440S	24	4700	0.75	115	4000	0.27	6.0	0.82	17.97	110
BG-63ZYT-4875S	48	8500	0.41	125	7500	0.16	3.3	0.48	9.77	125

外形图 / Mechanical Dimensions





直流有刷行星减速电机 63mm系列

DC Brush Planetary Gear Motor 63mm Series



内齿圈材料：金属

Gear material: Metal

轴承类型：高质量滚珠轴承

Bearing Type: High Quality Ball Bearing

最大允许径向力：≤400N

Max.Radial load: ≤400N

最大允许轴向力：≤120N

Radial play of shaft: ≤120N

轴向间隙：≤0.08mm

Axial play of shaft: ≤0.08mm

额定允许负载：45N.m

Rated tolerance torque: 45N.m

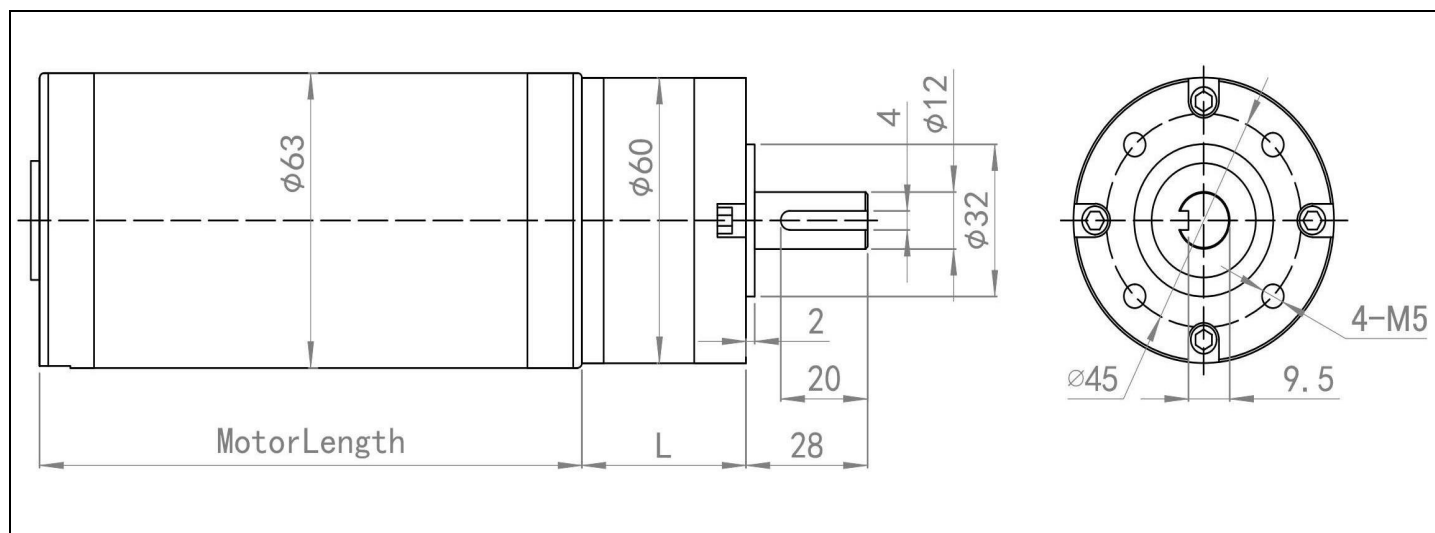
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length L:mm
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	
BG-63ZYT-2440S	24	4700	0.75	115	4000	0.27	6.0	0.82	17.97	110
BG-63ZYT-4875S	48	8500	0.41	125	7500	0.16	3.3	0.48	9.77	125

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 3.6	1: 13	1: 18	1: 23	1: 47	1: 55	1: 96	1: 121
	减速箱长度 Gearbox length	L: mm	37.8	49.5			60.8			
BG-63ZYT-2440S- PG60	空载转速 NO-load speed	rpm	1306	362	261	204	100	85	49	39
	负载转速 Rated speed	rpm	1111	308	222	174	85	73	42	33
	额定扭矩 Rated torque	N.m	0.89	2.89	4.00	5.12	9.68	11.33	19.56	24.92

外形图 / Mechanical Dimensions





有刷蜗轮蜗杆减速电机 63mm系列

Brush Worm Gear Motor 63mm Series



齿轮材料: 金属
Gear material: Metal
轴承类型: 高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
最大允许径向力: $\leq 80\text{N}$
Max.Radial load: $\leq 80\text{N}$
最大允许轴向力: $\leq 30\text{N}$
Radial play of shaft: $\leq 30\text{N}$
轴向间隙: $\leq 0.08\text{mm}$
Axial play of shaft: $\leq 0.08\text{mm}$
额定允许负载: 20N.m
Rated tolerance torque: 20N.m

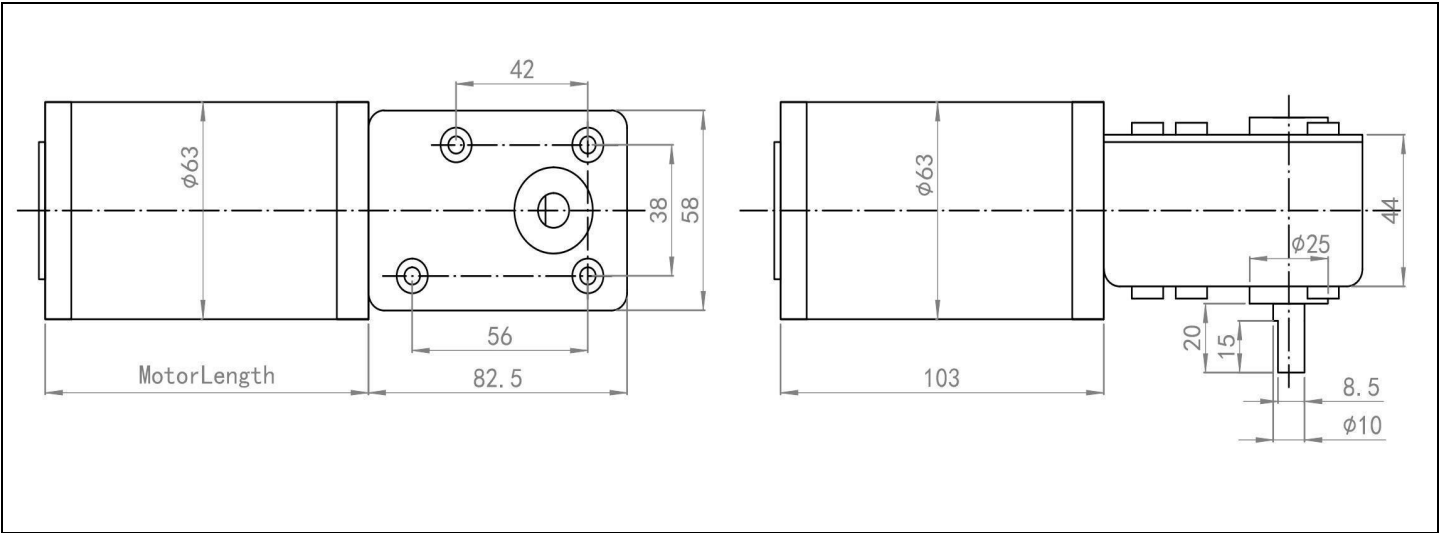
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-63ZYT-1237S	12	5000	1.04	80	3700	0.21	8.3	0.62	25.00	103
BG-63ZYT-2445S	24	6000	0.65	100	4500	0.21	5.2	0.64	15.63	103

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 16	1: 32	1: 48	1: 89	1: 120	1: 169	1: 225	1: 326
BG-63ZYT-1237S-XK	空载转速 NO-load speed	rpm	313	156	104	56	42	30	23	15
	负载转速 Rated speed	rpm	231	116	77	42	31	22	17	11
	额定扭矩 Rated torque	N.m	1.65	3.30	4.96	9.19	12.39	17.45	20.00	20.00

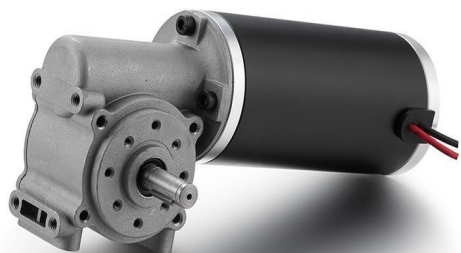
外形图 / Mechanical Dimensions





有刷蜗轮蜗杆减速电机 63mm系列

Brush Worm Gear Motor 63mm Series



齿轮材料: 金属

Gear material: Metal

轴承类型: 高质量滚珠轴承

Bearing Type: High Quality Ball Bearing

最大允许径向力: $\leq 80\text{N}$

Max.Radial load: $\leq 80\text{N}$

最大允许轴向力: $\leq 30\text{N}$

Radial play of shaft: $\leq 30\text{N}$

轴向间隙: $\leq 0.08\text{mm}$

Axial play of shaft: $\leq 0.08\text{mm}$

额定允许负载: 20N.m

Rated tolerance torque: 20N.m

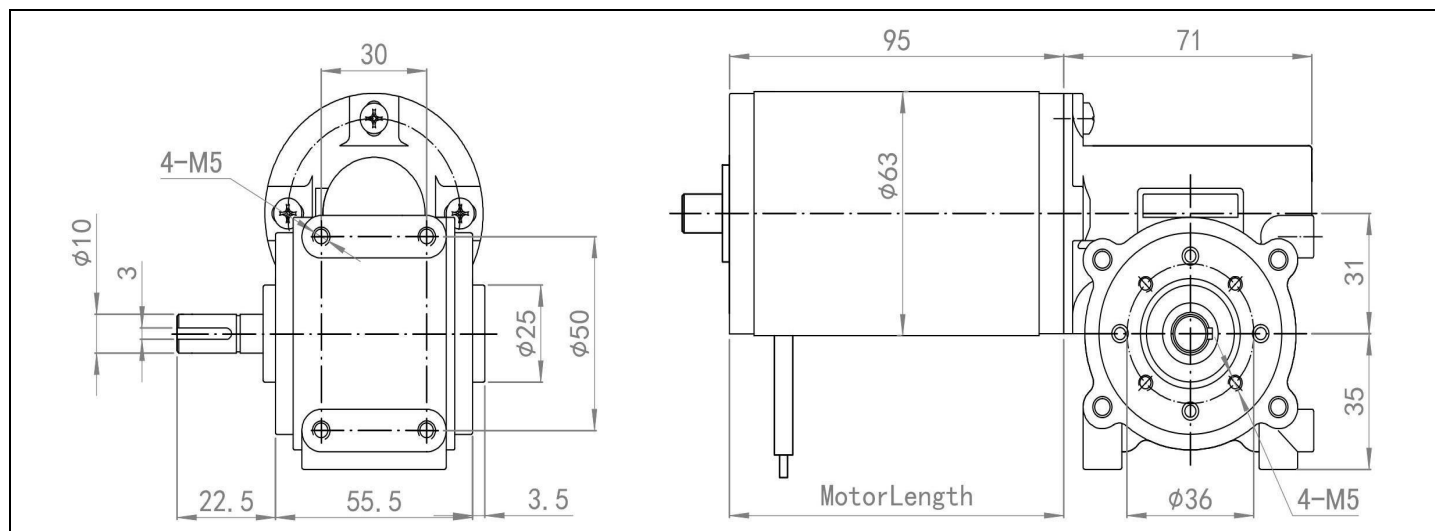
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-63ZYT-1237S	12	5000	1.04	80	3700	0.21	8.3	0.62	25.00	103
BG-63ZYT-2445S	24	6000	0.65	100	4500	0.21	5.2	0.64	15.63	103

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 10	1: 15	1: 30	/	/	/	/	/
BG-63ZYT-1237S-XK	空载转速 NO-load speed	rpm	500	333	167	/	/	/	/	/
	负载转速 Rated speed	rpm	370	247	123	/	/	/	/	/
	额定扭矩 Rated torque	N.m	1.03	1.55	3.10	/	/	/	/	/

外形图 / Mechanical Dimensions





直流有刷电机 76mm系列

DC Brush Motor 76mm Series



使用环境: -20℃~50℃
Environmental Condition: -20℃~50℃
绝缘等级: B-F
Insulation Class: B-F
轴承类型: 高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
防护等级: IP40
Protection Level: IP40
功率范围: 90-180W
Power Range: 90-180W
寿命: 1000-1600h
Life: 1000-1600h

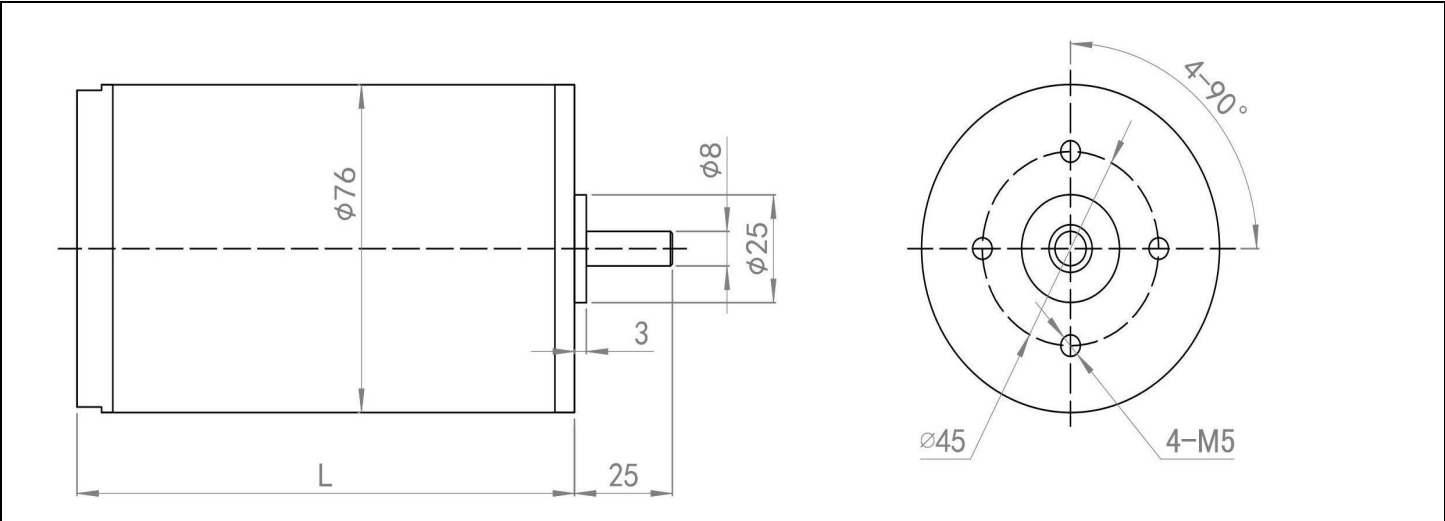
定制 / Customizable solutions

可提供定制电压、性能、电路等。
Can provide custom voltage, electrical performance, circuit, etc. .
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。
And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-76ZYT-2433S	24	4000	0.65	100	3300	0.29	5.2	0.87	15.63	98
BG-76ZYT-4840S	48	4500	0.49	151	4000	0.36	3.9	1.08	11.80	118
BG-76ZYT-2432S	24	3800	1.14	175	3200	0.52	9.1	1.57	27.34	138
BG-76ZYT-4831S	48	3700	0.59	180	3100	0.55	4.7	1.66	14.06	150

外形图 / Mechanical Dimensions





直流有刷行星减速电机 76mm系列

DC Brush Planetary Gear Motor 76mm Series



内齿圈材料：金属

Gear material: Metal

轴承类型：高质量滚珠轴承

Bearing Type: High Quality Ball Bearing

最大允许径向力：≤400N

Max.Radial load: ≤400N

最大允许轴向力：≤120N

Radial play of shaft: ≤120N

轴向间隙：≤0.08mm

Axial play of shaft: ≤0.08mm

额定允许负载：45N.m

Rated tolerance torque: 45N.m

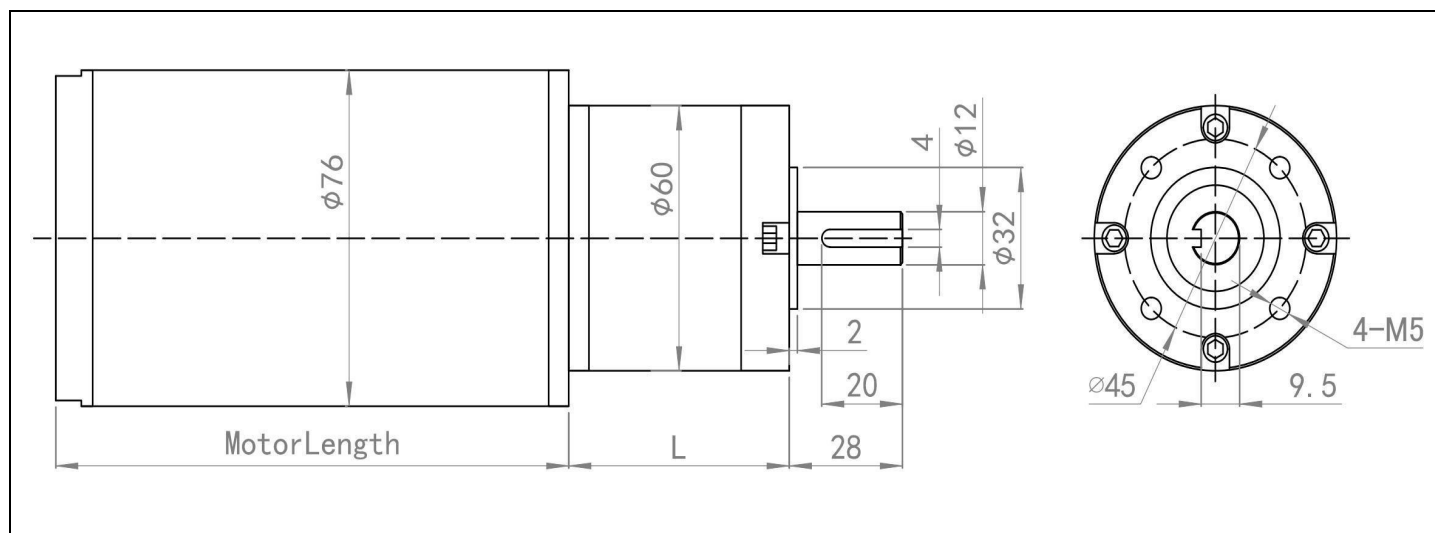
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-76ZYT-2433S	24	4000	0.65	100	3300	0.29	5.2	0.87	15.63	98
BG-76ZYT-4840S	48	4500	0.49	151	4000	0.36	3.9	1.08	11.80	118

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 3.6	1: 13	1: 18	1: 23	1: 47	1: 55	1: 96	1: 121
	减速箱长度 Gearbox length	L: mm	40.30	53.80			67.20			
BG-76ZYT-2433S- PG60	空载转速 NO-load speed	rpm	1111	308	222	174	85	73	42	33
	负载转速 Rated speed	rpm	917	254	183	143	70	60	34	27
	额定扭矩 Rated torque	N.m	0.94	3.05	4.22	5.39	10.20	11.94	20.84	26.26

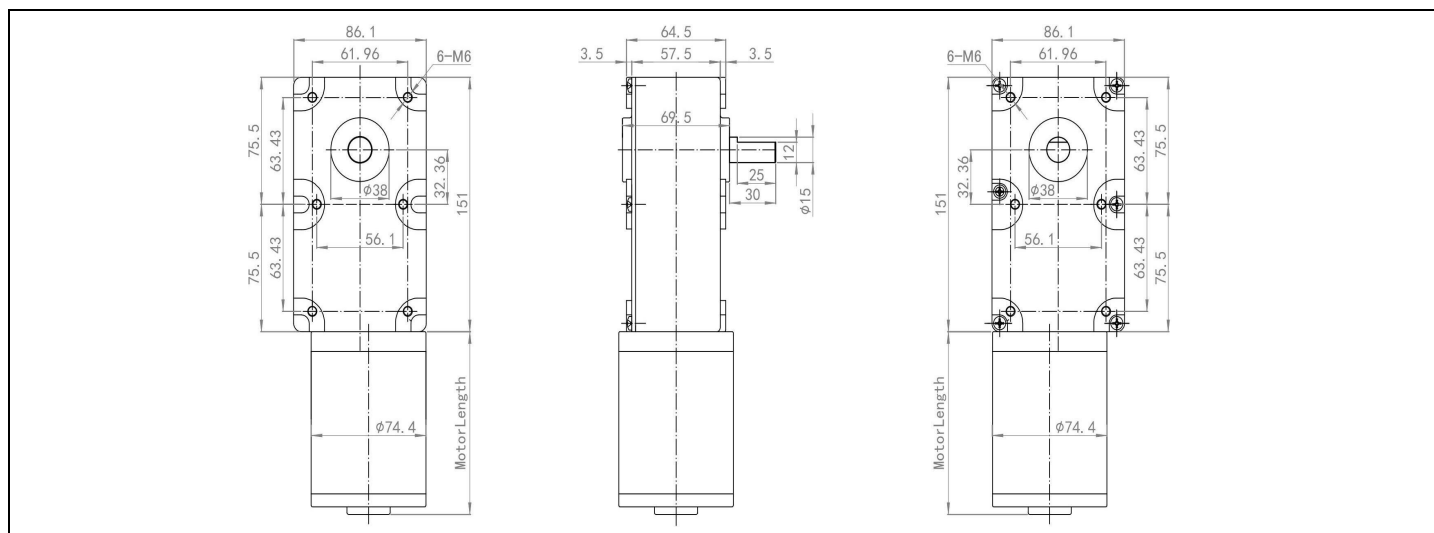
外形图 / Mechanical Dimensions





Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-75ZYT-2433S	24	4000	0.65	100	3300	0.29	5.2	0.87	15.63	108
BG-75ZYT-4840S	48	4500	0.49	151	4000	0.36	3.9	1.08	11.80	108

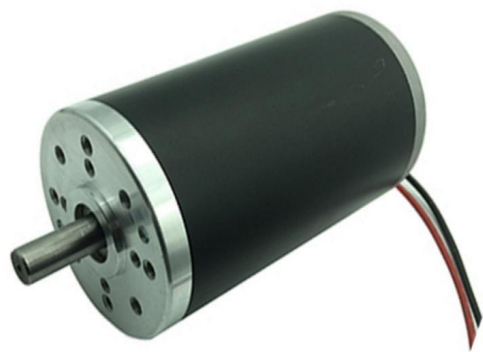
型号 Model	减速比 Reduction ratio	1: X	1: 16	1: 32	1: 48	1: 89	1: 120	1: 169	1: 225	1: 326
BG-75ZYT-2433S-XK	空载转速 NO-load speed	rpm	250	125	83	45	33	24	18	12
	负载转速 Rated speed	rpm	206	103	69	37	28	20	15	10
	额定扭矩 Rated torque	N.m	2.32	4.63	6.95	12.88	17.36	24.45	30.00	30.00





直流有刷电机 80mm系列

DC Brush Motor 80mm Series



使用环境: -20℃~50℃
Environmental Condition: -20℃~50℃
绝缘等级: B-F
Insulation Class: B-F
轴承类型: 高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
防护等级: IP40
Protection Level: IP40
功率范围: 100-200W
Power Range: 100-200W
寿命: 1000-1600h
Life: 1000-1600h

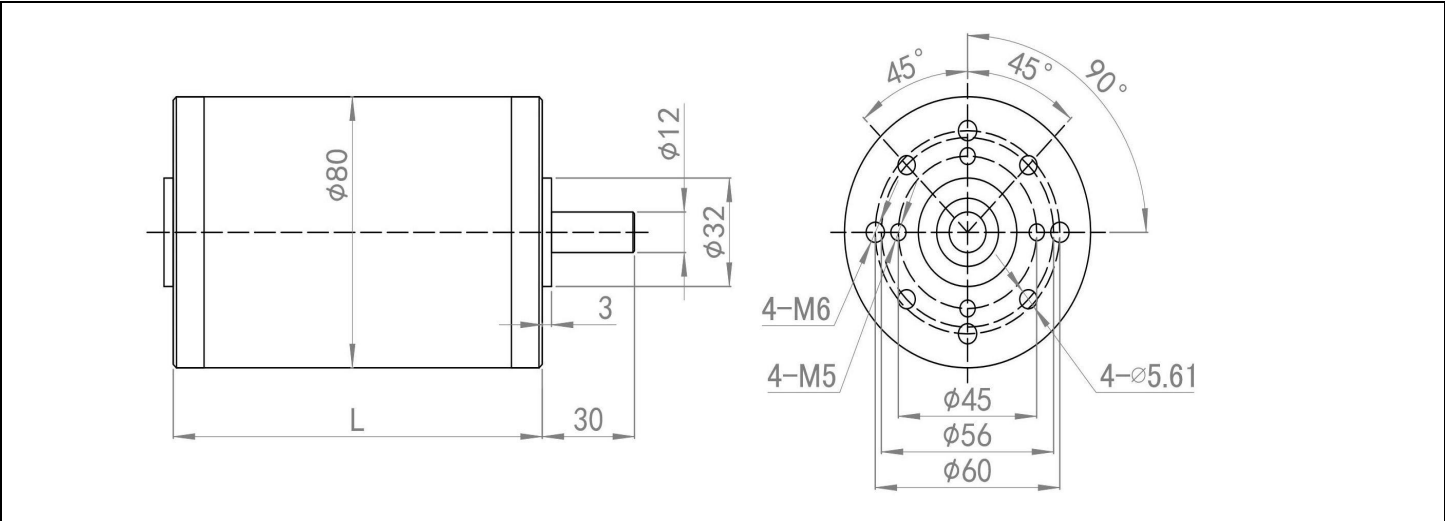
定制 / Customizable solutions

可提供定制电压、性能、电路等。
Can provide custom voltage, electrical performance, circuit, etc. .
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。
And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-80ZYT-2429S	24	3600	1.07	165	2900	0.54	8.6	1.63	25.78	120
BG-80ZYT-3629S	36	3600	0.74	170	2900	0.56	5.9	1.68	17.71	140
BG-80ZYT-4830S	48	3700	0.55	170	3000	0.54	4.4	1.62	13.28	140
BG-80ZYT-6030S	60	3700	0.52	200	3000	0.64	4.2	1.91	12.50	160

外形图 / Mechanical Dimensions





直流有刷行星减速电机 80mm系列

DC Brush Planetary Gear Motor 80mm Series



内齿圈材料：金属
Gear material: Metal
 轴承类型：高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
 最大允许径向力：≤400N
Max.Radial load: ≤400N
 最大允许轴向力：≤120N
Radial play of shaft: ≤120N
 轴向间隙：≤0.08mm
Axial play of shaft: ≤0.08mm
 额定允许负载：45N.m
Rated tolerance torque: 45N.m

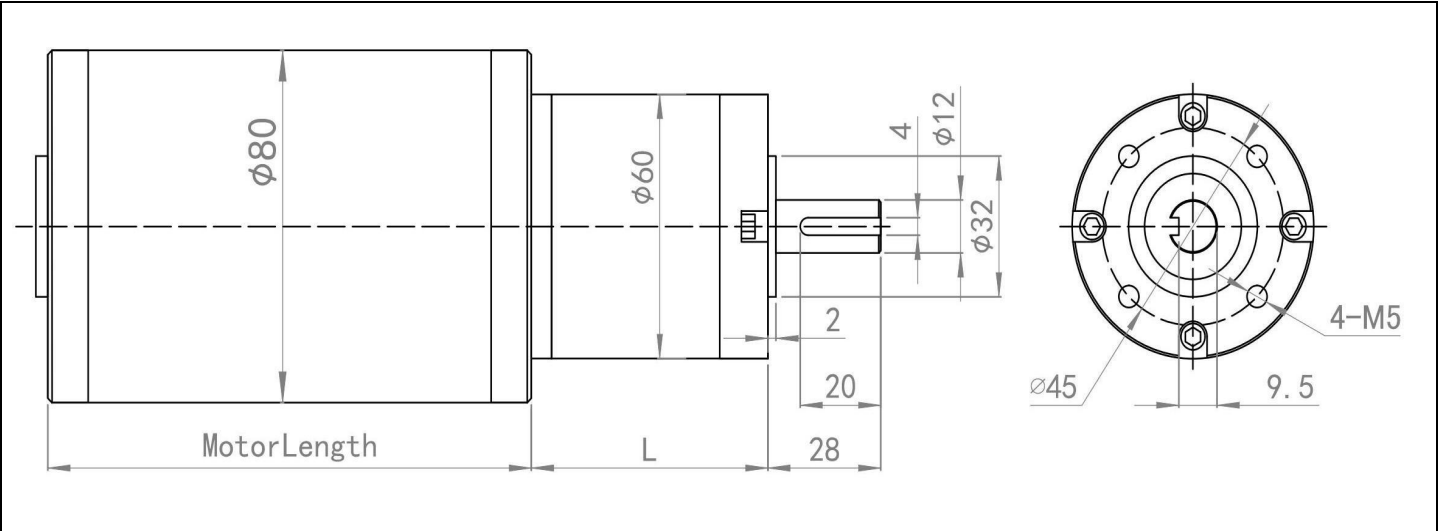
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-80ZYT-4830S	48	3700	0.55	170	3000	0.54	4.4	1.62	13.28	140
BG-80ZYT-6030S	60	3700	0.52	200	3000	0.64	4.2	1.91	12.50	160

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 3.6	1: 13	1: 18	1: 23	1: 47	1: 55	1: 96	1: 121
	减速箱长度 Gearbox length	L: mm	40.30	53.80			67.20			
BG-80ZYT-4830S- PG60	空载转速 NO-load speed	rpm	1028	285	206	161	79	67	39	31
	负载转速 Rated speed	rpm	833	231	167	130	64	55	31	25
	额定扭矩 Rated torque	N.m	1.75	5.70	7.89	10.08	19.08	22.32	38.96	45.00

外形图 / Mechanical Dimensions





直流有刷 RV30蜗轮蜗杆减速电机 80mm系列

DC Brush RV30 Worm Gear Motor 80mm Series



蜗轮材料: 铝青铜
Turbine Material: Aluminium Bronze
轴承类型: 高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
寿命: $\geq 3000\text{H}$
Life Span: $\geq 3000\text{H}$
减速箱重量: 1.2kg
Weight Of Gearbox: 1.2kg
环境温度: $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$
Ambient Temperature: $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$
额定允许负载: 24N.m
Rated tolerance torque: 24N.m

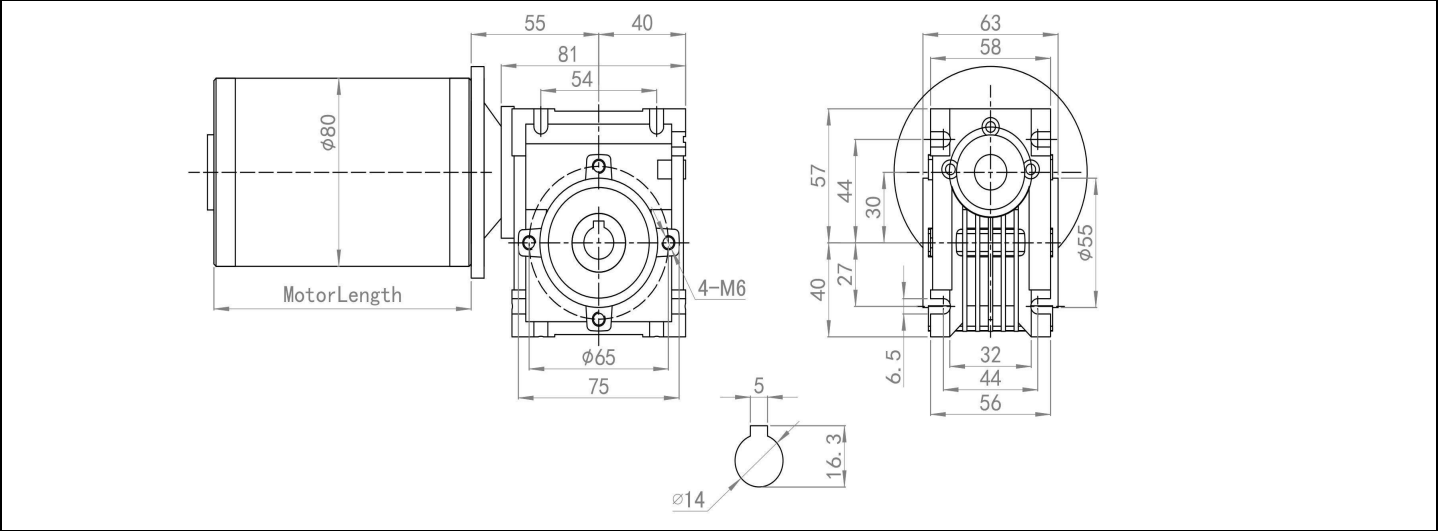
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-80ZYT-2420S	24	2700	0.72	110	2000	0.53	5.7	1.58	17.19	120
BG-80ZYT-3620S	36	2700	0.52	120	2000	0.57	4.2	1.72	12.50	140

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 7.5	1: 15	1: 20	1: 25	1: 30	1: 40	1: 50	1: 60
BG-80ZYT-2420S- RV30	空载转速 NO-load speed	rpm	360	180	135	108	90	68	54	45
	负载转速 Rated speed	rpm	267	133	100	80	67	50	40	33
	额定扭矩 Rated torque	N.m	1.97	3.94	5.25	6.57	7.88	10.51	13.13	15.76

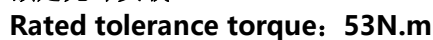
外形图 / Mechanical Dimensions





Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-80ZYT-2420S	24	2700	0.72	110	2000	0.53	5.7	1.58	17.19	120
BG-80ZYT-3620S	36	2700	0.52	120	2000	0.57	4.2	1.72	12.50	140

型号 Model	减速比 Reduction ratio	1: X	1: 7.5	1: 15	1: 20	1: 30	1: 50	1: 60	1: 80	1: 100
BG-80ZYT-3629S- RV40	空载转速 NO-load speed	rpm	360	180	135	90	54	45	34	27
	负载转速 Rated speed	rpm	267	133	100	67	40	33	25	20
	额定扭矩 Rated torque	N.m	2.15	4.30	5.73	8.60	14.33	17.19	22.92	28.65





直流有刷电机 90mm系列

DC Brush Motor 90mm Series



使用环境：-20℃~50℃
Environmental Condition: -20℃~50℃
绝缘等级：B-F
Insulation Class: B-F
轴承类型：高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
防护等级：IP40
Protection Level: IP40
功率范围：50-330W
Power Range: 50-330W
寿命：1000-1600h
Life: 1000-1600h

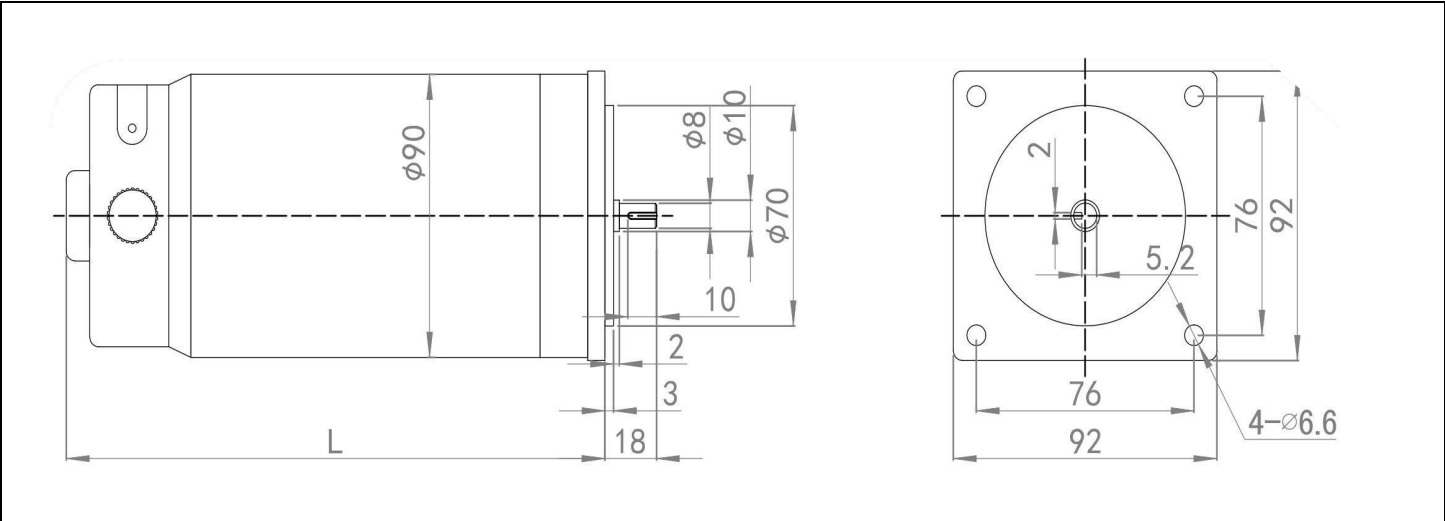
定制 / Customizable solutions

可提供定制电压、性能、电路等。
Can provide custom voltage, electrical performance, circuit, etc. .
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。
And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-90ZYT-1230S	12	4000	1.20	92	3000	0.29	9.6	0.88	28.75	127
BG-90ZYT-4830S	48	4000	0.65	200	3000	0.64	5.2	1.91	15.63	127
BG-90ZYT-2415S	24	2000	1.14	175	1500	1.11	9.1	3.34	27.34	147
BG-90ZYT-4830S	48	4000	1.07	330	3000	1.05	8.6	3.15	25.78	172

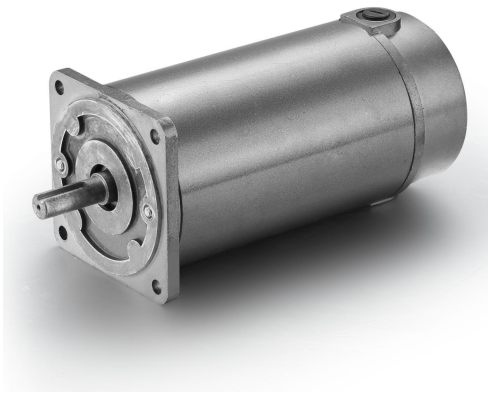
外形图 / Mechanical Dimensions





直流有刷电机 90mm系列

DC Brush Motor 90mm Series



使用环境：-20℃~50℃
Environmental Condition: -20℃~50℃
绝缘等级：B-F
Insulation Class: B-F
轴承类型：高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
防护等级：IP40
Protection Level: IP40
功率范围：50-400W
Power Range: 50-400W
寿命：1000-1600h
Life: 1000-1600h

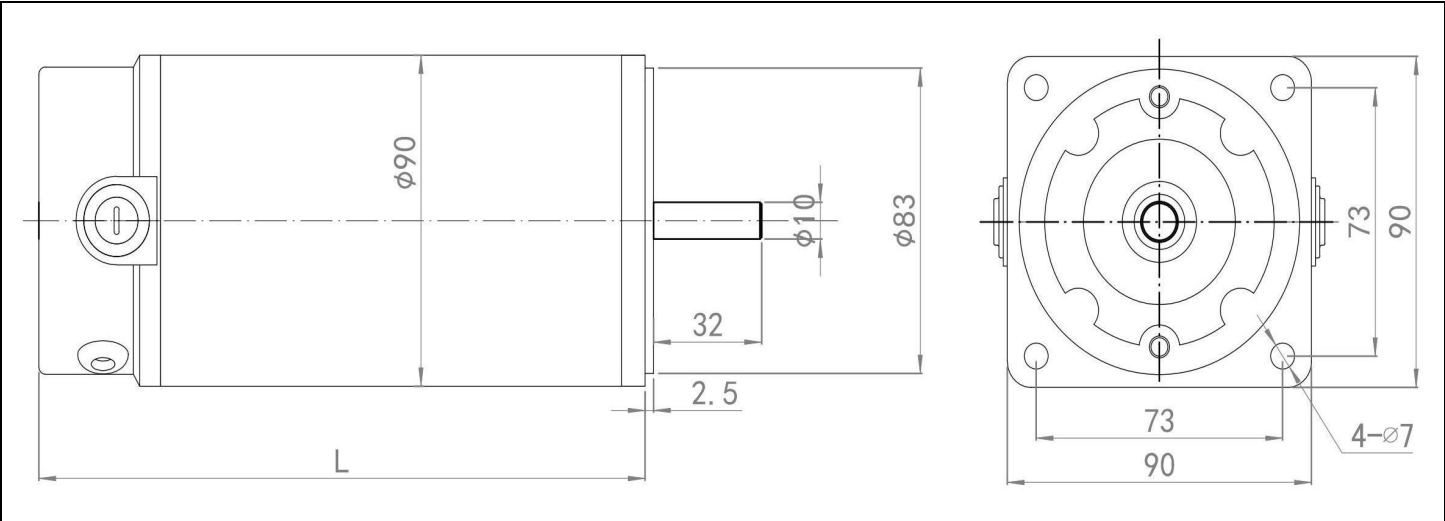
定制 / Customizable solutions

可提供定制电压、性能、电路等。
Can provide custom voltage, electrical performance, circuit, etc. .
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。
And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-90ZYT-1215S	12	2000	1.30	100	1500	0.64	10.4	1.91	31.25	183
BG-90ZYT-2420S	24	2700	1.30	200	2000	0.96	10.4	2.87	31.25	183
BG-90ZYT-4830S	48	4000	0.98	300	3000	0.96	7.8	2.87	23.44	183
BG-90ZYT-22030S	220	4000	0.28	400	3000	1.27	2.3	3.82	6.82	183

外形图 / Mechanical Dimensions





直流有刷行星减速电机 90mm系列

DC Brush Planetary Gear Motor 90mm Series



内齿圈材料: 金属
Gear material: Metal
轴承类型: 高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
最大允许径向力: $\leq 500\text{N}$
Max.Radial load: $\leq 500\text{N}$
最大允许轴向力: $\leq 130\text{N}$
Radial play of shaft: $\leq 130\text{N}$
轴向间隙: $\leq 0.1\text{mm}$
Axial play of shaft: $\leq 0.1\text{mm}$
额定允许负载: 80N.m
Rated tolerance torque: 80N.m

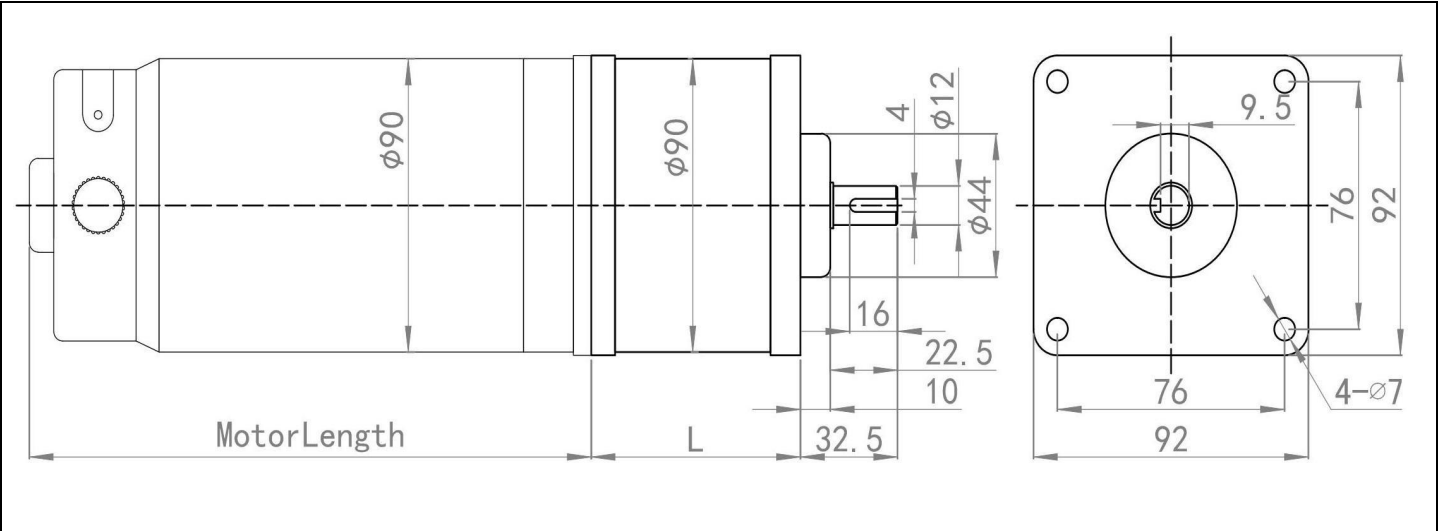
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-90ZYT-2415S	24	2000	1.14	175	1500	1.11	9.1	3.34	27.34	147
BG-90ZYT-4830S	48	4000	1.07	330	3000	1.05	8.6	3.15	25.78	172

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 4	1: 10	1: 24	1: 36	1: 64	1: 96	1: 144	1: 216
	减速箱长度 Gearbox length	L: mm	81	95			109			
BG-90ZYT-2415S- PG90	空载转速 NO-load speed	rpm	500	200	83	56	31	21	14	9
	负载转速 Rated speed	rpm	375	150	63	42	23	16	10	7
	额定扭矩 Rated torque	N.m	4.01	9.02	21.66	32.49	53.48	80.00	80.00	80.00

外形图 / Mechanical Dimensions





直流有刷 RV40蜗轮蜗杆减速电机 90mm系列

DC Brush RV40 Worm Gear Motor 90mm Series



蜗轮材料: 铝青铜
Turbine Material: Aluminium Bronze
轴承类型: 高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
寿命: $\geq 3000H$
Life Span: $\geq 3000H$
减速箱重量: 2.3kg
Weight Of Gearbox: 2.3kg
环境温度: $-10^{\circ}C \sim 40^{\circ}C$
Ambient Temperature: $-10^{\circ}C \sim 40^{\circ}C$
额定允许负载: 53N.m
Rated tolerance torque: 53N.m

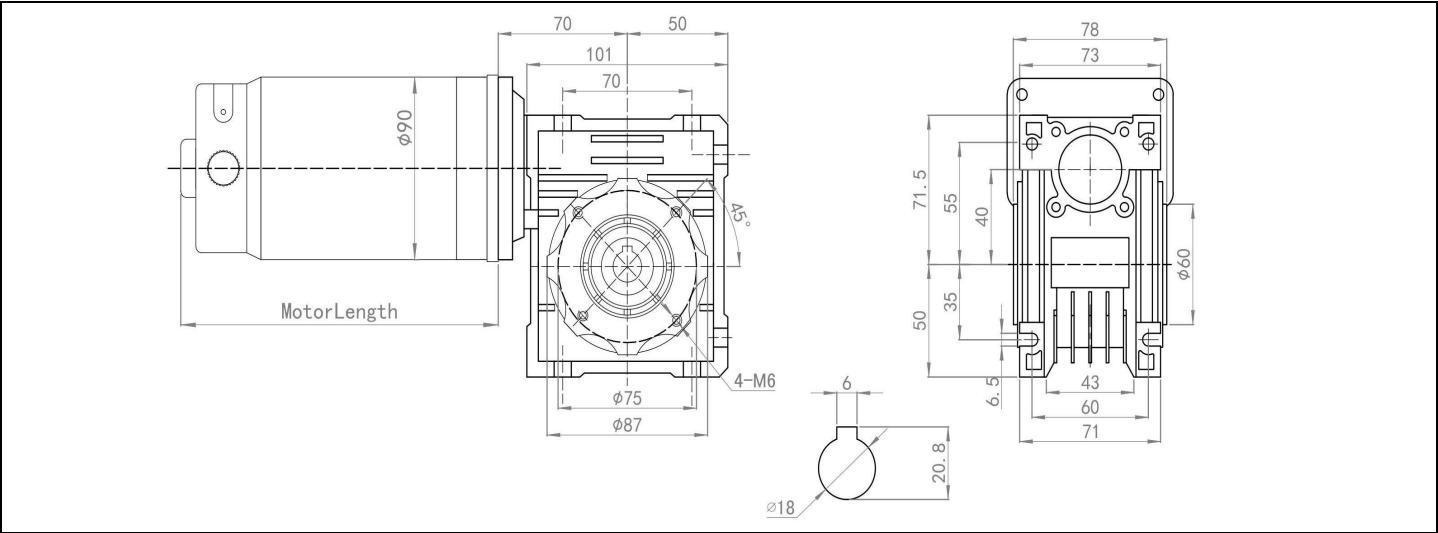
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-90ZYT-1220S	12	2700	1.20	92	2000	0.44	9.6	1.32	28.75	127
BG-90ZYT-4820S	48	2700	0.65	200	2000	0.96	5.2	2.87	15.63	127

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 7.5	1: 15	1: 20	1: 30	1: 50	1: 60	1: 80	1: 100
BG-90ZYT-1220S- RV40	空载转速 NO-load speed	rpm	360	180	135	90	54	45	34	27
	负载转速 Rated speed	rpm	267	133	100	67	40	33	25	20
	额定扭矩 Rated torque	N.m	1.65	3.29	4.39	6.59	10.98	13.18	17.57	21.97

外形图 / Mechanical Dimensions





直流有刷 RV50蜗轮蜗杆减速电机 90mm系列

DC Brush RV50 Worm Gear Motor 90mm Series



蜗轮材料: 铝青铜
Turbine Material: Aluminium Bronze
轴承类型: 高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
寿命: $\geq 3000\text{H}$
Life Span: $\geq 3000\text{H}$
减速箱重量: 3.5kg
Weight Of Gearbox: 3.5kg
环境温度: $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$
Ambient Temperature: $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$
额定允许负载: 81N.m
Rated tolerance torque: 81N.m

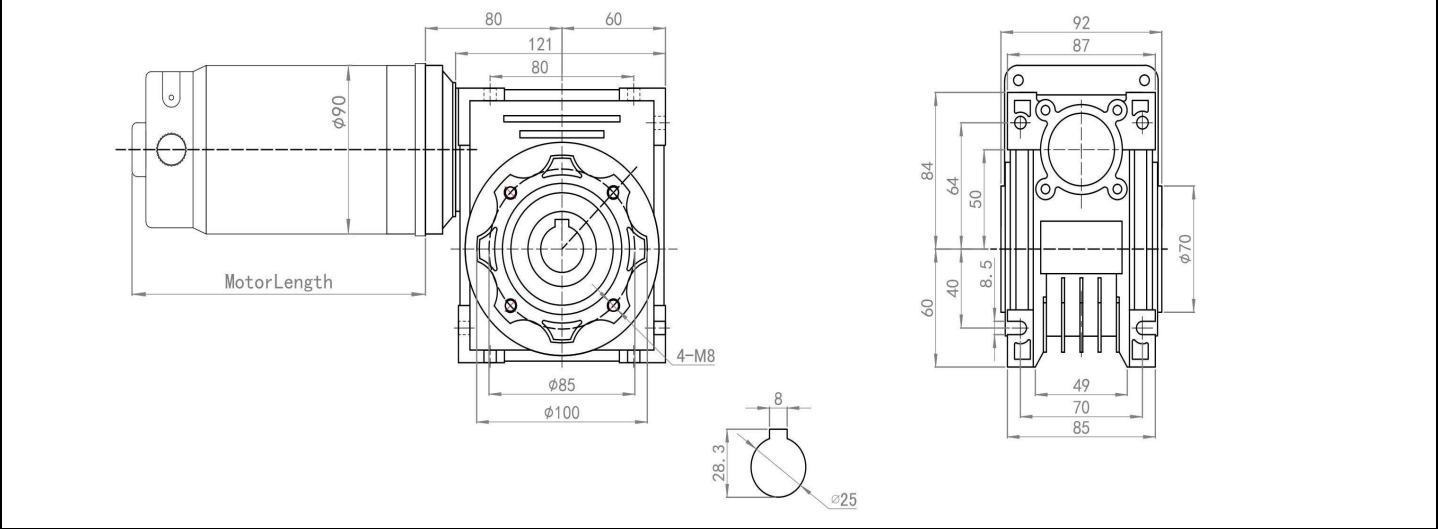
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-90ZYT-2415S	24	2000	1.14	175	1500	1.11	9.1	3.34	27.34	147
BG-90ZYT-4815S	48	2000	0.75	230	1500	1.46	6.0	4.39	17.97	172

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 7.5	1: 15	1: 20	1: 30	1: 50	1: 60	1: 80	1: 100
BG-90ZYT-4815S- RV50	空载转速 NO-load speed	rpm	267	133	100	67	40	33	25	20
	负载转速 Rated speed	rpm	200	100	75	50	30	25	19	15
	额定扭矩 Rated torque	N.m	5.49	10.98	14.64	21.97	36.61	43.93	58.57	73.22

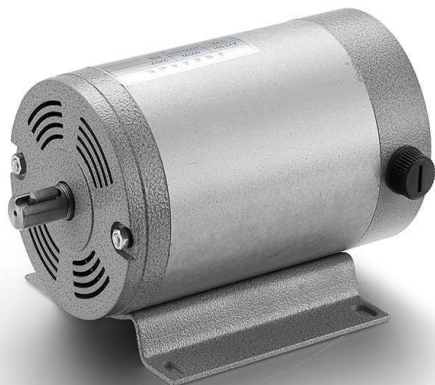
外形图 / Mechanical Dimensions





直流有刷电机 101mm系列

DC Brush Motor 101mm Series



使用环境：-20℃~50℃
Environmental Condition：-20℃~50℃
绝缘等级：B-F
Insulation Class：B-F
轴承类型：高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
防护等级：IP40
Protection Level: IP40
功率范围：100-500W
Power Range：100-500W
寿命：1000-1600h
Life: 1000-1600h

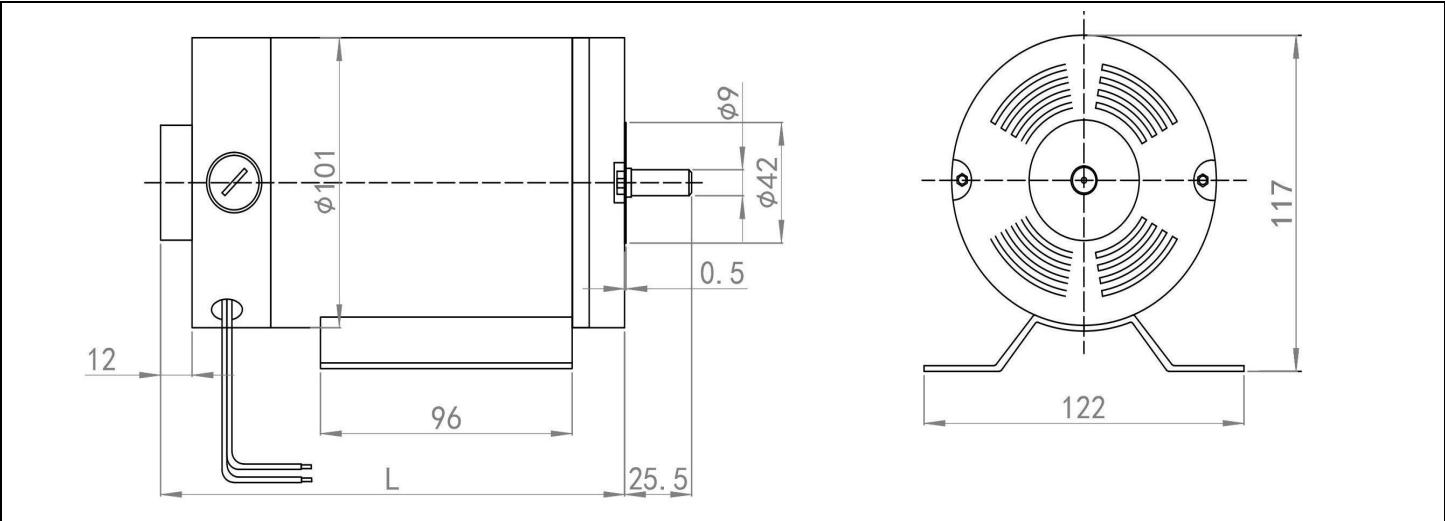
定制 / Customizable solutions

可提供定制电压、性能、电路等。
Can provide custom voltage, electrical performance, circuit, etc. .
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。
And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
		V	rpm	A	W	rpm	Nm	A	Nm	
BG-101ZYT-22030S	220	4000	0.14	200	3000	0.64	1.1	1.91	3.41	177
BG-101ZYT-22030S-1	220	4000	0.21	300	3000	0.96	1.7	2.87	5.11	177
BG-101ZYT-22030S-2	220	4000	0.28	400	3000	1.27	2.3	3.82	6.82	177
BG-101ZYT-22030S-3	220	4000	0.36	500	3000	1.59	2.8	4.78	8.52	177

外形图 / Mechanical Dimensions





直流有刷电机 110mm系列

DC Brush Motor 110mm Series



使用环境：-20℃~50℃
Environmental Condition：-20℃~50℃
绝缘等级：B-F
Insulation Class：B-F
轴承类型：高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
防护等级：IP40
Protection Level: IP40
功率范围：200-700W
Power Range：200-700W
寿命：1000-1600h
Life: 1000-1600h

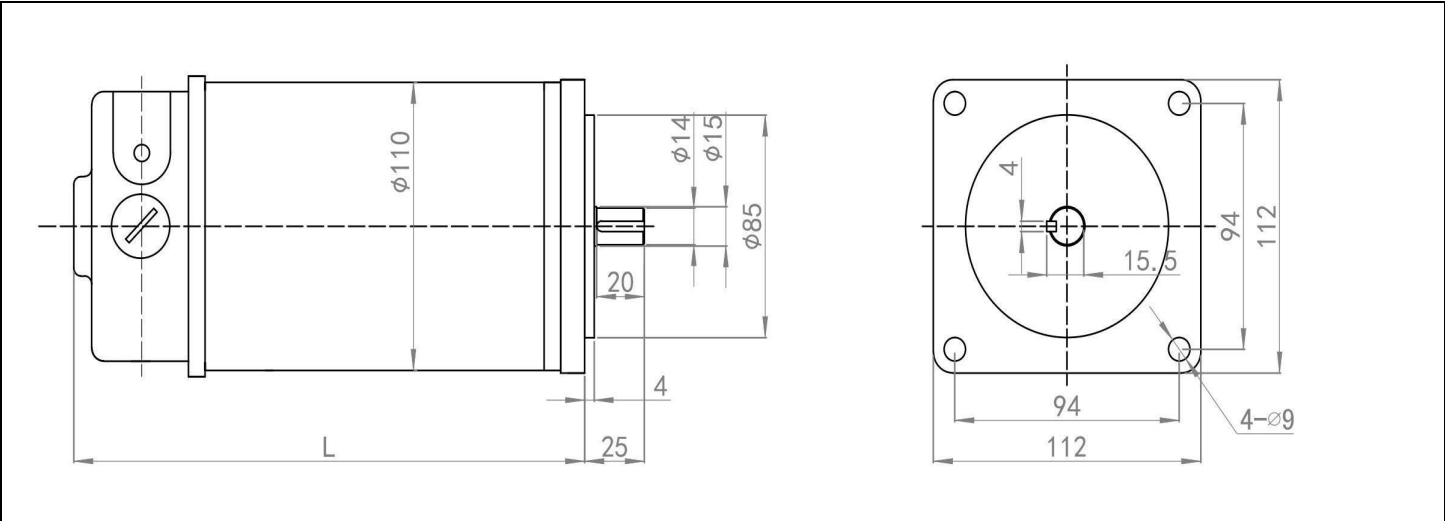
定制 / Customizable solutions

可提供定制电压、性能、电路等。
Can provide custom voltage, electrical performance, circuit, etc. .
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。
And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-110ZYT-2430S	24	4000	1.30	200	3000	0.64	10.4	1.91	31.25	152
BG-110ZYT-3630S	36	4000	1.34	308	3000	0.98	10.7	2.94	32.08	172
BG-110ZYT-4830S	48	4000	1.30	400	3000	1.27	10.4	3.82	31.25	188
BG-110ZYT-11030S	110	4000	0.99	700	3000	2.23	8.0	6.69	23.86	218

外形图 / Mechanical Dimensions





Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-110ZYT-4830S	48	4000	1.30	400	3000	1.27	10.4	3.82	31.25	188
BG-110ZYT-11030S	110	4000	0.99	700	3000	2.23	8.0	6.69	23.86	218

型号 Model	减速比 Reduction ratio	1: X	1: 4	1: 10	1: 24	1: 36	1: 64	1: 96	1: 144	1: 216
	减速箱长度 Gearbox length	L: mm	117	142			167			
BG-110ZYT-4830S- PG110	空载转速 NO-load speed	rpm	1000	400	167	111	63	42	28	19
	负载转速 Rated speed	rpm	750	300	125	83	47	31	21	14
	额定扭矩 Rated torque	N.m	4.58	10.31	24.75	37.13	61.12	91.68	137.52	160.00

Technical drawing of the 100W 24VDC brushless motor, showing side, end, and detail views with dimensions.

Side View Dimensions:

- MotorLength (Total length)
- L (Length of main body)
- 69 (Distance from mounting flange to end flange)
- 52 (Distance from mounting flange to shaft center)
- 40 (Distance from end flange to shaft center)
- 17 (Distance from end flange to mounting flange)
- 6 (Shaft diameter)
- $\phi 22$ (Shaft diameter)
- $\phi 72$ (End flange outer diameter)
- $\phi 110$ (Main body outer diameter)

End View Dimensions:

- 112 (Total width)
- 94 (Distance between mounting holes)
- 4- $\phi 9$ (Four mounting holes of diameter 9)

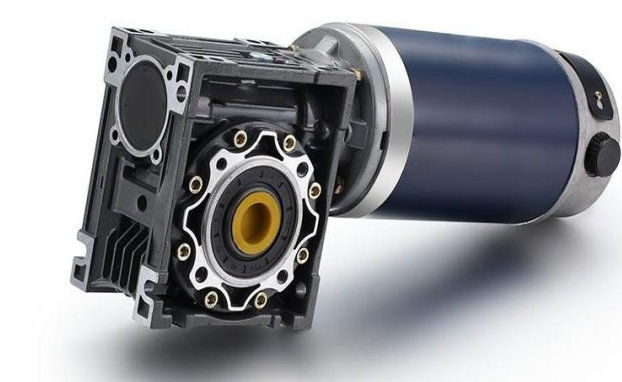
Detail View Dimensions:

- 6 (Flange thickness)
- $\phi 22$ (Flange outer diameter)
- 18.5 (Flange inner diameter)



直流有刷 RV40蜗轮蜗杆减速电机 110mm系列

DC Brush RV40 Worm Gear Motor 110mm Series



蜗轮材料: 铝青铜
Turbine Material: Aluminium Bronze
轴承类型: 高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
寿命: $\geq 3000H$
Life Span: $\geq 3000H$
减速箱重量: 2.3kg
Weight Of Gearbox: 2.3kg
环境温度: $-10^{\circ}C \sim 40^{\circ}C$
Ambient Temperature: $-10^{\circ}C \sim 40^{\circ}C$
额定允许负载: 53N.m
Rated tolerance torque: 53N.m

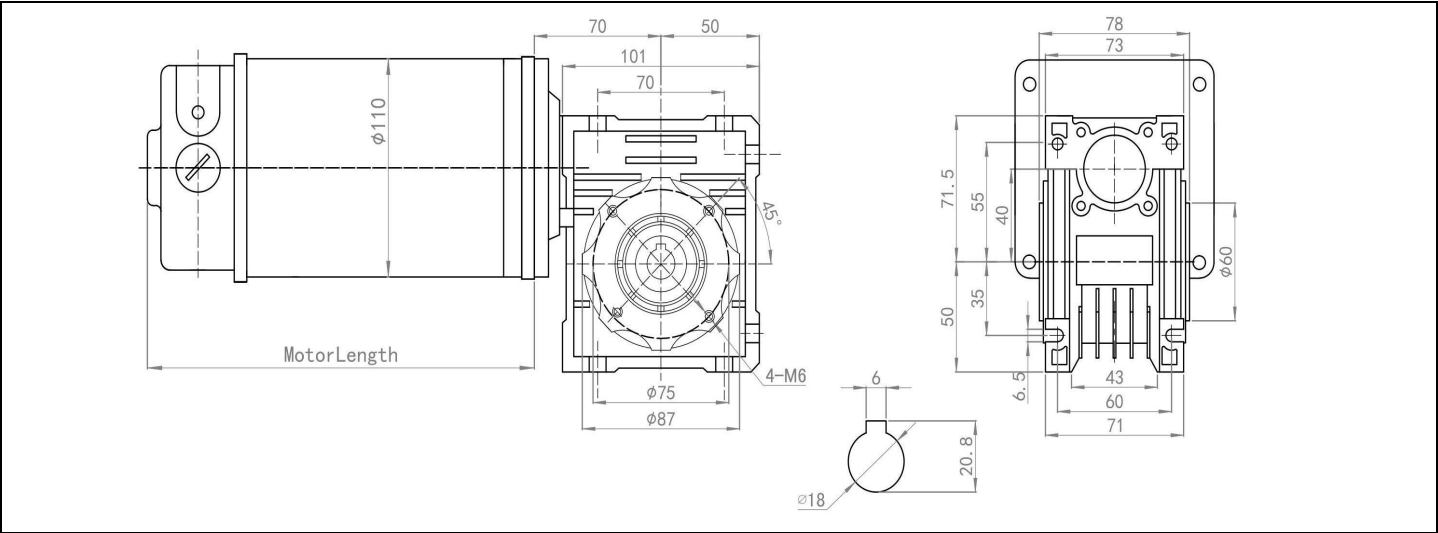
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-110ZYT-2415S	24	2000	1.95	300	1500	1.91	15.6	5.73	46.88	188
BG-110ZYT-3615S	36	2000	1.74	400	1500	2.55	13.9	7.64	41.67	218

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 7.5	1: 15	1: 20	1: 30	1: 50	1: 60	1: 80	1: 100
BG-110ZYT-2415S- RV40	空载转速 NO-load speed	rpm	267	133	100	67	40	33	25	20
	负载转速 Rated speed	rpm	200	100	75	50	30	25	19	15
	额定扭矩 Rated torque	N.m	7.16	14.33	19.10	28.65	47.75	53.00	53.00	53.00

外形图 / Mechanical Dimensions





Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-110ZYT-2415S	24	2000	1.95	300	1500	1.91	15.6	5.73	46.88	188
BG-110ZYT-3615S	36	2000	1.74	400	1500	2.55	13.9	7.64	41.67	218

型号 Model	减速比 Reduction ratio	1: X	1: 7.5	1: 15	1: 20	1: 30	1: 50	1: 60	1: 80	1: 100
BG-110ZYT-3615S-RV50	空载转速 NO-load speed	rpm	267	133	100	67	40	33	25	20
	负载转速 Rated speed	rpm	200	100	75	50	30	25	19	15
	额定扭矩 Rated torque	N.m	7.16	14.33	19.10	28.65	47.75	57.30	76.40	81.00

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直流有刷 RV63蜗轮蜗杆减速电机 110mm系列

DC Brush RV63 Worm Gear Motor 110mm Series



蜗轮材料: 铝青铜
Turbine Material: Aluminium Bronze
轴承类型: 高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
寿命: $\geq 3000\text{H}$
Life Span: $\geq 3000\text{H}$
减速箱重量: 6.2kg
Weight Of Gearbox: 6.2kg
环境温度: $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$
Ambient Temperature: $-10^{\circ}\text{C}\sim 40^{\circ}\text{C}$
额定允许负载: 166N.m
Rated tolerance torque: 166N.m

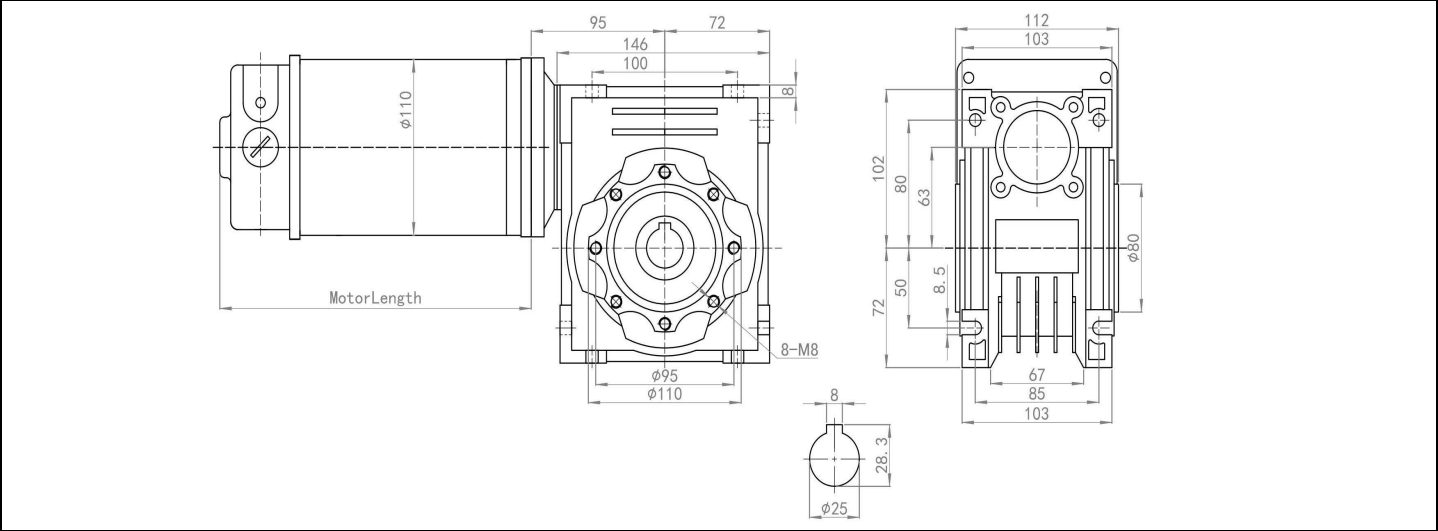
电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-110ZYT-2415S	24	2000	1.95	300	1500	1.91	15.6	5.73	46.88	188
BG-110ZYT-3615S	36	2000	1.74	400	1500	2.55	13.9	7.64	41.67	218

减速电机技术参数 / Gear Motor Technical Data

型号 Model	减速比 Reduction ratio	1: X	1: 7.5	1: 15	1: 20	1: 30	1: 50	1: 60	1: 80	1: 100
BG-110ZYT-11015S- RV63	空载转速 NO-load speed	rpm	267	133	100	67	40	33	25	20
	负载转速 Rated speed	rpm	200	100	75	50	30	25	19	15
	额定扭矩 Rated torque	N.m	7.16	14.33	19.10	28.65	47.75	57.30	76.40	95.50

外形图 / Mechanical Dimensions





直流有刷电机 130mm系列

DC Brush Motor 130mm Series



使用环境：-20℃~50℃
Environmental Condition：-20℃~50℃
绝缘等级：B-F
Insulation Class：B-F
轴承类型：高质量滚珠轴承
Bearing Type: High Quality Ball Bearing
防护等级：IP40
Protection Level: IP40
功率范围：26-105W
Power Range： 26-105W
寿命：1000-1600h
Life: 1000-1600h

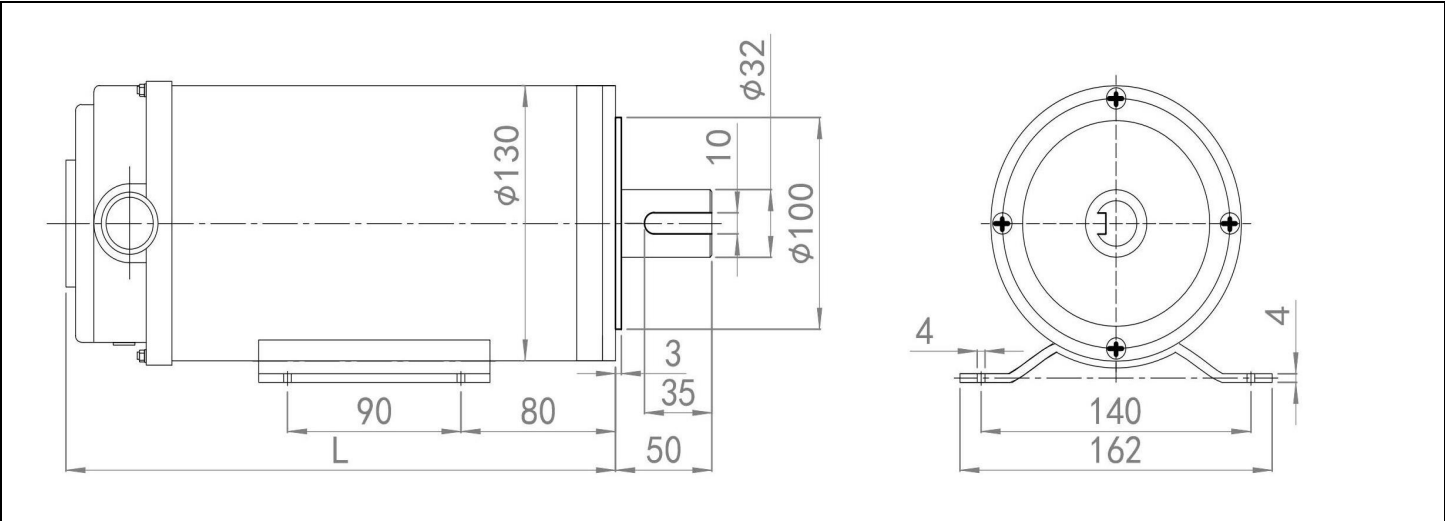
定制 / Customizable solutions

可提供定制电压、性能、电路等。
Can provide custom voltage, electrical performance, circuit, etc. .
以及出轴、安装法兰、引出线、耐高温等级、刹车配件、减速箱、编码器等。
And shaft, installation flange, lead wire, high-temperature class, brake accessories, gearbox, encoder and so on.

电机技术参数 / Motor Technical Data

Model	Voltage	No-load		Rated Load				Stall		Body Length
		Speed	Current	Power	Speed	Torque	Current	Torque	Current	
	V	rpm	A	W	rpm	Nm	A	Nm	A	L:mm
BG-130ZYT-3615S	36	2000	1.74	400	1500	2.55	13.9	7.64	41.67	204
BG-130ZYT-4830S	48	4000	2.60	800	3000	2.55	20.8	7.64	62.50	204
BG-130ZYT-11030S	110	4000	1.42	1000	3000	3.18	11.4	9.55	34.09	224
BG-130ZYT-22030S	220	4000	0.85	1200	3000	3.82	6.8	11.46	20.45	254

外形图 / Mechanical Dimensions





电机的选型方法 (Motor Selection Method)

- 最佳选择需要考虑到电源、控制、运转条件等因素来选择单相串励电机、有刷电机或是无刷电机。如果希望由敝公司代

为选择的话，请确认好下述各项条件。
Power supply, control option, operational environment, etc are factors need to be considered when select the optimal motor solution, including universal motor, dc brushed motor and dc brushless motor. The following information need to be provided if clients require our company to suggest motor solution.

- 电源的条件：使用电压范围、整流电源或者电池、电流限制有无。

Power Supply: Range of voltage, rectified power supply or battery, any limitation of current flow.

- 是否需要编码器、减速机、刹车等配件？

Do you need encoder, gearbox, brake and other accessories?

- 运转情况：连续、间歇、正逆、驱动时间、加锁、短路制动。

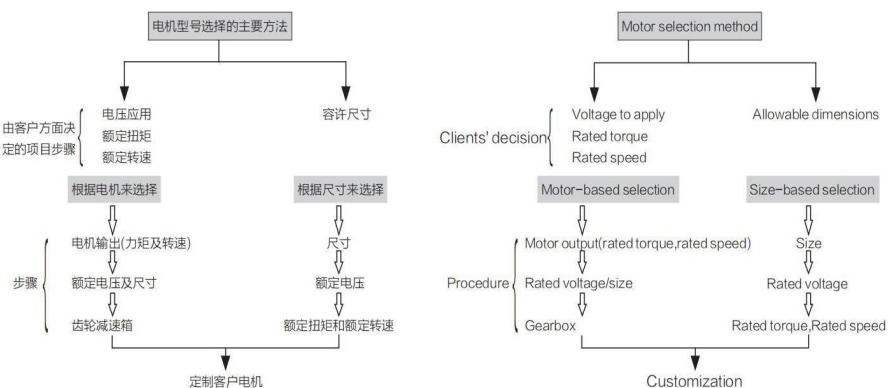
Operation Condition: Continuous, intermittent, clockwise or counter clockwise, working time, locking and short-circuit braking.

- 环境状态：温度、湿度等。

The state of the environment : The State of Environment.

- 包括齿轮箱、编码器、刹车在内的尺寸限制。

Size limits including gearbox, encoder, and brake.



直流电机技术参数说明 (DC Motor technical parameter description)

1、技术用语 (Technical words)

用 语		符 号	单 位	用 语		符 号	单 位
电压	Voltage	U	V	输入功率	Input power	P	W
电流	Current	I	A	输出功率	Output power	P	W
无负荷电流	No-load current	IO	A	最高输出功率	Maximum output power	Pmax	W
停动电流	Stall current	Is	A	效率	Efficiency	η	%
转数	Speed	N	r/m,rpm	最高效率	Maximum efficiency	ηmax	%
无负荷转数	No-load speed	NO	r/m,rpm	转矩	Torque	T	mN.m、N.m
电阻	Resistance	R	Ω	停动转矩	Stall torque	Ts	mN.m、N.m



2、空载电流 (No load current)--I₀

电机在额定电压下，空载达到稳定状态时所消耗的电流，此参数受温度影响。

The current consumed after stable under the rated voltage when there is no loaded. This parameter will be affected by different temperatures.

3、空载转速 (No load speed)--N₀

电机在额定电压下，空载达到稳定状态时获得的最高转速。

The highest speed obtained after stable under the rated voltage.

4、堵转力矩 (Stall torque)--T_s

电机在额定电压下，转速为零时输出的力矩。

Stall Torque is the torque produced by the motor whose output rotation speed is zero under the rated voltage.

$$T_s = K_t \times \left(\frac{U}{R} - I_0 \right)$$

5、起动电流 (Stall current)--I_s

在额定电压下，起动时和加锁时流过的最大电流。

Stall current is the current that the motor draws when its shaft is prevented from moving.

$$\text{起动电流 } I_s = \frac{\text{额定电压(Rated voltage)}}{\text{端子间电阻(Terminal resistance)}}$$

6、最大输出功率 (Maximum output power)--P_{max}

电机在额定电压下，能输出的最大机械功率。

The maximum output power of the motor at the rated voltage.

7、最大输出效率 (Maximum output efficiency)--η_{max}

电机输出的机械功率与消耗的电功率的最高比率。

The maximum ratio of output power of the motor to the consumption of electrical power.

8、电动势常数 (Back - EMF constant)--K_E (mV/rpm)

此常数反映了转子的感应电压和旋转速度之间的关系。

The constant corresponding to the relationship between the induced voltage in the rotor and the speed of rotation.

$$K_E = \frac{2\pi \cdot K_t}{60}$$

9、转矩常数 (Torque constant)--K_t (g.cm/A)

此常数反映了电机产生的转矩和电流消耗之间的关系。

The constant corresponding to the relationship between the torque developed by the motor and the current drawn.

10、速度常数 (Speed constant)--K_n (rpm/V)

当电机负载恒定时，加在电机上每伏电压引起的速度变化。

The speed variation per volt applied to the motor terminals at the constant load.

$$K_n = \frac{1000}{K_E}$$



11、机械时间常数 (Mechanical time constant)-- t_m (ms)

电机从静止状态加速到最终空载转速的63%所需要的时间。

The time required for the motor to reach a speed of 63% of its final no load speed, from standstill.

$$t_m = \frac{R \cdot J \cdot 100}{K_t^2}, \text{ 其中 } R: \text{ 静态电阻(Static resistance), } J: \text{ 转子惯量(Rotor inertia)}$$

国际单位换算表 (International unit conversion table)

单位/unit	英制 / US			公制 / GB			国际标准制 / SI		
	ozf.in	lbf.in	lbf.ft	gf.cm	kgf.cm	kgf.m	mN.m	N.cm	N.m
1ozf.in	1	0.0625	0.005	72	0.072	0.0007	7.062	0.706	0.007
1lbf.in	16	1	0.083	1152.1	1.152	0.0115	113	11.3	0.113
1lbf.ft	192	12	1	13826	13.83	0.138	1356	135.6	1.356
1gf.cm	0.014	0.0009	0.00007	1	0.001	0.00001	0.098	0.01	0.0001
1kgf.cm	13.89	0.868	0.072	1000	1	0.01	98.07	9.807	0.098
1kgf.m	1389	86.8	7.233	100000	100	1	9807	980.7	9.807
1mN.m	0.142	0.009	0.0007	10.2	0.01	0.0001	1	0.1	0.001
1N.cm	1.416	0.088	0.007	102	0.102	0.001	10	1	0.01
1N.m	141.6	8.851	0.783	10197	10.2	0.102	1000	100	1

电机温升 (Motor temperature rises)

电机通流后产生电流热效应，随着时间的推移，电机表面的温度不断地上升直至稳定。稳定的条件是在3个小时内前后温差不超过2℃，此时测得电机表面的温度为此电机的最终温度。温度的单位为度(℃)。上升的温度中超过周围空气的温度(环境温度)的这一部分温度称为温升，温升的单位为开氏(K)。温升就是电机温度比周围环境温度高出的数值。

The motor will heat up when it is powered on. The temperature of the motor's surface will continue to rise until it is stable. Within 3 hours after the temperature is stable, the temperature is allowed to change within 2 degrees Celsius. The part at which temperature rises above the ambient air temperature (ambient temperature) is called the temperature rises. The unit of temperature rises is kelvin (K). The temperature rise is the value that higher than the ambient temperature.

额定温升：是指在设计规定的环境温度(40℃)下，电动机绕组的最高允许温升，它取决于绕组的绝缘等级。

Rated temperature rises: refers to when the environmental temperature is under 40℃, the maximum allowable temperature rise of the motor winding. It depends on the winding insulation grade.

● 计算公式 (Calculation formula): $\theta = T_2 - T_1$

θ ——温升 (Temperature rises)

T_1 ——实际冷却状态下的绕组温度 (即环境温度, 室温不允许超过40℃)

Winding temperature in actual cooling condition (that is ambient temperature, room temperature not exceeding 40℃)

T_2 ——发热状态下绕组温度 (Winding temperature in heating condition)



绝缘等级 (Insulation class)

电动机的绝缘等级是指其所用绝缘材料的耐热等级 分A、E、B、F、H、C、N、R级，一般电机绝缘等级多采用B、F、H级。

Insulation class of motor refers to the heating resistance class of insulation material including A, E, B, F, H, C, N, R. Insulation class of motor is using B, F, H mostly.

温度等级 Temperature class	A 级 Class A	E 级 Class E	B 级 Class B	F 级 Class F	H 级 Class H	C 级 Class C	N 级 Class N	R 级 Class R
最高允许温度 Max allowable temperature	105℃	120℃	130℃	155℃	180℃	200℃	220℃	240℃
绕线温升限值 Winding temperature rise limit	60K	75K	80K	105K	125K	135K	150K	170K
性能参考温度 Performance reference	80℃	95℃	100℃	120℃	145℃	155℃	170℃	190℃

电磁噪声的对策 (EMC)

在有刷电机转动的时候 由于整流器的切换会发生闪火花电流 这种闪火花可能会成为电子噪音 对控制电路造成不良影响。可以通过在电机盒上连接电容器来降低噪音。

When a DC brush motor rotates, spark current occurs due to switching of the commutator. This spark may become electric noise and effect the control circuit. Such noise can be reduced by connecting a capacitor to the DC motor.

为了降低电气异音，可在马达端子部位安装电容器和扼流圈 一般可有效消除火花电压的方法是在接近发生源的回转子部位进行安装，而这种方法的成本绩效也较高。

In order to reduce electrical noise, capacitor and choke can be installed at the terminal parts of the motor. The way to effectively eliminate the spark is to install it on the rotor that near the source, which is very costly.

1、可在马达内部安装消除异音的元件 如安装环形变阻器 (D/V)、环形电容器、橡胶环形电阻 (RRR)、晶片电容器的方法。⇒高频率范围的异音有效果

Eliminating electrical noise inside the motor by installing Varistor (D/V), annular capacitor, rubber ring resistance (RRR) and chip capacitor that reduces the noise under high frequency.

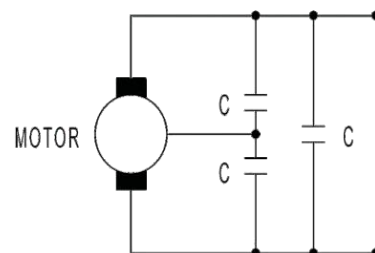
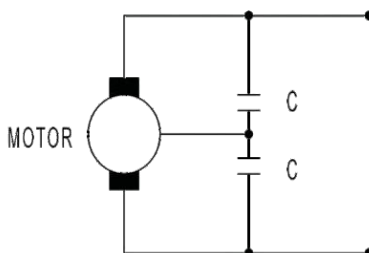
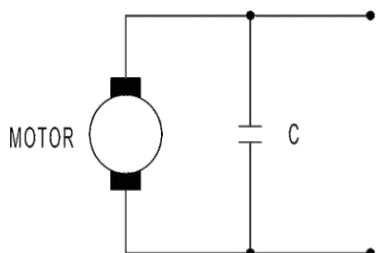
2、可在马达外部安装消除异音的元件 如外接电容器（电解类型、陶瓷类型）、扼流圈。⇒对低频率范围的异音有效果。

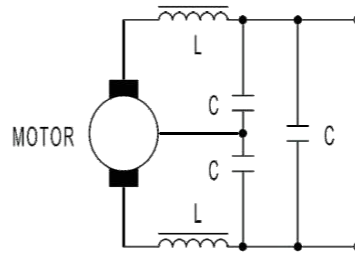
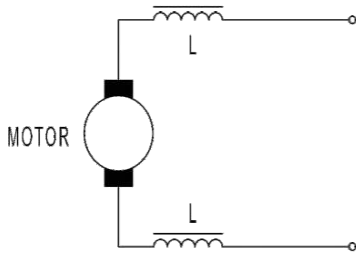
Eliminating electrical noise outside the motor by installing components like capacitor (electrolytic type, ceramic type) and choke that reduces noise under low frequency

作为降低异音的对策方法 有1或2单独使用的，以及1与2并用的方法，1与2并用时的效果较大。

Method 1 and 2 could be used separately. The combination of these two methods will be the best noise reduction solution.

配合图示说明 (Illustration):





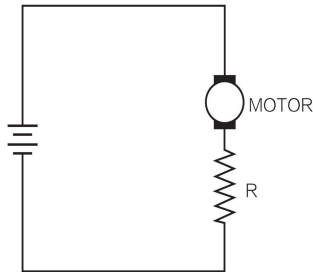
备注 (remark) : C=Capacitance,为电容; L=Inductance,为电感。

电机控制 (Motor control)

1、通过抗阻来控制 (Control by resistance)

在电源和电机间串联加进电阻 通过电阻值增加来进行电流控制 控制电机转数。该控制可以通过使用可变抗阻 改变线型电机特性。

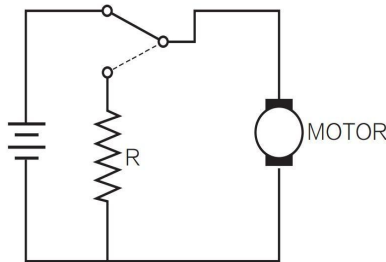
A resistor is placed between the power supply and the DC motor for restricting current by an increase in resistance to control the motor's speed in series.



2、制动动作 (短路制动) (Motor braking (Short-cirbrakecuit method))

采用电机端子间强制短路停止的方法 可以缩短电机停止时间。该控制可以产生强力的制动作用 (R=0时为最大制动)。

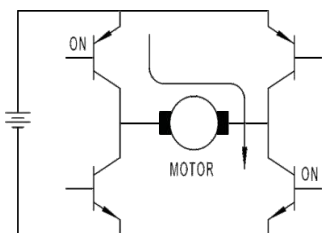
A method to force the terminals of the DC motor brake by short circuit. This method can shorten the motor's brake time and provides powerful braking control. (Maximum braking when $R = 0$)



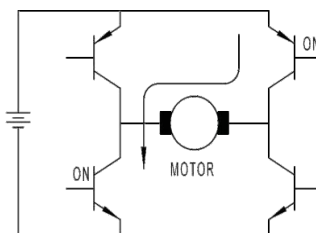
3、通过晶体三极管来进行DC直流电机的双向驱动 (Bidirectional driving of DC motors by transistors)

使用NPN、PNP 晶体三极管, 通过H桥电路的开关来进行双向驱动电机。

Bidirectional motor driving is achieved by switching the H-type bridge circuit by use of NPN and PNP transistors.



左上和右下的晶体三极管处于ON时正转
Forward run when the upper left and lower right transistors are on

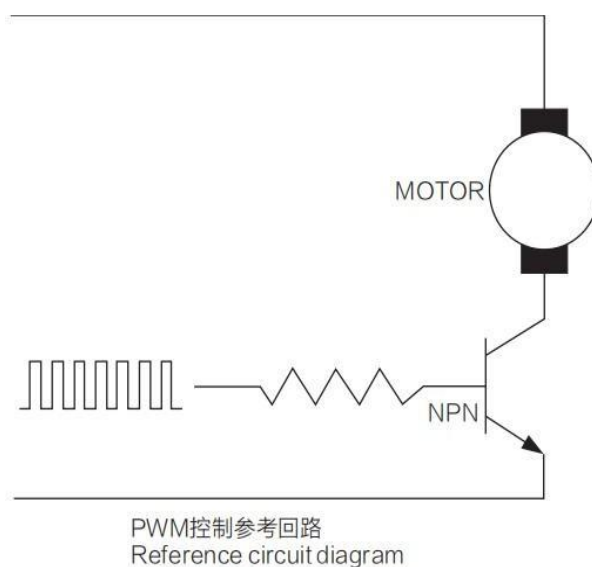
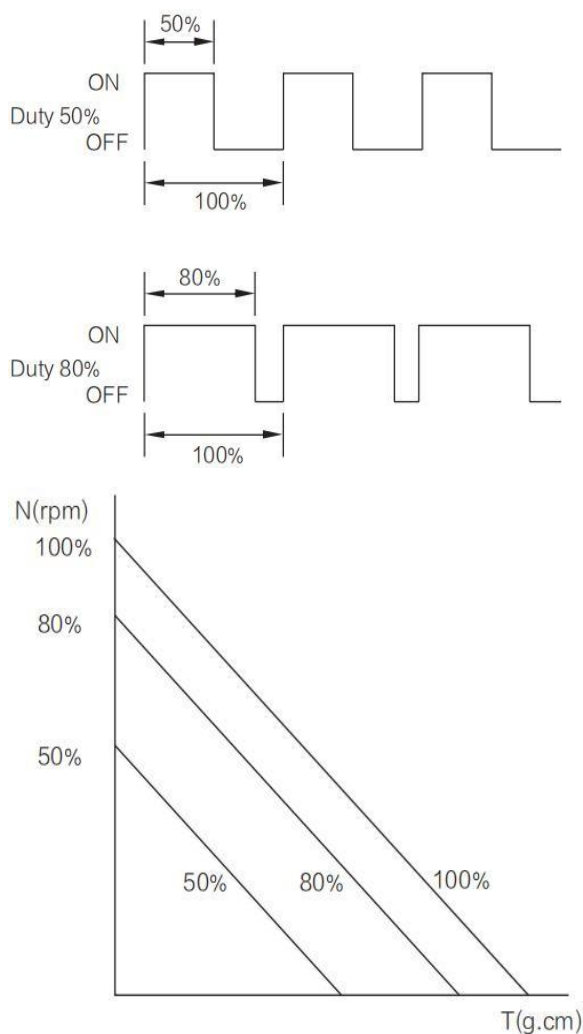


左下和右上的晶体三极管处于ON时反转
Reverse run when the lower left and upper right transistors are on



4、PWM控制 (PWM control(pulsewidth modulation method)

PWM控制的基本原理是将周期设定为固定 通过改变脉冲“ON”和“OFF”的比例来改变平均能源 控制速度。
The basic principle of control is to vary the average energy to control the speed by varying a ratio of "ON" and "OFF" of a pulse with the cycle kept constant.





产品技术信息 / Product Technical Information

电机与齿轮箱产品组合技术信息(Technical information for the combination of motor and gearbox)

齿轮减速箱 (Gearbox)



所谓齿轮减速箱，是指结构上可以让电机转数减速并增加扭矩的传动机构。转速及力矩可以通过下述计算公式计算出一个概略值。减速比按照各机种不同而分别设定。

Gearbox refers to a transmission mechanism whose structure will make the motor speed reduction and torque increase. The rotational speed and torque can be calculated roughly by the following formula. The ratio is set according to the different types.

各类齿轮箱的特点 (Characteristics of all kinds of gearboxes)

·行星齿轮箱 (Planetary gearbox)

1、可以进行高扭矩的传导

Can conduct high-torque conduction

2、效率，每级 91%

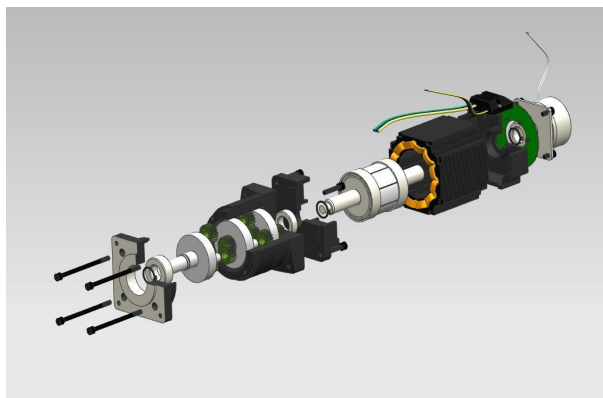
Efficiency, 91% per stage

3、输入和输出的位置:同一中心

The location of input and output: the same center

4、输入、输出的旋转方向相同

Input, output rotation in the same direction



·RV 齿轮箱 (RV gearbox)

1、低噪声平稳运转,能适合在恶劣的环境中长期连续工作

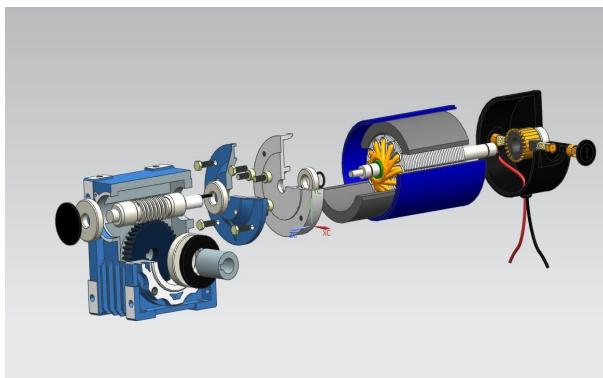
Low noise and smooth operation, suitable for long-term continuous work in harsh environment

2、速比范围大，每个机座具有从5: 1到100: 1的12种减速比
Wide speed ratio range, 12 deceleration ratios from 5:1 to 100:1 for each stand

3、充分的冷却筋条,使机体具有优良的热传导性能
the machine body has excellent heat conduction performance

4、80、100速比具有很好的自锁性能，对有制动要求的设备可以节省制动设备

80、100 speed ratio has good self-locking performance, for the equipment with brake requirements can save brake equipment





· 正齿轮箱 (Spur gearbox)

1、扭矩比较小，但可以进行薄型和静音设计

The torque is relatively low, but can be thin and quiet design

2、效率，每级79%

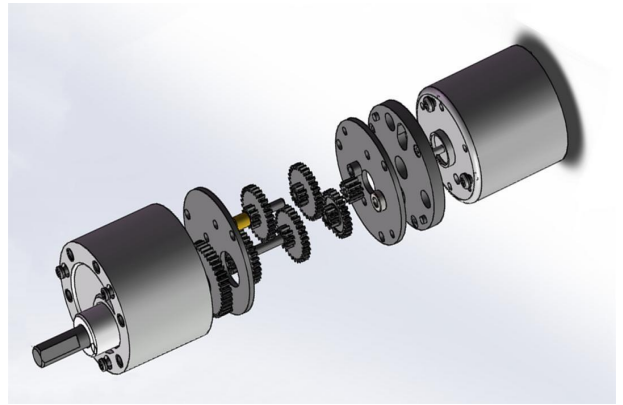
Efficiency, 79% per stage

3、输入和输出的位置在同一中心或者不同中心

The input and output of the same center or different centers

4、输入、输出的旋转方向因齿轮级不同而不同

Input, output of the rotation direction due to different gear levels



齿轮效率 (Gear efficiency)

齿轮减速箱会有一些机械性损失（齿轮的咬合和轴承摩擦等）。一般来说，每一级齿轮咬合，按照直齿轮减速机效率79%、行星齿轮减速机91%、RV齿轮减速机55%来计算效率。但是会因电机的扭矩和转数等条件而发生很大变化。所以，仅可作为参考值。并且在低扭矩状态下使用时会大幅度降低。

Gear reducer will have some mechanical losses (gear bite and bearing friction, etc.) . In general, for each stage of gear bite, according to the spur gear reducer efficiency 79% , planetary gear reducer 91% , RV gear reducer 55% to calculate efficiency. But because of the motor torque and speed and other conditions will change a lot. Therefore, it can only be used as a reference value. And in the low torque state will be greatly reduced when used.

· 齿轮减速箱传动效率举例 (An example of calculation of efficiency):

行星齿轮箱3级效率 Planetary Gearbox level 3 efficiency

效率 (η) = $0.91 \times 0.91 \times 0.91 \approx 0.753$ (75.3%)

Efficiency(η) = $0.91 \times 0.91 \times 0.91 \approx 0.753$ (75.3%)

正齿轮箱3级效率 Spur Gearbox level 3 efficiency

效率 (η) = $0.79 \times 0.79 \times 0.79 \approx 0.493$ (49.3%)

Efficiency(η) = $0.79 \times 0.79 \times 0.79 \approx 0.493$ (49.3%)

● 齿轮箱输出速度、力矩与电机速度、力矩之关系 (The relationship of speed and torque between gearbox and motor)

齿轮减速箱转速 (speed of gear motor) = 电机转速 (RPM) / 减速比 (ratio)

齿轮箱输出力矩 (gearbox output torque) = 单体电机输出力矩 (Ts) × 减速比 (gear ratio) × 齿轮传动效率 (η)

举例说明 (Example):

单体电机转速： 6000RPM ， 额定力矩 $T=0.3\text{N.m}$ ， 配100: 1 齿轮箱， 齿轮箱传动效率： 60%

Single Motor Speed: 6000RPM, rated torque $T=0.3\text{N.m}$, with 100: 1, gearbox transmission efficiency: 60%

齿轮减速箱转速 (speed of gear motor) = 电机转速 (RPM) / 减速比 (ratio) = $6000\text{rpm} / 100 = 60\text{rpm}$

齿轮箱输出力矩 (gearbox output torque) = 单体电机输出力矩 (Ts) × 减速比 (gear ratio) × 齿轮传动效率 (η) = $0.3\text{N.m} \times 100 \times 60\% = 18\text{N.m}$



减速机故障排除 Trouble shooting for Reducer

不良原因 Defect cause	原因分析 Cause analysis	解决方案 Troubleshooting
噪音 Noise	齿轮敲击声 Gear knocking	齿轮表面受伤 Gear surfacedamaged 更换受伤齿轮组 Replace damaged gear group
	连续性杂音 Continuous noise	轴承损坏 Bearing damaged 更换损坏轴承 Replace damaged bearing(s)
	周期性杂音 Aging noise	异物附着齿轮 Foreign matter attached to gear 检查齿轮齿面 Check on the gear surface
	嘶嘶声 Hissing	油量不足 Insufficient oil 添加润滑油 Add lubricatingoil
	断续性杂音 Subsequent noise	润滑油不洁 Unclean lubricating oil 更新新润滑油 Replace with new lubricating oil
不正常运转 Vibration	固定底座振动 Fixed base vibration	安装平面歪斜 Deflection of installation plane 重新调整固定底座 Re-adjust fixed base
	出力轴振动 Output shaft vibration	轴承损坏 Bearing damaged 更换损坏轴承 Replace damaged bearing(s)
	内部齿轮零件振动 Internal gear part vibration	齿轮受伤 Gear damaged 更换受伤轴承 Replac damaged gear
	本身振动 Body vibration	齿轮组安装不良 The installation of gear group is out of condition 重新调整齿轮组 Re-adj use gear group
漏油 Oil leakage	油封漏油 Oil seal leakage	油封硬化 Oil seal hardening 更换损坏油封 Replace damaged oil seal
	本身漏油 Body leakage	箱体有砂孔 There is sand hole in zhe body 更换箱体 Replace the body with sand hole
	结合面漏油 Joint surface leakage	O-型环损坏 O-ring damaged 更换损坏O-型环 Replace damagedO-ring
过热 Overheating	油封 Oil seal	油封太紧 Over-tightened oil seal 更换太紧油封 Replace the over-tightened oil seal
	本身过热 Overheated body	过负载 Over-loaded 重新计算负载马力 Re-calculate the load horsepower
	缺润滑油 Lack of lubricating oil	油量不足 Insufficient oil 加入润滑油 Add Inbricatingoil
	备注：马达国标温升80C以内 Remarks: motor national standard temperature rise within 80C	



直流刹车器故障排除 Trouble shooting for DC Brake

不良原因 Defect cause	原因分析 Cause analysis	解决方案 Troubleshooting
刹车器不工作或刹车不良 Brakes don't work or work poorly	未供电源 The power is not supplied	供应电源 Supply the power
	摩擦片磨损 The lining is worn out	换新摩擦片 Replace with new lining
	电源电压不足或电压错 Insufficient power voltage	提供正确电压 Supply proper voltage
	电源供应器损坏 Power supplier damaged	电源供应器换新 Replace with new power supplier
	异物入侵 Intrusion of foreign matter	清洁零件 Clean parts
	接线脱落 Connection fallen off	重新接线 Connect again
	摩擦片卡死 lining got stuck	清洁零件 Clean parts
	刹车线圈烧毁 Braking coil burnt	刹车线圈换新 Replace with new braking coil
	间隙过大 too large clearance	调整间隙 Adjust the clearance
	摩擦片沾染油 The lining is tainted with oil	清洁摩擦片 Clean the lining
	负载过大 Over-loaded	重新设计 Re-design the load
	刹车表面歪斜 Deflection of brake Resurface	更换零件 Replace parts
	下降重量过大 Too large descending weighting	机构重新设计 Re-design the structure
	选用机型错误 Error selection of machine type	选用正确机型 Choose the right machine type
	环境温度过高 Too high ambient temperature	改善环境温度 Better ambient temperature