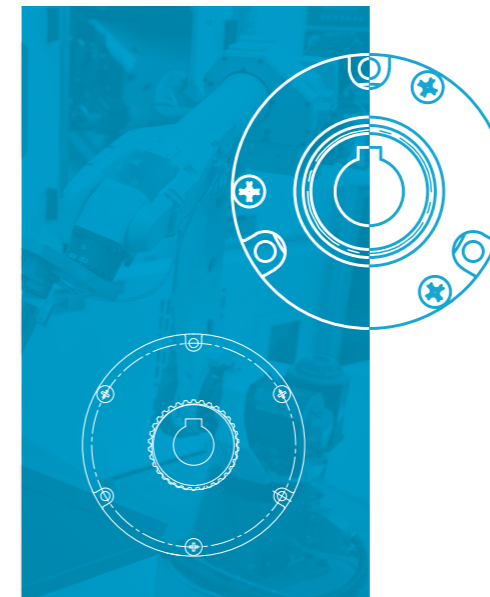




———— [www.reachgroup.cn](http://www.reachgroup.cn) ————  
**Hotline: 400-090-7210**  
Add: 四川省成都市双流区西航港大道中四段909号  
Add.: NO.909 Middle Section 4, West Airport Ave, Southwest Airport Economic  
Development Zone, Shuangliu District, Chengdu, Sichuan Province, China.  
———— 版本号: ZH-20240119 ————



**稳定的电磁制动器就选瑞迪**  
*For stable brakes choose REACH*



**伺服电机制动器**  
*Servo Motor Brakes*



使命  
MISSION

持续创新, 促进世界变得更好!  
Keep innovating for a better world!



宗旨  
Objective

聚焦智能制造  
实现合作伙伴、员工与企业共赢!  
Dedicated to achieving a win-win for partners, staff and the company!



愿景  
VISION

成为全球客户首选品牌!  
Become the top brand for global customers!



核心价值观  
CORE VALUES

开放 品质 价值  
Core values  
Open Quality Value

## About REACH 关于瑞迪

成都瑞迪智驱科技股份有限公司创立于2009年, 位于四川省成都市双流区西航港工业园, 业务和技术源于1996年创立的瑞迪实业。是一家致力于高端装备核心部件研发、生产与销售的国家级高新技术企业和专精特新“小巨人”企业。

瑞迪深耕制动、减速和传动三大领域, 产品包括电磁制动器、谐波减速器、胀套、联轴器、同步轮等, 客户主要分布在中国、欧美日等工业发达的国家和地区。

REACH MACHINERY CO., LTD. was founded in 2009, located in Southwest Airport Economic Development Zone, Shuangliu District, Chengdu, Sichuan Province, China. Its business and technology originated from REACH Enterprise since 1996. It is a national high-tech enterprise and a specialized and innovative "Little Giant" enterprise committed to the research, development, production, and sales of core components for high-end equipment.

REACH specializes in braking, reducing, and power transmission fields. Main products are electromagnetic brakes, harmonic reducers, keyless locking devices, couplings, timing belt pulleys, etc. Our customers are distributed in industry developed countries and regions, such as China, Europe, America, and Japan, etc.



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### 03 技术路线 TECHNICAL ROUTE

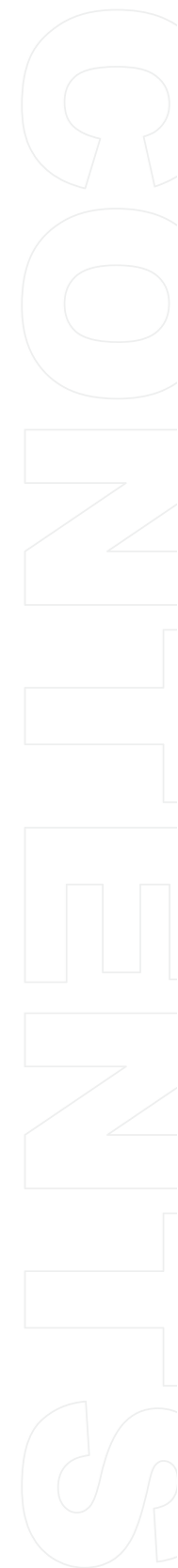
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PERMANENT MAGNET BRAKE

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SELECTION OF POWER-OFF BRAKE



# 瑞迪核心竞争力

## CORE COMPETITIVENESS

### 新维度的以客户为中心

Customer-centric

- 对市场的研判从而提供更好更多的解决方案，为客户提供了多项选择的可能  
Market judgement to provide more solutions and multiply choices
- 深入了解行业 and 客户需求，解决痛点  
Deep understanding of industry and customer needs to solve problems.
- 保障客户稳定运营的管理和服务  
Professional management and service to guarantee customer stable operations

### 技术优势

Technology advantages

- 电磁方案，谐波齿形设计技术  
Electromagnetic solution design, Harmonic teeth design technology
- 摩擦片，弹性体自主研发与精密制作  
Independent-developed and precision processing for friction plate and elastomer
- 性能测试技术  
Performance testing technology
- 关键材料掌控  
Key material control

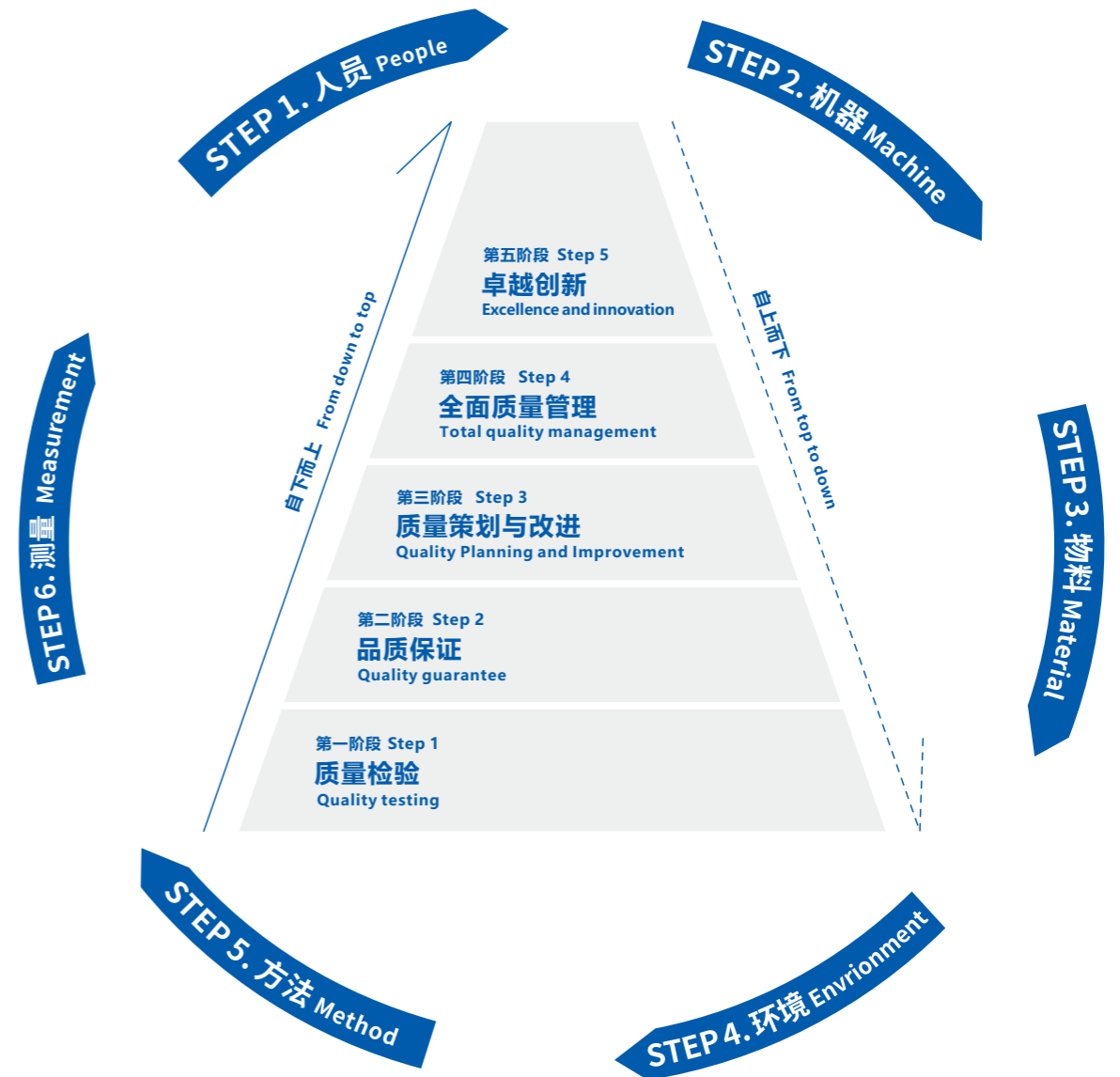
### 人才培养

Personnel training

- 信息化管理技术  
Information management technology
- 人才优化培养技术  
Talent optimization and training technology
- 目标完成管理技术  
Goal achievement management technology
- 企业传承管理技术  
Corporate heritage management technology

# 质量保证

## QUALITY ASSURANCE



# 卓越瑞迪 EXCELLENT REACH

## 证书 CERTIFICATES

专注于为客户提供安全稳定的制动器，瑞迪智驱搭建了IATF16949、ISO9001、ISO14001体系。产品通过了CE、UL、RoHS和REACH等认证。

Focus on providing customers with safe and stable brakes, REACH MACHINERY CO., LTD. has established IATF16949, ISO9001, and ISO14001 management systems. The products have been certified with CE, UL, RoHS, REACH, etc.



IATF 16949



ISO 9001



ISO 14001



CE



UL



RoHS



REACH

## 知识产权 INTELLECTUAL PROPERTY

23

授权发明专利  
Authorized invention patent

51

授权实用新型专利  
Authorized utility model patent

9

软件著作权  
Software copyright

3

科技成果奖  
Science and Technology  
Achievement Award

截至2024年3月11日  
As of March 11, 2024

## 荣誉 HONORS

- 专精特新“小巨人”企业
- 国家高新技术企业
- 国家“十二五”科技支撑项目
- 行业标杆大客户复购率达到90%以上
- National Specialized and Innovative “Little Giant” Enterprise
- National High-Tech Enterprise
- National Science & Technology “12th Five-Year Plan” Support Project
- Over 90% repurchase rate by industry benchmark customers

瑞迪智驱始终坚持以技术为驱动力，不断发展壮大。

REACH MACHINERY always adheres to technology as the driving force and continues to grow and expand.



## 技术路线 TECHNICAL ROUTE

### 失电制动器 Power-off Brake

- 花键轮毂: REB70、REB71, 方形轮毂: REB18  
Spline Hub: REB70、REB71, Square Hub: REB18
- 扭矩范围0.02~200Nm  
Torque range 0.02~200Nm
- O型圈、齿形套、胶条等降噪方案  
O type ring and rubber strip for noise reduction.
- 具备极高的耐磨性, 适用于高转速和大负载工况  
High wear resistance, suitable for high speed and heavy load conditions.
- 轻量化、小型化, 薄至7mm  
Light weight and compact, as thin as 7mm
- 制动器使用环境温度最高满足-40°C~+120°C  
The ambient temperature: -40°C~+120°C



### 永磁制动器 Permanent Magnet Brake

- 零背隙设计, 运转后无残余扭矩  
No backlash, no residual torque after operation.
- 更低的噪音、更小的体积、更轻的重量和更大的扭矩  
Less noise, smaller size, lighter weight and higher torque.



### 得电制动器 Power-on Brake

- 零背隙设计, 运转后无残余扭矩  
No backlash, no residual torque after operation.
- 空载运行, 转速最高可达1万转  
No-load operation, the speed can reach up to 10000r/min.

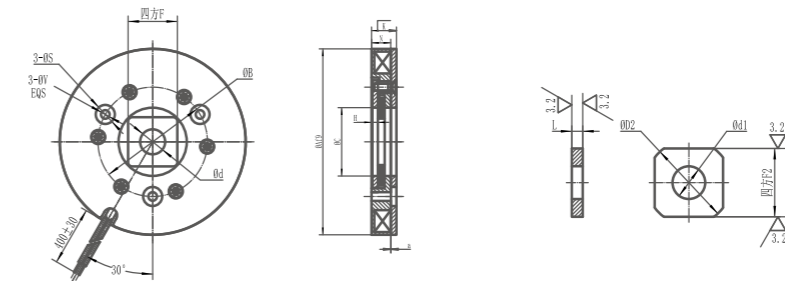


## 失电制动器 Power-off Brake

### 方形轮毂REB18-ME极薄型 REB18-ME Square Hub Ultra-thin Brake

#### 技术参数 Technical Data

机座号 Base No.	静扭矩 Static Torque [N·m]	线圈 (20°C时) Coil (at 20°C)								耐热等级 Heat Resistance	最高转速 Maximum rotation speed [r/min]	转动惯量 Rotational inertia J[kg·m <sup>2</sup> ]	允许制动做功 Allowable brake power E <sub>ba</sub> [J]	总制动做功 Total brake power output E <sub>T</sub> [J]	吸引时间 Engaging time (ms) (DC24V) t <sub>a</sub> [ms]	释放时间 Releasing time (ms) (DC12V) t <sub>r</sub> [ms]	质量 Weight [kg]
		过励磁输出 Over-excitation output				稳态励磁输出 Steady-state excitation output											
		电压 Voltage [V]	功率 Power [W]	电流 Current [A]	电阻 Resistance [Ω]	电压 Voltage [V]	功率 Power [W]	电流 Current [A]	电阻 Resistance [Ω]								
30ME	0.14	24	18	0.75	32	12	4.5	0.38	32	F	6000	1.5 × 10 <sup>-7</sup>	10	2000	50	20	0.05
35ME	0.2	24	18	0.75	32	12	4.5	0.38	32	F	6000	2 × 10 <sup>-7</sup>	20	4000	50	20	0.1
40ME	0.5	24	18	0.75	32	12	4.5	0.38	32	F	6000	2 × 10 <sup>-7</sup>	40	8000	60	25	0.16
45ME	0.8	24	18	0.75	32	12	4.5	0.38	32	F	6000	5 × 10 <sup>-7</sup>	80	1.6 × 10 <sup>4</sup>	60	25	0.23
50ME	1.2	24	24	1	24	12	6	0.5	24	F	6000	2 × 10 <sup>-6</sup>	160	3.2 × 10 <sup>4</sup>	80	40	0.3
80ME	2	24	36	1.5	16	12	9	0.75	16	F	6000	8 × 10 <sup>-6</sup>	300	6 × 10 <sup>4</sup>	80	40	0.5
100ME	4	24	50	2.08	11.52	12	12.5	1.04	11.52	F	6000	1.2 × 10 <sup>-5</sup>	500	1 × 10 <sup>5</sup>	100	50	0.65
130ME	8	24	50	2.08	11.52	12	12.5	1.04	11.52	F	6000	1.4 × 10 <sup>-4</sup>	800	1.6 × 10 <sup>5</sup>	120	60	0.9



#### 安装尺寸表(mm) Dimensions for Installation (mm)

机座号 Base No.	径向尺寸 Radial dimension [mm]								轴向尺寸 Axial dimensions [mm]				转子加工尺寸 Finish size of motor mulberry		
	A	B	C	dmax	F	S	V	H	K	N	a	L	D2	F2	dmax
30ME	39	25	16	8	12	4.5	2.3	2.2	9	7	0.1	4以上	14.5	12	8
35ME	48	31.5	20	8	12	7	3.3	2.3	9	7	0.1	4以上	15	12	8
40ME	58	36	21	14	18	7	3.3	2.3	9	7	0.1	4以上	19	18	14
45ME	68	40	25	14	18	7	3.3	2.3	9	7	0.1	4以上	19	18	14
50ME	74.4	52	30.5	20	25	7	3.3	2.8	11.5	9	0.1	4以上	31	25	20
80ME	80	60	44	22	28	7	3.3	3	12.5	10	0.1	4以上	35	28	22
100ME	90	68	49	28	35	8.5	4.3	3.3	13	10	0.1	4以上	42	35	28
130ME	130	98	68	38	45	8.5	4.3	3.5	13.5	10	0.1	4以上	55	45	38

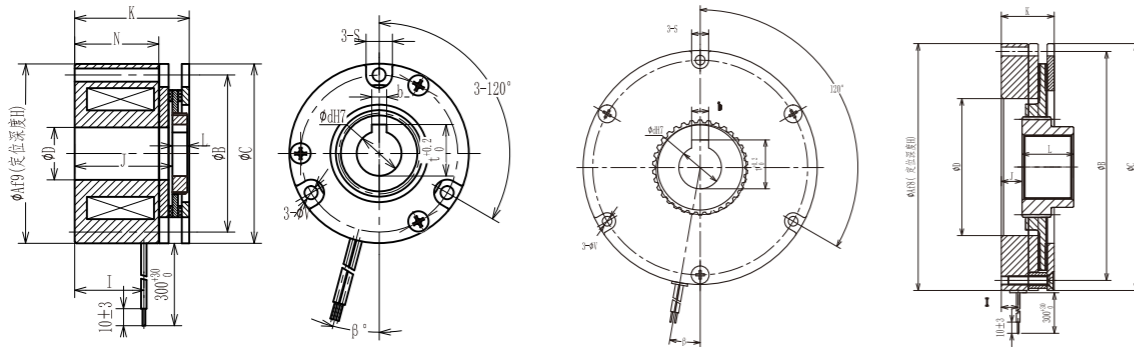


## 花键轮毂REB70型

REB70-Spline Hub Type

### 技术参数 Technical Data

机座号 Base No.	静扭矩 Static Torque (N.m)	线圈参数(20℃时)Coil(20℃)				耐热等级 Heat Resistance	最高转速 Maximum rotation speed (r/min)	转动惯量 Rotational inertia J(kg.m <sup>2</sup> )	允许制动做功 Allowable brake power Eba (J)	总制动做功 Total brake power output E <sub>T</sub> (J)	吸引时间 Engaging time (ms)	释放时间 Releasing time (ms)	背隙 l° J BackLash	质量 Weight [kg]
		电压 Voltage (V)	功率 Power (W)	电流 Current (A)	电阻 Resistance (Ω)									
40	0.32	24	6.9	0.29	83.5	F	8000	2.85×10 <sup>-7</sup>	18	3600	40	20	0.5	0.14
60	1.3	24	7.6	0.32	75.3	F	8000	2.7×10 <sup>-6</sup>	115	2.3×10 <sup>4</sup>	50	20	0.5	0.3
80	3.2	24	11.5	0.48	50.1	F	8000	1.2×10 <sup>-5</sup>	366	7.32×10 <sup>4</sup>	60	25	0.5	0.5
100	10	24	17.6	0.73	32.7	F	5000	3.7×10 <sup>-5</sup>	500	1×10 <sup>5</sup>	100	40	1	1
130	16.5	24	24	1	24	F	5000	2.18×10 <sup>-4</sup>	1500	3×10 <sup>5</sup>	120	60	1	1.5
150	35	24	27	1.125	21.3	F	3600	4.22×10 <sup>-4</sup>	1500	3×10 <sup>5</sup>	180	80	1	4.66
180	44	24	36	1.5	16	F	3600	4.5×10 <sup>-4</sup>	1800	3.6×10 <sup>6</sup>	200	80	1	3.6



### 安装尺寸表(mm) Dimensions for Installation (mm)

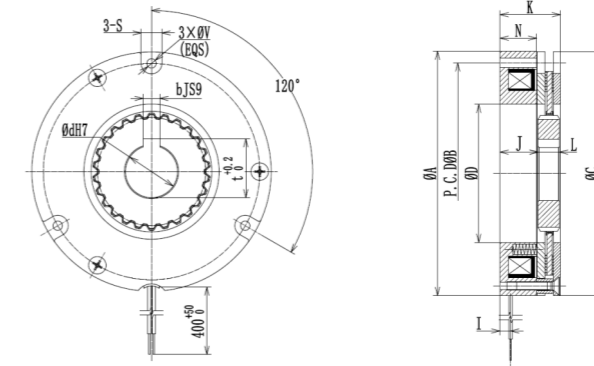
机座号 Base No.	径向尺寸/Radial Dimension [mm]								轴向尺寸/Axial Dimension [mm]							轴径/Axial Radius [mm]		
	A	B	C	D	S	V	H	I	J	K	W	N	β	L	d	b	t	d Max
40	35	29	35	9.5	6.5	3.4	4	13	20	24.3	AWG26	17	-30	4	8	/	/	8.5
60	52	45	52	14	7	3.4	4	8	20	25.1	AWG22	16.8	0	5	12	/	/	12.5
80	68	60	68	24	8	4.5	4	7.5	19.7	24.5	AWG22	16	0	8	16	/	/	17
100	84	76	84	32	9	4.5	4	9.5	27.5	35	AWG20	22	15	7.5	20	7	23	25
130	115	104	115	65	10	4.5	4	5	18	28.5	AWG20	17.3	0	10	25	8	28.3	30
150	145	130	145	49	14	6.6	4	14	18	49	AWG24	27.7	-15	25	25	8	28.3	30
180	150	140	150	62	12	6.6	4	14	31	42	AWG20	27.2	47.5	9	38	10	41.3	45

## 花键轮毂REB71型

REB71-Spline Hub Type

### 技术参数 Technical Data

机座号 Base No.	静扭矩 Static Torque (N.m)	线圈参数(20℃时)Coil(20℃)				耐热等级 Heat Resistance	最高转速 Maximum rotation speed (r/min)	转动惯量 Rotational inertia J(kg.m <sup>2</sup> )	允许制动做功 Allowable brake power Eba (J)	总制动做功 Total brake power output E <sub>T</sub> (J)	吸引时间 Engaging time (ms)	释放时间 Releasing time (ms)	背隙 l° J BackLash	质量 Weight [kg]
		电压 Voltage (V)	功率 Power (W)	电流 Current (A)	电阻 Resistance (Ω)									
40	0.32	24	6.9	0.29	83.5	F	8000	2.85×10 <sup>-7</sup>	18	3600	40	20	0.5	0.14
60	1.3	24	7.6	0.32	75.8	F	8000	2.7×10 <sup>-6</sup>	115	2.3×10 <sup>4</sup>	50	20	0.5	0.3
80	3.2	24	11.5	0.48	50.1	F	8000	1.2×10 <sup>-5</sup>	366	7.32×10 <sup>4</sup>	60	25	0.5	0.5
100	5	24	17.6	0.73	32.7	F	5000	3.43×10 <sup>-5</sup>	500	2×10 <sup>5</sup>	50	20	1	1
110	12	24	19.4	0.81	29.7	F	5000	6.75×10 <sup>-5</sup>	800	2×10 <sup>5</sup>	80	20	1	1.3
130	16	24	21.5	0.9	26.8	F	5000	2.32×10 <sup>-4</sup>	1500	2.2×10 <sup>6</sup>	110	50	1	1.5
150	30	24	23.7	0.99	24.3	F	5000	3.02×10 <sup>-4</sup>	1500	2.5×10 <sup>6</sup>	120	30	1	2.5
180	38	24	31	1.29	18.6	F	3600	9.41×10 <sup>-4</sup>	1800	3×10 <sup>6</sup>	120	30	0.8	3.4
220	55	24	19	0.79	30.3	F	3600	15.2×10 <sup>-4</sup>	2000	3×10 <sup>6</sup>	220	100	0.8	4



### 安装尺寸表(mm) Dimensions for Installation (mm)

机座号 Base No.	A	B	C	D	S	V	I	J	K	N	L	d	b	t	d Max
40	35	30.5	35	9	7	3.2	11.5	16.1-16.3	20	13.5	3.5	8.5	/	/	9
60	53	46	52	15	7	M3	7	13.5-13.7	18.3	10.6	5	12.5	/	/	14
80	70	62	69	19	9	M4	6	25.2-25.4	22.4	13.8	5	17	/	/	18
100	83.5	76	82	47	9	4.5	9.5	17	25	14.7	7	20	6	22.8	30
110	93.5	85	92	49	10	4.5	8	19	27	15.7	7	20	6	22.8	30
130	123.5	115	122	62	9.5	4.5	5	14.6	24.3	13.7	9	24	8	27.3	38
150	137.5	130	136	65	12	4.5	/	15.4	25	12.5	9	24	8	27.3	38
180	167.5	158	166	80	12	5.5	9.5	16	25	12	9	28	8	31.3	50
220	185	175	184	100	12.5	5.5	10	21.3	32.8	19.4	11.5	28	8	31.3	50

# 永磁制动器

## Permanent Magnet Brake

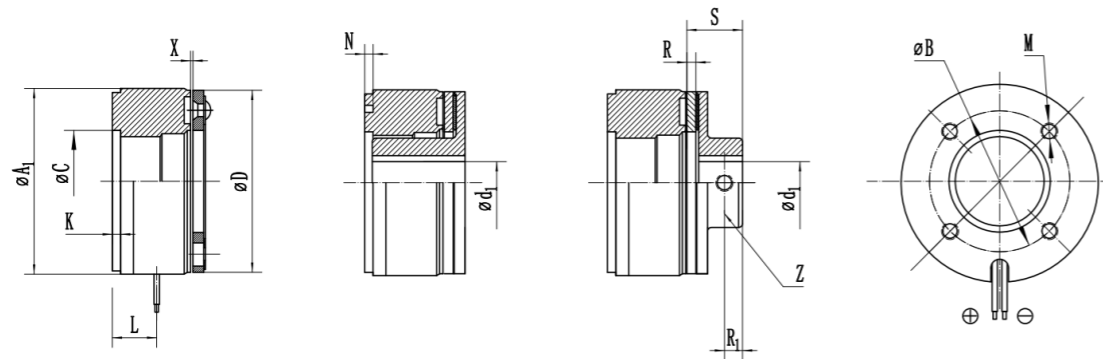
成为全球客户  
首选品牌  
BECOME THE TOP  
BRAND FOR GLOBAL CUSTOMERS

### REB17系列

REB17 Series

#### 产品特点 Product Features

- 体积小、制动扭矩大
- 间隙调整方便
- 运行无滑转，分离时没有残留扭矩
- 采用螺钉安装，使用维护简单
- 温升高、节能
- 低噪音（旋转声音为电机声音）
- 零背隙
- 无摩擦片，产品符合RoHS要求
- 高温下也能保持稳定的扭矩
- Compact size, high braking torque
- Easy gap adjustment
- Slip-free operation and no residual torque when disengaged
- Easy installation with screws, simple to use and maintain
- Low-temperature rise, energy-saving
- Low noise
- No backlash
- No friction plate, compliant with RoHS standards
- Stable torque even at high temperatures



#### 技术参数 (DC24V) Technical Data (DC24V)

机座号 Base No.	扭矩 Static torque (N.m)	功率 Power (W)	A	B	C	D	d	K	L	M	N	R	R1	S	X	Z	制动器厚度 Brake thickness
01	0.05	4	18	16	-	17	5	-	8	M2	-	2	3.5	7	0.1-0.2	2XM2	18
02	0.5	6	28	22	-	27	6	-	10	M2	-	2	3.5	7	0.1-0.2	2XM2	26
03	1	10	32	23	-	32.2	8	-	12	M3	-	2.5	5	5	0.15-0.25	2XM2	25.8
04	4	8	48	42	26	47	10	1.8	-	M3	2.7	3	6	6	0.15-0.25	3XM3	34
05	7	10	58	42	28	57	12	2	12.2	M3	2.7	3	6	11	0.2-0.3	3XM4	36
06	9	12	65	52	36	65	15	2	14	M4	3	3	6	12	0.2-0.3	3XM4	36
07	12	15	72	52	36	70	17	2	14	M4	3.8	3	6	12	0.2-0.3	3XM4	38
08	23	18	82	62	52	80	25.2	2.5	14	M5	7.5	3.5	6	13	0.25-0.35	3XM5	45
09	32	20	92	72	52	90	26	2.5	14	M5	9	4	6	15	0.25-0.35	3XM5	48
10	48	23	102	82	62	100	30.5	2.5	14	M6	10	6	7	16	0.25-0.35	3XM6	54
11	72	35	112	92	62	110	30	2.5	15	M6	10	7.5	8	20	0.3-0.4	3XM8	58
12	100	40	122	92	62	120	35	2.5	16	M6	10	8	8	20	0.4-0.5	3XM8	60
14	120	45	142	112	72	140	40	3	20	M8	14	10	10	24	0.4-0.5	3XM10	65
16	140	50	162	132	72	160	45	3	20	M8	14	12	10	24	0.4-0.5	3XM10	70
20	200	80	222	172	82	220	50	2	20	M8	14	12	10	24	0.45-0.55	3XM10	80

### REB16大中空系列

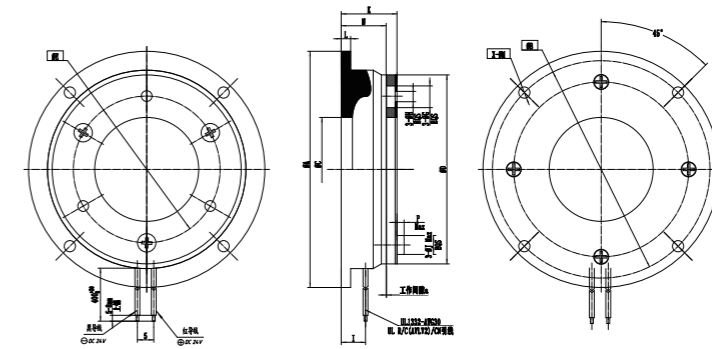
REB16 Large-Bore Brake

#### 产品特点 Product Features

- 内孔大、体积小、制动扭矩大
- 间隙调整方便
- 运行无滑转，分离时没有残留扭矩
- 采用螺钉安装，使用维护简单
- 温升高、节能
- 低噪音
- 零背隙
- 无摩擦片，产品符合RoHS要求
- 高温下也能保持稳定的扭矩
- Large inner bore, Compact size, high braking torque
- Easy gap adjustment
- Slip-free operation and no residual torque when disengaged
- Easy installation with screws, simple to use and maintain
- Low-temperature rise, energy-saving
- Low noise
- No backlash
- No friction plate, compliant with RoHS standards
- Stable torque even at high temperatures

#### 技术参数 (DC24V) Technical Data (DC24V)

机座号 Base No.	静摩擦扭矩 Static torque (N.m)	线圈 (20°C时) Coil parameters (at 20°C)			耐热等级 Heat Resistance	最高旋转速度 Maximum rotation speed (min <sup>-1</sup> )	衔铁吸引时间 Engaging Time (ms) ta (S)	衔铁释放时间 Releasing Time (ms) Tar (S)	质量 Weight (kg)
		电压 Voltage (V)	功率 Power (W)	电阻 Resistance (Ω)					
REB16-01	0.05	24	2.2	261.8	F	6000	0.01	0.02	0.04
REB16-02	0.2	24	2.5	230.4	F	6000	0.02	0.02	0.06
REB16-03	0.4	24	5.4	91.4	F	8000	0.02	0.03	0.08
REB16-04	1	24	8.5	67.8	F	8000	0.04	0.03	0.09
REB16-05	2	24	10	57.6	F	8000	0.06	0.04	0.12
REB16-06	3	24	11	52.3	F	10000	0.08	0.04	0.16
REB16-07	4	24	12	48	F	10000	0.1	0.04	0.25



#### 安装尺寸表 (mm) Dimensions for Installation (mm)

机座号 Base No.	径向尺寸 Radial Dimensions (mm)										轴向尺寸 Axial Dimension (mm)					
	A	B	C	D	E	G	H	J	P	L	I	K	N	X	a	M
REB16-01	18	14	5	18	14	2.1	4	4	1.5	-	6	15	13.5	4	0.1-0.2	M2
REB16-02	28	22	10	28	20	2.1	4	4	1.5	-	6	13.5	11	4	0.1-0.2	M2
REB16-03	42	40	22	40	31	2.1	4.6	4	1.5	-	6	11.8	9.5	4	0.15-0.25	M2
REB16-04	46	42	24	40	34	2.1	3.5	3	1.5	2	6	14.5	11	4	0.15-0.25	M2
REB16-05	54	50	28	48	39	3.1	6.5	5.5	1.5	2	9.2	18.1	14.7	4	0.2-0.3	M3
REB16-06	60	54	30	54	44	3.1	6.5	5.5	1.5	2.5	10.2	19.1	16.3	6	0.2-0.3	M3
REB16-07	70	64	36	64	54	3.1	6.5	5.5	1.5	3	11.2	24.2	19.5	6	0.25-0.35	M3



# 得电制动器

## Power-on Brake

成为全球客户  
首选品牌  
BECOME THE TOP  
BRAND FOR GLOBAL CUSTOMERS

### 产品特点

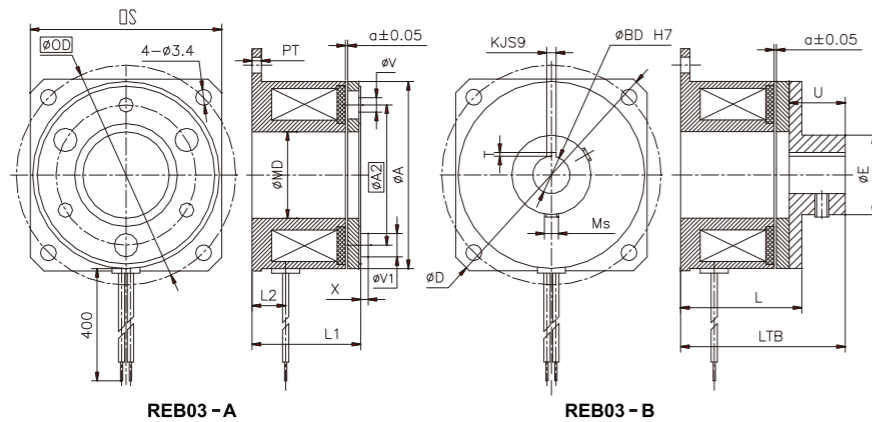
#### Product Features

- ⊙ 使用恒力弹簧
- ⊙ Utilizes constant-force spring
- ⊙ 无石棉摩擦片、摩擦面平滑
- ⊙ Asbestos-free friction plates, smooth friction surfaces
- ⊙ 得电制动和保持
- ⊙ Power-on braking and holding
- ⊙ 高应答性、连接和切离安全可靠
- ⊙ Quick response, high security when connection and disconnection
- ⊙ 缓冲起动和停止、过负荷保护
- ⊙ Buffered start and stop, overload protection
- ⊙ 低噪声且寿命长、安装简便
- ⊙ Low noise and long lifespan, easy installation

Note: REB03-A为直接安装型; REB03-B为轴安装型(轴安装套外);  
REB03-A - Direct installation type; REB03-B - Shaft installation type (shaft installation bush outside-toward);

### 技术参数 Technical Data

机座号 Base No.	静扭矩 Static Torque (N.m)	励磁电压 Excitation Voltage(DC-V)	功率 Braking Work (W) 20°C	最高转速 Maximum Speed (r/min)	重量 Weight (Kg)
REB0301	0.3	24	5	10000	0.05
REB0302	0.5	24	5	10000	0.06
REB0303	0.8	24	6	10000	0.08
REB0304	1.5	24	8	10000	0.14
REB0305	3	24	10	10000	0.22

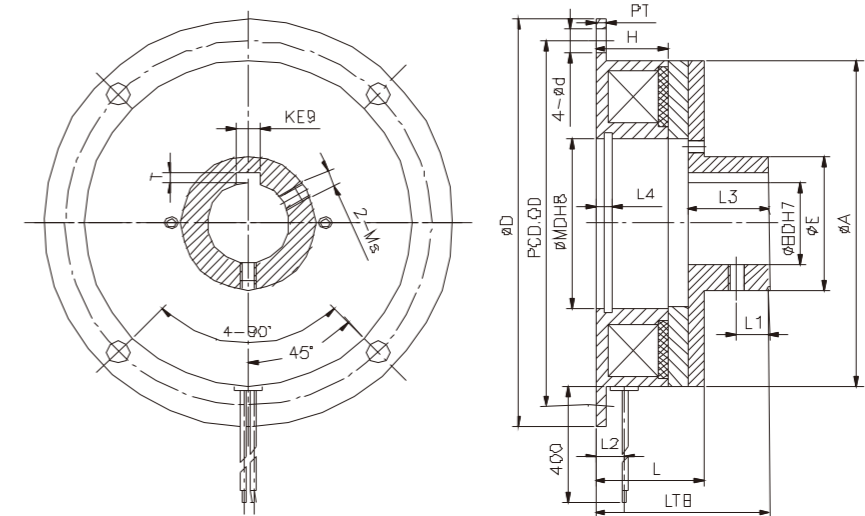


### 安装尺寸表(mm) Dimensions for Installation (mm)

机座号 Base No.	A	BD	D	E	S	K	T	L	L1	L2	V	V1	X	LTB	U	A2	MD	Ms	a	PT	OD
REB0301	25	5	35	13	-	-	-	16	14	5	2-2.1	2-4	0.8	20.3	7	18	10	M2.5	0.1	1.5	30
REB0302	28	5	39	9.5	29	-	-	18.1	16.1	5	2-2.6	2-4	0.8	23.1	7	19.5	11	M3	0.1	1.5	33.5
REB0303	32	6	45	12	33	2	1	21.3	19.3	6.7	3-2.6	3-4.5	1.2	29.3	10	23	13	2-M3	0.15	2	38
REB0304	40	8	54	17	41	2	1	25.5	22.8	7	3-3.1	3-5	1.6	34.8	12	30	19	2-M3	0.15	2	47
REB0305	50	10	65	24	51	3	1.4	28.2	25.2	8	3-3.1	3-5.5	1.6	37.2	12	38	26	2-M4	0.2	2	58

### 技术参数 Technical Data

机座号 Base No.	静扭矩 Static Torque (N.m)	励磁电压 Excitation Voltage(DC-V)	功率 Braking Work (W) 20°C	最高转速 Maximum Speed (r/min)	重量 Weight (Kg)
REB0306	6	24	11	8000	0.3
REB0308	12	24	15	6000	0.6
REB0310	24	24	20	5000	1
REB0312	45	24	25	4000	1.8
REB0316	90	24	35	3000	3.2
REB0318	200	195	100	3000	5
REB0320	180	24	45	2500	6
REB0325	360	24	60	2000	11



### 安装尺寸表(mm) Dimensions for Installation (mm)

机座号 Base No.	A	BD	D	E	H	K	T	L	L1	L2	L3	L4	LTB	d	MD	Ms	PT	OD
REB0306	63	12	80	26	18	4	1.6	25.5	6	7.3	15	3.5	37	5	35	M4	2.1	72
REB0308	80	15	100	31	20	5	2.2	28.4	8	8.3	20	4.3	45	6	42	M5	2.6	90
REB0310	100	20	125	41	22	6	2.6	33	10	9	25	5	53	7	52	M5	3.1	112
REB0312	125	25	150	49	24	8	3.2	37	12	9.3	30	5.5	61	7	62	M6	3.6	137
REB0316	160	30	190	65	26	8	3.2	42	15	11.7	38	6	73	9.5	80	M8	4.1	175
REB0318	217	45	217	80	30	14	3.8	56	12.5	16.5	35	-	81	8.5	100	M6	-	196
REB0320	200	40	230	83	30	12	3.7	50.5	18	13.4	45	7	86.5	9.5	100	M8	5.1	215
REB0325	250	50	290	105	35	14	3.8	59	22	16	54	8	102	11.5	125	M10	6.1	270

# 制动器使用说明

## Brake Usage Instructions

### 一、失电制动器使用说明

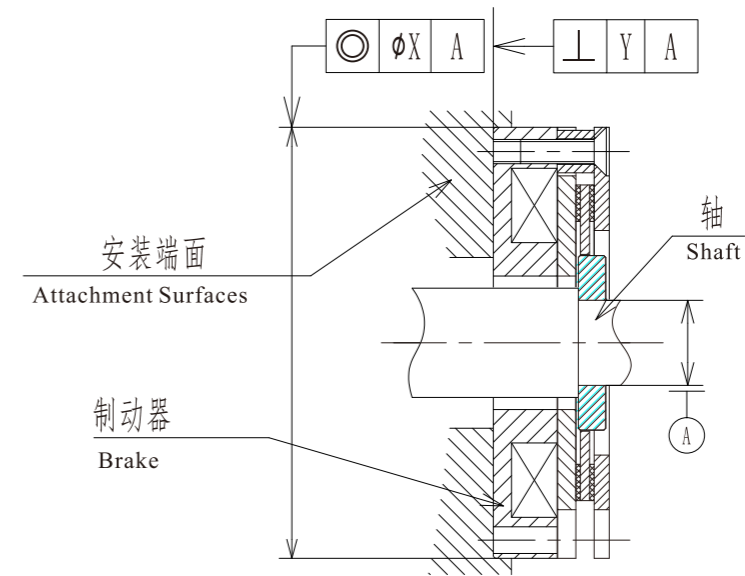
#### Power-off Brake Usage Instructions

- 摩擦面**  
 REB机型的制动器均为干式双面摩擦片制动器。应避免摩擦面上沾上油或者水等，会导致制动器的扭矩下滑，因此需要在干燥的状态下使用。
- 使用环境温度**  
 REB的制动器使用环境温度为-40°C~+120°C。在超出此范围时，请向本公司咨询。
- 电压波动**  
 电压过度波动将影响制动器的性能发挥，因此制动器的使用电压控制在额定电压的±10%的范围内，并要求平滑无干扰。
- 间隙调整**  
 本类型的制动器在出厂时工作间隙已经调整好，使用时无需再进行调整，并请用户不要私自打开制动器。
- 关于长期存放**  
 三个月未使用的制动器扭矩值会略有波动，使用前应适当磨合以保证扭矩达额定值（磨合参数请向本公司咨询）。
- 转子毂固定**  
 转子毂与轴的固定可采用螺钉或键的方式进行固定。也可以采用过盈配合固定。避免转子毂与衔铁接触，因此请遵守H尺寸。
- 螺栓/螺钉类**  
 安装螺钉均要求采用螺纹专用胶进行固定。在对螺钉进行涂抹胶水时，请注意不要涂抹到转子表面及方轮表面。
- 轴的公差配和**  
 轴的公差推荐为h7精度，如果采用过盈配合安装转子毂时，应根据过盈配合推荐公差进行设计。

- Friction Surface**  
 The brake of type REB model is dry double-sided friction plate brake. If the oil or water is applied to the friction surface, the torque of the brake will drop, as a result, it is required to be used in a dry state.
- Service Ambient Temperature**  
 The service ambient temperature of brake REB ranges from -40°C~+120°C. Please contact us if beyond such range.
- Voltage Fluctuation**  
 Excessive voltage fluctuation will impair the performance of the brake, so the service voltage of the brake is to be controlled within ±10% of rated voltage, and the smoothness without interference is required.
- Gap Adjustment**  
 The brake has been adjusted upon before delivery, it is not required to adjust during service, and the user is not allowed to disassemble the brake without authorization.
- About Long-term Stored**  
 The torque of brake may be fluctuated slightly when stored more than three months, advise running-in properly to recover the torque (please contact us about the running-in parameter).
- Fixing of motor mulberry**  
 The fixing of the rotor wheel and the shaft may be fixed by means of the screw or key. It may be also adopting interference fit. Avoid the contact between the rotor and the armature, so please follow Size H.
- Bolt/screw**  
 The mounting screw is required to be fixed with thread-specific glue. Be careful and avoid applying such glue to the rotor surface and the surface of square wheel while it is applied to the screw.
- Tolerance Matching of Axis**  
 The tolerance accuracy of the shaft is recommended to be in h7. The design should be made according to the tolerance fit tolerance if the rotor hub is installed with the interference fit.

- 制动器本体**  
 REB制动器多使用软质金属材料，在安装过程中应避免敲击，掉落或过于用力，否则可能导致制动器出现变形而影响使用，请在安装过程中加以注意。
- 导线**  
 请注意不用用力拉伸制动器的引出线，过于弯折或用手拉扯引出线，有可能导致制动器无法工作。
- 制动器安装面的精度**  
 制动器安装精度不好，可能会造成制动器在运转时发出噪音。  
  
 安装时请确保同轴度 (X) 和垂直度 (Y) 不超出下表中的推荐值。

- Main Body**  
 REB brakes are made of soft metal materials in most cases. It is required to avoid knocking, dropping or excessive forcing during installation. Otherwise, the brake may deform, and its service may be impaired. Be noted during the installation.
- Wire**  
 Be noted not to pull the lead wire of the brake excessively, excessive bending or lifting of lead wire by hands may damage the lead wire and cause the brake failing to work.
- Accuracy of Mounting Surface of Brake**  
 Poor installation accuracy of the brake may cause noise when the brake is in operation. Please be noted for controlling. Permissible values are shown in the table below. Make sure that the coaxiality (X) and perpendicularity (Y) do not exceed recommended values in the table below.



型号 Model									机座号 BaseNo.								
容许值 Recommended value	15LE	20LE	25LE	35LE	40LE	45LE	50LE	100LE	40	60	80	100	110	130	150	180	220
X	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.05	0.1	0.1	0.3	0.3	0.4	0.4	0.6	0.6
Y	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.04	0.05	0.05	0.06	0.06	0.07

## 二、永磁制动器使用说明

### Permanent Magnet Brake Usage Instructions

- 永磁制动器接线分正负极, 请严格按照图纸接线方式进行通电。
- 永磁制动器的安装轴的轴向游隙必须小于0.05mm。
- 其余同失电制动器的要求一致。
- The permanent magnet brake has positive and negative terminals for wiring. Please strictly follow the wiring instructions on the diagram for the power connection.
- The axial gap of the installation shaft for the permanent magnet brake must be less than 0.05mm.
- All other requirements are the same as for power-off Brake.

## 三、得电制动器使用说明

### Power-on Brake Usage Instructions

- 定子安装面垂直度(X1) 和止口与安装轴的同轴度(X2) 要求符合表1; A型衔铁组件的安装端面跳动(X3) 及其安装位置圆与安装轴同轴度(X4) 要求符合表1。
- 导线不允许破损外皮, 以免电路受损。
- 安装轴或面一般采用非磁性材料隔磁, 以便使动作更稳定和降低噪音。
- 不得自行加工产品的定面或孔等, 以免影响磁回路。
- 轴上压装时用力不能过大, 摩擦面不得损伤。
- A型衔铁组件安装在带轮上时, 其安装用螺钉符合样本的安装孔径, 螺钉和弹簧垫圈应缓慢拧入, 螺钉在拧入前头部涂少许螺纹紧固胶。
- 安装孔和面无毛刺。
- 定子和衔铁组件安装后, 它们之间的间隙非常重要, 在轻微转动中应符合规格表的要求, 可以考虑在安装面加垫片以便微调。
- The verticality (X1) of the stator mounting surface and the coaxiality (X2) between the stopper and the installation shaft must meet the requirements specified in Table 1. The runout (X3) of the installation end face of the A-type armature component and the coaxiality (X4) between the installation position circle and the installation shaft must also meet the requirements specified in Table 1.
- The wires must not have damaged insulation to prevent damage to the circuit.
- Non-magnetic materials are generally used to isolate the installation shaft or surface in order to ensure more stable operation and reduce noise.
- Any self-modification of the stator or holes is prohibited to avoid affecting the magnetic circuit.
- Excessive force should not be applied during shaft assembly, and the friction surface must not be damaged.
- When installing the A-type armature component on a pulley, the installation screws should match the installation hole size provided in the sample. The screws and spring washers should be slowly tightened, and a small amount of thread-locking adhesive should be applied to the front of the screw before tightening.
- The installation holes and surfaces must be free of burrs.
- After the stator and armature components are installed, the gap between them is crucial. It should meet the requirements specified in the specifications table during slight rotation. The addition of shims on the installation surface can be considered for fine adjustment.

(mm)

Item	02	03	04	05	06	08	10	12	16	20	25
X1	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.07	0.08	0.12	0.12
X2	0.06	0.06	0.07	0.08	0.08	0.08	0.1	0.1	0.12	0.12	0.14
X3	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.06	0.07	0.11	0.11
X4	0.06	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.1	0.12	0.12

## 失电制动器选型

### Selection of Power-off Brake

## 一、产品选型

### Model Selection

## 保持负载所需的转矩分析

### Analysis Of The Required Torque For Keeping The Load

$$T = T_{\text{max}} \times K \text{ [N} \cdot \text{m]}$$

- $T_{\text{max}}$ : 最大负载转矩 [N·m]
- K: 安全系数 (参阅下表)
- $T_{\text{max}}$ : Max load torque [N·m]
- K: Security coefficient (see table below)

负载状态 Load status	系数 Coefficient
低惯量·负载变动小 Low inertia. Low load change	1
普通惯量的一般使用 Normal inertia for common use	1.2
大惯量·负载变动大 High inertia. High load change	1.5

## 外观尺寸

### Provisional Measurements

- 需要选择能使由上述算式计算出的转矩 T 满足以下算式的制动器尺寸。

$$T_S > T \text{ [N} \cdot \text{m]}$$

- $T_S$ : 制动器静摩擦转矩 [N·m]

- Use the Torque T which is calculated based on above equation to meet the brake measurement in below equation.

- $T_S$ : the brake's static friction torque [N·m]

## 做功分析 Power Output Analysis

- 考虑以保持为目的的制动器时，制动仅限于紧急情况下。
- When considering brakes for holding, braking should be limited to emergency situations.
- 通过以下算式计算紧急制动 1 次的制动做功  $E_b$ ，并确认该计算结果充分小。
- Calculate the brake work  $E_b$  for one emergency braking operation using the following formula, and confirm that the calculation result is sufficiently small
- 于所选制动器的允许制动做功  $E_{ba\ell}$ 。
- The allowable brake power output for the selected brake  $E_{ba\ell}$ .

$$E_b = \frac{J \times n^2}{182} \times \frac{T_b}{T_b \pm T_{\ell\max}} [J]$$

- J: 负载侧的转动惯量合计 [kg·m<sup>2</sup>]
- J: Rotation inertia sum on the load side [kg·m<sup>2</sup>]
- n: 转速 [min<sup>-1</sup>]
- n: Rotation speed [min<sup>-1</sup>]
- T<sub>b</sub>: 制动器转矩 [N·m]
- T<sub>b</sub>: Brake torque [N·m]
- T<sub>ℓmax</sub>: 最大负载转矩 [N·m]
- T<sub>ℓmax</sub>: Max. load torque [N·m]
- 最大负载转矩 T<sub>ℓmax</sub> 的符号在负载朝帮助制动的方向动作时为 + (正)，朝妨碍的方向动作时为 - (负)。
- The symbol of the max. load torque T<sub>ℓmax</sub> is + when the load is aiding the brake, - when the load is hindering the brake.

$$E_b \ll E_{ba\ell} [J]$$

## 动作次数分析 Brake Frequency Analysis

- 进行紧急制动时的总制动次数 (寿命) L 通过以下算式计算，需要确认是否满足要求的规格。
- The total brake times (life) L can be calculated using below equation, need to check if the item can meet requirements.

$$L = \frac{E_T}{E_b} [\text{次}]$$

- E<sub>T</sub>: 总制动做功 [J]
- E<sub>T</sub>: Total brake power output [J]
- 虽然根据使用环境会有所不同，但紧急制动频率请控制在 1 分钟 1 次左右。1 次制动做功  $E_b$  超过允许制动做功  $E_{ba\ell}$  的 70% 以上时，紧急制动后，请等待制动器充分冷却再使用。
- Though operation conditions may vary, the emergency brake should be less than about once per minute. if the one time brake power output  $E_b$  is bigger than 70% of  $E_{ba\ell}$ , then after emergency brake, the brake has to be fully cooling down before operation again.

## 二、动作特性

### Movement Characteristics

