

安全注意事项

SAFETY CAUTIONS

总体 General	请不要在齿轮箱及电机铭牌或产品目录的规格以外使用，以免触电，受伤及损坏装置等。 Please don't use motor out of the range which is clarified in of nameplate of gear box and motor and the specification of product catalogue, avoiding getting an electric shock, hurting or damaging the device. 请不要把手指或物品进入齿轮或电机开口部分，以免触电、受伤、发生火灾及损坏装置等。 Please do not put your fingers into the opening part of gear of motor, in order to prevent getting an electric shock, hurting catching a fire or damaging device etc. 请不要使用带伤的齿轮箱或电机，以免有可能受伤，发生火灾等。 Please do not use the injured gear head or motor, in order to prevent hurting, catching a fire etc. 请不要拆下铭牌。 Please do not put off the nameplate. 若客户对产品私自进行改造的，不属于保修范围，本公司不承担任何责任。 If the products are reformed by the customers personally, it no belongs to the guarantee scope, and our company doesn't undertake any responsibility.
搬动/Moving	搬动时，若发生脱落或倾倒，是很危险的，请充分注意。 When you move it, if it shed off or tit to one side, it is very dangerous, please pay more attention.
安装 Assembly	请绝对不要在齿轮箱和电机周围放置可燃物，以免发生火灾。 Please never put the flammable thing near and motor, for fear of a fire. 请不要在电机周围放置物品，影响电机通风、冷却，甚至因异常多热而烫伤或发生火灾。 Please do put the things around motor, otherwise it can effect ventilation and cooling, even burning or catching a fire because of too hot. 裸手请不要触碰齿轮及电机轴端部、齿轮部的键槽，以免受伤。 Please do not touch the gear, the motor shaft and the key slot of the gear with naked hand, or you may be hurt. 在食品机械等可能发生漏油的装置中，请在安装部分另加一个能盛油的油杯，防止万一漏油对产品有不良的影响。 The device may creating the smoke, such as food machine, please add an oil cup assembly part, to prevent leaking oil which may have a bad effect on the products.
对主机械的连接 Assemble to the main machine	在旋转部分，请设安全罩等，防止受伤。 Please set a safe cover above the revolving part, to prevent being hurt. 在与对方机械连接前，请确认旋转方向。若旋转方向不正确，有可能受伤或破坏装置。 Before linking to the other machine, please confirm the revolving direction is not right, it may hurt the gear motor or destroy the device.
配线/Wiring	在测试绝缘电阻时，请不要接触端子，以免触电危险。 Please don't get in touch with terminal, when you measure insure insulated resistance, preventing danger of getting an electric shock.
运转 Operation	请按照接线图或使用说明书实施与电源的连接，以免触电或发生火灾。（无端子箱的，请确实加强连接部分的绝缘） Please link with the electric source according to wire diagram and usage manual, in order to prevent getting an electric shock or catching a fire. (no terminal box, please strengthen the insulation of the connection part surely) 对电源电缆和电机引线，请不要过分弯曲、拉伸、夹紧，以免触电危险。 Referring to the electrical source cable and the motor wire, please do not bend, stretch, and clip tightly excessively, in order to prevent getting an electric shock. 接地端子应牢固接地，以免触电危险。务必使用符合铭牌要求的电源，以免烧毁电机、发生火灾。 The terminal box connecting to the ground must be firm, in order to prevent getting an electric shock. Please adopt the electrical source according to the nameplate, to avoid burning the motor and catching a fire.
日常检查保养 The daily check and maintain	在运转中，绝对不要接近或接触旋转物体（轴等）。有卷入受伤时，请马上切断电源开关，及时处理。 When operating, do not get close to or touch the revolving parts (shaft). If something or somebody engulfs or hurts, Please turn off the electrical power switch right and handle at once. 停电时，请务必切断电源开关，防止来电后伤人或破坏装置。 Please turn off the electrical source switch when electricity stops, in order to prevent hurting the person and damaging the device. 请注意：带有热保护的电机，当电机温度异常时会自动切断电源，当电机温度下降到一定值时，电机会自动恢复工作。 （注：电机在没有烧坏的情况下，会自动复原） Please note, motor with the thermal protector, when temperature of the motor is unusual, it will turn off the electrical source automatically, when the temperature of the motor fall down to a fixed data, the motor can work automatically. (Note: when the motor is not burned-not, the motor can work automatically.)
	在平时，保持电机在正常的工作环境工作运转。（特殊型号除外） In daily, you should keep the motor operating in the normal work environment. (Except the special model) 检查时，请绝对不要接触旋转物体（轴等）。有可能被卷入、受伤。 While checking, please do not get close to or touch the revolving parts (shaft). Something or somebody may engulf of hurt.
接受货物时检查 Receiving confirm	请确认现货是否和订货一样。选择错误的产品，有可能导致电机受损或破坏装置等。 Please confirm if it is the right one with the order when receiving. Choosing wrong probably leads to damage of motor of damage the device and etc.

故障排除 TROUBLE SHOUTING

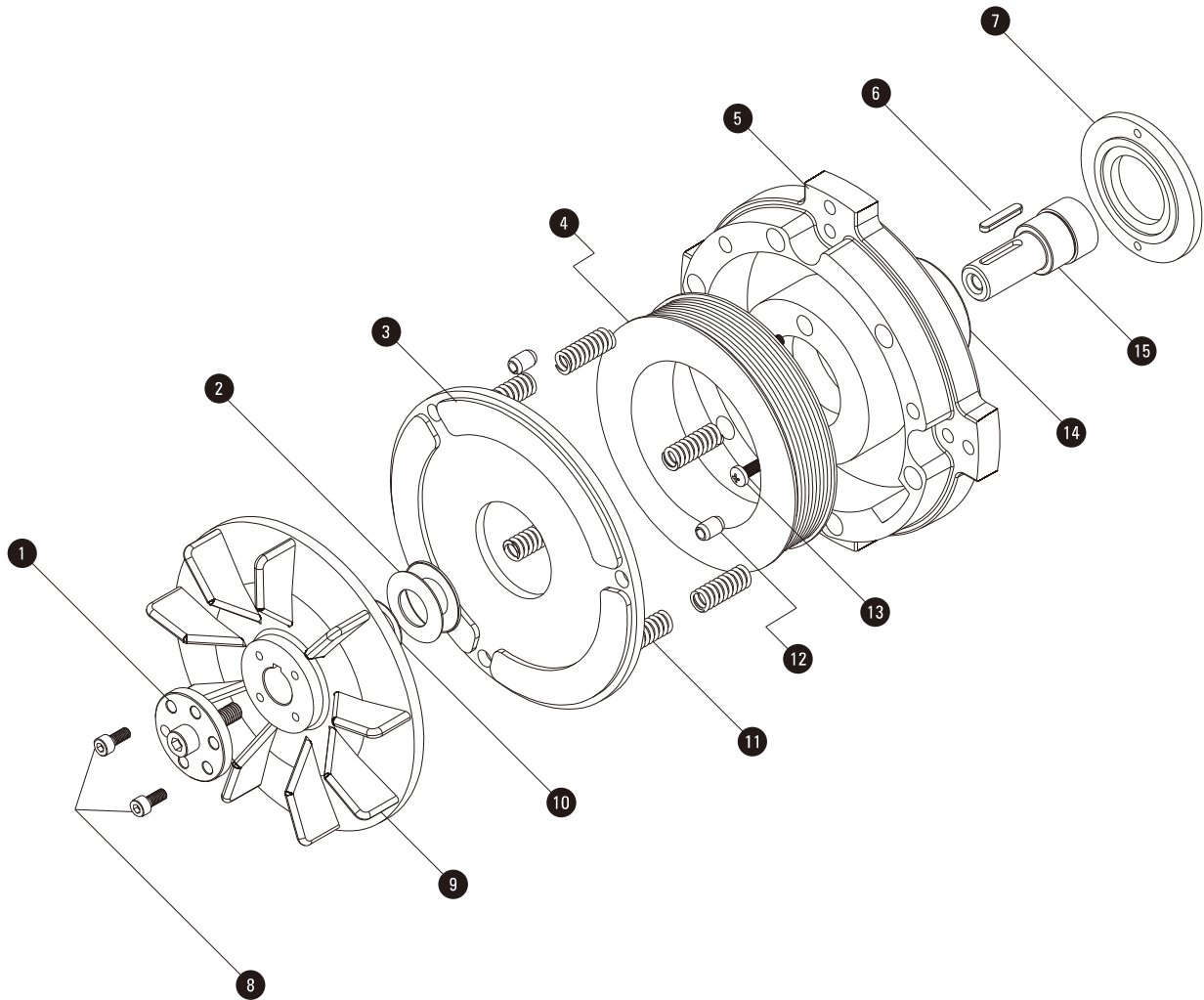
■ 刹车故障排除 Trouble Remove Of Brake

不良故障 Trouble	原因分析 Possible Analysis	解决方式 Solution Method
刹车器不动作 No Action Of Brake	未供电源 No Power Supply	供应电源 Supply Power
	来令片磨损 Brake Disc Worn Out	换新来令片 Use New Brake Disc
	间隙过大 Large Backlash	调整间隙 AdJust Backlash
	电源压力不足 Low Voltage	提供正确电压 Use Correct Voltage
	电源供应器损坏 Power Supply Damage	电源供应器换新 Use New Power
	异物入侵 Dirty Inside	清洁零件 Clean Parts
	使用电压错误 Wrong Voltage	使用正确电压 Correct Voltage
	接线脱落 Connect Wire Lost	重新接线 Re-Connect Wire
	来令片卡死 Brake Disc Locked	清洁零件 Clean Parts
	刹车圈烧坏 Brake Coil Burned-out	刹车线圈换新 Use New Brake Disc
刹车移动 Brake Moving	来令片磨损 Brake Disc Worn Out	换新来令片 Supply Power
	间隙过大 Large Backlash	调整间隙 Adjust Backlash
	来令片沾染油渍 Surface Oil	清洁来令片 Clean Brake Disc
	负载过大 Over Loading	重新设计 Re-design Brake Unit
	刹车表面歪斜 Disc Surface Twist	更换零件 Use New Parts
	下降衡量过大 Huge Momentum	机构重新设计 System Re-design
	选用机型错误 Select Wrong Type	选用正确机型 Re-select Unit
	环境温度过高 No Power Supply	检查环境温度 AdJust Temperature

■ 减速机器故障排除 Trouble Shouting For Gearmotor

	不良故障 Trouble	原因分析 Possible Analysis	解决方式 Solution Method
噪音 Noise	齿轮敲击声 Knocking	齿轮表面受伤 Hurt Gear Surface	更换受伤齿轮组 Replace Gear Set
	连续性杂音 Continually	轴承损坏 Bad Bearing	更换损坏轴承 Replace Bearing
	周期性杂音 Periodically	异物附着齿面 Particle Inside	检测齿轮齿面 Check Gear
	嘶嘶声 Neight	油量不足 Lack Of Lubricant	添加润滑油 Fill With Lub-oil
	继续性杂音 Intermittently	润滑油不洁 Dirty Lubricant	更换新润滑油 Replace Lubricant
振动 Vibration	固定底座振动 Mounting Base Vibration	安装平面歪斜 Bad Surface Mounting	重新调整固定底座 Re-adjust Mounting Base
	出力轴振动 Output Shaft Vibration	轴承损坏 Bad Bearing	更换损坏轴承 Replace Bearing
	内部齿轮零件振动 Inside Gear Parts Vibration	齿轮受损 Gear Wounded	更换受损齿轮 Replace Wounded Gear
	箱体振动 Housing Vibration	齿轮组安装不良 Bad Gear Assembly	重新调整齿轮组 Re-adjust Gear Set
漏油 Leakage	油封漏油 Oil Seal Leakage	油封硬化 Oil Seal Too Harden	更换损坏油封 Replace Wounded Oil Seal
	箱体漏油 Housing Leakage	箱体有砂孔 Box Had Sand Hole	更换砂孔箱体 Replace Sand Hole Box
	结合面漏油 Connect Surface Leakage	O-型环损坏 O-Ring Broken	更换损坏O-型环 Replace Wounded O-ring
过热 Over Heating	油封 Bad Oil Seal	油封太紧 Oil Seal Too Tight	更换太紧油封 Replace Tighten Oil Seal
	箱体过热 Housing Too Heat	过负载 Over Load Runing	重新计算负载马力 Re-calculate Loading
	缺润滑油 Less Lubricant	油量不足 Lack Of Lubricant	加入润滑油 Fill With Lubricant
	马达过热 Motor Too Heat	马达过载 Overload Motor	更换新马达 Replace New Motor

刹车零件分解图
BRAKE UNIT SECTION DIAGRAM



明细表 Parts List

序号 Item	名称 Name	序号 Item	名称 Name
1	调整螺栓 Gap Adjustment Bolt	9	散热风叶 Fan
2	碟型弹簧 Disc Spring	10	调整垫圈 Adjustment Washer
3	磨擦来令片 Friction Brake Disc	11	压力弹簧 Pressure Spring
4	激磁线圈 Brake Coil	12	定位销 Fixed Pin
5	刹车座 Brake Housing	13	固定螺丝 M Fixed Screw
6	平键 Key	14	轴承 Bearing
7	轴承固定盖 Fixed Bearing Cover	15	马达轴 Motor
8	固定螺丝 Fixed Screw		

连接系数表 CONNECTION FACTOR

■ 连结系数表 Connection Factor

配件名称 Parts Name	连结系数 Connection Factor
链轮 Sproket	1.00
齿轮 Gear	1.25
三角皮带 Belt	1.50
平皮带 Flat Belt	2.50

■ 荷重系数表 Service Factor

减速负载等级 Load Grade	每日运转时间 (HRS) Daily Operating Hours			
	1-2	3-8	9-15	16-24
均一负载 Uniform Load	0.80	0.90	1.20	1.30
中级冲击负载 Medium Impact Load	1.00	1.20	1.30	1.50
重级冲击负载 Heavy Impact Load	1.20	1.50	1.75	2.00

■ 基本传动公式 Basic Formular

名称 Name	公式 Basic Formular
减速比 (i)	$i = N/1800$
回转速度 (rpm)	$N = V/\pi D$
输出扭矩 (kg.m)	$T = W \times R \times K$
输入马力 (公制)	$kW1 = N \times T / 974$
输入马力 (英制)	$HP1 = N \times T / 716$
输入马力 (公制)	$kW2 = kW1 \times F / E$
输入马力 (英制)	$HP2 = HP1 \times F / E$

■ 符号说明 Code Details

符号 Code	说明 Details	符号 Code	说明 Details
V	速度 Speed (m/min)	E	效率 Efficiency (%)
I	减速比 Ratio	1 inch	= 2.54 cm
T	输出比例 (kg.m) Output Torque	1 foot	= 12 inch
K	连结系数 Connecting Factor	1 kW	= 1000 W
F	荷重系数 Service Factor	1 kW	= 1.34 hp
W	荷重 (kg) Load	1 kg.m	= 7.233 ft-lb
N	出力轴转速 (rpm)	1 kg.m	= 86.8 in-lb
D	滚轮直径 (mm) Roller Diameter	1 kg	= 2.2 lb
R	滚轮直径半径 (mm) Roller Radius	1 lb	= 0.4536 kg
kW1(HP1)	输入功率 Input Power	1 cm	= 10 mm
kW2(HP2)	输出功率 Output Power	1 cm	= 0.3937 inch