

CHBNS PRECISION

ZHEJIANG CHBNS PRECISION
MOTOR CO.,LTD.



浙江侨邦精密电机有限公司
ZHEJIANG CHBNS PRECISION MOTOR CO.,LTD.

地址: 浙江省丽水市莲都区江南路785号
Add: Hesan Industrial Area, Oubei Town, Wenzhou
Liangda Industrial Park



侨邦·齿轮减速马达
QIAOBANG GEAR REDUCER MOTOR

KM(GRV) 准双曲面齿轮减速机

CHBNS PRECISION

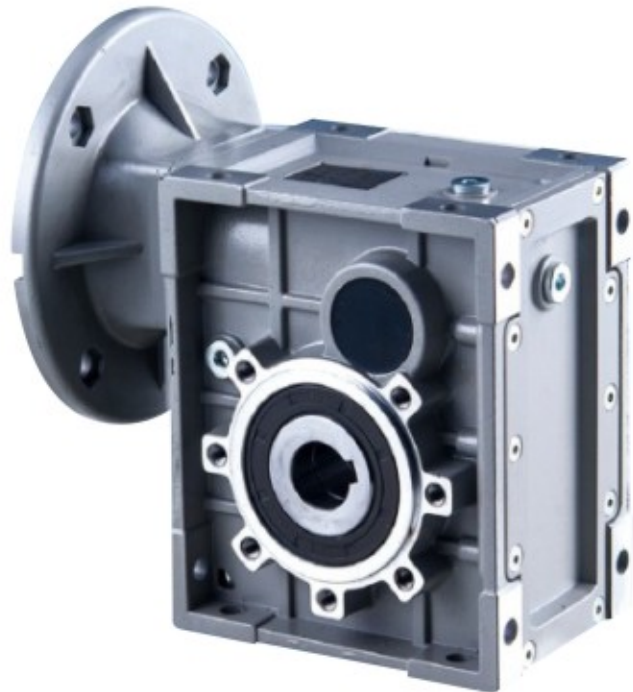
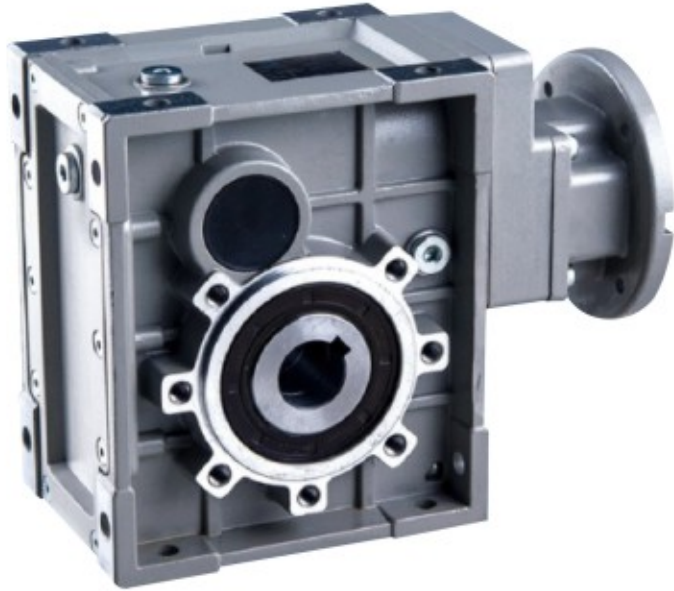
ZHENGJIANG CHBNS PRECISION MOTOR CO.,LTD.

浙江侨邦精密电机有限公司



侨邦·齿轮减速马达
QIAOBANG GEAR REDUCER MOTOR

CHBNS
GEAR MOTOR



About Quality 关于质量

公司遵循“遵纪守法，确保安全，珍爱环境，铸就精品，真诚服务，争创一流”的经营理念。以“天天超越自我，时时追求卓越”的企业精神，以市场为导向。一切为满足用户的需求，不断应用新技术，新工艺、新材料，竭诚为用户提供优质的产品和更加完善的售后服务。

严谨、务实、永不松懈的工作作风，植根于侨邦的每一道工序之中，检验员高度负责的用心溶于每一个部件之中，加上先进的检测设备和严格的科学化管理，使每一个生产的成品经得住顾客的精心挑选。“侨邦人”庄严承诺让每一个生产产品都得 100 分。这正是侨邦产品得以畅销的秘诀所在。

The company follows the business philosophy of "Abide by the law, ensure safety, cherish the environment, create high-quality products, sincere service, strive for first-class". To "Every day beyond self, the pursuit of excellence," the spirit of enterprise, market-oriented. All to meet the needs of users, the continuous application of new technology, new technology, new materials, dedicated to provide users with high-quality products and more perfect after-sales service.

The rigorous, pragmatic and unrelenting work style is rooted in every working procedure in the overseas Chinese state. The inspectors are highly responsible and put their heart into every component, coupled with advanced testing equipment and strict scientific management, to make each production of finished products withstand the careful selection of customers. The "Overseas Chinese" made a solemn promise to get 100 points for every product they produced. This is the secret of overseas Chinese products to sell well.



公司简介 Company profile

浙江侨邦精密电机有限公司位于中国最具经济活力城市之一丽水。围绕“技术创新、管理创新、工艺创新”的思路不断地前进，企业生产规模日益壮大。

公司主导产品为齿轮减速电机，齿轮减速刹车电机、齿轮减速马达，产品特点：体积小、重量轻、无噪音、免保养。广泛应用于各种工业生产流水线、输送机械、食品机械、医疗机械、印刷机械、纺织机械、包装机械、办公设备、仪器仪表、自动麻将机等领域，是自动化设备首选的配套产品。

公司拥有现代化的厂房，世界先进的制造加工和检测设备，技术力量雄厚，能为客户设计开发各种复杂情况的非标准减速机。

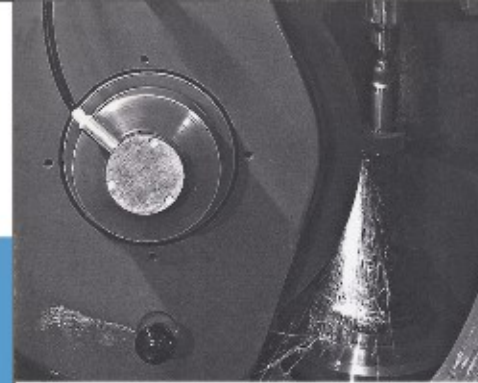
高素质的员工队伍，先进高效的加工设备，严格的质保体系，完善的售后服务，赢得了国内外用户的广泛信赖，销售营销网络遍布全国各大省市。产品远销东南亚、台湾等多个国家及地区产品。

Zhengjiang CHBNS Precision Motor Co.,Ltd. is located in Lishui, one of the most economically dynamic cities in China. Centering on the concept of "innovation in technology, management and process", our company is constantly moving forward and increasingly expanding our production scale.

The company's main products include gear reducers and gear reducer braking motors, gear reducer motors, which are characterized by: compact structure, light weight, No-noise and maintenance-free. As a preferred auxiliary product of automatic equipment, our products are widely applied in such fields as industrial production lines, conveying machinery, food machinery, medical machinery, printing machinery, textile machinery, packaging machinery, office equipment, instruments, meters and automatic mahjong machines.

Our company owns modern workshops, world advanced manufacturing, processing and testing equipments and strong technical capability, being able to design and develop nonstandard gear reducers applicable for complicated conditions for customers.

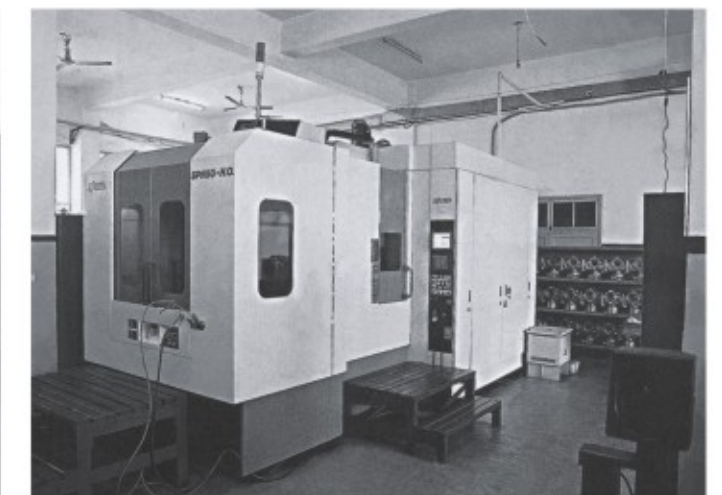
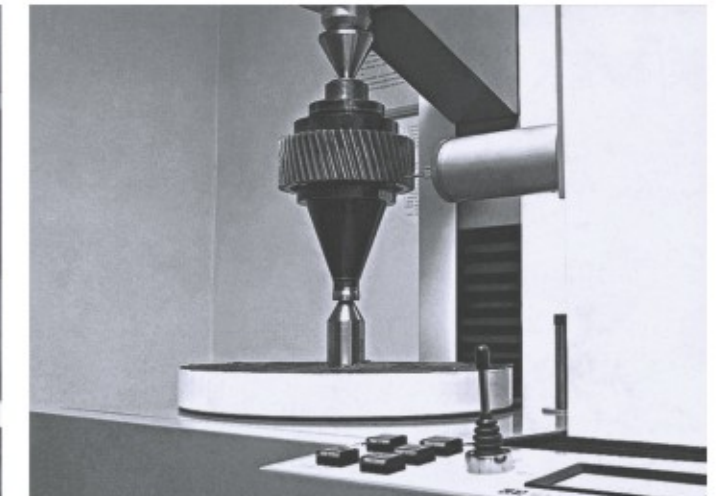
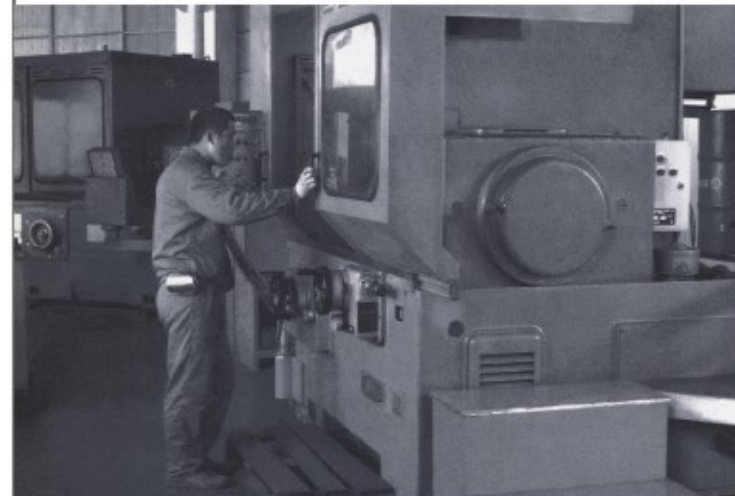
We've won extensive trust in clients both at home and abroad on the strength of our high-quality staff team, advanced and efficient processing equipment, strict quality assurance system and perfect after service. Our sales and marketing networks cover all major provinces and municipalities of China, and exported to many countries and regions, like Southeast Asia and Taiwan.

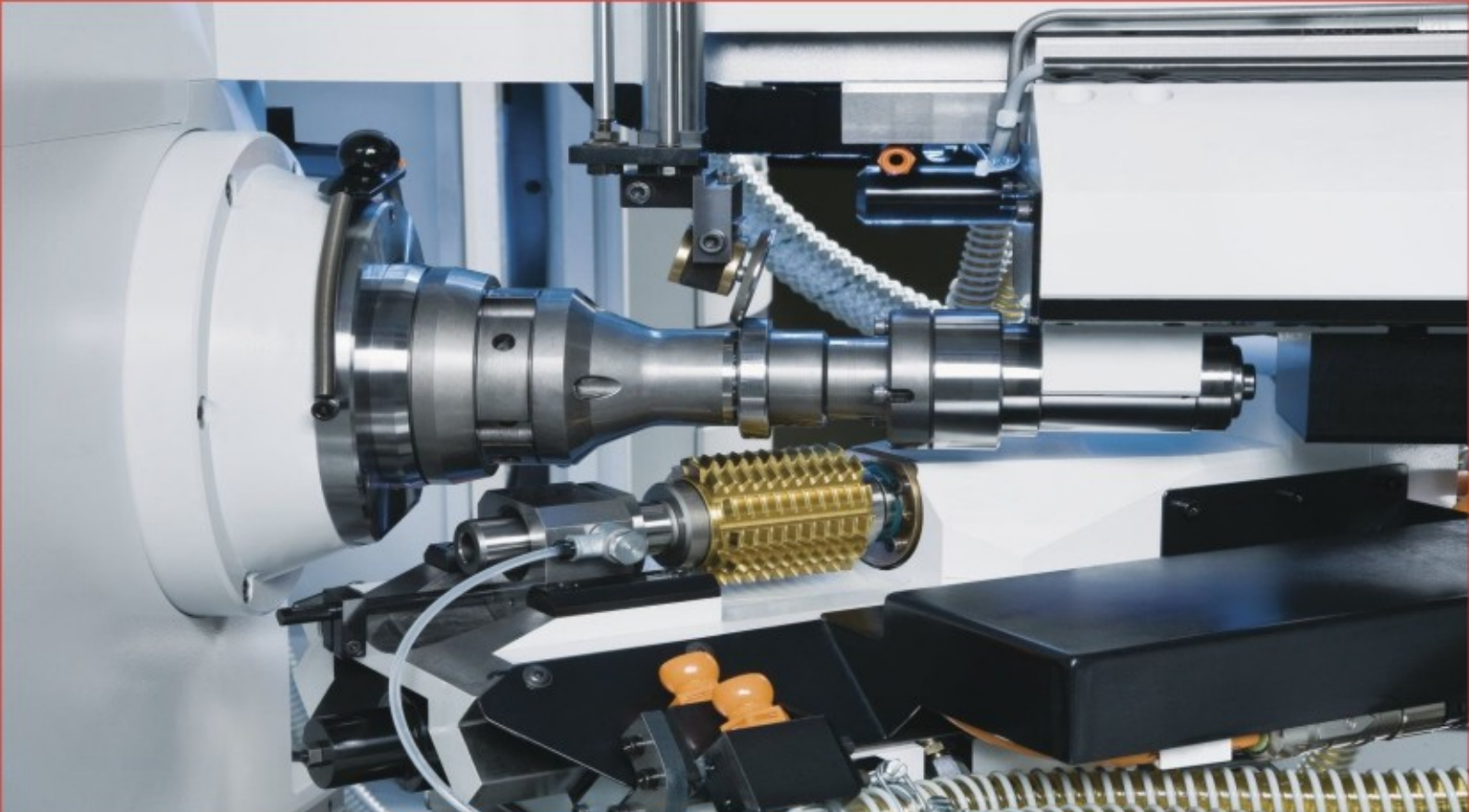


先进的设备制造

优秀的品质，源于制造工艺的先进。侨邦拥有先进的生产技术和设备，使产品内在品质与外在个性设计紧密结合，完美满足并引领工业现代化的需要。

Superior quality is originated from advanced manufacturing technology. with the use of advanced production and technical equipments, Qiaoban products are given good quality and individualized design to fully meet and lead the requirements of industrial modernization.





CHBNS MOTOR

专注品质 值得信赖

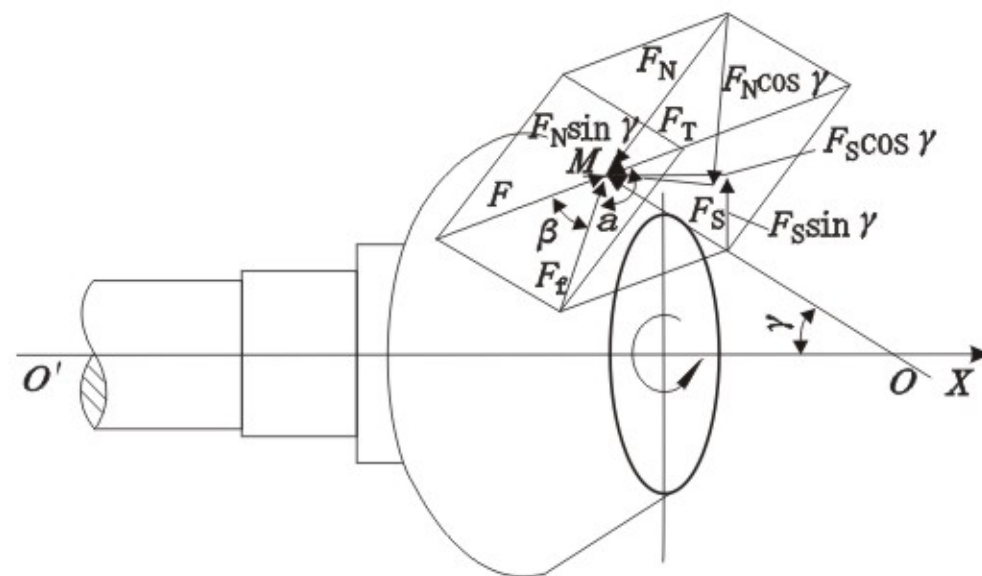
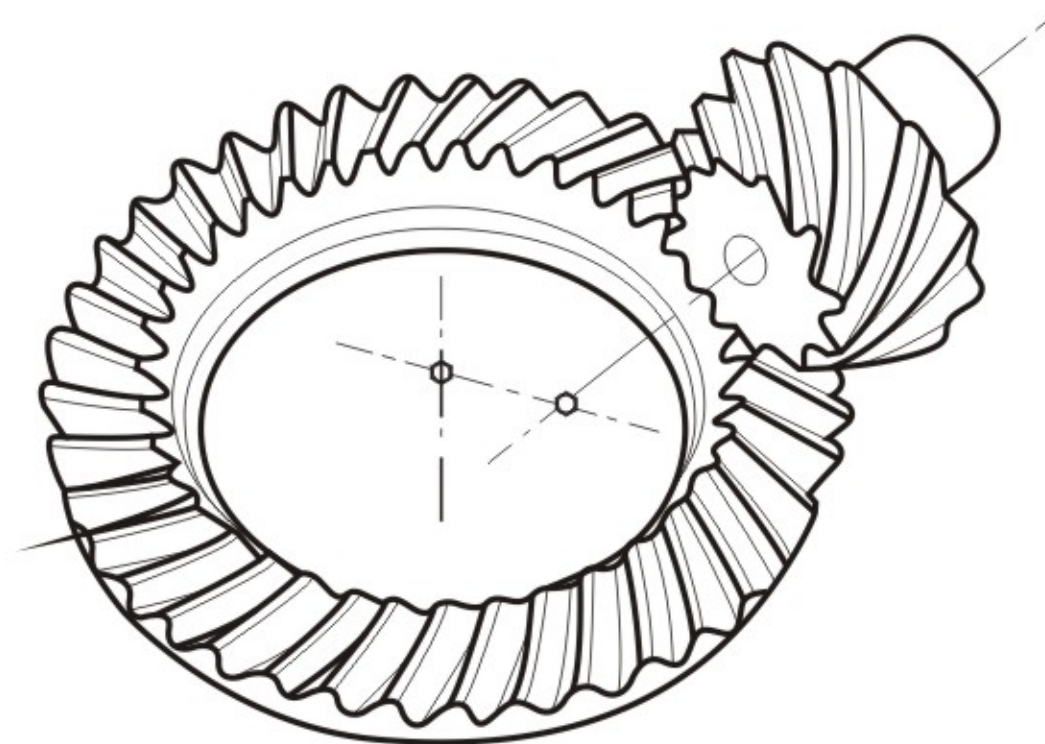
Focus, quality, trustworthiness

严格选材 精工细制

Strict selection of materials, fine Seiko system

多行业适用应用范围广

Multi-industry wide range of applications

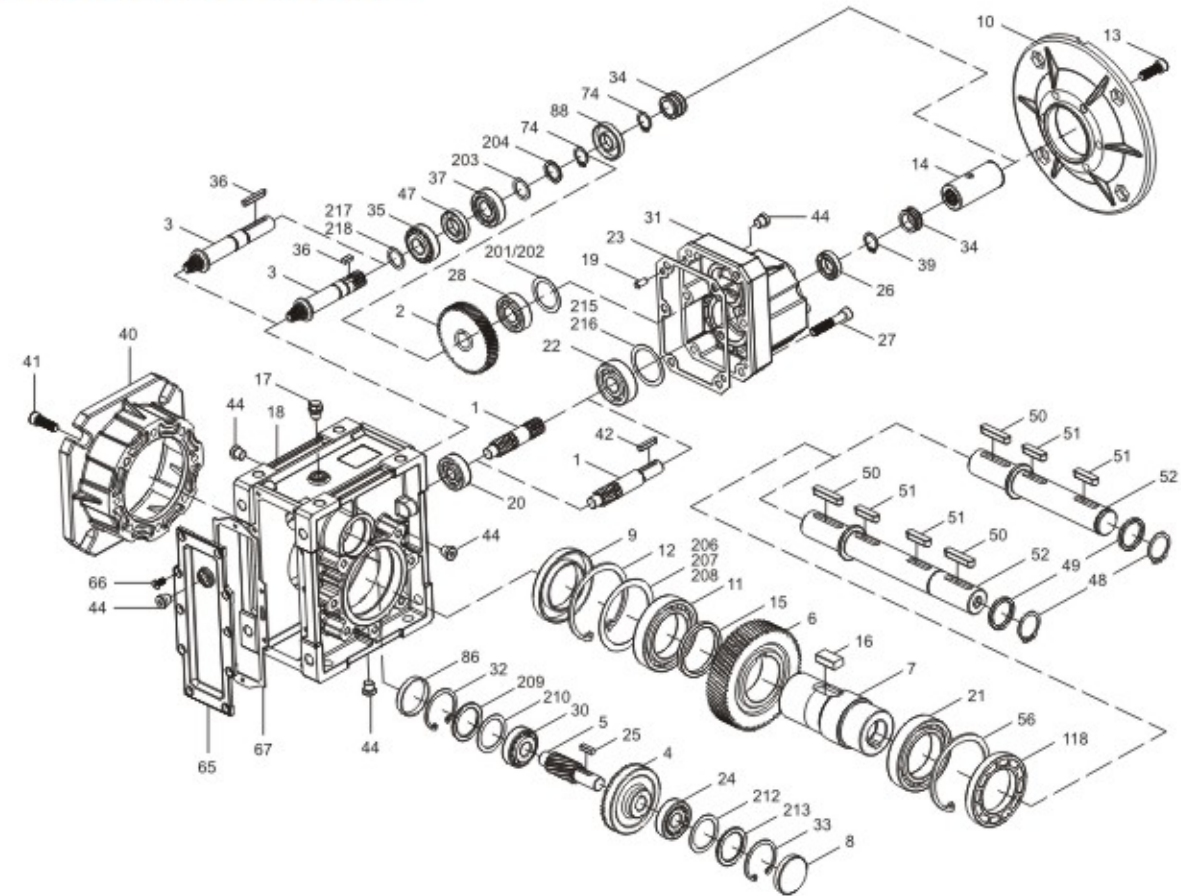


目录 TABLE OF CONTENTS

KM(GRV) 系列准双曲面齿轮减速器

产品构造原理 Basic Structure	01
概述 Summarize	02
型号说明 Model Illustrate	02
选型相关参数 Relevant Parameter	03
减速器组合表 Possible Geometrical Combinations	06
性能参数 Performance Parameter	
KM(GRV) 性能参数 KM(GRV) Performance Parameter	08
KM(GRV) HS 性能参数 KM(GRV) HS Performance Parameter	26
外形尺寸图表 Outline Dimension Sheet	
KM(GRV) 外形尺寸 KM(GRV) Outline Dimension	28
KM(GRV) HS 外形尺寸 KM(GRV) HS Outline Dimension	32
附件 Accessories	33
安装方位图 Installation Positions Diagram	34
安装 Installation	35
润滑油 Lubricants	
润滑油型号 Types of Lubrication	36
润滑油加注量 Lubricant Fill Quantity	37
维护 Maintenance	37
存放 / 定货须知 Storage/Notice For Order	38
运转故障 Malfunctions	38
附录 Addendum	39-40
安装方位图 Installation orientation	41
YS系列铝壳三相异步电动机	42

1. 产品构造原理 Basic Structure



序号 No.	部件 Parts	序号 No.	部件 Parts	序号 No.	部件 Parts
1	主动齿轮 / Pinion	25	键 / Key	56	孔用挡圈 / Hole-circlip
2	从动齿轮 / Gear	26	油封 / Oil seal	65	齿轮箱盖板 / Gearcase cover
3	主动齿轮轴 / Pinion shaft	27	内六角螺钉 / Inner hex screw	66	内六角沉头螺钉 / Hexagon sunk screw
4	从动齿轮 / Gear	28	轴承 / Bearing	67	橡胶垫 / Rubber gasket
5	主动齿轮轴 / Pinion shaft	30	轴承 / Bearing	74	轴用挡圈 / Shaft-circlip
6	从动齿轮 / Gear	31	三级齿轮箱 / 3 stage gearcase	86	油封盖 / Closing cap
7	输出轴 / Hollow shaft	32	孔用挡圈 / Hole-circlip	88	垫圈 / Washer
8	油封盖 / Closing cap	33	孔用挡圈 / Hole-circlip	118	油封 / Oil seal
9	油封 / Oil seal	34	橡胶套 / Rubber boot	201	调整垫片 / Shim ring
10	输入法兰 / Input flange	35	轴承 / Bearing	202	调整垫片 / Shim ring
11	轴承 / Bearing	36	键 / Key	203	调整垫片 / Shim ring
12	孔用挡圈 / Hole-circlip	37	轴承 / Bearing	204	调整垫片 / Shim ring
13	内六角螺钉 / Inner hex screw	39	轴用挡圈 / Shaft-circlip	206	调整垫片 / Shim ring
14	输入轴 / Input shaft	40	输出法兰 / Output flange	207	调整垫片 / Shim ring
15	间隔套 / Spacer	41	内六角螺钉 / Inner hex screw	208	调整垫片 / Shim ring
16	键 / Key	42	键 / Key	209	调整垫片 / Shim ring
17	排气阀 / Breather valve	44	油泵 / Oil plug	210	调整垫片 / Shim ring
18	齿轮箱体 / Gearcase	47	油封 / Oil seal	212	调整垫片 / Shim ring
19	圆柱销 / Stifte	48	轴用挡圈 / Shaft-circlip	213	调整垫片 / Shim ring
20	轴承 / Bearing	49	垫片 / Gasket	215	调整垫片 / Shim ring
21	轴承 / Bearing	50	键 / Key	216	调整垫片 / Shim ring
22	轴承 / Bearing	51	键 / Key	217	调整垫片 / Shim ring
23	密封纸垫片 / Housing gasket	52	双向输出轴 / Double output shaft	218	调整垫片 / Shim ring
24	轴承 / Bearing	53	单向输出轴 / Single output shaft		

2. 概述 Sumarize

2.1 产品特点 Products characteristics

KM(GRV)系列斜齿-准双曲面齿轮减速器是我公司自主研发的新一代实用性产品。融合了国内外先进技术，具有以下一些主要特点：

- 采用准双曲面齿面传动，传动比大；
- 输出轴扭矩大，传动效率高，节能环保；
- 优质铝合金铸造，重量轻，不生锈；
- 传动平稳，噪音小，适合在恶劣环境中长期连续工作；
- 美观耐用，体积小；
- 可适应全方位安装，应用广泛，使用方便；
- KM(GRV)系列减速器安装尺寸除KM(GRV)050与NMRV050其它部分尺寸不同，与NMRV系列蜗轮蜗杆减速器完全兼容；
- 模块化组合，可多种形式组合，满足各种传动条件的需要。

KM(GRV) series helical-hypoid gear units is a new-generation of product developed by our company, with a compromise of advanced technology both at home and abroad, its main features are as follows:

- Driven by hypoid gear, has big ratios.
- Large in output torque, high efficiency, energy saving and environmental protection.
- Made of high-quality aluminum alloy, light in weight and non rusting.
- Smooth in running and low in noise, can work long time in dreadful conditions.
- Good-looking in appearance, durable in service life and small in volume.
- Suitable for all round installation, wide application and easy of use.
- The mounting dimension of KM(GRV) series are compatible a part of TNRV050 dimensions, are different from KM(GRV) 050 with TNRV series worm gear unit.
- Modules and multi structure can meet the demands of various conditions.

3. 型号说明 Model illuminate



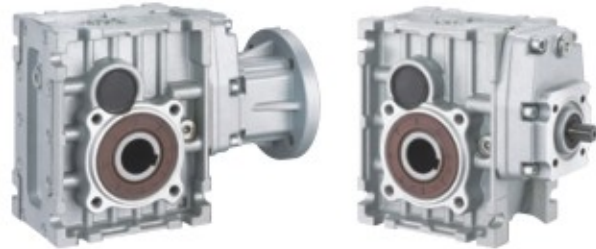
代号 No.	说明	explain
(1)	减速器系列代号：KM(GRV)	Code for gear units series: KM(GRV)
(2)	减速器规格代号：050、063、075、090	Specification code of gear units: 050, 063, 075, 090
(3)	B: 表示二级传动 C: 表示三级传动	B: Means 2 stages C: Means 3 stages
(4)	减速器速比 i	Speed ratio of reducer i
(5)	1) 无代号表示不带输出法兰 2) FA、FB、FC、FD、FE (1/2) 输出法兰代号和位置	1) No mark means without output flange 2) FA, FB, FC, FD, FE (1/2) output Flange and position
(6)	1) 无代号表示孔输出 2) SS(1/2) 单向输出轴和位置 3) DS 双向输出轴	1) No mark means hole output 2) SS(1/2): Single output shaft and position 3) DS: Double output shaft
(7)	1) 输入法兰规格代号 (63B5、71B5.....) 2) HS: 表示轴输入	1) Input flange code (63B5, 71B5.....) 2) HS: Double output input
(8)	安装方位代号 (B3、B6、B7、B8、V5、V6)	Installation position code (B3, B6, B7, B8, V5, V6)
(9)	1) 无代号表示不带电机 2) 电机型号或功率、极数	1) No mark means without motor 2) Model motor (poles of power)
(10)	电机接线盒位置、默认位置 1 可以不写	Position diagram for motor terminal box default position 1 not write out is ok

2.2 主要材料 Main Materials

- 外壳：铝合金（机座 050-090）；
- 齿轮：20CrMnTi，渗碳淬火，齿面硬度 56-62HRC；精磨后保持渗碳层厚度 0.5-0.8mm。
- Housing: die-cast aluminum alloy (frame size: 28 to 58)；
- Gear wheel: 20CrMnTi, carbonize & quencher heat treatment make the hardness of gear's surface up to 56-62 HRC, retain carburization layer's thickness between 0.5 and 0.8mm after precise grinding.

2.3 表面涂装 Surface Painting

- 铝合金外壳：
 - 先抛丸处理，再经特种防腐及喷塑处理，保持银白金质感，并耐汽油，二甲苯等有机溶剂的腐蚀；
 - 磷化处理，再喷热固形塑粉。
- Aluminum alloy housing:
 - Shot blasting and special antiseptic treatment on the aluminum alloy surface.
 - After phosphating, thermosetting plastic powder spray.



4. 选型相关参数 Relevant Parameter

4.1 功率 Power (P)

$$P_1 = \frac{P_2}{\eta} \text{ [kW]}$$

$$P_{1n} \geq P_1 \cdot fs \text{ [kW]}$$

- P_1 输入功率 Input power
- P_2 输出功率 Output power
- P_{1n} 电机额定功率 Rated power driving motor
- fs 使用系数 Service factor
- η 传动效率 Transmission efficiency

KM(GRV) 系列减速器的效率是根据传动级数确定，2级传动效率 η 为94%，3级传动效率 η 为92%。
The efficiency of KM(GRV) gear units varies with the number of gear stages, between 94% (2-stage), 92% (3-stage).

4.2 转速 Rotation Speed (n)

- n_1 减速器输入转速 Gear units input speed
- n_2 减速器输出转速 Gear units output speed

若是齿轮箱外部传动装置驱动，为了优化工作条件和提高使用寿命，建议使用1400r/min或更低转速。允许输入较高的输入转速，但在这种情况下，额定扭矩 M_2 会下降。

If driven by the external gearing, 1400r/min or lower rotation speed is suggested so as to optimize the working conditions and prolong the service life. Higher input rotation speed is permitted, but in this situation, the rated torque M_2 will be reduced.

4.3 传动比 Transmission Ratio (i)

$$i = \frac{n_1}{n_2}$$

传动比通常为小数，在选型表中保留两位小数。
Usually transmission ratio is decimal fraction with 2 radix point tagged in selection tables.

4.4 扭矩 Torque (M)

$$M_2 = \frac{9550 \cdot P_1 \cdot \eta}{n_2} \text{ [Nm]}$$

$$M_{2n} \geq M_2 \cdot fs \text{ [Nm]}$$

- M_2 输出扭矩 Output torque
- M_{2n} 选用输出扭矩 Selected output torque
- P_1 输入功率 Input power
- η 传动效率 Transmission efficiency
- fs 使用系数 Service factor

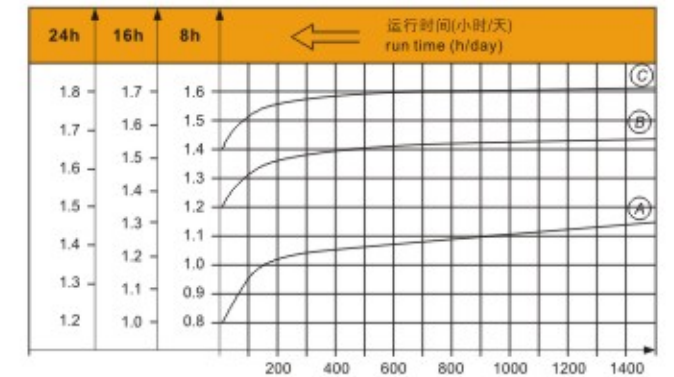
4.5 使用系数 Service Factor (fs)

使用减速器时，应考虑一定的使用系数 fs ，它是根据每天的运转时间和启停频率Z确定的。

The effect of the driven machine on the gear unit is taken into account to a sufficient level of accuracy using the service factor fs . The service factor is determined according to the daily operating time and the starting frequency Z.

根据惯性加速系数确定三种负载类型，在下图中可以读取实际应用的 fs ，按下图选取的使用系数必须小于或等于从性能参数表中提供的 fs 。

Three load classifications are considered depending on the mass acceleration factor. You can read off the service factor applicable to your application in following figure. The service factor selected using this diagram must be less than or equal to the service factor as given in the performance parameter table.



图：使用系数 (fs) 启动频率 Z (次/小时)[#]
Fig: Service factor (fs) Start up frequency Z (1/h)[#]

启动频率 Z: 周期包括所有启动、制动的次数以及变速电机高低速变化时的次数。

Starting frequency Z: The cycles include all starting and braking procedures as well as change overs from low to high speed.

4.5.1 负载类型 Load Classifications

- A. 均匀冲击负载，允许惯性加速系数 $fa \leq 0.2$
- B. 中等冲击负载，允许惯性加速系数 $fa \leq 3$
- C. 重冲击负载，允许惯性加速系数 $fa \leq 10$
- A. Uniform, permitted mass acceleration factor $fa \leq 0.2$
- B. Moderate shock load, permitted mass acceleration factor $fa \leq 3$
- C. Heavy shock load, permitted mass acceleration factor $fa \leq 10$

负载类型：

- 轻负载的螺杆输送，风扇，装备线，输送带，小型搅拌机，电梯，清洗器，过滤器，控制驱动。
- 卷扬机，木工机器进料器，货物起重机，平衡器，绞螺纹机器，中型搅拌机，重型输送带，绞盘，滑动闸门，刮料机，包装机械，混凝土搅拌机，行车驱动装置，铣床，齿轮泵。
- 大型搅拌机，剪床，压机，离心机，旋转支撑装置，重型绞盘和起重器，磨床，石材打磨机，翻斗机，钻床，冲床，凸轴压机，摺床，机床转盘，翻桶装置，振荡装置，破碎机。

Load classifications:

- Screw feeders for light materials, fans, assembly lines, conveyor belts for light materials, small mixers, lifts, cleaning machines, fillers, control machines.
- Winding devices, woodworking machine feeders, goods lifts, balancers, threading machines, medium mixers, conveyor belts for heavy materials, winches, sliding doors, fertilize scrapers, packing machines, concrete mixers, crane mechanisms, milling cutters, folding machines, gear pumps.
- Mixers for heavy materials, shears, presses, centrifuges, rotating supports, winches and lifts for heavy materials, grinding lathes, stone mills, bucket elevators, drilling machines, hammer mills, cam presses, folding machines, turntables, tumbling barrels, vibrators, shredders.

4.5.2 惯性加速系数 Mass Acceleration Factor

惯性加速系数计算如下:

The mass acceleration factor is calculated as follows:

$$f_a = \frac{J_e}{J_m}$$

f_a 惯性加速系数 Mass acceleration factor

J_e 所有外部转动惯量 All external mass moments of inertia (kgm²)

J_m 驱动电机的转动惯量 Mass moment of inertia on the motor end (kgm²)

如果惯性加速系数 $f_a > 10$, 请与我们联系。

If mass acceleration factors $f_a > 10$, please call our Technical Service.

为了保持减速器的使用寿命, 从产品样本中的性能参数表所选择的使用系数 f_s 应等于或略高于计算出的使用系数 f_s 。

举例:

惯性加速系数 2.5(负载类型 B), 运行时间 14 小时 / 天, (按 16 小时 / 天查图) 和每小时 200 次起停, 查图得使用系数 $f_s = 1.48$ 。根据性能参数表所选择的使用系数 $f_s \geq 1.48$ 。

To keep the service-life of gear units, the use factor f_s selected from the catalogue must be equal or slightly higher than the calculated use factor f_s .

Example:

Mass acceleration factor 2.5 (load classification B), 14 hours/day operating time (read off at 16h/d) and 200 cycles/hour result in a service factor $f_s = 1.48$. choose the service factor $f_s \geq 1.48$ according to the parameter sheet.

4.6 径向载荷和轴向载荷 Overhung loads and axial forces

在确定影响径向载荷时, 必须考虑安装在轴端上的传动件类型。不同类型的传动件的传动附加系数 f_z , 列表如下:

传动件 Transmission element	传动附加系数 Transmission element factor f_z	注释 Comments
齿轮 Gears	1.15	<17 齿 <17 teeth
链轮 Chain sprockets	1.25	<20 齿 <20 teeth
链轮 Chain sprockets	1.40	<13 齿 <13 teeth
V 带轮 Narrow V-belt pulleys	1.75	有预紧力作用 Influence of the tensile force
平带轮 Flat belt pulleys	2.50	有预紧力作用 Influence of the tensile force
齿带轮 Toothed belt pulleys	2.50	有预紧力作用 Influence of the tensile force

作用在电机和齿轮轴上的径向载荷按如下公式计算:

The overhung loads exerted on the motor or gear shaft is then calculated as follows:

$$F_r = \frac{M \cdot 2000 \cdot f_z}{d_o} \text{ [N]}$$

F_r 作用在轴上的载荷 [N] Resulting radial load [N]

M 作用在轴上的扭矩 [Nm] Torque on the shafts [Nm]

d_o 安装在轴上传动件的平均直径 [mm]

Mean diameter of the mounted transmission element in [mm]

f_z 传动附加系数 Transmission element factor

许用径向载荷是根据轴承额定使用寿命 L_{10h} 来估算的 (根据 ISO281)。对于特殊的运行条件, 许用径向载荷是根据修正使用寿命 L_{na} 来确定。

当作用点偏离出轴中点时, 许用径向载荷须按以下公式来计算, 取在 x 点的许可数值 F_{xL} (根据轴承的使用寿命)。

The basis for determining the permitted radial loads is the computation of the rated service life L_{10h} of the bearings (according to ISO281). For special operating conditions, the permitted radial loads can be determined with regard to the modified service life L_{na} .

The permitted radial loads given in the selection tables must be calculated using the following formula in the event of force application not in the center of the shaft end. The smaller of the two values F_{xL} (according to bearing service life).

根据轴承的使用寿命公式:

According to bearing service life:

$$F_{xL} = F_{r1,2} \cdot \frac{a}{b+x} \text{ [N]}$$

F_{r1}, F_{r2} = 性能参数表中的许用径向载荷 ($x=L/2$) [N]

X = 从轴肩到受力点的距离 [mm]

$a, b,$ = 减速器径向转化常量 [mm]

F_{r1}, F_{r2} = Permitted overhung load ($x=L/2$) for foot-mounted gear units according to the selection tables in [N]

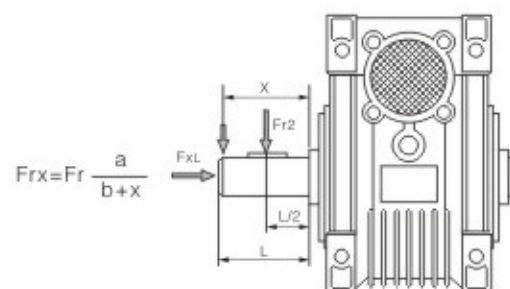
X = Distance from the shaft shoulder to the force application point in [mm]

$a, b,$ = Gear unit constant for overhung load conversion [mm]

When determining the resulting radial loads, the type of transmission elements, mounted on the shaft end must be considered. Various transmission elements are corresponding with following transmission element factors f_z :

输出轴径向载荷 Output shafts radial loads

F_{a2} = 输出轴向载荷 Output axial loads



KM (GRV) 减速器径向转化常量

Gear unit constants for overhung load conversion:

Item:	KM050B	KM050C	KM063B	KM063C	KM075B	KM075C	KM090B	KM090C
a	104	104	118	118	131	131	159	159
b	78	78	93	93	101	101	119	119

4.7 选型表注释 Selection tables comments

- 表示电机与减速器的组合是可行的
Combination with the motor in the header row is possible
- 表示电机与减速器的组合是不可行的
Combination with the motor in the header row is not possible
- * 表示速比可除尽 Finite gear unit reduction ratio
- P_{1n} 电机额定功率 Rated power driving motor [kW]
- n_2 输出转速 Output speed [r/min]
- M_{2n} 输出扭矩 Output torque [Nm]

5. 选型举例 Selection Example

5.1 减速电机 Gear Motor

例: 被驱动设备所需功率 0.25kW, 工作 8 小时 / 天, 中等冲击, 启动频率 100 次 / 小时, 输出转速 $n_2=35$ r/min, 减速机要求 B3 安装, 则: 查 P6 使用系数图表即可选使用系数 $f_s=1.3$

Example: Required power 0.25kW on driven machine, work for 8h/day, moderate shock load, start up frequency 100(1/h), $n_2=35$ r/min, B3 mounted, So: Check the service factor table at page 6, choose $f_s=1.3$

$$i = \frac{n_1}{n_2} = \frac{1400}{35} = 40$$

$$P_{1n} \geq P_1 \cdot f_s = \frac{P_2}{\eta} \cdot f_s = \frac{0.25}{0.94} \times 1.3 = 0.345 \text{ [kW]}$$

查 KM (GRV) / TKB 系列性能参数表可确定减速电机型号为:

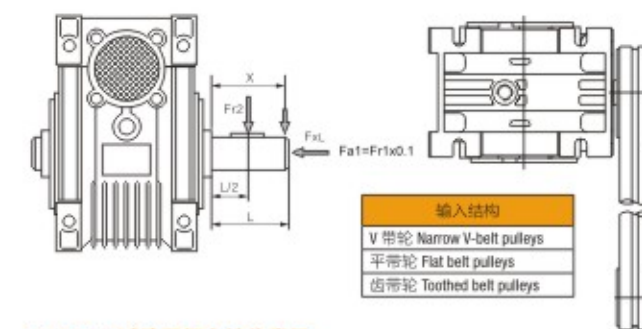
KM (GRV) 050B - 40.09 - 7185 - 7124 - B3

输入轴径向载荷 Input shafts radial loads

F_{a1} = 输入轴向载荷 Input axial loads

右示图的输入不被允许使用 (包括三级输入)。

It is forbidden to use the input on the right chart (including 3 stage input).



KM (GRV) 减速器径向转化常量

Gear unit constants for overhung load conversion:

Item:	KM050B	KM050C	KM063B	KM063C	KM075B	KM075C	KM090B	KM090C
a	51.5	56	58	56	73	70	81	70
b	40	44.5	43	44.5	53	55	61	55

- M_{2max} 最大允许输出扭矩 Max. permissible output torque [Nm]
- F_{r2} 输出轴径向载荷 Permissible overhung load output side [N]
- i 减速器公称传动比 Gear unit nominal ratio
- i_a 减速器实际传动比 Gear unit actual ratio
- f_s 使用系数 Service factor
- 减速器型号 Gear unit type
- 电机型号 Motor type
- page 外形尺寸表页码 Dimension sheet page No.

5.2 减速器 Gear Units

例: 被驱动设备所需扭矩为 200Nm, 工作 8 小时 / 天, 均匀冲击负载, 启动频率 400 次 / 小时, 减速机要求 FA1 法兰安装, 减速机要求输入转速 900 r/min, 输出转速 $n_2=6$ r/min, 查性能参数表可知, 只选能三级传动形式。

查 P6 使用系数图表即可选使用系数 $f_s=1.05$

Example: Required torque 200Nm on driven machine, work 8 h/day, uniform load, start up frequency 400(1/h), FA1 mounted, $n_1=900$ r/min, $n_2=2.5$ r/min, so the only selection is 3 stage after checked the table:

Check the service factor table at page 6, choose $f_s=1.05$

$$i = \frac{n_1}{n_2} = \frac{900}{6} = 150$$

$$M_{2n} \geq M_2 \cdot f_s = 200 \times 1.05 = 210 \text{ [Nm]}$$

$$P_{1n} \geq P_1 \cdot f_s = \frac{M_2 \cdot n_1}{9550 \cdot \eta \cdot i} \cdot f_s = \frac{210 \times 900}{9550 \times 0.92 \times 150} \times 1.05 = 0.151 \text{ [kW]}$$

查 KM (GRV) / TKB 系列性能参数表可确定减速器型号为:

KM (GRV) 075C - 151.20-FA1

6. 减速器选型表 Gear Unit Selection Tables

6.1 减速器组合表 Possible Geometrical Combinations

KM(GRV)050... n₁=1400r/min

允许最大负荷 130Nm

减速器型号 Gear Unit	i 公称 Nominal	i 实际 Actual	n ₂ [r/min]	M _{2max} [Nm]	F ₂ [N]	63B5	71B5 71B14	80B5 80B14	90B5 90B14
3级 /3 Stage									
KM(GRV)050C	300	283.14	4.8	110	4100				
KM(GRV)050C	250	239.8	5.8	130	4100				
KM(GRV)050C	200	196.7	7	130	4100				
KM(GRV)050C	150	144	9.6	130	4000				
KM(GRV)050C	120	118	12	130	3770				
KM(GRV)050C	100	99.2	14	130	3560				
KM(GRV)050C	75	73.2	19	130	3220				
KM(GRV)050C	60	67.22	23	120	3030				
KM(GRV)050C	50	51.4	27	110	2860				
2级 /2 Stage									
KM(GRV)050B	60	57.67	24	110	2960				
KM(GRV)050B	50	48.85	29	130	2790				
KM(GRV)050B	40	40.08	35	130	2610				
KM(GRV)050B	30	29.33	48	130	2350				
KM(GRV)050B	25	24.06	59	130	2200				
KM(GRV)050B	20	20.20	70	130	2080				
KM(GRV)050B	15	14.92	94	130	1880				
KM(GRV)050B	12.5	12.47	113	130	1770				
KM(GRV)050B	10	10.47	134	130	1670				
KM(GRV)050B	7.5	7.73	182	100	1510				

KM(GRV)063... n₁=1400r/min

允许最大负荷 200Nm

减速器型号 Gear Unit	i 公称 Nominal	i 实际 Actual	n ₂ [r/min]	M _{2max} [Nm]	F ₂ [N]	63B5	71B5 71B14	80B5 80B14	90B5 90B14
3级 /3 Stage									
KM(GRV)063C	300	289	4.7	170	4800				
KM(GRV)063C	250	230	5.8	200	4800				
KM(GRV)063C	200	200	7.2	200	4800				
KM(GRV)063C	150	157	9.3	200	4650				
KM(GRV)063C	125	124.9	12	200	4330				
KM(GRV)063C	100	97.7	14	200	4070				
KM(GRV)063C	75	71.5	20	160	3650				
KM(GRV)063C	60	64.7	23	140	3480				
KM(GRV)063C	50	50.65	27	120	3270				
2级 /2 Stage									
KM(GRV)063B	60	63.83	24	170	3430				
KM(GRV)063B	50	50.28	29	200	3190				
KM(GRV)063B	40	40.15	36	200	2940				
KM(GRV)063B	30	31.42	47	200	2720				
KM(GRV)063B	25	24.98	58	200	2530				
KM(GRV)063B	20	19.5	70	200	2380				
KM(GRV)063B	15	14.3	96	190	2130				
KM(GRV)063B	12.5	12.94	111	165	2030				
KM(GRV)063B	10	10.13	134	135	1910				
KM(GRV)063B	7.5	7.41	185	100	1710				

KM(GRV)075... n₁=1400r/min

允许最大负荷 350Nm


减速器型号 Gear Unit	i 公称 Nominal	i 实际 Actual	n ₂ [r/min]	M _{2max} [Nm]	F ₂ [N]	63B5	71B5	80B5 80B14	90B5 90B14	100B5 100B14	112B5 112B14
3级 /3 Stage											
KM(GRV)075C	300	291.3	4.8	350	6500						
KM(GRV)075C	250	254	5.9	350	6500						
KM(GRV)075C	200	194.5	7.0	350	6500						
KM(GRV)075C	150	148.5	9.3	350	6500						
KM(GRV)075C	120	127	12	350	5980						
KM(GRV)075C	100	97.5	15	350	5520						
KM(GRV)075C	75	76	19	350	5040						
KM(GRV)075C	60	60	23	350	4730						
KM(GRV)075C	50	47	29	350	4370						
2级 /2 Stage											
KM(GRV)075B	60	57	24	350	4660						
KM(GRV)075B	50	49.76	30	350	4340						
KM(GRV)075B	40	38	35	350	4080						
KM(GRV)075B	30	29.6	47	350	3720						
KM(GRV)075B	25	25.78	56	350	3500						
KM(GRV)075B	20	19.09	71	350	3230						
KM(GRV)075B	15	14.87	93	350	2950						
KM(GRV)075B	12.5	11.8	113	350	2770						
KM(GRV)075B	10	9.21	143	350	2550						
KM(GRV)075B	7.5	8	188	280	2330						

KM(GRV)090... n₁=1400r/min


允许最大负荷 500Nm

减速器型号 Gear Unit	i 公称 Nominal	i 实际 Actual	n ₂ [r/min]	M _{2max} [Nm]	F ₂ [N]	63B5	71B5	80B5 80B14	90B5 90B14	100B5 100B14	112B5 112B14
3级 /3 Stage											
KM(GRV)090C	300	300.5	4.8	460	8300						
KM(GRV)090C	250	266.3	5.9	500	8300						
KM(GRV)090C	200	203.14	7.0	500	8300						
KM(GRV)090C	150	158.09	9.3	500	8050						
KM(GRV)090C	125	128.65	12	500	7580						
KM(GRV)090C	100	99.74	12	500	7000						
KM(GRV)090C	75	80.3	19	500	6390						
KM(GRV)090C	60	63.3	23	450	6000						
KM(GRV)090C	50	49.4	29	350	5540						
2级 /2 Stage											
KM(GRV)090B	60	58.8	24	460	5890						
KM(GRV)090B	50	52.1	30	500	5500						
KM(GRV)090B	40	39.8	35	500	5170						
KM(GRV)090B	30	31.09	47	500	4710						
KM(GRV)090B	25	25.05	56	500	4430						
KM(GRV)090B	20	19.51	71	500	4090						
KM(GRV)090B	15	15.7	93	500	3730						
KM(GRV)090B	12.5	12.38	113	460	3510						
KM(GRV)090B	10	9.67	143	360	3240						
KM(GRV)090B	7.5	7.79	188	280	2950						


6.2 KM(GRV) 性能参数 Performance Parameter

P _{in} [kW]	n ₂ [r/min]	M _{b2} [Nm]	i		F _{r2} [N]	f _s		Page	
			公称 Nominal	实际 Actual					
0.12	5.7	184	250	239.8	4100	0.7	KM(GRV)050C	63B5	28 页
	7.0	151	200	196.7	4100	0.9			
	9.5	110	150	144	4000	1.2			
	11.6	91	120	118	3770	1.4			
	13.9	76	100	99.2	3580	1.7			
	18.8	56	75	73.2	3220	2.3			
	22.5	47	60	61.22	3030	2.6			
	26.7	39	50	51.4	2860	2.8			
	24.0	45	60	57.67	2960	2.4			
	28.7	38	50	48.85	2790	3.5			
	35	31	40	40.08	2610	4.2			
	48	23	30	29.33	2350	5.8			
	58	18.5	25	24.06	2200	7.0			
	69	15.6	20	20.20	2080	8.4			
	94	11.5	15	14.92	1880	11.3			
	112	9.6	12.5	12.47	1770	13.5			
	134	8.1	10	10.47	1670	16.1			
	181	5.9	8	7.73	1510	16.8			
	5.7	183	250	230	4800	1.1	KM(GRV)050B	63B5	28 页
	7.1	148	200	200	4800	1.4			
9.2	114	150	157	4650	1.8				
11.5	92	125	124.9	4330	2.2				
13.8	76	100	97.7	4070	2.6				
19.1	55	75	71.5	3650	2.9				
22.1	48	60	64.7	3480	2.9				
26.7	40	50	50.65	3270	3.0				
23.1	47	60	63.83	3430	3.7				
28.7	37	50	50.28	3190	5.3				
36	30	40	40.15	2970	6.6				
46	23	30	31.42	2720	8.6				
4.7	224	300	291.3	6500	1.6	KM(GRV)063C	63B5	29 页	
5.8	181	250	254	6500	1.9				
7.0	151	200	194.5	6500	2.3				
9.3	114	150	148.5	6500	3.1				
11.1	95	125	127	5980	3.7				
4.7	222	300	295.18	8300	2.1	KM(GRV)063B	63B5	29 页	
5.8	181	250	240.89	8300	2.8				
7.0	151	200	200.66	8300	3.3				
9.0	114	150	151.20	8050	4.4				
11.1	95	125	127	5980	3.7				
4.7	222	300	295.18	8300	2.1	KM(GRV)075C	63B5	30 页	
5.8	181	250	240.89	8300	2.8				
7.0	151	200	200.66	8300	3.3				
9.0	114	150	151.20	8050	4.4				
11.1	95	125	127	5980	3.7				
4.7	222	300	295.18	8300	2.1	KM(GRV)090C	63B5	31 页	
5.8	181	250	240.89	8300	2.8				
7.0	151	200	200.66	8300	3.3				
9.0	114	150	151.20	8050	4.4				
11.1	95	125	127	5980	3.7				
9.6	165	300	283.14	4000	0.7	KM(GRV)050C	63B5	28 页	
11.5	138	250	239.8	3790	0.9				
14.0	113	200	196.7	3550	1.1				
19.1	83	150	144	3200	1.6				
23.3	68	125	118	2990	1.9				
27.7	57	100	99.2	2820	2.3				


KM(GRV) 性能参数 Performance Parameter

P _{in} [kW]	n ₂ [r/min]	M _{b2} [Nm]	i		F _{r2} [N]	f _s		Page	
			公称 Nominal	实际 Actual					
0.12	38	42	75	73.2	2550	3.1	KM(GRV)050C	63B5	28 页
	45	35	60	61.22	2400	3.4			
	53	30	50	51.40	2270	3.7			
	48	34	60	57.67	2350	3.3			
	57	28	50	48.85	2220	4.6			
	70	23	40	40.08	2070	5.6	KM(GRV)050B	63B5	28 页
	95	16.9	30	29.33	1870	7.7			
	116	13.9	20	24.06	1750	9.4			
	11.6	136	120	118	3770	1.0			
	13.9	114	100	99.2	3560	1.1			
	18.8	84	75	73.2	3220	1.5	KM(GRV)050C	63B5	28 页
	22.5	70	60	61.22	3030	1.7			
	26.7	59	50	51.40	2860	1.9			
	24.0	67	60	57.67	2960	1.6			
	28.7	56	50	48.85	2790	2.3			
	35	46	40	40.08	2610	2.8	KM(GRV)050B	63B5	28 页
	48	34	30	29.33	2350	3.8			
	58	28	25	24.06	2200	4.7			
	69	23	20	20.20	2080	5.6			
	94	17.2	15	14.92	1880	7.5			
112	14.4	13	12.47	1770	9.0	KM(GRV)050C	71B5/B14	28 页	
134	12.1	10	10.47	1670	10.8				
181	8.9	7.5	7.73	1510	11.2				
12.1	131	75	74.62	3730	1.0				
14.4	110	60	61.22	3510	1.1				
17.2	92	50	51.40	3310	1.2	KM(GRV)050B	71B5/B14	28 页	
15.4	105	60	57.67	3430	1.0				
18.4	88	50	48.85	3240	1.5				
22.4	72	40	40.08	3030	1.8				
31	53	30	29.33	2730	2.5				
37	43	25	24.06	2550	3.0	KM(GRV)063C	63B5	29 页	
45	36	20	20.20	2410	3.6				
60	27	15	14.92	2180	4.9				
72	22	12	12.47	2050	5.8				
9.3	171	300	289	4650	1.0				
11.5	138	250	230	4330	1.5	KM(GRV)063C	63B5	29 页	
14.3	111	200	200	4030	1.8				
18.5	86	150	157	3690	2.3				
22.9	89	125	124.9	3440	2.9				
27.6	57	100	97.7	3230	3.5				
38	41	75	71.5	2900	3.9	KM(GRV)063C	63B5	29 页	
44	36	60	64.7	2760	3.9				
53	30	50	50.65	2590	4.0				
7.1	222	200	200	4800	0.9				
9.2	171	150	157	4650	1.2				


KM(GRV)性能参数 Performance Parameter

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F_{r2} [N]	f_s		Page	
0.18	11.5	138	125	124.9	4330	1.4	KM(GRV)063C	63B5	29 页
	13.8	114	100	97.7	4070	1.7			
	19.1	83	75	71.5	3650	1.9			
	22.1	72	60	64.7	3480	2.0			
	26.7	59	50	50.28	3270	2.0			
	23.1	70	60	63.83	3430	2.4	KM(GRV)063B	63B5	29 页
	28.7	56	50	50.28	3190	3.6			
	36.0	45	40	40.15	2970	4.4			
	7.4	215	125	124.9	4800	0.9	KM(GRV)063C	71B5/B14	29 页
	8.9	178	100	97.7	4720	1.1			
	12.3	129	75	71.5	4230	1.2			
	14.2	111	60	64.7	4030	1.3			
	17.1	92	50	50.65	3790	1.3			
	14.9	109	60	63.83	3970	1.6	KM(GRV)063B	71B5/B14	29 页
	18.5	87	50	50.28	3690	2.3			
	22.9	71	40	40.15	3440	2.8			
	29.7	54	30	31.42	3150	3.7			
	9.4	168	300	291.3	6320	2.1	KM(GRV)075C	63B5	30 页
	11.6	136	250	254	5890	2.6			
	14.0	113	200	194.5	5540	3.1			
	18.5	85	150	148.5	5040	3.1			
	4.7	336	300	291.3	6500	1.0			
	5.8	272	250	254	6500	1.3			
	7.0	227	200	194.5	6500	1.5			
	9.3	171	150	148.5	6500	2.0			
	11.1	142	120	127	5980	2.5			
	14.1	112	100	97.5	5520	3.1	KM(GRV)075C	71B5	30 页
	18.6	85	75	76	5040	4.1			
	4.5	353	200	194.5	6500	1.0			
	6.0	266	150	148.5	6500	1.3			
	7.1	221	120	127	6500	1.6			
	9.1	174	100	97.5	6400	2.0	KM(GRV)075B	71B5	30 页
	11.9	133	75	76	5840	2.6			
	14.4	110	60	60	5480	3.2			
	18.3	86	50	47	5060	4.1			
	15.1	107	60	57	5390	3.3			
	18.7	87	50	49.76	5030	4.0	KM(GRV)090C	63B5	31 页
	9.5	167	300	295.18	7990	2.8			
	11.6	136	250	240.89	7470	3.7			
	4.7	333	300	295.18	8300	1.4	KM(GRV)090C	63B5	31 页
5.8	272	250	240.89	8300	1.8				
7.0	227	200	200.66	8300	2.2				
9.3	171	150	151.20	8050	2.9				
11.1	142	125	125.95	7580	3.5				
3.7	423	250	240.89	8300	1.2	KM(GRV)090C	71B5	31 页	


KM(GRV)性能参数 Performance Parameter

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F_{r2} [N]	f_s		Page			
0.18	4.5	353	200	200.66	8300	1.4	KM(GRV)090C	71B5	31 页		
	6.0	266	150	151.20	8300	1.9					
	7.1	221	125	125.95	8300	2.3					
	9.1	174	100	99.22	8110	2.9					
	11.9	133	75	75.45	7400	3.8					
	14.4	110	60	62.43	6950	4.1					
	19.1	115	150	144	3200	1.1				KM(GRV)050C	63B5
23.3	94	120	118	2990	1.4						
27.7	79	100	99.2	2820	1.6						
38	59	75	73.2	2550	2.2						
45	49	60	61.22	2400	2.5						
53	41	50	51.40	2270	2.7	KM(GRV)050B	63B5	28 页			
48	47	60	57.67	2350	2.4						
57	39	50	48.85	2220	3.3						
70	32	40	40.08	2070	4.0	KM(GRV)050C	71B5/B14	28 页			
18.8	117	75	73.2	3220	1.1						
22.5	98	60	61.22	3030	1.2						
26.7	82	50	51.40	2860	1.3						
24	94	60	57.67	2960	1.2				KM(GRV)050B	71B5/B14	28 页
28.7	78	50	48.85	2790	1.7						
35	64	40	40.08	2610	2.0						
48	47	30	29.33	2350	2.8						
58	39	25	24.06	2200	3.4	KM(GRV)050B	71B5/B14	28 页			
69	32	20	20.20	2080	4.0						
94	24	15	14.92	1880	5.4						
18.4	122	50	48.85	3240	1.1				KM(GRV)050B	71B5/B14	28 页
22.4	100	40	40.08	3030	1.3						
31	73	30	29.33	2780	1.8						
37	60	25	24.06	2550	2.2						
45	50	20	20.20	2410	2.6	KM(GRV)063C	63B5	29 页			
60	37	15	14.92	2180	3.5						
72	31	13	12.47	2050	4.2						
86	26	10	10.47	1930	5.0						
116	19	8	7.73	1750	5.2				KM(GRV)063C	71B5/B14	29 页
11.5	191	250	239.8	4330	1.0						
14.3	154	200	196.7	4030	1.3						
18.5	119	150	144	3690	1.7						
22.9	96	120	118	3440	2.1						
27.6	79	100	99.2	3230	2.5	KM(GRV)063C	71B5/B14	29 页			
38	58	75	73.2	2900	2.8						
44	50	60	61.22	2760	2.8						
55	41	50	51.40	2590	2.9						
11.5	192	120	118	4330	1.0				KM(GRV)063C	71B5/B14	29 页
13.8	159	100	99.2	4070	1.3						
19.1	115	75	73.2	3650	1.4						

KM(GRV)性能参数 Performance Parameter

P_{in} [kW]	n_2 [r/min]	M_{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F_{t2} [N]	f_s		Page	
0.25	22.1	99	60	61.22	3480	1.4	KM(GRV)063C	71B5/B14	29 页
	26.7	82	50	51.40	3270	1.5			
	23.1	97	60	57.67	3430	1.8	KM(GRV)063B	71B5/B14	29 页
	28.7	78	50	48.85	3190	2.6			
	36	63	40	40.08	2970	3.2			
	46	49	30	29.33	2720	4.1			
	12.3	179	75	73.2	4230	0.9	KM(GRV)063C	71B5/B14	29 页
	14.2	155	60	61.22	4030	0.9			
	17.1	128	50	51.40	3790	0.9	KM(GRV)063B	71B5/B14	29 页
	14.9	151	60	57.67	3970	1.1			
	18.5	121	50	48.85	3690	1.6			
	22.9	98	40	40.08	3440	2.0			
	29.7	76	30	29.33	3150	2.6			
	37	61	25	24.06	2930	3.3			
	44	50	20	20.20	2760	4.0			
	9.4	233	300	291.3	6320	1.5			
	11.6	189	250	254	5890	1.9			
	14.0	157	200	194.5	5540	2.2			
	18.5	119	150	148.5	5040	3.0			
	22.2	99	125	127	4750	3.5	KM(GRV)075C	71B5	30 页
	5.8	378	250	254	6500	0.9			
	7.0	315	200	194.5	6500	1.1			
	9.0	237	150	148.5	6500	1.5			
	11	198	120	127	5980	1.8	KM(GRV)075C	71B5	30 页
	14	156	100	97.5	5520	2.2			
	19	118	75	76	5040	3.0			
	22.4	98	60	60	4730	3.6			
	6	369	150	148.5	6500	0.9	KM(GRV)075C	71B5	30 页
	7.1	307	125	127	6500	1.1			
	9.1	242	100	97.5	6400	1.4			
	11.9	184	75	76	5840	1.9			
	14	152	60	60	5480	2.3	KM(GRV)075B	71B5	30 页
	18.3	120	50	47	5060	2.9			
	15.1	148	60	57	5390	2.4			
	18.7	120	50	49.76	5030	2.9			
	22.4	100	40	38	4730	2.5	KM(GRV)090C	63B5	31 页
	9.5	232	300	295.18	7990	2.0			
	11.6	189	250	240.89	7470	2.6			
	14.0	157	200	200.66	7030	3.2			
	18.5	119	150	151.20	6390	4.2	KM(GRV)090C	71B5	31 页
4.7	463	300	295.18	8300	1.0				
5.8	378	250	240.89	8300	1.3				
7.0	315	200	200.66	8300	1.6				
9	237	150	151.20	8050	2.1	KM(GRV)090C	71B5	31 页	
11	198	125	125.95	7580	2.5				

KM(GRV)性能参数 Performance Parameter

P_{in} [kW]	n_2 [r/min]	M_{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F_{t2} [N]	f_s		Page			
0.25	14	156	100	99.22	7000	3.2	KM(GRV)090C	71B5	31 页		
	18.6	118	75	75.45	6390	4.2					
	4.5	490	200	200.66	8300	1.0	KM(GRV)090C	71B5	31 页		
	6.0	369	150	151.26	8300	1.4					
	7.1	307	125	125.95	8300	1.6					
	9.1	242	100	99.22	8110	2.1					
	11.9	184	75	75.45	7400	2.7					
	14.4	152	60	62.43	6950	3.0					
	18.3	120	50	49.18	6420	2.9	KM(GRV)090B	71B5	31 页		
	15.2	147	60	59.04	6820	3.1					
	18.7	120	50	48.18	6370	4.2	KM(GRV)050C	71B5/B14	28 页		
	23.3	140	120	118	2990	0.9					
27.7	117	100	99.2	2820	1.1						
38	87	75	73.2	2550	1.5						
45	72	60	61.22	2400	1.7						
53	61	50	51.40	2270	1.8						
48	69	60	57.67	2350	1.6	KM(GRV)050B				71B5/B14	28 页
57	58	50	48.85	2220	2.2						
70	48	40	40.08	2070	2.7						
95	35	30	29.33	1870	3.7						
28.7	116	50	48.85	2790	1.1	KM(GRV)050B				71B5/B14	28 页
35	95	40	40.08	2610	1.4						
48	70	30	29.33	2350	1.9						
58	57	25	24.06	2200	2.3						
69	48	20	20.20	2080	2.7						
94	35	15	14.92	1880	3.7						
112	30	13	12.47	1770	4.4						
134	25	10	10.47	1670	5.2						
181	18	7.5	7.73	1510	5.5						
31	108	30	29.33	2730	1.2		KM(GRV)050B	80B5/B14	28 页		
37	89	25	24.06	2550	1.5						
45	75	20	20.20	2410	1.7						
60	55	15	14.92	2180	2.4						
72	46	13	12.47	2050	2.8						
86	39	10	10.47	1930	3.4						
116	29	7.5	7.73	1750	3.5						
14.3	228	200	200	4030	0.8	KM(GRV)063C				71B5/B14	29 页
18.5	176	150	157	3690	1.1						
22.9	142	125	124.9	3440	1.4						
27.6	118	100	99.7	3230	1.7						
38	85	75	71.5	2900	1.9						
44	74	60	64.7	2760	1.9						
53	61	50	50.65	2590	2.0	KM(GRV)063B	71B5/B14	29 页			
46	72	60	63.83	2720	2.4						
57	58	50	50.28	2530	3.5						


KM(GRV)性能参数 Performance Parameter

P _{in} [kW]	n ₂ [r/min]	M _{2n} [Nm]	i		F ₂ [N]	fs	Image	Page	
			公称 Nominal	实际 Actual					
0.37	71	47	40	40.15	2350	4.3	KM(GRV)063B	71B5/B14	29页
	13.8	235	100	97.7	4070	0.9			
	19.1	170	75	71.5	3650	0.9	KM(GRV)063C	71B5/B14	29页
	22.1	147	60	64.7	3480	1.0			
	26.7	122	50	50.65	3270	1.0	KM(GRV)063B	71B5/B14	29页
	23.1	144	60	63.83	3430	1.2			
	28.7	116	50	50.28	3190	1.7			
	36	93	40	40.15	2970	2.1			
	46	72	30	31.42	2720	2.8			
	57	58	25	24.98	2530	3.4			
	69	48	20	19.5	2380	4.2			
	18.5	180	50	50.28	3690	1.1			
	22.9	145	40	40.15	3440	1.4			
	29.7	112	30	31.42	3150	1.8			
	37	90	25	24.98	29302	2	KM(GRV)063B	80B5/B14	29页
	44	75	20	19.5	27602	7			
	61	54	15	14.3	2470	3.5			
	71	47	12.5	12.94	2360	3.5			
	86	39	10	10.13	2210	3.5	KM(GRV)075C	71B5	30页
	118	28	7.5	7.41	1990	3.6			
	9.4	345	300	291.3	6320	1.0			
	11.6	280	250	254	5890	1.3			
	14.0	233	200	194.5	5540	1.5			
	18.5	176	150	148.5	5040	2.0			
	22.2	146	125	127	4750	2.4			
	28.2	115	100	97.5	4380	3.0			
	37	88	75	76	4000	4.0			
	9.3	351	150	148.5	6500	1.0			
	11.1	292	125	127	5980	1.2			
	14.1	230	100	97.5	5520	1.5			
	18.6	175	75	76	5040	2.0			
	22.4	145	60	60	4730	2.4			
	28.5	114	50	47	4370	3.1			
	23.6	141	60	57	4660	2.5			
	29.1	114	50	49.76	4340	3.1			
	35	95	40	38	4080	3.7			
	9.1	358	100	97.5	6400	1.0	KM(GRV)075C	80B5/B14	30页
	11.9	273	75	76	5840	1.3			
	14.4	225	60	60	5480	1.6			
	18.3	178	50	47	5060	2.0			
15.1	219	60	57	5390	1.6				
18.7	178	50	49.76	5030	2.0				
22.4	148	40	38	4730	2.4				
29.8	112	30	29.6	4310	3.1				
36	93	25	25.78	4050	3.8				


KM(GRV)性能参数 Performance Parameter

P _{in} [kW]	n ₂ [r/min]	M _{2n} [Nm]	i		F ₂ [N]	fs	Image	Page		
			公称 Nominal	实际 Actual						
0.37	9.5	343	300	295.18	7990	1.3	KM(GRV)090C	71B5	31页	
	11.6	280	250	240.89	7470	1.8				
	14	233	200	200.66	7030	2.1				
	18.5	176	150	151.20	6390	2.8				
	22.2	146	125	125.95	6010	3.4				
	5.8	559	250	240.89	8300	0.9	KM(GRV)090C	71B5	31页	
	7	466	200	200.66	8300	1.1				
	9.3	351	150	151.20	8050	1.4				
	11.1	292	125	125.95	7580	1.7				
	14.1	230	100	99.22	7000	2.2				
	18.6	175	75	75.45	6390	2.9				
	22.4	145	60	62.43	6000	3.1				
	28.5	114	50	49.18	5540	3.1				
	23.7	140	60	59.04	5890	3.3				
	29.1	114	50	48.18	5500	4.4				
	6.0	546	150	151.20	8300	0.9	KM(GRV)090C	80B5/B14	31页	
	7.1	455	125	125.95	8300	1.1				
	9.1	358	100	99.22	8110	1.4				
	11.9	273	75	75.45	7400	1.8				
	14.4	225	60	62.43	6950	2.0				
	18.3	178	50	49.18	6420	2.0				
	15.2	218	60	59.04	3820	2.1				
	18.7	178	50	48.18	6370	2.8				
	22.4	148	40	40.13	6000	3.4				
	38	129	75	73.2	2550	1.0				KM(GRV)050C
	45	108	60	61.22	2400	1.1				
	53	90	50	51.40	2270	1.2				
	48	103	60	57.67	2350	1.1				
	57	86	50	48.85	2220	1.5				
	0.55	70	71	40	40.08	2070	1.8	KM(GRV)050B	70B5/B14	28页
		95	52	30	29.33	1870	2.5			
		116	42	25	24.06	1750	3.1			
		139	36	20	20.20	1650	3.6			
		35	141	40	40.08	2610	0.9			
		48	103	30	29.33	2350	1.3	KM(GRV)050B	80B5/B14	28页
		58	85	25	24.06	2200	1.5			
		69	71	20	20.20	2080	1.8			
		94	53	15	14.92	1880	2.5			
		112	44	12.5	12.47	1770	3.0			
		134	37	10	10.47	1670	3.5			
181		27	7.5	7.73	1510	3.7				
37		132	25	24.06	2550	1.0				
45		111	20	20.20	2410	1.2				
60		82	15	14.92	2180	1.6				
72		68	12.5	12.47	2050	1.9	KM(GRV)050B	80B5/B14	28页	


KM(GRV)性能参数 Performance Paramater

P _{1n} [kW]	n ₂ [r/min]	M _{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F ₂ [N]	f _s		Page				
0.55	86	57	10	10.47	1930	2.3	KM(GRV)050B 80B5/B14	28 页				
	116	42	7.5	7.73	1750	2.4						
	22.9	211	125	124.9	3440	0.9						
	27.6	175	100	97.7	3230	1.1						
	KM(GRV)063C 71B5/B14	38	127	75	71.5	2990	1.3	KM(GRV)063C 71B5/B14	29 页			
		44	109	60	64.7	2760	1.3					
		53	91	50	50.65	2590	1.3					
		46	107	60	63.83	2720	1.6					
		57	86	50	50.28	2530	2.3					
		71	69	40	40.15	2350	2.9					
		92	53	30	31.42	2160	3.7					
		28.7	172	50	50.28	3190	1.2					
		36	139	40	40.15	2970	1.4					
		46	107	30	31.42	2720	1.9					
		57	86	25	24.98	2530	2.3					
		69	71	20	19.5	2380	2.8					
	KM(GRV)063B 80B5/B14	95	52	15	14.3	2130	3.7	KM(GRV)063B 80B5/B14	29 页			
		110	45	12.5	12.94	2030	3.7					
		133	37	10	10.13	1910	3.6					
		184	27	7.5	7.41	1710	3.7					
		22.9	216	40	40.15	3440	0.9					
		29.7	166	30	31.42	3150	1.2					
		KM(GRV)063B 80B5/B14	37	134	25	24.98	2930			1.5	KM(GRV)063B 80B5/B14	29 页
			44	111	20	19.5	2760			1.8		
			61	80	15	14.3	2470			2.4		
			71	70	12.5	12.94	2360			2.4		
			86	58	10	10.13	2210			2.3		
			118	42	7.5	7.41	1990			2.4		
	14.0		346	200	194.5	5540	1.0					
	18.5		261	150	148.5	5040	1.3					
	22.2		217	125	127	4750	1.6					
	28.2		171	100	97.5	4380	2.0					
	37		130	75	76	4000	2.7					
	45		108	60	60	3750	3.2					
	KM(GRV)075C 71B5	57	85	50	47	3470	4.1	KM(GRV)075C 71B5	30 页			
		47	105	60	57	3690	3.3					
		58	85	50	49.76	3440	4.1					
		14.1	342	100	97.5	5520	1.0					
		18.6	260	75	76	5040	1.3					
		22.4	215	60	60	4730	1.6					
		28.5	170	50	47	4370	2.1					
		23.6	210	60	57	4660	1.7					
		29.1	170	50	49.76	4340	2.1					
		35	142	40	38	4080	2.5					
		46	107	30	29.6	3720	3.3					


KM(GRV)性能参数 Performance Paramater

P _{1n} [kW]	n ₂ [r/min]	M _{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F ₂ [N]	f _s		Page				
0.55	56	89	25	25.78	3500	3.9	KM(GRV)075B 80B5/B14	30 页				
	14.4	335	60	60	5480	1.0						
	18.3	264	50	47	5060	1.3						
	15.1	326	60	57	5390	1.1						
	KM(GRV)075C 80B5/B14	18.7	264	50	49.76	5030	1.3	KM(GRV)075C 80B5/B14	30 页			
		22.4	220	40	38	4730	1.6					
		29.8	166	30	29.6	4310	2.1					
		36	138	25	25.78	4050	2.5					
		45	109	20	19.09	3740	3.2					
		60	83	15	14.87	3410	4.2					
		9.5	509	300	295.18	7990	0.9					
		11.6	416	250	240.89	7470	1.2					
		14.0	346	200	200.66	7030	1.4					
		18.5	261	150	151.20	6390	1.9					
		22.2	217	125	125.95	6010	2.3					
		28.2	171	100	99.22	5550	2.9					
	KM(GRV)090C 80B5/B14	37	130	75	75.45	5070	3.8	KM(GRV)090C 80B5/B14	31 页			
		45	108	60	62.43	4760	4.2					
		57	85	50	49.18	4390	4.1					
		9.3	522	150	151.20	8050	1.0					
		11.1	435	125	125.95	7580	1.2					
		14.1	342	100	99.22	7000	1.5					
		KM(GRV)090C 71B5	18.6	260	75	75.45	6390			1.9	KM(GRV)090C 71B5	31 页
			22.4	215	60	62.43	6000			2.1		
			28.5	170	50	49.18	5540			2.1		
			23.7	208	60	59.04	5890			2.2		
			29.1	170	50	48.18	5500			2.9		
			35	142	40	40.13	5170			3.5		
	9.1		533	100	99.22	8110	0.9					
	11.9		405	75	75.45	7400	1.2					
	14.4		335	60	62.43	6950	1.3					
	18.3		264	50	49.18	6420	1.3					
	15.2		324	60	59.04	6820	1.4					
	18.7		264	50	48.18	6370	1.9					
	KM(GRV)090B 80B5/B14	22.4	220	40	40.13	6000	2.3	KM(GRV)090B 80B5/B14	31 页			
		29.8	166	30	30.24	5460	3.0					
		36	138	25	25.19	5130	3.6					
		57	117	50	48.85	2220	1.1					
		70	96	40	40.08	2070	1.3					
		95	71	30	29.33	1870	1.8					
		116	58	25	24.06	1750	2.2					
		139	49	20	20.20	1650	2.7					
		188	36	15	14.92	1490	3.6					
		48	141	30	29.33	2350	0.9					
		58	116	25	24.06	2200	1.1					


KM(GRV)性能参数 Performance Paramater

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F_2 [N]	f_s		Page
0.75	69	97	25	20.20	2080	1.3	KM(GRV)050B 80B5/B14	28 页
	94	72	15	14.92	1880	1.8		
	112	60	12.5	12.47	1770	2.2		
	134	50	10	10.47	1670	2.6		
	181	37	7.5	7.73	1510	2.7		
	60	112	15	14.92	2180	1.2		
	72	93	12.5	12.47	2050	1.4		
	86	78	10	10.47	1930	1.7		
	116	58	7.5	7.73	1750	1.7		
	38	173	75	71.5	2900	0.9	KM(GRV)063C 80B5/B14	29 页
	44	149	60	64.7	2760	0.9		
	53	124	50	50.65	2590	1.0		
	46	145	60	63.83	2720	1.2	KM(GRV)063B 80B5/B14	29 页
	57	117	50	50.28	2530	1.7		
	71	94	40	40.15	2350	2.1		
	92	73	30	31.42	2160	2.7		
	115	59	25	24.98	2010	3.4		
	138	49	20	19.5	1890	4.1		
	28.7	234	50	50.28	3190	0.9	KM(GRV)063B 80B5/B14	29 页
	36	189	40	40.15	2970	1.1		
	46	146	30	31.42	2720	1.4		
	57	118	25	24.98	2530	1.7		
	69	97	20	19.5	2380	2.1		
	95	71	15	14.3	2130	2.7		
	110	61	12.5	12.94	2030	2.7	KM(GRV)063B 90B5/B14	29 页
	133	50	10	10.13	1910	2.7		
	184	37	7.5	7.41	1710	2.7		
	37	183	25	24.98	2930	1.1		
	44	151	20	19.5	2760	1.3		
	61	110	15	14.3	2470	1.7		
	71	95	12.5	12.94	2360	1.7	KM(GRV)075C 80B5/B14	30 页
	86	79	10	10.13	2210	1.7		
	118	57	7.5	7.41	1990	1.8		
	18.5	356	150	148.5	5040	1.0		
	22.2	296	125	127	4750	1.2		
	28.2	234	100	97.5	4380	1.5		
	37	178	75	76	4000	2.0	KM(GRV)075B 80B5/B14	30 页
	45	147	60	60	3750	2.4		
	57	116	50	47	3470	3.0		
	47	143	60	57	3690	2.4		
	58	116	50	49.76	3440	3.0		
	70	96	40	38	3240	3.6		
	18.6	355	75	76	5040	1.0	KM(GRV)075C 80B5/B14	30 页
	22.4	294	60	60	4730	1.2		
	28.5	231	50	47	4370	1.5		


KM(GRV)性能参数 Performance Paramater

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F_2 [N]	f_s		Page		
0.75	23.6	289	60	57	4660	1.2	KM(GRV)075B 80B5/B14	30 页		
	29.1	232	50	49.76	4340	1.5				
	35	193	40	38	4060	1.8				
	46	145	30	29.6	3720	2.4				
	56	121	25	25.78	3600	2.9				
	71	95	20	19.09	3230	3.7				
	18.7	360	50	49.76	5030	1.0	KM(GRV)075B 90B5/B14	30 页		
	22.4	300	40	38	4730	1.0				
	29.8	226	30	29.6	4310	1.5				
	36	188	25	25.78	4050	1.9				
	45	148	20	19.09	3740	2.4				
	60	113	15	14.87	3410	3.1				
	72	93	12.5	11.8	3210	3.7	KM(GRV)090C 80B5/B14	31 页		
	11.6	567	250	240.89	7470	0.9				
	14.0	472	200	200.66	7030	1.1				
	18.5	356	150	151.20	6390	1.4				
	22.2	296	125	125.95	6010	1.7				
	28.2	234	100	99.22	5550	2.1				
	37	178	75	75.45	5070	2.8	KM(GRV)090C 80B5/B14	31 页		
	45	147	60	62.43	4760	3.1				
	57	116	50	49.18	4390	3.0				
	14.1	467	100	99.22	7000	1.1				
	18.6	355	75	75.45	6390	1.4				
	22.4	294	60	62.43	6000	1.5				
	28.5	231	50	49.18	5540	1.5	KM(GRV)090B 80B5/B14	31 页		
	23.7	284	60	59.04	5890	1.6				
	29.1	232	50	48.18	5500	2.2				
	35	193	40	40.13	5170	2.6				
	46	145	30	30.24	4710	3.4				
	56	121	25	25.19	4430	4.1				
	11.9	552	75	75.45	7400	0.9	KM(GRV)090C 90B5/B14	31 页		
	14.4	457	60	62.43	6950	1.0				
	18.3	360	50	49.18	6420	1.0				
	15.2	442	60	59.04	6820	1.0				
	18.7	360	50	48.18	6370	1.4				
	22.4	300	40	40.13	6000	1.7				
	29.8	226	30	30.24	5460	2.2	KM(GRV)090B 90B5/B14	31 页		
	36	188	25	25.19	5130	2.7				
	45	148	20	19.84	4740	3.4				
	60	113	15	15.09	4330	4.4				
	70	141	40	40.08	2070	0.9			KM(GRV)050B 80B5/B14	28 页
	95	103	30	29.33	1870	1.3				
	116	85	25	24.06	1750	1.5				
	139	71	20	20.20	1650	1.8				
	188	53	15	14.92	1490	2.5				


KM(GRV)性能参数 Performance Paramater

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F_{r2} [N]	f_s		Page		
1.1	225	44	12.5	12.47	1400	3.0	KM(GRV)050B 80B5/B14	28 页		
	267	37	10	10.47	1320	3.5				
	362	27	7.5	7.73	1200	3.7				
	69	143	20	20.20	2080	0.9	KM(GRV)050B 90B5/B14	28 页		
	94	105	15	14.92	1880	1.2				
	112	88	12.5	12.47	1770	1.5				
	134	74	10	10.47	1670	1.8				
	181	55	7.5	7.73	1510	1.8	KM(GRV)050B 90B5/B14	28 页		
	72	137	12.5	12.47	2050	1.0				
	86	115	10	10.47	1930	1.1				
	116	85	7.5	7.73	1750	1.2	KM(GRV)063B 80B5/B14	29 页		
	57	172	50	50.28	2530	1.2				
	71	139	40	40.15	2350	1.4				
	92	107	30	31.42	2160	1.9				
	115	86	25	24.98	2010	2.3				
	138	71	20	19.5	1890	2.8				
	191	52	15	14.3	1690	3.7				
	221	45	12.5	12.94	1610	3.7				
	267	37	10	10.13	1510	3.6				
	368	27	7.5	7.41	1360	3.7				
	46	214	30	31.42	2720	0.9			KM(GRV)063B 90B5/B14	29 页
	57	172	25	24.98	2530	1.2				
	69	143	20	19.5	2380	1.4				
	95	103	15	14.3	2130	1.8				
	110	89	12.5	12.94	2030	1.8				
	133	74	10	10.13	1910	1.8				
	184	54	7.5	7.41	1710	1.9				
	44	222	20	19.5	2760	0.9	KM(GRV)063B 90B5/B14	29 页		
	61	161	15	14.3	2470	1.2				
	71	139	12.5	12.94	2360	1.2				
	86	115	10	10.13	2210	1.2				
	118	83	7.5	7.41	1990	1.2	KM(GRV)075C 80B5/B14	30 页		
	28.2	342	100	97.5	4380	1.0				
	37	260	75	76	4000	1.3				
	45	215	60	60	3750	1.6				
	57	170	50	47	3470	2.1	KM(GRV)075B 80B5/B14	30 页		
	47	210	60	57	3690	1.7				
	58	170	50	49.76	3440	2.1				
	70	142	40	38	3240	2.5				
	93	107	30	29.6	2950	3.3				
	111	89	25	25.78	2770	3.9				
	29.1	340	50	49.76	4340	1.0				
	35	283	40	38	4080	1.2				
	46	213	30	29.6	3720	1.6	KM(GRV)075B 90B5/B14	30 页		
	56	178	25	25.78	3500	2.0				


KM(GRV)性能参数 Performance Paramater

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F_{r2} [N]	f_s		Page
1.1	71	140	20	19.09	3230	2.5	KM(GRV)075B 90B5/B14	30 页
	93	106	15	14.87	2950	3.3		
	113	88	12.5	11.8	2770	4.0		
	29.8	332	30	29.6	4310	1.1	KM(GRV)075B 90B5/B14	30 页
	36	276	25	25.78	4050	1.3		
	45	218	20	19.09	3740	1.6		
	60	166	15	14.87	3410	2.1		
	72	137	12.5	11.8	3210	2.6		
	91	108	10	9.21	2960	3.2		
	120	82	7.5	8	2700	3.4		
	18.5	522	150	151.20	6390	1.0		
	22.2	435	125	125.95	6010	1.2		
	28.2	342	100	99.22	5550	1.5		
	37	260	75	75.45	5070	1.9		
	45	215	60	62.43	4760	2.1	KM(GRV)090B 80B5/B14	31 页
	57	170	50	49.18	4390	2.1		
	47	208	60	59.04	4670	2.2		
	58	170	50	48.18	4360	2.9		
	70	142	40	40.13	4110	3.5	KM(GRV)090C 90B5/B14	31 页
	18.6	521	75	75.45	6390	1.0		
	22.4	431	60	62.43	6000	1.0		
	28.5	340	50	49.18	5540	1.0		
	23.7	416	60	59.04	5890	1.1		
	29.1	340	50	48.18	5500	1.6		
	35	283	40	40.13	5170	1.8		
	46	213	30	30.24	4710	2.3		
	56	178	25	25.19	4430	2.8	KM(GRV)090B 90B5/B14	31 页
	71	140	20	19.84	4090	3.6		
	18.7	529	50	48.18	6370	0.9		
	22.4	440	40	40.13	6000	1.1		
	29.8	332	30	30.24	5460	1.5	KM(GRV)090B 90B5/B14	31 页
	36	276	25	25.19	5130	1.8		
	45	218	20	19.84	4740	2.3		
	60	166	15	15.09	4330	3.0		
	72	137	12.5	12.49	4060	3.4		
	91	108	10	9.84	3750	3.3		
	120	82	7.5	7.48	3420	3.4		
	116	116	25	24.06	1750	1.1		
	139	97	20	20.20	1650	1.3		
	188	72	15	14.92	1490	1.8		
	225	60	12.5	12.47	1400	2.2		
	267	50	10	10.47	1320	2.6		
	362	37	7.5	7.73	1200	2.7		
	94	144	15	14.92	1880	0.9		
	112	120	12.5	12.47	1770	1.1		


KM(GRV)性能参数 Performance Parameter

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F_{r2} [N]	f_s		Page	
1.5	134	101	10	10.47	1670	1.3	KM(GRV)050B	90B5/B14	28 页
	181	74	7.5	7.73	1510	1.3			
	57	234	50	50.28	2530	0.9			
	71	189	40	40.15	2350	1.1			
	92	146	30	31.42	2160	1.1			
	115	118	25	24.98	2010	1.7			
	138	97	20	19.5	1890	2.1	KM(GRV)063B	90B5/B14	29 页
	191	71	15	14.3	1690	2.7			
	221	61	12.5	12.94	1610	2.7			
	267	50	10	10.13	1510	2.7			
	368	37	7.5	7.41	1360	2.7			
	57	235	25	24.98	2630	0.9			
	69	195	20	19.5	2380	1.0	KM(GRV)063B	90B5/B14	29 页
	95	141	15	14.3	2130	1.3			
	110	122	12.5	12.94	2030	1.4			
	133	101	10	10.13	1910	1.3			
	184	73	7.5	7.41	1710	1.4			
	37	355	75	71.5	4000	1.0			
	45	294	60	64.7	3750	1.2	KM(GRV)063C	90B5/B14	29 页
	57	231	50	50.65	3470	1.5			
	47	286	60	57	3690	1.2	KM(GRV)075B	90B5/B14	30 页
	58	232	50	49.76	3440	1.5			
	70	193	40	38	3240	1.8			
	93	145	30	29.6	2950	2.4			
	111	121	25	25.78	2770	2.9			
	141	95	20	19.09	2650	3.7			
	35	386	40	38	4080	0.9	KM(GRV)075B	90B5/B14	30 页
	46	291	30	29.6	3720	1.2			
	56	242	25	25.78	3500	1.4			
	71	191	20	19.09	3230	1.8			
	93	145	15	14.87	2950	2.4			
	112	120	12.5	11.8	2770	2.9			
	142	95	10	9.21	2550	3.7	KM(GRV)090C	90B5/B14	31 页
	187	72	7.5	8	2330	3.9			
	28.2	467	100	99.22	5550	1.1			
	37	355	75	75.45	5070	1.4			
	45	294	60	62.43	4760	1.5			
	57	231	50	49.18	4390	1.5			
	47	284	60	59.04	4670	1.6	KM(GRV)090B	90B5/B14	31 页
	58	232	50	48.18	4360	2.2			
	70	193	40	40.13	4110	2.6			
	93	145	30	30.24	3740	3.4			
111	121	25	25.19	3520	4.1				
29.1	463	50	48.18	5500	1.1				
35	386	40	40.13	5170	1.3	KM(GRV)090B	90B5/B14	31 页	


KM(GRV)性能参数 Performance Parameter

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F_{r2} [N]	f_s		Page				
1.5	46	291	30	30.24	4710	1.7	KM(GRV)090B	90B5/B14	31 页			
	56	242	25	25.19	4430	2.1						
	71	191	20	19.84	4090	2.6						
	93	145	15	15.09	3730	3.4						
	112	120	12.5	12.49	3510	3.8						
	142	95	10	9.84	3240	3.8						
	187	72	7.5	7.48	2950	3.9						
	139	143	20	20.20	1650	0.9				KM(GRV)050B	95B5/B14	28 页
	188	105	15	14.92	1490	1.2						
	225	88	12.5	12.47	1400	1.5						
	267	74	10	10.47	1320	1.8						
	362	55	7.5	7.73	1200	1.8						
92	214	30	31.42	2160	0.9							
115	172	25	24.98	2010	1.2	KM(GRV)063B	90B5/B14	29 页				
138	143	20	19.5	1890	1.4							
191	103	15	14.3	1690	1.8							
221	89	12.5	12.94	1610	1.8							
267	74	10	10.13	1510	1.8							
368	54	7.5	7.41	1360	1.9							
58	340	50	49.76	3440	1.0	KM(GRV)075B	90B5/B14	30 页				
70	283	40	38	3240	1.5							
93	213	30	29.6	2950	1.6							
111	178	25	25.78	2770	2.0							
141	140	20	19.09	2560	2.5							
186	106	15	14.87	2340	3.3							
224	88	12.5	11.8	2190	4.0	KM(GRV)075B	100B5/B14	30 页				
56	355	25	25.78	3500	1.0							
71	280	20	19.09	3230	1.3							
93	213	15	14.87	2950	1.6							
112	176	12.5	11.8	2770	2.0							
142	139	10	9.21	2550	2.5							
187	106	7.5	8	2330	2.7	KM(GRV)075B	112B5/B14	30 页				
60	331	15	14.87	3410	1.1							
72	274	12.5	11.8	3210	1.3							
91	216	10	9.21	2960	1.6							
120	164	7.5	8	2700	1.7							
37	521	75	75.45	5070	1.0							
45	431	60	62.43	4760	1.0	KM(GRV)090C	90B5/B14	31 页				
57	340	50	49.18	4390	1.0							
47	416	60	59.04	4670	1.1							
58	340	50	48.18	4360	1.5							
70	283	40	40.13	4110	1.8							
93	213	30	30.24	3740	2.3							
111	178	25	25.19	3520	2.8	KM(GRV)090B	90B5/B14	31 页				
141	140	20	19.84	3250	3.6							


KM(GRV) 性能参数 Performance Parameter

P _{1n} [kW]	n ₂ [r/min]	M _{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F ₂ [N]	f _s		Page	
2.2	35	566	40	40.13	5170	0.9	KM(GRV)090B	100B5/B14	31 页
	46	427	30	30.24	4710	1.2			
	56	355	25	25.19	4430	1.4			
	71	280	20	19.84	4090	1.8			
	93	213	15	15.09	3730	2.3			
	112	176	12.5	12.49	3510	2.6			
	142	139	10	9.84	3240	2.6			
	187	106	7.5	7.48	2950	2.7			
	36	553	25	25.19	5130	0.9			
	45	435	20	19.84	4740	1.1			
	60	331	15	15.09	4330	1.5			
	72	274	12.5	12.49	4060	1.7			
	91	216	10	9.84	3750	1.7			
	120	164	7.5	7.48	3420	1.7			
3.0	70	386	40	38	3240	0.9	KM(GRV)075B	100B5/B14	30 页
	93	291	30	29.6	2950	1.2			
	111	242	25	25.78	2770	1.4			
	141	191	20	19.09	2560	1.8			
	186	145	15	14.87	2340	2.4			
	224	120	12.5	11.8	2190	2.9			
	285	95	10	9.21	2030	3.7			
	374	72	7.5	8	1850	3.9			
	93	290	15	14.87	2950	1.2			
	112	240	12.5	11.8	2770	1.5			
	142	189	10	9.21	2550	1.8			
	187	144	7.5	8	2330	1.9			
	47	568	60	59.04	4670	0.8			
	58	463	50	48.48	4360	1.1			
70	386	40	40.13	4110	1.3				
3.0	93	291	30	30.24	3740	1.7	KM(GRV)090B	100B5/B14	31 页
	111	242	25	25.19	3520	2.1			
	141	191	20	19.84	3250	2.6			
	186	145	15	15.09	2960	3.4			
	224	120	12.5	12.49	2780	3.8			
	285	95	10	9.84	2570	3.8			
	374	72	7.5	7.48	2340	3.9			
	56	485	25	25.19	4430	1.0			
	71	382	20	19.84	4090	1.3			
	93	290	15	15.09	3730	1.7			
	112	240	12.5	12.49	3510	1.8			
	142	189	10	9.84	3240	1.9			
	187	144	7.5	7.48	2950	1.9			
	4.0	111	323	25	25.78	2770			
141		254	20	19.09	2560	1.4			
186		194	15	14.87	2340	1.8			


KM(GRV) 性能参数 Performance Parameter

P _{1n} [kW]	n ₂ [r/min]	M _{2n} [Nm]	i 公称 Nominal	i 实际 Actual	F ₂ [N]	f _s		Page	
4.0	224	160	12.5	11.8	2190	2.2	KM(GRV)075B	112B5/B14	30 页
	285	126	10	9.21	2030	2.8			
	374	96	7.5	8	1850	2.9			
	112	320	12.5	11.8	2770	1.1			
	142	252	10	9.21	2550	1.1			
	187	192	7.5	8	2330	1.5			
	70	515	40	40.13	4110	1.0			
	93	388	30	30.24	3740	1.3			
	111	323	25	25.19	3520	1.5			
	141	254	20	19.84	3250	2.0			
	186	194	15	15.09	2960	2.3			
	224	160	12.5	12.49	2780	2.9			
	285	126	10	9.84	2570	2.9			
	374	96	7.5	7.48	2340	2.9			
4.0	71	509	20	19.84	4090	1.0	KM(GRV)090B	112B5/B14	31 页
	93	387	15	15.09	3730	1.3			
	112	320	12.5	12.49	3510	1.4			
	142	252	10	9.84	3240	1.4			
	187	192	7.5	7.48	2950	1.5			

6.3 KM(GRV)HS 性能参数 Performance Paramater

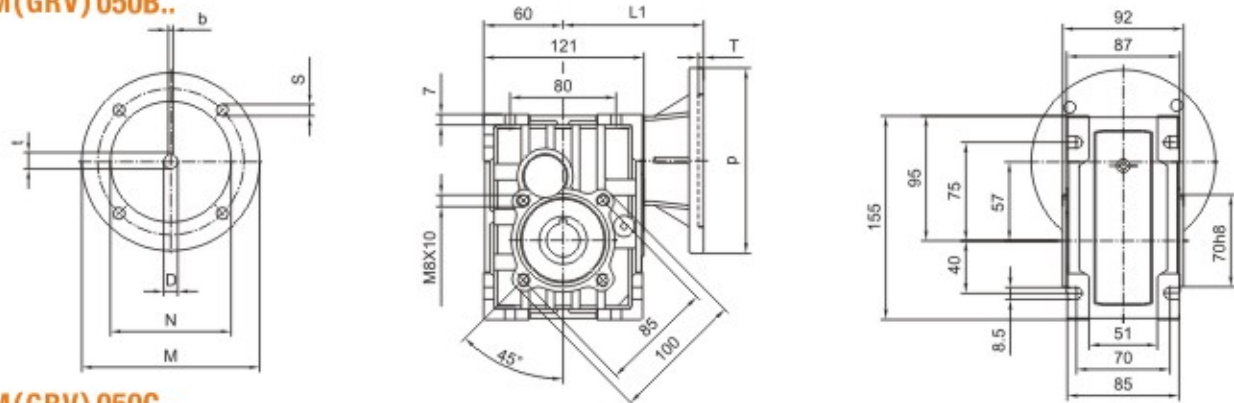
M _{max} [Nm]	n _z [r/min]	i 公称 Nominal	i 实际 Actual	P _{in} [kW]	F _z [N]	F _r [N]		Page
110	4.8	300	283.14	0.06	4100	400	KM(GRV)050C..HS	32 页
130	5.7	250	239.8	0.08	4100	400		
130	7	200	196.7	0.10	4100	400		
130	10	150	144	0.14	4000	400		
130	12	125	118	0.17	3770	400		
130	14	100	99.2	0.21	3560	400		
130	19	75	73.2	0.28	3220	400		
120	22	60	61.22	0.31	3030	400		
110	27	50	51.40	0.33	2860	400		
110	24	60	57.67	0.29	2960	400		
130	29	50	48.85	0.41	2790	400		
130	35	40	40.08	0.51	2610	400		
130	48	30	29.33	0.69	2350	400		
130	58	25	24.06	0.84	2200	400		
130	69	20	20.20	1.0	2080	400		
130	94	15	14.92	1.4	1880	400		
130	112	12.5	12.47	1.6	1770	400		
130	134	10	10.47	1.9	1670	400		
100	181	7.5	7.73	2.0	1510	400		
170	4.6	300	289	0.09	4800	400		
200	5.7	250	230	0.13	4800	400		
200	7.1	200	200	0.16	4800	400		
200	9.2	150	157	0.21	4650	400		
200	11	125	124.9	0.26	4330	400		
200	14	100	99.7	0.31	4070	400		
160	19	75	71.5	0.35	3650	400		
140	22	60	64.7	0.35	3480	400		
120	27	50	50.65	0.36	3270	400		
170	23	60	63.83	0.44	3430	530		
200	29	50	50.28	0.64	3190	530		
200	36	40	40.15	0.79	2970	530		
200	46	30	31.42	1.0	2720	530		
200	57	25	24.98	1.3	2530	530		
200	69	20	19.5	1.5	2380	530		
190	95	15	14.3	2.0	2130	530		
165	110	12.5	12.94	2.0	2030	530		
135	133	10	10.13	2.0	1910	530		
100	184	7.5	7.41	2.05	1710	530		
350	4.7	300	291.3	0.19	6500	560		
350	5.8	250	254	0.23	6500	560		
350	7	200	194.5	0.28	6500	560		
350	9.3	150	148.5	0.37	6500	560		
350	11	125	127	0.44	5980	560		
350	14	100	97.5	0.56	5520	560		
350	19	75	76	0.74	5040	560		
							KM(GRV)050B..HS	32 页
							KM(GRV)063C..HS	32 页
							KM(GRV)063B..HS	32 页
							KM(GRV)075C..HS	32 页

KM(GRV)HS 性能参数 Performance Paramater

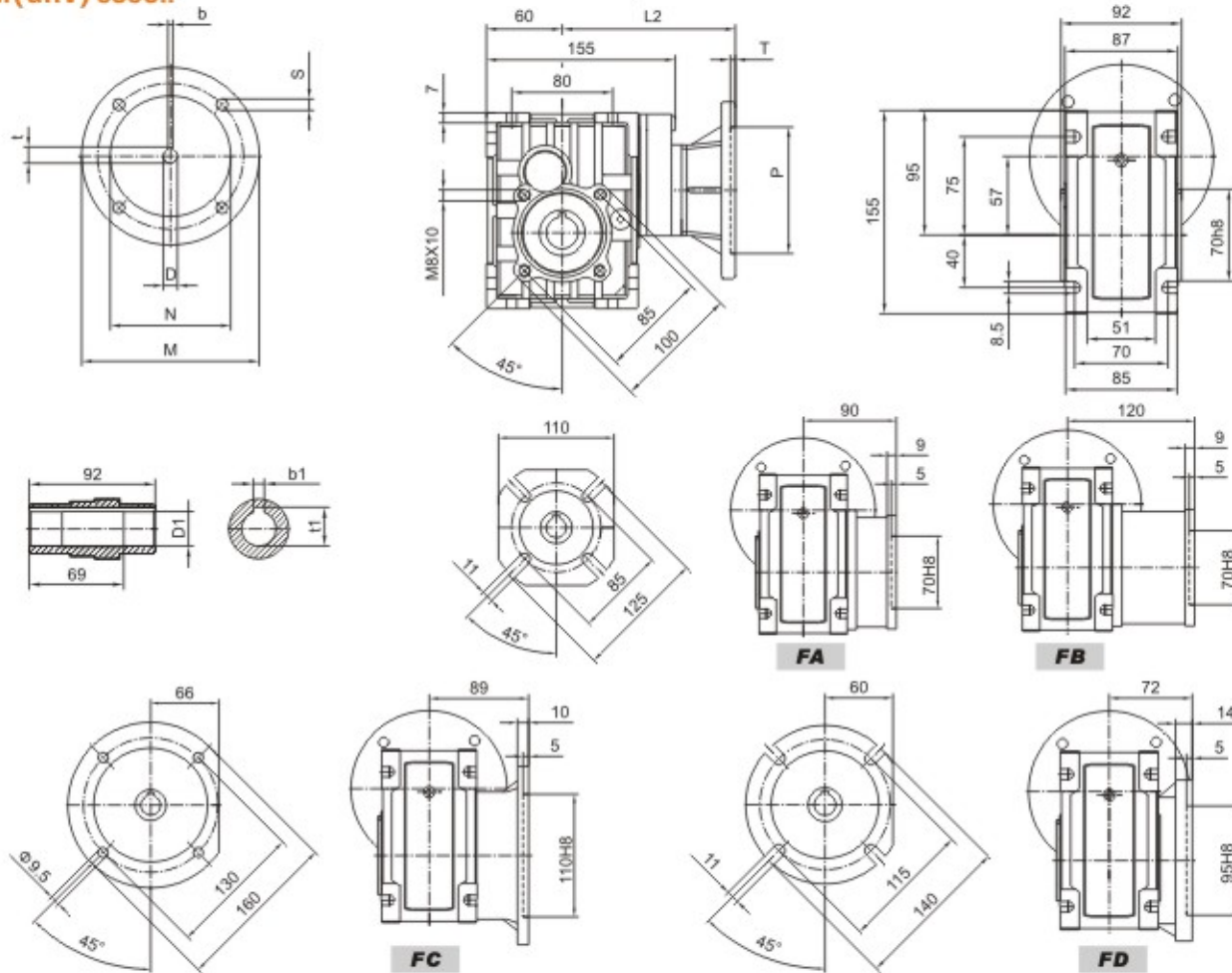
M _{max} [Nm]	n _z [r/min]	i 公称 Nominal	i 实际 Actual	P _{in} [kW]	F _z [N]	F _r [N]		Page
350	22	60	60	0.89	4730	560	KM(GRV)075C..HS	32 页
350	28	50	47	1.10	4370	560		
350	24	60	57	0.92	4660	860	KM(GRV)075B..HS	32 页
350	29	50	49.76	1.1	4340	860		
350	35	40	38	1.4	4080	860		
350	46	30	29.6	1.8	3720	860		
350	56	25	25.78	2.2	3500	860		
350	71	20	19.09	2.8	3230	860		
350	93	15	14.87	3.6	2950	860		
350	112	13	11.8	4.4	2770	860		
350	142	10	9.21	5.5	2550	860		
280	187	7.5	8	5.8	2330	860		
480	4.7	300	295.18	0.25	8300	560	KM(GRV)090C..HS	32 页
500	5.8	250	240.89	0.33	8300	560		
500	7	200	200.66	0.40	8300	560		
500	9	150	151.20	0.53	8050	560		
500	11	125	125.95	0.63	7580	560		
500	14	100	99.22	0.80	7000	560		
500	19	75	75.5	1.1	6390	560		
450	22	60	62.4	1.1	6000	560		
350	28	50	49.18	1.1	5540	560		
460	24	60	1.2	1.2	5890	1260		
500	29	50	1.6	1.6	5500	1260		
500	35	40	1.9	1.9	5170	1260		
500	46	30	2.6	2.6	4710	1260		
500	56	25	3.1	3.1	4430	1260		
500	71	20	3.9	3.9	4090	1260		
500	93	15	5.2	5.2	3730	1260		
460	112	13	5.7	5.7	3510	1260		
360	142	10	5.7	5.7	3240	1260		
280	187	7.5	5.8	5.8	2950	1260		

7. 外形尺寸表 Outline Dimension Sheet

7.1 KM(GRV) 外形尺寸 Outline Dimension KM(GRV) 050B..



KM(GRV) 050C..

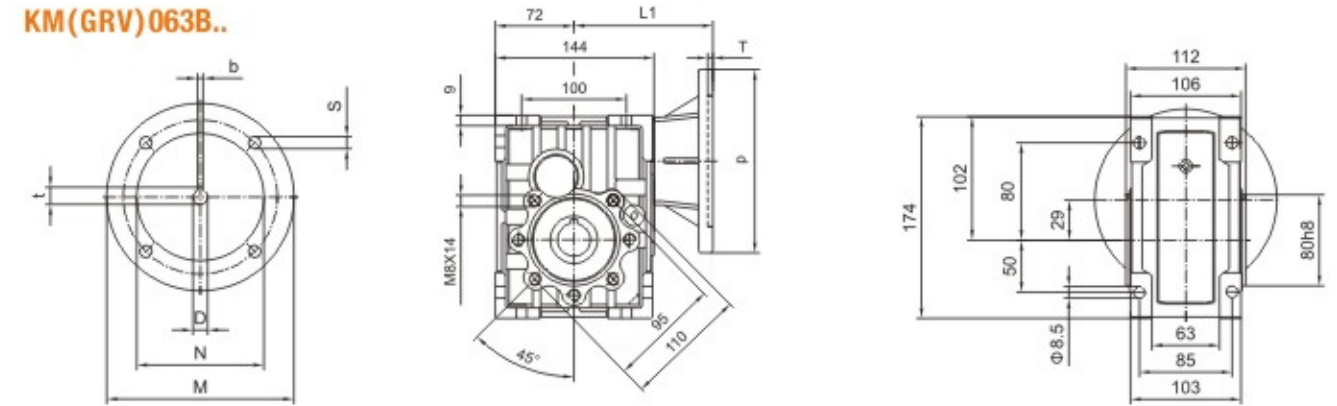


IEC	D(E8)	b	t	p	M	N	S	T	L1	L2	D1(H8)	b1	t1
63B5	11	4	12.8	140	115	95	9	4	106	140	20*	6*	22.8*
71B5	14	5	16.3	160	130	110	9	4	113	147	24*	8*	27.3*
71B14	14	5	16.3	105	85	70	7	4	113	147	25	8	28.3
80B5	19	6	21.8	200	165	130	11	4	133	167			
80B14	19	6	21.8	120	100	80	7	4	133	167			
90B14	24	8	27.3	140	115	95	9	4	133	167			

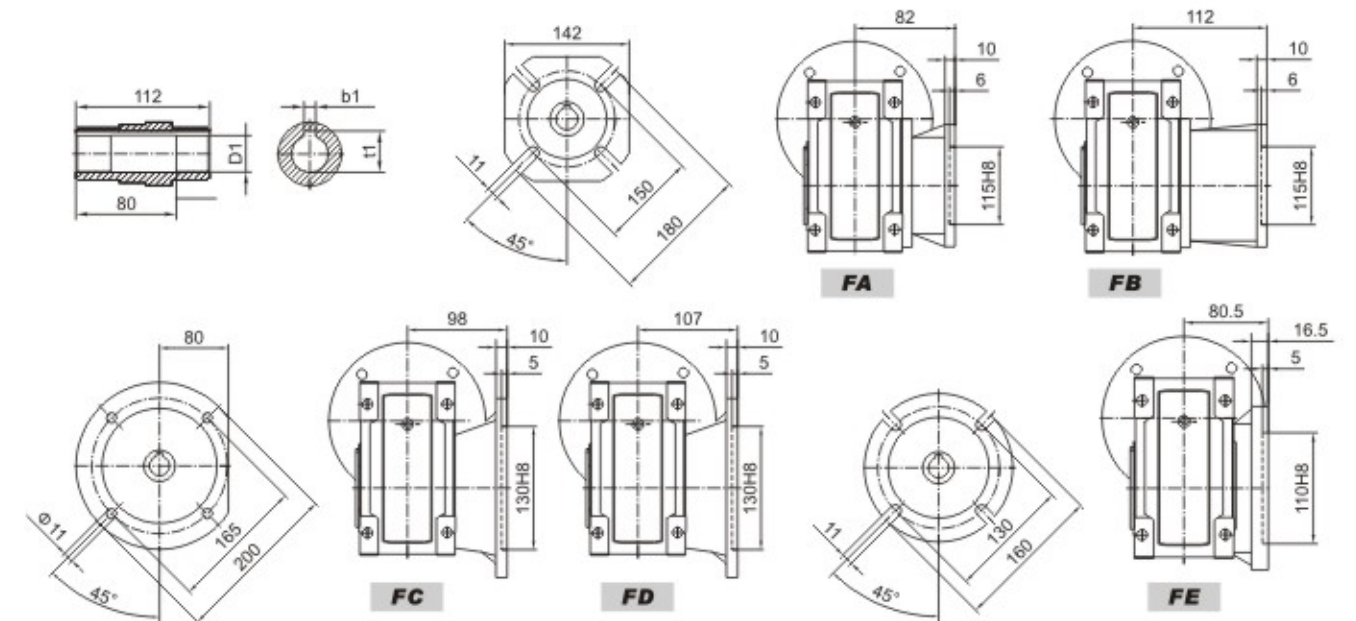
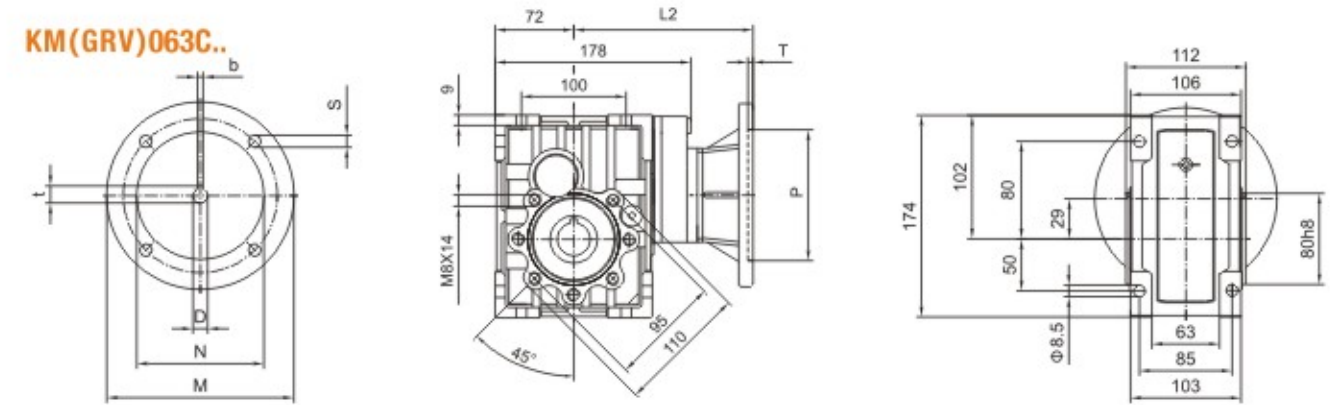
* 非标产品, 订单时请说明
* Only on request

重量 (不包括马达) = 4.2kg, Weight (without motor) = 4.2kg

KM(GRV)063B..



KM(GRV)063C..

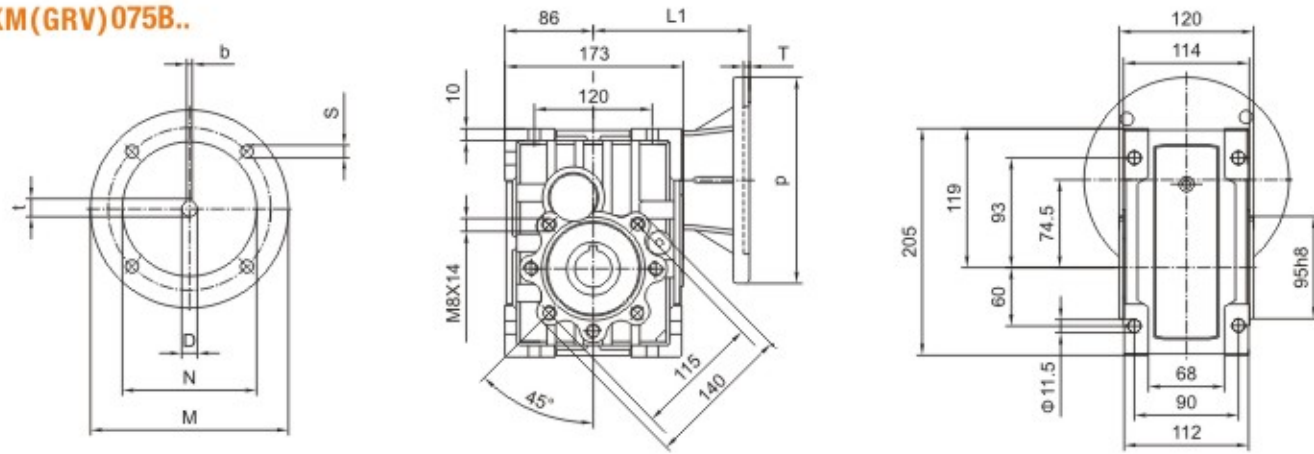


IEC	D(E8)	b	t	p	M	N	S	T	L1	L2	D1(H8)	b1	t1
63B5	11	4	12.8	140	115	95	9	4	117	151	25	8	28.3
71B5	14	5	16.3	160	130	110	9	4	124	158	28*	8	31.3
71B14	14	5	16.3	105	85	70	7	4	124	158	30*	8	33.3
80B5	19	6	21.8	200	165	130	11	4	144	178			
80B14	19	6	21.8	120	100	80	7	4	144	178			
90B5	24	8	27.3	200	165	130	11	4	144	178			
90B14	24	8	27.3	140	115	95	9	4	144	178			

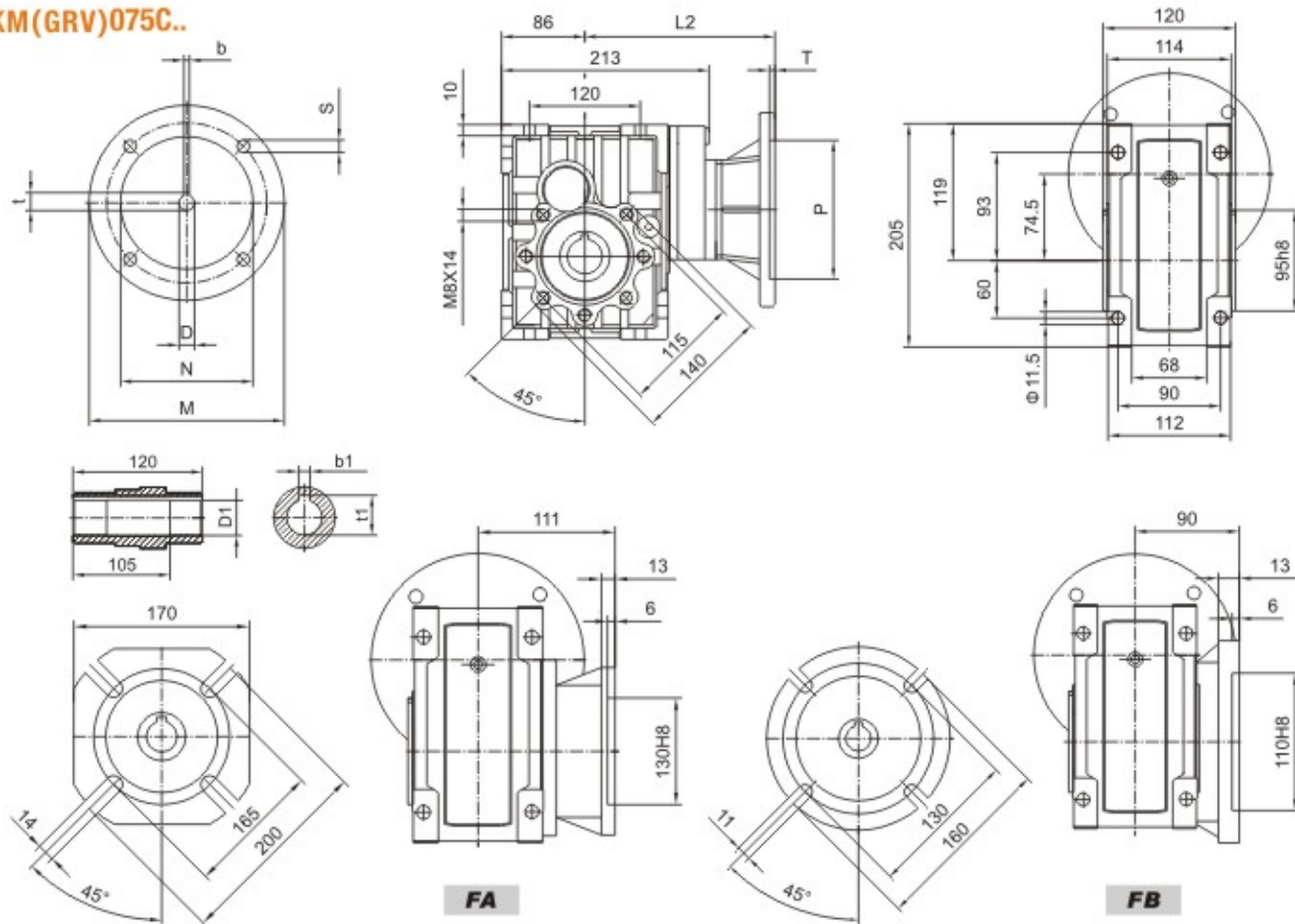
* 非标产品, 订单时请说明
* Only on request

重量 (不包括马达) = 6.0kg, Weight (without motor) = 6.0kg

KM(GRV)075B..



KM(GRV)075C..

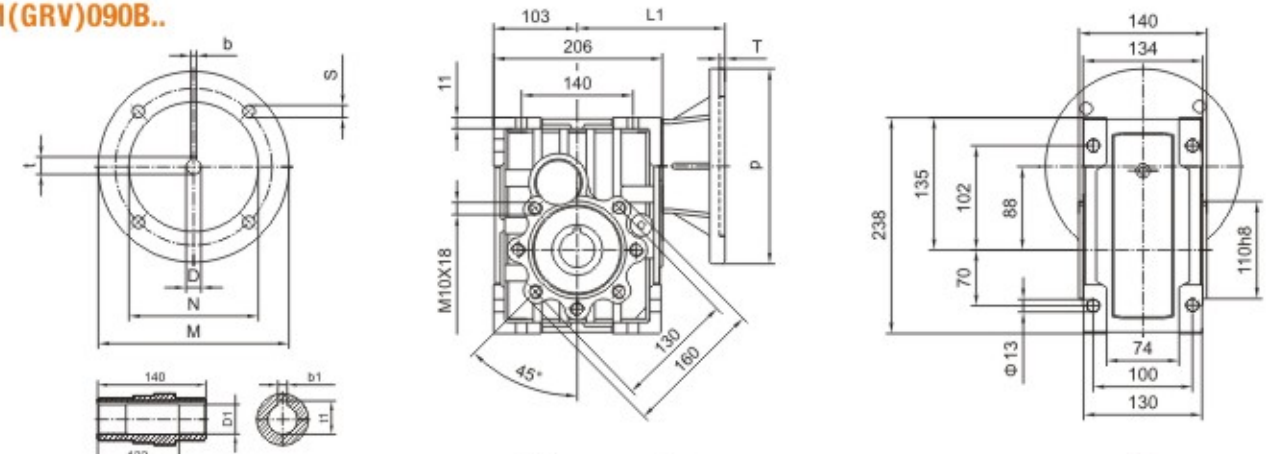


IEC	D(E8)	b	t	p	M	N	S	T	L1	L2	D1(H8)	b1	t1
63B5	11	4	12.8	140	115	95	9	4	139	179	28	8	31.3
71B5	14	5	16.3	160	130	110	9	4	146	186	30*	8*	33.3*
80B5	19	6	21.8	200	165	130	11	4	166	206	35*	10*	38.3*
80B14	19	6	21.8	120	100	80	7	4	166	206			
90B5	24	8	27.3	200	135	130	11	4	166	206			
90B14	24	8	27.3	140	115	95	9	4	166	206			
100/112B5	28	8	31.3	250	215	180	13.5	4.5	176	216			
100/112B14	28	8	31.3	160	130	110	9	4.5	176	216			

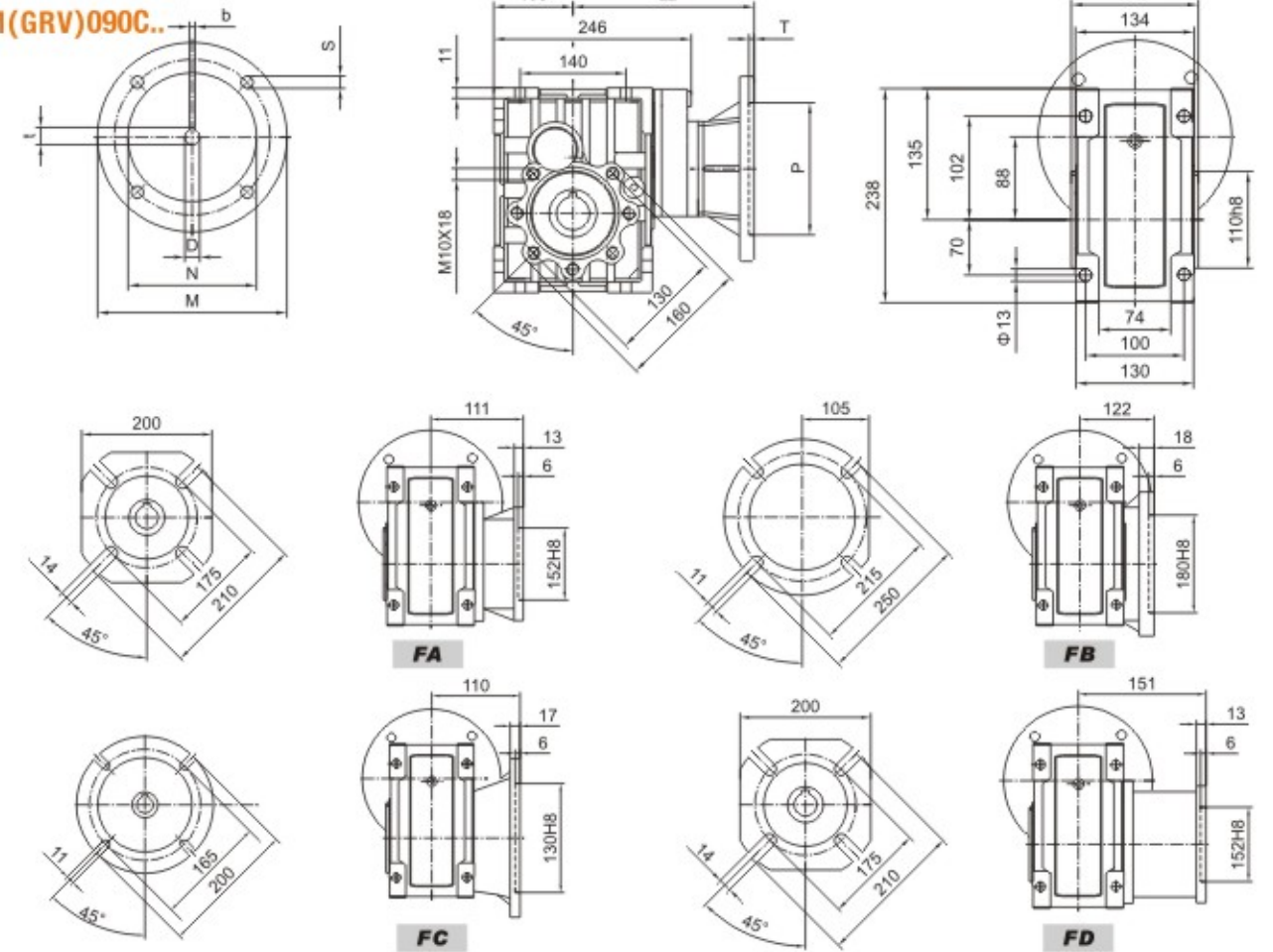
* 非标产品, 订单时请说明
* Only on request

重量 (不包括马达) ≈ 9.2kg, Weight (without motor) ≈ 9.2kg

KM(GRV)090B..



KM(GRV)090C..



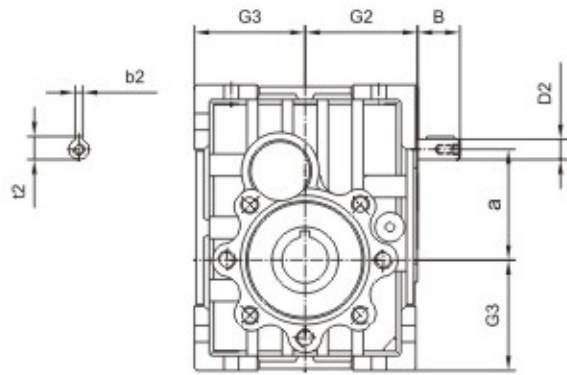
IEC	D(E8)	b	t	p	M	N	S	T	L1	L2	D1(H8)	b1	t1
63B5	11	4	12.8	140	115	95	9	4	155	195	35	10	38.3
71B5	14	5	16.3	160	130	110	9	4	162	202	38*	10*	41.3*
80B5	19	6	21.8	200	165	130	11	4	182	222	40*	10*	43.3*
80B14	19	6	21.8	120	100	80	7	4	182	222			
90B5	24	8	27.3	200	135	130	11	4	182	222			
90B14	24	8	27.3	140	115	95	9	4	182	222			
100/112B5	28	8	31.3	250	215	180	13.5	4.5	192	232			
100/112B14	28	8	31.3	160	130	110	9	4.5	192	232			

* 非标产品, 订单时请说明
* Only on request

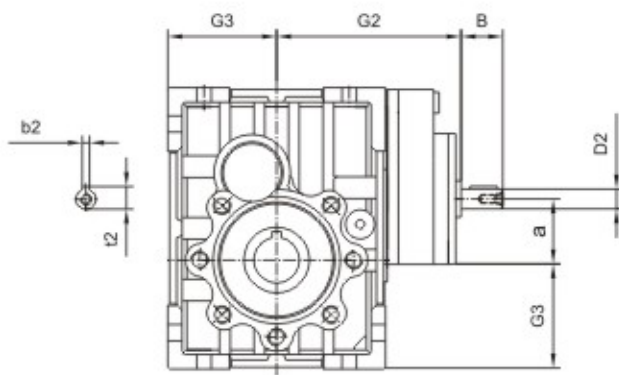
重量 (不包括马达) ≈ 13.3kg, Weight (without motor) ≈ 13.3kg

7.2 KM(GRV) HS 外形尺寸 Outline Dimension

KM(GRV)B..HS



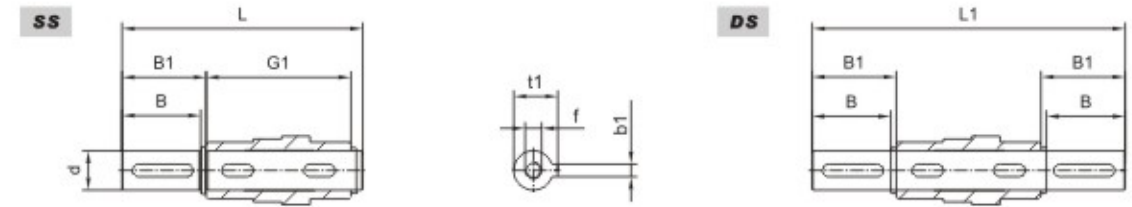
KM(GRV)...C..HS



Item	B	D2/6	G2	G3	a	b2	t2	t2
KM(GRV) 050B	23	11	65	60	57	4		12.5
KM(GRV) 050C	23	11	100	60	21.5	4		12.5
KM(GRV) 063B	30	14	76	72	64.5	5	M6	16
KM(GRV) 063C	23	11	111	72	29	4		12.5
KM(GRV) 075B	40	16	91	86	74.5	5	M6	18
KM(GRV) 075C	30	14	132	86	30.5	5	M6	16
KM(GRV) 090B	40	19	107	103	88	6	M6	21.5
KM(GRV) 090C	30	14	148	103	44	5	M6	16

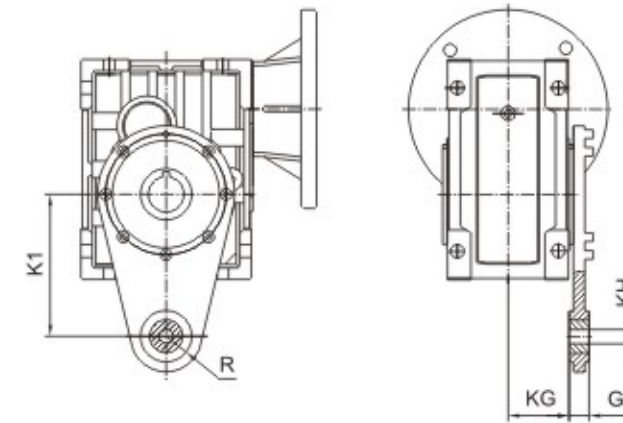
8. 附件尺寸表 Accessories Outline Dimension Sheet

8.1 输出轴 Output Shafts



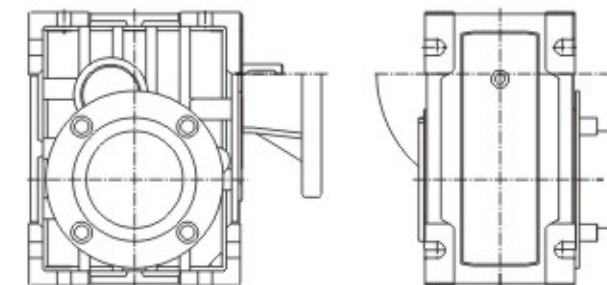
Item	dh6	B	B1	G1	L	L1	f	b1	t1
KM(GRV)050	25	50	53.5	92	153	199	M10	8	28
KM(GRV)063	25	50	53.5	112	173	219	M10	8	28
KM(GRV)075	28	60	63.5	120	192	247	M10	8	31
KM(GRV)090	35	80	84.5	140	234	309	M12	10	38

8.2 扭力臂 Torque Arm



Item	K1	G	KG	KH	R
KM(GRV)050	100	14	38.5	10	18
KM(GRV)063	150	14	49	10	18
KM(GRV)075	200	25	47.5	20	30
KM(GRV)090	200	25	57.5	20	30

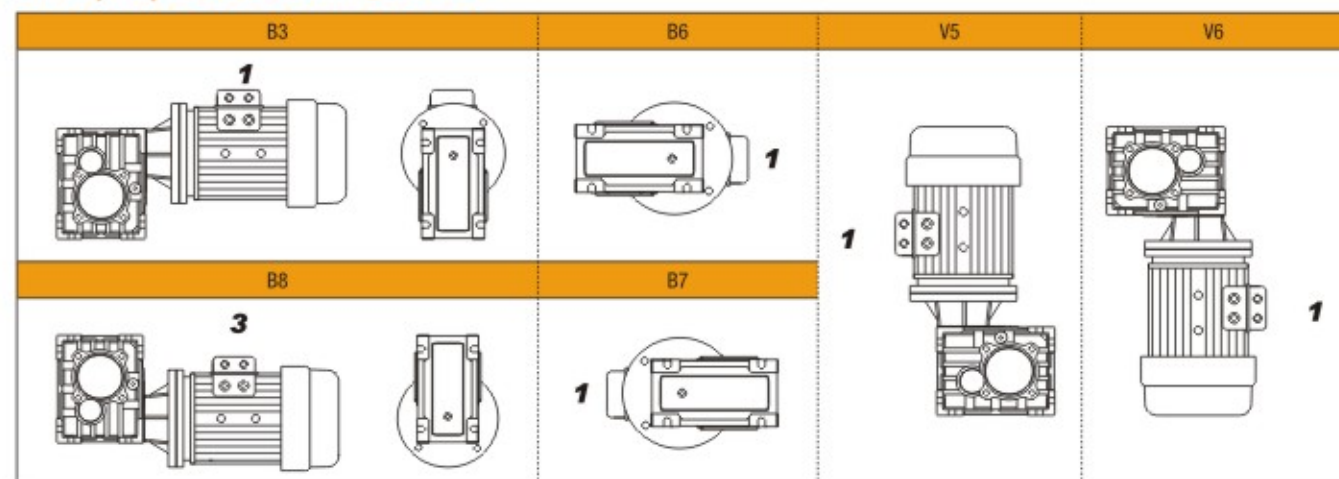
8.2 防尘盖 Cover



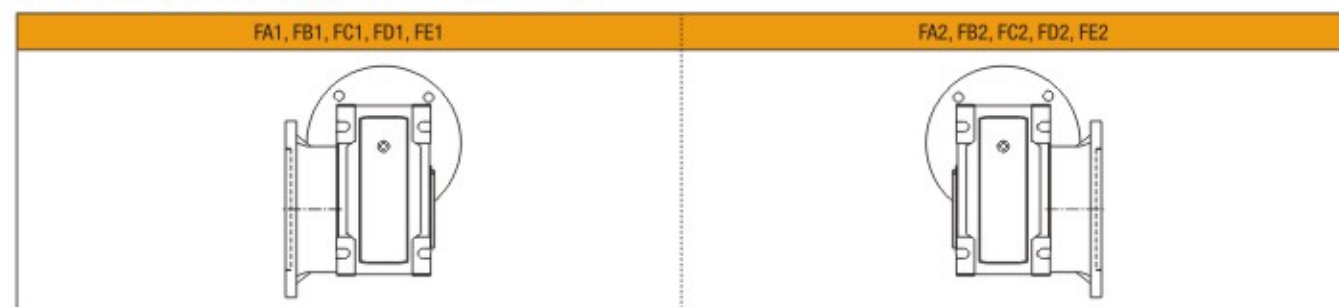
Item	N2
KM(GRV)050	63
KM(GRV)063	73
KM(GRV)075	79
KM(GRV)090	94

9. 安装方位图 Installation Positions Diagram

9.1 KM (GRV) 安装方位 Mounting Positions

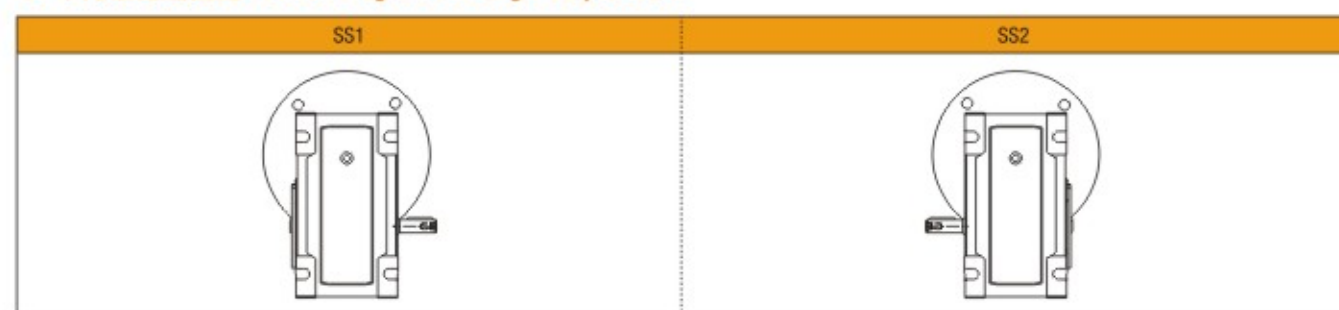


9.2 输出法兰位置 Position Diagram For Output Flange

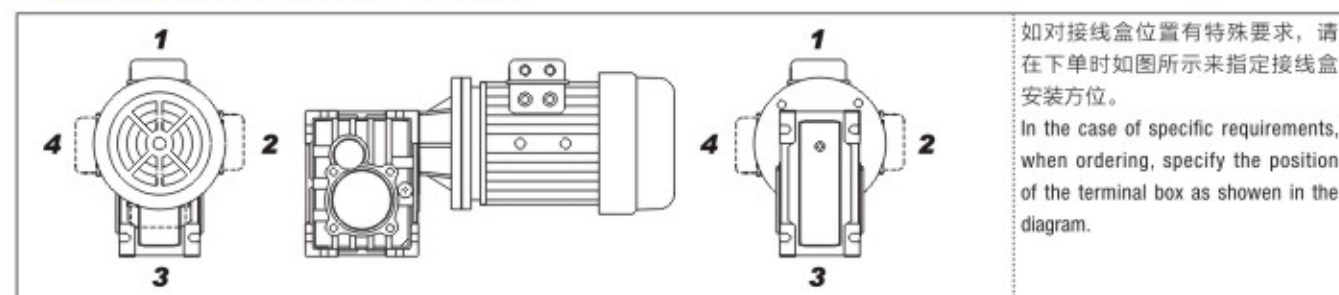


如没有特殊要求，一般按出厂的标准位置如图 F.1 方式和 B3 位置提供。
Unless specified otherwise, the reduction unit is supplied with the flange in pos. F.1 referred to position B3.

9.3 单向输出轴位置 Position Diagram For Single Output Shaft



9.4 接线盒位置 Position of Motor Terminal Box



10. 安装 Installation

10.1 注意事项 Note Recommendations

安装减速器时要注意以下一些事项：

- 减速器与机械设备装配之前，要检查减速器输出轴的旋转方向是否正确；
- 减速器与原动机、设备装配之前，应检查各轴径、孔径、键和键槽的偏差尺寸，避免装配过紧、过松影响减速器性能；
- 减速器必须牢固地安装在机械设备上，避免有松动或振动；
- 尽可能地避免减速器暴露在烈日阳光和恶劣的环境中；
- 如果减速器存放时间长达 4-6 个月，应检查油封是否浸润在润滑油中，可能油封唇口会粘在轴上，甚至失去了弹性，由于适当的弹性是油封必须的工作条件，所以推荐更换油封；
- 所有橡胶件和透气孔不能沾有油漆；
- 与减速器的空心轴或实心轴配合连接时，应在轴上配合部分涂上润滑油，以免卡死或氧化；
- 使用时必须检查油位（如油位镜孔或打开油塞，小型号是没有的）；
- 使用新减速器时，不能满负载启动，应该逐步增大负载；
- 使用各类电机直接联型减速器时，若电机重量偏大，应设用支撑装置；
- 确保电机风扇附近有有良好的通风环境，以免影响散热效果；
- 减速器的标准工作环境温度是 -5℃ 至 40℃，如果不在这范围时，请与我们技术服务人员联系。

To instal the reduction unit it is necessary to note the following recommendations:

- Check the correct direction of rotation of the reduction unit output shaft before fitting the unit to the machine.
- Before mount with the prime mover and device, please check the reducer's every axial diameter, aperture, key and key slot, to be sure their dimensions are not deviation, and avoid assembling too tight or too loose, unless it will influence the reducer's performance.
- The mounting on the machine must be stable to avoid any vibration.
- Whenever possible, protect the reduction unit against solar radiation and bad weather.
- In the case of particularly lengthy periods of storage (4-6 months), if the oil seal is not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could stick to the shaft or may even have lost the elasticity it needs to function properly.
- Painting must definitely not go over rubber parts and the holes on the breather plugs, if any.
- When connect with hollow or solid shaft, please grease the joint to avoid lock or oxidation.
- Check the correct level of the lubricant through the indicator, if there is one.
- Starting must take place gradually, without immediately applying the maximum load.
- Supporting unit is required when using various of reducer matched with motor directly and the weight of motor is a little bigger than common.
- Ensure the motor cools correctly by assuring good passage of air from the fan side.
- In the case of ambient temperatures < -5℃ or > +40℃ call the Techical Service.

10.2 使用限制 Critical Applications

这本样本给出的参数基本上是按 B3 安装方位来编的，即第一级没有完全浸入油中。对于其它安装方位和输入转速，请参考下面表格中的相应参数。当遇到下列应用情况时，如有必要请与我们技术服务人员联系：

- 在原有上提高转速时；
- 应用在惯性特别大的设备上时；
- 当减速器出现故障有可能会对操作者造成危害时；
- 应用在减速器过度疲劳状态时；
- 工作环境温度低于 -5℃ 或高于 40℃ 时；
- 在化学腐蚀环境中使用时；
- 在盐性环境中使用时；
- 在辐射性高的环境中使用时；
- 在环境气压不在正常大气压力使用时；
- 安装方位在样本中没有提到时。

避免把减速器部分或整台浸入水里或其它液体中。

减速器承受的最大负载扭矩不能超过两倍于性能参数中规定的正常扭矩（当使用系数 $f_s=1$ 时）；这里最大负载扭矩是指能承受瞬间短暂的过载，它出现在过载启动、刹车、振动或其它动态操作环境中。

The performance given in the catalogue correspond to mounting position B3 or similar, when the first stage is not entirely immersed in oil. For other mounting positions and/of particular input speeds, refer to the tables that highlight different critical situations for each size of reduction unit. It is also necessary to take due consideration of and carefully assess the following applications by calling our technical service:

- As a speed increasing.
- Applications with especially high inertia.
- Use in services that could be hazardous for people if the reduction unit fails.
- Applications with high dynamic strain on the case of the reduction unit.
- In places with T_o under -5°C or over 40°C .
- Use in chemically aggressive environments.
- Use in a salty environment.
- Use in radioactive environments.
- Use in environments pressures other than atmospheric pressure.
- Mounting positions not envisaged in the catalogue.

Avoid applications where even partial immersion of the reduction unit is required.

The maximum torque that the gear reducer can support must not exceed two times the nominal torque ($f_s=1$) stated in the performance tables. Intended for momentary overloads due to starting at full load, braking, shocks or other causes, particularly those that are dynamic.

11. 润滑油 Lubrication

11.1 润滑油型号 /Types of Lubrication

TKM.	标准 Standard		ISO	SHELL	MOBIL	BP	润滑油类型 lubrication type
	$^{\circ}\text{C}$ -50	0 +100					
	-10	+40	VG 220	Shell Omala 220	Mobil gear 630	BP Energol GR-XP 220	矿物油 Mineral oil
	-20	+25	VG 150 VG 100	Shell Omala 100	Mobil gear 627	BP Energol GR-XP 100	
	-30	+10	VG 68-46 VG 32	Shell Tellus T 32	Mobil D.T.E. 13M		
	-40	-20	VG 22 VG 15	Shell Tellus T 15	Mobil D.T.E. 11M	BP Energol HLP-HM 15	
	-40	+80	VG 220	Shell Omala HD 220	Mobil SHC 630		合成油 Synthetic oil
	-40	+40	VG 150		Mobil SHC 629		
	-40	+10	VG 32		Mobil SHC 624		

11.2 润滑油的加注量 Lubrication Fill Quantity

规定的加注量为参考值。精确的变化与级数和传动比有关。请在加注润滑油时一定要注意油为螺栓所指示的精确油量。后期调整安装方式时，你必须根据改变后的安装方式相应调整加注润滑油。

下表中列出了不同的安装方式 (B3、B6、B7.....) 的减速器相应的标准参考润滑油注入量值。

The specified fill quantities are recommended values. The precise values vary depending on the number of stages and gear ratio. When filling, it is essential to check the oil level plug since it indicates the precise oil capacity. The following tables show guide values for lubricant fill quantities in relation to the mounting position (B3, B6, B7.....)

KM (GRV) 润滑油的加注量 Lubrication Fill Quantity

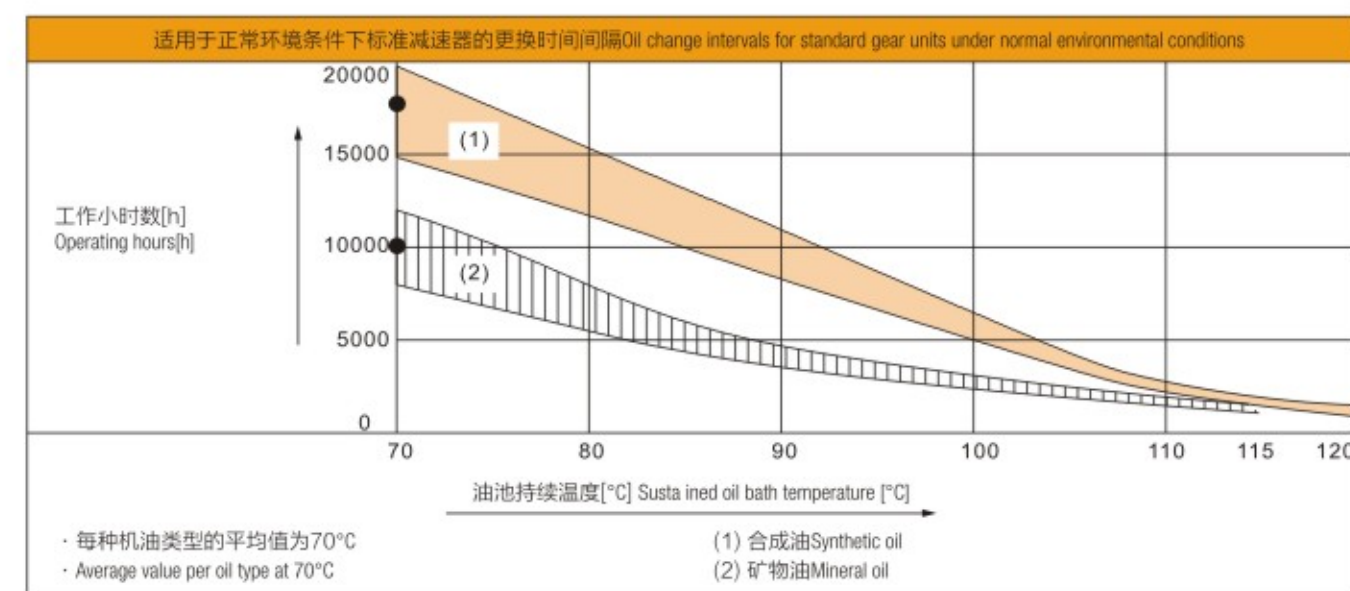
减速器型号 Gear Units	加注量 Fill quantity in liters (升)					
	B3	B6	B7	B8	V5	V6
KM (GRV) 050B	0.22	0.20*	0.13*	0.15	0.25	0.14
KM (GRV) 050C	0.07	0.04	0.04	0.05	0.08	0.09
KM (GRV) 063B	0.42	0.35*	0.24*	0.22	0.46	0.25
KM (GRV) 063C	0.07	0.04	0.04	0.05	0.08	0.09
KM (GRV) 075B	0.70	0.58*	0.42*	0.42	0.75	0.45
KM (GRV) 075C	0.13	0.09	0.09	0.09	0.15	0.17
KM (GRV) 090B	1.21	0.95*	0.72*	0.67	1.30	0.74
KM (GRV) 090C	0.13	0.09	0.09	0.09	0.15	0.17

表示在此安装方式，不能仅凭油位塞加注润滑油，油位需高出油位塞，加注量按表内所示。

It means the lubricant can't be added according to the oil level line plug, but also higher the plug the fill quantity as shown in the table.

12. 维护 Maintenance

- 对于齿轮箱，首次换油必须在大约 300 小时（齿轮磨合期）后进行，在换油时应使用合适的清洗剂小心地冲洗齿轮箱，不得将矿物油和合成油混合。
- 每 3000 工作小时，最低程度半年，应检测油以及油位，油封密封不严引起滴落的常规检测，若是 IEC 输入的减速器，则检测检查弹性体，必要时进行更换。
- 根据不同的工作条件（见下图）而定，最长每三年检测一次，更换矿物油，更换轴承润滑油脂。
- 根据不同的工作条件而定，更换输出轴上的油封。
- 产品出现故障时，不要拆卸部件，与本公司售后服务部门联系（需提供减速器规格、出厂日期、编号、已使用时间、主机名称、主机生产单位和故障类型）后，再采取合理的措施。
- For gear units, first oil change should be after about 300 hours (run-in period). The right lotion is required to clean the gear units with care. Never mix the synthetic oil and mineral oil together.
- Every 3000 working time, at least every 6 months, you have to check the oil and oil level, the seals visually for leakage. For IEC input gear units, the elastomer should be tested or replaced if necessary.
- Depending on the operating conditions (see chart below), every 3 years at the latest for inspection is needed. Then change the mineral oil and replace the bearing grease.
- Depending on the operating conditions, change the oil seals on output shaft.
- Once the malfunctions appear, stop disassembling the parts, and firstly please contact the customer service (the information about specification, delivery date, series number, time used, name of machine, machine manufacturer, malfunction problems is required), then take the reasonable measures.



13. 存放 Storage

- 有顶棚，防雨雪，无震动。
- 在设备和地面之间垫放木块或其他材料。
- 开箱后暂不使用的齿轮减速器在其加工表面涂上防锈油，并及时放回包装箱内。
- 在定期检查的情况下，两年以及更长时间。在进行检查时，应检查清洁度和机械损伤，检查防锈层是否完好。
- Under roof, protected against rain and snow, no shock loads.
- Underlay the block and other material between the ground and equipment.
- The opened but not used gear units should be added with the anti-corrosive oil on its surface, and then return to the packing containers timely.
- Two years or more given regular inspections. Check for cleanliness and mechanical damage as part of the inspection, Check corrosion protection.

14. 订货须知 Notice For Order

减速器定单请向我们提供以下信息：

- 减速器型号标记（减速器类型、速比、功率和安装方式）。
- 减速器表面喷涂颜色，一般按银白色提供。
- 订货数量
- 其他特殊要求
- 单位名称和联系人，联系电话。

Please offer the following information when place the orders:

- The model mark of the gear units (type, ratio power and mounting position).
- Generally the gear units paint in silver.
- Quantity ordered.
- Other special requirements.
- Company, contact and telephone.

15. 减速器运转故障 Gear Unit Malfunctions

故障 Problem	可能的原因 Possible cause	解决办法 Remedy
异常、均匀的运转噪声。 Unusual, regular running noise	A. 滚动 / 碾压噪声；轴承损坏。 B. 冲击型噪声；齿轮啮合不均匀。 A. Meshing/grinding noise: Bearing damage. B. Knocking noise: Irregularity in the gearing	A. 检测润滑油，更换轴承。 B. 请向客户服务部咨询。 A. Check the oil, change bearings B. Contact customer service
异常、不均匀的运转噪声。 Unusual, irregular running noise	机油中有异物。 Foreign bodies in the oil	• 检测润滑。 • 停止运转传动装置，向客户服务部咨询。 • Check the oil • Stop the drive, contact customer service
机油泄漏 ¹⁾ • 在减速器盖上。 • 在电机凸缘上。 • 在电机轴密封圈上。 • 在减速器凸缘上。 • 在输出轴轴密封圈上。 Oil leaking ¹⁾ • From the gear cover plate • From the motor flange • From the motor oil seal • From the gear unit flange • From the output end oil sea	A. 减速器底座上的橡胶密封发生渗漏。 B. 密封圈损坏。 C. 减速器没有排气。 A. Rubber seal on the gear cover plate leaking B. Seal defective C. Gear unit not vented	A. 拧紧各个外盖上的螺钉并且观察减速器。如果机油继续泄露，请向客户服务部咨询。 B. 请向客户服务部咨询。 C. 给减速器排气（参见“安装方式”） A. Tighten the bolts on the gear cover plate and observe the gear unit. Oil still leaking: Contact customer service B. Contact customer service C. Vent the gear unit (see "MountingPositions")
机油从排气阀旁渗出。 Oil leaking from breacking valve	A. 机油太多。 B. 传动装置安装方式错误。 C. 频繁冷启动（机油起泡沫）和/或者较高的油位。 A. Too much oil B. Drive operated in incorrect mounting position C. Frequent cold starts (oil foams) and/or high oillevel	A. 修正油量（参见“润滑油”）。 B. 正确安装排气阀并且纠正油位（参见“安装方式”）。 A. Correct the oil level (see Sec. "Inspection and Maintenance") B. Mount the breather valve correctly (see Sec. "Mounting Positions") and correct the oil level (see "Lubricants")
电机在运转或者传动轴已经被驱动，但是传动轴不转动。 Output shaft does not turn although the motor is running or the input shaft is rotated	减速器中的轴轮毂联接断裂。 Connection between shaft and hub in gear unit interrupted	将减速器或减速电机送修。 Send in the gear unit/gearmotor for repair

1) 在磨合试运转阶段（24 小时的运转时间内），轴密封圈有可能出现短期的漏油 / 油脂的现象。

1) Short-term oil/grease leakage at the oil seal is possible in the run-in phase (24 hours running time).

16. 减速器负载特征表（参考件）Charge Characteristic Chart (for reference)

风机类 Air Blowers	
风机（轴向和径向） Air blower (axial or radial)	A
冷却塔风扇 Fan of cooling tower	B
引风机 Induced draught fan	B
螺旋活塞式风机 Rotary piston type fan	B
涡轮式风机 Turbo-fan	A
建筑机械类 Construction Machinery	
混凝土搅拌机 Concrete mixer	B
卷扬机 Hoist	B
路面建筑机械 Road building machinery	B
钻孔机 Boring mill	B
化工机械类 Chemical Machinery	
搅拌机（液体） Mixer (liquid)	A
搅拌机（半液体） Mixer (half liquid)	B
离心机（重型） Centrifuge (heavy)	B
离心机（轻型） Centrifuge (light)	A
冷却滚筒 ** Cooling rolling drum	B
干燥滚筒 ** Dry rolling drum	B
搅拌机 Mixer	B
压缩机类 Compressor	
活塞式压缩机 Piston type compressor	C
涡轮式压缩机 Turbo-compressor	B
传送运输机类 Transmission Freighter	
平板传送机 Pan conveyer	B
平衡块升降机 Balance lifter	B
槽式传送机 Trough conveyer	B
带式传送机（大件） Ribbon conveyer (large piece)	C
带式传送机（碎料） Ribbon conveyer (small piece)	B
筒式面粉传送机 Drum-type flour conveyer	A
链式传送机 Chain conveyer	B
环式传送机 Ring type conveyer	B
货物升降机 Lifter	B
卷扬机 Hoist	B
连杆式传送机 Crank-connecting conveyer	B
载入升降机 Lifter	B
螺旋式传送机 Worm conveyer	B
钢带式传送机 Steel-band conveyer	B
链式槽型传送机 Chain reed-type conveyer	B
绞车运输机 Crab freighter	B
起重机械类 Hoist	
转臂式起重传动齿轮装置 Bracket swing gear assembly	B
卷扬机齿轮传动装置 Hoist gear assembly	A
吊杆起落齿轮传动装置 Derrick gear assembly	B
转向齿轮传动装置 Steering gear assembly	B
行走齿轮传动装置 Moving gear assembly	C
-	-

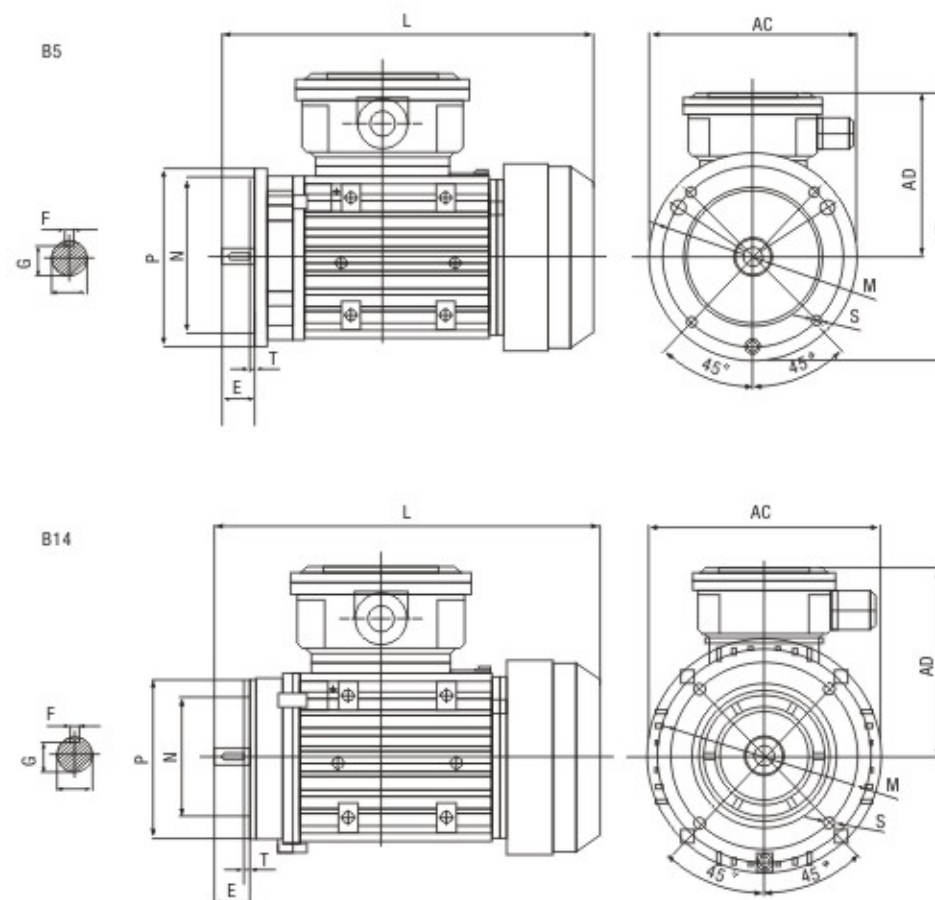
挖泥机类 Land Dredger	
筒筒传送机 Drum-type conveyer	C
筒筒转动机 Drum-type rotation wheel	C
挖泥头 Dredger head	C
机动绞车 Powered crab	B
泵 Pump	B
泵转向齿轮传动装置 Pump turning gear assembly	B
行走齿轮传动装置（履带） Moving gear assembly (aprom wheel)	C
行走齿轮传动装置（铁轨） Moving gear assembly (track)	B
食品工业机械类 Foodstuff Processing Machinery	
灌注及装箱机器 Placer or box filler	A
甘蔗压榨机 Cane crusher	A
甘蔗切断机 ** Cane cutter	B
甘蔗粉碎机 ** Cane crasher	C
搅拌机 Mixer	B
酱状物吊筒 Paste bucket	B
包装机 Packager	A
糖甜菜切断机 Beet slicer	B
糖和甜菜清洗机 Beet washing machine	B
发动机及转换器类 Motor and Conversion Equipments	
频率转换器 Frequency converter	C
发动机 Motor	C
焊接发动机 Welding motor	C
洗衣机类 Washing Machine	
滚筒 Rolling drum	B
洗衣机 Washing machine	B
金属滚轧机类 Metal Roller Machine	
钢坯剪断机 ** Steel cutter	C
链式输送机 ** Chain conveyer	B
冷轧机 ** Cold mill	C
连铸成套设备 Continuous casting equipments	B
冷床 ** Cold bed	B
剪料机头 ** Cropper	C
交叉转弯输送机 ** Cross steering transmitter	B
除锈机 ** Deruster	C
重型和中型板轧机 ** Heavy and medium steel mill	C
棒坯切轧机 ** Bar mill	C
棒坯转运机类 Bar transmission equipments	B
棒坯推料机 Bar pusher	B
推床 Push bed	B
剪板机 ** Shears	C
板材摆升降台 ** Lumber elevator platform	B
轧辊调整装置 Roll adjusting equipments	B
辊式矫直机 Rollerleveling machine	B
轧钢机辊道（重型） ** Mill rolling way (heavy)	C
轧钢机辊道（轻型） ** Mill rolling way (light)	B

减速器负载特征表 (参考件) Charge Characteristic Chart (for reference)

金属滚轧机类 Metal Roller Machine		塑料机械类 Plastic Equipments	
薄板轧机 ** Sheet rolling mill	C	压光机 ** Glazing press	B
修整剪切机 ** Trimming shears	B	挤压机 ** Ejecting press	B
焊管机 Pipe welder	C	螺旋挤出机 ** Spiral extruding machine	B
焊管机 (带材和线材) Soldering machine (belt material and wire rod)	B	混合机 ** Mixing machine	B
线材拉拔机 Wire drawbench	B	橡胶机械类 Rubber Equipment	
金属加工机床类 Metal Processing Machine Tools		压光机 ** Glazing press	B
动力轴 Power shaft	A	挤压机 ** Ejecting press	C
锻造机 ** Forging machine	C	混合搅拌机 ** Mixing stir machine	B
锻锤 Drop hammer	C	捏合机 Kneading machine	B
机床及辅助装置 Machine tool and necessary	A	滚压机 ** Roller machine	C
机床及主要传动装置 Machine tool and main driving equipment	B	石料、瓷土料加工机械类 Stone Porcelain Clay Processing Equipments	
金属刨床 Metal facing machine	C	球磨机 Ball crusher	B
板材矫直机床 Plate-leveling machine tool	C	挤压机 ** Ejecting press and breaker	C
冲床 Backing-out punch	C	破碎机 Breaker	C
冲压机床 Press machine tool	C	压砖机 Brick press	C
剪床 Cutting machine	B	锤料破碎机 ** Beating crusher	C
薄板弯曲机床 Sheet bending machine tool	B	转炉 ** Converter	C
石油工业机械类 Petroleum Processing Machinery		筒磨机 ** Cylinder mill	C
输油管油泵 ** Pump of oil pipe line	B	纺织机械类 Textile Machinery	
转子钻井设备 Rotary drilling equipment	C	送料车 Feeding machine	B
制纸机类 Papering Machine		织布机 Loom machine	B
压光机 ** Glazing press	C	印染机 Dyeing machine	B
多层纸板机 ** Multilayer paper board machine	C	精制筒 Purified drum	B
干燥滚筒 ** Drying cylinder	C	威罗机 Welon machine	B
上光滚筒 ** Glazing cylinder	C	水处理设备类 Water Treatment Equipments	
搅浆机 ** Masher	C	鼓风机 ** Air blast	B
搅浆擦碎机 ** Mashing and breaking machine	C	螺杆泵 Screw pump	B
吸水滚 ** Suction roll	C	木料加工机床 Wood Processing Machine Tool	
潮纸滚压机 ** Wet paper roller machine	C	剥皮机 Barker	C
吸水滚压技术 ** Water absorbing roller machine	C	刨床 Facing machine	B
威罗机 Welon machine	C	锯床 Saw bench	C
泵类 Pumps		木材加工机床 Wood processing machine tool	A
离心泵 (稀液体) Centrifugal pump (thin liquid)	A		
离心泵 (半液体) Centrifugal pump (half liquid)	B		
活塞泵 Displacement pump	C		
柱塞泵 Plunger pump	C		
压力泵 Force pump	C		

注: A- 均匀冲击负载; B- 中等冲击负载; C- 重冲击负载; ** - 用于 24 小时工作制。
Note: A-Uniform load; B-Moderate shock load; C-Heavy shock load; ** - for 24hour system.

安装方位图 Installation orientation



安装尺寸及外形尺寸 Installation dimensions and external dimensions

机座号	安装尺寸											INSTALLATION SIZE FOR B14				INSTALLATION SIZE FOR B5				外形尺寸				
	A	B	C	D	E	F	G	H	K	M	N	P	S	T	M	N	P	S	T	AB	AC	AD	HD	L
56M	90	71	36	9	20	3	7.2	56	5.8	65	50	80	M5	2.5	100	80	120	7	3.0	112	115	90	146	198
63M	100	80	40	11	23	4	8.5	63	7	75	60	90	M5	2.5	115	95	140	10	3.0	120	127	95	158	225
71M	112	90	45	14	30	5	11	71	7	85	70	105	M6	2.5	130	110	160	10	3.5	135	145	105	176	255
80M	125	100	50	19	40	6	15.5	80	10	100	80	120	M6	3.0	165	130	200	12	3.5	155	165	115	195	295
90S	140	100	56	24	50	8	20	90	10	115	95	140	M8	3.0	165	130	200	12	3.5	175	180	120	210	331
90L	140	125	56	24	50	8	20	90	10	115	95	140	M8	3.0	165	130	200	12	3.5	175	180	120	210	361
100L	160	140	63	28	60	8	24	100	12	130	110	160	M8	3.5	215	180	250	15	4.0	200	200	155	255	392
112M	190	140	70	28	60	8	24	112	12	130	110	160	M8	3.5	215	180	250	15	4.0	230	222	180	274	406
132S	216	140	89	38	80	10	33	132	12	165	130	200	M10	4.0	265	230	300	15	4.0	260	260	200	314	473
132M	216	178	89	38	80	10	33	132	12	165	130	200	M10	4.0	265	230	300	15	4.0	260	260	200	314	505
160M	254	210	108	42	110	12	37	160	14.5	265	230	300	M12	4.0	300	250	350	18.5	5.0	304	315	242	399.5	509
160L	254	254	108	42	110	12	37	160	14.5	265	230	300	M12	4.0	300	250	350	18.5	5.0	304	315	242	399.5	653

► YS系列铝壳三相异步电动机

Ys Series Aluminum Shell Three-phase Asynchronous Motor

特点说明 Feature description

YS系列铝壳三相异步电动机，符合国际电工协会(IEC)有关规定，选用优质原材料，进行最新式整体设计，具有性能好、噪声低、振动小、运行安全可靠、外型美观、体积小、重量轻、结构简单、维修方便等优点。

Ys系列电动机适用于各类电机设备上。

YS series aluminum shell three-phase asynchronous motors comply with the relevant regulations of the International Electro-technical Commission (IEC). select high-quality raw materials, and carry out the latest overall design, with good performance, low noise, small vibration, safe and reliable operation, beautiful appearance, small size, Light weight, simple structure, easy maintenance and other advantages.

YS series motors are suitable for all kinds of motor equipment.



使用条件 Conditions of use

环境温度: $-15^{\circ}\text{C} \leq 0 \leq 40^{\circ}\text{C}$

Ambient gas temperature: $-15^{\circ}\text{C} \leq 0 \leq 40^{\circ}\text{C}$

海拔: 不超过1000米

Altitude: no more than 1000 meters

额定电压: 380V, 可选用220V-760V

Rated voltage: 380V, optional 220V-760V

额定频率: 50HZ/60HZ

Rated frequency: 50HZ/60HZ

绝缘等级: B/F/H级

Insulation class: B/F/H

防护等级: IP54, IP55

Protection level: IP54, IP55

冷却方式: Ic0141

Cold section method: Ic0141

技术参数 Technical parameter

型号 Model	功率 KW	电流 (A)	功率因素	效率 (%)	转速 (r/min)	堵转转矩			净重 N.W.(KG)	QTY/20	包装尺寸(MM)
						额定转矩 Tst/Tn	堵转电流 Ist/In	最大转矩 Tmax/Tn			
同步转速 Synchronous speed 1500r/min (380V/50Hz)											
GS561-4	0.06	0.23	0.70	56	1300	2.1	4.0	2.0	3.6	6000	220x120x165
GS562-4	0.09	0.33	0.72	58	1300	2.1	4.0	2.0	4	5000	220x120x165
GS631-4	0.12	0.44	0.72	57	1330	2.2	4.4	2.1	4	4400	260X150X165
GS632-4	0.18	0.62	0.73	60	1330	2.2	4.4	2.1	4.5	4400	260X130X165
GS711-4	0.25	0.79	0.74	65	1360	2.2	5.2	2.1	5.6	3000	285X170X160
GS712-4	0.37	1.12	0.75	67	1360	2.2	5.2	2.1	6	3000	285 x170x160
GS801-4	0.55	1.52	0.75	71	1380	2.3	5.2	2.4	9	2200	320X190X210
GS802-4	0.75	1.95	0.76	79.6	1380	2.3	6.0	2.3	10	2200	320x190X230
GS90S-4	1.10	2.85	0.77	81.4	1390	2.3	6.0	2.3	12	1500	375X210X230
GS90L-4	1.50	3.72	0.78	82.8	1390	2.3	6.0	2.3	13.2	1500	375X210X235
GS100L1-4	2.20	5.09	0.81	84.3	1410	2.3	7.0	2.3	21	960	400x225x320
GS100L2-4	3.00	6.78	0.82	85.5	1410	2.3	7.0	2.3	24.8	950	400x225x320
OS112M4	4.00	8.80	0.82	88.6	1435	2.3	7.0	2.3	29	700	420x255x290
OS132S1-4	5.50	11.70	0.83	87.7	1445	2.3	7.0	2.3	44	460	510X345X375
GS132S2-4	7.50	15.60	0.84	88.7	1445	2.3	7.0	2.3	54	450	520X345X375
GS160M-4	11.00	22.50	0.84	89.8	1460	2.2	7.0	2.3	62	/	615X420X330
GS160L-4	15.00	30.00	0.85	90.6	1460	2.2	7.5	2.3	66	/	670X420X330



侨邦 齿轮减速马达 QIAOBANG GEAR REDUCER MOTOR

CHBNS GEAR MOTOR

