

TRANSCYKO®

TR..TF..TK..TS..硬齿面齿轮减速电机 GEARED MOTOR

TRANSCYKO



直交齿轮箱TSG系列
Right angle gearbox



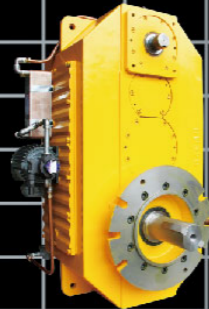
冷却水塔专用齿轮箱
TCT系列
Gearbox TCT series
for Cooling Tower



机器人关节用RV减速机
RV Gearbox for robot



挤出机TEX系列
Gearbox TEX series



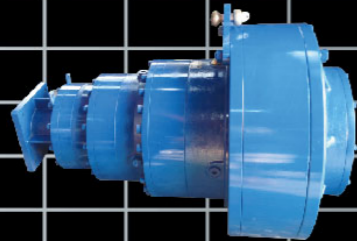
注塑机TIN系列
Gearbox TIN series



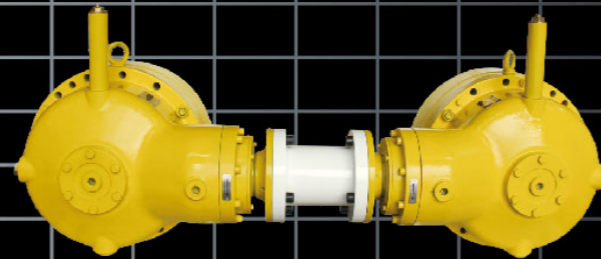
密炼机TM系列
Gearbox TM series
for Internal mixer



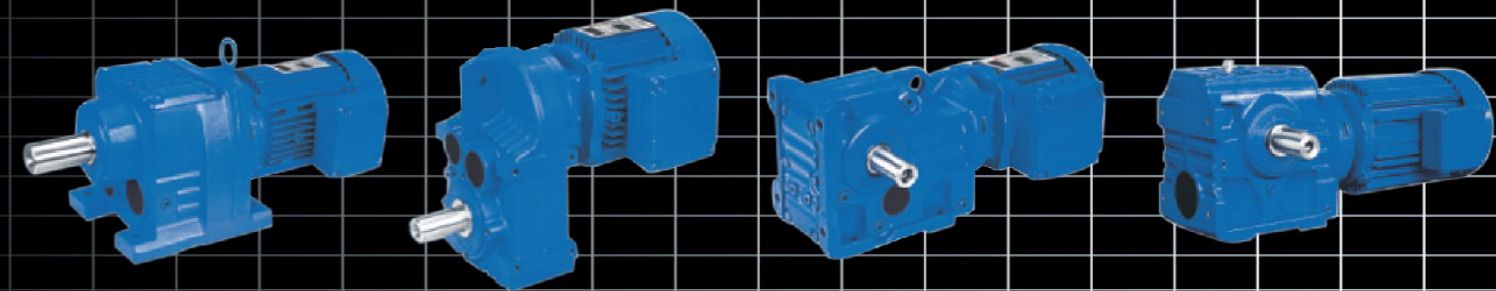
摆线减速机
Cycloidal Speed Reducers



行星减速机
Planetary Speed Reducers



水泥搅拌齿轮箱
Concrete mixture drive



TRANSCYKO®

蘇州廠

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NO.TRANSCYKO-2015-05-TR..TF..TK..TS

傳仕重工（蘇州）有限公司

Transtec Heavy Industry Co.,Ltd.

Transmission Machinery Co.,Ltd.



GB/T19001-2008/ISO9001:2008

加工设备



NILES-1200磨齒機 精度可達到DIN3級



NILES-400磨齒機 精度可達到DIN3級



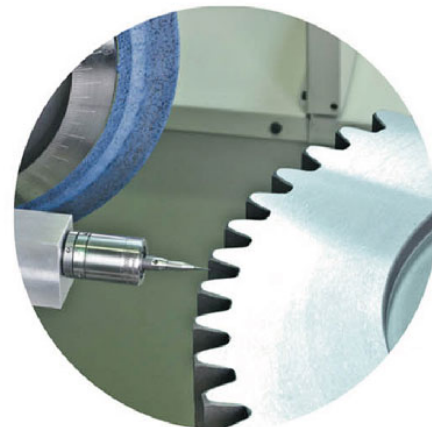
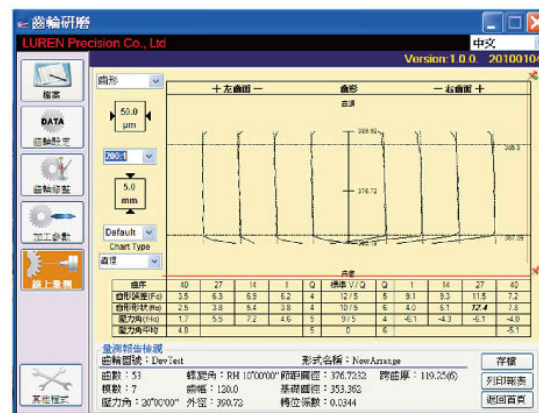
CNC立式磨齒機



立式CNC磨床

量测设备

量测标准可选择DIN、ISO、JIS、JIS1976等规范，量测结果可储存在电脑中或是利用印表机列印成纸本。



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TR Helical Geared Motors 29-83

TF平行轴-斜齿轮减速电机
TF Parallel Shaft-Helical Geared Motor 84-123

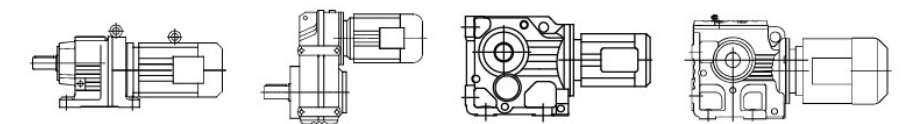
TK斜齿轮-伞齿轮减速电机
TK Helical-Bevel Geared Motor 124-170

TS斜齿轮-蜗轮蜗杆减速电机
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TR
TF
TK
TS

TRANSCYKO®

1. 概述

TR、TF、TK、TS系列减速电机是在模块组合体系基础上设计的新一代机电一体化产品，可分别与普通、制动、防爆、变频、伺服、IEC等电机组合，可在立体空间六个方位任意安装。该产品广泛适用于轻纺、食品、啤酒饮料、化工、自动扶梯、自动化仓储设备、冶金、烟草、环保、物流等驱动领域。

1.1 性能特点

1. 传动比覆盖范围广，分级精细；
2. 结构紧凑，要求空间小；
3. 振动小，低噪音，能耗低；
4. 设计精巧，可靠耐用，用途广泛；
5. 模块化、多种结构形式，可多种形式组合，满足各种传动条件的需求。

TR系列斜齿轮减速电机由1级、2级或3级减速斜齿轮减速器和电机组成；TF系列平行轴-斜齿轮减速电机由2级或3级减速斜齿轮减速器和电机组成；TK系列斜齿轮-伞齿轮减速电机由3级减速斜齿轮-伞齿轮减速器和电机组成；TS系列斜齿轮-蜗轮蜗杆减速电机由2级减速斜齿轮-蜗轮蜗杆减速器和电机组成。斜齿轮、伞齿轮和蜗杆采用优质合金钢材材料，表面硬化处理，都经过高精度磨齿机加工成形。蜗轮采用耐磨锡青铜，精密加工成形。箱体经精密加工，确保形状与位置精度。满足承载能力强、寿命长、体积小、速比大、重量轻、效率高、噪音低的优越性能。

TR、TF、TK、TS系列减速电机共有十几个机型号，可与TRF系列组合成多级减速，功率在0.12~200kW，传动比1.3~31434，转矩69~50000Nm。可根据用户要求进行任意连接（底脚、法兰）和多种安装位置的选择。

1. SUMMARIZE

TR、TF、TK、TS Series parallel shaft helical gearmotor is a new generation mechanic-electrical integrated product, which designed basing on the modular system. It can be connected respectively with motors such as common motor, brake motor, explosion-proof motor, frequency conversion motor, servo motor, IEC motor and so on. It can be mounted discretionary six orientation in solid space. This kind of product is widely used in drive fields such as textile, foodstuff, beverage, chemical industry, automatic arm ladder, automatic storage equipment, metallurgy, tobacco, environment-protection, logistics and soon.

1.1 PERFORMANCE CHARACTERISTICS

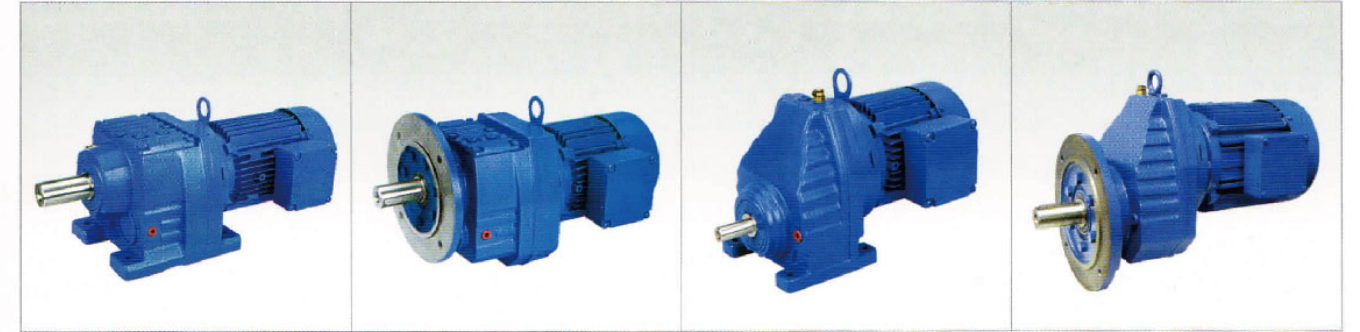
1. Transmission ratio with fine stage covers a wide tange;
2. Compact structure takes up small room;
3. low vibration; low noise; low energy dissipation;
4. Defe design; reliable and wearable; wide usage;
5. Modular, multistructure, can be combined in many forms to meet needs of all kinds of transmission conditions.

TR eries gearmotor of 1-stage, 2-stage or 3-stage helical gears unit and motor. TF eries gearmotor is formed of 2-stage or 3-stage helical gears unit and motor. TK eries gearmotor is formed of 3-stage helical-bevel gears unit and motor. TS Series helical-worm gearmotor is formde of 2-stage helical-wrom gears unit and motor. The helical gear and worm use high quality alloy steel with surface hardening; the worm wheel adopts wearable tin bronze which shoped by high precision device. All housing are in castiron. offer precision finishing to ersure the shape and position precision, and it reaches advantageous performance such as; strong bearing capacity, long service-life; small volume; big ratio; light, high efficiency, low noise.

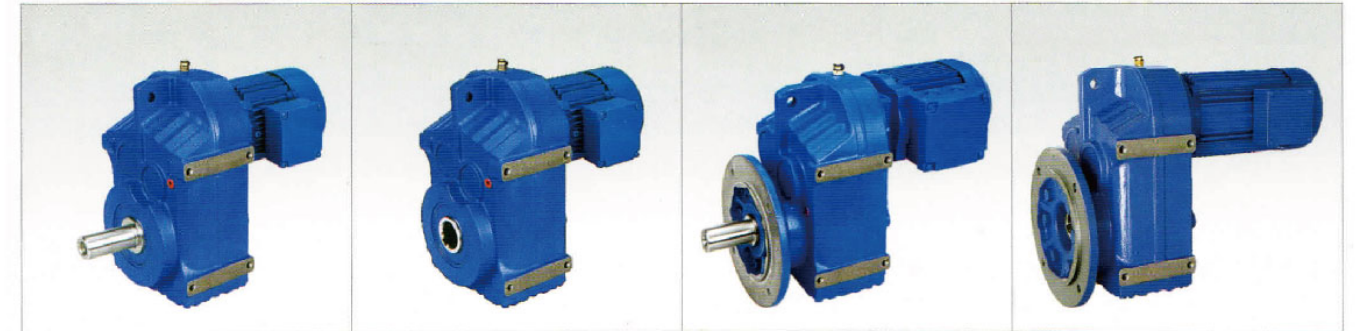
TR、TF、TK、TS series parallel shaft helical gearmotor has more than ten models. Combined with TRF series, the multi-stage gear reduction can be achieved. Power 0.12-200KW; Ratio 1.3-33818; Torqur 69-50000Nm. It can connect (foot, flange) discretionary and use multi-mounting positions according to customers'requirements.

2. 产品图片 Product pictures

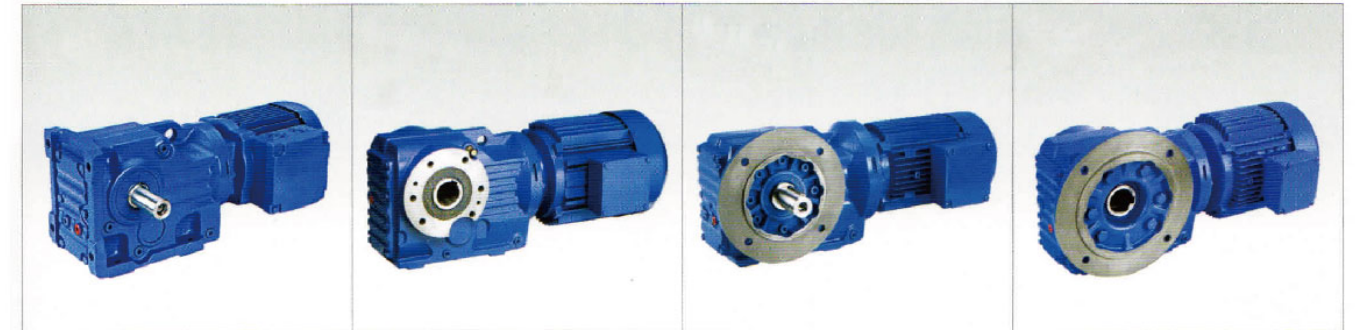
TR 斜齿轮减速电机 TR Helical Geared Motor



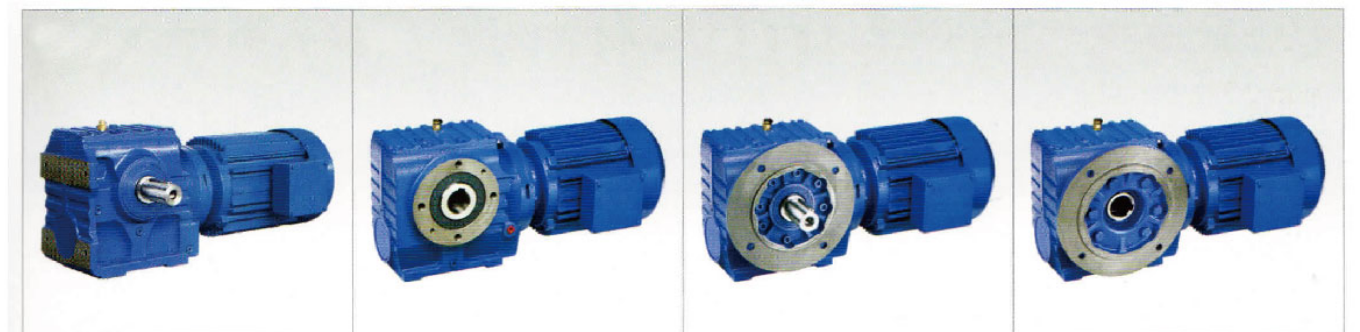
TF 平行轴-斜齿轮减速电机 TF Parallel Shaft-Helical Geared Motor



TK 斜齿轮-伞齿轮减速电机 YK Helical-Bevel Geared Motor



TS 斜齿轮-蜗轮蜗杆减速电机 TS Helical-Worm Geared Motor



3. 型号说明 Model notes

3.1 减速电机符号说明 3.1 Reducer Model Introduction

TR F 67 II D 80 N 4 / BMG HF TF 128.97 M1 180°

1 产品代码 TR—斜齿轮减速电机 TF—平行轴-斜齿轮减速电机 TK—斜齿轮-伞齿轮减速电机 TS—斜齿轮-蜗轮蜗杆减速电机	2 装配型式 无代码—底脚安装 F—法兰安装 ..F—底脚法兰安装 M—法兰安装带加长轴承箱 X—底脚安装单级传动 XF—法兰安装单级传动	3 减速机规格号 67—减速机规格号为67	4 法兰盘大小 无代码—无法兰或只有一种法兰 I—两种法兰中的最小法兰 II—两种法兰中的最大法兰 III—三种法兰中的最大法兰	5 电动机 D—三相异步电动机 (IP54)	6 电动机规格代号 80—电机中心高为80mm	7 电动机定子铁芯长度代号 D、K、N、S、M、ML、L	8 电动机极数 4—电动机极数为4	9 制动器 无代码—无制动器 BMG—制动器	10 手动释放装置 无代码—无手动释放装置 HF—手动释放锁在制动释放位置 HR—手动释放自动返回制动位置	11 电机热保护 无代码—无电机热保护装置 TF—电机热保护装置	12 减速机传动比 128.97—减速机传动比为128.97	13 安装位置 M1—安装型式图中M1位置	14 接线盒位置 无代码—安装型式图中0°位置 180°—安装型式图中180°位置
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TR F 67 II D 80 N 4 / BMG HF TF 128.97 M1 180°

1 Product Code TR—Helical Geared Motor TF—Parallel Shaft—Helical Geared Motor TK—Helical—Bevel Geared Motor TS—Helical—Worm Geared Motor	2 Installation type No Code—Feet mounted F—Flange mounted ..F—Feet and Flange mounted M—Flange mounted with extended bearing housing X—Single stage Feet mounted XF—Single stage Flange mounted	3 Gear Unit Size 67—Gear Unit Size 67	4 Flange Size I—No Code—No flange or only one flange or the smallest flange II—Second bigger flange III—Biggest flange	5 Elec YHRomotor D—Three-phase Asynchronous Motor (IP54)	6 Frame Size 80—Height of motor center is 80mm	7 Stator Length D、K、N、S、M、ML、L	8 Number of Poles 4—4 Poles	9 Brake No Code—No Brakes BMG—Brakes	10 Brake Release No Code—No Brake Release HF—Manual release (lock in the brake release position) Brake Release HR—Manual release (automatic braking position)	11 Thermistor No Code—No Thermistor TF—Thermistor Sensor	12 Ratio 128.97—Ratio 123.97	13 Mounting Position M1—Mounting Position M1	14 Terminal Box Position No Code—TerminalBOX Position is 0° 180°—Terminal BoX Position is 180°
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TF A 67 / G D 80 N 4 / BMG HF TF 109.04 M1 180°

1 产品代码 TR—斜齿轮减速电机 TF—平行轴-斜齿轮减速电机 TK—斜齿轮-伞齿轮减速电机 TS—斜齿轮-蜗轮蜗杆减速电机	2 装配型式 无代码—底脚安装 F—法兰安装 A—空心轴安装 AF—法兰空心轴安装	3 减速机规格号 67—减速机规格号为67	4 扭矩臂 无代码—无扭矩臂 G—扭矩臂	5 电动机 D—三相异步电动机 (IP54)	6 电动机规格代号 80—电机中心高为80mm	7 电动机定子铁芯长度代号 D、K、N、S、M、ML、L	8 电动机极数 4—电动机极数为4	9 制动器 无代码—无制动器 BMG—制动器	10 手动释放装置 无代码—无手动释放装置 HF—手动释放锁在制动释放位置 HR—手动释放自动返回制动位置	11 电机热保护 无代码—无电机热保护装置 TF—电机热保护装置	12 减速机传动比 109.04—减速机传动比为109.04	13 安装位置 M1—安装型式图中M1位置	14 接线盒位置 无代码—安装型式图中0°位置 180°—安装型式图中180°位置
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TF A 67 / G D 80 N 4 / BMG HF TF 109.04 M1 180°

1 Product Code TR—Helical Geared Motor TF—Parallel Shaft—Helical Geared Motor TK—Helical—Bevel Geared Motor TS—Helical—Worm Geared Motor	2 Unit Model No Code—Feet mounted F—Flange mounted A—Hollow Shaft mounted AF—Flange mounted with Hollow Shaft	3 Gear Unit Size 67—Gear Unit Size 67	4 Torque Arm No Code—No Torque Arm G—Torque Arm	5 Elec YHRomotor D—Three-phase Asynchronous Motor (IP54)	6 Frame Size 80—Height of motor center is 80mm	7 Stator Length D、K、N、S、M、ML、L	8 Number of Poles 4—4 Poles	9 Brake No Code—No Brakes BMG—Brakes	10 Brake Release No Code—No Brake Release HF—Manual release (lock in the brake release position) Brake Release HR—Manual release (automatic braking position)	11 Thermistor No Code—No Thermistor TF—Thermistor Sensor	12 Ratio 109.04—Ratio 109.04	13 Mounting Position M1—Mounting Position M1	14 Terminal Box Position No Code—TerminalBOX Position is 0° 180°—Terminal BoX Position is 180°
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TK A 67 / T D 80 N 4 / BMG / HF / TF / 108.03 / B / M1 / 180°

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 产品代码 TR—斜齿轮减速电机 TF—平行轴-斜齿轮减速电机 TK—斜齿轮-伞齿轮减速电机 TS—斜齿轮-蜗轮蜗杆减速电机	2 装配型式 无代码—底脚安装 F—法兰安装 A—空心轴安装 AF—法兰空心轴安装	3 减速机规格号 67—减速机规格号为67	4 扭矩臂 无代码—无扭矩臂 T—扭矩臂	5 电动机 D—三相异步电动机 (IP54)	6 电动机规格代号 80—电机中心高为80mm	7 电动机定子铁芯长度代号 D、K、N、S、M、ML、L	8 电动机极数 4—电动机极数为4	9 制动器 无代码—无制动器 BMG—制动器	10 手动释放装置 无代码—无手动释放装置 HF—手动释放锁在制动释放位置 HR—手动释放自动返回制动位置	11 电机热保护 无代码—无电机热保护装置 TF—电机热保护装置	12 减速机传动比 108.03—减速机传动比为108.03	13 轴指向 A—轴指向为A B—轴指向为B AB—双输出轴	14 安装位置 M1—安装型式图中M1位置	15 接线盒位置 无代码—安装型式图中0°位置 180°—安装型式图中180°位置
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TK A 67 / T D 80 N 4 / BMG / HF / TF / 108.03 / B / M1 / 180°

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 Product Code TR—Helical Geared Motor TF—Parallel Shaft-Helical Geared Motor TK—Helical-Bevel Geared Motor TS—Helical-Worm Geared Motor	2 Unit Model No Code—Feet mounted F—Flange mounted A—Hollow Shaft mounted AF—Flange mounted with Hollow Shaft	3 Gear Unit Size 67—Gear Unit Size 67	4 Torque Arm No Code—No Torque Arm G—Torque Arm	5 Elec YHRomotor D—Three-phase Asynchronous Motor(IP54)	6 Frame Size 80—Height of motor center is 80mm	7 Stator Length D、K、N、S、M、ML、L	8 Number of Poles 4—4 Poles	9 Brake No Code—No Brakes BMG—Brakes	10 Brake Release No Code—No Brake Release HF—Manual release(lock in the brake release position) Brake Release HR—Manual release(automatic braking position)	11 Thermistor No Code—No Thermistor TF—Thermistor Sensor	12 Ratio 108.03—Ratio 108.03	13 Position of the Output Shaft A—Shaft with A B—Shaft with B AB—Shaft with A+B	14 Mounting Position M1—Mounting Position M1	15 Terminal Box Position No Code—Terminal Box Position is 0° 180°—Terminal Box Position is 180°
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TS A 67 / T D 80 N 4 / BMG / HF / TF / 106.75 / d45 / B / M1 / 180°

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

1 产品代码 TR—斜齿轮减速电机 TF—平行轴-斜齿轮减速电机 TK—斜齿轮-伞齿轮减速电机 TS—斜齿轮-蜗轮蜗杆减速电机	2 装配型式 无代码—底脚安装 F—法兰安装 A—空心轴安装 AF—法兰空心轴安装	3 减速机规格号 67—减速机规格号为67	4 扭矩臂 无代码—无扭矩臂 T—扭矩臂	5 电动机 D—三相异步电动机 (IP54)	6 电动机规格代号 80—电机中心高为80mm	7 电动机定子铁芯长度代号 D、K、N、S、M、ML、L	8 电动机极数 4—电动机极数为4	9 制动器 无代码—无制动器 BMG—制动器	10 手动释放装置 无代码—无手动释放装置 HF—手动释放锁在制动释放位置 HR—手动释放自动返回制动位置	11 电机热保护 无代码—无电机热保护装置 TF—电机热保护装置	12 减速机传动比 106.75—减速机传动比为106.75	13 空心轴孔径 d45—空心轴孔径为45H7 (尺寸表中两种孔径选择一种)	14 轴指向 A—轴指向为A B—轴指向为B AB—双输出轴	15 安装位置 M1—安装型式图中M1位置	16 接线盒位置 无代码—安装型式图中0°位置 180°—安装型式图中180°位置
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TS A 67 / T D 80 N 4 / BMG / HF / TF / 106.75 / d45 / B / M1 / 180°

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

1 Product Code TR—Helical Geared Motor TF—Parallel Shaft-Helical Geared Motor TK—Helical-Bevel Geared Motor TS—Helical-Worm Geared Motor	2 Unit Model No Code—Feet mounted F—Flange mounted A—Hollow Shaft mounted AF—Flange mounted with Hollow Shaft	3 Gear Unit Size 67—Gear Unit Size 67	4 Torque Arm No Code—No Torque Arm T—Torque Arm	5 ElecYHRomotor D—Three-phase Asynchronous Motor(IP54)	6 Frame Size 80—Height of motor center is 80mm	7 Stator Length D、K、N、S、M、ML、L	8 Number of Poles 4—4 Poles	9 Brake No Code—No Brakes BMG—Brakes	10 Brake Release No Code—No Brake Release HF—Manual release(lock in the brake release position) Brake Release HR—Manual release(automatic braking position)	11 Thermistor No Code—No Thermistor TF—Thermistor Sensor	12 Ratio 106.75—Ratio 106.75	13 Hollow shaft diameter d45—Hollow shaft diameter is 45	14 Position of the Output Shaft A—Shaft with A B—Shaft with B AB—Shaft with A+B	15 Mounting Position M1—Mounting Position M1	16 Terminal Box Position No Code—Terminal Box Position is 0° 180°—Terminal Box Position is 180°
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3.2 减速电机和减速制动电机供货型号
3.2 Type of gear motor and gear motor with brake

TR、TF、TK、TS
减速电机
gear motor

下表列出了可提供的斜齿轮(TR)、平行轴(TF)、斜齿轮-伞齿轮(TK)和斜齿轮-蜗轮蜗杆(TS)减速电机型号。

There are the types of helical(TR),parallel shaft helical(TF),helica-bevei and helical-Worm(TS) geared motors.We supplied in the table.

型号 Model	减速电机			
	斜齿轮 (R) Helical	平行轴 (F) Parallel shaft	斜齿轮-伞齿轮 (K) Helical bevel	斜齿轮-蜗轮蜗杆 (S) Helical worm
底脚安装 Foot mounted	•	•	•	•
B5法兰安装 B5 flange mounted	•	•	•	•
底脚/B5法兰安装 Foot/B5 flange mounted	• ²⁾	•	• ³⁾	-
带键空心轴安装 Hollow shaft mounted	-	•	• ¹⁾	• ¹⁾
带锁紧盘空心轴安装 Hollow shaft with shrink disk	-	•	• ¹⁾	• ¹⁾
带花键空心轴安装 Splined hollow shaft mounted	-	•	• ¹⁾	-
带锁紧盘空心轴安装+底脚安装 Hollow shaft with shrink disk+foot mounted	-	•	•	-
带键空心轴安装+底脚安装 Hollow shaft with Key+foot mounted	-	•	•	-
带花键空心轴安装+底脚安装 Splined hollow shaft mounted+foot mounted	-	•	•	-
带键空心轴安装+B5法兰安装 Hollow shaft with key+B5 flange mounted	-	•	•	•
带锁紧盘空心轴安装+B5法兰安装 Hollow shaft with shrink disk+B5 flange mounted	-	•	•	•
带花键空心轴安装+B5法兰安装 Splined hollow shaft mounted+B5 flange mounted	-	•	•	-
带键空心轴安装+B14法兰安装 Hollow shfat with key+B14 flange mounted	-	•	•	•
带锁紧盘空心轴安装+B14法兰安装 Hollow shaft with shrink disk+B14 flange mounted	-	•	•	•
带花键空心轴安装+B14法兰安装 Splined hollow shaft mounted+B14 flange mounted	-	•	•	-

- 适用于标准型号 The normal type
- 不可用 Can't use
- 1) 也可带力矩臂 You can use torque arm
- 2) 仅用于TR17-TR87 Only used by TR17-TR87
- 3) 仅用于TK127-TK157 Only used by TK127-TK157

多级减速电机
Multi-stage gearedmotor

通过多级减速器或多级减速电机,可获得特别低的输出转速。就是在输入端安装一个斜齿轮减速机或减速电机作为第二级齿轮箱。此时,要注意根据减速机最大许用的输出扭矩,限制电机功率。

You can achieve the particularly low output speed by using multi-stage geared motor. The method is mounting a helical gear unit as a second gear units on the input end. Notice that restrict the motor power according the maximum permitted output torque.

搅拌专用减速电机
RM geared motor

RM减速电机作为斜齿轮减速电机的特殊规格,它带有一个加长的轴承箱,专为搅拌应用场合设计的,它可应用于承受大的径向力和轴向力甚至弯矩的场合,其它数据和斜齿轮减速电机相一致。

RM geared motors are a special type of helical geared motor with an expanded output bearing hub. They are specially designed for agitating applications and can be used in applicantions subject to high overhung and axial loads as well as flexural torque. The remaining data correspond with to the standard helical geared motors.

制动电机
Brake motors

根据需要可把机械制动与TRANSCYKO®电机及减速电机合成一体提供。TRANSCYKO®制动器是由带直流线圈的电磁盘式制动器,通过电磁力打开,弹簧力制动。它的制动原理意味着断电制动。满足了基本安全需要。TRANSCYKO®制动器如果安装手动释放,可实现机械式释放。手动释放有手柄或平式,手柄可自动弹回,平头螺丝可锁在释放位置。制动器通过装在电机接线盒或电气柜的制动控制头螺丝两种形系统来驱动。

On request,TRANSCYKO®motors and geared motors can be supplied with an integrated mechanical brake.The TRANSCYKO® brake is an electromagnetic disk brake withe a DC coil which is released electrically and braked using spring force .The design principle means the brake is applied if teh power fails.This means it complies with fundamental safety requirements.The TRANSCYKO® brake can also be released mechanically if fitted with manual brake release.For this purpose,either a hand lever or a setscrew is supplied with the brake.The hand lever aprings back automatically and the setscrew can be locked. The brake is activated by a brake control system which is in the wiring switch cabinet.

3.3 减速器及附件的名称
3.3 Unit designations gear units and options

斜齿轮减速器
Helical gear units

TR..	脚底安装 Foot - mounted
TRF..	法兰安装 Flange - mounted
TR..F	脚底-法兰安装 Foot and flange - mounted
TRM..	带加长轴承箱,法兰安装 Flange - mounted with the extended bearing housing
TRX..	单级法兰安装 Single - stage foot - mounted
TRXF..	单级底脚安装 Single - stage flange - mounted

平行轴减速
Parallel shaft helical gear units

TF..	底脚安装 Foot mounted
TFA..B	底脚安装,空心轴 Foot mounted with hollow shaft
TFH..B	底脚安装,带锁紧盘空心轴 Foot mounted with hollow shaft and shtink disk
TFV..B	底脚安装,带花键空心轴 Foot mounted with hollow shaft and splined hollow shaft
TFF..	B5法兰安装 B5 flange mounted
TFAF..	B5法兰安装,空心轴 B5 flange mounted with hollow shaft
TFHF..	B5法兰安装,带锁紧盘空心轴 B5 flange mounted with hollow shaft and shrink disk
TFVF..	B5法兰安装,带花键空心轴 B5 flange mounted with spined hollow shaft disk
TFA..	空心轴安装 Hollow shaft mounted
TFH..	带锁紧盘空心轴安装 Hollow shaft with shrink disk

TFV..	带花键空心轴安装 Splined hollow shaft mounted
TFAZ..	B14法兰安装, 空心轴 B14 flange mounted with hollow shaft
TFHZ..	B14法兰安装, 带锁紧盘空心轴 B14 flange mounted with hollow shaft disk
TFVZ..	B14法兰安装, 带花键空心轴 B14 flange mounted with Splined hollow shaft

斜齿轮-伞齿轮减速
Helical – bevel gear units

TK..	底脚安装 Foot mounted
TKA..B	底脚安装, 空心轴 Foot mounted with hollow shaft
TKH..B	底脚安装, 带锁紧盘空心轴 Foot mounted with hollow shaft and shtink disk
TKV..B	底脚安装, 带花键空心轴 Foot mounted with hollow shaft and splined hollow shaft
TKF..	B5法兰安装 B5 flange mounted
TKAF..	B5法兰安装, 空心轴 B5 flange mounted with hollow shaft
TKHF..	B5法兰安装, 带锁紧盘空心轴 B5 flange mounted with hollow shaft and shrink disk
TKVF..	B5法兰安装, 带花键空心轴 B5 flange mounted with spined hollow shaft disk
TKA..	空心轴安装 Hollow shaft mounted
TKH..	带锁紧盘空心轴安装 Hollow shaft with shrink disk
TKV..	带花键空心轴安装 Splined hollow shaft mounted
TKAZ..	B14法兰安装, 空心轴 B14 flange mounted with hollow shaft
TKHZ..	B14法兰安装, 带锁紧盘空心轴 B14 flange mounted with hollow shaft disk
TKVZ..	B14法兰安装, 带花键空心轴 B14 flange mounted with Splined hollow shaft

斜齿轮-蜗轮蜗杆减速机
Helical – worm gear units

TS..	底脚安装 Foot mounted
TSF..	B5法兰安装 B5 flange mounted
TSAF..	B5法兰安装, 空心轴 B5 flange mounted with hollow shaft
TSHF..	B5法兰安装, 带锁紧盘空心轴 B5 flange mounted with hollow shaft and shrink disk
TSA..	空心轴安装 Hollow shaft mounted
TSH..	带锁紧盘空心轴安装 Hollow shaft with shrink disk
TSAZ..	B14法兰安装, 空心轴 B14 flange mounted with hollow shaft
TSHZ..	B14法兰安装, 带锁紧盘空心轴 B14 flange mounted with hollow shaft disk

3.4 交流电机及附件名称

3.4 The name of AC motors and its accessories

双速交流电机 型号

Pole – Changing AC motors with soft start

SD...	双速电机法兰安装 Pole – Changing flange mounted
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电机选型

Motor options

BMG	制动器 Brake
../HF	手动释放 (锁在制动释放位置) ..with lock manual brake release
../HR	手动释放 (自动返回制动位置) ..with automatic manual brake disengaging
/RE	逆止器 Backstop
/TF	热敏电阻保护装置 (PTC热敏电阻) Thermistor sensor (PTC resistance)
/TH	恒温器保护装置 (双金属片开关) Thermostat (bimetallic switch)
/U	机身冷却 (无通风) Non – ventiliated
/V	强制冷风扇3×380–415V _{AC} 50HZ Forced cooling fan. 3*380–415V _{AC} , 50HZ
/VS	强制冷风扇1×220–266V _{AC} 50HZ Forced cooling fan. 1*220–266V _{AC} , 50HZ
/VR	强制冷风扇1×24V _{DC} Forced cooling fan. 1*24V _{DC}
/Z	高惯量飞轮风扇 Addition flywheel mass
/C	风扇保护罩 Protection cowl foe the fan guard
-SRD	YIXIN辊道电机 YIXIN roller motor

编码器附件

Encoder on AC motor options

/AV1Y	绝对值编码器, MPS和sin/cos信号, 24V _{DC} 电源 Absolute encoder with solid shaft. MSI and Sin/cos signals and 24V _{DC} supply
/ES..T	扩展轴编码器, TTL(RS-422)信号, 5V _{DC} 电源 Encoder with spread shaft. TTL(RS-422)signals and 5V _{DC} supply
/ES..S	扩展轴编码器, sin/cos信号, 24V _{DC} 电源 Encoder with spread shaft. signals and 24V _{DC} supply
/ES..R	扩展轴编码器, TTL(RS-422)信号, 24V _{DC} 电源 Encoder with spread shaft. TTL(RS-422)signals and 24V _{DC} supply
/ES..C	扩展轴编码器, HTL Encoder with spread shaft
/EV1T	实心轴编码器, TTL(RS-422)信号, 5V _{DC} 电源 Encoder with spread shaft. TTL(RS-422)signals and 5V _{DC} supply
/EV1S	实心轴编码器, sin/cos信号, 24V _{DC} 电源 Encoder with spread shaft. signals and 24V _{DC} supply
/EV1R	实心轴编码器, TTL(RS-422)信号, 24V _{DC} 电源 Encoder with spread shaft. TTL(RS-422)signals and 24V _{DC} supply
/EV1C	实心轴编码器, HTL Encoder with spread shaft
/NV1..	接近开关, 带A通道, 24V _{DC} 电源 Proximity sensor with A track and 24V _{DC} supply
/NV2..	接近开关, 带A、B通道, 24V _{DC} 电源 Proximity sensor with A/B track and 24V _{DC} supply

编码器安装附件
Mounting device for encoders on AC motor options

- ES..A 扩展轴安装
 ..With spread shaft
- EV1A 实心轴安装托架
 ..With solid shaft

4. 减速器选型

4.1 传动装置选型数据

准确地确定所需传动装置，下表所列的数据是必需的：

传动装置选型数据		
n_{amin}	最小输出转速	[rpm]
n_{amax}	最大输出转速	[rpm]
P_{aat n_{amin}}	最低输出转速下的输出功率	[kW]
P_{aat n_{amax}}	最高输出转速下的输出功率	[kW]
M_{aat n_{amin}}	最低输出转速下的输出扭矩	[Nm]
M_{aat n_{amax}}	最高输出转速下的输出扭矩	[Nm]
F_R	输出轴径向力。假设载荷作用在轴伸的中点，如果不一致，请确定径向力准确的作用点、作用角度和轴的旋转方向以便进行校核计算。	[N]
F_A	输出轴轴向负载（拉力和压力）	[N]
J_{load}	被驱动件的转动惯量	[10 ⁻⁴ kgm ²]
TR/F/K/S/W M1-M6	所需减速机类型和安装位置	-
IP..	外壳防护等级	-
∅_{env}	环境温度	[°C]
H	海拔高度	[m above sea level]
S.., ..%cdf	工作制和负载持续率cdf；也可给出精确的负载周期图	-
Z	启停频率；也可给出精确的负载周期图	[no.per h]
f_{mains}	电源频率	[Hz]
V_{mot}, V_{brake}	电机工作电压和制动器电压	[V]
M_B	所需制动力矩	[Nm]
对于变频器运行： 控制模式和设置范围		

4. Selection of gear reducer

4.1 Drive selection data

Certain data are essential to specify the components for your drive. These are.

n_{amin}	Minimum output speed	[rpm]
n_{amax}	Maximum output speed	[rpm]
P_{aat n_{amin}}	Output power at minimum output speed	[kW]
P_{aat n_{amax}}	Output power at maximum output speed	[kW]
M_{aat n_{amin}}	Output torque at minimum output speed	[Nm]
M_{aat n_{amax}}	Output torque at maximum output speed	[Nm]
F_R	Overhung load on output shaft. Assumes force application is in the center of shaft end. If not, please specify the exact application point indicating the application angle and direction of rotation of the shaft for a check calculation	[N]
F_A	Axial load (tension and compression) on output shaft	[N]
J_{load}	Mass moment of inertia to be driven	[10 ⁻⁴ kgm ²]
TR/F/K/S/W M1-M6	Required gear unit type and mounting position(→ sec. Mounting positions, churning losses)	-
IP..	Required protect rank	-
∅_{env}	Ambient temperature	[°C]
H	Altitude	[m above sea level]
S.., ..%cdf	Operating mode and intermittency factor cdf; alternatively, exact load cycle can be specified.	-
Z	Starting frequency; alternatively, exact load cycle can be specified	[no.per h]
f_{mains}	Supply frequency	[Hz]
V_{mot}, V_{brake}	Operating voltage of motor and brake	[V]
M_B	Required braking torque	[Nm]
For inverter operation: Required control mode and setting range		

4.2 选型流程图

4.2 Project planning sequence

例 Example

带有位置要求驱动方案的流程示意图，所涉及的减速电机由变频器控制
The following flowchart displays a schematic view of the procedure for planning a project incorporating a positioning drive. The drive comprises a geared motor which is powered by an inverter



图:选型应用流程图
Figure: Project planning process

4.3 Transcyko 减速机的效率

4.3 Efficiency of Transcyko gear units

减速机的效率主要由齿轮啮合和轴承摩擦损失所决定的。
减速机运行初期的效率总是比正常运行时要低，尤其是斜齿轮蜗轮蜗杆和螺旋平面减速机更为明显。
The efficiency of the gear units is mainly determined by the gearing,mash and bearing friction. Please note that the starting efficiency of a gear unit is always less than its efficiency at operating speed.This fact is especially obvious in helical–worm right–angle geared motors.

TR.TF.TK减速机
TR.TF.TK gear units

斜齿轮、平行轴、斜齿轮–锥齿轮减速机的效率是根据减速级数确定，在94%(3级)~98%(1级)之间。
The efficiency of helical,parallel shaft and helical–bevel gear units baries according to the unnumber of gear stages,between 94%(3–stage)and 98%(1–stage).

TS减速机
TS gear units

斜齿轮蜗杆减速机由于产生高损失的滑动摩擦，所以它们比TR.TF.TK减速机损失大、效率低，主要是由以下因素决定：

- 斜齿轮蜗杆级的传动比
- 输入转速
- 齿轮箱温度

Transcyko设计的斜齿轮蜗杆减速机比单级的蜗轮蜗杆减速机的效率有明显的提高，对于很大速比的斜齿轮蜗杆蜗杆才有可能其效率 $\eta < 0.5$ 。

The gearing in helical–worm and gear units produces a high proportion of sliding friction.As a result,these gear units may have higher gearing losses than R,for K gear units,and thus be less efficient.The cause of factors are:

- Gear ratio of the helical–worm
- Input speed
- Gear unit temperature

Transcyko gear units are designed as helical worm which makes them significantly more efficient than standard worm

自锁条件
Self–locking condition

在斜齿轮–蜗轮蜗杆上加反向力矩会产生一个反向效率 $\eta' = 2 - 1/\eta$ ，其值明显小于正向效率 η ，如果正向效率 $\eta \leq 0.5$ ，那么斜齿轮蜗轮蜗杆减速机会自锁。仅有少量大速比的 Transcyko斜齿轮蜗轮蜗杆减速机静态自锁。如果想利用自锁的制动效果特点请向Transcyko 咨询。

Retrodriving torques on helical–worm gear units produce an efficiency of $\eta' = 2 - 1/\eta$,which is significantly less favorable than the forwards efficiency η .The helica–worm or Spiroplan® gear unit is self–locking if the forwards efficiency $\eta \leq 0.5$.A few Transcyko helical–worm gear units with the largest gear ratio are statically self–locking. Please contact Transcyko if you wish to wish to make technical use of the braking effect of self–locking characteristics.

运行初始阶段
Running–inphase

由于新的斜齿轮蜗杆减速机齿面不够光滑、摩擦角较大，所以效率较正常运行时要小，这种影响在大传动比时变得更加明显。

The tooth flanks of new helical–worm and gear units are not yet completely smooth.For the friction angle is greater,the efficiency will be less than operation.This effect becomes more apparent in the greater ratio.

在运初试阶段，所给定的效率值应减去表中数值：
In The first beginning, the given efficiency number should minus as follows

	Helical-worm	速比i的范围
1start	approx.12%	approx.50-280
2start	approx.6%	approx.20-75
3start	approx.3%	approx.20-90
4start	-	-
5start	approx.3%	approx.6-25
6start	approx.2%	approx.7-25

经过连续24小时运行，斜齿轮蜗轮蜗杆满足以下条件可以达到给出的额定效率：

- 减速机经过充分的试运行
- 减速机达到正常运行温度值
- 加入推荐的润滑剂

减速机在额定的负载范围内工作

The running - in phase normally lasts 24 hours. Helical - worm gear units achieve their listed rated efficiency values when:

- The gear unit has been run is completely
- The gear unit has reached normal operation temperature
- The recommended lubricant has been filled in

The gear unit is working within the rated load range

搅动损失

Churning losses

在某些安装位置，第一级小齿轮完全浸在油中，对于大机座号减速机和有较高输入转速的减速机，搅动损失会急剧上升，不能忽视，因此，当遇到此类情况请向Transcyko咨询。

如果可能，对于TR、TK和TS系列减速机尽量使用M1安装位置以确保较小的搅动损失。

In certain gear unit mounting positions the first reduction stage is completely immersed in the lubricant. For large gear unit sizes and high circumferential velocities of the input stage, this gives rise to churning losses constituting a factor which cannot be ignored. Please contact Transcyko if you wish to use gear units of this type. If possible, use the mounting position M1 for TR, TK and Transcyko gear units in order to keep the churning losses in low.

4.4 使用系数

4.4 Service factor

决定使用系数的因素

Determining of the service factor

选用减速机要考虑一定的使用系数用f_B表示，使用系数 f_B由每天的运行时间和起停频率所决定，根据惯量加速系数确定的三种负载类型也要考虑，可以从图3中读取驱动方案的使用系数，从图中确定的使用系数一定要小于或等于从选型表中给定的 Transcyko 使用系数。

Gear unit selection needs to consider a certain factor which we use f_B to express. This service factor is determined by the daily operating time and the starting frequency. Three load classifications are also considered to depend on the mass acceleration factor. You can read the different service factor from the figure as follows. The service factor determined using this diagram must be small than or equal to the Transcyko service factor as given in the selection tables.

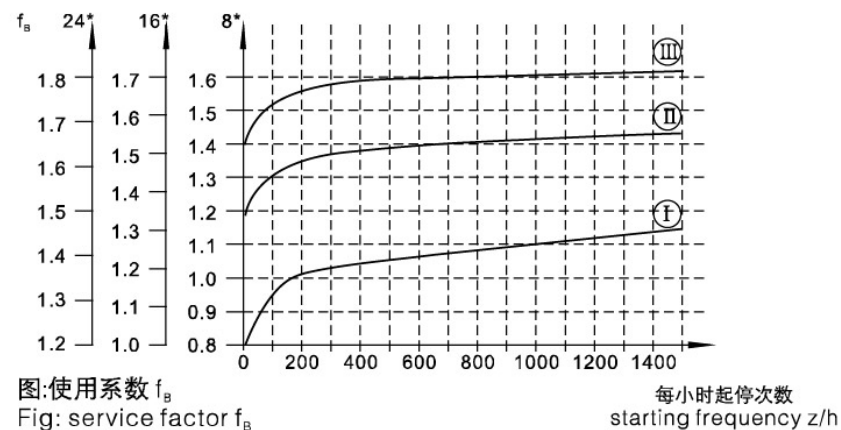


图:使用系数 f_B
Fig: service factor f_B

*运行小时/天

**起停次数，包括所在的起停和制动过程，所括从低到高，从高到低变换过程。

Daily operating time in hours/day

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

负载类型

Load classification

三种负载类型：

- 1 均匀载荷，允用的惯性加速系数 ≤ 0.2
- 2 中等冲击载荷，允许的惯性加速系数 ≤ 3
- 3 强冲击载荷，允许的惯性加速系数 ≤ 10

Three load classifications are differentiated:

1. Uniform, approved mass acceleration factor ≤ 0.2
2. Moderate shock load, approved mass acceleration factor ≤ 3
3. Severe shock load, approved mass acceleration factor ≤ 10

惯性加速系数

Mass acceleration factor

惯性加速系数的计算方式：

The mass acceleration factor is calculated as follows:

$$\text{惯性加速系数} = \frac{\text{所有的外部转动惯量}}{\text{电动机的转动}}$$

$$\text{Mass acceleration factor} = \frac{\text{All external mass moments of inertia}}{\text{Mass moment of inertia on the motor end}}$$

所有的外部转动惯量是指被驱动装置加上减速机相对于电机转速的转动惯量，

折算公式如下： $J_x = j \cdot \left(\frac{n}{n_m}\right)^2$

"All external mass moments of inertia" are the mass moments of inertia of the driven machine and the gear unit, scaled down to the motor speed. The calculation for scaling down to the motor speed performed using the following formula: $J_x = j \cdot \left(\frac{n}{n_m}\right)^2$

J_x=相对于电机轴的外部转动惯量

J_x= Reduced mass moment of inertia on the motor shaft

J=相对于减速机输出轴的外部转动惯量

J= Mass moment of inertia referenced to the output speed of the gear unit

N=减速机的输出转速

N= Output speed of the gear unit

N_m=电机转速

N_m= Motor speed

电机的转动惯量是指电机转动惯量，若配有制动器和高惯量飞轮(Z风扇)则要相应增加所配部件的转动惯量。惯性加速系数大于10，要求传动部件高平稳性及大的径向负载时使用系数f_B就大于1.8,此类情况请向TS咨询。

"Mass moment of inertia on the motor if it equips the brake and the flywheel fan(Z fan), the components' mass moment of inertia or large overhung loads. Please contact TS in this case.

Transcyko 使用系数 Transcyko-f_B

确定最大持续运行扭矩Mamax和由此推导出的使用系统f_B=Mamax/Ma是不标准的，并且不同的制造商之间有很大不同。Transcyko使用系数f_B=1是，Transcyko驱动设备在疲劳强度范围内能提供相当高的工作安全性和可靠性(除斜齿轮蜗轮蜗杆减速机的蜗轮之外)。在一定条件下，Transcyko的使用系数不必和其它减速机制造商所给出的进行比较。若有疑问，请和Transcyko联系索取针对特殊驱动设备详细资料。

Transcyko service factor: Transcyko f_B

The method for determining the maximum approved continuous torque M_{max} and then deriving the service factor $f_B = M_{max}/M_a$ is not defined in a standard and varies greatly from manufacturer to manufacturer. With their Transcyko service factor $f_B=1$, Transcyko drives afford an extremely high level of safety and reliability in the fatigue strength range (exception: wearing of the worm wheel in helical - worm gear units). Under a certain circumstances, the Transcyko service factor may not be comparable to the information given details for your specific drive. If there is any questions, please contact Transcyko to get the special drive equipments' document in detail.

举例 Example

惯性加速系数2.5(II类载荷), 运行时间14小时/天, (按16小时/天查图)和300次起停/小时, 使用系数在图中为 $f_B=1.51$, 根据选型表所选择的减速电机 Transcyko f_B 值要 ≥ 1.51 。

Mass acceleration factor 2.5(load classification II), 14 hours/day operating time(check the figure at 16h/d) and 300 cycles/hour produce a service factor $f_B=1.51$ as shown in Fig.2. According to the selection table, the selected motor must have an Transcyko f_B Value of 1.51 or greater.

斜齿轮蜗杆减速机 Helical - worm gear units

在斜齿轮蜗杆减速机中, 除了已有图3中的使用系数 f_B 外还有两个使用系数 f_{B1} 、 f_{B2} 要考虑

- f_{B1} = 环境温度使用系统
- f_{B2} = 负载持续系数

Two further service factors have to be taken into account with helical - worm gear units in addition to the selection factor f_B shown in Fig.2. These are:

- f_{B1} = Service factor from the ambient temperature
- f_{B2} = Service factor from the cyclic duration factor

附加的使用系数 f_{B1} 、 f_{B2} 可通过图4确定, 确定 f_{B1} 时用和确定 f_B 同样的方法考虑负载类型。

Additional service factors f_{B1} and f_{B2} can be determined by diagrams is Fig.4. For the f_{B1} factor, we can define it just in the same way as f_B .

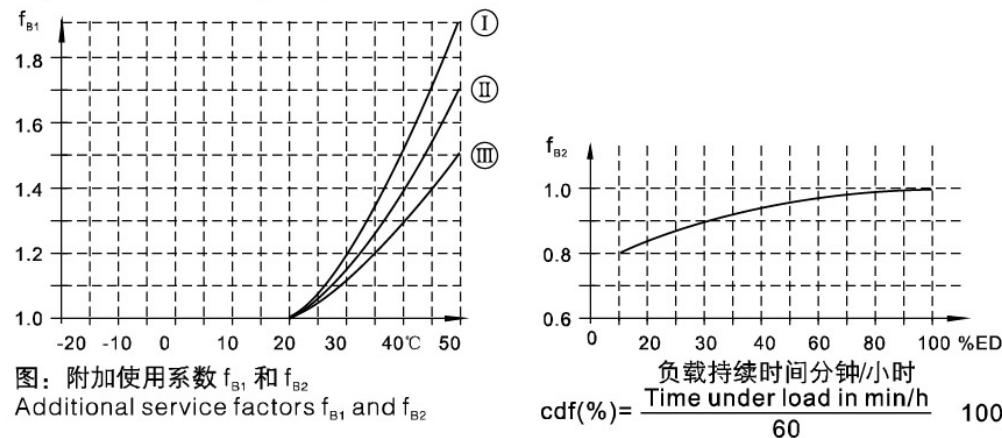


图: 附加使用系数 f_{B1} 和 f_{B2}
Additional service factors f_{B1} and f_{B2}

确定 f_{B1} 时, 环境温度低于 -20°C 请向 Transcyko 咨询 斜齿轮蜗杆减速机总的使用系数 f_{Btot} 按下式计算

Please contact Transcyko in case of temperatures below -20°C ($\rightarrow f_{B1}$)
The total service factor for helical - worm gear units is calculated as follows: $F_{Btot} = f_B \cdot f_{B1} \cdot f_{B2}$

举例 Example

若前一个例子使用系统 $f_B=1.51$ 的减速机是斜齿轮蜗杆减速机, If the geared motor with the service factor $f_B=1.51$ in the previous example is a helical - worm geared motor.

环境温度 $=40^{\circ}\text{C} \rightarrow f_{B1} = 1.38$ (负载类型 II)
Ambient temperature $\nu = 40^{\circ}\text{C} \rightarrow f_{B1} = 1.38$ (read off at load classification II)

负载工作时间 40 分钟/小时 $\text{cdf} = 66.7\%$ $f_{B2} = 0.95$
Time under load $= 40 \text{ min/h} \rightarrow \text{cdf} = 66.7\% \rightarrow f_{B2} = 0.95$

The total service factor is $F_{Btot} = 1.51 \cdot 1.38 \cdot 0.95 = 1.98$

根据选型表, 所选的斜齿轮蜗杆减速机的 Transcyko f_B 则应 ≥ 1.98 。
According to the selection tables, the selected helical - worm geared motor must have a Transcyko f_B value of 1.98 or greater.

4.5 径向和轴向负载 4.5 Overhung and axial loads

径向负载 Determining overhung load

确定径向负载时, 要考虑安装在轴端传动部件的影响, 传动部件系数 f_z 列于下表:

When determining the overhung load, the type of transmission element mounted on the shaft end must be considered. The transmission element factors f_z are listed as follows:

传动部件 Transmission element	传动部件系数 f_z Transmission element factor f_z	备注 Comments
齿轮 Gears	1.15	>17齿 >17 teeth
链轮 Chain sprockets	1.40	>13齿 >13 teeth
链轮 Chain sprockets	1.25	>20齿 >20 teeth
窄V型带 Narrow V-belt pulleys	1.75	预应力影响 Pre-tensioning influence
宽平皮带 Flat belt pulleys	2.50	预应力影响 Pre-tensioning influence
齿型皮带 Toothed belt pulleys	2.5	预应力影响 Pre-tensioning influence

作用在电机或减速机轴伸上的径向力按下式计算:

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

$$F_R = \frac{M_d \cdot 2000}{d_o} \cdot f_z$$

- | | |
|----------------|---|
| F_R 径向载荷(N) | F_R Overhung load in N |
| M_d 力矩(N.M) | M_d Torque in Nm |
| d_o 节圆直径(MM) | d_o Mean diameter of the mounted transmission element in mm |
| f_z 传动部件系数 | f_z Transmission element factor |

许用的径向载荷 Permitted overhung load

根据耐磨轴承额定寿命 L_{H10} 来确定许用径向载荷。

对于特殊的运行条件, 许用径向载荷根据所要求的修正寿命 L_{na} 来确定。

对于地脚安装实心轴输出的减速机许用径向载荷列于减速电机的选型表中。对于其他安装形式可与 Transcyko 联系。

According the rate service life L_{H10} of the anti - friction bearings to define the permitted overhung loads. For the special operating conditions, the permitted overhung loads can be determined by the modified service life L_{na}

The permitted overhung loads F_{Ra} for the output shafts of foot - mounted gear units with a sold shaft are listed in the selection tables for geared motors. Please contact Transcyko in case of other types.

选型表中的径向力数值按照力作用于轴伸的中点(斜齿轮-伞齿轮减速机按照A端输出轴考虑)。

径向力作用角度 α 和旋转方向已经按最不利的条件给予考虑。

The data refer to the radial force acting midway on the shaft end (with right - angle gear units on the A - side output). Worst case conditions have been assumed for the force application angle α and the direction of rotation.

- 对于TK和TS系列减速机,M1安装位置前面与安装固定面连接时, 许用径向载荷只是选型表中FRa数值的50%。
- 对于TK167和TK187减速机 在安装位置M1-M4时; 若安装与其安装位置示例有所区别情况下, 其许用径向载荷最大只为选型表中FRa的50%。
- 地脚/法兰安装斜齿轮减速机(TR..F): 当通过法兰安装传递力矩时, 许用径向载荷最大为选型表中FRa的50%

-Only 50% of the F_{Ra} Value specified in the selection tables permitted in mounting position M1 with wall attachment on the front face for TK and TS gear units.

-Helical-bevel geared motors TK 167 and TK 187 in mounting positions M1 to M4:If the mounting position is different the position we offered(M1-M4),the overhung load F_{Ra} lasted in the selection tables.

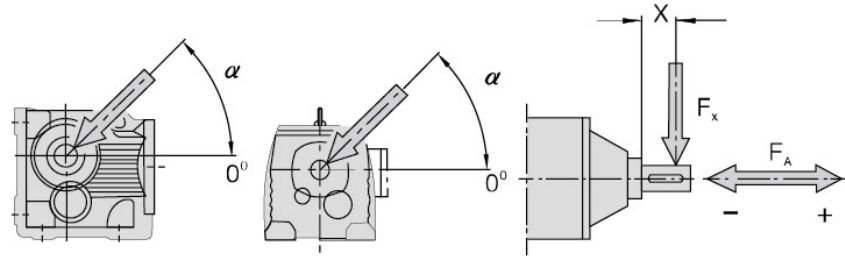
-Foot and flange-mounted helical geared motors(TR..F):A maximum of 50% of the overhung load F_{Ra} specified in the selection tables in the case of torque transmission via the flange mounting.when the torque transmission via the flange mounting the overhung load F_{Ra} will only be 50% compared with the F_{Ra} lasted the selection tables.

更高的许用径向载荷
Higher approved overhung loads

- 对于TR、TF和TK系列减速机, 安装重载轴承可提高许用径向载荷。另外, 精确考虑旋转方向和力作用角 α , 也可提高许用径向载荷, 在此情况下, 请和Transcyko 联系。
- It possible to achieve a higher overhung load by exactly considering the force application angle α and the direction of rotation. In addition, higger output shaft loads are permitted if heavy duty bearings are installed, especially with TR, Fand TK gear units. Please contact Transcyko in this case.

所受力的定义
Definition of force application

所受力根据下图来定义
Force application is defined according to the following diagram:



F_x = 在X点的许用径向载荷(N)
 F_A = 许用轴向载荷(N)
 F_x = Approved overhung load at point X [N]
 F_A = Approved axial load [N]

许用轴向载荷
Approved axial loads

如果没有径向载荷, 那么轴向载荷 FA (+表示拉力, -表示压紧力) 依据表中径向负荷的50%给定是允许的, 这适用于:
 If there is no overhung load,then an axial load FA(tension or compression)amountion to 50% of the overhung load given in the selection tables is approved.This applies to the following geared motors:

- 斜齿轮减速机(TR..137到167除外)
- 平行轴斜齿轮减速机与斜齿轮-伞齿轮(实心轴)减速机(TF97... 除外)
- 实心轴斜齿轮蜗轮蜗杆减速机

-Helical geared motors except for TR...to TR...167....
 -Parallel shaft and helical-bevel geared motors with solid shaft except for TF97...
 -Helical-worm geared motors with solid shaft

对于其它类型的减速机请与TS咨询,以防过大的轴向载荷或轴向及径向的合成力。
 Please contact TS for all other types of gear units and in the event of significantly greater axial loads or combinations of overhung load and axial load.

偏离中心点的径向力
Overhung load conversion for off - center force application

对于受力点不在轴端中点的允许径向载荷要根据下面的公式计算。 F_{xL} 和 F_{xw} 中的较小值是在X点允许数值,所计算的数值应用于 M_{amax}

The approved overhung loads given in the selection tables must be calculated using the following form-ulae in the event of force application not in the center of the shaft e-nd.The smaller of the two value F_{xL} (according to bearing service life)and F_{xw} (according to shaft strength)is the approved value for the overhung load at pointx.Note that the calculation apply to M_{amax}

根据轴承寿命 F_{xL}
 FXL acc. to bearing service life $F_{xL} = F_{Ra} \cdot \frac{a}{b+x}$ [N]

根据输出轴强度 F_{xw}
 FXW from the shaft strength $F_{xw} = \frac{c}{f+x}$ [N]

- F_{Ra} = 对于底脚安装齿轮箱的允许径向载荷(选型表中所列值)单位: N
 Approved overhung load ($x=1/2$) for foot - mounted gear units according to the selection tables in [N]
- X = 从轴肩到受力点的距离
 Distance from the shaft shoulder to the force application point in [mm]
- a,b,f = 对于径向负载转化的齿轮箱常量
 Gear unit constants for overhung load conversion [mm]
- c = 对于径向负载转化的齿轮箱常量
 Gear unit constant for overhung load conversion [Nmm]

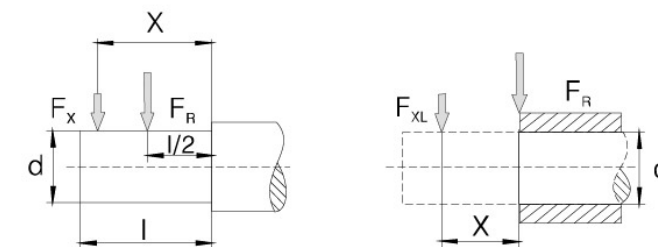


图: 偏离中心点的径向力 F_x
 Fig: Overhung load Fx for off-center force application

减速器径向转化常量
Gear unit constants for overhung load conversion

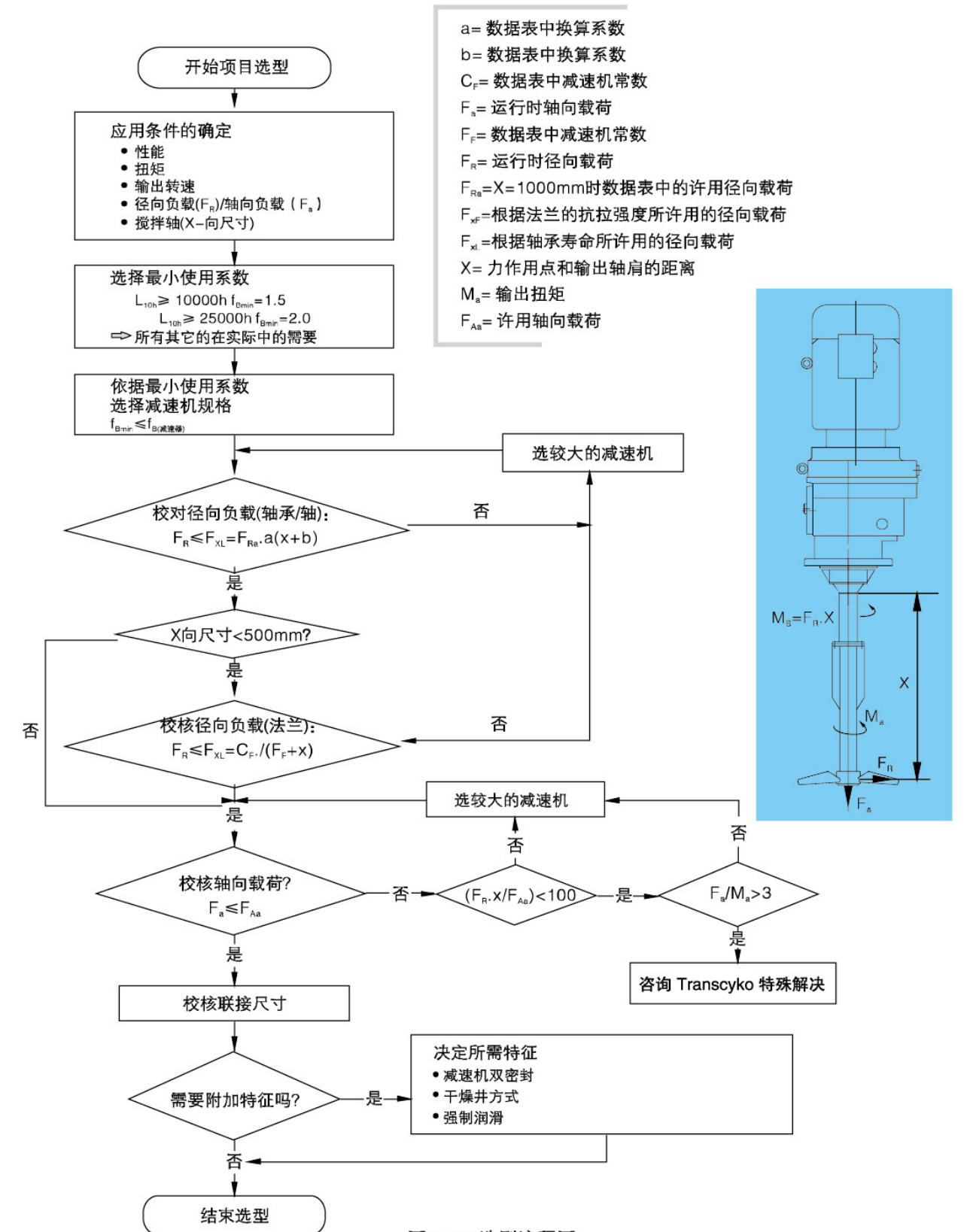
齿轮箱常量 Gear unit type	a [mm]	b [mm]	c [Nmm]	f [mm]	d [mm]	l [mm]
TR17	88.5	68.5	$6.527 \cdot 10^4$	17	20	40
TR27	106.5	81.5	$1.56 \cdot 10^5$	11.8	25	50
TR37	118	93	$1.24 \cdot 10^5$	0	25	50
TR47	137	107	$2.44 \cdot 10^5$	15	20	60
TR57	147.5	112.5	$3.77 \cdot 10^5$	18	35	70
TR67	168.5	133.5	$2.51 \cdot 10^5$	0	35	70
TR77	173.7	133.7	$3.97 \cdot 10^5$	0	40	80
TR87	216.7	166.7	$8.47 \cdot 10^5$	0	50	100
TR97	255.5	195.5	$1.19 \cdot 10^6$	0	60	120
TR107	285.5	215.5	$2.06 \cdot 10^6$	0	70	140
TR137	343.5	258.5	$6.14 \cdot 10^6$	30	90	170
TR147	402	297	$8.65 \cdot 10^6$	33	110	210
TR167	450	345	$1.26 \cdot 10^7$	0	120	210
TRX57	43.5	23.5	$1.51 \cdot 10^5$	34.2	20	40
TRX67	52.5	27.5	$2.42 \cdot 10^5$	39.7	25	50
TRX77	60.5	30.5	$1.95 \cdot 10^5$	0	30	60
TRX87	73.5	33.5	$7.69 \cdot 10^5$	48.9	40	80
TRX97	86.5	36.5	$1.43 \cdot 10^6$	53.9	50	100
TRX107	102.5	42.5	$2.47 \cdot 10^6$	62.3	60	120
TF37	123.5	98.5	$1.07 \cdot 10^5$	0	25	50
TF47	153.5	123.5	$1.78 \cdot 10^5$	0	30	60
TF57	170.7	135.7	$5.49 \cdot 10^5$	32	35	70
TF67	181.3	141.3	$4.12 \cdot 10^5$	0	40	80
TF77	215.8	165.8	$7.87 \cdot 10^5$	0	50	100
TF87	263	203	$1.19 \cdot 10^6$	0	60	120
TF97	350	280	$2.09 \cdot 10^6$	0	70	140
TF107	373.5	288.5	$4.23 \cdot 10^6$	0	90	170
TF127	442.5	337.5	$9.49 \cdot 10^6$	0	110	210
TF157	512	407	$1.05 \cdot 10^7$	0	120	210
TK37	123.5	98.5	$1.41 \cdot 10^5$	0	25	50
TK47	153.5	123.5	$1.78 \cdot 10^5$	0	30	60
TK57	169.7	134.7	$6.8 \cdot 10^5$	31	35	70
TK67	181.3	141.3	$4.12 \cdot 10^5$	0	40	80
TK77	215.8	165.8	$7.69 \cdot 10^5$	0	50	100
TK87	252	192	$1.64 \cdot 10^6$	0	60	120
TK97	319	249	$2.8 \cdot 10^6$	0	70	140
TK107	373.5	288.5	$5.53 \cdot 10^6$	0	90	170
TK127	443.5	338.5	$8.31 \cdot 10^6$	0	110	210
TK157	509	404	$1.18 \cdot 10^7$	0	120	210
TK167	621.5	496.5	$1.88 \cdot 10^7$	0	160	250
TK187	720.5	560.5	$3.04 \cdot 10^7$	0	190	320
TS37	118.5	98.5	$6.0 \cdot 10^4$	0	20	40
TS47	130	105	$1.33 \cdot 10^5$	0	25	50
TS57	150	120	$2.14 \cdot 10^5$	0	30	60
TS67	184	149	$3.04 \cdot 10^5$	0	35	70
TS77	224	179	$5.26 \cdot 10^5$	0	45	90
TS87	281.5	221.5	$1.68 \cdot 10^6$	0	60	120
TS97	326.3	256.3	$2.54 \cdot 10^6$	0	70	140

对于没有列出的类型的值据需要给定。
Values for types not listed are available on request.

4.6 TRM减速机

选型

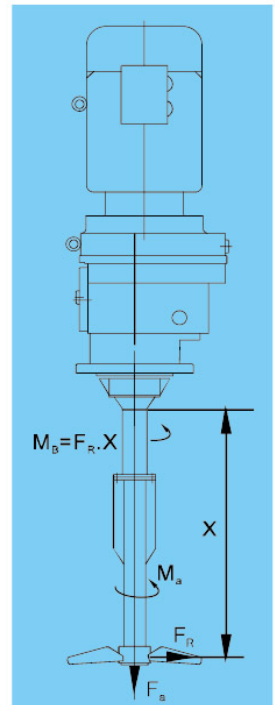
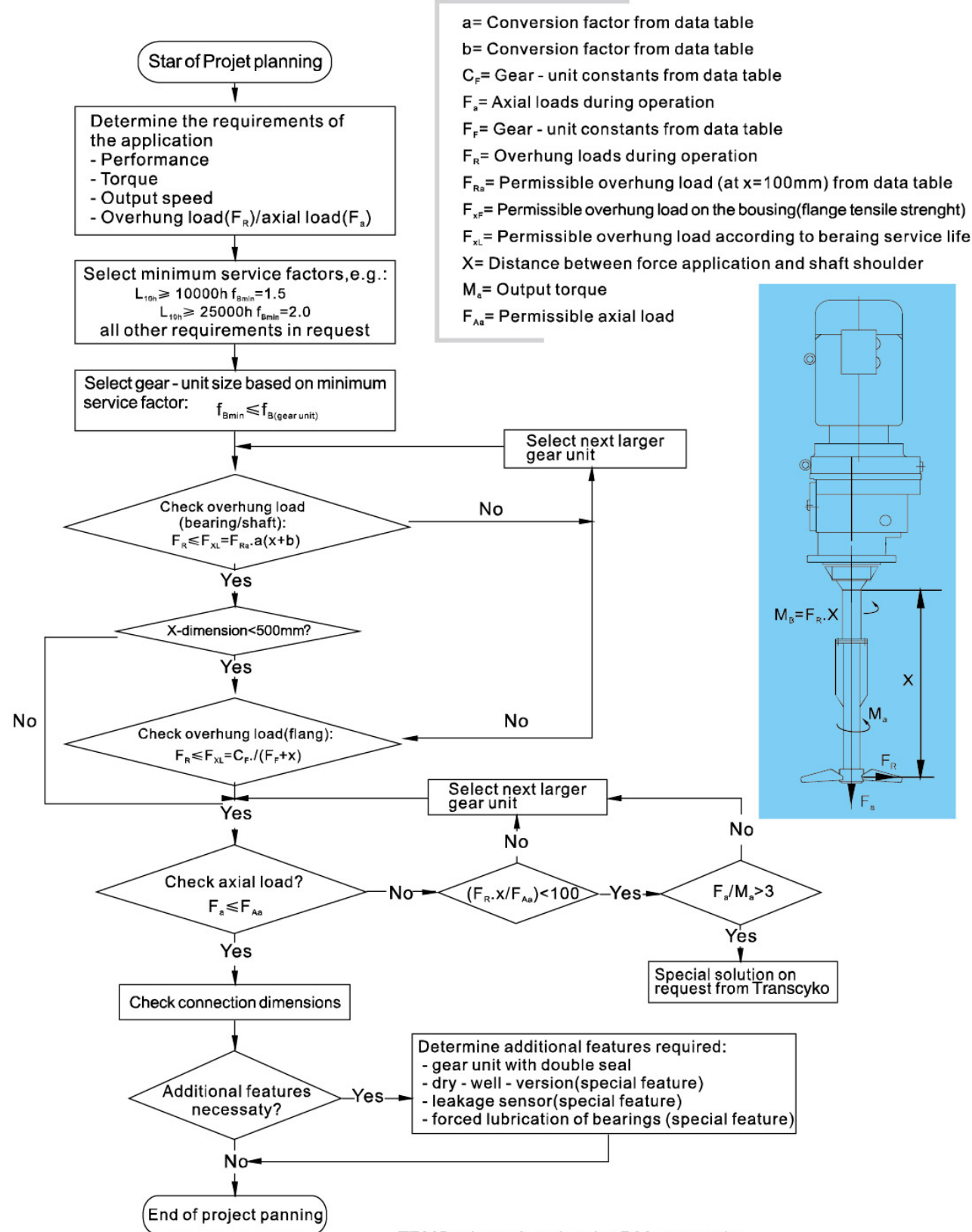
当选用带加长轴承箱的TRM系列减速电机时，要考虑较高的径向和轴向负载，请按照下列步骤计算选型



4.6 TRM gear reducer

Project planning

You must take account of the higher overhung and axial loads when planning projects with RM helical geared motors with extended bearing housing. Please adhere to the following project planning procedure:



允许径向和轴向负载
Permitted overhung loads and axial forces

根据不同的使用系数 f_s 和正常轴承寿命 L_{H10} 所确定的许用径向负载 F_{Ra} 和轴向负载 F_{Aa}
 The permitted overhung loads F_{Ra} and axial loads F_{Aa} are specified for various service factors f_s and normal bearing service life L_{H10}

$f_{Bmin}=1.5$
 $L_{10h}=10\ 000h$

	n_s [rpm]	<16	16-25	26-40	41-60	61-100	101-160	161-250	251-400
TRM57	F_{Ra} [N]	400	400	400	400	400	405	410	415
	F_{Aa} [N]	18800	15000	11500	9700	7100	5650	4450	3800
TRM67	F_{Ra} [N]	575	575	575	580	575	585	590	600
	F_{Aa} [N]	19000	18900	15300	11900	9210	7470	5870	5050
TRM77	F_{Ra} [N]	1200	1200	1200	1200	1200	1210	1210	1220
	F_{Aa} [N]	22000	22000	19400	15100	11400	9220	7200	6710
TRM87	F_{Ra} [N]	1970	1970	1970	1970	1980	1990	2000	2010
	F_{Aa} [N]	30000	30000	23600	18000	14300	11000	8940	8030
TRM97	F_{Ra} [N]	2980	2980	2980	2990	3010	3050	3060	3080
	F_{Aa} [N]	40000	36100	27300	20300	15900	12600	9640	7810
TRM107	F_{Ra} [N]	4230	4230	4230	4230	4230	4230	3580	3830
	F_{Aa} [N]	48000	41000	30300	23000	18000	13100	9550	9030
TRM137	F_{Ra} [N]	8710	8710	8710	8710	7220	5060	3980	6750
	F_{Aa} [N]	70000	70000	70000	57600	46900	44000	35600	32400
TRM147	F_{Ra} [N]	11100	11100	11100	11100	11100	10600	8640	10800
	F_{Aa} [N]	70000	70000	69700	58400	45600	38000	32800	30800
TRM167	F_{Ra} [N]	14600	14600	14600	14600	14600	14700	-	-
	F_{Aa} [N]	70000	70000	70000	60300	45300	36900	-	-

$f_{Bmin}=2.0$
 $L_{10h}=25\ 000h$

	N_a [rpm]	<16	16-25	26-40	41-60	61-100	101-160	161-250	251-400
TRM57	F_{Ra} [N]	410	410	410	410	410	415	415	420
	F_{Aa} [N]	12100	9600	7350	6050	4300	3350	2600	2200
TRM67	F_{Ra} [N]	590	590	590	595	590	595	600	605
	F_{Aa} [N]	15800	12000	9580	7330	5580	4460	3460	2930
TRM77	F_{Ra} [N]	1210	1210	1210	1210	1210	1220	1220	1220
	F_{Aa} [N]	20000	15400	11900	9070	6670	5280	4010	3700
TRM87	F_{Ra} [N]	2000	2000	2000	2000	2000	1720	1690	1710
	F_{Aa} [N]	24600	19200	14300	10600	8190	6100	5490	4860
TRM97	F_{Ra} [N]	3040	3040	3040	3050	3070	3080	2540	2430
	F_{Aa} [N]	28400	22000	16200	11600	8850	6840	5830	4760
TRM107	F_{Ra} [N]	4330	4330	4330	4330	4330	3350	2810	2990
	F_{Aa} [N]	32300	24800	17800	13000	9780	8170	5950	5620
TRM137	F_{Ra} [N]	8850	8850	8850	8830	5660	4020	3200	5240
	F_{Aa} [N]	70000	59900	48000	37900	33800	31700	25600	23300
TRM147	F_{Ra} [N]	11400	11400	11400	11400	11400	8320	6850	8440
	F_{Aa} [N]	70000	60600	45900	39900	33500	27900	24100	22600
TRM167	F_{Ra} [N]	15100	15100	15100	15100	15100	13100	-	-
	F_{Aa} [N]	70000	63500	51600	37800	26800	23600	-	-

TRM Project planning for RM gear units

5.TR..斜齿轮减速电机 TR Helical Geared motors

下表是对于TRM减速电机在力作用点X≠1000mm时计算径向载荷 F_{XL} 所需的换算系数和减速器常数
The following conversion factors and gear unit constants apply to calculating the permitted overhung load FXL at point X≠1000mm for TRM gear motors.

换算系数和减速器常数
Conversion factors and gear unit constants

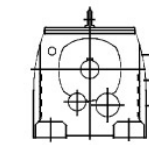
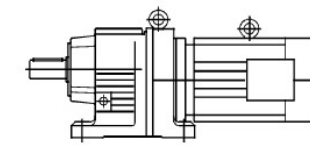
减速器型号	a	b	$C_r(f_b=1.5)$	$C_r(f_b=2.0)$	F_r
TRM57	1047	47	1220600	1260400	277
TRM67	1047	47	2047600	2100000	297.5
TRM77	1050	50	2512800	2574700	340.5
TRM87	1056.5	56.5	4917800	5029000	414
TRM97	1061	61	10911600	11124100	481
TRM107	1069	69	15367000	15652000	554.5
TRM137	1088	88	25291700	25993600	650
TRM147	1091	91	30038700	31173900	756
TRM167	1089.5	89.5	42096100	43654300	869

TRM 减速机的附加重量
Additional weights of TRM gear units

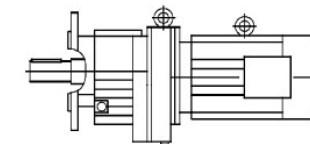
型号 Type	在带有最小法兰尺寸RF减速机重量基础上的附加重量 Additional weight in addition to RF, related to the smallest RF flange $\Delta m[kg]$
TRM57	12.0
TRM67	15.8
TRM77	25.0
TRM87	29.7
TRM97	51.3
TRM107	88.0
TRM137	111.1
TRM147	167.4
TRM167	195.4

5.1 设计方案 5.1 Versions of Transcyko geared motors

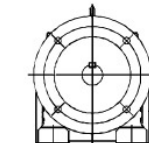
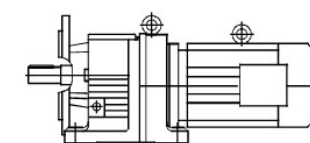
斜齿轮减速电机有以下设计方案：
The following types of helical – bevel motor can be supplied:



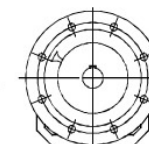
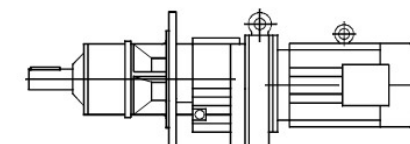
TR..Y..
底脚安装斜齿轮减速电机
Foot – mounted helical geared motor



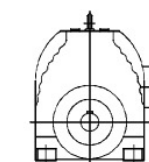
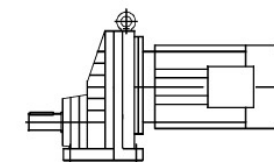
TRF..Y..
法兰安装斜齿轮减速电机
Flange – mounted helical geared motor



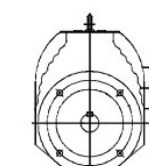
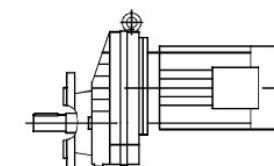
TR..FY..
底脚法兰安装斜齿轮减速电机(仅限于TR17-TR87)
Foot and Flange – mounted helical geared motor



TRM..Y..
法兰安装带长轴承箱的斜齿轮减速电机
Flange – mounted helical geared motor with extended bearing housing



TRX..Y..
底脚安装单级斜齿轮减速电机
Single – stage Flange – mounted helical geared motor



TRXF..Y..
法兰安装单级斜齿轮减速电机
Single – stage Flange – mounted helical geared motor

5.3 速比与最大扭矩
5.3 Ratio and max torque

TRX 57-107 $n_e=1400$ 1/min

TRX57 70Nm					TRX67 135Nm					TRX77 215Nm						
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD	i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD	i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD		
5.50	255	39	3080	AD ₂	6.07	231	43	4010	AD ₂	8.00	175	57	6330	AD ₂		
5.07	276	36	3030													
4.35	322	68	2640													
3.79	369	69	2480													
3.55	394	65	2420													
3.14	446	67	2320													
2.91	481	69	2170													
2.64	530	69	1810	AD ₃	3.20	438	100	2800	AD ₃	4.73	296	123	4900	AD ₃		
2.04	686	69	1070													
1.92	729	69	890													
1.65	848	69	430													
1.48	946	68	112													
1.30	1075	63	132													
1.30	1075	63	132													
8.65	162	139	7890	AD ₂	8.23	170	225	9560	AD ₃	6.63	211	460	9700	AD ₄		
7.63	183	149	7490													
7.20	194	140	7380													
6.45	217	192	6850	AD ₃	5.79	242	420	7630	AD ₄	5.19	270	695	7850	AD ₅		
5.56	252	225	6320													
5.07	276	250	5980													
4.50	311	290	5500	AD ₄	4.52	310	595	6180	AD ₅	4.65	301	695	7450	AD ₆		
3.78	370	305	5030													
3.48	402	405	2730	AD ₅	4.04	384	595	5380		AD ₆	4.20	333	830		6420	AD ₆
3.09	453	405	1950													
2.76	507	405	1200													
2.48	565	405	470													
2.14	651	385	42													
1.93	725	355	185													
1.60	875	315	74													
1.39	1005	290	74													
1.42	986	455	132		AD ₆	1.64	854	505	51		3.07	456	830	3600		
1.42	986	455	132		AD ₆						2.64	580	830	2210		
								2.30	609	830	950					
								1.95	718	765	600					
								1.71	819	705	525					
								1.44	972	645	360					

TR17-37 $n_e=1400$ 1/min

TR17 85Nm				TR27 130Nm				TR37 200Nm					
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD	i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]	AD
3-stage				3-stage				3-stage					
81.64	17	85	1890	135.09	10	130	4230	AD ₁	134.82	10	200	4950	AD ₁
70.39	20	85	1890										
65.61	21	85	1890										
57.35	24	85	1890										
53.76	26	85	1890										
47.44	30	85	1890										
44.18	32	85	1890										
38.61	36	85	1890										
36.20	39	85	1890	74.11	19	130	4230	AD ₁	69.33	20	200	4950	AD ₁
31.94	44	85	1870										
28.32	49	85	1780										
24.07	58	85	1650										
25.23	55	85	1690										
23.15	60	85	1620										
19.70	71	85	1500										
16.99	82	85	1400										
15.84	88	85	1350	61.30	23	130	3980	AD ₁	61.18	23	200	4950	AD ₂
13.84	101	85	1270										
12.98	108	85	1230										
11.45	122	81	1180										
10.15	138	77	1140										
8.63	162	72	1090										
7.55	185	56	1040										
7.04	199	55	1010										
6.15	228	54	950	55.87	25	130	3840	AD ₁	55.76	25	200	4950	AD ₂
5.76	243	53	930										
5.09	275	51	890										
4.51	310	48	870										
3.83	366	45	830										
28.78	49	130	2950										
27.88	49	130	2950										
14.47	57	130	2770										
			<td>28.37</td> <td>49</td> <td>130</td> <td>2940</td> <td rowspan="16">AD₂</td> <td>28.32</td> <td>49</td> <td>200</td> <td>3690</td> <td rowspan="16">AD₂</td>	28.37	49	130	2940	AD ₂	28.32	49	200	3690	AD ₂
26.09	54	130	2840										
22.32	63	130	2660										
19.35	72	130	2510										
18.08	77	130	2440										
15.63	90	130	2290										
13.28	105	130	240										
11.86	118	129	1990										
10.13	138	122	1890										
9.41	149	122	900										
8.16	172	116	870										
7.63	183	112	900										
6.59	212	106	880										
5.60	250	99	880										
5.00	280	95	860										
4.27	328	87	920										
4.00	350	85	910										
3.37	415	79	900										

TR47/57/67R37 n_e=1400 1/min

Table with 4 columns: i, n_a [1/min], M_{μmax} [Nm], F_{Ra} [N]. Rows for TR47R37 (300Nm), TR57R37 (450Nm), and TR67R37 (600Nm).

TR77R37, R87/97R57 n_e=1400 1/min

Table with 4 columns: i, n_a [1/min], M_{μmax} [Nm], F_{Ra} [N]. Rows for TR77R37 (820Nm), TR87R37 (1550Nm), and TR97R37 (3000Nm).

Table with 7 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Contains data for 0.55kW and 0.75kW series.

Table with 7 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Contains data for 0.55kW and 0.75kW series.

Table with 7 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Contains data for 0.55kW and 0.75kW series.

Table with 7 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Contains data for 0.75kW series.

TR

TF

TK

TS

Table with 6 columns: Output speed, Output torque, Ratio, Permitted overhung load, Service factor, Model. Contains data for 2.2kW, 3.0kW, and 4.0kW models.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted overhung load, Service factor, Model. Contains data for 2.2kW, 3.0kW, and 4.0kW models.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted overhung load, Service factor, Model. Contains data for 3.0kW, 4.0kW, and 5.5kW models.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted overhung load, Service factor, Model. Contains data for 3.0kW, 4.0kW, and 5.5kW models.

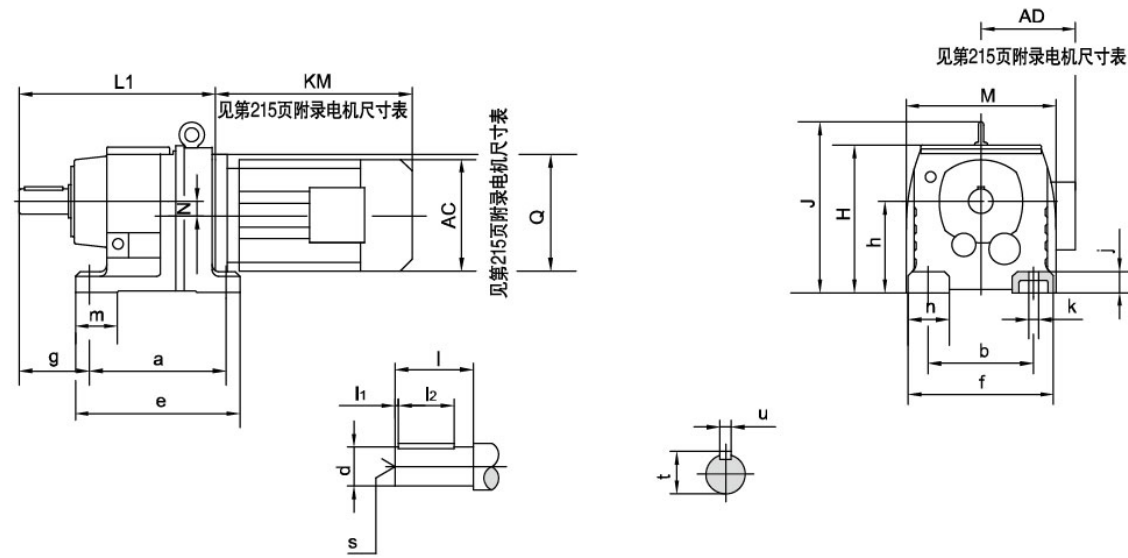
TR

TF

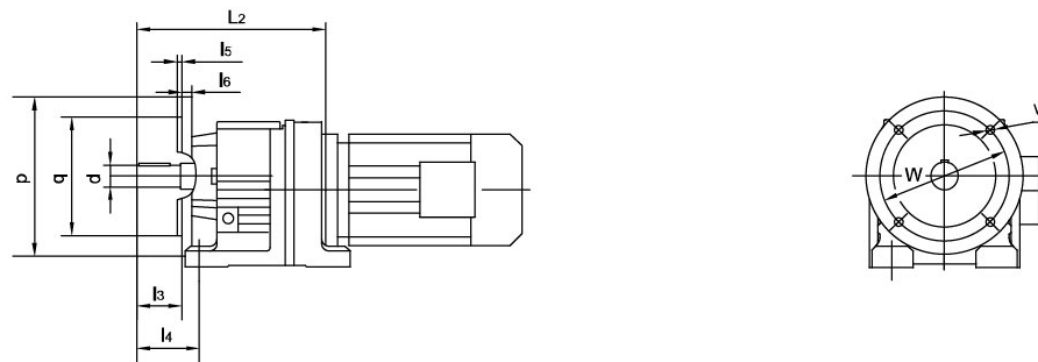
TK

TS

TR17..~TR167..



TR17F..~TR87F..

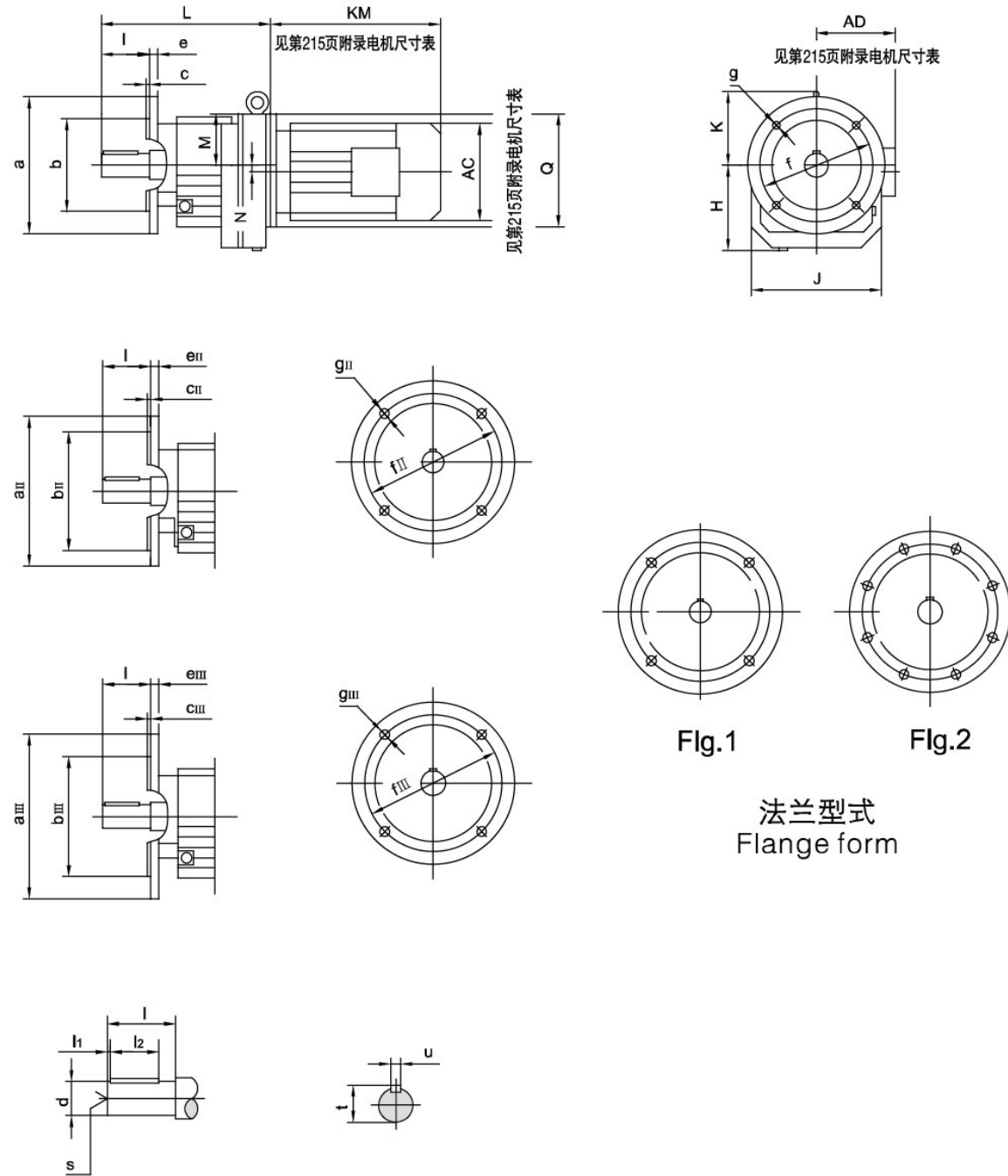


型号 size	a b	e f	g	h	j	k	m n	轴伸尺寸 Shaft dimension				
								d	l	l ₁ l ₂	s	t u
TR17.. TR17F..	110 110	131 135	58	75-0.5	12	9	28 25	20k6	40	4 32	M6	22.5 6
TR27.. TR27F..	130 110	152 145	75	90-0.5	18	9	27 32	25k6	50	3.5 40	M10	28 8
TR37.. TR37F..	130 110	160 145	75	90-0.5	18	9	40 35	25k6	50	3.5 40	M10	28 8
TR47.. TR47F..	165 135	195 170	90	115-0.5	24	13.5	50 42	30k6	60	3.5 50	M10	33 8
TR57.. TR57F..	165 135	200 190	100	115-0.5	24	13.5	60 55	35k6	70	7 56	M12	38 10
TR67.. TR67F..	195 150	235 210	100	130-0.5	30	14	60 60	35k6	70	7 56	M12	38 10
TR77.. TR77F..	205 170	245 230	115	140-0.5	30	17.5	60 60	40k6	80	5 70	M16	43 12
TR87.. TR87F..	260 215	310 290	140	180-0.5	45	17.5	90 75	50k6	100	10 80	M16	53.5 14

型号 size	法兰尺寸 flange dimension					H	J	L ₁	L ₂	M	N	Q
	P q	l ₃	l ₄	L ₅ l ₆	V w							
TR17.. TR17F..	120 80j6	40	66	3 8	6.5 100	134	/	207	215	140	0	/
TR27.. TR27F..	120 80j6	50	81	3 8	6.5 100	147	/	193	199	151	3.4	120
TR37.. TR37F..	120 80j6	50	81	3 8	6.6 100	151	/	201	207	145	10.1	120
TR47.. TR47F..	140 95j6	60	90	3 10	9 115	187	/	235	235	178	14	160
TR57.. TR57F..	160 110j6	70	100	3.5 10	9 130	187	/	257	257	202	11.2	160
TR67.. TR67F..	200 130j6	70	100	3.5 12	11 165	212	243	280	280	215	20.7	160
TR77.. TR77F..	250 180j6	80	115	4 15	13.5 215	228	269	300	300	235	15.9	200
TR87.. TR87F..	300 230j6	100	140	4 16	13.5 265	295	345	372	372	297	12.6	250

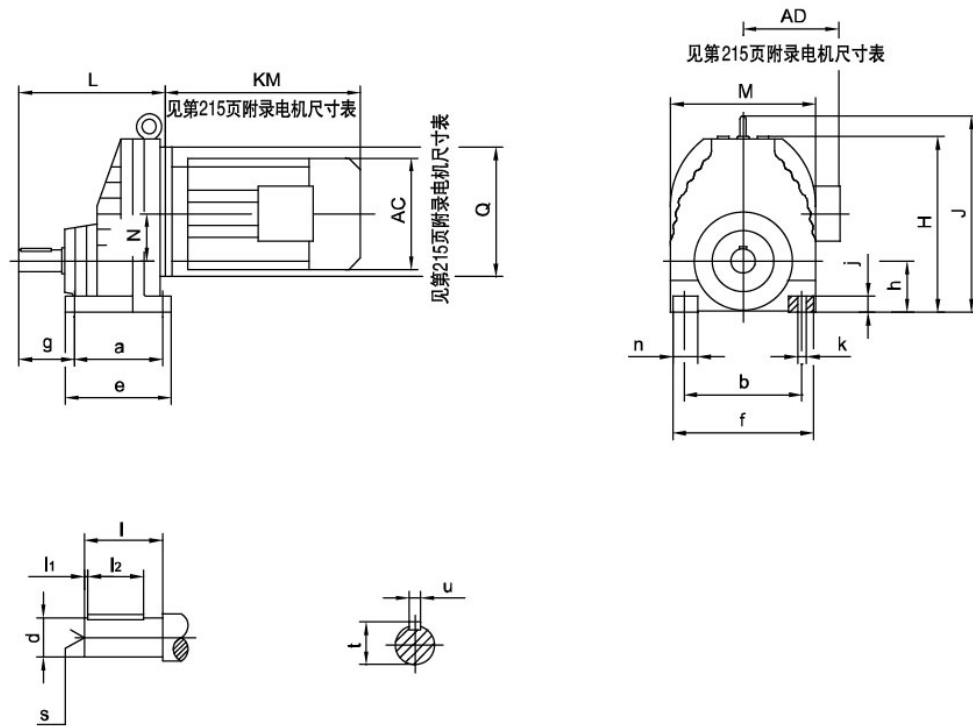
型号 size	a b	e f	g	h	j	k	m n	轴伸尺寸 Shaftdimension					H	J	L M	N	Q
								d	l	l ₁ l ₂	s	t u					
TR97..	310 250	365 340	160	225-0.5	55	22	100 90	60m6	120	5 110	M20	64 18	368	418	440 348	10.2	300
TR107..	370 290	440 400	185	250-0.5	65	26	125 110	70m6	140	7.5 125	M20	74.5 20	408	475	495 409	20.4	350
TR137..	410 340	490 450	220	315-1	70	33	130 110	90m6	170	5 160	M24	95 25	495	562	589 458	25.1	400
TR147..	500 380	590 530	260	355-1	80	39	150 150	110m6	210	15 180	M24	116 28	565	637	695 540	33.4	450
TR167..	580 500	670 660	270	425-1	100	39	160 160	120m6	210	5 200	M24	127 32	675	749	790 670	59.9	550

TRF17..~YRF167..

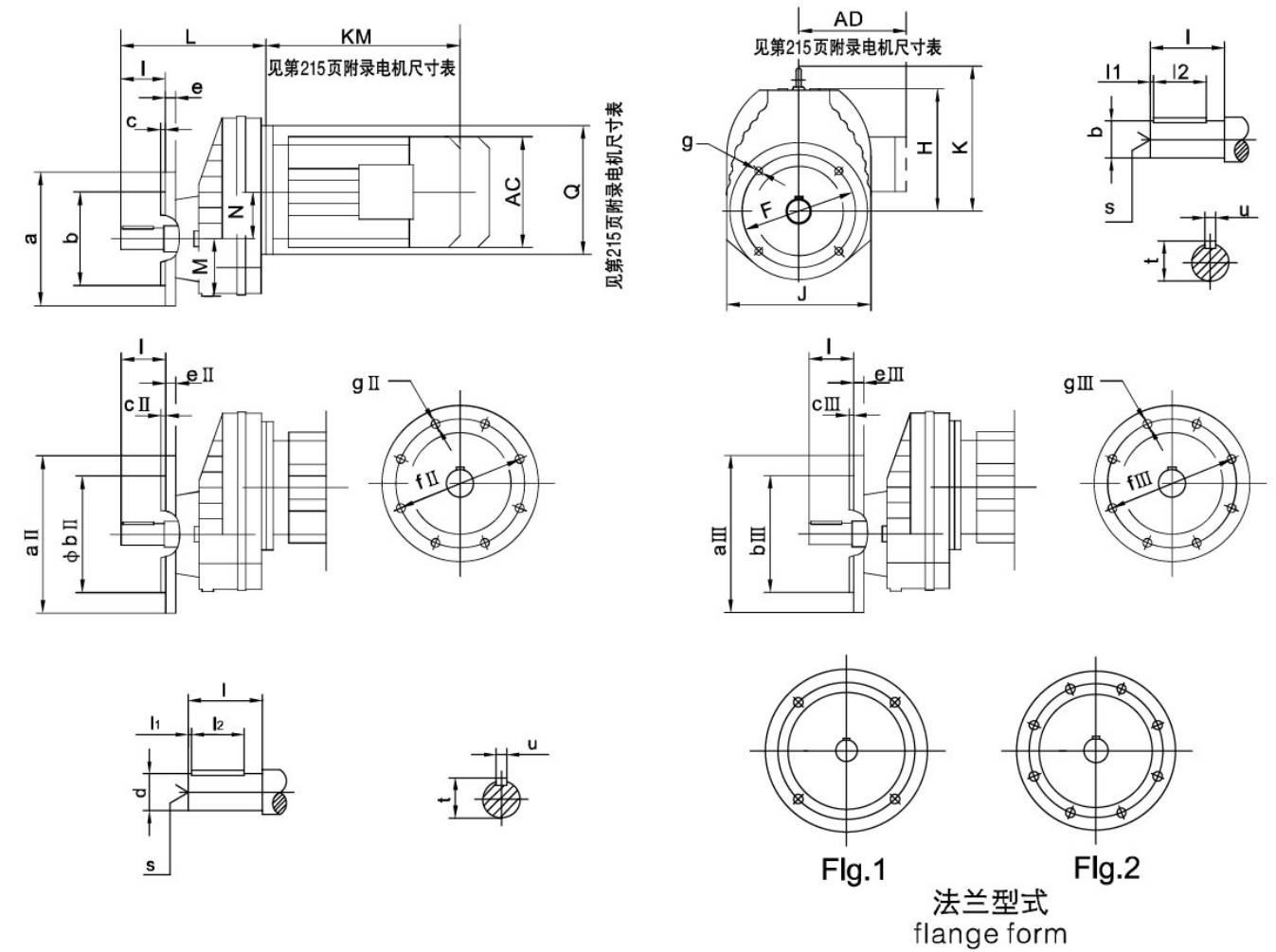


型号 size	法兰 尺寸 flange dimension	a aII aIII	b bII bIII	c cII cIII	e eII eIII	f fII fIII	g gII gIII	H J K	L M N	Q	轴伸尺寸 Shaftdimension				
											d	l	l ₁ l ₂	s	t u
TRF17..	Flg.1	120 140 /	80j6 95j6 /	3 3 /	8 9 /	100 115 /	6.5 8.5 /	76 130 /	215 59 0	/	20k6	40	4 32	M6	22.5 6
TRF27..	Flg.1	120 140 160	80j6 95j6 110j6	3 3 3.5	8 9 10	100 115 130	6.5 8.5 8.5	92 142 /	199 57 3.4	120	25k6	50	3.5 40	M10	28 8
TRF37..	Flg.1	120 160 200	80j6 110j6 130j6	3 3.5 3.5	8 10 12	100 130 165	6.6 9 11	94 161 /	207 61 10.1	120	25k6	50	3.5 40	M10	28 8
TRF47..	Flg.1	140 160 200	95j6 110j6 130j6	3 3.5 3.5	10 10 12	115 130 165	9 9 11	118 178 /	235 72 14	160	30k6	60	3.5 50	M10	33 8
TRF57..	Flg.1	160 200 250	110j6 130j6 180j6	3.5 3.5 4	10 12 15	130 165 215	9 11 13.5	121 202 /	257 72 11.2	160	35k6	70	7 56	M12	38 10
TRF67..	Flg.1	200 250 /	130j6 180j6 /	3.5 4 /	12 15 /	165 215 /	11 13.5 /	134 215 113	280 82 20.7	160	35k6	70	7 56	M12	38 10
TRF77..	Flg.1	250 300 /	180j6 230j6 /	4 4 /	15 18.5 /	215 265 /	13.5 13.5 /	144 235 129	300 88 15.9	200	40k6	80	5 70	M16	43 12
TRF87..	Flg.1	300 350 /	230j6 250h6 /	4 5 /	16 18 /	265 300 /	13.5 17.5 /	184 297 165	372 115 12.6	250	50k6	100	10 80	M16	53.5 14
TRF97..	Flg.1 Flg.2 /	350 450 /	250h6 350h6 /	5 5 /	18 22 /	300 400 /	17.5 17.5 /	230 348 193	440 144 10.2	300	60m6	120	5 110	M20	64 18
TRF107..	Flg.1 Flg.2 /	350 450 /	250h6 350h6 /	5 5 /	20 22 /	300 400 /	17.5 17.5 /	255 409 224	495 158 20.4	350	70m6	140	7.5 125	M20	74.5 20
TRF137..	Flg.2	450 550 /	350h6 450h6 /	5 5 /	22 25 /	400 500 /	17.5 17.5 /	320 458 247	589 180 25.1	400	90m6	170	5 160	M24	95 25
TRF147..	Flg.2	450 550 /	350h6 450h6 /	5 5 /	22 25 /	400 500 /	17.5 17.5 /	361 540 285	695 210 33.4	450	110m6	210	15 180	M24	116 28
TRF167..	Flg.2	550 660 /	450h6 550h6 /	5 6 /	25 28 /	500 600 /	17.5 22 /	430 670 324	790 250 59.9	550	120m6	210	5 200	M24	127 32

TRX57..TRX107..



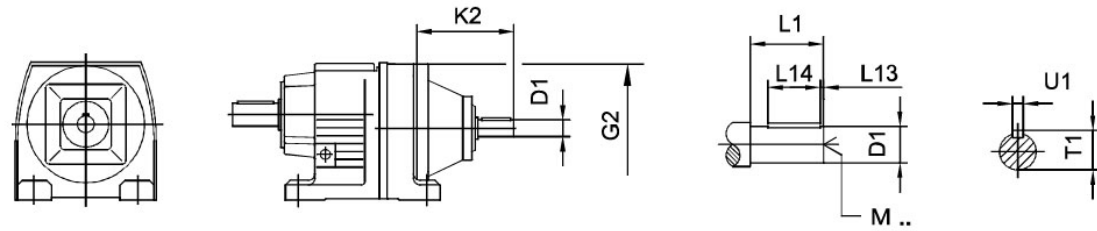
TRXF57..~TRXF107



型号 size	a b	e f	g	h	j	k	n	轴伸尺寸 Shaftdimension					H	J	L M	N	Q
								d	l	l1 l2	s	t u					
TRX57..	110 125	137 156	56	63-0.5	18	11	31	20k6	40	3.5 32	M6	22.5 6	202	/	174 162	52	160
TRX67..	120 135	150 170	75	80-0.5	20	13.5	35	25k6	50	3.5 40	M10	28 8	226	/	201 176	60	160
TRX77..	150 170	190 204	85	90-0.5	25	17.5	50	30k6	60	3.5 50	M10	33 8	271	311	227 210	72	200
TRX87..	160 215	206 266	110	100-0.5	30	17.5	60	40k6	80	5 70	M16	43 12	332	372	269 272	93.5	250
TRX97..	185 250	240 320	140	112-0.5	35	22	70	50k6	100	10 80	M16	53.5 14	393	440	316 328	116	300
TRX107..	210 310	260 360	152	140-0.5	45	22	80	60m6	120	5 110	M20	64 18	459	506	364 370	130	350

型号 size	法兰 尺寸 flange dimension	a aII aIII	b bII bIII	c cII cIII	e eII eIII	f fII fIII	g gII gIII	H J K	L M N	Q	轴伸尺寸 Shaftdimension				
											d	l	l1 l2	s	t u
TRXF57..	Fig.1	140 160 200	95j6 110j6 130j6	3 3.5 3.5	10 10 12	115 130 165	9 9 11	139 162 /	174 62 52	160	20k6	40	5 32	M6	22.5 6
TRXF67..	Fig.1	160 200 250	110j6 130j6 180j6	3.5 3.5 4	10 12 15	130 165 215	9 11 13.5	147 175 /	201 70 60	160	25k6	50	3.5 40	M10	28 8
TRXF77..	Fig.1	200 250 /	130j6 180j6 /	3.5 4 /	12 15 /	165 215 /	11 13.5 /	181 210 221	227 78 72	200	30k6	60	3.5	50	33 8
TRXF87..	Fig.1	250 300 /	180j6 230j6 /	4 4 /	15 16 /	215 265 /	13.5 13.5 /	232 272 272	269 98 93.5	250	40k6	80	5 70	M16	43 12
TRXF97..	Fig.1	300 350 /	230j6 250h6 /	4 5 /	16 18 /	265 300 /	13.5 17.5 /	281 328 328	316 118 116	300	50k6	100	10 80	M16	53.5 14
TRXF107..	Fig.1 Fig.2	350 450 /	250h6 350h6 /	5 5 /	18 22 /	300 400 /	17.5 17.5 /	319 370 366	364 135 130	350	60m6	120	5 110	M20	64 18

TR..AD..



		G2	K2	D1	L1	L13	L14	T1	U1	M
TR..27	AD1	120	102	16	40	4	32	18	5	M5
	TR..37		AD2	130	19	40	4	32	21.5	6
TR..77	AD2	160	123	19	40	4	32	21.5	6	M6
	AD3		159	24	50	5	40	27	8	M8
	AD4		224	38	80	5	70	41	10	M12
TR..87	AD2	200	116	19	40	4	32	21.5	6	M6
	AD3		151	24	50	5	40	27	8	M8
	AD4		224	38	80	5	70	41	10	M12
TR..97	AD2	250	111	19	40	4	32	21.5	6	M6
	AD3		156	28	60	5	50	31	8	M10
	AD4		219	38	80	5	70	41	10	M12
TR..107	AD3	300	151	28	60	5	50	31	8	M10
	AD4		214	38	80	5	70	41	10	M12
	AD5		287	42	110	10	70	45	12	M16
	AD6		327	48	110	10	80	51.5	14	M16
TR..137	AD3	350	145	28	60	5	50	31	8	M10
	AD4		208	38	80	5	70	41	10	M12
	AD5		281	42	110	10	70	45	12	M16
	AD6		321	48	110	10	80	51.5	14	M16
TR..147	AD4	400	201	38	80	5	70	41	10	M12
	AD5		274	42	110	10	70	45	12	M16
	AD6		314	48	110	10	80	51.5	14	M16
	AD7		308	55	110	10	90	59	16	M20
TR..167	AD4	450	193	38	80	5	70	41	10	M12
	AD5		266	42	110	10	70	45	12	M16
	AD6		306	48	110	10	80	51.5	14	M16
	AD7		300	55	110	10	90	59	16	M20
	AD8		383	70	140	15	110	74.5	20	M20
TR..177	AD5	550	258	42	110	10	70	45	12	M16
	AD6		298	48	110	10	80	51.5	14	M16
	AD7		292	55	110	10	90	59	16	M20
	AD8		374	70	140	15	110	74.5	20	M20

TR..AM..

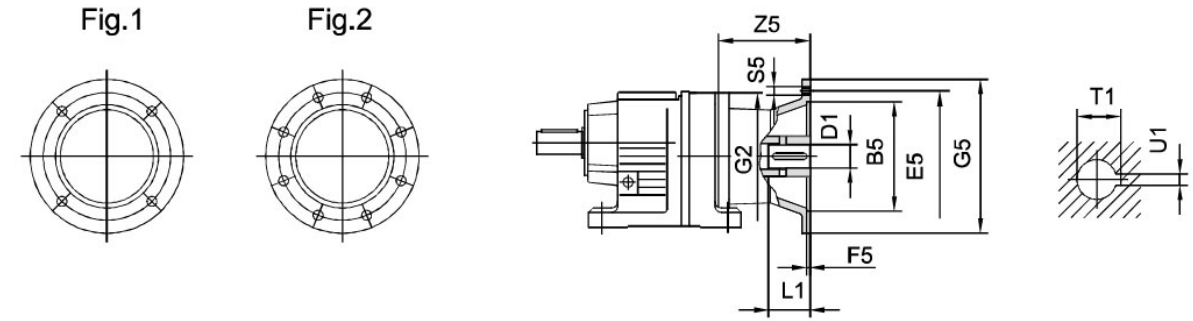


		Fig	B5	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1
TR..27	AM63	1	95	115	3.5	120	140	M8	72	11	23	12.8	4
	AM71 ¹⁾		110	130			14			30	16.3	5	
	AM80 ¹⁾		130	165	4.5		200	M10	106	19	40	21.8	6
	AM90 ¹⁾									24	50	27.3	8
TR..47	AM63	1	95	115	3.5	160	140	M8	66	11	23	12.8	4
	AM71		110	130			14			30	16.3	5	
	AM80		130	165	4.5		200	M10	99	19	40	21.8	6
	AM90									24	50	27.3	8
	AM100 ¹⁾		180	215	5		250	M12	134	28	60	31.3	8
	AM112 ¹⁾												
TR..77	AM63	1	95	115	3.5	200	140	M8	60	11	23	12.8	4
	AM71		110	130			14			30	16.3	5	
	AM80		130	165	4.5		200	M10	92	19	40	21.8	6
	AM90									24	50	27.3	8
	AM100 ¹⁾		180	215	5		250	M12	126	28	60	31.3	8
	AM112 ¹⁾												
	AM132S ¹⁾		230	265	5		300	M12	179	38	80	41.3	10
	AM132M ¹⁾												
AM132ML ¹⁾													
TR..87	AM80	1	130	165	4.5	250	200	M10	87	19	40	21.8	6
	AM90						24			50	27.3	8	
	AM100		180	215	5		250	M12	121	28	60	31.3	8
	AM112												
	AM132S		230	265	5		300	M12	174	38	80	41.3	10
	AM132M												
	AM132ML		250	300	6		350	M16	232	42	110	45.3	12
AM160 ¹⁾	48	51.8				14							
AM180 ¹⁾													
TR..97	AM100	1	180	215	5	300	250	M12	116	28	60	31.3	8
	AM112												
	AM132S		230	265	5		300	M12	169	38	80	41.3	10
	AM132M												
	AM132ML		250	300	6		350	M16	227	42	110	45.3	12
	AM160									48		51.8	14
	AM180		300	350	7		400	M16	268	55	140	59.3	16
	AM200									283		64.4	18
AM225 ¹⁾													

1) 如果安装在TR系列脚安装方式的减速机上,请检查尺寸G5/2,它可能已突出平面
Dimension G5/2 May protrude past foot mounting surface if mounted on TR foot - mounted gear unit, please check.

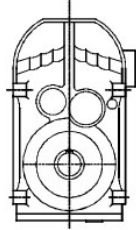
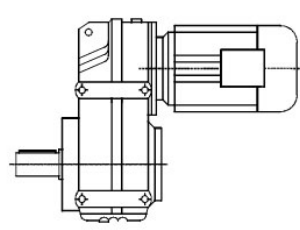
6. TF 平行轴—斜齿轮减速电机 TF Parallel shaft – Helical Geared Motor

6.1 设计方案

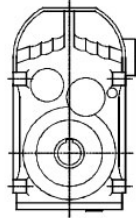
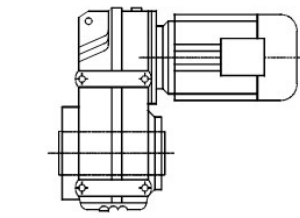
6.1 Versions of TS geared motors

平行轴装式斜齿轮减速电机有以下设计方案：

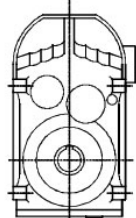
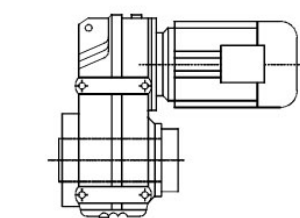
The following types of Parallel Shaft – Helical Geared Motor can be supplied:



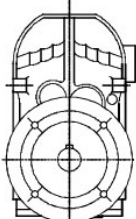
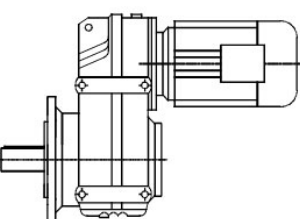
TF..Y..
底脚安装平行轴斜齿轮减速电机
Solid shaft
Rail mount with tapped holes



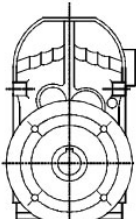
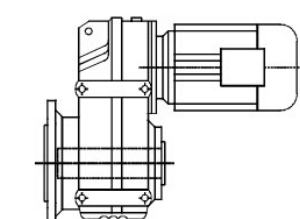
TFA..B Y..
底脚空心轴安装平行轴斜齿轮减速机
Hollow shaft with key
Rail mount with tapped holes



YXFV..B Y..
底脚花键空心轴安装平行轴斜齿轮减速机
Aplined hollow shaft
Rail mount with tapped holes



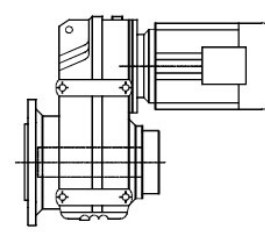
TFH..B Y..
底脚空心轴锁紧盘安装平行轴斜齿轮减速电机
Shrink disk hollow shaft
Rail mount with tapped holes



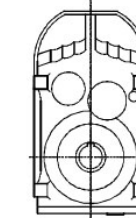
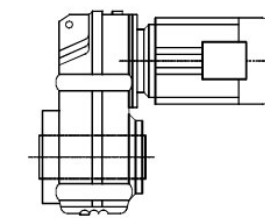
TFF..Y..
B5 法兰安装平行轴斜齿轮减速电机
Solid shaft
Flange mounted (D & B5 style flange with through holes)



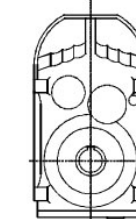
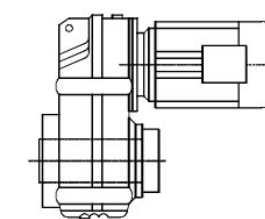
TFAF..Y..
B5 法兰空心轴安装平行轴斜齿轮减速电机
Hollow shaft with key
Flange mount (D & B5 style flange with through holes)
TFVF..D..
B5 法兰花键空心轴安装平行轴斜齿轮减速电机
Hollow shaft with key
Flange mount (D & B5 style flange with through holes)



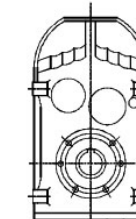
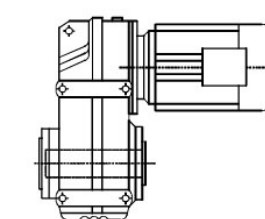
TFHF..Y..
B5 法兰空心轴锁紧盘安装平行轴斜齿轮减速电机
Shrink disk hollow shaft
Flange mount(D & B5 style flange with through holes)



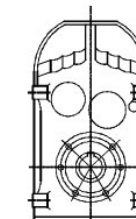
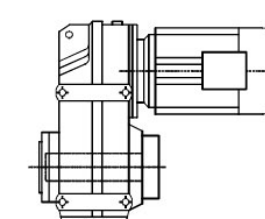
TFA..Y..
空心轴安装平行轴斜齿轮减速电机
Hollow shaft with key
Shaft mount



TFV..Y..
花键空心轴安装平行轴斜齿轮减速电机
Splined hollow shaft
Shaft mount



TFH..Y..
空心轴锁紧盘安装平行轴斜齿轮减速电机
Shrink disk hollow shaft
Shaft mount



TFAZ..Y
B14 法兰空心轴安装平行轴斜齿轮减速电机
Hollow shaft with key
Face mount (C & B14 style flange with tapped holes)



TFVZ..Y
B14 法兰花键空心轴安装平行轴斜齿轮减速电机
Hollow shaft with key
Face mount (C & B14 style flange with tapped holes)

TFHZ..Y
B14 法兰空心轴锁紧盘安装平行轴斜齿轮减速电机
Shrink disk hollow shaft
Face mount (C & B14 style flange with tapped holes)

6.2 可行的组合方式
6.2 Type of combination

以下是平行轴斜齿轮减速机与交流(带制动)电机的组合列表。表中给出了每种组合的速比范围。
The below is combination table between gear box and electro motor in each list the ratio range.

减速器型号 Gear unit size	级 Stages	Y63 Y71	Y80	Y90	Y100	Y112	Y132S	Y132M
TF/FF/FA/FAF37	2	4.22-7.44 8.97-23.63	3.77-23.63	3.77-20.57	3.77-6.74 8.01-14.33 17.03			
TF/FF/FA/FAF37	3	23.88-128.51	23.88-100.36	23.88-51.70 58.32-86.53	23.88-31.69 38.31 51.70 58.32 70.50			
TF/FF/FA/FAF47	2	6.34-8.96 13.93-30.86	4.99-30.86	4.99-30.86	4.99-25.72			
TF/FF/FA/FAF47	3	28.88-190.76	28.88-150.06	28.88-130.07	28.88-56.49 68.09-105.09			
F/FF/FA/FAF57	2	6.58-9.31 13.52-40.13	5.18-34.24	5.18-29.94	5.18-24.96	5.18-21.17		
TF/FF/FA/FAF57	3	30.15-199.70	30.15-157.09	30.15-136.16	30.15-58.97 83.46-110.01	30.15-50.10 83.46-93.47		
TF/FF/FA/FAF67	2	7.53-9.08 18.29-36.30	5.95-9.08 14.46-36.30	3.97-36.30	3.97-32.08	3.97-27.41	3.97-22.05	3.97-22.05
TF/FF/FA/FAF67	3	43.20-228.99	34.01-195.39	34.01-170.85	34.01-142.40	34.01-67.65 90.59-120.79	34.01-53.73 90.59-95.94	34.01-53.73 90.59-95.94
TF/FF/FA/FAF77	2	21.43-36.58	8.26-9.30 17.49-36.58	5.76-9.30 12.20-36.58	4.28-36.58	4.28-31.51	4.28-25.50	4.28-25.50
TF/FF/FA/FAF77	3	48.37-72.50 94.93-281.71	38.23-225.79	25.54-198.31	25.54-166.47	25.54-142.27	25.54-58.32 75.02-114.45	25.54-58.32 75.02-114.45
TF/FF/FA/FAF87	2		23.68-33.92	7.35-8.29 17.12-33.92	5.63-8.29 13.12-33.92	5.63-8.29 13.12-33.92	4.12-33.92	4.12-33.92
TF/FF/FA/FAF87	3		109.49-270.68	39.30-50.36 76.39-270.68	29.20-228.93	29.20-197.20	29.20-159.61	29.20-159.61
TF/FF/FA/FAF97	2			9.06 22.11-43.28	7.07-9.06 17.25-43.28	7.07-9.06 17.25-43.28	4.57-43.28	4.57-43.28
TF/FF/FA/FAF97	3			58.06-72.29 80.31 89.85-97.58 112.99-276.77	44.49-72.29 80.31-276.77	44.49-72.29 80.31-276.77	32.50-223.88	32.50-223.88
TF/FF/FA/FAF107	2				21.76-33.79	21.76-33.79	7.40-9.69 14.67-33.79	7.40-9.69 14.67-33.79
TF/FF/FA/FAF107	3				58.12-83.99 92.47-254.40	58.12-83.99 92.47-254.40	37.61-254.40	37.61-254.40
TF/FF/FA/FAF127	2							7.88-8.86 14.55-26.86
TF/FF/FA/FAF127	3							37.28-170.83

续表

减速器型号 Gear unit size	级 Stages	Y132ML	Y160M	Y160L	Y180	Y200
TF/FF/FA/FAF77	2	4.28-19.70	4.28-19.70			
TF/FF/FA/FAF77	3	25.54-43.58	25.54-43.58			
TF/FF/FA/FAF87	2	4.12-26.50	4.12-26.50	4.12-26.50	4.12-21.32	
TF/FF/FA/FAF87	3	29.20-123.29	29.20-123.29	29.20-123.29	29.20-50.36	
TF/FF/FA/FAF97	2	4.57-33.91	4.57-33.91	4.57-33.91	4.57-27.44	4.57-22.11
TF/FF/FA/FAF97	3	32.50-89.85 102.16-174.87	32.50-89.85 102.16-174.87	32.50-89.85 102.16-174.87	32.50-75.63 86.59 102.16-140.71	32.50-58.06 75.63 86.59 102.16-112.99
TF/FF/FA/FAF107	2	6.22-9.69 12.33-33.79	6.22-9.69 12.33-33.79	6.22-9.69 12.33-33.79	6.22-33.79	6.22-27.57
TF/FF/FA/FAF107	3	31.80-199.31	31.80-199.31	31.80-199.31	31.80-161.28	31.80-74.52 88.49 101.38-129.97
TF/FF/FA/FAF127	2	6.80-8.86 12.54-26.86	6.80-8.86 12.54-26.86	6.80-8.86 12.54-26.86	5.52-26.86	4.68-26.86
TF/FF/FA/FAF127	3	31.33-170.83	31.33-170.83	31.33-170.83	25.30-153.67	25.30-125.37
TF/FF/FA/FAF157	2		16.85-53.55	16.85-53.55	13.96-43.94	11.92-35.75
TF/FF/FA/FAF157	3		40.06-267.43	40.06-267.43	32.55-217.62	27.60-178.20

减速器型号 Gear unit size	级 Stages	Y225	Y250M	Y280	Y315M/	Y315M-A/B
TF/FF/FA/FAF107	2	6.22-27.57				
TF/FF/FA/FAF107	3	31.80-74.52 88.49 101.38-129.97				
TF/FF/FA/FAF127	2	4.68-26.86	4.68-21.38	4.68-21.38		
TF/FF/FA/FAF127	3	25.30-125.37	25.30-55.31 75.41-98.95	25.30-55.31 75.41-98.95		
TF/FF/FA/FAF157	2	11.92-35.75	11.92-28.60	11.92-28.60	11.92-22.16	11.92-16.85
TF/FF/FA/FAF157	3	27.60-178.20	27.60-68.28 96.53-141.80	27.60-68.28 96.53-141.80	27.60-52.24 96.53-108.49	27.60-40.06

TF127R77, TF127/R87, TF157R97 $n_e=1400$ 1/min

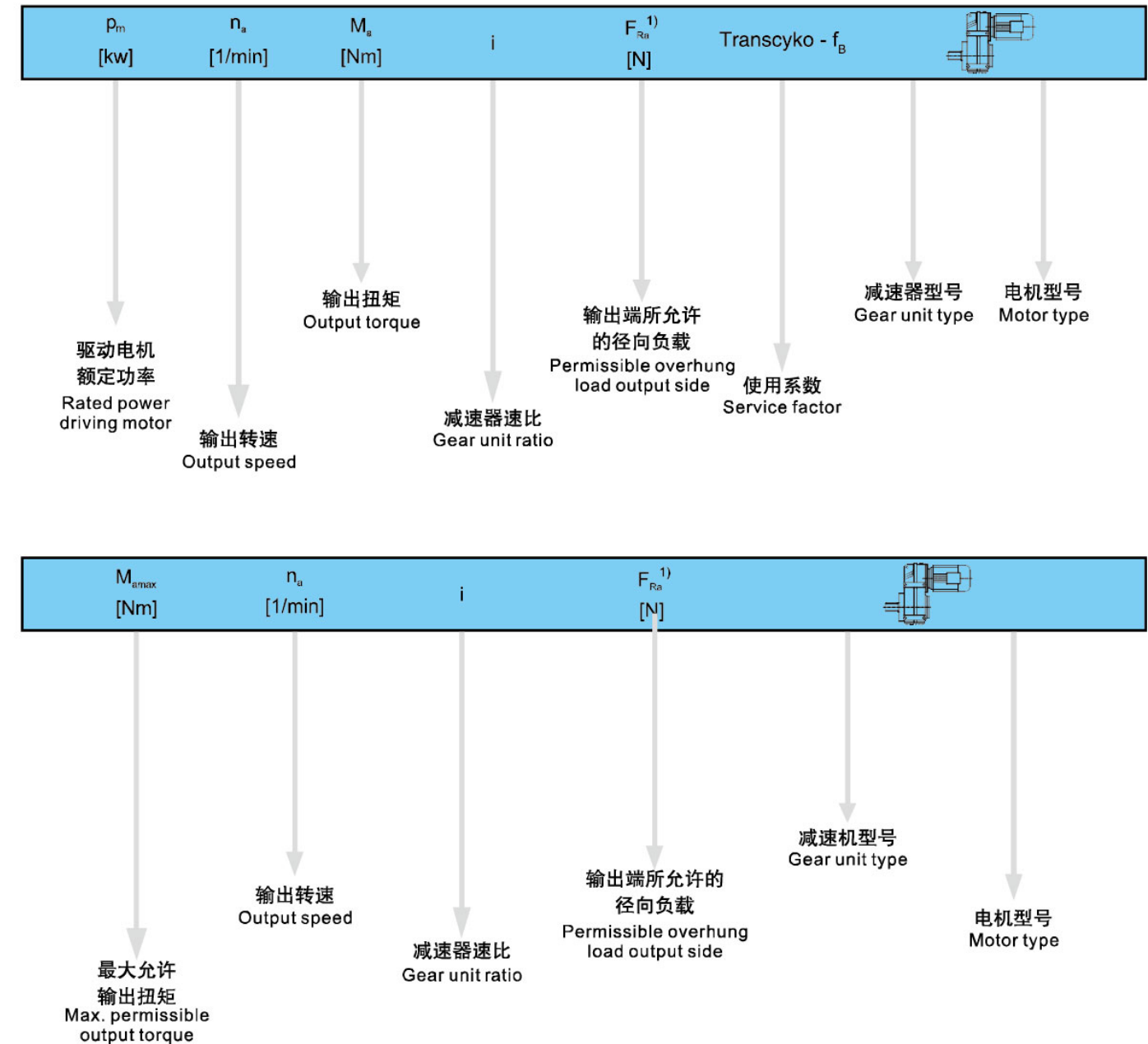
TF127R77		12000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
24478	0.06	12000	90000
22323	0.06	12000	90000
19048	0.07	12000	90000
16656	0.08	12000	90000
14722	0.10	12000	90000
12912	0.11	12000	90000
11656	0.12	12000	90000
10191	0.14	12000	90000
8831	0.16	12000	90000
7643	0.18	12000	90000
6715	0.21	12000	90000
5925	0.24	12000	90000
5153	0.27	12000	90000
4533	0.31	12000	90000
3926	0.36	12000	90000
3454	0.41	12000	90000
3031	0.46	12000	90000
2672	0.52	12000	90000
2357	0.59	12000	90000
2038	0.69	12000	90000
1784	0.78	12000	90000
1606	0.87	12000	90000
1390	1.0	12000	90000
1220	1.1	12000	90000
1077	1.3	12000	90000
930	1.5	12000	90000
820	1.7	12000	90000
727	1.9	12000	90000
648	2.2	12000	90000
549	2.6	12000	90000
495	2.8	12000	90000
428	3.3	12000	90000
376	3.7	12000	90000

TF127R87		12000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
483	2.9	12000	90000
418	3.3	12000	90000
374	3.7	12000	90000
312	4.5	12000	90000
293	4.8	12000	90000
259	5.4	12000	90000
223	6.3	12000	90000
198	7.1	12000	90000
166	8.4	12000	90000

TF157R97		18000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
31434	0.04	18000	100300
26173	0.05	18000	100300
23464	0.06	18000	100300
20212	0.07	18000	100300
17984	0.08	18000	100300
16358	0.09	18000	100300
13751	0.10	18000	100300
12235	0.11	18000	100300
10033	0.14	18000	100300
9021	0.16	18000	100300
8026	0.17	18000	100300
7075	0.20	18000	100300
6295	0.22	18000	100300
5404	0.26	18000	100300
4831	0.29	18000	100300
4130	0.34	18000	100300
3607	0.39	18000	100300
3210	0.44	18000	100300
2780	0.50	18000	100300
2427	0.58	18000	100300
2185	0.64	18000	100300
1944	0.72	18000	100300
1674	0.84	18000	100300
1441	0.97	18000	100300
1308	1.1	18000	100300
1169	1.2	18000	100300
953	1.5	18000	100300
845	1.7	18000	100300
764	1.8	18000	100300
680	2.1	18000	100300
576	2.4	18000	100300
503	2.8	18000	100300
446	3.1	18000	100300
353	4.0	18000	100300
302	4.6	18000	100300
273	5.1	18000	100300
232	6.0	18000	100300
202	6.9	18000	100300
197	7.1	18000	100300

6.4 选型表注释
6.4 Selection table

选型表的结构
Selection table geared motors



图例 Cuttine

※ 也可用于 EExe 电机。 ※ EEXE motor is optional.

1) 实心轴底脚安装减速机的径向负荷
1) Overhung load specified for foot – mounted gear unit with solid shaft

注意:

Notice:
对于特殊低输出转速驱动 (多级减速电机), 电机功率必须与减速机的最大允许输出扭矩相对应。
In drives for particularly low output speeds (multi – stage geared motors), the motor power must be limited according to maximum permitted output torque of the gear unit.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Rows include 3.0kW, 4.0kW, and 5.5kW power ratings.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Rows include 3.0kW, 4.0kW, and 5.5kW power ratings.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Rows include 4.0kW and 5.5kW power ratings.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Rows include 5.5kW power rating.

TR

TF

TK

TS

TR

TF

TK

TS

Table with columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes sub-sections for 5.5kW, 7.5kW, and 11.0kW power ratings.

Table with columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes sub-sections for 7.5kW, 9.2kW, and 11.0kW power ratings.

Table with columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes sub-sections for 9.2kW and 11.0kW power ratings.

Table with columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes sub-sections for 9.2kW and 11.0kW power ratings.

TR

TF

TK

TS

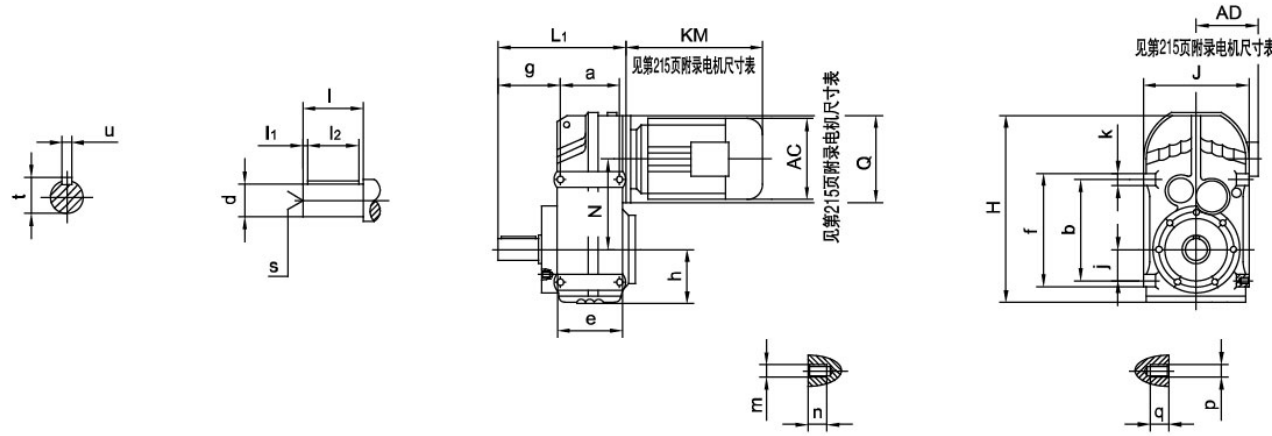
TR

TF

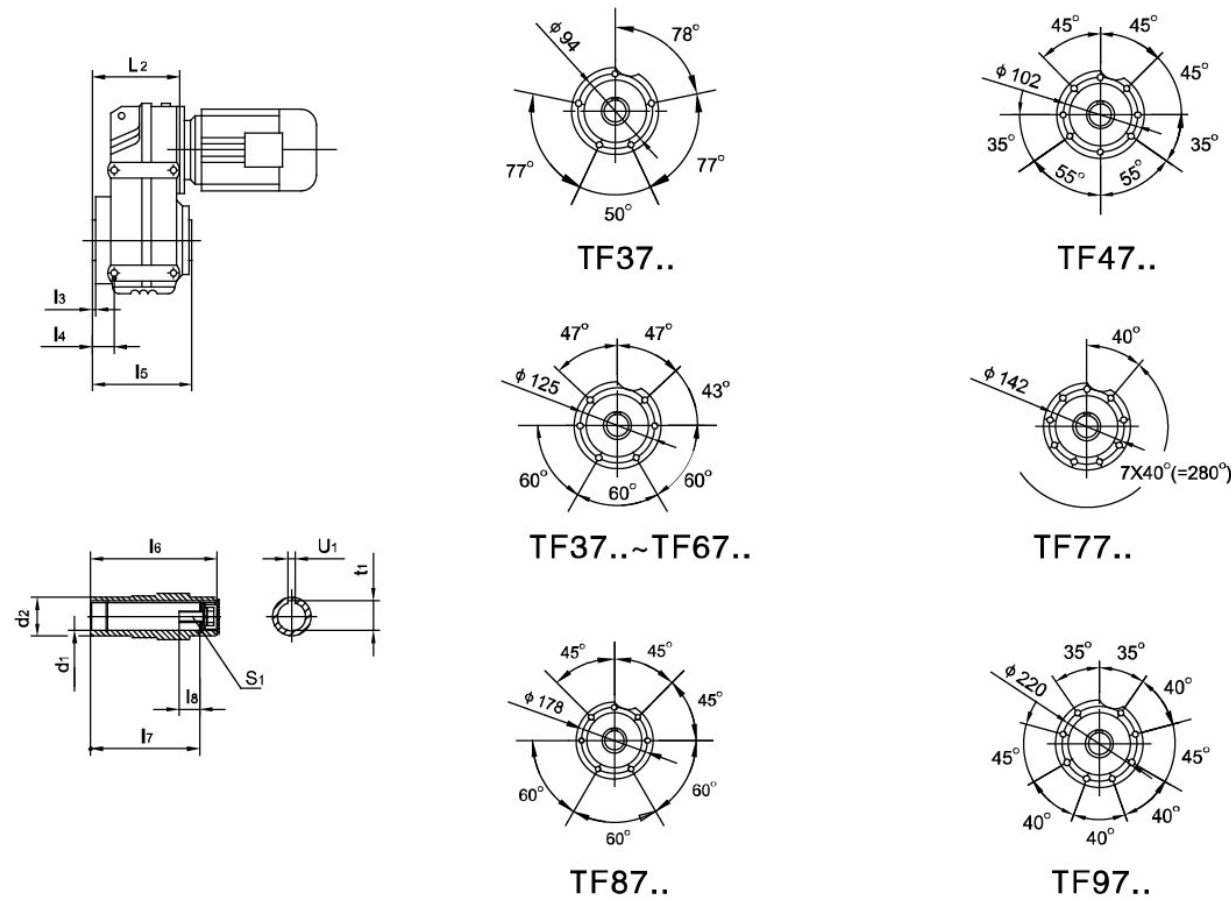
TK

TS

TF37..~TF157..



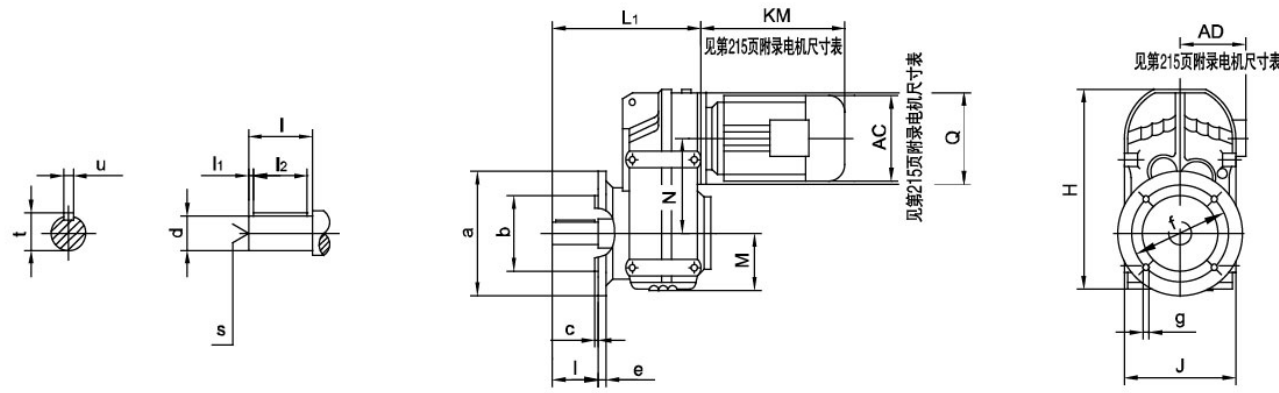
TF37..~TF157..



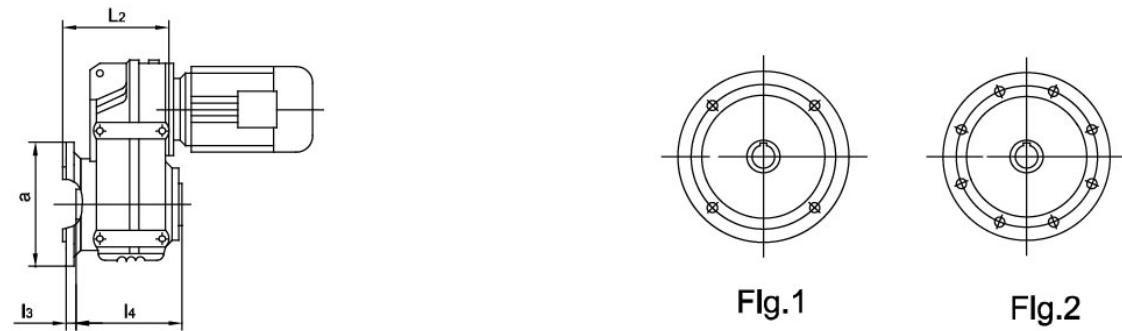
型号 Model	a	b	e	f	g	h	j	k	m	n	P	q	轴伸尺寸 Shaft dimension						
													d	l	l ₁	l ₂	s	t	u
TF37.. TFA37B..	77	115	95	135	72.5	76	31	20	M8	11	M8	11	25k6	50	5	40	M10	28	8
T47.. TFA47B..	93	145	109	165	91	77	43	20	M8	11	M10	15	30k6	60	3.5	50	M10	33	8
TF57.. TFA57B..	102	170	126	195	104.5	93	55	25	M12	17	M12	17	35k6	70	7	56	M12	38	10
TF67.. TFA67B..	112	190	131	215	118.5	97	60	25	M12	17	M12	17	40k6	80	5	70	M16	43	12
TF77.. TFA77B..	140	240	165	275	137.5	121	70	35	M12	17	M16	26	50k6	100	10	80	M16	53.5	14
TF87.. TFA87B..	165	310	195	350	163	152	100	40	M16	26	M16	26	60m6	120	5	110	M20	64	18
TF97.. TFA97B..	205	350	240	400	190.5	178	120	50	M16	26	M20	28	70m6	140	7.5	125	M20	74.5	20
TF107.. TFA107B..	220	400	260	460	241.5	200	125	60	/	/	M24	36	90m6	170	5	160	M24	95	25
TF127.. TFA127B..	270	450	316	520	291	236	142	70	/	/	M30	45	110m6	210	15	180	M24	116	28
TF157.. TFA157B..	310	540	364	620	325	286	170	80	/	/	M36	55	120m6	210	5	200	M24	127	32

型号 Model	空心轴尺寸 Hollow shaft dimension								HJ	L ₁	L ₂	N	Q				
	d ₁	d ₂	l ₃	l ₄	l ₅	L ₆	l ₈	s ₁						t ₁	u ₁		
TF37.. TFA37B..	30H7	45	2.5	22.5	123	120	105	17	M10X25	33.3	8	252	165	160	110	112	120
TF47.. TFA47B..	35H7	50	3	31	153	150	132	22	M10X25	38.3	10	269	180	193	133	128.1	120
TF57.. TFA57B..	40H7	55	3	33.5	170	166	142	29	M16X40	43.3	12	317	200	221	150	136	160
TF67.. TFA67B..	40H7	55	3.5	37	184	180	156	29	M16X40	43.3	12	343	212	242	161	159.5	160
TF77.. TFA77B..	50H7	70	4	36.5	213	210	183	32	M16X45	53.8	14	426	270	294	193	200	200
TF87.. TFA87B..	60H7	85	4	43	243	240	210	36	M20X50	64.4	18	531	330	344	224	246.7	250
TF97.. TFA97B..	70H7	95	4	48.5	303	300	270	34	M20X50	74.9	20	623	400	416	274	285	300
TF107.. TFA107B..	90H7	118	2.5	69.5	353	350	313	40	M24X60	95.4	25	717	450	484	312	332.4	350
TF127.. TFA127B..	100H7	135	2.5	79.25	413	410	373	38	M24X60	106.4	28	856	530	585	373	382.6	450
TF157.. TFA157B..	120H7	155	7	118	503	500	460	36	M24X60	127.4	32	1021	660	662	455	447	550

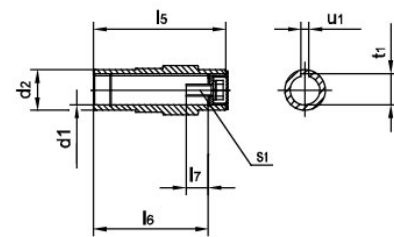
TFF37..~TFF157..



TFAF37..~TFAF157

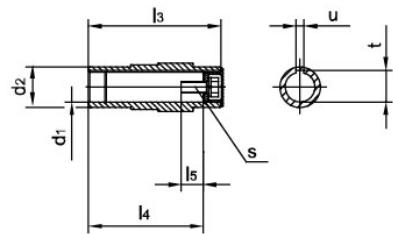
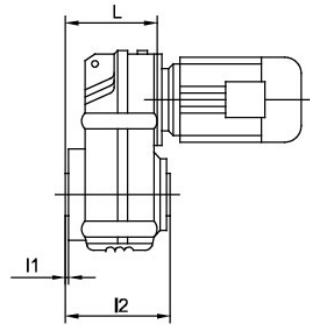
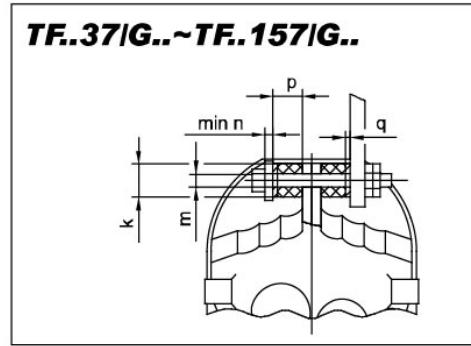
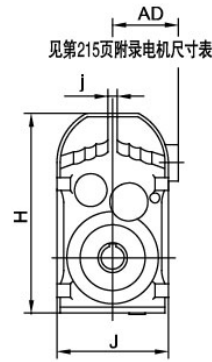
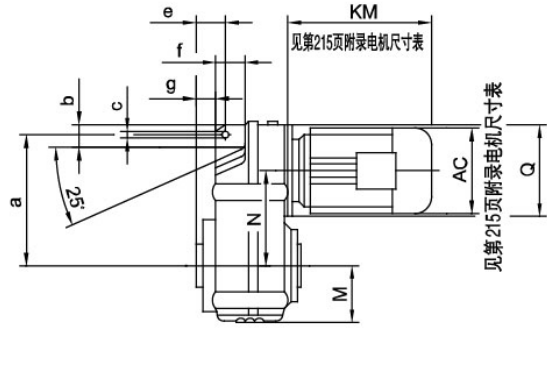


法兰安装
flange form



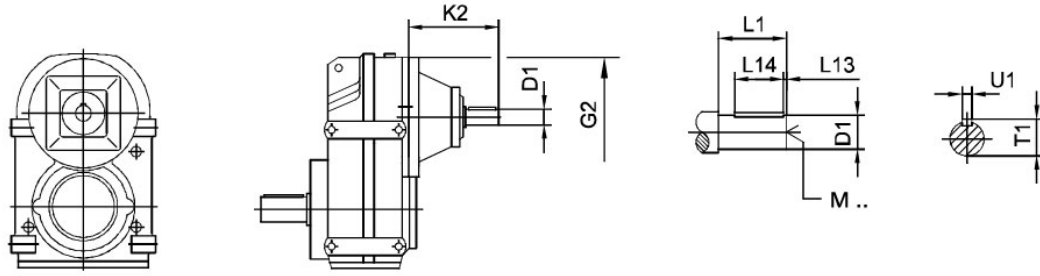
型号 Model	法兰 型式 flange form	a b	c e	f g	轴伸尺寸 Shaft dimension				空心轴尺寸 Hollow Shaft dimension					H J	L1 L2	M N Q
					d l	l1 l2	s	t u	d1 d2	l3 l4	l5 l6	l7 l8	t1 u1			
TFF37.. TFAF37..	Flg.1	160 110j6	3.5 10	130 9	25k6 50	5 40	M10	28 8	30H7 45	24 123	120 105	17 M10X25	33.3 8	252 165	184 138	76 112 120
TFF47.. TFAF47..	Flg.1	200 130j6	3.5 12	165 11	30k6 60	3.5 50	M10	33 8	35H7 50	25 153	150 132	22 M10X25	38.3 10	269 180	218 162	77 128.1 120
TFF57.. TFAF57..	Flg.1	250 180j6	4 15	215 13.5	35k6 70	7 56	M12	38 10	40H7 55	23.5 170	166 142	29 M16X40	43.3 12	317 200	243 177	93 136 160
TFF67.. TFAF67..	Flg.1	250 180j6	4 15	215 13.5	40k6 80	5 70	M16	43 12	40H7 55	23 184	180 156	29 M16X40	43.3 12	343 212	264 188	97 159.5 160
TFF77.. TFAF77..	Flg.1	300 230h6	4 16	265 13.5	50k6 100	10 80	M16	53.5 14	50H7 70	37 213	210 183	32 M16X45	53.8 14	426 270	330 234	121 200 200
TFF87.. TFAF87..	Flg.1	350 250h6	5 18	300 17.5	60m6 120	5 110	M20	64 18	60H7 85	30 243	240 210	36 M20X50	64.4 18	531 330	374 259	152 246.7 250
TFF97.. TFAF97..	Flg.2	450 350h6	5 22	400 17.5	70m6 140	7.5 125	M20	74.5 20	70H7 95	41.5 303	300 270	34 M20X50	74.9 20	623 400	456 321	178 285 300
TFF107.. TFAF107..	Flg.2	450 350h6	5 22	400 17.5	90m6 170	5 160	M24	95 25	90H7 118	41 353	350 313	40 M24X60	95.4 25	717 450	523 358	200 332.4 350
TFF127.. TFAF127..	Flg.2	550 450h6	5 25	500 17.5	110m6 210	15 180	M24	116 28	100H7 135	51 413	410 373	38 M24X60	106.4 28	856 530	643 426	236 382.6 450
TFF157.. TFAF157..	Flg.2	660 550h6	6 28	600 22	120m6 210	5 200	M24	127 32	120H7 155	60 503	500 460	36 M24X60	127.4 32	1021 660	725 521	286 447 550

TFA37..~TFA157



型号 Model	a b	c e	f g	空心轴尺寸 Hollow Shaft dimension					扭矩臂尺寸 torque arm form		H J	L	M	N Q
				d1 d2	l1 l2	l3 l4	l5 s	t u	K M N	p q				
TFA37.. TF..37/G..	158 30	14 31.5	46 15	30H7 45	0.5 123	120 105	17 M10X25	33.3 8	40 12.5 5	20 1	252 172	110	76	112 120
TFA47.. TF..47/G..	170 22	14 32	64 12	35H7 50	1 153	150 132	22 M10X25	38.3 10	40 12.5 5	20 1.8	269 189	133	77	128.1 120
TFA57.. TF..57/G..	198 31	14 40.5	60 19.5	40H7 55	1 170	166 142	29 M16X40	43.3 12	40 12.5 5	20 2.4	317 210	150	93	136 160
TFA67.. TF..67/G..	218 40	14 41	65 21	40H7 55	1 184	180 156	29 M16X40	43.3 12	40 12.5 5	20 3	343 223	161	97	159.5 160
TFA77.. TF..77/G..	278 49	22 50	69 28	50H7 70	1 213	210 183	32 M16X45	53.8 14	60 21 10	30 3.2	426 282	193	121	200 200
TFA87.. TF..87/G..	346 57	22 62	79 32	60H7 85	1 243	240 210	36 M20X50	64.4 18	60 21 10	30 4.5	531 336	224	152	246.7 250
TFA97.. TF..97/G..	395 88	26 70	104 34	70H7 95	1 303	300 270	34 M20X50	74.9 20	80 25 12	40 5	623 414	274	178	285 300
TFA107.. TF..107/G..	485 108	26 88	100 57	90H7 118	2.5 353	350 313	40 M24X60	95.4 25	80 25 12	40 6	717 456	312	200	332.4 350
TFA127.. TF..127/G..	550 138	33 110	125 66	100H7 135	2.5 413	410 373	38 M24X60	106.4 28	100 32 15	60 9	856 530	373	236	382.6 450
TFA157.. TF..157/G..	660 170	33 150	140 98	120H7 155	7 503	500 460	36 M24X60	127.4 32	120 32 15	60 9	1021 660	455	286	447 550

TF..AD



		G2	K2	D1	L1	L13	L14	T1	U1	M
	AD1	120	102	16	40	4	32	18	5	M5
	AD2		130	19	40	4	32	21.5	6	M6
TF..57 TF..67	AD2	160	123	19	40	4	32	21.5	6	M6
	AD3		159	24	50	5	40	27	8	M8
TF..77	AD2	200	116	19	40	4	32	21.5	6	M6
	AD3		151	24	50	5	40	27	8	M8
	AD4		224	38	80	5	70	41	10	M12
TF..87	AD2	250	111	19	40	4	32	21.5	6	M6
	AD3		156	28	60	5	50	31	8	M10
	AD4		219	38	80	5	70	41	10	M12
TF..97	AD3	300	151	28	60	5	50	31	8	M10
	AD4		214	38	80	5	70	41	10	M12
	AD5		287	42	110	10	70	45	12	M16
	AD6		327	48	110	10	80	51.5	14	M16
TF..107	AD3	350	145	28	60	5	50	31	8	M10
	AD4		208	38	80	5	70	41	10	M12
	AD5		281	42	110	10	70	45	12	M16
	AD6		321	48	110	10	80	51.5	14	M16
TF..127	AD4	450	193	38	80	5	70	41	10	M12
	AD5		266	42	110	10	70	45	12	M16
	AD6		306	48	110	10	80	51.5	14	M16
	AD7		300	55	110	10	90	59	16	M20
	AD8		383	70	140	15	110	74.5	20	M20
TF..157	AD5	550	258	42	110	10	70	45	12	M16
	AD6		298	48	110	10	80	51.5	14	M16
	AD7		292	55	110	10	90	59	16	M20
	AD8		374	70	140	15	110	74.5	20	M20

TF..AM

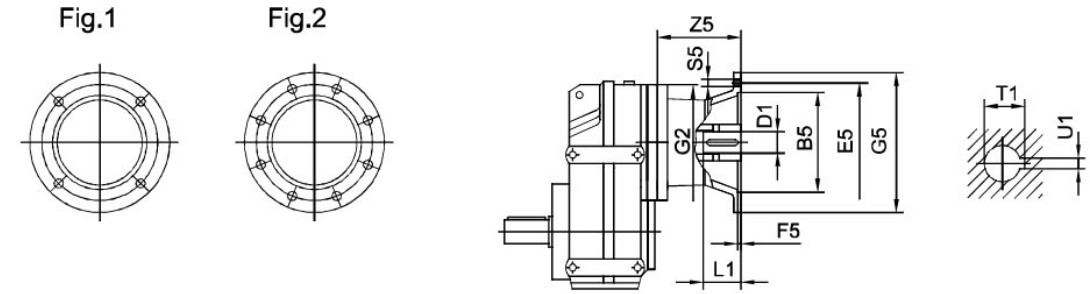


		Fig.	B5	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1			
TF..37 TF..47	AM63	1	95	115	3.5	120	140	M8	72	11	23	12.8	4			
	AM71 ¹⁾		110	130			14			30	16.3	5				
	AM80 ¹⁾		130	165	4.5		200	M10		19	40	21.8	6			
	AM90 ¹⁾						24			50	27.3	8				
TF..57 TF..67	AM63	1	95	115	3.5	160	140	M8	66	11	23	12.8	4			
	AM71		110	130			14			30	16.3	5				
	AM80		130	165	4.5		200	M10		19	40	21.8	6			
	AM90						24			50	27.3	8				
			AM100 ¹⁾	180	215		5	250		M12	28	60	31.3	8		
			AM112 ¹⁾					134			28	60	31.3	8		
TF..77	AM63	1	95	115	3.5	200	140	M8	60	11	23	12.8	4			
	AM71		110	130			14			30	16.3	5				
	AM80		130	165	4.5		200	M10		19	40	21.8	6			
	AM90						24			50	27.3	8				
			AM100 ¹⁾	180	215		5	250		M12	126	28	60	31.3	8	
			AM112 ¹⁾					179			38	80	41.3	10		
			AM132S ¹⁾	230	265			300								
			AM132M ¹⁾													
	AM132ML ¹⁾															
TF..87	AM80	1	130	165	4.5	250	200	M10	87	19	40	21.8	6			
	AM90						24			50	27.3	8				
	AM100		180	215	5		250	M12		121	28	60	31.3	8		
	AM112						174			38	80	41.3	10			
			AM132S	230	265			300								
			AM132M													
			AM132ML													
			AM160 ¹⁾	250	300		6	350		M16	232	42	110	45.3	12	
	AM180 ¹⁾	48	51.8			14										
TF..97	AM100	1	180	215	5	300	250	M12	116	28	60	31.3	8			
	AM112						169			38	80	41.3	10			
	AM132S		230	265			300									
	AM132M															
			AM132ML													
			AM160	250	300		6	350		M16	227	42	110	45.3	12	
			AM180					48			51.8	14				
			AM200	300	350		7	400			268	55		59.3	16	
	AM225 ¹⁾	450	283			60		140	64.4		18					

TF..AM

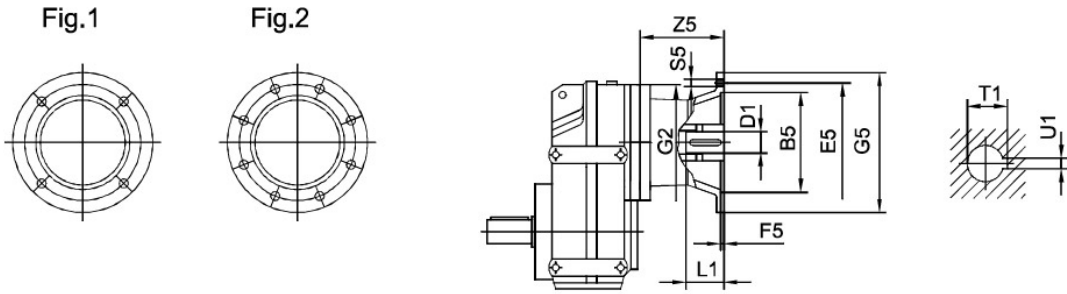
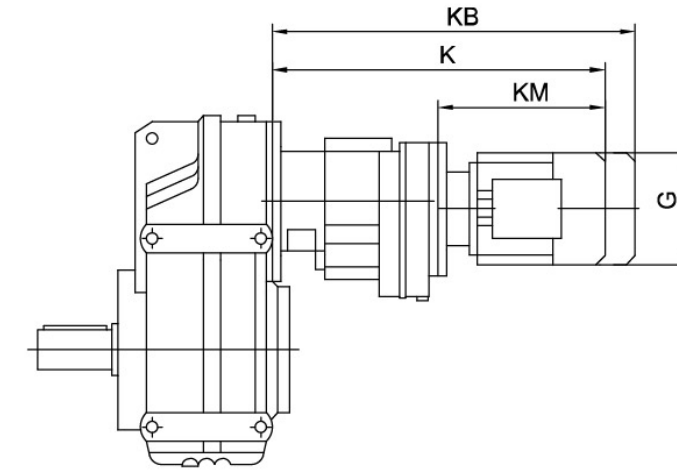


		Fig.	B5	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1			
TF..107	AM100	1	180	215	5	350	250	M12	110	28	60	31.3	8			
	AM112															
	AM132S		230	265			300		163	38		80	41.3	10		
	AM132ML															
	AM160	250	300	6	350		M16	42	48	110	45.3	12				
	AM180															
	AM200	300	350	7	400		262	55	59.3		16					
	AM225															
		2	350	400		450		277	60	140	64.4	18				
TF..127	AM132S	1	230	265	5	450	300	M12	148	38	80	41.3	10			
	AM132M															
	AM132ML		250	300			6		350	M16		206	42	110	45.3	12
	AM180															
	AM200	300	350	7	400		247	55	59.3	16						
	AM225															
			2	350	400			450		262	60	140	64.4	18		
				450	500			550		336	65	140	69.4	20		
								75			79.9	20				
TF..157	AM160	1	250	300	6	550	350	M16	198	42	110	45.3	12			
	AM180															
	AM200		300	350					7	400		239	55	59.3	16	
	AM225															
			2	350	400			450		254	60	140	64.4	18		
				450	500			550		328	65	140	69.4	20		
								75			79.9	20				

TF..R..



		G	K	KB	KM
TF..37R17	Y63..	155	368	425	193
	Y71D	155	369	433	194
	Y80..	155	419	483	244
TF..57R37	Y63..	155	400	457	235
	Y71D	155	401	465	236
	Y80..	155	451	515	286
TF..67R37	Y63..	155	410	457	235
	Y71D	155	401	465	236
	Y80..	155	451	515	286
TF..77R37	Y63..	155	392	449	235
	Y71D	155	393	457	236
	Y80..	155	443	507	286
TF..87R57	Y63..	155	445	502	229
	Y71D	155	445	509	229
	Y80..	210	495	559	279
TF..97R57	Y90..	210	495	580	279
	Y100M	210	545	630	329
	Y100L	210	565	650	349
	Y112M	240	575	655	364
	Y132S	240	575	655	364
TF..107R77	Y63..	155	470	527	223
	Y71D	155	470	534	223
	Y80..	155	520	584	273
	Y90..	210	518	603	271
	Y100M	210	568	653	321
	Y100L	210	588	673	341
	Y112M	240	602	682	355
	Y132S	240	647	727	400
	Y132M	285	699	811	452
	Y132ML	285	719	831	472
	Y160M	330	749	871	512

		G	K	KB	KM
TF..127R77	Y63..	155	455	512	223
	Y71D	155	455	519	223
	Y80..	155	505	569	273
	Y90..	210	503	588	271
	Y100M	210	553	638	321
	Y100L	210	573	658	341
	Y112M	240	587	667	355
TF..127R87	Y132S	240	632	712	40
	Y132M	285	684	796	452
	Y132ML	285	704	816	472
	Y160M	330	734	846	502
	Y90..	210	547	632	267
	Y100M	210	597	682	317
	Y100L	210	617	702	337
TF..157R97	Y112M	240	630	710	350
	Y132S	240	675	755	395
	Y132M	285	727	839	447
	Y132ML	285	747	859	467
	Y160M	330	777	889	497
	Y160L	330	824	980	544
	Y180..	380	896	1052	616
	Y80..	155	586	650	261
	Y90..	210	586	671	261
	Y100M	210	636	721	311
Y100L	210	656	741	331	
Y112M	240	670	750	345	
Y132S	240	715	795	390	
Y132M	285	767	879	442	
Y132ML	285	787	899	462	
Y160M	330	817	929	492	
Y160L	330	864	1020	539	
Y180..	380	936	1092	611	
Y200..	420	1024	1180	699	

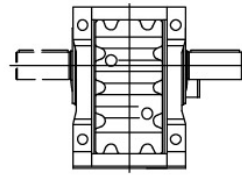
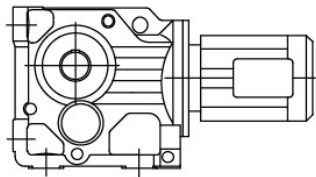
7. TK 斜齿轮—伞齿轮减速电机 TK Helical – Bevel Geared Motor

7.1 设计方案

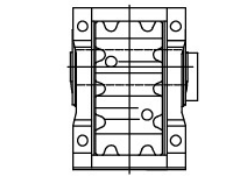
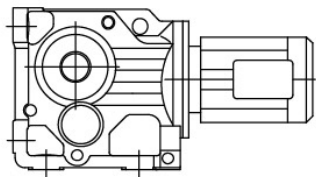
7.1 Versions of Transcyko geared motors

斜齿轮—伞齿轮减速电机有以下设计方案：

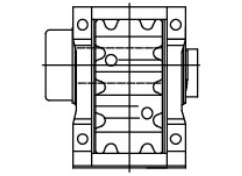
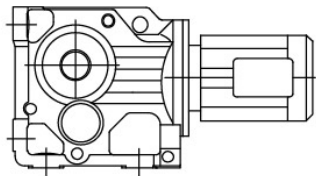
The following types of helical – bevel geared motor can be supplied:



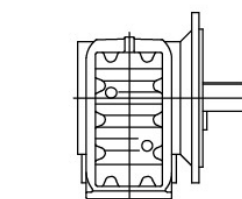
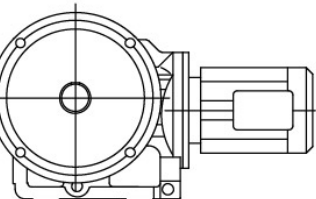
TK..Y..
底脚安装斜齿轮—伞齿轮减速电机
Foot – mounted helical – bevel geared motor



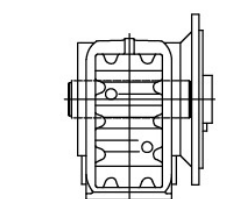
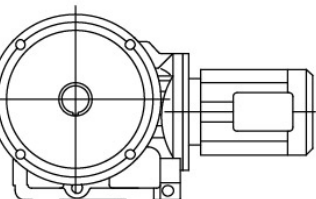
TKA..B Y..
底脚空心轴安装斜齿轮—伞齿轮减速电机
Foot – mounted helical – bevel geared motor with hollow shaft.



TKV..B Y..
底脚花键空心轴 (DIN5480) 安装斜齿轮—伞齿轮减速电机
Foot – mounted helical – bevel geared motor with hollow shaft and splined hollow shaft to DIN 5480



TKH..B Y..
底脚空心轴锁紧盘安装斜齿轮—伞齿轮减速电机
Foot – mounted helical – bevel geared motor with hollow shaft and shrink disk

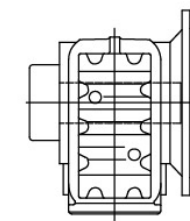
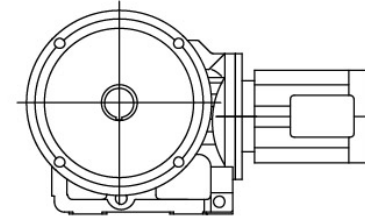


TKF..Y..
B5 法兰安装斜齿轮—伞齿轮减速电机
Helical – bevel geared motor in B5 flange – mounted version

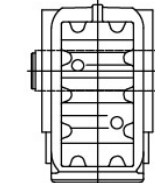
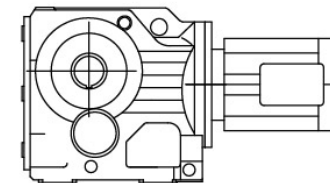


TKAF..Y..
B5 法兰空心轴安装斜齿轮—伞齿轮减速电机
Helical – bevel geared motor in B5 flange – mounted version with hollow shaft.

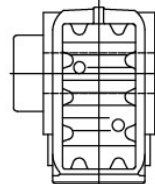
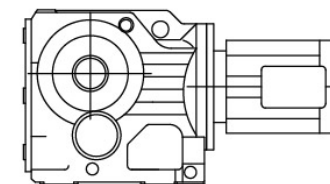
TKVF..Y..
B5 法兰花键空心轴 (DIN5480) 安装斜齿轮—伞齿轮减速电机
Helical – bevel geared motor in B5 flange – mounted version with hollow shaft and splined hollow shaft to DIN 5480.



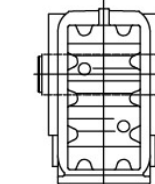
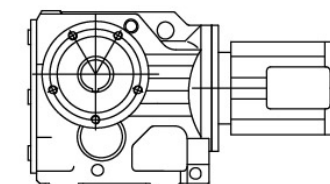
TKHF..Y..
B5 法兰空心轴锁紧盘安装斜齿轮—伞齿轮减速电机
Helical – bevel geared motor in B5 flange – mounted version with hollow shaft and shrink disk



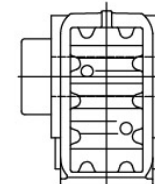
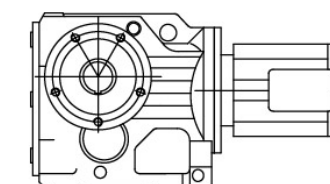
TKA..Y..
空心轴安装斜齿轮—伞齿轮减速电机
Helical – bevel geared motor with hollow shaft



TKV..Y..
花键空心轴 (DIN 5480) 安装斜齿轮—伞齿轮减速电机
Helical – bevel geared motor with hollow shaft and splined hollow shaft to DIN 5480.



TKAZ..Y..
B14 法兰空心轴安装斜齿轮—伞齿轮减速电机
Helical – bevel geared motor in B14 flange – mounted version with hollow shaft



TKVZ..Y..
B14 法兰花键空心轴 (DIN 5480) 安装斜齿轮—伞齿轮减速电机
Helical – bevel geared motor in B14 flange – mounted version with hollow shaft and splined hollow to DIN 5480.

TKHZ..Y..
B14 法兰空心轴锁紧盘安装斜齿轮—伞齿轮减速电机
Helical – bevel geared motor in B14 flange – mounted version with hollow shaft and shrink disk

TK167/187R97,TK167/187R107 $n_e=1400$ 1/min

TK167R97		32000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
19723	0.07	32000	150000
17406	0.08	32000	150000
15000	0.09	32000	150000
13238	0.11	32000	150000
11573	0.12	32000	150000
10264	0.14	32000	150000
8628	0.16	32000	150000
6562	0.21	32000	150000
5355	0.26	32000	150000
4788	0.29	32000	150000
4079	0.34	32000	150000
3376	0.41	32000	150000
2755	0.51	32000	150000
2263	0.62	32000	150000
2182	0.64	32000	150000
1704	0.82	32000	150000
1408	0.99	32000	150000
1296	1.1	32000	150000
1101	1.3	32000	150000
944	1.5	32000	150000
843	1.7	32000	150000
757	1.8	32000	150000
632	2.2	32000	150000
561	2.5	32000	150000
481	2.9	32000	150000
423	3.3	32000	150000
369	3.8	32000	150000

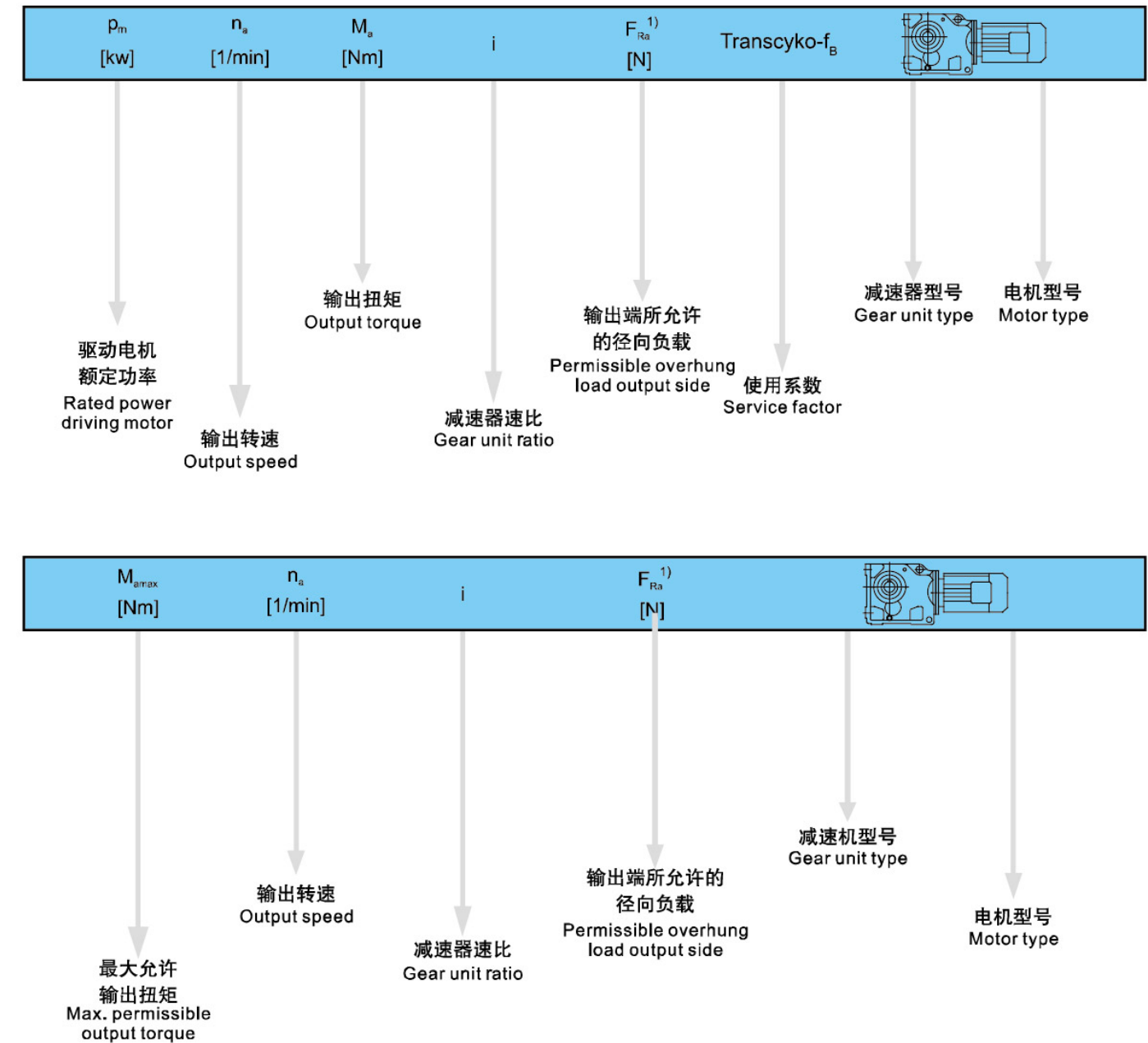
TK167R107		32000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
318	4.4	32000	150000
278	5.0	32000	150000
244	5.7	32000	150000
213	6.6	32000	150000
206	6.8	32000	150000
180	7.8	32000	150000
160	8.8	32000	150000
135	10	32000	150000
118	12	32000	150000

TK187R97		50000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
32625	0.04	50000	190000
27165	0.05	50000	190000
24353	0.06	50000	190000
19144	0.07	50000	190000
16978	0.08	50000	190000
14272	0.10	50000	190000
13116	0.11	50000	190000
11647	0.12	50000	190000
10413	0.13	50000	190000
9363	0.15	50000	190000
8126	0.17	50000	190000
7343	0.19	50000	190000
6747	0.21	50000	190000
5991	0.23	50000	190000
5358	0.26	50000	190000
4817	0.29	50000	190000
4370	0.32	50000	190000
3609	0.39	50000	190000
3062	0.46	50000	190000
2818	0.50	50000	190000
2519	0.56	50000	190000
2268	0.62	50000	190000
2054	0.68	50000	190000
1821	0.77	50000	190000
1605	0.87	50000	190000
1395	1.0	50000	190000
1196	1.2	50000	190000
1046	1.3	50000	190000
945	1.5	50000	190000
738	1.9	50000	190000
621	2.3	50000	190000
527	2.7	50000	190000

K187R107		50000Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
835	1.7	50000	190000
729	1.9	50000	190000
622	2.3	50000	190000
520	2.7	50000	190000
454	3.1	50000	190000
355	3.9	50000	190000
261	5.4	50000	190000
221	6.3	50000	190000
193	7.3	50000	190000
163	8.6	50000	190000

7.4 选型表注释 7.4 Selection table

选型表的结构
Selection table geared motors



图例 Cutoffine

※ 也可用于 EExe 电机。 ※ EEXE motor is optional.

1) 实心轴底脚安装减速机的径向负荷

1) Overhung load specified for foot – mounted gear unit with solid shaft

注意:

对于特殊低输出转速驱动（多级减速电机），电机功率必须与减速机的最大允许输出扭矩相对应。
In drives for particularly low output speeds (multi – stage geared motors), the motor power must be limited according to maximum permitted output torque of the gear unit.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted overhung load, Service factor, Model. Rows include 0.12kW, 0.17, 0.20, 0.23, 0.26, 0.30, 0.34, 0.39, 0.44, 0.50, 0.57, 0.65, 0.74, 0.85, 0.96, 1.1, 1.2, 0.26, 0.30, 0.34, 0.38, 0.44, 0.51, 0.58, 0.66, 0.74, 0.83, 0.97, 1.1, 1.3, 1.5, 1.6, 1.9, 0.51, 0.58, 0.67, 0.78, 0.91, 0.99, 1.1, 1.3, 1.5, 1.7, 2.0, 2.2.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted overhung load, Service factor, Model. Rows include 0.12kW, 1.0, 1.2, 1.3, 1.5, 1.7, 2.0, 2.2, 2.5, 2.9, 3.3, 3.8, 4.3, 4.9, 5.6, 6.3, 1.5, 1.7, 2.0, 2.2, 2.5, 2.9, 3.3, 3.8, 4.3, 4.9, 5.6, 6.4, 7.2, 2.2, 2.5, 2.8, 3.2, 3.7, 4.2, 4.8, 4.0, 4.5, 5.2, 5.9, 6.7, 7.6, 8.6, 10, 6.2, 6.2, 7.3, 8.3, 8.8, 10, 12, 9.5, 11, 13, 15, 6.8, 7.4, 8.6, 10, 11.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted overhung load, Service factor, Model. Rows include 0.12kW, 8.5, 9.2, 11, 12, 13, 14, 16, 19, 20, 24, 28, 31, 36, 39, 46, 48, 55, 59, 68, 80, 90, 105, 114, 0.18kW, 0.09, 0.11, 0.12, 0.13, 0.16, 0.18, 0.20, 0.23, 0.26, 0.30, 0.34, 0.40, 0.16, 0.18, 0.21, 0.23, 0.26, 0.30, 0.39, 0.44, 0.51, 0.58, 0.28, 0.32, 0.37, 0.42, 0.48, 0.55, 0.62, 0.71, 0.81, 0.92, 1.0, 1.2, 1.4, 1.5, 1.8, 2.0, 0.42, 0.48, 0.56.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted overhung load, Service factor, Model. Rows include 0.18kW, 0.63, 0.71, 0.80, 0.93, 1.1, 1.2, 1.4, 1.6, 1.8, 0.87, 0.95, 1.1, 1.2, 1.4, 1.6, 1.9, 2.1, 2.4, 2.7, 3.1, 3.6, 1.5, 1.7, 1.9, 2.2, 2.4, 2.8, 3.2, 3.7, 4.1, 4.7, 2.2, 2.4, 2.8, 3.1, 3.6, 3.7, 4.1, 4.7, 3.5, 4.0, 4.6, 5.2, 5.9, 6.7, 7.7, 8.6, 10, 6.4, 7.3, 8.2, 9.7, 10, 6.0, 7.0, 8.1, 8.5, 9.1, 11, 12.

TR

TF

TK

TS

TR

TF

TK

TS

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Contains data for 1.1kW and 1.5kW power ratings across various models (TK, TKF, TKA, TKAF).

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Contains data for 1.1kW and 1.5kW power ratings across various models (TK, TKF, TKA, TKAF).

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Contains data for 1.5kW and 2.2kW power ratings across various models (TK, TKF, TKA, TKAF).

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Contains data for 1.5kW and 2.2kW power ratings across various models (TK, TKF, TKA, TKAF).

TR

TF

TK

TS

TR

TF

TK

TS

TR

TF

TK

TS

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes data for 7.5kW and 9.2kW ranges with various gear ratios and models like TK 187R97Y132M4.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes data for 7.5kW and 9.2kW ranges with various gear ratios and models like TK 87, TKF 87, etc.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes data for 9.2kW and 11.0kW ranges with various gear ratios and models like TK 127, TKF 127, etc.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes data for 11.0kW range with various gear ratios and models like TK 167, TK 157, etc.

TR

TF

TK

TS

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes sub-sections for 11.0kW, 15.0kW, and 18.5kW.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes sub-sections for 15.0kW and 18.5kW.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes sub-sections for 18.5kW and 22kW.

Table with 6 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes sub-sections for 22kW and 25kW.

TR

TF

TK

TS

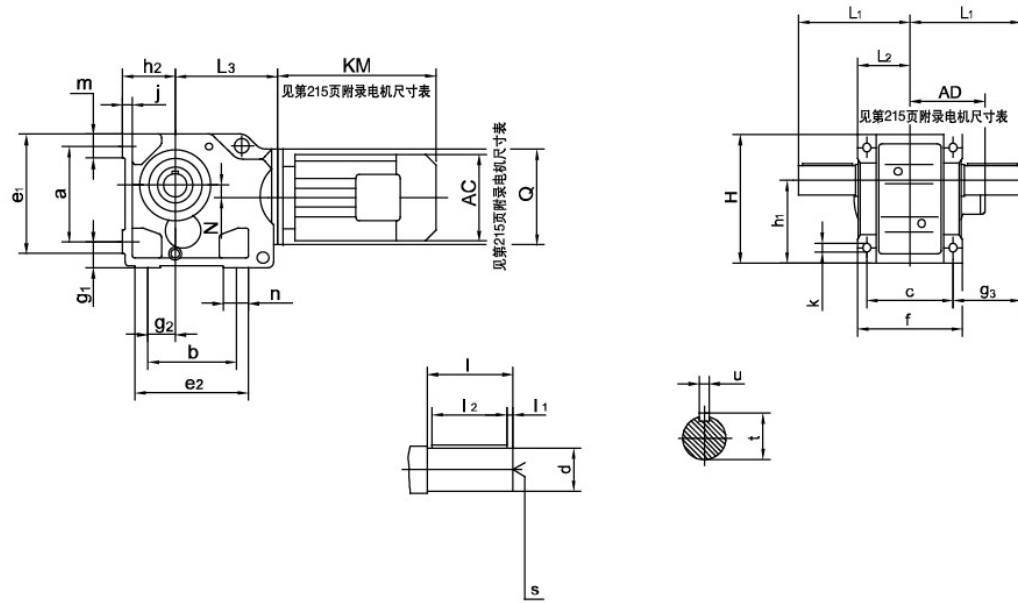
TR

TF

TK

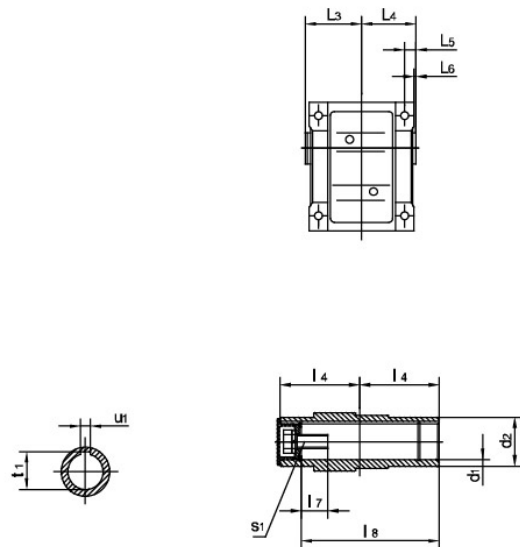
TS

TK37..~TK157..



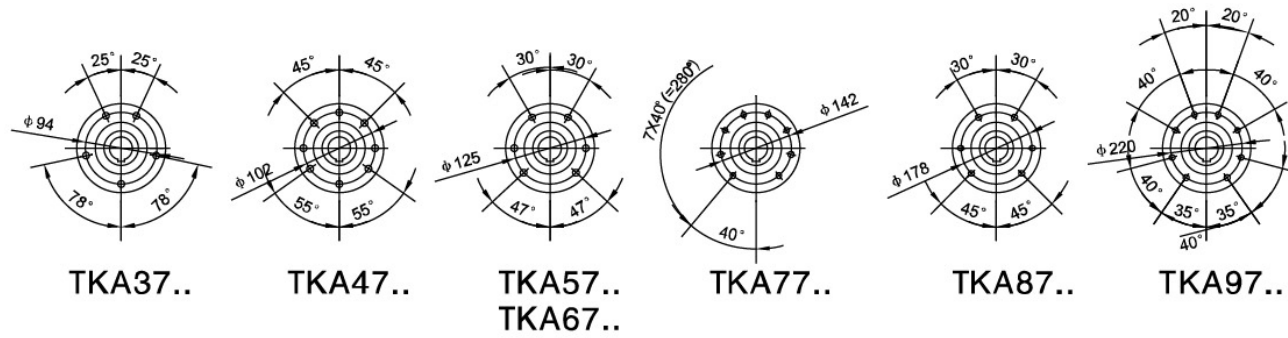
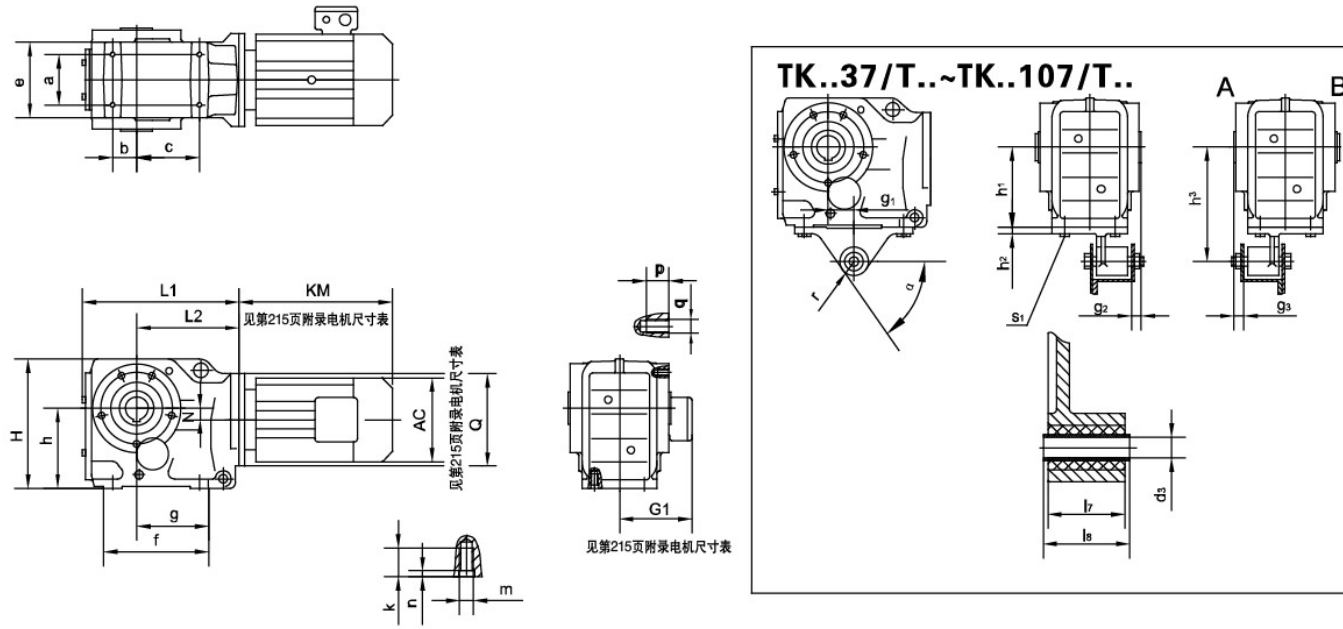
型号 size	a b c	e1 e2 f	g1 g2 g3	h1 h2	j	k	m n	轴伸尺寸 Shaft dimension				
								d	l	l1 l2	S	t u
TK37..	115 110 100	150 143 120	32 28 60	100-0.5 63-0.5	16	11	37 38	25k6	50	5 40	M10	28 8
TK47.. TKA47B..	130 130 120	170 162 145	37 35 75	112-0.5 71-0.5	18	11	37 32	30k6	60	3.5 50	M10	33 8
TK57.. TKA57B..	150 130 130	190 172 157	45 30 88	132-0.5 80-0.5	21	13.5	43 40	35k6	70	7 56	M12	38 10
TK67.. TKA67B..	160 120 140	203 170 170	45 30 101	140-0.5 90-0.5	24	13.5	43 45	40k6	80	5 70	M16	43 12
TK77.. TKA77B..	200 150 165	263 208 200	55 40 123.5	180-0.5 112-0.5	27	17.5	55 55	50k6	100	10 80	M16	53.5 14
TK87.. TKA87B..	233 180 180	305 260 230	70 55 150	212-0.5 132-0.5	32	22	67 75	60m6	120	5 110	M20	64 18
TK97.. TKA97B..	295 240 240	372 294 290	75 75 171	265-1 160-0.5	36	26	82 60	70m6	140	7.5 125	M20	74.5 20
TK107.. TKA107B..	360 280 270	448 380 340	95 95 212	315-1 200-0.5	40	33	98 100	90m6	170	5 160	M24	95 25
TK127.. TKA127B..	420 350 330	526 440 400	110 115 253	375-1 225-0.5	45	39	111 100	110m6	210	15 180	M24	116 28
TK157.. TKA157B..	500 380 420	634 480 500	130 140 247	450-1 280-1	50	39	130 100	120m6	210	5 200	M24	127 32

TKA37B..~TKA157B..

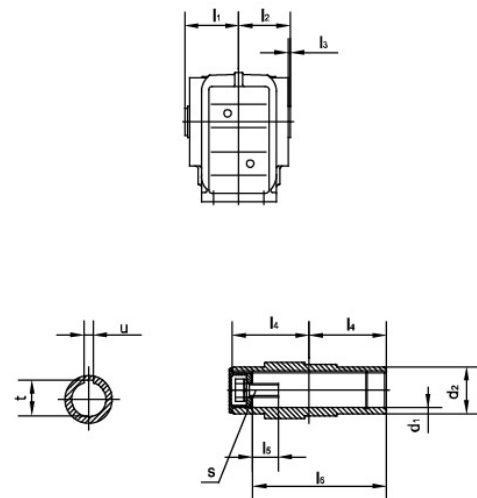


型号 size	空心轴尺寸 hollow shaft dimension							H	L1 L2	L3	N	Q
	d1	d2	l3 l4	l5 l6	l7 l8	s1	t1 u1					
TK37..	-	-	-	-	-	-	-	165	110 60	139	8.5	120
TK47.. TKA47B..	35 ^{H7}	50	78 75	15 3	22 132	M12x30	38.3 10	185	135 72	166	7.2	160
TK57.. TKA57B..	40 ^{H7}	55	86 83	18 3	29 142	M16x40	43.3 12	217	153 80	173	13.1	160
TK67.. TKA67B..	40 ^{H7}	55	93 90	20 3.5	29 156	M16x40	43.3 12	228	171 86.5	179	20	160
TK77.. TKA77B..	50 ^{H7}	70	108 105	22.5 4	32 183	M16x45	53.8 14	288	206 101	202	31.3	200
TK87.. TKA87B..	60 ^{H7}	85	123 120	30 4	36 210	M20x50	64.4 18	340	240 116	257	25.9	250
TK97.. TKA97B..	70 ^{H7}	95	153 150	30 4	34 270	M20x50	74.9 20	417	291 146	277	32.3	300
TK107.. TKA107B..	90 ^{H7}	118	178 175	40 2.5	40 313	M24x60	95.4 25	503	347 175	341	52	350
TK127.. TKA127B..	100 ^{H7}	135	208 205	40 2.5	38 373	M24x60	106.4 28	592	418 203	390	53	450
TK157.. TKA157B..	120 ^{H7}	155	253 250	40	36 460	M24x60	127.4 32	705	457 250	426	71.7	550

TKA37..~TKA107

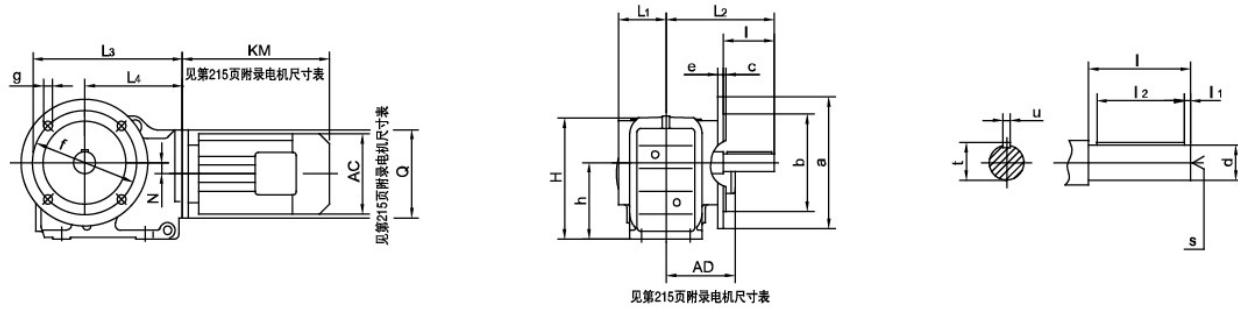


TKA107..

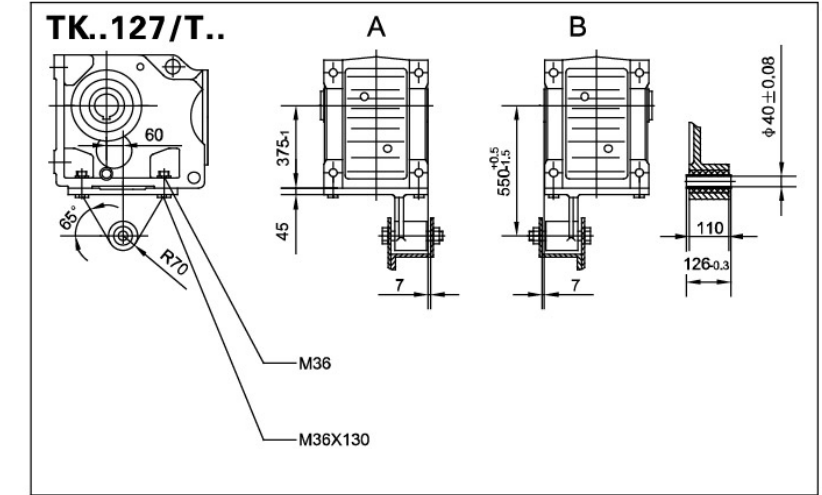


型号 size	a b c	e f g	h	k m n	p q	空心轴尺寸 Hollow shaft dimension				扭矩臂尺寸 Torque arm form				H L1 L2	QN
						d1 d2	l1 l2 l3	l4 l5 l6	s t u	g1 g2 g3	h1 h2 h3	d3 l7 l8	r s1 ∞		
TKA37.. TK..37/T..	60 35 82	100 147 97	100-0.5	20 M10 4	12 M8	30 ^{H7} 45	63 60 2.5	60 17 105	M10 8	23.5 20 20	100-0.5 10 140 ^{+0.2} _{-0.7}	10.4 ^{+0.1} 31 36-0.3	22.5 M10x25 60°	164 210 139	8.5 120
TKA47.. TK..47/T..	70 40 100	110 170 115	112-0.5	20 M10 4	12 M8	35 ^{H7} 50	78 75 3	75 22 132	M12 10	30 20 20	112-0.5 12 160 ^{+0.2} _{-0.7}	10.4 ^{+0.1} 31 36-0.3	22.5 M10x30 55°	185 243 166	7.2 160
TKA57.. TK..57/T..	88 47 105	122 182 120	132-0.5	25 M12 5	20 M12	40 ^{H7} 55	86 83 3	83 29 142	M16 12	40 18 18	132-0.5 13 192 ^{+0.2} _{-0.7}	16.4 ^{+0.08} 54 60-0.3	29 M12x35 55°	215 269 173	13.1 160
TKA67.. TK..67/T..	88 42 110	130 182 125	140-0.5	25 M12 5	20 M12	40 ^{H7} 55	94 90 3.5	90 29 156	M16 12	45 25 25	140-0.5 13 200 ^{+0.2} _{-0.7}	16.4 ^{+0.08} 54 60-0.3	29 M12x35 55°	226 274 179	20 160
TKA77.. TK..77/T..	102 48 122	154 204 139	180-0.5	32 M16 6	20 M12	50 ^{H7} 70	108 105 4	105 32 186	M16 14	52.5 25 25	180-0.5 14 250 ^{+0.2} _{-0.7}	16.4 ^{+0.08} 54 60-0.3	29 M16x40 60°	286 312 202	31.3 200
TKA87.. TK..87/T..	118 65 160	170 280 190	212-0.5	32 M16 6	26 M16	60 ^{H7} 85	123 120 4	120 36 210	M20 18	60 30 30	212-0.5 16 300 ^{+0.2} _{-0.7}	25 ^{+0.08} 72 80-0.3	41 M16x45 60°	338 390 257	25.9 250
TKA97.. TK..97/T..	160 83 165	226 298 190	265-1	36 M20 6	26 M16	70 ^{H7} 95	153 150 4	150 34 270	M20 20	70 40 40	265-1 17 350 ^{+0.2} _{-1.2}	25 ^{+0.08} 92 100-0.3	41 M20x50 50°	414 435 277	32.3 300
TKA107.. TK..107/T..	190 100 190	266 370 230	315-1	44 M24 8	- -	90 ^{H7} 118	178 175 2.5	175 40 313	M24 25	74 45 45	315-1 20 450 ^{+0.5} _{-1.5}	25 ^{+0.08} 92 100-0.3	41 M24x60 55°	500 537 341	52 350

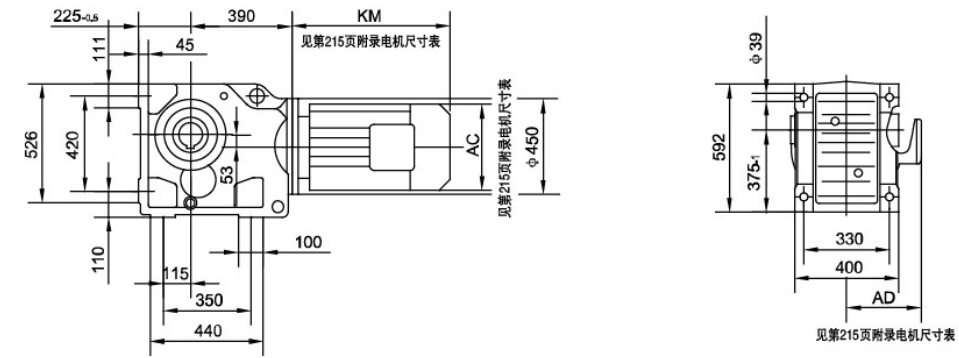
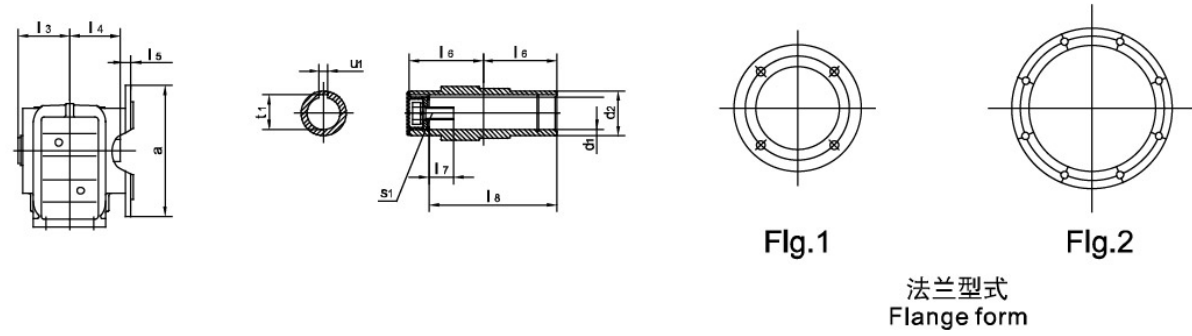
TKF37..~TKF157..



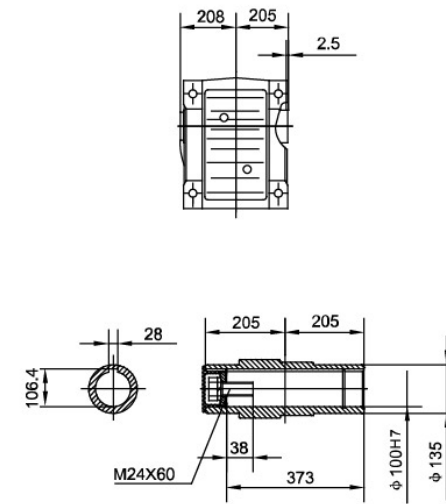
TKA127..



TKAF37..~TKAF157..

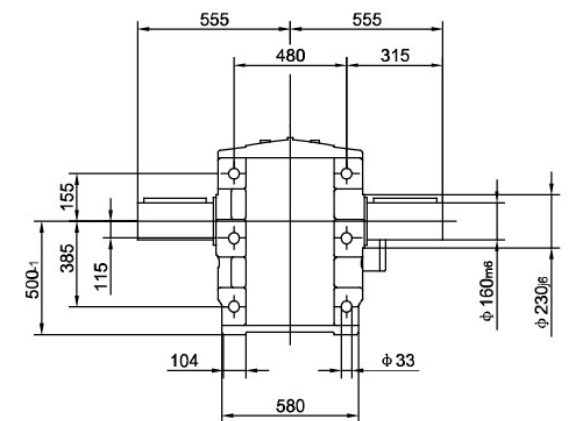
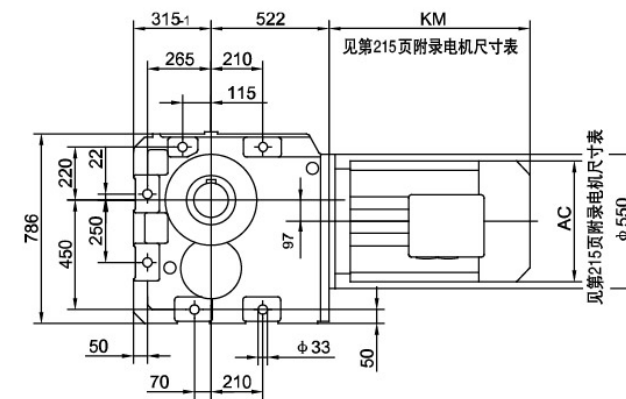
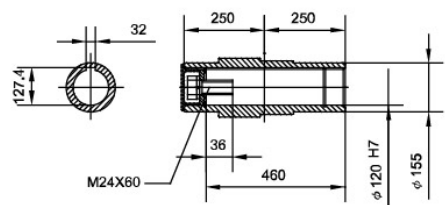
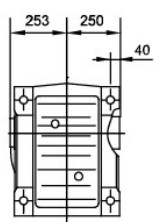
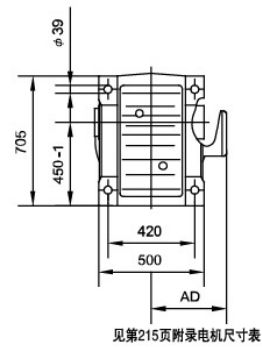
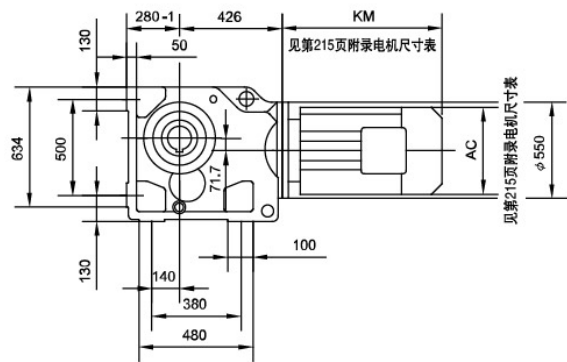
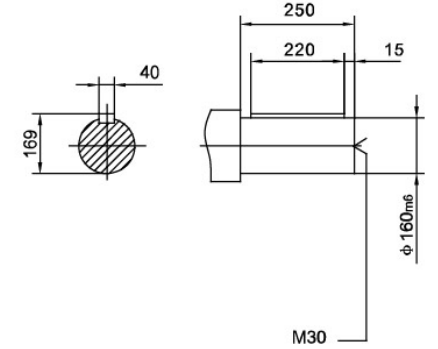
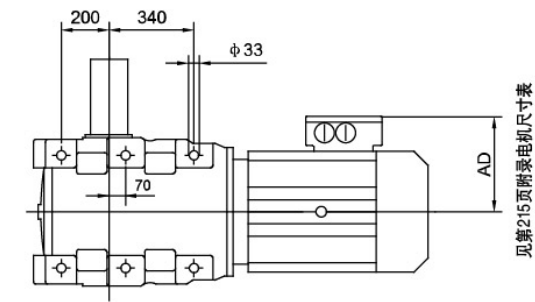
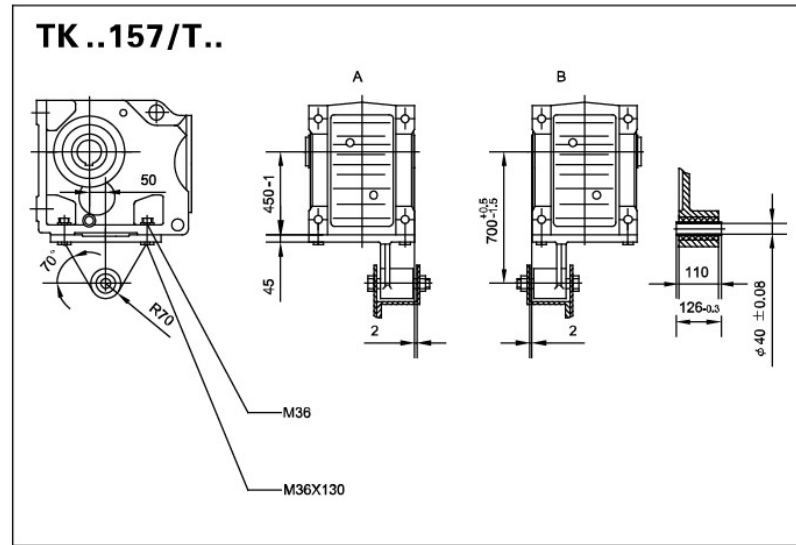


型号 Model	法兰 型式 Flange form	a b	c e	f g h	轴伸尺寸 Shaft dimension				空心轴尺寸 Hollow Shaft dimension					H	L1 L2 L3	L4 N Q
					d l	h l2	S	t u	d1 d2	l3 l4 l5	l6 l7 l8	S1	t1 u1			
TKF37.. TKAF37..	Flg.1	160 110j6	3.5 10	130 9 100	25k6 5	5 M10	28 8	30H7 8	63 60 24	60 17 105	M10 × 25	33.3 8	164	57.5 134 210	139 8.5 120	
TKF47.. TKAF47..	Flg.1	200 130j6	3.5 10	165 11 112	30k6 6	3.5 M10	33 8	35H7 8	78 75 25	75 22 132	M12 × 30	38.3 10	185	72 160 243	166 7.2 160	
TKF57.. TKAF57..	Flg.1	250 180j6	4 15	215 13.5 132	35k6 7	M12	38 10	40H7 10	86 83 23.5	83 29 142	M16 × 40	43.3 12	215	80 177 269	173 13.1 160	
TKF67.. TKAF67..	Flg.1	250 180j6	4 15	215 13.5 140	40k6 5	M16	43 12	40H7 12	94 90 23	90 29 156	M16 × 40	43.3 12	226	86.5 193 274	179 20 160	
TKF77.. TKAF77..	Flg.1	300 230j6	4 16	265 13.5 180	50k6 8	M16	53.5 14	50H7 14	108 105 37	105 32 183	M16 × 45	53.8 14	286	101 242 312	202 31.3 200	
TKF87.. TKAF87..	Flg.1	350 250h6	5 18	300 17.5 212	60m6 5	M20	64 18	60H7 18	123 120 30	120 36 210	M20 × 50	64.4 18	338	138 270 390	257 25.9 250	
TKF97.. TKAF97..	Flg.2	450 350h6	5 22	400 17.5 265	70m6 7.5	M20	74.5 20	70H7 20	153 150 41.5	150 34 270	M20 × 50	74.9 20	414	171 332 435	277 32.3 300	
TKF107.. TKAF107..	Flg.2	450 350h6	5 25	400 17.5 315	90m6 5	M24	95 25	90H7 25	178 175 41	175 40 313	M24 × 60	95.4 25	500	175 386 537	341 52 350	
TKF127.. TKAF127..	Flg.2	550 450h6	5 22	500 17.5 375-1	110m6 15	M24	116 28	100H7 28	208 205 51	205 38 373	M24 × 60	106.4 28	592	203 466 615	390 53 450	
TKF157.. TKAF157..	Flg.2	660 550h6	6 28	600 22 450-1	120m6 5	M24	127 32	120H7 32	253 250 60	250 36 460	M24 × 60	127.4 32	705	253 520 706	705 71.7 550	



TKA157..

TK167..



TR

TF

TK

TS

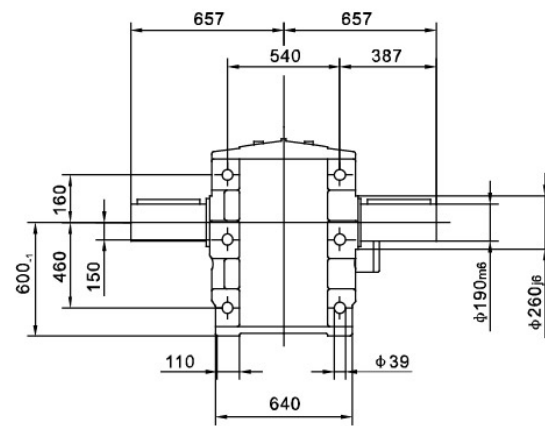
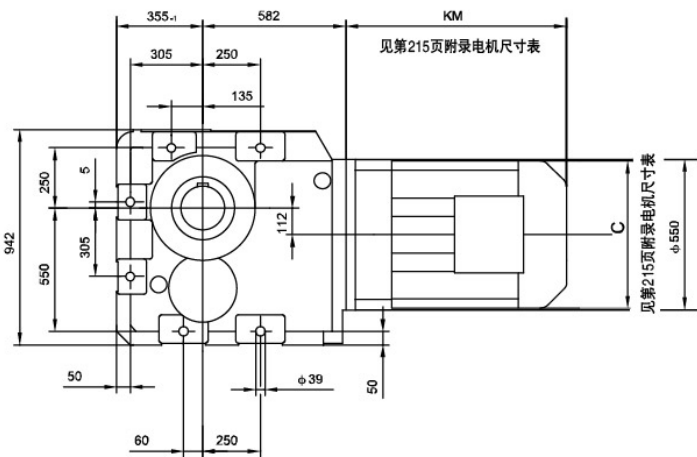
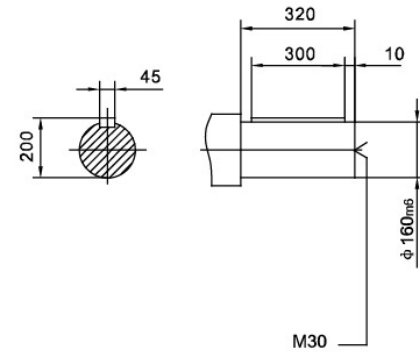
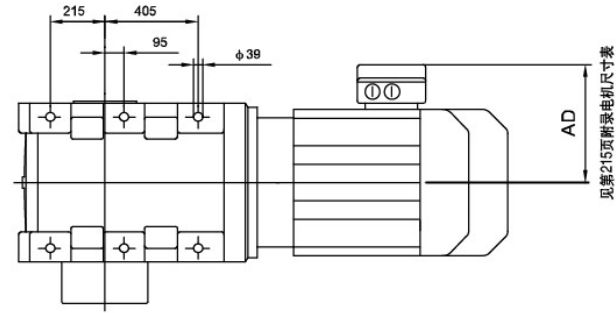
TR

TF

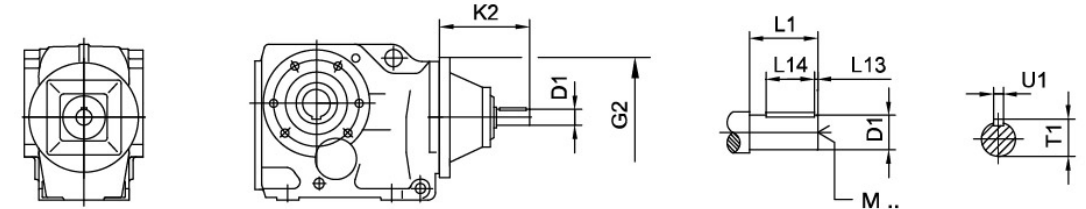
TK

TS

TK187..

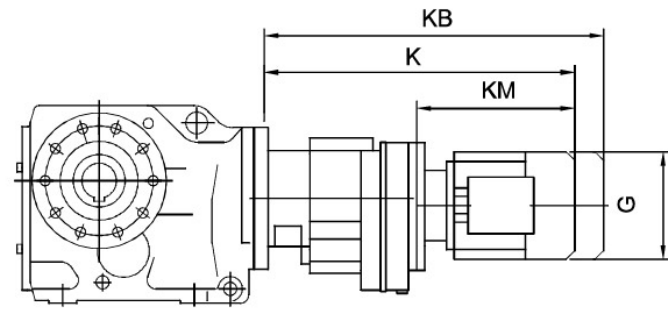


TK..AD..



		G2	K2	D1	L1	L13	L14	T1	U1	M
K..37	AD1	120	102	16	40	4	32	18	5	M5
	AD2		130	19	40	4	32	21.5	6	M6
	AD2	160	123	19	40	4	32	21.5	6	M6
	AD3		159	24	50	5	40	27	8	M8
TK..77	AD2	200	116	19	40	4	32	21.5	6	M6
	AD3		151	24	50	5	40	27	8	M8
	AD4		224	38	80	5	70	41	10	M12
TK..87	AD2	250	111	19	40	4	32	21.5	6	M6
	AD3		156	28	60	5	50	31	8	M10
	AD4		219	38	80	5	70	41	10	M12
	AD5		292	42	110	10	70	45	12	M16
TK..97	AD3	300	151	28	60	5	50	31	8	M10
	AD4		214	38	80	5	70	41	10	M12
	AD5		287	42	110	10	70	45	12	M16
	AD6	350	327	48	110	10	80	51.5	14	M16
	AD3		145	28	60	5	50	31	8	M10
	AD4		208	38	80	5	70	41	10	M12
TK..107	AD5	350	281	42	110	10	70	45	12	M16
	AD6		321	48	110	10	80	51.5	14	M16
	AD4		193	38	80	5	70	41	10	M12
	AD5		266	42	110	10	70	45	12	M16
TK..127	AD6	450	306	48	110	10	80	51.5	14	M16
	AD7		300	55	110	10	90	59	16	M20
	AD8		383	70	140	15	110	74.5	20	M20
	AD5		258	42	110	10	70	45	12	M16
TK..157 TK..167 TK..187	AD6	550	298	48	110	10	80	51.5	14	M16
	AD7		292	55	110	10	90	59	16	M20
	AD8		374	70	140	15	110	74.5	20	M20

TK..R..



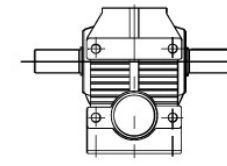
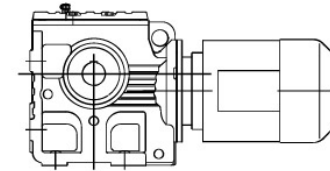
TK..R..	Motor	G	K	KB	KM
TK..37R17	Y63..	155	368	425	193
	Y71D	155	369	433	194
	Y80..	155	419	483	244
TK..47R17 TK..67R37	Y63..	155	400	457	235
	Y71D	155	401	465	236
	Y80..	155	451	515	286
TK..57R37	Y63..	155	410	457	235
	Y71D	155	401	465	236
	Y80..	155	451	515	286
TK..77R37	Y63..	155	392	449	235
	Y71D	155	393	457	236
	Y80..	155	443	507	286
TK..87R57	Y90..	210	443	528	286
	Y63..	155	445	502	229
	Y71D	155	445	509	229
	Y80..	210	495	559	279
	Y90..	210	495	580	279
TK..97R57	Y100M	210	545	630	329
	Y100L	210	565	650	349
	Y63..	155	440	497	229
	Y71D	155	440	504	229
	Y80..	155	490	554	279
	Y90..	210	490	575	279
	Y100M	210	540	625	329
TK..107R77	Y100L	210	560	645	349
	Y112M	240	575	655	364
	Y63..	155	470	527	223
	Y71D	155	470	534	223
	Y80..	155	520	584	273
	Y90..	210	518	603	271
	Y100M	210	568	653	321
	Y100L	210	588	673	341
	Y112M	240	602	682	355
	Y132S	240	647	727	400
	Y132M	285	699	811	452
	Y132ML	285	719	831	472
	Y160M	330	749	861	512

TK..R..	Motor	G	K	KB	KM
TK..127R77	Y63..	155	455	512	223
	Y71D	155	455	519	223
	Y80..	155	505	569	273
	Y90..	210	503	588	271
	Y100M	210	553	638	321
	Y100L	210	573	658	341
	Y112M	240	587	667	355
	Y132S	240	632	712	400
	Y132M	285	684	796	452
	Y132ML	285	704	816	472
TK..127R87	Y160M	330	734	846	502
	Y90..	210	547	632	267
	Y100M	210	597	682	317
	Y100L	210	617	702	337
	Y112M	240	630	710	350
	Y132S	240	675	755	395
	Y132M	285	727	839	447
	Y132ML	285	747	859	467
	Y160M	330	777	889	497
	Y160L	330	824	980	544
TK..157R97	Y180..	380	896	1052	616
	Y80..	155	586	650	261
	Y90..	210	586	671	261
	Y100M	210	636	721	311
	Y100L	210	656	741	331
	Y112M	240	670	750	345
	Y132S	240	715	795	390
	Y132M	285	767	879	442
	Y132ML	285	787	899	462
	Y160M	330	817	929	492
TK..167R97 TKH..167BR97	Y160L	330	864	1020	539
	Y180..	380	936	1092	61
	Y200..	420	1024	1180	699
	Y100M	210	687	772	305
	Y100L	210	707	792	325
	Y112M	240	721	801	339
	Y132S	240	766	846	384
	Y132M	285	818	930	436
	Y132ML	285	838	950	456
	Y160M	330	868	980	486
TK187R97 TKH187BR97	Y160L	330	915	1071	533
	Y180..	380	987	1143	605
	Y200..	420	1075	1231	693
	Y225..	470	1107	1263	725

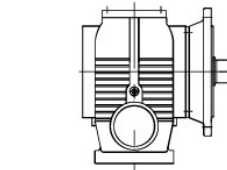
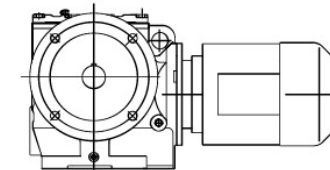
8. TS斜齿轮—蜗轮蜗杆减速电机
TS Helical – Worm Geared Motor

8.1 设计方案
8.1 Versions of Transcyko geared motors

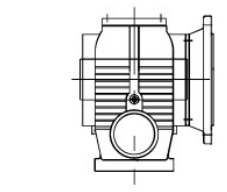
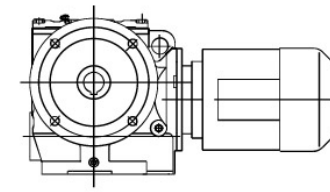
斜齿轮—蜗轮蜗杆齿轮减速电机有以下设计方案：
The following types of helical – worm gearmotor can be supplied:



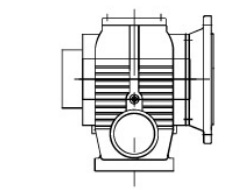
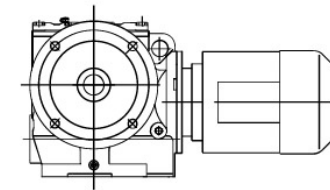
TS..Y..
底脚安装斜齿轮—蜗轮蜗杆齿轮减速电机
Foot – mounted helical – worm gearmotor



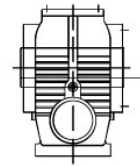
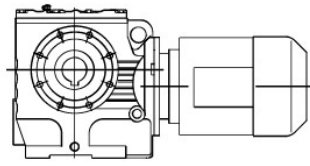
TS..Y..
法兰安装斜齿轮—蜗轮蜗杆齿轮减速电机
Helical – worm gearmotor flange – mounted version.



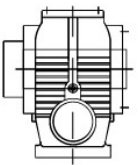
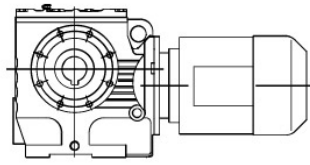
TSAF..Y..
B5 法兰空心轴安装斜齿轮—蜗轮蜗杆齿轮减速电机
Helical – worm gearmotor in B5 flange – mounted version with hollow shaft.



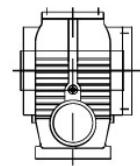
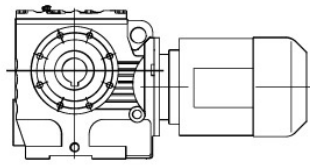
TSHF..Y..
B5 法兰空心轴锁紧盘安装斜齿轮—蜗轮蜗杆齿轮减速电机
Helical – worm gearmotor in B5 flange – mounted version with hollow shaft and shrink disk.



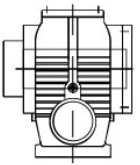
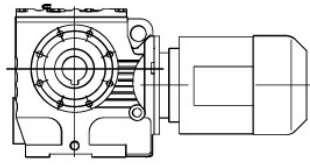
TSA..Y..
空心轴安装斜齿轮-蜗轮蜗杆齿轮减速电机
Helical – worm gearmotor with hollow shaft.



TSH..Y..
空心轴锁紧盘安装斜齿轮-蜗轮蜗杆齿轮减速电机
Helical – worm gearmotor with hollow shaft and shrink disk.



TSAZ..Y..
B14 法兰空心轴安装斜齿轮-蜗轮蜗杆齿轮减速电机
Helical – worm gearmotor in B14 flange – mounted version with hollow shaft.



TSHZ..Y..
B14 法兰空心轴锁紧盘安装斜齿轮-蜗轮蜗杆齿轮减速电机
Helical – worm gearmotor in B14 flange – mounted version with hollow shaft and shrink disk.

8.2 可行的组合方式
8.2 Type of Combination

以下是斜齿轮蜗杆减速与交流（带制动）电机的组合列表。表中给出了每种组合的速比范围。
The below is combination table between gear box and electro motor in each list the ratio range.

减速器型号 Gear unit size	级 Stages	Y63 Y71	Y80	Y90	Y100	Y112	Y132S	Y132M
TS/SF/SA/SAF37	2	6.80-18.24 19.89-51.30 55.93-157.43	6.80-15.53 19.13 22.50-43.68 53.83 63.33-122.94	6.80-13.39 19.13 22.50-37.66 53.83 63.33-106.00				
TS/SF/SA/SAF47	2	7.28-17.62 20.33-54.59 63.80-201.00	7.28-17.62 20.33-54.59 67.20 71.75-158.12	7.28-19.54 23.20-47.32 56.61 67.20 71.75-137.05	7.28-14.24 19.54 23.20-38.23 56.61 67.20 71.75-110.73			
TS/SF/SA/SAF57	2	7.28-17.62 20.33-54.59 63.80-201.00	7.28-17.62 20.33-54.59 67.20 71.75-158.12	7.28-19.54 23.20-47.32 56.61 67.20 71.75-137.05	7.28-14.24 19.54 23.20-38.23 56.61 67.20 71.75-110.73			
TS/SF/SA/SAF67	2	11.03-17.28 20.37-23.22 24.44 29.63-54.70 62.35-65.63 75.06 85.83-217.41	8.69-17.28 20.37-23.22 24.44-54.70 62.35-65.63 75.06 85.83-217.41	7.56-17.28 20.37-23.22 24.44-54.70 62.35-65.63 78.00-190.1	7.56-17.28 20.37 23.33 26.93-54.70 67.57 78.00-158.45	7.56-20.30 23.33 26.93-46.40 58.80 67.57 78.00-134.40	7.56-13.73 20.30 23.33 26.93-36.85 58.80 67.57 78.00-106.75	7.56-13.73 20.30 23.33 26.93-36.85 58.80 67.57 78.00-106.75
TS/SF/SA/SAF77	2	15.28-18.42 20.99 22.89 35.94-53.87 63.03 71.33-75.09 107.83-256.47	12.07-18.42 20.99 22.89 28.41-53.87 63.03 71.33-75.09 85.22-256.47	8.06-18.42 20.99 22.89-75.09 85.22-225.26	8.06-18.42 20.99 22.89-66.67 75.20-189.09	8.06-18.42 20.99 22.89-56.92 66.67 75.20-161.60	8.06-18.97 22.22 25.07-43.33 56.92 66.67 75.20-130.00	8.06-18.97 22.22 25.07-43.33 56.92 66.67 75.20-130.00
TS/SF/SA/SAF87	2		17.49-19.70 21.43 25.50 39.10-57.00 64.27-70.43 81.76 91.20	12.21-19.70 21.43 25.50-57.00 64.27-70.43 81.76-288.00	9.07-19.70 21.43 25.50-57.00 64.27-86.15 99.26-258.18	9.07-19.70 21.43 25.50-57.00 64.27-77.14 86.15 99.26-222.40	7.88-19.70 21.43 25.50-64.00 77.14 86.15 99.26-180.00	7.88-19.70 21.43 25.50-64.00 77.14 86.15 99.26-180.00
TS/SF/SA/SAF97	2		23.59 26.39 49.87-60.59 71.43 80.85 161.74-286.40	17.05-23.59 26.39 36.05-60.59 71.43 80.85 116.92-286.40	13.07-23.859 26.39 32.60-60.59 71.43 80.85-286.40	13.07-23.59 26.39 32.60-60.59 71.43 80.85-286.40	8.26-23.59 26.39 32.60-78.26 89.60-231.67	8.26-23.59 26.39 32.60-78.26 89.60-231.67

减速器型号 Gear unit size	级 Stages	Y132ML	Y160M	Y160L	Y180		
TS/SF/SA/SAF77	2	8.06-13.76 18.97 22.22 25.07-32.38 56.92 66.67 75.20-97.14	8.06-13.76 18.97 22.22 25.07-32.38 56.92 66.67 75.20-97.14				
TS/SF/SA/SAF87	2	7.88-20.27 24.43 27.28-44.03 64.00 77.14 86.15 99.26-139.05	7.88-20.27 24.43 27.28-44.03 64.00 77.14 86.15 99.26-139.05	7.88-20.27 24.43 27.28-44.03 64.00 77.14 86.15 99.26-139.05	7.88-15.64 20.27 24.43 27.28-34.96 64.00 77.14 86.15 99.26-110.40		
TS/SF/SA/SAF97	2	8.26-23.59 26.39 32.60-55.79 65.45 78.26 89.60-180.95	8.26-23.59 26.39 32.60-55.79 65.45 78.26 89.60-180.95	8.26-23.59 26.39 32.60-55.79 65.45 78.26 89.60-180.95	8.26-21.23 24.13 27.63-44.89 65.45 78.26 89.60-145.60		

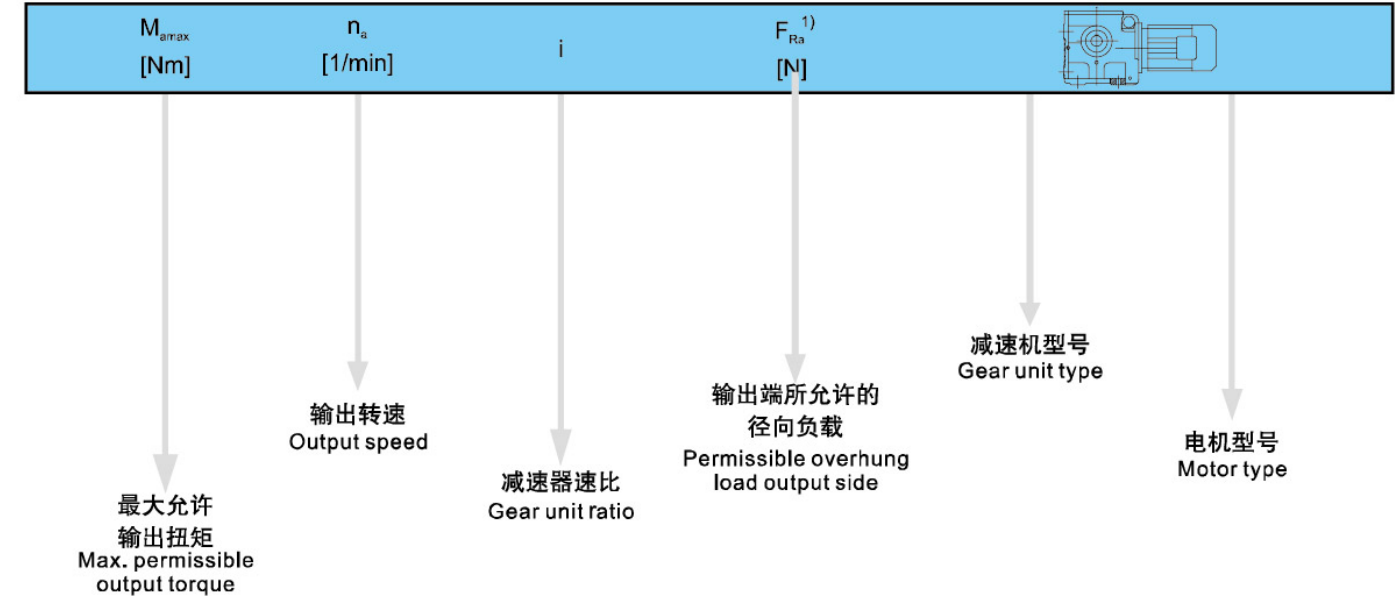
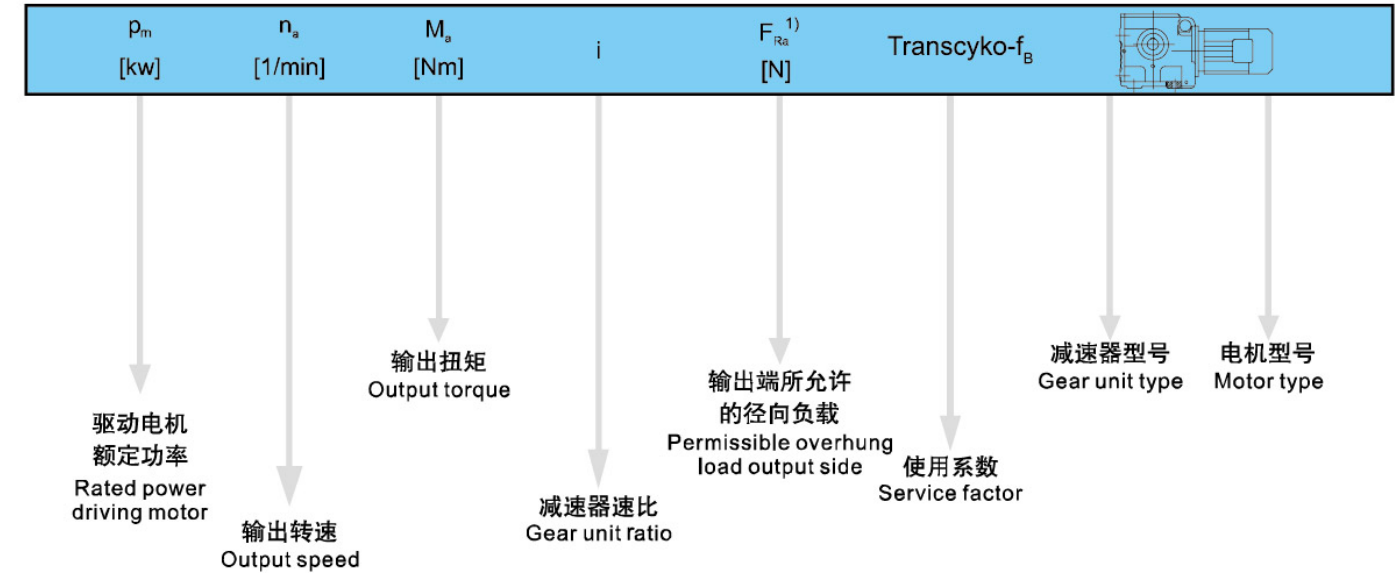
TS87/97R57 $n_e=1400$ 1/min

TS87R57		2500Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
25987	0.05	2500	27500
23940	0.06	2500	27500
20568	0.07	2500	27500
18265	0.08	2500	27500
16774	0.08	2500	27500
14820	0.09	2500	27500
13160	0.11	2500	27500
11200	0.12	2500	27500
9904	0.14	2500	27500
8549	0.16	2500	27500
7643	0.18	2500	27500
6706	0.21	2500	27500
5875	0.24	2500	27500
5187	0.27	2500	27500
4606	0.30	2500	27500
3872	0.36	2500	27500
3475	0.40	2500	27500
2905	0.48	2500	27500
2586	0.54	2500	27500
2335	0.60	2500	27500
2054	0.68	2500	27500
1824	0.77	2500	27500
1631	0.86	2500	27500
1332	1.1	2500	27500
1191	1.2	2500	27500
1032	1.4	2500	27500
930	1.5	2500	27500
831	1.7	2500	27500
719	1.9	2500	27500
624	2.2	2500	27500
558	2.5	2500	27500
485	2.9	2500	27500
435	3.2	2450	27600
378	3.7	2450	27600
323	4.3	2400	27700
281	5.0	2400	27700
255	5.5	1980	28400
222	6.3	1980	28400
205	6.8	1980	28400

TS97R57		4200Nm	
i	n_a [1/min]	M_{amax} [Nm]	F_{Ra} [N]
33818	0.04	4200	34200
31154	0.04	4200	34200
27847	0.05	4200	34200
24641	0.06	4200	34200
21537	0.07	4200	34200
18749	0.07	4200	34200
16233	0.09	4200	34200
14576	0.10	4200	34200
12752	0.11	4200	34200
11267	0.12	4200	34200
10078	0.14	4200	34200
8608	0.16	4200	34200
7554	0.19	4200	34200
6640	0.21	4200	30600
5780	0.24	4200	30600
4937	0.28	4200	30600
4444	0.32	4200	30600
4017	0.35	4200	30600
3453	0.41	4200	30600
3108	0.45	4200	30600
2654	0.53	4200	30600
2329	0.60	4200	30600
2081	0.67	4200	30600
1860	0.75	4200	30600
1574	0.89	4200	30600
1394	1.0	4200	30600
1223	1.1	4200	30600
1070	1.3	4200	30600
928	1.5	4200	30600
824	1.7	4200	30600
714	2.0	4200	34400
626	2.2	4200	30600
538	2.6	4200	30600
484	2.9	4200	30700
420	3.3	4200	30700
376	3.7	4200	30800
327	4.3	4200	30800
287	4.9	4200	30900
252	5.6	4200	31000
219	6.4	4200	31000
205	6.8	4200	31000

8.4 选型表注释
8.4 Selection table

选型表的结构
Selection table geared motors



图例 Cuttine

※ 也可用于 EExe 电机。 ※ EEXE motor is optional.

1) 实心轴底脚安装减速机的径向负荷

1) Overhung load specified for foot – mounted gear unit with solid shaft

注意: Notice:

对于特殊低输出转速驱动 (多级减速电机), 电机功率必须与减速机的最大允许输出扭矩相对应。
In drives for particularly low output speeds (multi – stage geared motors), the motor power must be limited according to maximum permitted output torque of the gear unit.

Table with 7 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes 1.5kW, 2.2kW, and 3.0kW sections.

Table with 7 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes 1.5kW, 2.2kW, and 3.0kW sections.

Table with 7 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes 2.2kW and 3.0kW sections.

Table with 7 columns: Output speed, Output torque, Ratio, Permitted load, Service factor, Model. Includes 3.0kW and 4.0kW sections.

TR

TF

TK

TS

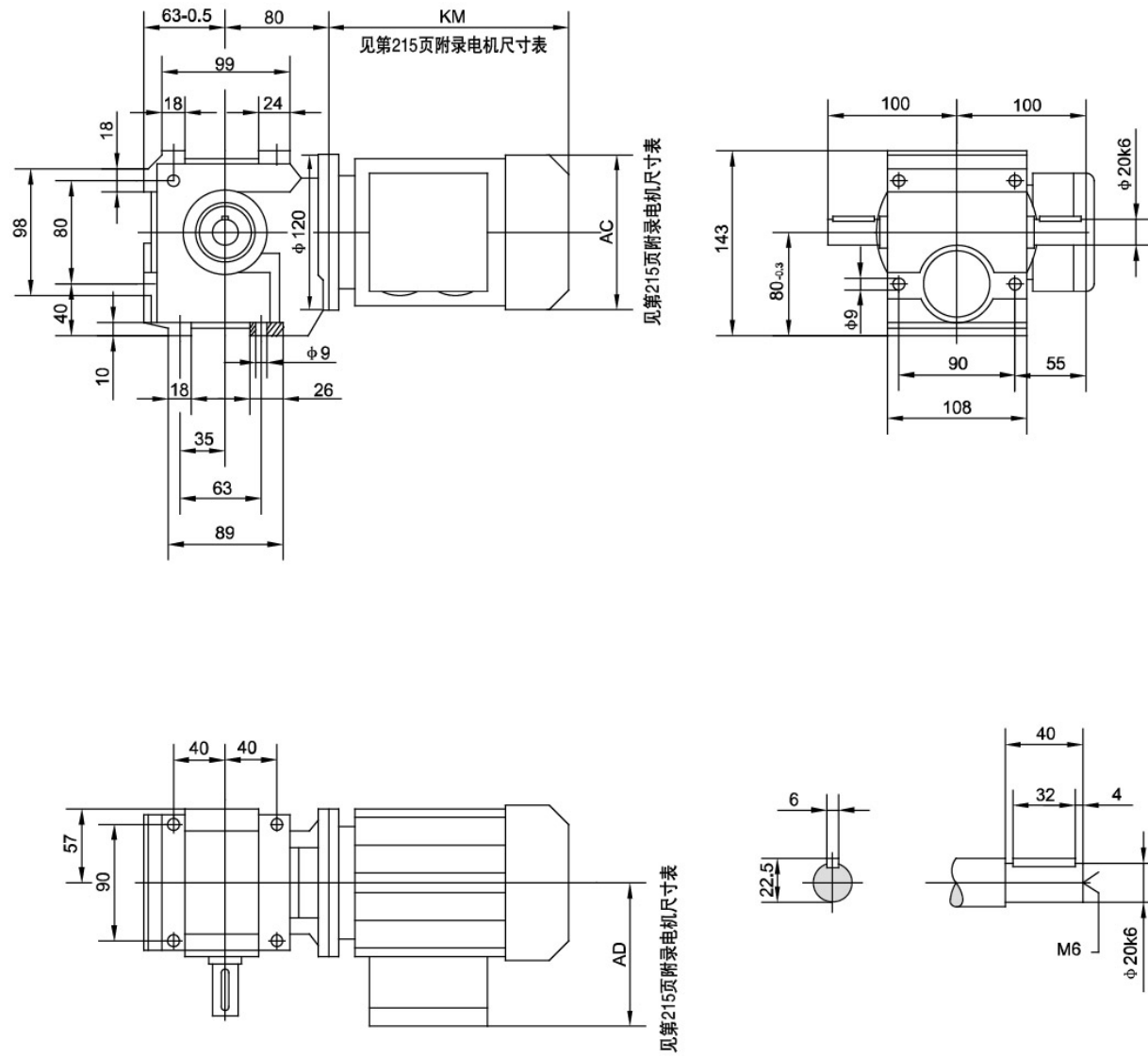
TR

TF

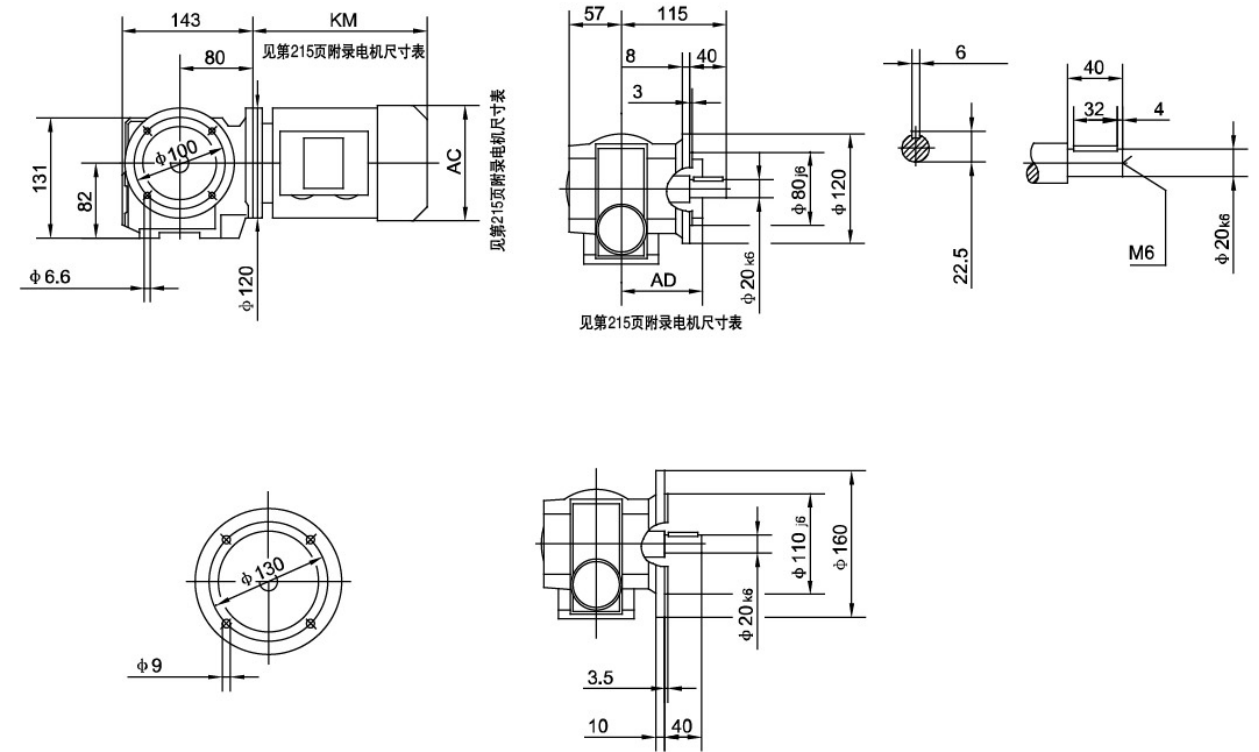
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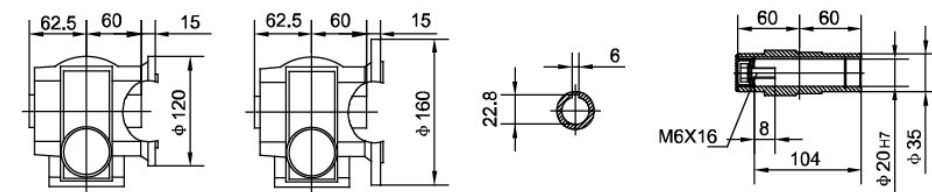
TS37..



TSF37..

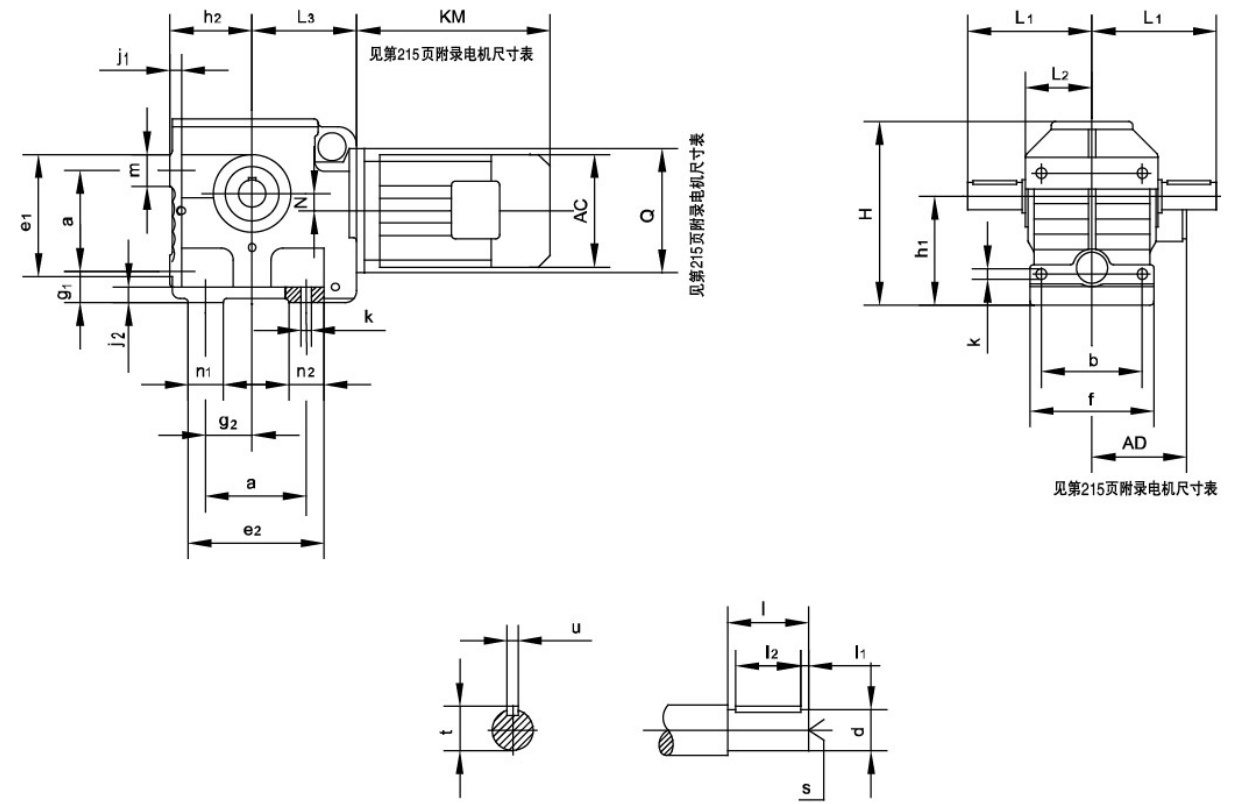
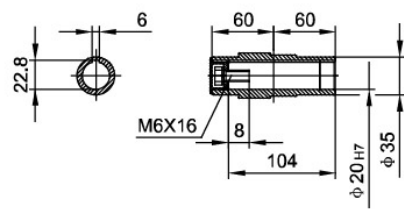
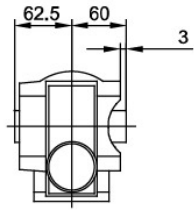
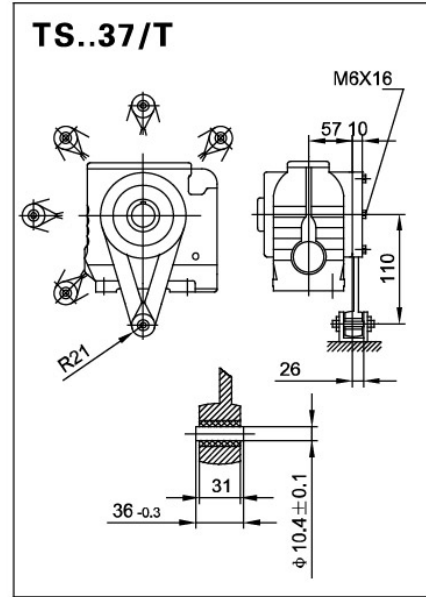
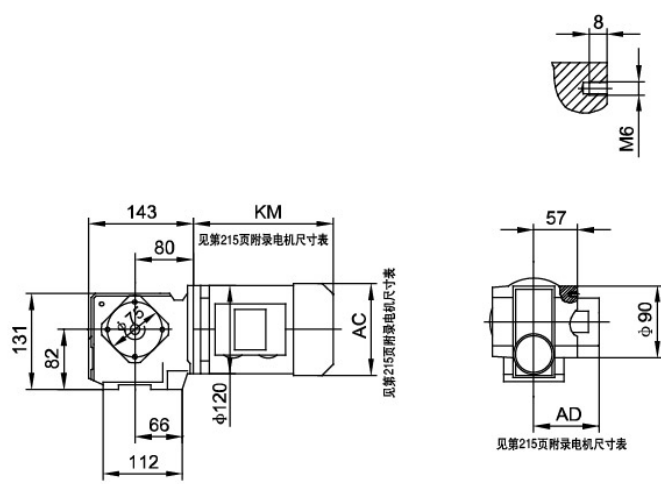


TSAF37..



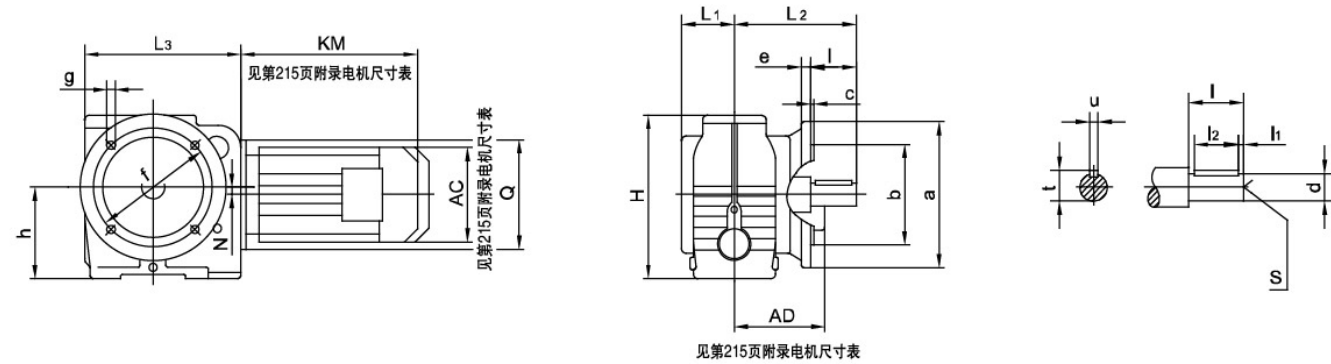
TSA37..

TS47..~S97..

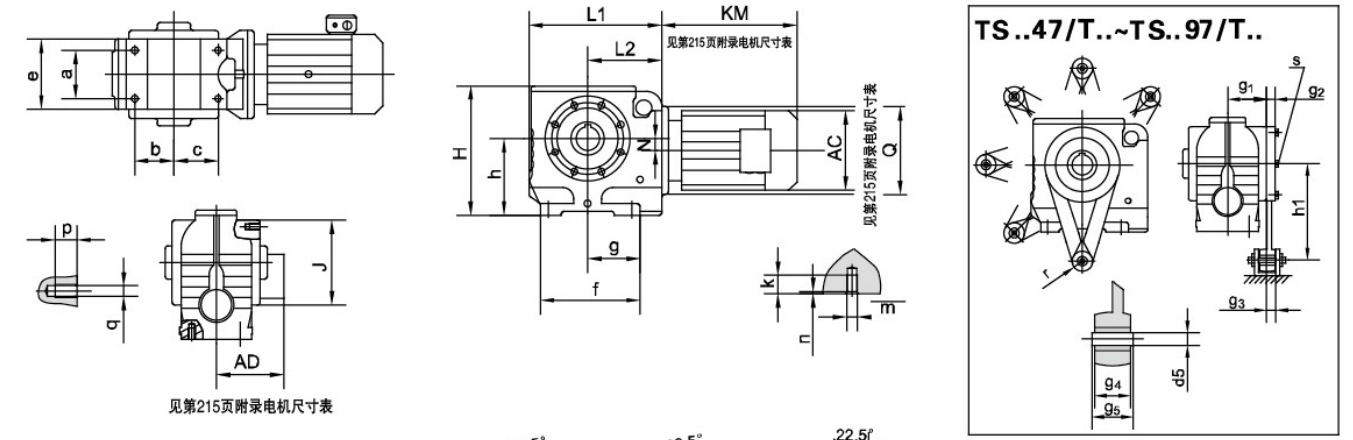


型号 Model	a b	e1 e2 f	g1 g2	h1 h2	j j k	m n1 n2	轴伸尺寸 Shaft dimension				L1 L2 L3	H	N Q
							d l	l1 l2	s	t u			
TS47..	80	105	35	100 _{-0.5}	12	25	25k6	5	M10	28	115	165	8
	100	112	35	75 _{-0.5}	15	30	50	40		8	60		
	120	120	35	75 _{-0.5}	11	30	50	40		8	96		
TS57..	100	130	35	112 _{-0.5}	12	30	30k6	3.5	M10	33	134	189	20
	110	130	45	80 _{-0.5}	15	30	60	50		8	71		
	136	136	45	80 _{-0.5}	11	30	60	50		8	107		
TS67..	130	170	40	140 _{-0.5}	15	40	35k6	7	M12	38	160	236	22
	130	175	60	106 _{-0.5}	20	45	70	56		10	85.5		
	160	160	60	106 _{-0.5}	13.5	45	70	56		10	135		
TS77..	135	177	70	180 _{-0.5}	25	42	45k6	5	M16	48.5	195	301	34
	150	204	75	125 _{-0.5}	25	50	90	80		14	101		
	185	185	75	125 _{-0.5}	17.5	69	90	80		14	162		
TS87..	180	230	82	225 _{-0.5}	30	50	60m6	5	M20	64	255	368	37.5
	200	247	92	150 _{-0.5}	30	60	120	110		18	130		
	250	250	92	150 _{-0.5}	22	67	120	110		18	190		
TS97..	235	295	90	280 ₋₁	35	60	70m6	7.5	M20	74.5	295	455	52
	250	320	115	180 _{-0.5}	35	80	140	125		20	150		
	300	300	115	180 _{-0.5}	26	85	140	125		20	240		

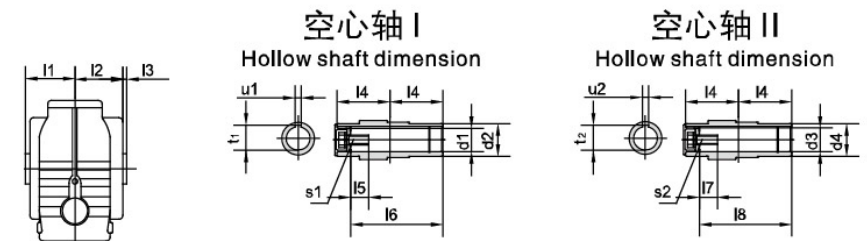
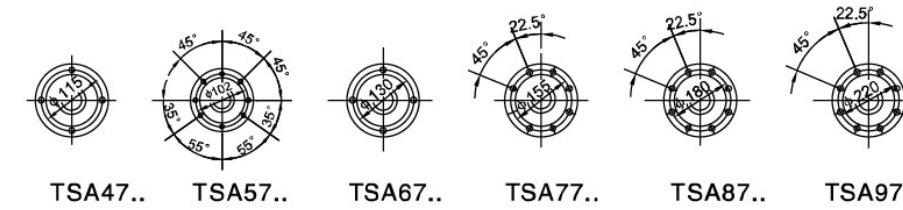
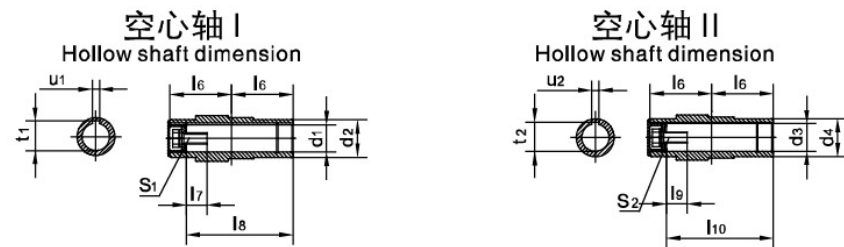
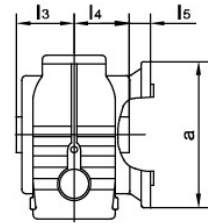
T SF47..~SF97..



TSA47..~TSA97..



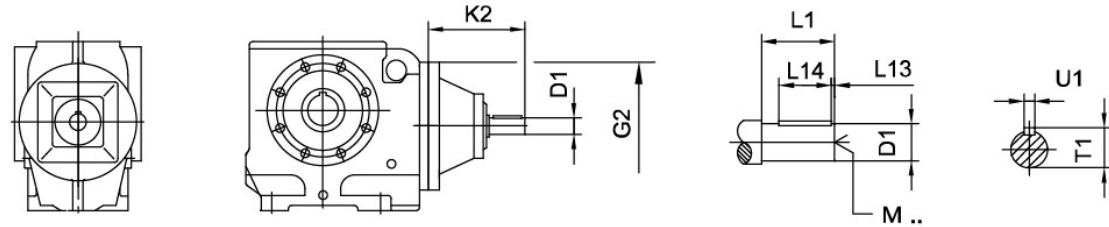
TSAF47..~SAF97..



型号 Model	法兰 型式 flange form	a b	c e	f g h	轴伸尺寸 Shaft dimension			空心轴 I 尺寸 Hollow shaft I dimension				空心轴 II 尺寸 Hollow shaft II dimension				H	L1 L2 L3	N Q		
					d l	l1 l2	s t u	d1 d2	l3 l4 l5	l6 l7 l8	s t u	d3 d4	l9 l10	s2 t2 u2	H				L1 L2 L3	N Q
T SF47.. TSAF47..	Flg.1	160 110j6	3.5 10	130 9 100	25k6 5 40	M10 28 8	30 ^{H7} 45	63 60 24	60 17 105	M10X25 33.3 8	25 ^{H7} 45	17 105	M10X25 28.3 8	179	57.5 133.5 171	8 120				
T SF57.. TSAF57..	Flg.1	200 130j6	3.5 12	165 11 112	30k6 3.5 50	M10 33 8	35 ^{H7} 50	78 75 25	75 22 132	M12X30 38.3 10	30 ^{H7} 50	17 132	M10X25 33.3 8	189	72 160 187	20 120				
T SF67.. TSAF67..	Flg.1	200 130j6	3.5 12	165 11 140	35k6 7 56	M12 38 10	45 ^{H7} 65	87 84 42.5	84 29 144	M16X40 48.8 14	40 ^{H7} 65	29 144	M16X40 43.3 12	236	80.5 190 242	22 160				
T SF77.. TSAF77..	Flg.1	250 180j6	4 15	215 13.5 180	45k6 5 80	M16 48.5 14	60 ^{H7} 80	108 105 45.5	105 37 180	M20X50 64.4 18	50 ^{H7} 80	32 183	M16X45 53.8 14	301	121 232 287	34 200				
T SF87.. TSAF87..	Flg.1	350 250h6	5 18	300 17.5 225	60m6 5 110	M20 64 18	70 ^{H7} 95	128 125 52.5	125 34 220	M20X50 74.9 20	60 ^{H7} 95	36 220	M20X50 64.4 18	368	145 290 340	37.5 250				
T SF97.. TSAF97..	Flg.2	450 350h6	5 22	400 17.5 280	70m6 7.5 125	M20 74.5 20	90 ^{H7} 120	149 145 60	145 41 255	M24X60 95.4 25	70 ^{H7} 120	34 260	M20X50 74.9 20	455	165 340 420	52 300				

型号 Model	a b c	e f g	h	k m h	p q	空心轴 I 尺寸 Hollow shaft I dimension					空心轴 II 尺寸 Hollow shaft II dimension			扭矩臂尺寸 Torque arm form					H L1 L2	N Q
						d1 d2	l1 l2 l3	l4 l5 l6	s1 t1 u1	d3 d4	l7 l8	s2 t2 u2	g1 g2 g3	g4 g5 h1	d5 r s3	H L1 L2	N Q			
																		d1 d2		
TSA47.. TS..47/T..	60 35 52	94 127 67	100	20 M10 4	12 M8	30 ^{H7} 45	63 60 2.5	60 17 105	M10X25 33.3 8	25 ^{H7} 45	17 105	M10X25 28.3 8	57.5 15 20.5	31 36-0.3 130	10.4±0.1 21 M8X25	179 171 96	8 120			
TSA57.. TS..57/T..	60 58.5 58.5	100 146 73	112	20 M10 4	12 M8	35 ^{H7} 50	78 75 3	75 22 132	M12X30 38.3 10	30 ^{H7} 50	17 132	M10X25 33.3 8	72 15 18.5	31 36-0.3 160	10.4±0.1 21 M8X25	189 187 107	20 120			
TSA67.. TS..67/T..	88 71.5 80.5	128 182 95.5	140	25 M12 5	20 M12	45 ^{H7} 65	87 84 3.5	84 29 144	M16X40 48.8 14	40 ^{H7} 65	29 144	M16X40 43.3 12	80.5 18 19.5	31 36-0.3 200	10.4±0.1 21 M12X35	236 242 135	22 160			
TSA77.. TS..77/T..	102 85 85	154 204 104	180	32 M16 6	20 M12	60 ^{H7} 80	108 105 4	105 37 180	M20X50 64.4 18	50 ^{H7} 80	32 183	M16X45 53.8 14	101 18 32.5	54 60-0.3 250	16.4±0.08 30 M12X35	301 287 162	34 200			
TSA87.. TS..87/T..	118 115 110	194 260 125	225	32 M16 6	26 M16	70 ^{H7} 95	128 125 5	125 34 220	M20X50 74.9 20	60 ^{H7} 95	36 220	M20X50 64.4 18	120 24 25.5	54 60-0.5 310	16.4±0.08 30 M16X45	368 340 190	37.5 250			
TSA97.. TS..97/T..	160 135 113	236 301 140	280	36 M20 6	26 M16	90 ^{H7} 120	149 145 5	145 41 255	M24X60 95.4 25	70 ^{H7} 120	34 260	M20X50 74.9 20	140 26 33	72 80-0.5 380	25±0.08 40 M16X50	455 420 240	52 300			

TS..AD..



		G2	K2	D1	L1	L13	L14	T1	U1	M
TS..37 TS..47,S..57	AD1	120	102	16	40	4	32	18	5	M5
	AD2		130	19	40	4	32	21.5	6	M6
TS..67	AD2	160	123	19	40	4	32	21.5	6	M6
	AD3		159	24	50	5	40	27	8	M8
TS..77	AD2	200	116	19	40	4	32	21.5	6	M6
	AD3		151	24	50	5	40	27	8	M8
	AD4		224	38	80	5	70	41	10	M12
TS..87	AD2	250	111	19	40	4	32	21.5	6	M6
	AD3		156	28	60	5	50	31	8	M10
	AD4		219	38	80	5	70	41	10	M12
	AD5		292	42	110	10	70	45	12	M16
TS..97	AD3	300	151	28	60	5	50	31	8	M10
	AD4		214	38	80	5	70	41	10	M12
	AD5		287	42	110	10	70	45	12	M16
	AD6		327	48	110	10	80	51.5	14	M16

TS..AM..

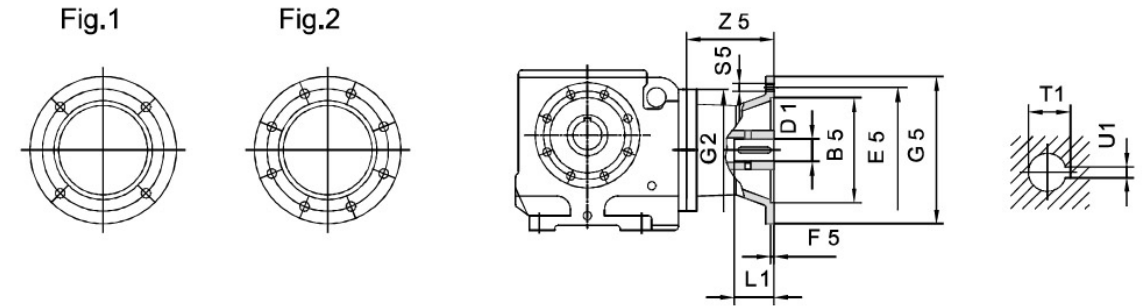
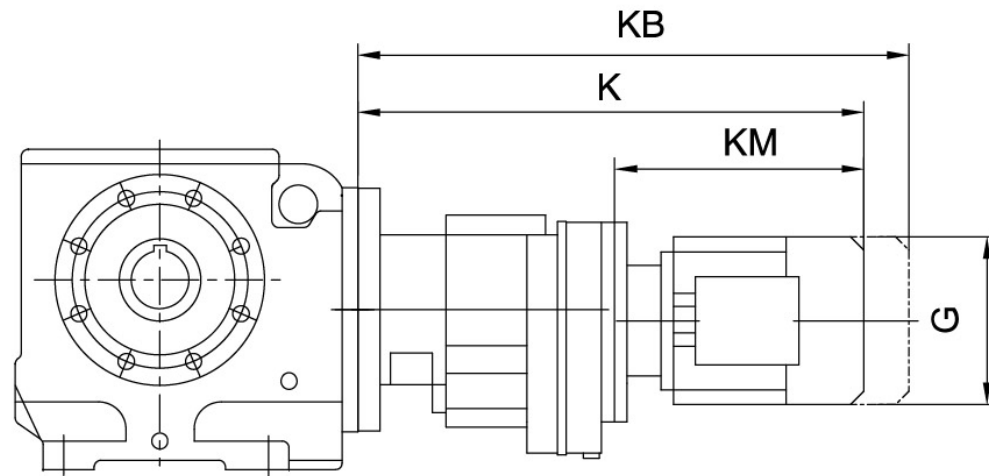


		Fig	B5	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1			
TS..37 TS..47,S..57	AM63	1	95	115	3.5	120	140	M8	72	11	23	12.8	4			
	AM71 ¹⁾		110	130			14			30	16.3	5				
	AM80 ¹⁾		130	165	4.5		200	M10		19	40	21.8	6			
	AM90 ¹⁾						24			50	27.3	8				
TS..67	AM63	1	95	115	3.5	160	140	M8	66	11	23	12.8	4			
	AM71		110	130			14			30	16.3	5				
	AM80		130	165	4.5		200	M10		19	40	21.8	6			
	AM90						24			50	27.3	8				
	AM100 ¹⁾		180	215	5		250	M12		28	60	31.3	8			
	AM112 ¹⁾						134			28	60	31.3	8			
TS..77	AM63	1	95	115	3.5	200	140	M8	60	11	23	12.8	4			
	AM71		110	130			14			30	16.3	5				
	AM80		130	165	4.5		200	M10		19	40	21.8	6			
	AM90						24			50	27.3	8				
	AM100 ¹⁾		180	215	5		250	M12		126	28	60	31.3	8		
	AM112 ¹⁾						179			38	80	41.3	10			
	AM132S ¹⁾		230	265	5		300	M12		174	38	80	41.3	10		
	AM132M ¹⁾															
AM132ML ¹⁾																
TS..87	AM80	1	130	165	4.5	250	200	M10	87	19	40	21.8	6			
	AM90						24			50	27.3	8				
	AM100		180	215	5		250	M12		121	28	60	31.3	8		
	AM112						174			38	80	41.3	10			
	AM132MS		230	265	5		300	M12		174	38	80	41.3	10		
	AM132M															
	AM132ML															
	AM160 ¹⁾		250	300	6		350	M16		232	42	110	45.3	12		
AM180 ¹⁾	48	51.8				14										
TS..97	AM100	1	180	215	5	300	250	M12	116	28	60	31.3	8			
	AM112						169			38	80	41.3	10			
	AM132S		230	265	5		300	M12		169	38	80	41.3	10		
	AM132M															
	AM132ML															
	AM160		250	300	6		350	M16		227	42	110	45.3	12		
	AM180										48		51.8	14		
	AM200 ¹⁾		300	350	7		400	M16		268	55	110	59.3	16		
AM225 ¹⁾	283	60				140			64.4		18					
		2	350	400	7		450									

1) 如果安装在TS系列脚安装方式的减速机伞, 请检查尺寸G5、2, 它可能已突出安装平面。
Dimension G5/2 May protrude past foot mounting surface if mounted on TS foot – mounted gear unit, please check.

TS..R..



		G	K	KB	KM
TS..37R17	Y63..	155	368	425	193
	Y71D	155	369	433	194
	Y80..	155	419	483	244
TS..47R17 TS..57R37	Y63..	155	400	425	193
	Y71D	155	401	433	194
	Y80..	155	451	483	244
TS..67R37	Y63..	155	410	457	235
	Y71D	155	401	465	236
	Y80..	155	451	515	286
	Y90..	155	451	536	286
TS..77R37	Y63..	155	392	449	235
	Y71D	155	393	457	236
	Y80..	155	443	507	286
	Y90..	210	443	528	286
TS..87R57	Y63..	155	445	502	229
	Y71D	155	445	509	229
	Y80..	155	495	559	279
	Y90..	210	495	580	279
	Y100M	210	545	630	329
TS..97R57	Y63..	155	440	497	229
	Y71D	155	440	504	229
	Y80..	155	490	554	279
	Y90..	210	510	595	299
	Y100M	210	540	625	329
	Y100L	210	560	645	349
	Y112M	240	575	655	364

注：上表中电机尺寸为参考尺寸，因空间限制对电机尺寸有严格要求时请向我公司咨询。
Notes: The dimension of motor in the above table is only reference. If you have special require require. pls consult us.

9. 设计和装配注意事项 Important notes of design and mounting

9.1 拆装单键空心轴减速机

9.1 Installation / removal of gear units with hollow shafts and keys

重要提示
Installation

· 在装配过程中一定要使用所供应的润滑剂。它的作用是防止接触腐蚀和便于拆卸。
Always use the supplied NOCO Fluid paste during the assembly procedure. It avoids contact corrosion and easy for disassembly.

· 键的尺寸X是由用户确定，但X必须>DK。
The key dimension X is defined by the customer, however X must be >DK.

安装
Customer shaft

Transcyko 推荐两种方法将用户轴安装到单键空心轴上。
Transcyko recommends two methods for mounting gear unit with hollow shafts and keys onto the input shaft of the driven machine (=customer shaft):

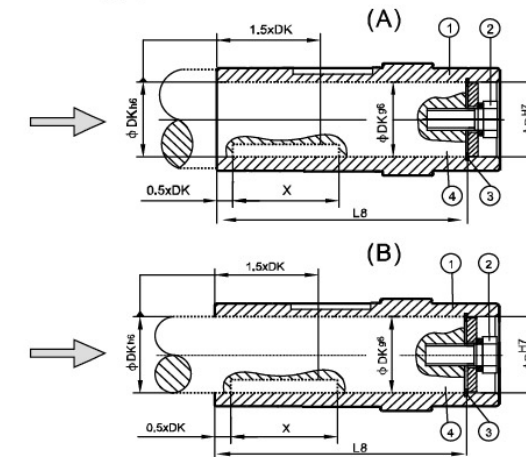
1. 用提供的固定件进行装配
Install with supplied fastening elements
2. 用 Transcyko 可选件: 装卸工具进行装配
Install using the optional TS installation/removal kit

9.1.1 提供的固定件

9.1.1 Supplied fastening elements

Transcyko 标准产品提供下列固定件:
The following fastening elements are supplied as standard:

- 带垫片的紧固螺栓 Retaining screw with washer ①
- 孔用挡圈 Circlip ②



带轴肩的用户轴

用户轴的安装长度必须为L8-1(mm)(图)
Installation length of customer shaft with contact shoulder(A) must be L8 - 1mm

用户轴不带轴肩

安装长度必须等于L8(图)
Installation length of customer shaft with contact shoulder(B) must equal to L8

紧固螺栓要拧紧到MS所示拧紧力矩值
The retaining screw ② must be tightened to the tightening torque MS listed in the following table

- ① 空心轴 Hollow shaft
- ② 带垫片的紧固螺栓 Retaining screw with washer
- ③ 孔用挡圈 Circlip
- ④ 用户轴 Customer shaft

图：空心轴组装示意图(带轴肩的用户轴)

Fig: Customer shaft with contact shoulder(A) and without contact shoulder (B)

减速机型号 Gear unit type	D ^{H7} [mm]	DK[mm]	L8[mm]	MS[Nm]
TSA..37	20	20	84, 106, 104	8
TSA..47	25	25	105	20
TFA..37,TKA..37,TSA..47,TSA..57	30	30	105 132	20
TFA..47,TKA..47,TSA..57	35	35	132	20
TFA..57,TKA..57 TFA..67,TKA..67 TSA..67	40	40	142 156 144	40
TSA..67	45	45	144	40
TFA..77,TKA..77,TSA..77	50	50	183	40
TFA..87,TFA..87, TSA..77,TSA..87,	60	60	210 180,220	80
TFA..97,TFA..97, TSA..87,TSA..97,	70	70	270 220,260	80
TFA..107,TKA..107,TSA..97	90	90	313,313,255	200
TFA..127,TKA..127,	100	100	373	200
TFA..157,TKA..157,	120	120	460	200

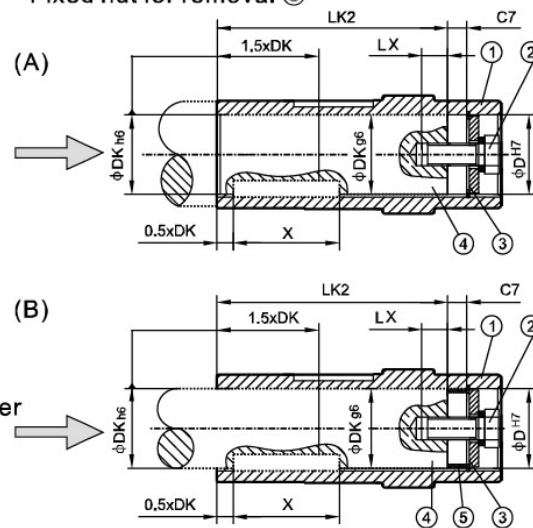
Transcyko 拆装工具
Transcyko installation / removal kit

可使用Transcyko的套件：拆装工具进行装配。可以通过表中给出的零件号订购减速机的拆装工具。Transcyko的拆装工具包含以下零件：

- 对没有轴肩的用户轴装配所用的轴套
- 拆卸用的压盘
- 装配用的紧固螺栓
- 拆卸用的锁母

You can use the optional Transcyko installation/removal kit for installation. The kit can be ordered for the specific gear unit types by quoting the part numbers in the table below. The accessories of the tools include:

- Distance piece for installation without contact shoulder ⑤
- Retaining screw for installation ②
- Removal washer for installation ⑦
- Fixed nut for removal ⑧



带轴肩的用户轴
安装长度LK2【→图A】不使用轴套
The installation length of the customer shaft must be LK2. The distance piece must not be used if the customer shaft does have a contact shoulder (A).

不带轴肩的用户轴
安装长度LK2【→图B】轴套必须使用
The installation length of the customer shaft must be LK2. The distance piece must not be used if the customer shaft does have a contact shoulder (B).

图：带轴肩附用户轴 (A) 和 不带轴肩附用户轴(B)
Fig: Customer shaft with contact shoulder(A)and without contact shoulder (B)

减速器型号 Gear unit type	D ^{H7} [mm]	DK[mm]	LK2[mm]	LX ^{±2} [Nm]	C7[Nm]	MS[Nm]
TSA..37	20	20	92	16	12	8
TSA..47	25	25	89	22	16	20
TFA..37,TKA..37,TSA..47 TSA..57	30	30	89 89,116	22	16	20
TFA..47,TKA..47,TSA..57	35	35	114	28	18	20
TFA..57,TKA..57 TFA..67,TKA..57 TSA..67	40	40	124 138,138,126	36	18	40
TSA..67	45	45	126	36	18	40
TFA..77,TKA..77,TSA..77	50	50	165	36	18	40
TFA..87,TKA..87 TSA..77,TSA..87	60	60	188 158,198	42	22	80
TFA..97,TKA..97 TSA..87,TSA..97	70	70	248 198,238	42	22	80
TFA..107,TKA..107,TSA..97	90	90	287 229	50	26	200
TFA..127,TKA..127	100	100	347	50	26	200
TFA..157,TKA..157	120	120	434	50	26	200

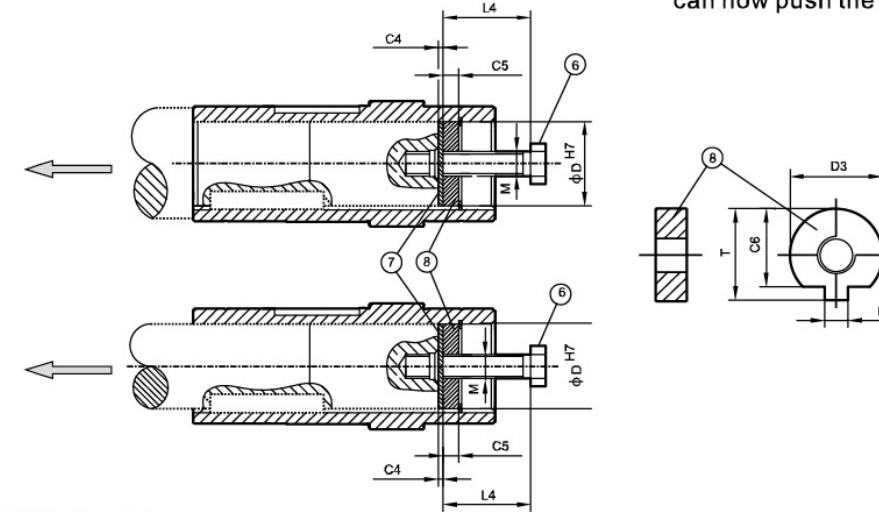
拆卸
Removal

用Transcyko的拆装工具进行装配，须按以下步骤进行拆卸

1. 拆下紧固螺栓⑥
 2. 拆下挡圈③,若使用了轴套⑤也一并拆下
 3. 在用户轴④和挡圈③之间按图13装上压盘⑦和锁母⑧
 4. 重新装上挡圈③
 5. 重新装上紧固螺栓⑥
- 这样就可以把轴拆下来。

Applies prior installation with the Transcyko installation/removal kit only. Proceed as follows for removal:

1. Remove the retaining screw ⑥
2. Remove the Circlip ③ and if used, the distance piece ⑤
3. Insed the removal washer ⑦ and the fixed nut ⑧ between the customer shaft ④ and circlip ③ according to Fig.
4. Re-insert the circlip ③.
5. Re-insert the retaining screw ⑥. You can now push the gear unit off the shaft.



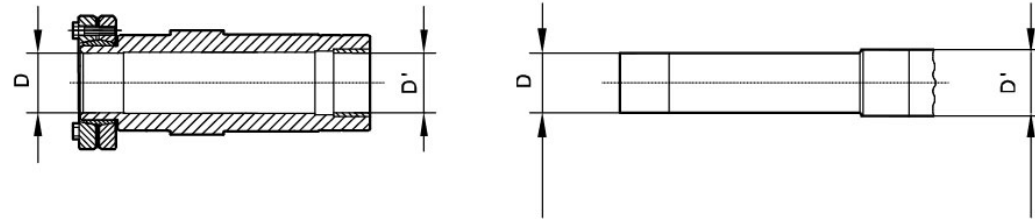
- ⑥ 螺栓 Retaining screw
- ⑦ 压盘 Removal washer
- ⑧ 拆卸用锁母 Fixed nut for removal

图：空心轴拆卸示意图
Fig. Removal

型号 Model	D ^{H7} [mm]	M	C4 [mm]	C5 [mm]	C6 [mm]	U ^{-0.5} [mm]	T3 ^{-0.5} [mm]	D ^{+0.5/-0.4} [mm]	拆装工具零件号 Installation/removal kit part number
TSA..37	20	M6	5	6	15.5	5.5	22.5	19.7	25
TSA..47	25	M10	5	10	20	7.5	28	24.7	35
TFA..37,TKA..37,TSA..57	30	M10	5	10	25	7.5	33	29.7	35
TFA..47,TSA..57	35	M12	5	12	29	9.5	38	34.7	45
TFA..57,TKA..57,TFA..67,TKA..67,TSA..57	40	M16	5	12	34	11.5	41.9	39.7	50
TSA..67	45	M16	5	12	38.5	13.5	48.5	44.7	50
TFA..77,TKA..77,TSA..77	50	M16	5	12	43.5	13.5	53.5	49.7	50
TFA..87,TKA..87,TSA..77,TSA..87	60	M20	5	16	56	17.5	64	59.7	60
TFA..97,TKA..97,TSA..97	70	M20	5	16	65.5	19.5	74.5	69.7	60
TFA..107,TKA..107,TSA..97	90	M24	5	20	80	24.5	95	89.7	70
TFA..127,TKA..127	100	M24	5	20	89	27.5	106	99.7	70
TFA..157,TKA..157	120	M24	5	20	107	31	127	119.7	70

9.2 带轴阶的空心轴和锁紧盘选件
9.2 Shouldered hollow shaft with shrink disk (option)

带空心轴锁紧盘的减速机(TFH/FHF/FHZ37-157)平行轴减速机TKH/KHF/KHZ37-157斜齿轮-锥齿轮减速机和TSH/SHF47-97斜齿轮蜗轮蜗杆减速机, 可提供较大的轴孔直径D'作为选件 D=D'为标准产品
Gear units with a hollow shaft and shrink disk(TFH/FHF/FHZ37-157)parallel shaft helical gear units THK/KHF/KHZ37-157 helical-bevel gear and TSH/SHF47-97 helical-worm gear, can be supplied with an optional larger hole diameter D'
The standard is D' =D.

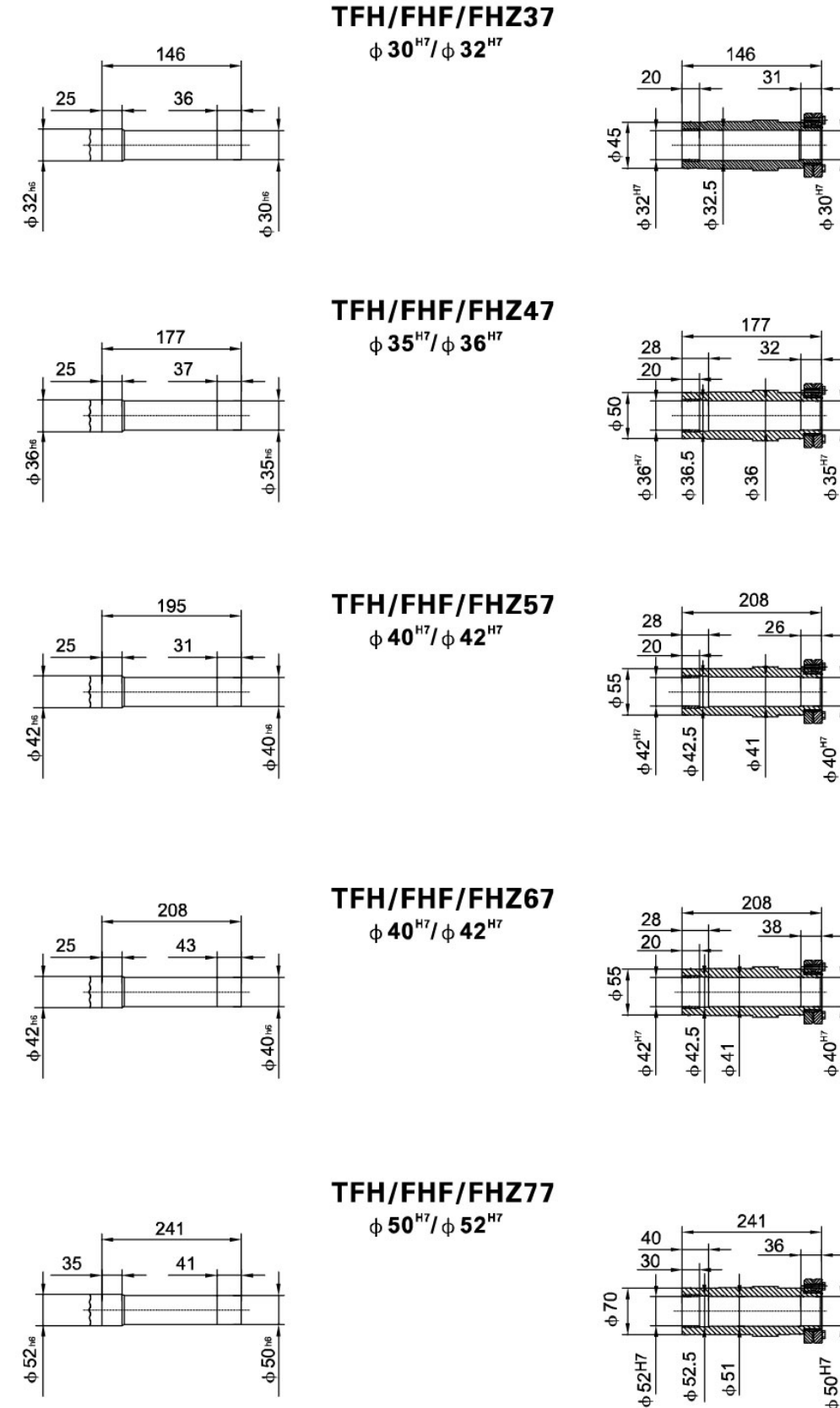


图：选件轴孔直径D'
Fig: Optional hole diameter D'

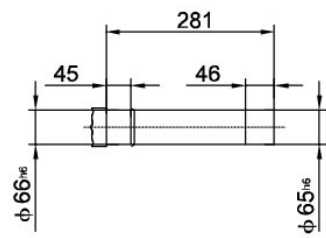
减速器型号 Gear unit size	孔径 D/D'	Hole diameter
TFH/FHF/FHZ37, TKH/KHF/KHZ37, TSH/SHF/SHZ47	30/32	
TFH/FHF/FHZ47, TKH/KHF/KHZ47, TSH/SHF/SHZ57	35/36	
TFH/FHF/FHZ57, TKH/KHF/KHZ57	40/42	
TFH/FHF/FHZ67, TKH/KHF/KHZ67, TSH/SHF/SHZ67	40/42	
TFH/FHF/FHZ77, TKH/KHF/KHZ77, TSH/SHF/SHZ77	50/52	
TFH/FHF/FHZ87, TKH/KHF/KHZ87, TSH/SHF/SHZ87	65/66	
TFH/FHF/FHZ97, TKH/KHF/KHZ97, TSH/SHF/SHZ97	75/76	
TFH/FHF/FHZ107, TKH/KHF/KHZ107	95/96	
TFH/FHF/FHZ127, TKH/KHF/KHZ127	105/106	
TFH/FHF/FHZ157, TKH/KHF/KHZ157	125/126	

订购带轴阶的空心轴减速机(可选轴孔直径D')必须注明D/D'尺寸。
例如: TFH37 D80N4 30/32
Diameter D/D' must be specified when ordering gear units with a shouldered hollow shaft (optional bole diameter D').

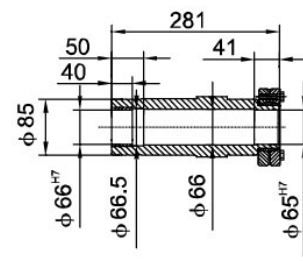
带轴阶空心轴和锁紧盘的平行轴减速电机
Parallel shaft helical gear unit with shouldered hollow shfat



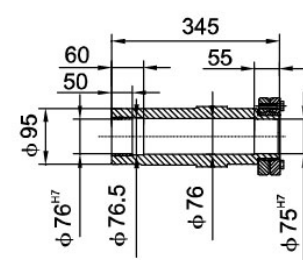
带轴阶空心轴和锁紧盘的斜齿轮—锥齿轮减速电机
Helical – bevel gear unit with shouldered hollow shaft



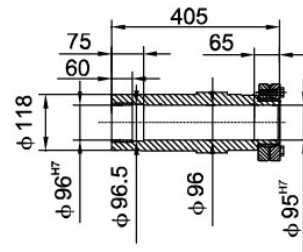
TFH/FHF/FHZ87
φ 65^{H7}/φ 66^{H7}



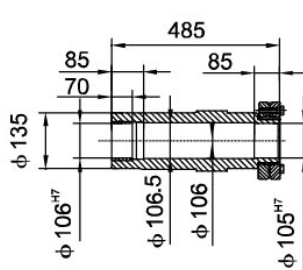
TFH/FHF/FHZ97
φ 75^{H7}/φ 76^{H7}



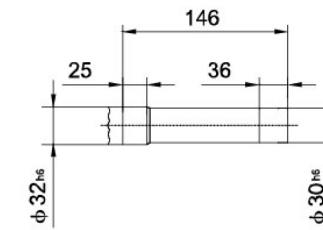
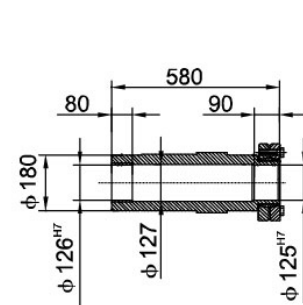
TFH/FHF/FHZ107
φ 95^{H7}/φ 96^{H7}



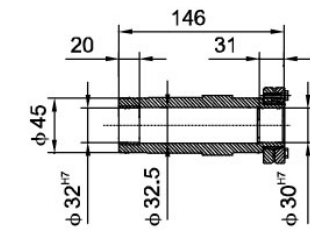
TFH/FHF/FHZ127
φ 105^{H7}/φ 106^{H7}



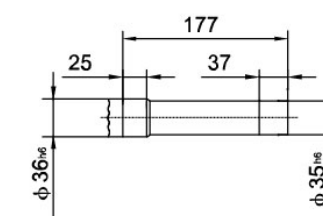
TFH/FHF/FHZ157
φ 125^{H7}/φ 126^{H7}



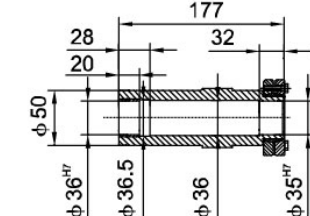
TFH/FHF/FHZ37
φ 30^{H7}/φ 32^{H7}



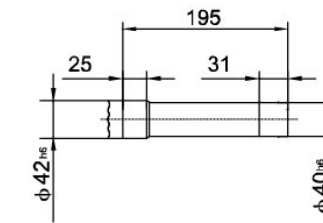
TFH/FHF/FHZ47
φ 35^{H7}/φ 36^{H7}



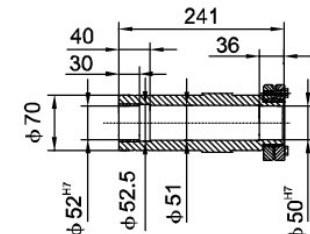
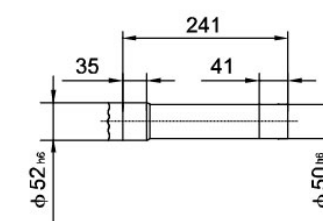
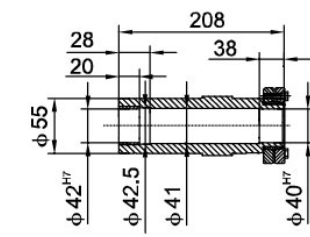
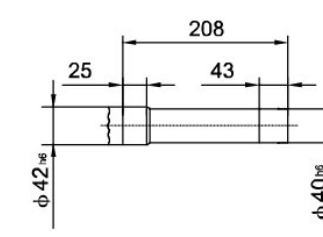
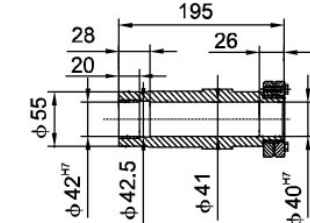
TFH/FHF/FHZ57
φ 40^{H7}/φ 42^{H7}



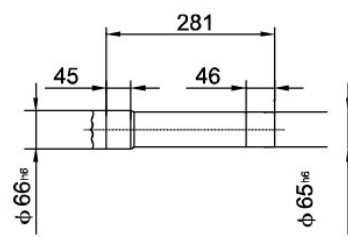
TFH/FHF/FHZ67
φ 40^{H7}/φ 42^{H7}



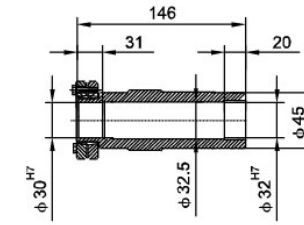
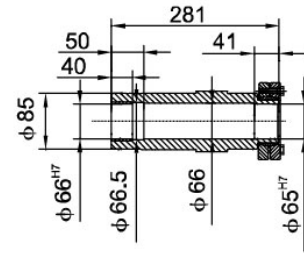
TFH/FHF/FHZ77
φ 50^{H7}/φ 52^{H7}



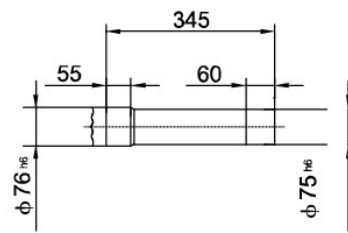
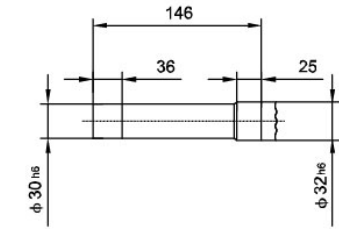
带轴阶空心轴和锁紧盘的斜齿轮—蜗杆减速电机
Helical – worm gear unit with shouldered hollow shaft



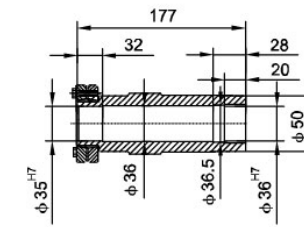
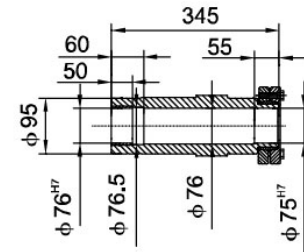
TKH/KHF/KHZ87
 $\phi 65^{H7} / \phi 66^{H7}$



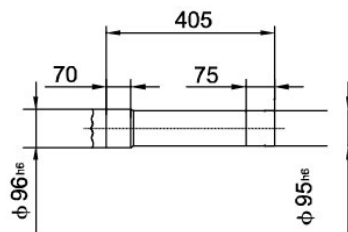
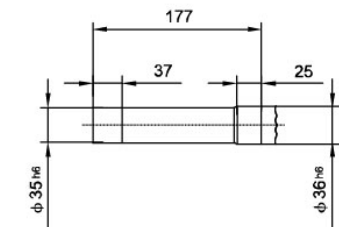
TSH/SHF/SHZ47
 $\phi 30^{H7} / \phi 32^{H7}$



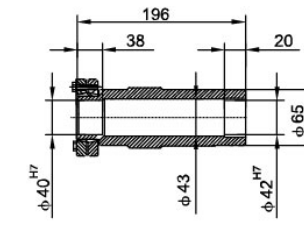
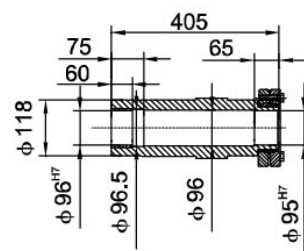
TKH/KHF/KHZ97
 $\phi 75^{H7} / \phi 76^{H7}$



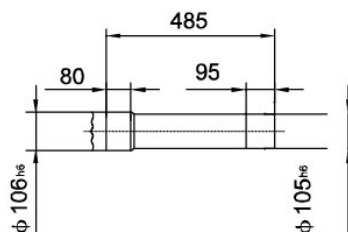
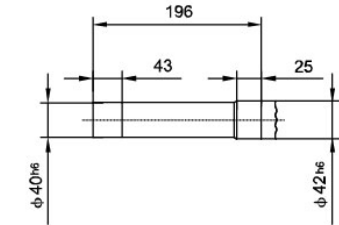
TSH/SHF/SHZ57
 $\phi 35^{H7} / \phi 36^{H7}$



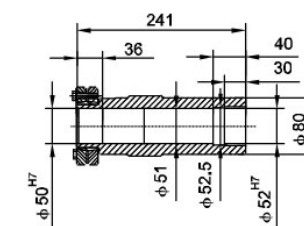
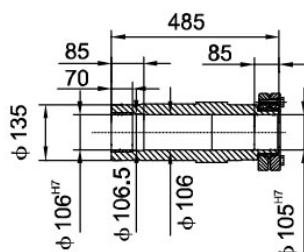
TKH/KHF/KHZ107
 $\phi 95^{H7} / \phi 96^{H7}$



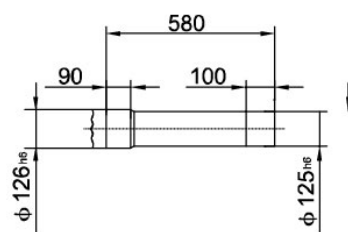
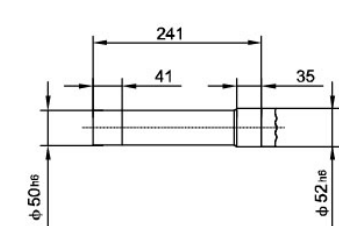
TSH/SHF/SHZ67
 $\phi 40^{H7} / \phi 42^{H7}$



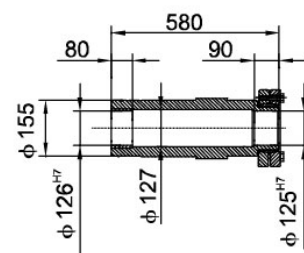
TKH/KHF/KHZ127
 $\phi 105^{H7} / \phi 106^{H7}$



TSH/SHF/SHZ77
 $\phi 50^{H7} / \phi 52^{H7}$



TKH/KHF/KHZ157
 $\phi 125^{H7} / \phi 126^{H7}$



TR

TF

TK

TS

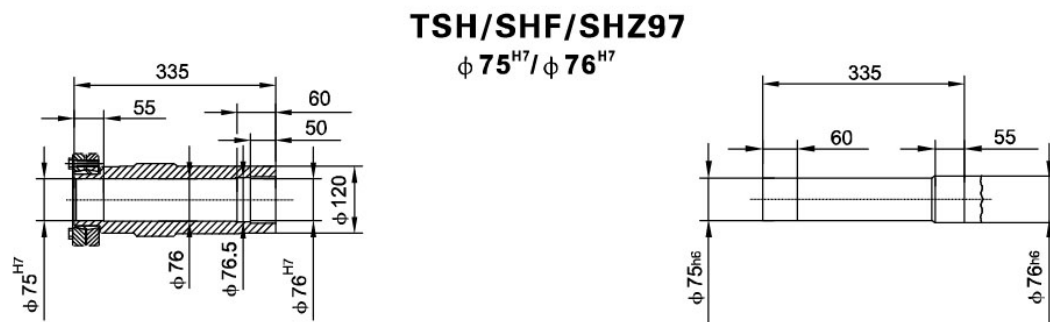
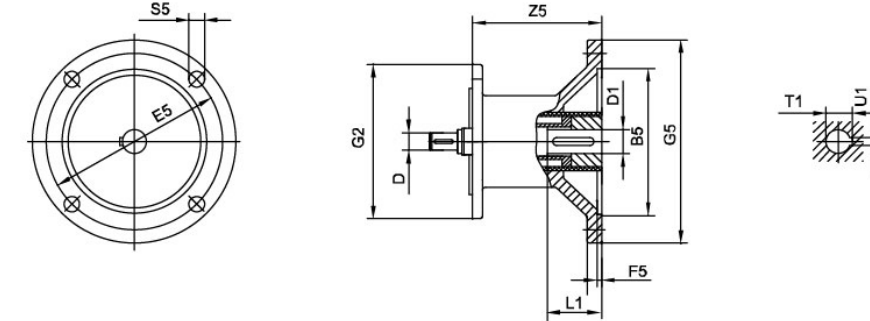
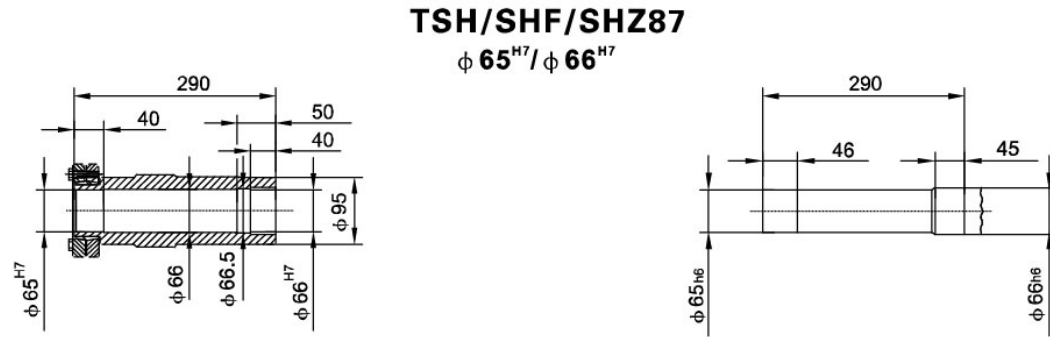
TR

TF

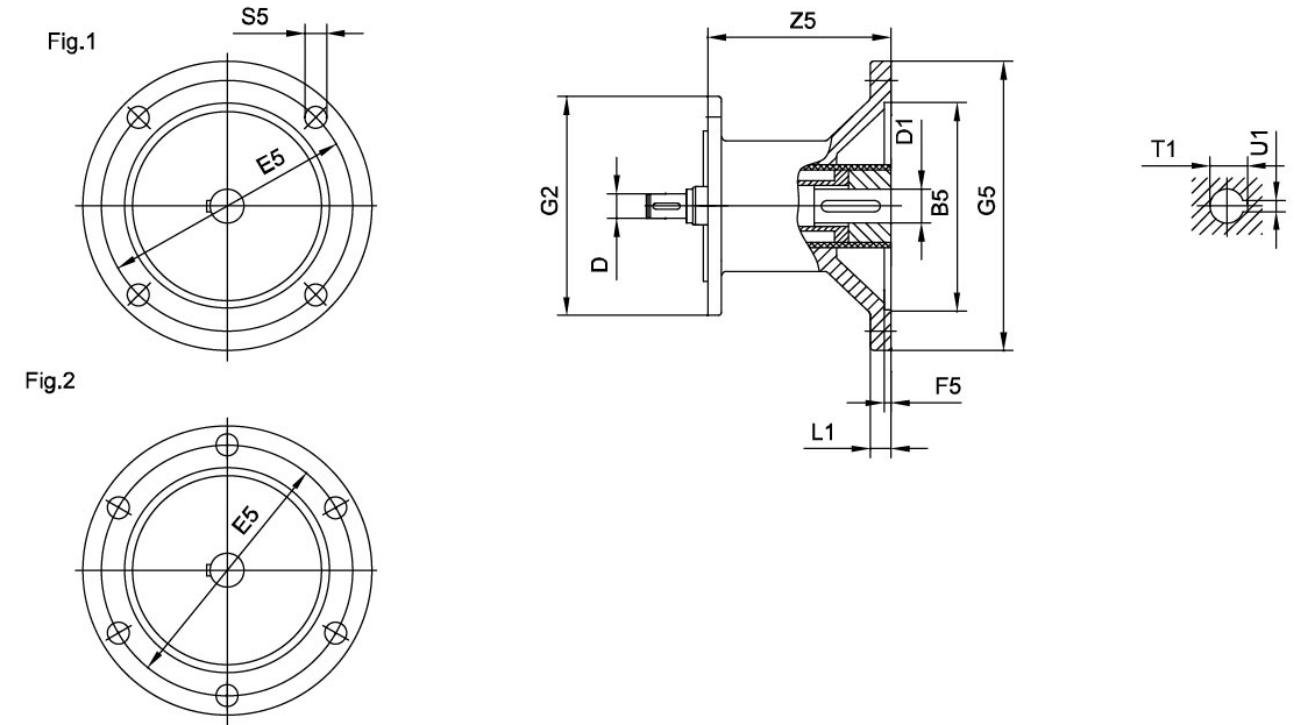
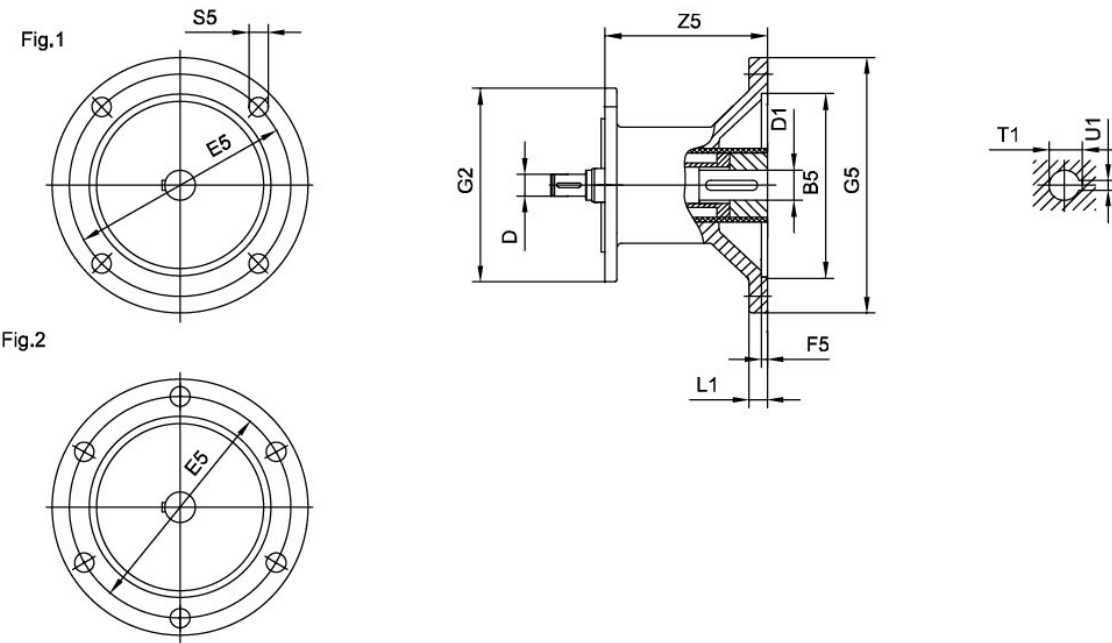
TK

TS

9.3 用于安装IEC标准电机的联轴器
9.3 Coupling for mounting of IEC motors



减速箱规格 Gear unit type	联轴器规格 Coupling type	B5	D	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1
TR..27, TR..37 TF..37, TF..47 TK..37 TS..37, TS..47, TS..57	AM63	95	10	115	3.5	120	140	M8	72	11	23	12.8	4
	AM71 ¹⁾	110		130			160			14	30	16.3	5
	AM80 ¹⁾	130	12	4.5	200		M10	106	19	40	21.8	6	
	AM90 ¹⁾		14		165				24	50	27.3	8	
TR..47, TR..57, TR..67 TF..57, TF..67 TK..47, TK..57, TK..67 TS..67	AM63	95	10	115	3.5	160	140	M8	66	11	23	12.8	4
	AM71	110		130			160			14	30	16.3	5
	AM80	130	12	4.5	200		M10	99	19	40	21.8	6	
	AM90		14		165				24	50	27.3	8	
	AM100 ¹⁾	180	16	5	250		M12	134	28	60	31.3	8	
AM112 ¹⁾	18		215		28	60			31.3	8			
TR..77 TF..77 TK..77 TS..77	AM63	95	10	115	3.5	200	140	M8	60	11	23	12.8	4
	AM71	110		130			160			14	30	16.3	5
	AM80	130	12	4.5	200		M10	92	19	40	21.8	6	
	AM90		14		165				24	50	27.3	8	
	AM100 ¹⁾	180	16	5	250		M12	126	28	60	31.3	8	
	AM112 ¹⁾		18		215				28	60	31.3	8	
	AM132S ¹⁾	230	22	265	5		300	M12	179	38	80	41.3	10
AM132M ¹⁾	28		265			38				80	41.3	10	
AM132ML ¹⁾		28											
TR..87 TF..87 TK..87 TS..87	AM80	130	12	165	4.5	250	200	M10	87	19	40	21.8	6
	AM90		14							200	24	50	27.3
	AM100	180	16	215	5		250	M12	121	28	60	31.3	8
	AM112		18							215	28	60	31.3
	AM132S	230	22	265	5		300	M12	174	38	80	41.3	10
	AM132M		28							265	38	80	41.3
	AM132ML		28										
AM160 ¹⁾	250	28	300	6	350	M16	232	42	110	45.3	12		
AM180 ¹⁾		32						300		48	51.8	14	

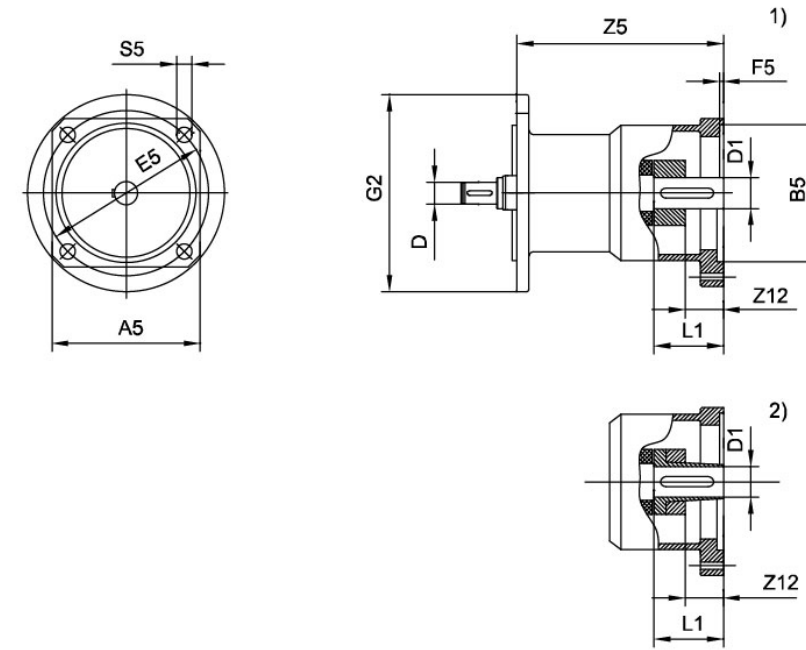
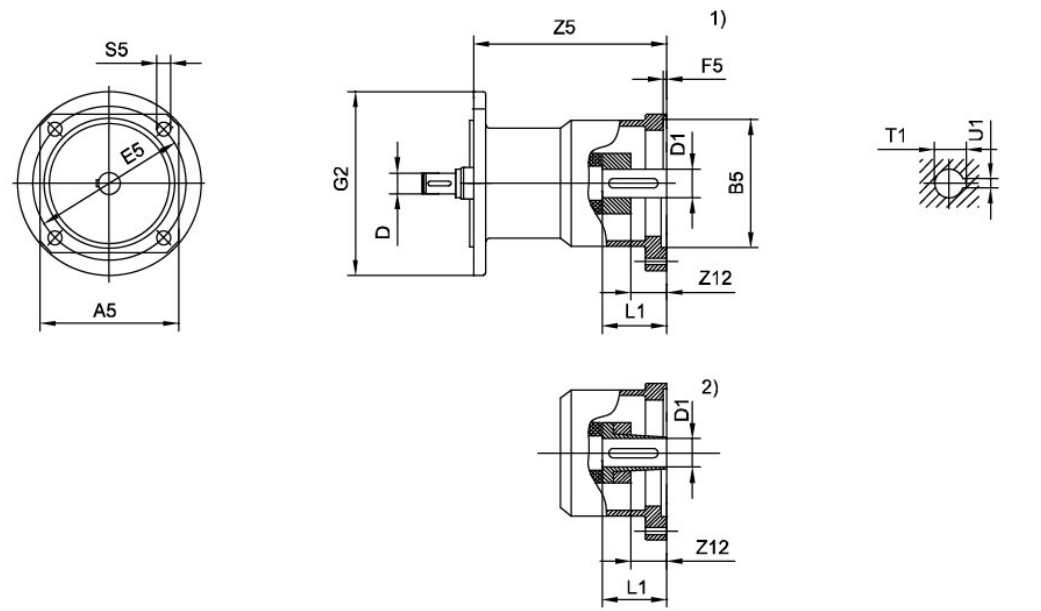


减速箱规格 Gear unit type	联轴器规格 Coupling type	Fig	B5	D	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1		
TR..97 TF..97 TK..97 TS..97	AM100	1	180	16	215	5	300	250	M12	116	28	60	31.3	8		
	AM112			18												
	AM132S AM132M		230	22	265			300		M16	169	38	80	41.3	10	
	AM132ML			28												
	AM160		250	28	300			6		350	M16	227	42	110	45.3	12
	AM180			32												
	AM200		300	38	350			7		400	M16	268	55	59.3	16	
AM225 ¹⁾	2	350	38	400	450	283	60		140	64.4		18				
TR..107 TF..107 TK..107	AM100	1	180	16	215	5	350	250	M12	110	28	60	31.3	8		
	AM112			18												
	AM132S AM132M		230	22	265			300		M12	163	38	80	41.3	10	
	AM132ML			28												
	AM160		250	28	300			6		350	M16	221	42	110	45.3	12
	AM180			32												
	AM200		300	38	350			7		400	M16	262	55	59.3	16	
	AM225		2	350	38					400		450	277			60
TR..137	AM132S AM132M	1	230	22	265	5	400	300	M12	156	38	80	41.3	10		
	AM132ML			28												
	AM160		250	28	300			6		350	M16	214	42	110	45.3	12
	AM180			32												
	AM200		300	38	350			7		400	M16	255	55	59.3	16	
	AM225		2	350	38					400		450	270			60

减速机规格 Gear unit type	联接盘规格 Motor adcopator	Fig.	B5	D	E5	F5	G2	G5	S5	Z5	D1	L1	T1	U1	
TR..147 TF..127 TK..127	AM132S AM132M	1	230	22	265	5	450	300	M12	148	38	80	41.3	10	
	AM132ML			28											
	AM160			28											
	TR..167 TF..157 TK..157 TK..167 TK..187	AM180	1	250	32	300	6	550	350	M16	198	42	110	45.3	12
		AM200			38										
		AM225	2	350	38	400	7	550	M16	254	60	140	64.4	18	
		AM250			65										
AM280		75													

1) 如果安装在TR,TK和TS系列地脚安装方式的减速机上,请检查尺寸G5/2,它可能已突出安装平面。
Dimension 1/2 G5 may protrude past foot mounting surface if mounted on TR, TK or TS foot-mounted gear unit, Please check.

9.4 用于安装伺服电机的联轴器
9.4 Adapter for mounting of servomotors

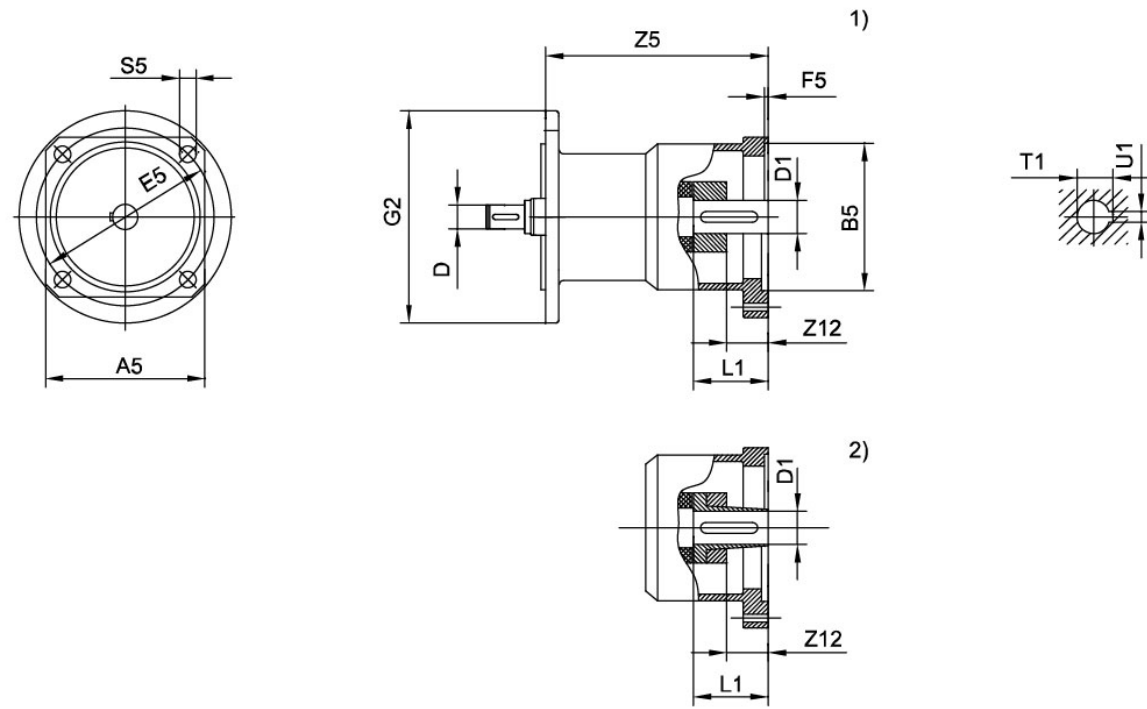


减速机规格 Gear unit type	联接盘规格 Motor adcopator	A5	B5	D	E5	F5	G2	S5	Z5	Z12 ¹⁾	Z12 ²⁾	D1	L1	T1 ¹⁾	U1 ¹⁾		
TR..27 TR..37 TF..37 TF..47 TK..37 TS..37 TS..47 TS..57	AQ..80/1	82	60	10 12	75 95	3	-	-	-	104.5	5.5	5.5	11	23	12.8	4	
	AQ..80/2																
	AQ..80/3																
	TR..47 TR..57 TR..67 TF..57 TF..67 TK..47 TK..57 TK..67 TS..67	AQ..100/1	100	80	10 12	100 115	4	120	-	-	129.5	-	-	14	30	16.3	5
		AQ..100/2															
		AQ..100/3															
		AQ..100/4															
	TR..47 TR..57 TR..67 TF..57 TF..67 TK..47 TK..57 TK..67 TS..67	AQ..115/1	115	95	16	130	4	-	-	-	143.5	7	14	19	40	21.8	6
		AQ..115/2															
		AQ..115/3															
AQ..140/1		140	110	16	165	5	-	-	-	175	21	16	24	50	27.3	8	
AQ..140/2																	
AQ..140/3																	

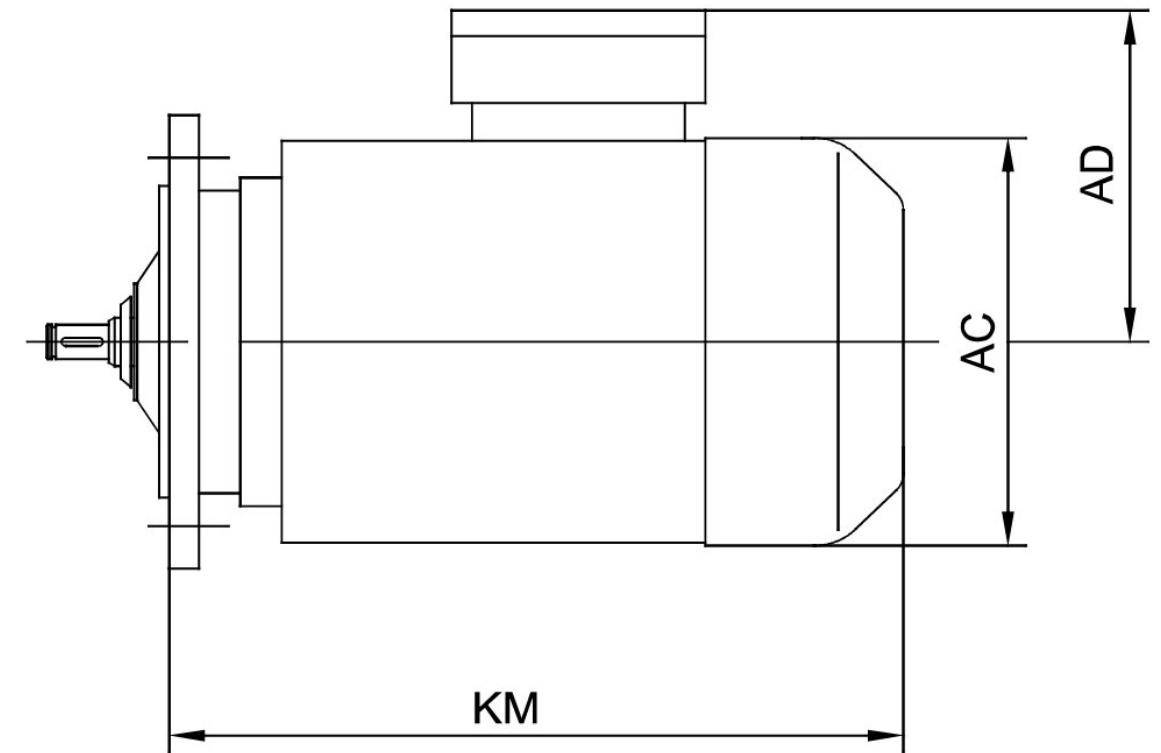
1)适用于键连接(AQA..) 1)Applies to type with key way (AQA..)
2)适用于锁紧套连接(AQH..) 2)Applies to type with clamping ring hub(AQH..)

减速机规格 Gear unit type	联轴器规格 Coupling type	A5	B5	D	E5	F5	G2	S5	Z5	Z12 ¹⁾	Z12 ²⁾	D1	L1	T1 ¹⁾	U1 ¹⁾		
TR..77 TF..77 TK..77 TS..77	AQ..80/1	82	60	10 12	75 75 95	3	-	-	-	104.5	5.5	5.5	11	23	12.8	4	
	AQ..80/2																
	AQ..80/3																
	TR..47 TR..57 TR..67 TF..57 TF..67 TK..47 TK..57 TK..67 TS..67	AQ..100/1	100	80	10 12	100 115 100 115	4	120	-	-	129.5	-	-	14	30	16.3	5
		AQ..100/2															
		AQ..100/3															
		AQ..100/4															
	TR..47 TR..57 TR..67 TF..57 TF..67 TK..47 TK..57 TK..67 TS..67	AQ..115/1	115	95	16	130	4	-	-	-	143.5	7	14	19	40	21.8	6
		AQ..115/2															
		AQ..115/3															
		AQ..140/1	140	110	16	165	5	-	-	-	175	21	16	24	50	27.3	8
	AQ..140/2																
	AQ..140/3																
	TR..87 TF..87 TK..87 TS..87	AQ..100/1	100	80	10 12	100 115 100 115	4	120	-	-	129.5	-	-	14	30	16.3	5
		AQ..100/2															
		AQ..100/3															
		AQ..100/4															
		TR..47 TR..57 TR..67 TF..57 TF..67 TK..47 TK..57 TK..67 TS..67	AQ..115/1	115	95	16	130	4	-	-	-	143.5	7	14	19	40	21.8
AQ..115/2																	
AQ..115/3																	
AQ..140/1			140	110	16	165	5	-	-	-	175	21	16	24	50	27.3	8
AQ..140/2																	
AQ..140/3																	
TR..47 TR..57 TR..67 TF..57 TF..67 TK..47 TK..57 TK..67 TS..67		AQ..190/1	190	130	22 28	215	5	-	-	-	188	24	22	32	60	35.5	10
		AQ..190/2															
	AQ..190/3																

1)适用于键连接(AQA..) 1)Applies to type with key way (AQA..)
2)适用于锁紧套连接(AQH..) 2)Applies to type with clamping ring hub (AQH..)



9.5 电机尺寸图
9.5 The size of motor



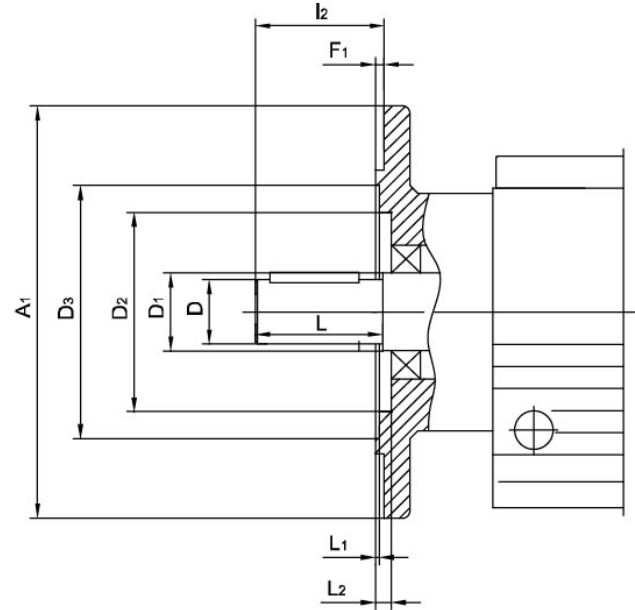
减速箱规格 Gear unit type	联轴器规格 Coupling type	A5	B5	D	E5	F5	G2	S5	Z5	Z12 ¹⁾	Z12 ²⁾	D1	L1	T1	U1				
TR..97 TF..97 TK..97 TS..97	AQ..140/1	140	110	16	165	5	300	M10	157	21	16	24	50	27.3	8				
	AQ..140/2		18	22					32	60	35.3	10							
	AQ..140/3		130	22					28	38	80	41.3							
	AQ..190/1	190	130	22				28	38	80	41.3								
	AQ..190/2		180	22				28	38	80	41.3								
	AQ..190/3		180	22				28	38	80	41.3								
TR..107 TF..107 TK..107	AQ..140/1	140	110	16	165		5	350	M10	151	21	16	24	50	27.3	8			
	AQ..140/2		18	22						32	60	35.3	10						
	AQ..140/3		130	22						28	38	80	41.3						
	AQ..190/1	190	130	22					28	38	80	41.3							
	AQ..190/2		180	22					28	38	80	41.3							
	AQ..190/3		180	22					28	38	80	41.3							
TR..137	AQ..190/1	190	130	22	215	5		400	M12	202.5	-	25	32	60	35.3	10			
	AQ..190/2		180	22						28	38	80	41.3						
	AQ..190/3		180	22						28	38	80	41.3						
TR..147 TF..127 TK..127	AQ..190/1	190	130	22				215	5	450	M12	194.5	26	24	32		60	35.3	10
	AQ..190/2		180	22								28	38	80	41.3				
	AQ..190/3		180	22								28	38	80	41.3				
	AQ..190/3		180	22	28		38					80	41.3						

1)适用于键连接(AQA..) 1)Applies to type with key way (AQA)
2)适用于锁紧套连接(AQH..) 2)Applies to type with clamping ring hub (AQH..)

型号	Y63M	Y71M	Y80M	Y90S Y90L	Y100L	Y112M	Y132S Y132L	Y160M Y160L	Y180M Y180L	Y200L	Y225S Y225M	Y250M	Y280S Y280M	Y315S Y315M
AC	130	145	175	195	215	240	275	330	380	420	470	510	580	612
AD	70	80	145	155	180	190	210	255	280	305	335	370	400	430
KM	250	280	320	342 367	400	408	473 513	560 615	645 685	710	724 754	810	895 945	1010 1065

注：上表中的电机尺寸为部分铁心长度电机的参考尺寸，具体尺寸根据铁心长度与联接法兰尺寸确定，因空间限制对电机尺寸有要求时请向我公司咨询。
Notice: The data in the above table is only for reference. If you have any special requirements, please contact us.

9.6 TRF..和 TR..F 减速电机法兰外形图
9.6 Flange contours of TRF and TR..F gear units



选择和安装输出零件时请注意L1和L2尺寸
Check dimensions L1 and L2 for selection and installation of output elements

规格 Type	A1	D	D1	D2		D3	F1	12	L	L1		L2
				TRF	TR..F					TRF	TR..F	
TRF17,TR17F	120	20	25	46	46	65	3	40	40	1	1	5
	140				-	78	3			1	-	5
TRF27,TR27F	120	25	30	54	4	66	3	50	50	1	1	6
	140				-	79	3			3	-	7
	160				-	92	3.5			3	-	7
TRF37,TR37F	120	25	35	60	63	70	3	50	50	5	4	7
	160				-	96	3.5			1	-	7.5
	200				-	119	3.5			1	-	7.5
TRF47,TR47F	140	30	35	72	64	82	3	60	60	4	1	6
	160				-	96	3.5			0.5	-	6.5
	200				-	116	3.5			0.5	-	6.5
TRF57,TR57F	160	35	40	76	75	96	3.5	70	70	4	2.5	5
	200				-	116	3.5			0	-	5
	250				-	160	4			0.5	-	5.5
TRF67,TR67F	200	35	50	90	90	118	3.5	70	70	2	4	7
	250				-	160	4			1	-	7.5
TRF77,TR77F	250	40	52	112	100	160	4	80	80	0.5	2.5	7
	300				-	210	4			0.5	-	7
TRF87,TR87F	300	50	62	123	122	210	4	100	100	0	1.5	8
	350				-	226	5			1	-	9
TRF97	350	60	72	136	236	320	5	120	120	0	-	9
	450				-	-	-			-	-	-
TRF107	350	70	82	157	232	316	5	140	140	0	-	11
	450				-	-	-			-	-	-
TRF137	450	90	108	180	316	416	5	170	170	0	-	10
	550				-	-	-			-	-	-
TRF147	450	110	125	210	316	416	5	210	210	0	-	10
	550				-	-	-			-	-	-
TRF167	550	120	145	290	416	517	5	210	210	1	-	10
	660				-	-	-			-	-	2

9.7 减速机安装
9.7 Gear unit mounting

安装减速机和减速电机时一定要使用8.8级螺栓
Always use bolts quality 8.8 for mounting gear units and geared motors.

例外
Exception

当传递样本上所给定的额定扭矩时，下面几种法兰安装(TRF..)和地脚/法兰安装(TR..F)的斜齿轮减速机，法兰和用户安装单元固定时一定要用10.9级的螺栓。

- TRF37和带 φ 120mm 法兰的TRF37
- TRF47和带 φ 140mm 法兰的TRF47
- TRF57和带 φ 160mm 法兰的TRF57

Bolts of quality 10.9 must be used for fastening the flange to the customer supplied unit in order to transmit the rated torque specified in the catalog. These bolts must be used in case following flange – mounted helical geared motors (TRF..) and foot/flange – mounted helical geared motors(TR..F..):

- TRF37,TR37F with flange φ 120mm
- TRF47,TR47F with flange φ 140mm
- TRF57,TR57F with flange φ 160mm

TKH167.., KH187..
的力矩臂
Torque arms for
TKH167..,TKH187..

对于减速电机TKH167..和TKH187..作为标准配置，一般不提供扭矩臂。如果需要，请和Transcyko 联系，我们将给出推荐的安装位置和尺寸图。
As standard, there are no torque arms available for gear unit sizes TKH167.. and TKH187. Please contact Transcyko if you require torque arms for these gear units. We will submit The configuration of recommendations.

9.8 润滑
9.8 Lubricants

概述
General information

除非特别要求, Transcyko 所提供的减速机均按其减速机规格注了油。订货时, 所规定的安装位置对注油量的多少是一个决定性因素。对于安装位置的调整必须相应地调节注油量。(按220页注油量表)。Un less there is a special requirement, Transcyko always supplies the drives that with lubricant fill specifically for the reducer and mounting position. When ordering a drive, the decisve factor of lubricant fill qwantites is the drives mounting position. You must adapt the lubricant fill to any subsequent change made to the mounting position check P220 for the (Lubricant fill quantities)

Transcyko 推荐使用的润滑油见P219页润滑油表,其等级和粘度指标见下表
Transcyko commend the lubricant oil in P219. The grade and conglutination index in the following.

DIN(ISO,SAE)标准润滑油 Normal lubricating	粘度指标 conglutination index	环境温度°C Ambient temperature	减速机型号 Gear unit type
Mineral oil CLp(cc)	ISOVG 220	-10~+40	TR系列, TF系列 TK系列减速机
	ISOVG 680	0~+40	TS系列减速机

特殊应用场合必须使用特殊润滑油, 比如要求长使用寿命润滑油。若需要可提供用于食品行业和生物降解润滑油。

The special lubricante oil. must be used in special situation. For example requesting use the oil with long life–span. If you want, we can afford the biology decompose oil for food industry.

DIN(ISO,SAE)标准润滑油 Normal lubricating	粘度指标 conglutination index	环境温度°C Ambient temperature	减速机型号 Gear unit type
Mineral oil CLP(CC)	ISOVG 100	-20~+25	TR系列, TF系列 TK系列减速机
Synthetic fluid, clp pg	ISOVG 220	-25~+80	TR系列, TF系列 TK系列减速机
Synthetic fluid ,CLP HC	ISOVG 460	-30~+80	TS系列减速机

下列润滑油用于减速机和电机的耐磨轴承润滑

DIN(ISO,SAE)标准润滑油 Normal lubricating	环境温度°C Ambient temperature	减速机型号 Gear unit type
矿物轴承润滑脂K32N/K2K mineral bearing lubricating lipin K32N/K2K	-30~+60	正常型式: 减速机、电机 Normal type: motor reducer
合成轴承润滑脂KHC 2R-40 synthetic bearing lubricating lipin K2R-40	-40~+80	减速机加注合成润滑油 Reducers need to inject the synthetic lubricant
矿物轴承润滑脂K3N-30 mineral bearing lubricating lipin K3N-30	-25~+80	特殊型式: 按应用场合确定的电机 Special type: select the motor in different situation
合成轴承润滑脂K2S-50 synthetic bearing lubricating lipin K2S-50	-45~-25	特殊型式: 按应用场合确定的电机 Special type: select the motor in different situation

润滑油的等级
和粘度类型
Lubricating
conglutination

耐磨轴承
用润滑油
Anti-friction
bearing
greases

Transcyko 传动装置润滑油表
Lubricant table

减速机型号 Gear unit type	环境温度 Ambient temperature 0°C +50 +100	润滑油 类型 DIN (ISO)	ISO粘度与 NI,GIH相应	品牌	品牌	品牌	品牌	品牌	品牌	品牌			
R, F, K	-10	标准	VG 220	Mobilgear 630	Shell Omala 220	Kubersynth GEM 1-125	Aral Degol Bg220	BP Energol GR-Xp220	Tribol 1100/220	Meropa 220	Optigear Bm220	Renolin CLP 220	
	-25		VG 220	Mobil Glygoyle 30	Shell Tivela WB	Kubersynth GH 6-220	Aral Degol Gs220	BP Energol SR-Xp220	Tribol 800/220	Synlube CLP 220	Optiflex A 220		
	-40		VG 220	Mobil SHC 630	Shell Omala 220 HD	Kubersynth GEM 4-220	Aral Degol PAS220		Tribol 1510/200	Pinnacle Ep220	Optigear Synthetic A 220	Renolin Unrsyn CLP 220	
	-40		VG 150	Mobil SHC 629	Kubersynth GEM 4-150	Kubersynth GEM 1-68	Aral Degol Bg 46						
	-20	+25	VG 150	Mobilgear 629	Shell Omala 100	Kuberoil GEM 1-150	Aral Degol Bg 100	BP Energol GR-Xp100	Tribol 1100/100	Meropa 150	Optigear Bm 100	Renolin CLP 150	
	-30	+10	VG 68-46	Mobil D.T.E 15M	Shell Tellus T32	Kuberoil GEM 4-32	Aral Degol Bg 46		Tribol 1100/68	Anubia EP 46	Optigear 32	Renolin B 46 HVI	
	-40	+10	VG 32	Mobil SHC 624		Kubersynth GEM 4-32				Cetus PAO 46			
	-40	+10	VG 22	Mobil D.T.E 11M	Shell Tellus T15	ISOFLEX MT 30 ROT				Aircraft Hyd.Oil 15			
	-20	+60	VG 15	Mobilgear 636	Shell Omala 680	Kuberoil GEM 1-680	Aral Degol Bg 680	BP Energol GR-Xp680	Tribol 1100/680	Meropa 680	Optigear Bm 680	Renolin CLP 680	
	0	标准	VG 680	Mobilgear 636	Shell Omala 680	Kuberoil GEM 1-680	Aral Degol Bg 680	BP Energol GR-Xp680	Tribol 800/680	Synlube CLP 680			
	-20	+80	VG 680	Mobilgear 636	Shell Omala 680	Kubersynth Gh 6-680							
	-30	+80	VG 460	Mobil SHC 634	Shell Omala 460 HD	Kubersynth GEM 4-460							
-40	+10	VG 150	Mobil SHC 629	Shell Omala 100	Kubersynth GEM 4-150								
-20	+10	VG 150	Mobil D.T.E 18M	Shell Omala 100	Kuberoil GEM 1-150	Aral Degol Bg 100	BP Energol GR-Xp100	Tribol 1100/100	Meropa 100	Optigear Bm 100	Renolin CLP 150		
-25	+20	VG 220	Mobil Glygoyle 30		Kubersynth GH 6-220				Synlube CLP 220	Optiflex A 220			
-40	0	VG 32	Mobil SHC 624		Kubersynth GEM 4-32				Cetus PAO 46				
-30	+40	VG 460		Shell Cassida Fluid GL 460	Kuberoil 4UH1-460	Aral Eural Bear 460							
-20	+40	VG 460		Shell Tivela Compound A	Kubersynth CA2-460								
-15	+40	000-0	2)	Mobil Ep 004	Shell Alvania GL 00	Kubersynth GE 46-1200	Aralub MFL00	BP Energol LS-EP 00		Multifrak Ep 000	Longtime PD 00	Renolin SF 7-041	

1) PIs contact with Transcyko when the Helical-worm geared motors use PG oil.
2) Small conglutination index oil, other types of reducers, pls contact with Transcyko.
3) Food or beverage industry used oil.
4) biology decompose oil.
- High request when start-up in low temperature.

1) 用PG油的蜗齿蜗轮蜗杆减速机请联系
2) 低粘度油脂, 其它型号减速机请联系
3) 食品饮料行业用油(食品级油)
4) 生物降解油用于农业,林业和水工业)
*低温时启动要求高

CLP PG=聚二酯类
CLP HC=碳氢化合物类
E=二元醚类合成油
HCE=磺氧化合物十二醇油
CLP P:Petrolatam Oil
HLP:Hydraulic pressure oil
KBTS/Ga/Vi

加油量
Lubricant
fill quantities

规定的注油量是参考值。精确的注油量随着减速机的级数和速比的不同而变化。注油时,最有效是检查油位塞,因为它指示精确注油量。
The specified fill quantities are recommended values. The precise 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.

斜齿轮减
速器(TR系列)
Helical gear
units (TR..)

下表按安装位置M1-M6,给出了注油量的参考值。
The following tables show referenced values for lubricant fill quantities in relation to relation to the Mounting position M1-M6

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1 ¹⁾	M2 ¹⁾	M3	M4	M5	M6
TR17/R17F	0.25	0.6	0.35	0.6	0.35	0.35
TR27/R27F	0.25/0.4	0.7	0.4	0.7	0.4	0.4
TR37/R37F	0.3/1	0.9	1	1.1	0.8	1
TR47/R47F	0.7/1.5	1.6	1.5	1.7	1.5	1.5
TR57/R57F	0.8/1.7	1.9	1.7	2.1	1.7	1.7
TR67/R67F	1.1/2.3	2.6/3.5	2.8	3.2	1.8	2
TR77/R77F	1.2/3	3.8/4.3	3.6	4.3	2.5	3.4
TR87/R87F	2.3/6	6.7/8.4	7.2	7.7	6.3	6.5
TR97	4.6/9.8	11.7/14	11.7	13.4	11.3	11.7
TR107	6/13.7	16.3	16.9	19.2	13.2	15.9
TR137	10/25	28	29.5	31.5	25	25
TR147	15.4/40	46.5	48	52	39.5	41
TR167	27/70	82	78	88	66	69

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1 ¹⁾	M2 ¹⁾	M3	M4	M5	M6
TRF17	0.25	0.6	0.35	0.6	0.35	0.35
TRF27	0.25/0.4	0.7	0.4	0.7	0.4	0.4
TRF37	0.4/1	0.9	1	1.1	0.8	1
TRF47	0.7/1.5	1.6	1.5	1.7	1.5	1.5
TRF57	0.8/1.7	1.8	1.7	2	1.7	1.7
TRF67	1.2/2.5	2.7/3.6	2.7	3.1	1.9	2.1
TRF77	1.2/2.6	3.8/4.1	3.3	4.1	2.4	3
TRF87	2.4/6	6.8/7.9	7.1	7.7	6.3	6.4
TRF97	5.1/10.2	11.9/14	11.2	14	11.2	11.8
TRF107	6.3/14.9	15.9	17	19.2	13.1	15.9
TRF137	9.5/25	27	29	32.5	25	25
TRF147	16.4/42	47	48	52	42	42
TRF167	26/70	82	78	88	65	71

1)多级减速机中较大的减速机须注较多的油量。
The output end gear unit of multi-stage gear units be filled with the larger oil volume.

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1	M2	M3	M4	M5	M6
TRX57	0.6	0.8	1.3	1.3	0.9	0.9
TRX67	0.8	0.8	1.7	1.9	1.1	1.1
TRX77	1.1	1.5	2.6	2.7	1.6	1.6
TRX87	1.7	2.5	4.8	4.8	2.9	2.9
TRX97	2.1	3.4	7.4	7	4.8	4.8
TRX107	3.9	5.6	11.6	11.9	7.7	7.7

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1	M2	M3	M4	M5	M6
TRX57	0.5	0.8	1.1	1.1	0.7	0.7
TRX67	0.7	0.8	1.5	1.7	1	1
TRX77	0.9	1.5	2.4	2.5	1.6	1.6
TRX87	1.6	2.5	4.9	4.7	2.9	2.9
TRX97	2.1	3.6	7.1	7	4.8	4.8
TRX107	3.1	5.9	11.2	10.5	7.2	7.2

平行轴斜齿轮减速器(TF系列)
Parallel shaft helical gear units.(TF..)

TF.., TFA..B,TFH..B,TFV..B

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1	M2	M3	M4	M5	M6
TF37	1	1.2	0.7	1.2	1	1.1
TF47	1.5	1.8	1.1	1.9	1.5	1.7
TF57	2.6	3.7	2.1	3.5	2.8	2.9
TF67	2.7	3.8	1.9	3.8	2.9	3.2
TF77	5	7.3	4.3	8	6	6.3
TF87	10	13.0	7.7	13.8	10.8	11
TF97	18.5	22.5	12.6	25.2	18.5	20
TF107	24.5	32	19.5	37.5	27	27
TF127	40.5	55	34	61	46.5	47
TF157	69	104	63	105	86	78

TFF..

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1	M2	M3	M4	M5	M6
TFF37	1	1.2	0.7	1.3	1	1.1
TFF47	1.6	1.9	1.1	1.9	1.5	1.7
TFF57	2.8	3.8	2.1	3.7	2.9	3
TFF67	2.7	3.8	1.9	3.8	2.9	3.2
TFF77	5.1	7.3	4.3	8.1	6	6.3
TFF87	10.3	13.2	7.8	14.1	11	11.2
TFF97	19	22.5	12.6	25.5	18.9	20.5
TFF107	25.5	32	19.5	38.5	27.5	28
TFF127	41.5	56	34	63	46.5	49
TFF157	72	105	64	106	87	79

TFA..,TFH..,TFV..,TFAF..,TFHF..,TFVF..,TFAZ..,TFHZ..,TFVZ

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1	M2	M3	M4	M5	M6
TF..37	1	1.2	0.7	1.2	1	1.1
TF..47	1.5	1.8	1.1	1.9	1.5	1.7
TF..57	2.7	3.8	2.1	3.6	2.9	3
TF..67	2.7	3.8	1.9	3.8	2.9	3.2
TF..77	5	7.3	4.3	8	6	6.3
TF..87	10	13.0	7.7	13.8	10.8	11
TF..97	18.5	22.5	12.6	25.0	18.5	20
TF..107	24.5	32	19.5	37.5	27	27
TF..127	39	55	34	61	45	46.5
TF..157	68	103	62	104	85.	77

斜齿轮-锥齿轮减速器(TK系列)
Helical-bevel Gear unit (TK..)

TK.,TKA..B,TKH..B,TKV..B

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1	M2	M3	M4	M5	M6
TK..37	0.5	1	1	1.3	1	1
TK..47	0.8	1.3	1.5	2	1.6	1.6
TK..57	1.2	2.3	2.5	3	2.6	2.4
TK..67	1.1	2.4	2.6	3.4	2.6	2.6
TK..77	2.2	4.1	4.4	5.9	4.2	4.4
TK..87	3.7	8	8.7	10.9	7.8	8
TK..97	7	14	15.7	20	15.7	15.5
TK..107	10	21	25.5	33.5	24	24
TK..127	21	41.5	44	54	40	41
TK..157	31	62	6.5	90	58	62
TK..167	35	100	100	125	85	85
TK..187	60	170	170	205	130	130

TKF..

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1	M2	M3	M4	M5	M6
TKF37	0.5	1.1	1.1	1.5	1	1
TKF47	0.8	1.3	1.7	2.2	1.6	1.6
TKF57	1.3	2.3	2.7	3	2.9	2.7
TKF67	1.1	2.4	2.8	3.6	2.7	2.7
TKF77	2.1	4.1	4.4	6	4.5	4.5
TKF87	3.7	8.2	9	11.9	8.4	8.4
TKF97	7	14.7	17.3	21.5	15.7	16.5
TKF107	10	22	26	35	25	25
TKF127	21	41.5	46	55	41	41
TKF157	31	66	69	92	62	62

TKA...,TKH...,TKV...,TKAF...,TKHF...,TKVF...,TKAZ...,TKHZ...,TKVZ..

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1	M2	M3	M4	M5	M6
TK..37	0.5	1	1	1.4	1	1
TK..47	0.8	1.3	1.6	2.1	1.6	1.6
TK..57	1.3	2.3	2.7	3	2.9	2.7
TK..67	1.1	2.4	2.7	3.6	2.6	2.6
TK..77	2.1	4.1	4.6	6	4.4	4.4
TK..87	3.7	8.2	8.8	11.1	8	8
TK..97	7	14.7	15.7	20	15.7	15.7
TK..107	10	20.5	24	32	24	24
TK..127	21	41.5	43	52	40	40
TK..157	31	66	67	87	62	62
TK..167	35	100	100	125	85	85
TK..187	60	170	170	205	130	130

斜齿轮-蜗轮蜗杆减速器(TS系列)
Helical-worm Gear units. (TS..)

TS..

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1	M2	M3 ¹⁾	M4	M5	M6
TS37	0.25	0.4	0.5	0.6	0.4	0.4
TS47	0.35	0.8	0.7	1.1	0.8	0.8
TS57	0.5	1.2	1	1.5	1.3	1.3
TS67	1	2.0	2.2/3.1	3.2	2.6	2.6
TS77	1.9	4.2	3.7/5.4	6	4.4	4.4
TS87	3.3	8.1	6.9/10.4	12	8.4	8.4
TS97	6.8	15	13.4/18	22.5	17	17

1)多级减速箱中较大的减速机须注较多的油量。
The output end unit of multi-stage gear units must be filled with the larger oil volume.

TSF..

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1	M2	M3 ¹⁾	M4	M5	M6
TSF37	0.25	0.4	0.5	0.6	0.4	0.4
TSF47	0.4	0.9	0.9	1.2	1.0	1
TSF57	0.5	1.2	1	1.6	1.4	1.4
TSF67	1	2.2	2.3/3	3.2	2.7	2.7
TSF77	1.9	4.1	3.9/5.8	6.5	4.9	4.9
TSF87	3.8	8	7.1/10.1	12	9.1	9.1
TSF97	7.4	15	13.8/18.8	23.6	18	18

1)多级减速箱中较大的减速机须注较多的油量。
The output end unit of multi-stage gear units must be filled with the larger oil volume.

TSA...,TSH...,TSAF...,TSHF...,TSAZ...,TSHZ.

减速器型号 Gear unit type	注油量(升) Fill quantity (L)					
	M1	M2	M3 ¹⁾	M4	M5	M6
TS..37	0.25	0.4	0.5	0.6	0.4	0.4
TS..47	0.4	0.8	0.7	1.1	0.8	0.8
TS..57	0.5	1.1	1	1.6	1.2	1.2
TS..67	1	2	1.8/2.6	2.9	2.5	2.5
TS..77	1.8	3.9	3.6/5	5.9	4.5	4.5
TS..87	3.8	7.4	6/8.7	11.2	8	8
TS..97	7	14	11.4/16	21	15.7	15.7

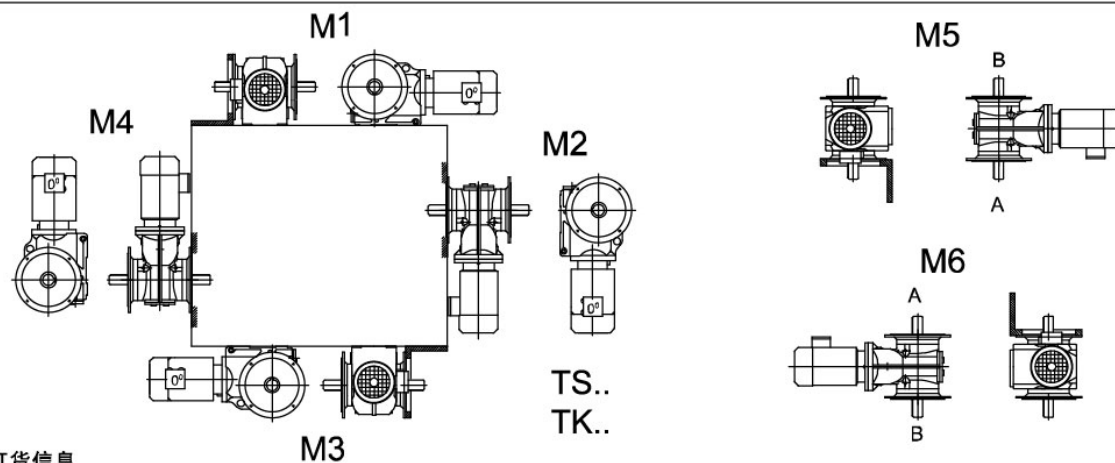
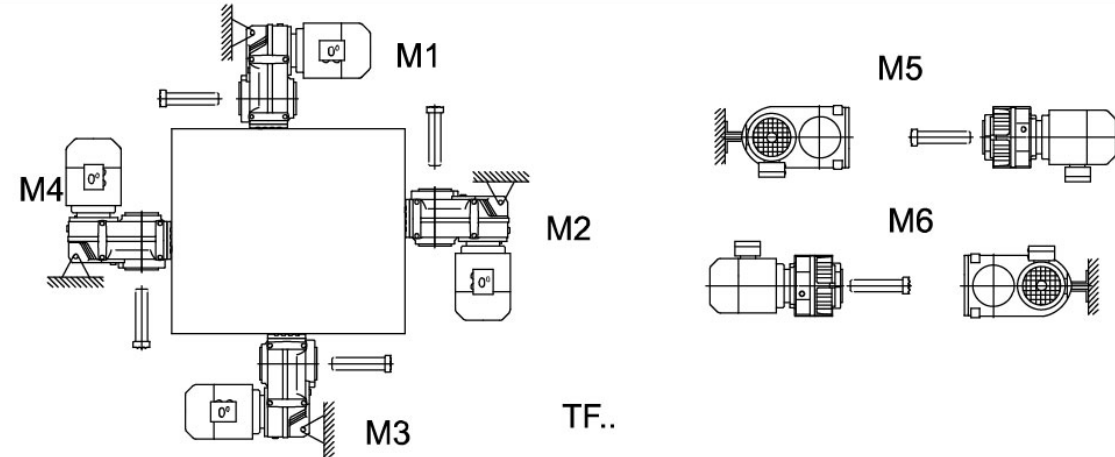
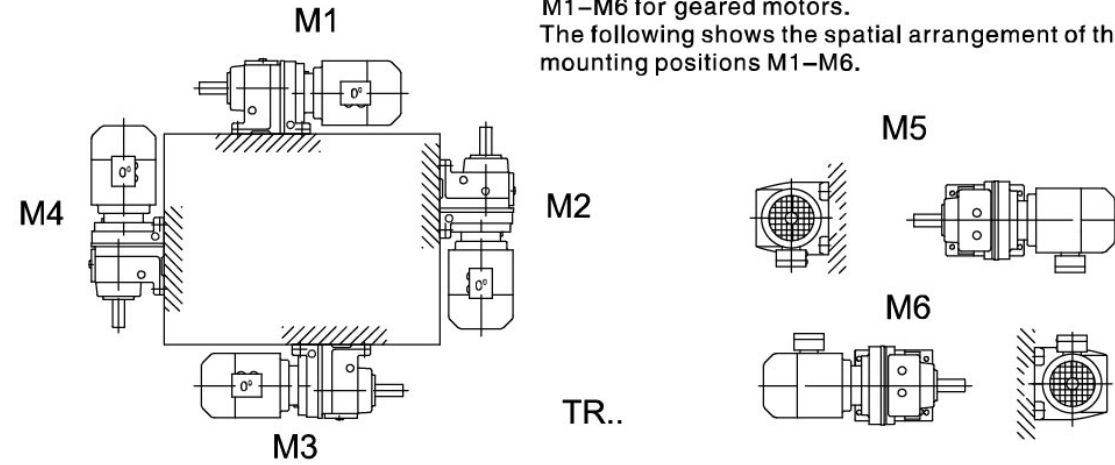
1)多级减速箱中较大的减速机须注较多的油量。
The output end unit of multi-stage gear units must be filled with the larger oil volume.

10. 安装位置 Mounting Position

10.1 安装位置概述

10.1 Mounting Position designation

安装位置说明: Transcyko 减速电机有M1..M6共6种安装位置。
下面的图表说明了减速器安装位置M1..M6的空间排列。
Transcyko differentiates between six mounting position M1-M6 for geared motors.
The following shows the spatial arrangement of the gear units in mounting positions M1-M6.



重要的订货信息
Important indention information
除了安装位置以外, 下面订货资料也是必需的, 以便精确描述所要求的减速电机外形。
Except the mounting position, the indention informations for depicting the figure of gear

电机接线盒位置
电机接线上出线口位置
对直角轴减速机: 输出方向
对直角轴型带收缩盘轴装式减速机: 连接端带或不带法兰
带逆止器的减速机: 设备的旋转方向

Unit exactly are necessary
Position of the motor terminal box
For the right-angle shaft reducers: output shaft connection.
For the right-angle shaft reducers: with shrink-disk: with or without feange.
For the drive with a backstop: the Direction of rotation.

电机接线盒和出线嘴位置 Position of the motor terminal box cable entry

电机接线盒从电机风扇罩看(如图),位置分别表示为0°,90°,180°或270°
出线嘴的位置也可以进行选择(如图),分别表示为“Normal”, “1”, “2”或“3”
Possible positions of the terminal box are 0°, 90°, 180° or 270° as ciewed onto the fan guard=B-side
In addition, the position of the cable entry can be selected. The possibilities are "X"(=normal position), "1", "2", or "3"

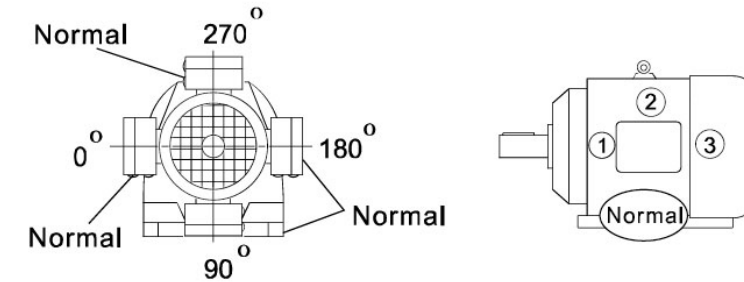


图:接线盒与出线嘴的位置
Fig: Position of the terminal box and cable entry

对于接线盒,除非给出了详细信息,否则接线盒按0°,出线嘴按“Normal”供货。
我们建议安装位置在M3时,应选择出线嘴位置为“2”。
注意:
对于TR17Y71..减速电机,接线盒位置不能标为90°
Y71..BMG接线盒位置为90°时,出线嘴位置不能标为“2”。
Unless other information is given regarding the terminal box, the 0° type with "X" cable entry will be supplied. We recommend selecting cable entry "2" with mounting position M3.
The terminal box cannot be positioned at 90° on the TR17Y71 geared motor.
Cable entry "2" is not possible with the Y71..BMG motor with terminal box position 90°



带逆止器减速电机的旋转方向 Direction of totation of the drive with a backstop

若减速电机带逆止器,规定出减速电机的旋转方向是很必要的。按下列标识:
从输出轴看:顺时针(CW)为向右旋转逆时针(CCW)为向左旋转
If the drive has a RS backstop, it is necessary to stipulate the direction of drive rotation.
The following definition applies:
Looking onto the output shaft: Clockwise (CW) =Rotating to the right
Counterclockwise (CCW) = Rotating to the left

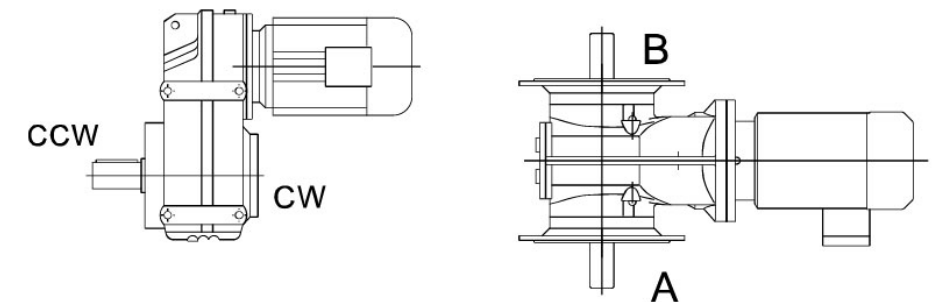


图:输出轴的旋转方向
Fig: Direction of rotation of the output shaft

对于直角轴型减速机,规定出给定的旋转方向是从A端看还是从B端看的,这是非常必要的。
In right-angle gear units, it is necessary to indicate if the direction of rotation is given where be looked from the A or B end.

输出轴的位置
Position of the output shaft

对于直角轴型减速机,规定出轴方向是必要的.:· A或B,还是A+B(见图)
In right-angle gear units, it is necessary to indicate the position of the output shaft and output flange: A or B or A+B

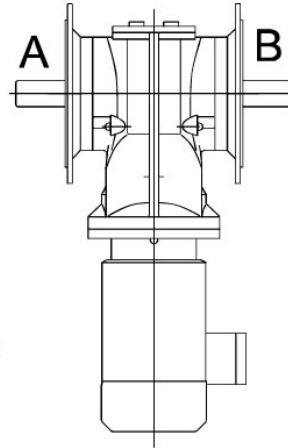


图:出轴方向
Fig: Position of the Output shaft

带锁紧盘的轴装直角轴减速机
Position of the connection end in tight-angle gear units with shrink disk

对于轴装式带锁紧盘的正文轴型式减速机,规定出A端还是B端为连接端并且连接端是否有法兰是必要的。在图中, A端是连接端, 锁紧盘在连接端对面。
In shaft mounted right-angle gear units with shrink disk, it is necessary to indicate whether the A or B end is the connection end. In Fig. The A end and is the connection end. The shrink disk is located opposite the connection end.

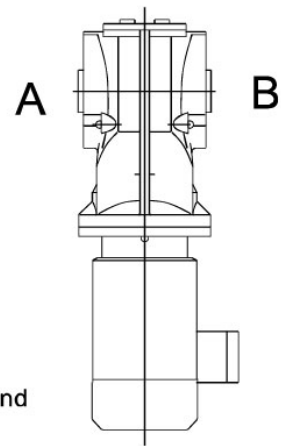


图:连接端的位置
Fig: Position of the connection end

订购实例
Sample orders

对于TK167/K187来讲, 安装为M5和M6时, 连接端只能是在底部连接。
Connection end at bottom only is possible with TK167/K187 helical-bevel gear units in mounting positions M5 and M6.

类型 Type	安装位置 Mounting position	连接端 Shaft with	锁紧盘位置 Position of shrink disk	法兰 Flange	接线位置 Position of terminal box	出线嘴位置 Position of cable entry	旋转方向 rotation direction	出轴方向 Output shaft direction
TKF47Y71D4/RS	M5	A	-	B	0°	“Normal”	CW	A
TSF97Y180M4	M2	A+B	-	A+B	180°	“2”	-	A+B
TKH107Y160L4	M1	-	B	-	270°	“3”	-	-

所有符号的含义
Symbols used

下表列出,在安装位置上的符号及其含义
The following table shows the symbols used in the mounting position sheets and what they mean:

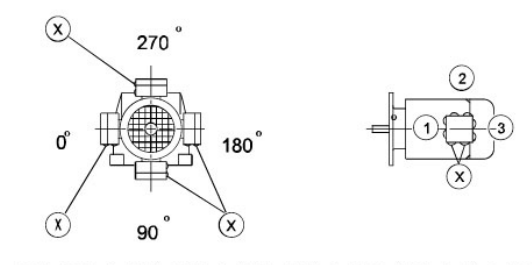
符号 Symbol	含义 Meaning
	通气器 Breather valve
	油标 Oil level plug
	放油螺塞 Oil drain plug
	进线位置 In line plug

搅油损失
Churning losses

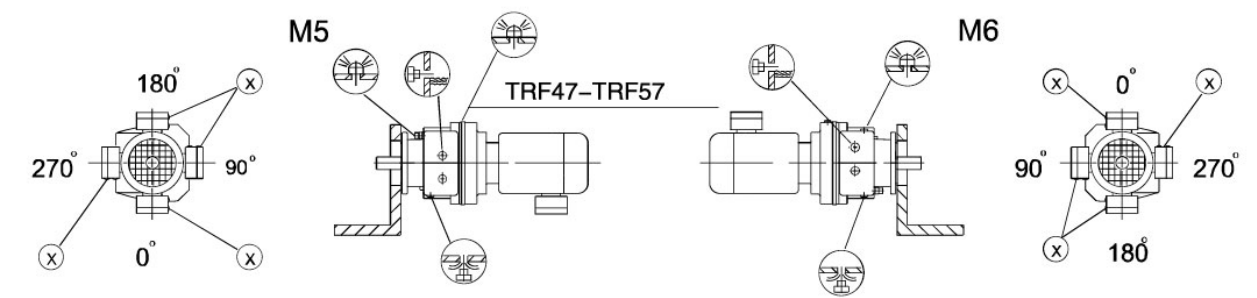
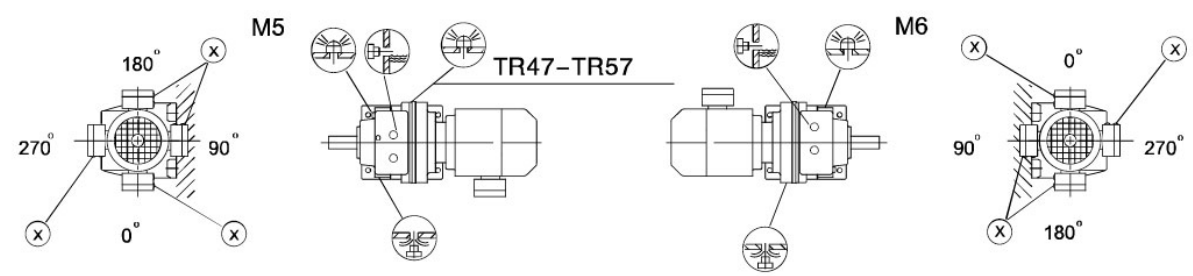
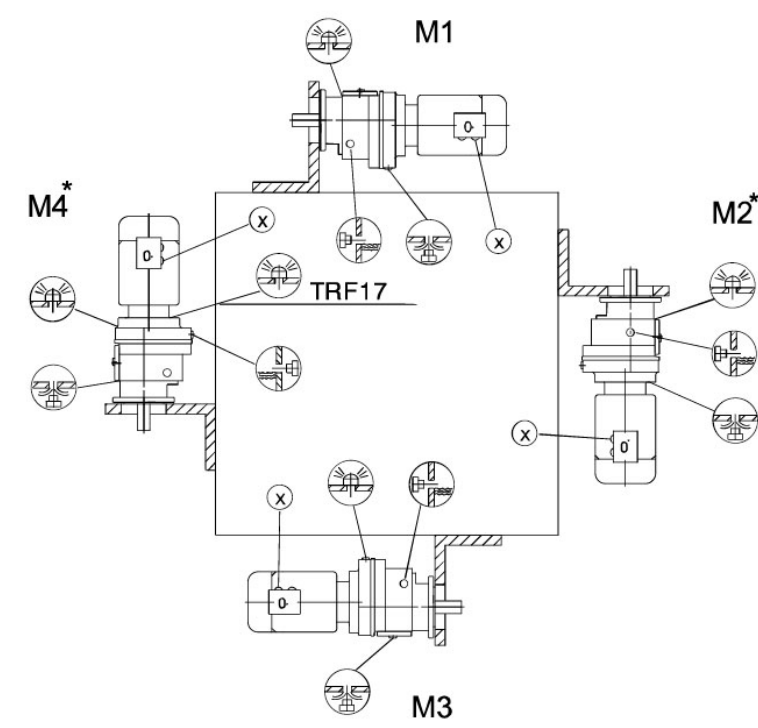
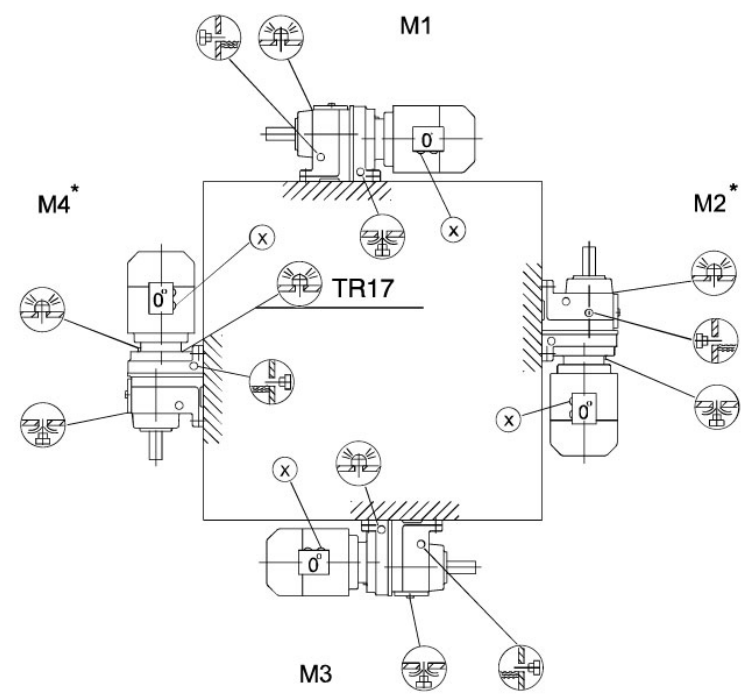
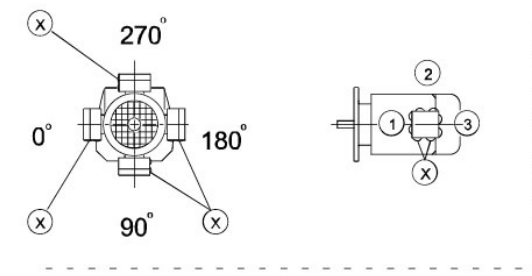
在某些安装位置可能增加搅油损失,在下列结构中请向Transcyko咨询
In creased churning losses may arise in some mounting positions, Please contact Transcyko in case of the following combinations.

安装位置 Mounting position	减速机型号 Gear unit type	减速机规格 Gear unit size	输入速度(rpm) Input speed
M2,M4	TR	97-107	>2500
		>107	>1500
M2,M3,M4,M5,M6	TF	97-107	>2500
		>107	>1500
	TK	77-107	>2500
		>107	>1500
TS	77-97	>2500	

10.2 斜齿轮减速电机安装位置
10.2 Mounting position of Helical gear unit
TR17-TR167



TRF17-TRF167



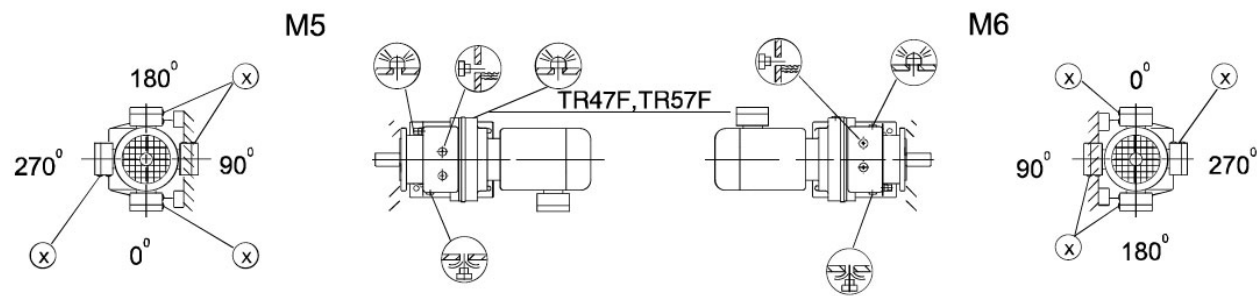
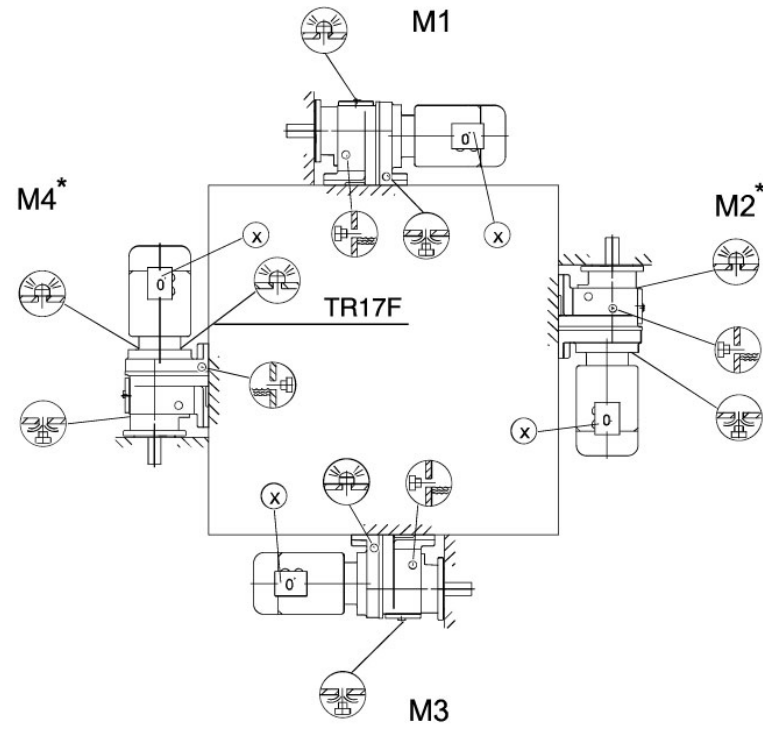
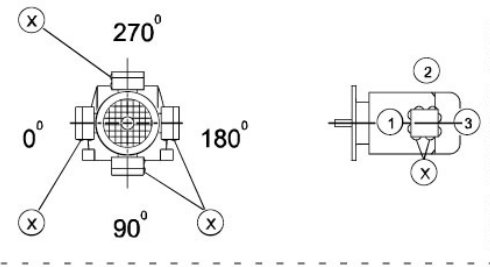
- TR17, TR27 M1, M3, M5, M6
- TR47, TR57 M5
- TR17, TR27

- TRF17, TRF27 M1, M3, M5, M6
- TRF47, TRF57 M5
- TRF17, TRF27

TR
TF
TK
TS

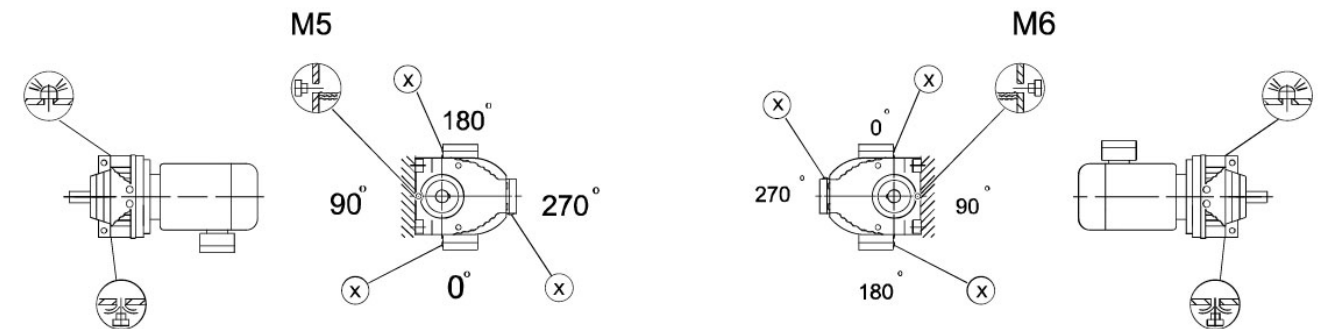
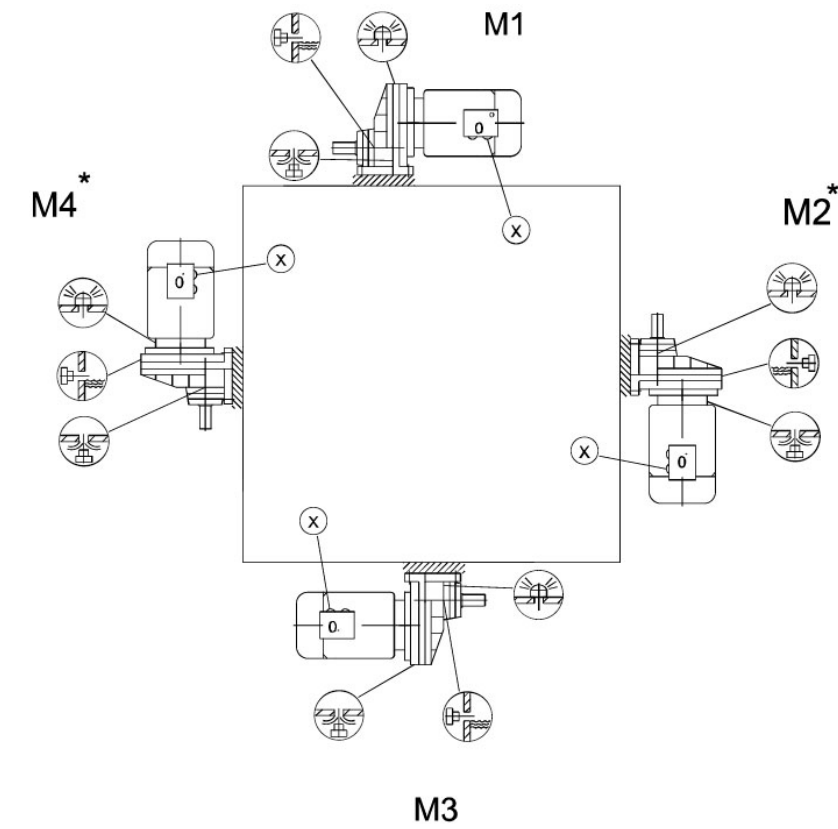
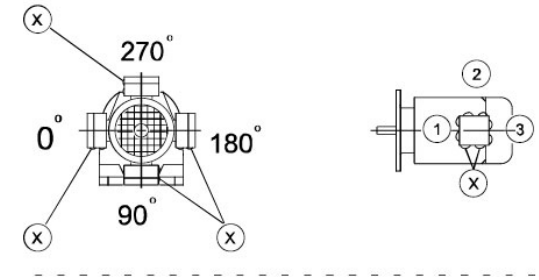
TR
TF
TK
TS

TR17F-TR87F



- TR17F, TR27F M1, M3, M5, M6
- TR47F, TR57F M5
- TR17F, TR27F

TRX57F-TRX107F



TR

TF

TK

TS

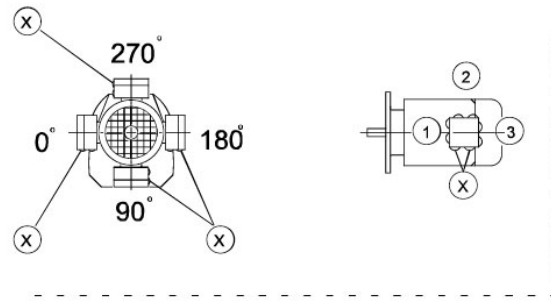
TR

TF

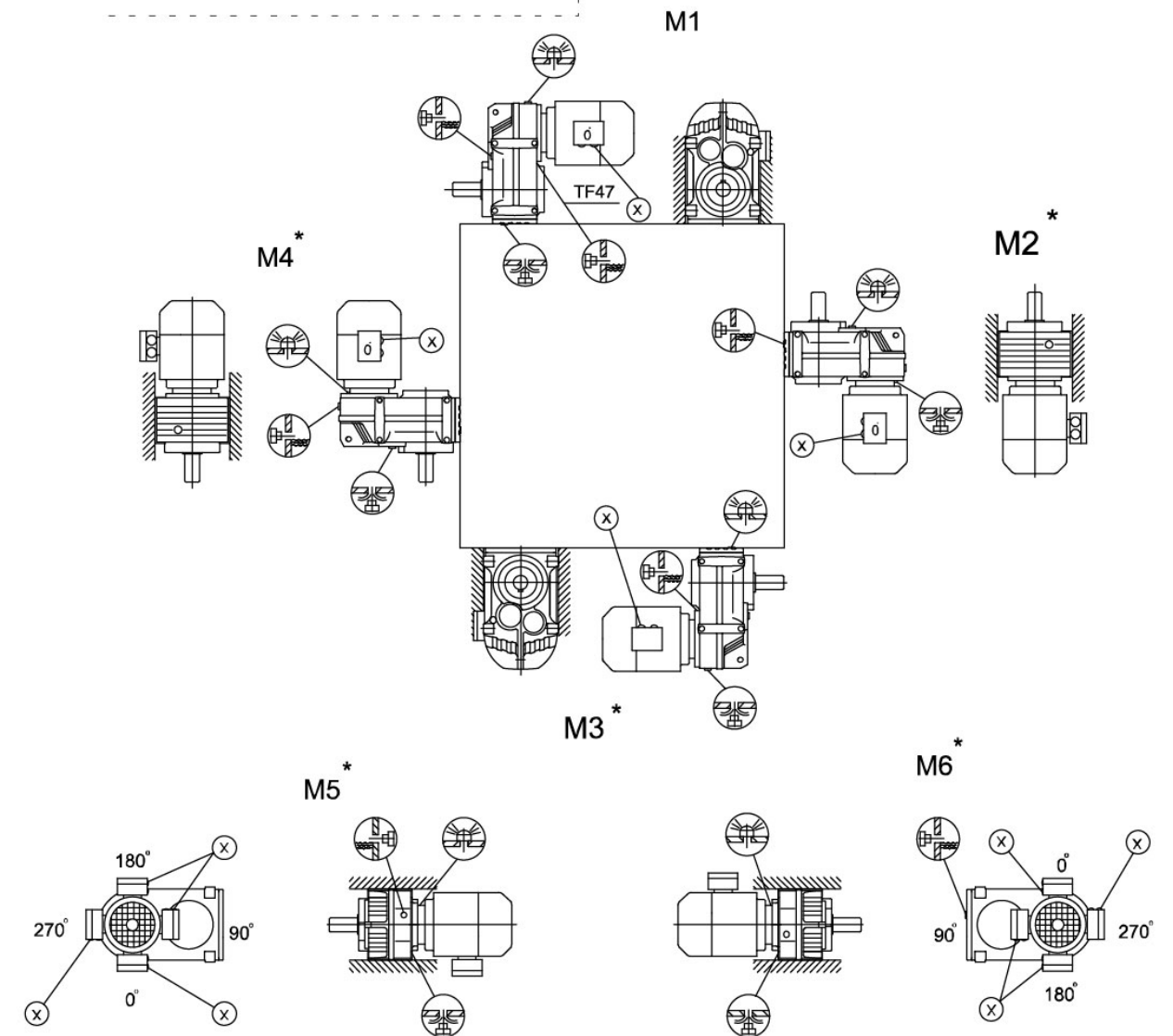
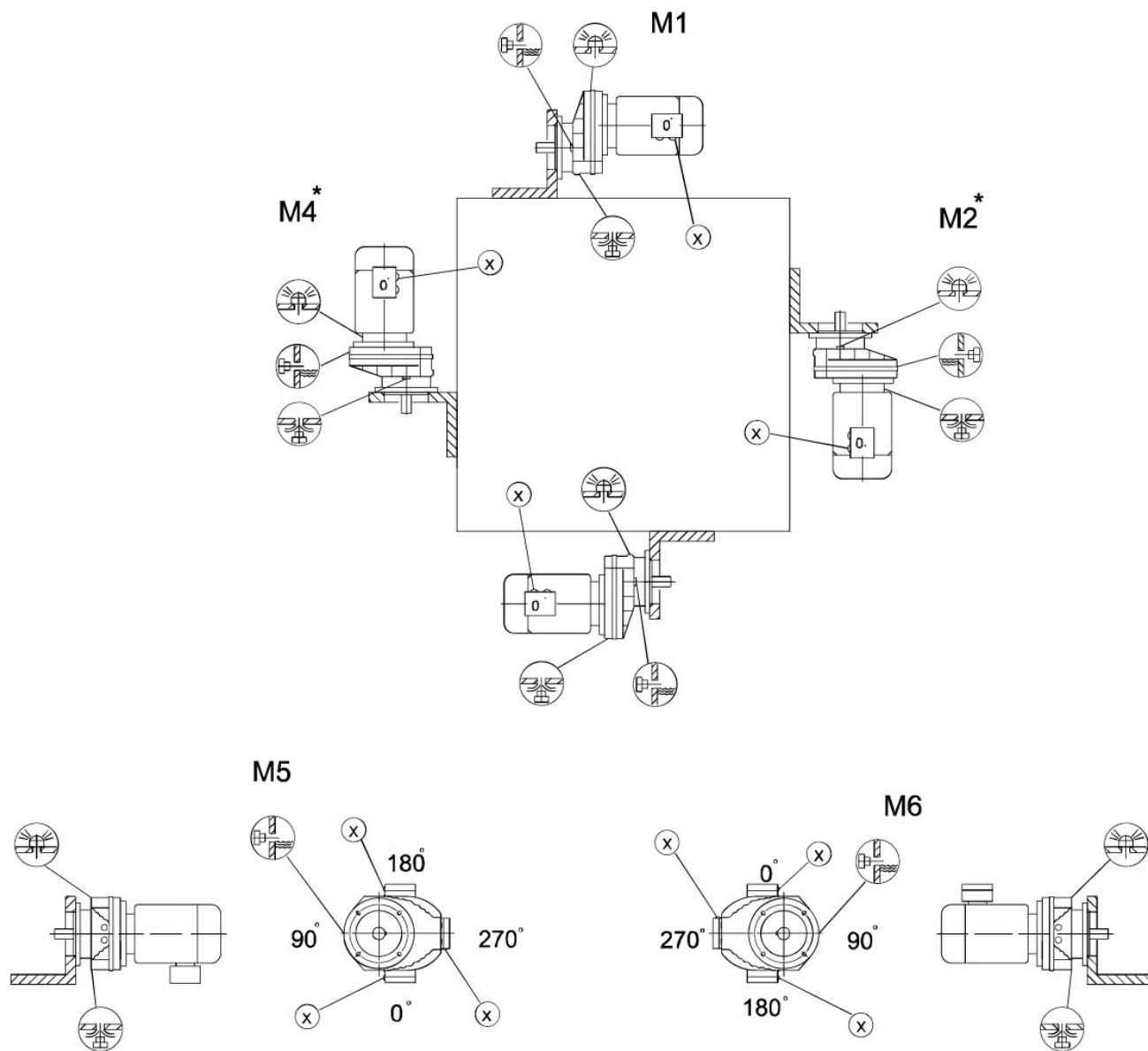
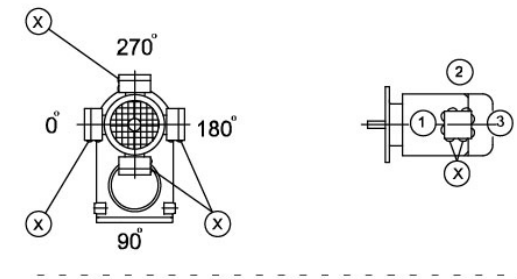
TK

TS

TRXF57F-TRXF107F



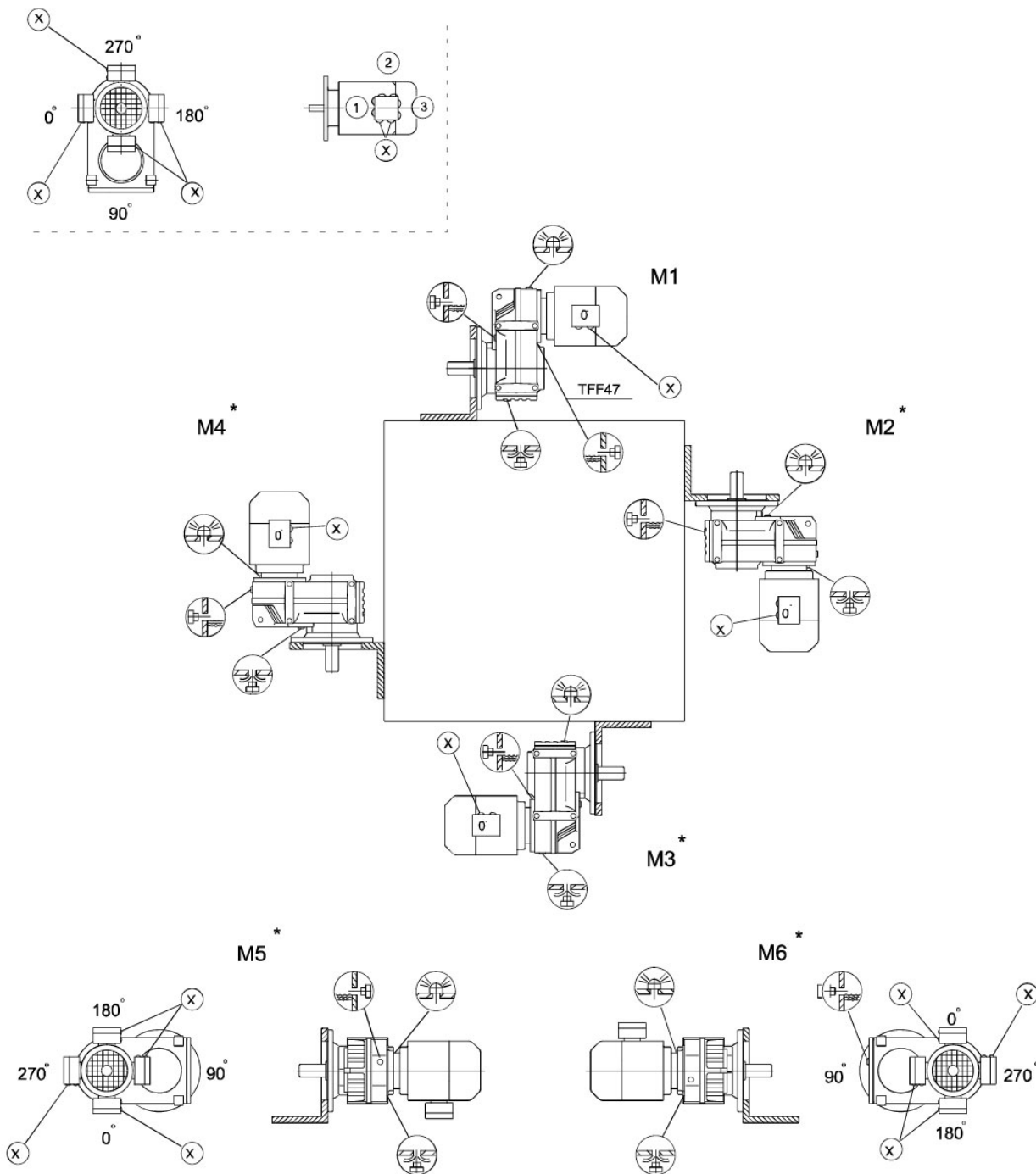
10.3 平行轴斜齿轮减速电机安装位置
10.3 Mounting position of parallel shaft helical Gear unit
TF/FA..B/FH27B-157B,TFV27B-107B



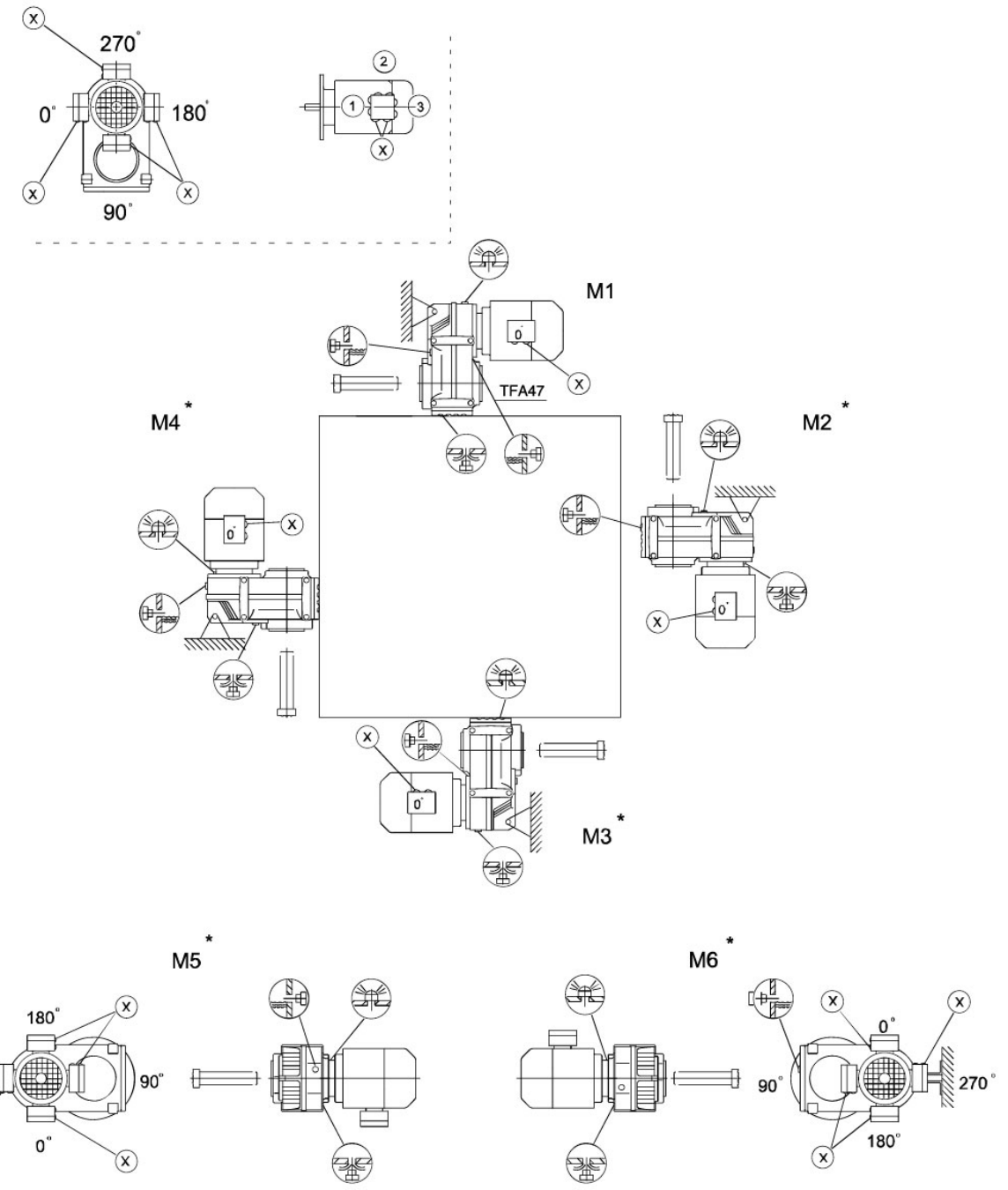
TF..27		M1,M3,M5,M6
TF..27		M1-M6
TF..27		M1,M3,M5,M6

TFF/FAF/FHF/FAZ/FHZ27-157, TFVF/FVZ27-107

TFA/FH27-157,TFV27-107

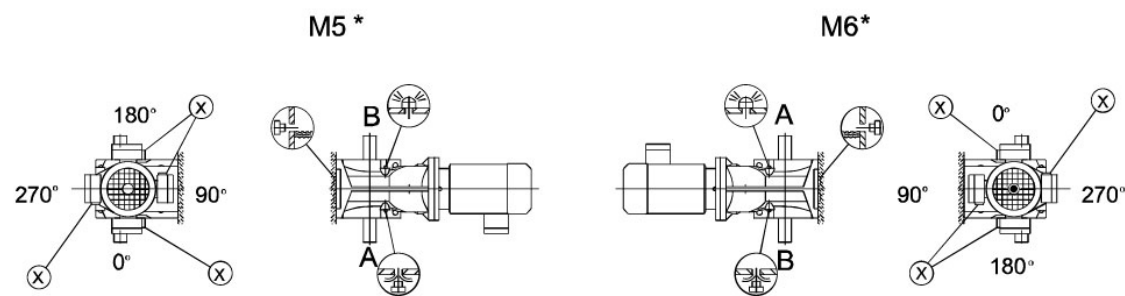
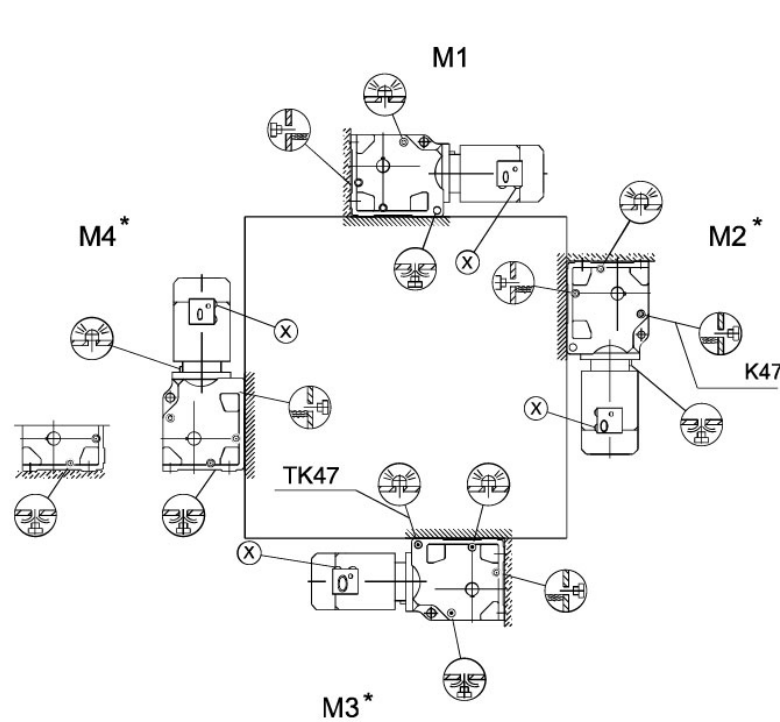
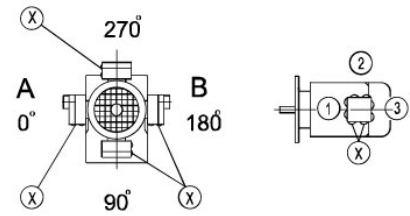


- TF..27 M1,M3,M5,M6
- TF..27 M1-M6
- TF..27 M1,M3,M5,M6



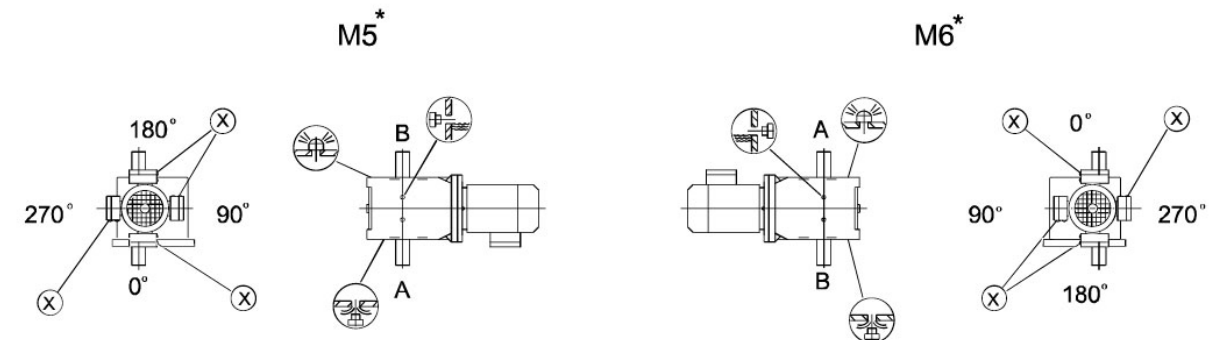
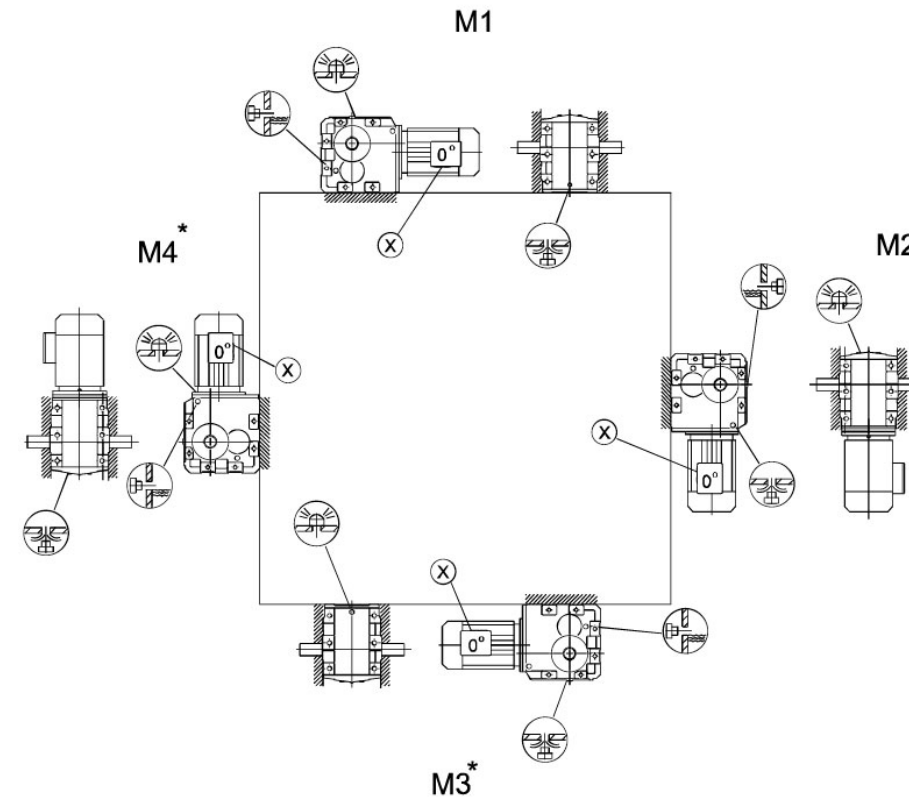
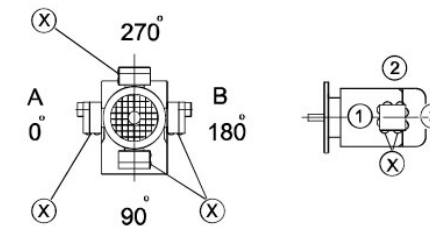
- TF..27 M1,M3,M5,M6
- TF..27 M1-M6
- TF..27 M1,M3,M5,M6

10.4 斜齿轮-伞齿轮减速电机安装位置
 Mounting position of helical – bevel Gear unit
 TK/KA..B/KH37B-157B,TKV37B-107B



重要:请参见"减速器选型"中"径向和轴向负载"部分(P21)
 Important:Please refer to the information in the " Geared Motos" catalog. Optional Planning for Gear units Ouerhung and axial loads part" (P21)

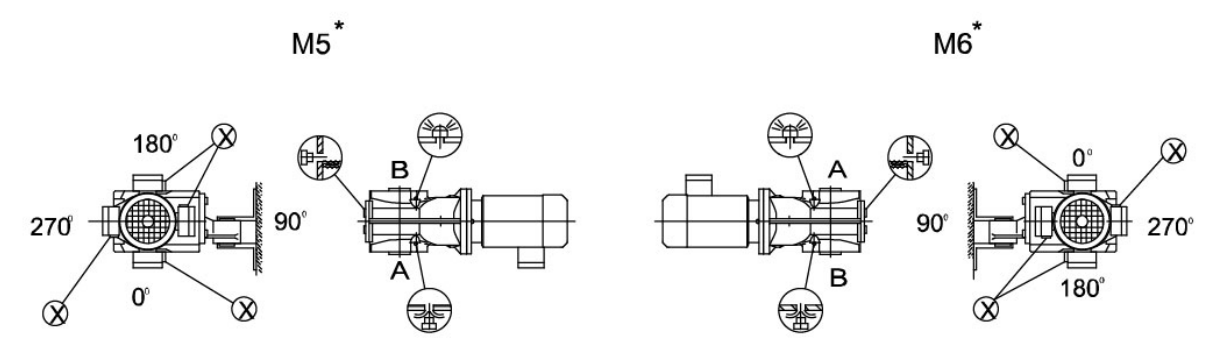
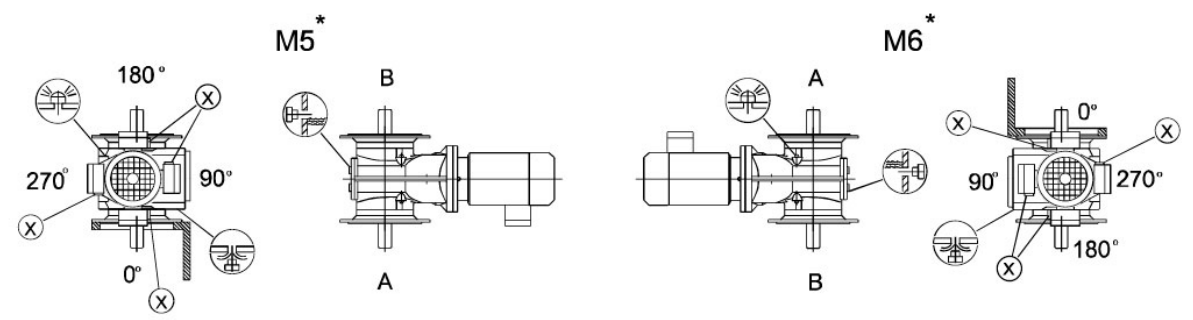
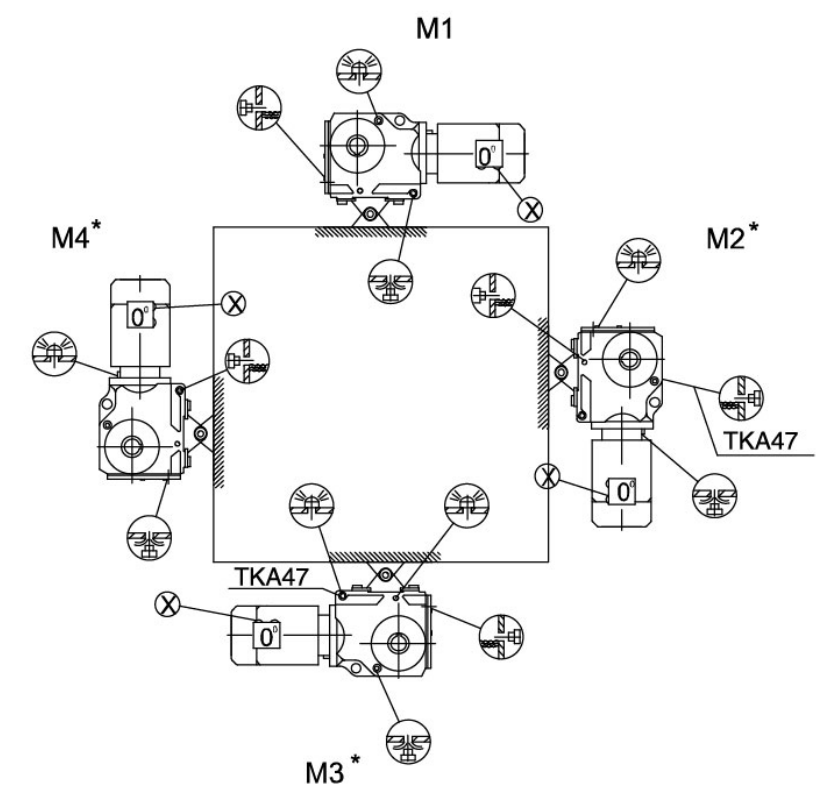
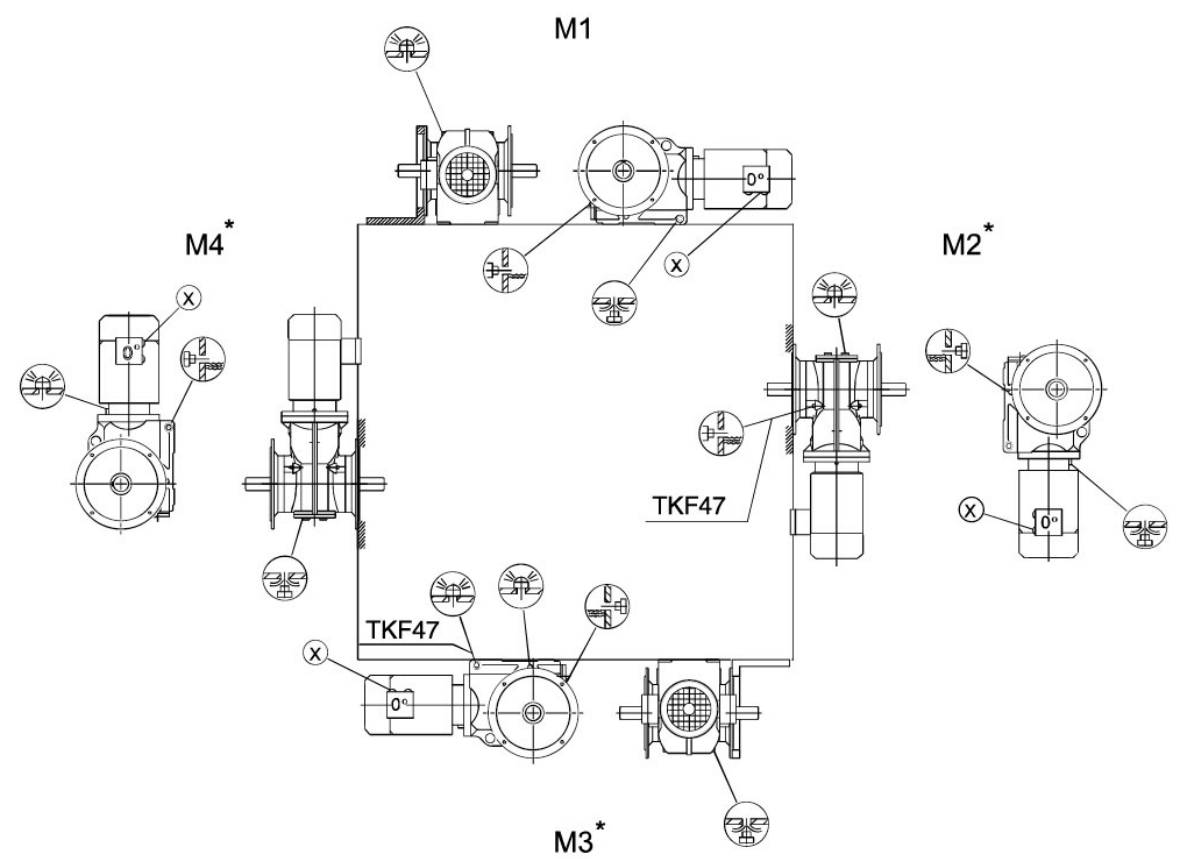
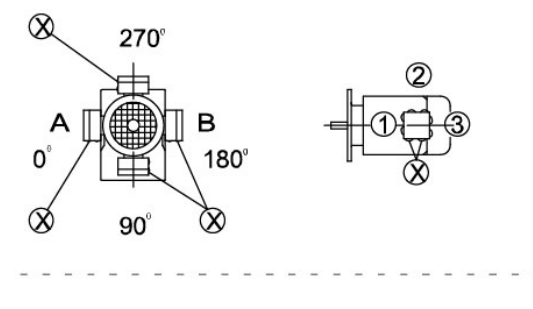
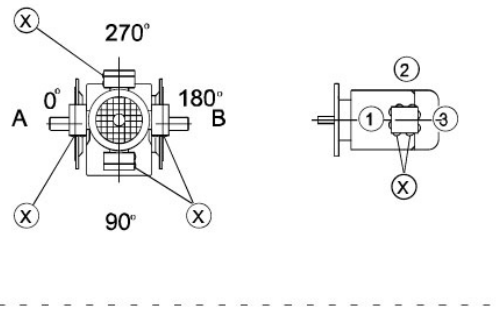
TK167-187,TKH167B-187B



重要:请参见"减速器选型"中"径向和轴向负载"部分(P21)
 Important:Please refer to the information in the " Geared Motos" catalog. Optional Planning for Gear units Ouerhung and axial loads part" (P21)

TKF/KAF/KAZ/KHZ37-157,TKVF/KVZ37-107

TKA/KH37-157,TKV37-107



TR

TF

TK

TS

TR

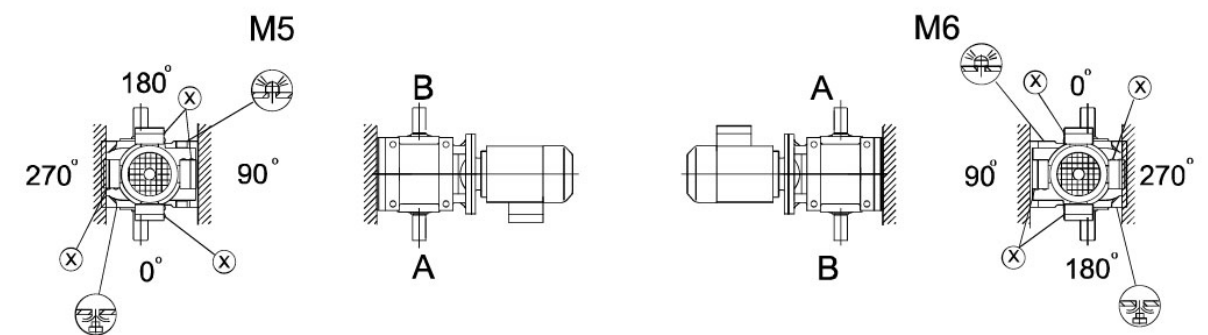
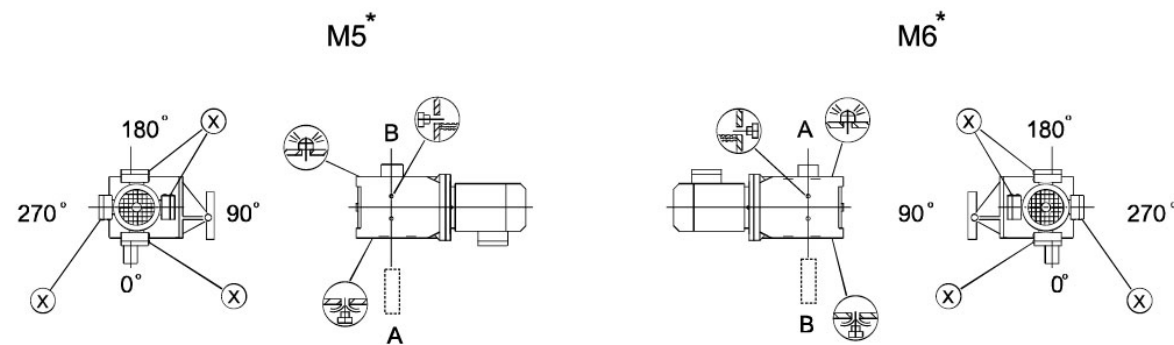
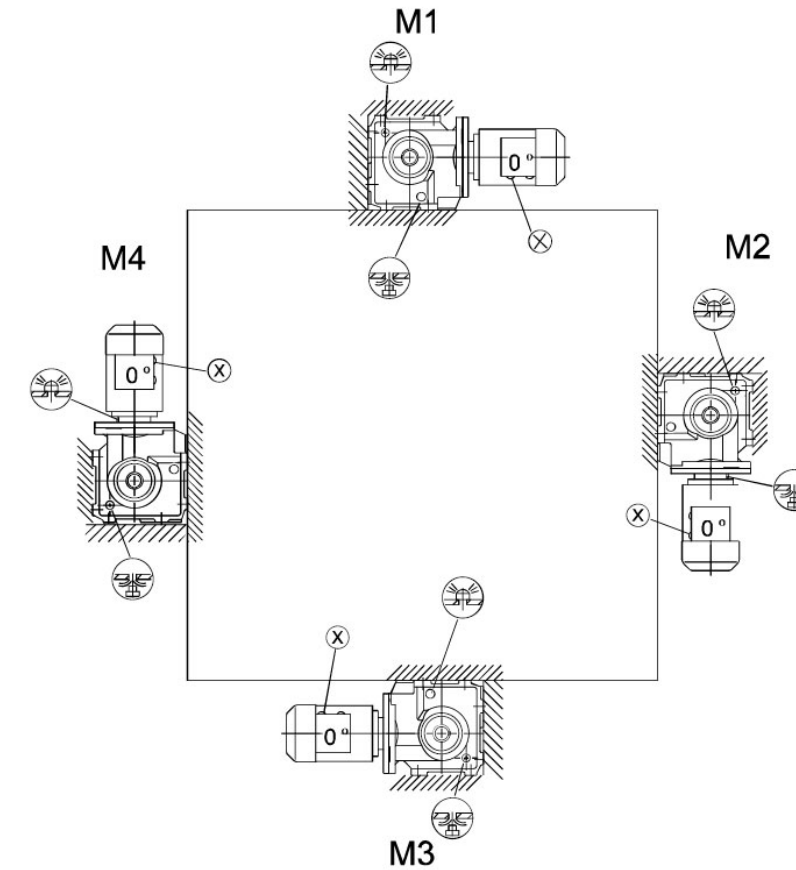
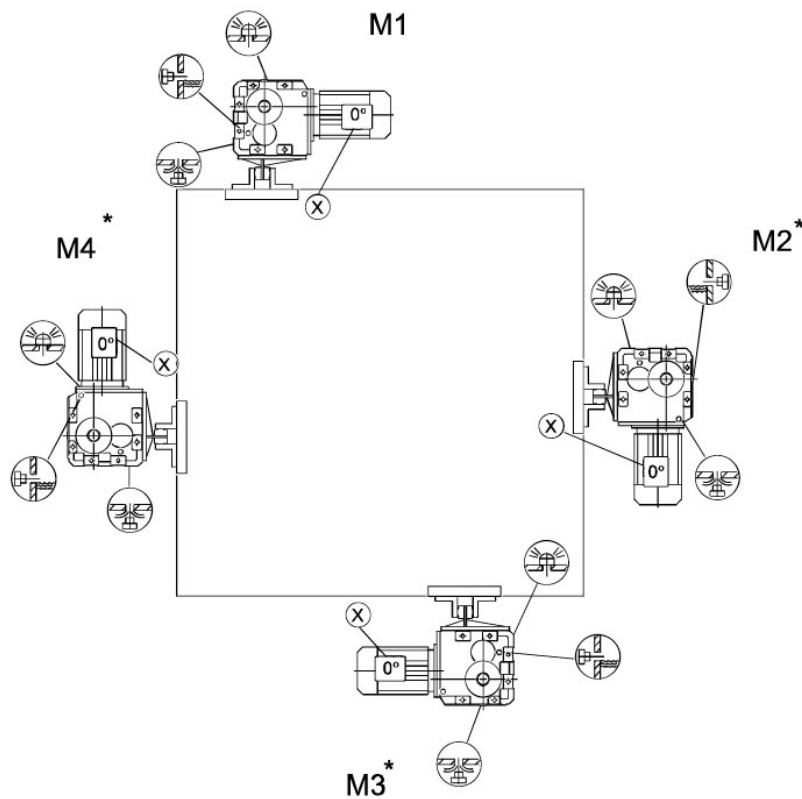
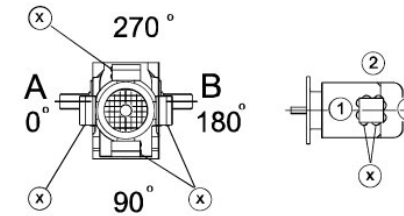
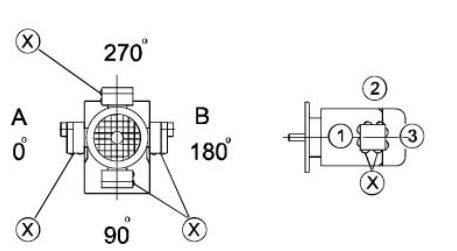
TF

TK

TS

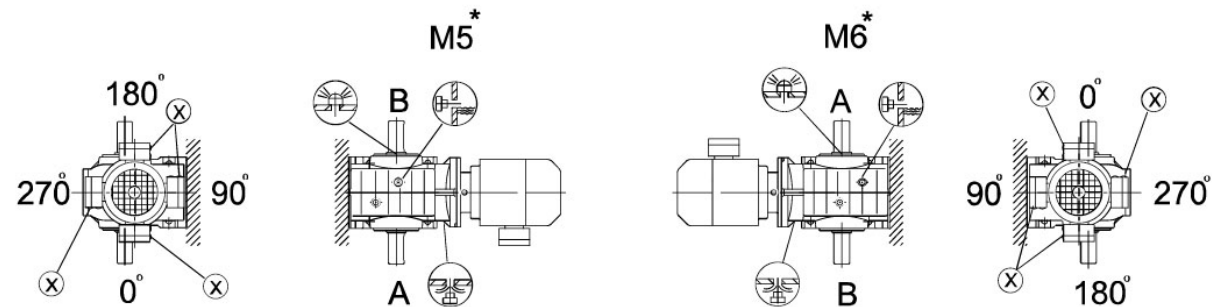
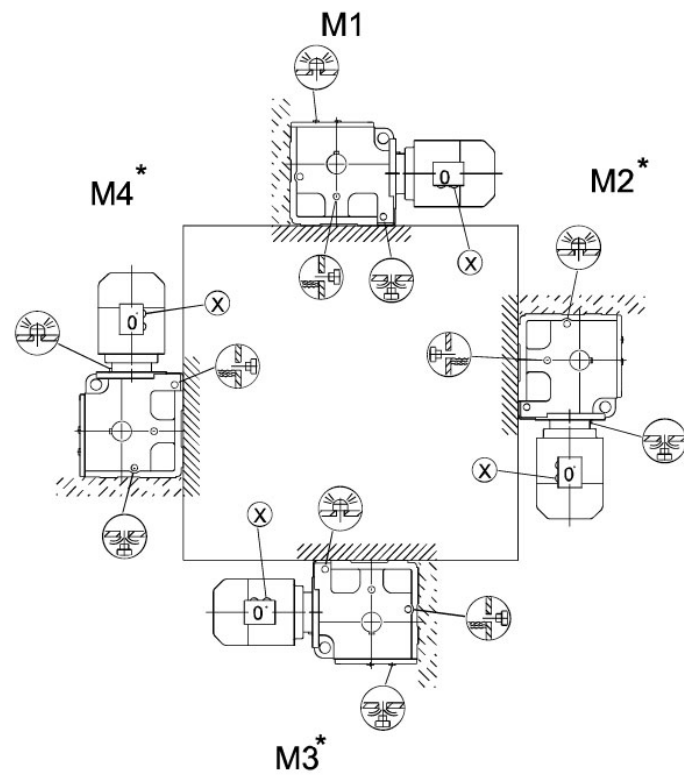
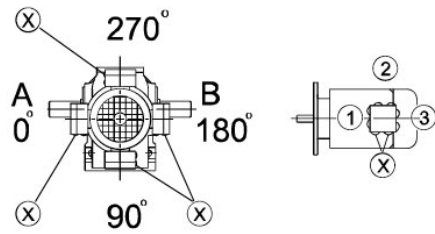
TKH167-187

10.5 斜齿轮-蜗杆减速电机安装位置
10.5 Mounting position of Helical - worm Gear motor
TS37

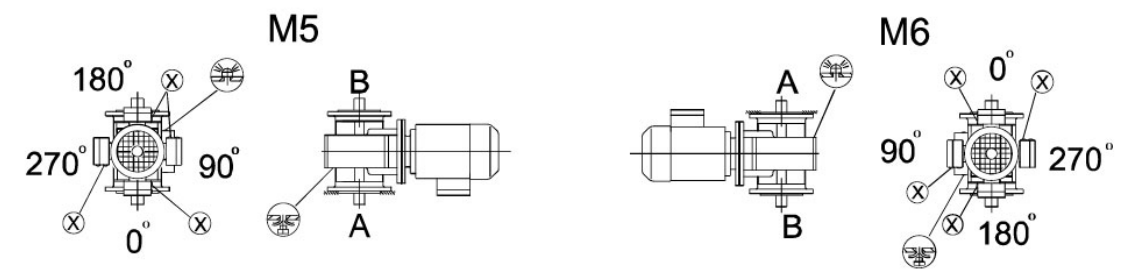
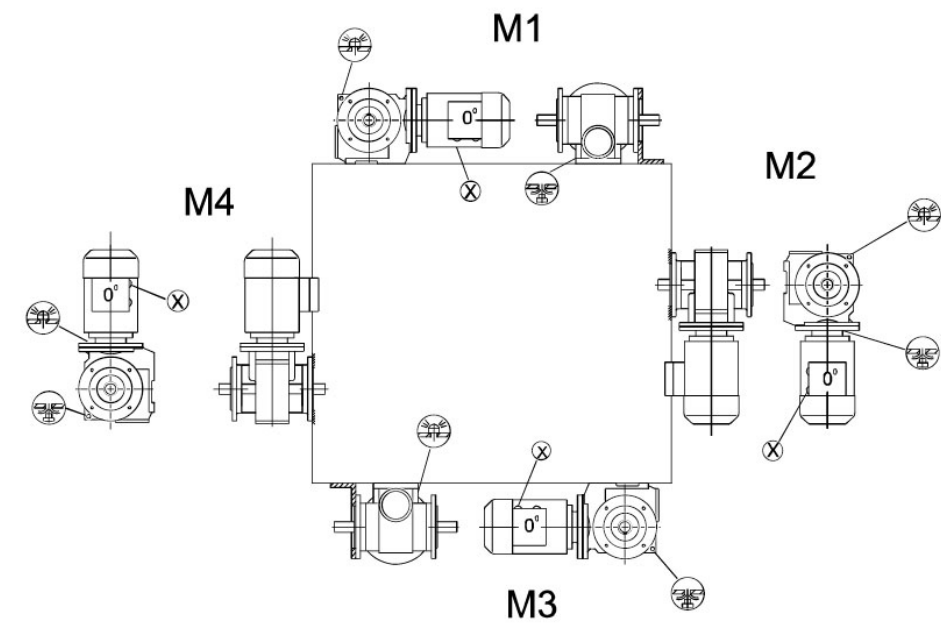
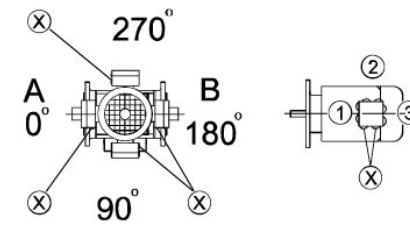


重要:请参见"减速器选型"中"径向和轴向负载"部分(P21)
Important:Please refer to the information in the "Geared Motors" catalog. Optional Planning for Gear units Overhung and axial loads part" (P21)

TS47-TS97



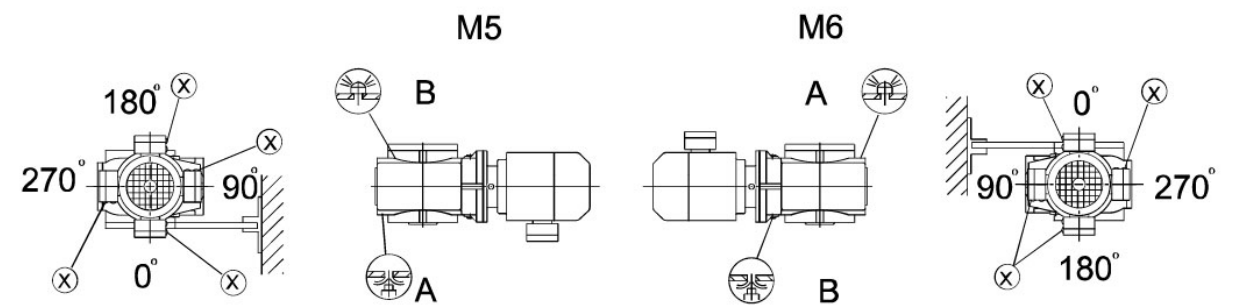
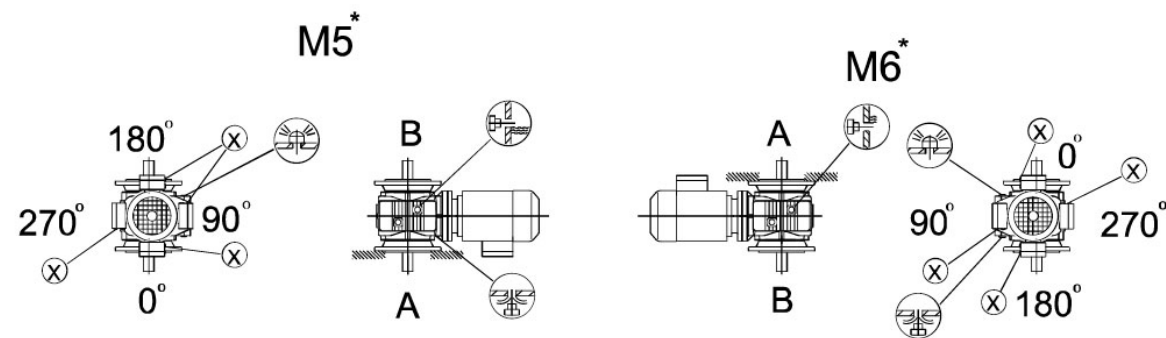
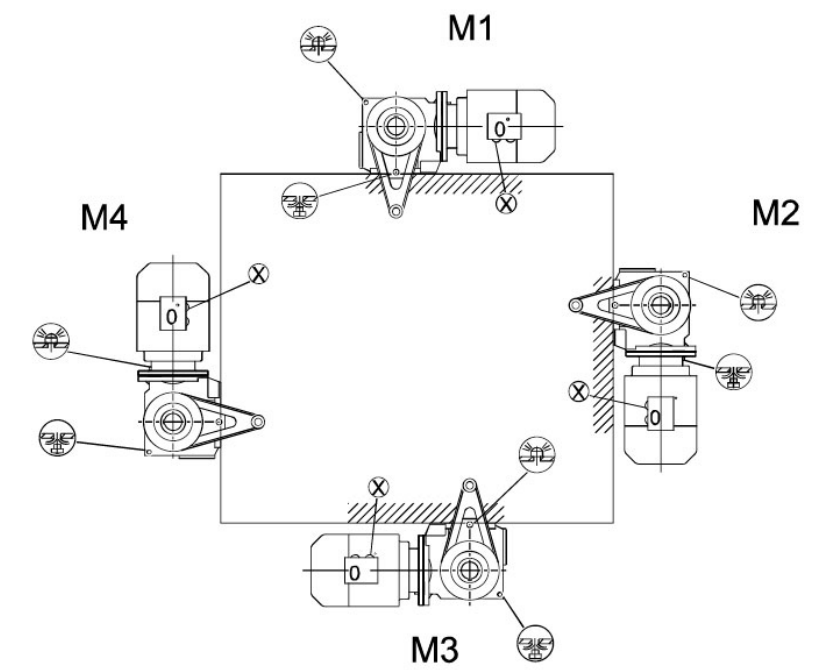
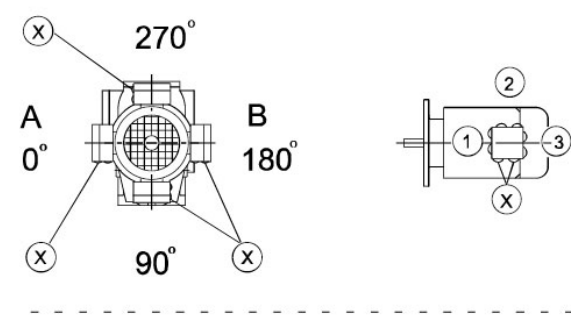
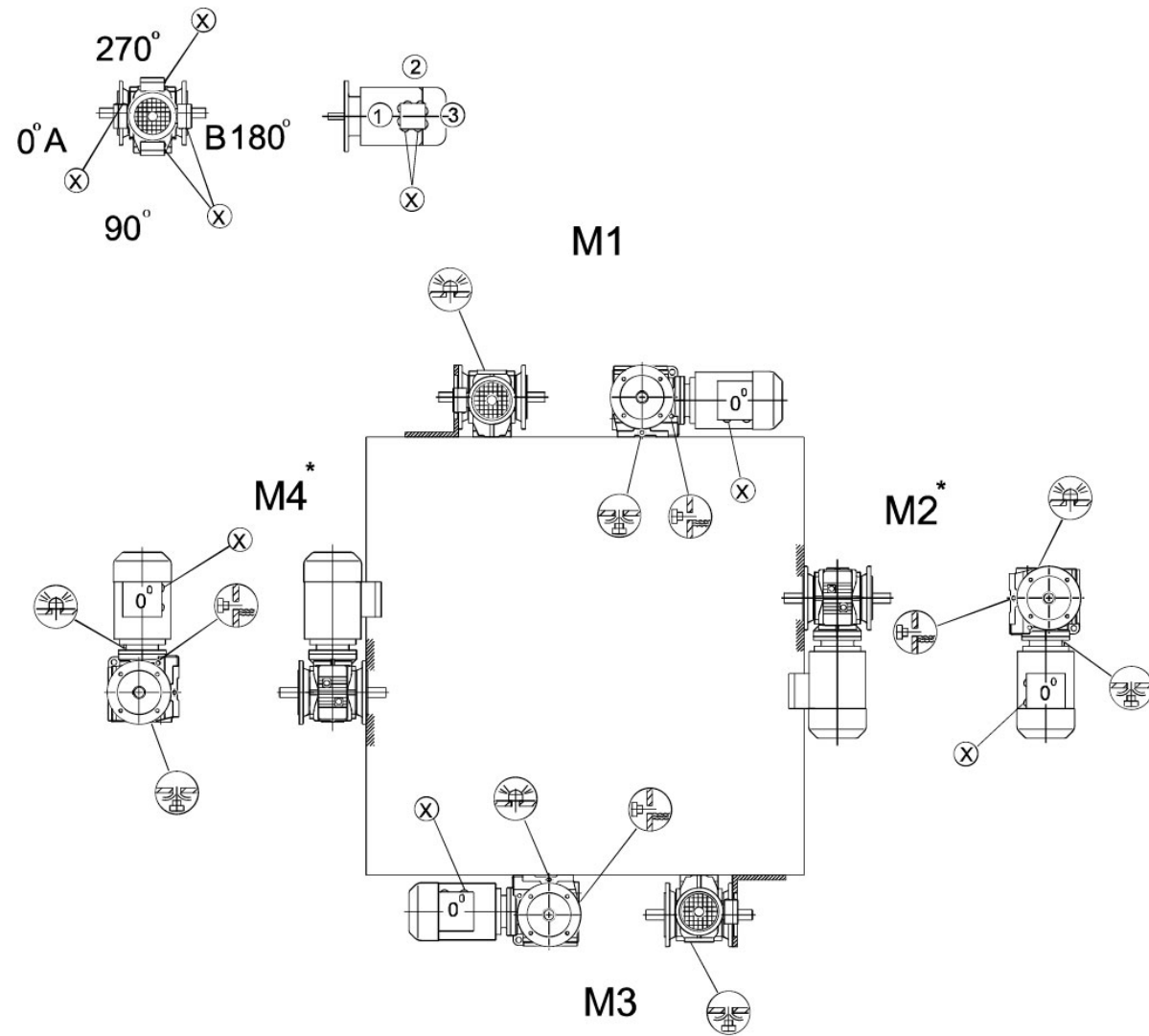
TSF/SAF/SHF37



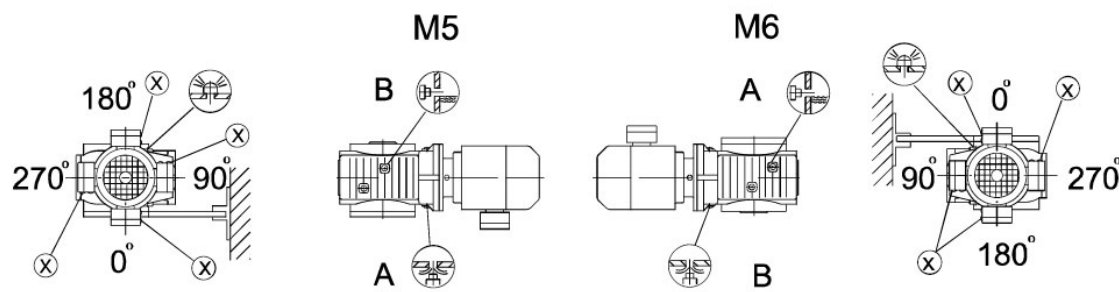
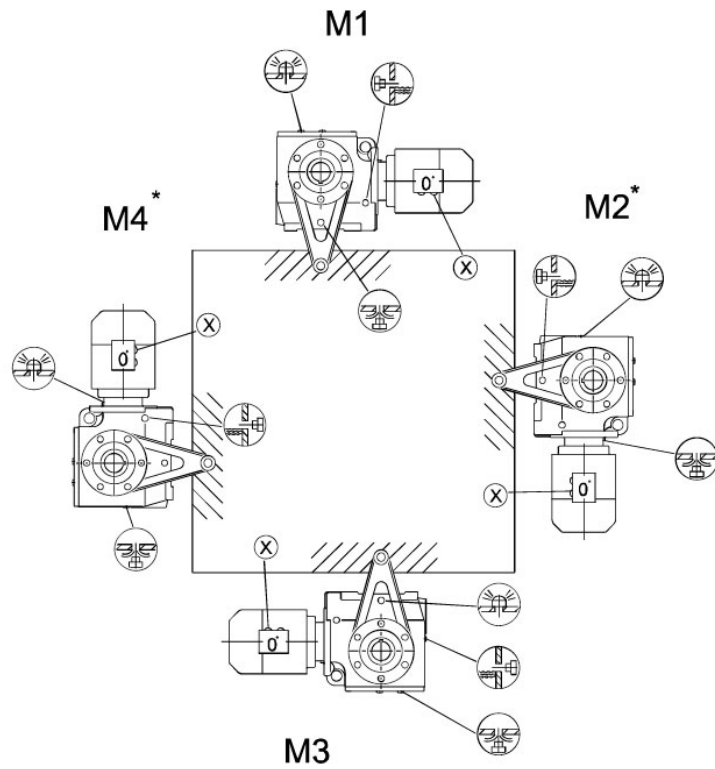
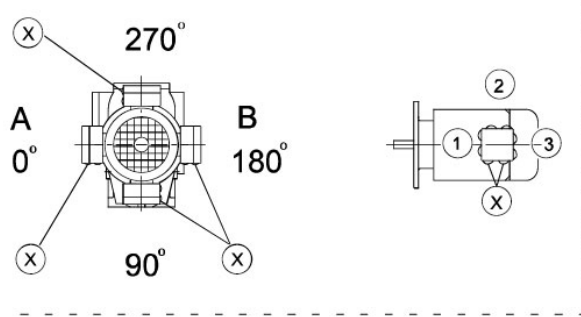
重要:请参见"减速器选型"中"径向和轴向负载"部分(P21)
 Important:Please refer to the information in the "Geared Motors" catalog. Optional Planning for Gear units Ouerhung and axial loads part" (P21)

TSF/SAF/SHF/SAZ/SHZ47...-97..

TSA/SH37



TSA/SH47...-97..



11. 尺寸信息 Information on dimension sheets

范围的分类
Scope of classification

- = Transcyko 作为标准部件提供
Standard parts supplied by Transcyko
- = Transcyko 不作为标准部件提供
Standard parts unsupplied by Transcyko

中心高公差
Shaft heights tolerances

$h < 250\text{mm}$ $\rightarrow -0.5\text{mm}$
 $h > 250$ $\rightarrow -1\text{mm}$

地脚安装减速机: 当配有电机时, 电机可能已凸出到安装平面以下, 请注意检查。
Foot-mounted gear units: The motor may project below the mounting surface when fitted, please check.

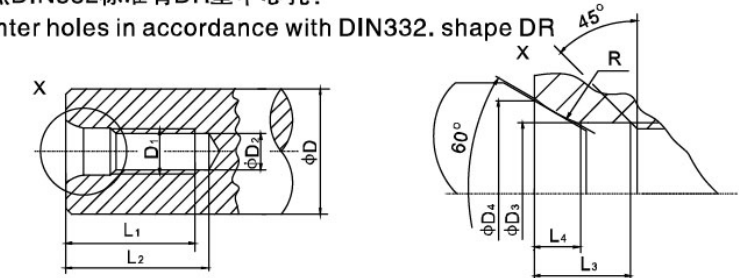
轴公差
Shaft tolerance

直径公差 Diameter tolerance

$\phi < 50\text{mm}$ $\rightarrow \text{ISO k6}$
 $\phi > 50$ $\rightarrow \text{ISO m6}$

按照DIN332标准有DR型中心孔:

Center holes in accordance with DIN332. shape DR



输出轴直径 ϕD Diameter of Output shaft	D1	D2	D3	D4	R	L1 +2	L2 min	L3	L4 ≈
$\phi D = 7-10\text{mm}$	M3	2.5	3.2	5.3	4.0	9.0	12.0	2.6	1.8
$\phi D > 10-13\text{mm}$	M4	3.3	4.3	6.7	5.0	10.0	14.0	3.2	2.1
$\phi D > 13-16\text{mm}$	M5	4.2	5.3	8.1	6.3	12.5	17.0	4.0	2.4
$\phi D > 16-21\text{mm}$	M6	5.0	6.4	9.6	8.0	16.0	21.0	5.0	2.8
$\phi D > 21-24\text{mm}$	M8	6.8	8.4	12.2	10.0	19.0	25.0	6.0	3.3
$\phi D > 24-30\text{mm}$	M10	8.5	10.5	14.9	16.0	22.0	30.0	7.5	3.8
$\phi D > 30-38\text{mm}$	M12	10.2	13.0	18.1	20.0	28.0	37.0	9.5	4.4
$\phi D > 38-50\text{mm}$	M16	14.0	17.0	23.0	25.0	36.0	45.0	12.0	5.2
$\phi D > 50-85\text{mm}$	M20	17.5	21.0	28.4	31.5	42.0	53.0	15.0	6.4
$\phi D > 85-130\text{mm}$	M24	21.0	25.0	34.2	40.0	50.0	63.0	18.0	8.0
$\phi D > 130\text{mm}$	M30	26.5	31.0	42.6	50.0	63.0	85.0	20.0	10.0

空心轴
Hollow shaft

键: 根据DIN6885确定 (圆头平键)
keys: In accordance with DIN6885 (domed type)

直径公差
Diameter tolerance

$\phi \rightarrow \text{ISO H7}$ 塞规测量
ISO H7 measured with plug gauge

花键轴

Dm = 测量棒直径 Measuring roller diameter
Me = 检测尺寸 Inspection size

法兰
Flange

止口公差 Centering shoulder tolerance

- φ ≤230mm(flange size A 120-A300) →ISOj6
- φ >230mm(flange size A 350-A660) →ISOh6

对于每个规格的斜齿轮减速机、交流(制动)电机和防爆(制动)电机最多可提供三种不同尺寸的法兰，每种法兰的尺寸见相关尺寸表。
Up to three different flange dimensions are available for each size of helical gear units AC (brake) motor and explosion-proof AC (brake) motor. The possible flanges per size are indicted in the relevant dimension sheets.

起吊螺栓及吊耳
lifting eyebolts, suspension eye lugs

TR17和TR27减速机,电机机座号小于100的减速电机没有配备专门的运输吊装工具、其它的减速机和电机配有铸造的吊装孔,用螺栓固定在机体上的吊耳或吊环。
TR17... TR27 helical gear units, motors up to DV100 and Spiroplan geared motoes are delivered without special reansport fixtures. Otherwise, the gear units and motors are equipped with cast-on suspension eye lugs, screw-on suspension eye lugs or sceew-on lifting eyebolts.

减速机/电机型号规格 Gear unit/motor type	吊环/吊耳 Screw-on lifting eyebolts /suspension eye lugs	铸造吊装孔 Cast-on suspension eye lugs
TR/RF37-57, TRX/RXF57-67	●	—
≥TR67	●	—
TF37-157	—	●
TK37-157	—	●
TK167-187	●	—
TS37-47	●	—
TS57-97	—	●
≥Y112	●	—

通气阀
Breather valves

减速机尺寸图总是显示为螺塞，相应的螺塞在出厂前按照其定货要求的安装位置更换为通气阀。这意味着减速机的外形尺寸图稍有不同。
The gear unit dimension drawings are always shown with screw plugs. The corresponding screw plug is replaced by an breather valve at the factory depending on with mounti-ngposition M1-M6 is ordered. This means the contour dimensions may be slightly different.

锁紧盘连接
Shrink disk connevtion

对于锁紧盘连接的空心轴减速机:若需要可向Transcyko索要关于锁紧盘的详细数据表。
Hollow shaft gear unit with shrink disk connection :If required, please request a detailed data sheet on shrink disks form Transcyko, data sheet no.33 753..95.

花键空心轴
Splined hollow shaft

TFV..和TKV..减速机从37到107可提供按DIN5480制作的花键空心轴。
Hollow shaft gear units TFV..in sizes 37-107 and TKV..in sizes 37-107 are supplied with a splined hollow shaft to ISO4762.

TFA/TFH/TFV的橡胶缓冲垫
Rubber buffer for TFA/TFH/TFV

f为在力矩Mamax作用下橡胶缓冲垫被压缩的距离尺寸
f stands for the compressed dimension of Rubber buffer in the Manax torque.

制动电机
Brake motors

配制动电机时,G1B的尺寸代替G1;KB代K
In brake motors, dimensions G1B apply instead of G1 and KB instead of K

电机附件
Motor accessory

电机的尺寸因不同的电机附件而不同，请参考电机选择的尺寸图。
The motor dimensions may different as a result of motor accessory. Please refer to the dimensions of the moroe accseeory.

特殊应用
Special versions

接线盒的尺寸，在特殊应用如KS或CSA时与标准形式的尺寸不同。
The dimensions of the terminal box on spevial versions such as KS or CSA may different form the standard dimensions.

减速电机重量
Gear motor weights

Gear Reducer size	Kg	Gear Reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg
TRX57	9	TR..27	4	TR..87	55	TF27	6.5	TF57	25
TRXF57	11	TR..27F	4	TR..87F	63	TFA27	6	TFA57	24
TRX67	12	TR..37	10	TR..97	100	TFF27	8	TFF57	31
TRXF67	16	TR..37F	12	TR..97F	118	TFAF27	7	TFAF57	30
TRX77	20	TR..47	14	TR..107	130	TF37	13	TF67	31
TRXF77	24	TR..47F	14	TR..137	235	TFA37	12	TFA67	27
TRX87	35	TR..57	20	TR..147	360	TFF37	15	TFF67	37
TRXF87	40	TR..57F	24	TR..167	605	TFAF37	14	TFAF67	35
TRX97	59	TR..67	25	TR..177	980	TF47	18	TF77	55
TRXF97	66	TR..67F	29	TR..187	1400	TFA47	17	TFA77	50
TRX107	88	TR..77	30			TFF47	21	TFF77	66
TRXF107	103	TR..77F	36			TFAF47	20	TFAF77	58

Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg
TF87	96	TF127	401	TK37	12	TK67	30	TK97	150
TFA87	90	TFA127	365	TKF37	15	TKF67	36	TKF97	171
TFF87	112	TFF127	447	TKA37	11.5	TKA67	37	TKA97	130
TFAF87	105	TFAF127	401	TKAF37	15	TKAF67	34	TKAF97	156
TF97	157	TF157	632	TK47	19	TK77	54	TK107	260
TFA97	150	TFA157	610	TKF47	22.5	TKF77	62	TKF107	271
TFF97	190	TFF157	740	TKA47	18	TKA77	46	TKA107	231
TFAF97	171	TFAF157	670	TKAF47	21	TKAF77	55	TKAF107	265
TF107	241	TF167	1040	TK57	24	TK87	90	TK127	410
TFA107	225	TFA167	990	TKF57	29	TKF87	100	TKF127	452
TFF107	269	TF177	1520	TKA57	22	TKA87	78	TKA127	381
TFAF107	245	TFA177	1460	TKAF57	28	TKAF87	91	TKAF127	419

减速电机重量
Gear motor weights

Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg	Gear reducer size	Kg	Motor size	Kg
TK157	635	TS37	6	TS67	25	TS97	140	D63S2	9
TKF157	715	TSF37	8	TSF67	32	TSF97	171	D63M2	10
TKA157	603	TSA37	6	TSA67	26	TSA97	135	D63L2	10
TKAF157	660	TSAF37	7.5	TSAF67	31	TSAF97	160	D71D2	14
TK167	1035	TS47	10	TS77	45			D80K2	18
TKH167	1000	TSF47	14	TSF77	55			D80N2	20
TK187	1615	TSA47	11	TSA77	45			D90S2	20
TKH187	1550	TSAF47	13	TSAF77	52			D90L2	23
		TS57	14	TS87	80			D100M2	30
		TSF57	18	TSF87	101			D100L2	32
		TSA57	14	TSA87	76			D112M2	37
		TSAF57	17	TSAF	94			D132S2	57

Motor size	Kg	Motor size	Kg	Motor size	Kg	Motor size	Kg	Motor size	Kg
D132M2	60	D63L4	11	D160L4	130	D90S6	20	D225M6	281
D160M2	114	D71D4	12	D180M4	166	D90L6	20	D250M6	378
D160L2	131	D80K4	14	D180L4	182	D100M6	28	D280S6	475
D180M2	168	D80N4	15	D200L4	232	D100L6	31	D280M6	541
D200L2	236	D90S4	19	D225S4	280	D112M6	37		
D225S2	255	D90L4	23	D225M4	309	D132S6	64		
D225M2	288	D100M4	32	D250M4	400	D132M6	73		
D250M2	382	D100L4	35	D280S4	515	D160M6	104		
D280S2	494	D112M4	52	D280M4	601	D160L6	126		
D280M2	550	D132S4	60	D71D6	12	D180M6	169		
D63S4	10	D132M4	72	D80K6	14	D200L6	225		
D63M4	11	D130M4	109	D80N6	17	D225S6	266		

注：减速电机重量表中重量值为平均各种速比重量的平均值，需要特定速比时精确值及减速电机附带其它输入输出模块的重量值，请咨询本公司。

Notes: The weight of reducers in the table is the average weight for each ratio. If you need exact weight for certain ratio or input output modules, please consult our company

