



公司简介

Company profile

广州欧特士传动设备有限公司是一家集科、工、贸于一体的新型现代化企业。

公司拥有雄厚的技术实力和先进的生产设备及工艺，累积多年意大利传动机械的制造经验，承接传动设备系统的设计、制造及售后的全套优质服务，保证了产品经久耐用、安全可靠、小型高效的精良品质。公司设计的传动设备配套用于食品、皮革、纺织、玻璃、陶瓷、医疗、化工、轻工等机械设备等行业，尤其用于各类自动线传动。

公司将凭着资源充足、质量保证、价格优惠、批量定货送货上门、外地定货代办托运原则，争取获得广大用户的好评。将国内的这个行业里最优秀的企业作为我们追赶的对象，同时引用国外先进技术，提高我们公司的国内外市场竞争力。

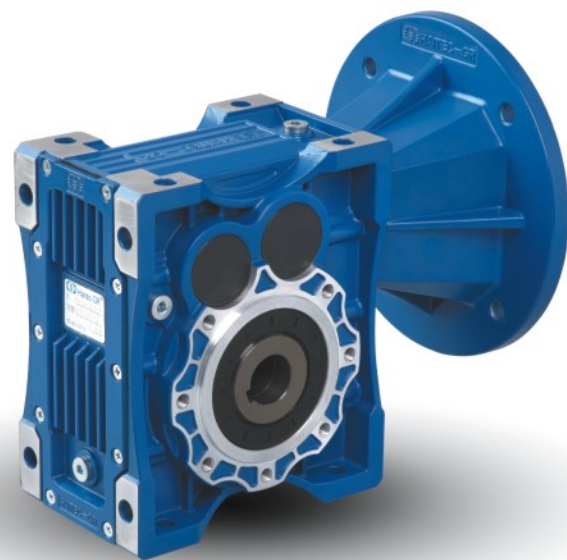
无论是现在还是将来，公司将以一流的人才、一流的技术、一流的产品、一流的服务、一流的待遇、一流的管理、一流的企业文化作为发展原则，我们的目标不是最好而为最好。

Haitec Transmission Equipment CO.,Ltd.is a modernized enterprise:

The company has excellent technological strengths and advanced production facilities and processes. It is capable of undertaking the full range of services from transmission system designs, productions to after-sales Service. The company is also committed to product reliability, durability and efficiency. The transmission package designed by the company is used in the food, leather, textile, glass, pottery, medical, chemical and light industries and other machinery facilities; it is especially suitable for all types of automation line transmission.

We endeavor to earn accolades from our users and agencies through adequate supplies, quality assurances, competitive pricing, and doorstep delivery based on order quantity, and being an agency for overseas shipments. We aim to draw alongside the best in the industry within the country and to import advanced foreign technologies in order to enhance our company's local and overseas competitiveness.

The company's current and development principles hinges on the best talent, technologies, products, services, remunerations, management and company culture. Better than the best is our goal.

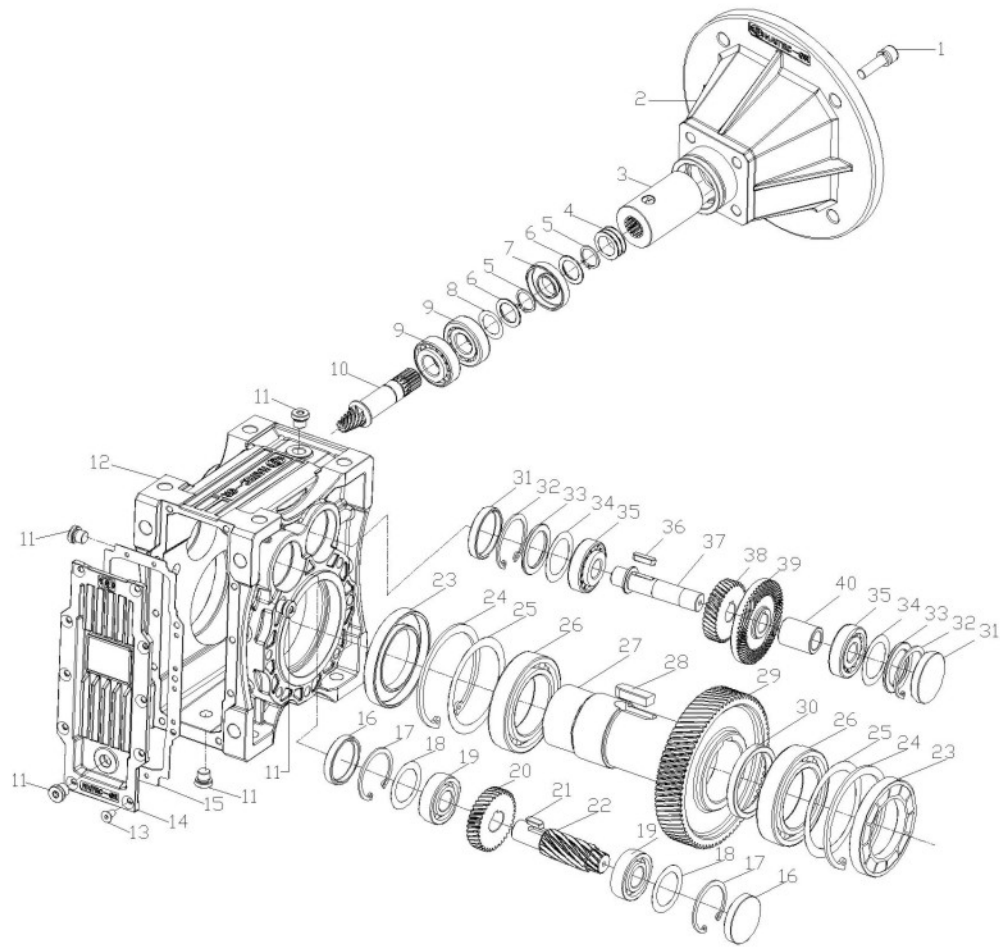


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1. 产品构造原理 / Basic structure



1 内六角螺钉 / Inner Hex Screw	15 橡胶垫 / Rubber Gasket	29 从动齿轮 / Gear
2 输入法兰 / Input Flange	16 密封盖 / Sealing Cover	30 间隔套 / Spacer
3 输入轴 / Input Shaft	17 孔用挡圈 / Hole-circlip	31 密封盖 / Sealing Cover
4 橡胶套 / Rubber Boot	18 调整垫片 / Shim Ring	32 孔用挡圈 / Hole-circlip
5 轴用挡圈 / Shaft-circlip	19 轴承 / Bearing	33 间隔套 / Spacer
6 间隔套 / Spacer	20 从动齿轮 / Gear	34 调整垫片 / Shim Ring
7 油封 / Oil Seal	21 键 / Key	35 轴承 / Bearing
8 调整垫片 / Shim Ring	22 主动齿轮轴 / Pinion Shaft	36 键 / Key
9 轴承 / Bearing	23 油封 / Oil Seal	37 传动轴 / Shaft
10 主动齿轮轴 / Driving Gear Shaft	24 孔用挡圈 / Hole-circlip	38 主动齿轮 / Pinion
11 油塞 / Oil Plug	25 调整垫片 / Shim Ring	39 从动齿轮 / Gear
12 齿轮箱体 / Gearcase	26 轴承 / Bearing	40 间隔套 / Spacer
13 内六角螺钉 / Inner Hex Screw	27 输出轴 / Hollow Shaft	
14 齿轮箱盖板 / Gearcase Cover	28 键 / Key	

2. 概述

2.1 产品特点

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

- 1、采用准双曲面齿轮传动，传动比大；
- 2、输出扭矩大，传动效率高，节能环保；
- 3、优质铝合金铸造，重量轻，不生锈；
- 4、传动平稳，噪音小，适合在恶劣环境中长期连续工作；
- 5、美观耐用，体积小；
- 6、可适应全方位安装，应用广泛，使用方便；
- 7、OTS系列减速器安装尺寸与HMRV系列蜗轮蜗杆减速器完全兼容；

2.2 主要材料

- 1、外壳: 铝合金(机座: 50-90);
- 2、齿轮: 40Cr, 高频淬火, 齿面硬度50-60HRC, 精磨后保持高频厚度0.3-0.5mm;

2.3 表面涂装:

铝合金外壳:

- 1、表面兰皱喷粉处理。

2.SUMMARIZE

2.1 Products characteristics

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

1. Driven by hypoid gear, has big ratios.
2. Large in output torque, high efficiency, energy saving and environmental protection.
3. Made of high-quality aluminum alloy, light in weight and non-rusting.
4. Smooth in running and low in noise, can work long time in dreadful conditions.
5. Good-looking in appearance, durable in service life and small in size.
6. Suitable for all round installation, wide application and easy to use.
7. The mounting dimension of OTS series are compatible with HMRV series worm gear unit.

2.2 Main materials

1. Housing: die-cast aluminum alloy (frame size: 50 to 90);
2. gear wheel: 40Cr, high frequency quencher heat treatment make the hardness of gear's surface up to 50-60 HRC, retain high frequency layer's thickness between 0.3 and 0.5mm after precise grinding.

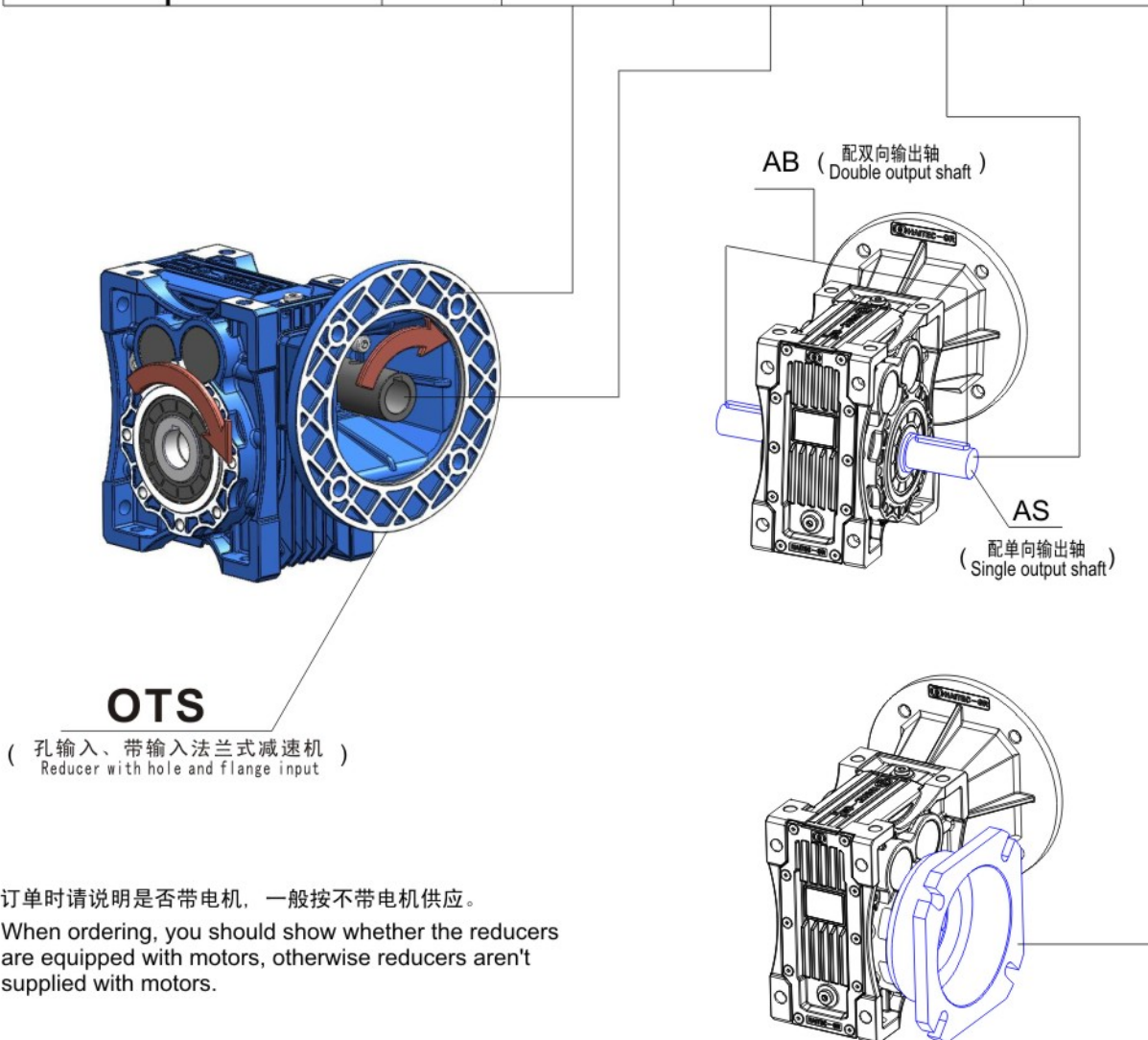
2.3 Surface painting

Aluminum alloy housing:

1. powder painting in blue color.

3. 型号注解 / Designation

OTS	50	.20	-160	/14	+AS	+FA
减速器系列 代号/ Code for gear units series	减速器规格 代号/ Specification code of gear units	传动比/ Reduction ratio	输入法兰尺寸 /Input flange diameter	OTS输入孔尺寸 /OTS Drive shaft diameter	输出轴/ Output shaft	输出法兰/ Output flange FA (FA1、FA2) FB (FB1、FB2) FC (FC1、FC2) FD (FD1、FD2) FE (FE1、FE2)
OTS	50 63 75 90	7.5 10、12.5 15、20 25、30 40、50 60、75 100、125 150、200 250、300	105 120 140 160 200 250	11 14 19 24 28	AS (AS 1、 AS 2) AB	
Necessary (必要)	Necessary (必要)	Necessary (必要)	Required (必选)	Required (必选)	Optional (可选)	Optional (可选)



4. 选型相关参数

4.1 功率 P

$$P_1 = \frac{P_2}{\eta} \text{ (KW)}$$

$$P_{1n} \geq P_{1 \cdot fs} \text{ (KW)}$$

P_1	输入功率
P_2	输出功率
P_{1n}	电机额定功率
f_s	使用系数
η	传动效率

OTS系列减速器的效率为92%

4.2 转速 n

n_1 减速器输入转速
 n_2 减速器输出转速

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

4.3 传动比 i

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

传动比通常为小数，在选型表中保留两位小数。

4.4 扭矩 M

$$M_2 = \frac{9550 \cdot P_1 \cdot \eta}{n_2} \text{ (Nm)}$$

$$M_{2n} \geq M_2 \cdot f_s \text{ (Nm)}$$

M_2	输出扭矩
M_{2n}	选用输出扭矩
P_1	输入功率
f_s	使用系数
η	传动效率

4.5 使用系数 f_s

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

4. RELEVANT PARAMETER

4.1 Power P

$$P_1 = \frac{P_2}{\eta} \text{ (KW)}$$

$$P_{1n} \geq P_{1 \cdot fs} \text{ (KW)}$$

P_1	Input power
P_2	Output power
P_{1n}	Rated power driving motor
f_s	Service factor
η	Transmission efficiency

The efficiency of OTS gear units varies with the number of gear stages,92%

4.2 Rotation speed n

n_1 Gear units input speed
 n_2 Gear units output speed

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

4.3 Transmission ratio i

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

Usually Transmission ratio is decimal fraction with 2 radix point tagged in selection tables.

4.4 Torque M

$$M_2 = \frac{9550 \cdot P_1 \cdot \eta}{n_2} \text{ (Nm)}$$

$$M_{2n} \geq M_2 \cdot f_s \text{ (Nm)}$$

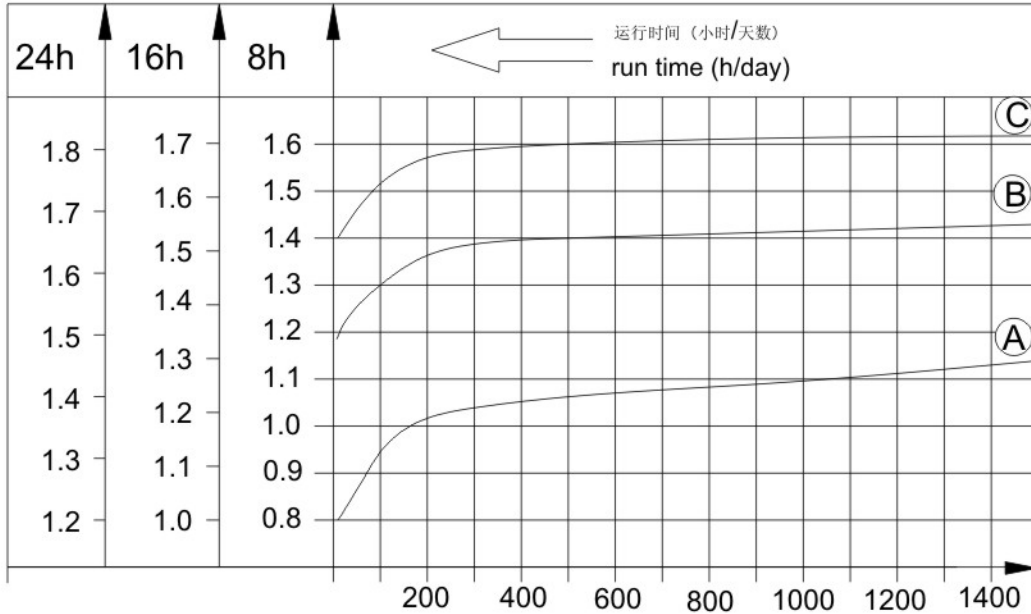
M_2	Output Torque
M_{2n}	Selected output Torque
P_1	Input power
η	Transmission efficiency
f_s	Service factor

4.5 Service factor f_s

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

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

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



图：使用系数 (fs)

Fig : Service factor (fs)

图：启动频率Z (次/小时) #

Start up frequency Z (1/h)#

启动频率Z：周期包括所有启动、制动的次数以及变速电机高低速变化时的次数。

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

4.5.1 负载类型

- (A) 均匀冲击负载，允许惯性加速系数 $f_a \leq 0.2$
- (B) 中等冲击负载，允许惯性加速系数 $f_a \leq 3$
- (C) 重冲击负载，允许惯性加速系数 $f_a \leq 10$

负载类型：

轻负载的螺杆输送，风扇，装备线，输送带，小型搅拌机，电梯，清洗机器，过滤器，控制驱动。

卷扬机，木工机械进料器，货物起重机，平衡器，绞螺纹机器，中型搅拌器，重型输送带，绞盘，滑动闸门，刮料机，包装机械，混凝土搅拌机，行车驱动装置，铣床，齿轮泵。

大型搅拌器，剪床，压机，离心机，旋转支撑装置，重型绞盘和起重机，磨床，石材打磨机，翻斗机，钻床，冲床，凸轴压机，摺床，机床转盘，翻桶装置，震荡装置，破碎机。

4.5.1 Load classification

- (A) Uniform, permitted mass acceleration factor $f_a \leq 0.2$
- (B) Moderate shock load, permitted mass acceleration factor $f_a \leq 3$
- (C) Heavy shock load, permitted mass acceleration factor $f_a \leq 10$

Load classifications:

Screw feeders for light materials, fans, assembly lines, conveyor belts for light materials, small mixers, lifts, cleaning machines, fillers, control machines.

Winding devices, woodworking machine feeders, goods lifts, balancers, threading machines, medium mixers, conveyor belts for heavy materials, winches, sliding doors, fertilizer scrapers, packing machines, concrete mixers, crane mechanisms, milling cutters, folding machines, gear pumps.

Mixers for heavy materials, shears, presses, centrifuges, rotating supports, winches and lifts for heavy materials, grinding lathes, stone mills, bucket elevators, drilling machines, hammer mills, cam presses, folding machines, turntables, tumbling barrels, vibrators, shredders.

4.5.2 惯性加速系数

惯性加速系数计算如下：

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

- f_a 惯性加速系数
- J_c 所有外部传动惯量 (kgm^2)
- J_m 驱动电机的传动惯量 (kgm^2)

如果惯性加速系数 $f_a > 10$ ，请与我们技术部联系。

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

举例：

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

4.6 径向载荷和轴向载荷

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

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

作用在电机和齿轮轴上的径向载荷按如下公式计算：

$$F_r = \frac{M \cdot 2000 \cdot f_z}{d_0} \text{ (N)}$$

- F_r 作用在轴上的载荷 (N)
- M 作用在轴上的扭矩 (Nm)
- d_0 安装在轴上传动件的平均直径 (mm)
- f_z 传动附加系数

4.5.2 Mass acceleration factor

The mass acceleration factor is calculated as follows :

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

- f_a Mass acceleration factor
- J_c All external Mass moments of inertia (kgm^2)
- J_m Mass moment of inertia on the motor end (kgm^2)

If Mass acceleration factor $f_a > 10$, please call our technical service.

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

Example:

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

4.6 Overhung loads and axial forces

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

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

$$F_r = \frac{M \cdot 2000 \cdot f_z}{d_0} \text{ (N)}$$

- F_r Resulting radial load [N]
- M Torque on the shaft [Nm]
- d_0 Mean diameter of the mounted transmission element in [mm]
- f_z Transmission element factor

许用径向载荷是根据轴承额定使用寿命L10h 来估算的(根据ISO281)。对于特殊的运行条件,许用径向载荷是根据修正使用寿命Lna来确定的。

The basis for determining the permitted radial loads is the computation of the rated service life **L10h** of the bearings (according to **ISO281**). For special operating conditions, the permitted radial loads can be determined with regard to the modified service life **Lna**.

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

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

根据轴承的使用寿命公式:

according to bearing service life:

$$F_{XL} = F_{r(1,2)} \cdot \frac{a}{b+x} \text{ (N)}$$

$$F_{XL} = F_{r(1,2)} \cdot \frac{a}{b+x} \text{ (N)}$$

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

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

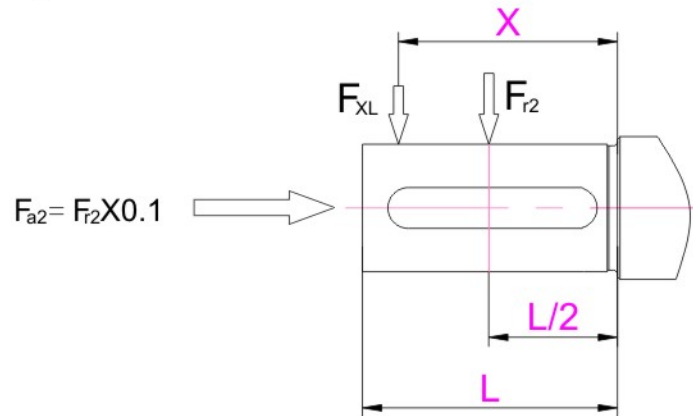
X = 从轴肩到受力点的距离 (mm)

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

a,b, = 减速器径向转化常量 (mm)

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

输出轴径向载荷/Output shafts radial loads



F_{a2} = 输出轴向载荷
Output axial loads

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

	OTS50	OTS63	OTS75	OTS90
a	104	118	131	159
b	78	93	101	119

5. OTS减速机性能参数表 / Performance parameter

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器 型号	输入法兰 型号	电机转速 n_1 (rpm)
0.12	5.7	185	250	243.48	0.7	OTS50	63B5	1400
	7	151	200	199.87	0.9			1400
	9.3	113	150	151.14	1.2			1400
	11.7	90	125	120.08	1.4			1400
	14.2	74	100	98.57	1.7			1400
	18.3	58	75	76.39	2.3			1400
	22.4	47	60	62.43	2.6			1400
	28.2	38	50	49.6	2.8			1400
	34.4	31	40	40.71	4.2			1400
	44.4	24	30	31.55	5.6			1400
	59.3	18	25	23.61	7.1			1400
	67.8	16	20	20.66	8.4			1400
	92.7	12	15	15.11	10.7			1400
	110.1	10	12.5	12.72	12.3			1400
	144	7	10	9.72	16.5			1400
	186.7	6	7.5	7.5	16.8	1400		
	5.6	188	250	247.99	1.1	OTS63	63B5	1400
	7	151	200	200.44	1.4			1400
	9	117	150	155.62	1.8			1400
	11.2	94	125	125.45	2.2			1400
	13.8	76	100	101.4	2.6			1400
	18.1	58	75	77.24	2.9			1400
	22.8	46	60	61.52	2.9			1400
	28.2	38	50	49.6	3			1400
	34.9	31	40	40.09	6.5			1400
	45.8	24	30	30.54	8.5			1400
	4.7	224	300	298.83	1.6	OTS75	63B5	1400
	5.7	185	250	246.37	1.9			1400
	6.7	157	200	207.9	2.3			1400
	9.2	115	150	152.4	3.1			1400
	11.1	95	125	125.65	3.7			1400
	4.7	224	300	298.83	2.1	OTS90	63B5	1400
	5.7	185	250	246.37	2.8			1400
6.7	157	200	207.9	3.3	1400			
9.2	115	150	152.4	4.4	1400			

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)
0.18	9.1	174	300	306.47	0.7	OTS50	63B5	2800
	11.5	138	250	243.48	0.9			2800
	14	113	200	199.87	1.1			2800
	18.5	85	150	151.14	1.5			2800
	23.3	68	125	120.08	1.9			2800
	28.4	56	100	98.57	2.3			2800
	36.7	43	75	76.39	3			2800
	44.9	35	60	62.43	3.4			2800
	56.5	29	50	49.6	3.8			2800
	68.8	23	40	40.71	5.5			2800
	88.7	18	30	31.55	6.9			2800
	118.6	14	25	23.61	9.1			2800
	11.7	135	125	120.08	1	OTS50	63B5	1400
	14.2	111	100	98.57	1.2			1400
	18.3	86	75	76.39	1.6			1400
	22.4	71	60	62.43	1.8			1400
	28.2	57	50	49.6	2.1			1400
	34.4	47	40	40.71	2.8			1400
	44.4	36	30	31.55	3.7			1400
	59.3	27	25	23.61	4.8			1400
	67.8	24	20	20.66	5.5			1400
	92.7	17	15	15.11	7.5			1400
	110.1	15	12.5	12.72	9.1			1400
	144	11	10	9.72	10.6			1400
	186.7	9	7.5	7.5	11.2	1400		
	11.8	134	75	76.39	0.9	OTS50	71B5/B14	900
	14.4	110	60	62.43	1.1			900
	18.1	89	50	49.6	1.2			900
	22.1	73	40	40.71	1.8			900
	28.5	57	30	31.55	2.4			900
	38.1	42	25	23.61	3			900
	43.6	37	20	20.66	3.5			900
	59.6	27	15	15.11	4.8			900
70.8	23	12.5	12.72	5.9	900			
9.1	174	300	307.62	1.1	OTS63			63B5

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)		
0.18	11.3	140	250	247.99	1.6	OTS63	63B5	2800		
	14	113	200	200.44	1.9			2800		
	18	88	150	155.62	2.3			2800		
	22.3	71	125	125.45	2.8			2800		
	27.6	57	100	101.4	3.5			2800		
	36.3	44	75	77.24	3.8			2800		
	45.5	35	60	61.52	3.8			2800		
	56.5	29	50	49.6	4			2800		
	7	226	200	200.44	1			OTS63	63B5	1400
	9	176	150	155.62	1.2	1400				
	11.2	141	125	125.45	1.3	1400				
	13.8	115	100	101.4	1.7	1400				
	18.1	87	75	77.24	1.8	1400				
	22.8	69	60	61.52	2.1	1400				
	28.2	57	50	49.6	2.1	1400				
	34.9	46	40	40.09	2.4	1400				
	7.2	220	125	125.45	1	OTS63	71B5/B14			900
	8.9	178	100	101.4	1.1			900		
	11.7	135	75	77.24	1.2			900		
	14.6	108	60	61.52	1.4			900		
	18.1	89	50	49.6	1.4			900		
	22.4	72	40	40.09	1.6			900		
	29.5	55	30	30.54	1.9			900		
	9.4	168	300	298.83	2.1			OTS75	63B5	2800
	11.4	139	250	246.37	2.6					2800
	13.5	117	200	207.9	3.1	2800				
	18.4	86	150	152.4	4.1	2800				
	4.7	336	300	298.83	1	1400				
	5.7	277	250	246.37	1.2	OTS75	63B5	1400		
	6.7	236	200	207.9	1.4			1400		
	9.2	172	150	152.4	2			1400		
	11.1	142	125	125.65	2.5			1400		
	13.2	120	100	106.03	3			1400		
18.9	84	75	74.15	4.1	1400					
4.3	368	200	207.9	0.9	OTS75			71B5	900	

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)
0.18	5.9	268	150	152.4	1.3	OTS75	71B5	900
	7.2	220	125	125.65	1.6			900
	8.5	186	100	106.03	1.8			900
	12.1	131	75	74.15	2.5			900
	14.6	108	60	61.47	3.1	OTS75	71B5	900
	17.8	91	50	50.68	4.2			900
	9.4	168	300	298.83	2.8	OTS90	63B5	2800
	11.4	139	250	246.37	3.7			2800
	4.7	336	300	298.83	1.4	OTS90	63B5	1400
	5.7	277	250	246.37	1.8			1400
	6.7	236	200	207.9	2.1			1400
	9.2	172	150	152.4	2.9			1400
	11.1	142	125	125.65	3.5			1400
	3.7	427	250	246.37	1.1	OTS90	71B5	900
	4.3	368	200	207.9	1.3			900
	5.9	268	150	152.4	1.9			900
	7.2	220	125	125.65	2.3			900
	8.5	186	100	106.03	2.7			900
	12.1	131	75	74.15	3.7			900
	15.1	105	60	59.77	4.3			900
0.25	18.5	119	150	151.14	1	OTS50	63B5	2800
	23.3	94	125	120.08	1.4			2800
	28.4	77	100	98.57	1.6			2800
	36.7	60	75	76.39	2.2			2800
	44.9	49	60	62.43	2.5			2800
	56.5	40	50	49.6	2.7			2800
	68.8	33	40	40.71	3.2			2800
	18.3	120	75	76.39	1	OTS50	71B5/B14	1400
	22.4	98	60	62.43	1.2			1400
	28.2	80	50	49.6	1.4			1400
	34.4	65	40	40.71	1.8			1400
	44.4	51	30	31.55	2.2			1400
	59.3	38	25	23.61	3.2			1400
	67.8	33	20	20.66	3.8			1400
	92.7	24	15	15.11	4.7			1400

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器 型号	输入法兰 型号	电机转速 n_1 (rpm)		
0.25	18.1	124	50	49.6	1.1	OTS50	71B5/B14	900		
	22.1	102	40	40.71	1.3			900		
	28.5	79	30	31.55	1.6			900		
	38.1	59	25	23.61	2.2			900		
	43.6	51	20	20.66	2.6			900		
	59.6	38	15	15.11	3.5			900		
	70.8	32	12.5	12.72	4.2			900		
	92.6	24	10	9.72	5			900		
	120	19	7.5	7.5	5.2			900		
	11.3	194	250	247.99	1			OTS63	63B5	2800
	14	157	200	200.44	1.2	2800				
	18	122	150	155.62	1.7	2800				
	22.3	98	125	125.45	2.1	2800				
	27.6	80	100	101.4	2.5	2800				
	36.3	61	75	77.24	2.7	2800				
	45.5	48	60	61.52	2.7	2800				
	56.5	40	50	49.6	2.8	2800				
	11.2	196	125	125.45	0.9	OTS63	71B5/B14			1400
	13.8	159	100	101.4	1.3					1400
	18.1	121	75	77.24	1.3			1400		
	22.8	96	60	61.52	1.4			1400		
	28.2	80	50	49.6	1.5			1400		
	34.9	64	40	40.09	1.9			1400		
	45.8	49	30	30.54	2.3			1400		
	11.7	188	75	77.24	0.9			OTS63	71B5/B14	900
	14.6	150	60	61.52	0.9					900
	18.1	124	50	49.6	0.9					900
	22.4	100	40	40.09	1.8	900				
	29.5	76	30	30.54	2.2	900				
	38.1	59	25	23.61	2.3	900				
	43.6	51	20	20.66	2.5	900				
	9.4	234	300	298.83	1.5	OTS75	63B5			2800
11.4	193	250	246.37	1.8	2800					
13.5	163	200	207.9	2.1	2800					
18.4	119	150	152.4	2.9	2800					

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)
0.25	22.3	98	125	125.65	3.4	OTS75	63B5	2800
	5.7	385	250	246.37	0.8	OTS75	71B5	1400
	6.7	328	200	207.9	1			1400
	9.2	239	150	152.4	1.5			1400
	11.1	198	125	125.65	1.8			1400
	13.2	166	100	106.03	2.1			1400
	18.9	116	75	74.15	3			1400
	22.8	96	60	61.47	3.5			1400
	5.9	372	150	152.4	0.9			OTS75
	7.2	305	125	125.65	1.1	900		
	8.5	258	100	106.03	1.4	900		
	12.1	182	75	74.15	1.9	900		
	14.6	150	60	61.47	2.3	900		
	17.8	126	50	50.68	2.9	900		
	21	107	40	42.77	3.4	900		
	9.4	234	300	298.83	2	OTS90	63B5	2800
	11.4	193	250	246.37	2.5			2800
	13.5	163	200	207.9	3.1			2800
	18.4	119	150	152.4	4.1			2800
	4.7	467	300	298.83	1	OTS90	71B5	1400
	5.7	385	250	246.37	1.2			1400
	6.7	328	200	207.9	1.5			1400
	9.2	239	150	152.4	2.1			1400
	11.1	198	125	125.65	2.5			1400
	13.2	166	100	106.03	3			1400
	18.9	116	75	74.15	3.9			1400
	4.3	511	200	207.9	1	OTS90	71B5	900
	5.9	372	150	152.4	1.3			900
7.2	305	125	125.65	1.6	900			
8.5	258	100	106.03	1.9	900			
12.1	182	75	74.15	2.6	900			
15.1	145	60	59.77	3.2	900			
18.3	123	50	49.27	2.8	900			
0.37	23.3	140	125	120.08	0.9	OTS50	71B5/B14	2800
	28.4	114	100	98.57	1.1			2800

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)	
0.37	36.7	89	75	76.39	1.4	OTS50	71B5/B14	2800	
	44.9	72	60	62.43	1.7			2800	
	56.5	59	50	49.6	1.8			2800	
	68.8	48	40	40.71	2.3			2800	
	88.7	37	30	31.55	2.5			2800	
	28.2	118	50	49.6	1.1	OTS50	71B5/B14	1400	
	34.4	97	40	40.71	1.4			1400	
	44.4	75	30	31.55	1.8			1400	
	59.3	56	25	23.61	2.2			1400	
	67.8	49	20	20.66	2.6			1400	
	92.7	36	15	15.11	2.9			1400	
	110.1	30	12.5	12.72	3.3			1400	
	144	23	10	9.72	3.3			1400	
	186.7	18	7.5	7.5	3.5			1400	
	28.5	117	30	31.55	1.1			OTS50	80B5/B14
	38.1	87	25	23.61	1.4	900			
	43.6	76	20	20.66	1.7	900			
	59.6	56	15	15.11	2.4	900			
	70.8	47	12.5	12.72	2.7	900			
	92.6	36	10	9.72	2.9	900			
	120	28	7.5	7.5	3.1	900			
	14	232	200	200.44	0.8	OTS63	71B5/B14	2800	
	18	181	150	155.62	1			2800	
	22.3	146	125	125.45	1.4			2800	
	27.6	118	100	101.4	1.7			2800	
	36.3	90	75	77.24	1.8			2800	
	45.5	71	60	61.52	1.9			2800	
	56.5	59	50	49.6	2			2800	
	69.8	48	40	40.09	2.4			2800	
	13.8	236	100	101.4	0.9			OTS63	71B5/B14
18.1	180	75	77.24	0.9	1400				
22.8	143	60	61.52	1.2	1400				
28.2	118	50	49.6	1.3	1400				
34.9	95	40	40.09	1.6	1400				
45.8	73	30	30.54	1.8	1400				

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)
0.37	59.3	56	25	23.61	2.1	OTS63	71B5/B14	1400
	67.8	49	20	20.66	2.4			1400
	18.1	183	50	49.6	1.1	OTS63	80B5/B14	900
	22.4	148	40	40.09	1.4			900
	29.5	113	30	30.54	1.8			900
	38.1	87	25	23.61	2.3			900
	43.6	76	20	20.66	2.7			900
	60.7	55	15	14.82	3.1			900
	72.2	46	12.5	12.47	3.2			900
	89.8	37	10	10.02	3.2			900
	116.9	28	7.5	7.7	3.5			900
	9.4	346	300	298.83	0.9			OTS75
	11.4	285	250	246.37	1.2	2800		
	13.5	241	200	207.9	1.4	2800		
	18.4	177	150	152.4	2	2800		
	22.3	146	125	125.65	2.3	2800		
	26.4	123	100	106.03	2.9	2800		
	37.8	86	75	74.15	3.8	2800		
	9.2	353	150	152.4	1	OTS75	71B5	
	11.1	293	125	125.65	1.2			1400
	13.2	246	100	106.03	1.4			1400
	18.9	172	75	74.15	1.9			1400
	22.8	143	60	61.47	2.4			1400
	27.6	120	50	50.68	2.9			1400
	32.7	102	40	42.77	3.2			1400
	8.5	382	100	106.03	1			OTS75
	12.1	269	75	74.15	1.3	900		
	14.6	223	60	61.47	1.5	900		
	17.8	187	50	50.68	1.9	900		
	21	158	40	42.77	2.3	900		
	30.1	110	30	29.91	2.7	900		
	36.2	92	25	24.88	3.2	900		
	9.4	346	300	298.83	1.3	OTS90	71B5	
	11.4	285	250	246.37	1.8			2800
	13.5	241	200	207.9	1.9			2800

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)		
0.37	18.4	177	150	152.4	2.7	OTS90	71B5	2800		
	22.3	146	125	125.65	3.4			2800		
	5.7	570	250	246.37	0.9			1400		
	6.7	485	200	207.9	1	OTS90	71B5	1400		
	9.2	353	150	152.4	1.3			1400		
	11.1	293	125	125.65	1.7			1400		
	13.2	246	100	106.03	2.1			1400		
	18.9	172	75	74.15	2.8			1400		
	23.4	139	60	59.77	3			1400		
	28.4	117	50	49.27	3.2			1400		
	5.9	551	150	152.4	0.9			900		
	7.2	451	125	125.65	1.1			900		
	8.5	382	100	106.03	1.4	900				
	12.1	269	75	74.15	1.8	OTS90	80B5/B14	900		
	15.1	215	60	59.77	2			900		
	18.3	181	50	49.27	2.3			900		
	21.6	154	40	41.58	2.8			900		
	0.55	36.7	132	75	76.39			1	OTS50	71B5/B14
44.9		108	60	62.43	1.1			2800		
56.5		87	50	49.6	1.2	2800				
68.8		72	40	40.71	1.8	2800				
88.7		56	30	31.55	2.4	2800				
118.6		42	25	23.61	2.9	2800				
135.5		36	20	20.66	3.1	2800				
34.4		144	40	40.71	0.9	1400				
44.4		111	30	31.55	1.2	1400				
59.3		83	25	23.61	1.5	1400				
67.8		73	20	20.66	1.8	OTS50	80B5/B14	1400		
92.7		53	15	15.11	2.4			1400		
110.1		45	12.5	12.72	2.9			1400		
144		34	10	9.72	3.2			1400		
186.7		26	7.5	7.5	3.5			1400		
38.1		130	25	23.61	1			900		
43.6		113	20	20.66	1.2	OTS50	80B5/B14	900		
59.6		83	15	15.11	1.6			900		

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)
0.55	70.8	70	12.5	12.72	1.8	OTS50	80B5/B14	900
	92.6	53	10	9.72	2.2			900
	120	41	7.5	7.5	2.4			900
	22.3	217	125	125.45	0.9	OTS63	71B5/B14	2800
	27.6	175	100	101.4	1.1			2800
	36.3	133	75	77.24	1.3			2800
	45.5	106	60	61.52	1.4			2800
	56.5	87	50	49.6	1.4			2800
	69.8	71	40	40.09	1.8			2800
	91.7	54	30	30.54	2.1			2800
	28.2	175	50	49.6	1.1			OTS63
	34.9	141	40	40.09	1.3	1400		
	45.8	108	30	30.54	1.9	1400		
	59.3	83	25	23.61	2.4	1400		
	67.8	73	20	20.66	2.7	1400		
	94.5	52	15	14.82	3.7	1400		
	112.3	44	12.5	12.47	3.6	1400		
	139.7	35	10	10.02	3.5	1400		
	181.8	27	7.5	7.7	3.7	1400		
	22.4	220	40	40.09	0.8	OTS63	80B5/B14	900
	29.5	167	30	30.54	1.1			900
	38.1	130	25	23.61	1.4			900
	43.6	113	20	20.66	1.7			900
	60.7	81	15	14.82	2.4			900
	72.2	68	12.5	12.47	2.3			900
	89.8	55	10	10.02	2.2			900
	116.9	42	7.5	7.7	2.4			900
	13.5	358	200	207.9	0.9	OTS75	71B5	2800
	18.4	263	150	152.4	1.3			2800
	22.3	217	125	125.65	1.6			2800
	26.4	183	100	106.03	1.9			2800
	37.8	128	75	74.15	2.6			2800
45.6	106	60	61.47	3.1	2800			
55.2	89	50	50.68	3.9	2800			
13.2	366	100	106.03	0.9	OTS75		80B5/B14	1400

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)
0.55	18.9	256	75	74.15	1.4	OTS75	80B5/B14	1400
	22.8	212	60	61.47	1.6			1400
	27.6	179	50	50.68	2			1400
	32.7	151	40	42.77	2.4			1400
	46.8	105	30	29.91	2.8			1400
	56.3	88	25	24.88	3.2			1400
	14.6	331	60	61.47	1	OTS75	80B5/B14	900
	17.8	277	50	50.68	1.2			900
	21	235	40	42.77	1.5			900
	30.1	164	30	29.91	2.1			900
	36.2	136	25	24.88	2.4			900
	41.3	120	20	21.77	2.8			900
	57.4	86	15	15.69	3.3	OTS90	71B5	900
	9.4	514	300	298.83	0.9			2800
	11.4	424	250	246.37	1.1			2800
	13.5	358	200	207.9	1.3			2800
	18.4	263	150	152.4	1.9			2800
	22.3	217	125	125.65	2.3			2800
	26.4	183	100	106.03	2.8	OTS90	80B5/B14	2800
	37.8	128	75	74.15	3.4			2800
	46.8	103	60	59.77	3.7			2800
	56.8	87	50	49.27	3.9			2800
	9.2	525	150	152.4	1			1400
	11.1	435	125	125.65	1.2			1400
	13.2	366	100	106.03	1.4	OTS90	80B5/B14	1400
	18.9	256	75	74.15	2			1400
	23.4	206	60	59.77	2.2			1400
	28.4	174	50	49.27	2.1			1400
	33.7	146	40	41.58	2.7			1400
	8.5	568	100	106.03	0.8			OTS90
12.1	399	75	74.15	1.1	900			
15.1	320	60	59.77	1.2	900			
18.3	270	50	49.27	1.2	900			
21.6	229	40	41.58	1.8	900			
30.9	160	30	29.08	2.1	900			

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)
0.55	37.2	133	25	24.19	2.8	OTS90	80B5/B14	900
0.75	56.5	119	50	49.6	1.1	OTS50	80B5/B14	2800
	68.8	98	40	40.71	1.3			2800
	88.7	76	30	31.55	1.7			2800
	118.6	57	25	23.61	2.1			2800
	135.5	50	20	20.66	2.7			2800
	185.3	36	15	15.11	3.2			2800
	44.4	152	30	31.55	0.9	OTS50	80B5/B14	1400
	59.3	114	25	23.61	1.1			1400
	67.8	99	20	20.66	1.3			1400
	92.7	73	15	15.11	1.8			1400
	110.1	61	12.5	12.72	2.1			1400
	144	47	10	9.72	2.5			1400
	186.7	36	7.5	7.5	2.7			1400
	59.6	113	15	15.11	1.2	OTS50	90B5/B14	900
	70.8	95	12.5	12.72	1.4			900
	92.6	73	10	9.72	1.7			900
	120	56	7.5	7.5	1.7			900
	36.3	182	75	77.24	0.8	OTS63	80B5/B14	2800
	45.5	145	60	61.52	0.9			2800
	56.5	119	50	49.6	1			2800
	69.8	96	40	40.09	1.5			2800
	91.7	73	30	30.54	1.9			2800
	118.6	57	25	23.61	2.4			2800
	135.5	50	20	20.66	3.1			2800
	28.2	239	50	49.6	0.9	OTS63	80B5/B14	1400
	34.9	193	40	40.09	1			1400
	45.8	147	30	30.54	1.3			1400
59.3	114	25	23.61	1.7	1400			
67.8	99	20	20.66	2	1400			
94.5	71	15	14.82	2.6	1400			
112.3	60	12.5	12.47	2.7	1400			
139.7	48	10	10.02	2.6	1400			
181.8	37	7.5	7.7	2.7	1400			
38.1	177	25	23.61	1.1	OTS63	90B5/B14	900	

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)
0.75	43.6	154	20	20.66	1.3	OTS63	90B5/B14	900
	60.7	111	15	14.82	1.6			900
	72.2	93	12.5	12.47	1.7			900
	89.8	75	10	10.02	1.7			900
	116.9	58	7.5	7.7	1.9			900
	18.4	358	150	152.4	1	OTS75	80B5/B14	2800
	22.3	295	125	125.65	1.2			2800
	26.4	250	100	106.03	1.4			2800
	37.8	174	75	74.15	1.9			2800
	45.6	144	60	61.47	2.3			2800
	55.2	122	50	50.68	2.7	OTS75	80B5/B14	2800
	65.5	103	40	42.77	3.2			2800
	18.9	349	75	74.15	1.1			1400
	22.8	289	60	61.47	1.2			1400
	27.6	244	50	50.68	1.4			1400
	32.7	206	40	42.77	1.7	OTS75	80B5/B14	1400
	46.8	144	30	29.91	2.4			1400
	56.3	120	25	24.88	2.8			1400
	64.3	105	20	21.77	3.4			1400
	17.8	378	50	50.68	0.9			OTS75
	21	321	40	42.77	1.1	900		
	30.1	224	30	29.91	1.4	900		
	36.2	186	25	24.88	1.7	900		
	41.3	163	20	21.77	2.2	900		
	57.4	117	15	15.69	2.7	OTS90	80B5/B14	900
	69.9	96	12.5	12.87	3.2			900
	11.4	578	250	246.37	0.8			2800
	13.5	488	200	207.9	1			2800
	18.4	358	150	152.4	1.3			2800
	22.3	295	125	125.65	1.7	OTS90	80B5/B14	2800
	26.4	250	100	106.03	2			2800
	37.8	174	75	74.15	2.7			2800
46.8	141	60	59.77	3	2800			
56.8	119	50	49.27	3	2800			
13.2	499	100	106.03	1	OTS90	80B5/B14	1400	

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)
0.75	18.9	349	75	74.15	1.4	OTS90	80B5/B14	1400
	23.4	282	60	59.77	1.6			1400
	28.4	237	50	49.27	1.5			1400
	33.7	200	40	41.58	1.8			1400
	48.1	140	30	29.08	2.3			1400
	57.9	116	25	24.19	2.4			1400
	12.1	545	75	74.15	0.9			OTS90
	15.1	436	60	59.77	1.1	900		
	18.3	368	50	49.27	1.1	900		
	21.6	312	40	41.58	1.6	900		
	30.9	218	30	29.08	1.9	900		
	37.2	181	25	24.19	2.3	900		
	42.5	158	20	21.16	2.8	900		
	59	114	15	15.26	3.1	900		
1.1	68.8	144	40	40.71	0.9	OTS50	80B5/B14	2800
	88.7	111	30	31.55	1.3			2800
	118.6	83	25	23.61	1.5			2800
	135.5	73	20	20.66	1.7			2800
	185.3	53	15	15.11	2.4			2800
	220.1	45	12.5	12.72	2.9			2800
	288.1	34	10	9.72	3.4			2800
	373.3	26	7.5	7.5	3.6			2800
	67.8	146	20	20.66	0.8	OTS50	90B5/B14	1400
	92.7	107	15	15.11	1.2			1400
	110.1	90	12.5	12.72	1.4			1400
	144	69	10	9.72	1.9			1400
	186.7	53	7.5	7.5	1.8			1400
	70.8	139	12.5	12.72	1	OTS50	90B5/B14	900
	92.6	107	10	9.72	1.2			900
	120	82	7.5	7.5	1.3			900
	56.5	175	50	49.6	1.2	OTS63	80B5/B14	2800
	69.8	141	40	40.09	1.4			2800
	91.7	108	30	30.54	1.7			2800
	118.6	83	25	23.61	2.1			2800
135.5	73	20	20.66	2.3	2800			

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)		
1.1	188.9	52	15	14.82	3.1	OTS63	80B5/B14	2800		
	224.5	44	12.5	12.47	3.2			2800		
	279.4	35	10	10.02	3.4			2800		
	363.6	27	7.5	7.7	3.6			2800		
	45.8	216	30	30.54	0.9	OTS63	90B5/B14	1400		
	59.3	167	25	23.61	1.2			1400		
	67.8	146	20	20.66	1.4			1400		
	94.5	104	15	14.82	1.8			1400		
	112.3	88	12.5	12.47	1.8			1400		
	139.7	71	10	10.02	1.9			1400		
	181.8	54	7.5	7.7	1.9			1400		
	43.6	226	20	20.66	0.9			OTS63	90B5/B14	900
	60.7	163	15	14.82	1.2					900
	72.2	137	12.5	12.47	1.3					900
	89.8	110	10	10.02	1.3	900				
	116.9	84	7.5	7.7	1.2	900				
	26.4	366	100	106.03	1	OTS75	80B5/B14			2800
	37.8	256	75	74.15	1.4					2800
	45.6	212	60	61.47	1.6					2800
	55.2	179	50	50.68	2					2800
	65.5	151	40	42.77	2.4					2800
	93.6	105	30	29.91	2.9			2800		
	112.5	88	25	24.88	3.4			2800		
	27.6	358	50	50.68	1			OTS75	90B5/B14	1400
	32.7	302	40	42.77	1.2					1400
	46.8	211	30	29.91	1.6					1400
	56.3	175	25	24.88	2	1400				
	64.3	154	20	21.77	2.7	1400				
	89.2	111	15	15.69	3	1400				
	108.8	91	12.5	12.87	3.4	1400				
30.1	328	30	29.91	1.2	OTS75	90B5/B14	900			
36.2	273	25	24.88	1.3			900			
41.3	239	20	21.77	1.4			900			
57.4	172	15	15.69	2			900			
69.9	141	12.5	12.87	2.5			900			

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)
1.1	84.4	117	10	10.66	2.7	OTS75	90B5/B14	900
	116	85	7.5	7.76	3			900
	18.4	525	150	152.4	1	OTS90	80B5/B14	2800
	22.3	433	125	125.65	1.2			2800
	26.4	366	100	106.03	1.6			2800
	37.8	256	75	74.15	1.8			2800
	46.8	206	60	59.77	2.2			2800
	56.8	174	50	49.27	2.1			2800
	67.3	147	40	41.58	2.6			2800
	18.9	511	75	74.15	1			OTS90
	23.4	413	60	59.77	1.1	1400		
	28.4	348	50	49.27	1.1	1400		
	33.7	293	40	41.58	1.4	1400		
	48.1	205	30	29.08	1.8	1400		
	57.9	171	25	24.19	2.3	1400		
	66.2	149	20	21.16	2.9	1400		
	18.3	540	50	49.27	0.8	OTS90	90B5/B14	
	21.6	457	40	41.58	1			900
	30.9	320	30	29.08	1.6			900
	37.2	265	25	24.19	1.7			900
42.5	232	20	21.16	2.2	900			
59	167	15	15.26	2.8	900			
71.9	137	12.5	12.52	3.1	900			
84.7	117	10	10.63	3.2	900			
119.4	83	7.5	7.54	3.3	900			
1.5	118.6	114	25	23.61	1.1	OTS50	90B5/B14	2800
	135.5	99	20	20.66	1.3			2800
	185.3	73	15	15.11	1.8			2800
	220.1	61	12.5	12.72	2.2			2800
	288.1	47	10	9.72	2.5			2800
	373.3	36	7.5	7.5	2.7			2800
	92.7	145	15	15.11	0.9	OTS50	90B5/B14	1400
	110.1	122	12.5	12.72	1.1			1400
	144	94	10	9.72	1.3			1400
	186.7	72	7.5	7.5	1.3			1400

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)		
1.5	56.5	238	50	49.6	0.9	OTS63	90B5/B14	2800		
	69.8	193	40	40.09	1.1			2800		
	91.7	147	30	30.54	1.4			2800		
	118.6	114	25	23.61	1.6			2800		
	135.5	99	20	20.66	2			2800		
	188.9	71	15	14.82	2.2			2800		
	224.5	60	12.5	12.47	2.4			2800		
	279.4	48	10	10.02	2.6			2800		
	363.6	37	7.5	7.7	2.7			2800		
	59.3	227	25	23.61	0.9			OTS63	90B5/B14	1400
	67.8	199	20	20.66	1.1	1400				
	94.5	142	15	14.82	1.3	1400				
	112.3	120	12.5	12.47	1.3	1400				
	139.7	96	10	10.02	1.4	1400				
	181.8	74	7.5	7.7	1.4	1400				
	37.8	349	75	74.15	1	2800				
	45.6	289	60	61.47	1.1	2800				
	55.2	244	50	50.68	1.4	2800				
	65.5	206	40	42.77	1.8	OTS75	90B5/B14			2800
	93.6	144	30	29.91	2.1			2800		
	112.5	120	25	24.88	2.5			2800		
	128.6	105	20	21.77	3.1			2800		
	32.7	412	40	42.77	0.8			OTS75	90B5/B14	1400
	46.8	288	30	29.91	1.3					1400
	56.3	239	25	24.88	1.5					1400
	64.3	209	20	21.77	1.7					1400
	89.2	151	15	15.69	2.1					1400
	108.8	124	12.5	12.87	2.8					1400
	131.3	103	10	10.66	3.2	1400				
	180.4	75	7.5	7.76	3.6	1400				
26.4	499	100	106.03	1	OTS90	90B5/B14	2800			
37.8	349	75	74.15	1.4			2800			
46.8	282	60	59.77	1.5			2800			
56.8	237	50	49.27	1.6			2800			
67.3	200	40	41.58	1.8			2800			

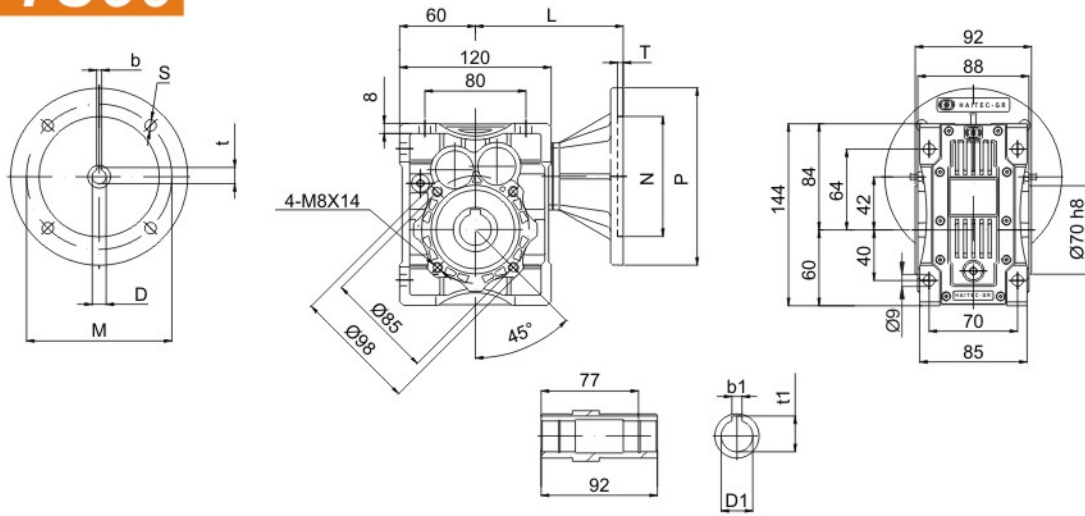
P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)
1.5	96.3	140	30	29.08	2.5	OTS90	90B5/B14	2800
	115.8	116	25	24.19	2.8			2800
	28.4	474	50	49.27	0.9	OTS90	90B5/B14	1400
	33.7	400	40	41.58	0.9			1400
	48.1	280	30	29.08	1.3			1400
	57.9	233	25	24.19	1.5			1400
	66.2	203	20	21.16	1.7			1400
	91.7	147	15	15.26	2.3			1400
	111.8	120	12.5	12.52	2.7			1400
	131.7	102	10	10.63	3.2			1400
	185.7	73	7.5	7.54	3.5			1400
2.2	135.5	146	20	20.66	0.9			OTS50
	185.3	107	15	15.11	1.1	2800		
	220.1	90	12.5	12.72	1.5	2800		
	288.1	69	10	9.72	1.7	2800		
	373.3	53	7.5	7.5	1.7	2800		
	91.7	215	30	30.54	0.9	OTS63	90B5/B14	2800
	118.6	167	25	23.61	1.3			2800
	135.5	146	20	20.66	1.3			2800
	188.9	105	15	14.82	1.7			2800
	224.5	88	12.5	12.47	1.9			2800
	279.4	71	10	10.02	1.9			2800
	363.6	54	7.5	7.7	1.9			2800
	55.2	358	50	50.68	0.9	OTS75	90B5/B14	2800
	65.5	301	40	42.77	1.1			2800
	93.6	211	30	29.91	1.5			2800
	112.5	176	25	24.88	1.9			2800
	128.6	154	20	21.77	2.4			2800
	178.5	111	15	15.69	3.1			2800
	217.6	91	12.5	12.87	3.7			2800
	56.3	351	25	24.88	1			OTS75
	64.3	307	20	21.77	1.1	1400		
	89.2	221	15	15.69	1.5	1400		
	108.8	182	12.5	12.87	1.8	1400		
	131.3	150	10	10.66	2.1	1400		

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)		
2.2	180.4	109	7.5	7.76	2.4	OTS75	100B5/B14	1400		
	57.4	344	15	15.69	1	OTS75	112B5/B14	900		
	69.9	283	12.5	12.87	1.1			900		
	84.4	234	10	10.66	1.4			900		
	116	170	7.5	7.76	1.6			900		
	37.8	511	75	74.15	1.1	OTS90	90B5/B14	2800		
	46.8	413	60	59.77	1.2			2800		
	56.8	348	50	49.27	1.1			2800		
	67.3	293	40	41.58	1.4			2800		
	96.3	205	30	29.08	1.6			2800		
	115.8	171	25	24.19	2.1			2800		
	132.3	149	20	21.16	2.7			2800		
	33.7	586	40	41.58	0.8	OTS90	100B5/B14	1400		
	48.1	411	30	29.08	1.3			1400		
	57.9	341	25	24.19	1.5			1400		
	66.2	298	20	21.16	1.7			1400		
	91.7	215	15	15.26	2.2			1400		
	111.8	177	12.5	12.52	2.4			1400		
	131.7	150	10	10.63	2.5			1400		
	185.7	106	7.5	7.54	2.7			1400		
	37.2	531	25	24.19	1			OTS90	112B5/B14	900
	42.5	465	20	21.16	1					900
	59	335	15	15.26	1.4	900				
71.9	275	12.5	12.52	1.7	900					
84.7	233	10	10.63	1.7	900					
119.4	165	7.5	7.54	1.8	900					
3	65.5	411	40	42.77	0.8	OTS75	100B5/B14	2800		
	93.6	288	30	29.91	1.3			2800		
	112.5	239	25	24.88	1.5			2800		
	128.6	209	20	21.77	1.7			2800		
	178.5	151	15	15.69	1.9			2800		
	217.6	124	12.5	12.87	2.3			2800		
	262.7	103	10	10.66	2.8			2800		
	360.8	75	7.5	7.76	3.4			2800		
	89.2	302	15	15.69	1.1	OTS75	100B5/B14	1400		
	108.8	248	12.5	12.87	1.4			1400		
	131.3	205	10	10.66	1.7			1400		
	180.4	149	7.5	7.76	1.9			1400		

P_{1n} (kW)	n_2 (rpm)	M_{2n} (N·m)	i 公称	i 实际	f_s	减速器型号	输入法兰型号	电机转速 n_1 (rpm)		
3	46.8	563	60	59.77	0.8	OTS90	100B5/B14	2800		
	56.8	474	50	49.27	1			2800		
	67.3	400	40	41.58	1.2			2800		
	96.3	280	30	29.08	1.8			2800		
	115.8	233	25	24.19	2.2			2800		
	132.3	204	20	21.16	2.5			2800		
	183.5	147	15	15.26	3.2			2800		
	223.6	120	12.5	12.52	3.4			2800		
	263.4	102	10	10.63	3.6			2800		
	371.4	73	7.5	7.54	3.7			2800		
	57.9	465	25	24.19	1.1	OTS90	100B5/B14	1400		
	66.2	407	20	21.16	1.2			1400		
	91.7	294	15	15.26	1.6			1400		
	111.8	241	12.5	12.52	1.7			1400		
	131.7	204	10	10.63	1.8			1400		
	185.7	145	7.5	7.54	1.8			1400		
	4	112.5	319	25	24.88	1.2	OTS75	112B5/B14	2800	
		128.6	279	20	21.77	1.3			2800	
		178.5	201	15	15.69	1.6			2800	
		217.6	165	12.5	12.87	2			2800	
262.7		137	10	10.66	2.6	2800				
360.8		100	7.5	7.76	2.7	2800				
108.8		330	12.5	12.87	1	OTS75	112B5/B14	1400		
131.3		273	10	10.66	1.3			1400		
180.4		199	7.5	7.76	1.5			1400		
67.3		533	40	41.58	0.9	OTS90	112B5/B14	2800		
96.3		373	30	29.08	1.4			2800		
115.8		310	25	24.19	1.4			2800		
132.3		271	20	21.16	1.8			2800		
183.5		196	15	15.26	2.5			2800		
223.6		161	12.5	12.52	2.7			2800		
263.4		136	10	10.63	2.7			2800		
371.4		97	7.5	7.54	2.8			2800		
66.2		542	20	21.16	0.9			OTS90	112B5/B14	1400
91.7		392	15	15.26	1.2					1400
111.8		321	12.5	12.52	1.4	1400				
131.7	273	10	10.63	1.3	1400					
185.7	193	7.5	7.54	1.6	1400					

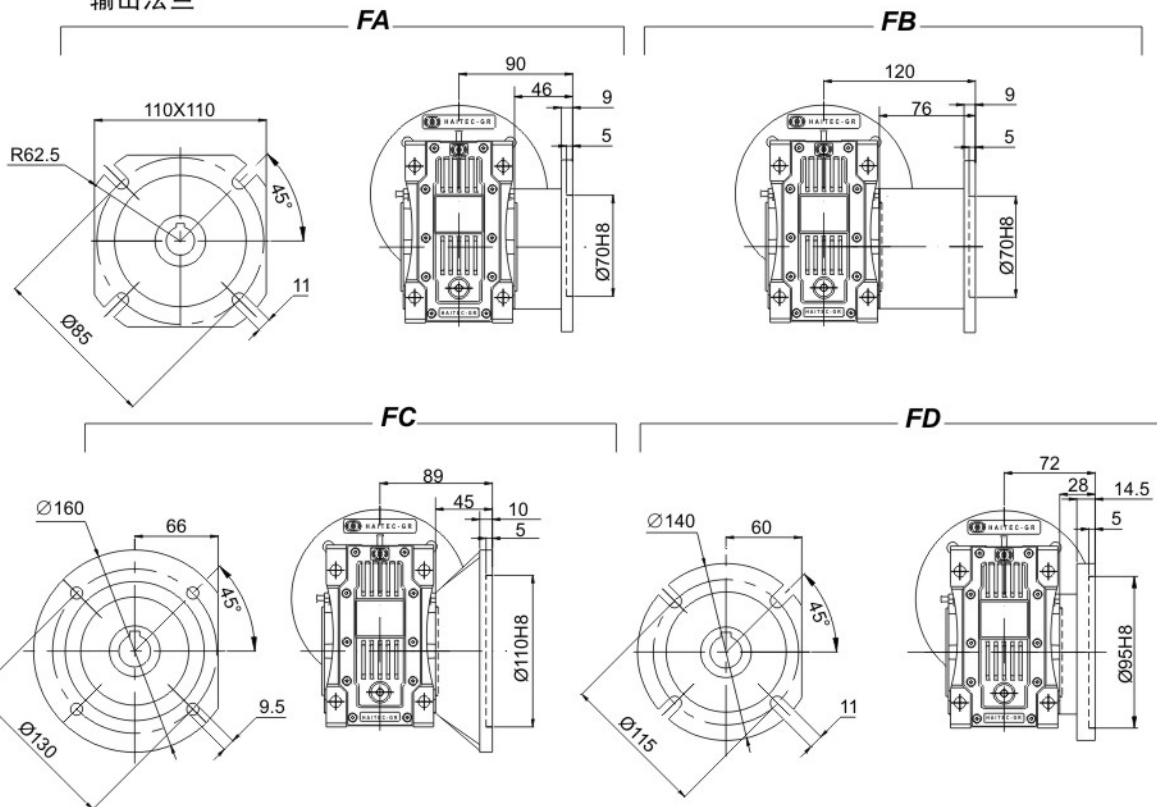
6. 产品外型尺寸图表 / OUTLINE DIMENSION SHEET

OTS50



Output flange
输出法兰

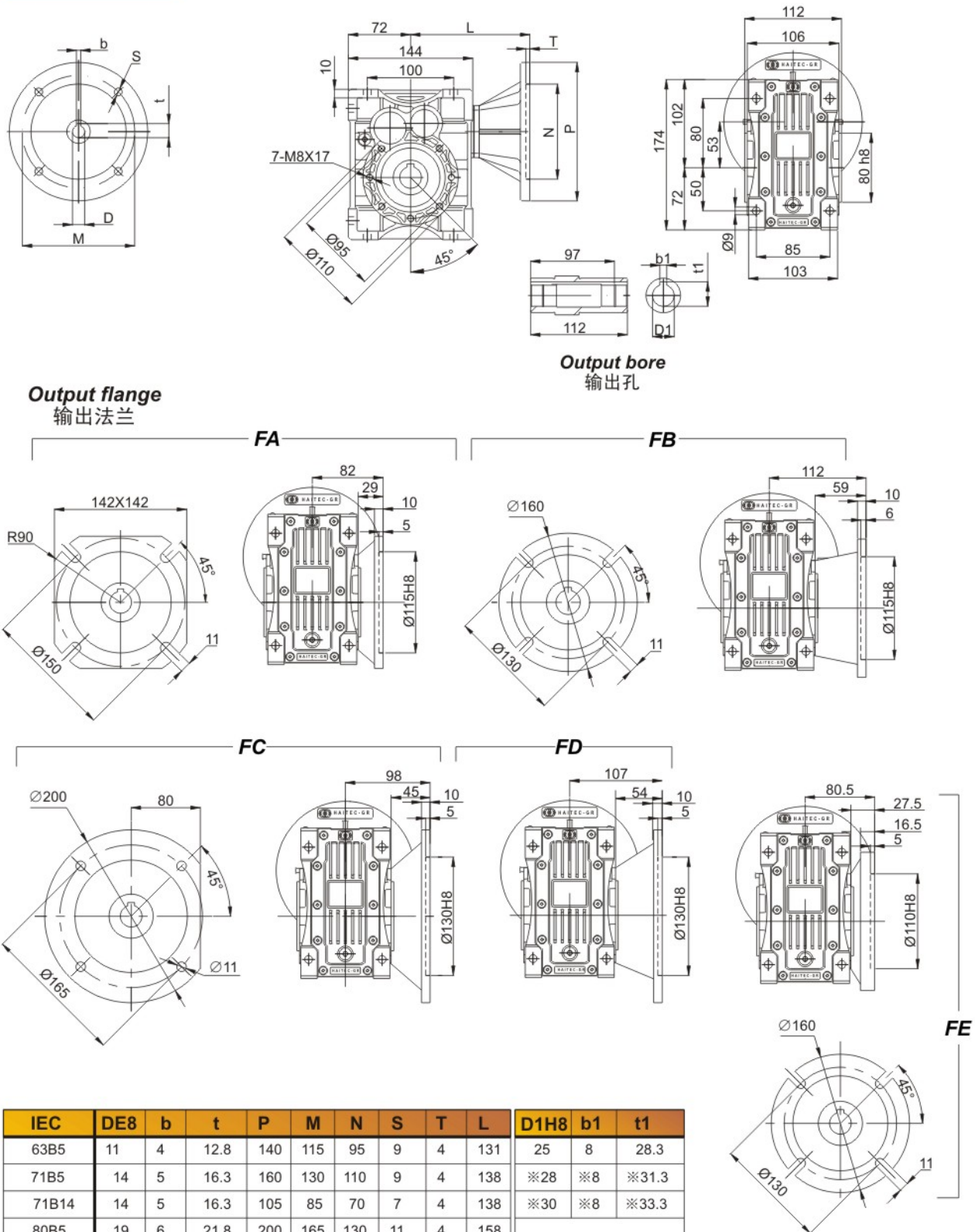
Output bore
输出孔



IEC	DE8	b	t	P	M	N	S	T	D1H8	b1	t1
63B5	11	4	12.8	140	115	95	9	4	※20	※6	※22.8
71B5	14	5	16.3	160	130	110	9	4	※24	※8	※27.3
71B14	14	5	16.3	105	85	70	7	4	25	8	28.3
80B5	19	6	21.8	200	165	130	11	4	※ 非标产品, 订单时请说明 ※ Only on request		
80B14	19	6	21.8	120	100	80	7	4			
90B14	24	8	27.3	140	115	95	9	4			

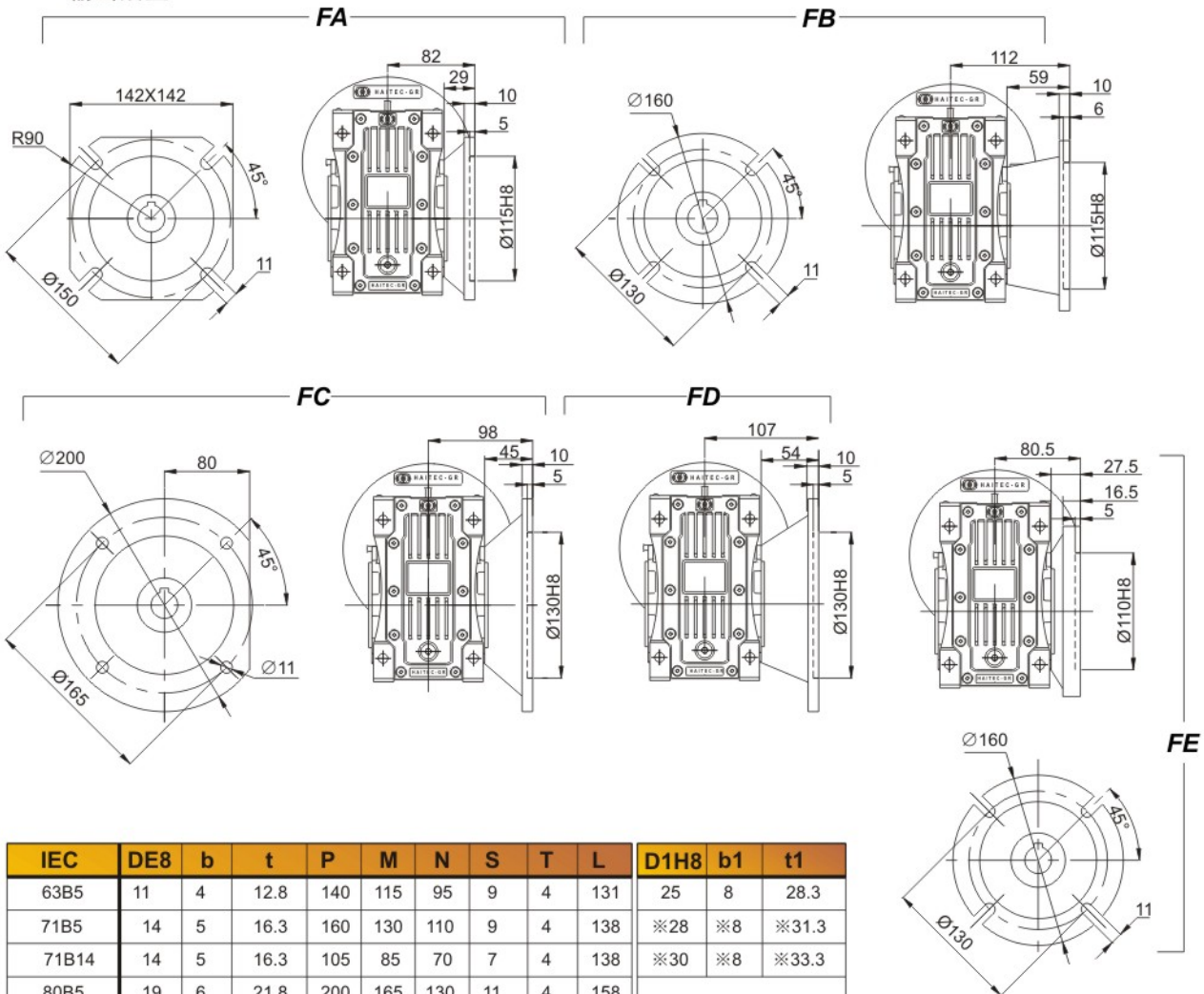
重量 (不含马达)
≈4.9kg
Weight without motor
≈4.9kg

OTS63



Output flange
输出法兰

Output bore
输出孔

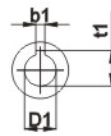
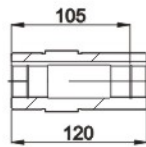
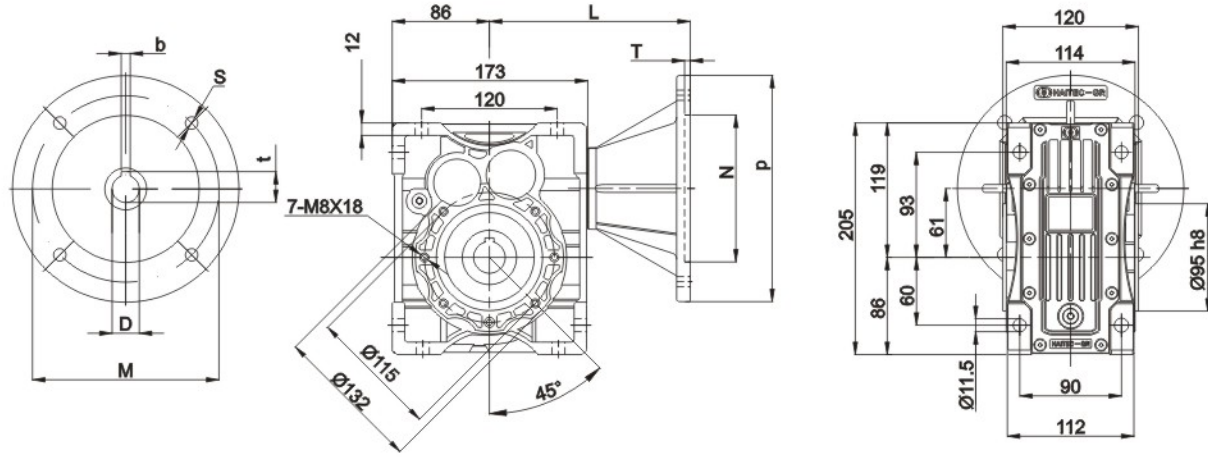


IEC	DE8	b	t	P	M	N	S	T	L	D1H8	b1	t1
63B5	11	4	12.8	140	115	95	9	4	131	25	8	28.3
71B5	14	5	16.3	160	130	110	9	4	138	※28	※8	※31.3
71B14	14	5	16.3	105	85	70	7	4	138	※30	※8	※33.3
80B5	19	6	21.8	200	165	130	11	4	158			
80B14	19	6	21.8	120	100	80	7	4	158			
90B5	24	8	27.3	200	165	130	11	4	158			
90B14	24	8	27.3	140	115	95	9	4	158			

※ 非标产品, 订单时请说明
※ Only on request

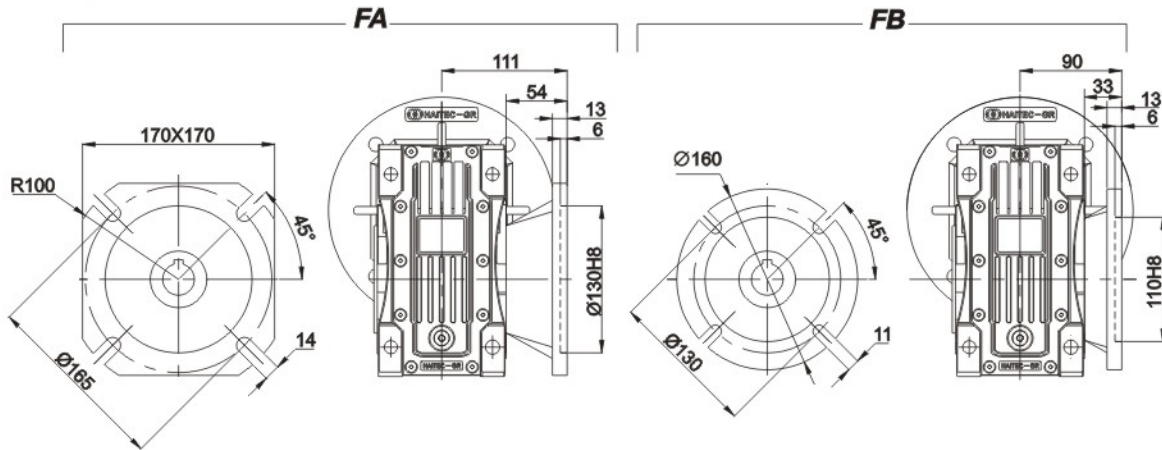
重量 (不含马达)
≈ 6.6kg
Weight without motor
≈ 6.6kg

OTS75



Output flange
输出法兰

Output bore
输出孔

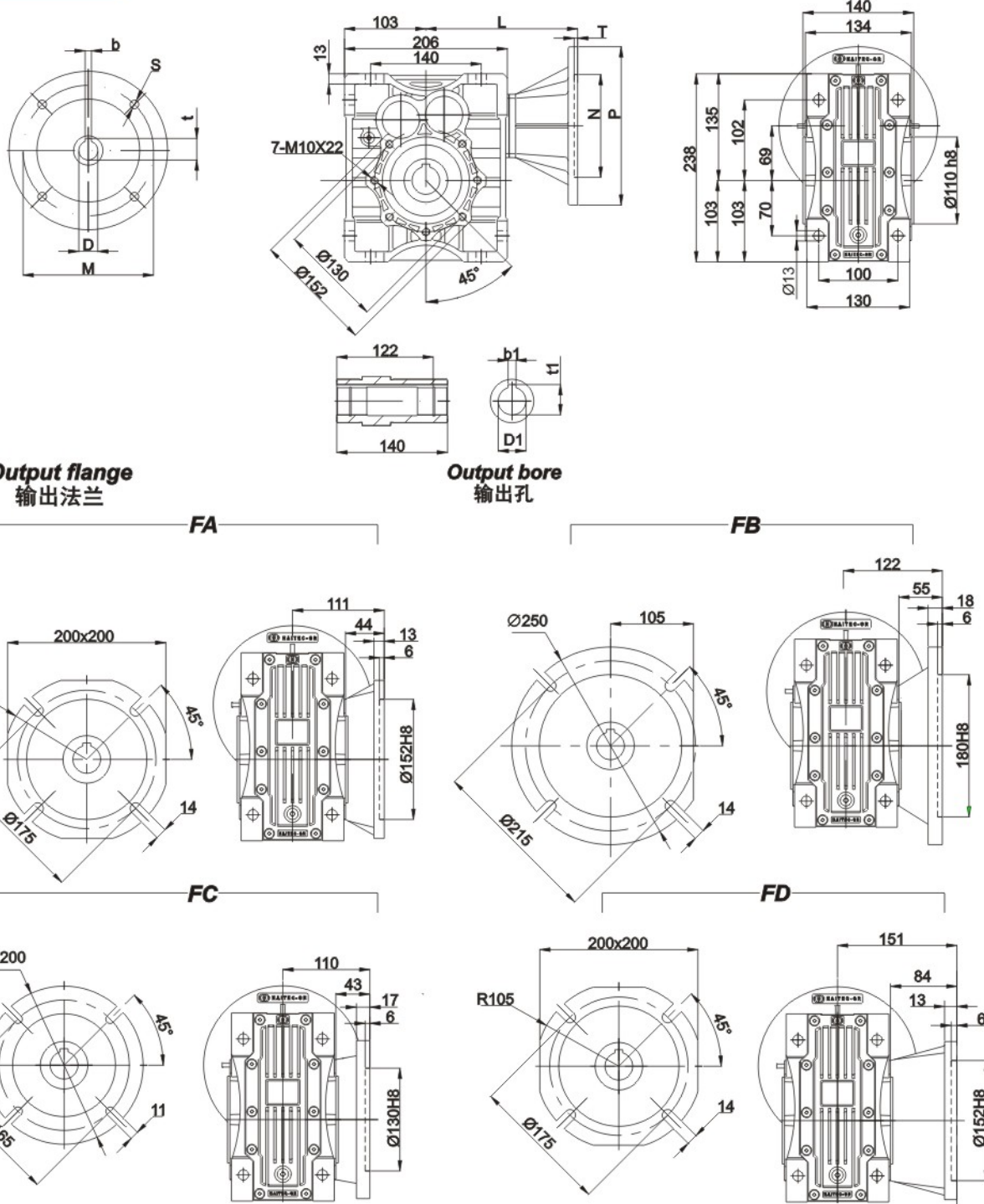


IEC	DE8	b	t	P	M	N	S	T	L	D1H8	b1	t1
63B5	11	4	12.8	140	115	95	9	4	151	28	8	31.3
71B5	14	5	16.3	160	130	110	9	4	158	※30	※8	※33.3
80B5	19	6	21.8	200	165	130	11	4	178	※35	※10	※38.3
80B14	19	6	21.8	120	100	80	7	4	178			
90B5	24	8	27.3	200	165	130	11	4	178			
90B14	24	8	27.3	140	115	95	9	4	178			
100/112B5	28	8	31.3	250	215	180	13.5	4.5	188			
100/112B14	28	8	31.3	160	130	110	9	4.5	188			

※ 非标产品, 订单时请
说明
※ Only on request

重量 (不含马达)
≈ 10.6kg
Weight without motor
≈ 10.6kg

OTS90



Output flange
输出法兰

Output bore
输出孔

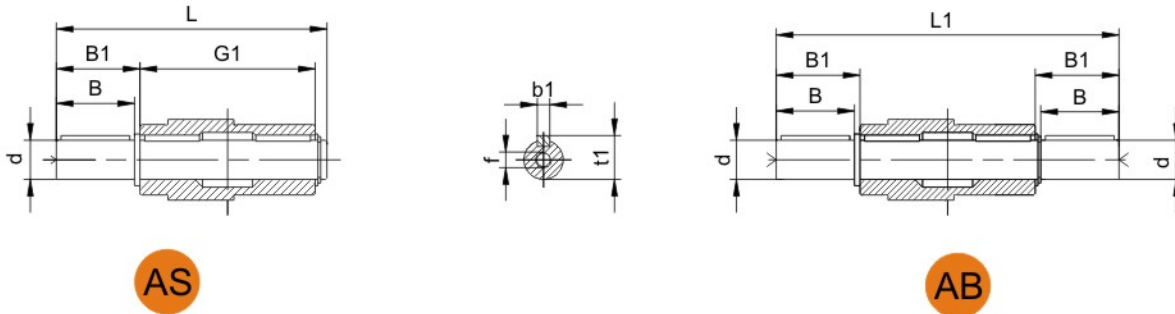
IEC	DE8	b	t	P	M	N	S	T	L	D1H8	b1	t1
63B5	11	4	12.8	140	115	95	9	4	165	35	10	38.3
71B5	14	5	16.3	160	130	110	9	4	172	※38	※10	※41.3
80B5	19	6	21.8	200	165	130	11	4	192	※40	※10	※43.3
80B14	19	6	21.8	120	100	80	7	4	192			
90B5	24	8	27.3	200	165	130	11	4	192			
90B14	24	8	27.3	140	115	95	9	4	192			
100/112B5	28	8	31.3	250	215	180	13.5	4.5	202			
100/112B14	28	8	31.3	160	130	110	9	4.5	202			

※ 非标产品, 订单时请说明
※ Only on request

重量 (不含马达)
≈ 14.6kg
Weight without motor
≈ 14.6kg

7. 附件尺寸图表 / ACCESSORIES OUTLINE DIMENSION SHEET

7.1 输出轴 / Output Shafts



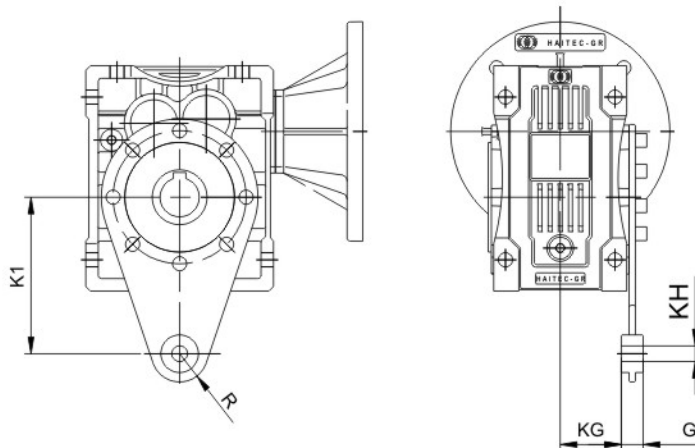
	d_{h6}	B	B ₁	G ₁	L	L ₁	f	b ₁	t ₁
OTS50	25	50	53.5	92	153	199	M10	8	28
OTS63	25	50	53.5	112	173	219	M10	8	28
OTS75	28	60	63.5	120	192	247	M10	8	31
OTS90	35	80	84.5	140	234	309	M12	10	38

* 非标产品，订单时请说明

* Only on request

7.2 扭力臂 / Torque Arm

7.2.1 OTS..扭力臂 / Torque Arm

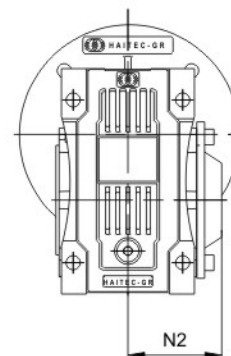


	K1	G	KG	KH	R
OTS50	100	14	38.5	10	18
OTS63	150	14	49	10	18
OTS75	200	25	47.5	20	30
OTS90	200	25	57.5	20	30

7.3 防尘盖 / Side cover

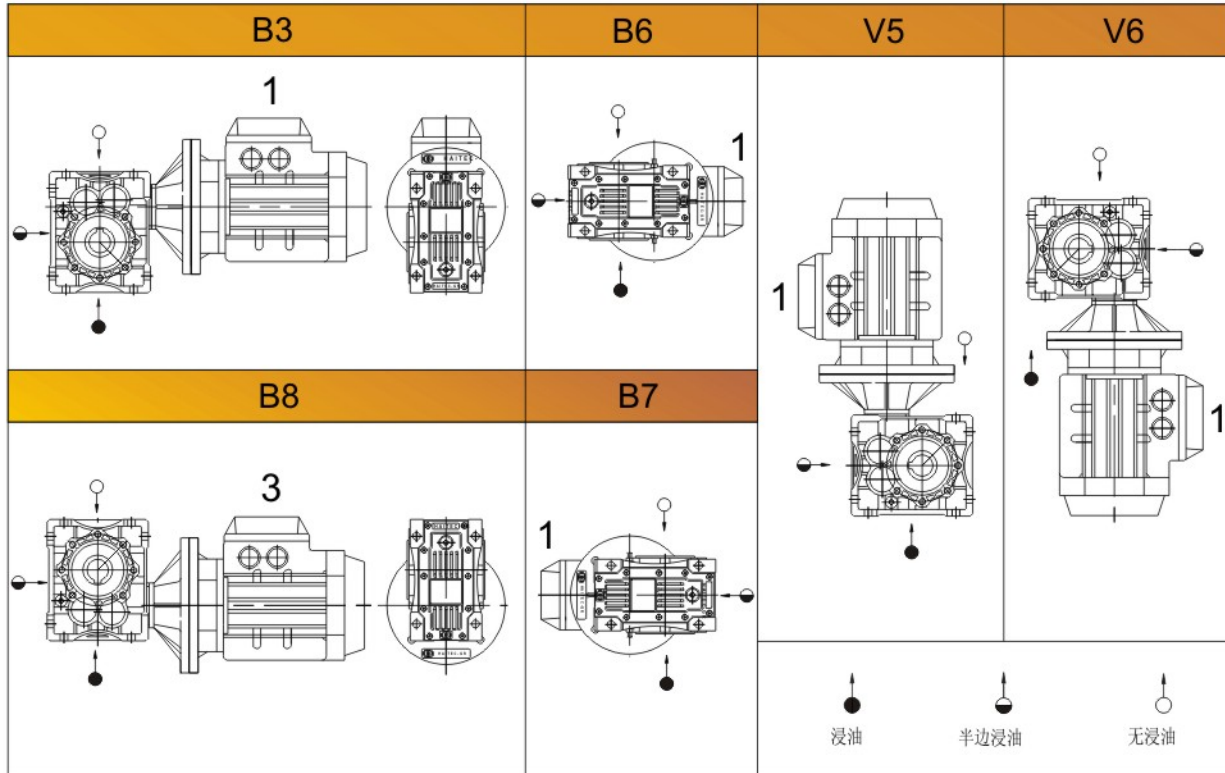
7.3.1 OTS..防尘盖 / Side cover

	N2
OTS50	58.5
OTS63	69
OTS75	74
OTS90	86

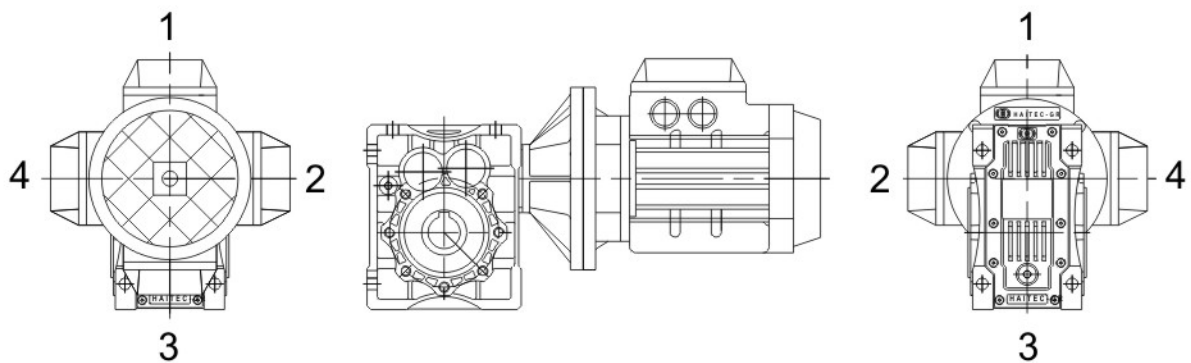


8. 安装方位图 / INSTALLATION POSITIONS DIAGRAM

8.1 OTS 安装方位 / Mounting positions



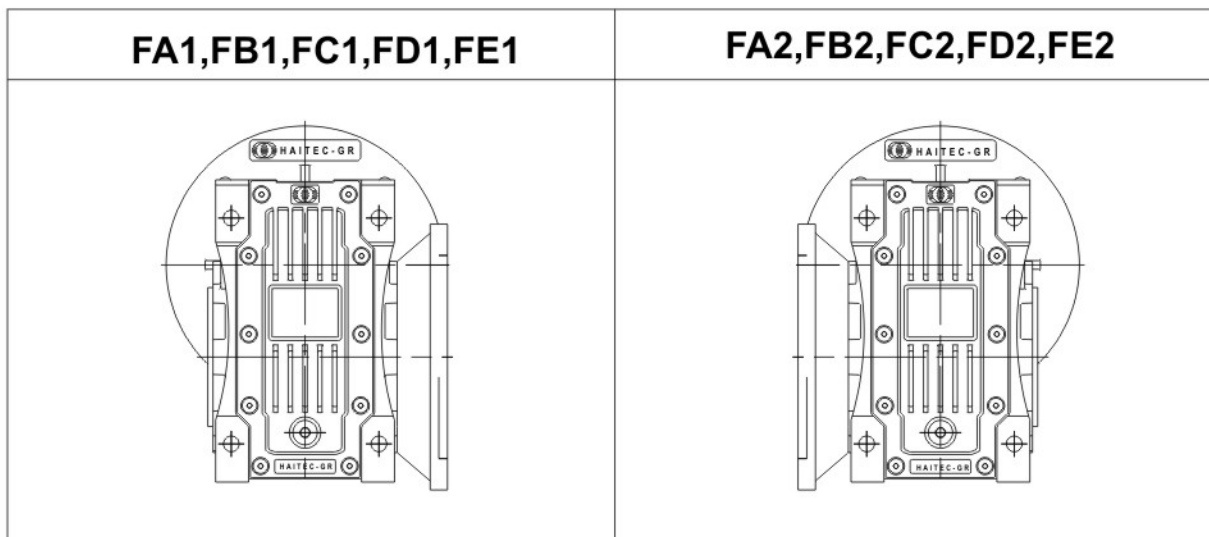
8.2 接线盒位置 / Positions of terminal box



如对接线盒位置有特殊要求，请在下单时如图所示来指定接线盒安装方位。

In the case of specific requirement, when ordering, specify the position of the terminal box as shown in the diagram .

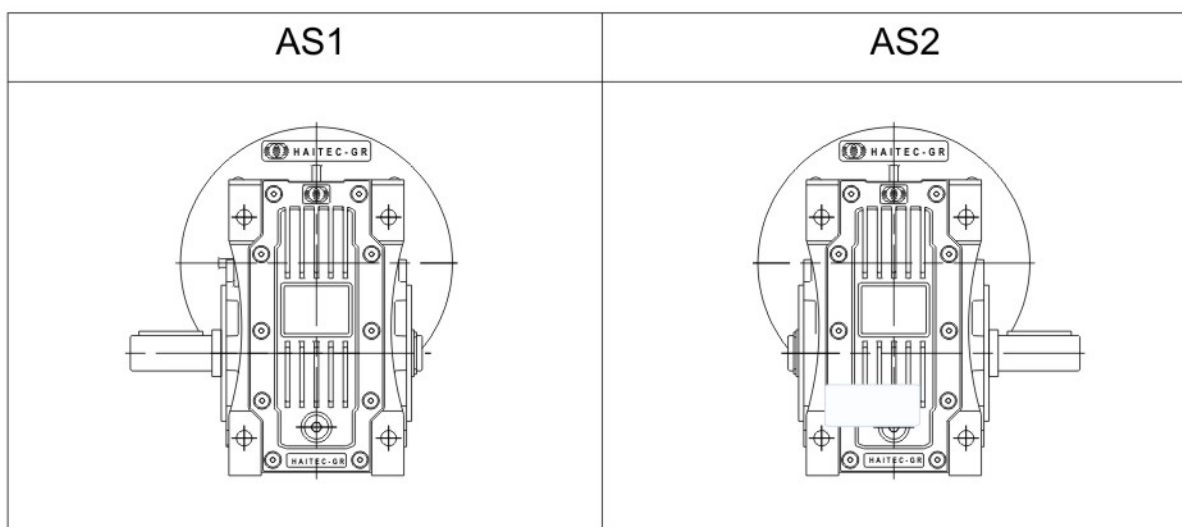
8.3 输出法兰位置 / *Position diagram for output flange*



如没有特殊要求,一般按出厂的标准位置如图 F..1方式和B3位置提供。

Unless specified otherwise, the reduction unit is supplied with the flange in pos. F..1 referred to position B3 .

8.4 单向输出轴位置 / *Position diagram for single output shaft*



9. 安装 / INSTALLATION

9.1 注意事项

安装减速器时要注意以下一些事项：

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

9.2 使用限制

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

9.1 Note recommendations

To install the reduction unit it is necessary to note the following recommendations;

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

9.2 Critical applications

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

1. 在原有上提高转速时；
 2. 应用在惯性特别大的设备上时；
 3. 当减速器出现故障有可能会对操作者造成危害时；
 4. 应用在减速器过度疲劳状态时；
 5. 工作环境低于 -5°C 或高于 40°C 时；
 6. 在化学腐蚀环境中使用时；
 7. 在盐性环境中使用时；
 8. 在辐射性高的环境中使用时；
 9. 在环境气压不在正常大气压力下使用时；
 10. 安装方位在这样本中没有提到时；
- 避免把减速器部分或整台浸入水里或其它液体中。

减速器以承受的最大负载扭矩不能超过两倍于性能参数表中规定的正常扭矩（当使用系数 $f_s=1$ 时）；这里最大负载扭矩是指能承受瞬间暂时过载，它出现在过载启动、刹车、振动或其他动态操作环境中。

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

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

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

10 润滑油/LUBRICATION

10.1 润滑油型号/Types of lubrication

OTS (50, 63, 75, 90)		ISO	SHELL	MOBIL	BP	润滑油类型 lubrication type
		VG220	Shell Omala 220	Mobilgear 630	BP Energol GR-XP220	矿物油 Mineral oil
VG150 VG100	Shell Omala 100	Mobilger 627	BP Energol GR-XP100			
VG68-46 VG32	Shell Tellus T32	Mobil D. T. E. 13M		矿物油 Mineral oil		
VG22 VG15	Shell Tellus T15	Mobil D. T. E. 11M	BP Energol HLP-HM15			
VG220	Shell Omala HD220	Mobil SHC630		合成油 Synthetic oil		
VG150		Mobil SHC629				
VG32		Mobil SHC624				

10.2 润滑油加注量

规定的加注量为参考值，精确值的变化与级数和传动比有关。请您在加注润滑油时一定要注意油位螺栓所指示的精确油量。后期调整安装方式时，您必须根据改变后的安装方式相应调整加注润滑剂。下表中列出了不同安装方式（B3、B6、B7……）的减速器相应标准参考润滑油注入量值。

10.2 Lubricant fill quantity

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

OTS 润滑油加注量/Lubricant fill quantity

减速器型号 Gear units	加注量 Fill quantity in liters						单位: 升 (L)
	B3	B6	B7	B8	V5	V6	
OTS50	0.07	0.04	0.04	0.05	0.08	0.09	
OTS63	0.07	0.04	0.04	0.05	0.08	0.09	
OTS75	0.13	0.09	0.09	0.09	0.15	0.17	
OTS90	0.13	0.09	0.09	0.09	0.15	0.17	

11. 维护

1. 对于齿轮箱，首次换油必须在工作大纸300小时（齿轮磨合期）后进行，在换油时应使用合适的清洗剂小心地冲洗齿轮箱，不得将矿物油和合成油混合。

2. 每3000工作小时，最低程度半年，应检测油以及油位，油封密封不严引起滴漏的常规检测，若是IEC输入的减速器，则检测弹性体，必要时进行更换。

3. 根据不同的工作条件（见下图）而定，最长每三年检测一次，更换矿物油，更换轴承润滑油脂。

4. 根据不同的工作条件而定，更换输出轴上的油封。

5. 产品出现故障时，不要指拆卸部件，与本公司售后服务部门联系（需提供减速器规格、出厂日期、编号、已使用时间、主机名称、主机生产单位和故障类型），后，再采取合理的措施。

11. MAINTENANCE

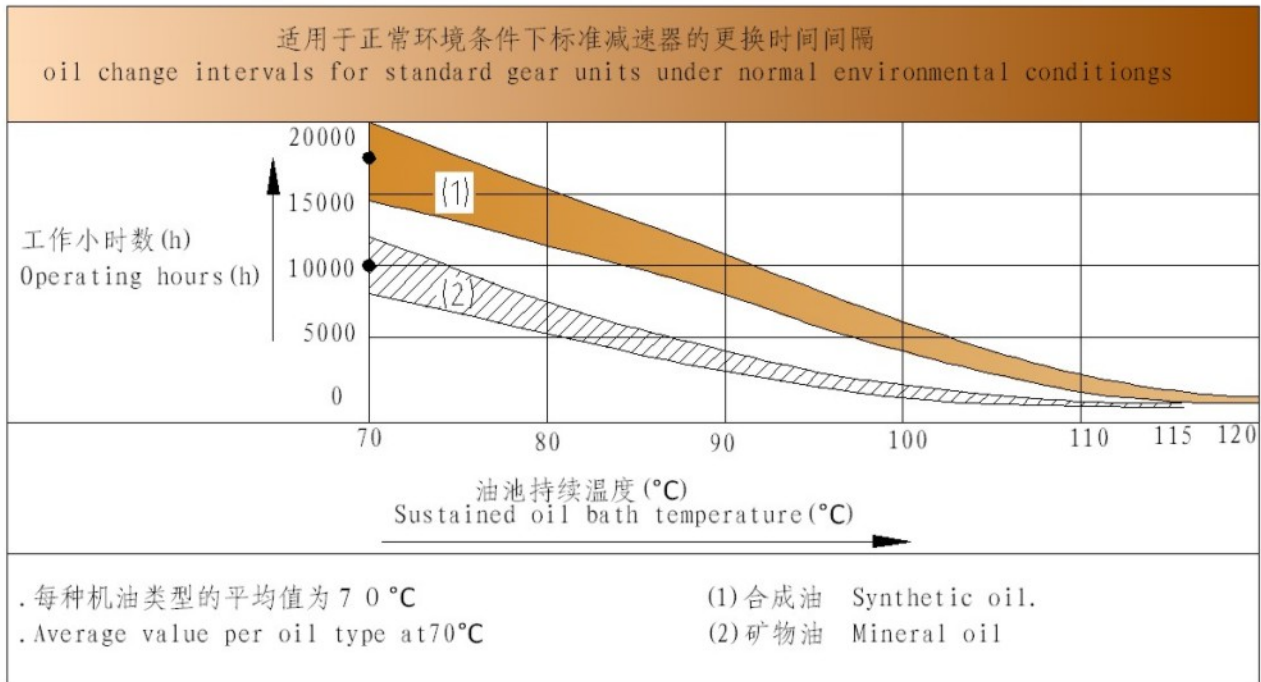
1). For gear units, first oil change should be after about 300 hours (run-in period). The right lotion is required to clean the gear units with care. Never mix the synthetic oil and mineral oil together.

2). Every 3000 working time, at least every 6 months, visually for leakage. For IEC input gear units, the elastomer should be tested or replaced if necessary.

3). Depending on the operating conditions (see chart below), every 3 years at the latest for inspection is needed. Then change the mineral oil and replace the bearing grease.

4). Depending on the operating conditions change the oil seals on output shaft.

5). Once the malfunctions appear, stop disassembling the parts, and firstly please contact the customer service (the information about specification, delivery date, series number, time used, name of machine, machine manufacturer, malfunction problems is required), then take suitable measures.



12. 存放

- 1). 有顶棚, 防雨雪, 无振动。
- 2). 在设备和地面之间垫放木块或其他材料。
- 3). 开箱后暂不使用的齿轮减速器在其加工表面涂上防锈油, 并应及时放回包装箱内。
- 4). 在定期检查的情况下, 两年以及更长时间, 在进行检查时, 应检查清洁度和机械损伤, 检查防锈层是否完好。

13. 定货须知

- 1). 减速器型号标记(减速器类型、速比、功率、和安装方式)。
- 2). 减速器表面喷涂颜色, 一般按蓝色提供。
- 3). 订货数量。
- 4). 其他特殊要求。
- 5). 单位名称、联系人、联系电话。

12. STORAGE

- 1). Under roof, protected against rain and snow, no shock loads.
- 2). Underlay the block and other material between the ground and equipment.
- 3). The opened but not used gear units should be added with the anti-corrosive oil on its surface, and then return to the packing containers timely.
- 4) Two years or more given regular inspections. Check for cleanliness and mechanical damage as part of the inspection, Check corrosion protection

13. NOTICE FOR ORDER

please offer the following information when place the orders:

- 1). The model mark of the gear units (type, ratio, power and mounting position).
- 2). Generally the gear units paint in peacock blue .
- 3). Quantity ordered.
- 4). Other special requirements.
- 5). Company, contact and telephone.

14 减速器运转故障/ GEAR UNIT MALFUNCTIONS

减速器运行故障/GEAR UNIT MALFUNCTIONS

故障	可能的原因	解决办法
异常、均匀的运转噪声.	A. 滚动 / 碾压噪声, 轴承损坏 B. 冲击型噪声: 齿轮啮合不均匀	A. 检测润滑油, 更换轴承 B. 请向客户服务部咨询
异常、不均匀的运转噪声.	机油中有异物	. 检测润滑 . 停止运转传动装置, 向客户服务部咨询
机油泄漏 . 在减速器盖上 . 在电机凸缘上. . 在电机轴密封圈上. . 在减速器凸缘上. . 在输出端轴密封圈上.	A. 减速器底座上的橡胶密封发生渗漏. B. 密封圈损坏. C. 减速器没有排气.	A. 拧紧各个外盖上的螺钉并且观察减速器. 如果机油继续泄露, 请向客户服务部咨询. B. 请向客户服务部咨询. C. 给减速器排气 (参见"安装方式")
机油从排气阀旁渗出.	A. 机油太多. B. 传动装置安装方式错误. C. 频繁冷起动. (机油起泡沫) 和 / 或者较高的油位.	A. 修正油量 (参见"润滑油") B. 正确安排气阀并且矫正油位 (参见"安装方式")
尽管电机运转或者传动轴已经被驱动, 但是传动轴不转动.	减速器中的轴轮毂联接断裂	将减速器或减速电机送修.

1). 在磨合试运转阶段 (2 4 小时运转时间内), 轴密封圈有可能出现短期内的漏油 / 油脂的现象。

Problem	Possible cause	Remedy
Unusual, regular running noise	A. Meshing / grinding noise: Bearing damage B. Knocking noise: Irregularity in the gearing	A. Check the oil, change bearings. B. Contact customer service.
Unusual, irregular running noise	Foreign bodies in the oil	. Check the oil. . Stop the drive, contact customer service.
Oil leaking . From the gear cover plate. . From the motor flange. . From the motor oil seal. . From the gear unit flange. . From the output end oil seal.	A. Rubber seal on the gear cover plate leaking. B. Seal defective. C. Gear unit not vented.	A. Tighten the bolts on the gear cover plate and observe the gear unit . Oil still leaking: Contact customer service . B. Contact customer service. C. Vent the gear unit (see "Mounting Positions") .
Oil leaking from breaking valve.	A. Too much oil . B. Drive operated in incorrect mounting position. C. Frequent cold starts (oil foams) and/or high oil level.	A. Correct the oil level (see Sec. Inspection and Maintenance"). B. Mount the breather valve correctly (see Sec. "Mounting Positions") and correct the oil level (see "Lubricants").
Output shaft does not turn although the motor is running or the input shaft is rotated.	Connection between shaft and hub in gear unit interrupted.	Send in the gear unit/gearmotor for repair.

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

