
说明
Explanation 1

R 系列斜齿轮硬齿面减速机
R Rigid tooth flank gear units 12


S 系列斜齿-蜗轮蜗杆减速机
S Helical-worm gear units 62


K 系列斜齿-螺旋锥齿轮减速机
K Helical-bevel gear units 98


F 系列平行轴斜齿轮减速机
F Parallel shaft helical gear units 152


摆线针轮减速机
Cycloid reducer 198


机架
Rack 212

产品特性

1、高度模块化设计：可以方便地配用各种型式的电动机或采用其它动力输入，同种机型可配用多种功率的电动机，容易实现各机型间组合联接。

2、传动比：划分细，范围广。组合机型可以形成很大的传动比，即输出极低的转速。

3、安装形式：安装位置不受限制。

4、强度高、体积小：箱体采用高强度铸铁。齿轮及齿轮轴采用气体渗碳淬火精磨工艺，因而单位体积承载能力高。

5、使用寿命长：在正确选型(包括选用适当的使用系数)和正常使用维护的条件下，减速机(除易损件外)的主要零部件寿命一般不低于25000小时。易损件包括润滑油、油封以及轴承。

6、噪声低：减速机主要零部件都经过精密加工，并通过精心组装和测试，因而减速机噪声较低。

7、效率高：齿轮减速机效率可达95%，蜗轮效率可达89%。

8、可承受较大的径向载荷。

9、可承受不大于径向力5%的轴向载荷。

场所条件

本减速电机适合在环境温度-10℃到+40℃条件下运行，海拔高度可达1000米。

可用于正反转。

无行业限制。

在其它条件下使用时请与技术部联系。

选型参数表释义

1、选型参数表(恒功率)：

电机功率 Pm[kW]：表中列出的功率是按 Y_2 系列电机分级的。

Features of Products

1、Highly Standard Modular Designed: The products are easily connected with and driven by different types of motors or other kinds of input power. The same type geared motor can be adapted to optioned powers of motors. It is therefore easy to realize different solutions for varied requirements.

2、Ratio: Featured many closely divided ratios and wide range of them. Very big final ratios can be obtained through combined unites to reach extremely low output speeds.

3、Mounting Arrangement: No strict limitation to the mounting arrangement.

4、High Strength, Compact Dimension: Housings are made of high strength cast iron. Gears and shaft gears are finished with gas carburising process and precise grounding to sequentially get high loading capacity of per certain volume.

5、Long Service Life: Under the condition of accurately selecting type size and the normal maintenance and use, main components (except those easily-disabled parts) can last as long as up to more than 25,000 hours. Easily-disabled parts include lubricating oil, oil seals, and bearings.

6、Low Noise: All key components are finished by precisely machining, accurate assembly, and finally tested, and therefore, fairly low noise is reached.

7、High Efficiency: The efficiency of gear unit can reach 95%, The efficiency of worm gear unit can reach 89%.

8、Large radial loading ability:

9、Axial load ability of up to 5% of radial load.

Site Conditions

The geared motors are suitable for the operation sites in the ambient temperatures from -10℃ to 40℃ and altitudes up to 1000m above the sea lever.

They can be used both for clockwise running and anti-clockwise running.

There is no limitation to specific application field.

While applied in other aggressive operating atmosphere or environment conditions, please contact our technology department.

Description of Selection Tables

1、Selection Table [Constant Power]:

Motor Power Pm[kW]: Power is indicated on the basis of Y_2 motor.

输出转速 n_a[r/min]：即输出轴的转速。参考 Y_2 系列电动机满载时的转速和减速机的传动比计算得出，单位为转/分钟。

输出转矩 M_a [Nm]：电动机满载时输出轴上可以产生的转矩。此输出转矩已考虑了减速机内部各种效率。

传动比[i]：减速机从输入到输出间总的实际(精确)传动比。

许用径向载荷 F_{Ra}[kN]：输出轴轴头中点处的许用径向载荷(载荷作用点在轴端处时，表中 F_{Ra} 应乘以 0.4)。工作元件的实际径向载荷 Fr 与实际工况系数 f_A 的乘积不得大于此值，即 $F_{Ra} \geq f_A * Fr$ (f_A 值可参照 f_B 处说明)。

一般工作元件的 Fr 值可由下式求出：

$$Fr = Mr * fr / r \quad (N)$$

其中：Mr—工作元件的工作扭矩(Nm)

r—工作元件节圆半径(m)

fr—径向载荷系数，可参考如下取值。

单排链轮 fr=1

一个齿轮或双排链轮 fr=1.25

V 型带 fr=1.5

平型带 fr=2.5

使用系数 f_B：减速机额定功率与所配用的电动机额定功率的比值。它是选择减速器规格的强度依据。

机型号：即减速机的机型和规格号。有单机型和组合型两种。组合一般为恒功率条件下的组合。每种机型(包括某些未列入此表中的同规格变型品种)都可配备当前栏中所有传动比。其结构尺寸可查阅相应的结构尺寸图表。

电机极数：Y_2 系列电动机极数。

质量[kg]：减速机的总净重，不包括电机。此质量只作一般性参考使用。

2、选型参数表(恒转矩)：

恒转矩条件下较为合理的组合。按表中最大输出转矩计算时，许用使用系数为 1。其它含义同恒功率。

Output Speed n_a[r/min]: Output speed is calculated on the basis of motor's fully loading speed and geared motor's ratio. Unit: revolutions per minute.

Output Torque M_a [Nm]: Torque available at output shaft while motor being fully loaded. All internal efficiency factors have already considered.

Ratio [i]: Exact final total transmission ratio from input to output

Permissible Radial Load F_{Ra}[kN]: Permissible radial load on the middle point of overhung shaft (F_{Ra} value listed in the table must be multiplied by 0.4, if load is placed on the end point of the shaft). The mathematic product of actual radial load Fr and actual service factor f_A should not be bigger than this F_{Ra}, i.e. $F_{Ra} \geq f_A * Fr$ (for f_A, please see the description of f_B).

Normally, Fr of a working unit can be got through the following:

$$Fr = Mr * fr / r \quad (N)$$

where, Mr - working torque of the working unit (Nm)

r - pitch circle radius of the working unit (m)

fr - radial load factor, which can be got refer to the following:

fr=1, for single chain sprocket wheel

fr=1.25, for single gear or for double chain sprocket wheel

fr=1.5, for V-section belt

fr=2.5, for flat belt

Service Factor f_B: The ratio of rated power of gear unit to rated power of motor power. It is essentiial data to select the size and strength of gear unit.

Type Size of Unit: including type and size. Individual unit and combined units are available. Combination is considered commonly under the constant power condition. Each type (and even some other types not mentioned in the tables) can be assembled or combined to any ratio mentioned in the tables.

For the detailed construction dimension, see the relevant dimensional tables.

Pole Number of Motor: The pole number of Y_2 motor.

Mass (Weight) [kg]: Net weight of geared uhit, without the motor. This weight is only for your general reference.

2、Selection Table (Constant Torque):

Constant torque selection table is suitable for the conditions where the constant torque system is applied appropriately. If the Max. torque listed in this table is used when calculating, service factor is 1.0. The meanings of other terms are similar to ones described in Selection Table (Constant Power).

选型步骤

1、机型的选用

一般由用户根据传动安装布置形式来确定。即GR、GF系列用于输入轴与输出轴平行的场合，GS、GK系列用于输入轴与输出轴垂直的场合。

2、实际工况系数 f_A 的确定

1)、一般使用要求

f_A 主要由工作机的载荷特性、工作时间和起停次数决定。即：

$f_A=f_{Ah}*f_{Ac}$

式中 f_{Ah} 由载荷特性和工作时间两个因素决定的工况系数。常用工作机的 f_{Ah} 可参考表工况系数 f_{Ah} 选定。其它工作机的工况系数，可用类比法确定。

式中 f_{Ac} 由启、停次数决定。可参考表工况系数 f_{Ac} 确定。注意启、停要各计一次。

2)、特殊使用要求

若环境温度特别高，要考虑增加温度工况系数 f_{At}。可参考表工况系数 f_{At} 确定。

若要减速机具有特别高的可靠性，则要增加必要的安全系数 f_{As}。

数值不能确定时，请与我公司技术部联系。

3、型号（规格）的确定

必须满足条件 $f_B \geq f_A$

1)、恒功率选型

(1)电动机与减速机直联或通过联轴器联接

a、在选型参数表（恒功率）中找到相应的电动机功率、极数。

b、在此功率和极数下，初步选用一个具有相近传动比的机型，并记录下其使用系数 f_B。

c、比较，若满足条件 $f_B \geq f_A$，则就是可用机型。否则，加大机型，直到满足条件。

Selection Steps

1、Type Selection

Types of units are normally selected by customers to meet transmission mounting arrangement requirement. Series GR and series GF are applied to the conditions that input shafts are parallel to output shafts. And, series GS and series GK are applied to the conditions that input shafts are vertical to output shafts.

2、Selection of actual Service Factor f_A

1)、Normal requirement

f_A is determined by load feature, operating hours, and starts and stops number per hour of working unit. The normal total combined service factor is calculated as follows:

$f_A=f_{Ah}*f_{Ac}$

Where: fAh-the factor determined by load feature and operating hours of per day. See the table of fAh. The other working unit's fAh out of the table could be determined by analogy.

f_{Ac}-the factor determined by number of starts and stop per hour of working unit.

Attention: the number should be counted even start or stop.

2)、Special requirement

If the ambient temperature is special high, the temperature factor fAt should be considered. refer to the factor fAt column of selection table.

If requiring higher reliability, the security factor fAs should be considered.

When you can't select the value of service factor, please contact with us.

3、Selection of Type (Size)

It is essential to meet following: $f_B \geq f_A$

1)、For constant power

(1)、The motor is mounted directly into gear unit or with coupling

a,Reach to a relevant power and pole number of motor from selection table (constant power)

b,Select rudely a size with close ratio, and record it's f_B.

c,Compare, if meet this formula: $fB \geq fA$, then this size of gear unit is available. Otherwise select a bigger size of gear unit until meet it.

(2)电动机与减速机之间具有前置减速联接

如电动机与减速机之间通过齿轮、皮带、链轮等减速装置联接，由于输入转矩的增加，须把电动机功率折算到减速机输入轴上，即把电动机的功率乘以前置减速装置的传动比。用折算的功率，按前述(1)中的方法选取。此时，仍要注意电动机极数不变。

2)、恒转矩选型

按电动机功率、极数和传动比查选型参数表(恒转矩)。此时，工作转矩必须限制在所选的减速机的最大转矩范围内。

4、径向载荷检验

减速机轴头装有齿轮、皮带轮、链轮时，将产生较大的径向载荷。此时，必须进行径向载荷检验。方法见前述选型参数表释义中有关内容。

5、安装条件检验

有安装尺寸条件限制时应作此检验。即把所选用机型号的结构尺寸和可利用的空间尺寸作比较。

若以上都能满足，则按各自的机型号表示方法书写即可。有特殊要求时，可加文字说明。

普通供货约定：

1、无特别说明时 Y_2 系列电动机供货按 IP54 防护等级，F 级绝缘，但一般应按 B 级绝缘条件使用。

2、不注明电动机接线盒位置时，通常按安装形式图例中的 0°位置供货。

3、不特别提出输出轴与输入轴旋向关系时，一般不在减速机上作出标识。

4、减速机出厂时加好润滑油。

5、安装结构尺寸图表中已注明不在标准供货范围内的附件一般不提供。

本样本中如有改进之处，不另作通知，请谅解。

(2)、The gear unit with prefixion deceleration unit

When connecting the motor and gear unit using gears, belts or chains, etc. Because the torque of input has been increased, so it is essential to convert motor power into input power of gear unit, the input power is to multiply motor power by radio. Select the size according to the power converted from the seletion table. Attention: the unumber of motor pole is same.

2)、For constant torque

Select the size of gear unit according to the power and pole of motor and radio from selection table (constant torque). It is essential to restrict the working torque under maximal torque of gear unit selected.

4、Radial Load Checking

It will checking overhuang load, if the gears, belts and chains, etc, are fired on the shaft of the gear motors. For checking method, refer to the relevant contents in forenamed description of selection table.

5、Mounting Dimension Checking

Check the mounting dimension when there is a limitation to site mounting condition.

If the selected type by the above method is appropriate to site mounting condition, this final type is standard and should be written in formal type description. If any special requirement is requested, please describe it while placing order.

Normal Delivery Condition:

1、Motor: Y_2 motor of protection class IP54 and of insulation class F, while no special request. But this insulation class F motor is generally recommended to be used in the condition where the class B is required.

2、Terminal box: Terminal box is at 0° position if no special request (see description of motor terminal box position).

3、Rotation direction: There will be no mark of rotation direction for input shaft or output shaft, if the relationship between input shaft and output shaft is not requested.

4、Lubricants: Units are supplied with lubricant oil before delivery.

5、Accessories: Generally, accessories excluded in mounting dimension table do not belong to our standard supply.

Design and specifications are subject to change without notice, Please forgive.

工况系数 f_{Ah}

应　用	8h/天	16h/天	24h/天
食品工业			
粉碎机	1.75	2	2.25
甜菜切片机　揉面机	1.25	1.5	1.75
碾肉机	1.25	1.5	1.5
填充机	0.8~1*	1	1.25
和面机	1	1.25	1.5
挤压机	1.25	1.5	1.75
甘蔗切碎机	1.75	1.75	1.75
榨糖机	1.75	1.75	1.75
烤面包机	1.25	1.25	1.25
辅助动力、伺服系统			
微动装置，无载荷	0.8~1*		
普通载荷	1.25	1.25	1.25
压缩机			
离心式	1	1.25	1.5
轴流式	1	1.25	1.5
过滤机	1	1.25	1.5
建筑业			
水泥搅拌机	1.25	1.5	1.75
水泥厂	1.5	1.75	2
灰泥喷射机	0.8~1*	1	1.25
发电机	0.8~1*	1	1.25
水处理、环保			
曝气机	1.75	2.0	2.0
普通通风装置	1.5	1.5	1.5
旋转木马式通风装置	1.75	1.75	1.75
条栅式筛子　搜集器	0.8~1*	1	1.25
螺旋泵	1	1.25	1.5
筛 子			
旋转式(石头、砂)	1	1.25	1.5
行进式吸水机	0.8~1*	1	1.25
农用机械			
施肥平土机	0.8~1*	1	
收割机	0.8~1*	1	
起重机械			
行走机构	1.5	1.75	2.0
回转机构	1.25	1.5	2.0
起升机构	1.25	1.5	1.75
转臂式起重机	1.25	1.5	1.75

Service Factor f_{Ah}

Application	8 hours / day	16 hours /day	24 hours /day
Food industry			
Crushers	1.75	2	2.25
Beet slicers, kneaders	1.25	1.5	1.75
Meat grinders	1.25	1.5	1.5
Filling machines	0.8~1*	1	1.25
Dough mixers	1	1.25	1.5
Extruders	1.25	1.5	1.75
Sugar cane knives	1.75	1.75	1.75
Sugar roller mills	1.75	1.75	1.75
Toasters	1.25	1.25	1.25
Auxiliary drives,servicing			
Inching, no load	0.8~1*		
Normal duty	1.25	1.25	1.25
Compressors			
Centrifugal	1	1.25	1.5
Lobe	1	1.25	1.5
Filters	1	1.25	1.5
Construction industry			
Cement mixers	1.25	1.5	1.75
Cement mills	1.5	1.75	2
Mortar spraying machine	0.8~1*	1	1.25
Generators	0.8~1*	1	1.25
Water treatment, environment tools			
Aerators	1.75	2.0	2.0
Common aerators	1.5	1.5	1.5
Carrousel aerators	1.75	1.75	1.75
Bar screens, collectors	0.8~1*	1	1.25
Screw pumps	1	1.25	1.5
Screens			
Rotary (for stone, for gravel)	1	1.25	1.5
Traveling water intake	0.8~1*	1	1.25
Agricultural machinery			
Manure scrapers	0.8~1*	1	
Harvesting machines	0.8~1*	1	
Cranes and hoists			
Travel gears	1.5	1.75	2.0
Slewing gears	1.25	1.5	2.0
Hoisting gears	1.25	1.5	1.75
Derricking jib cranes	1.25	1.5	1.75

工况系数 f_{Ah}

混合机			
均匀密度	1.25	1.5	1.5
不均匀密度	1.5	1.75	1.75
木材和塑料工业			
电锯的主动力	1.5	1.75	2
电锯的进给动力	1	1.25	1.5
砍木机	1.5	1.75	2
胶合板胶合机	0.8~1*	1	1.25
钻孔机	0.8~1*	1	1.25
挤压机	1.25	1.5	1.75
搅拌机			
纯液体(均匀密度)	1.25	1.5	1.5
非均匀密度的液体	1.5	1.75	2.0
液体和固体	1.5	1.75	2.0
磨 机			
球磨机,棒磨机	1.75	1.75	1.75
锤磨机,粉碎机	1.5	1.75	2
印刷和制纸技术			
切割机	1	1.25	1.5
卷筒	0.8~1*	1	1.25
打包进料机	1	1.25	1.25
电 梯			
提升机	1.25	1.5	1.75
货运电梯	1.25	1.5	1.75
自动扶梯	1.25	1.25	1.5
纺织工业			
织机	1.25	1.5	1.75
纺纱机	0.8~1*	1	1.25
洗涤机	1	1.25	1.5
输送机			
斗式输送机	1.5	1.75	1.75
平衡加荷或喂料	0.8~1*	1	1.25
重载链和螺旋输送	1.25	1.5	1.5
振动输送机	1.5	1.75	2
卷扬机	1.5	1.75	1.75
皮带输送机	1.25	1.5	1.5
绞车	1.5	1.75	1.75
刮板式输送机	1.25	1.25	1.5
风扇			
离心式风扇	0.8~1*	1	1.25

Service Factor f_{Ah}

Mixers			
Constant density	1.25	1.5	1.5
Variable density	1.5	1.75	1.75
Lumber and plastic Industry			
Main drive for saws	1.5	1.75	2
Feed drive for saws	1	1.25	1.5
Chopping machines	1.5	1.75	2
Veneer gluing machines	0.8~1*	1	1.25
Drilling machines	0.8~1*	1	1.25
Extruders	1.25	1.5	1.75
Agitators			
Pure liquids (constant density)	1.25	1.5	1.5
Liquids with variable density	1.5	1.75	2.0
Liquids and solids	1.5	1.75	2.0
Mills			
Ball, rod	1.75	1.75	1.75
Hammer, desintegrator	1.5	1.75	2
Printing and Paper techniques			
Cutters	1	1.25	1.5
Reels	0.8~1*	1	1.25
Bale feeders	1	1.25	1.25
Elevators			
Bucket elevators	1.25	1.5	1.75
Freight elevators	1.25	1.5	1.75
Escalators	1.25	1.25	1.5
Textile industry			
Looms	1.25	1.5	1.75
Spinners	0.8~1*	1	1.25
Washers	1	1.25	1.5
Conveyors			
Bucket conveyors	1.5	1.75	1.75
Uniformly loaded or fed	0.8~1*	1	1.25
Heavy duty, chain & screw conveyors	1.25	1.5	1.5
Shaker conveyors	1.5	1.75	2
Hoists	1.5	1.75	1.75
Belt conveyors	1.25	1.5	1.5
Hauling winches	1.5	1.75	1.75
Apron conveyors	1.25	1.25	1.5
Fans			
Centrifugal	0.8~1*	1	1.25

工况系数 f_{Ah}

工业风扇	1	1.25	1.5
冷却塔动力	1.75	1.75	1.75
冷却塔风扇	1.75	2.0	2.0
包装机械			
纸板堆叠机械	1.25	1.5	1.75
打包机	0.8~1*	1	1.25
机床设备			
平面刨床，龙门刨床，弯轧机	1.25	1.5	1.75
主动力，进给动力	1	1.25	1.5
进给和辅助动力	0.8~1*	1	1.25
压力机	1.75	2	2
折弯机	1.5	1.75	2
剪板机	1.75	2	2
钢铁工业			
拉线机	1.25	1.5	1.75
绕线机	1.25	1.75	1.75
轧辊辊道：无回转			
—组合动力	1.25	1.5	1.75
独立动力	1.5	1.75	2
泵			
离心式	1	1.25	1.5
旋转式，齿轮型，叶轮型，叶片型	0.8~1*	1	1.25
活塞泵：单缸	1.5	1.75	2
多缸	1.25	1.5	1.75
螺旋泵	1	1.25	1.5

Service Factor f_{Ah}

Industrial fans	1	1.25	1.5
Cooling tower drivers	1.75	1.75	1.75
Cooling tower fans	1.75	2.0	2.0
Packing machine			
Cardboard stacking machine	1.25	1.5	1.75
Wrapping machine	0.8~1*	1	1.25
Machine tools			
Plate surfacers, plate planers, bending rolls	1.25	1.5	1.75
Main drives, feed drives	1	1.25	1.5
Feed and auxiliary drive	0.8~1*	1	1.25
Presses	1.75	2	2
Folding machines	1.5	1.75	2
Plate shears	1.75	2	2
Iron and steel industry			
Wire draw benches	1.25	1.5	1.75
Winding machines	1.25	1.75	1.75
Rolling mill: non reversing			
- group drives	1.25	1.5	1.75
- Individual drives	1.5	1.75	2
Pumps			
Centrifugal	1	1.25	1.5
Rotary, gear type, lobe, vane	0.8~1*	1	1.25
Piston pumps: singl cylinder	1.5	1.75	2
multi-cylinder	1.25	1.5	1.75
Screw pumps	1	1.25	1.5

工况系数 f_{AC}

启停次数/每小时	
<10	1
<100	1.15
<500	1.25

Service Factor f_{AC}

Number of starts and stop/ hour	
<10	1
<100	1.15
<500	1.25

工况系数 f_{At}

环境温度	+20℃…	+20℃… +30℃	+30℃… +40℃	+40℃… +50℃	+50℃… +60℃
f_{At}	1	1.1	1.25	1.5	1.75

*=0.8，假如运行时间少于 3 小时/天，并无径向载荷作用。

这些工况系数是基于 AGMA 和 ISO 的推荐以及我们的经验所得。特别适用于电动机作为主要动力的场合。对于特殊应用设计，例如大的惯性系数，请与我公司技术部联系。

Service Factor f_{At}

Ambient temperature	+20℃…	+20℃… +30℃	+30℃… +40℃	+40℃… +50℃	+50℃… +60℃
f_{At}	1	1.1	1.25	1.5	1.75

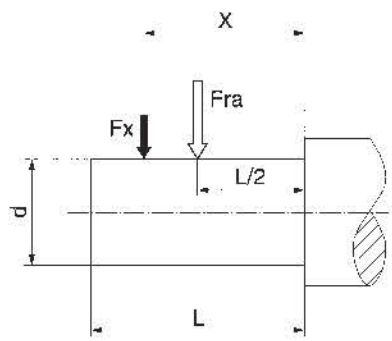
*=0.8, if hours of operation<3 hours/24 hour and no radial overhung load is applied.

These service factors are recommended on the basis of AGMA and ISO specifications and our experiences. They apply for electric motors as prime movers preferably. For specially designed applications, e.g. large inertia factor, please contact our technology department.

径向力校核　Overhung loads

实际作用点不在齿轴中间时，需用下述公式对选型表中的许用径向力值进行计算

The approved overhung loads given in the selection tables must be calculated using the follwing formulae in the event of force application not in the center of the shaft end.



当 0≤X<L/2 时	Fx=[1.25−(X/2L)]*Fra	[N]
当 X=L/2 时	Fx=Fra	[N]
当 L/2<X≤L 时	Fx=[1.6−(1.2X/L)]*Fra	[N]

Fra—选型表中给出的许用载荷(作用在 X=L/2)

Approved overhung loads (X=L/2) for foot-mounted gear units according to the selection tables in [N]

Fx　实际作用点的许用径向载荷

Appproved overhung loads of formulae in the event of force application in [N]

X—载荷到力作用点的距离

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

L—输出轴轴伸长度

Length of output shaft in [mm]

工作元件的实际径向载荷 Fr 与实际工况系数 fA 的乘积不得大于实际作用点的许用径向载荷 Fx，即 Fx≥fA*Fr(见样本第 2 页)

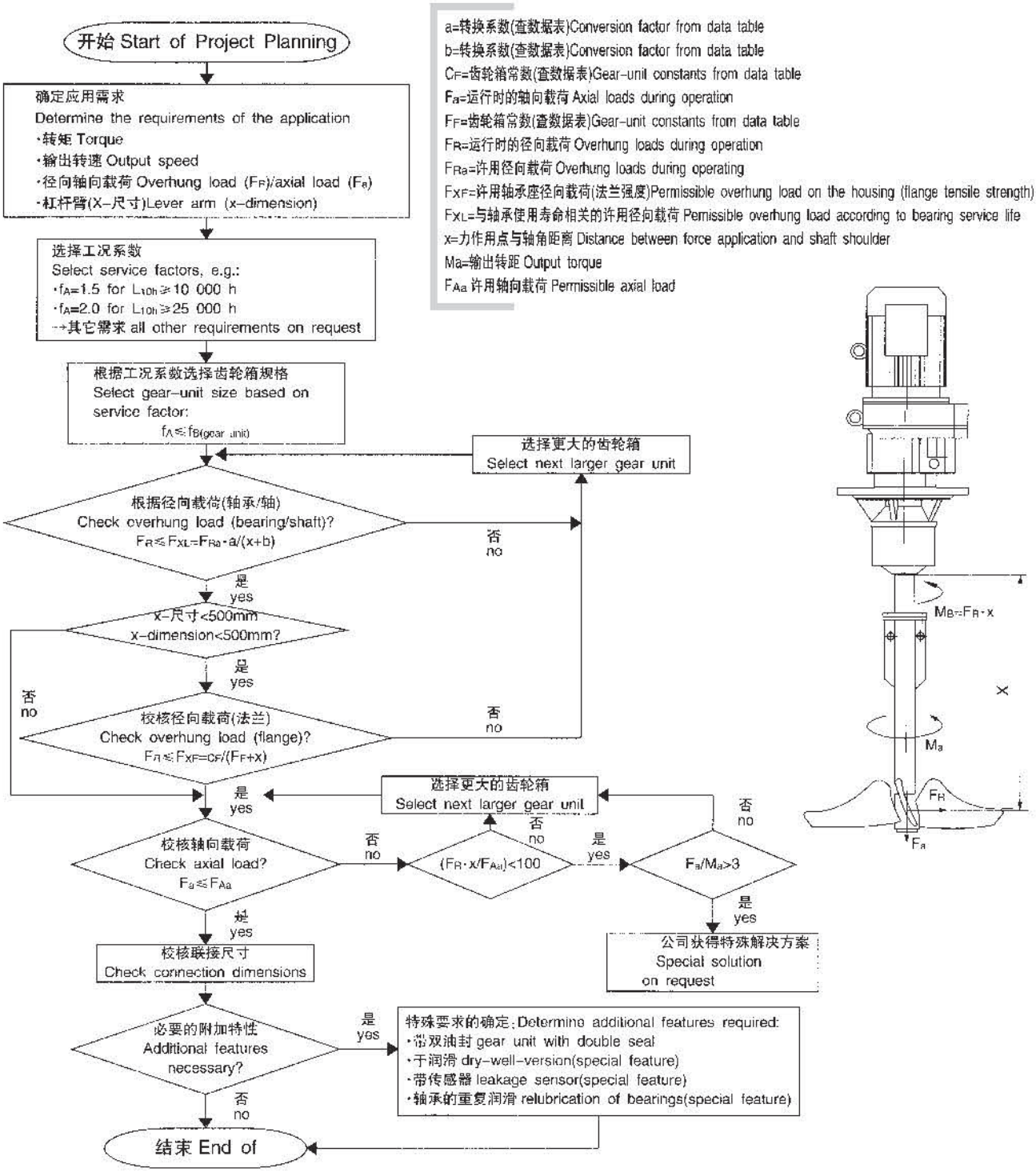
The mathematic product of actual overhung loads Fr and actual service factor fA should not be bigger than the approved overhung loads of formulae in the event of force application Fx, i.e. Fx≥fA*Fr.(Please see Page.2)

RM..选型　Selection procedrue of RM..

RM 齿轮减速电机　RM geared motors

RM 齿轮减速电机是一种带有扩展输出轴承座的特种齿轮减速电机，可用于大悬挂载荷、大轴向载荷和大变化载荷的场合。其主要性能参数同 R 系列标准齿轮减速电机，外形及安装尺寸可参考"RM 齿轮减速电机"部分图。

RM geared motors are a special type of helical geared motor with an extended output bearing housing. They are specially designed for agitator aplications and can be used in applications subject to high overhung and axial loads as well as flexural torque. The remaining data correspond to the standard helical geared motors. You can find special project planning notes for RM geared motors in "RM gear units" in the "Project Planning for Gear Units" section.



许用径向和轴向载荷

Permitted overhung and axial loads

根据不同的服务系数 f_B 和不同的标称轴承使用寿命 L_{H10} 提供下述的许用径向载荷 F_{Ra} 和轴向载荷 F_{Aa}。

The permitted overhung loads F_{Ra} and axial loads F_{Aa} are specified for various service factors f_B and nominal bearing service life L_{H10}.

$f_A=1.5/L_{10h}$=10 000h

		n_a[rpm]							
		<16	16–25	26–40	41–60	61–100	101–160	161–250	251–400
RM57	F_{Ra} [N]	400	400	400	400	400	405	410	415
	F_{Aa} [N]	18800	15000	11500	9700	7100	5650	4450	3800
RM67	F_{Ra} [N]	575	575	575	580	575	585	590	600
	F_{Aa} [N]	19000	18900	15300	11900	9210	7470	5870	5050
RM77	F_{Ra} [N]	1200	1200	1200	1200	1200	1210	1210	1220
	F_{Aa} [N]	22000	22000	19400	15100	11400	9220	7200	6710
RM87	F_{Ra} [N]	1970	1970	1970	1970	1980	1990	2000	2010
	F_{Aa} [N]	30000	30000	23600	18000	14300	11000	8940	8030
RM97	F_{Ra} [N]	2980	2980	2990	3010	3050	3060	3060	3080
	F_{Aa} [N]	40000	36100	27300	20300	15900	12600	9640	7810
RM107	F_{Ra} [N]	4230	4230	4230	4230	4230	4230	3580	3830
	F_{Aa} [N]	48000	41000	30300	23000	18000	13100	9550	9030
RM137	F_{Ra} [N]	8710	8710	8710	8710	7220	5060	3980	6750
	F_{Aa} [N]	70000	70000	70000	57600	46900	44000	35600	32400
RM147	F_{Ra} [N]	11100	11100	11100	11100	10600	10600	8640	10800
	F_{Aa} [N]	70000	70000	69700	58400	45600	38000	32800	30800
RM167	F_{Ra} [N]	14600	14600	14600	14600	14600	14700	–	–
	F_{Aa} [N]	70000	70000	70000	60300	45300	36900	–	–

$f_A=2.0/L_{10h}$=25 000h

		n_a[rpm]							
		<16	16–25	26–40	41–60	61–100	101–160	161–250	251–400
RM57	F_{Ra} [N]	410	410	410	410	410	415	415	420
	F_{Aa} [N]	12100	9600	7350	6050	4300	3350	2600	2200
RM67	F_{Ra} [N]	590	590	590	595	590	595	600	605
	F_{Aa} [N]	15800	12000	9580	7330	5580	4460	3460	2930
RM77	F_{Ra} [N]	1210	1210	1210	1210	1210	1220	1220	1220
	F_{Aa} [N]	20000	15400	11900	9070	6670	5280	4010	3700
RM87	F_{Ra} [N]	2000	2000	2000	2000	2000	1720	1690	1710
	F_{Aa} [N]	24600	19200	14300	10600	8190	6100	5490	4860
RM97	F_{Ra} [N]	3040	3040	3040	3050	3070	3080	2540	2430
	F_{Aa} [N]	28400	22000	16200	11600	8850	6840	5830	4760
RM107	F_{Ra} [N]	4330	4330	4330	4330	4330	3350	2810	2990
	F_{Aa} [N]	32300	24800	17800	13000	9780	8170	5950	5620
RM137	F_{Ra} [N]	8850	8850	8850	8830	5660	4020	3200	5240
	F_{Aa} [N]	70000	59900	48000	37900	33800	31700	25600	23300
RM147	F_{Ra} [N]	11400	11400	11400	11400	11400	8320	6850	8440
	F_{Aa} [N]	70000	60600	45900	39900	33500	27900	24100	22600
RM167	F_{Ra} [N]	15100	15100	15100	15100	15100	13100	–	–
	F_{Aa} [N]	70000	63500	51600	37800	26800	23600	–	–

转换系数和齿轮箱常数
Conversion factors and gear unit constants

计算 RM 齿轮减速电机额定径向载荷 F_{xL}(x≠1000mm)的转换系数

The following conversion factors and gear unit constants apply to calculating the approved overhung load F_{xL} at point x≠1000 mm for GRM geared motors:

齿轮箱型号 Gear unit type	a	b	$c_F(f_B=1.5)$	$c_F(f_B=2.0)$	F_F
RM57	1047	47	1220600	1260400	277
RM67	1047	47	2047600	2100000	297.5
RM77	1050	50	2512800	2574700	340.5
RM87	1056.5	56.5	4917800	5029000	414
RM97	1061	61	10911600	11124100	481
RM107	1069	69	15367000	15652000	554.5
RM137	1088	88	25291700	25993600	650
RM147	1091	91	30038700	31173900	756
RM167	1089.5	89.5	42096100	43654300	869

RM 减速箱的增加重量
Additional weights of RM gear units

型号 Type	用 RF 系列最小的法兰所增加的重量表 Additional weight in addition to RF, related to the smallest RF flange	△m[kg]
RM57	12.0	
RM67	15.8	
RM77	25.0	
RM87	29.7	
RM97	51.3	
RM107	88.0	
RM137	111.1	
RM147	167.4	
RM167	195.4	