



镇海减变速机

ZHENHAI REDUCER & VARIATOR

PROFESSIONAL MANUFACTURE
PROFESSIONAL SERVICES

NINGBO ZHENHAI
Reducer & Variator Manufacturing Co.,Ltd.
宁波市镇海减变速机制造有限公司



泵类专用样本
Brochure For Pump



专业制造 · 专业服务

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宁波市镇海减变速机制造有限公司

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COMPANY PROFILE 公司简介

宁波市镇海减变速机制造有限公司，是致力于减变速机传动产品研究、生产的专业公司。

公司成立于 2000 年，员工群体是由长期从事减变速机生产、研究的专业科技知识型人士组成。聘请国内权威行业专家、教授长期为公司服务。公司依托研究所、院校，注重产品的技术含量，不断进行技术改造，运行 ISO9000 质量体系，严格质量标准。由于务实的工作作风，严格的技术标准和完善的售前、售中、售后服务，几年来，公司得到迅猛发展。现为中国机械工程学会传动分会理事单位；中国重型机械工业协会重型基础件分会的正式成员单位；中国减变速机行业协会会员单位；全国齿轮标准化技术委员会通讯委员单位。

公司主要产品：SPT、ZH 系列锥盘环盘减变速机；UD 系列行星锥盘减变速机；G800、GX 系列行星齿轮减速机；C、CJ、R 系列齿轮减速机；W、WS 系列齿轮—蜗轮蜗杆减速机；WJL、WJ 系列蜗轮蜗杆减速机；B、X、WB 系列摆线减速机。其中 ZH 系列、CJ 系列等产品均为公司自主开发，国内首创的先进产品。创造性地向市场提供可靠完美的减变速机。

企业精神： 自尊、自信、自强、积极向上。

公司宗旨： 在提供可靠完美的机械传动产品的同时，我们竭诚服务，让顾客满意。

公司价值观： 我们踏踏实实、勤勤恳恳致力于传动产品的创造、创新，不断实现社会价值和自我价值。

Ningbo Zhenhai Reducer & Variator Manufacturing Co., Ltd. is committed to developing and producing reducers, variators and other transmission products.

Ningbo Zhenhai Reducer & Variator Manufacturing Co., Ltd. was established in 2002. Most of its staffs are specialists on the development and research of reducers and variators. Some famous experts and professors in the nation have been employed by the Company. Relying on its cooperation with institutions and universities, the Company emphasizes on the development and advance of technology. It carries out ISO9000 Quality System to control the quality of products. The Company has been developed rapidly due to its strict implementation of technology standard as well as perfect service. It is director of Transmission Institution of Chinese Mechanical Engineering Society and member of Heavy Elemental Parts Branch of China Heavy Machinery Industry Association, China Reducer & Variator Association and National Gear Standardization Technical Committee.

The main products of the Company include: SPT series and ZH series of ring-cone disc reducer & variator; UD series of planetary cone-disc reducer & variator; G800 Series and GX Series of Planetary Gear Reducer; C series, CJ series and R series of gear reducer; W series and WS series of gear-worm gear reducer; WJL series and WJ series of worm gear reducer; B series, X series and WB series of cycloid reducer. ZH series and CJ series were developed initially by the Company.

Corporate spirit: Self-respect, Self-confidence, Self-improvement, Self-independence

Corporate principle: Providing reliable mechanical transmission products and outstanding service to meet customers' demands.

Corporate value: We are devoted to the development and innovation of transmission products so as to realize social value and self-value.



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■ 符号说明 | Denotation of Signs

代号 Code	说明 Description	单位 Unit
I_n	公称减速比 Nominal reduction ratio	
M	被驱动机器输入转矩 Input torque of the driven machine	N.m
M_{N2}	减速机额定许用输出转矩 Permissible rated output torque of reducer	N.m
M_2	输出转矩 Output torque	N.m
M_{S2}	要求输出转矩 Required output torque	N.m
M_{2MAX}	最大输出转矩 Max. output torque	N.m
M_{2MIN}	最小输出转矩 Min. output torque	N.m
P	被驱动机器输入功率 Input power of the driven machine	kw
P_M	电机功率 Electromotor power	kw
P_{N1}	减速机额定许用输入功率 Permissible rated input power of reducer	kw
T	环境温度 Ambient temperature	°C
K	运行系数 Operation coefficient	
K_A	使用系数 Usage coefficients	
K_S	启动系数 Startup coefficient	
K_R	可靠度系数 Reliability coefficient	
N_1	输入转速 Number of input revolutions	r/min
N_2	输出转速 Number of output revolutions	r/min
N_{2MAX}	最大输出转速 Max. output speed	r/min
N_{2MIN}	最小输出转速 Min. output speed	r/min
F_{r1}	实心输入轴中心位置许用径向力 Permissible radial force at the center of the solid input shaft	N
F_{r2}	实心输出轴中心位置许用径向力 Permissible radial force at the center of the solid output shaft	N
F_A	输出轴许用轴向力 Permissible radial force of the output shaft	N
η	效率 Efficiency	
F	电机频率 Frequency of electromotor	f
V_{MOT}	电机电压 Voltage of electromotor	V
V_{BRAKE}	制动器电压 Voltage of brake	V



运行系数 K | Operation Coefficient K

$$K = k_A * k_S * k_R$$

被驱动设备工况的使用系数 k_A Usage coefficient of the drive machine k_A

原动机 Prime motor	工作机载荷类别 Load Category of Working Machine			每天工作小时数 Working hours/day
	均匀载荷 U Uniform load U	中等冲击载荷 M Medium impact load M	较大冲击载荷 H Relatively high impact load H	
	使用系数 Usage coefficients			
电动机 Electromotor	0.8	1	1.5	≤ 3
涡轮机 Turbine	1	1.25	1.75	> 3~10
液压马达 Hydraulic motor	1.25	1.5	2	> 10

工作机载荷分类 | Load Category of Working Machines

风机 Fan	运输机械 Transportation Machinery	挖掘机 U Retractor
U 鼓风机 (轴向和径向) U Blower (axial & radial)	M 板式输送机 M Apron conveyor	H 斗式提升机 H Bucket elevator
M 冷却塔风机 M Cooling tower fan	M 压载升降机 M Load elevator	H 铲子 H Spade
M 引风机 M Induced draft fan	M 袋式输送机 M Bag conveyor	M 机动绞车 M Mechanical winch
M 旋转活塞鼓风机 M Rotary piston blower	M 皮带式输送机 (散状物) M Belt conveyor (for bulk material)	M 泵 M Pump
U 透平鼓风机 U Turbo blower	U 皮带式输送机 (块状物) U Belt conveyor (for block material)	M 回转式起重机 M Rotary crane
建筑机械 Construction Machinery	U 粉状链门提升机 U Chain elevator	食品机械 Food Machinery
M 混凝土搅拌机 M Concrete mixer	M 链条输送机 M Chain conveyor	U 灌瓶机和装箱机 U Bottler and box filler
M 起重机 M Crane	M 回旋输送机 M Rotary conveyor	M 甘蔗压榨机 ** M Sugarcane crusher **
M 筑路机械 M Road machinery	M 运货升降机 M Freight elevator	M 甘蔗切割机 ** M Sugarcane cutter **
化工机械 Chemical Machinery	H 卷扬机 ** H Winch **	H 甘蔗碾磨机 H Sugarcane mill
U 搅拌机 (液体物) U Mixer (for liquid)	H 倾斜绞车 ** H Tilting winch **	M 捏合机 M kneader
M 搅拌机 (半液体物) M Mixer (for semi-liquid)	M (乘客) 电梯 M (passengers) Elevator	M 结晶器, 搅拌机 M Crystallizer, mixer
M 离心机 (重型) M Centrifugal machine (heavy)	M 螺旋输送机 M Screw conveyor	U 打包机 U Packer
U 离心机 (轻型) U Centrifugal machine (light)	M 钢带输送机 M Steel belt conveyor	M 甜菜切碎机 M Beet chopper
M 冷却滚筒 ** M Cooling roller **	M 槽式链条输送机 M Channel type chain conveyor	M 甜菜清洗机 M Beet washing machine
M 干燥滚筒 ** M Dry roller **	M 拖泄式绞车 M Drag and drop winch	



■ 工作机载荷分类 | Load Category of Working Machines

起重机 Crane	H 压机 H Press	H 压力泵 ** H Pressure pump **
M 摇摆机构 M Wobble mechanism	M 剪板机 M Shearing machine	橡胶机械 Rubber Machinery
U 提升装置 U Lifting device	M 金属板折弯机 M Sheet metal bending machine	M 压延机 ** M Calenders **
U 伸缩装置 U Retractor	石油机械 Petroleum Machinery	H 挤压机 ** H Extruder **
M 回转装置 M Rotary device	H 管线泵 H Pipeline pump	M 揉和机 ** M Kneader **
H 行走装置 H Walking device	H 旋转式钻孔设备 H Rotary drilling device	H 搅拌机 ** H Mixer **
压缩机 Compressor	清洗机 Washing Machine	H 滚轧机 ** H Rolling machine **
H 活塞式压缩机 H Piston compressor	M 干燥机 M Drier	石头及粘土加工机 Stone and Clay Processing Machine
M 涡轮增压机 M Turbo compressor	M 清洗机 M Washing machine	H 球磨机 ** H Ball mill **
发电机 Dynamotor	造纸机 Papermaking Machine	H 冲击式磨机 ** H Impact mill **
H 发电机 H Dynamotor	H 压光机 ** H Coating machine **	H 破碎机 H Crusher
金属轨钢机 Metal Rail Steel Machinery	H 纸板层压机 ** H Cardboard laminating machine **	H 压砖机 H Brick pressing machine
H 剪板机 ** H Sheet shearing machine **	H 干燥滚筒 ** H Dry roller **	H 锤磨机 ** H Hammer mill **
H 机械手 ** H Mechanical hand **	H 上光滚筒 ** H Glazing cylinder **	H 旋转炉 ** H Rotary furnace **
H 推锭机 ** H Ingot pusher **	H 碎浆机 ** H Pulper **	H 管磨机 ** H Tube mill **
H 中型轧板机 ** H Medium-size plate mill **	H 水浆研磨机 ** H Pulp grinder **	纺织机 Textile Machines
H 冷轧机 ** H Cold rolling mill **	H 吸水辊 ** H Suction roll **	M 给料机 M Feeder
M 链式输送机 ** M Chain conveyor **	H 吸水压榨 ** H Suction press **	M 织布机 M Loom
M 辊式矫直机 ** M Roll leveler **	H 纸板机 ** H Cardboard machine **	M 印染机 M Dyeing and finishing machine
M 辊道 (重型) ** M Roll table(heavy) **	H 威罗机 H Willey	M 揉瓮 M Rubbing urn
M 修边机 ** M Trimming machine **	塑料工业机械 Industrial Machinery of Plastics	M 威罗机 M Willey
H 焊管机 H Pipe welding machine	M 压延机 ** M Calenders **	软水处理 Soft water treatment
M 绕线机 M Winding machine	M 挤压机 ** M Extruder **	M 松砂机 ** M Sand ripper **
M 拉线机 M Wire drawing machine	M 挤塑机 ** M Plastic extruder **	M 螺杆泵 M Screw pump
金属加工机床 Metal Working Machinery	M 搅拌机 ** M Mixer **	木工机械 Woodworking Machinery
H 锻压机 H Forging machine	泵 Pump	H 剥皮机 H Barker
H 机床辅助传动装置 H Auxiliary transmission device of machine tool	U 离心泵 (轻液) U Centrifugal pump(light liquid)	M 刨床 M Planer
M 机床主传动装置 M Primary transmission device of machine tool	M 离心泵 (半液体) M Centrifugal pump(semi-liquid)	H 锯框 ** H Frame saw **
H 金属刨床 H Metal planer	H 活塞泵 H Piston pump	U 木工机床 U Woodworking machine
H 板材矫直机 H Plate leveler	H 柱塞泵 ** H Plunger pump **	

注: U= 均布载荷 M= 中等冲击载荷 H= 较大冲击载荷
**= 仅以全天工作为条件

表中列出的载荷分类符号在工作机的工作情况的详情给出后, 可以修改。

Note: U=uniform load M=medium compact load H=relatively high impact load

**= only in the case of full-time work

Signs of load category listed in the table can be modified according to the actual working situation.

■ 减速机每小时的启动次数 K_S | Number of Startups of Reducer Every Hour K_S

K_S 启动次数 No. of Startups	K_A	0.8-1	1.25-1.75-	≥ 2
≤ 5		1	1	1
6~25		1.2	1.12	1.06
26~60		1.3	1.2	1.12
61~180		1.5	1.3	1.2
> 180		1.7	1.5	1.3

■ 可靠度系数 K_R | Reliability Coefficient K_R

可靠度要求 Requirement of reliability	一般 Normal	较高 Relatively high	高 High
K_R	1	1.56	2.25

■ 环境条件（以下为一般的设计条件，其它的应另行说明）

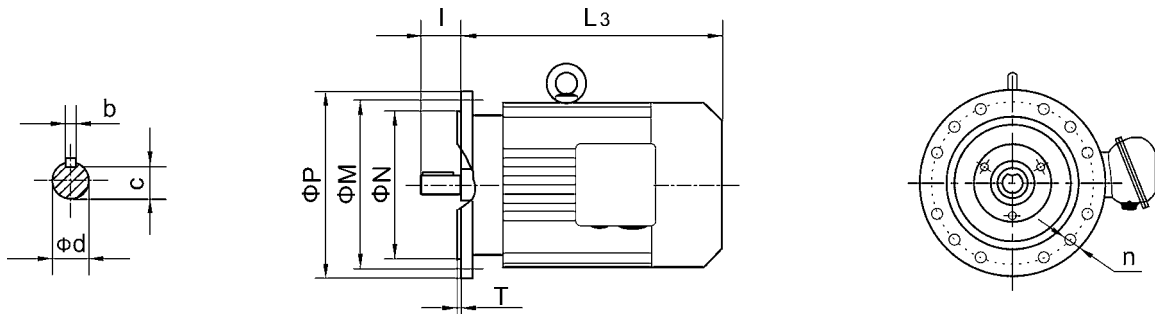
Environmental condition (Normal conditions are as follows. Please specify special conditions if there are)

- 安装场所：室内
- 环境温度：0~40℃
- 环境湿度：85% 以下
- 高度：海拔 1000M 以下
- 周围气体：无腐蚀气体、爆炸性气体、蒸汽等，应为不含尘埃的通风良好场所。
- Installation location: for indoor use
- Ambient temperature: 0~40℃
- Ambient humidity: below 85%
- Height: below altitude 1000M
- Air around: without corrosive gas, explosive gas, steam etc. It shall be good in ventilation without dust.

■ 效率 η | Efficiency η

在样本中减变速机效率的因子已考虑在内，客户在选型时参考上述的选型举例即可。

The efficiency factor of reducers and variators has been considered in samples. Customers can take these examples as reference for type selection.

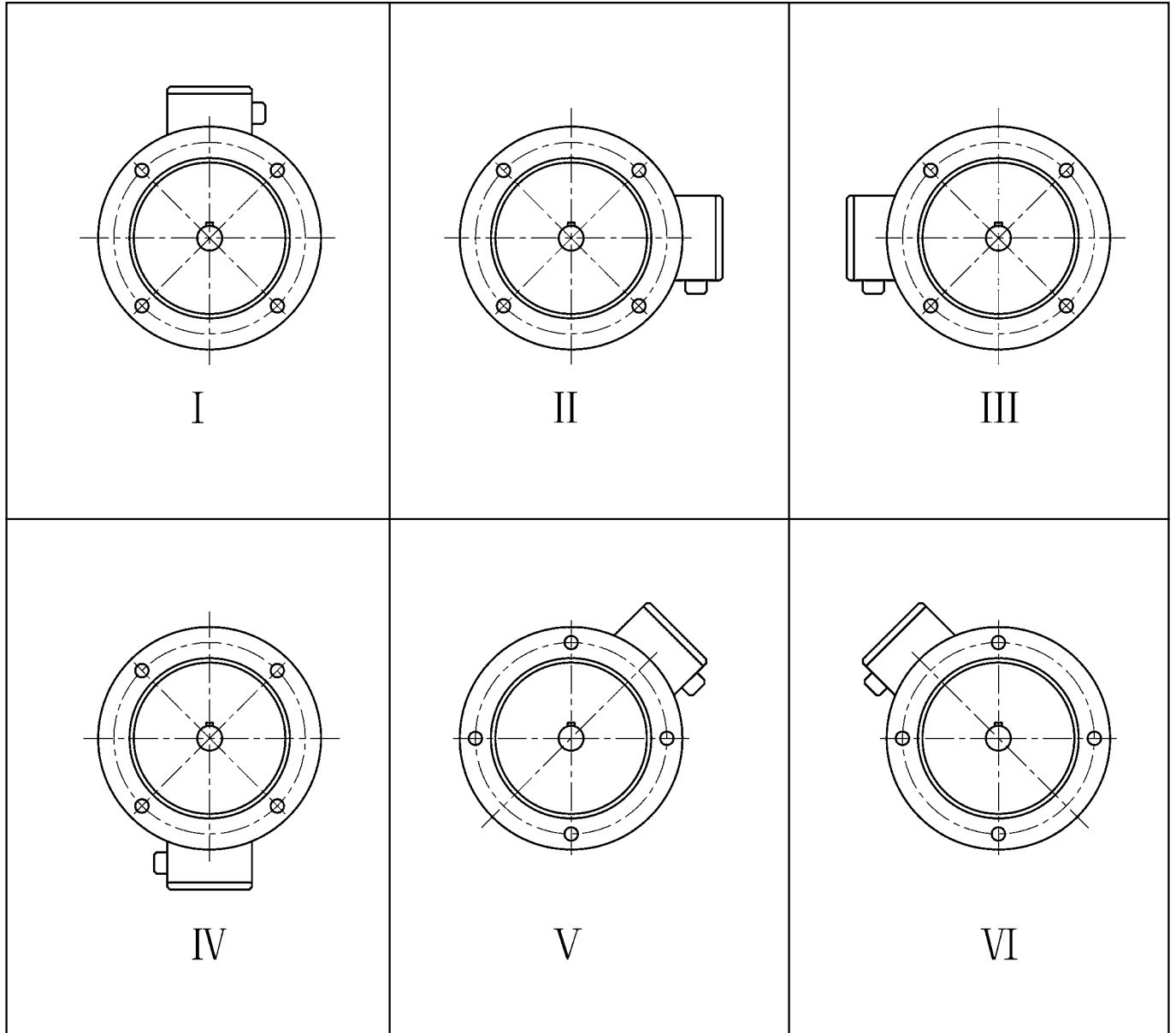


机座号 Size	4极 Class4		6极 Class6		8极 Class8		L3				安装尺寸 Mounting dimensions								M (kg)					
	P ₁ (KW)	n ₁ (r/min)	P ₁ (KW)	n ₁ (r/min)	P ₁ (KW)	n ₁ (r/min)	Y ₂	B	E	V	M	N	P	n	T	d	l	b	c	Y 铝壳 Aluminum housing	Y ₂	B	E	V
63	0.12	1390					202	270	328		115	95j6	140	4xΦ10	3	11j6	23	4	8.5	5.5	13			11
	0.18	1390																		6	13.5	15		12
71	0.25	1390	0.18	850			225	285	345		130	110j6	160	4xΦ10	3.5	14j6	30	5	11	6.5	14	16	12	14
	0.37	1390	0.25	850																7.5	14.5	16	13	15
80	0.55	1390	0.37	885	0.18	645	255	290	350	310	165	130j6	200	4xΦ12	3.5	19j6	40	6	15.5	10	15	31	20	16
	0.75	1390	0.55	885	0.25	645														11	16	32	21	17
90S	1.1	1400	0.75	910	0.37	670	270	310	370	320	165	130j6	200	4xΦ12	3.5	24j6	50	8	20	16	23	35	27	23
90L	1.5	1400	1.1	910	0.55	670	295	335	395	345	165	130j6	200	4xΦ12	3.5	24j6	50	8	20	20	25	39	31	28
100	2.2	1420	1.5	920	0.75	680	325	370	420	370	215	180j6	250	4xΦ15	4	28j6	60	8	24		33	49	41	35
	3	1420			1.1	680															35	53	44	36
112M	4	1440	2.2	940	1.5	690	340	400	450	390	215	180j6	250	4xΦ15	4	28k6	60	8	24		41	67	60	43
132S	5.5	1440	3	960	2.2	710	390	430	505	450	265	230j6	300	4xΦ15	4	38k6	80	10	33		65	93	85	63
132M	7.5	1460	4	960	3	710	430	470	545	490	265	230j6	300	4xΦ15	4	38k6	80	10	33		76	105	98	75
			5.5	960																				
160M	11	1460	7.5	960	4	720	505	545	610	550	300	250j6	350	4xΦ19	5	42k6	110	12	37		118	150	143	116
					5.5	720																		
160L	15	1460	11	960	7.5	720	560	585	655	595	300	250j6	350	4xΦ19	5	42k6	110	12	37		132	169	165	136
180M	18.5	1470			/	720	590	620	715	740	300	250j6	350	4xΦ19	5	48k6	110	14	42.5		164	205	203	169
180L	22	1470	15	970	11	730	630	640	765	790	300	250j6	350	4xΦ19	5	48k6	110	14	42.5		182	222	216	183
200	30	1470	18.5	970	15	730	660	695	790	850	350	300j6	400	4xΦ19	5	55k6	110	16	49		245	300	296	236
			22	970																				
225S	37	1480			18.5	730	675	705	860	910	400	350h6	450	4xΦ19	5	60m6	140	18	53		258	360	370	291
225M	45	1480	30	980	22	730	705	730	890	940	400	350h6	450	4xΦ19	5	60m6	140	18	53		290	390	405	327
250	55	1480	37	980	30	730	770	795		1060	500	450h6	550	4xΦ19	5	65m6	140	18	58		388	530	498	393
280S	75	1480	45	980	37	730	845	870		1160	500	450h6	550	4xΦ19	5	75m6	140	20	67.5		510	660	633	520
280M	90	1485	55	980	45	740	895	920		1260	500	550h6	550	4xΦ19	5	75m6	140	20	67.5		606	785	723	610
315S	110	1485	75	980	55	740	1100	1100		1330	600	550h6	660	4xΦ24	6	80m6	170	22	71		910	1000	1150	950
315M	132	1485	90	985	75	740	1180	1180		1380	600	550h6	660	4xΦ24	6	80m6	170	22	71		1000	1100	1230	1030
315L	160	1485	110	985	90	740	1270	1270		1450	600	550h6	660	4xΦ24	6	80m6	170	22	71		1055	1100	1320	1100
	200	1485	132	985	110	740															1128	1160	1420	1200

注：由于结构需要及生产厂家不同，有时参数会有所变化，此表仅供参考，准确尺寸请来电垂询。

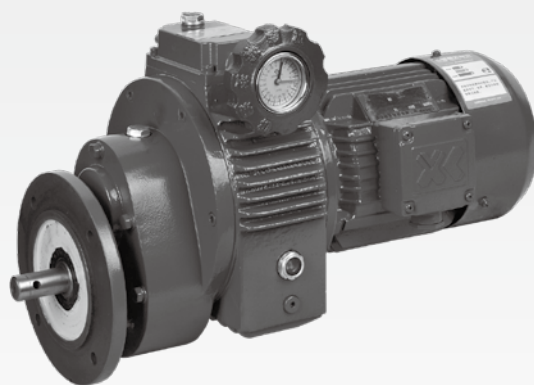
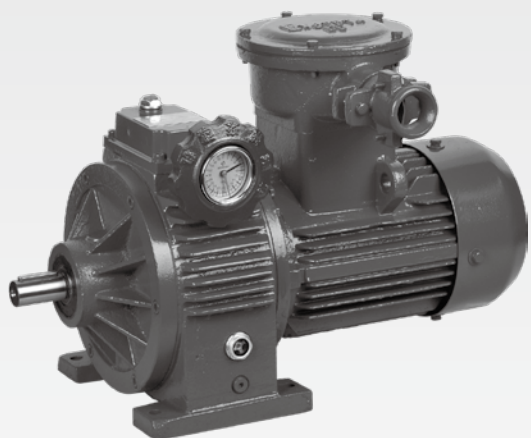
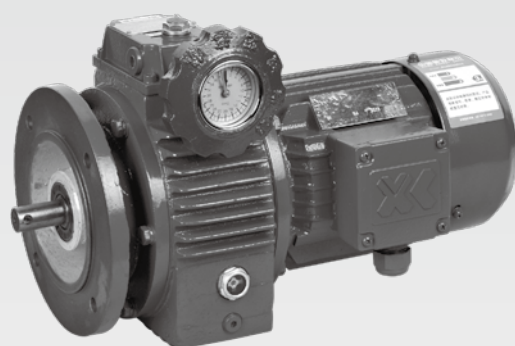
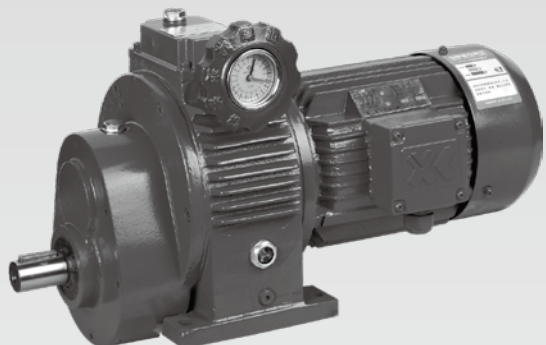
Note: Sometimes the parameters may be changed with the different structure and manufacturer, this table is only for reference, please refer to us for the exact dimensions.

■ 电机接线盒方位 | The electrical wiring box position



UD 系列行星锥盘减变速机

UD Series of Planetary Cone-disc Reducer & Variator



概述 | Introduction

UD 系列行星锥盘无级变速器由于结构合理、操作方便、传动稳定、噪音低等特点，所以广泛应用于食品、印刷、纺织、橡胶、塑料、陶瓷、制药、化工等行业的机械传动装置上。它的主要性能特点：

- 变速范围大：UD 变速器变速范围 $R_b=5$ ；
- 调速精度高：UD 变速器调速精度为 0.5~1 转；
- UD 系列变速器所有传动零部件都经过严格处理，精密加工和研磨，接触与润滑性能良好，所以运转平稳、噪音低、使用寿命长；
- 组合能力强：本机能与各种减速机组合，实现低速无级变速，因此它具有良好的适应性；
- 结构紧凑、体积小、重量轻；
- 适应工艺参数多变或连续变化的工况要求，并可在负载中按需要调节速度。

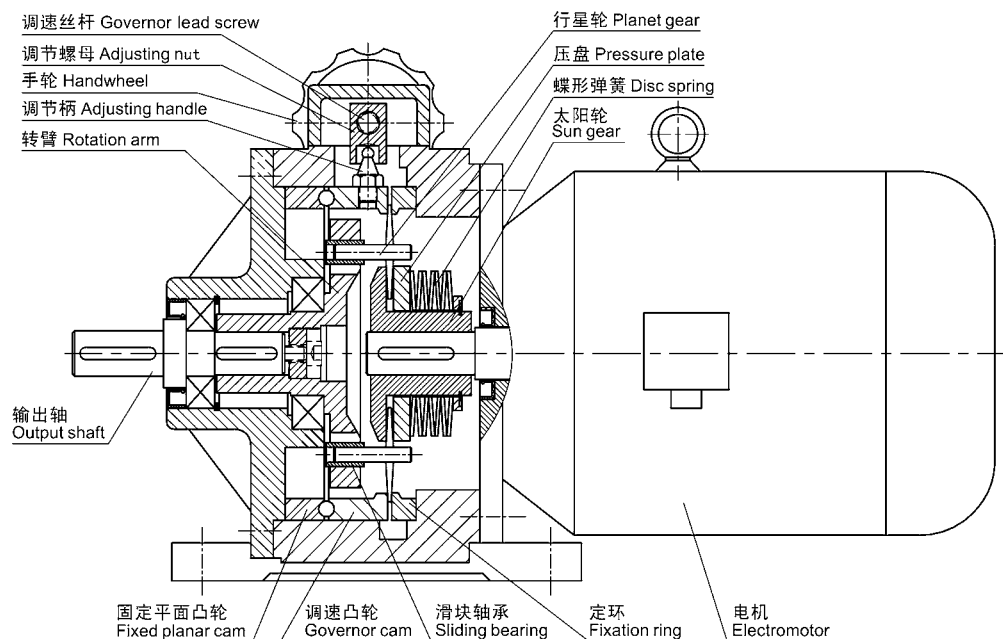
UD Series of planetary cone-disc variator is characterized by proper structure, easy operation, stable transmission and low noise. It is widely used in mechanical transmission equipments for the industries of food, printing, textile, rubber, plastics, ceramics, pharmacy and chemical. Main features of it are:

- Broad range of speed adjustment: it is $R_b=5$ for UD variators;
- High precision of speed adjustment: it is 0.5~1 turn for UD variators;
- All transmission parts of UD series variators are processed and ground precisely. With excellent performance of contact and lubrication, it is featured by stable operation, low noise and long life time;
- Multiple combination: it can be combined with various reducers with stepless change at low speed;
- Compact structure, small size, light in weight;
- It meets the requirements of variable technical parameters or continuous changes with possible with possible speed adjustment in load.

工作原理 | Principle of Operation

本机由行星机构、调速控制机构、加压装置及电机等组成。行星机构由太阳轮、压盘、固定平面凸轮、调速凸轮、定环、行星轮及转臂（行星架）组成。动力源由电机输入带动太阳轮，由于定环及调速凸轮不动，因此行星轮在自转的同时并做公转运动，通过滑块轴承带动转臂及输出轴运转。加压装置是由一组碟簧组成，它对压盘、行星轮、太阳轮施加轴向压力，使其转动时产生磨擦，通过专用牵引油产生的牵引力来传递动力。调速控制机构的工作过程是当转动手轮时，通过调速丝杆、调节螺母、调节柄带动调速凸轮改变其角向位置，并通过固定平面凸轮曲线面使调速凸轮产生轴向移动，从而改变调速凸轮和定环的间隙，行星轮就能作径向移动，从而改变了传动半径，最终实现了稳定的无级变速。

It consists of planet mechanism, speed regulation mechanism, pressurizing equipment and electromotor, etc. The planet mechanism comprises sun gear, pressure plate, fixed planar cam, governor cam, fixation ring, planet gear and rotation arm (planet carrier). Power supply is from electromotor input, which drives the sun gear. As the fixation ring and the governor cam are stable, the planet gear is rotating and revolving simultaneously, which drives the rotation arm and the output shaft by the sliding bearing. The pressurizing equipment is constituted by a group of disc springs, exerting axial pressure on the pressure plate, the planet gear and the sun gear with friction caused when they are rotating. Therefore, the power is transmitted by the traction force generated by special traction lubricant. The working process of the control mechanism caused by speed adjustment is to change its angle position by the governor cam which is driven by the governor lead screw, the adjusting nut and the adjusting handle and make the governor cam in axial movement through the curved surface of the fixed planar cam when turning the handwheel. Thus, the clearance between the governor cam and the fixation ring is changed and the planet gear will move radically, which alters the transmission radius with stable stepless speed change achieved.



UD 系列选型 | Options of UD Series

使用条件及选型结果 / Conditions and results

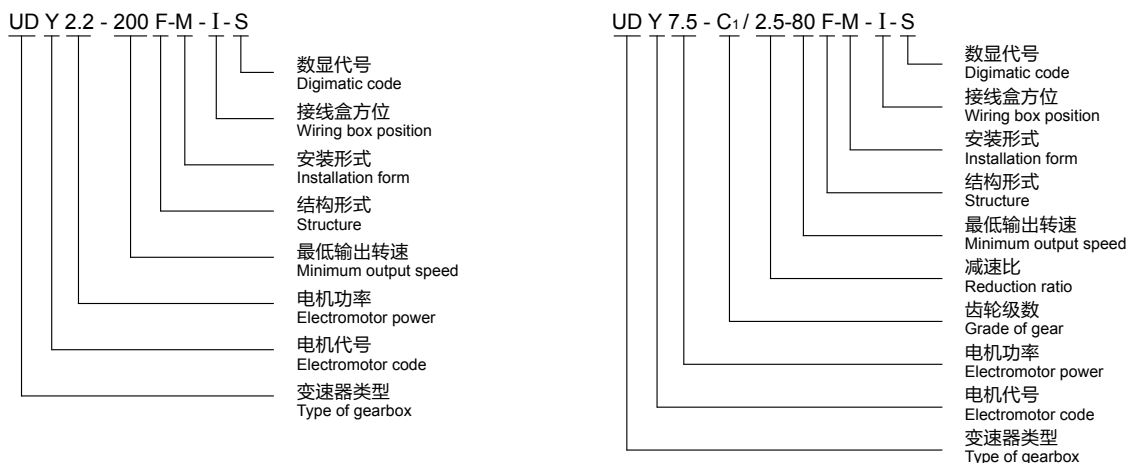
使用条件 / Condition ○

选型结果 / Result ●

○ 负荷容量 (被驱动设备输入功率或输入转矩) Load capacity (Input power or input torque of the driven equipment)	M=100N.m	
○ 电源电压 / Voltage	380V	
○ 电源频率 / Frequency	50Hz	
○ 要求转速 / Speed required	80-400r/min	
○ 运行系数 K / Performance coefficient	均匀负荷, 14 小时 / 天 $K_A=1.25$ 查表 P2 启动次数: 5 次 / 小时 $K_S=1$ 查表 P4 可靠度: 一般 $K_R=1$ 查表 P4 $K=K_A * K_S * K_R=1.25$	Uniform load, 14 hours/day $K_A=1.25$ check the table P2 Number of startups: 5 times/hour $K_S=1$ check the table P4 Reliability: normal $K_R=1$ check the table P4
○ 安装形式 / Type of installation	平行轴、卧装与被驱动设备直联 B3 查表 P14	Parallel shaft, horizontal installation B3 check the table P14
○ 承载能力计算 / Calculation of bearing capacity	$M_{2min} \geq M_{S2} * K=125N.m$	
● 确认机型 / Confirmation of machine	根据 N_2 及 M_{2min} 查表 P10 得: UDY 7.5-C ₁ / 2.5-80	Based on N_2 and M_{2min} & table P10: UDY 7.5-C ₁ / 2.5-80
● 确认环境条件 / Confirmation of environmental condition	室内、环境温度 28℃ OK	Inside, ambient temperature 28℃ OK
● 确认电机规格 / Confirmation of electromotor specification	380V、50Hz 无制动器、室内型 / Without brake, for inside OK	
● 结束选型 / End of selection	UDY 7.5-C ₁ / 2.5-80 380V、50Hz 无制动器、室内型 / Without brake, for inside	

UD

UD 系列型号规格表示方式 | Denotation of Specification & Dimension of UD Series



变速器类型 Type of gearbox	电机代号 Electromotor code	电机功率 Electromotor power	齿轮级数 Grade of gear	减速比 Reduction ratio	最低输出转速 Minimum output speed	结构形式 Structure	安装形式 Installation form	接线盒方位 Wiring box position	数显代号 Digimatic code
UD 行星锥盘 无级变速器 UD planetary cone-ring stepless variator	普通 Y ₂ Normal Y ₂	见选型 参数表 See selections Parameter list	见选型 参数表 See selections Parameter list	见选型 参数表 See selections Parameter list	见选型 参数表 See selections Parameter list	卧式 (W 省略) Horizontal (W omitted)	见表 P14 See the table P14	见表 P6 See the table P6	S
	防爆 B Explosion protection B								
	制动 E Brake E								
	变频 V Frequency conversion V								
	变频制动 VE Brake by frequency conversion VE								
	多速 D Multi-speed D								
分马力 F Fractional horsepower F	立式 (F) Vertical (F)	立、卧式 (FW) Vertical & Horizontal (FW)							

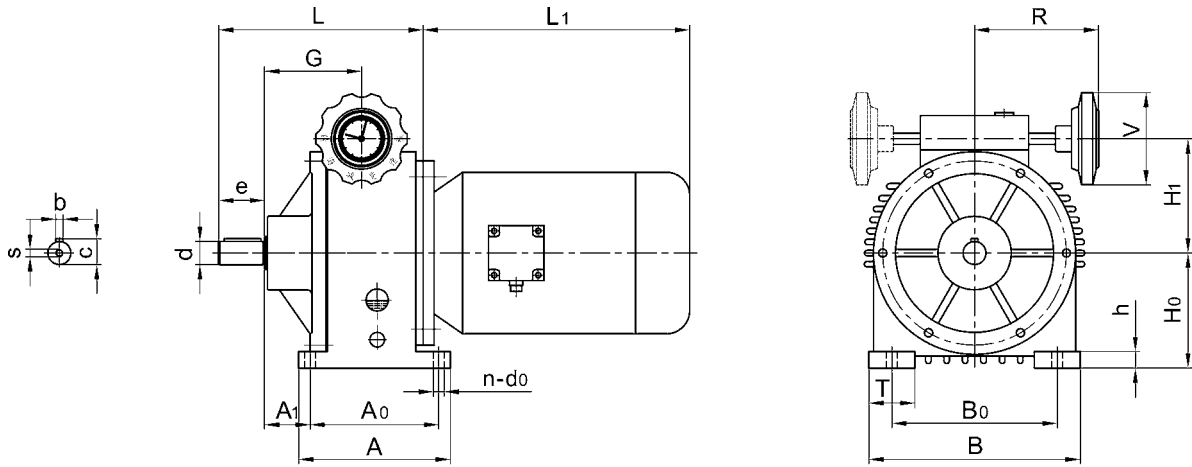
UD 系列选型参数表 | Parameter List Selections of UD Series

机座号 Housing No.		04		07		15		40		75		150			
输入功率 (kW) Input power	四级 4-pole	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	
	六级 6-pole	0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	
型号 Model	类别 Type	输出转速 r/min Output speed		许用输出转矩 N.m Permissible output torque											
UDY-	1	200-1000	4.2-2	6.2-3	10.4-5	12.5-6	18.4-9	25-12	36-18	50-24	67-33	92-45	125-61	176-88	235-118
		130-650	4.6-2.3	6.4-3.2	10.4-5.2	15-7.5	21-10	28-14	38-19	56-28	77-38	103-51	141-70	190-95	280-140
	2	150-750	4.6-2.3	6.4-3.2	10.4-5.2	15-7.5	21-10	28-14	38-19	56-28	77-38	103-51	141-70	190-95	280-140
		100-500	4.6	6.4	10.4	15	21	28	38	56	77	103	141	190	280

UD-C₁ 系列选型参数表 | Parameter List Selections of UD-C₁ Series

机座号 Housing No.		04		07		15		40		75		150			
输入功率 (kW) Input power	四级 4-pole	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5	11	15	
	六级 6-pole	0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5			
型号 Model	类别 Type	输出转速 r/min Output speed													
UDY-C ₁	1.4	100-500	5.7-2.7	8.5-4.1	13.7-6.2	17.1-8.3	25.2-12.3	34.2-16.2	49.3-24.6	68-33	92-45.4	126-62	171-84	241-120	322-162
		63-325	6.3-3.1	8.8-4.3	14.2-7.1	20.4-10	28.6-13.7	38-19	52-26	76.7-38	105-52	141-70	193-96		
	2.5	80-400	10.2-4.9	15.2-7.3	24.5-11	30.5-14.9	45-22	61-29	88-44	122-59	164-81	225-110	306-150	431-215	576-289
		52-260	11.3-5.6	15.7-7.6	25.4-12.7	36.5-18	51-24.5	68-34	93-46.5	137-68	188-93	252-125	345-172		
	5	40-200	20.4-9.8	30.4-14.6	49-22	61-29.8	90-44	122-58	176-88	244-118	328-162	450-220	612-300	862-430	1152-578
		26-130	22.6-11.2	31.4-15.2	50.8-25.4	73-36	102-49	136-68	186-93	274-134	376-186	504-250	690-344		

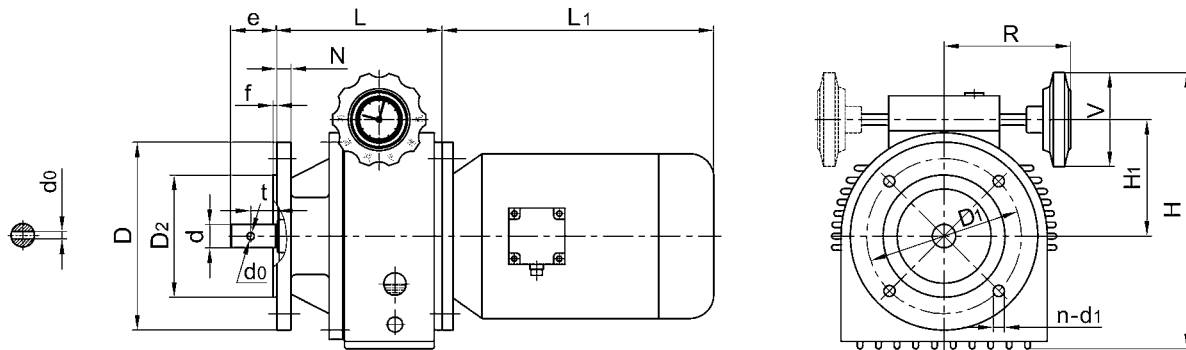
UD 系列基本型外形及安装尺寸 | Overall & Installation Dimension of UD Series



机座号 Housing No.	安装尺寸 Installation dimension						输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension									
	H ₀	A ₁	A ₀	B ₀	n	d ₀	d	e	b	c	s	A	B	G	T	h	R	V	H ₁	L	L ₁
04	90	30	105	120	4	10	14h6	30	5	16	M6	135	160	84	30	13	115	100	92	149	参考电机 见表 P5 See the table for electromotor P5
07	106	35	125	160	4	12	20h6	40	6	22.5	M6	150	190	88	40	15	115	100	112	182	
15	125	53	140	180	4	12	25h6	50	8	28	M8	165	230	108	50	18	128	100	124	226	
40	150	25	230	245	4	14	30h6	60	8	33	M8	270	300	134	55	25	147	100	153	268	
75	200	34	250	315	4	18	35h6	70	10	38	M10	290	365	134	70	30	186	160	193	321	
150	224	50	350	360 (350)	4	20	50h6	110	14	53.5	M12	420	460	198	85	45	242	200	255	455	

UD-F 系列外形及安装尺寸 (泵专用)

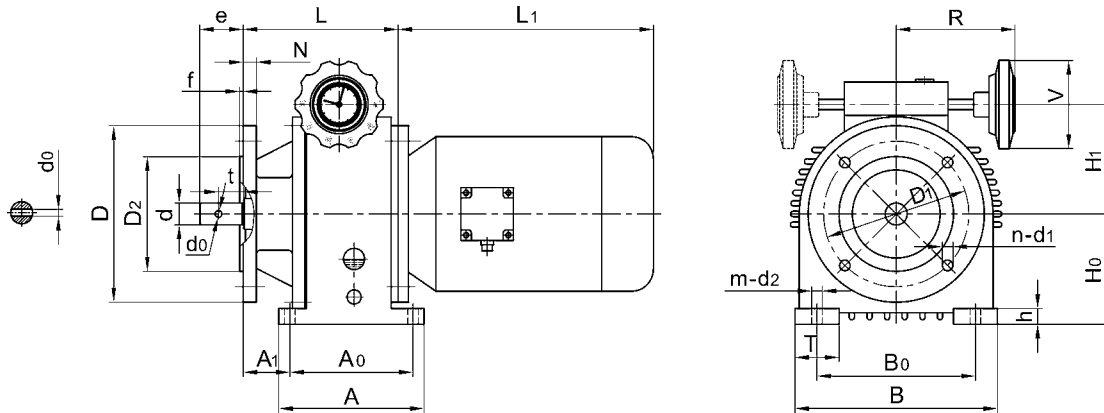
Overall & Installation Dimension of UD-F Series (Pump Exclusive)



机座号 Housing No.	安装尺寸 Installation dimension					输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension						
	D ₁	D ₂	f	n	d ₁	d	e	d ₀	t	D	H	H ₁	L	N	R	V	L ₁
04	130	110h7	3.5	4	10	14h6	30	6	15	160	228	92	119	8	115	100	参考电机 见表 P5 See the table for electromotor P5
07	165	130h7	3.5	4	12	20h6	40	6	30	200	266	112	142	14	115	100	
15	165	130h7	3.5	4	12	25h6	50	8	28	200	296	124	176	15	128	100	
	215	180h7	4		15					250							
40	215	180h7	4	4	15	30h6	60	10	28	250	347	153	208	16	147	100	
	265	230h7								300							
75	265	230h7	4	4	15	35h6	70	14	32	300	460	193	251	18	186	160	
	300	250h7	5		19					350							
150	350	300h7	5	4	19	50h6	110	20	60	400	551	255	345	22	242	200	

UD-FW 系列外形及安装尺寸 (泵专用)

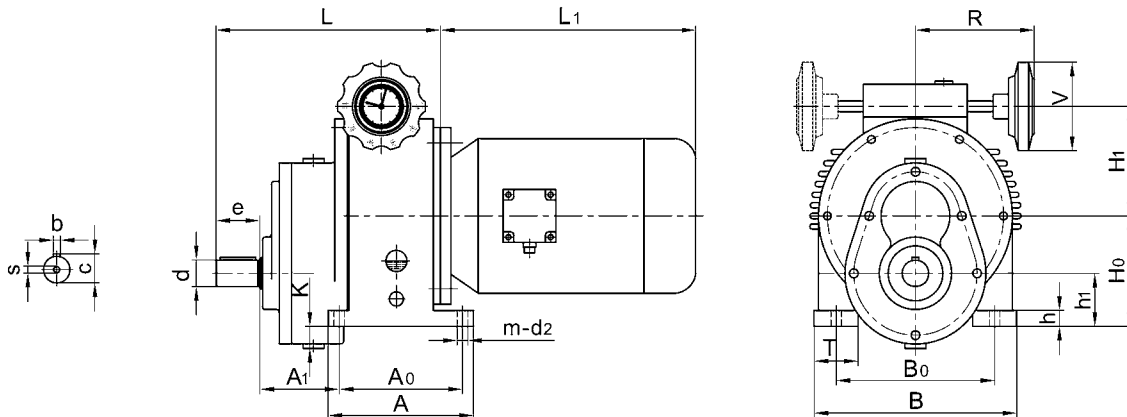
Overall & Installation Dimension of UD-FW Series (Pump Exclusive)



机座号 Housing No.	安装尺寸 Installation dimension										输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension										
	H ₀	D ₁	D ₂	f	n	d ₁	A ₁	A ₀	B ₀	m	d ₂	d	e	d ₀	t	D	A	B	T	h	N	R	V	H ₁	L	L ₁
04	90	130	110h7	3.5	4	10	30	105	120	4	10	14h6	30	6	15	160	135	160	30	13	8	115	100	92	119	See the table for electromotor P5 参考电机见表 P5
07	106	165	130h7	3.5	4	12	35	125	160	4	12	20h6	40	6	30	200	150	190	40	15	14	115	100	112	142	
15	125	165	130h7	3.5	4	12	53	140	180	4	12	25h6	50	8	28	200	165	230	50	18	15	128	100	124	176	
		215	180h7	4		15										250										
40	150	215	180h7	4	4	15	25	230	245	4	14	30h6	60	10	28	250	270	300	55	25	16	147	100	153	208	
		265	230h7													300										
75	200	265	230h7	4	4	15	34	250	315	4	18	35h6	70	14	32	300	290	365	70	30	18	186	160	193	251	
		300	250h7	350																						
150	224	350	300h7	5	4	19	50	350	360 (350)	4	20	50h6	110	20	60	400	420	460	85	45	22	242	200	255	345	

UD-C1 系列外形及安装尺寸 (泵专用)

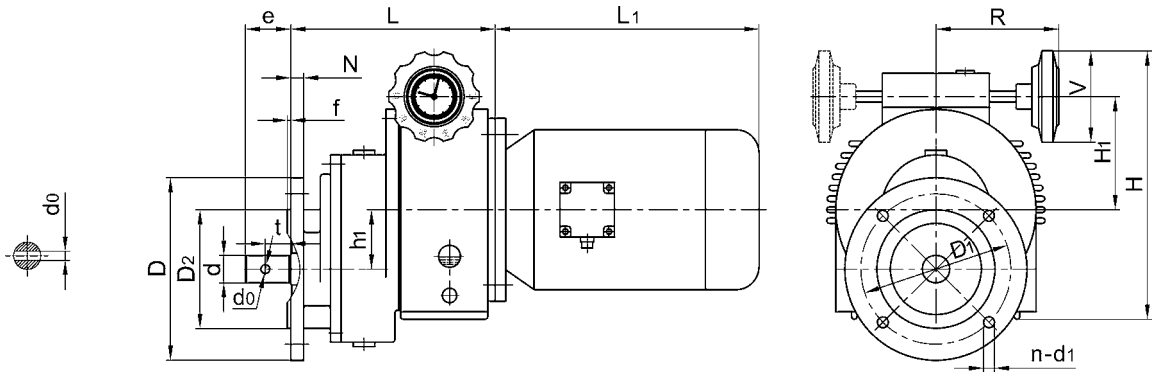
Overall & Installation Dimension of UD-C1 Series (Pump Exclusive)



机座号 Housing No.	安装尺寸 Installation dimension						输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension										
	H ₀	h ₁	A ₁	A ₀	B ₀	m	d ₂	d	e	b	c	s	A	B	T	h	R	V	H ₁	K	L	L ₁
04	90	45	66	105	120	4	10	20h6	30	6	22.5	M6	135	160	30	13	115	100	92	20	185	See the table for electromotor P5 参考电机见表 P5
07	106	46	69	125	160	4	12	28h6	45	8	31	M8	150	190	40	15	115	100	112	34	222	
15	125	60	82	140	180	4	12	30h6	50	8	33	M8	165	230	50	18	128	100	124	30	255	
40	150	70	64	230	245	4	14	40h6	60	12	43	M10	270	300	55	25	147	100	153	30	307	
75	200	80	156	250	315	4	18	50h6	80	14	53.5	M10	290	365	70	30	186	160	193	50	455	
150	224	74	130	350	360 (350)	4	20	63h6	105	18	67	M16	420	460	85	45	242	200	255	100	530	

UD-C₁-F 系列外形及安装尺寸 (泵专用)

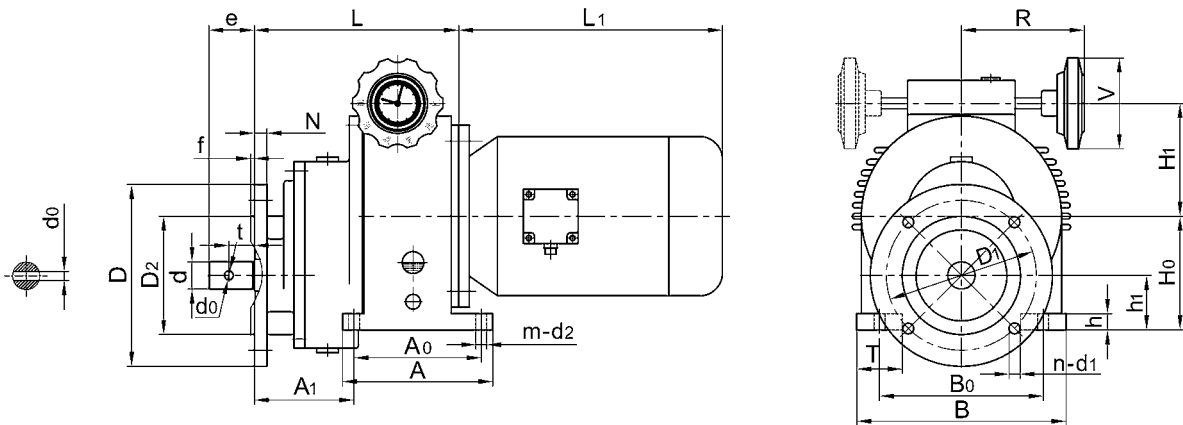
Overall & Installation Dimension of UD-C₁-F Series (Pump Exclusive)



机座号 Housing No.	安装尺寸 Installation dimension					输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension							
	D ₁	D ₂	f	h ₁	n	d ₁	d	e	d ₀	t	D	H	H ₁	L	N	R	V	L ₁
04	130	110h7	3.5	45	4	10	20h6	30	6	15	160	228	92	171	12	115	100	See the table for electric motor P5 电机匹配表格 P5
07	165	130h7	3.5	60	4	12	28h6	45	10	28	200	266	112	201	14	115	100	
15	165	130h7	4	65	4	12	30h6	50	10	28	200	296	124	225	14	128	100	
40	215	180h7	4	80	4	15	40h6	60	14	32	250	347	153	277	16	147	100	
75	265	230h7	5	120	4	15	50h6	80	16	40	300	460	193	371	20	186	160	
150	590	520h7	8	150	4	22	63h6	105	20	50	650	551	255	435	30	242	200	

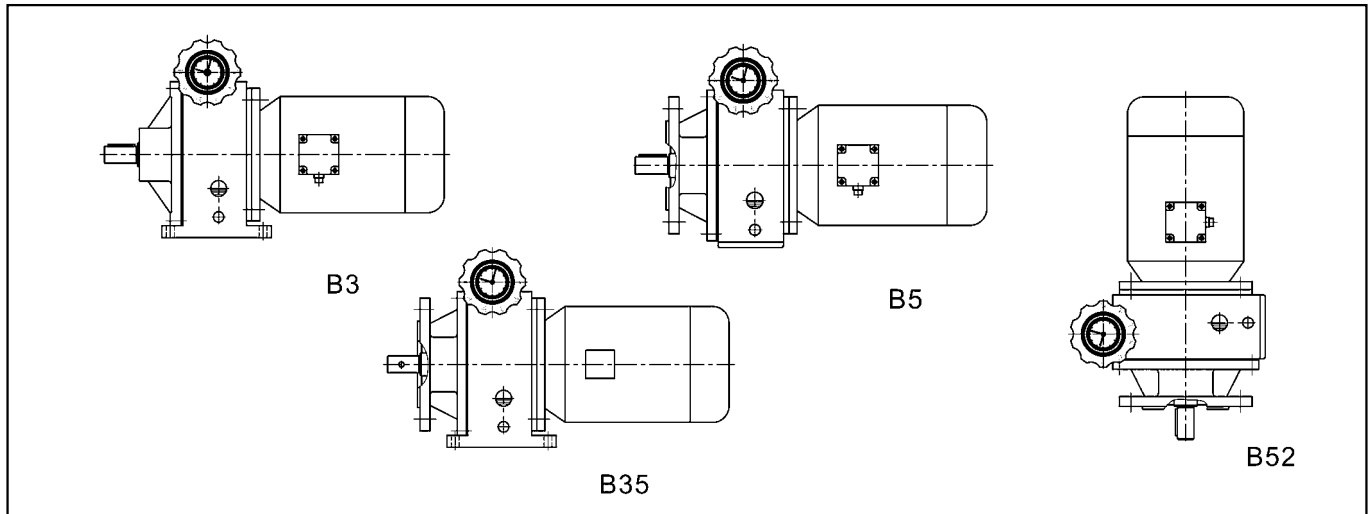
UD-C₁-FW 系列外形及安装尺寸 (泵专用)

Overall & Installation Dimension of UD-C₁-FW Series (Pump Exclusive)



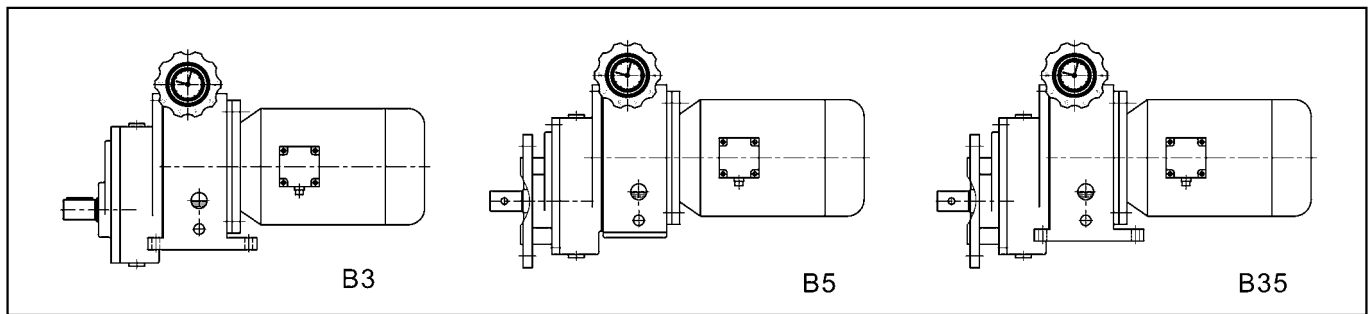
机座号 Housing No.	安装尺寸 Installation dimension										输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension											
	H ₀	h ₁	D ₁	D ₂	f	n	d ₁	A ₁	A ₀	B ₀	m	d ₂	d	e	d ₀	t	D	A	B	T	h	N	R	V	H ₁	L	L ₁
04	90	45	130	110h7	3.5	4	10	82	105	120	4	10	20h6	30	6	15	160	135	160	30	13	12	115	100	92	171	See the table for electric motor P5 电机匹配表格 P5
07	106	46	165	130h7	3.5	4	12	94	125	160	4	12	28h6	45	10	28	200	150	190	40	15	14	115	100	112	201	
15	125	60	165	130h7	4	4	12	102	140	180	4	12	30h6	50	10	28	200	165	230	50	18	14	128	100	124	225	
40	150	70	215	180h7	4	4	15	94	230	245	4	14	40h6	60	14	32	250	270	300	55	25	16	147	100	153	277	
75	200	80	265	230h7	5	4	15	154	250	315	4	18	50h6	80	16	40	300	290	365	70	30	20	186	160	193	371	
150	224	74	590	520h7	8	4	22	140	350	360 (350)	4	20	63h6	105	20	50	650	420	460	85	45	30	242	200	255	435	

■ **UD 系列安装形式** | Installation Type of UD Series



UD

■ **UD-C₁ 系列安装形式** | Installation Type of UD-C₂ Series



■ **UD 系列变速器润滑油量表**

The Comparison Table of UD Series Variable Speed Transmission

安装形式 Installation form	B3	B5	B52	B35
机座号 Housing No.	润滑油量 (升) Lubricating Oil Capacity (L)			
UD04	0.4	0.4	0.45	0.4
UD07	0.4	0.4	0.5	0.4
UD15	0.5	0.5	0.6	0.5
UD40	1.0	1.0	1.2	1.0
UD75	2.5	2.5	3.0	2.5
UD150	5.0	5.0	6.0	5.0

■ **UD 系列带齿轮润滑油量表**

The Comparison Table of UD Series With Gear Wheel

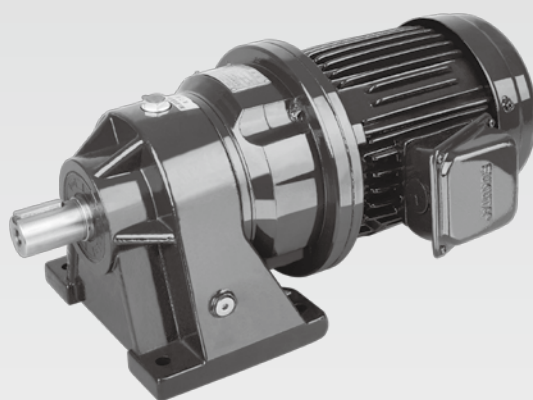
安装形式 Installation form	B3	B5	B35
机座号 Housing No.	润滑油量 (升) Lubricating Oil Capacity (L)		
UD04C1	0.15	0.15	0.15
UD07C1	0.3	0.3	0.3
UD15C1	0.4	0.4	0.4
UD40C1	0.6	0.6	0.6
UD75C1	1.0	1.0	1.0
UD150C1	2.0	2.0	2.0

■ **UD 系列重量表 (不含电机)** | Weight Table of UD Series (Without Motor)

机座号 Housing No.	UD04	UD07	UD15	UD40	UD75	UD150
重量 Weight (kg)	11	18	28	55	97	180
机座号 Housing No.	UD04-F	UD07-F	UD15-F	UD40-F	UD75-F	UD150-F
重量 Weight (kg)	11	19	30	52	99	190
机座号 Housing No.	UD04-C1	UD07-C1	UD15-C1	UD40-C1	UD75-C1	UD150-C1
重量 Weight (kg)	13	23	34	64	132	250
机座号 Housing No.	UD04-C1-F	UD07-C1-F	UD15-C1-F	UD40-C1-F	UD75-C1-F	UD150-C1-F
重量 Weight (kg)	13	25	35	61	132	300

G800 系列行星齿轮减速机

G800 Series of Planetary Gear Reducer



概述 | Introduction

行星齿轮传动，它具有普通齿轮传动的高效，工作平稳可靠，传动精度高等特征外，由于采用了行星内啮合结构，在传递动力时有效地利用了功率分流和输入、输出的同轴性，因而与普通齿轮传动相比，具有结构紧凑、体积小、重量轻、承载能力强、传动比大等优点。正基于这些功用，行星齿轮传动，正作为现代机械传动中的重要传动技术，广泛应用于轻工纺织、工程环保、石油化工、食品、制药、机床设备等行业的传动装置上。

G800 系列行星齿轮减速机通过优质的合金材料，科学的工艺流程，严谨的品质控制，以其优良的品质，而得到国内外用户越来越广泛的应用。

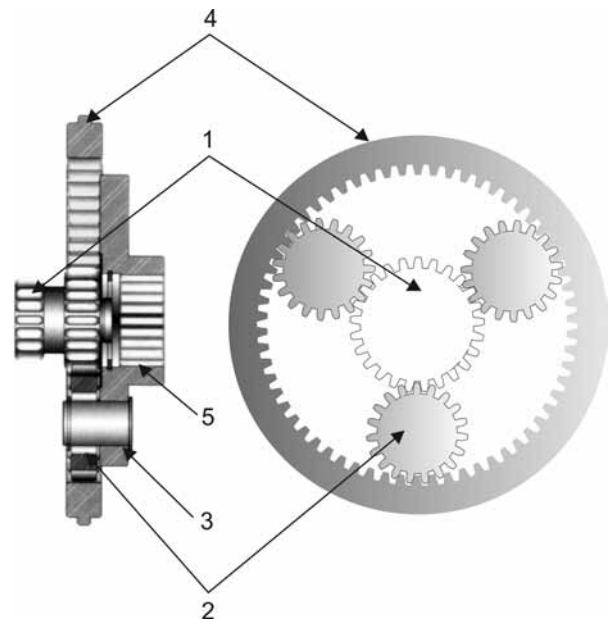
Planetary Gear Transmission is efficient, stable and accurate. It adopts internal meshing structure that can efficiently utilize the coaxial property provided by the power split, input and output. Compare with traditional gear transmission, Planetary Gear Transmission has compact structure and is smaller and lighter. It can withstand greater load and has higher transmission ratio. Planetary Gear Transmission, as an important transmission technology, is widely applied to the transmission devices for fields of textile, engineering environment protection, petrochemical, food, medicine and equipments, etc.

G800 Planetary Gear Transmission Series is made of high quality alloy with scientific processing procedures and strict quality control methods. It is well received by the domestic and overseas customers.

原理 | Principle

传动工作时电机（或其它原动机）带动输入中心齿轮（太阳齿轮）(1) 转动，驱动相啮合的行星齿轮 (2)；行星齿轮 (2) 通过行星架 (3)，自转于固定在机座上的内齿圈 (4) 中，并作公转运动，带动行星架 (3) 输出动力至下级中心齿轮（太阳齿轮）(5) 或直接传递动力给输出轴输出动力。

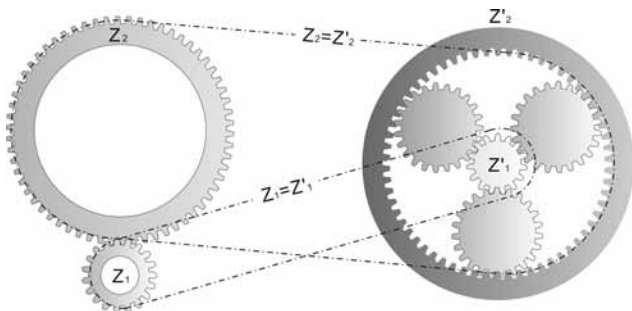
Transmission Process: Motor (or other price moves) leads the rotation of central gear (sun gear) (1), and brings along the movement of meshed planetary gear (2); planetary gear (2) rotates in the internal gear ring (4) fixed on the motor base through planetary plane (3), and generates revolution movements. Planetary plan (3) transmits power to the next central gear (sun gear) (5), or directly transmits the power to the output shaft.



特点 | Characteristics

减速比大：与普通齿轮传动相比，减速比能增加 20%，如下图所示：

Higher reduction ratio: The reduction ratio of Planetary Gear Transmission is 20% higher than the general gear transmission. See the picture below:



$$i = \frac{Z_2}{Z_1}$$

$$Z_2 = 60$$

$$Z_1 = 12$$

$$i = 5$$

$$i' = \frac{Z'_2}{Z'_1} + 1$$

$$Z'_2 = 60$$

$$Z'_1 = 12$$

$$i' = 6$$

Z_1 普通齿轮传动主动齿轮齿数
General gear active gear No. of tooth

Z_2 普通齿轮传动被动齿轮齿数
General gear passive gear No. of tooth

i 普通齿轮传动减速比
Reduction ratio of general gear

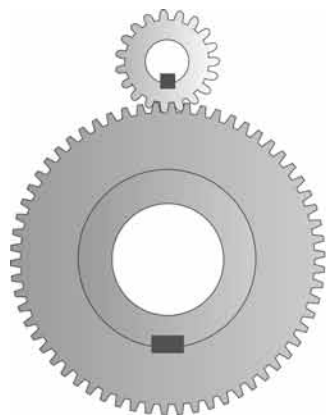
Z'_1 行星齿轮传动中心齿轮齿数
Planetary gear center gear No. of tooth

Z'_2 行星齿轮传动内齿圈齿数
Planetary gear internal gear ring No. of tooth

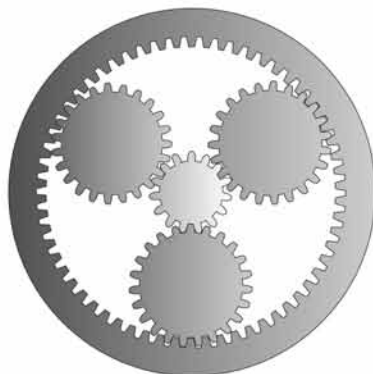
i' 行星齿轮传动减速比
Reduction ratio of planetary gear

结构紧凑: 采用内啮合结构体积更小, 如下图

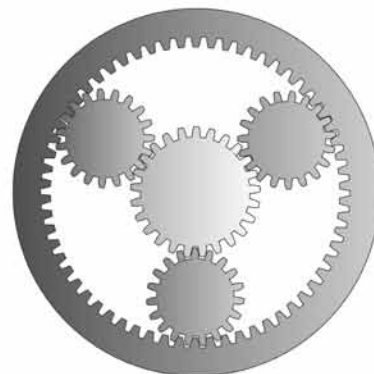
Compact structure: Planetary Gear Transmission adopts internal meshing structure that makes the product appears to be smaller.
See the picture below:



外啮合
External meshing



内啮合 大速比
Inside meshing High-speed ratio



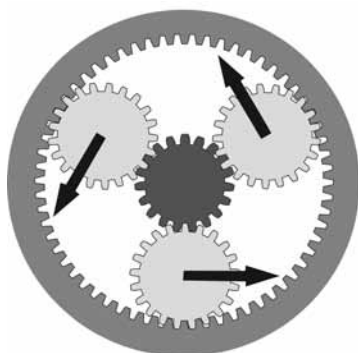
内啮合 小速比
Inside meshing Low-speed ratio

且减速比大小变化实现容易, 如上图所示: 外齿环不变, 只须更换太阳齿轮及行星齿轮, 即可轻易改变减速比。

Change internal gear ring to achieve easy. We can modify reduction ratio by replace sun gear and planetary gear. Therefore no need to change internal gear ring.

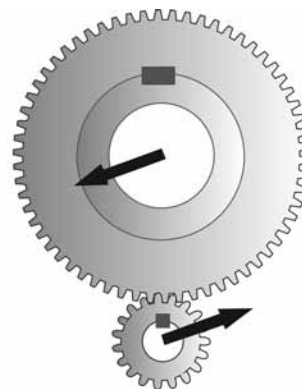
承载能力大: 受力对称均匀, 互相平衡, 多齿啮合, 功率分流传动, 如下图:

Excellent bearing performance; symmetric and well-proportioned force, internal balance, multi-tooth meshing, power split transmission, see the picture below:



行星式齿轮减速机具有六点齿轮接触传动功能, 可 360 度均匀承受较大之瞬间冲击负荷, 使本体能承受更大之负荷不致于破裂。

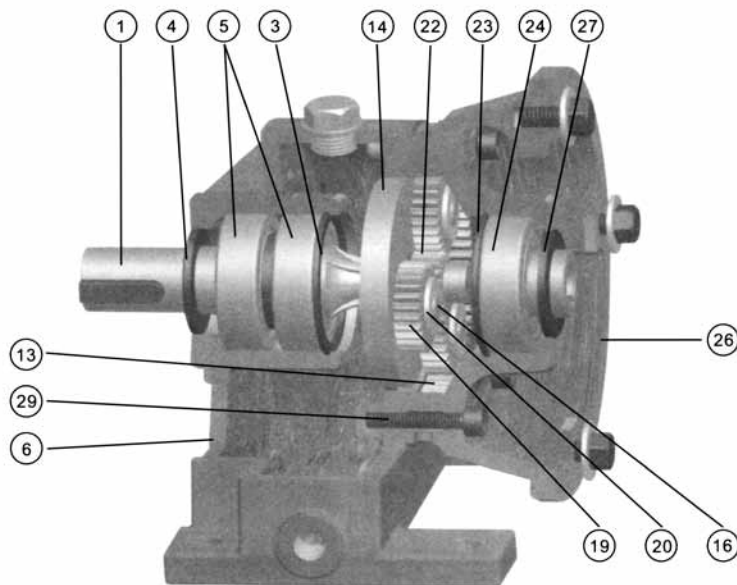
Six transmission contact points can afford high torque and great impact. All gears treated with hardened and honing treatment. Those precision machining gears makes running noiseless. Also allow high radial loads on the output shaft.



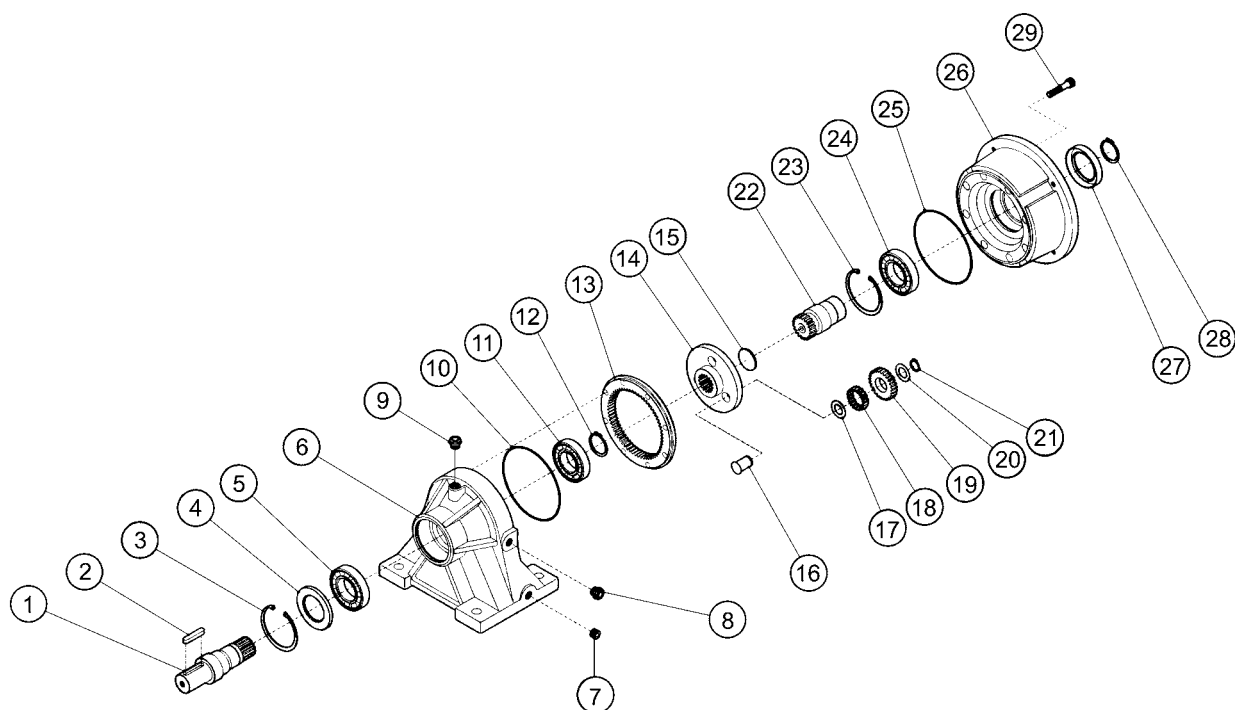
一般斜齿轮减速机仅具有单点接触传动功能, 使所有瞬间冲击负荷集中在此接触点上, 较容易造成断齿的情况产生。

Because planetary gear can share output radial force stable. Point contact easily broken the teeth by great impact on the contrary, normal helical gears only have one point contact.

■ G800 系列结构与选型 | Structure and design selection of G800 Series



序号 Serial NO.	零件名称 Parts name	序号 Serial NO.	零件名称 Parts name	序号 Serial NO.	零件名称 Parts name	序号 Serial NO.	零件名称 Parts name	序号 Serial NO.	零件名称 Parts name
1	输出轴 Output shaft	7	放油塞 Oil drain plug	13	内齿圈 Internal gear ring	19	行星齿轮 Planetary gear	25	O型圈 O-ring
2	平键 Rectangular key	8	油窗 Oil window	14	行星架 Planet plane	20	垫片 Gasket	26	电机法兰 Motor flange
3	孔用挡圈 Retaining ring for bores	9	透气塞 Vent plug	15	铜隔板 Copper separator	21	轴用挡圈 Retaining ring for shafts	27	油封 Oil seal
4	油封 Oil seal	10	O型圈 O-ring	16	销轴 Shaft pin	22	输入中心齿 Input central tooth	28	轴用挡圈 Retaining ring for shafts
5	轴承 Bearing	11	轴承 Bearing	17	垫片 Gasket	23	孔用挡圈 Retaining ring for bores	29	内六角螺钉 Hexagon screw inside
6	卧机座 Horizontal motor frame	12	轴用挡圈 Retaining ring for shafts	18	滚针轴承 Needle roller bearing	24	轴承 Bearing	30	

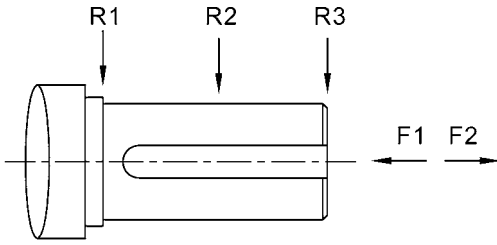


G800

■ G800 系列出轴受力容许值 | Permissible value of output shaft load for G800 series

径向负荷与轴向推力最大容许值 (N)

Permissible value of axial load and thrusting force(N)



型号 Type	R1	R2	R3	F1	F2
800	1000	600	420	950	600
801	1360	800	560	1100	800
803	1900	1100	750	2000	1500
805	6000	3800	2800	5500	4400
807	14000	9000	6500	9500	5500
809	32000	21000	16000	20000	15000

G800

■ G800 系列选型 | Options of G800 Series

使用条件及选型结果

使用条件○

选型结果●

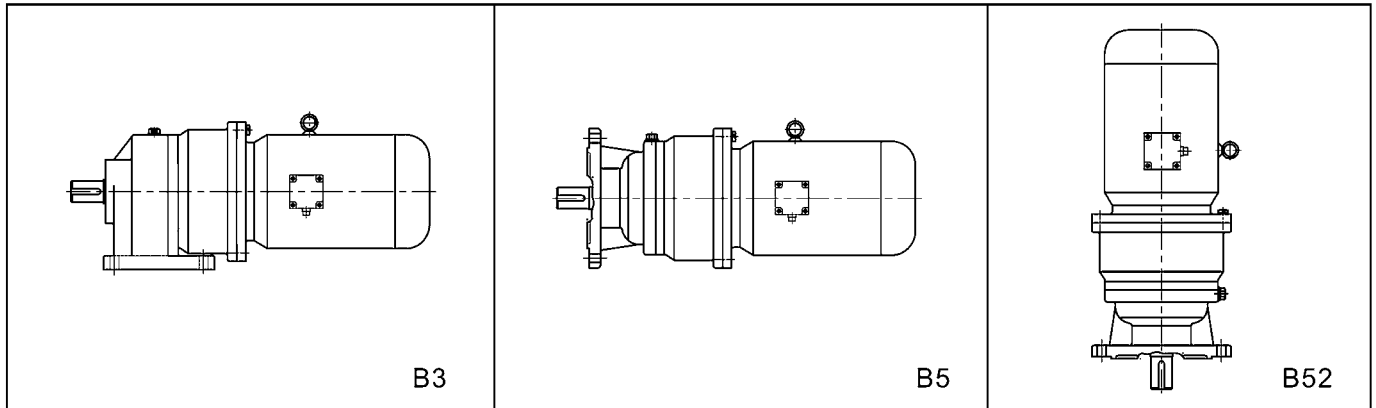
Conditions and results

Condition ○

Result ●

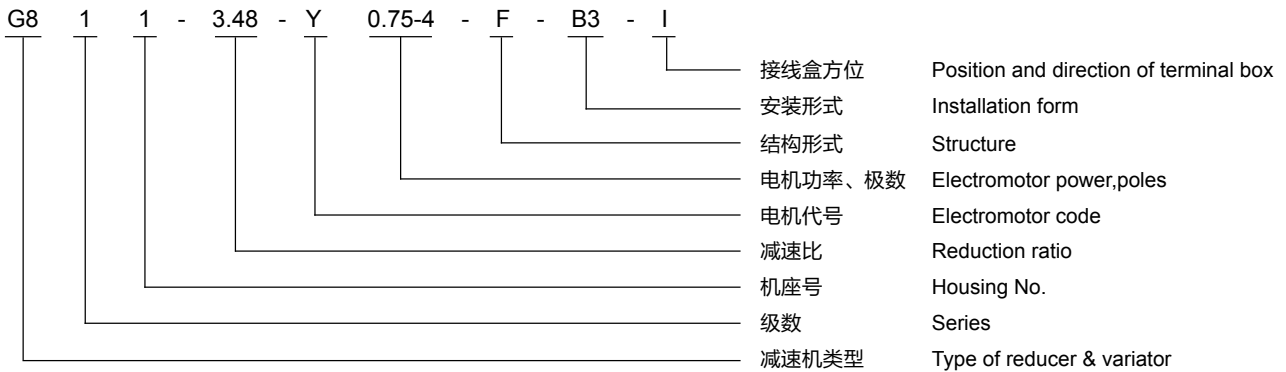
○ 负荷容量 (被驱动设备输入功率或输入转矩) Load capacity (Input power or input torque of the driven equipment)	P=1.1KW	
○ 电源电压 / Voltage	380V	
○ 电源频率 / Frequency	50Hz	
○ 要求转速 / Speed required	195r/min	
○ 负荷性质及运转时间 / Load pattern and operation time ● 确认使用系数 / Confirmation of usage coefficient ○ 启动次数 / Number of startups ● 确认启动系数 / Confirmation of startup coefficient ○ 可靠度 / Reliability ● 确认可靠度系数 / Confirmation of reliability coefficient ● 确认运行系数 / Confirmation of performance coefficient	均匀负荷, 14 小时 / 天 K _A =1.25 查表 P2 启动次数: 5 次 / 小时 K _S =1 查表 P4 可靠度: 一般 K _R =1 查表 P4 K=K _A * K _S * K _R =1.25	Uniform load, 14 hours/day K _A =1.25 check the table P2 Number of startups: 5 times/hour K _S =1 check the table P4 Reliability: normal K _R =1 check the table P4
○ 安装形式 / Type of installation ● 确认安装形式 / Confirmation of installation type	轴伸式底脚安装 B3 查表 P20	Shaft extended & base-mounted B3 check the table P20
○ 承载能力计算 / Calculation of bearing capacity ● 确认机型 / Confirmation of machine	M _{S2} =9550*P/ N ₂ =53N.m M _{2min} ≥M _{S2} *K=66N.m 根据 N ₂ 及 M ₂ 查表 P21 得: G811-7.2-Y1.5-4 Based on N ₂ and M ₂ & table P21: G811-7.2-Y1.5-4	
○ 环境条件 / Environmental condition ● 确认环境条件 / Confirmation of environmental condition	室内、环境温度 28℃ OK	Inside, ambient temperature 28℃
○ 电机规格 / Electromotor specification ● 确认电机规格 / Confirmation of electromotor specification	1.5-4、380V、50Hz 无制动器、室内型 / Without brake, for inside OK	
● 结束选型 / End of selection	G811-7.2-Y1.5-4、380V、50Hz 无制动器、室内型 / Without brake, for inside	

■ G800 系列安装形式 | Installation form of G800 series



G800

■ G800 系列型号规格表示方式 | Denotation of specification & dimension of G800 series



减速机类型 Type of gearbox	级数 Series	机座号 Housing Number	减速比 Reduction ratio	电机代号 Electromotor code	电机功率、极数 Electromotor power, poles	结构形式 Structure	安装形式 Installation form	接线盒方位 Position and direction of terminal box
G800 行星 齿轮减速机 G800 of planetary gear reducer	一级 1	见选型 参数表 See selections Parameter list	见选型 参数表 See selections Parameter list	普通 Y ₂ Normal Y ₂	见选型 参数表 See selections Parameter list	卧式 (W 省略) Horizontal (W omitted)	见上图 P20 See the Graphics P20	见表 P6 See the table P6
				防爆 B Explosion protection B				
	制动 E Brake E			立式 (F) Vertical (F)				
	变频 V Frequency conversion V							
	变频制动 VE Brake by frequency conversion VE							
	多速 D Multi-speed D			立、卧式 (FW) Vertical & Horizontal (FW)				
	分马力 F Fractional horsepower F							

G800 系列选型参数表 | Parameter List Selections of G800 Series

机型号 Model	减速比 Reduction ratio	输出 转速 (r/min) Output speed	输入功率 (KW) n=1400rpm Input power		
			0.25	0.37	0.55
			许用输出转矩 (N.m) Permissible output torque		
G810	3.57	392	5.9	8.7	13
	4.94	283	8.2	12.1	18
	5.78	242	9.6	14.2	21
	7.09	197	11.8	17.4	25.8
	9.37	150	15.4	22.8	34
G820	12.7	110	20	30	
	17.6	80	28	42	
	20	68	33	49	
	24	57	39	58	
	25	55	41	60	
	28	50	45	66	
	33	42	53	79	
	35	40	56	83	
	41	35	64	95	
	46	31	72	107	
	50	28	80	119	
	54	26	86	128	
	66	21	107	158	
88	16	140	208		

机型号 Model	减速比 Reduction ratio	输出 转速 (r/min) Output speed	输入功率 (KW) n=1400rpm Input power				
			2.2	3	4	5.5	7.5
			许用输出转矩 (N.m) Permissible output torque				
G813	2.82	496	40.8	55.6	74	102	139
	3.21	436	46.5	63.4	85	116	158
	3.48	402	50.6	69	92	126	172
	4.26	329	62	85	112	155	211
	5.77	243	84	115	153	210	286
	7.2	194	105	143	191	262	358
	9.07	154	128	174	233	320	
G823	9.81	143	138	189	252	346	
	11.2	125	158	215	287	395	
	12.1	116	171	233	310	427	
	13.7	102	193	264	351	483	
	14.8	95	209	285	380	522	
	16.3	86	230	314	418	575	
	18	78	254	346	462	635	
	20	70	282	385	513	705	
	23	61	324	442	590	811	
	25	56	353	481	641	882	
	30	47	423	577	769	1058	
	33	42	466	635	846	1164	
	41	34	578	789	1052	1446	
	52	27	734	1000	1334	1500	

机型号 Model	减速比 Reduction ratio	输出 转速 (r/min) Output speed	输入功率 (KW) n=1400rpm Input power				
			0.55	0.75	1.1	1.5	2.2
			许用输出转矩 (N.m) Permissible output torque				
G811	2.8	500	10.2	14	20	28	41
	3.2	438	11.6	16	23	32	47
	3.48	402	12.7	17	25	35	51
	4.26	329	15.5	21	31	42	62
	5.77	243	21	29	42	57	84
	7.2	195	26	36	52	71	105
G821	9.74	144	34	47	69	94	
	11.2	125	39	54	79	108	
	12.1	116	43	58	85	116	
	13.6	103	48	65	96	131	
	14.8	95	52	71	104	142	
	16.2	86	57	78	114	156	
	18	78	63	87	127	173	
	20	70	71	96	141	192	
	23	61	81	111	162	221	
	25	56	88	120	176	240	
	30	47	106	144	212	289	
	33	42	116	159	233	317	
	41	34	145	197	289	394	
52	27	183	250	367	500		

机型号 Model	减速比 Reduction ratio	输出 转速 (r/min) Output speed	输入功率 (KW) n=1400rpm Input power				
			5.5	7.5	11	15	18.5
			许用输出转矩 (N.m) Permissible output torque				
G815	3.09	453	112	153	225	307	378
	3.6	389	131	179	262	357	441
	4.42	317	161	219	322	439	541
	5.33	263	194	265	388	529	652
	6	233	218	298	437	596	734
	7.5	187	273	372	546	744	918
G825	9.58	146	338	461	676	921	
	11.2	125	395	539	790	1077	
	13	108	458	625	917	1250	
	13.7	102	483	659	966	1318	
	16	88	563	769	1129	1539	
	18.5	76	652	890	1305	1779	
	19.5	72	687	938	1375	1876	
	21.6	65	761	1039	1524	2078	
	23.6	59	832	1135	1665	2270	
	26.5	53	934	1274	1869	2549	
	28	50	987	1347	1975	2693	
	32	44	1128	1539	2257	3000	
	33	42	1164	1587	2328	3000	
	36	39	1269	1731	2539	3000	
	40	35	1410	1924	2821	3000	
	45	31	1586	2164	3000	3000	
56	25	1975	2693	3000	3000		

机型号 Model	减速比 Reduction ratio	输出 转速 (r/min) Output speed	输入功率 (KW) n=1400rpm Input power				
			11	15	18.5	22	30
			许用输出转矩 (N.m) Permissible output torque				
G817	3.09	453	225	306	378	450	613
	3.57	392	260	354	437	520	709
	4.94	283	360	491	605	719	981
	5.78	242	421	574	708	841	1147
	6.15	228	447	610	753	895	1221
	7.09	197	516	703	868	1032	1407

机型号 Model	减速比 Reduction ratio	输出 转速 (r/min) Output speed	输入功率 (KW) n=1400rpm Input power				
			30	37	45	55	75
			许用输出转矩 (N.m) Permissible output torque				
G819	3.09	453		756	920	1125	1534
	3.57	392		873	1062	1299	1771
	4.94	283		1210	1471	1798	2451
	5.78	242		1414	1720	2103	2867
	6.15	228		1505	1831	2238	3051
	7.09	197		1735	2110	2580	3518

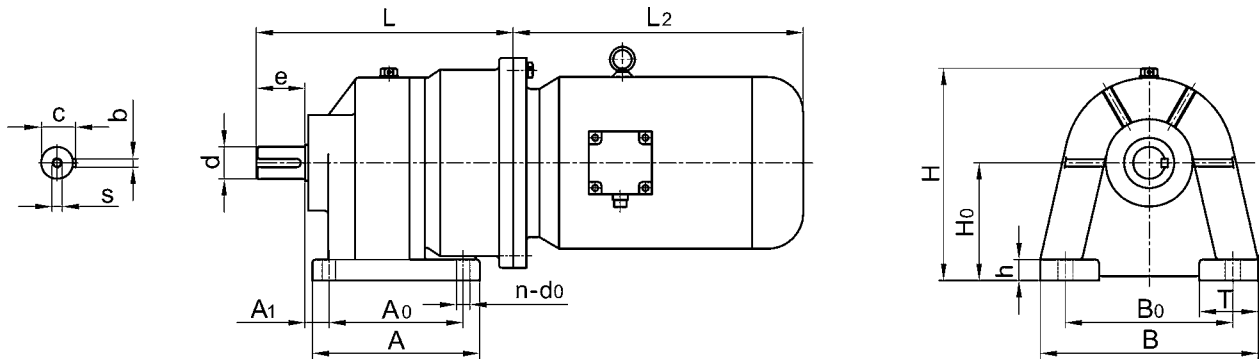
■ G800 系列选型参数表 | Parameter List Selections of G800 Series

机型号 Model	减速比 Reduction ratio	输出转速 (r/min) Output speed	输入功率 (KW) n=1400rpm Input power				
			11	15	18.5	22	30
			许用输出转矩 (N.m) Permissible output torque				
G827	11	127	776	1058	1305	1552	
	12.7	110	896	1221	1507	1792	
	13.9	101	980	1337	1649	1961	
	15.3	92	1079	1471	1815	2158	
	16.2	86	1142	1558	1922	2285	
	17.6	80	1241	1692	2088	2483	
	19	74	1340	1827	2254	2680	
	20.6	68	1453	1981	2444	2906	
	22	64	1551	2116	2610	3103	
	24	58	1692	2308	2847	3386	
	25	56	1763	2404	2966	3527	
	29	48	2045	2789	3440	4091	
	30	47	2116	2885	3559	4232	
	33	42	2327	3174	3915	4655	
	35	40	2468	3366	4152	4937	
	36	39	2538	3462	4270	5078	
	38	37	2680	3655	4508	5361	
41	34	2892	3943	4864	5784		
44	32	3049	4158	5129	6000		
50	28	3526	4808	5931	6000		

机型号 Model	减速比 Reduction ratio	输出转速 (r/min) Output speed	输入功率 (KW) n=1400rpm Input power				
			30	37	45	55	75
			许用输出转矩 (N.m) Permissible output torque				
G829	11	127	2115	2609	3173	3879	5289
	12.7	110	2443	3013	3664	4479	6107
	15.3	92	2943	3630	4414	5396	7554
	17.6	80	3385	4175	5078	6207	8464
	19	74	3655	4507	5482	6701	9137
	20.6	68	3962	4887	5944	7265	9906
	22	64	4232	5219	6348	7759	10000
	24	58	4616	5693	6925	8464	10000
	25	56	4809	5931	7213	8817	
	29	48	5578	6879	8367	10000	
	30	47	5770	7117	8656	10000	
	33	42	6348	7829	9522		
	35	40	6732	8303	10000		
	36	39	6925	8540	10000		
	38	37	7309	9015			
	41	34	7886	9726			
	44	32	8463	10000			
	50	28	9618	10000			

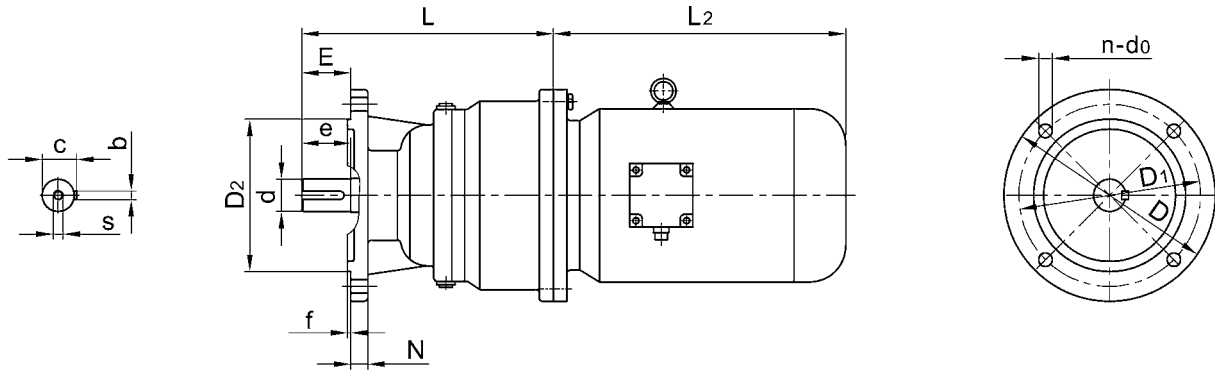
G800

■ G800 系列外形及安装尺寸 (卧式) | Overall & Installation Dimension of G800 Series (Horizontal)



机座号 Housing No.	安装尺寸 Installation dimension						输出轴尺寸 Output shaft dimension						外形尺寸 Overall dimension					
	H ₀	A ₁	A ₀	B ₀	n	d ₀	d	e	b	c	s	A	B	T	h	H	L	L ₂
810	90	18	90	140	4	10	24h6	35	8	27	M8	120	164	32	13	160	175	See the table for electromotor P5
820																	206	
811	110	22	125	170	4	12	32h6	50	10	35	M10	155	210	50	20	195	236	
821																	270	
813	140	20	160	200	4	18	38h6	58	10	41	M12	200	260	70	25	252	287	
823																	336	
815	210	33	250	300	4	22	55h6	95	16	59	M16	305	370	80	30	350	435	
825																	495	
817	250	45	356	365	4	28	80h6	120	22	85	M20	436	445	90	35	450	588	
827																	683	
819	280	91	470	457	4	28	100h6	140	28	106	M20	590	560	105	40	513	830	
829																	950	

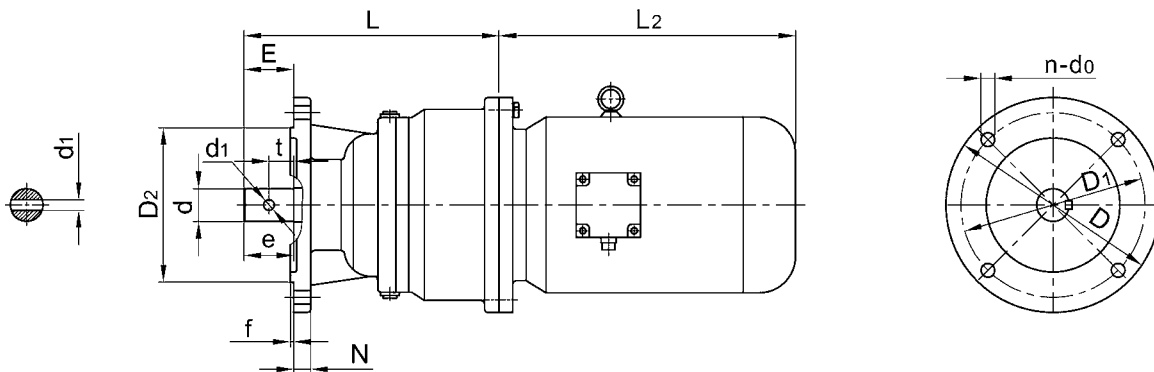
G800F 系列外形及安装尺寸 (立式) | Overall & Installation Dimension of G800F Series (Vertical)



机座号 Housing No.	安装尺寸 Installation dimension					输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension				
	D ₁	D ₂	f	n	d ₀	d	e	b	c	s	D	E	N	L	L ₂
810	130	110h7	4	4	10	24h6	35	8	27	M8	160	35	12 (10)	175	See the table for electromotor P5
820														206	
811	130	110h7	4	4	10	32h6	50	10	32	M10	160	50	16 (12)	236	
821					12									270	
813	165	130h7	4	4	12	38h6	58	10	41	M12	200	58	20 (14)	287	
823	215	180h7	4	4	15									250	
815	265	230h7	4	4	15	55h6	95	16	59	M16	300	95	20 (16)	435	
825	300	250h7	4	4	17.5						350			495	
817	350	300h7	5	4	22	80h6	120	22	85	M20	400	120	23 (20)	588	
827	400	350h7	5	4	22						450			683	
819	400	350h7	5	4	28	100h6	140	28	106	M20	450	140	28 (23)	830	
829	500	450h7	5	4	28						550			950	

注：括号内为最小尺寸。 Note: Brackets for minimum size.

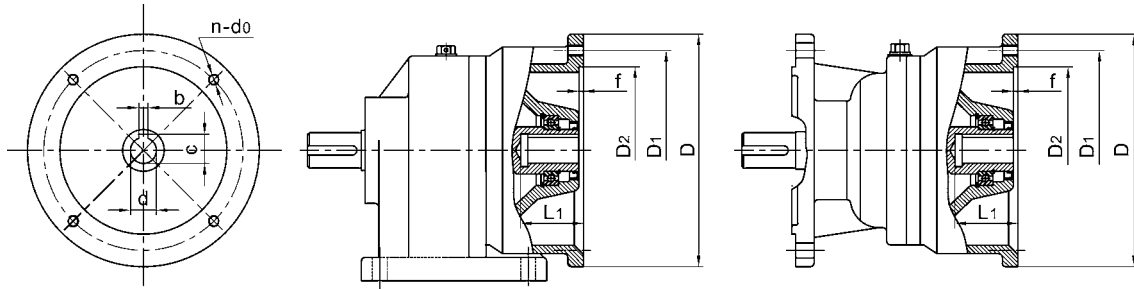
G800F 系列外形及安装尺寸 (泵专用) | Overall & Installation Dimension of G800F Series (Specific pump)



机座号 Housing No.	安装尺寸 Installation dimension					输出轴尺寸 Output shaft dimension				外形尺寸 Overall dimension				
	D ₁	D ₂	f	n	d ₀	d	e	d ₁	t	D	E	N	L	L ₂
810	130	110h7	4	4	10	24h6	35	8	18	160	35	12 (10)	175	See the table for electromotor P5
820													206	
811	130	110h7	4	4	10	20h6	50	8	32	160	50	16 (12)	236	
821					12								32h6	
813	165	130h7	4	4	12	28h6	50	10	28	200	50	20 (14)	287	
823	215	180h7	4	4	15	38h6	58	14	32	250	58	20 (14)	336	
815	265	230h7	4	4	15	50h6	82	16	40	300	82	20 (16)	435	
825	300	250h7	4	4	17.5	55h6	95	20	40	350	95	20 (16)	495	
817	350	300h7	5	4	22	70h6	120	24	40	400	120	23 (20)	588	
827	400	350h7	5	4	22	80h6	120	24	40	450	120	23 (20)	683	
819	400	350h7	5	4	28	100h6	140	30	60	450	140	28 (23)	830	
829	500	450h7	5	4	28					550			950	

注：括号内为最小尺寸。 Note: Brackets for minimum size.

■ G800 系列输入联接法兰尺寸 | Input Dimension of Flange Connected of G800 Series



机座号 Housing No.	D	D ₁	D ₂	f	d	b	c	n	d ₀	L ₁
G810	140	115	95h7	4	11F8	4	12.8	4	M8	26
G820	160	130	110h7	4	14F8	5	16.3	4	M8	33
G811	200	165	130h7	4	19F8	6	21.8	4	M10	46
G821	200	165	130h7	4	24F8	8	27.3	4	M10	53
G813	250	215	180h7	5	28F8	8	31.3	4	M12	63
G823	300	265	230h7	5	38F8	10	41.3	4	M12	83
G815	300	265	230h7	5	38F8	10	41.3	4	M12	83
G825	350	300	250h7	6	42F8	12	45.3	4	M16	115
					48F8	14	51.8			
G817	350	300	250h7	6	42F8	12	45.3	4	M16	115
G827					48F8	14	51.8			
	400	350	300h7	6	55F8	16	59.3	4	M16	115
	450	400	350h7	6	60F8	18	64.4	8	M16	145
G819	550	500	450h7	6	65F8	18	69.4	8	M16	145
G829					75F8	20	79.9			

G800

■ G800 系列润滑油量表 | Lubricating Oil Capacity Sheet of G800 Series

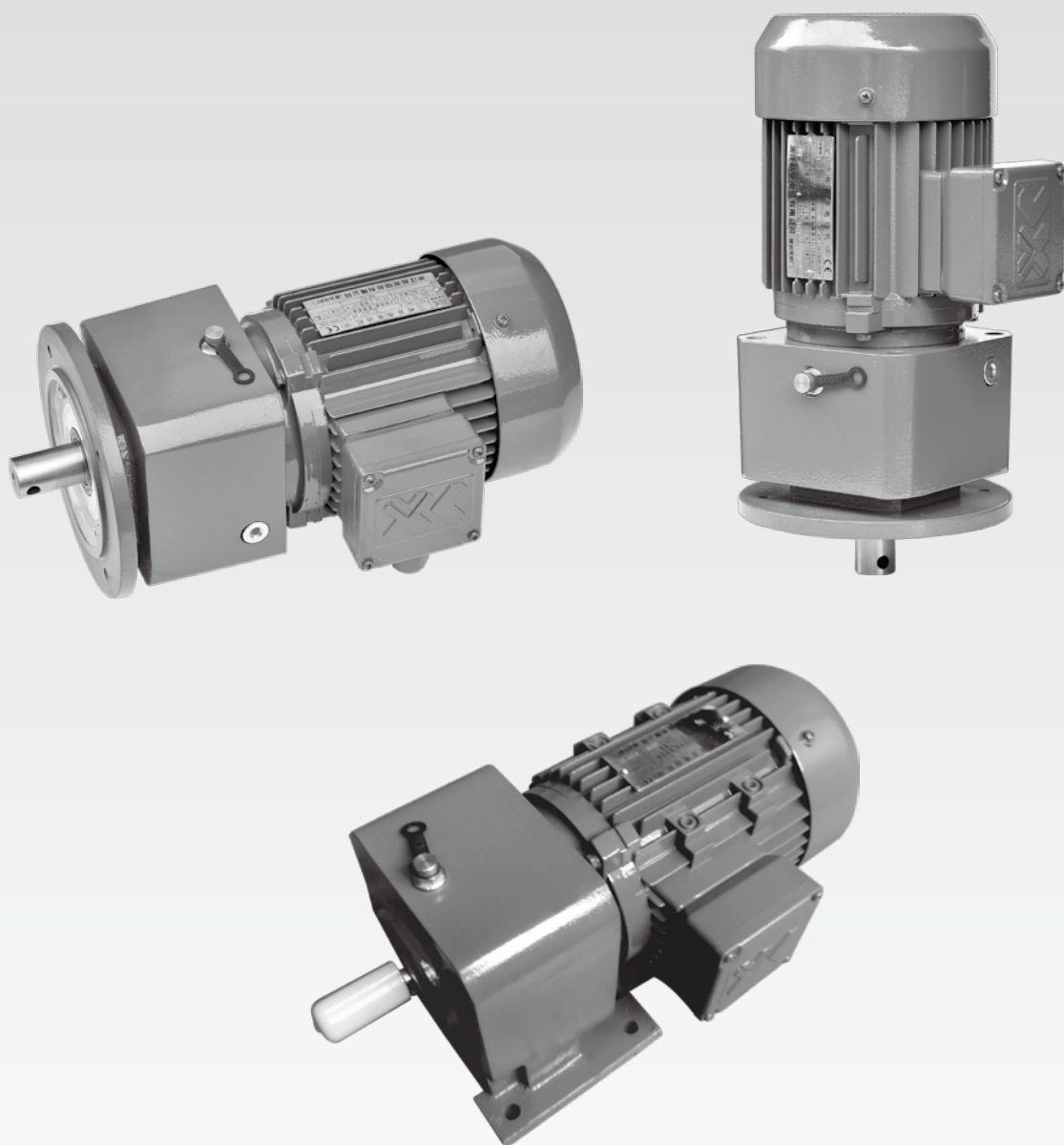
安装形式 Installation form	G810	G820	G811	G821	G813	G823	G815	G825	G817	G827	G819	G829
机座号 Housing No.	润滑油量 (升) Lubricating Oil Capacity (L)											
B3	0.3	0.4	0.5	0.65	1.0	1.2	3.5	4.0	6	8	9	12
B5	0.15	0.2	0.25	0.4	0.5	0.7	1.8	2.3	4	6	7	10
B52	0.2	0.3	0.5	0.6	0.7	0.9	2.2	2.8	6	8	9	12

■ G800 系列重量表 (不含电机) | Weight Table of G800 Series (Without Motor)

机座号 Housing No.	重量 Weight (kg)	机座号 Housing No.	重量 Weight (kg)	机座号 Housing No.	重量 Weight (kg)	机座号 Housing No.	重量 Weight (kg)
G810	9	G810-F	7	G820	11	G820-F	9
G811	18	G811-F	15	G821	22	G821-F	19
G813	35	G813-F	29	G823	40	G823-F	34
G815	100	G815-F	80	G825	120	G825-F	100
G817	217	G817-F	220	G827	287	G827-F	290
G819	300	G819-F	310	G829	380	G829-F	390

GX 系列行星齿轮减速机

GX Series of Planetary Gear Reducer



概述 | Introduction

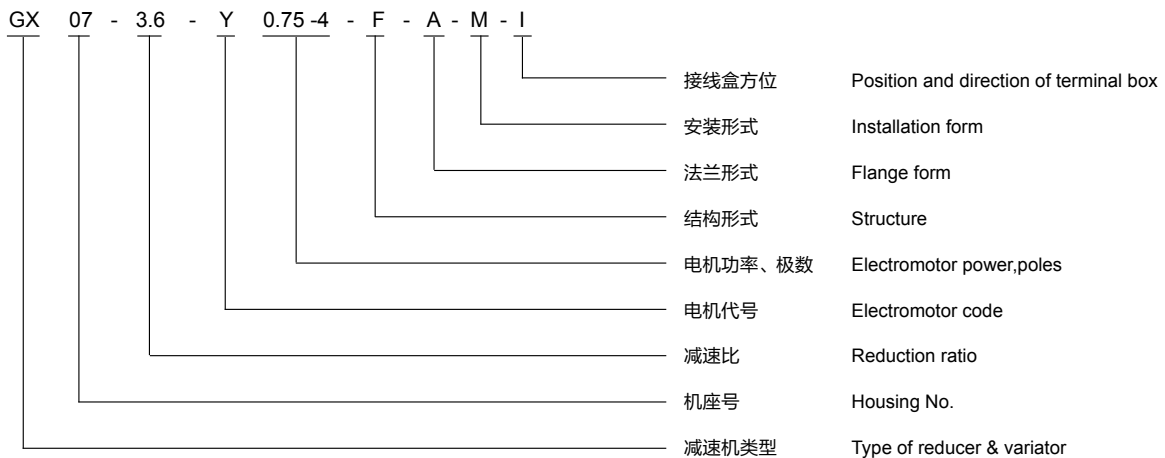
行星齿轮传动，它具有普通齿轮传动的高效，工作平稳可靠，传动精度高等特征外，由于采用了行星内啮合结构，在传递动力时有效地利用了功率分流和输入、输出的同轴性，因而与普通齿轮传动相比，具有结构紧凑、体积小、重量轻、承载能力强、传动比大等优点。正基于这些功用，行星齿轮传动正作为现代机械传动中的重要传动技术，广泛应用于工程环保、石油化工、轻工纺织、食品、制药、机床设备等行业的传动装置上。

GX 系列行星齿轮减速机是我公司新研发的产品，与普通的行星齿轮传动相比，更具有承载能力大、可靠性高、体积小。越来越得到国内外用户的广泛应用。

Planetary Gear Transmission is efficient, stable and accurate. It adopts internal meshing structure that can efficiently utilize the coaxial property provided by the power split, input and output. Compare with traditional gear transmission, Planetary Gear Transmission has compact structure and is smaller and lighter. It can withstand greater load and has higher transmission ratio. Planetary Gear Transmission, as an important transmission technology, is widely applied to the transmission devices for fields of textile, engineering environment protection, petrochemical, food, medicine and equipments, etc.

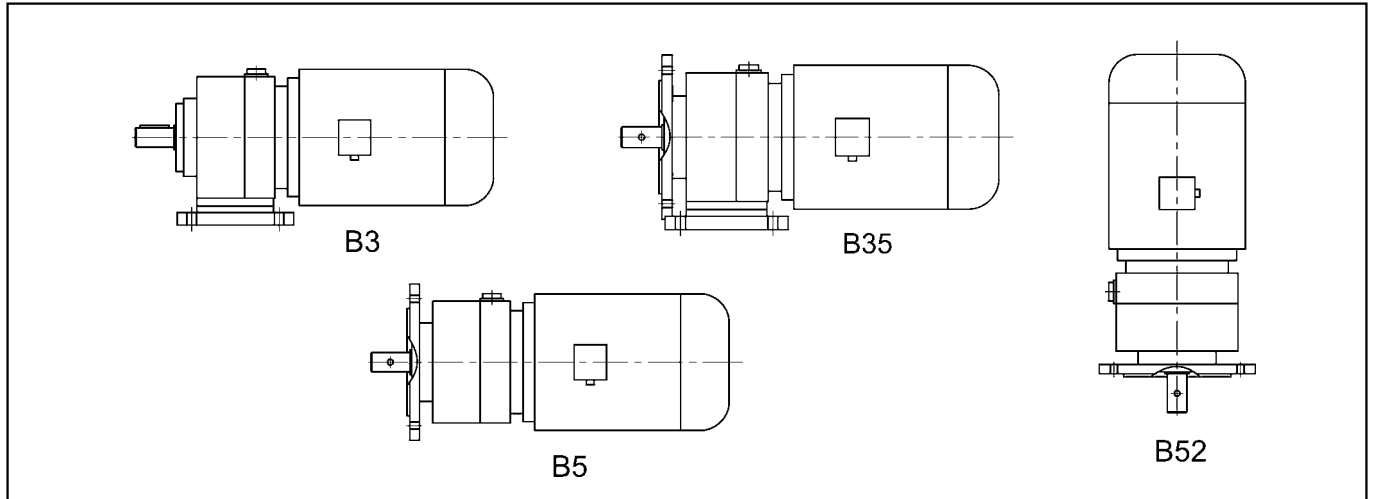
GX Planetary Gear Transmission Series is the newly developed products of our company, and the ordinary planetary gear transmission, but also has a large carrying capacity, high reliability, small size. Users at home and abroad has been more widely used.

GX 系列型号规格表示方式 | Denotation of specification & dimension of GX series



减速机类型 Type of gearbox	机座号 Housing Number	减速比 Reduction ratio	电机代号 Electromotor code	电机功率、极数 Electromotor power, poles	结构形式 Structure	法兰形式 Flange form	安装形式 Installation form	接线盒方位 Position and direction of terminal box
GX 行星 齿轮减速机 GX of planetary gear reducer	见选型 参数表 See selections Parameter list	见选型 参数表 See selections Parameter list	普通 Y ₂ Normal Y ₂	见选型 参数表 See selections Parameter list	卧式 (W 省略) Horizontal (W omitted)	圆形 (A) Round(A)	见 P27 See P27	见表 See the table
			防爆 B Explosion protection B					
			制动 E Brake E		立式 (F) Vertical (F)			
			变频 V Frequency conversion V					
			变频制动 VE Brake by frequency conversion VE		立、卧式 (FW) Vertical & Horizontal (FW)	方形 (B) Square(B)		
			多速 D Multi-speed D					
			分马力 F Fractional horsepower F					

■ GX 系列安装形式 | Installation form of GX series

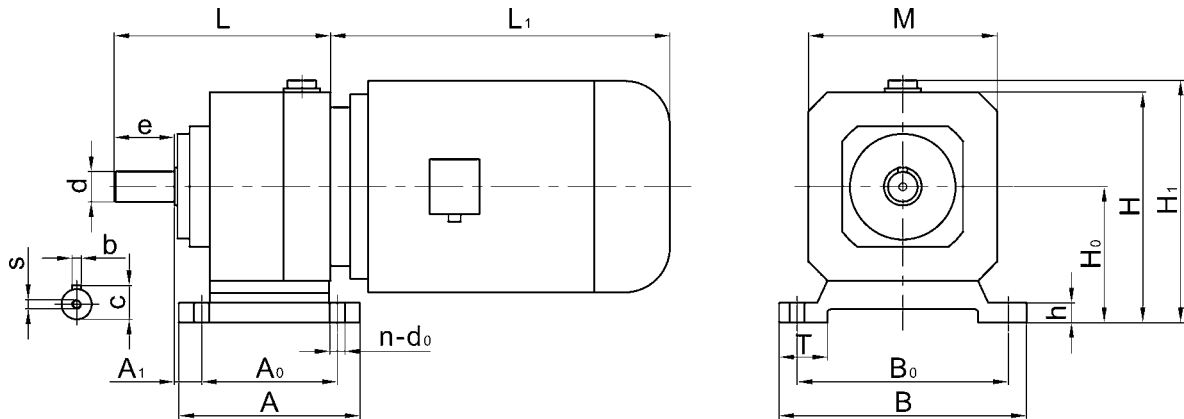


■ GX 系列选型参数表 | Parameter List Selections of GX Series

机座号 Housing No.	减速比 Reduction ratio	输出转速 (r/min) Output speed	输入功率 (kw) n=1400rpm Input power			
			0.25	0.37	0.55	0.75
			许用输出转矩 N.m Permissible output torque			
GX07	2.8	500	4.6	6.8	10.2	13.9
	3.2	438	5.3	7.8	11.6	15.9
	3.6	389	6.0	8.8	13.1	17.9
	4.36	321	7.2	10.7	15.9	21.6
	5.6	250	9.3	13.7	20.4	27.8
	7.2	195	11.9	17.6	26	35.6

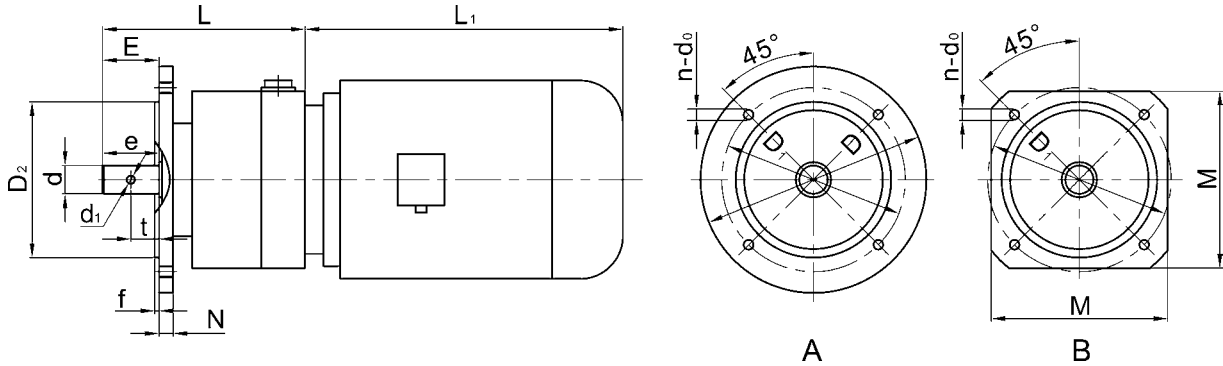
机座号 Housing No.	减速比 Reduction ratio	输出转速 (r/min) Output speed	输入功率 (kw) n=1400rpm Input power		
			1.1	1.5	2.2
			许用输出转矩 N.m Permissible output torque		
GX15	2.8	500	21	28	41
	3.2	438	23	32	47
	3.4	412	25	34	50
	4.42	317	32	44	64
	5.8	242	42	57	84
	7	200	51	70	102

■ GX 系列外形及安装尺寸 | Overall & Installation Dimension of GX Series



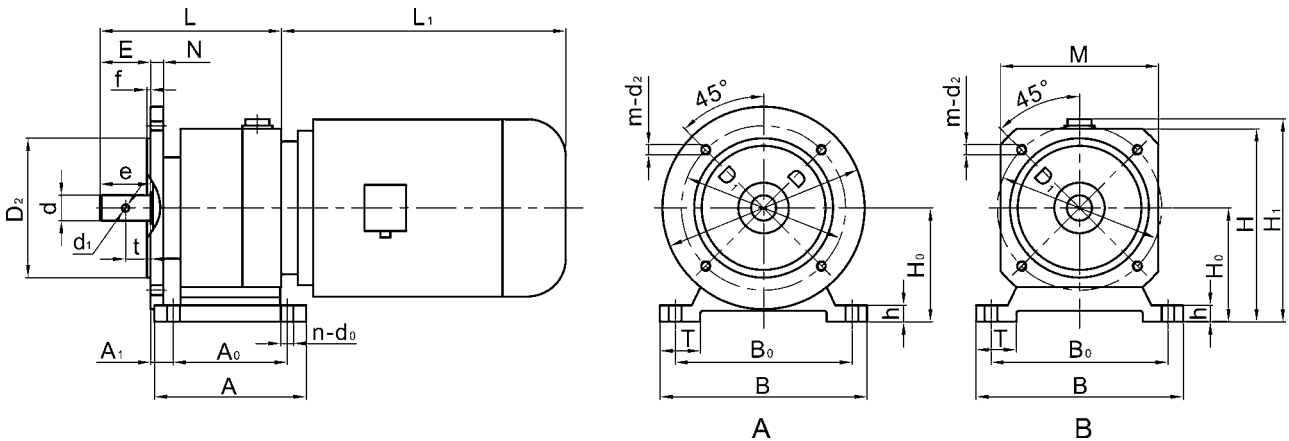
机座号 Housing No.	安装尺寸 Installation dimension						输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension								
	H ₀	A ₁	A ₀	B ₀	n	d ₀	d	e	b	c	s	A	B	T	h	H	H ₁	M	L	L ₁
07	90	18	90	140	4	10	24h6	40	8	27	M8	120	164	32	13	153	161	125	144	参考电机 见表 P5 See the table for electromotor P5
15	110	22	125	170	4	12	28h6	50	8	31	M10	155	210	50	16	190	198	160	236	

GX-F 系列外形及安装尺寸 (泵专用) | Overall & Installation Dimension of GX-F Series (Specific pump)



机座号 Housing No.	安装尺寸 Installation dimension					输出轴尺寸 Output shaft dimension				外形尺寸 Overall dimension					
	D ₁	D ₂	f	n	d ₀	d	e	d ₁	t	D	E	N	M	L	L ₁
07	130	110h7	3	4	M8	19h6 24h6	40	6 8	15 32	160	40	10	125	144	参考电机 见表 P5 See the table for electromotor P5
15	130	110h7	3	4	M8	24h6	50	8	32	160	50	14	125	236	
	165	130h7	3.5	4	M10	28h6	50	10	28	200			160		

GX-FW 系列外形及安装尺寸 (泵专用) | Overall & Installation Dimension of GX-FW Series (Specific pump)



机座号 Housing No.	安装尺寸 Installation dimension											输出轴尺寸 Output shaft dimension				外形尺寸 Overall dimension											
	H ₀	A ₁	A ₀	B ₀	n	d ₀	D ₁	D ₂	f	m	d ₂	d	e	d ₁	t	A	B	T	h	D	E	M	N	H	H ₁	L	L ₁
07	90	18	90	140	4	10	130	110h7	3	4	M8	19h6 24h6	40	6 8	15 32	120	164	32	13	160	40	125	10	153	161	144	参考电机 见表 P5 See the table for electromotor P5
15	110	22	125	170	4	12	130	110h7	3	4	M8	24h6	50	8	32	155	210	50	16	160	50	125	14	190	198	236	
	165	130h7	3.5	4	M10	28h6	50	10	28	200	160	160															

**GX 系列润滑油量表
GX Series lubricants scale**

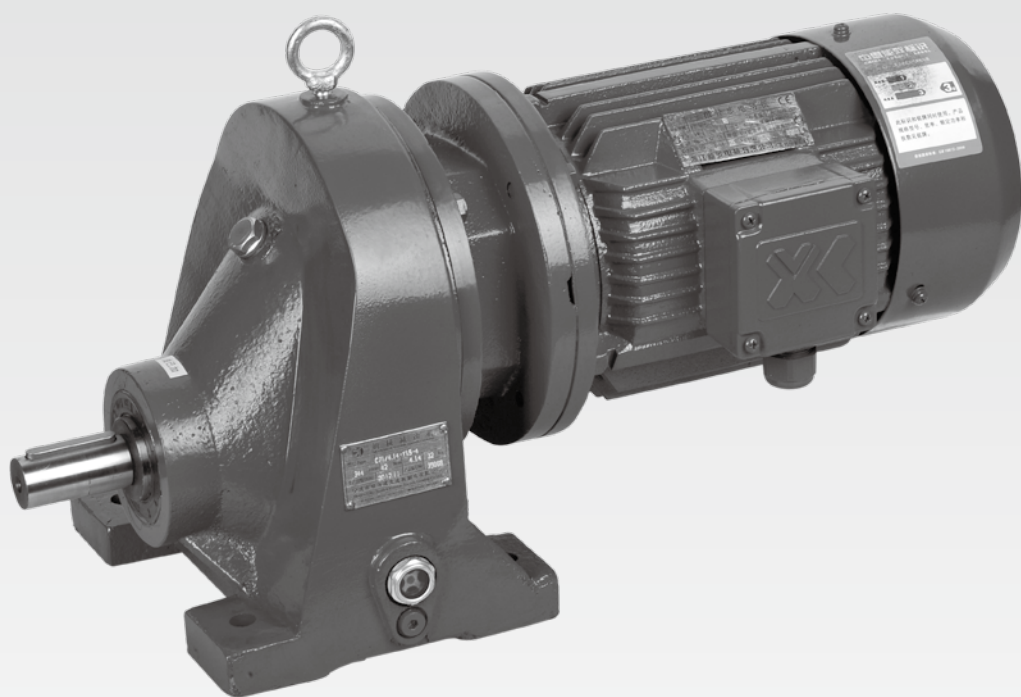
机座号 Housing No.	GX07	GX15
安装形式 Installation form	润滑油量 (升) Lubricating Oil Capacity (L)	
B3	0.1	0.3
B5	0.1	0.3
B35	0.1	0.3
B52	0.15	0.5

**GX 系列重量表 (不含电机)
GX Series Weight Table (without motor)**

机座号 Housing No.	GX07	GX15
重量 Weight (kg)	8	16
机座号 Housing No.	GX07-F	GX15-F
重量 Weight (kg)	8	13
机座号 Housing No.	GX07-FW	GX15-FW
重量 Weight (kg)	9	18

C 系列齿轮减速机

C Series of Gear Reducer



■ 概述 | Introduction

C 系列减速机系我公司新近创新开发的齿轮减速机新颖产品，由于传动性能可靠、结构合理、高效低噪音等特点，不仅可作为无级变速器的模块组合件，也可以作为单独传动元件。广泛运用于化工、食品、制药、工程、塑料、印刷、电子等行业的机械传动装置上，它的主要性能特点：

- 平行输出、体积小、减速比小、输出转速快、能耗小、噪音低；
- 底座式安装具有低中心高特点，平均效率 98%；
- 输入轴与输出轴旋转方向相反。

C series gear reducer is a new type gear reducer developed by our company, It is featured by reliable transmission, reasonable structure, high efficiency and low noise. It can be used either as the module unit of stepless speed variator or as an independent transmission unit. C series gear reducer is now widely used in the transmission equipments in fields of chemical engineering, foodstuff, pharmacy, engineering, plastic, printing and electron. Its main characteristics are as follows:

- Parallel output, small in size; low reduction ratio, high output speed, low power consumption and low noise.
- Base-mounted assembly leads to low centre and high efficiency and the average efficiency reaches 98%
- The rotate direction of the input axes and the output axes are opposite.

■ C(CF) 系列选型 | Options of C(CF) Series

使用条件及选型结果

使用条件○

选型结果●

Conditions and results

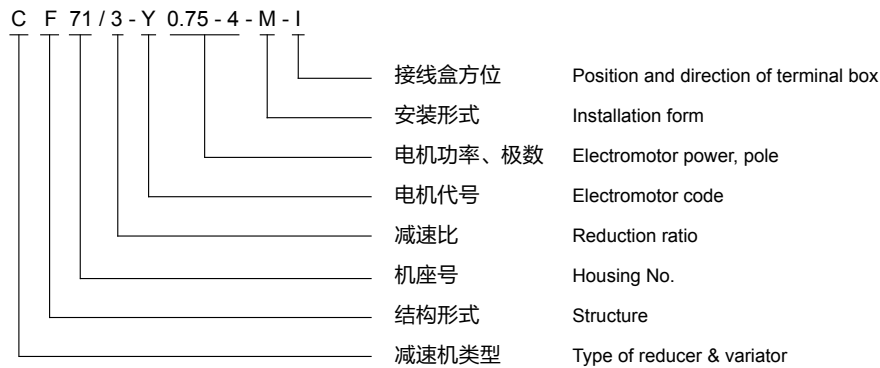
Condition ○

Result ●

○ 负荷容量 (被驱动设备输入功率或输入转矩) Load capacity (Input power or input torque of the driven equipment)	P=1.1KW	
○ 电源电压 / Voltage	380V	
○ 电源频率 / Frequency	50Hz	
○ 要求转速 / Speed required	305r/min	
○ 负荷性质及运转时间 / Load pattern and operation time ● 确认使用系数 / Confirmation of usage coefficient ○ 启动次数 / Number of startups ● 确认启动次数 / Confirmation of startup coefficient ○ 可靠度 / Reliability ● 确认可靠度系数 / Confirmation of reliability coefficient ● 确认运行系数 / Confirmation of performance coefficient	均匀负荷, 14 小时 / 天 K _A =1.25 查表 P2 启动次数: 5 次 / 小时 K _S =1 查表 P4 可靠度: 一般 K _R =1 查表 P4 K=K _A * K _S * K _R =1.25	Uniform load, 14 hours/day K _A =1.25 check the table P2 Number of startups: 5 times/hour K _S =1 check the table P4 Reliability: normal K _R =1 check the table P4
○ 安装形式 / Type of installation ● 确认安装形式 / Confirmation of installation type	轴伸法兰安装 B5 查表 P35	Shaft extended & flange-mounted install B5 check the table P35
○ 承载能力计算 / Calculation of bearing capacity ● 确认机型 / Confirmation of machine	M _{S2} =9550*P/ N ₂ =34.4N.m M _{2min} ≥ M _{S2} * K = 43N.m 根据 N ₂ 及 M ₂ 查表 P32 得: CF71/4.6-Y1.5-4 Based on N ₂ and M ₂ & table P32: CF71/4.6-Y1.5-4	
○ 环境条件 / Environmental condition ● 确认环境条件 / Confirmation of environmental condition	室内、环境温度 28℃ OK	Inside, ambient temperature 28℃ OK
○ 电机规格 / Electromotor specification ● 确认电机规格 / Confirmation of electromotor specification	1.5-4、380V、50Hz 无制动器、室内型 / Without brake, for inside OK	
● 结束选型 / End of selection	CF71/4.6-Y1.5-4-B5、380V、50Hz 无制动器、室内型 / Without brake, for inside	

■ C(CF) 系列型号规格表示方式

Denotation of Specification & Dimension of C(CF) Series



减速机类型 Type of gearbox	结构形式 Structure	机座号 Housing No.	减速比 Reduction ratio	电机代号 Electromotor code	电机功率、极数 Electromotor power, pole	安装形式 Installation form	接线盒方位 Position and direction of terminal box
斜齿轮硬齿面 减速机 C (CF) Helical gear reducer with hard surface C (CF)	卧式 (W 省略) Horizontal (W omitted)	见选型 参数表 See selections Parameter list	见选型 参数表 See selections Parameter list	普通 Y ₂ Normal Y ₂	见选型 参数表 See selections Parameter list	见表 P35 See the table P35	见表 P6 See the table P6
	立式 (F) Vertical (F)			防爆 B Explosion protection B			
制动 E Brake E							
变频 V Frequency conversion V							
变频制动 VE Brake by frequency conversion VE							
多速 D Multi-speed D							

■ C(CF) 系列选型参数表 | Parameter List Selections of C(CF) Series

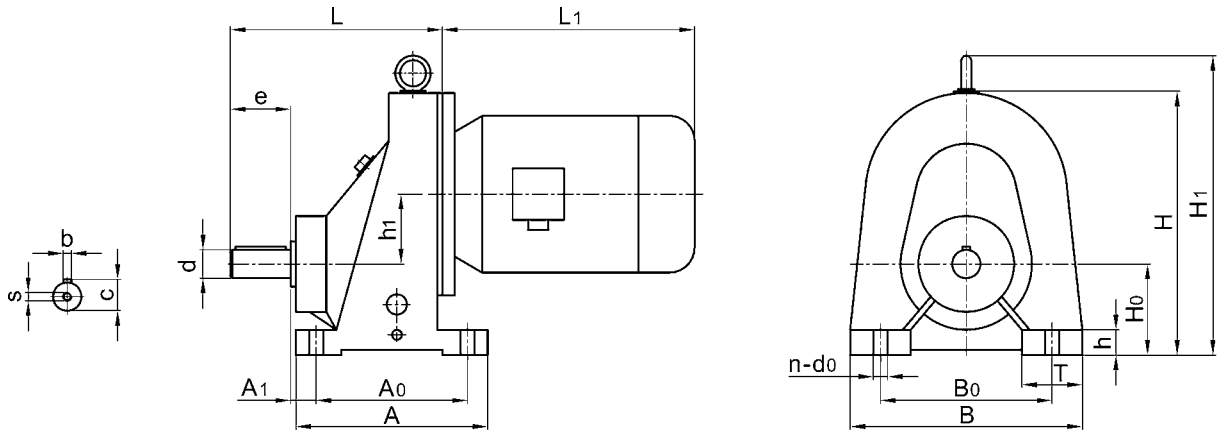
机座号 Housing No.	输入功率 (KW) Input power	减速比 Reduction ratio						许用转矩 N.m Permissible torque	
		6.4	4.6	3.7	3	2.2	1.7		
		许用输出转矩 N.m Permissible output torque							
C61	四极	0.25	10.7	7.7	6.2	5	3.7	2.8	60
		0.37	15.8	11.4	9.2	7.4	5.5	4	
		0.55	23	17	13.6	11	8	6.2	
		0.75	32	23	18.6	15	11	8.5	
		1.1	47	34	27	22	16	12	
		1.5		46	37	30	22	17	
		2.2			54	44	32	24	
		3				60	44	34	
	4					59	45		
	六极	0.25	16	12	9.3	7.5	5.5	4.2	
		0.37	24	17	14	11	8	6	
		0.55	35	26	20	16.5	12	9	
		0.75	48	34	28	22	16.5	12.5	



机座号 Housing No.	输入功率 (KW) Input power	减速比 Reduction ratio						许用转矩 N.m Permissible torque	
		6.4	4.6	3.7	3	2.2	1.7		
		许用输出转矩 N.m Permissible output torque							
C71	四极	0.75	32	23				125	
		1.1	47	34	27				
		1.5	64	46	37	30			
		2.2	94	68	54	44	32		
		3		92	75	60	44		34
		4		123	99	80	59		45
		5.5				110	81		62
		7.5					111		84
	六极	0.55	35	26					
		0.75	48	34	28				
		1.1	70	52	40	33	24		18
		1.5	96	68	56	44	33		25
C81	四极	1.5	64					220	
		2.2	94	68	54				
		3	128	92	74	60			
		4	171	123	99	80	59		
		5.5		170	136	110	81		62
		7.5		220	186	150	111		84
		11				220	162		123
		15					220		168
	六极	1.1	70	52					
		1.5	96	68	56				
		2.2	140	100	82	64	48		36
C91	四极	2.2	94					400	
		3	128						
		4	171						
		5.5	235	170					
		7.5	320	232	186				
		11		340	270	220			
		15			368	300	220		
		18.5				370	272		208
	22					324	248		
	六极	1.5	96						
		2.2	140	100	82				
		3	191	136	112	87	65		49
C101	四极	5.5	235					660	
		7.5	320	232					
		11	470	340	270				
		15	641	463	368	300			
		18.5			458	370			
		22			545	440	324		
		30				600	440		337
		37					542		416
	45					660	506		
	六极	3	191	136					
		4	255	181	149	116	87		65
		5.5	350	250	205	160	120		90
四极 4-pole	输出转速 r/min Output speed	219	305	378	467	636	824		
六极 6-pole	输出转速 r/min Output speed	146	203	252	311	424	550		

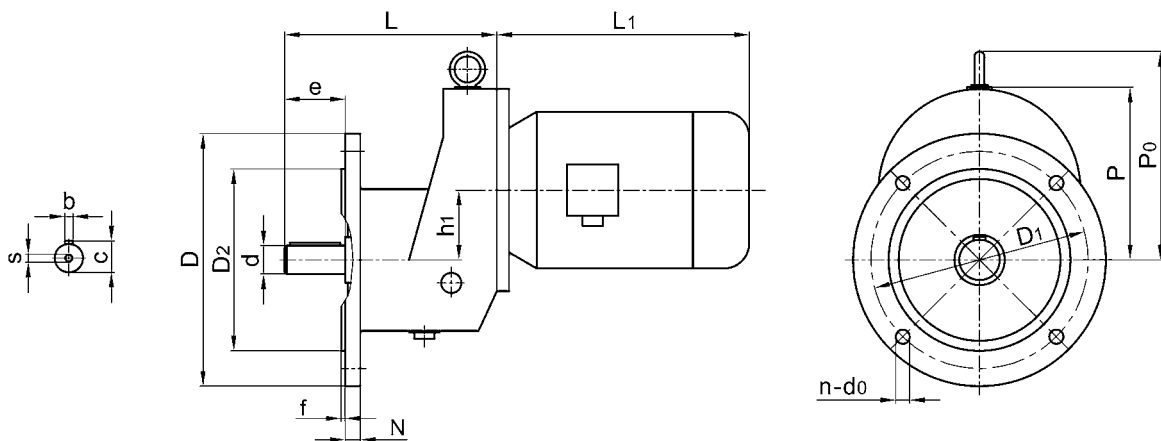
C

C 系列外形及安装尺寸 | Overall & Installation Dimension of C Series



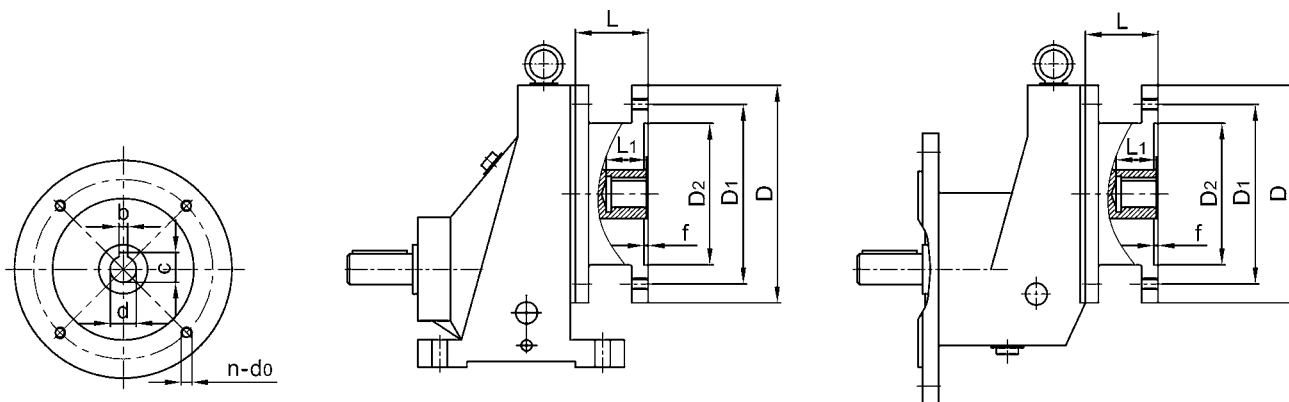
机座号 Housing No.	安装尺寸 Installation dimension							输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension							
	H ₀	A ₁	A ₀	B ₀	n	d ₀	h ₁	d	e	b	c	s	A	B	T	h	H	H ₁	L	L ₁
61	80	25	120	135	4	12	60	25js6	50	8	28	M8	155	180	45	20	220	255	170	参考电机见表 P5
71	90	25	150	170	4	14	69	40k6	80	12	43	M10	190	230	60	25	263	307	230	
81	100	30	160	215	4	18	95	45k6	90	14	48.5	M12	210	290	70	30	320	365	250	
91	120	33	180	260	4	20	115	50k6	100	14	53.5	M16	240	340	75	35	385	430	295	
101	140	32	210	310	4	22	130	60k6	120	18	64	M16	270	400	80	45	445	490	340	

CF 系列外形及安装尺寸 | Overall & Installation Dimension of CF Series



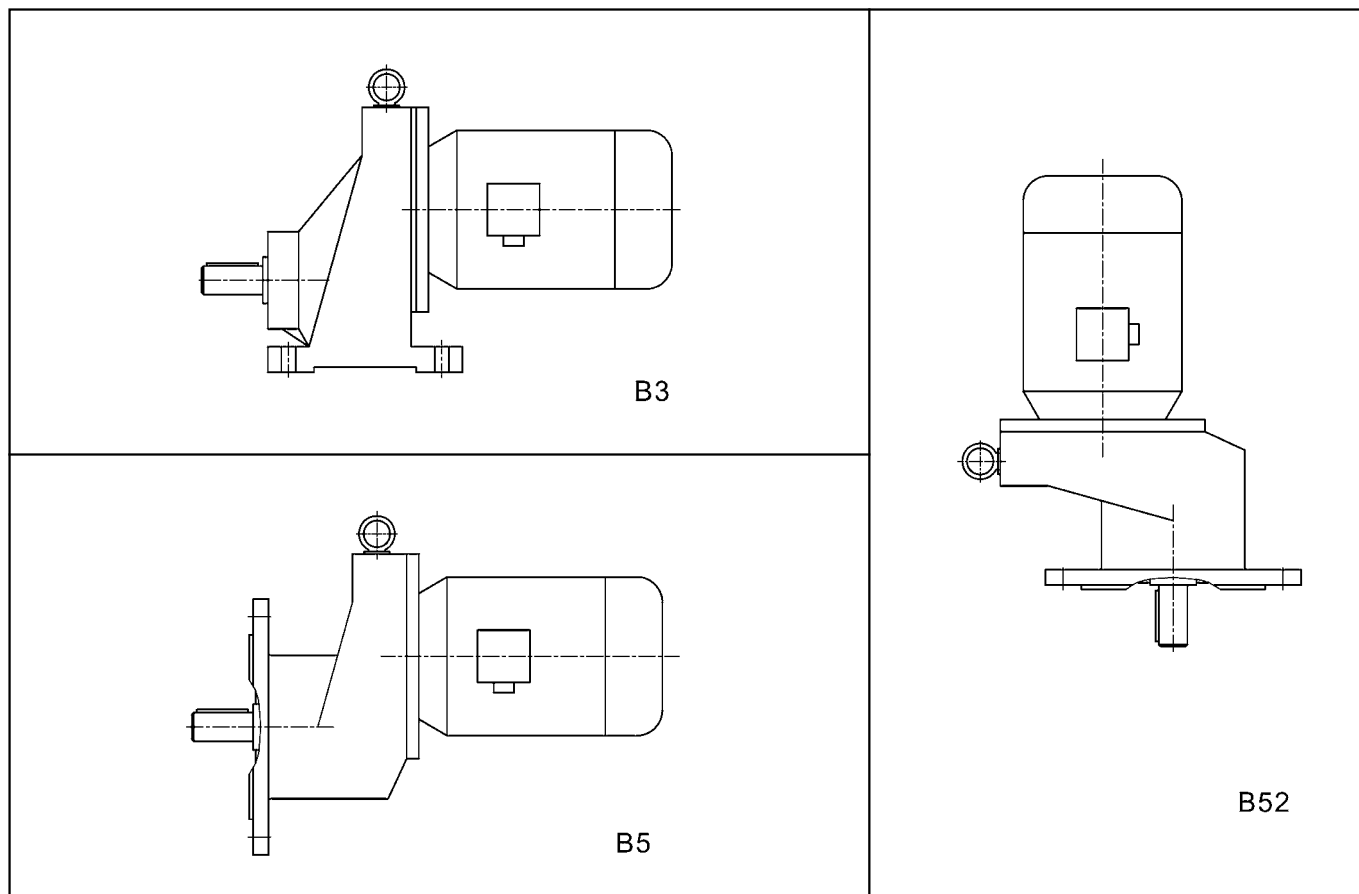
机座号 Housing No.	安装尺寸 Installation dimension						输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension					
	D ₁	D ₂	f	n	d ₀	h ₁	d	e	b	c	s	D	N	P	P ₀	L	L ₁
61	165	130h7	3.5	4	12	60	25js6	50	8	28	M8	200	12	138	175	170	参考电机见表 P5
71	215	180h7	4	4	15	69	40k6	80	12	43	M10	250	15	173	217	230	
81	265	230h7	4	4	15	95	45k6	90	14	48.5	M12	300	18	220	267	250	
91	300	250h7	5	4	19	115	50k6	100	14	53.5	M16	350	20	265	310	295	
101	400	350h7	5	8	19	130	60k6	120	18	64	M16	450	22	305	350	340	

■ C(CF) 系列输入联接法兰尺寸 | Input Dimension of Flange Connected with C(CF) Series



机座号 Housing No.	D	D ₁	D ₂	f	L	d	b	c	n	d ₀	L ₁
61	140	115	95H7	4	57	11F8	4	12.8	4	M8	26
	160	130	110H7	4	57	14F8	5	16.3	4	M8	33
	200	165	130H7	4	57	19F8	6	21.8	4	M10	43
					67	24F8	8	27.3			53
250	215	180H7	5	70	28F8	8	31.3	4	M12	63	
71	200	165	130H7	4	67	19F8	6	21.8	4	M10	43
						24F8	8	27.3			53
	250	215	180H7	5	70	28F8	8	31.3	4	M12	63
	300	265	230H7	5	100	38F8	10	41.3	4	M12	83
81	200	165	130H7	4	67	24F8	8	27.3	4	M10	53
	250	215	180H7	5	70	28F8	8	31.3	4	M12	63
	300	265	230H7	5	100	38F8	10	41.3	4	M12	83
91	250	215	180H7	5	70	28F8	8	31.3	4	M12	63
	300	265	230H7	5	100	38F8	10	41.3	4	M12	83
	350	300	250H7	5	140	42F8	12	45.3	4	M16	115
48F8						14	51.8				
101	300	265	230H7	5	100	38F8	10	41.3	4	M12	83
	350	300	250H7	5	140	42F8	12	45.3	4	M16	115
						48F8	14	51.8			
400	350	300H7	5	140	55F8	16	59.3	4	M16	115	

■ **C(CF) 系列安装形式** | Installation Type of C(CF) Series



■ **C 系列润滑油量表** | Lubricating Oil Capacity Sheet of C Series

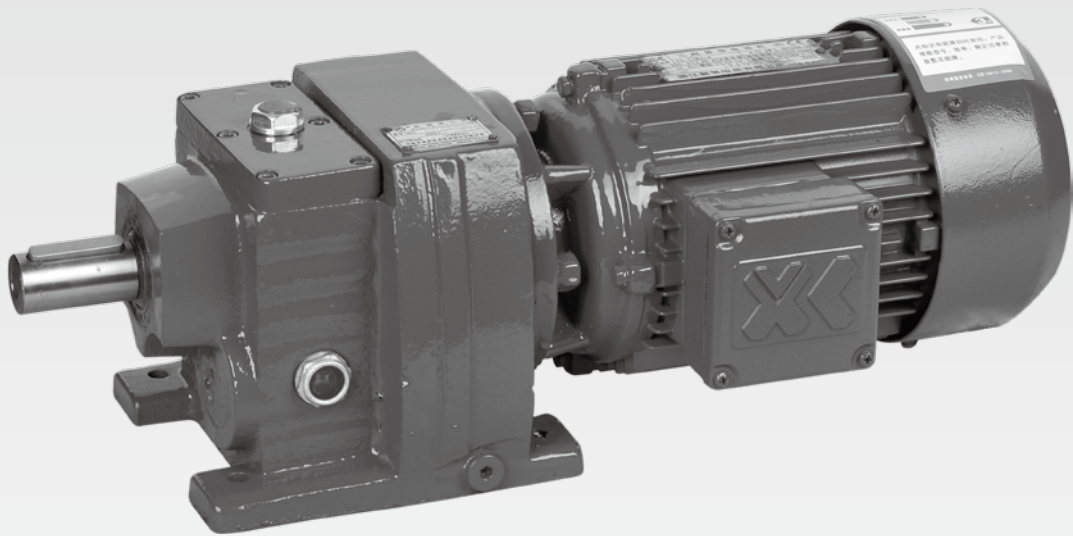
安装形式 Installation form	B3	B5	B52
机座号 Housing No.	润滑油量 (升) Lubricating Oil Capacity (L)		
C61/CF61	0.5	0.5	1.6
C71/CF71	0.7	0.7	2.5
C81/CF81	1.0	1.0	4.3
C91/CF91	2.1	2.1	6.8
C101/CF101	3.1	3.1	9

■ **C 系列重量表 (不含电机)** | Weight Table of C Series (Without Motor)

机座号 Housing No.	C61	C71	C81	C91	C101
重量 Weight (kg)	10/16	24/32	32/44	62/77	90/110
机座号 Housing No.	CF61	CF71	CF81	CF91	CF101
重量 Weight (kg)	12/18	30/38	40/52	70/85	100/120

R 系列齿轮减速机

R Series of Gear Reducer



概述 | Introduction

R 系列减速机系我公司新近创新开发的齿轮减速机新颖产品，由于传动性能可靠、结构合理、高效低噪音等特点，不仅可作为无级变速器的模块组合件，也可以作为单独传动元件。广泛运用于化工、食品、制药、工程、塑料、印刷、电子等行业的机械传动装置上，它的主要性能特点：

- 小偏置输出，结构紧凑，最大限度利用箱体空间、二级、三级在同一箱体内；
- 采用整体式铸造箱体，箱体结构刚度好，易于提高轴的强度和轴承寿命；
- 安装方式：底座式安装，法兰有大小法兰易于选择；
- 实心轴输出，平均效率是二级 96%、三级 94%、CR/CR 平均效率 85%；
- 减速比：基本型二级 5~24.8、三级 27.2~192、组合可达 23401；
- 基本型二级输入输出旋转方向相同，三级相反，组合时另行咨询。

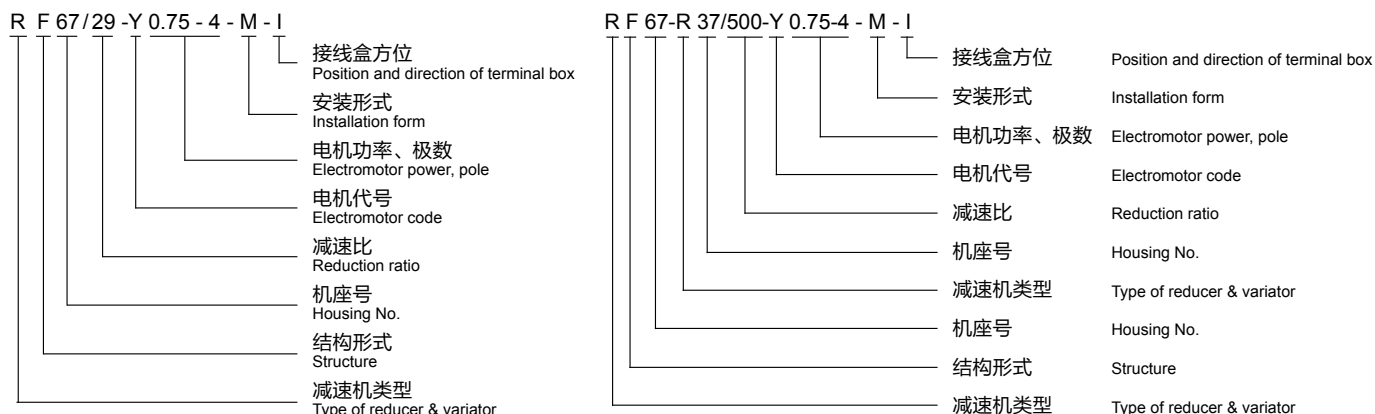
R serie gear reducer is a new type gear reducer developed by our company, It is featured by reliable transmission, reasonable structure, high efficiency and low noise. It can be used either as the module unit of stepless speed variator or as an independent transmission unit. R serie gear reducer is now widely used in the transmission equipments in fields of chemical engineering, foodstuff, pharmacy, engineering, plastic, printing and electron. Its main characteristics are as follows:

- Small offset output with compact structure. It has made full use of the space, the second grade reducer and third grade reducer contained in one cabinet.
- We adapt integrated casting cabinet. The cabinet is of good structure and rigidity, so it is easy to improve the strength and extend service life of the axis.
- Means of assembling: Base-mounted assembling, with flange in different size to be chosen.
- Solid axis output, the average is 96% for second grade, 94% for third grade, and 85% for CR/CR.
- Reduction ratio: basic second grade: 5~24.8, third grade: 27.2~192, combination type: 23401
- The rotate direction of the input axes and the output axes is the same in basic second grade, and are opposite in third grade. For combination types please contact us for consultation.

R(RF) 系列选型 | Options of R(RF) Series

使用条件及选型结果	使用条件○	选型结果●	Conditions and results	Condition ○	Result ●
○ 负荷容量 (被驱动设备输入功率或输入转矩) Load capacity (Input power or input torque of the driven equipment)			P=1.1KW		
○ 电源电压 / Voltage			380V		
○ 电源频率 / Frequency			50Hz		
○ 要求转速 / Speed required			30r/min		
○ 负荷性质及运转时间 / Load pattern and operation time ● 确认使用系数 / Confirmation of usage coefficient ○ 启动次数 / Number of startups ● 确认启动系数 / Confirmation of startup coefficient ○ 可靠度 / Reliability ● 确认可靠度系数 / Confirmation of reliability coefficient ● 确认运行系数 / Confirmation of performance coefficient			均匀负荷, 14 小时 / 天 K _A =1.25 查表 P2 启动次数: 5 次 / 小时 K _S =1 查表 P4 可靠度: 一般 K _R =1 查表 P4 K=K _A * K _S * K _R =1.25	Uniform load, 14 hours/day K _A =1.25 check the table P2 Number of startups: 5 times/hour K _S =1 check the table P4 Reliability: normal K _R =1 check the table P4	
○ 安装形式 / Type of installation ● 确认安装形式 / Confirmation of installation type			轴伸式底脚安装 B3 查表 P44	Shaft extended & base-mounted B3 check the table P44	
○ 承载能力计算 / Calculation of bearing capacity ● 确认机型 / Confirmation of machine			M _{S2} =9550*P/ N ₂ =350N.m M ₂ ≥ M _{S2} * K=438N.m 根据 N ₂ 及 M ₂ 查表 P39 得: R67/46-Y1.5-4 Based on N ₂ and M ₂ & table P39: R67/46-Y1.5-4		
○ 环境条件 / Environmental condition ● 确认环境条件 / Confirmation of environmental condition			室内、环境温度 28℃ OK	Inside, ambient temperature 28℃ OK	
○ 电机规格 / Electromotor specification ● 确认电机规格 / Confirmation of electromotor specification			1.5-4、380V、50Hz 无制动器、室内型 / Without brake, for inside OK		
● 结束选型 / End of selection			R67/46-Y1.5-4-B3、380V、50Hz 无制动器、室内型 / Without brake, for inside		

R(RF) 系列型号规格表示方式 Denotation of Specification & Dimension of R(RF) Series



减速机类型 Type of reducer & variator	结构形式 Structure	机座号 Housing No.	减速比 Reduction ratio	电机代号 Electromotor code	电机功率、极数 Electromotor power, pole	安装形式 Installation form	接线盒方位 Position and direction of terminal box
斜齿轮硬齿面 减速机 R (RF) Helical gear reducer with hard surface R (RF)	卧式 (W 省略) Horizontal (W omitted)	见选型 参数表 See selections Parameter list	见选型 参数表 See selections Parameter list	普通 Y ₂ Normal Y ₂	见选型 参数表 See selections Parameter list	见表 P44	见表 P6
				防爆 B Explosion protection B			
				制动 E Brake E			
	变频 V Frequency conversion V						
	变频制动 VE Brake by frequency conversion VE						
	多速 D Multi-speed D						
分马力 F Fractional horsepower F							
	立式 (F) Vertical (F)						

R(RF) 系列选型参数表 | Parameter List Selections of R(RF) Series

机座号 Housing No.	输入功率 (KW) Input power	减速比 Reduction ratio																	许用转矩 N.m Permissible torque			
		135	110	92	87	79	67	59	50	46	39	35	29	20	18	15	12	10		7	6	
R37	四极	0.12	104	83	72	67	60	51	45	38	36	30	27	22	15	14	12	9	7.7	5.4	4.6	200
		0.18		125	108	101	90	77	68	57	54	45	41	33	23	21	18	14	11.5	8	7	
		0.25		177	148	140	125	106	94	79	75	63	56	46	31	29	25	19	16	11	9.6	
		0.37					186	157	139	117	111	93	83	68	46	43	37	28	24	17	14	
		0.55									176	162	138	124	101	69	64	55	41	35	25	
	0.75											185	166	138	94	88	75	56	48	34	29	
	六极	0.12	153	125	108	98	90	77	67	57	51	43	40	33	23	20	17	13	11	8	6.5	
		0.18		185	155	147	135	116	101	86	77	65	60	50	35	30	26	20	17	12	10	
		0.25					187	159	140	119	106	90	83	69	48	42	35	27	23	17	14	
		0.37									170	157	133	123	102	71	62	52	40	34	25	
四极 4-pole	输出转速 r/min Output speed	10.4	13	15	16	18	21	24	28	30	36	40	48	70	78	93	117	140	200	233		
六极 6-pole	输出转速 r/min Output speed	7	8.5	10	11	12	14	16	19	21	25	27	33	48	53	64	80	96	137	160		



机座号 Housing No.	输入功率 (KW) input power	减速比 Reduction ratio																许用转矩 N.m Permissible torque				
		135	110	92	87	79	67	59	50	46	39	35	29	20	18	15	12		10	7	6	
R47	四级	0.25	216	173	150	140	125	106	94	79	75											
		0.37		256	222	207	185	157	139	117	111	93	83									
		0.55				300	275	234	206	174	165	138	124	101	69							
		0.75						300	281	238	225	188	169	138	94	88	75					
		1.1										300	275	248	202	138	128	110	83	71		
		1.5												300	275	188	175	150	113	96	68	
	2.2														275	257	220	165	141	99	84	
	六级	0.18	234	187	162	147	135	116	101	86	77											
		0.25		260	225	204	188	160	140	119	106	90	83	69								
		0.37				300	278	237	206	176	157	133	123	102	71	62						
		0.55							300	261	234	197	183	151	105	92	78	60				
		0.75									300	269	250	206	144	125	106	81	69			
	四级4-pole	输出转速 r/min Output speed	10.4	13	15	16	18	21	24	28	30	36	40	48	70	78	93	117	140	200	233	
	六级6-pole	输出转速 r/min Output speed	7	8.5	10	11	12	14	16	19	21	25	27	33	48	53	64	80	96	137	160	

机座号 Housing No.	输入功率 (KW) Input power	减速比 Reduction ratio																许用转矩 N.m Permissible torque				
		149	133	92	87	79	67	59	50	46	39	35	29	20	18	15	12		10	7	6	
R67	四级	0.37	350	316	222	207	185	157	139	117												
		0.55	526	470	330	307	275	234	206	174	165	138										
		0.75			450	419	375	319	281	238	225	188	169	138								
		1.1					552	468	412	348	330	275	248	202	138	128						
		1.5							560	475	450	375	338	275	188	175	150	113				
		2.2										552	495	403	275	257	220	165	141			
		3												544	375	350	300	225	193	135	115	
		4													519	467	400	300	257	180	153	
		5.5																516	413	353	248	211
	7.5																	577	481	338	288	
	六级	0.25	351	320	225	204	188	160	140	119												
		0.37	520	474	333	302	278	237	206	176	157	133										
		0.55			495	449	413	353	307	261	234	197	183	151								
		0.75					567	481	419	356	319	269	250	206	144	125						
1.1								600	508	468	394	367	303	211	183	156	119					
四级4-pole	输出转速 r/min Output speed	9.5	10.5	15	16	18	21	24	28	30	36	40	48	70	78	93	117	140	200	233		
六级6-pole	输出转速 r/min Output speed	6.3	7	10	11	12	14	16	19	21	25	27	33	48	53	64	80	96	137	160		

机座号 Housing No.	输入功率 (KW) input power	减速比 Reduction ratio																许用转矩 N.m Permissible torque				
		136	110	92	87	79	67	59	50	46	39	35	29	20	18	15	12		10	7	6	
R77	四级	0.55	475	380	330	307	275	234	206													
		0.75	648	518	450	419	375	319	281	238	225											
		1.1		789	660	614	550	468	412	348	330	275	248									
		1.5					752	638	563	475	450	375	338	275	188							
		2.2							820	697	660	550	495	403	275	257	220					
		3											752	675	550	375	350	300	225			
		4													725	500	467	400	300	257		
		5.5														688	642	550	413	353	248	211
		7.5																703	563	481	338	288
		11																	707	495	422	
	六级	0.37	479	383	333	302	278	237	206													
		0.55	731	591	495	449	413	353	307	261	234	197										
		0.75		807	675	613	563	481	419	356	319	269	250	206								
		1.1					820	697	614	523	468	394	367	303	211							
1.5								818	693	638	538	500	413	288	250	213						
四级4-pole	输出转速 r/min Output speed	10.4	13	15	16	18	21	24	28	30	36	40	48	70	78	93	117	140	200	233		
六级6-pole	输出转速 r/min Output speed	7	8.5	10	11	12	14	16	19	21	25	27	33	48	53	64	80	96	137	160		



机座号 Housing No.	输入功率 (KW) input power	减速比 Reduction ratio																许用转矩 N.m Permissible torque					
		137	108	92	87	79	67	59	50	46	39	35	29	20	18	15	12		10	7	6		
		许用输出转矩 N.m Permissible output torque																					
R87	四级	0.75	662	520	450	419	375	319															
		1.1	970	762	660	614	550	468	412	348	330												
		1.5	1340	1040	900	838	750	638	563	475	450	375	338										
		2.2		1524	1298	1228	1100	935	825	697	660	550	495	403	275								
		3					1503	1275	1125	950	900	750	675	550	375	350	300						
		4							1495	1267	1200	1000	900	733	500	467	400	300	257				
		5.5										1380	1238	1008	688	642	550	413	353	248	211		
		7.5												1360	938	875	750	563	481	338	288		
		11													1425	1283	1100	825	706	495	422		
		15															1406	1125	963	675	575		
	18.5																1424	1187	833	709			
	六级	0.75	993	780	675	613	563	481	419	356	319												
		1.1	1451	1144	990	898	825	706	614	523	468	394	367										
		1.5		1520	1295	1225	1125	963	838	713	638	538	500	413	288								
2.2							1394	1228	1045	935	788	733	605	422	367	312							
四级 4-pole	输出转速 r/min Output speed	10.2	13	15	16	18	21	24	28	30	36	40	48	70	78	93	117	140	200	233			
六级 6-pole	输出转速 r/min Output speed	6.8	8.5	10	11	12	14	16	19	21	25	27	33	48	53	64	80	96	137	160			

机座号 Housing No.	输入功率 (KW) Input power	减速比 Reduction ratio																许用转矩 N.m Permissible torque				
		137	108	92	87	79	67	59	50	46	39	35	29	20	18	15	12		10	7	6	
		许用输出转矩 N.m Permissible output torque																				
R97	四级	1.5	1323	1040	900	838	750	638	563													
		2.2	1940	1525	1320	1228	1100	935	825	697	660	550										
		3	2638	2080	1800	1675	1500	1275	1125	950	900	750	675	550								
		4		2772	2361	2233	2000	1700	1500	1267	1200	1000	900	733	500							
		5.5					2756	2338	2063	1742	1650	1375	1238	1008	688	642	550					
		7.5						2802	2375	2250	1875	1688	1375	938	875	750	563					
		11									2712	2434	2017	1375	1283	1100	825	706	495			
		15											2718	1875	1750	1500	1125	963	675	575		
		18.5												2313	2158	1850	1388	1187	833	709		
		22													2640	2200	1650	1412	990	844		
	30															2812	2250	1926	1350	1150		
	六级	1.1	1456	1144	990	898	825	706	614	523												
		1.5	1985	1560	1350	1225	1125	963	838	713	638	538										
		2.2	2902	2288	1980	1797	1650	1412	1228	1045	935	788	733	605								
四级 4-pole	输出转速 r/min Output speed	10.2	13	15	16	18	21	24	28	30	36	40	48	70	78	93	117	140	200	233		
六级 6-pole	输出转速 r/min Output speed	6.8	8.5	10	11	12	14	16	19	21	25	27	33	48	53	64	80	96	137	160		

机座号 Housing No.	输入功率 (KW) Input power	减速比 Reduction ratio																许用转矩 N.m Permissible torque			
		251	230	203	172	158	141	127	92.7	78.5	72.8	65.6	59.4	47.6	35.2	24.9	20		15.6	7.8	4.8
		许用输出转矩 N.m Permissible output torque																			
R107	四级	2.2	3553	3259	2879	2442	2242	2005	1865	1311											
		3			3952	3354	3088	2755	2480	1805	1416										
		4					4057	3629	3259	2366	2005	1862	1672								
		5.5								3230	2746	2546	2290	2071	1663						
		7.5									3743	3468	3126	2831	2271	1682	1188				
		11												4114	3297	2442	1729	1387			
		15														3287	2318	1872	1463		
		18.5														4038	2850	2299	1796	903	
		22															3392	2736	2128	1074	
		30																3715	2898	1454	890
		37																		3572	1796
45																			2185	1335	
四级 4-pole	输出转速 r/min Output speed	5.6	6.1	6.9	8.2	8.9	9.9	11	15	18	19	22	24	30	41	58	72	94	187	306	

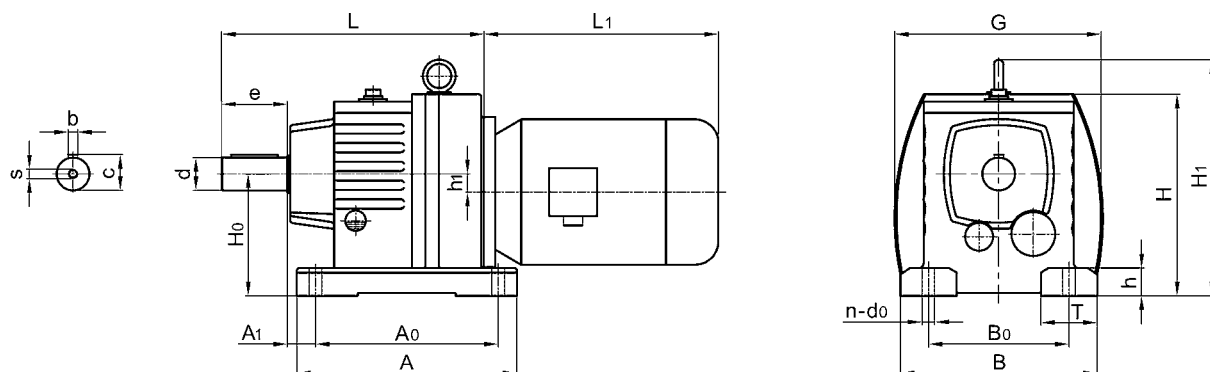


机座号 Housing No.	输入功率 (KW) Input power	减速比 Reduction ratio																	许用转矩 N.m Permissible torque				
		222	188	174	156	141	1289	113	103	88.7	73.4	65.2	59.1	44.3	37.6	27.1	19	14.5		7.5	5.1		
		许用输出转矩 N.m Permissible output torque																					
R137	四级	5.5	7771	6574	6090	5453	4921	4475	3971	3601	3097	2565	2271	2062								8000	
		7.5				7439	6717	6099	5415	4912	4218	3496	3107	2812									
		11							7885	7154	6147	5092	4522	4104	3078	2613							
		15										6850	6080	5510	4142	3506	2526						
		18.5											7467	6783	5683	4313	3109	2185					
		22														6052	5130	3692	2594	1976			
		30															6973	5016	3525	2689	1406		
		37																6191	4351	3316	1729		1178
		45																7524	5292	4028	2109		1435
55																	6441	4912	2565	1739			
四级 4-pole	输出转速 r/min Output speed	6.4	7.6	8.2	9.2	10	11	13	14	16	19	22	24	33	39	54	77	101	197	285			

机座号 Housing No.	输入功率 (KW) Input power	减速比 Reduction ratio																	许用转矩 N.m Permissible torque				
		163	146	119	109	94.6	83.4	72	66.9	52.8	46.6	40.2	35.6	29.9	24.1	20.4	15.6	13.9		7.2	5		
		许用输出转矩 N.m Permissible output torque																					
R147	四级	11	11305	10165	8303	7572	6555	5786	4997	4646	3667											13000	
		15			11210	10165	8816	7781	6717	6242	4931	4351											
		18.5				12540	10830	9595	8256	7676	6061	5349	4617										
		22					12920	11400	9785	9130	17201	6356	5491	4855	4085								
		30								12445	9785	8636	7458	6603	5548	4475	3781	2898					
		37									12065	10640	9196	8142	6840	5520	4665	3572					
		45										12920	11210	9880	8322	6717	5672	4342	3867	2014			
		55												12065	10165	8180	6916	5292	4703	2451	1995		
		75														11115	9396	7192	6394	3335	2299		
90															11305	8626	7676	4000	2755				
四级 4-pole	输出转速 r/min Output speed	8.8	9.8	12	13	15	17	20	22	27	31	36	41	49	61	72	94	106	204	296			

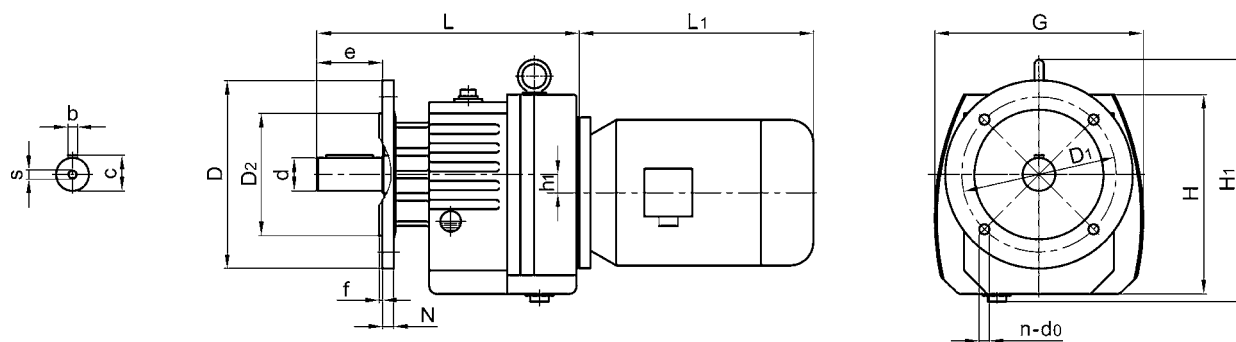
机座号 Housing No.	输入功率 (KW) Input power	减速比 Reduction ratio																	许用转矩 N.m Permissible torque				
		229	186	153	139	121	107	93.1	82.9	73.7	67.4	58.6	44.8	39.9	34.4	23.7	21.8	16.9		14.4	10.2		
		许用输出转矩 N.m Permissible output torque																					
R167	四级	11	15960	19290	10640	9690	8446	7448	6460	5748												18000	
		15		17385	14250	13015	11400	9975	8683	7724	6869												
		18.5			17575	16055	13965	12350	10640	9500	8446	7224	6717										
		22				16625	14630	12730	11305	10070	9187	7990	6109										
		30						17290	15390	13680	12445	10830	8303	7391	6375	4389							
		37								16815	15390	13395	10260	9120	7857	5605	4988	3876					
		45									16245	12445	11115	9595	6584	6071	4712						
		55													8060	7414	5748	4893					
		75														15865	10925	10070	7809	6650	4702		
		90															13110	12065	9367	7990	5643		
		110															15960	15423	11400	9690	6878		
		132																	13680	11685	8256		
160																		14155	9975				
四级 4-pole	输出转速 r/min Output speed	6.3	7.7	9.4	10	12	13	15	17	20	22	25	33	37	43	62	67	87	102	145			

■ R 系列外形及安装尺寸 | Overall & Installation Dimension of R Series



机座号 Housing No.	安装尺寸 Installation dimension							输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension								
	H ₀	A ₁	A ₀	B ₀	n	d ₀	h ₁	d	e	b	c	s	A	B	T	h	H	H ₁	G	L	L ₁
37	90	27	130	110	4	9	5	25js6	50	8	28	M8	160	145	35	18	150	155	160	200	参考电机见表 P5
47	115	30	165	135	4	13.5	15.5	30js6	60	8	33	M8	195	170	40	24	190	227	184	235	
67	130	30	195	150	4	13.5	19.5	35js6	70	10	38	M10	235	210	60	30	215	252	220	280	
77	140	35	205	170	4	17.5	10	40k6	80	12	43	M12	245	230	60	30	235	279	240	300	
87	180	40	260	215	4	17.5	17	50k6	100	14	53.5	M12	310	290	75	45	300	345	306	372	
97	225	40	310	250	4	22	11	60k6	120	18	64	M16	365	340	90	55	370	415	356	440	
107	250	45	370	290	4	26	20	70m6	140	20	74.5	M20	440	405	110	65	408	475	410	495	
137	315	50	410	340	4	33	25	90m6	170	25	95	M24	490	450	110	70	495	579	458	589	
147	355	50	500	380	4	39	33	110m6	210	28	116	M24	590	530	150	80	565	635	540	695	
167	425	60	580	500	4	39	60	120m6	210	32	127	M24	670	660	160	100	675	745	670	790	

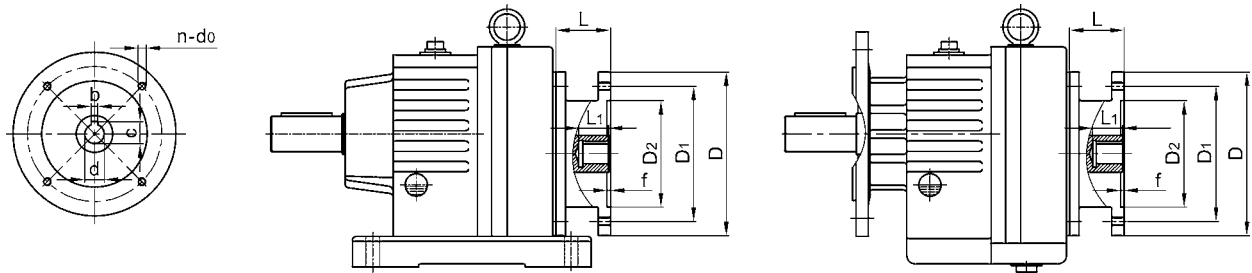
■ RF 系列外形及安装尺寸 | Overall & Installation Dimension of RF Series



机座号 Housing No.	安装尺寸 Installation dimension						输出轴尺寸 Output shaft dimension					外形尺寸 Overall dimension								
	D ₁	D ₂	f	n	d ₀	h ₁	d	e	b	c	s	D	N	H	H ₁	G ₁	L	L ₁		
37	100	80h7	3	4	7	5	25js6	50	8	28	M8	120	8	150	157	160	200	参考电机见表 P5		
47	130	110h7	3	4	9	15.5	30js6	60	8	33	M8	160	10	190	232	184	235			
67	165	130h7	3.5	4	11	19.5	35js6	70	10	38	M10	200	12	214	256	220	280			
77	215	180h7	4	4	13.5	10	40k6	80	12	43	M12	250	15	231	278	240	300			
87	265	230h7	5	4	13.5	17	50k6	100	14	53.5	M12	300	16	296	353	306	372			
97	300	250h7	5	4	17.5	11	60k6	120	18	64	M16	350	18	365	415	356	440			
107	300	250h7	5	4	17.5	20	70m6	140	20	74.5	M20	350	20	413	485	410	495			
	400	350h7		450								22								
137	400	350h7	5	8	17.5	25	90m6	170	25	95	M24	450	22	500	590	458	589			
	500	450h7										550	25							
147	400	350h7	5	8	17.5	33	110m6	210	28	116	M24	450	22	571	650	540	695			
	500	450h7										550	25							
167	500	450h7	5	8	17.5	60	120m6	210	32	127	M24	550	25	680	740	670	790			
	600	550h7			6							22	660					28		

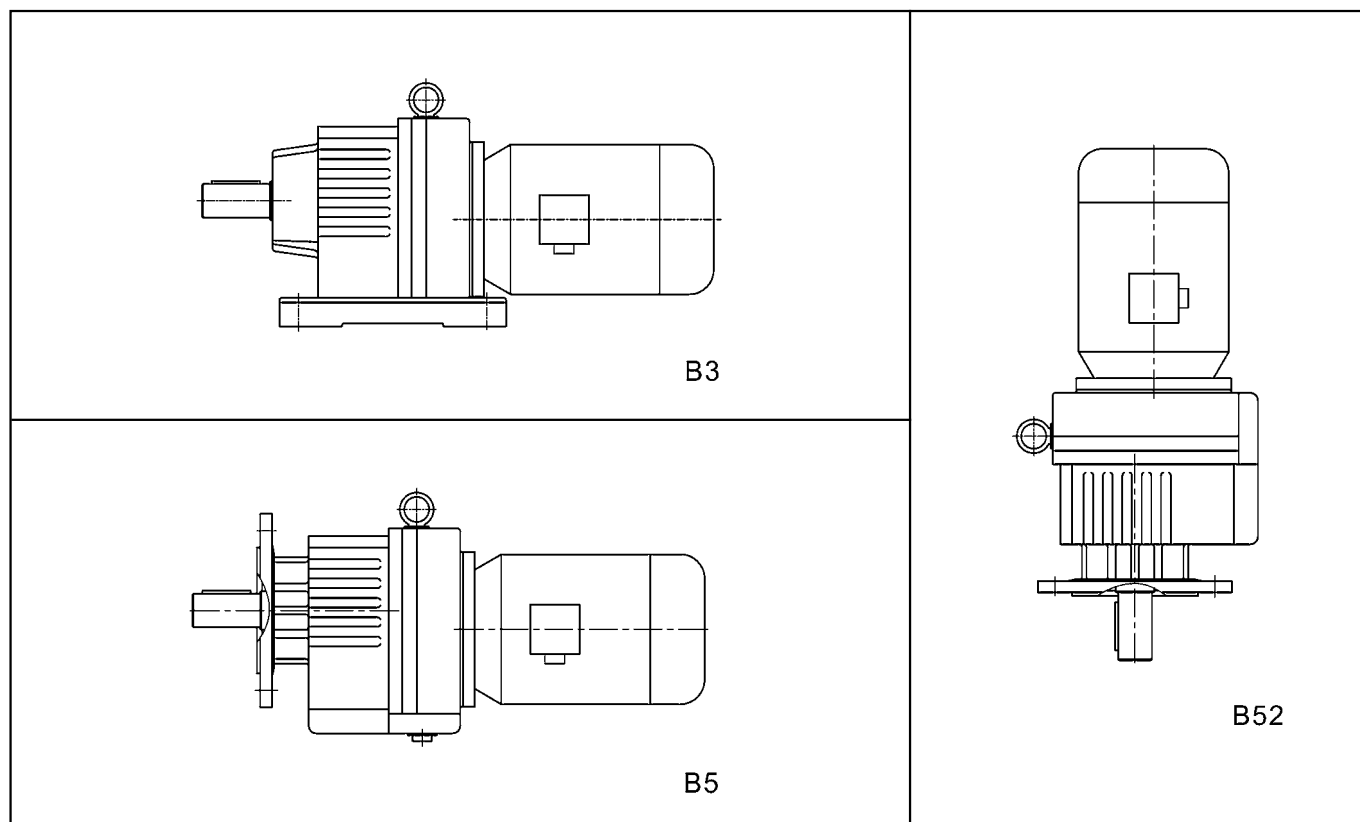
■ R(RF) 系列输入联接法兰尺寸

Input Dimension of Flange Connected with R(RF) Series



机座号 Housing No.	D	D ₁	D ₂	f	L	d	b	c	n	d ₀	L ₁
37	140	115	95H7	4	55	11F8	4	12.8	4	M8	26
	160	130	110H7	4	55	14F8	5	16.3	4	M8	33
	200	165	130H7	4	55	19F8	6	21.8	4	M10	43
47	140	115	95H7	4	57	11F8	4	12.8	4	M8	26
	160	130	110H7	4	57	14F8	5	16.3	4	M8	33
67	200	165	130H7	4	57	19F8	6	21.8	4	M10	43
					67	24F8	8	27.3			53
	250	215	180H7	5	70	28F8	8	31.3	4	M12	63
77	200	165	130H7	4	67	19F8	6	21.8	4	M10	43
						24F8	8	27.3			53
87	250	215	180H7	5	70	28F8	8	31.3	4	M12	63
	300	265	230H7	5	100	38F8	10	41.3	4	M12	83
	97	200	165	130H7	4	67	24F8	8	27.3	4	M10
250		215	180H7	5	70	28F8	8	31.3	4	M12	63
300		265	230H7	5	100	38F8	10	41.3	4	M12	83
107	250	215	180H7	5	55	28F8	8	31.3	4	M12	63
						300	265	230H7			5
	350	300	250H7	6	112	42F8	12	45.3	4	M16	115
						48F8	14	51.8			115
						400	350	300H7			6
450	400	350H7	6	151	60F8	18	64.4	8	M16	145	
137	300	265	230H7	5	74	38F8	10	41.3	4	M12	83
	350	300	250H7	6	112	42F8	12	45.3	4	M16	115
						48F8	14	51.8			115
	400	350	300H7	6	130	55F8	16	59.3	4	M16	115
450	400	350H7	6	151	60F8	18	64.4	8	M16	145	
147	300	265	230H7	5	78	38F8	10	41.3	4	M12	83
	350	300	250H7	6	112	42F8	12	45.3	4	M16	115
						48F8	14	51.8			115
	400	350	300H7	6	130	55F8	16	59.3	4	M16	115
	450	400	350H7	6	151	60F8	18	64.4	8	M16	145
550	500	450H7	6	159	65F8	18	69.4	8	M16	150	
					75F8	20	79.9				
167	350	300	250H7	6	101	42F8	12	45.3	4	M16	115
						48F8	14	51.8			
	400	350	300H7	6	111	55F8	16	59.3	4	M16	115
	450	400	350H7	6	116	60F8	18	64.4	8	M16	145
550	500	450H7	6	120	65F8	18	69.4	8	M16	150	
					75F8	20	79.9				

■ R(RF) 系列安装形式 | Installation Type of R(RF) Series



■ R 系列润滑油量表 | Lubricating Oil Capacity Sheet of R Series

安装形式 Installation form	B3	B5	B52
机座号 Housing No.	润滑油量 (升) Lubricating Oil Capacity (L)		
R37	0.3/1	0.4/1	1.1
R47	0.7/1.5	0.75/1.5	1.7
R67	1.1/2.3	1.2/2.5	3.1
R77	1.2/3	1.2/2.6	4.1
R87	2.3/6	2.4/6	7.7
R97	4.6/9.8	5.1/10.2	14
R107	6/13.7	6.3/14.9	19.2
R137	10/25	9.5/25	32.5
R147	15.4/40	16.4/42	52
R167	27/70	26/70	88

■ R 系列重量表 (不含电机) | Weight Table of R Series (Without Motor)

机座号 Housing No.	R37	R47	R67	R77	R87	R97	R107	R137	R147	R167
重量 Weight (kg)	15	18	29	35	65	102	162	248	420	762
机座号 Housing No.	RF37	RF47	RF67	RF77	RF87	RF97	RF107	RF137	RF147	RF167
重量 Weight (kg)	16	18	32	41	72	118	168	272	430	770

为确保减变速机的正确操作，以延长其使用寿命，请仔细阅读以下事项：

Please read the following instruction carefully for correct operation and extension of the service life of the reducer:

■ 安装 | Installation

- 安装时要检查减变速机铭牌与电动机铭牌是否符合订货要求。
- 减变速机安装方位应与订货时指定的方位一致，且使加油（透气）螺孔朝上。
- 减变速机安装时配合面要平整，底座要求强度高、刚性好且具有减震性，避免共振。
- 在输出轴上安装联轴器、带轮、链轮、齿轮、制动器、离合器等联接件时，应利用轴端螺孔等将联接件压装（在轴头涂上润滑油），严禁用锤重击。
- 减变速机输出采用联轴器联接时（尽量不要使用刚性联轴器），必需校正轴线使其同心，其安装误差允许大于联轴器的允许偏差。
- 为防止事故的发生，所有的旋转部位应按要求装防护罩或盖板。
- 立卧机型安装时应注意过定位，影响装配精度。
- 电源接线必须符合电机接线要求并安装接地装置，以防触电。
- 电动机要接有过载保护装置，以免电机烧坏。
- 安装孔输出的减速机时，与其配合的轴应用木锤轻轻敲击，装配到位（要求在轴上加润滑油）。
- 需要装扭力臂时，应在相互自由状态下安装。
- Checking the nameplates on the products whether meet the ordering requests.
- Installation position should be same as that ordered. And the fuel (air) screw right side up.
- The surface where the products installed on should be smooth, high strength, high rigidity and shock absorption, which can avoid resonance.
- When install couplings, pulleys sprockets, gears, brakes, clutches and other connections on the output shaft, using Screw shaft to press-fit (paint oil in the shaft), hammer is strictly prohibited.
- When connecting with couplings (not use rigid couplings), correcting axis to make them concentric. The installation error must be less than coupling's allowable deviation.
- Avoiding the accidents, all install parts should be covered with protective covers.
- When install vertical or horizontal models, please pay attention to the location, in case of the assemble precision.
- Power wiring must comply with the requirements of electrical wiring and install a grounding device to prevent electric shock.
- Product should be connected with overload protection device to avoid the burning out.
- Mounting hole when output gear-worm gearing, the shaft can be into the hole with gently tap. And add lubricating oil in the shaft at the mean time.
- Install torque arm at the free states.

■ 使用 | Usage

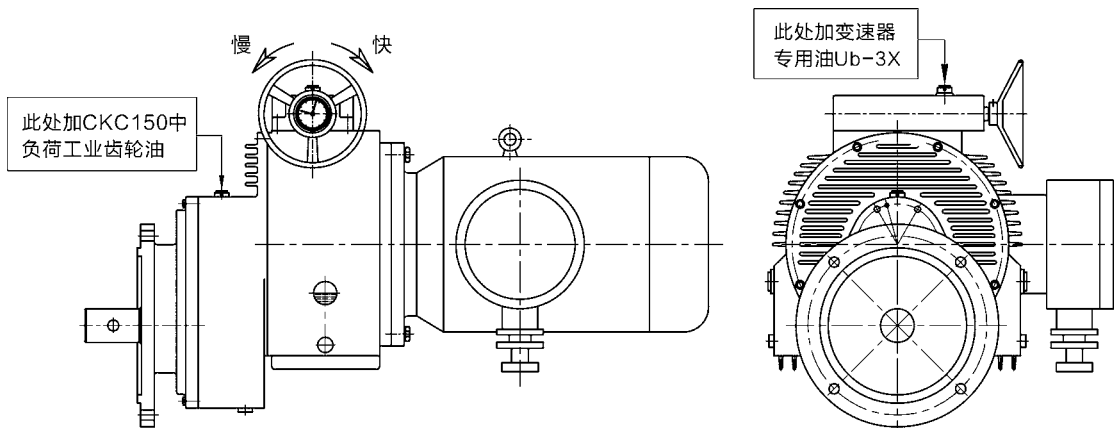
- 减变速机运转前，应根据负载大小及工作状况来确定是否会引超过载现象，必要时应在输出轴上安装过载保护装置。
- 减变速机可以连续工作，同时允许正反旋转，特别注意：换向时应让机器停止后再反向旋转，减少换向冲击。
- 减变速机使用前请旋松透气帽（或拔掉红塑料塞头），以利通气。
- 无级变速器应尽量在中高速范围内使用，避免低速长时间使用，以显示其优良特性，延长使用寿命。
- UD 系列无级变速器在停机时严禁调速，限位螺钉在出厂前已调整好转速范围，切勿任意调整，以免损坏机器。
- 工作环境温度在 -15℃ ~ 50℃，负载温度如下表：
- Before operation, determining whether would cause overload according to the load size and working conditions, install protective device on the output shaft if needed.
- Variable Speeds Gearing can work continuously, and can work reversely.
- Attention: The machines have to be stopped before work reversely.
- Infinitely variable speeds gearing should be used in high-speed range to show the excellent properties.
- UD Series Infinitely Variable speeds gearing is strictly prohibited adjust speed during shutdown. Limit screw has been adjusted the speed range, do not adjust arbitrarily.
- Work ambient temperature should be -15℃ ~50℃, and the over loading temperature is listed in the following table.

规格型号 Type and specification	负载温度 Over loading temperature	机体表面温度 Surface temperature of the reducer
UD02~UD40	≤ 40℃	≤ 90℃
UD75~UD150	≤ 55℃	≤ 105℃
G800~G805	≤ 40℃	≤ 90℃
G807~G809	≤ 50℃	≤ 100℃
C R37~R107	≤ 40℃	≤ 90℃
R137~R167	≤ 50℃	≤ 100℃
GX07 GX15	≤ 35℃	≤ 85℃

■ 保养 | Maintenance

- 减变速机使用中应保持表面清洁，以利散热。
 - 露天使用的机器要加防雨罩。
 - 平时应注意机器油位的高低，发现不足应及时补充，严禁无油或缺油运转。
 - 减变速机因使用时间长而引起的漏油、渗油时，应及时检查更换密封件。
 - 更换润滑油时，不同型号的润滑油绝对不能混合使用。
 - 使用中如发现减变速机有异常声音，应及时停机检查，切记不可继续使用，以免质量事故。
 - 润滑油应定期更换，一般首次加油运转 500 小时后更换新油，以后每 2000 小时更换一次，如遇特殊情况（工况恶劣，连续运转，发现油已浑浊）应提早换油。
 - 减变速机要定期保养，一般一年保养一次，必要时可运至我公司全面保养。
- Keep the surface clean during operation to facilitate heat dissipation.
 - Use rain cover when using outdoors.
 - Pay attention to the oil level, promptly add oil when need, oil-free operation is strictly prohibited.
 - When oil leakage caused by long time using, please check and replace the seals.
 - When replacing oil, do not mix different types of oils.
 - When hearing unusual sound, stop to check immediately, in case of the accidents.
 - Change oil regularly, refueling after first 500 hrs, and every 2000hrs after then. In special circumstances (poor working conditions, continuous operation, oil turbidity, etc.), oil should be changed more frequently.
 - Products should be scheduled maintain, generally once a year. You can ship to company to have comprehensive maintenance if necessary.

规格型号 Specification	润滑油牌号 Brand of lubricant	润滑油更换 Replacement of lubricant
UD	变速部分加 Ub-3X 变速器专用油； 带齿轮部分加 CKC150 中负荷工业齿轮油 Special lubricant should be applied for the transmission part. CKC150 medium-loading industry gear lubricant should be applied for the parts with gears.	首次加油运转 500 小时后更换新油，以后每 2000 小时换一次油，油位处于油标中心 The first replacement of lubricant should be carried out after it runs for 500 hours, and after then the replacement shall be carried out every 2000 hours.the oil-level should be maintained in the middle of oil scale.
G800	CKC150 中负荷工业齿轮油 CKC150 medium-loading industry gear lubricant.	首次加油运转 500 小时后更换新油，以后每 2000 小时换一次油，油位处于油标中心 The first replacement of lubricant should be carried out after it runs for 500 hours, and after then the replacement shall be carried out every 2000 hours.the oil-level should be maintained in the middle of oil scale.
C R	CKC150 中负荷工业齿轮油 CKC150 medium-loading industry gear lubricant.	首次加油运转 500 小时后更换新油，以后每 2000 小时换一次油，油位处于油标中心 The first replacement of lubricant should be carried out after it runs for 500 hours, and after then the replacement shall be carried out every 2000 hours.the oil-level should be maintained in the middle of oil scale.
GX	CKC150 中负荷工业齿轮油 CKC150 medium-loading industry gear lubricant.	首次加油运转 500 小时后更换新油，以后每 2000 小时换一次油，油位处于油标中心 The first replacement of lubricant should be carried out after it runs for 500 hours, and after then the replacement shall be carried out every 2000 hours.the oil-level should be maintained in the middle of oil scale.



UD 系列变速器油对照表 | The Comparison Table of UD Series Variable Speed Transmission

国内广研	ISO	美孚 Mobil	壳牌 Shell	BP	埃索 Esso
Ub-3X	VG32	A.T.F.220	A.T.F.DEXRON	AUTRAN DX	A.T.F.DEXRON

齿轮油对照表 | The Comparison Table of The Gear Compound

广研润滑油	统一润滑油	Mobil	BP	Shell	Esso
CKC100	MonarchCKD100	MobilGEAR627	ENERGOLGR-EP100	SPARTANEP100	MACOMA100
CKC150	MonarchCKD150	MobilGEAR629	ENERGOLGR-EP150	SPARTANEP150	MACOMA150
CKC220	MonarchCKD220	MobilGEAR630	ENERGOLGR-EP220	SPARTANEP220	MACOMA220
CKC320	MonarchCKD320	MobilGEAR632	ENERGOLGR-EP320	SPARTANEP320	MACOMA320
CKC460	MonarchCKD460	MobilGEAR634	ENERGOLGR-EP460	SPARTANEP460	MACOMA460

质量服务 | Quality Service

- 凡按本公司《使用说明书》规定安装、使用，整机未经私自拆装，确属本公司制造质量问题而引起的故障或损坏，自出厂之日起，一年内实行“三包”。对于使用不当造成的故障或损坏，不属于“三包”范围。
- 凡确定为“三包”的零部件或整机，我公司免费修理，“三包”期外的零部件或整机修理，可运至我公司，酌情收取工本费。
- Customers are covered with one year limited warranty if installing and operating according to instruction manual and without disassemble machine. For damage caused by improper use, the products are not covered with the warranty.
- The parts under warranty can be repaired without charge, otherwise can be repaired with appropriate charge when ship to our company.



UD 行星锥盘减变速器应用单螺杆泵浅析

Analysis of the UD planet cone disc gearbox with the single screw pump

---- Li ZaiCheng, Yang Ling, Huang Jiping, Zhan Longhai

■ 前言 | Preface

单螺杆泵由于其结构及工作特性，相应驱动机构有一些基本要求：启动力矩大，过载保护性强，流量调节简单，耐腐蚀性好，转速 $n_2 \leq 800r/min$ 等要求。目前，常用的驱动源为：多极（如六极、八极）电机直接驱动；电机 + 减速机组成的减速驱动；变频器 + 电机 + 减速机组成的变频变减速驱动；电磁调速 + 电机 + 减速机组成的电磁变减速驱动；电机 + UD 行星锥盘减变速器组成的机械变减速驱动。螺杆泵生产厂家针对不同的工况和用户要求而来进行各种驱动配置，取得了不同的经验和收获。其中 UD 行星锥盘减变速器应用于单螺杆泵，由于各种因素知者相对少，因此，作者根据多年来应用结果的利弊对此驱动作一浅析。

Due to the structure and operation characteristics of single screw pump, the corresponding driving mechanism has several basic requirements: high starting torque, overload protection simple flow regulation, good corrosion resistance and rev $n_2 \leq 800r/min$. At present, the common drive resource are: multi-polar (heapole, octupole) direct motor drive; reduction drive motor made up by electrical motor and reducer; deduction drive made up by transducer, electrical motor and reducer; electromagnetic variable reduction drive; reduction drive made up by mechanical variable motor and UD planet cone disc gearbox. According to different conditions and requirements, screw pump manufactures acquired amount of experience. However, the application of UD planet cone disc gearbox in the single screw pump is lack of experience. That is the reason that authors focus on the pros and cons of this application.

■ UD 行星减变速器的机械特性及工作原理

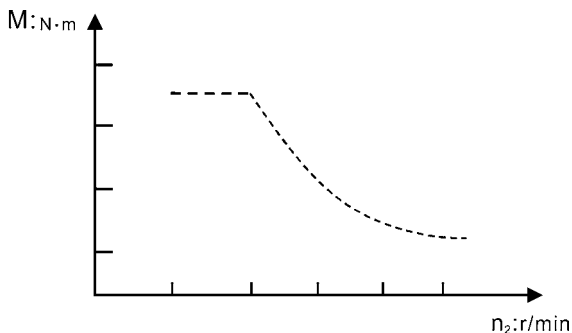
The mechanical prosperities and principles of the UD planet cone disc reduction gearbox

UD 行星锥盘减变速器（国外称 Disco 无级变速器），属于行星式牵引无级变速器类，下为该产品的机械特性及工作原理：

1、机械特性 / The mechanical properties:

1) $M-n_2$ 特性曲线 / $M-n_2$ characteristic curve:

UD 行星锥盘减变速器低转速时呈恒转矩特性，转矩 M 保持恒定。中高速时呈恒功率特性，转矩 M 随转速下降而增大。



M: 输出转矩 Output Torque
 n_2 : 输出转速 Output Speed

2) 滑差率 ϵ

ϵ : 滑差率: 表示变速器在运转中实际输出转速与理论输出转速之间形成一定的滑差。

$$\epsilon = (1 - n_2/n_{02}) \times 100\%$$

n_2 : 实际输出转速

n_{02} : 理论输出转速

UD 行星锥盘减变速器滑差率在正常工作中 $\epsilon \leq 10\%$

2) Slip rate ϵ

ϵ : Slip rate indicates the difference between the actual output speed and the theoretical output speed during the operation of transmission.

$$\epsilon = (1 - n_2/n_{02}) \times 100\%$$

n_2 : actual output speed

n_{02} : the theoretical output speed

the slip of UD planet cone disc gearbox $\leq 10\%$

3) 变速比 R_b

R_b : 表示变速器的变速能力

$$R_b = n_{2max}/n_{2min}$$

n_{2max} : 最高输出转速

n_{2min} : 最低输出转速

UD 行星锥盘减变速器变速比在正常工作中 $R_b \leq 5$

3) Gear ratio R_b

R_b : capability of the variable speed transmission

$$R_b = n_{2max}/n_{2min}$$

n_{2max} : maximum output speed

n_{2min} : the minimum output speed

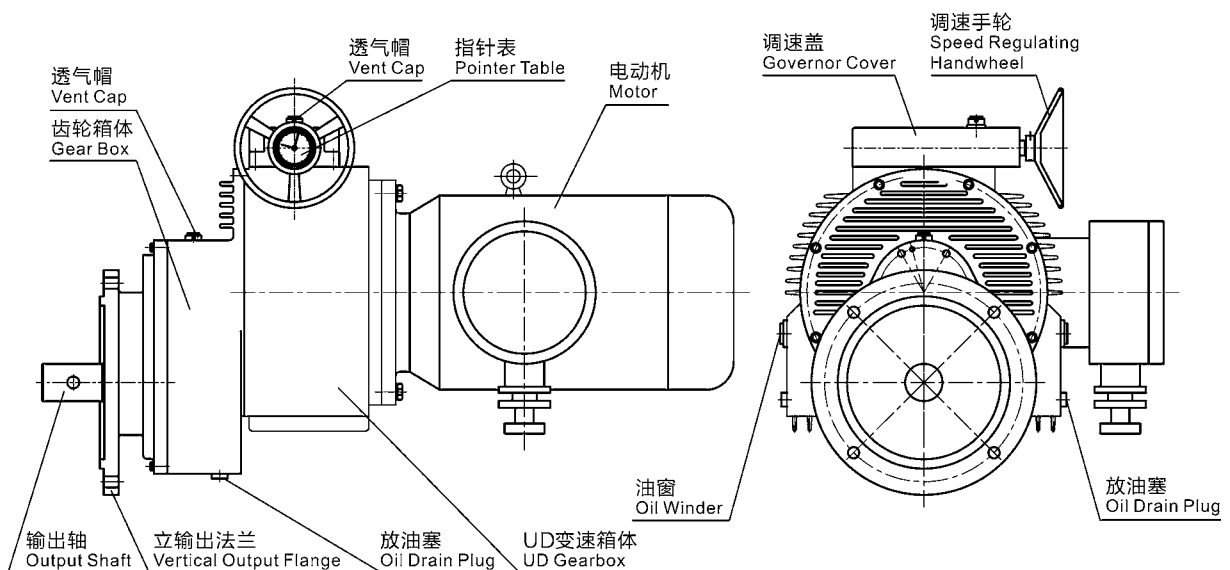
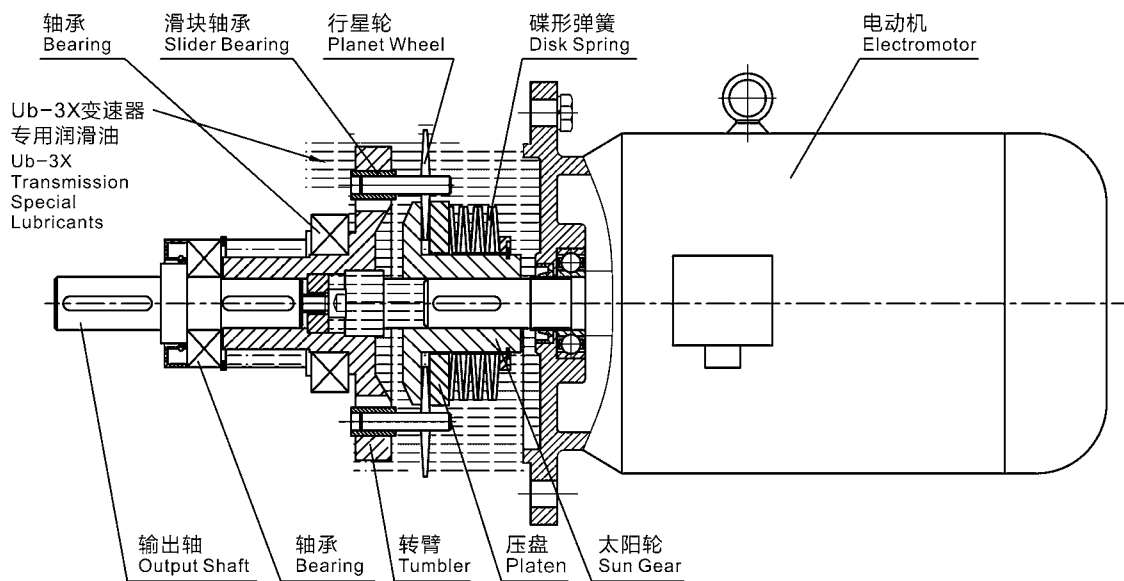
UD planet cone disc gearbox gear ratio $R_b \leq 5$



2、工作原理 /Principles:

动力源由电机输入带动太阳轮，通过牵引液（润滑油），带动行星轮运动，行星轮在在自转的同时并作公转运动，通过滑块轴承带动转臂及输出轴运转，输出动力。通过调速装置，改变太阳轮与行星轮的接触半径，实现无级变速。在正常工作情况下，摩擦传动之间隔着一层油膜，动力是按主动件→油膜→从动件的路线传递（所谓的牵引传动）。

The source of motor power is start from the wheel input, drive by the planetary wheel through fluid. The planet wheels are in rotation while in revolution. Then output power through the pivot arm. The operation of continuously variable transmission is by changing the contact radius of the sun gear and the planetary gear. Under normal operating conditions, the friction drive are separated by a film of oil, the route of the power is start from active pieces, through the film to the follower (known as traction drive).





UD 行星锥盘减变速器应用单螺杆泵的特点

The single screw pump of the UD planet cone discredution gearbox has listed features

- 启动转矩大：单螺杆泵启动时，往往短时间负载力矩很大，而 UD 行星锥盘减变速器驱动可以承受超负载工作，只是表现在滑差率 ϵ 迅速增大，转速明显下降，但待外部负载正常后，滑差率回复正常值 $\epsilon \leq 10\%$ ，泵转速也同时趋于正常工作，既使启动频繁，也不严重影响的变速器的寿命。 同时也可根据机械特性曲线，利用恒功率特性，在中速段启动，此时利用输出大转矩，克服单螺杆泵启动的超负载工况。
- 适应流量变化工况：单螺杆泵工作时，由于工况变化或者由于泵零部件磨损导致流量减少，需要调节泵转的流量，此时，转动变速器手轮，改变太阳轮与行星轮的接触半径，变化输出转速，可以得到理想的流量，调速机构为简单的机械机构，不会受螺杆泵恶劣的工作环境（潮湿，污染等）的影响，特别是操作人员容易掌握使用。
- 运动的特殊性保证产品的可靠性：UD 行星锥盘减变速器驱动，根据其工作原理，并不是简单的机械传动，而是一种特殊的牵引（油液）传动，因此对油液的牵引系数 μ 有很大关联，由广州机械研究院有限公司研制的 Ub-3X 变速器专用油，牵引系数 $\mu = 0.09 \sim 0.074$ ，所有变速器运动件，在充满油液环境下工作，而不是机械运动件的直接接触。其主要运动件受到了良好的润滑保护。
- 过载保护性能好：当螺杆泵堵转时，由于电机输出轴上的太阳轮与中间滚动体行星轮没有直接刚性联接，而是通过牵引液的柔性联接，过载堵转时，油液的牵引力不足以驱动行星轮公转，而产生打滑，短时间内电机仍以恒定的转速运转，电机不会受到电流的极大冲击，从而电机能得到保护，电机的寿命也较长。
- 改善泵组的设备利用率：UD 行星锥盘减变速器变速，变速比 R_b 一般为 5，当转速 n_2 往下变化时，其输出转矩 M 也随之增大，当负载变大，适当调慢转速，仍能使螺杆泵正常工作。或定子转子磨损大时，容积效率 η_v 低下时，适当提高转速 n_2 ，可保持流量的稳定，这样可提高泵组的设备利用率。
- 改善泵组的设备经济性：UD 行星锥盘减变速器与单螺杆泵的组合进行整体优化，减变速器设置推力轴承承受螺杆泵工作时产生的轴向推力，泵省略轴承座；减变速器的输出结构采用肖孔方案与螺杆泵联接，省略联轴器结构，简化装配工艺，提高对中性。泵组结构优化后，不仅减少成本，而且能提高泵组的工作精度。
- Starting torque: the load torque is large in a short period of time when single screw pump starts. When using the UD planet cone discgearbox as the drive force, the load torque is withstand while the slip rate ϵ increases rapidly and the speed decrease sharply. However when the external load is retune to normal, the slip rate will reduce to $\epsilon \leq 10\%$, and the pump speed also return to normal. Even if the reduction start frequently, the life of the transmission does not change seriously. At the mean time, according to the curve of the mechanical properties, the overloadconditions can be overcome if started from middle speed segment.
- Adapt to the velocity of flow: when the single screw pump at work, that change of working conditions or the flowreduction happens. At this time, rotating the gearboxhandwheel to change the contact radius is needed. Thus, the output speed can be changed in order to reach ideal velocity of flow. The operation is easy and will not be affected by poor working conditions (humidity, pollution, etc.).
- Mechanical transmission, but a special traction (oil) drive. According to the principles, the oil tractioncoefficient μ is the key point. Ub-3X transmission oil developed by the Guangzhou Institute of Machinery Co., Ltd., the traction coefficient $\mu = 0.09$ to 0.074 .all of the transmission parts are filled with fluid, rather than a mechanical direct contact. Thus, the parts are in good lubricationprotection.
- Good overloadprotection: when the screw stall, slippinghappens, as there is no direct rigid coupling between planetary wheel and the motor body. Thus, the longer life of motor is guaranteed.
- Improve the utilization of pumping systems: when using the UD planet con disc, the R_b is generally 5, when the speed n_2 reduces, the output torque M also increases. When the load become larger, slow the speed, the screw pump can still work normally. Or when the volume efficiency η_v is low, appropriately increasingthe speed n_2 , the flow can be stabilitymaintained, the utilization of pumping systems are improved.
- Economical efficiency of the pumping systems: the combination of UD planet cone disc reductiongearbox and single screw pump overall optimize the pumping systems. That reduces cost as well as improves the accuracy of the pumping unit.



■ UD 行星锥盘减变速器应用单螺杆泵的问题

1、设计选型的的问题

案例：山东某工程采购一批 UD 行星锥盘减变速器驱动单螺杆泵

设计要求：输送介质：工业生化污泥 $Q = 2 \sim 12 \text{ m}^3/\text{h}$

设计选型：UDY7.5-100

型号表述：UD 行星变速器（基本型，无减速装置），

电机功率：P=7.5Kw，四极，输出转速

n= 100-500r/min 卧式联轴器联接结构

问题：工程交付后，实际需要流量为 2~3 m^3/h ，泵工作点转速 100 r/min。使用 2-3 月后，变速器发现噪音，仍使用后不久，变速器传动失效。电机转，输出部分不转。用户认为产品问题，提出投诉。

分析：经检测，由于变速器工作点为极限低速，根据 $M-n_2$ 特性曲线，此时效率 η 为最小，滑差率 ϵ 最大，磨损严重，寿命极短。

原因：选型时，确定参数不准，对变速器性能不明。

对策：经与用户协商，采用减小功率，采用 P=5.5Kw，六极电机，降低变速器输出转速，工作点右移。经重新换电机，泵组工作运转数年正常。

2、管理使用的问题

案例：浙江某水处理公司，进口水处理设备，运行 2-3 年后，发现压滤机、加药泵等一批泵组设备接连不断损坏。与进口商联系未果，严重影响水处理工程运作。用户对国外产品质量严重怀疑。

分析：经国内传动专业厂家现场检测，众多的驱动源均采用行星锥盘减变速器。事故原因对此类产品不了解，疏于管理，缺油或加注高粘度油液，导致传动失效。

原因：结构不明，使用管理不当。

对策：迅速更换变速专用油，检查工作点，并按工况要求作转速调整，流量趋于符合要求，产品经全面正常管理使用，多年来设备运转正常。

■ 结束语 | Conclusion

UD 行星锥盘减变速器应用单螺杆泵，从多年来的实际应用结果来分析，由于产品的特殊性能，能很好地让泵组发挥其设备价值，但同时要求对产品的结构性能需要明确的了解，并加以正确的管理，否则容易出现问題，造成产品的损坏。因此，对此项目的推广应用，必须有前期的专业知识普及工作，否则，容易功亏一篑，适得其反。作者对 UD 行星锥盘减变速器作为单螺杆泵的驱动源的利弊作一浅析，供同仁参考。

1. The problem of selection

• **Case:** one Shandong Engineering procurement group purchased the single screw pump with UD planet cone disc gearbox

• Design requirements: the transmission medium: Industrial biochemical sludge $Q = 2 \text{ to } 12 \text{ m}^3 / \text{h}$

• Design Selection: UDY7.5-100

• Model formulation: UD planetary transmission (basic, no deceleration device), motor power: $P = 7.5\text{Kw}$, quadrupole, output speed $n = 100\text{-}500\text{r/min}$ horizontal coupling connection structure

• **Question:** the actual flow rate is 2 to 3 m^3 / h , pump operating point speed 100 r / min. After 2-3 months, noise is found in the transmission part, gear cannot work and the output part of motor does not rotate. The user made a complaint.

• **Reason:** during the selection procedure, the parameters are unknown.

• **Countermeasures:** after discussed with the user, we reduced power, with $P = 5.5\text{Kw}$, six pole motor; to reduce the transmission output speed, the operating point shifted to the right. Revised for motors, pumps are under normal operation for many years.

2. The problem during use

• **Case:** a water treatment company in Zhejiang, imported water treatment equipment, after 2-3 years of operation, the filter press, dosing pump, and a number of pumping systems device damaged one after one. Failure to contact the producer, the operation are seriously affected.

• **Analysis:** after detection, many driving source are using planetary cone disc gearbox. The cause of the accident is lack of knowledge of product management, operations are lack of oil or under high viscosity oil.

• **Reasons:** mismanagement.

• **Responses:** rapid replacement of oil, check the operating point, change the speed according to the condition requirements. The devices are under normal operation over the years.

That the UD planet conediscapplied to the single screw pump gearbox is enhanced the value of pumping systems. But at the same time, there do several requirements. Such as understanding the structure and properties of the product, understanding and proper manager, otherwise it might cause the damage of product. Therefore, the promotion and application of this project should under pre-professional work. Authors analyzed the UD planet cone disc in the single screw pump, in order to offer some references to peers.



G800 机械减速机配螺杆泵一些特点

The features of G800 mechanical reducer with screw pump

1. **承载转矩大：** G800 系列采用行星齿轮结构，多齿啮合，输入功率分流传动，受力对称，因而能承受较其他减速机更大的超负载力矩，螺杆泵在启动时往往有过载现象，因此在对减速机配套选型时，工作系数可适当减小。

2. **工作可靠，寿命长：** G800 内部件，大都经磨削加工，结构相对封闭，工作时不易受外部环境影响，采用优质润滑油的状况下，有很长的寿命。

3. **结构紧凑，体积小而美观：** 由于行星结构主体为柱状，与螺杆泵的结构相似，成套部件美观大方，特别是采用减速机为立式结构时，更与螺杆泵浑然一体。

4. **通用性能更强：** 由于电机与减速机采用标准联接，常用标准电机均可作为减速机的动力源，用户维护保养检修极为方便，当用户根据需要可方便地更换不同的电机，如掉换变频、防爆电机等来满足不同的工况要求。

5. **经济性好：** 由于 G800 螺杆泵专用减速机，其输出结构已设计了承受螺杆泵工作时的轴向推力，所以可以减少泵类的轴承座部件，不仅省成本而且结构又可靠合理。

• Large bearing torque: G800 series have planetary gear structure, multi-tooth engagement, symmetry force, thus input power transfer to different driving force. And the working torque is greater than other reducers. Screw pump sometimes overload at the start-up stage, so, work coefficient can be reduced properly.

• Reliable and long working life: most of the internal pieces of G800 are grinding, have relatively close structure. It is less susceptible to the external environment. By using god lubricant, the working life can be quite long.

• Compact structure and small size: the main structure is columnar structure, which is similar to screw pump. The whole structure is seamless.

• Good general performance: as the motor and reducer are standard connected, the motor can be used as the power source. It is quite convenient to maintain and change. According to different needs, the motor can be easily replaced in order to meet the different working requirements.

• Economy: because of the special design of the G800 mechanical reducer with screw pump, the bearing housing parts can be reduced. Thus, the cost is reduced and the structure is more reliable.