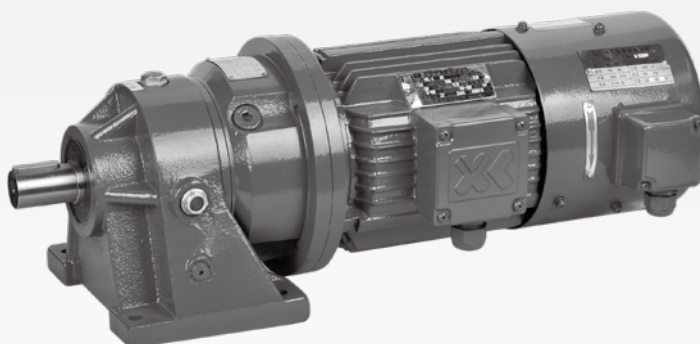
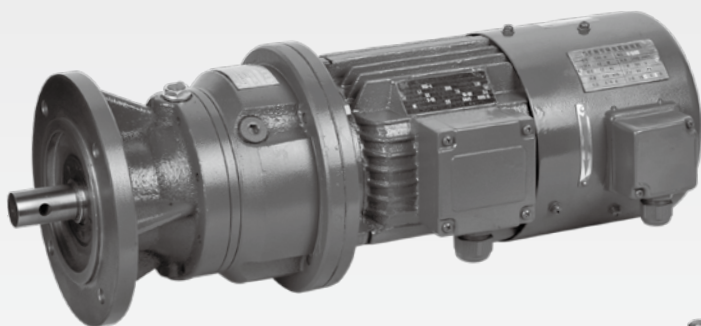
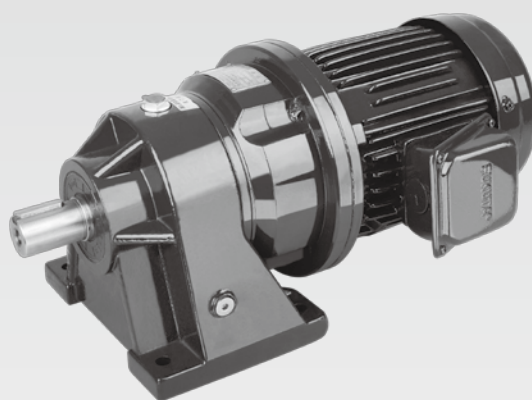


# G800 系列行星齿轮减速机

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。

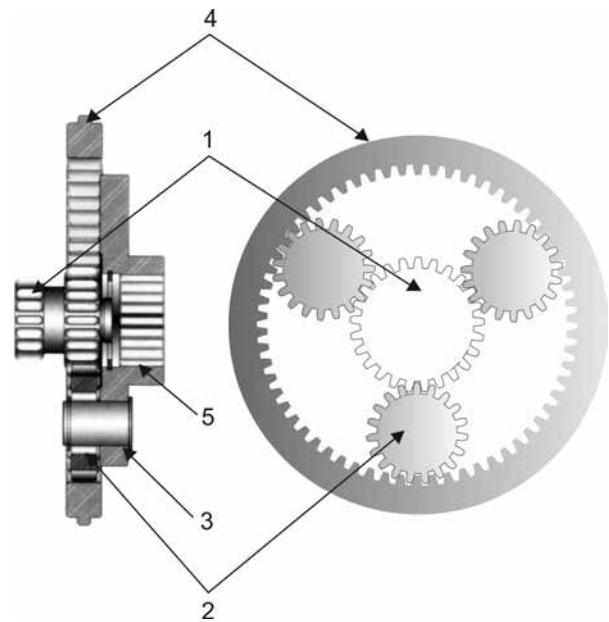
Planetary Gear Transmission is efficient, stable and accurate. It adopts internal meshing structure that can efficiently utilize the coaxial property provided by the power split, input and output. Compare with traditional gear transmission, Planetary Gear Transmission has compact structure and is smaller 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。

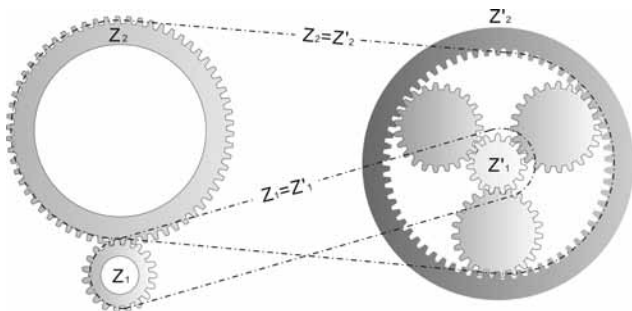
Transmission Process: Motor (or other price moves) leads the rotation of central gear (sun gear) (1), and brings along the movement of meshed planetary gear (2); planetary gear (2) rotates in the internal gear ring (4) fixed on the motor base through planetary plane (3), and generates revolution movements.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

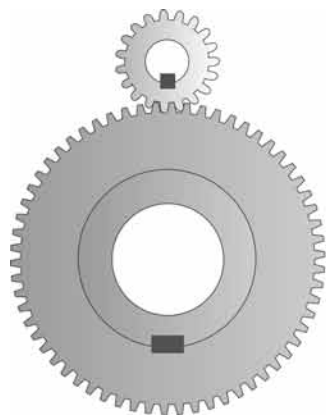
$Z'_1$  行星齿轮传动中心齿轮齿数  
Planetary gear center gear No. of tooth

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

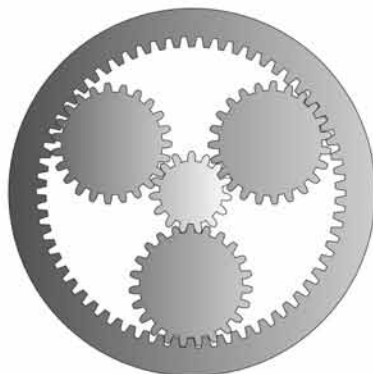
$i'$  行星齿轮传动减速比  
Reduction ratio of planetary gear

**结构紧凑:** 采用内啮合结构体积更小, 如下图

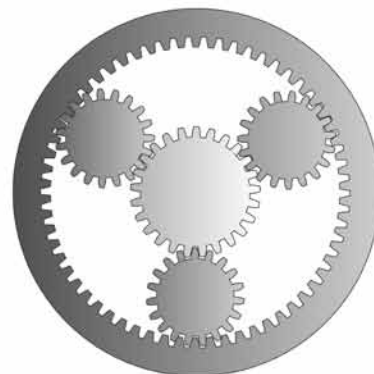
Compact structure: Planetary Gear Transmission adopts internal meshing structure that makes the product appears to be smaller.  
See the picture below:



外啮合  
External meshing



内啮合 大速比  
Inside meshing High-speed ratio



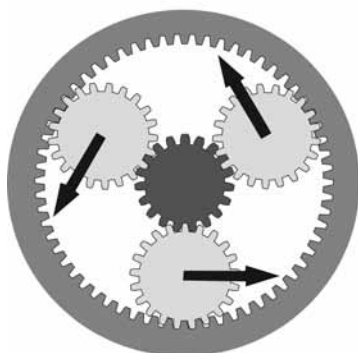
内啮合 小速比  
Inside meshing Low-speed ratio

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.

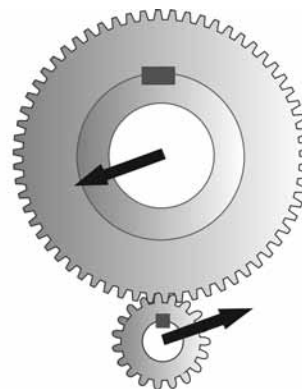
**承载能力大:** 受力对称均匀, 互相平衡, 多齿啮合, 功率分流传动, 如下图:

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。

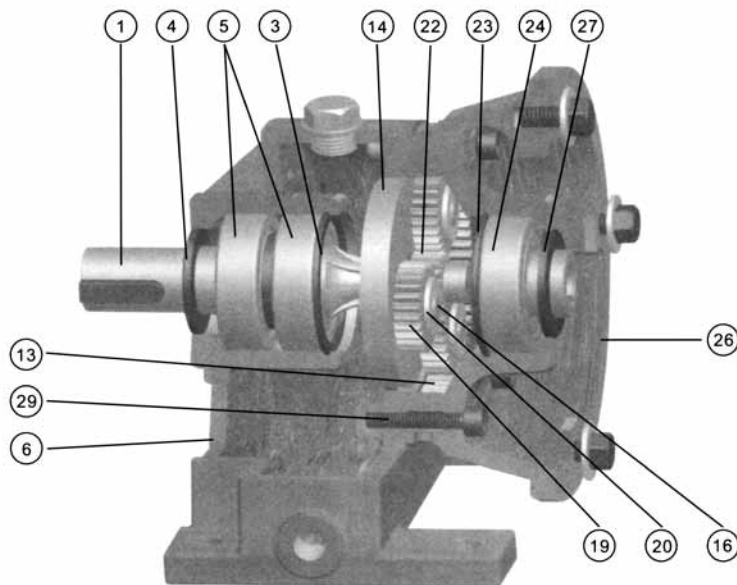
Six transmission contact points can afford high torque and great impact. All gears treated with hardened and honing treatment. Those precision machining gears makes running noiseless. Also allow high radial loads on the output shaft.



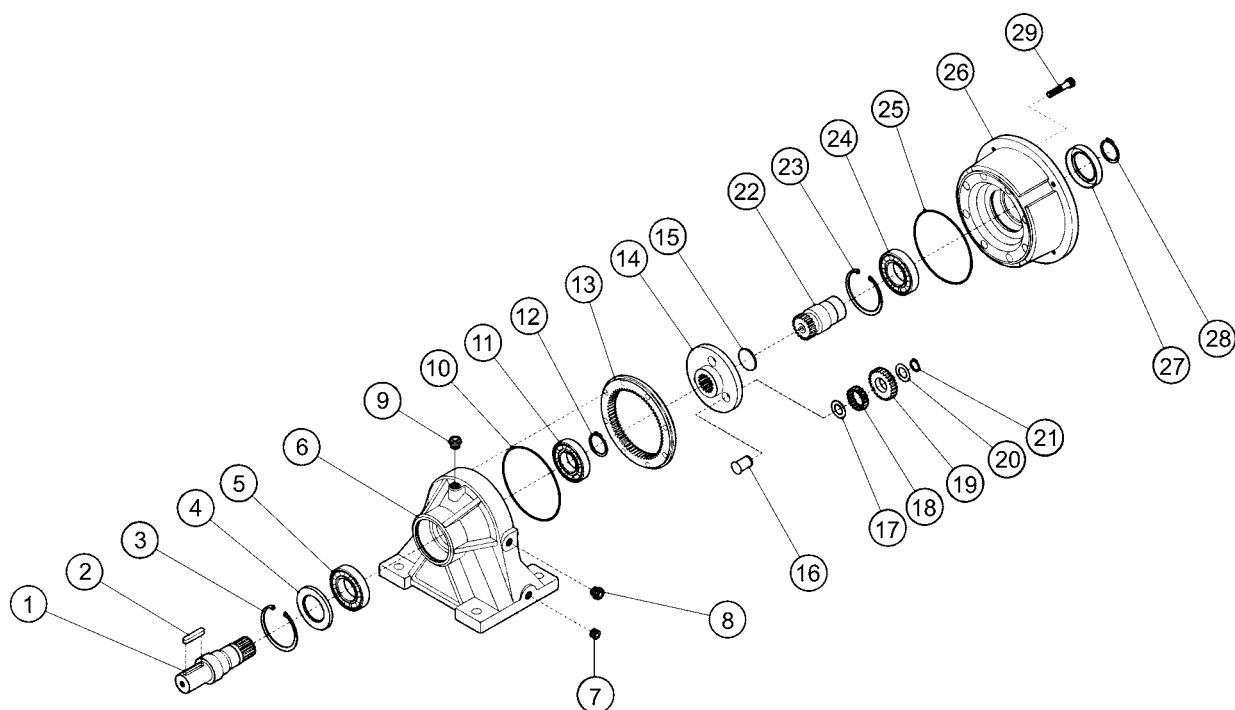
一般斜齿轮减速机仅具有单点接触传动功能, 使所有瞬间冲击负荷集中在此接触点上, 较容易造成断齿的情况产生。

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	

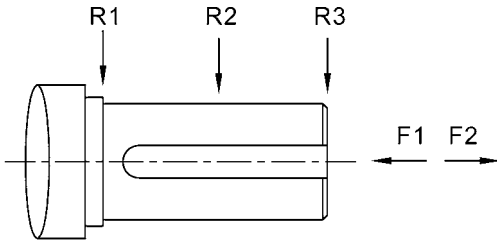


G800

## ■ 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●

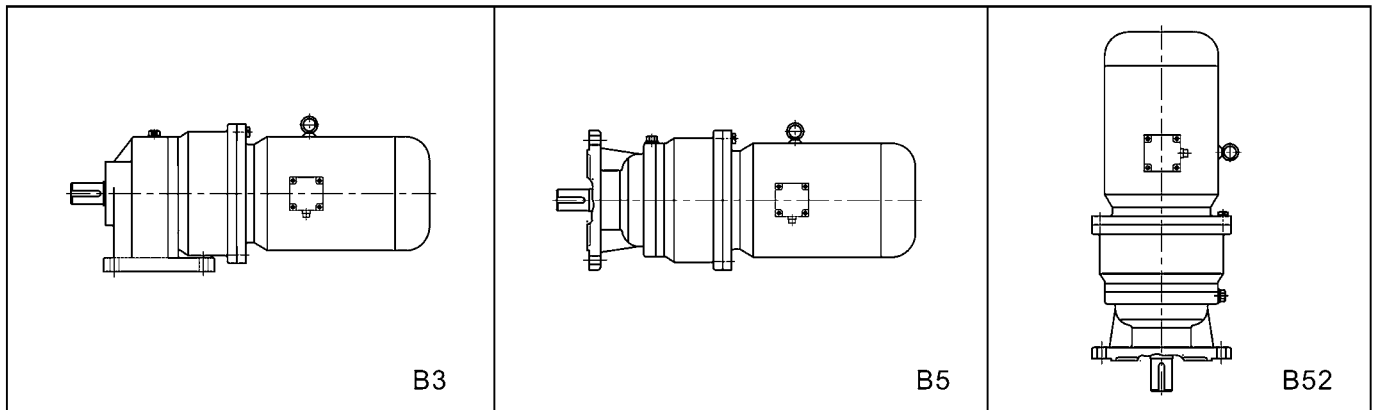
Conditions and results

Condition ○

Result ●

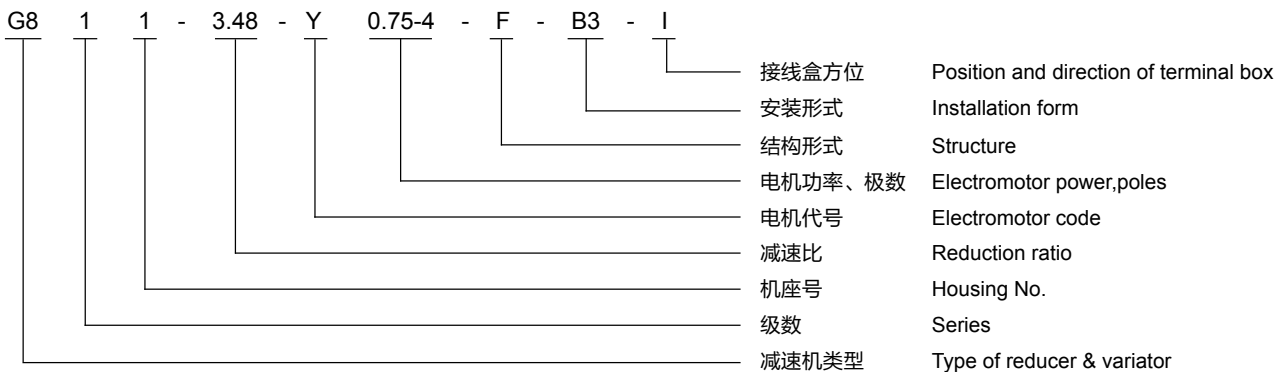
○ 负荷容量 (被驱动设备输入功率或输入转矩) Load capacity (Input power or input torque of the driven equipment)	P=1.1KW	
○ 电源电压 / Voltage	380V	
○ 电源频率 / Frequency	50Hz	
○ 要求转速 / Speed required	195r/min	
○ 负荷性质及运转时间 / Load pattern and operation time ● 确认使用系数 / Confirmation of usage coefficient ○ 启动次数 / Number of startups ● 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 <sub>A</sub> =1.25 查表 P2 启动次数: 5 次 / 小时 K <sub>S</sub> =1 查表 P4 可靠度: 一般 K <sub>R</sub> =1 查表 P4 K=K <sub>A</sub> * K <sub>S</sub> * K <sub>R</sub> =1.25	Uniform load, 14 hours/day K <sub>A</sub> =1.25 check the table P2 Number of startups: 5 times/hour K <sub>S</sub> =1 check the table P4 Reliability: normal K <sub>R</sub> =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 <sub>S2</sub> =9550*P/ N <sub>2</sub> =53N.m M <sub>2min</sub> ≥M <sub>S2</sub> *K=66N.m 根据 N <sub>2</sub> 及 M <sub>2</sub> 查表 P21 得: G811-7.2-Y1.5-4 Based on N <sub>2</sub> and M <sub>2</sub> & 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 <sub>2</sub> Normal Y <sub>2</sub>	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

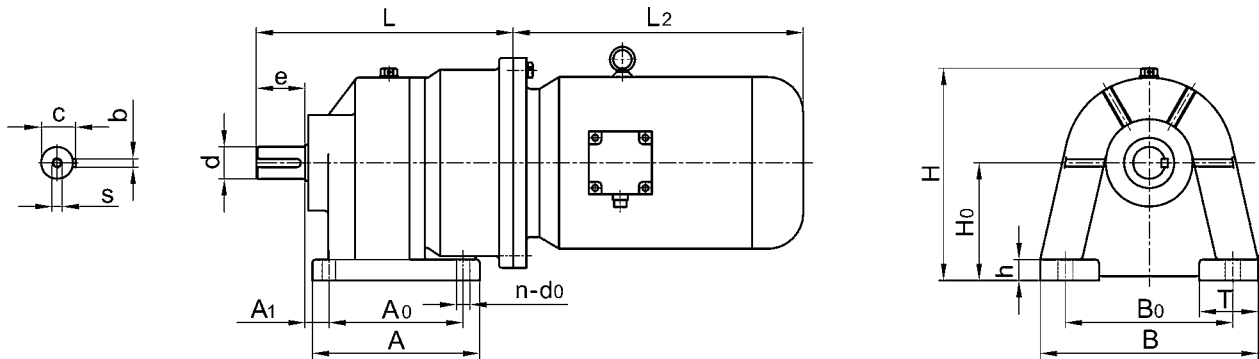
**G800 系列选型参数表 | Parameter List Selections of G800 Series**

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

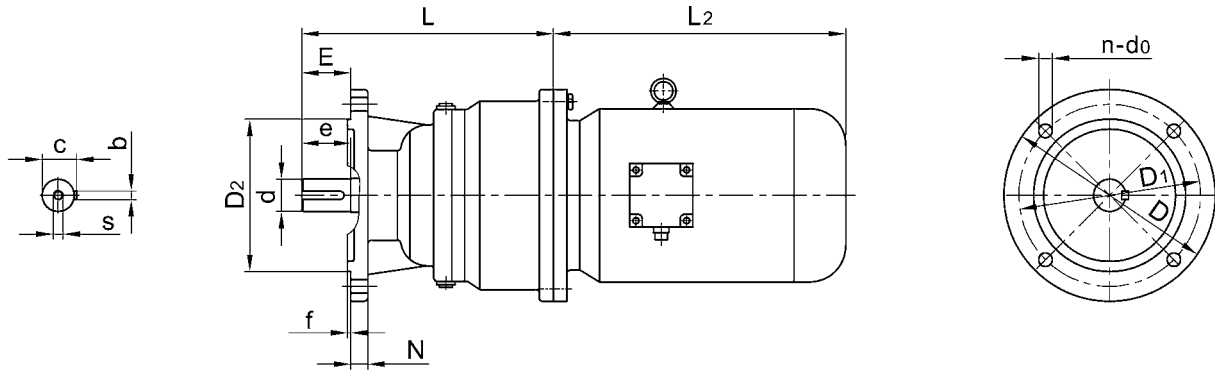
**G800 系列外形及安装尺寸 (卧式) | Overall & Installation Dimension of G800 Series (Horizontal)**



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 <sub>0</sub>	A <sub>1</sub>	A <sub>0</sub>	B <sub>0</sub>	n	d <sub>0</sub>	d	e	b	c	s	A	B	T	h	H	L	L <sub>2</sub>
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	



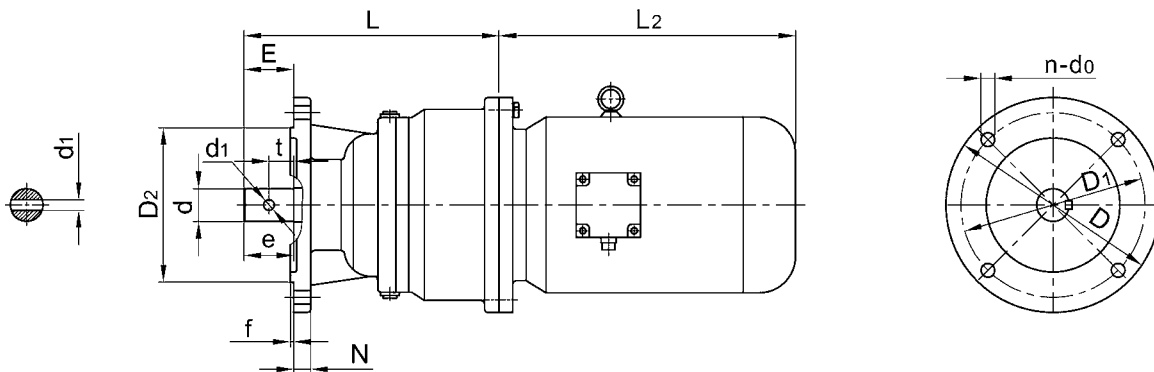
**G800F 系列外形及安装尺寸 (立式) | Overall & Installation Dimension of G800F Series (Vertical)**



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 <sub>1</sub>	D <sub>2</sub>	f	n	d <sub>0</sub>	d	e	b	c	s	D	E	N	L	L <sub>2</sub>
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														270	
813	165	130h7	4	4	12	38h6	58	10	41	M12	200	58	20 (14)	287	
823														336	
815	265	230h7	4	4	15	55h6	95	16	59	M16	300	95	20 (16)	435	
825														495	
817	350	300h7	5	4	22	80h6	120	22	85	M20	400	120	23 (20)	588	
827														683	
819	400	350h7	5	4	28	100h6	140	28	106	M20	450	140	28 (23)	830	
829														950	

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

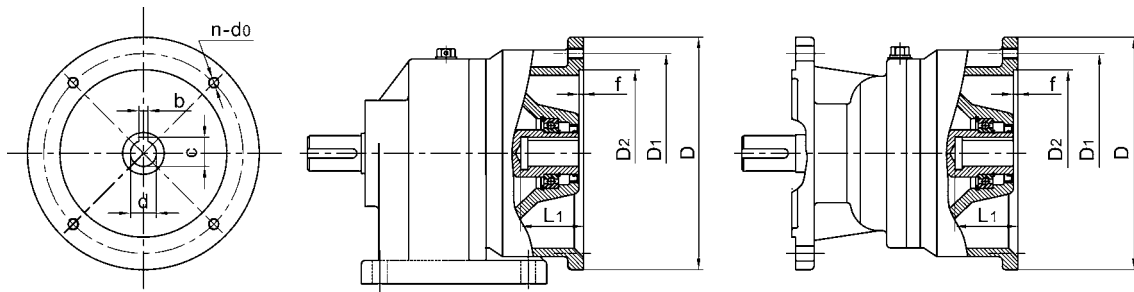
**G800F 系列外形及安装尺寸 (泵专用) | Overall & Installation Dimension of G800F Series (Specific pump)**



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 <sub>1</sub>	D <sub>2</sub>	f	n	d <sub>0</sub>	d	e	d <sub>1</sub>	t	D	E	N	L	L <sub>2</sub>
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													270	
813	165	130h7	4	4	12	28h6	50	10	28	200	50	20 (14)	287	
823													336	
815	265	230h7	4	4	15	50h6	82	16	40	300	82	20 (16)	435	
825													495	
817	350	300h7	5	4	22	70h6	120	24	40	400	120	23 (20)	588	
827													683	
819	400	350h7	5	4	28	100h6	140	30	60	450	140	28 (23)	830	
829													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 <sub>1</sub>	D <sub>2</sub>	f	d	b	c	n	d <sub>0</sub>	L <sub>1</sub>
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