

企业简介

Brief Introduction to the Enterprise

江苏昊克传动科技股份有限公司（原江阴克威齿轮箱制造有限公司）位于江阴市璜土镇澄常工业开发区，紧靠沪宁高速公路常州龙虎出口江阴方向1.5公里处，南邻中华恐龙园，交通极为便利。

本公司占地面积38000平方米，建筑面积28000平方米，具有花园式厂区。本公司是硬齿面齿轮箱的专业生产企业，公司员工近300人，科技人员近50人。公司技术力量雄厚，生产设备齐全，检测手段先进，产品研发能力强，交货周期短，供货价格合理，售后服务及时周到，并能为客户设计制造各类非标齿轮及齿轮箱。本公司已全面通过ISO9001国际质量体系认证。

本公司资产总额近1.8亿元，目前年生产销售总额已近3亿元。我公司生产的各种硬齿面齿轮及齿轮箱在技术上和质量上都处于同行业领先水平，实为各相关领域的首选产品。我们将不辜负广大用户的厚爱，用更先进的技术、更完备产品、更周到的售后服务来回报我们的客户，与国内国际同行共创辉煌的明天！

Jiangsu Haoke Transmission Technology Co.,Ltd(Jiangyin Kewei Gearboxes Manufacture Co.,Ltd) is located at Chengchang Industrial Development Zone, Huangtu Town,Jiangyin City,being as close as 1.5 km far from Longhutang Exit ,Changzhou city of Shanghai-Nanjing Expressway and neighbouring China Dinosaur Park in the south, the traffic is very convenient.

Occuping an area of 38000 square meters and having a building area of 28000 square meters,the company has garden-like factory area.The company is a professional manufacturer of hard tooth surface reducers. With about 300 staff members among which 50 persons are technicians. We have solid technical force complete production equipment,advanced inspection method , strong ability of product research and development , short delivery cycle,reasonable sales price, timely and circumspect after-sale service,and we can also design and manufacture the various non-standard gears and gearboxes for customers.We have totally passed through the authentication of ISO9001 International Quality System.

With a total investment of 180 million yuan, now the annual production and sales volume of our company is closing to 300 million yuan, Various kinds of hard tooth surface reducers produced by our company have the leading level in same industry in fields of technology and quality. They are really the first choice in all relative sectors. We'll not let down the deep love from broad customers and shall pay back them by more advanced technique, more perfect products and more attentive after-sale service, and shall create splendid tomorrow together with our colleagues both at home and abroad!





我们始终追求更高更好！

We pursuing higher and better!

满意 Satisfaction

不懈追求，创造价值

To make unremitting pursuit to create the value

团结 Unity

博采众长，精诚合作

To learn others' strong points widely to make sincere cooperation



远见 境界



公司认证证书 Qualification Certificate



ZLYJ 系列塑料单螺杆挤出机齿轮箱

ZLYJ Series Gearboxes for Single Screw Extruder

ZLYJ 系列单螺杆挤出机齿轮箱广泛配套于高中档塑料、橡胶、化纤挤出机。

ZLYJ series gearboxes for single screw extruder are widely used in top and middle grade plastic, rubber and chemical fiber extruders.



ZSYJ 系列单螺杆挤出机齿轮箱

ZSYJ Series Gearboxes for Single Screw Extruder

ZSYJ 系列单螺杆挤出机齿轮箱是与塑料橡胶挤出机配套的专用传动减速器。

ZSYJ series gearboxes for single screw extruder are specially used for plastic and rubber extruders.



SZ 系列锥形双螺杆挤出机齿轮箱

SZ series Gearboxes for Conical Twin Screw Extruder

锥形双螺杆挤出机齿轮箱是与锥形双螺杆挤出机配套的专用传动配置，该齿轮箱由分配箱和传动箱两部分组成。

SZ series gearboxes for conical twin screw extruder are special driving units matched with conical twin screw extruder. They consist of two parts, namely, the reduction box and the distribution box.



SZL 系列立式锥形双螺杆挤出机齿轮箱

SZL series Gearboxes for Vertical Conical Twin Screw Extruder

立式锥形双螺杆挤出机齿轮箱与锥形双螺杆挤出机配套的专用传动装置，该齿轮箱整体组合而成。

SZL series gearboxes for vertical conical twin screw extruder are special driving units matched with conical twin screw extruder, and they are the integrated ones.



PSY 异向平行双螺杆挤出机齿轮箱

PSY Series Gearboxes for Counterrotating Parallel Twin Screw Extruder

PSY 系列平双齿轮箱是为异向平行双螺杆挤出机设计开发的标准传动部件。

PSY series gearboxes are standard driving parts designed and developed for counterrotating parallel twin screw extruder.



SK (XK) 开炼机专用齿轮箱

SK (XK) series gearboxes for open mill

SK(XK) 系列齿轮箱采用 JB/T8853-1999 标准设计制造，可与塑料橡胶开炼机配套使用。

SK(XK) series gearboxes are produced according to the standard JB/T8853-1999, They can be used for the plastic and rubber open mills.



M 系列密炼机专用齿轮箱

M series gearboxes for internal mixer

M 系列齿轮箱采用 JB/T8853-1999 标准设计制造，是为密闭式炼胶机（简称密炼机）配套的主齿轮箱。

M series gearboxes are designed and manufactured according to the standard JB/T8853-1999. They're main driving units of the internal mixer.



ZSYF 系列压延机专用齿轮箱

ZSYF Series Gearboxes for Calender

ZSYF 系列压延机专用齿轮箱是与积木式橡胶压延机配套的专用减速器，可方便地组合成所需形式。

ZSYF series gearboxes for calender are special gearboxes matched with building-block style rubber calender. They can be easily combined into the style as required.





ZLYJ 系列单螺杆挤出机齿轮箱

ZLYJ Series Gearboxes for Single Screw Extruder



一、概述 General Survey

ZLYJ 系列单螺杆挤出机齿轮箱是我公司引进世界上最先进的硬齿面技术研制的挤出机专用齿轮箱。十年来，广泛配套于高中档塑料、橡胶、化纤挤出机，出口国外，行销国内，在业内有较高的知名度。该系列齿轮箱具有如下特点：

1. 整机外形美观大方，立卧两用，适应多种安装要求。
2. 齿轮参数、箱体结构经计算机优化设计；齿轮采用优质低碳合金钢，经渗碳、淬火、磨齿、齿部精度 6 级，齿面硬度在 54~62HRC 之间；齿轮副运转平稳，噪声低，传动效率高。
3. 安装接口的径跳、端跳精度达到国际水平，可十分方便地和机筒螺杆联接。
4. 输出轴的支承结构独树一帜，可有效地延长所用轴承的寿命。
5. 轴承、油封、润滑油泵等标准件均选用国内知名厂家的优质产品，也可以按用户需要，选用进口产品。

ZLYJ Series Gearboxes for Single Screw Extruder are a kind of special gearboxes researched and developed by importing the most advanced technology of the hard teeth-surface in the world. For recent ten years, they are widely used in top and middle grade plastic, rubber and chemical fiber extruders, sell well in the country and are exported abroad. With a higher reputation in the industry, it has features as follows:

1. The whole machine looks beautiful and liberal, and can be used both vertically and horizontally. It can suit multiple requirement of assembling.
2. The gear data and box structure are optimally designed by the computer. The gears are made of top grade low carbon alloy steel with Grade 6 precision of teeth after carbon penetrating, quench and teeth grinding. The hardness of the teeth surface is 54 - 62 HRC. The gear pair has stable running, low noisy and has high driving efficiency.
3. The assembling connector has the precision of radial run-out and end face run-out at international level, and can be easily connected with screw rod of the machine barrel.
4. The bearing structure of the output shaft has a unique style, which can effectively prolong service life of the bearings.
5. All standard parts such as bearing, oil seal, lubricant oil pump etc. are all top quality products selected from domestic famous manufacturers. The imported products can also be selected according to the customers' requirement.

二、适用范围 Applicable Range

1. 本系列产品可用于螺杆直径 30~250mm 单螺杆挤出机的减速传动。
 2. 齿轮箱的输入转速一般不大于 1500r/min。
 3. 传动比在 6.3~20 之间，优先选用表中所列传动比，也可按用户需要调整传动比。
 4. 工作环境温度为 -10℃~45℃。环境温度低于 0℃ 时，启动前润滑油应预热。
1. This series product can be used in reducing driving of single screw rod extruder with the screw rod diameter of 30 - 250mm.
2. The input speed of the gearbox is normally not larger than 1500 rpm.
3. The driving ratio is between 6.3 and 20, and the data in the table can be selected preferentially. The driving ratio can be also adjusted according to the customers' requirement.
4. The temperature in work environment is -10℃- 45℃. When temperature is lower than 0℃, the lubricant oil should be preheated before starting.

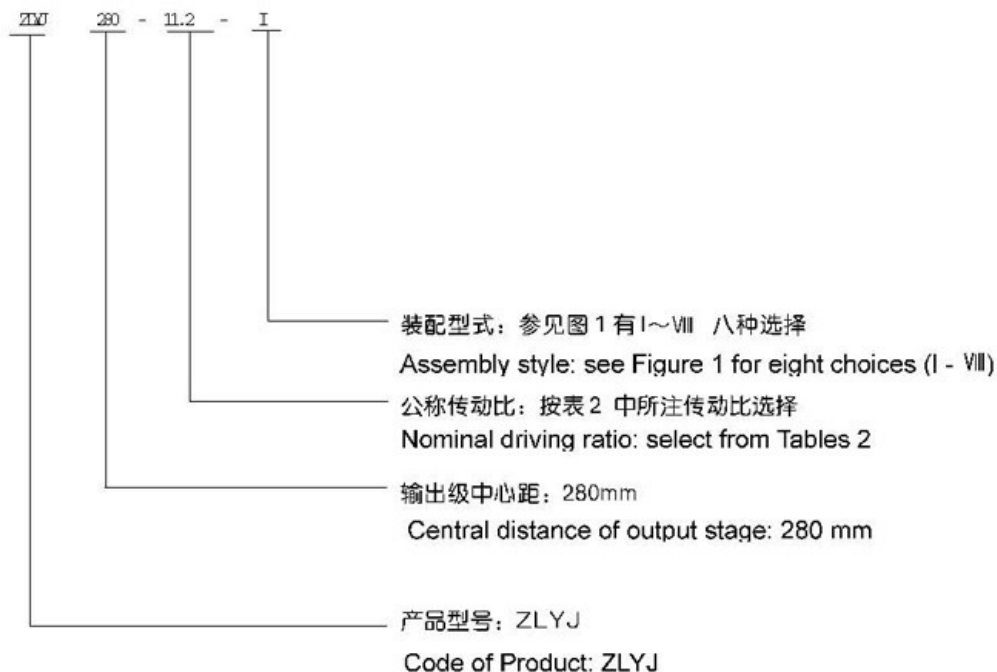


三、齿轮箱的型号及标志 Model and Mark of the Gearboxes

齿轮箱的代号中, 包括型号、输出级中心距、公称传动比、装配型式以及输出轴工作旋向。

The code of the gearboxes includes model, central distance of output stage, nominal driving ratio, assembly style and the rotation direction of the output shaft.

标记示例: Sample of the Code:



四、齿轮箱的承载能力见表 2

Bearing Ability of Gearboxes see Table 2

ZLYJ 系列齿轮箱的承载能力见表 2。

The bearing ability of ZLYJ series gearboxes, see Table 2.



五、齿轮箱的外形及安装型式 Outline and Assembly Style of Gearboxes

ZLYJ 系列齿轮箱的外形、安装尺寸见图 1、表 1。

The outline and assembly sizes of ZLYJ series gearboxes, see Figure 1, Table 1.

六、齿轮箱的润滑与冷却 Lubrication and Cooling of Gearboxes

1. 齿轮和轴承的润滑根据需要采用浸油润滑、飞溅润滑或强制润滑。ZLYJ200 及以上规格配轴端泵；ZLYJ315 及以上规格可以选配电机油泵。
2. 所有规格产品均可以附加盘状冷却水管；ZLYJ200 及以上规格可以选配列管式油冷却器。
3. 如需附加循环油润滑装置或采用特殊冷却方式，请与我公司联系。
 1. The lubrication of the gears and the bearings can be selected from oil immersion lubrication, splash lubrication or forced lubrication. For models ZLYJ200 or upward, shaft-end pump can be equipped; for models ZLYJ315 or upward, the motor oil pump can be selected.
 2. All sizes of products can be equipped with coiled cooling water pipes; for models ZLYJ200 or upward, the pipestyle oil cooler can be selected.
 3. If added circulation oil lubrication device or special cooling style is needed, please contact with our company.

七、齿轮箱的选用 Selection of the Gearboxes

1. 校核传递功率。ZLYJ 系列表列输入功率和输出扭矩已考虑工况系数，可直接按表 2 选用，表列输出扭矩是主要选型依据。如果表中所列的公称传动比不能满足要求，请与我公司联系。
2. 校核热功率。ZLYJ 系列按表 2 及附注选用。
3. 校核安装联接尺寸。如果您所需要的尺寸与表中所列的不同，请与我公司联系。
4. 校核轴伸径向力。如输入轴采用皮带轮等引起附加径向力的联接方式时，须确认输入轴伸中点处径向力是否小于 $125\sqrt{T_1}$ ， T_1 为输入扭矩。如不够，请与我公司联系。
 1. Verify transmitted power. For ZLYJ series gearboxes, the behavior coefficient has been considered in the input powers and the output torques in the Table, therefore it can be selected directly from Table 2. The output torque in the table is also the main basis to make selection. If the normal driving ratio in the table couldn't meet the requirement, please contact with our company.
 2. Verify thermal power. For ZLYJ serial reducers, make selection as per the notes on the Table 2.
 3. Verify assembly and connection sizes. If the size you need is different from those in the table, please contact our company.
 4. Verify radial force of shaft extension. If the input shaft adopts connection style with pulley which can cause added radial force, it should confirm that the radial force at the middle of the input shaft extension if it is less than $125\sqrt{T_1}$, here T_1 means the input torque. If it is not enough, please contact with our company.

八、安装使用和维护 Assembling, Application and Maintenance

1. 起吊齿轮箱时，应使用吊环螺钉。
2. 齿轮箱运输、存放时应注意防潮。到货后如半年内不安装，应对外露的加工面重新涂防锈油。
3. 齿轮箱安装的底座要平整，并有足够的强度和刚性，在地脚螺栓均匀紧固的情况下，应保证插入输出轴中的螺杆能无卡滞地均匀回转。联轴器的安装误差应不超过其允许的偏差值，以免引起附加力，缩短轴承寿命。



4. 齿轮箱在交货前均经过严格的试运转检验，各项指标符合要求，交货后可以直接投入使用。使用前应注入中极压齿轮油 N220 至油标上限（采用循环油润滑用 N150）。如齿轮箱附带列管式油冷却器则须在加油后，空车运转一段时间后，再次加油至油标上限。
5. 带有电机油泵的齿轮箱，在加载前，应先开启电机油泵，空车运转一段时间，以利各润滑点的充分润滑。
6. 齿轮箱在首次运行 300 小时后换油，以后每运行 3000~4000 小时换油一次，每次换油的间隔时间最长不应超过 18 个月。换油时应先清洗箱体、滤油器、空气滤清器、放油螺塞。

1. When lifting the gearbox, the ring screw should be used.
2. Take care to prevent moisture when the gearbox is in transportation or storage. If do not assemble in half a year after it is arrived, the exposure surface should be coated with antirust oil.
3. The base to assemble the gearbox should be plain with enough strength and rigidity. Under circumstance the anchor bolts are evenly tightened, it should ensure that the screw rod inserted into the output shaft should be rotated freely without blockage. The assembling error of the coupler should do not excess its allowed tolerance so as to avoid firm added force and to prolong the life of the bearings.
4. The gearbox should pass through strict test running inspection before they are delivered. Only all index are in according to the requirement, can they be put into use directly after delivery. Before application, it should be filled with mid-extreme pressure gear oil N220 up to the upper limit of the oil mark (N150 if circulation pump lubrication is used). If the reducer has pipe style oil cooler, then run the reducer under no-load for a short period of time after oil is filled, then fill oil again up to the upper limit of the oil mark.
5. For the gearbox with motor oil pump, before adding load, it should switch on the oil pump of the motor to run the gearbox under no-load for a short period of time so as to facilitate full lubrication of all lubricant points.
6. Replace oil when the gearbox is initially running for 300 hours, and change oil once for every 3000 - 4000 running hours thereafter. The maximum interval between oil replacements should be no longer than 18 months. When replacing, first clean box body, oil filter, air filter and oil discharge screw plug.

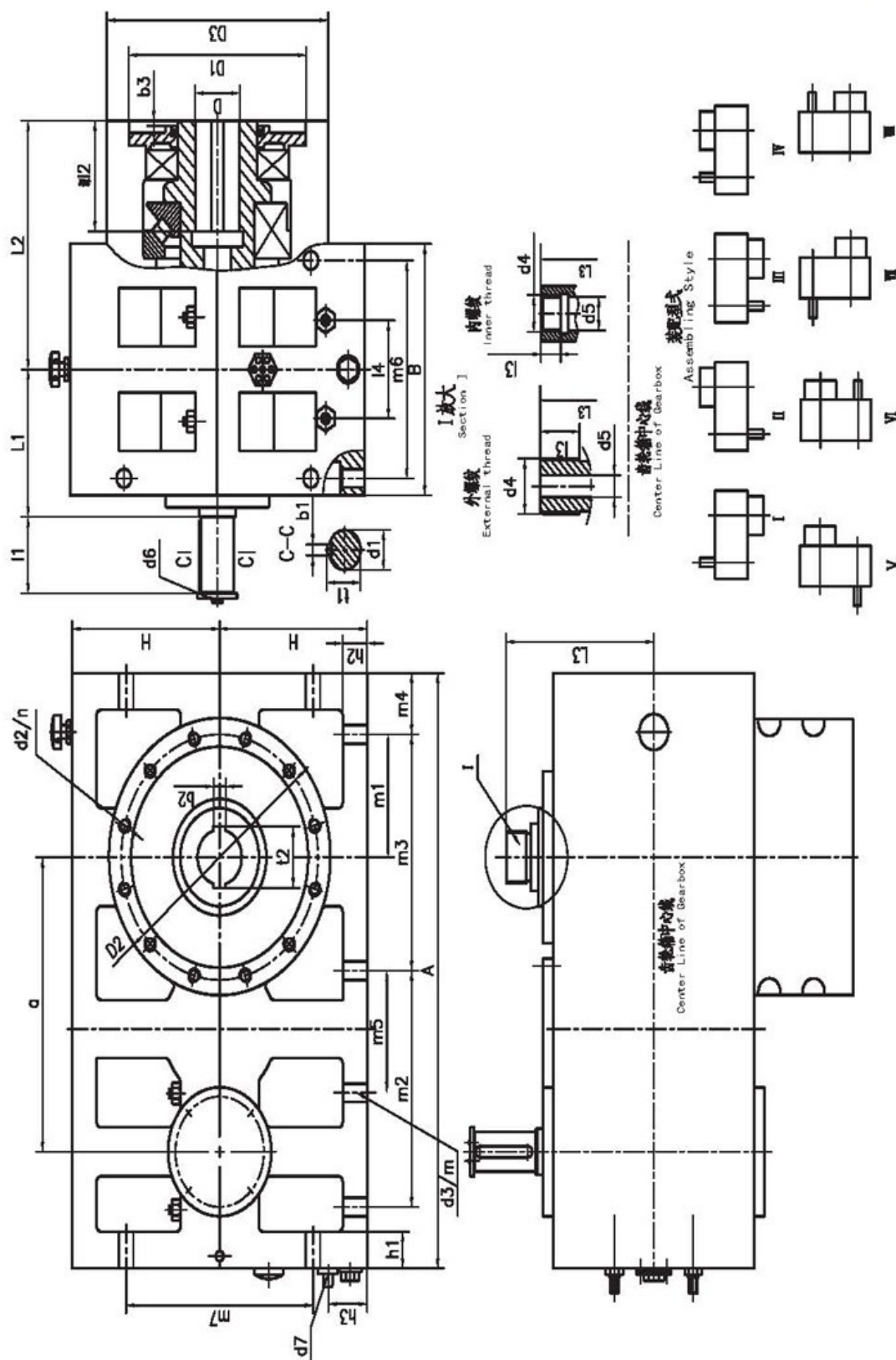


图 1 ZLYJ 系列齿轮箱外形尺寸及安装形式
Figure 1 Appearance Sizes and Assembling Style of ZLYJ Series



ZLYJ 系列安装尺寸

Assembling Sizes of ZLYJ Series

表 1 Table 1

型号 Model	ZLYJ112	ZLYJ133	ZLYJ146	ZLYJ173	ZLYJ180	ZLYJ200	ZLYJ225	ZLYJ250	ZLYJ280	ZLYJ315	ZLYJ330	ZLYJ375	ZLYJ420	ZLYJ450	ZLYJ500	ZLYJ560	ZLYJ630
A	426	478	560	576	645	750	800	930	970	1160	1180	1280	1420	1550	1700	1860	2000
a	184	218	256	265	320	340	385	430	480	539	575	625	695	765	855	960	1070
B	170	215	250	256	298	340	360	380	410	450	450	466	550	600	640	640	770
b1	8	8	10	10	12	14	16	18	18	20	22	22	25	28	28	32	32
b2(F9)	8	10	14	2-14	2-14	2-18	2-20	2-22	2-25	2-28	2-28	2-28	2-32	2-36	2-40	2-40	2-45
b3	8	8	8	8	8	8	8	8	8	8	10	10	10	15	15	25	25
D(F8)	25	38	45	50	50	60	70	80	90	100	110	110	120	140	160	160	180
D1(H7)	160	180	200	230	230	270	330	330	360	365	400	400	500	500	580	620	650
D2	185	205	230	260	260	300	370	370	400	405	450	450	580	610	680	720	720
D3	210	230	260	300	320	350	420	420	450	450	500	500	660	700	780	805	805
d1(m8)	28	28	32	38	40	45	55	60	65	75	85	85	95	100	110	120	120
d2/n	M10/6	M12/8	M12/8	M16/8	M16/8	M18/12	M20/12	M20/12	M24/12	M24/12	M24/12	M24/12	M30/12	M30/12	M36/12	M36/12	M36/12
d3/m	14/4	16/6	16/6	18/6	18/6	18/6	26/6	26/6	30/6	30/6	30/6	32/8	32/8	32/8	40/8	48/8	48/8
d4	M16	M18	M18	M20	M20	M85x4	M85x4	M85x4	M85x4	M85x4	M85x4	M90x4	M90x4	M90x4	M90x4	M90x4	M90x4
d5	18	20	20	25	25	40	55	55	55	55	55	60	60	60	60	60	60
d6	M8	M8	M8	M10	M10	2 M10	2-M12	2 M12	2 M12	2 M12	2 M12	2 M12	2 M16	2 M16	2 M16	2 M16	2 M16
d7	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"	ZG1/2"
H	130	140	160	170	180	240	250	280	300	350	350	400	460	500	540	580	630
h1	18	20	24	24	25	36	38	45	45	50	50	55	60	60	70	70	80
h2	18	20	22	22	20	32	34	45	45	50	60	55	80	80	70	70	80
h3	—	38	45	40	40	40	55	50	50	55	55	85	60	60	60	60	80
L1	106	125	148	148	168	200	205	220	240	275	280	265	310	350	370	370	430
L2	203	205	245	250	290	330	355	380	405	440	445	445	535	600	650	670	760
L3	125	137	167	187	171	250	265	285	300	323	350	355	370	425	430	435	520
l1	60	60	70	80	90	80	110	110	125	140	170	170	170	170	170	180	180
l2	52	80	120	140	150	170	170	180	180	200	220	255	270	270	270	300	300
l3	35	40	36	30	30	50	50	50	50	60	60	60	60	60	60	60	60
l4	—	60	70	85	100	120	130	160	160	160	160	160	200	200	200	200	300
m1	96	104	118	113.5	140	150	165	205	200	260	225	250	305	300	345	390	400
m2	—	185	190	220	135	275	310	360	385	450	450	475	580	600	670	750	850
m3	326	185	235	220	390	275	310	360	385	450	450	500	540	600	660	760	800
m4	50	61	72	68	60	100	90	105	100	130	130	165	150	190	190	180	200
m5				—			—					265	328	300	360	390	450
m6	136	180	210	225	250	290	315	330	355	390	390	400	480	520	550	550	670
m7	170	184	210	214	214	310	330	340	380	460	425	500	600	600	760	800	840
t1	31	31	35	41	44	48.5	59	64	69	79.5	90	90	100	106	116	127	127
t2	28.3	41.3	48.8	57.6	57.6	68.8	79.8	90.8	100.8	112.8	122.8	122.8	134.8	156.8	178.8	178.8	200.8
质量 kg Mass(kg)	103	141	206	268	370	505	657	810	980	1310	1440	1820	3040	3320	4020	—	—



ZLYJ 系列承载能力

Bearing Capacity of ZLYJ Series

表 2 Table 2

型号Model	ZLYJ																备注 Remarks
符号Symbol	△	△	△	△	△	△	△	△	△	※	※	※	※	※	※	※	
规格Spec.	112	133	146	173	180	200	225	250	280	315	330	375	420	450	500	560	630
速比 Ratio	8	8	10	10	10	12.5	12.5	16	16	16	16	16	16	20	20	20	20
一般可靠功率 Common Reliable Power(KW)	15	22	30.8	39	45	55	82.5	75	125	171	210	260	330	330	450	600	825
高可靠功率 High Reliable Power(KW)	10	15	20.5	30.8	36	45	67	60	100	136	168	207	265	265	360	500	688
一般可靠扭矩 Common Reliable Torque (N. m)	764	1121	1962	2484	2865	4379	6568	7643	12732	17427	21392	26497	33616	42180	57300	76400	105050
高可靠扭矩 High Reliable Torque (N. m)	510	764	1305	1962	2292	3583	5334	6112	10186	13855	17115	21096	26995	33745	45840	63667	87605
轴向推力 Axial Thrust (KN)	35	39	54	110	130	155	180	192	250	287	350	390	430	540	756	830	880

推荐配置 Recommendation of Configuration

型号Model	ZLYJ 112	ZLYJ 133	ZLYJ 146	ZLYJ 173	ZLYJ 180	ZLYJ 200	ZLYJ 225	ZLYJ 250	ZLYJ 280	ZLYJ 315	ZLYJ 330	ZLYJ 375	ZLYJ 420	ZLYJ 450	ZLYJ 500	ZLYJ 560	ZLYJ 630
推力轴承规格 Thrust Bearing Size	S1413E	29414E	29417E	29420E	29422E	29424E	29426E	29428E	29430E	29434E	29436E	29438E	29444E	29452E	29464E	29468E	29476E
螺杆直径 Screw Diameter (mm)	35	45/50	55	65	65	75	90	100	105/110	120	130/150	150/160	165	170	180	190	200
输入功率 Input Power (KW)	5.5	8	12	18.5	22	30	45	45	64	85	106	132	170	212	288	400	550
输入转速 Input Speed (RPM)	800	800	900	900	1000	1000	1000	1120	960	960	960	960	960	1200	1200	1200	1200
输出转速 Output Speed (RPM)	100	100	90	90	100	80	80	70	60	60	60	60	60	60	60	60	60



注: Notes:

1. Δ - 带冷却, $\times$ - 带冷却和强制油循环。112、133、146、173 按高可靠预选用时不需带冷却。
 2. 表列输入功率和输出扭矩已考虑工况系数, 可直接选用。
 3. 表列输出扭矩是主要选型依据。传动比可按用户需要调整。
ZLYJ 的 i 为 6.3-20; ZSYJ 的 i 为 22.4-100。
 4. 当取轴承负荷系数 $f_d = 1.5$ 时, 按表列许用轴向推力和输出轴给定转速计算, 推力轴承的理论计算寿命, 除 133、146 两型为 1.2 万小时左右, 其余各型皆在 2.5 万小时左右。
 5. 以下几种情况、应对齿轮箱的冷却设计参数校核:
 - ◎ 5.1 按高可靠数据选用, 但输出转速超过表 (2) n 出时 (即加大了输入功率)。
 - ◎ 5.2 按一般可靠选用, 输入功率加大时。
 - ◎ 5.3 当内冷却方式散热面积不足时, 采用带油泵的外置式油冷却器。采用冷却器需在订货时另外说明。
 6. 用户按表列数据作初步选型。在订货时, 我厂将对每一例选型作详细校核, 以提高选用的可靠性。
-
1. Δ - with cooling, $\times$ - with cooling and forced oil circulation. For 112, 133, 146 and 173, when making highly reliable pre-selection, no cooling is OK.
 2. The behavior coefficient has been considered for the input power and the output torque listed in the table, therefore they can be selected directly.
 3. The output torque listed in the table is the main basis to make selection. The driving ratio can be adjusted according to customers' requirement.
ZLYJ has i between 6.3 to 20; ZSYJ has i between 22.4 to 100.
 4. When taking the axial load coefficient $f_d = 1.5$, calculate the theoretical life of the thrust bearings according to the axial thrust and the given speed of the output shaft listed in the table. Except model ZLYJ133 and ZLYJ146 which have a life about 12 thousand hours, all other sizes have a life about 25 thousand hours.
 5. Make verification upon the design of cooling data of the gearboxes in following cases:
 - ◎ 5.1 When making highly reliable selection but the output speed exceeds n output in Table (2) (i.e. the input power is increased);
 - ◎ 5.2 When making normally reliable selection but the input power is increased;
 - ◎ 5.3 In case the radiation area is not sufficient for the internal cooling style, the external oil cooler with the oil pump can be selected and mentioned additionally when making the order.
 6. Customer can make pre-selection according to data listed in the table, and we'll make detailed verification for each case so as to rise up the reliability of the selection.



ZSYJ系列橡胶单螺杆挤出机齿轮箱

外形安装尺寸见图5、表7，承载能力见表8

ZSYJ Series Gearboxes for Rubber Single Screw Extruder

The appearance and assembling sizes, see Figure 5 and Table 7;
the bearing ability can be seen in Table 8

表7 Table 7

规格 Sizes	a	H	H'	h ₁	A	B	L1	l1	L2	d1(m6)	t1	b1	D(F8)	l2	t2	b2(F9)	d2	n	D2
ZSYJ225	385	250	138	38	800	360	205	82	355	42	45	12	70	170	79.8	20*2	M20	12	370
ZSYJ250	430	280	140	45	930	380	220	82	380	48	51.5	14	80	180	90.8	22*2	M20	12	370
ZSYJ280	480	300	154	50	970	410	240	110	405	55	59	16	90	180	100.8	25*2	M24	12	400
ZSYJ315	539	350	190	55	1160	450	260	110	440	60	64	18	100	200	112.8	28*2	M24	12	405
ZSYJ330	575	350	170	55	1160	450	260	125	445	65	69	18	110	220	122.8	28*2	M24	12	450
ZSYJ375	625	400	220	60	1280	466	265	140	445	75	79.5	20	110	255	122.8	28*2	M24	12	450
ZSYJ420	695	480	260	60	1420	550	310	170	535	85	90	22	120	270	134.8	32*2	M30	12	580
ZSYJ450	765	500	276	60	1550	600	350	170	600	85	90	22	140	250	156.8	36*2	M30	12	610
ZSYJ500	855	540	290	70	1700	640	370	170	650	90	95	25	160	270	178.8	40*2	M36	12	680
ZSYJ560	980	580	300	70	1860	640	370	170	670	95	100	25	180	300	178.8	40*2	M36	12	720
ZSYJ630	1070	630	315	80	2000	770	430	170	760	110	116	28	180	340	200.8	45*2	M36	12	720

规格 Sizes	D1(H7)	b3	D3	d3	m	m1	m2	m3	m4	m5	m6	m7	l4	h3	d7	d4	d5	l3	L3
ZSYJ225	330	8	420	26	6	165	310	310	90	315	330	140	50		ZG1/2"	M85*4	55	50	285
ZSYJ250	330	8	420	26	6	205	360	360	105	330	340	160	50						285
ZSYJ280	360	8	450	30	6	200	385	385	100	355	380	160	50						300
ZSYJ315	385	8	450	30	6	260	450	450	130	390	460	160	55						323
ZSYJ330	400	10	500	30	6	225	450	450	130	390	425	160	55						350
ZSYJ375	400	10	500	32	8	250	475	500	165	285	400	500	160	55	ZG1/2"	M90*4	60	60	355
ZSYJ420	500	10	660	32	8	305	580	540	150	328	480	200	60						370
ZSYJ450	500	10	700	32	8	300	600	600	190	300	520	600	200	80					425
ZSYJ500	580	15	780	40	8	345	670	660	190	360	550	760	200	80					430
ZSYJ560	620	25	805	48	8	390	750	760	180	390	550	800	200	80					435
ZSYJ630	650	25	805	48	8	400	850	800	200	450	670	300	80						520

表8 Table 8

型号 Model	ZSYJ										
规格 Sizes	△ 225	△ 250	※ 280	※ 315	※ 330	※ 375	※ 420	※ 450	※ 500	※ 560	※ 630
许用输出扭矩 (N.m) Allowed Output Torque (N.m)											
一般可靠 Generally reliable	6568	7643	12732	17427	21392	26497	33616	42180	57300	76400	105050
高可靠 Highly reliable	5334	6112	10186	13855	17115	21096	26995	33745	45840	63867	87805
许用输出轴向推力 (KN) Allowed Axial Thrust of Output Shaft (KN)											
轴向推力 Axial Thrust	180	192	250	287	350	390	430	540	756	830	880

注：ZSYJ系列的选用和使用参照ZLYJ系列。

Notes: The selection and use of ZSYJ series can be referred to that of ZLYJ series.



SZ 系列锥形双螺杆挤出机齿轮箱

SZ Series Gearboxes for Conical Twin-Screw Extruder



一、概述 General Survey

SZ 系列锥形双螺杆挤出机齿轮箱是与锥形双螺杆塑料挤出机配套的专用传动装置。该齿轮箱由减速箱与分配箱两部分组成，可将电机动力的经减速增扭后，输出至分配箱，再通过分配箱一对 1:1 传动比的小锥角螺旋齿轮，驱动双出轴（两轴夹角与两螺杆夹角相同），带动螺杆以异向外旋的方式运转。

SZ series gearboxes for conical twin-screw extruder are special driving units matched with conical twin-screw rod extruder. It consists of two parts, namely, the reduction box and the distribution box. After reducing speed and increasing torque of the motor, it outputs the motive power to the distribution box, then drives the double output shafts (the included angle is the same with that of twin-screw rods) via a pair of small conical spiral gears with driving ratio of 1:1, thus to drive screw rods to rotate outward with different direction.

二、产品特点 Features of Product

- 2.1 齿轮箱齿轮采用渐开线圆柱齿轮，其参数、结构经过计算机优化设计。
- 2.2 齿轮箱齿轮材料采用优质高强度低碳合金钢，经渗碳、淬火处理，采用磨齿工艺，齿面硬度高。承载能力大，噪音小，运转平稳，传动效率高。
- 2.3 分配箱体材料为球铁，齿轮为高强度齿轮，内部布有蛇形冷却水管。
- 2.4 齿轮箱输入最高转速一般不大于 1500r/min。
- 2.5 工作环境温度 -10°C ~ $+45^{\circ}\text{C}$ ，当环境温度低于 0°C 时，启动前润滑油应加热到 $+10^{\circ}\text{C}$ 。

- 2.1 There are involute cylindrical gears in the gearbox, which data and structure are optimally designed by the computer.
- 2.2 The gears are made of top-quality high-strength low carbon alloy steel after carbon penetrating, quench and teeth grinding. It has high hardness on teeth surface, large bearing ability low noise, smooth operation and high driving efficiency.
- 2.3 The material of the distribution box is nodular graphite casting iron and the gears have high-strength ground teeth, in which snake-shaped cooling water pipes are distributed.
- 2.4 The maximum input speed of the gearbox is normally not larger than 1500 rpm.
- 2.5 The temperature in work environment is -10°C ~ 45°C . When temperature is lower than 0°C , the lubricant oil should be preheated to $+10^{\circ}\text{C}$ before starting.



三、主要技术性能（见表3） Main Technical Features (see Table 3)

表3 Table 3

规格 参数 Data Sizes	SZ45	SZ50	SZ55	SZ65	SZ80	SZ92
输入转速(rpm) Input Speed (rpm)	1500					
输出转速(rpm) Output Speed (rpm)	44.8	37.8	37.5	38.23	38.7	37.06
输入功率(KW) Input Power (kW)	18.5	22	30	37	55	110
单轴输出扭矩(N.m) Output Torque of Single Shaft (N.m)	1972	2779	3820	4518	6786	13130
分配轴夹角 Divided Angle of Distribution Shafts	2° 40'	2° 58' 12"	2° 36' 14"	2° 11' 16"	2° 0' 18"	1° 52' 3.64"

四、齿轮箱外形及安装联接尺寸（见图2、表4）

Outline and Assembling and Connection Sizes of Gearbox (see Figure 2 and Table 4)

五、订货须知 Points for Order Placing

- 5.1 齿轮箱所用润滑油牌号 N220~N320 中极压齿轮油。
- 5.2 齿轮箱及分配箱采用循环水冷却，冷却水温度不高于 30℃。
- 5.3 两箱体应安装于同高度的平面上，分配箱的长轴外花键插入齿轮箱输出轴花键孔时，在地脚螺母松开的情况下，检查两箱体底面与安装平面间间隙，必要时作适当调整，保证齿轮箱输出轴与分配箱长轴同轴。安装完毕后，手动检查，要求各部件间转动灵活，无卡滞现象。
- 5.4 螺杆与分配箱输出花键轴同轴度直接影响分配箱齿轮及轴承寿命的长短，安装时应拆下花键套用百分表检查花键轴的径跳，用塞尺检查螺杆与分配箱花键轴端面间接触是否良好，消除误差。
- 5.5 在运转过程中，如出现局部轴承部位过热，或有异常噪声，应停机检查，排除故障后方可运行。

- 5.1 The brand of lubricant oil used in the gearbox is N220 - N320 mid-extreme pressure gear oil.
- 5.2 The reduction box and distribution box are cooled by water circulation and the temperature of cooled water should be not higher than 30℃ .
- 5.3 Both boxes should be mounted on the plains with same height. When the outer spline of the long shaft in the distribution box is inserted in the spline hole of the output shaft of the reduction box, in case the anchor bolts are loosened, check the clearance between the bottoms of both boxes and the mounting plain, and make adjustment if necessary to ensure the output shaft of the reduction box to be coaxial with the long shaft of the distribution box. manually check if all parts are running flexibly without blockage.
- 5.4 The coaxiality of the screw rod and the output spline of the distribution box shall affect service life of gears and bearings in the distribution box. When assembling, remove the spline sleeve to check its radial run-out by the micrometer gauge, and check by the feeler if contact between the screw rod and the end surface of the spline of the distribution box is good and to remove error.
- 5.5 During the course of operation, if overheat occurs on partial bearings or abnormal noise occurs, stop the machine and make check, and run the machine again only when troubles are removed.



表4 Table 4

型号 Model	A	A2	A3	A4	H	E	E1	C(H7)	C1	C2	C3	A5
SZ45	500	100	75	765	240	40	10	φ 270	150	φ 270	φ 290	150
SZ50	580	70	75	722	240	40	10	φ 210	150	φ 270	φ 290	160
SZ55	660	100	75	860	250	40	10	φ 230	160	φ 290	φ 318	160
SZ65	770	80	75	910	250	40	10	φ 253	170	φ 260	φ 280	180
SZ80	800	120	85	1070	280	40	10	φ 302	170	φ 300	φ 340	180
SZ92	950	200	125	1350	360	50	15	φ 372	180	φ 370	φ 412	250

型 号 Model	H1	Z1	Z2	H2	H3	B1	B2	n-d1	L	L1	L2	D
SZ45	60	ZG1/2"		30	390	335	380	4-φ 22	1388	135	90.51	8-48X42X8
SZ50	80	ZG1/2"		35	390	440	490	4-φ 22	1370	102.09	98.77	8-54X46X9
SZ55	80	ZG1/2"		35	430	410	460	4-φ 22	1560	190	108.535	8-60X52X10
SZ65	85	ZG1/2"		40	430	550	590	4 φ 22	1610	205	115.371	8 65X56X10
SZ80	100	ZG1/2"		45	465	605	655	4-φ 22	1900	243	137.54	8-72X62X12
SZ92	150	ZG1/2"		60	620	650	720	4-φ 30	2402	275	164.117	10-98X92X14

型号 Model	L3	L4	L5	A6	A7	A8	A9	n d3	d(k6)	M	H4
SZ45	133	60	15	255	255	558	95	4-φ 22	φ 32	162	180
SZ50	112	40	15	280	280	705	105	6-φ 22	φ 38	175	180
SZ55	138			300	300	720	100	6-φ 22	φ 42	180	200
SZ65	150	70	15	350	350	850	170	6-φ 22	φ 55	185	225
SZ80	200	95	15	335	335	835	140	6-φ 26	φ 55	210	250
SZ92	230	105	20			980	180	6-φ 24	φ 60	245	160

型号 Model	L6	E2	E3	B3	B4	B5	H5	H6	H7	H8	F	(G)	N	r
SZ45	58	10	35	173	305			30	534	30	190	315	202	2°40'
SZ50	80	10	41	360	430	125	60	28	652	30	197.5	204	202	2°58'12"
SZ55	82	12	45	350	400	150	70	32	720	35	200	228	240	2°36'14"
SZ65	90	16	59	380	450	140	75	37	720	30	324	216	252	2°11'16"
SZ80	110	16	59	435	525	140	65	30	808	40	249.5	350	310.5	2°00'18"
SZ92	105	18	64	400	450	160	70	42	820	40	250	575	362.5	1°52'3.64"



PSY异向平行双螺杆挤出机齿轮箱 PSY Series Gearboxes for Counterrotating Parallel Twin Screw Extruder



一、概述 General Survey

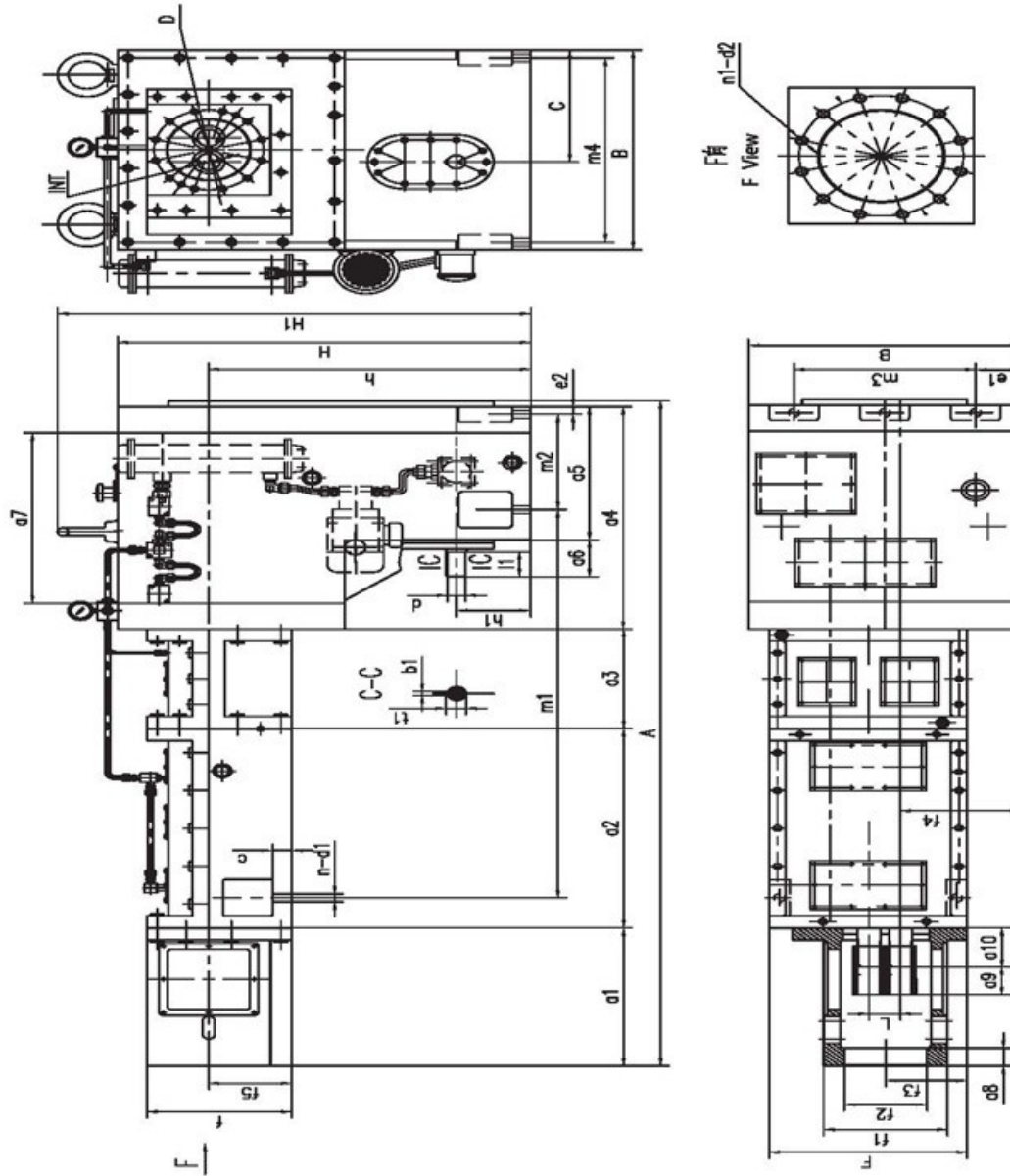
PSY系列平双齿轮箱是为异向平行双螺杆挤出机设计开发的标准传动部件。其齿轮采用低碳合金钢经渗碳、淬火、磨齿以达到高强度、高精度；输出轴采用特殊合金钢精心制作，以适应大扭矩输出要求；推力轴承采用先进的串联推力圆柱滚子轴承和满装圆柱滚子轴承的组合设计，承载能力大；润滑方式采用浸油和喷油润滑方式，必要时还可根据机组的不同要求配置列管式冷却系统，对润滑油进行冷却。整机外形匀称、结构先进、承载性能优越、运转平稳，是平双机组齿轮箱的理想选择。

PSY series gearboxes are standard driving parts designed and developed for counterrotating parallel twin screw extruder. Its gear is made of low carbon alloy steel after carbon penetrating, quench and teeth grinding so as to reach high strength and precision. The output shaft is finely made of special alloy steel to suit the requirement of large output torque. The thrust bearing group is a combination design adopted advanced tandem thrust cylindrical roller bearing and full complement cylindrical roller bearings which have a larger bearing capacity. The lubrication style are oil immersion and spray lubrication and can be equipped with pipe style cooling system based on different requirement of machine for cooling lubrication oil. The whole machine has well-balanced appearance, advanced structure, superior bearing performance and smooth operation. It is an ideal selection of counterrotating parallel twin screw extruder gearbox.

二、适用范围 Applicable Range

1. 本系列产品用于异向平行双螺杆机组。
2. 工作环境温度为 $-10^{\circ}\text{C} \sim 45^{\circ}\text{C}$ ，环境温度低于 0°C 时起动前润滑油应预热，热功率不够时须采取冷却措施。
3. 齿轮箱输入转速 n_1 一般不大于1500rpm。

1. This series product is suitable for counterrotating parallel twin screw extruder.
2. The temperature in work environment is $-10^{\circ}\text{C} \sim 45^{\circ}\text{C}$. When temperature is lower than 0°C , the lubricating oil should be preheated before starting. When thermal power is not enough, the cooling measure should be taken.
3. The input speed of the gearbox is normally not larger than 1500 rpm.



齿轮箱外型尺寸及装配形式
Outline Dimensions and Assembly Styles of Gearboxes



三、齿轮箱外形尺寸

Outline Dimensions of Gearboxes

型号 Model	A	B	C	D	H	L	dm6	ll
76(90)	2202	660	370	Φ265	1000	76	Φ45	82
90(107)	2450	750	415	Φ300	1170	90	Φ50	95
92.5(114)	2572	820	430	Φ300	1250	92.5	Φ60	105
95(116)	2597	820	460	Φ330	1250	95	Φ60	105
104(120)	2595	820	430	Φ340	1250	104	Φ60	105
110(130)	2725	870	285	Φ350	1320	110	Φ68	120

型号 Model	b1	ll	F	e1	e2	a1	a2	a3
76(90)	14	48.5	480	110	25	457	660	330
90(107)	14	53.5	525	135	30	370	790	385
92.5(114)	18	64	535	135	35	457	815	410
95(116)	18	64	535	135	35	457	815	410
104(120)	18	64	590	150	35	475	815	390
110(130)	20	72.5	590	130	40	400	950	510

型号 Model	a4	a5	a6	a7	a8	a9	a10	H1
76(90)	735	440	122	565	60	90	130	1146
90(107)	885	515	125	695	55	110	145	1316
92.5(114)	890	540	150	710	60	90	130	1396
95(116)	890	540	150	710	60	90	130	1355
104(120)	890	540	150	710	80	90	235	1395
110(130)	865	510	160	625	50	105	175	1466

型号 Model	h	h1	m1	m2	m3	m4	c	f
76(90)	780	180	1285	315	440	610	45	350
90(107)	900	200	1545	370	480	690	50	400
92.5(114)	985.76	225	1575	390	550	750	50	405
95(116)	985.76	225	1575	390	550	750	50	405
104(120)	980	225	1555	390	520	750	50	435
110(130)	1066.87	250	1815	340	305x2	790	55	450

型号 Model	fl	f2	f3	f4	f5	n-d1	n1-d2	INT
76(90)	300	Φ200	200	292	200	6-Φ26	12-M20	212x2.5mx30R
90(107)	350	Φ250	225	330	225	6-Φ32	12-M20	242x2.5mx30R
92.5(114)	360	Φ230	227.5	370.5	225	6-Φ32	12-M24	252x2.5mx30R
95(116)	360	Φ230	227.5	370.5	225	6-Φ32	12-M24	262x2.5mx30R
104(120)	390	Φ254	240	358	240	6-Φ32	12-M24	282x2.5mx30R
110(130)	400	Φ300	250	387.5	250	7-Φ32	12-M24	302x2.5mx30R

四、齿轮箱承载能力

Bearing Capacity of Gearboxes

序号 No	型号 Model	输出轴中心距 Central Distance of Output Shaft(mm)	螺杆直径 Screw Dia (mm)	速比 Driving Ratio	输入转速Input Speed (r/min)	输出转速 Output Speed (r/min)	输入功率 Input Power (KW)	最大单轴输出扭矩 Output Torque of Single Shaft (N.M)
1	PSY 76/90	76	90	33.21	1500	45.2	60	6338
2	PSY 90/107	90	107	33.13	1500	45.3	80	8438
3	PSY 92.5/114	92.5	114	32.15	1500	46.7	100	10235
4	PSY 95/116	95	116	33.34	1500	45	100	10612
5	PSY 104/120	104	120	33.27	1500	45.09	110	11650
6	PSY 110/130	110	130	33.16	1500	45.2	150	15838



SK (XK) 开炼机专用齿轮箱 SK(XK) Series Gearboxes for Open Mill



一. 概述 General Survey

SK (XK) 系列齿轮箱采用JB/T8853-1999标准设计制造。有一轴动力输入，双轴扭矩输出和双轴动力输入，双轴扭矩输出两种传动方式。可与塑料橡胶开炼机配套使用。

SK(XK) series gearboxes are produced according to the standard JB/T8853-1999. They have two driving styles:

1. Single shaft inputting and two-shaft outputting
2. Two-shaft inputting and two-shaft outputting

They can be used for the plastic and rubber open mills.

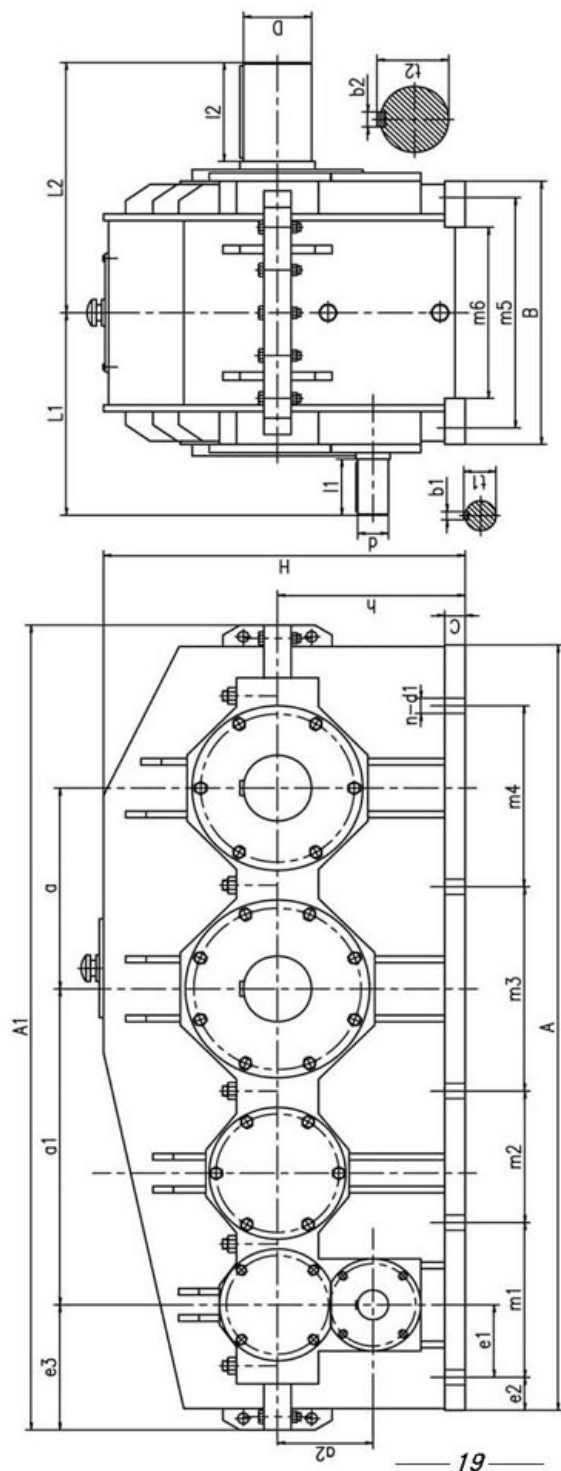
二、产品特点 Features of Product

1. 硬齿面、高精度、噪声低、寿命长、效率高。
2. 电机与输出轴同布置、结构紧凑、布局方便。

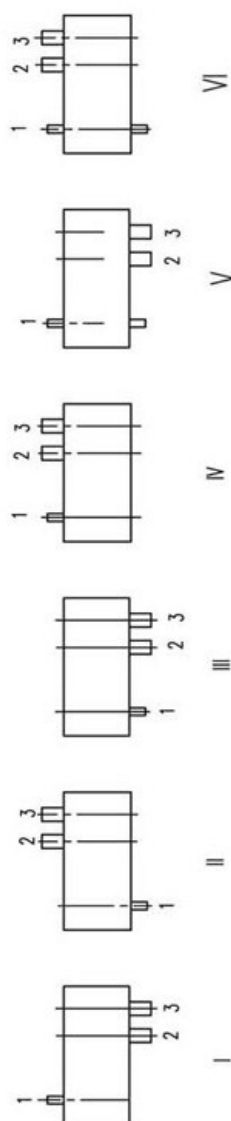
1. Hard teeth surface, high precision, low noise, long service life and high efficiency.
2. The motor and the output shaft are arranged at the same direction, and it has a compact structure and reasonable placement.

二、齿轮箱外型尺寸及装配形式

Outline Dimensions and Assembly Styles of Gearboxes



装配型式 Assembly Style





三、齿轮箱外形尺寸 Outline Dimensions of Gearboxes

型号 Model	a	a1	a2	A	A1	B	H	h	n	d1	C	e1	e2	e3	m6
SK400	400	539	160	1540	1540	490	700	350	8	33	50	115	114	255	—
SK450	450	539	160	1590	1590	490	700	350	8	33	50	141	114	255	—
SK560	560	740	200	1880	2000	640	896	450	10	40	80	120	90	270	300
SK585	585	645	180	1820	1940	620	945	450	8	35	60	120	70	250	350
SK610	610	765	224	2110	2110	690	996	480	10	40	60	125	160	285	300
SK660	660	855	250	2365	2365	670	1016	470	10	40	50	150	200	350	—
SK760	760	960	280	2510	2680	800	1130	560	10	48	70	197	90	372	—
XK450	450	765	224	1820	1926	650	930	450	10	40	60	170	105	328	440
XK560	560	855	250	2070	2178	750	1035	500	10	40	60	175	100	328	500
XK660	660	1080	315	2570	2740	880	1465	710	10	46	80	210	155	450	—
XK665	665	1110	320	2580	2700	880	1330	650	10	46	80	195	155	410	560

型号 Model	d(m6)	b1	l1	l1	L1	D(m6)	b2	l2	l2	L2	m1	m2	m3	m4	m5
SK400	48	14	51.5	110	405	140	36	148	200	495	440	440	—	390	420
SK450	48	14	51.5	110	405	140	36	148	200	495	440	440	—	440	420
SK560	65	18	69	110	480	170	40	179	240	610	330	330	520	520	560
SK585	60	18	64	110	410	170	40	179	240	540	545	475	—	635	540
SK610	75	20	79.5	130	530	170	40	179	240	640	340	340	540	540	610
SK660	75	20	19.5	130	530	170	40	179	240	640	330	400	585	600	610
SK760	105	28	111	165	620	240	56	252	330	800	405	460	700	700	720
XK450	75	20	79.5	130	505	170	40	179	240	620	340	345	500	400	580
XK560	85	22	90	170	585	190	45	200	260	695	380	400	500	510	680
XK660	90	25	95	165	650	240K6	56	252	340	840	450	500	650	600	790
XK665	110	28	116	165	650	260h6	56	272	340	840	420	550	700	600	780

四、齿轮箱承载能力 Bearing Capacity of Gearboxes

型号 Model	传动比 Speed Ratio		电机输入转速 Motor input speed	电机功率 Motor Power	输出转速 Output speed (rpm)	
	入轴至最近输出轴 Ratio between 1 (input shaft 1) and 2 (output shaft 2)	两输出轴间 Ratio between 2 (output shaft 2) and 3 (output shaft 3)	rpm	KW	内输出轴 2 (output 2)	外输出轴 3 (output shaft 3)
SK400	40	0.93	740	45	19	20
SK450	43.3	1.10	980	55	23	21
SK560	44.26	1.22	960	90	22	18
SK585	25	1.22	1000	110	40	33
SK610	41.023	1.21	900	110	22	18
SK660	45.39	1.22	990	160	22	18
SK760	49.2	0.862	750	160	15	18
XK450	49.1	1.2	980	110	20	17
XK560	83.38	0.94	990	110	12	13
XK660	58.5	0.92	990	250	17	18
XK665	40.64	1.09	740	250	18	17

备注：数字 1 表示输入轴，数字 2 和 3 表示输出轴 2 和输出轴 3。

Note: Number "1" represent input shaft "1"

Number "2" represent output shaft "2"

Number "3" represent output shaft "3"



M 系列密炼机专用齿轮箱 M series Gearboxes for internal mixer



一、产品特性 Features of Product

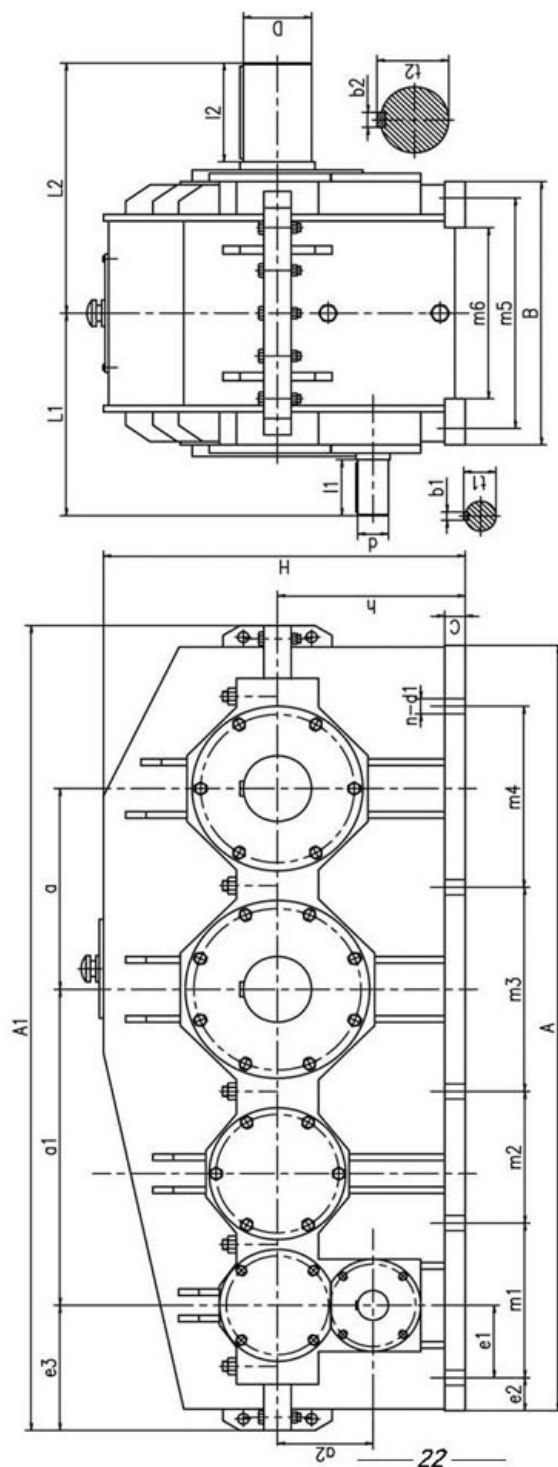
密闭式炼胶机简称密炼机，主要用于橡胶的塑炼和混炼。密炼机是一种设有一对特定形状并相对回转的转子、在可调温度和压力的密闭状态间隙性地对聚合物材料进行塑炼和混炼的机械，主要由密炼室、转子、转子密封装置、加料压料装置、卸料装置、传动装置及机座等部分组成。密炼机是在开炼机的基础上发展起来的一种高强度间隙性的混炼设备。密炼机专用减速机采用JB/T8853-1999标准设计制造，是为密闭式炼胶机（简称密炼机）配套的主齿轮箱，是高精度重载荷硬齿面齿轮箱。

Closed mixing machine is referred to as internal mixer, which it is mainly used for the rubber plastication and mixing. Internal mixer is equipped with a pair of specific shape and relatively revolving rotors for polymer materials intermittent mixing and kneading at a closed status with adjustable temperature and pressure. It is mainly consists of the mixing chamber, rotor, rotor sealing device, material feeding and pressing device, unloading device, transmission device, base components and etc. Internal mixer is high-intensity intermittent mixing equipment developed on the basis of open mill. Internal mixer gearbox uses standard number JB/T8853-1999 to design and manufacture, which it is a high precision and heavy load hardened teeth surface gearbox for the closed mixing machine (Internal mixer).

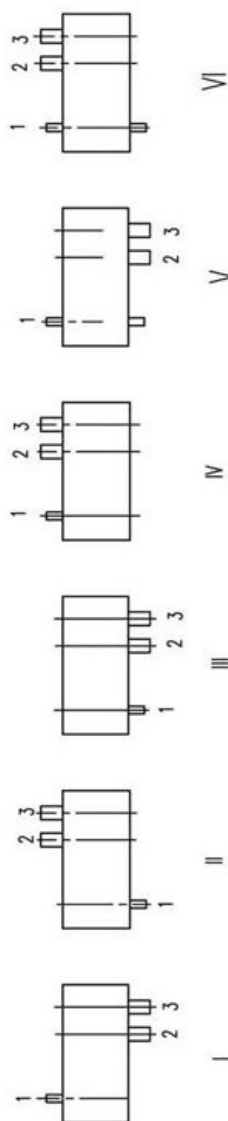


二、齿轮箱外型尺寸及装配形式

Outline Dimensions and Assembly Styles of Gearboxes



装 配 型 式 Assembly Style





三、齿轮箱外形尺寸

Outline Dimensions of Gearboxes

型号 Model	a	a1	a2	A	A1	B	H	h	n	d1	C	e1	e2	e3	m6
M50	360	830	—	1780	1780	750	1110	480	10	40	60	73	165	238	455
MA50	360	830	—	1660	1830	750	1035	480	10	40	60	73	105	263	460
M80	420	765	—	1695	1865	780	964	450	10	32	60	105	70	260	—
M100	420	860	—	1790	1960	780	1144	560	10	32	60	100	75	260	—
M110	435	855	250	1840	1970	780	1220	560	10	40	55	160	90	315	380
M120	420	973	—	2000	2000	890	1170	540	10	28	50	210	35	245	—
MA120	440	960	—	1926	2096	980	1220	630	10	48	60	150	55	290	—
MB120	450	973	—	2050	2050	890	1170	540	10	28	50	210	35	245	—
MLJ100	408	810	—	1750	1750	890	1095	500	12	40	50	70	125	195	—
MLJA100	408	810	—	1750	1880	890	1140	500	12	40	50	70	125	260	510

型号 Model	d(m6)	b1	t1	l1	L1	D(m6)	b2	t2	l2	L2	m1	m2	m3	m4	m5	m6
M50	85	22	90	150	550	170h7	40	179	240	652	300	350	400	400	660	—
MA50	85	22	90	150	550	170h7	40	179	240	652	300	350	400	400	660	—
M80	95k6	25	100	130	540	185k6	45	195	250	680	280	320	480	430	670	—
M100	95k6	25	100	130	540	185k6	45	195	250	680	320	320	530	450	670	—
M110	95	25	100	130	540	185	45	195	250	680	400	400	400	460	670	—
M120	110	32	117	160	725	190	45	200	190	755	395	490	520	525	790(650)	—
MA120	110k6	28	116	165	690	190k6	45	200	280	830	400	505	425	470	840	—
MB120	110	32	117	160	725	190	45	200	190	755	395	490	535	560	790(650)	—
MLJ100	90js6	25	95	180	620	180js6	45	190	240	680	105	395	500	332.5	790	167.5
MLJA100	90	25	95	180	620	180	45	190	240	680	105	395	500	332.5	790	167.5

四、齿轮箱承载能力

Bearing Capacity of Gearboxes

型号 Model	传动比 Speed Ratio		电机功率 Motor Power	电机输入转速 Motor input	输出转速 Output speed(rpm)	
	入轴至最近输出轴 Ratio between 1 (input shaft 1) and 2 (output shaft 2)	两输出轴间 Ratio between 2 (output shaft 2) and 3 (output shaft 3)	Kw	rpm	内输出轴 2 (output 2)	外输出轴 3 (output shaft 3)
M50	17.57	1.15	200	740	42	37
MA50	15.42	1.15	185	740	48	42
M80	20	1.16	200	950	48	41
M100	21.55	1.16	220	950	44	38
M110	24.5	1.18	220	980	40	34
M120	17.11	1.15	315	745	44	38
MA120	18.82	1.16	250	750	40	34
MB120	14	1.15	280	600	43	37
MLJ100	14.82	1.12	220	750	51	45
MLJA100	17.2	1.12	220	750	44	39



ZSYF 系列压延机专用减速器

ZSYF Series Gearboxes for Calender



一、概述 General Survey

ZSYF 系列压延机专用齿轮箱是与积木式压延机配套的专用齿轮箱。该系列齿轮箱具有如下特点：

1. 整机外形美观，箱体六面加工，可方便地多面组合，满足多辊压延机的各种辊筒的排列方式。
2. 齿轮参数、箱体结构经计算机优化设计。
3. 齿轮材料采用优质低碳合金钢，经渗碳、淬火、磨齿，齿部精度 6 级，齿面硬度在 54~62HRC 之间，承载能力大幅度提高，体积减小，噪声低，传动效率高。
4. 配备电机油泵强制润滑系统，齿轮啮合部位及轴承的润滑充分、可靠。
5. 轴承、油封、电机油泵等标准件均选用国内知名厂家的优质产品，也可以按用户需要，选用进口产品。

ZSYF Series Special Gearboxes for Calender are special ones matched with building-block style calender. They have features as follows:

1. The whole machine looks beautiful. As processed on six surfaces, it can be combined easily from multiple sides thus to meet arrangement style of various kinds of rollers for multi-roller calender.
2. The gear data and box structure are optimally designed by the computer.
3. The gears are made of top quality low carbon alloy steel with Grade 6 precision of teeth after carbon penetrating, quench and teeth grinding. The hardness of the teeth surface is 54 - 62 HRC therefore the bearing ability can be risen up largely. Moreover it has compact volume, small noise and high driving efficiency.
4. Equipped with forced lubrication system of the pump and the motor, the meshed part of teeth and bearings can be completely and reliably lubricated.
5. All standard parts such as bearing, oil seal, oil pump and motor etc, are all standard products selected from domestic famous manufacturers. They can be also selected from imported products as per requirement of customer.



二、适用范围 Applicable Range

1. 齿轮箱的输入转速一般不大于 1500r/min。
 2. 表中所列为常用公称传动比，也可按用户需要调整传动比。
 3. 工作环境温度为 0℃~35℃。
1. The input speed of the gearboxes is normally not larger than 1500 rpm.
 2. The normal nominal driving ratios are listed in the table, however it can be adjusted as per the requirement of customer.
 3. The temperature in work environment is 0 ℃ ~ 35 ℃.

三、齿轮箱的型号及标志 Model and Mark of the Gearbox

齿轮箱的代号中，包括型号、输出级中心距、公称传动比以及组合型式。

The code of the gearbox includes model, central distance of output stage, nominal driving ratio and assembly style.

标记示例: Sample of the Code:



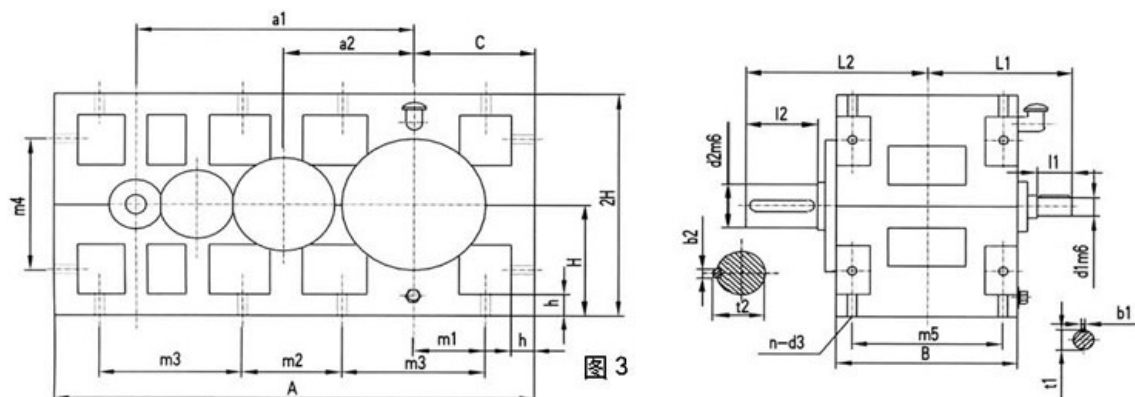
四、齿轮箱的承载能力见表(5)

Bearing Ability of Gearbox, see Table (5)

齿轮箱的承载能力
Bearing Ability of Gearbox

表5 Table 5

型 号 Model	常用传动比 (i) Normal Driving Ratio (i)	输入轴转速 r/min Speed of Input Shaft (r/min)	输入功率 kW Input Power (kW)	输出扭矩 N.m Output Torque(N.m)
200	45	1500	15	4298
215	50	1500	22	7143
225	45	1500	30	8419
250	40	1500	37	9474
300	45	1500	55	15758
315	40	1500	75	18990
355	50	1500	90	28650
400	50	1500	110	35017



齿轮箱的外型尺寸

Figure 3 Outline Sizes of Gearboxes

表6 Table 6

ZSYF	a1	a2	A	B	C	H	h	m1	m2	m3	m4	m5
160	352	160	610	255	160	160	20	90	120	180	180	220
200	440	200	760	300	180	180	25	110	180	220	220	250
215	487	215	830	340	215	215	30	130	180	250	250	280
225	530	225	900	360	225	225	40	120	210	240	240	310
232	504	232	920	450	225	225	40	130	190	260	260	400
250	550	250	1020	390	255	255	50	155	200	310	310	310
300	640	300	1105	420	280	280	50	165	230	330	330	350
315	699	315	1220	440	305	305	50	175	260	350	350	374
355	785	355	1320	465	330	330	50	215	230	430	430	400
400	880	400	1520	540	380	380	50	200	360	400	400	460
450	765	450	1680	600	430	430	55	260	340	520	520	500

d1	L1	l1	b1	t1	d2	L2	l2	b2	t2	n-d3
22	200	56	6	24.3	75	290	140	20	79.9	12-Φ18
32	245	58	10	35	90	310	120	25	95	12-Φ18
38	258	58	10	41	95	330	130	25	100	12-Φ18
38	270	58	10	41	110	375	165	28	116	12-Φ22
38	320	58	10	41	95	375	130	25	100	12-Φ22
42	310	82	12	45	110	390	165	28	116	12-Φ22
48	337	82	14	51.5	110	420	165	28	116	12-Φ22
48	337	82	14	51.5	140	470	200	36	148	12-Φ22
60	380	105	18	64	170	530	240	40	179	12-Φ33
60	410	105	18	64	190	560	240	45	200	12-Φ39
70	435	105	20	74.5	220	620	280	50	231	12-Φ42

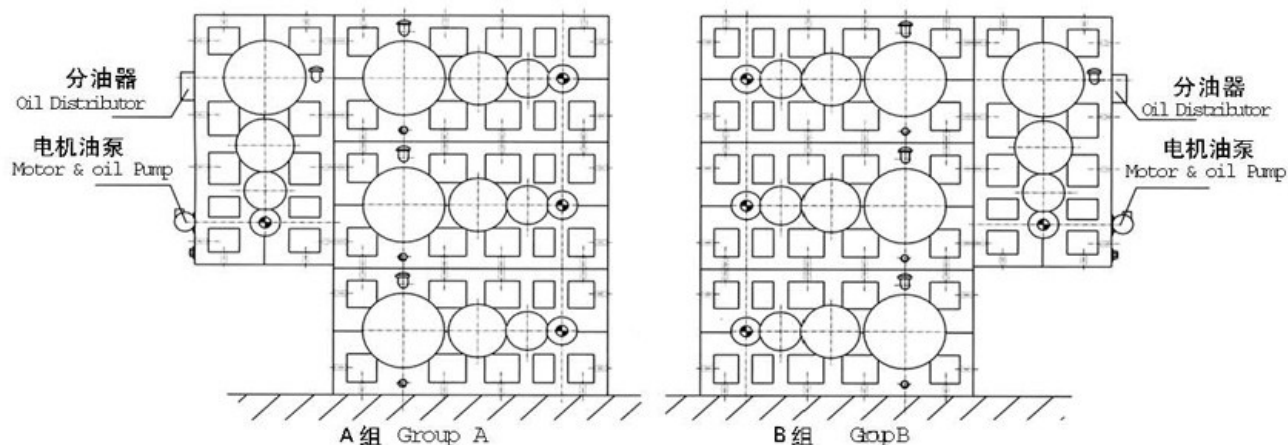


图 4：齿轮箱的组合型式

Figure 4 Combined Style of Gearboxes



五、齿轮箱的外形及安装型式 Outline and Assembly Style of Gearboxes

齿轮箱的外形、组合型式见图 3、图 4，规格尺寸见表 6。

The outline and assembly style of the reducer, see Figure 3 and Figure 4; and sizes can be seen in Table 6.

六、齿轮箱的选用 Selection of Gearboxes

1. 表 5 中所列齿轮箱的承载能力已经考虑了工况系数，可以直接选用。
 2. 本系列齿轮箱适用于多辊压延机的传动，选用时必须注明齿轮箱的组合型式和数量。
 3. 如果所需要的联接尺寸、传动比、输入轴转速或齿轮箱的组合型式与图表中所列的不同，请与我公司联系。
1. The behavior coefficient has been considered for the bearing ability of reducers listed in Table 5, therefore they can be selected directly.
 2. This serial reducer is suitable for driving multi-roller calender. When selecting, you should indicate combined style and quantity of reducers you used.
 3. In case connection sizes, driving ratio, speed of input shaft or combined style of reducer are different with those in the figures and the table, please contact with our company.

七、安装使用和维护 Assembling, Application and Maintenance

1. 起吊齿轮箱时，应使用吊环螺钉。
 2. 齿轮箱运输、存放时应注意防潮。到货后如半年内不安装，应对外露的加工面重新涂防锈油。
 3. 齿轮箱必须刚性固定在坚实的基础面上，所有地脚螺栓须加弹簧垫圈。联轴器的安装误差应不超过其允许的偏差值。
 4. 齿轮箱在交货前均经过严格的试运转检验，各项指标符合要求，交货后可以直接投入使用。使用前应注入中极压齿轮油 N220 或 N150 至油标上限。
 5. 带有电机油泵的齿轮箱，在加载前，应先开启电机油泵，空车运转一段时间，以利各润滑点的充分润滑。
 6. 齿轮箱在首次运行 300 小时后换油，以后每运行 3000~4000 小时换油一次，每次换油的间隔时间最长不应超过 18 个月。换油时应先清洗箱体、滤油器、空气滤清器、放油螺塞。
1. When lifting the reducer, the ring screw should be used.
 2. Take care to prevent moisture when the reducer is in transportation or storage. If do not assemble in half a year after it is arrived, the exposure surface should be coated with antirust oil.
 3. The base to assemble the reducer should be plain with enough strength and rigidity. All anchor bolts should be added with spring washers. The assembling error of the coupler should do not excess its allowed tolerance.
 4. The reducers should pass through strict test running inspection before they are delivered. Only all index are in according to the requirement, can they be put into use directly. Before application, it should be filled with the mid-extreme pressure oil N220 or N150 up to the upper limit of the oil mark.
 5. For the reducer with motor oil pump, before adding load, it should switch on the oil pump of the motor first to run the reducer under no-load for a short period of time so as to facilitate full lubrication of all lubricant points.
 6. Replace oil when the reducer is initially running for 300 hours, and change oil once for every 3000 - 4000 running hours thereafter. The maximum interval between oil replacements should be no longer than 18 months. When replacing, first clean box body, oil filter, air strainer and oil discharge screw plug.

公司车间一角

A corner of workshop

