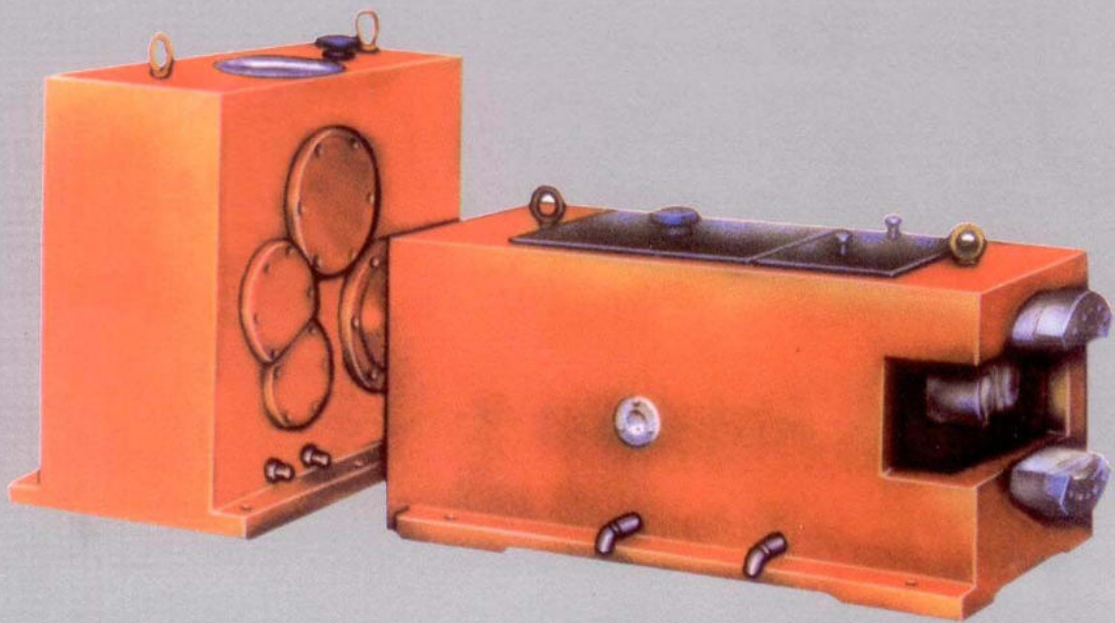


SZ锥形双螺杆挤出机齿轮箱

SZ Serial Gearbox for Conical Twin-Screw Rod Extruder



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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 Serial Gearbox for Conical Twin-Screw Rod Extruder is a special driving unit 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 $-10\sim+40^{\circ}\text{C}$ ，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, small 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 $-10^{\circ}\text{C} - 45^{\circ}\text{C}$. When temperature is lower than 0°C , the lubricant oil should be preheated to $+10^{\circ}\text{C}$ before starting.

三、齿轮箱外形及安装连接尺寸(见图1、表1)

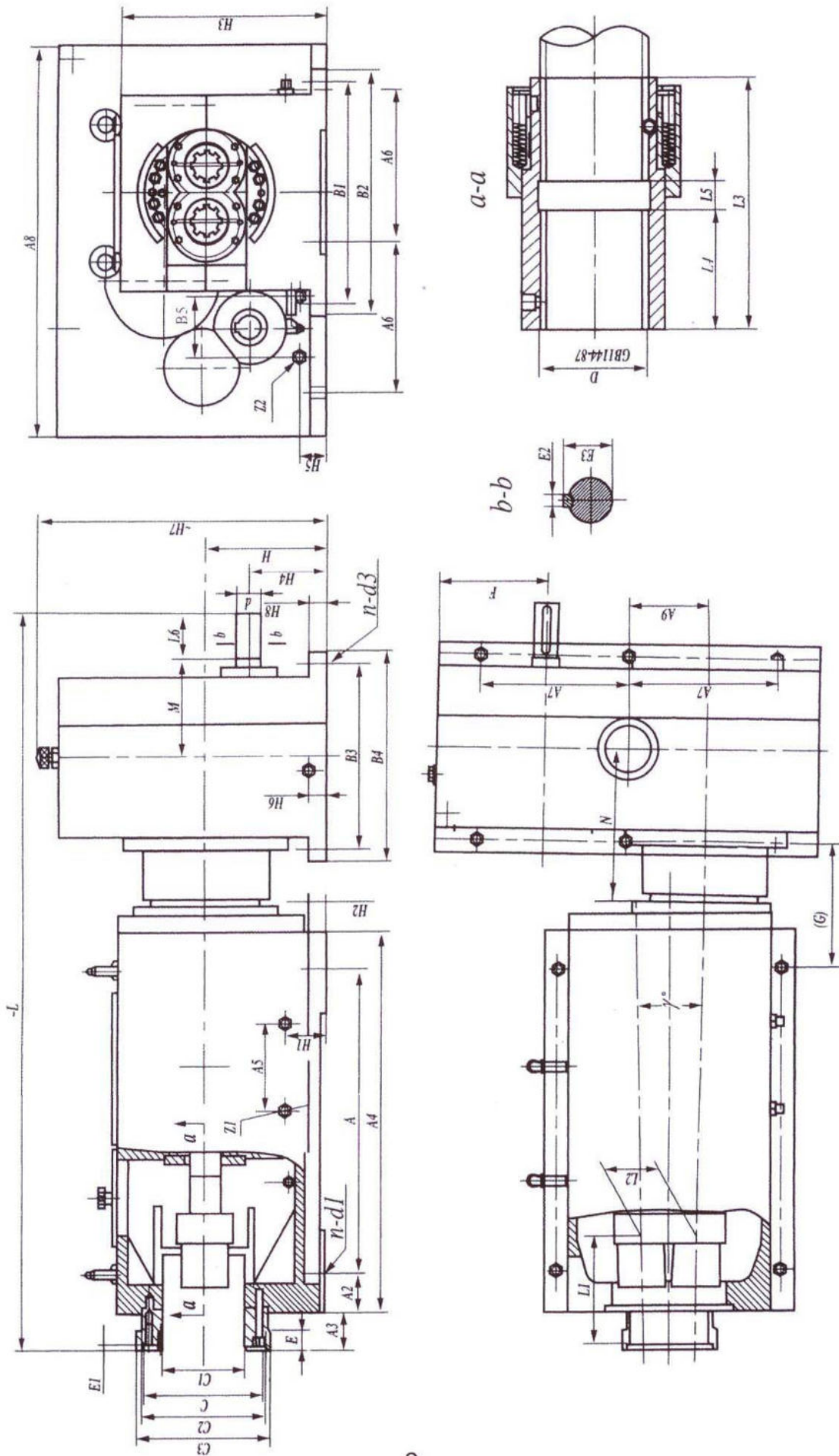


图1 SZ系列齿轮箱外形及安装连接尺寸

Figure 1 Appearance and Assembling and Connection Sizes of SZ Serial Gearbox

表 1

型号(Model)	A	A2	A3	A4	H	E	E1	C(H7)	C1	C2	C3	A5	H1	Z1	Z2	H2	H3
SZ45	500	100	75	765	240	40	10	Φ270	150	Φ270	Φ290	150	60	ZG1/2'	ZG1/2'	30	390
SZ50	580	70	75	722	240	40	10	Φ210	150	Φ270	Φ290	160	80	ZG1/2'	ZG1/2'	35	390
SZ55	660	100	75	860	250	40	10	Φ230	160	Φ290	Φ318	160	80	ZG1/2'	ZG1/2'	35	430
SZ65	770	80	75	910	250	40	10	Φ253	170	Φ260	Φ280	180	85	ZG1/2'	ZG1/2'	40	430
SZ80	800	120	85	1070	280	40	10	Φ302	170	Φ300	Φ340	180	120	ZG1/2'	ZG1/2'	45	465
SZ92	950	200	125	1350	360	50	15	Φ372	180	Φ370	Φ412	250	150	ZG1/2'	ZG1/2'	60	620

型号(Model)	B1	B2	n-d1	L	L1	L2	D	H2	L3	L4	L5	A6	A7	A8	A9	n-d3	d(k6)
SZ45	335	380	4-Φ22	1388	135	90.5	8-48X42X8	30	133	60	15	255	255	558	95	4-Φ22	Φ32
SZ50	440	490	4-Φ22	1390	102.09	98.8	8-54X46X9	35	112	40	15	280	280	705	105	6-Φ22	Φ38
SZ55	410	460	4-Φ22	1560	190	109	8-60X52X10	35	138	65	15	300	300	720	100	6-Φ22	Φ42
SZ65	550	590	4-Φ22	1650	205	115	8-65X56X10	40	150	70	15	350	350	850	170	6-Φ22	Φ55
SZ80	605	655	4-Φ22	1995	234	138	8-72X62X12	45	200	95	15	335	335	835	140	6-Φ26	Φ55
SZ92	650	720	4-Φ30	2402	275	164	10-102X92X14	60	230	105	20	395	395	980	180	6-Φ35	Φ60

型号(Model)	M	H4	L6	E2	E3	B3	B4	B5	H5	H6	H7	H8	F	(G)	N	r
SZ45	162	180	58	10	35	300	360	100	60	40	534	30	190	315	202	2° 40'
SZ50	175	180	80	10	41	360	430	100	60	45	652	30	197.5	290	212	2° 58' 12"
SZ55	180	200	82	12	45	350	400	100	70	45	740	35	200	228	240	2° 36' 14"
SZ65	185	225	90	16	59	380	450	100	75	50	720	30	324	305	278	2° 11' 16"
SZ80	210	250	110	16	59	435	525	100	65	50	788	40	249.5	350	325	2° 00' 18"
SZ92	245	160	105	18	64	500	600	100	70	50	860	40	250	575	363	1° 52' 3.64"

四、主要技术性能（见表2） Main Technical Features(see Table 2)

表2 Table 2

规格 Sizes 参数 Data	SZ45	SZ50	SZ55	SZ65	SZ80	SZ92
输入转速 r/min Input Speed r/min	1500					
输出转速 r/min Output Speed r/min	44.9	37.5	38	38.9	39.2	40.2
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 Included Angle of Distribution Shafts	2° 40'	2° 58' 12"	2° 36' 14"	2° 11' 16"	2° 0' 18"	1° 52' 3.64"

五、订货须知 Points for Order Placing

- 5.1 齿轮箱所用润滑油牌号L-CKC220或L-CKC320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 L-CKC220~L-CKC320 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°C.
- 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 coaxality 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.