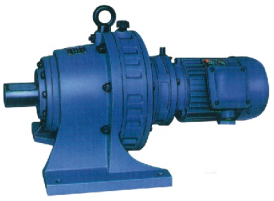
产品介绍

Main products

□□ BW BWD

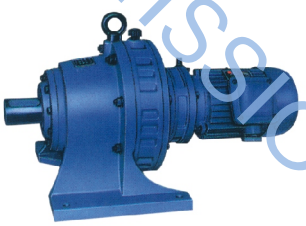


□□ BWE BWED

□□ BL BLD

□□ BLE BLED

□□ XW XWD



□□ XWE XWED

□□ XL XLD

□□ XLE XLWD

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概　述：

摆线针轮减速机是一种采用少齿差行星传动原理的新颖减速装置。可广泛应用于冶金、矿山、起重、运输、化工、纺织、制药、食品等行业。适用工作环境温度为-40℃~+40℃，可正反运转。

General introduction:

Cycloidal pin gear reducer is a novel speed reducing constructing which adopt the principle of planet driving. This reducer can be widely Widely applied to many trades such as metallurgy , mine , lift ,transportation ,chemical , texitile , pharmacy ,food etc. The operating environment temperature is from -40℃to +40℃.this reducer can rotate positively and versedly

一 特 点

1 减速比大：一级减速比为1/11~1/87，二级减速比为1/121~1/7569。

2 传动效率高：因针齿啮合部位为滚动摩擦，单级机械传动效率在90%以上。

3 体积小，重量轻：由于采用了行星传动原理，输入轴与输出轴设计在同一条轴心线上，因而结构紧凑，体积小,重量轻。

4 运转平稳，噪音低：摆线针齿啮合齿数多，重叠系数大，运转平稳，噪音低。

5 故障少寿命长：主要零件均用轴承钢制造，机械性能好寿命长。

6 过载能力强，耐冲击，惯性力矩小。适用于频繁启动和正反转场合。

ONE Features

1 Large reduction ratio : the ratio of the single-stage reduction can reach 1/11~1/87, the ratio of the double-stage reduction can reach 1/121~1/7569.

2 High transmissible efficiency : the single-stage transmissible efficiency can reach above 90%due to adopting rolling friction in falling in part such as pin and gear.

3 Small volume ,light weight : this reducer has compacted structure small volume and light weight because of adopting the priciple of planet driving so that the input shaft and output shaft in the same axis.

4 Stable running , little noise: the reducer has stable running and little noise because the cycloidal pin gear adopt multi -teeth falling in .

5 Few troubles, long life: because the main parts are made of bearing steel the reducer has good mechanical performance and long life .

6 Strong capacity of endurance against overload and shock, small intertiatorque , the reducer is suitable for conditions of frequent start and rotate positively and versedly.

二 减速机型号及其表示方法

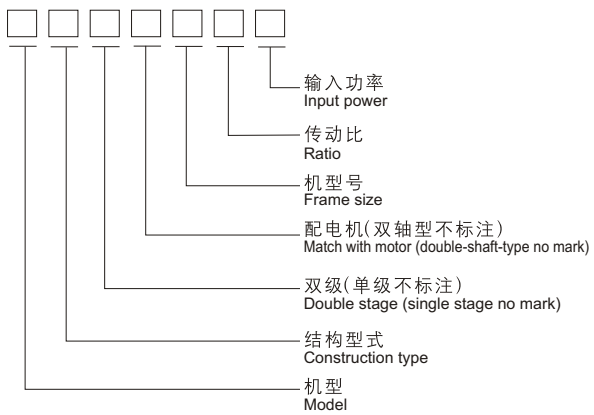
1 型号

按机型分为：B系列和X系列两大类
按传动比分为：一级、二级、
按结构分为：卧式双轴型、卧式直联型、立式双轴型、立式直联型

2 型号表示方法

代号意义：B - B系列摆线针轮减速机
X - X系列摆线针轮减速机
W - 卧式
L - 立式
E - 双级
D - 配Y系列电机

3 型号示例



TWO The reduceris model,size and expressions.

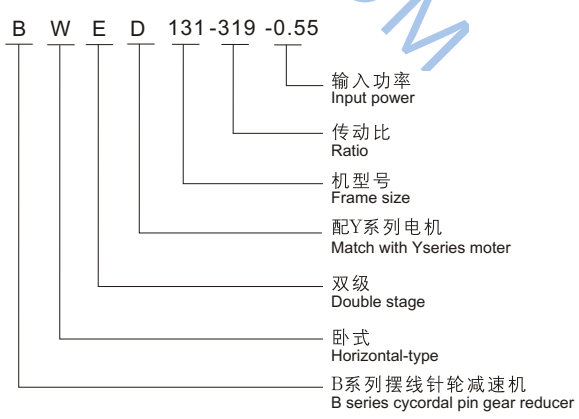
1 Model

Divided into B series and Xseries according to model
Divided into single stage and double stage according to ratio
Divided into horizonzed double-shaft tupe,horizontal direct-connection type, vertical double-shaft type and vertical direct-connection type according to their construction.

2 Expressions of model

code meaning : B - B series cycoidal pin gear reducer
X - X series
w - Horizontal type
L - vertical type
E - Double stage
D - Match with Y series motor

3 Model Example :



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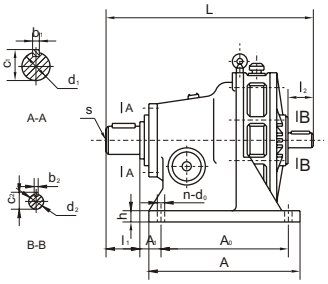
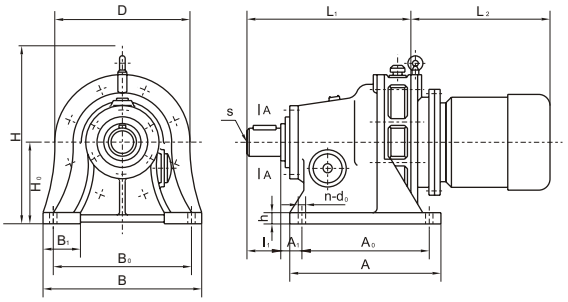
外型及安装尺寸
Appearance and installation dimension

BW

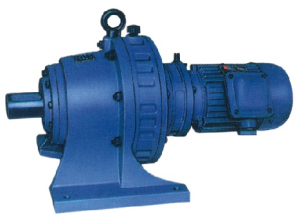


BWD

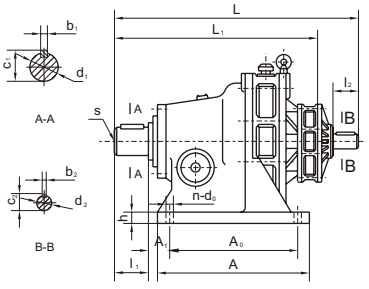


mm

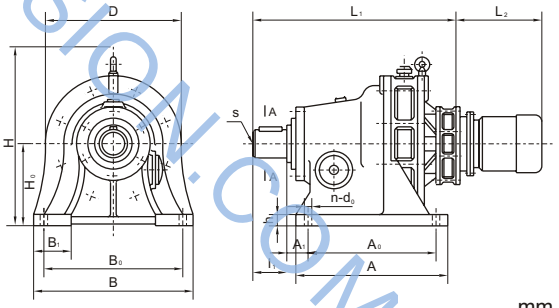
机型号 Frame	中心高 Centre height H0	安装尺寸 Installation dimension								轴伸连接尺寸 Shaft end dimension								外形尺寸 Outerside dimension								重量 Kg
		A1	A0	B1	B0	h	S	地脚螺孔 Hole n	地脚螺孔 Hole d0	输出轴 Output shaft d1	b1	c1	l1	输入轴 Input shaft d2	b2	c2	l2	A	B	H	D	双轴型 Double Shaft style L	直联型 Flange style L1	L2	B2	
09	80	17	76	30	120	12	M8	4	11	22	6	24.5	30	15	5	17	25	100	144	160	140	203	142	According to motor size 按电动机尺寸		6.5
10	100	58	90	35	150	14				30	8	33	35				22	120	185	184	168	215	155			14
11	120	69	110	55	240	16			16	35	10	38	56	18	6	20.5	35	160	280	240	200	269	191			29
12	140	73	150	60	280	20	M10			45	14	48.5	71	22		24.5	40	200	320	275	240	340	255			45
13	160	78	200	75	340	25	M12		17	55	16	59	80	30	8	33	55	250	390	356	300	409	294			80
14	200	53	320	80					22	70	20	74.5	102	35	10	38	60	380	400	425	340	487	369			135
15	240	39	380		420	32	M16			90	25	95	120	45		48.5	70	440	470	529	430	581	440			210
16	290	45	480	90	560	35	M20		26	100	28	106	140	50	14	53.5	82	560	620	614	500	676	443			400
16A	280		440		500													520	560	614		724				
17	325	80	500	120	630	40			30	120	32	127	165	55	16	59	100	600	690	706	580	795	639			660
18	420	122	330x2	160	800	50	2-M20	6	32	140	36	148	210	70	20	74.5	120	810	880	883	710	1030	819			1180



BWE



BWED



mm

机型号 Frame	中心高 Centre height H0	安装尺寸 Installation dimension								轴伸连接尺寸 Shaft end dimension								外形尺寸 Outerside dimension							重量 Kg
		A1	A0	B1	B0	h	S	地脚螺孔 Hole n	地脚螺孔 Hole d0	输出轴 Output shaft d1	b1	c1	l1	输入轴 Input shaft d2	b2	c2	l2	A	B	H	D	双轴型 Double Shaft style L	直联型 Flange style L1	L2	
130	160	78	200	75	340	25	M12	4	17	55	16	59	80	15	5	17	22	250	390	356	300	414	367	According to motor size 按电动机尺寸	82
131														18	6	20.5	35					448	383		100
141	200	53	320	80					22	70	20	74.5	102					380	400	425	340	519	447		153
152	240	39	380		420	32	M16			90	25	95	120	22		24.5	40	440	470	529	430	633	552		245
153														30	8	33	55					666	566		265
163	290	45	480	90	560	35	M20		26	100	28	106	140					560	620	614	500	755	655		460
174	325	80	500	120	630	40			30	120	32	127	165	35	10	38	60	600	690	706	580	860	750		710
184	420	122	330X2	160	800	50	2-M20	6	32	140	36	148	210					810	880	883	710	1077	959		1270

注：d1/d2 轴伸公差为h6.
Note:Matching tolerance of shaft d_1/d_2 is h6.

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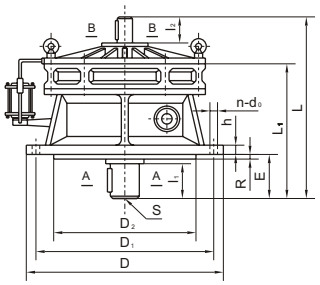
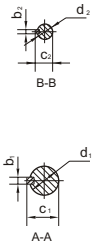
BL





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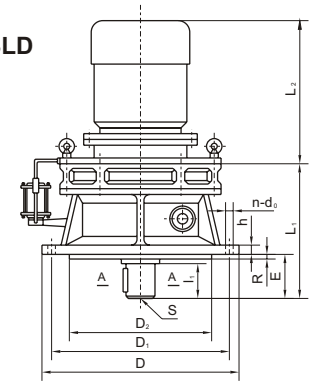
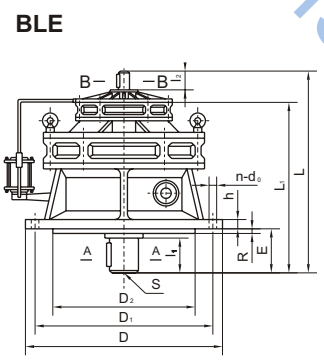


mm

机型号 Frame	安装尺寸 Installation dimension								轴伸连接尺寸 Shaft end dimension								外形尺寸 Outerside dimension					重量 Kg
							地脚螺孔 Hole		输出轴 Output shaft				输入轴 Input shaft				D	双轴型 Double Shaft style	直联型 Flange style			
	D_1	D_2	E	h	R	S	n	d_0	d_1	b_1	c_1	l_1	d_2	b_2	c_2	l_2		L	L_1	L_2	B	
09	134	110	35	10	3	M8	4	11	22	6	24.5	30	15	5	17	25	160	202	141	According to motor size 按电动机尺寸		6
10	160	140	40						30	8	33	35				22	190	215	155			13
11	200	170	60	12	4		6		35	10	38	45	18	6	20.5	35	230	274	191			22
12	230	200	70	15		M10			45	14	48.5	64	22		24.5	40	260	321	255			40
13	310	270	80	20	5	M12		13	55	16	59	75	30	8	33	55	340	310	302			75
14	360	320	99	22			8	15	70	20	74.5	92	35	10	38	60	400	469	358			120
15	450	400	115	30		M16	12	18	90	25	95	108	45	14	48.5	70	490	584	443			180
16	520	455	173	35	8	M20		22	100	28	106	130	50		53.5	80	580	701	527			380
17	590	520	180	40	10			24	120	32	127	165	55	16	59	100	650	806	608			611
18	800	680	215	45		2-M20		34	140	36	148	200	70	20	74.5	120	880	1042	811			1170

BLE



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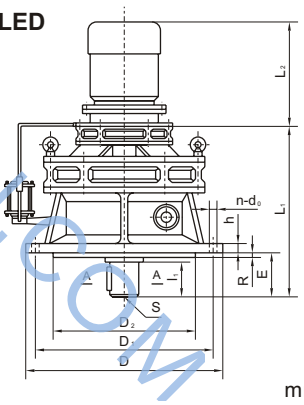

mm

机型号 Frame	安装尺寸 Installation dimension								轴伸连接尺寸 Shaft end dimension								外形尺寸 Outerside dimension				重量 Kg
							地脚螺孔 Hole		输出轴 Output shaft				输入轴 Input shaft				D	双轴型 Double Shaft style	直联型 Flange style		
	D_1	D_2	E	h	R	S	n	d_0	d_1	b_1	c_1	l_1	d_2	b_2	c_2	l_2		L	L_1	L_2	
120	230	200	80	15	4	M10	6	11	45	14	48.5	64	15	5	17	22	260	368	309	According to motor size 按电动机尺寸	75
130	310	270		20	5	M12		13	55	16	59	75	18	6	22.5	35	340	423	351		87
131																		453	374		95
141	360	320	99	22			8	15	70	20	74.5	92					400	521	451		145
152	450	400	115	30		M16	12	18	90	25	95	108	22		24.5	40	490	616	540		215
153													30	8	33	55		656	574		230
163	520	455	173	35	8	M20		24	100	28	106	130					580	781	660		440
174	590	520	180	40	10				120	32	127	165	35	10	38	60	650	865	766		700
184	800	680	215	45		2-M20		34	140	36	148	200					880	1081	972		1280

注: d_1/d_2轴伸公差为h6.
Note:Matching tolerance of shaft d_1/d_2 is h6.

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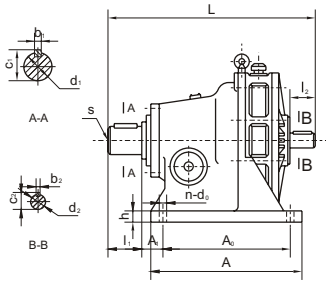
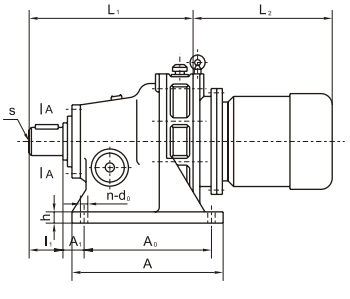
XW



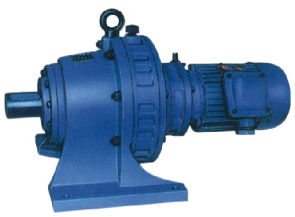
XWD

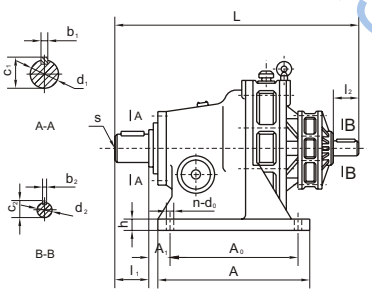


mm

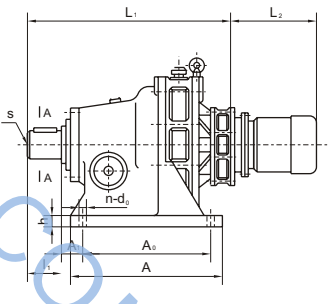
机型号 Frame	中心高 Centre height H_0	安装尺寸 Installation dimension								轴伸连接尺寸 Shaft end dimension								外形尺寸 Outerside dimension								重量 Kg
		A_1	A_0	B_1	B_0	h	s	地脚螺孔 Hole n	地脚螺孔 Hole d_0	输出轴 Output shaft d_1	输出轴 Output shaft b_1	输出轴 Output shaft c_1	输出轴 Output shaft l_1	输入轴 Input shaft d_2	输入轴 Input shaft b_2	输入轴 Input shaft c_2	输入轴 Input shaft l_2	A	B	H	D	双轴型 Double Shaft style L	直联型 Flange style L_1	直联型 Flange style L_2	直联型 Flange style B_2	
1	100	25	90	40	150	12	M8	4	12	25	8	31	35	15	5	17	25	120	180	175	150	202	141	According to motor size 按电动机尺寸		8
2		67		45	180	15						28	34						210	184	168	218	155			14
3	140	96	100	55	250	20				35	10	38	55	18	6	20.5	35	150	290	240	200	269	191			29
4	150	95	145	65	290	22	M10		16	45	14	48.5	74	22	6	24.5	40	195	330	275	240	340	255			45
5	160	115	150	75	370	25	M12			55	16	59	91	30	8	33	45	260	420	356	300	401	302			92
6	200	36	275		380	30			22	65	18	69	89	35	10	38	54	335	430	425	340	468	358			131
7	220		320	85	420					80	22	85	109	40	12	43	65	380	470	460	360	522	397			165
8	250	35	380	120	480	35	M16			90	25	95	120	45	14	48.5	70	440	530	529	430	581	440			245
9	290	45	480		560	40	M20		26	100	28	106	141	50		53.5	80	560	620	614	500	674	529			390
10	325	80	500		630	45			30	110		116	150	55	16	59	100	600	690	706	580	806	608			564
11	420	122	330x2	160	800	50	2-M20	6	32	130	32	137	202	70	20	74.5	120	810	880	883	710	1022	811			1160

XWE





XWED



mm

机型号 Frame	中心高 Centre height H_0	安装尺寸 Installation dimension								轴伸连接尺寸 Shaft end dimension								外形尺寸 Outerside dimension							重量 Kg
		A_1	A_0	B_1	B_0	h	S	地脚螺孔 Hole n	地脚螺孔 Hole d_0	输出轴 Output shaft d_1	输出轴 Output shaft b_1	输出轴 Output shaft c_1	输出轴 Output shaft l_1	输入轴 Input shaft d_2	输入轴 Input shaft b_2	输入轴 Input shaft c_2	输入轴 Input shaft l_2	A	B	H	D	双轴型 Double Shaft style L	直联型 Flange style L_1	直联型 Flange style L_2	
31	140	96	100	55	250	20	M8	4	16	35	10	38	55	15	5	17	25	150	290	240	200	310	258	According to motor size 按电动机尺寸	37
42	150	95	145	65	290	22	M10			45	14	48.5	74					195	330	275	240	384	326		75
53	160	115	150	75	370	25	M12		22	55	16	59	91	18	6	20.5	35	260	420	356	300	457	383		94
63	200	36	275		380	30				65	18	69	89					335	430	425	340	519	447		148
74	220		320	85	420					80	22	85	109	22		24.5	40	380	470	460	360	589	508		193
84	250	35	380	120	480	35	M16			90	25	95	120					440	530	529	430	633	552		270
85														30	8	33	45					656	566		310
95	290	45	480		560	40	M20		26	100	28	106	141					560	620	614	500	745	655		485
106	325	80	500		630	45			30	110		116	150	35	10	38	54	600	690	709	580	855	750		650
116	420	122	330x2	160	800	50	2-M20	6	32	130	32	137	202					810	880	883	710	1066	958		1232
117														40	12	43	65					1081	963		1280

注：d_1/d_2 轴伸公差为h6.

Note:Matching tolerance of shaft d_1/d_2 is h6.

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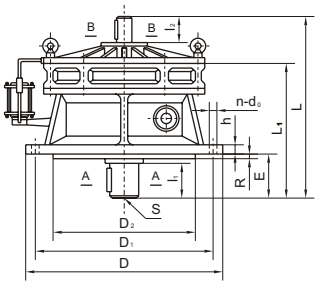
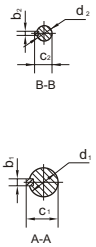
XL





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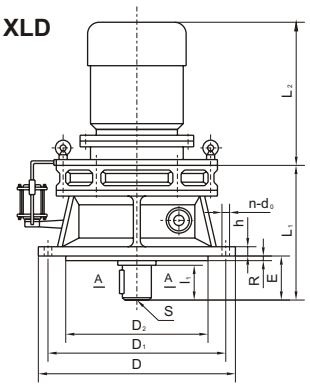
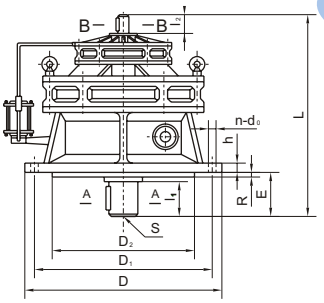
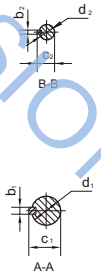


mm

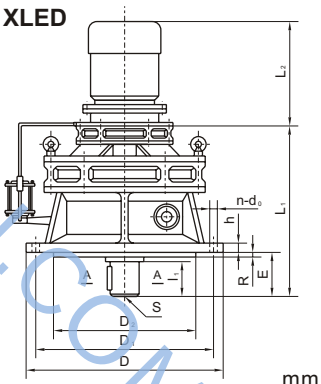
机型号 Frame	安装尺寸 Installation dimension								轴伸连接尺寸 Shaft end dimension								外形尺寸 Outerside dimension					重量
							地脚螺孔 Hole		输出轴 Output shaft				输入轴 Input shaft					双轴型 Double Shaft style	直联型 Flange style			
	D_1	D_2	E	h	R	S	n	d_0	d_1	b_1	c_1	l_1	d_2	b_2	c_2	l_2	D	L	L_1	L_2	B_2	Kg
1	134	110	48	9	3	M8	4	12	28	8	31	35	15	5	17	25	160	202	141	According to motor size 按电动机尺寸		8
2	160	130	42	12			6		25		28	34					180	218	155			13
3	200	170	50	15	4	M10			35	10	38	45	18	6	20.5	35	230	269	191			26
4	230	200	79						45	14	48.5	63	22		24.5	40	260	333	255			38
5	310	270	93	20		M12			55	16	59	79	30	8	33	45	340	399	302			93
6	360	316	92	22	5		8	16	65	18	69	80	35	10	38	54	400	470	358			138
7	390	345	114					18	80	22	85	98	40	12	43	65	430	522	397			160
8	450	400	112	30	6	M16	12		90	25	95	110	45	14	48.5	70	490	581	440			240
9	520	455	170	35	8	M20		22	100	28	106	129	50		53.5	80	580	698	529			370
10	590	520	174	40	10				110		116	140	55	16	59	100	650	806	608			622
11	800	680	210	45		2-M20		38	130	32	137	184	70	20	74.5	120	880	1042	811			1210

XLE





XLED



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机型号 Frame	安装尺寸 Installation dimension								轴伸连接尺寸 Shaft end dimension								外形尺寸 Outerside dimension					重量
							地脚螺孔 Hole		输出轴 Output shaft				输入轴 Input shaft					双轴型 Double Shaft style	直联型 Flange style			
	D_1	D_2	E	h	R	S	n	d_0	d_1	b_1	c_1	l_1	d_2	b_2	c_2	l_2	D	L	L_1	L_2	B	Kg
31	200	170	50	15	4	M8	6	12	35	10	38	45	15	5	17	25	230	310	258	According to motor size 按电动机尺寸		35
42	230	200	79			M10			45	14	48.5	63					260	384	326			75
53	310	270	93	20		M12			55	16	59	79	18	6	20.5	35	340	457	383			94
63	360	316	92	22	5		8	16	65	18	69	80					400	519	447			149
74	390	345	114					18	80	22	85	98	22		24.5	40	430	589	508			193
84	450	400	112	30	6	M16	12		90	25	95	110					490	633	552			280
85													30	8	33	45		656	566			310
95	520	455	170	35	8	M20		22	100	28	106	129					580	745	655			495
106	590	520	174	40	10				110		116	140	35	10	38	54	650	855	754			667
117	800	680	210	45		2-M20		38	130	32	137	184	40	12	43	65	880	1081	963			1290

注：d_1/d_2 轴伸公差为h6.
Note:Matching tolerance of shaft d_1/d_2 is h6.

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选型说明
Selection specification

● 1.减速机技术参数（Reducer`s technical data）

直联型单级减速机许用转矩和输入功率
Single Stage Coupled-Type Reducer Power Rating

机型对照 Frame contrast	天津X	X1		X2		X3		X4		X5		X6		X7		X8		X9		X10		X11	
	上海B	B09		B10		B11		B12		B13		B14				B15		B16		B17		B18	
	原一机部B			B12		B15		B18		B22		B27				B33		B39		B45		B55	
传动比 Ratio		输入功率Iuput power (kW)/ 许用转矩 Allowed torque(N.m)																					
11		0.55	35	0.75	47	2.2	139	4	252	7.5	473	11	693	15	945	18.5	1749	22	2080				
17		0.37	36	0.75	73	1.5	146	3	292	5.5	536	11	1071	11	1071	18.5	2703	22	3214	37	5406	55	8036
23		0.37	49	0.55	73	1.5	188	2.2	290	5.5	725	7.5	988	11	1450	18.5	3657	18.5	3657	30	5930	37	7314
29		0.25	42	0.55	91	1.1	183	1.5	249	4	665	7.5	1246	11	1828	15	2492	18.5	4611	30	7477	37	9222
35		0.25	50	0.37	74	0.75	150	1.5	304	4	802	7.5	1504	11	2206	15	3008	15	3008	22	6618	37	11129
43		0.25	62	0.37	91	0.75	185	1.1	271	3	739	5.5	1355	7.5	1848	11	2710	11	2710	22	8130	37	13673
59						0.55	166	1.1	372	2.2	744	4	1352	5.5	1859	7.5	2535	11	3718	18.5	9381	30	15212
71						0.55	224	0.75	305	2.2	895	2.2	895	5.5	2237	7.5	3051	11	4475	18.5	11288	22	13424
89								0.75	374			2.2	1079	4	1994	7.5	3738	11	5483			22	16449

注: 1.表中18.5kW及以上时均用6极(1000r/min)电机,18.5kW以下用4极(1500r/min)电机。
Note: 1.The power is above 18.5kW (include), the motor is 6 pole (1000r/min).
The Power is below 18.5kW, the motor is 4 pole (1500r/min).
2.Single Stage-Double Shaft type reducers power rating also accord to this table.

直联型双级减速机许用转矩和输入功率
Double stage Coupled-Type Reducers Power Rating

机型对照 Frame contrast	天津X	X31		X42		X53		X63		X74		X84		X85		X95		X106		X116		X117	
	上海B	B1109		B120		B131		B141				B152		B153		B163		B174		B184			
	原一机部B			B1812		B2215		B2715				B3318		B3322		B3922		B4527		B5527			
传动比 Ratio		输入功率Iuput power (kW)/ 许用转矩 Allowed torque(N.m)																					
121		0.25	175	0.37	228	1.1	678	1.5	925	4	2465	4	2465	5.5	3390	5.5	3390	11	6780				
187		0.25	250	0.37	352	0.75	714	1.5	1430	3	2650	4	3810	4	3810	5.5	5230	11	10470	11	10470	11	10470
289		0.25	250	0.37	490	0.75	980	1.1	1620	2.2	2650	3	4410	3	4410	4	5890	7.5	11030	11	16190	11	16190
319		0.25	250	0.37	490	0.75	980	1.1	1780	2.2	2650	3	4410	3	4410	4	6500	5.5	8930	7.5	12190	7.5	12190
473		0.25	250	0.37	490	0.55	981	1.1	1960	1.5	2650	2.2	4410	2.2	4410	3	7230	4	9820	7.5	18060	7.5	18060
595		0.25	250	0.37	490	0.37	981	0.75	1960	1.1	2650	1.5	4410	1.5	4410	2.2	6670	4	11760	5.5	16660	5.5	16660
731		0.25	250	0.37	490	0.37	981	0.55	1960	1.1	2650	1.5	4410	1.5	4410	2.2	8190	4	11760	4	14890	4	14890
841		0.25	250	0.37	490	0.37	981	0.55	1960	0.75	2650	1.1	4410	1.5	4410	1.5	6430	3	11760	4	17130	4	17130
1003		0.25	250	0.37	490	0.37	981	0.55	1960	0.75	2650	1.1	4410	1.5	4410	1.5	7660	3	11760	4	19610	4	19610
1225						0.37	981	0.55	1960	0.75	2650	0.75	4410	1.5	4410	1.5	8825	2.2	11760	4	19610	4	19610
1505						0.37	981	0.55	1960	0.75	2650	0.75	4410	1.5	4410	1.5	8825	2.2	11760	4	19610	4	19610
1849						0.37	981	0.55	1960	0.75	2650	0.75	4410	1.5	4410	1.5	8825	2.2	11760	4	19610	4	19610
2065								0.55	1960	0.75	2650	0.75	4410	1.5	4410	1.5	8825	2.2	11760	4	19610	4	19610
2537								0.55	1960	0.75	2650	0.75	4410	1.5	4410	1.5	8825	2.2	11760	4	19610	4	19610
3481										0.75	2650	0.75	4410	1.5	4410	1.5	8825	2.2	11760	4	19610	4	19610
5133										0.75	2650	0.75	4410	1.5	4410	1.5	8825	2.2	11760	4	19610	4	19610

注：1.表中额定输入转速为1500r/min;
2.双轴型双级减速机许用转矩和输入功率参照上表选取。

Note: 1.The rating input speed is 1500r/min;
2.Double stage double shaft type reducer's power rating also accord to this table .

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2.选 用 方 法

本系列摆线针轮减速机是在每日八小时单向连续运转，载荷平稳的条件下设计的，当减速机实际工作时间和载荷性质与上述设计条件不符时，应以工作情况系数K_A进行修正，K_A值按下表确定。

Selection Method

These series cycloidal pin gear reducers were designed to continous operation for 8 hours daily with single direction rotation and stability load . When the actual operating time and load character are not accored with the above condition , it must be corrected with operating condition coefficient K_A , The value of K_A is decided according to Table 8.

工作情况系数K_A表
Operating condition coefficient k_A

原动机种类 Prime Mover	工作条件 OPERATING CONDITION		载荷性质 Load character		
			平稳载荷 Stable	中等冲击 Mode rate shock	较大冲击 Heavy shock
电动机 Motor	3～8小时/日	3~8hrs/day	0.8	1.0	1.35
	8~10小时/日	8~10hrs/day	1.0	1.2	1.5
	连续工作24小时/日	24hrs/day	1.2	1.4	1.6

● 摆线针轮减速机的选用分如下几种情况

(1)、减速机输入轴转速等于标准减速机额定转速时按下式选择:

$$\frac{P \times K_A}{\eta} \leqslant P_{1P}$$

式中 P——负载功率kw
K_A——工况系数
η ——减速机效率，单级一般取 η =0.85～0.9 双级一般取 η =0.72~0.8
P_{1P}——所选机型号的输入功率kW

(2)、按减速机输出轴转矩选择机型号时，一般稳定载荷及短时期瞬时载荷不超过稳定载荷的160%，应按下式选择。

$$T \leqslant T_P$$

式中 T—负载工作转矩N · m
T_p—所选择机型号减速机的输出轴许用转矩N · m
当减速机短期瞬时载荷超过稳定载荷的160%时，应按尖峰载荷选择，应保证 $\frac{Tmax}{1.6} \leqslant T_P$
Tmax——负载最大尖峰转矩N · m

(3)、减速机输入转速不等于承载能力表中的额定转矩时，应先按$T_C \leqslant T_P$选择机型号

$$T_C = (\frac{n}{n_1})^{1/\varepsilon} \cdot T$$

式中 T_C——计算工作转矩N · m
n——输入实际转速r/min
n_1——减速机输入轴额定转速1500或1000
ε ——转臂轴承寿命指数，球轴承 ε =3、滚子轴承 ε =10/3
T_p——减速机在额定转速时的输出轴许用转矩N · m
T——输出轴实际工作转矩N · m
然后按下式验算
$T \leqslant T_{maxp}$
若满足上式则所选减速机合适，否则，应据上式选较大型号

The selection of cycloidal pin gear reduar separate several instance as follow:

(1) When the input speed equal to the standard reducer s rating speed please select reducer according to the following formula:

$$\frac{P \times K_A}{\eta} \leqslant P_{1P}$$

In formula: P-Load power (kw)
K_A-Operating condition coefficient
η -The reducer efficiency , single stage adopt η =0.85~0.9 , double stage adopt η =0.72~0.8
P_{1P}-The selected reducer`s input power (kw)

(2) Select type according to the reducer output torque .when the load is stable or the instantaneous load is not exceed one hundred and sixty percent of the stable load , Please according to the following formula:

$T \leqslant T_P$
In formula: T-Load torque N.m
T_P-The selected reducer`s allowed output torque. When the instantaneous load .please select according to the peak load, is exceed one hundred and sixty percent of stable load must assure
Tmax-The maximum peak load must assure $\frac{Tmax}{1.6} \leqslant T_P$

(3) When the input speed is not equal to the rating speed, please select reducer according to Tc≤Tp at first

$$T_C = (\frac{n}{n_1})^{1/\varepsilon} \cdot T$$

In formula: T_C-Calculated output torque N·m
n-Actual input speed r/min
n1-Rating input speed r/min
ε -shaft bearing life, ball bearing adopt ε equal to 3, roller bearing adopt ε equal to 10/3
T_P-The allowed output torque N·m
T-Actual output torque N·m
Then calculate the following formula:
T≤Tmaxp
If the formula is met,the selected reducer is good, otherwise please select another bigger type reducer.

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3.使用及维护

1.本机适用于连续工作制，允许正反向连转;

2.输出轴和输入轴的轴伸与其他零件配合时，不允许直接锤击，以防损坏;

3.用联轴器联接工作机械与电机时，应使两轴心线同轴，其同轴度应小于联轴器允差;

4.减速机安装后用手转动轻松灵活;

5.卧式减速机轴心线应处于水平位置工作，必须倾斜时，输出轴伸端向下与水平面夹角不应超过15°,立式减速机应垂直安装使用;

6.本机以油浴润滑为主;

7.环境温度：-10℃～0℃时用L-CKC68、L-CKC46（原N46,N68）润滑油,0℃～40℃时用L-CKC68～L-CKC220（原N68,N100,N150,N220）润滑油;

8.加换油制度:第一次加油运转一周后应更换新油，并将内部油污冲净。以后每3~6个月更换一次，运转中减速机体内储油量必须保持规定油面高度，不宜过多或过少，补油可打开通气帽或油杯盖补充。

9.采用油脂润滑的减速机更换油制度与润滑油一样.

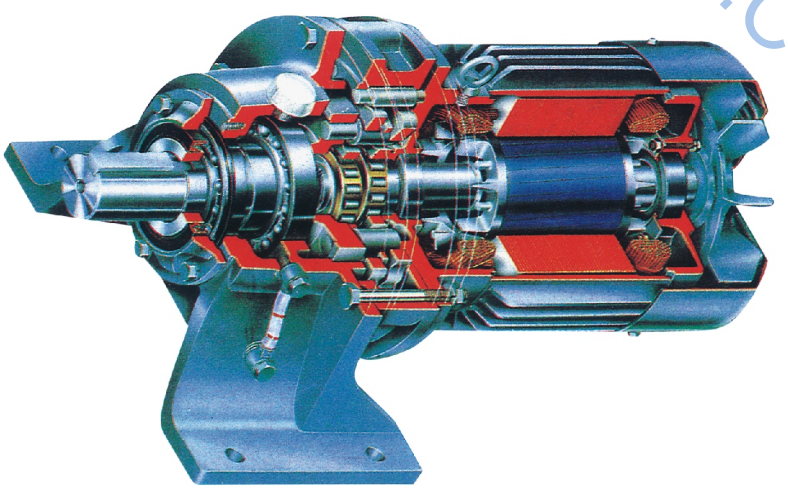
Use and maintenance

1.This reducer is applicable to continuous operation system and allowed forward and backward rotating.
2.Direct hammering is not allowed when output shaft and input shaft fitted with other parts so as to avoid damaging inside parts.
3.Make the axis concentric when connecting to working machine or motor by coupling, the concentricity shall not greater than the permissible error of the coupling.
4.The reducer must be rotating freely when rotate by hand after installation
5.The axial line of horizontal reducer shall be at horizontal position, when it is necessary to operate in tilt, the angle between output shaft and level shall not exceed fifteen degree. The vertical reducer shall be vertically when installing and operating.
6.The reducer is lubricated with oil bath.
7.Ambient temperature:when it is -10℃～0℃ use L-ckc68,L-ckc46(original N46,N68) Lubricating oit, when it is 0℃～40℃ use L-ckc68～L-CKC220 (original N68,N100,N150,N220) lubricating oil.
8.Oil adding and Changing System: oil should be renewed after first week operation and flush away the internal dirt oil. Change oil every 3~6 months later. Oil stored inside the reducer has to be kept at specified level during operation ,too much or to less is not feasible. Oil can be added by opening the breather or oil cup cover.
9.The grease lubricated reducer s Changing System is alike.

注意：本减速机出厂时未装润滑油、用户使用前务必按规定加足润滑油。
Note: The reducer is not packed with lubrication oil when leaving factory, User must add lubrication oil accord to specification before operating.

摆线针轮减速机剖面图

Section fig of cycloidal pin gear reducer



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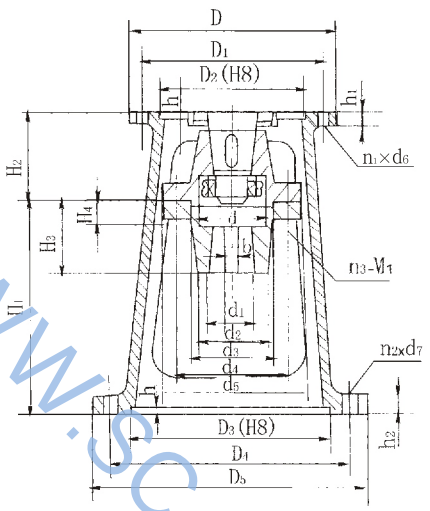

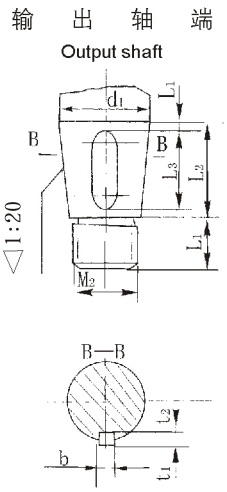

JA型机架图
JA model stander fig..

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机架型号 Bracket model		减速机型号 Frame	D	D_1	D_2	D_3	D_4	D_5	H_1	H_2	H_3	H_4	h	h_1	h_2	d	d_1	d_2	d_3
JA	J0	0	190	160	140	150	190	220	180	83	60	25	6	16	16	45	30	60	60
	J1	1	230	200	170	215	260	290	200	101	75					50	35		
	J2	2	260	230	200	290	350	380	250	116	90	30		20	20	70	50	80	80
	J3	3	340	310	270	360	440	480	300	134	110			22	22	80	60	100	100
	J4	4	400	360	320	440	535	580	380	158	130	40	7	25	25	90	70	110	110
	J5	5	490	450	400	450	550	600	395	200	150			28	28	115	85	125	150

mm

机架型号 Bracket model		减速机型号 Frame	d_1	d_5	n_1 x d_6	n_2 x d_7	n_3 - M_1	M_2	L_1	L_2	L_3	L	t_1	t_2	B
JA	J0	0	90	110	4 x 11	6 x 12	6-M10	M22 X 1.5	13	38	28	5	7	11	8
	J1	1	95	115	6 x 12	8 x 12	4-M10	M27 X 1.5	25	48	38		8	13	10
	J2	2	120	150	6 x14	8 x 14	4-M14	M39 X 1.5	28	58	48		10	20	16
	J3	3	145	180		8 x 18	4-M16	M45 X 1.5	30	78	68		11	24.5	18
	J4	4	165	200	8 x 18	8 x 22	6-M16	M52 X 1.5	38	88	78		12	29	20
	J5	5	190	230	12 x 18		8-M18	M68 X 2		108	100	4	14	35.5	21

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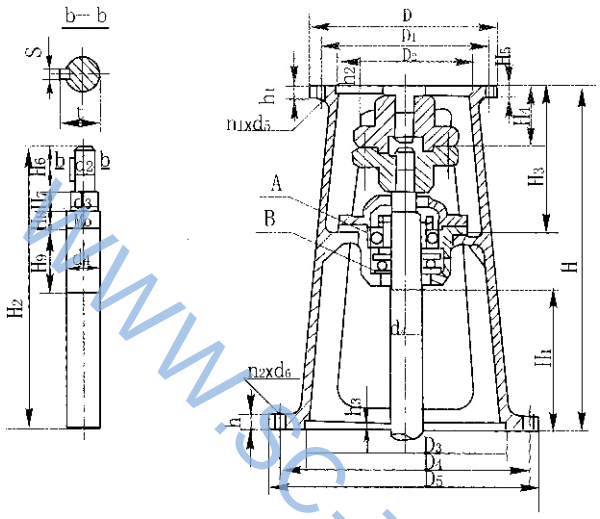
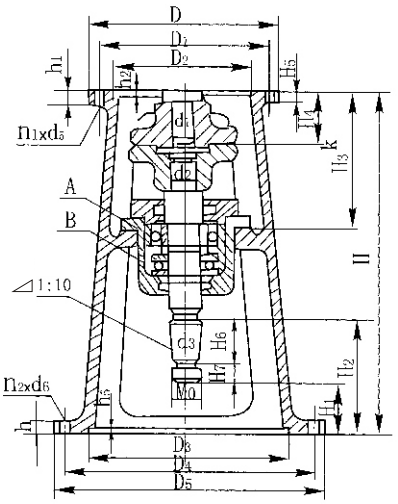


JB型搅拌用机架图
JB model agitation stander fig.



TB 型搪玻璃反应罐用机架图
TB model enamel-glass reaction canner bracket fig.

mm

机架型号 Bracket model		减速机型号 Frame	D	D1	D2	D3	D4	D5	H	H1	H2	H3	H4	H5	H6	H7	H8	H9	S	t
TB	TJ1	1	230	200	170	220	270	305	514	153	220	186	84	7	33	34	———			
	TJ2					250	300	335	517	141	217	186			44	32				
	TJ3	3	340	310	270	295	350	392	585	169	250	220	99		47	34				
	TJ4					345	400	442	675	203	300	250			53	44				
	TJ5					390	450	498	680	193					58	49				
	TJ6	4	400	360	320	435	500	548	736	201	325	280	115	8	65	59				
JB	TB4														92	41	32	120	20	74.5
	TB5	5	490	450	400	440	550	600	835	175	295	360	145	10	130	44	40	142	25	95
	Tb6	6	580	520	455	500			928		305	450	182	12	163	46		456	28	107

mm

机架型号 Bracket model		减速机型号 Frame	h	h1	h2	h3	d1	d2	d3	d4	m0	n1 x d5	n2 x d6	机架配套轴承 Matched bearing	
														A	B
TB	TJ1	1	24	18	6	5	35	35	30	—	M24	6 X ϕ12	4 X ϕ24	36208	8208
	TJ2								39		M33			36209	8209
	TJ3	3	26	20			55	55				6 X ϕ14		36210	8210
	TJ4								50		M42			36213	8213
	TJ5				76				60		M52		4 X ϕ30		
	TJ6	4	30	22	7		70	70	70		M64	8 X ϕ18	8 X ϕ30	36215	8215
JB	TB4									75	2-M60				
	TB5	5		26	8	7	90	90	90	95	2-M80	12 X ϕ18	12 X ϕ22	320	8320
	Tb6	6	35	28	10		100	100	100	105	2-M90	12 X ϕ23		322	8322

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