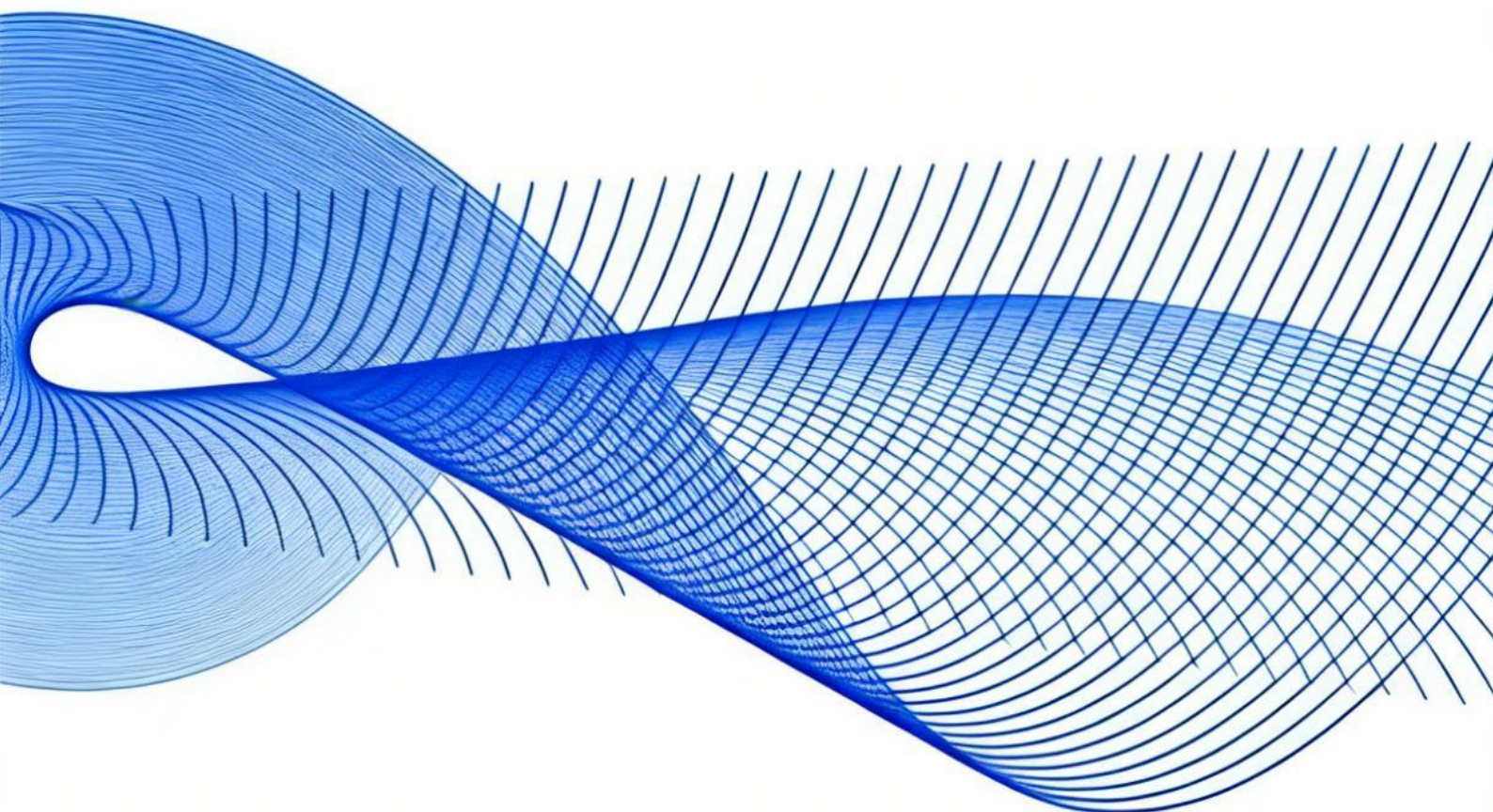


Hangzhou GT Rail Traffic Equipment Co., Ltd

IVH Drive: Global Power Transmission Solutions



Precision Transmission Catalogue

About Us

IVH DRIVE was founded in 2011 and headquartered in Hangzhou, is a National High-Tech Enterprise integrating R&D, manufacturing, and sales. With over 150 employees (15% in R&D) and a 32,000 m² smart production base, the company achieves an annual turnover of 150 million RMB (with 30% from exports), maintaining steady growth. Holding prestigious international certifications such as CE, UL, and CSA, IVH DRIVE is committed to providing domestic alternatives for high-end transmission equipment, delivering high-efficiency and high-stability power solutions for the global rail traffic and industrial sectors. Our products are widely utilized in diverse industries, including smart logistics, food packaging, energy & mining, and construction machinery. To date, we have exported to 25 countries, with a business footprint spanning Europe, North America, Southeast Asia, and the Middle East, making us your trusted partner for industrial power.

2011

SINCE

25+

EXPORT COUNTRIES

40+

PRODUCT COVERAGE

8

FACTORIES DISTRIBUTION



Product Content

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T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

产品图片



T..-I-U



T..-D-L



T..-I-D



T..-U-LR

T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

T系列螺旋伞齿轮转向器

1.产品概述 Product Overview

1、T系列螺旋伞齿轮转向器，标准化、多品种，速比1: 1、1.5:1、2:1、2.5:1、3:1、4:1、5:1全部为实际传动比，平均率98%。

2、有单轴、双横轴、单纵轴、双纵轴可选。

3、螺旋锥齿轮可以正反旋转，低速或高速传动平稳，而且噪声低、振动小、承受力大。

4、当速比不为1:1时，横轴输入、纵轴输出为减速，纵轴输入、横轴输出为增速。

1.T Series spiral bevel redirector with various types are standardized, all ratios of 1 : 1,1.5: 1,2: 1,2.5: 1,3:1,4:1 and 5:1 are actual ones. Average efficiency is 98%.

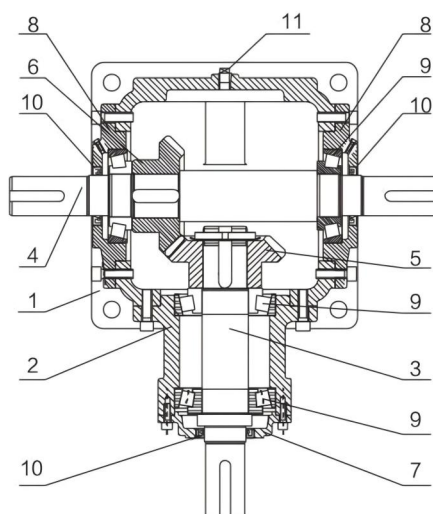
2.There are one input shaft, two input shafts, unilateral output shaft and double side output shaft.

3.Spiral bevel gear can rotate in both directions and transmit smoothly, low noise, light vibration, high performance.

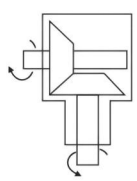
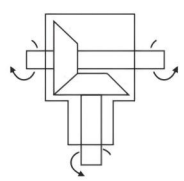
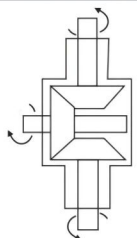
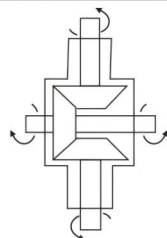
4.If ratio is not 1: 1,if input speed on single-extendalbe shaft, output speed will be reduced; if input speed on double-extendable shaft output speed will be reduced.

2.产品结构图 Product Structural View

- | | |
|---------|-------|
| 1.机座 | 7.端盖 |
| 2.横轴座 | 8.端盖 |
| 3.横轴 | 9.轴承 |
| 4.纵轴 | 10.油封 |
| 5.横轴锥齿轮 | 11.油镜 |
| 6.纵轴锥齿轮 | |



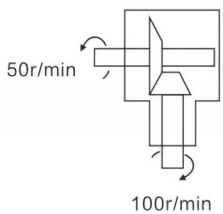
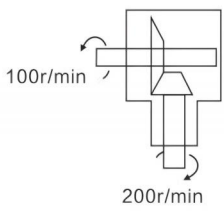
3.转向功能 Function Of Rotation

1 横轴 Input shaft		2 横轴 Input shafts	
2轴 2-extended shaft	3轴 3-extended shaft	3轴 3-extended shaft	4轴 4-extended shaft
			

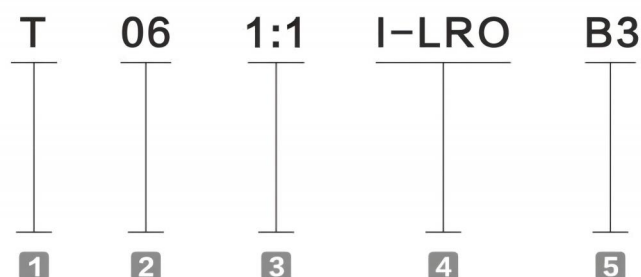
说明：当输入轴旋转方向改变，输出轴相应改变。 Specification: Direction of rotation of output shaft varies with that of input shaft.

4. 选定输入轴时应注意转数关系（1:1传动比时无关系）

Parry attention to the ration when fixing the input side
(there is nothing in case of ratio of 1:1)

减速 Reducing	增速 Increasing
 当横轴输入100r/min时 纵轴输出50r/min Output speed is 50rpm, when input speed is 100rpm	 当纵轴输入100r/min时 横轴输出200r/min Output speed is 200rpm when input speed is 100rpm

5. 型号表示方法 Expressed method of Model



1	2	3	4	5
螺旋伞齿轮转向器 Spiral bevel gear reducer overview	机座号 Size of gear units	速比 Ratio	轴配置 Shaft arrangement	安装方位 Mounting position

6. 重量表 Weight Table

型号Type	T2	T4	T6	T7	T8	T10	T12	T16	T20	T25
m(kg)	2	10	21	32	49	78	124	188	297	488

T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

7. 转向器Fr(N)表 Redirector Fr(N) Table

i _N	n ₁ (r/min)	T2		T4		T6		T7		T8		T10		T12		T16		T20		T25	
		横轴	纵轴	横轴	纵轴	横轴	纵轴	横轴	纵轴	横轴	纵轴	横轴	纵轴	横轴	纵轴	横轴	纵轴	横轴	纵轴	横轴	纵轴
1:1	1450	265	216	833	951	1911	2450	2450	3136	3234	3381	4165	4508	5096	5586	10633	10976				
	1150	323	235	882	1029	2058	2597	2744	3234	3479	3626	4459	4851	5488	6076	11368	11760	15386	15608		
	870	402	255	960	1127	2205	2842	2989	3381	3773	3969	4851	5292	5880	6566	12446	12740	16660	17150	24794	25480
	580	549	314	1078	1323	2499	3185	3381	3822	4263	4459	5488	5880	6713	7301	14014	14504	18816	19404	28028	28910
	400	637	353	1372	1715	3185	3528	4018	4900	4851	5978	6272	7056	7742	8134	15680	16170	21070	21756	31360	32340
	300	696	392	1519	1960	3430	3528	4410	5537	5243	6958	6713	7987	8232	9065	17150	17640	23422	24108	34300	35280
	200	784	441	1911	1960	3430	3528	5096	6272	7889	8820	8575	9604	9261	10290	19600	19894	25970	26754	38612	39788
	100	980	588	1911	1960	3430	3528	5096	6272	8428	8820	9996	11760	11368	12593	22540	22540	28420	32928	39200	49000
	10	980	588	1911	1960	3430	3528	5096	6272	8428	8820	9996	11760	11858	14504	22540	22540	28420	33320	39200	49000
1.5:1	1450			1078	1960	2548	2842	3430	5390	4361	7987	5194	9212	5978	10486	5978	12152	7693	14602		
	1150			1078	1960	3038	3087	4067	5978	5096	8820	6174	10486	7252	12152	6419	13083	8771	17934	12985	24647
	870			1078	1960	3430	3332	4753	6076	6076	8820	7448	11760	8869	14504	6958	14210	9506	19453	13573	29400
	580			1078	1960	3430	3528	5096	6174	7644	8820	9555	11760	11466	14504	7840	16072	10780	22001	15680	33222
	400			1078	1960	3430	3528	5096	6272	8428	8820	9996	11760	11858	14504	8820	17934	12005	24598	17542	37142
	300			1078	1960	3430	3528	5096	6272	8428	8820	9996	11760	11858	14504	9604	19600	13132	27342	19159	40474
	200			1078	1960	3430	3528	5096	6272	8428	8820	9996	11760	11858	14504	10829	22148	14798	30282	21658	45766
	100			1078	1960	3430	3528	5096	6272	8428	8820	9996	11760	11858	14504	13328	22540	18228	33320	26656	49000
	10			1078	1960	3430	3528	5096	6272	8428	8820	9996	11760	11858	14504	22540	22640	28420	33320	39200	49000

备注：各规格更低的输出转速按以上最大的Fr值。

Notes: If there is lower output speed, please choose the maximum from the above table.

8. 被驱动设备系数f₁ Service Factor f₁

负荷性质 Load characteristic	每天使用时闭(小时) Operating time/day (hour)		
	≤2	2~10	0~24
均匀负载Uniform	1.00(1.00)	1.00(1.25)	1.25(1.50)
一般冲击Moderate	1.00(1.25)	1.25(1.50)	1.50(1.75)
强烈冲击Heavy	1.25(1.50)	1.50(1.75)	1.75(2.00)

备注：当每个小时启动、停止次数在10次以上，请使用括号内数值。

Notes: Please use these data inside the bracket when number of starts and stops/hour is greater than ten times.

T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

9. 传动能力表 Transmission Capacity Table

i_N	n_1 (r/min)	T2		T4		T6		T7		T8	
		$M_{N2}(N \cdot m)$	$P_{N1}(kW)$	$M_{N2}(N \cdot m)$	$P_{N1}(kW)$	$M_{N2}(N \cdot m)$	$P_{N1}(kW)$	$M_{N2}(N \cdot m)$	$P_{N1}(kW)$	$M_{N2}(N \cdot m)$	$P_{N1}(kW)$
1:1	1450	11.6	1.79	31.9	4.94	96.0	14.9	142	22.0	294	45.6
	1150	11.7	1.43	34.1	4.19	103	12.7	150	18.4	305	37.5
	870	12.1	1.12	37.2	3.46	113	10.5	164	15.2	312	29.0
	580	12.1	0.747	39.5	2.45	119	7.35	184	11.4	319	19.8
	400	12.3	0.524	40.2	1.72	122	5.20	195	8.34	326	14.0
	300	12.3	0.396	40.5	1.30	123	3.93	198	6.35	331	10.6
	200	12.4	0.226	41.2	0.880	124	2.66	201	4.30	338	7.23
	100	12.7	0.136	41.9	0.448	127	1.36	206	2.20	346	3.70
	10	13.0	0.014	43.0	0.046	132	0.141	214	0.228	361	0.386
1.5:1	1450					117	12.1	145	15.0	185	19.1
	1150					122	9.96	147	12.0	188	15.4
	870					123	7.66	150	9.30	191	11.8
	580					126	5.23	153	6.32	197	8.14
	400					128	3.66	155	4.41	200	5.70
	300					129	2.77	157	3.35	203	4.34
	200					131	1.87	160	2.28	204	2.91
	100					134	0.957	163	1.16	210	1.49
	10					139	0.099	169	0.12	218	0.155
2:1	1450	12.1	0.94	42.8	3.32	102	7.90	137	10.6	180	14.0
	1150	12	0.74	43.4	2.67	104	6.39	139	8.55	183	11.3
	870	12	0.56	43.8	2.04	105	4.88	141	6.56	187	8.70
	580	11.9	0.37	44.4	1.38	108	3.34	144	4.47	191	5.92
	400	12.2	0.26	45.1	0.96	109	2.33	146	3.12	194	4.15
	300	11.9	0.19	45.5	0.73	110	1.76	148	2.37	196	3.14
	200	12.2	0.13	46.1	0.49	111	1.18	149	1.59	198	2.12
	100	11.2	0.06	46.6	0.25	114	0.608	152	0.812	202	1.08
	10	28.1	0.015	48.5	0.026	116	0.062	157	0.084	209	0.112
2.5:1	1450					96.2	5.97	113	6.99	184	11.4
	1150					97.2	4.78	115	5.64	185	9.11
	870					99.0	3.68	116	4.30	188	7.00
	580					100.0	2.48	118	2.92	192	4.76
	400					100.9	1.73	120	2.05	195	3.34
	300					102.9	1.32	121	1.55	197	2.53
	200					103.9	0.888	123	1.05	200	1.71
	100					104.9	0.448	123	0.528	203	0.867
	10					107.8	0.046	126	0.054	208	0.089
3:1	1450					93.6	4.84	105	5.42	159	8.20
	1150					94.8	3.88	106	4.34	160	6.55
	870					95.9	2.97	108	3.34	163	5.04
	580					97.6	2.02	109	2.25	166	3.42
	400					99.0	1.41	111	1.58	168	2.39
	300					100	1.07	111	1.18	169	1.80
	200					100	0.712	113	0.803	171	1.22
	100					102	0.363	115	0.409	173	0.618
	10					104	0.037	118	0.042	179	0.064
4:1	1450					80.6	3.12	93.4	3.62	124	4.80
	1150					81.5	2.50	94.3	2.90	125	3.83
	870					82.4	1.92	95.9	2.23	127	2.95
	580					84.1	1.30	96.9	1.50	129	2.00
	400					85.1	0.91	98.7	1.05	131	1.40
	300					86.1	0.69	98.3	0.79	131	1.05
	200					86.0	0.46	101	0.54	134	0.71
	100					87.7	0.23	101	0.27	135	0.36
	10					89.3	0.02	101	0.03	140	0.04
5:1	1450					52.0	1.61	57.4	1.78	68.7	2.13
	1150					52.5	1.29	58.0	1.43	69.2	1.70
	870					53.2	0.99	59.0	1.10	70.4	1.31
	580					54.2	0.67	59.6	0.74	71.7	0.89
	400					54.9	0.47	60.7	0.52	72.6	0.62
	300					55.5	0.36	60.4	0.39	72.9	0.47
	200					55.4	0.24	61.7	0.26	74.1	0.32
	100					56.5	0.12	62.9	0.13	75.1	0.16
	10					57.6	0.01	64.5	0.01	77.8	0.02

1. 横轴转速未达到10r/min时, 请使用10r/min的数据。

2.  以上有灰色标识的规格定货时必须咨询, 横轴输入转速超过1450r/min时, 向本公司咨询。

T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

传动能力表 Transmission Capacity Table

i_N	n1 (r/min)	T10		T12		T16		T20		T25	
		M _{N2} (N·m)	P _{N1} (kW)	M _{N2} (N·m)	P _{N1} (kW)	M _{N2} (N·m)	P _{N1} (kW)	M _{N2} (N·m)	P _{N1} (kW)	M _{N2} (N·m)	P _{N1} (kW)
1:1	1450	421	65.3	619	96.0	1019	163				
	1150	453	55.7	665	81.1	1098	139	1842	234		
	870	479	44.6	726	67.5	1186	114	2009	193	3489	335
	580	493	30.6	802	49.7	1343	85.9	2274	145	3940	252
	400	504	21.5	821	35.1	1499	66.1	2538	112	4410	195
	300	513	16.4	835	26.8	1637	54.1	2744	90.8	4792	159
	200	521	11.1	852	18.2	1784	39.3	3126	69.0	5390	119
	100	535	5.72	875	9.36	1842	20.3	3205	35.3	5439	60.0
1.5:1	10	561	0.599	919	0.983	1940	2.14	3205	3.53	5713	6.30
	1450	374	38.7	564	58.3						
	1150	380	31.2	601	49.2						
	870	389	24.1	656	40.7						
	580	396	16.4	699	28.9						
	400	406	11.6	711	20.3						
	300	411	8.78	724	15.5						
	200	417	5.95	736	10.5						
2:1	100	426	3.04	754	5.37						
	10	443	0.316	785	0.56						
	1450	305	23.6	516	40.0	921	73.7	1578	126		
	1150	309	19.0	516	31.7	938	59.5	1607	102	3146	199
	870	315	14.6	516	24.0	958	46.0	1646	79.0	3224	155
	580	322	10.0	524	16.3	980	31.3	1695	54.2	3332	107
	400	328	7.02	538	11.5	1000	22.0	1725	38.0	3420	75.4
	300	332	5.33	543	8.71	1009	16.7	1754	29.0	3479	57.5
2.5:1	200	338	3.61	551	5.89	1029	11.3	1784	19.7	3557	39.2
	100	344	1.84	563	3.01	1058	5.84	1833	10.1	3646	20.1
	10	357	0.191	586	0.313	1098	0.605	1921	1.06	3822	2.11
	1450	293	18.2	507	31.4						
	1150	298	14.7	514	25.3						
	870	302	11.2	523	19.5						
	580	310	7.68	535	13.3						
	400	315	5.38	545	9.32						
3:1	300	317	4.06	552	7.08						
	200	321	2.75	560	4.79						
	100	326	1.40	568	2.43						
	10	336	0.144	588	0.251						
	1450	270	14.0	458	23.6	904	48.2	1529	82.3	2935	158
	1150	275	11.3	464	19.0	920	38.9	1561	66.6	3045	130
	870	279	8.66	469	14.6	940	30.1	1598	51.6	3135	101
	580	285	5.89	480	9.92	960	20.4	1644	35.4	3246	69.9
4:1	400	288	4.11	490	6.98	978	14.4	1672	24.8	3317	49.3
	300	291	3.11	495	5.29	990	10.9	1701	18.9	3372	37.6
	200	294	2.10	501	3.57	1005	7.38	1733	12.9	3449	25.6
	100	300	1.07	510	1.82	1038	3.82	1777	6.60	3537	13.1
	10	308	0.110	527	0.188	1076	0.40	1865	0.69	3713	1.4
	1450	241	9.35	434	16.8	850	34.3	1452	58.7	2798	113
	1150	246	7.54	441	13.5	865	27.7	1483	47.5	2892	92.6
	870	249	5.78	448	10.4	884	21.4	1518	36.8	2978	72.2
5:1	580	254	3.93	456	7.07	902	14.6	1562	25.2	3084	49.8
	400	257	2.74	465	4.97	919	10.2	1588	17.7	3151	35.1
	300	259	2.08	470	3.77	930	7.8	1616	13.5	3204	26.8
	200	262	1.40	476	2.54	944	5.3	1646	9.17	3276	18.2
	100	267	0.71	485	1.30	976	2.7	1688	4.70	3360	9.36
	10	275	0.07	501	0.13	1011	0.3	1772	0.49	3527	0.98
	1450	136	4.21	296	9.18	814	26.3	1391	44.9	2631	85.0
	1150	138	3.39	301	7.39	828	21.2	1420	36.4	2771	71.0
5:1	870	140	2.60	305	5.68	847	16.4	1454	28.2	2853	55.3
	580	143	1.77	311	3.86	864	11.2	1496	19.3	2954	38.2
	400	144	1.23	318	2.72	881	7.85	1521	13.6	3018	26.9
	300	146	0.93	321	2.06	891	5.96	1548	10.3	3069	20.5
	200	148	0.63	325	1.39	905	4.03	1577	7.03	3138	14.0
	100	150	0.32	331	0.71	935	2.08	1617	3.60	3218	7.17
	10	155	0.03	342	0.07	969	0.22	1697	0.38	3378	0.75

1.If speed is less than 10rpm, please choose 10rpm.

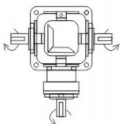
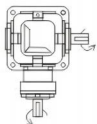
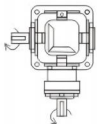
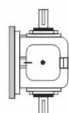
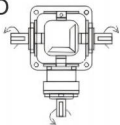
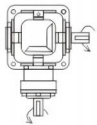
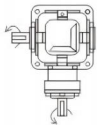
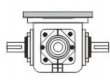
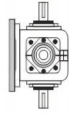
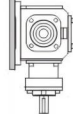
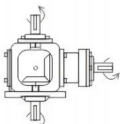
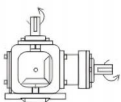
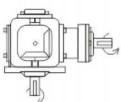
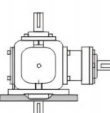
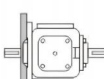
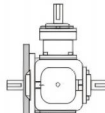
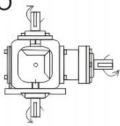
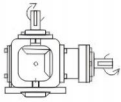
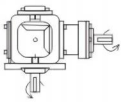
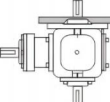
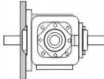
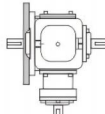
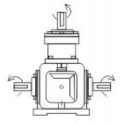
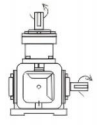
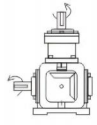
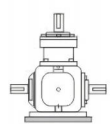
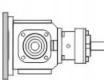
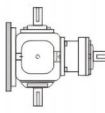
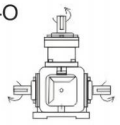
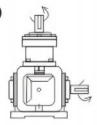
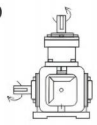
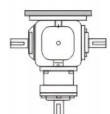
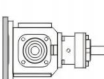
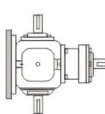
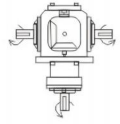
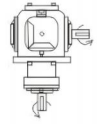
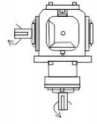
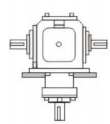
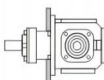
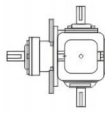
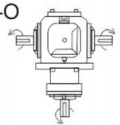
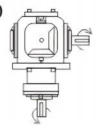
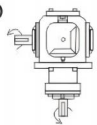
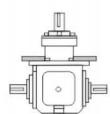
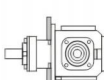
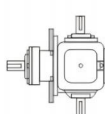
2.  Please contact us, when order the model with ash sign or that input speed is more than 1450rpm.

T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

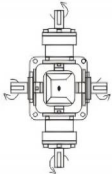
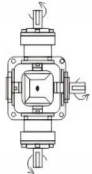
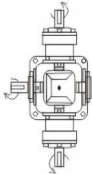
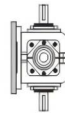
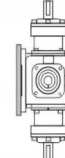
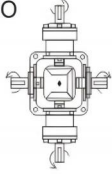
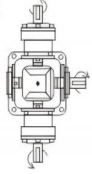
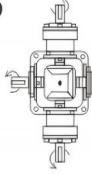
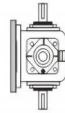
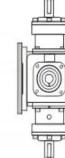
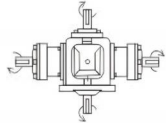
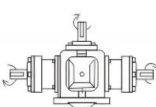
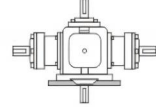
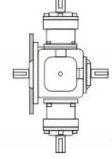
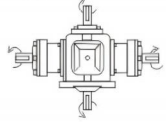
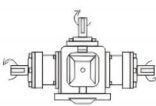
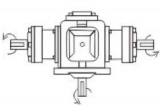
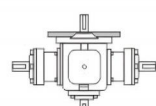
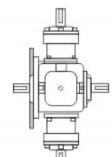
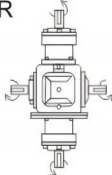
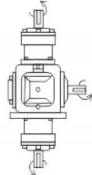
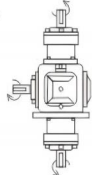
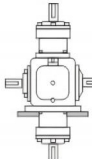
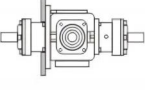
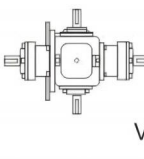
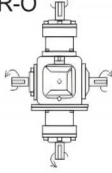
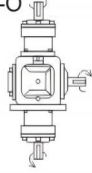
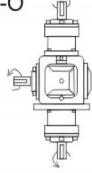
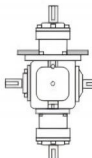
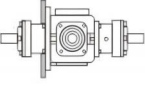
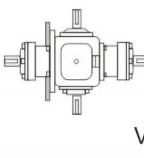
10. 轴配置及轴旋转方向的关系、安装方位

The relationship between shaft arrangements and direction of shaft rotation

I-LR	I-R	I-L						
						B3	B6	V5
I-LR-O	I-R-O	I-L-O						
						B8	B7	V6
I-UD	I-U	I-D						
						B3	B6	V5
I-UD-O	I-U-O	I-D-O						
						B8	B7	V6
U-LR	U-R	U-L						
						B3	B6	V5
U-LR-O	U-R-O	U-L-O						
						B8	B7	V6
D-LR	D-R	D-L						
						B3	B6	V5
D-LR-O	D-R-O	D-L-O						
						B8	B7	V6

T系列螺旋伞齿轮转向器

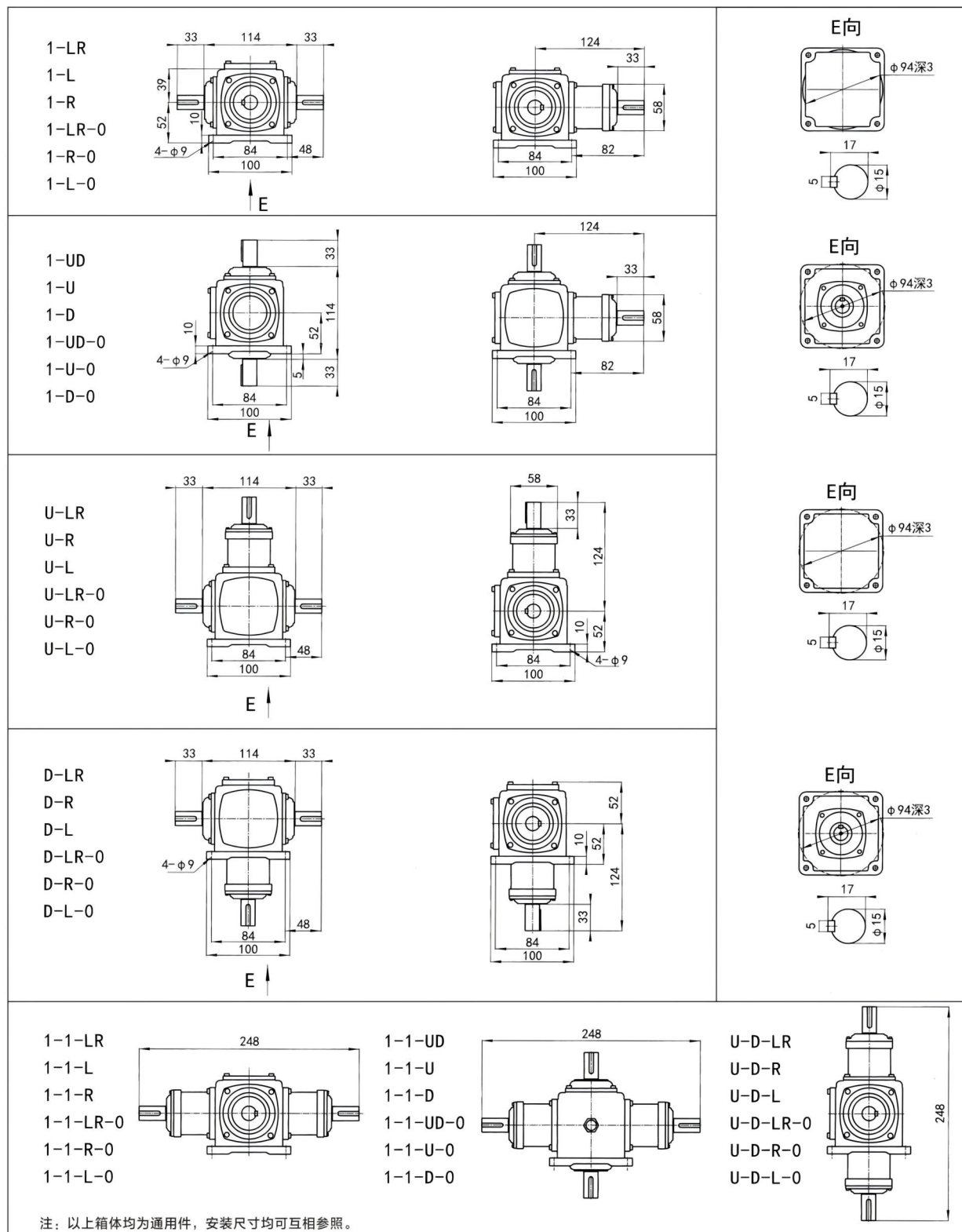
T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

I-I-LR	I-I-R	I-I-L						
						B3	B6	V5
I-I-LR-O	I-I-R-O	I-I-L-O						
						B8	B7	V6
I-I-UD	I-I-U	I-I-D						
						B3	B6	V5
I-I-UD-O	I-I-U-O	I-I-D-O						
						B8	B7	V6
U-D-LR	U-D-R	U-D-L						
						B3	B6	V5
U-D-LR-O	U-D-R-O	U-D-L-O						
						B8	B7	V6

T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

T2 外型安装尺寸

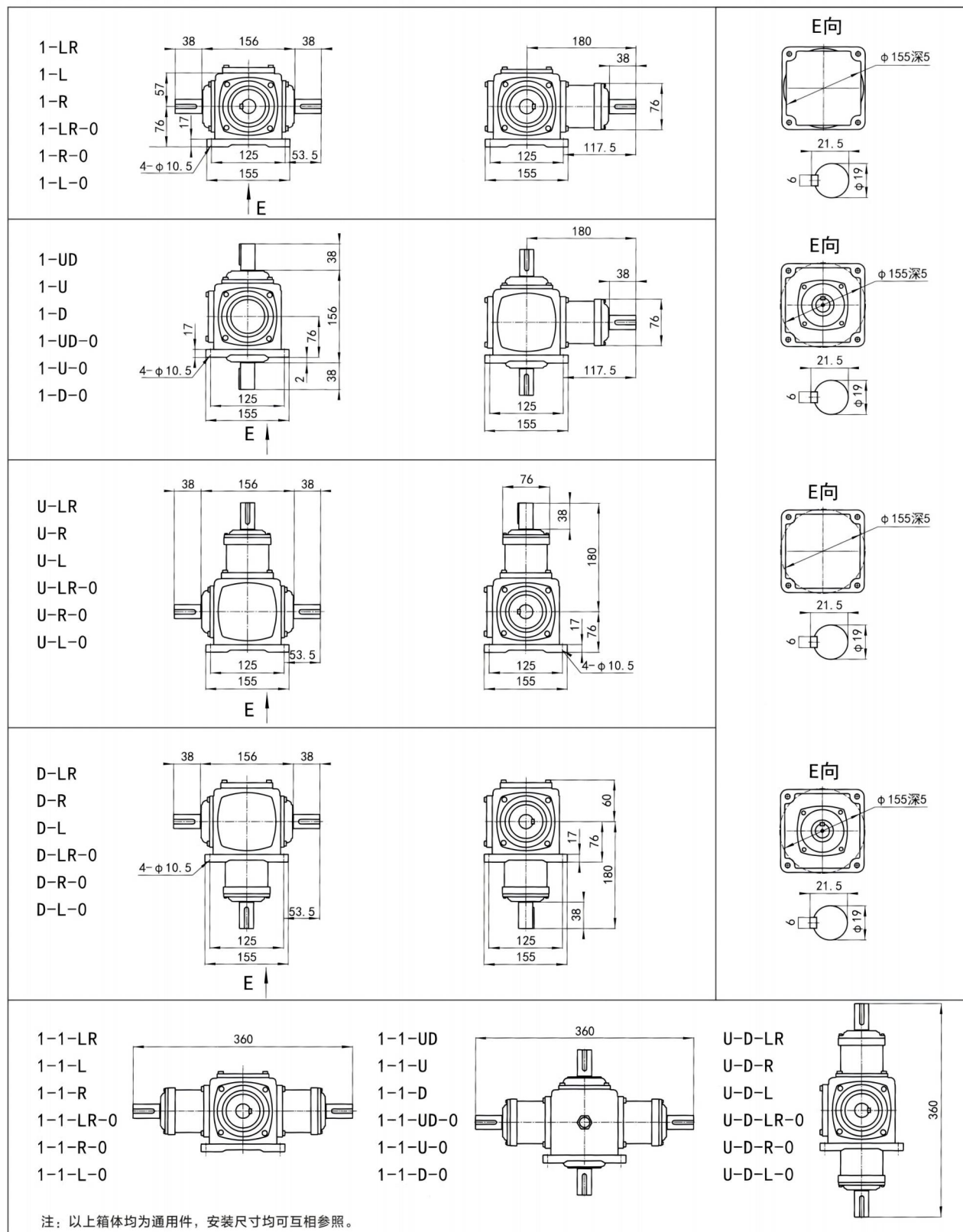


注：以上箱体均为通用件，安装尺寸均可互相参照。

T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

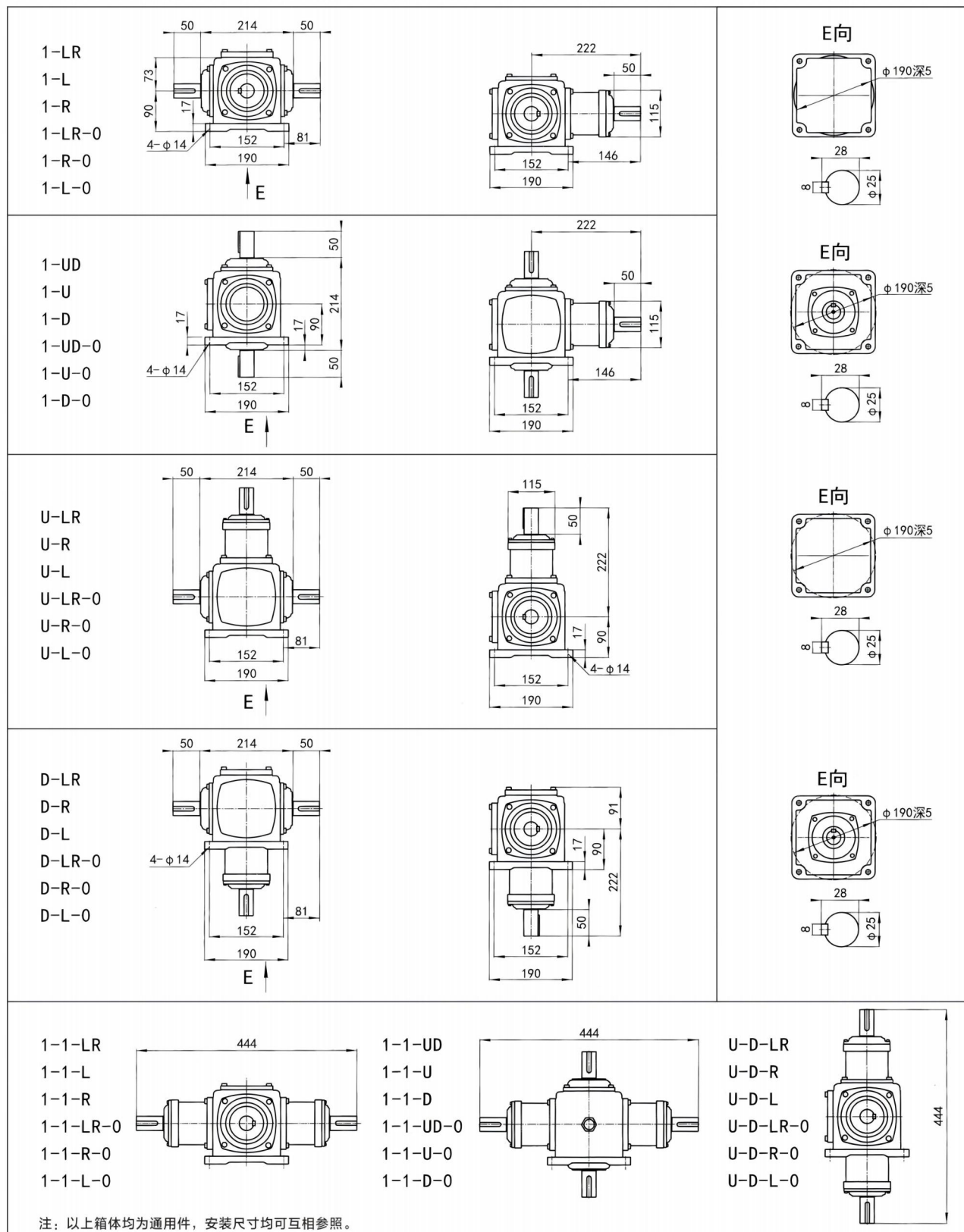
T4 外型安装尺寸



T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

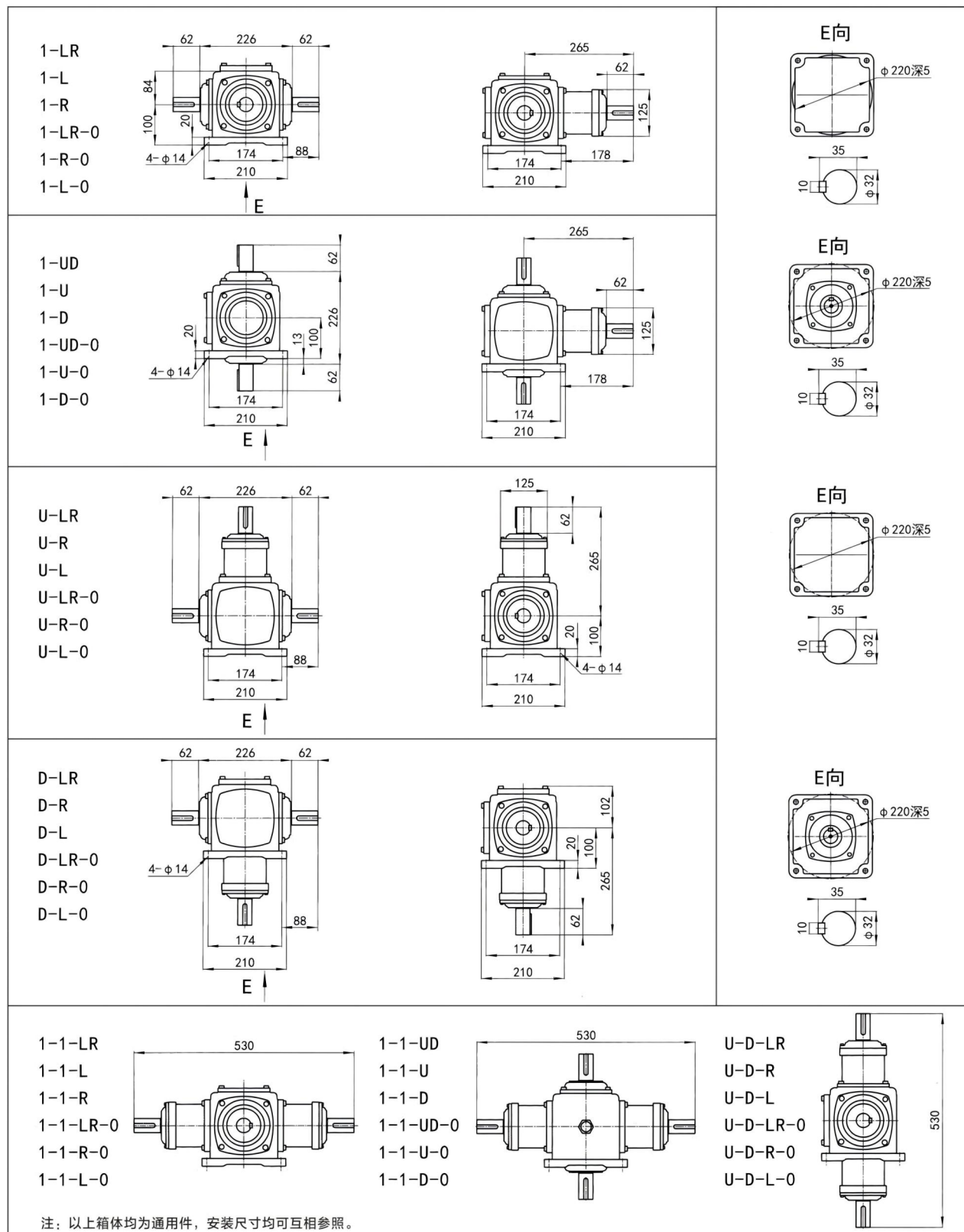
T6 外型安装尺寸



T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

T7 外型安装尺寸



注：以上箱体均为通用件，安装尺寸均可互相参照。

T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

T8 外型安装尺寸

1-LR 1-L 1-R 1-LR-0 1-R-0 1-L-0		
1-UD 1-U 1-D 1-UD-0 1-U-0 1-D-0		
U-LR U-R U-L U-LR-0 U-R-0 U-L-0		
D-LR D-R D-L D-LR-0 D-R-0 D-L-0		
1-1-LR 1-1-L 1-1-R 1-1-LR-0 1-1-R-0 1-1-L-0		
1-1-UD 1-1-U 1-1-D 1-1-UD-0 1-1-U-0 1-1-D-0		
U-D-LR U-D-R U-D-L U-D-LR-0 U-D-R-0 U-D-L-0		

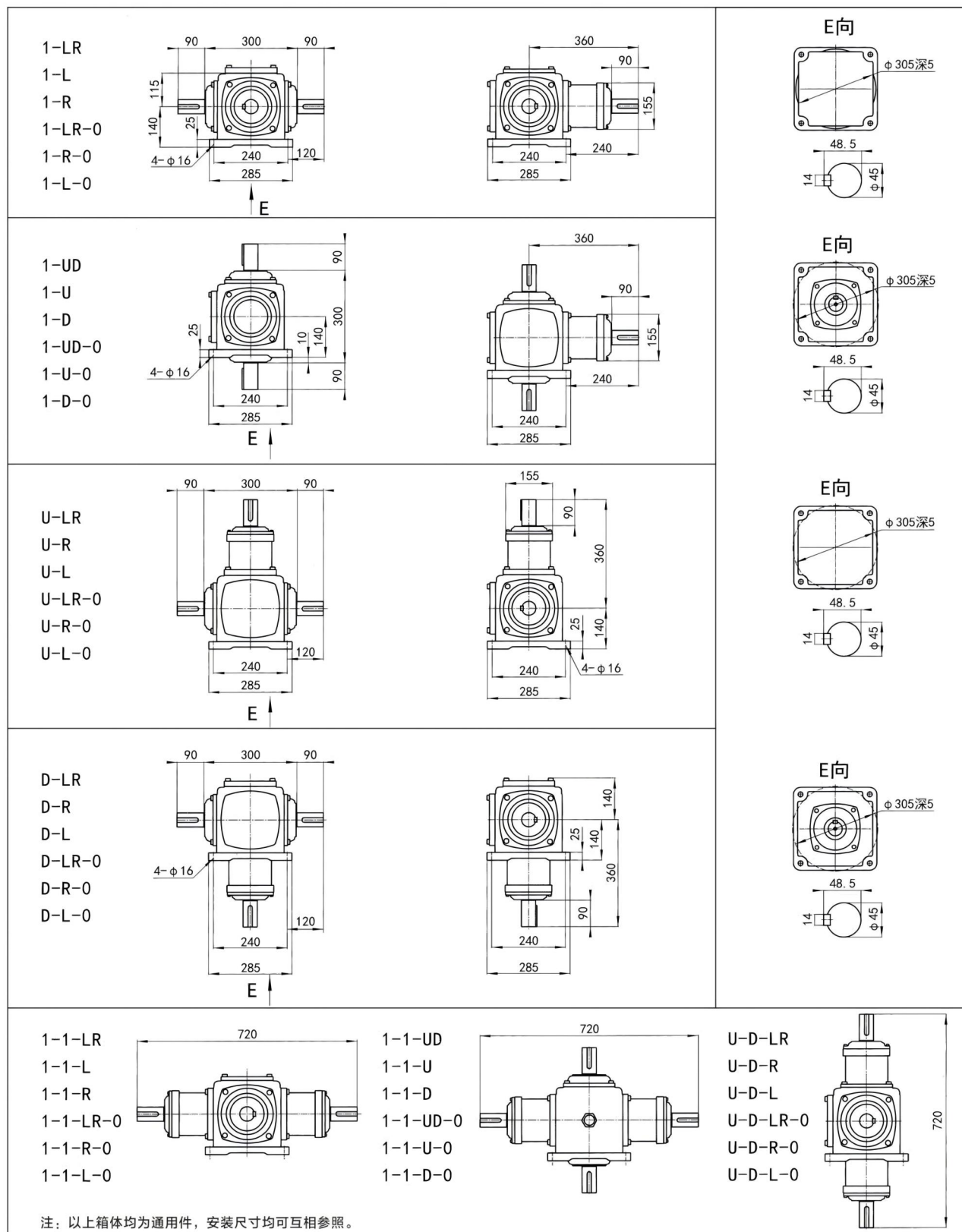
注：以上箱体均为通用件，安装尺寸均可互相参照。

注：以上箱体均为通用件，安装尺寸均可互相参照。

T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

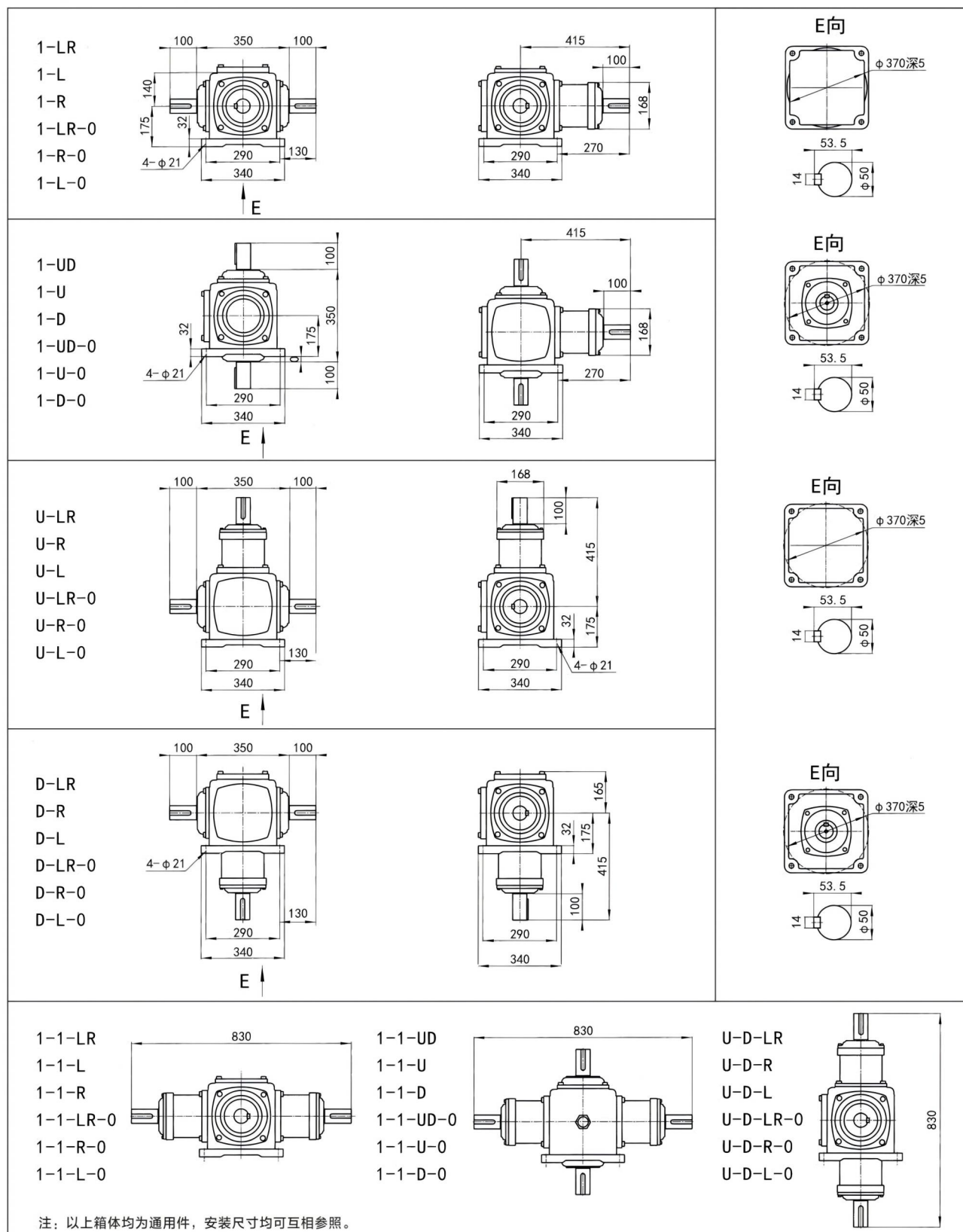
T10 外型安装尺寸



T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

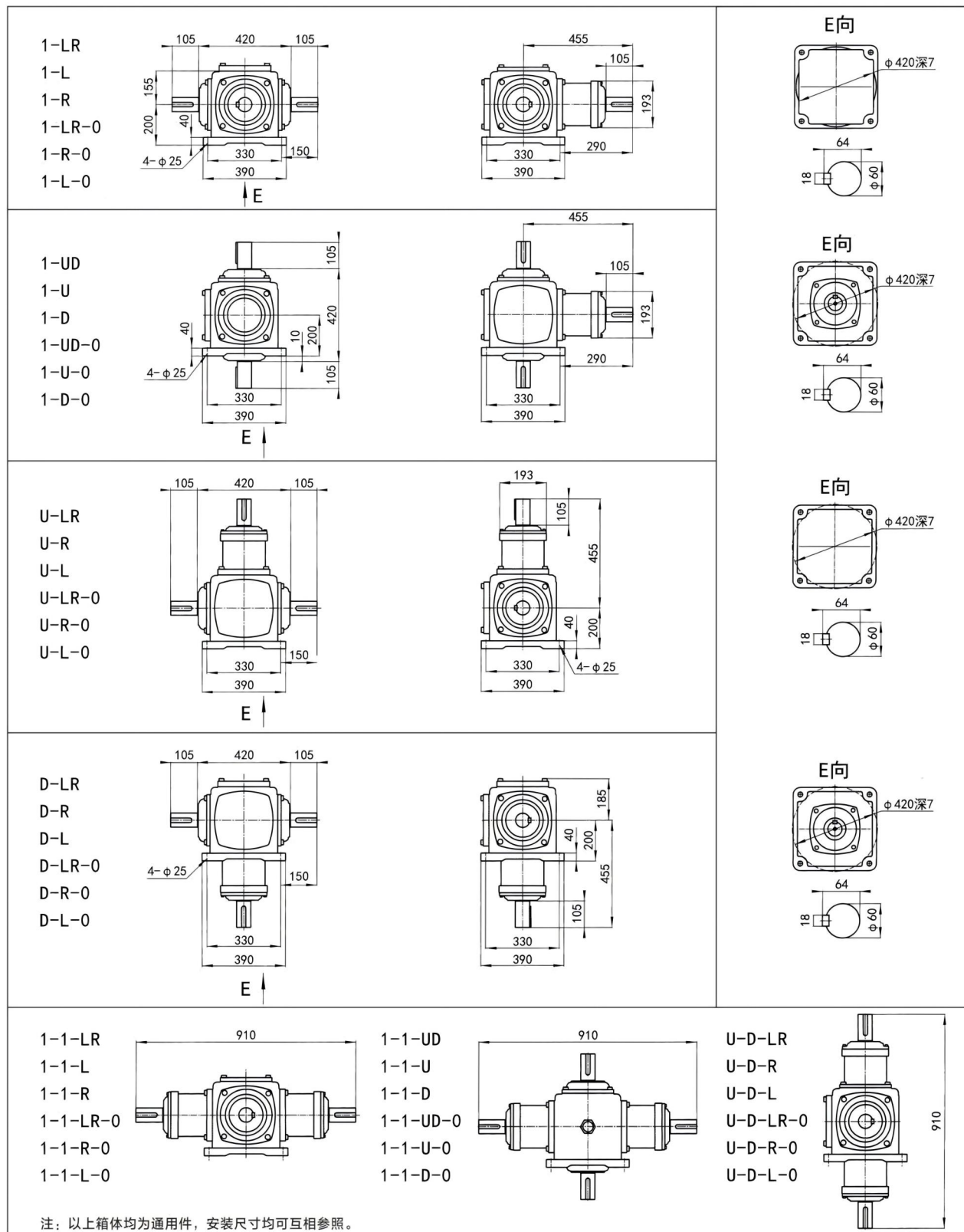
T12 外型安装尺寸



T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

T16 外型安装尺寸

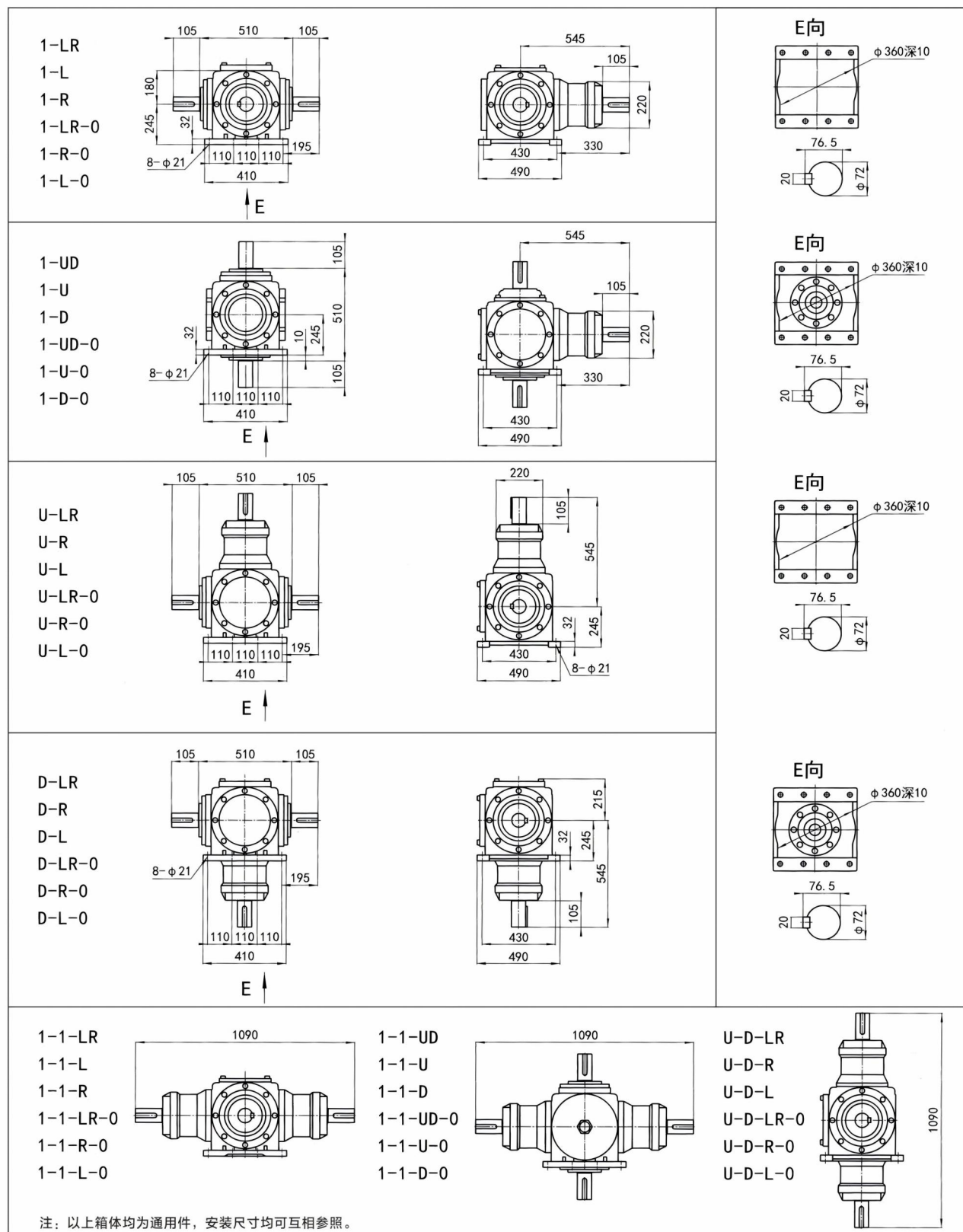


注：以上箱体均为通用件，安装尺寸均可互相参照。

T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

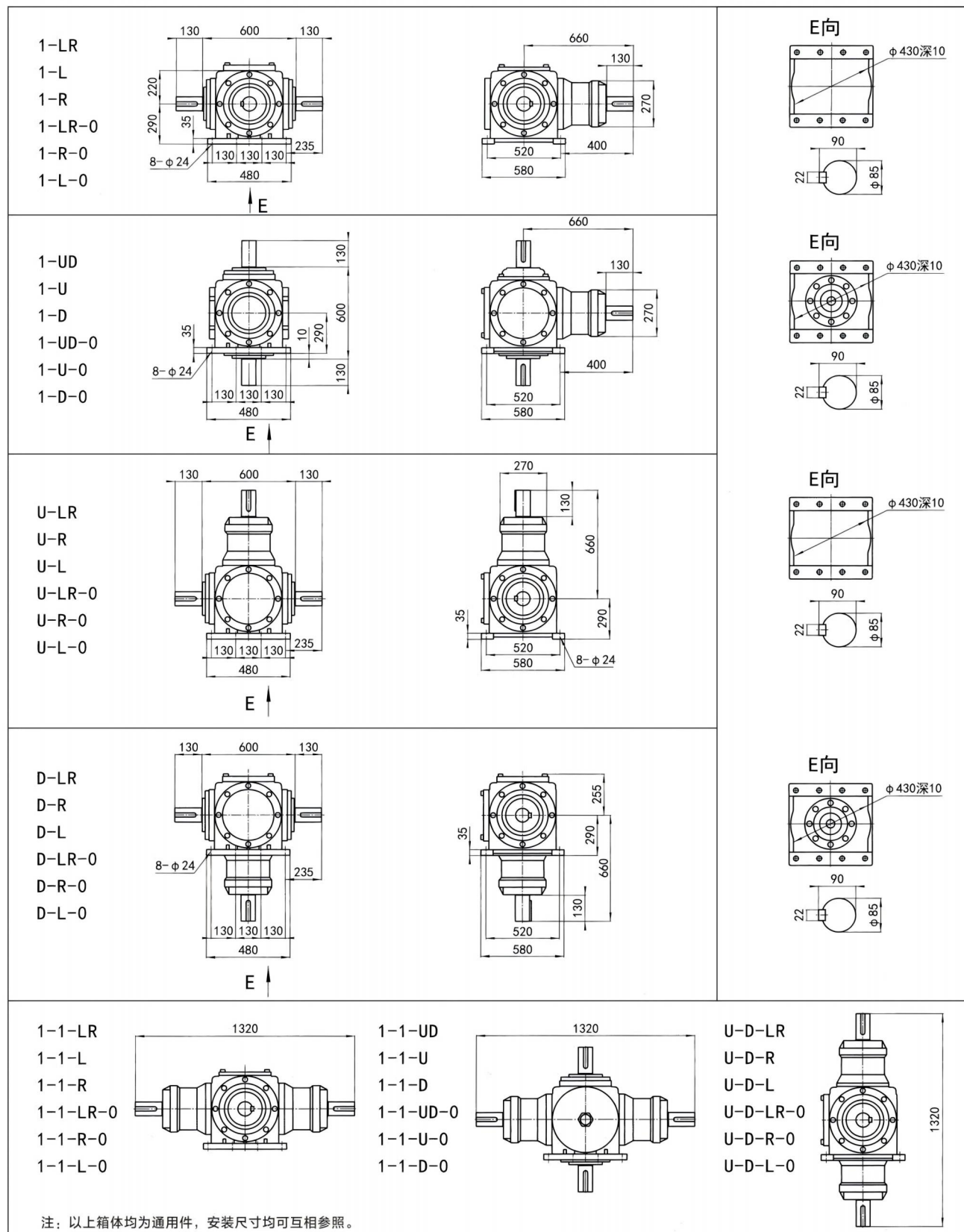
T20 外型安装尺寸



T系列螺旋伞齿轮转向器

T SERIES SPIRAL BEVEL GEAR STEERING DEVICE

T25 外型安装尺寸



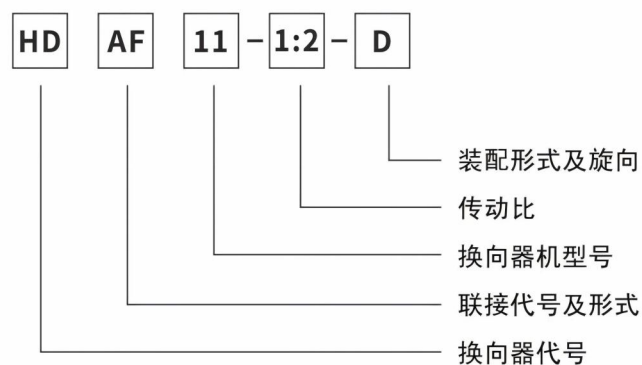
HD螺旋锥齿换向传动器

一、产品介绍

螺旋锥齿换向传动器和换向减速器，其结构特点如下：

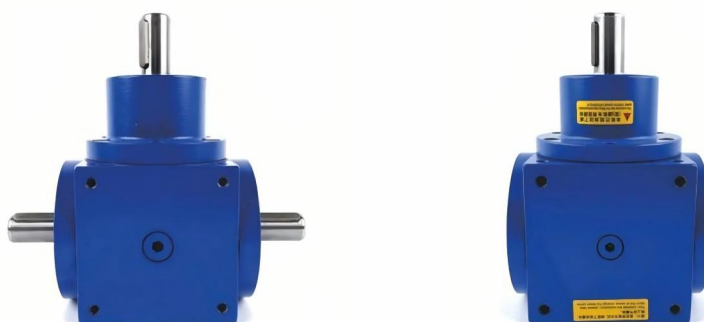
- 1、箱体形状为正六面体，能适应不同方位的安装。
- 2、换向器设计使用寿命长，承载能力大，传动平稳，噪音低齿轮线速度可高达40米/秒，传动效率高达94%~98%。
- 3、弧齿圆锥齿轮采用优质低碳合金结构钢，经渗碳淬火热处理，并经研磨跑合，实现精度较高的硬齿面闭式传动。
- 4、HD系列换向器共有七种规格，选型范围大，输出轴形式多样，可满足多种场合的需要。
- 5、可实现减速和增速两种传动方式。

二、型号表示法



联接代号及形式

HD 输入、输出轴伸式联接	HAD 输入轴伸、输出轴装式联接
HDF 带输入法兰、输出轴伸式联接	HDAF 带输入法兰、输出轴装式联接



HD螺旋锥齿换向传动器

HD SERIES SPIRAL BEVEL GEAR UNIT

三、传动比计算

$$\text{传动比 } i = \frac{\text{输入转速 } n_1}{\text{输出转速 } n_2} \quad \text{当 } i \text{ 大于 } 1 \text{ 时为减速, } i \text{ 小于 } 1 \text{ 时为增速}$$

四、型号的选择

- 选型计算公式: (1) $P_{1N} = P_1 \times f$ (每小时起停次数不大于20次/小时)
(2) $P_{1N} = 1.2 \times P_1 \times f$ (每小时起停次数21-60次/小时)
(3) $P_{1N} \leq P_N$

选型功率必须小于或等于许用功率

式中: P_{1N} 为选型功率, P_1 为实际需要的功率, f 为使用系数, P_N 为许用功率。

2. 使用系数 f

原动机	每天工作时间 (小时)	承载类型		
		均匀负载	中等冲击负载	重冲击负载
电动机 汽轮机 液压马达	3	0.8	1	1.5
	3~10	1	1.25	1.25
	10~24	1.25	1.5	2
内燃机	3	1.25	1.5	2
	3~10	1.5	1.75	2.25
	10~24	1.25	2	2.5

五、热功率校核

- 热功率计算: $P_{GN} = P_G \times f_1 \times f_2$
 $P_{GN} > P_1$ (自然冷却)
 $P_{GN} < P_1$ (风扇或油冷却)

式中: f_1 为环境温度系数, f_2 为连续工作系数, P_G 为换向器热容量, P_1 为工作实际需要功率, P_{GN} 为换向器计算热容量。

2. 环境温度系数 f_1

环境温度 °C	10	20	30	40	50
系数 f_1	1.2	1	0.87	0.75	0.64

3. 连续工作系数 f_2

每小时工作率 %	100	80	60	40	20
f_2	1	1.2	1.4	1.6	1.8

六、热容量 P_G (自然冷却)

KW

传动比 i	箱体型号						
	09	11	14	17	21	24	28
1~5	4.5	6.5	11	15.5	24	31	44

七、通用技术规范

- 键和键槽尺寸符合GB1095-79、GB1096-79的规定, 键槽宽度公差; 轴N9, 轮毂JS9。
- 输出输入轴中心孔均带螺孔, 规格如下:

D=11-13mm	螺孔 M3	D>24-30mm	螺孔 M10
>13-16mm	螺孔 M5	>30-38mm	螺孔 M12
>16-21mm	螺孔 M6	>38-50mm	螺孔 M16
>21-24mm	螺孔 M8	>50-85mm	螺孔 M20

HD螺旋锥齿换向传动器

HD SERIES SPIRAL BEVEL GEAR UNIT

3. 在外形安装尺寸图中，输入轴、输出轴，在转速和扭矩允许的情况下，可将输出轴作为输入轴实现增速传动。

八、选型举例

例：搅拌器驱动用螺旋锥齿轮换向器

搅拌器实际需要功率 $P_1=28\text{KW}$ ；电机功率 $P_2=30\text{KW}$ ，电机转速 $n_1=2000\text{r/min}$ ，传动比 $i=2$ ，换向器装配形式为D，每天工作8小时，每小时连续工作时间为60%，每小时起停6次，环境温度为 30°C 。

选型：搅拌器原动机为电动机，中等冲击负载，每天工作8小时，按使用系数表：

$$f=1.25$$

选型功率： $P_{IN}=P_1 \times f=28 \times 1.25=35\text{kw}$ (每小时起停6次)

按许用功率：选箱体型号为21， $P_N=52.4\text{KW}>35\text{kw}$

热功率校核：箱体21，按热容量表 $P_G=24\text{KW}$

按环境温度系数表： $f_1=0.87$

按连续工作系数表： $f_2=1.4$

$$P_{GN}=24 \times 0.87 \times 1.4=29.2\text{KW}>28\text{KW}$$

自然冷却即可

选的型号为：HD21-2D

九、传动比、输入输出转速及许用输入功率

传动比 i	输入转速 n_1 r/min	输出转速 n_2 r/min	箱体型号						
			09	11	14	17	21	24	28
			许用输入功率 P_N (KW)						
1	2000	2000	7.55	13.8	29.9	49.2	84	111	188
	1500	1500	6	11	23.9	39.3	67.5	90.5	156
	1000	1000	4.3	7.85	17.2	28.8	50.5	68	115
	750	750	3.4	6.15	13.4	22.8	40.8	54.5	94.2
1.5	2000	1333	5.45	9.7	16.8	33.9	70	92.5	124
	1500	1000	4.3	7.75	13.5	27.2	56.5	75.5	103
	1000	667	3.05	5.45	9.7	19.6	41.2	55.5	75.5
	750	500	2.3	4.25	7.6	15.5	33	44.5	60.5
2	2000	1000	4.2	7.95	14.1	26.2	52.4	71.5	107
	1500	750	3.35	6.3	11.1	20.8	43.2	58.5	88
	1000	500	2.35	4.45	7.85	14.9	31.4	41.9	64.5
	750	375	1.8	3.45	6.2	11.6	25.2	33.8	51
3	2000	667	2.85	5.6	10.1	18.2	34.9	52.4	73
	1500	500	2.2	4.45	7.95	14.4	27.7	41.9	58.5
	1000	333	1.5	3.1	5.6	10.1	20	30.2	42.4
	750	250	1.2	2.4	4.4	7.8	15.7	23.6	33.5
4	2000	500	2.15	3.75	6.8	10.5	23.3	37.7	47.6
	1500	375	1.65	2.9	5.3	8.4	18.5	30.2	38.5
	1000	250	1.15	2	3.75	5.9	13.4	21.7	27.5
	750	188	0.87	1.55	2.95	4.55	10.4	17.1	21.7
5	2000	400	1.4	2.95	5.05	8.05	15.9	28.9	39.4
	1500	300	1.1	2.35	3.95	6.45	12.7	23.4	31.4
	1000	200	0.75	1.6	2.75	4.5	9	16.4	22.4
	750	150	0.58	1.25	2.1	3.45	6.95	13	17.7

注：1. 本表的许用功率数值为减速是适用，当要求增速时，许用功率数值应乘传动比。

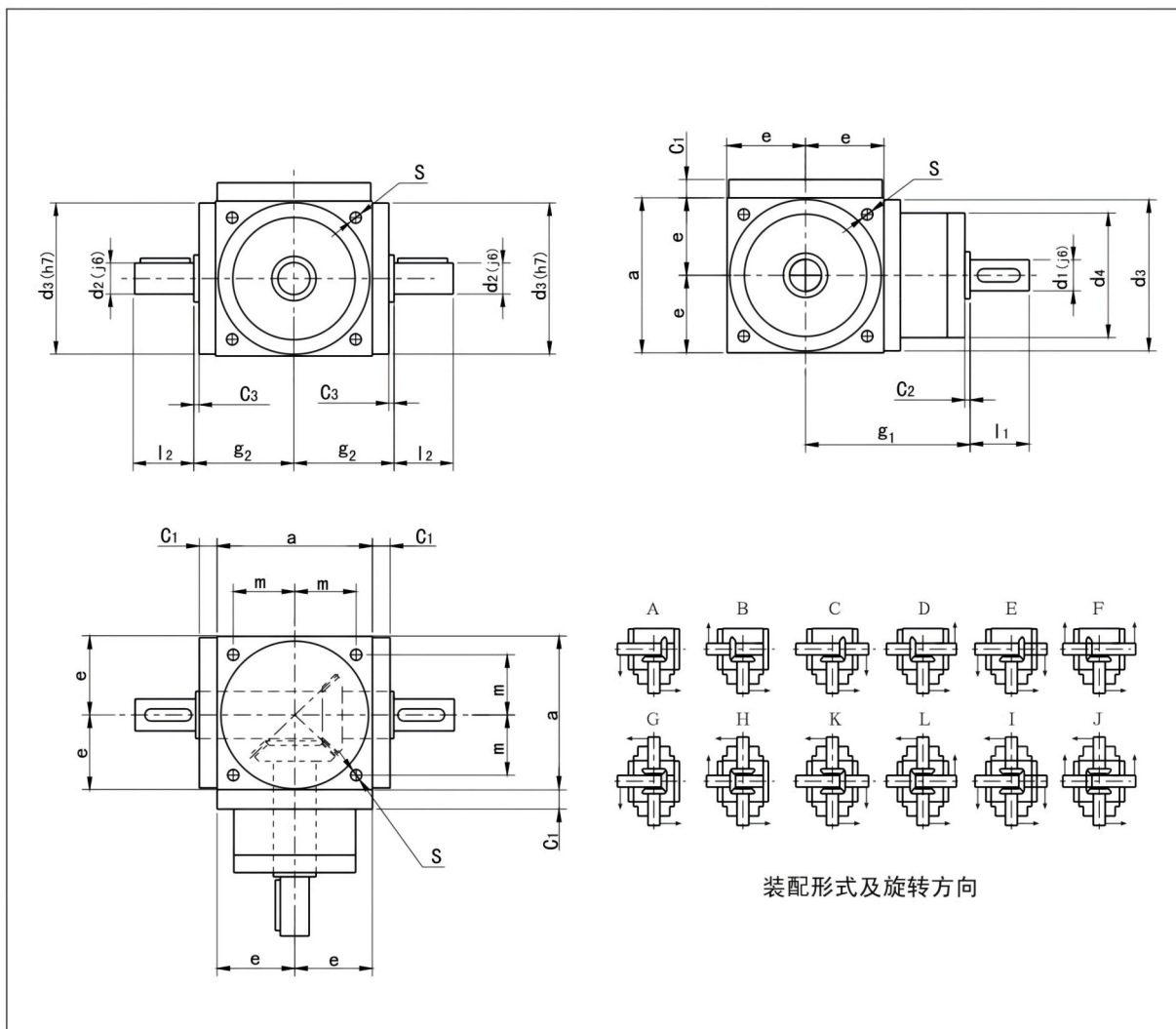
2. 输入输出轴超出表中范围时，请与我们联系。

HD螺旋锥齿换向传动器

HD SERIES SPIRAL BEVEL GEAR UNIT

HD09-HD28 (i=1~5) 输入输出轴伸式联接

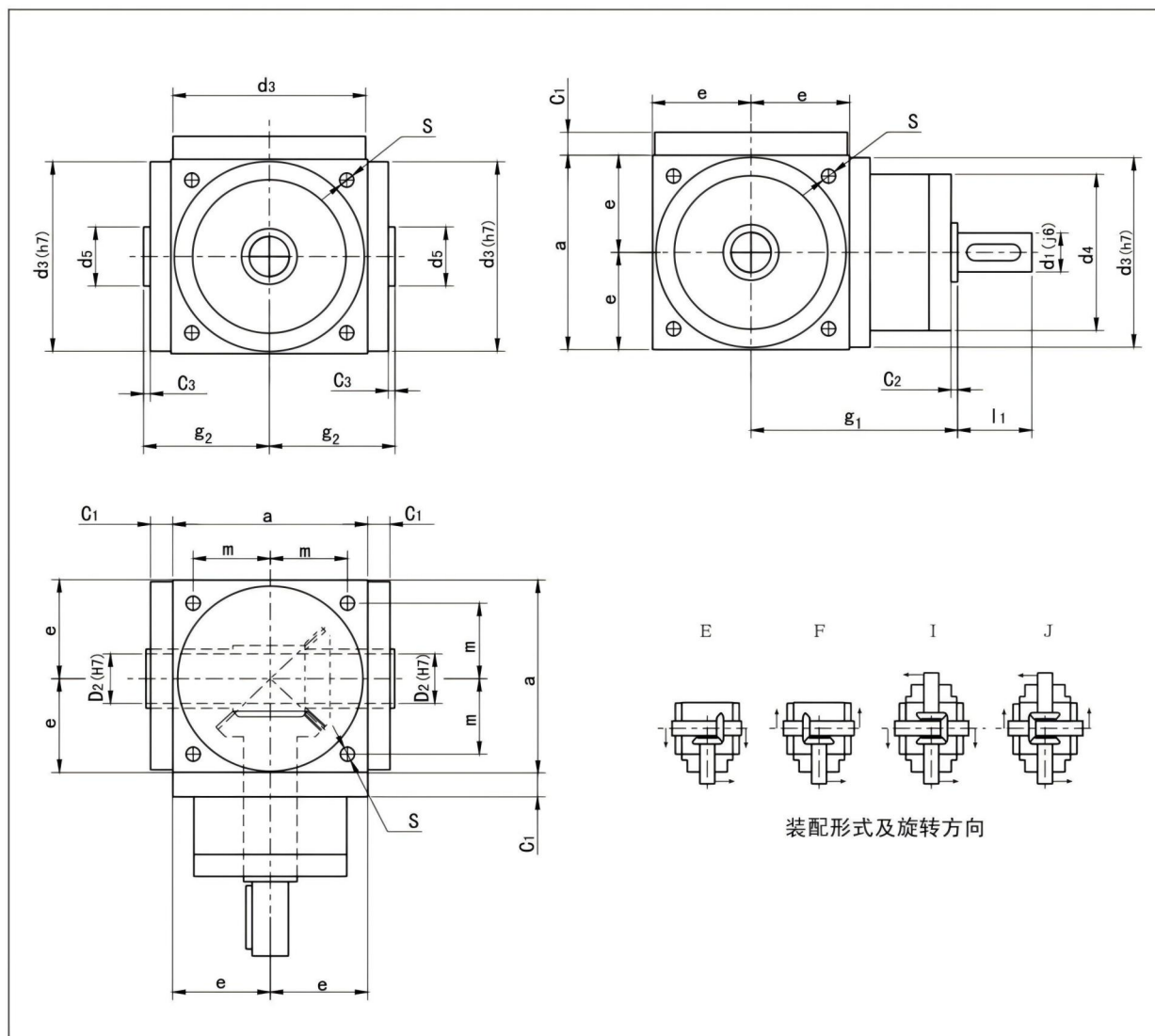
HD外型安装尺寸



型号	a	C ₁	C ₂	C ₃	d ₂	l ₂	d ₃	e	g ₁	g ₂	m	S	i=1~2		i=3		i=4		i=5		i=1~3		i=4~5		重量 Kg	加油 L
													d ₁	l ₁	d ₁	l ₁	d ₁	l ₁	d ₁	l ₁	d ₄	d ₄				
09	90	12	2	2	18	35	88	45	97	59	36	M6	18	35	16	30	11	23	11	23	72	62	6	0.2		
11	110	12	2	2	22	40	108	55	112	69	44	M8	22	40	20	35	16	30	14	25	81	72	10	0.3		
14	140	12	2	2	32	50	135	70	132	84	55	M10	32	50	26	45	20	35	16	30	98	81	20	0.4		
17	170	15	2	3	40	60	165	85	158	103	67	M12	40	60	32	50	26	45	22	40	118	98	32	1		
21	210	18	2	2	45	70	205	105	195	125	85	M16	45	70	38	55	32	50	30	50	128	110	60	2		
24	240	18	2	2	55	85	235	120	220	140	95	M16	55	85	45	70	38	55	35	55	138	120	75	2.5		
28	280	18	2	2	60	110	275	140	255	160	110	M16	60	110	50	80	45	70	42	70	150	135	115	3		

HDA09-HDA28 输入轴伸, 输出轴装式联接

HD外型安装尺寸

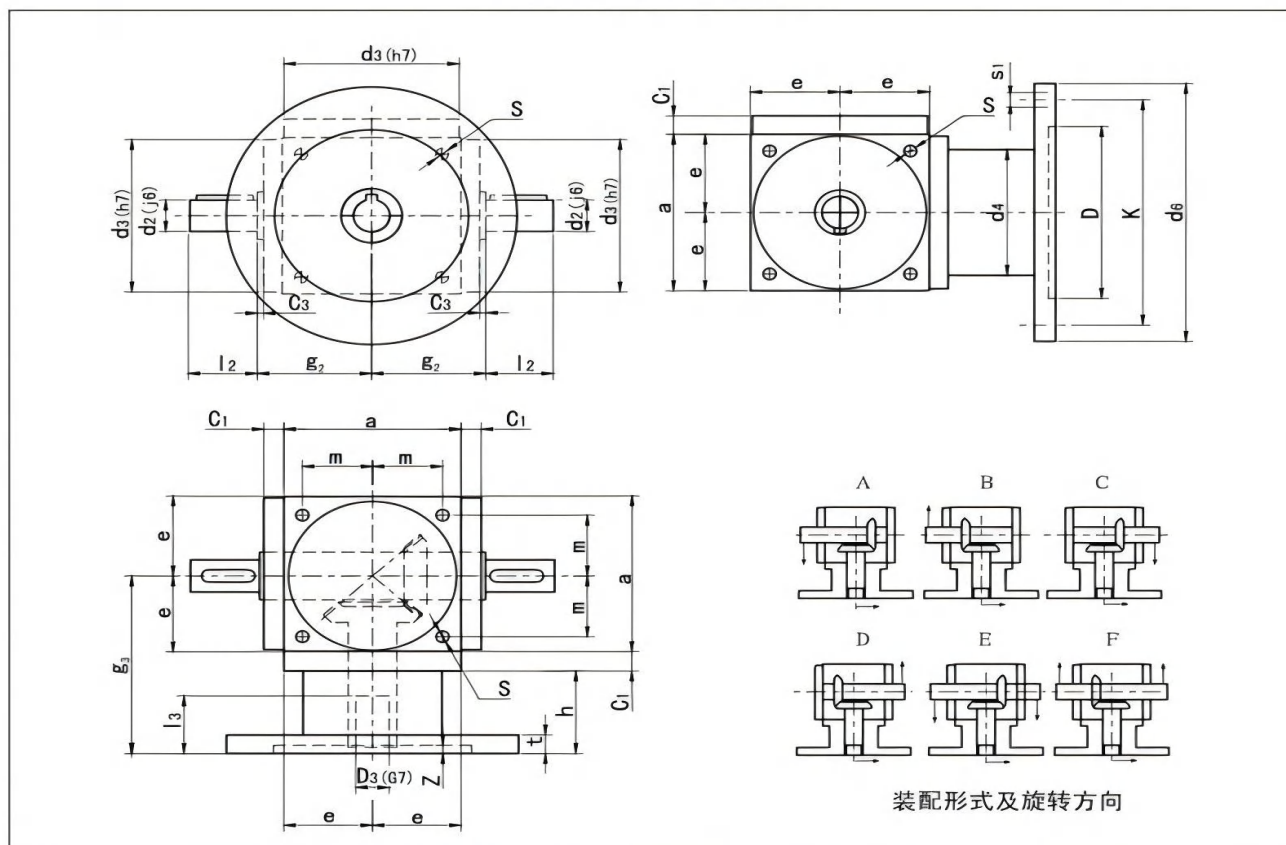


装配形式及旋转方向

型号	a	C ₁	C ₂	C ₃	D ₂	d ₅	d ₃	e	g ₁	g ₂	m	S	i=1~2		i=3		i=4		i=5		i=1~3		i=4~5		重量 Kg	加油 L
													d ₁	l ₁	d ₁	l ₁	d ₁	l ₁	d ₁	l ₁	d ₄	l ₁	d ₄	l ₁		
09	90	12	2	2	16	25	88	45	97	59	36	M6	18	35	16	30	11	23	11	23	72	62	6	0.2		
11	110	12	2	2	22	35	108	55	112	69	44	M8	22	40	20	35	16	30	14	25	81	72	10	0.3		
14	140	12	2	2	28	45	135	70	132	84	55	M10	32	50	26	45	20	35	16	30	98	81	20	0.4		
17	170	15	2	3	38	55	165	85	158	103	67	M12	40	60	32	50	26	45	22	40	118	98	32	1		
21	210	18	2	2	45	65	205	105	195	125	85	M16	45	70	38	55	32	50	30	50	128	110	60	2		
24	240	18	2	2	55	75	235	120	220	140	95	M16	55	85	45	70	38	55	35	55	138	120	75	2.5		
28	280	18	2	2	60	85	275	140	255	160	110	M16	60	110	50	80	45	70	42	70	150	135	115	3		

HDF09-HDF28 带输入法兰, 输出轴伸式联接

HD外型安装尺寸



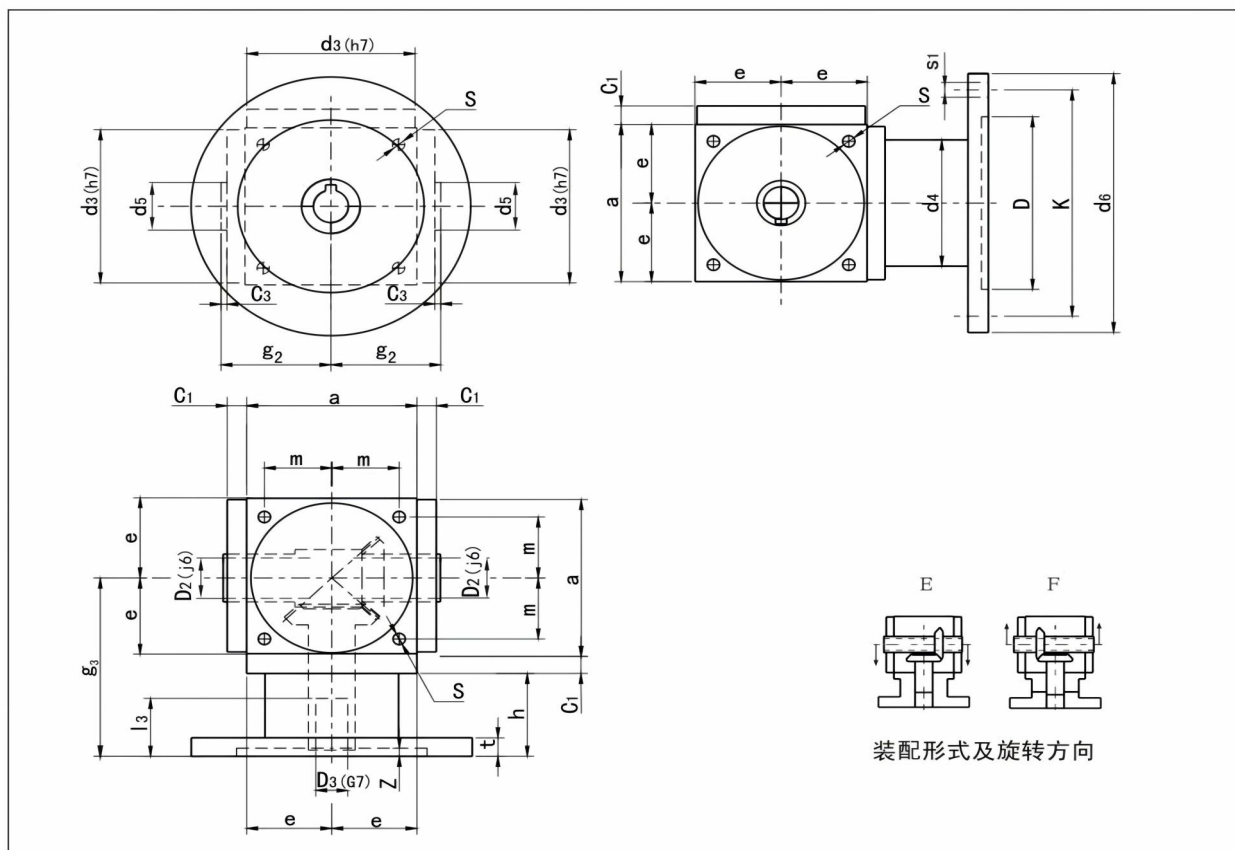
型号	a	C ₁	C ₃	d ₃	d ₄	d ₂	l ₂	i=1~2				i=3~5			
								D ₃ ×l ₃				D ₃ ×l ₃			
09	90	12	2	88	86	18	35	19X43	14X33	11X26	9X23	19X43	14X33	11X26	9X23
11	110	12	2	108	82	22	40	24X53	19X43	14X33	11X26	24X53	19X43	14X33	11X26
14	140	12	2	135	104	32	50	38X83	28X63	24X53	19X43	38X83	28X63	24X53	19X43
17	170	15	3	165	128	40	60	42X115	38X83	28X63	24X53	42X115	38X83	28X63	24X53
21	210	18	2	205	160	45	70	48X115	42X115	38X83	28X63	48X115	42X115	38X83	28X63
24	240	18	2	235	170	55	85	55X115	48X115	42X115	38X83	55X115	48X115	42X115	38X83
28	280	18	2	275	190	60	110	60X145	55X115	48X115	42X115	60X145	55X115	48X115	42X115

型号	e	g ₂	g ₃	h	m	S	i=1~2				i=3~5			
							d ₆				d ₆			
09	45	59	110	65	36	M6	200	160	140	120	200	160	140	120
11	55	69	130	75	44	M8	200	160	140	120	200	160	140	120
14	70	84	170	100	55	M10	300	250	200	160	300	250	200	160
17	85	103	215	130	67	M12	350	300	250	200	350	300	250	200
21	105	125	245	140	85	M16	350	300	250	—	350	300	250	200
24	120	140	265	145	95	M16	400	350	300	250	400	350	300	250
28	140	160	315	175	110	M16	450	400	350	300	400	350	300	250

d ₆	D	K	S ₁	t	Z
120	80	100	4XM6	11	3.5
140	95	115	4XM8	11	3.5
160	110	130	4XM8	11	4
200	130	165	4XM10	14	4
250	180	215	4XM12	16	4.5
300	230	265	4XM12	16	4.5
350	250	300	4XM16	20	6
400	300	350	4XM16	20	6
450	350	400	4XM16	25	6

HDAF09-HDAF28 带输入法兰, 输出轴装式联接

HD外型安装尺寸



型号	a	C ₁	C ₃	d ₃	d ₄	D ₂	d ₅	i=1~2				i=3~5			
								D ₃ × l ₃				D ₃ × l ₃			
09	90	12	2	88	86	18	25	19X43	14X33	11X26	9X23	19X43	14X33	11X26	9X23
11	110	12	2	108	82	22	35	24X53	19X43	14X33	11X26	24X53	19X43	14X33	11X26
14	140	12	2	135	104	32	45	38X83	28X63	24X53	19X43	28X63	24X53	19X43	19X43
17	170	15	3	165	128	40	55	42X115	38X83	28X63	24X53	38X83	28X63	24X53	24X53
21	210	18	2	205	160	45	65	48X115	42X115	38X83	28X63	42X115	38X83	28X63	28X63
24	240	18	2	235	170	55	75	55X115	48X115	42X115	38X83	48X115	42X115	38X83	38X83
28	280	18	2	275	190	60	85	60X145	55X115	48X115	42X115	55X115	48X115	42X115	42X115

型号	e	g ₂	g ₃	h	m	S	i=1~2				i=3~5			
							d ₆							
09	45	59	110	65	36	M6	200	160	140	120	200	160	140	120
11	55	69	130	75	44	M8	200	160	140	120	200	160	140	120
14	70	84	170	100	55	M10	300	250	200	160	300	250	200	160
17	85	103	215	130	67	M12	350	300	250	200	350	300	250	200
21	105	125	245	140	85	M16	350	300	250	—	350	300	250	200
24	120	140	265	145	95	M16	400	350	300	250	400	350	300	250
28	140	160	315	175	110	M16	450	400	350	300	400	350	300	

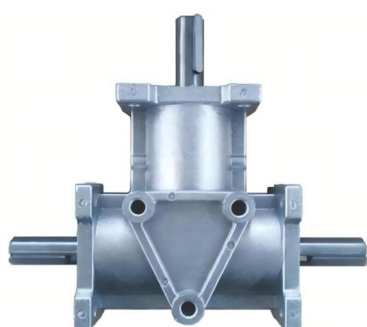
d ₆	D	K	S ₁	t	Z
120	80	100	4XM6	11	3.5
140	95	115	4XM8	11	3.5
160	110	130	4XM8	11	4
200	130	165	4XM10	14	4
250	180	215	4XM12	16	4.5
300	230	265	4XM12	16	4.5
350	250	300	4XM16	20	6
400	300	350	4XM16	20	6
450	350	400	4XM16	25	6

ARA螺旋锥齿轮转向箱

ARA SPIRAL BEVEL GEAR STEERING BOX

ARA螺旋锥齿轮转向箱

特点：小型、全方位安装、重量轻、合金铝外壳、轴需采用耐腐蚀钢订货时注明。润滑剂出厂时已加入。



ARA

ARA系列

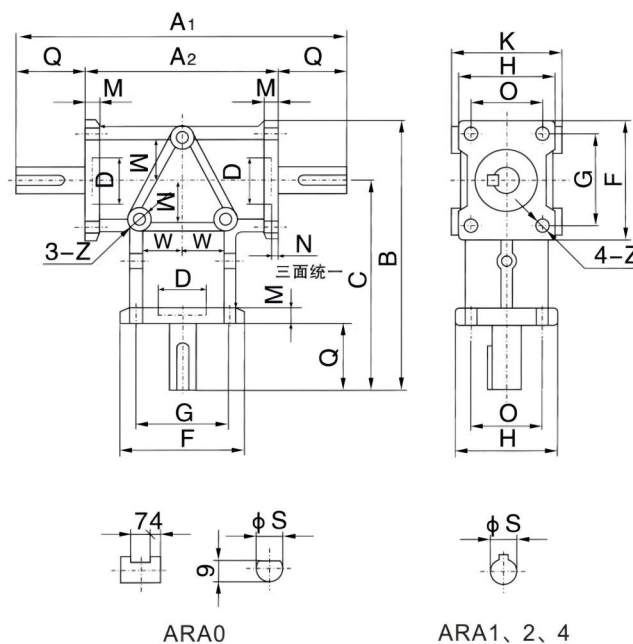
2

机座号

1:1

速比

LR

轴配置
(单纵轴代号L)

ARA0

ARA1、2、4

	A1	A2	B	C	D(H7)	F	H	G	K	M	N	O	W	Z	ΦSh7	Q	平键
ARA0	100	70	94	70	Φ22	48	38	38	40	5	2	28	17	Φ5.5	Φ10	15	-
ARA1	184	108	155.5	120.5	Φ35	70	54	56	60	8	5	40	24	Φ6.8	Φ15	38	55
ARA2	252	152	226	177	Φ42	98	76	72	76	12	5	54	38	Φ8.8	Φ20	50	66
ARA4	280	160	265	210	Φ62	110	80	110	110	10.5	5	80	40	Φ10.8	Φ24	60	87

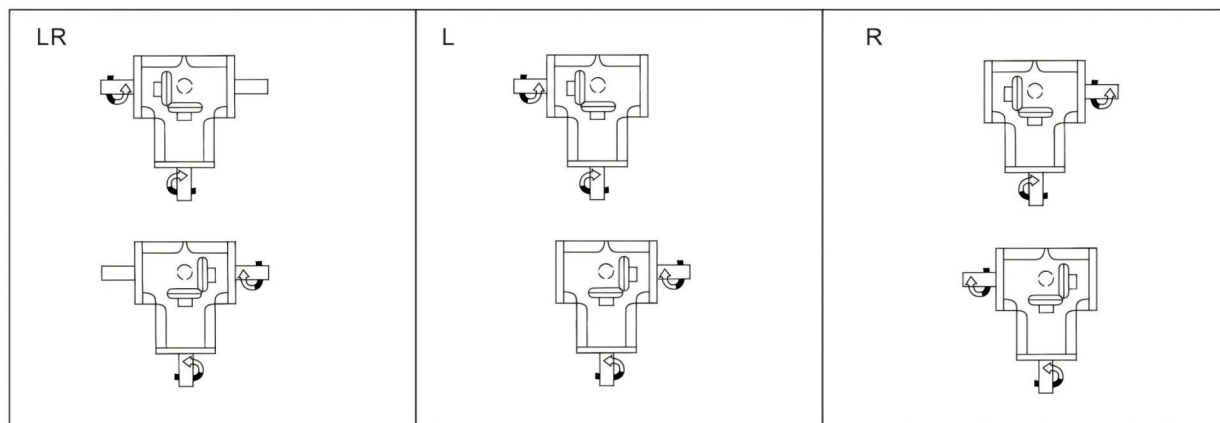
ARA系列重量表

Type	ARA0	ARA1	ARA2	ARA4
m(kg)	0.6	1.5	3.2	5.3

ARA螺旋锥齿轮转向箱

ARA SPIRAL BEVEL GEAR STEERING BOX

轴配置及旋转方向关系



传动能力表

i	n ₁ (r/min)	ARA0		ARA1		ARA2		ARA4	
		MN ₂ (N-M)	P _{N1} (KW)	MN ₂ (N-M)	P _{N1} (KW)	MN ₂ (N-M)	P _{N1} (KW)	MN ₂ (N-M)	P _{N1} (KW)
1:1	1450	4.13	0.31	7.15	1.11	12.25	1.92	31.9	4.94
	1150	41.3	0.28	71.5	0.88	14.01	1.73	34.1	4.19
	870	4.13	0.24	7.15	0.66	15.78	1.47	37.2	3.46
	580	41.3	0.18	71.5	0.44	17.74	1.10	39.5	2.45
	400	4.13	0.14	7.15	0.30	17.74	0.76	40.2	1.72
	300	41.3	0.12	71.5	0.23	17.74	0.57	40.5	1.30
	200	4.13	0.08	7.15	0.15	17.74	0.38	41.2	0.88
	150	41.3	0.06	71.5	0.11	17.74	0.28	41.8	0.67
	100	4.13	0.04	7.15	0.08	17.74	0.19	41.9	0.448
	50	41.3	0.02	71.5	0.04	17.74	0.095	43.2	0.231
2:1	1450	3.45	0.14	6.95	0.55	11.96	0.94	42.8	3.32
	1150	3.45	0.11	6.95	0.43	11.96	0.74	43.4	2.67
	870	3.45	0.08	6.95	0.33	11.96	0.56	43.8	2.04
	580	3.45	0.05	6.95	0.22	11.96	0.37	44.4	1.38
	400	3.45	0.04	6.95	0.15	11.96	0.26	45.1	0.964
	300	3.45	0.03	6.95	0.11	11.96	0.19	45.5	0.729
	200	3.45	0.02	6.95	0.075	11.96	0.13	46.1	0.492
	150	3.45	0.014	6.95	0.056	11.96	0.10	46.4	0.372
	100	3.45	0.010	6.95	0.038	11.96	0.064	46.6	0.249
	50	3.45	0.005	6.95	0.018	11.96	0.032	46.8	0.125

HK系列蜗轮丝杆升降机

HK SERIES WORM GEAR SCREW JACK

产品图片



HK-R



HK-S



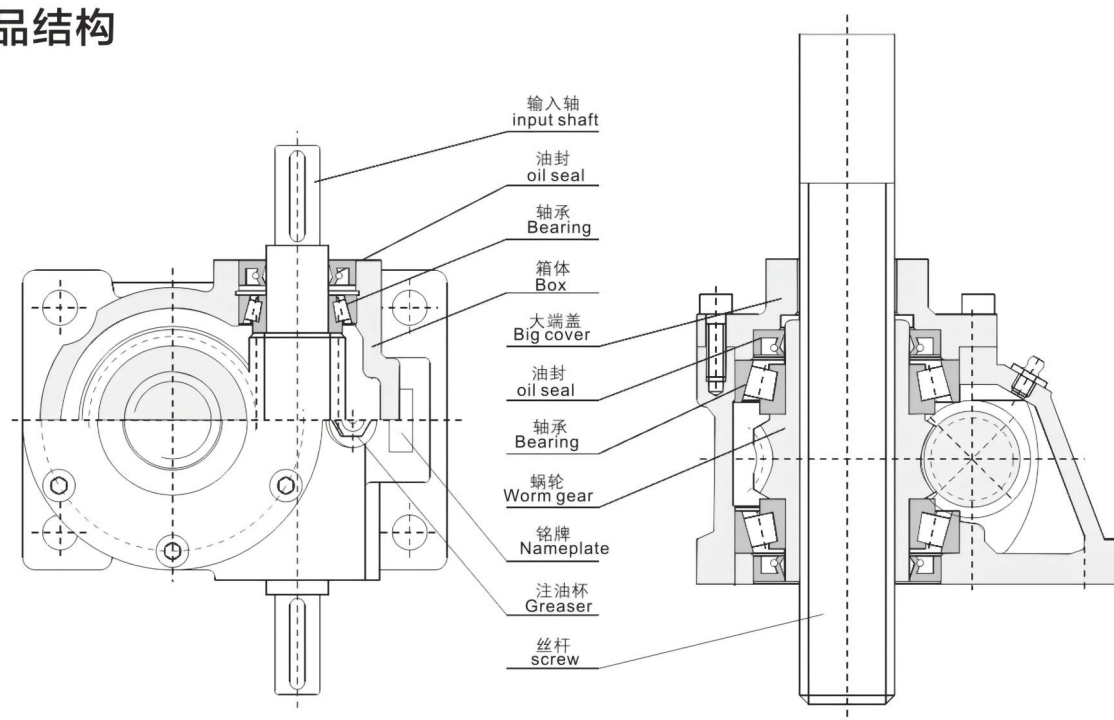
HK-T



HK-H

HK系列蜗轮丝杆升降机

产品结构



型号说明

HK	D	100	12	A	R	300	B	P
1	2	3	4	5	6	7	8	9

1 产品代码 HK -- 蜗轮丝杆升降机	2 输入轴联接方式 D-- 带电机法兰 无代码 -- 基本型	3 规格用蜗轮副 中心距表示100	4 传动比 12	5 安装方式代码 A、B—基本型 C、D—止旋构造型 E、F—活动螺母构造型
6 丝杆头部型式代码 R 型 (圆柱式) H 型 (栓孔式) S 型 (螺纹式) T 型 (顶板式) 详见“产品图片” 注：安装方式E、F时无此代码	7 丝杆行程 300mm 共有100、200、300、400、500、600、800、1000mm 8种规格，根据使用情况选择，如需要其它长度行程，也可定做	8 轴指向 HK 系列共有A、B、C三种 HKD 系列共有A、B、C、D四种 详见“轴指向表示”	9 护管 P—带护管 无代码—不带护管 注：安装方式E、F时无此代码	

选型方法

选型要素

1.1 总当量载荷计算

$$W_s = W_{\max} \times f_s$$

W_s --当量载荷 $W_{\max}$ --最大载荷 f_s --使用系数 (详见附表1)

表1 使用系数 f_s

使用工况	平稳载荷, 负荷惯性小	轻微冲击载荷, 负荷惯性中等	强冲击负荷, 负荷惯性大
使用系数	1.0~1.3	1.3~1.5	1.5~3.0

1.2 单台升降机当量载荷的计算

$$W = W_s / (S \times f_d)$$

W --单台当量载荷 W_s --当量载荷 S --联动台数 f_d --联动系数 (详见附表2)

表2 联动系数 f_d

联动台数	1	2	3	4	5-8
使用系数	1	0.9	0.9	0.8	0.7

1.3 暂定升降机型号

根据载重、升降速度、行程、驱动源后暂时选定升降机型号 (详情可参考“选型参数”)。

1.4 丝杆行程选定

在充分考虑丝杆运动惯性、各种顶端输出部件等各种情况下, 选择有充分余量的丝杆行程。

丝杆计算 (详见表3, 丝杆行程用L表示, 单位(unit): mm)

表3 丝杆计算

型号	丝杆直径	护管长	丝杆头部S型		丝杆头部H型		丝杆头部R型		丝杆头部T型	
			总长=L+SC	牙长=总长-SD	总长=L+HB+HD	牙长=总长-HB+HE	总长=L+RB	牙长=总长-RC	总长=L+TE	牙长=总长-TF
HK35 (2T)	Tr26 × 5	L+55	L+150	总长-40	L+20+165	总长-20-55	L+165	总长-55	L+135	总长-25
HK40 (3T)	Tr32 × 6	L+60	L+180	总长-50	L+25+195	总长-25-65	L+195	总长-65	L+160	总长-30
HK50 (5T)	Tr38 × 6	L+60	L+180	总长-50	L+25+195	总长-25-65	L+195	总长-65	L+160	总长-30
HK60 (10T)	Tr45 × 8	L+65	L+220	总长-60	L+32+255	总长-32-95	L+225	总长-65	L+200	总长-40
HK60B (15T)	Tr52 × 8	L+65	L+220	总长-60	L+32+255	总长-32-95	L+225	总长-65	L+210	总长-50
HK70 (20T)	Tr65 × 10	L+75	L+260	总长-80	L+35+295	总长-35-115	L+250	总长-70	L+235	总长-55
HK100 (30T)	Tr75 × 12	L+85	L+300	总长-80	L+44+355	总长-44-135	L+295	总长-75	L+285	总长-65
HK120 (40T)	Tr80 × 12		L+360	总长-100	L+54+410	总长-54-150	L+355	总长-95	L+330	总长-70
HK130 (50T)	Tr90 × 14		L+435	总长-120	L+64+480	总长-64-165	L+430	总长-115	L+390	总长-75
HK150 (100T)	Tr100 × 16		L+495	总长-150	L+70+545	总长-70-200	L+485	总长-140	L+445	总长-100

1.5 丝杆稳定性校核

$$P_{cr} = f_m \times (d^2 / L_a)^2$$

应确保 $P_{cr} > W \times S_f$ (一般 $S_f = 4$)

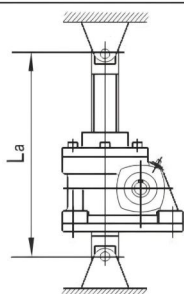
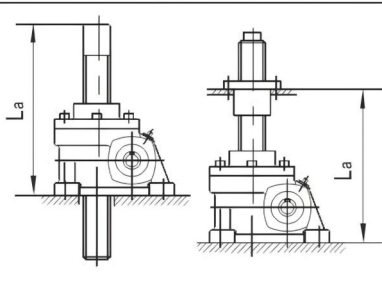
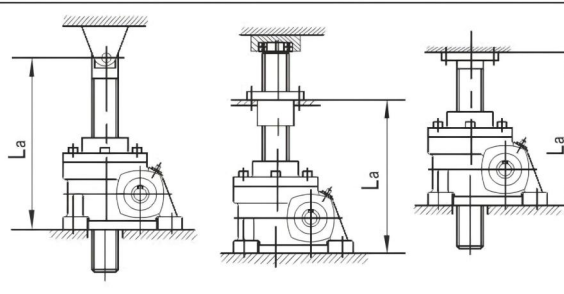
P_{cr} --丝杆临界载荷(N) f_m --长度系数(详见附表4) d --丝杆底径(mm)(详见附表5)

L_a --作用点间距离(mm) W --单台升降机当量载荷(N) S_f --安全系数(一般取4)

HK系列蜗轮丝杆升降机

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表4 长度系数(f_m)

		
两端支撑 $f_m=10 \times 10^{-4}$	底座固定,轴端自由 $f_m=2.5 \times 10^{-4}$	底座固定,轴端支撑或固定 $f_m=20 \times 10^{-4}$

1.6 丝杆转速校核

$$n_c = 96 \times 10^6 \times f_n \times d / L_b^2$$

应确保 $n_c > n_1 / i$

n_c --丝杆临界转速(r/min) f_n --支撑系数(详见附表6) d --丝杆底径(mm) (详见附表5)

L_b --支撑间距离(mm) n_1 --输入转速(r/min) i --减速比

1.7 输入功率校核

$$p = n_1 \times p_1 \times w / (9549 \times 2\pi \times i \times \eta)$$

应确保 $P < P_{\text{额}}$

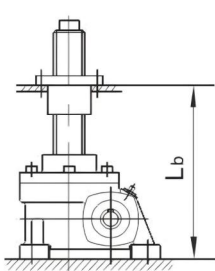
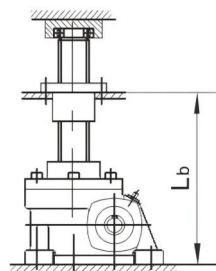
p --所需输入功率(kW) n_1 --输入转速(r/min) p_1 --丝杆螺距(mm)

W --单台升降机当量载荷(kN) π --圆周率 i --减速比 η --综合效率

表5 丝杆底径d

型 号	HK35 (2T)	HK40 (3T)	HK50 (5T)	HK60 (10T)	HK60B (15T)	HK70 (20T)	HK100 (30T)	HK120 (40T)	HK130 (50T)	HK150 (100T)
丝 杆 底 径	20.5	25	31	37	43	54	62	67	74	82

表6 支撑系数 f_n

	
轴端自由 $f_n=0.36$	轴端支撑 $f_n=1.56$

使用说明

1. 产品说明

- 1.1 HK系列蜗轮丝杆升降机(又名千斤顶)；
- 1.2 具有结构紧凑、体积小的特点；
- 1.3 安装方便、形式多；
- 1.4 可靠性高、寿命长；
- 1.5 具有起升、下降及借助辅件推进、翻转等多种功能；
- 1.6 可单台使用，也可多台组成使用；
- 1.7 动力源广泛，可用电动机或其它动力直接带动，也可以用手动；
- 1.8 通常用于低速重载的场合。广泛应用于冶金、机械、建筑、水利、医疗、化工等各个行业。

2. 使用注意事项

- 2.1 请严格按承载能力表选择合适的速比和与之对应的具有充分裕度的载荷的升降机；
- 2.2 升降机工作时应控制减速机表面和升降螺母表面温度在-15℃~80℃；
- 2.3 升降机不得连续运转，单台升降机的负荷时间率(T%)以30分钟为单位计算，不得超过20%；

$$\text{负荷时间率 } T\% = \frac{1\text{动作周期的工作时间}}{1\text{动作周期的工作时间} + 1\text{动作周期的停歇时间}} \times 100\%$$

- 2.4 必须保证有充足的驱动源动力；
- 2.5 升降机理论上有自锁功能，但在振动冲击较大的场合会造成自锁功能失灵，请务必加制动装置；
- 2.6 升降机使用环境：

使用环境	室内无雨水侵入的场所
周围空气	灰尘为一般工厂状况
环境湿度	-15℃~40℃
相对湿度	85%以下

- 2.7 升降机工作时一般不允许有横向载荷，若有横向载荷时，请加导向装置。

油品润滑

润滑油（脂）选用表

蜗杆转速(r/min)	润滑油（脂）类型
1500~1800	ISO VG680
300~1500	ZNG-1或ZNG-2

注：合成钙钠基润滑脂温度范围-20℃~100℃

润滑油（脂）注油量(l)

型号 规格	HK35 (2T)	HK40 (3T)	HK50 (5T)	HK60 (10T)	HK60B (15T)	HK70 (20T)	HK100 (30T)	HK120 (40T)	HK130 (50T)	HK150 (100T)
注油量	0.06	0.1	0.2	0.35	0.4	0.5	1.5	2.2	3.5	4.0

HK系列蜗轮丝杆升降机

HK SERIES WORM GEAR SCREW JACK

选型参数

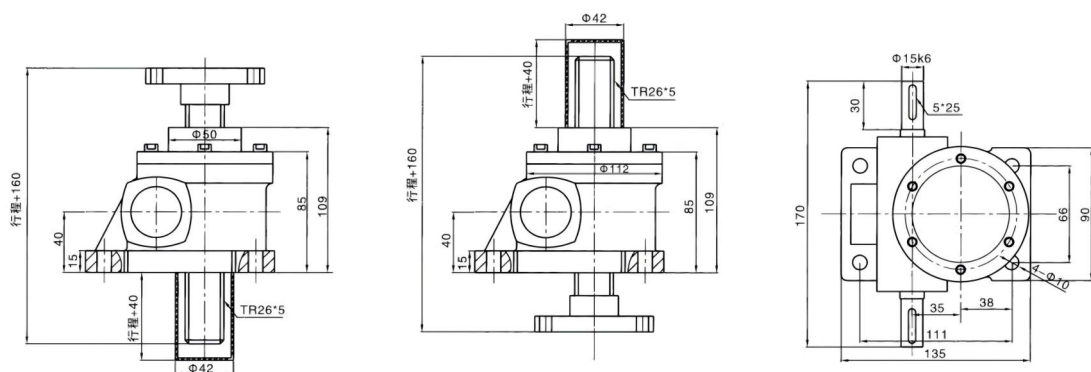
型 号 规 格	传 动 比	入力轴转速 1800r/min			入力轴转速 1500r/min			入力轴转速 1200r/min			入力轴转速 900r/min			入力轴转速 600r/min			入力轴转速 300r/min		
		入功率 (kW)	起升力 (kg)	起升 速度 (m/min)	入功率 (kW)	起升力 (kg)	起升 速度 (m/min)	入功率 (kW)	起升力 (kg)	起升 速度 (m/min)	入功率 (kW)	起升力 (kg)	起升 速度 (m/min)	入功率 (kW)	起升力 (kg)	起升 速度 (m/min)	入功率 (kW)	起升力 (kg)	起升 速度 (m/min)
HK35 (2T)	1/5	0.69	500	1.80	0.64	550	1.50	0.65	700	1.20	0.63	900	0.90	0.46	1000	0.60	0.37	1000	0.30
	1/10	0.37	500	0.90	0.37	550	0.75	0.37	700	0.60	0.37	950	0.45	0.37	1000	0.30	0.19	1350	0.15
	1/20	0.37	600	0.45	0.37	700	0.38	0.37	900	0.30	0.37	1200	0.23	0.19	1350	0.15	0.19	1350	0.08
HK40 (3T)	1/6	0.98	700	1.80	0.93	800	1.50	0.88	950	1.20	0.91	1300	0.90	0.84	1800	0.60	0.42	1800	0.30
	1/12	0.66	950	0.90	0.64	1100	0.75	0.61	1300	0.60	0.57	1650	0.45	0.46	2000	0.30	0.37	2000	0.15
	1/24	0.37	950	0.45	0.37	1100	0.38	0.37	1300	0.30	0.37	1650	0.23	0.37	2000	0.15	0.19	2000	0.08
HK50 (5T)	1/6	1.39	900	1.80	1.28	1000	1.50	1.24	1200	1.20	1.16	1500	0.90	0.87	1700	0.60	0.54	2100	0.30
	1/12	1.10	1350	0.90	1.01	1500	0.75	0.98	1800	0.60	0.87	2150	0.45	0.58	2150	0.30	0.37	2500	0.15
	1/24	0.78	1800	0.45	0.72	2000	0.38	0.69	2400	0.30	0.55	2550	0.23	0.42	2900	0.15	0.37	2850	0.08
HK60 (10T)	1/8	2.12	1300	1.80	1.97	1450	1.50	1.85	1700	1.20	1.72	2100	0.90	1.66	3050	0.60	1.31	4800	0.30
	1/16	1.12	1300	0.90	1.04	1450	0.75	0.98	1700	0.60	0.95	2200	0.45	0.87	3050	0.30	0.69	4800	0.15
	1/32	0.80	1750	0.45	0.75	1950	0.38	0.69	2250	0.30	0.64	2800	0.23	0.63	4100	0.15	0.48	6400	0.08
HK60B (15T)	1/8	2.00	1300	1.80	1.86	1450	1.50	1.75	1700	1.20	1.62	2100	0.90	1.57	3050	0.60	1.24	4800	0.30
	1/16	1.06	1300	0.90	0.98	1450	0.75	0.93	1700	0.60	0.89	2200	0.45	0.83	3050	0.30	0.65	4800	0.15
	1/32	0.75	1750	0.45	0.70	1950	0.38	0.65	2250	0.30	0.61	2800	0.23	0.59	4100	0.15	0.46	6400	0.08
HK70 (20T)	1/10	2.66	1400	1.80	2.42	1850	1.50	2.25	1950	1.20	2.12	2450	0.90	1.93	3350	0.60	1.41	4900	0.30
	1/20	1.42	1600	0.90	1.47	1850	0.75	1.37	2250	0.60	1.28	2800	0.45	1.18	3850	0.30	0.86	5600	0.15
	1/40	1.14	2400	0.45	1.17	2800	0.38	1.09	3350	0.30	1.07	4400	0.23	0.93	5750	0.15	0.69	8400	0.08
HK100 (30T)	1/12	3.62	1850	1.80	3.51	2150	1.50	3.39	2600	1.20	3.18	3250	0.90	2.94	4500	0.60	2.09	6400	0.30
	1/18	2.65	1900	1.20	2.68	2300	1.00	2.57	2750	0.80	2.45	3500	0.60	2.19	4700	0.40	1.56	6700	0.20
	1/36	1.66	2200	0.60	1.63	2600	0.50	1.60	3200	0.40	1.47	3900	0.30	1.36	5400	0.20	1.20	9600	0.10
HK120 (40T)	1/12	4.15	1975	1.80	4.02	2300	1.50	3.81	2725	1.20	3.80	3625	0.90	3.48	4975	0.60	2.48	7050	0.30
	1/18	3.20	2125	1.20	3.20	2550	1.00	3.04	3025	0.80	3.03	4025	0.60	2.74	5450	0.40	1.94	7725	0.20
	1/36	2.14	2625	0.60	2.07	3050	0.50	1.98	3650	0.40	1.99	4875	0.30	1.80	6600	0.20	1.40	10300	0.10
HK130 (50T)	1/7	9.47	2100	3.60	9.17	2450	3.00	9.02	2850	2.40	8.58	4000	1.80	8.20	5450	1.20	5.84	7750	0.60
	1/14	5.76	2350	1.80	5.71	2800	1.50	5.57	3300	1.20	5.39	4550	0.90	5.06	6200	0.60	3.57	8750	0.30
	1/28	4.07	3050	0.90	3.89	3500	0.75	3.91	4100	0.60	3.65	5850	0.45	3.48	7800	0.30	2.45	11000	0.15
HK150 (100T)	1/8	16.3	3500	3.60	16.1	4000	3.00	15.8	5400	2.40	15.1	7100	1.80	14.8	9850	1.20	9.70	12950	0.60
	1/16	11.7	4300	1.80	11.6	5400	1.50	10.5	7200	1.20	11.00	9450	0.90	9.62	11800	0.60	7.08	17350	0.30
	1/32	8.65	5500	0.90	9.55	6800	0.75	7.35	10000	0.60	7.53	14300	0.45	7.02	15750	0.30	5.80	26050	0.15

HK系列蜗轮丝杆升降机

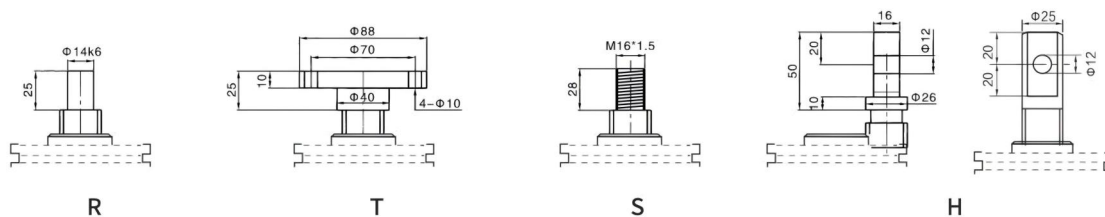
HK SERIES WORM GEAR SCREW JACK

HK-35 (2T) 装配图

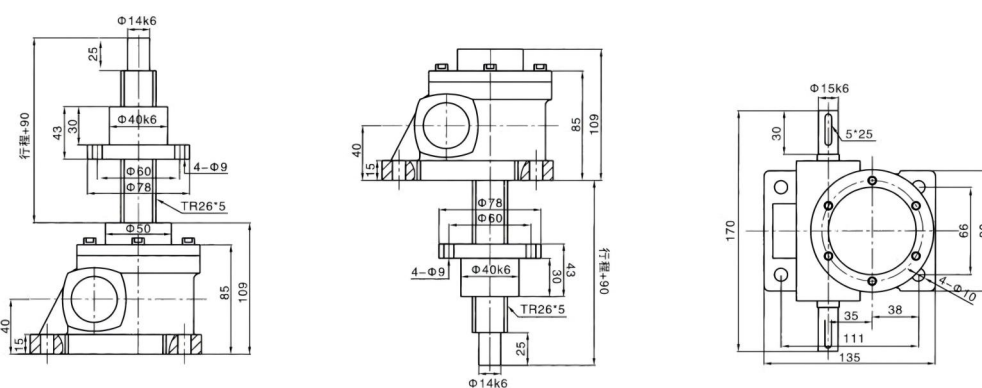
I 型结构型式



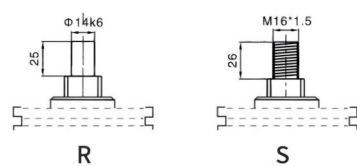
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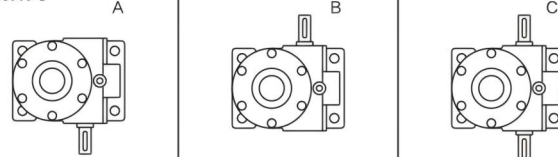
II 型结构型式



丝杆头部型式



轴指向

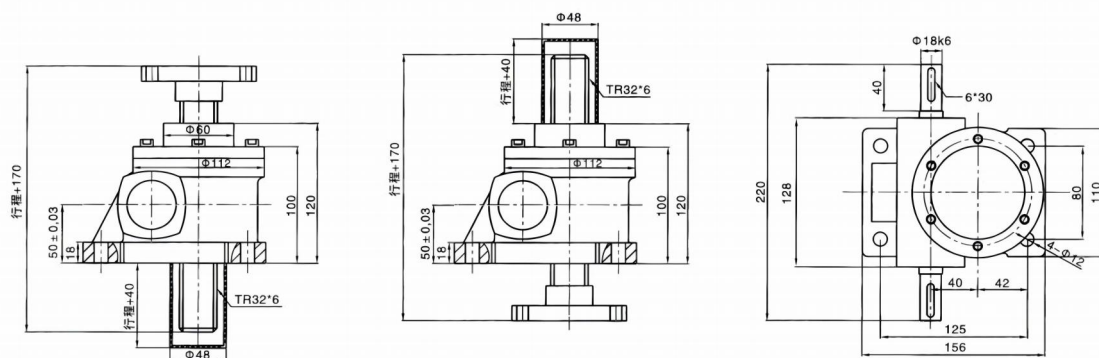


HK系列蜗轮丝杆升降机

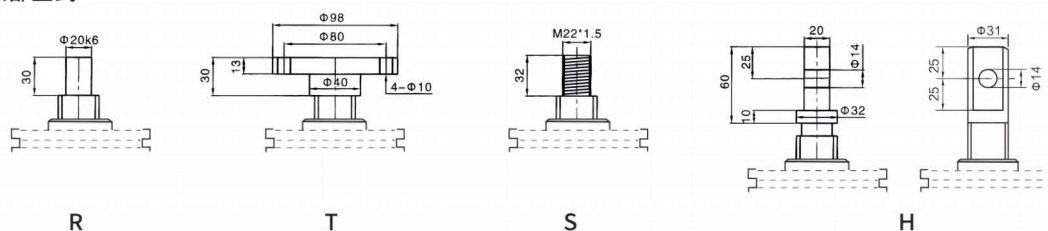
HK SERIES WORM GEAR SCREW JACK

HK-40(3T) 装配图

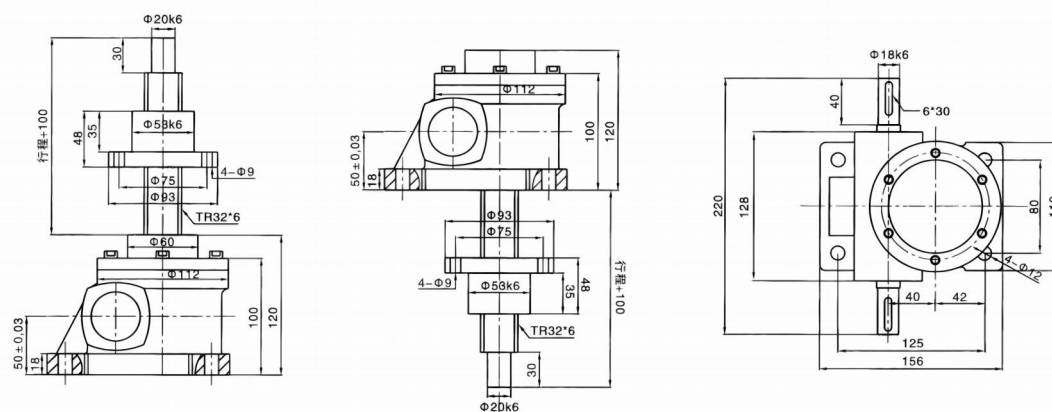
I 型结构型式



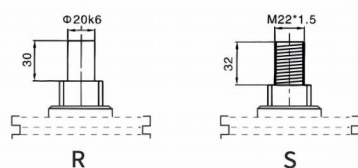
丝杆头部型式



II 型结构型式

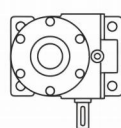


丝杆头部型式

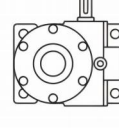


轴指向

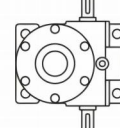
A



B

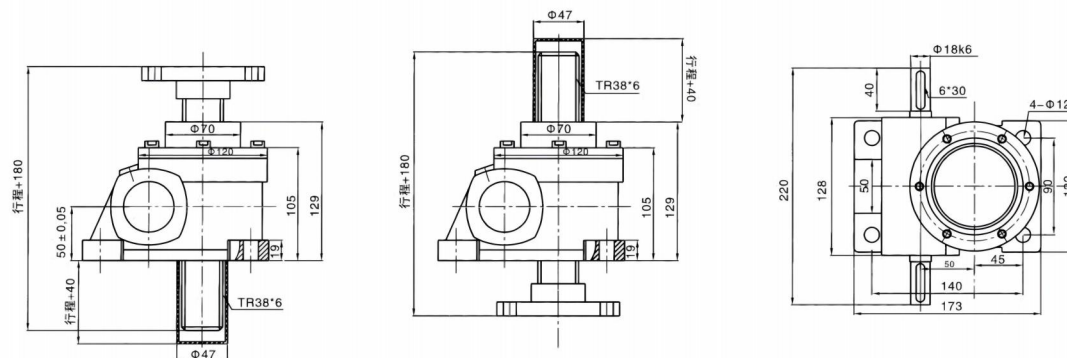


C

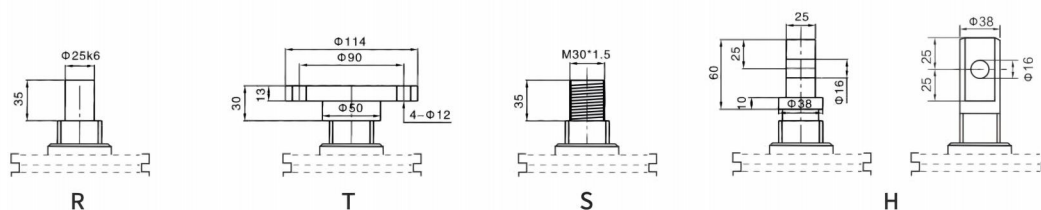


HK-50(5T) 装配图

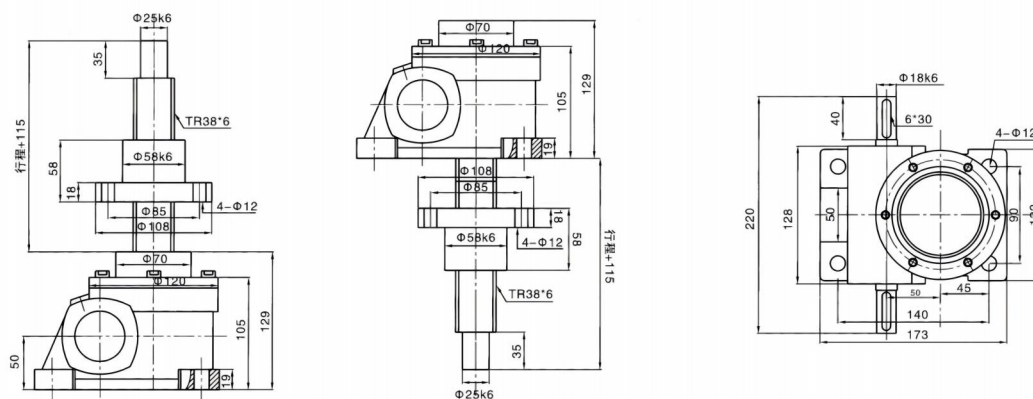
I 型结构型式



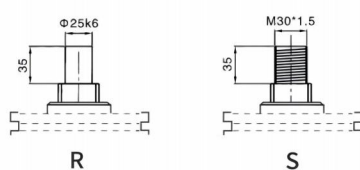
丝杆头部型式



II 型结构型式

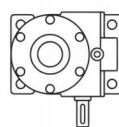


丝杆头部型式

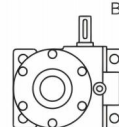


轴指向

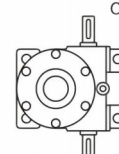
A



B

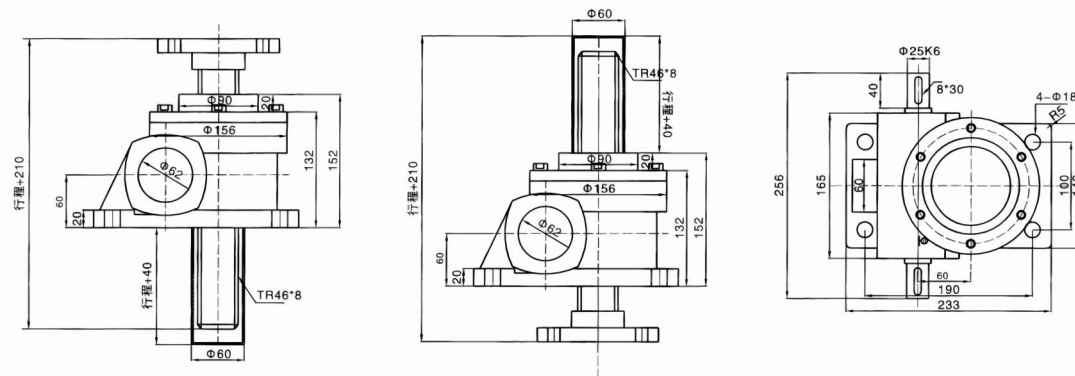


C

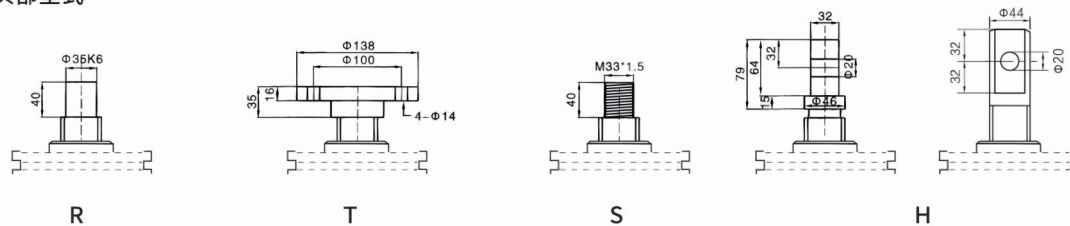


HK-60(10T) 装配图

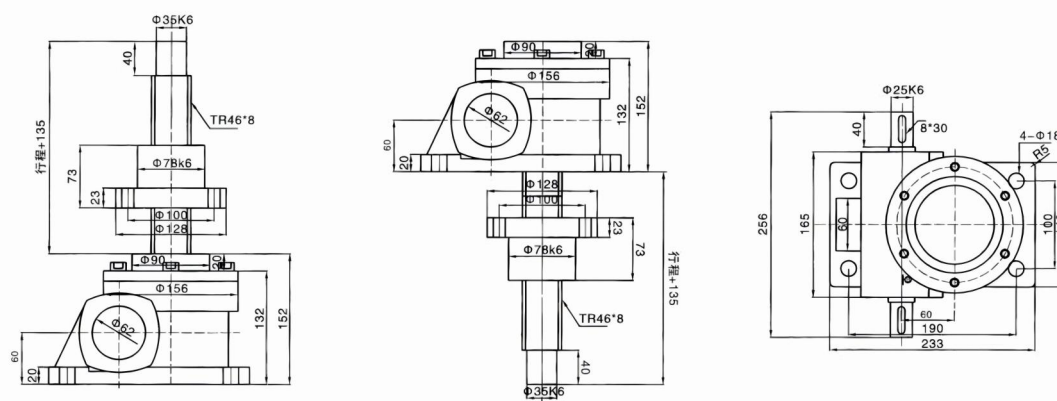
I 型结构型式



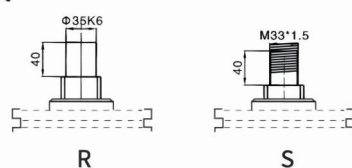
丝杆头部型式



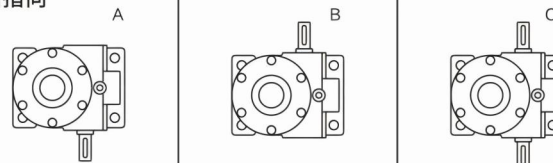
II 型结构型式



丝杆头部型式



轴指向

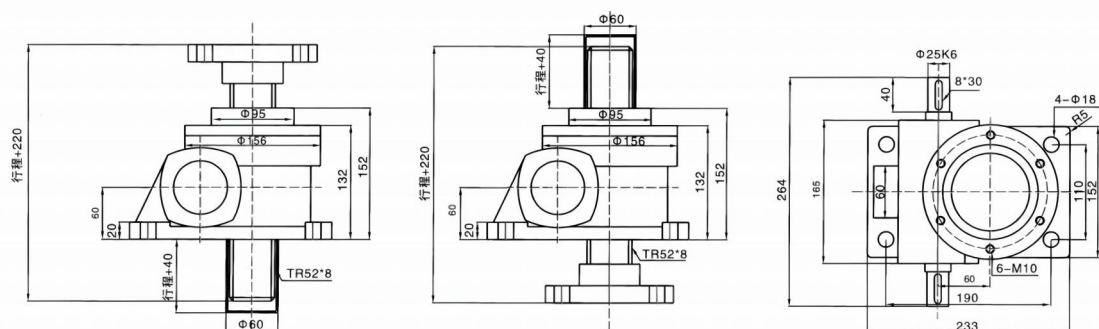


HK系列蜗轮丝杆升降机

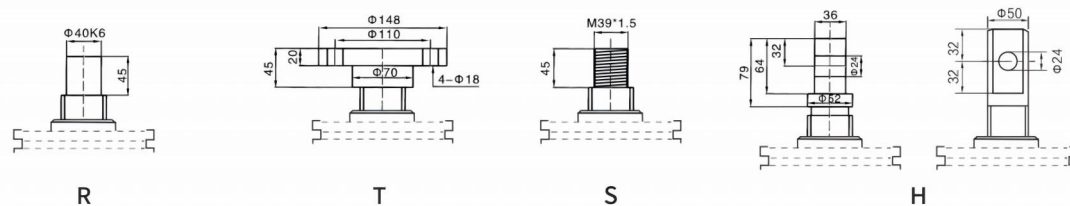
HK SERIES WORM GEAR SCREW JACK

HK-60B(15T) 装配图

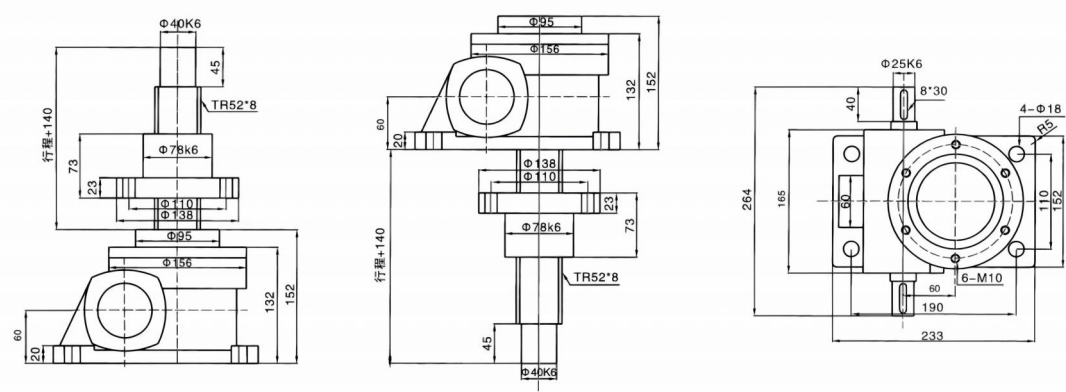
I 型结构型式



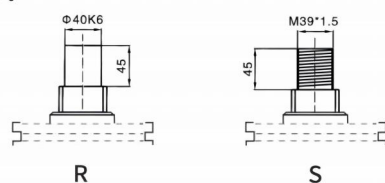
丝杆头部型式



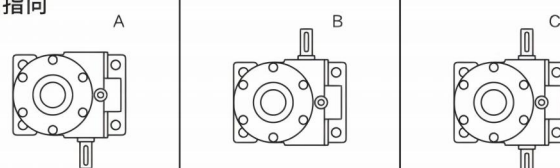
II 型结构型式



丝杆头部型式



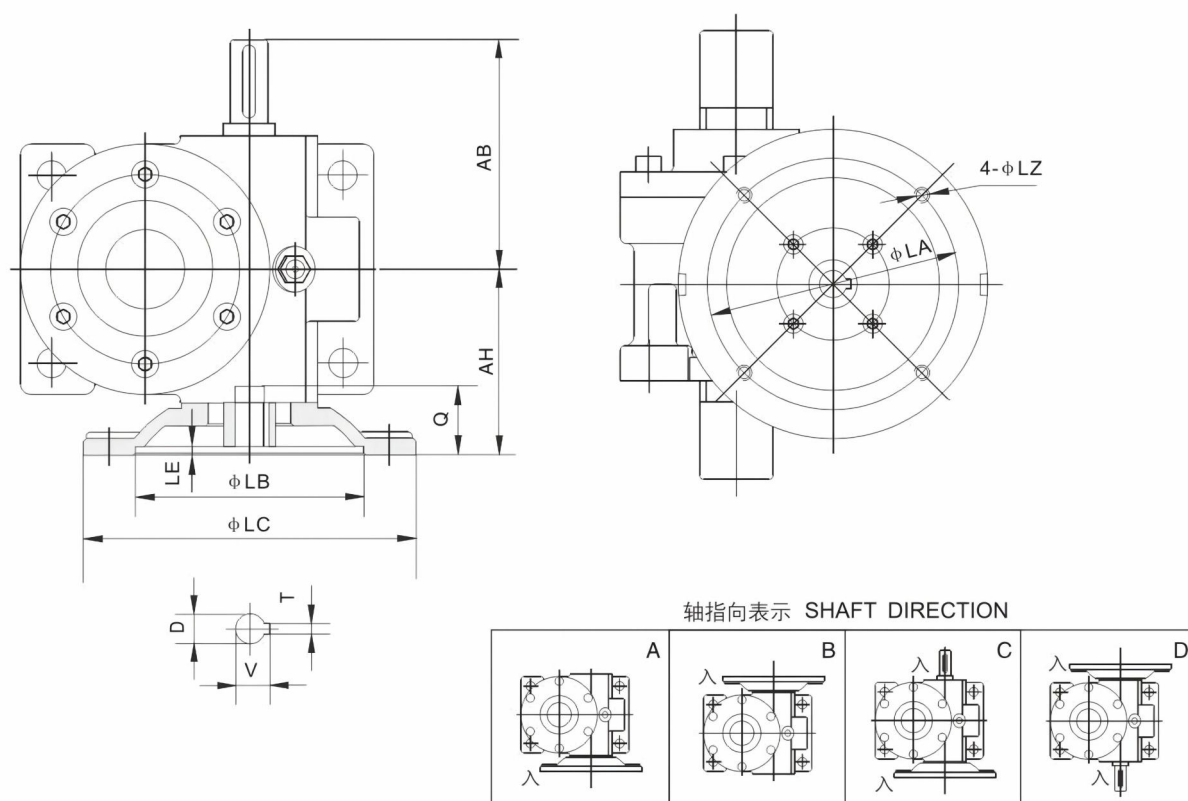
轴指向



HK系列蜗轮丝杆升降机

HK SERIES WORM GEAR SCREW JACK

HKD 安装尺寸



型号规格	入功率 (kw)	法兰 代号	AB	AH	LA	LB	LC	LE	LZ	D	Q	T×V	电机 长度
HKD35 (2T)	0.18	63B5	85	60	115	95	140	4	M8	ϕ 11	33	4×12.8	195
HKD40 (3T)	0.37	71B5	110	93	130	110	160	4	M8	ϕ 14	33	5×16.3	225
HKD50 (5T)	0.37	71B5	110	85	130	110	160	4	M8	ϕ 14	33	5×16.3	225
HKD60 (10T)	0.75	80B5	128	120	165	130	200	4.5	M10	ϕ 19	43	6×21.8	225
	1.5	90B5								ϕ 24	53	8×27.3	290
HKD60B (15T)	0.75	80B5	132	120	165	130	200	4.5	M10	ϕ 19	43	6×21.8	255
	1.5	90B5								ϕ 24	53	8×27.3	290
HKD70 (20T)	1.5	90B5	158	140	165	130	200	4.5	M10	ϕ 24	53	8×27.3	290
	2.2	100B5	161	148	215	180	250	5	M12	ϕ 28	63	8×31.3	340

故障分析

故障情况	故障原因	解决办法
振 动	原动机与升降机连接不当	调整至适当位置，重新正确固紧
	蜗轮副齿部磨损或损伤	更换蜗轮副 (需要时本公司配合)
	轴承磨损	更换轴承
	螺栓松脱	固紧螺栓
杂 音	轴承损伤或间隙过大	更换轴承
	蜗轮副啮合不良	修整齿面或更换蜗轮副 (请与本公司联系)
	润滑油 (脂) 过少	补加润滑油(脂)
漏 油	油封唇口磨损	更换油封
	油封档轴颈磨损	更换输入轴或蜗轮
蜗轮副齿面 磨损过快	超负荷运转	调整至适当负荷
	润滑油 (脂) 不符合要求	按油品润滑更换润滑油 (脂)
	润滑油 (脂) 过少	补加润滑油 (脂)
	未按规定适时换油，润滑油劣化	按规定要求适时换油
	运转温度过高	采取合适措施，降低环境温度
丝杆副齿面 磨损过快	超负荷运转	调整至适当负荷
	润滑脂干枯或变质	去污擦净，重新加润滑脂
	有横向载荷	加导向装置

注：如果发生其他故障无法解决时，请随时与我们联系，以便提供咨询服务。

SWL系列蜗轮丝杆升降机

SWL SERIES WORM GEAR SCREW JACK

产品图片



1A-I



1A-II



1A-III



1A-IV



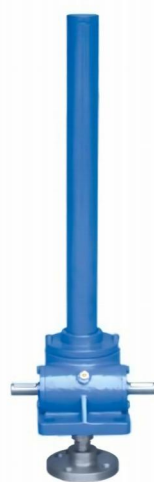
2A-I



2B-I



1A-II-D



1B-II-Z



2A-II-手动



1A-II-电动

SWL系列蜗轮丝杆升降机

产品介绍

SWL系列蜗轮丝杆升降机广泛应用于机械、冶金、建筑、水利设备等行业，具有起升、下降及借助辅件推进、翻转及各种高度位置调整等诸多功能。

SWL蜗轮丝杆升降机是一种基础起重部件，具有结构紧凑、体积小、重量轻、动力源广泛、无噪音、安装方便、使用灵活、功能多、配套形式多、可靠性高、使用寿命长等许多优点。可以单台或组合使用，能按一定程序准确地控制调整提升或推进的高度，可以用电动机或其他动力直接带动，也可以手动。它有不同的结构型式和装配型式，且提升高度可按用户的要求定制。

型号及标记

1. 结构形式

1型——丝杆作轴向移动（丝杆移动时，分旋转和不旋转(F)，选型时请注意区分）

2型——丝杆作旋转运动、螺母作轴向移动

2. 装配型式

A型——丝杆（或螺母）向上移动；

B型——丝杆（或螺母）向下移动。

3. 丝杆头部型式

1型结构型式的丝杆头部分为Ⅰ型（圆柱型）、Ⅱ型（法兰型）、Ⅲ型（螺纹型）、

Ⅳ型（扁头型）四种型式；

2型结构型式的丝杆头部分为Ⅰ型（圆柱型）、Ⅲ型（螺纹型）二种型式。

4. 传动比

普通速比（P）、慢速比（M）

5. 提升承载能力

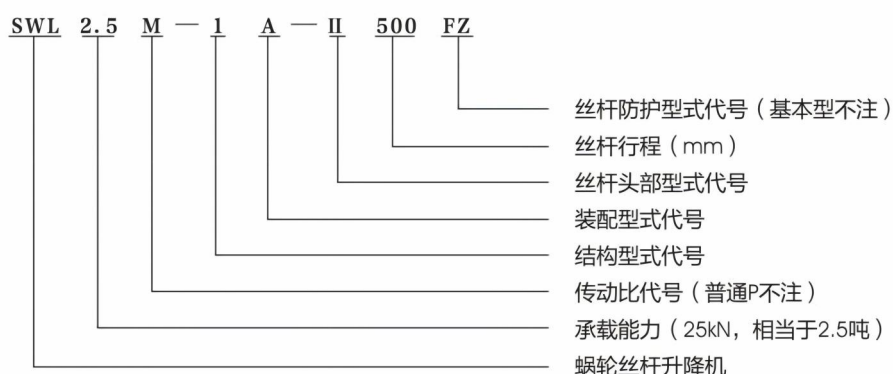
0.5, 1, 2.5, 5, 10, 15, 20, 25, 35, 50, 100（×10kN）11种

6. 丝杆的防护

1型结构有基本型、防旋转型（F）和带防护罩型（Z）；

2型结构有基本型和带防护罩型（Z）。

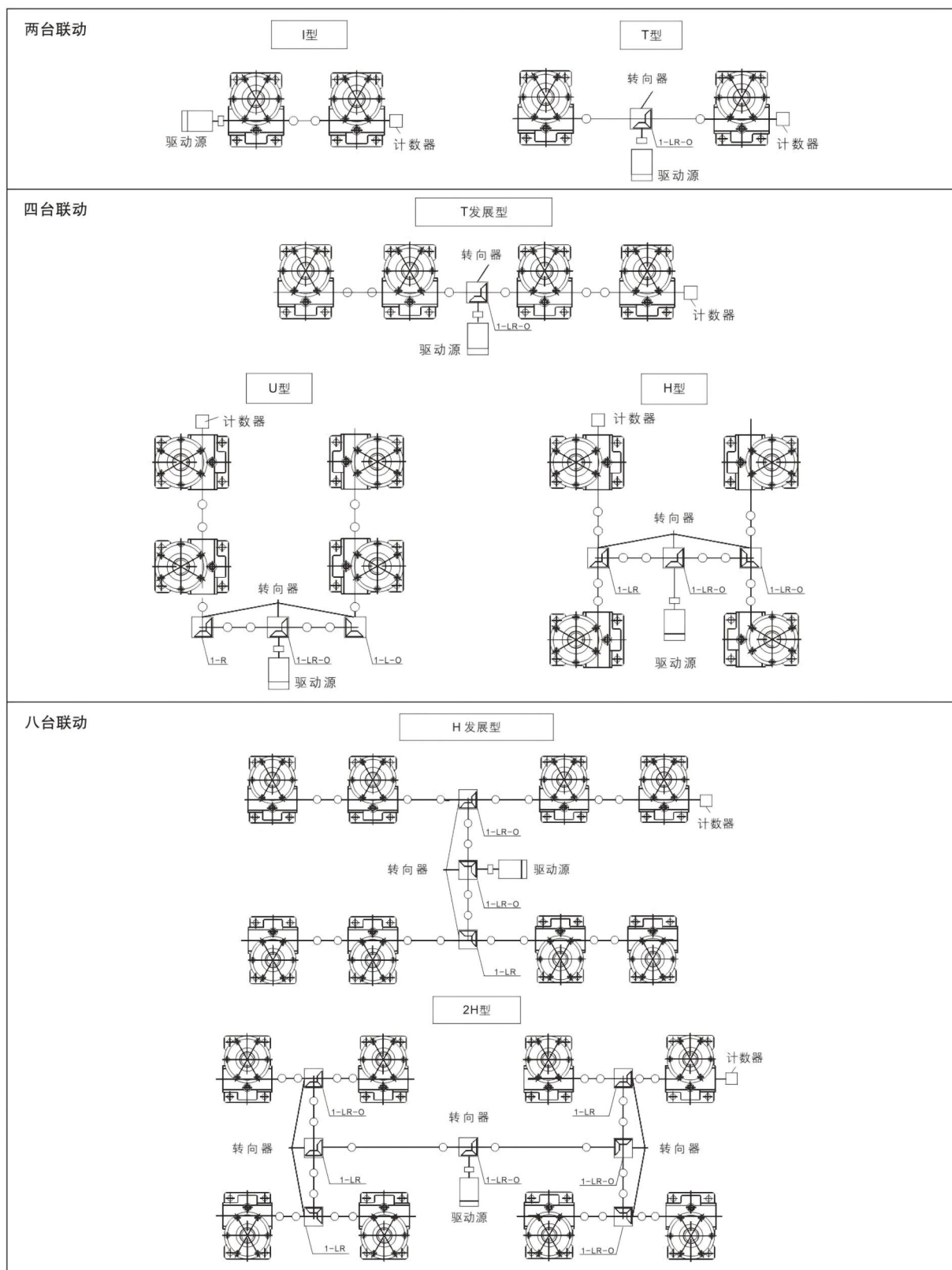
7. 表示方法



SWL系列蜗轮丝杆升降机

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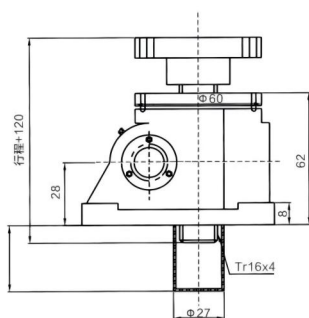
选型示例



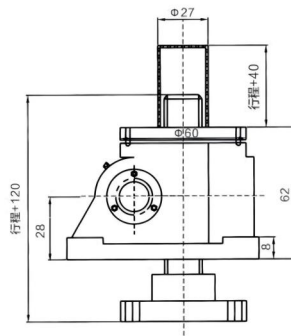
SWL-0.5T 装配图

I 型结构型式

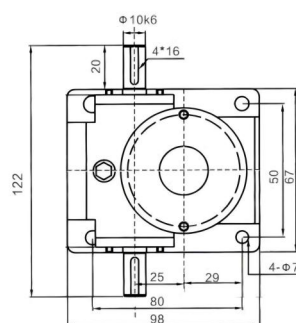
装配形式A



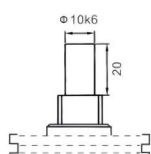
装配形式B



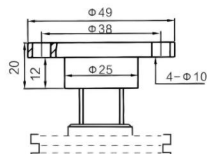
K向



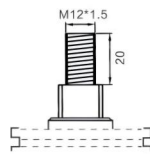
丝杆头部型式



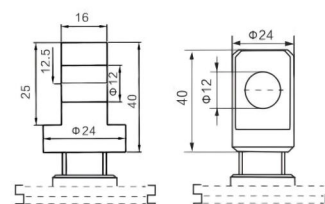
I 型



II 型



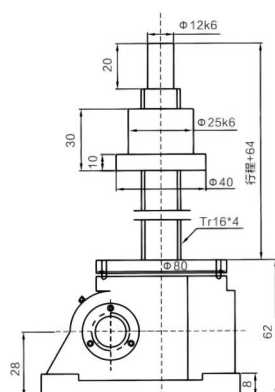
III 型



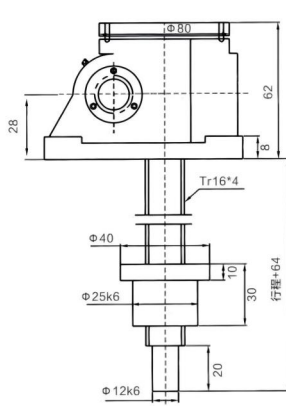
IV 型

II 型结构型式

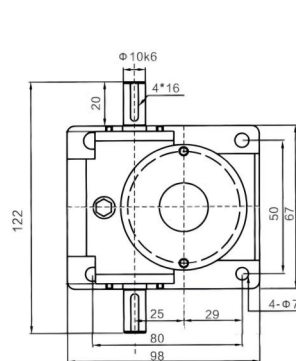
装配形式A



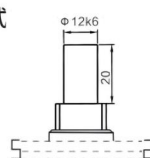
装配形式B



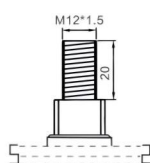
K向



丝杆头部型式



I 型

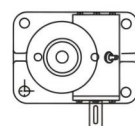


III 型

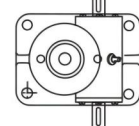
轴指向



B



C



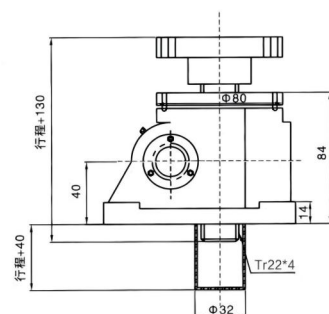
SWL系列蜗轮丝杆升降机

SWL SERIES WORM GEAR SCREW JACK

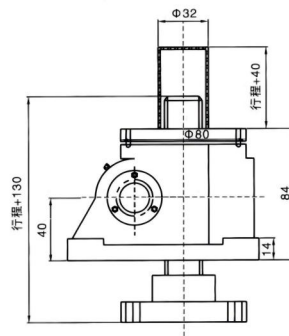
SWL-1T 装配图

I 型结构型式

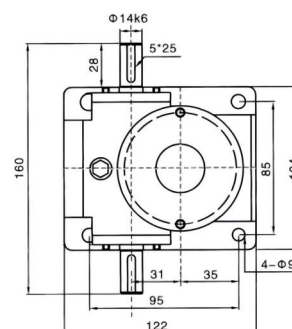
装配形式A



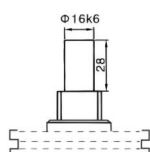
装配形式B



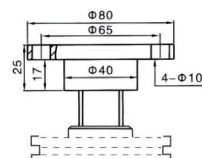
K向



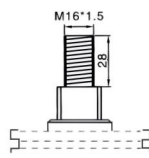
丝杆头部型式



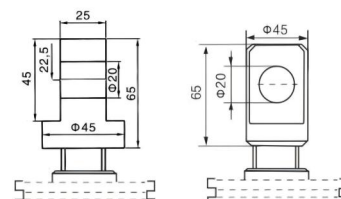
I 型



II 型



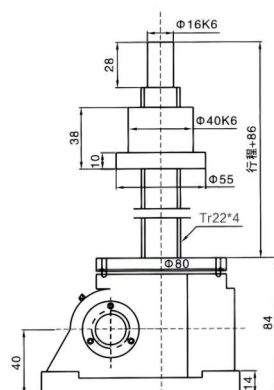
III 型



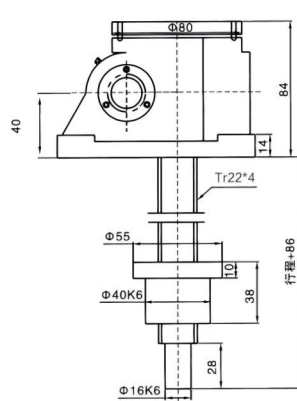
IV 型

II 型结构型式

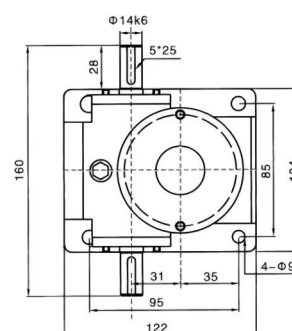
装配形式A



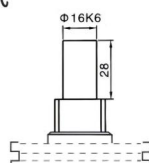
装配形式B



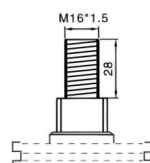
K向



丝杆头部型式



I 型

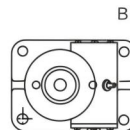


III 型

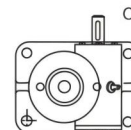
轴指向



A



B

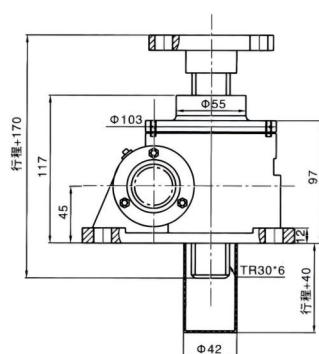


C

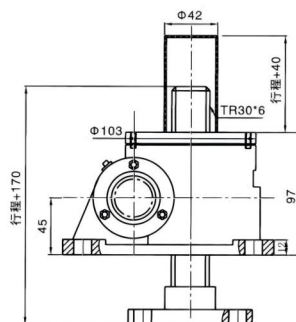
SWL-2.5T 装配图

I 型结构型式

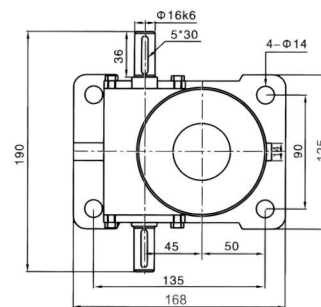
装配形式A



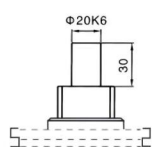
装配形式B



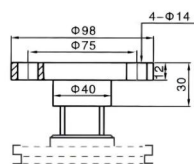
K向



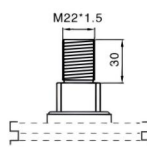
丝杆头部型式



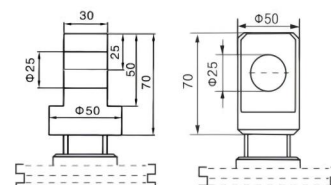
I 型



II 型



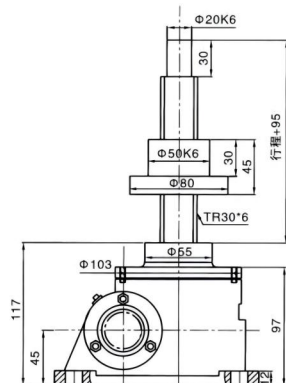
III 型



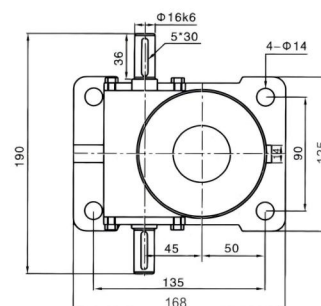
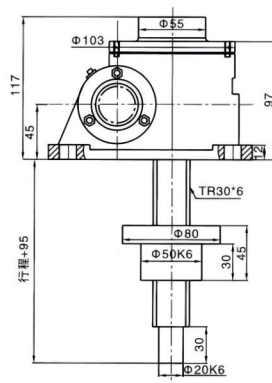
IV 型

II 型结构型式

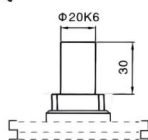
装配形式A



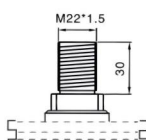
装配形式B



丝杆头部型式



I 型

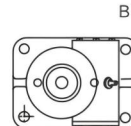


III 型

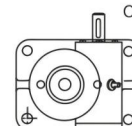
轴指向



A



B



C

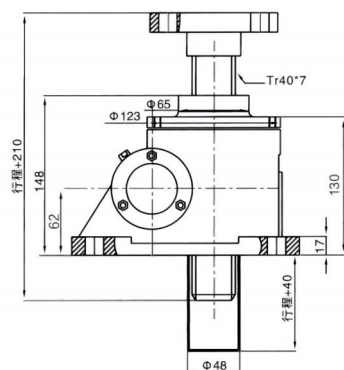
SWL系列蜗轮丝杆升降机

SWL SERIES WORM GEAR SCREW JACK

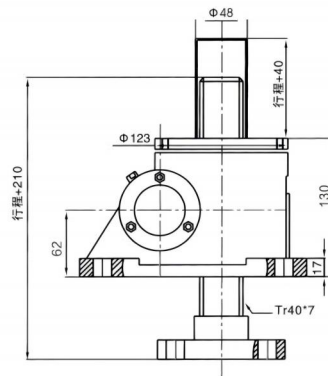
SWL-5T 装配图

I 型结构型式

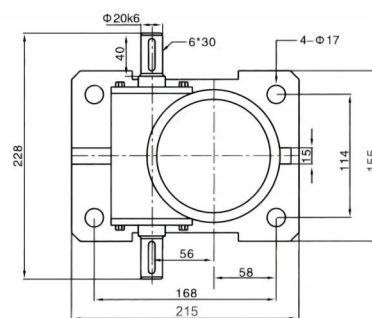
装配形式A



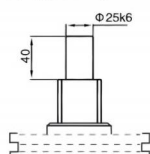
装配形式B



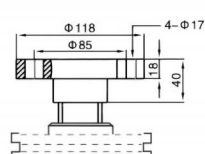
K向



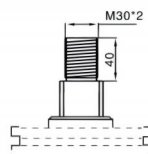
丝杆头部型式



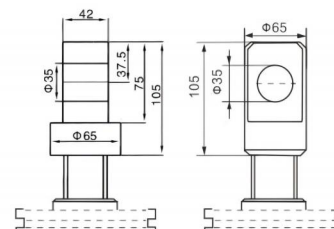
I 型



II 型



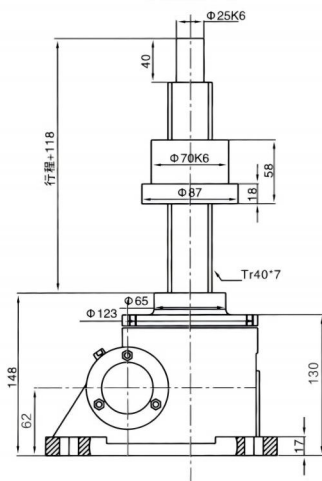
III 型



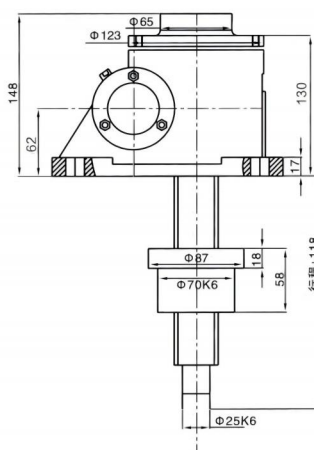
IV 型

II 型结构型式

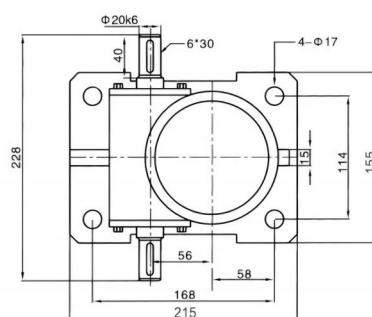
装配形式A



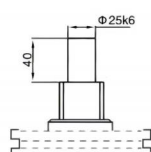
装配形式B



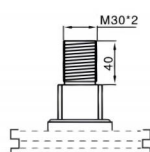
K向



丝杆头部型式



I 型

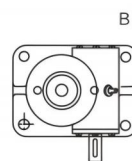


III 型

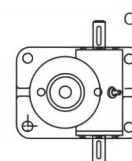
轴指向



A



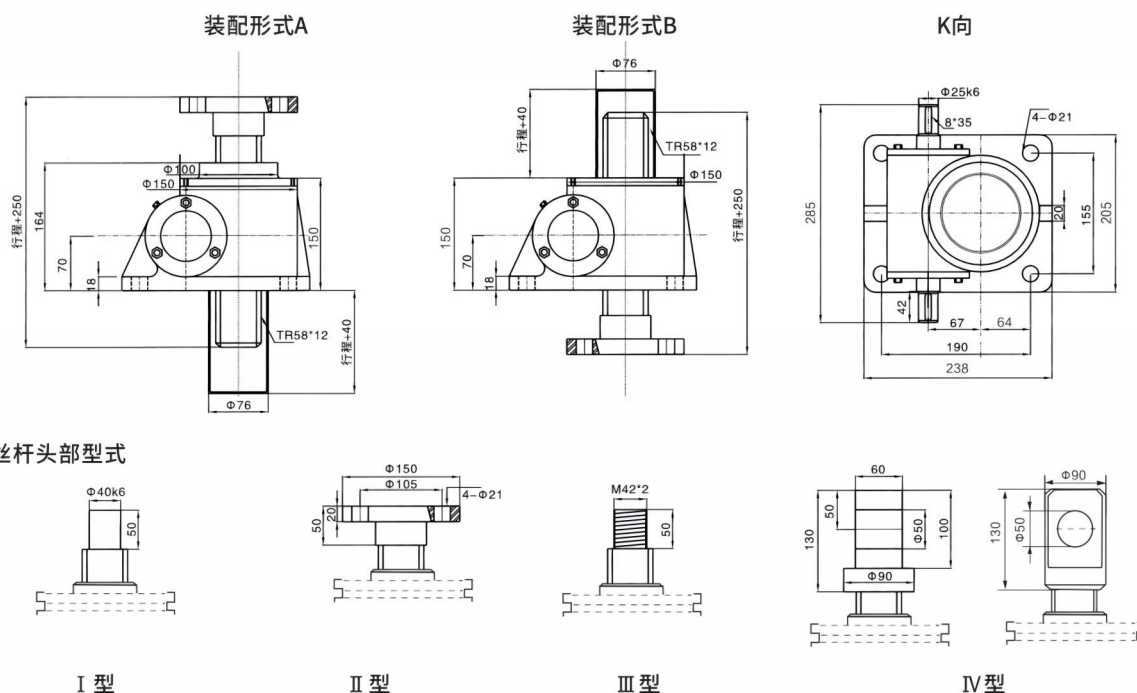
B



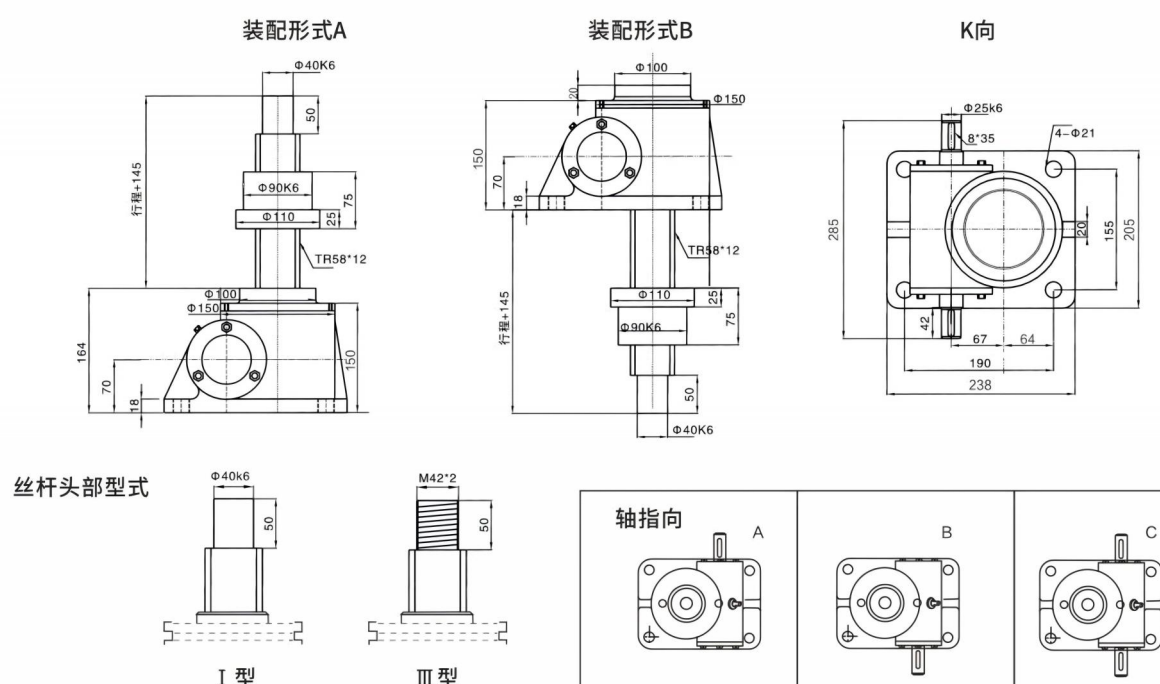
C

SWL-10/15T 装配图

I 型结构型式



II 型结构型式



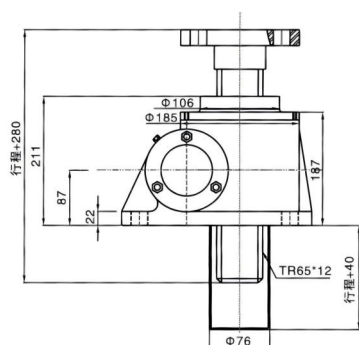
SWL系列蜗轮丝杆升降机

SWL SERIES WORM GEAR SCREW JACK

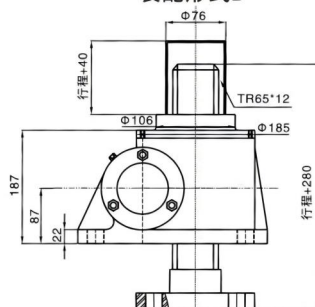
SWL-20T 装配图

I 型结构型式

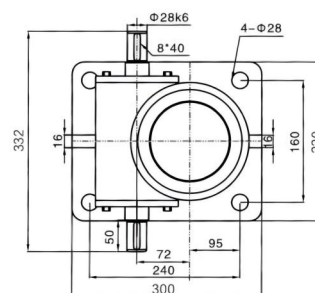
装配形式A



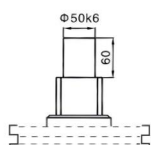
装配形式B



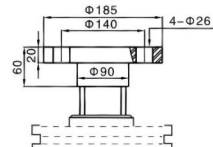
K向



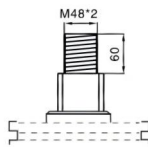
丝杆头部型式



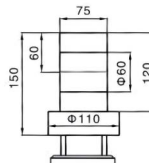
I 型



II 型



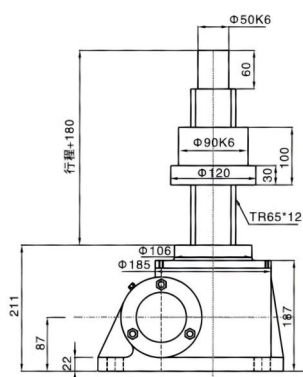
III 型



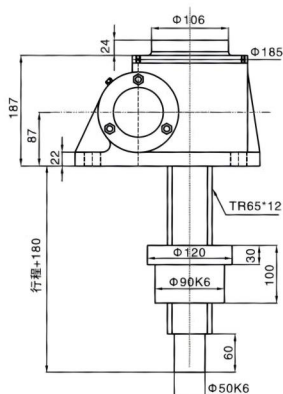
IV 型

II 型结构型式

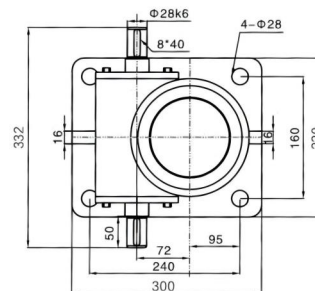
装配形式A



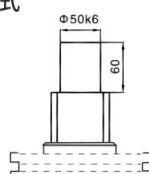
装配形式B



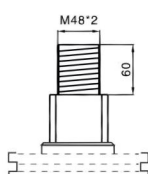
K向



丝杆头部型式



I 型

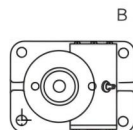


III 型

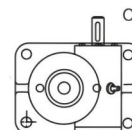
轴指向



A



B



C

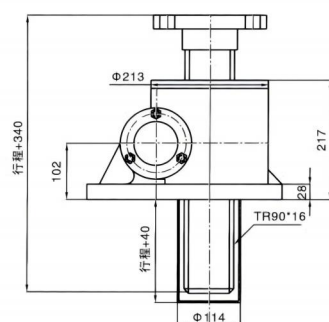
SWL系列蜗轮丝杆升降机

SWL SERIES WORM GEAR SCREW JACK

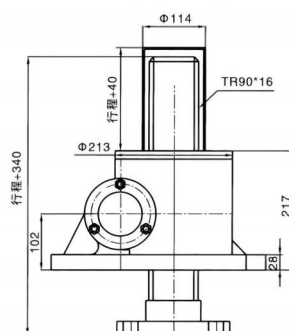
SWL-25T 装配图

I 型结构型式

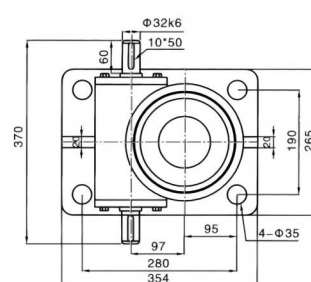
装配形式A



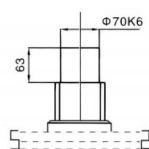
装配形式B



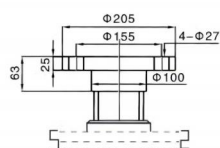
K向



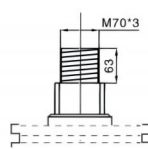
丝杆头部型式



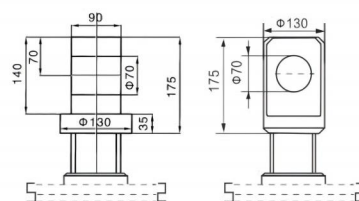
I 型



II 型



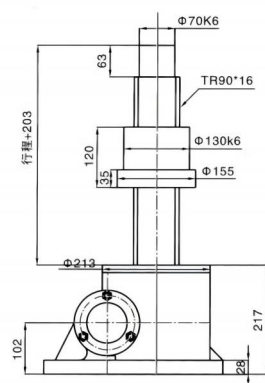
III 型



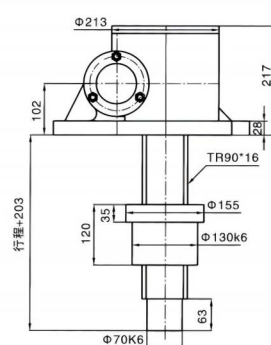
IV 型

II 型结构型式

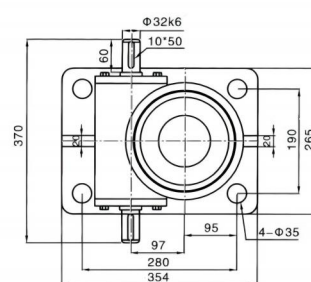
装配形式A



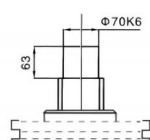
装配形式B



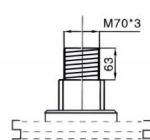
K向



丝杆头部型式



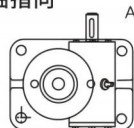
I 型



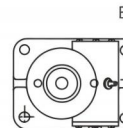
III 型

轴指向

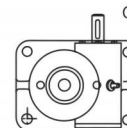
A



B



C



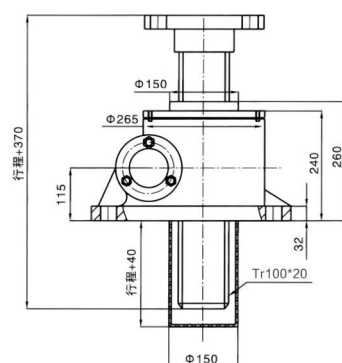
SWL系列蜗轮丝杆升降机

SWL SERIES WORM GEAR SCREW JACK

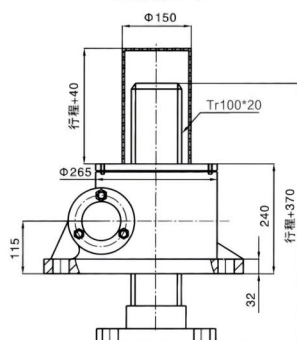
SWL-35T 装配图

I 型结构型式

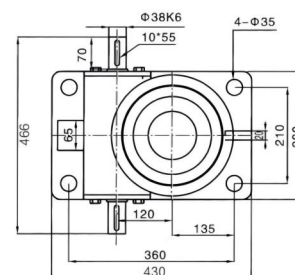
装配形式A



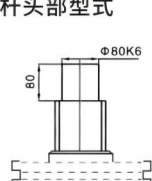
装配形式B



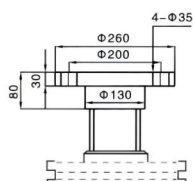
K向



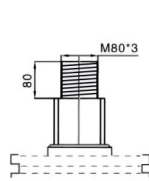
丝杆头部型式



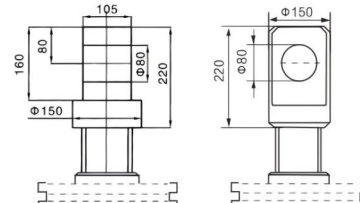
I 型



II 型



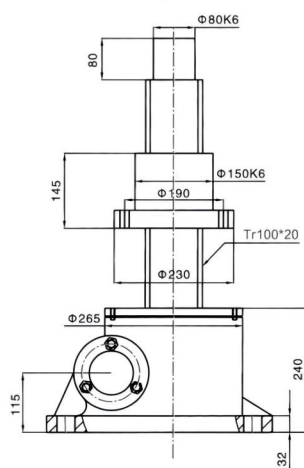
III 型



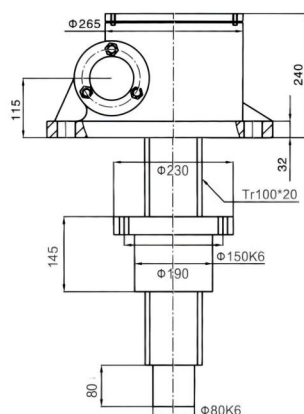
IV 型

II 型结构型式

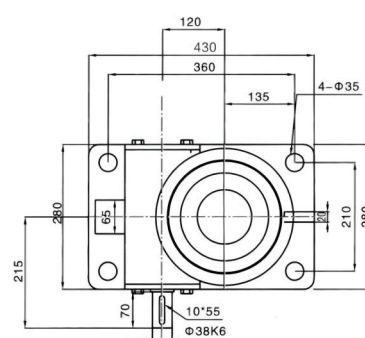
装配形式A



装配形式B



K向

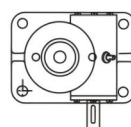


轴指向

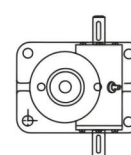
A



B



C



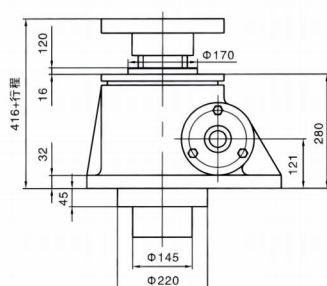
SWL系列蜗轮丝杆升降机

SWL SERIES WORM GEAR SCREW JACK

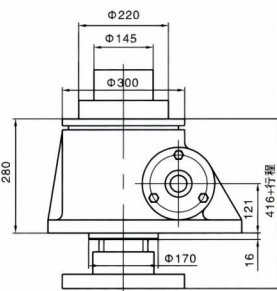
SWL-50T 装配图

I 型结构型式

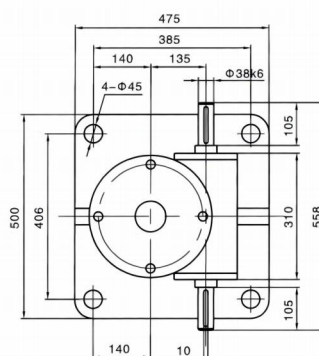
装配形式A



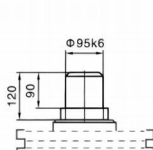
装配形式B



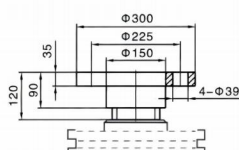
K向



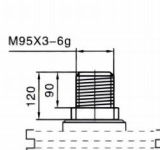
丝杆头部型式



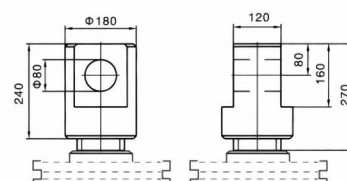
I 型



II 型



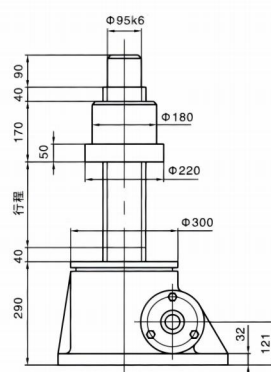
III 型



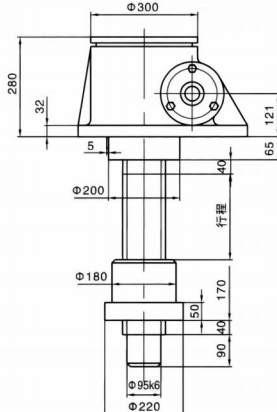
IV 型

II 型结构型式

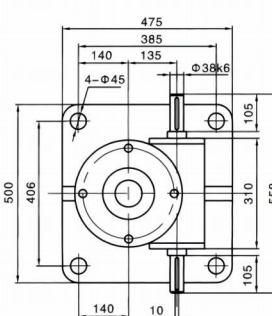
装配形式A



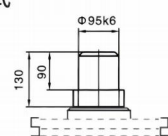
装配形式B



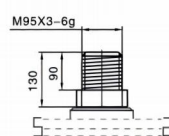
K向



丝杆头部型式



I 型

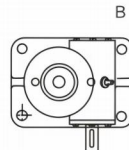


III 型

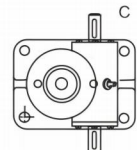
轴指向



A



B



C

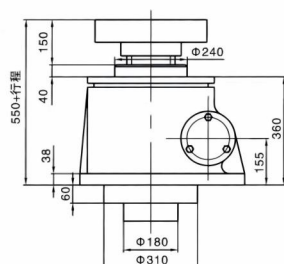
SWL系列蜗轮丝杆升降机

SWL SERIES WORM GEAR SCREW JACK

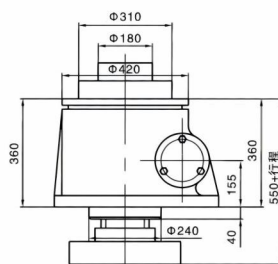
SWL-100T 装配图

I 型结构型式

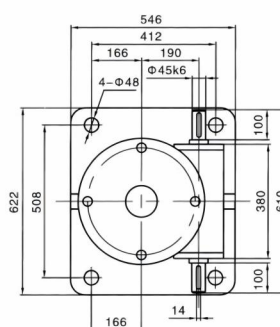
装配形式A



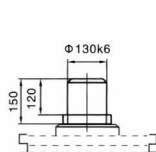
装配形式B



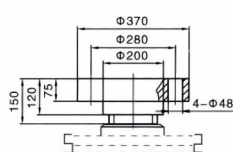
K向



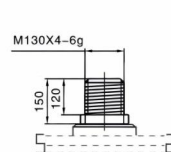
丝杆头部型式



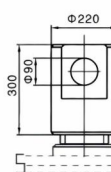
I 型



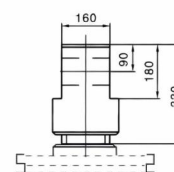
II 型



III 型

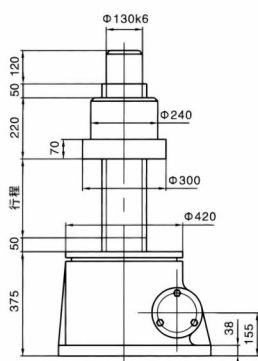


IV 型

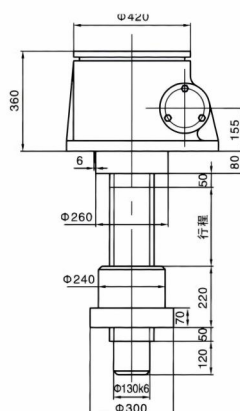


II 型结构型式

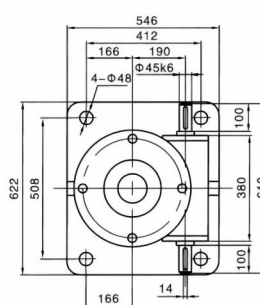
装配形式A



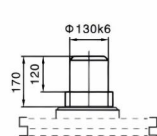
装配形式B



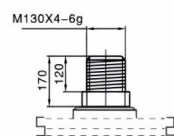
K向



丝杆头部型式



I 型

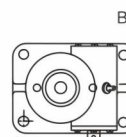


III 型

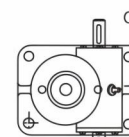
轴指向



A



B

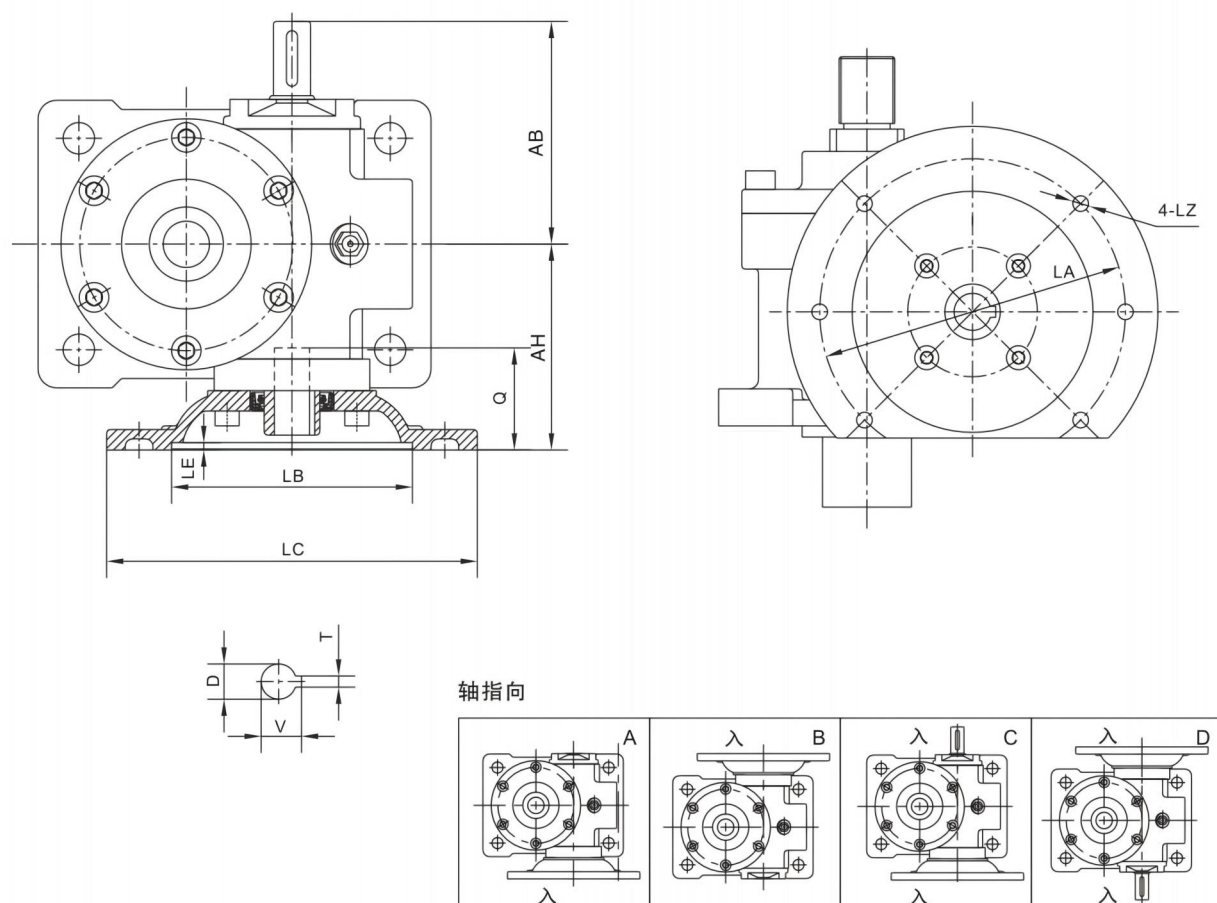


C

SWL系列蜗轮丝杆升降机

SWL SERIES WORM GEAR SCREW JACK

SWLD安装尺寸 (丝杆升降机与电机直联)



型号规格	入功率 (kw)	法兰代号	AB	AH	LA	LB	LC	LE	LZ	D	T×V	电机长度
SWLD1	0.18	63B5	80	83	115	95	140	4	M8	Φ 11	4×12.8	207
SWLD2.5	0.37	71B5	95	77	130	110	160	5	M8	Φ 14	5×16.3	225
SWLD5	0.75	80B5	114	101	165	130	200	5	M10	Φ 19	6×21.8	255
	1.5	90B5								Φ 24	8×27.3	290
SWLD10/15	1.5	90B5	140	113	165	130	200	5	M10	Φ 24	8×27.3	290
	2.2	100B5		155	215	180	250	5	M12	Φ 28	8×31.3	340
SWLD20	2.2	100B5	161	148	215	180	250	5	M12	Φ 28	8×31.3	340
	3	100B5										
SWLD25	4	112B5	177.5	157	215	180	250	5	M12	Φ 28	8×31.3	430
	5.5	132B5	184	193	265	230	300	5	M12	Φ 38	10×41.3	
SWLD35	5.5	132B5	233	202	265	230	300	5	M12	Φ 38	10×41.3	430
	7.5											
SWLD50	11	160B5	279	247	300	250	350	5	M12	Φ 42	12×45.3	490
	15											

SWL系列蜗轮丝杆升降机

SWL SERIES WORM GEAR SCREW JACK

升降机的主要性能参数表

型 号		SWL0.5	SWL1	SWL2.5	SWL5	SWL10	SWL15	SWL20	SWL25	SWL35	SWL50	SWL100
最大起升力(kN)		5	10	25	50	100	150	200	250	350	500	1000
丝杆螺纹尺寸		Tr16×4	Tr22×4	Tr30×6	Tr40×7	Tr58×12		Tr65×12	Tr90×16	Tr100×20	Tr120×20	Tr160×23
最大拉力(kN)		5	10	25	50	99		166	250	350	500	1000
蜗轮蜗杆传动比	P	1/5	1/6	1/6	1/8	3/23		1/8	3/32	3/32	1/11	1/12
	M	1/22	1/24	1/24	1/24	1/24		1/24	1/32	1/32	1/32	1/36
蜗杆每转行程(mm)	P	0.8	0.66	1.0	0.875	1.565		1.50	1.5	1.875	1.818	1.916
	M	0.18	0.16	0.25	0.29	0.5		0.5	0.5	0.625	0.625	0.638
拉力负荷时丝杆的最大伸长(mm)		600	1300	1500	2000	2500		3000	3500	4000	5500	6500
最大压力负荷时的 最大提升高度(mm)	丝杆头部无导向	110	220	250	385	500	400	490	850	820	900	1200
	丝杆头部导向	150	300	400	770	1000	800	980	1700	1640	1900	2100
满载时蜗杆扭矩(N.m)	P	7.5	15	18	39.5	119	179	240	366	464	650	2323
	M	4	8.30	8.86	19.8	60	90	122	217	253	350	997
效率(%)	P	18	20	22	23	20.5		19.5	16	18	20	13
	M	7	9	11	11.5	13		12.8	9	11	15	10
功率(Kw)		0.12	0.25	0.55	1.5	2.6		3.7	4.8	6.0	7.5	15
不加行程的重量(Kg)		3.5	6.3	7.3	16.2	25		36	70.5	87	95	1010
丝杆每100mm的重量(Kg)		0.15	0.35	0.45	0.82	1.67		2.15	4.15	5.20	6.35	13.6
润滑剂		合成钙钠基润滑脂ZGN-1或ZGN-2(-20℃+100℃)										
润滑油量(Kg)		0.03	0.08	0.1	0.3	0.5		0.75	1.1	1.9	2.2	2.5

提升力和提升速度表

型 号	提升力 (KN)	提升速度 (m/min) (普通)	蜗杆转速 (r/min)	提升速度 (m/min) (慢速)	蜗杆转速 (r/min)	型 号	提升力 (KN)	提升速度 (r/min) (普通)	蜗杆转速 (r/min)	提升速度 (r/min) (慢速)	蜗杆转速 (r/min)
SWL0.5	4	0.48	600	0.109	600	SWL20	120	0.30	200	0.15	300
	2	0.80	1000	0.182	1000		100	0.30	200	0.25	500
	0.5	1.12	1400	0.255	1400		75	0.45	300	0.375	750
SWL1	8	0.400	600	0.100	600		50	0.75	500	0.50	1000
	4	0.666	1000	0.1667	1000		25	1.50	1000	0.90	1800
SWL2.5	1	0.9333	1400	0.2333	1400	SWL25	250	0.075	50	0.025	50
	25	0.05	50	0.0125	50		200	0.15	100	0.10	200
	20	0.6	600	0.15	600		160	0.15	100	0.15	300
	15	0.75	750	0.188	750		130	0.30	200	0.15	300
	10	1.00	1000	0.25	1000		100	0.45	300	0.25	500
SWL5	5	1.80	1800	0.45	1800		75	0.45	300	0.30	600
	50	0.044	50	0.0146	50		50	0.90	600	0.50	1000
SWL10	40	0.264	300	0.175	600	SWL35	350	0.094	50	0.0313	50
	30	0.264	300	0.219	750		300	0.104	100	0.125	200
	20	0.526	600	0.292	1000		250	0.208	100	0.188	300
	10	0.876	1000	0.525	1800		200	0.416	200	0.188	300
SWL15	5	1.575	1800	0.525	1800		150	0.624	300	0.313	500
	100	0.288	200	0.15	300		100	0.624	300	0.47	750
SWL20	75	0.432	300	0.25	500	SWL50	50	1.248	600	0.626	1000
	50	0.432	300	0.375	750		500	<0.08	<50	<0.03	<50
	35	0.864	600	0.90	1800		450	0.08	50	0.03	50
	20	1.44	1000	0.90	1800		400	0.16	100	0.06	100
	10	2.592	1800	0.90	1800		300	0.24	150	0.188	300
SWL25	150	0.072	50	0.025	50		200	0.48	300	0.25	400
	100	0.288	200	0.15	300		100	0.8	500	0.625	1000
	80	0.288	200	0.25	500	SWL100	1000	<0.08	<50	<0.032	<50
	60	0.423	300	0.30	600		900	0.159	50	0.032	50
	40	0.720	500	0.50	1000		800	0.238	100	0.064	100
	20	1.44	1000	0.90	1800		600	0.317	150	0.096	150
	10	2.592	1800	0.90	1800		400	0.635	200	0.192	300
SWL35	200	0.15	100	0.10	200		200	0.104	400	0.639	1000
	160	0.15	100	0.15	300						

注：表中参数是在环境温度20℃，工作持续率每小时20%或每分钟40%情况下得出的；
当转速超过表中数值时，提升元件会因过热而出现早期磨损，使用时应严加注意。

丝杆长度与极限负荷的关系

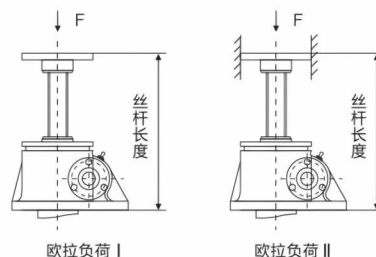


图1

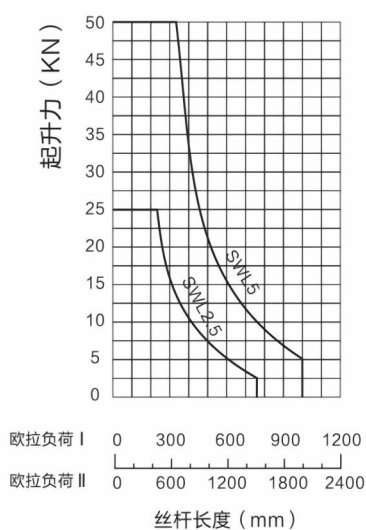


图2

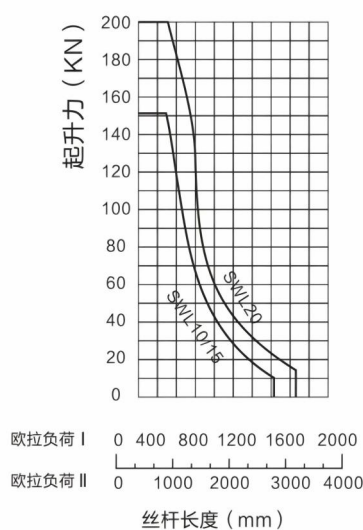


图3

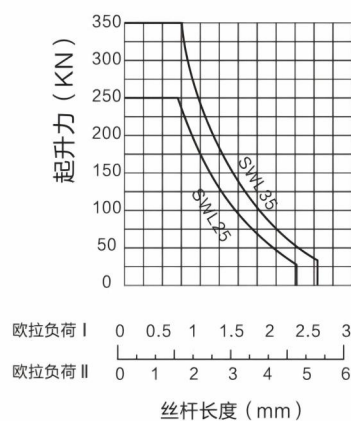


图4

升降机的选型说明

根据丝杆行程和提升负荷查图1~图4，找出所需升降机的型号，再查提升力和提升速度表，校核提升速度是否满足要求。

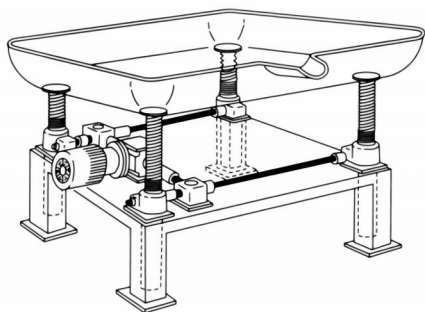
例：已知提升负荷为 $F=20\text{KN}$ ，丝杆行程 $=400\text{mm}$ ，提升速度 $V=0.65\text{m/min}$ ，试求所需的升降机。

根据 $F=20\text{KN}$ ，丝杆行程 $=400\text{mm}$ 查图2，选择SWL5升降机。再查提升力和提升速度表核对SWL5升降机在20KN负荷下只允许 0.526m/min 的速度，只有重选大型号的升降机。再查提升力和提升速度表得知SWL10在20KN负荷下允许提升速度为 1.4m/min 而满足要求。

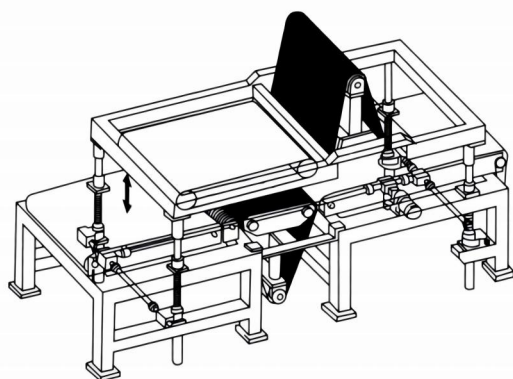
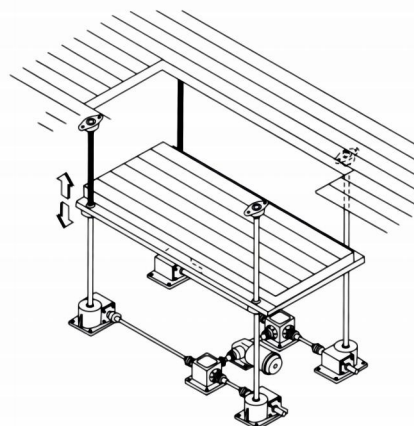
说明

- 1、当压力负荷减小时，提升高度可随之增大（两者具体关系详见图2~图4）；
- 2、在提升不同的负荷时，所允许的扭矩、功率、转速也不同，且不同工作持续率的最大功率也不同；
- 3、1型结构采用油脂润滑，随着温度的升高应及时补充润滑剂；
- 4、表中的效率为用油脂润滑条件下的参数；
- 5、工作期间应及时更换润滑剂；
- 6、工作环境温度： $-20^{\circ}\text{C}\sim+80^{\circ}\text{C}$ ；
- 7、在静止状态一般可以自锁。

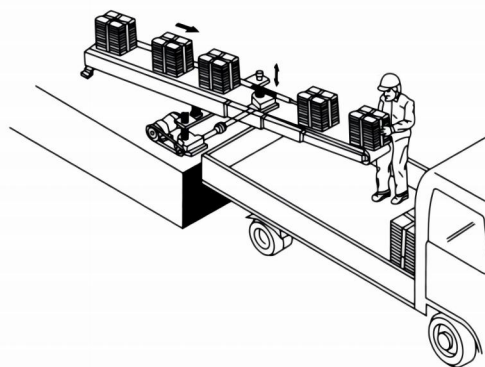
应用举例



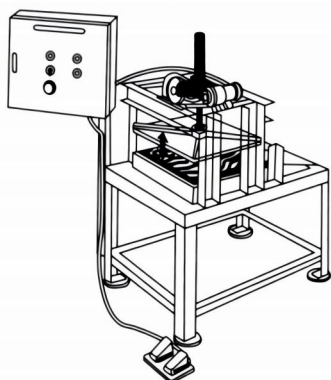
平台升降



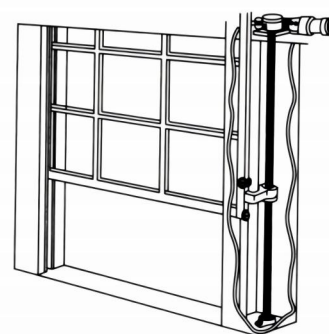
调整表面加工机的工作高度



调整滑动传送带的倾斜程度



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Hangzhou GT Rail Traffic Equipment Co., Ltd

Address: No.21 Jinfeng 3rd Road, Yipeng Street, Qiantang District, Hangzhou City, Zhejiang Province, China.

Web: www.ivhdrive.com <http://ivhdrive.en.alibaba.com>

Email: info@ivhdrive.com william@ivhdrive.com

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