



SWL 系 列 蜗 轮 丝 杆 升 降 机
SWL SERIES WORM GEAR SCREW JACK

技术信息 Technical information

1 抗屈服强度 Permitted buckling force

带有压缩力的丝杆升降机的丝杆尺寸

梯形和滚珠丝杠的允许屈曲力可以使用以下弯曲图进行验证。

Spindle dimensioning of the screw jack elements with compression force

The permitted buckling force for trapezoidal and ball-screw spindles can be verified using the following bend diagrams.

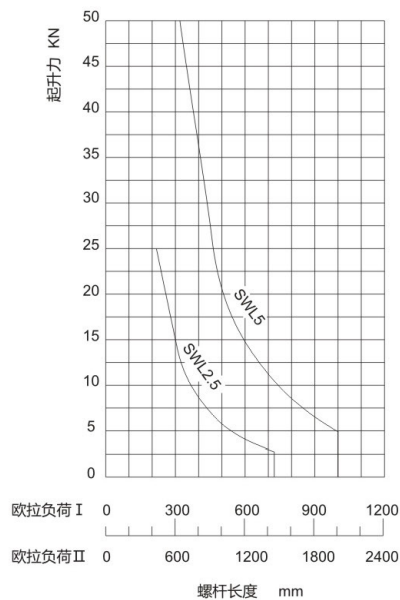
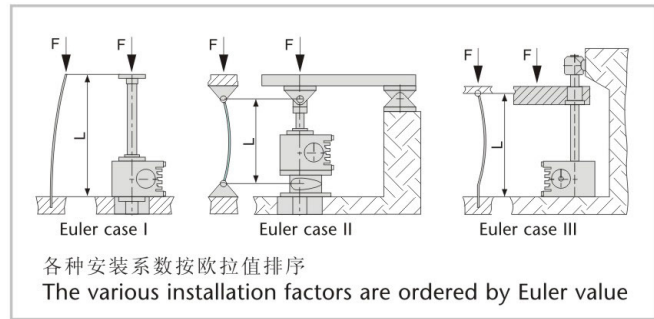


图1

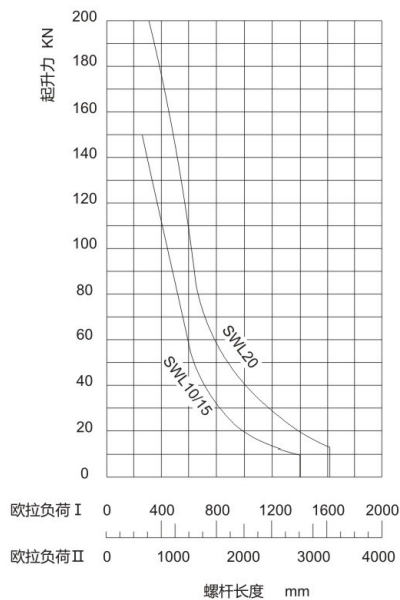


图2

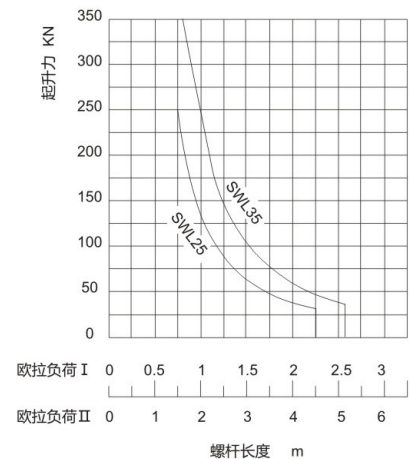


图3

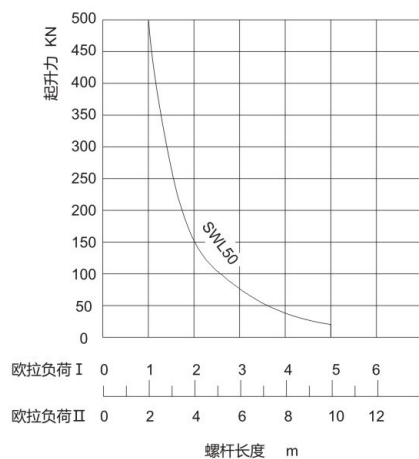


图4

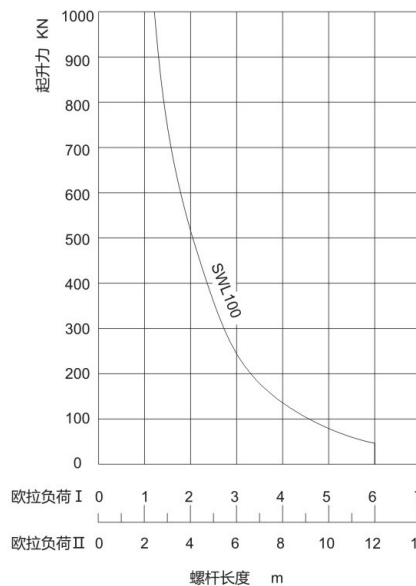


图5

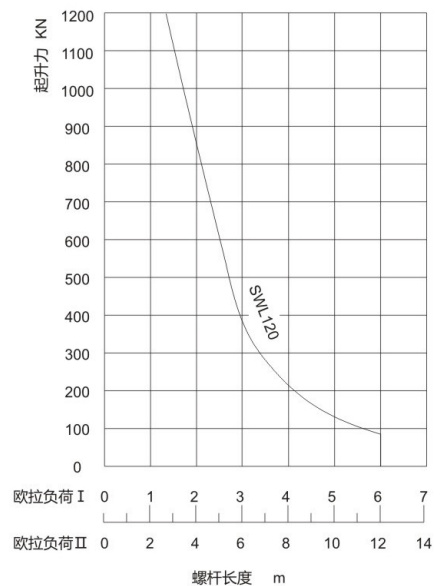


图6

2 初选表 Table of settings

2.1 SWL系列升降机 SWL Worm gear screw jacks

型号 Size		1	2,5	5	10
最大起升力 Max. lifting force	[kN]	10	25	50	100
最大拉伸载荷 Max. tension load	[kN]	10	25	50	99
丝杆 Spindle Tr ¹⁾		24x4	30x6	40x7	58x12
速比P Ratio P		6:1	6:1	6:1	8:1
P速比时蜗杆每转1转丝杆提升量 Amount of lift per revolution for ratio p	[mm/per rev.]	0,67	1,0	1,167	1,5
速比M Ratio M		24:1	24:1	24:1	24:1
M速比时蜗杆每转1转丝杆提升量 Amount of lift per revolution for ratio M	[mm/per rev.]	0,17	0,25	0,292	0,50
最大驱动能力2) 在20°C环境温度。和20%ED / hr Max. drive capacity ²⁾ at 20°C Ambient temp. and 20 % ED/hr	[kW]	0,35	0,65	1,15	2,7
最大驱动能力2) 在20°C环境温度。和10%ED / hr Max. drive capacity ²⁾ at 20°C Ambient temp. and 10 % ED/hr	[kW]	0,55	0,9	1,65	3,85
总体效率比P Overall efficiency of ratio p	[%]	29	27	24	27
总功率比P Rendement total Rapport p	[%]	20	19	16	17
丝杆效率等级 Spindle efficiency rating	[%]	35	36	30	31
扭矩，容量，转速在20%ED / hr和20°C Torque, capacity, turning-speed at 20 % ED/hr and 20°C		详见30-31页 See P30-P31			
丝杆转矩最大提升力 Spindle torque at max. lifting power	[Nm]	18,4	60	153	468
最大。允许的驱动轴扭矩 Max. permitted drive-shaft torque	[Nm]	29,4	46,5	92	195
最大。允许的丝杆长度和压缩载荷 Max. permitted spindle length with compression load		详见34页 See P34			
外壳材料 Housing material	[mm]	球墨	球墨		
重量不带丝杆和保护管 Weight without screw jack and protection tube	[kg]	2,5	7,3	16,2	25
每100 mm的丝杆重量 Spindle weight per 100 mm of lift	[kg]	0,23	0,45	0,82	1,67
传动中的润滑剂量 Amounts of lubricant in transmission	[kg]	0,1	0,2	0,35	0,9
转动惯性 Mass moment of inertia ³⁾ P-1型结构 P-ratio Type 1	[kg cm ²]	0,383	0,780	2,234	5,256
转动惯性 Mass moment of inertia ³⁾ P-2型结构 P-ratio Type 2	[kg cm ²]	0,390	0,792	2,273	5,356
转动惯性 Mass moment of inertia ³⁾ M-1型结构 M-ratio Type 1	[kg cm ²]	0,269	0,558	1,696	4,081
转动惯性 Mass moment of inertia ³⁾ M-2型结构 M-ratio Type 2	[kg cm ²]	0,275	0,558	1,699	4,091

1) 也适用于滚珠丝杆。

2) 最大允许值为1型和TR丝杆。更高的值是可能的，当使用2型或丝杆。

3) 指的是100毫米的丝杆长度

¹⁾ Also applies to Ku spindle.

²⁾ Max. permitted values for type 1 and Tr spindle. **Higher values are possible when using type 2 or Ku spindles.**

³⁾ referring to 100 mm spindle length

20	25	35	50	100	120	型号 Size
200	250	350	500	1000	1200	最大起升力 Max. lifting force
166	250	350	500	1000	1200	最大拉伸载荷 Max. tension load
65x12	90x16	100x20	120x20	160x23	180x25	丝杆 Spindle Tr ¹⁾
8:1	10 2/3:1	10 2/3:1	10 2/3:1	12:1	12:1	速比P Ratio P
1,50	1,50	1,6 9	1,8 7	1, 91	2, 08	P速比时蜗杆每转1转丝杆提升量 Amount of lift per revolution for ratio p
24:1	32:1	32:1	32:1	36:1	36:1	速比M Ratio M
0,5	0,5	0,56	0,625	0, 64	0, 7	M速比时蜗杆每转1转丝杆提升量 Amount of lift per revolution for ratio M
3,8	5,0	6,0	7,4	12,5	18,5	最大驱动能力2) 在20°C环境温度。和20%ED / hr Max. drive capacity ²⁾ at 20°C Ambient temp. and 20 % ED/hr
5,4	7,2	8,6	10,4	17,5	26	最大驱动能力2) 在20°C环境温度。和10%ED / hr Max. drive capacity ²⁾ at 20°C Ambient temp. and 10 % ED/hr
24	22	21	15	15	15	总体效率比P Overall efficiency of ratio p
17	15	14	10	9	-	总功率比P Rendement total Rapport p
26	24	21	20	16	14	丝杆效率等级 Spindle efficiency rating
详见30-31页 See P30-P31						扭矩，容量，转速在20%ED / hr和20°C Torque, capacity, turning-speed at 20 % ED/hr and 20°C
1009	1725	2600	4235	11115	19850	丝杆转矩最大提升力 Spindle torque at max. lifting power
280	480	705	840	2660	4260	最大。允许的驱动轴扭矩 Max. permitted drive-shaft torque
详见34页 See P34						最大。允许的丝杆长度和压缩载荷 Max. permitted spindle length with compression load
球墨						外壳材料 Housing material
36	70,5	87	176	538	850	重量不带螺旋千斤顶和保护管 Weight without screw jack and protection tube
2,15	4,15	5,2	7,7	13,82	19,6	每100 mm丝杆重量 Spindle weight per 100 mm of lift
2	1,3	2,5	4,0	10,0	10,0	传动中的润滑剂量 Amounts of lubricant in transmission
11,93	23,42	55,80	108,8	428,5	on request	转动惯性 Mass moment of inertia ³⁾ P-1型结构 P-ratio Type 1
12,08	23,74	56,30	109,9	431,3	on request	转动惯性 Mass moment of inertia ³⁾ P-2型结构 P-ratio Type 2
9,427	19,59	44,08	88,37	346,0	sur demande	转动惯性 Mass moment of inertia ³⁾ M-1型结构 M-ratio Type 1
9,444	19,62	44,13	88,49	346,3	on request	转动惯性 Mass moment of inertia ³⁾ M-2型结构 M-ratio Type 2

3 性能表(升降和Tr丝杆)

3 Performance tables (lifting elements with Tr spindle)

转速，功率要求和允许的提升速度，带单螺纹，提升（1型）梯形丝杆的P和M比。所有性能数据表示为动态提升力。

Turning speed, power requirement and permitted lifting speed for ratio N and L with single-threaded, lifting (Type 1) trapezoidal spindle. All performance data are expressed in terms of dynamic lifting force.

SWL 1T Tr24×4

n (1/min)	速度 Lifting speed (m/min.)		F=10KN				F=8KN				F=6KN				F=4KN				F=3KN				F=2KN				F=1KN			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw
1500	1	0.25	5.05	0.79	2.04	0.32	4.04	0.63	1.63	0.26	3.03	0.48	1.22	0.19	2.02	0.32	0.82	0.13	1.52	0.24	0.61	0.1	1.01	0.16	0.41	0.06	0.51	0.08	0.2	0.03
1000	0.67	0.17	5.05	0.53	2.04	0.21	4.04	0.42	1.63	0.17	3.03	0.32	1.22	0.13	2.02	0.21	0.82	0.09	1.52	0.16	0.61	0.06	1.01	0.11	0.41	0.04	0.51	0.05	0.2	0.02
750	0.5	0.13	5.05	0.4	2.04	0.16	4.04	0.32	1.63	0.13	3.03	0.24	1.22	0.1	2.02	0.16	0.82	0.06	1.52	0.12	0.61	0.05	1.01	0.08	0.41	0.03	0.51	0.04	0.2	0.02
600	0.4	0.1	5.05	0.32	2.04	0.13	4.04	0.25	1.63	0.1	3.03	0.19	1.22	0.08	2.02	0.13	0.82	0.05	1.52	0.1	0.61	0.04	1.01	0.06	0.41	0.03	0.51	0.03	0.2	0.01
500	0.33	0.08	5.05	0.26	2.04	0.11	4.04	0.21	1.63	0.09	3.03	0.16	1.22	0.06	2.02	0.11	0.82	0.04	1.52	0.08	0.61	0.03	1.01	0.05	0.41	0.02	0.51	0.03	0.2	0.01
300	0.2	0.05	5.05	0.16	2.04	0.06	4.04	0.13	1.63	0.05	3.03	0.1	1.22	0.04	2.02	0.06	0.82	0.03	1.52	0.05	0.61	0.02	1.01	0.03	0.41	0.01	0.51	0.02	0.2	0.01
200	0.13	0.03	5.05	0.11	2.04	0.04	4.04	0.08	1.63	0.03	3.03	0.06	1.22	0.03	2.02	0.04	0.82	0.02	1.52	0.03	0.61	0.01	1.01	0.02	0.41	0.01	0.51	0.01	0.2	0
100	0.07	0.02	5.05	0.05	2.04	0.02	4.04	0.04	1.63	0.02	3.03	0.03	1.22	0.01	2.02	0.02	0.82	0.01	1.52	0.02	0.61	0.01	1.01	0.01	0.41	0	0.51	0.01	0.2	0
50	0.03	0.01	5.05	0.03	2.04	0.01	4.04	0.02	1.63	0.01	3.03	0.02	1.22	0.01	2.02	0.01	0.82	0	1.52	0.01	0.61	0	1.01	0.01	0.41	0	0.51	0	0.2	0

SWL2.5T Tr30×6

n (1/min)	速度 Lifting speed (m/min.)		F=25KN				F=20KN				F=15KN				F=10KN				F=5KN				F=2.5KN				F=1KN			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw
1500	1.5	0.38	17.3	2.72	7.11	1.12	13.8	2.17	5.68	0.89	10.4	1.63	4.26	0.67	6.92	1.09	2.84	0.45	3.46	0.54	1.42	0.22	1.73	0.27	0.71	0.11	0.69	0.11	0.28	0.04
1000	1	0.25	17.3	1.81	7.11	0.74	13.8	1.45	5.68	0.6	10.4	1.09	4.26	0.45	6.92	0.72	2.84	0.3	3.46	0.36	1.42	0.15	1.73	0.18	0.71	0.07	0.69	0.07	0.28	0.03
750	0.75	0.19	17.3	1.36	7.11	0.56	13.8	1.09	5.68	0.45	10.4	0.82	4.26	0.33	6.92	0.54	2.84	0.22	3.46	0.27	1.42	0.11	1.73	0.14	0.71	0.06	0.69	0.05	0.28	0.02
600	0.6	0.15	17.3	1.09	7.11	0.45	13.8	0.87	5.68	0.36	10.4	0.65	4.26	0.27	6.92	0.43	2.84	0.18	3.46	0.22	1.42	0.09	1.73	0.11	0.71	0.05	0.69	0.04	0.28	0.02
500	0.5	0.13	17.3	0.91	7.11	0.37	13.8	0.72	5.68	0.3	10.4	0.54	4.26	0.22	6.92	0.36	2.84	0.15	3.46	0.18	1.42	0.07	1.73	0.09	0.71	0.04	0.69	0.04	0.28	0.01
300	0.3	0.08	17.3	0.54	7.11	0.22	13.8	0.43	5.68	0.18	10.4	0.33	4.26	0.13	6.92	0.22	2.84	0.09	3.46	0.11	1.42	0.04	1.73	0.05	0.71	0.02	0.69	0.02	0.28	0.01
200	0.2	0.05	17.3	0.36	7.11	0.15	13.8	0.29	5.68	0.12	10.4	0.22	4.26	0.09	6.92	0.14	2.84	0.06	3.46	0.07	1.42	0.03	1.73	0.04	0.71	0.02	0.69	0.01	0.28	0.01
100	0.1	0.03	17.3	0.18	7.11	0.07	13.8	0.14	5.68	0.06	10.4	0.11	4.26	0.04	6.92	0.07	2.84	0.03	3.46	0.04	1.42	0.01	1.73	0.02	0.71	0.01	0.69	0.01	0.28	0
50	0.05	0.01	17.3	0.09	7.11	0.04	13.8	0.07	5.68	0.03	10.4	0.05	4.26	0.02	6.92	0.04	2.84	0.01	3.46	0.02	1.42	0.01	1.73	0.01	0.71	0	0.69	0	0.28	0

SWL 5T Tr40×7

n (1/min)	速度 Lifting speed (m/min.)		F=50KN				F=40KN				F=30KN				F=20KN				F=10KN				F=5KN				F=2.5KN			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw
1500	1.75	0.44	44.2	6.94	19.3	3.04	35.4	5.56	15.5	2.43	26.5	4.17	11.6	1.82	17.7	2.78	7.74	1.22	8.84	1.39	3.87	0.61	4.42	0.69	1.93	0.3	2.21	0.35	0.97	0.15
1000	1.17	0.29	44.2	4.63	19.3	2.03	35.4	3.7	15.5	1.62	26.5	2.78	11.6	1.22	17.7	1.85	7.74	0.81	8.84	0.93	3.87	0.41	4.42	0.46	1.93	0.2	2.21	0.23	0.97	0.1
750	0.88	0.22	44.2	3.47	19.3	1.52	35.4	2.78	15.5	1.22	26.5	2.08	11.6	0.91	17.7	1.39	7.74	0.61	8.84	0.69	3.87	0.3	4.42	0.35	1.93	0.15	2.21	0.17	0.97	0.08
600	0.7	0.18	44.2	2.78	19.3	1.22	35.4	2.22	15.5	0.97	26.5	1.67	11.6	0.73	17.7	1.11	7.74	0.49	8.84	0.56	3.87	0.24	4.42	0.28	1.93	0.12	2.21	0.14	0.97	0.06
500	0.58	0.15	44.2	2.31	19.3	1.01	35.4	1.85	15.5	0.81	26.5	1.39	11.6	0.61	17.7	0.93	7.74	0.41	8.84	0.46	3.87	0.2	4.42	0.23	1.93	0.1	2.21	0.12	0.97	0.05
300	0.35	0.09	44.2	1.39	19.3	0.61	35.4	1.11	15.5	0.49	26.5	0.83	11.6	0.36	17.7	0.56	7.74	0.24	8.84	0.28	3.87	0.12	4.42	0.14	1.93	0.06	2.21	0.07	0.97	0.03
200	0.23	0.06	44.2	0.93	19.3	0.41	35.4	0.74	15.5	0.32	26.5	0.56	11.6	0.24	17.7	0.37	7.74	0.16	8.84	0.19	3.87	0.08	4.42	0.09	1.93	0.04	2.21	0.05	0.97	0.02
100	0.12	0.03	44.2	0.46	19.3	0.2	35.4	0.37	15.5	0.16	26.5	0.28	11.6	0.12	17.7	0.19	7.74	0.08	8.84	0.09	3.87	0.04	4.42	0.05	1.93	0.02	2.21	0.02	0.97	0.01
50	0.06	0.01	44.2	0.23	19.3	0.1	35.4	0.19	15.5	0.08	26.5	0.14	11.6	0.06	17.7	0.09	7.74	0.04	8.84	0.05	3.87	0.02	4.42	0.02	1.93	0.01	2.21	0.01	0.97	0.01

SWL 10T Tr58×12

n (1/min)	速度 Lifting speed (m/min.)		F=100KN				F=80KN				F=60KN				F=40KN				F=20KN				F=10KN				F=5KN			
			P		M		P		M		P		M		P		M		P		M		P		M					
	P	M	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw		
1500	2.25	0.75	104	16.3	53.1	8.33	83	13	42.4	6.67	62.3	9.78	31.8	5	41.5	6.52	21.2	3.33	20.8	3.26	10.6	1.67	10.4	1.63	5.31	0.83	5.19	0.82	2.65	0.42
1000	1.5	0.5	104	10.9	53.1	5.56	83	8.7	42.4	4.44	62.3	6.52	31.8	3.33	41.5	4.35	21.2	2.22	20.8	2.17	10.6	1.11	10.4	1.09	5.31	0.56	5.19	0.54	2.65	0.28
750	1.15	0.38	104	8.15	53.1	4.17	83	6.52	42.4	3.33	62.3	4.89	31.8	2.5	41.5	3.26	21.2	1.67	20.8	1.63	10.6	0.83	10.4	0.82	5.31	0.42	5.19	0.41	2.65	0.21
600	0.9	0.3	104	6.52	53.1	3.33	83	5.22	42.4	2.67	62.3	3.91	31.8	2	41.5	2.61	21.2	1.33	20.8	1.3	10.6	0.67	10.4	0.65	5.31	0.33	5.19	0.33	2.65	0.17
500	0.75	0.25	104	5.43	53.1	2.78	83	4.35	42.4	2.22	62.3	3.26	31.8	1.67	41.5	2.17	21.2	1.11	20.8	1.09	10.6	0.56	10.4	0.54	5.31	0.28	5.19	0.27	2.65	0.14
300	0.45	0.15	104	3.26	53.1	1.67	83	2.61	42.4	1.33	62.3	1.96	31.8	1	41.5	1.3	21.2	0.67	20.8	0.65	10.6	0.33	10.4	0.33	5.31	0.17	5.19	0.16	2.65	0.08
200	0.3	0.1	104	2.17	53.1	1.11	83	1.74	42.4	0.89	62.3	1.3	31.8	0.67	41.5	0.87	21.2	0.44	20.8	0.43	10.6	0.22	10.4	0.22	5.31	0.11	5.19	0.11	2.65	0.06
100	0.15	0.05	104	1.09	53.1	0.56	83	0.87	42.4	0.43	62.3	0.65	31.8	0.33	41.5	0.43	21.2	0.22	20.8	0.22	10.6	0.11	10.4	0.11	5.31	0.06	5.19	0.05	2.65	0.03
50	0.08	0.03	104	0.54	53.1	0.28	83	0.43	42.4	0.22	62.3	0.33	31.8	0.17	41.5	0.22	21.2	0.11	20.8	0.11	10.6	0.05	10.4	0.05	5.31	0.03	5.19	0.03	2.65	0.01

SWL 20T Tr65×12

n (1/min)	速度 Lifting speed (m/min.)		F=250KN				F=200KN				F=160KN				F=120KN				F=100KN				F=75KN				F=50KN			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw
1500	2.25	0.75	227	35.7	122	19.2	182	28.6	97.9	15.4	136	21.4	73.5	11.5	114	17.9	61.2	9.62	85.3	13.4	45.9	7.21	56.8	8.93	30.6	4.81	28.4	4.46	15.3	2.4
1000	1.5	0.5	227	23.8	122	12.8	182	19	97.9	10.3	136	14.3	73.5	7.69	114	11.9	61.2	6.41	85.3	8.93	45.9	4.81	56.8	5.95	30.6	3.21	28.4	2.98	15.3	1.6
750	1.13	0.38	227	17.9	122	9.62	182	14.3	97.9	7.69	136	10.7	73.5	5.77	114	8.93	61.2	4.81	85.3	6.7	45.9	3.61	56.8	4.46	30.6	2.4	28.4	2.23	15.3	1.2
600	0.9	0.3	227	14.3	122	7.69	182	11.4	97.9	6.15	136	8.57	73.5	4.62	114	7.14	61.2	3.85	85.3	5.36	45.9	2.88	56.8	3.57	30.6	1.92	28.4	1.79	15.3	0.96
500	0.75	0.25	227	11.9	122	6.41	182	9.52	97.9	5.13	136	7.14	73.5	3.85	114	5.95	61.2	3.21	85.3	4.46	45.9	2.4	56.8	2.98	30.6	1.6	28.4	1.49	15.3	0.8
300	0.45	0.15	227	7.14	122	3.85	182	5.71	97.9	3.08	136	4.29	73.5	2.31	114	3.57	61.2	1.92	85.3	2.68	45.9	1.44	56.8	1.79	30.6	0.96	28.4	0.89	15.3	0.48
200	0.3	0.1	227	4.76	122	2.56	182	3.81	97.9	2.05	136	2.86	73.5	1.54	114	2.38	61.2	1.28	85.3	1.79	45.9	0.96	56.8	1.19	30.6	0.64	28.4	0.6	15.3	0.32
100	0.15	0.05	227	2.38	122	1.28	182	1.9	97.9	1.03	136	1.43	73.5	0.77	114	1.19	61.2	0.64	85.3	0.89	45.9	0.48	56.8	0.6	30.6	0.32	28.4	0.3	15.3	0.16
50	0.08	0.03	227	1.19	122	0.64	182	0.95	97.9	0.51	136	0.71	73.5	0.38	114	0.6	61.2	0.32	85.3	0.45	45.9	0.24	56.8	0.3	30.6	0.16	28.4	0.15	15.3	0.08

SWL 25T Tr90×16

n (1/min)	速度 Lifting speed (m/min.)		F=250KN				F=200KN				F=160KN				F=120KN				F=100KN				F=75KN				F=50KN			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw
1500	2.25	0.75	314	49.3	181	28.4	251	39.5	145	22.7	201	31.6	116	18.2	151	23.7	86.8	13.6	126	19.7	72.3	11.4	94.2	14.8	54.3	8.52	62.8	9.87	36.2	5.68
1000	1.5	0.5	314	32.9	181	18.9	251	26.3	145	15.2	201	21.1	116	12.1	151	15.8	86.8	9.09	126	13.2	72.3	7.58	94.2	9.87	54.3	5.68	62.8	6.58	36.2	3.79
750	1.13	0.38	314	24.7	181	14.2	251	19.7	145	11.4	201	15.8	116	9.09	151	11.8	86.8	6.82	126	9.87	72.3	5.68	94.2	7.4	54.3	4.26	62.8	4.93	36.2	2.84
600	0.9	0.3	314	19.7	181	11.4	251	15.8	145	9.09	201	12.6	116	7.27	151	9.47	86.8	4.55	126	7.89	72.3	4.55	94.2	5.93	54.3	3.41	62.8	3.95	36.2	2.27
500	0.75	0.25	314	16.4	181	9.47	251	13.2	145	7.58	201	10.5	116	6.06	151	7.89	86.8	4.55	126	6.58	72.3	3.79	94.2	5.93	54.3	2.84	62.8	3.29	36.2	1.89
300	0.45	0.15	314	9.87	181	5.68	251	7.89	145	4.55	201	6.32	116	3.64	151	4.74	86.8	2.73	126	3.95	72.3	2.27	94.2	2.96	54.3	1.71	62.8	1.97	36.2	1.14
200	0.3	0.1	314	6.58	181	3.79	251	5.26	145	3.03	201	4.21	116	2.42	151	3.16	86.8	1.82	126	2.63	72.3	1.52	94.2	1.97	54.3	1.14	62.8	1.32	36.2	0.76
100	0.15	0.05	314	3.29	181	1.89	251	2.63	145	1.52	201	2.11	116	1.21	151	1.58	86.8	0.91	126	1.32	72.3	0.76	94.2	0.99	54.3	0.57	62.8	0.66	36.2	0.38
50	0.08	0.03	314	1.64	181	0.95	251	1.32	145	0.76	201	1.05	116	0.61	151	0.79	86.8	0.45	126	0.66	72.3	0.38	94.2	0.49	54.3	0.28	62.8	0.33	36.2	0.19

SWL 35T Tr100×20

n (1/min)	速度 Lifting speed (m/min.)		F=350KN				F=300KN				F=250KN				F=200KN				F=150KN				F=100KN				F=50KN			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw
1500	2.53	0.84	522	82	285	44.7	448	70.3	244	38.4	373	58.6	203	32	298	46.9	163	25.6	224	35.2	122	19.2	149	23.4	81.4	12.8	74.6	11.7	40.7	6.39
1000	1.69	0.56	522	54.7	285	29.8	448	46.9	244	25.6	373	39.1	203	21.3	298	31.3	163	17	224	23.4	122	12.8	149	15.6	81.4	8.52	74.6	7.81	40.7	4.26
750	1.27	0.42	522	41	285	22.4	448	35.2	244	19.2	373	29.3	203	16	298	23.4	163	12.8	224	17.6	122	9.59	149	11.7	81.4	6.39	74.6	5.86	40.7	3.2
600	1.01	0.34	522	32.8	285	17.9	448	28.1	244	15.3	373	23.4	203	12.8	298	18.8	163	10.2	224	14.1	122	7.67	149	9.38	81.4	5.11	74.6	4.69	40.7	2.56
500	0.84	0.28	522	27.3	285	14.9	448	24.4	244	12.8	373	19.5	203	10.7	298	15.6	163	8.52	224	11.7	122	6.39	149	7.81	81.4	4.26	74.6	3.91	40.7	2.13
300	0.51	0.17	522	16.4	285	8.95	448	14.1	244	7.67	373	11.7	203	6.39	298	9.38	163	5.11	224	7.03	122	3.84	149	4.69	81.4	2.56	74.6	2.34	40.7	1.28
200	0.34	0.11	522	10.9	285	5.97	448	9.38	244	5.11	373	7.81	203	4.26	298	6.25	163	3.41	224	4.69	122	2.56	149	3.13	81.4	1.71	74.6	1.56	40.7	0.85
100	0.17	0.06	522	5.47	285	2.98	448	4.69	244	2.56	373	3.91	203	2.13	298	3.13	163	1.7	224	2.34	122	1.28	149	1.56	81.4	0.85	74.6	0.78	40.7	0.43
50	0.08	0.03	522	2.73	285	1.49	448	2.34	244	1.28	373	1.95	203	1.07	298	1.56	163	0.85	224	1.17	122	0.64	149	0.78	81.4	0.43	74.6	0.39	40.7	0.21

SWL 50T Tr120×20

n (1/min)	速度 Lifting speed (m/min.)		F=500KN						F=400KN						F=300KN						F=250KN						F=200KN						F=150KN						F=100KN					
			P			M			P			M			P			M			P			M			P			M			P			M			P			M		
	P	M	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw	Nm	Kw								
1500	2.81	0.94	995	156	452	71	796	125	362	56.8	597	93.8	271	42.6	497	78.1	226	35.5	398	62.5	181	28.4	298	46.9	136	21.3	199	31.3	90.4	14.2														
1000	1.88	0.63	995	104	452	47.3	796	83.3	362	37.9	597	62.5	271	28.4	497	52.1	226	23.7	398	41.7	181	18.9	298	31.3	136	14.2	199	20.8	90.4	9.47														
750	1.41	0.47	995	78.1	452	35.5	796	62.5	362	28.4	597	46.9	271	21.3	497	39.1	226	17.8	398	31.3	181	14.2	298	23.4	136	10.7	199	15.6	90.4	7.1														
600	1.13	0.38	995	62.5	452	28.4	796	50	362	22.7	597	37.5	271	17	497	31.3	226	14.2	398	25	181	11.4	298	18.8	136	8.52	199	12.5	90.4	5.68														
500	0.94	0.31	995	52.1	452	23.7	796	41.7	362	18.9	597	31.3	271	14.2	497	26.6	226	11.8	398	20.8	181	9.47	298	15.6	136	7.1	199	10.4	90.4	4.73														
300	0.56	0.19	995	31.3	452	14.2	796	25	362	11.4	597	18.8	271	8.52	497	15.6	226	7.1	398	12.5	181	5.68	298	9.38	136	4.26	199	6.25	90.4	2.84														
200	0.38	0.13	995	20.8	452	9.47	796	16.7	362	7.58	597	12.5	271	5.68	497	10.4	226	4.73	398	8.33	181	3.79	298	6.25	136	2.84	199	4.17	90.4	1.89														
100	0.19	0.06	995	10.4	452	4.73	796	8.33	362	3.79	597	6.25	271	2.84	497	5.21	226	2.37	398	4.17	181	1.89	298	3.13	136	1.42	199	2.08	90.4	0.95														
50	0.09	0.03	995	5.21	452	2.37	796	4.17	362	1.89	597	3.13	271	1.42	497	2.6	226	1.18	398	2.08	181	0.95	298	1.56	136	0.71	199	1.04	90.4	0.47														

3.1 技术信息/Technical information

3.1.1 Lifting-element efficiency ratings “ η ”

$$\text{Formula: } \eta_{HE} = \eta_G * \eta_{Sp}$$

3.1.1.1 SWL range

SWL升降机总效率

Overall efficiency ratings η_{HE} of SHE gears and spindles with grease lubrication

Size	1P	2.5P	5P	10P	20P	25P	35P	50P	100P	120P
η_{HE}	0.29	0.27	0.24	0.27	0.24	0.22	0.21	0.15	0.15	0.16
Size	1M	2.5M	5M	10M	20M	25M	35M	50M	100M	120M
η_{HE}	0.20	0.19	0.16	0.17	0.17	0.15	0.14	0.10	0.09	-

SWL蜗轮减速机(箱体)效率 (无丝杆)

Gear efficiency ratings η_G of SHE gears with grease lubrication (without spindles)

Size	1P	2.5P	5P	10P	15P	20P	25P	35P	50P	100P	120P
η_{HE}	0.68	0.68	0.66	0.66	0.66	0.64	0.61	0.62	0.5	0.53	0.56
Size	1M	2.5M	5M	10M	15M	20M	25M	35M	50M	100M	120M
η_{HE}	0.48	0.47	0.43	0.42	0.42	0.46	0.41	0.42	0.34	0.32	0.32

使用润滑油润滑的2型结构升降机的效率

Overall efficiency ratings η_{HE} of type 2 gears with oil lubrication and spindles with grease lubrication

Size	1P	2.5P	5P	10P	20P	25P	35P	50P	100P	120P
Turning speed [rpm]										
1500	0.355	0.283	0.257	0.290	0.273	0.262	0.248	0.281	0.210	0.220
1000	0.347	0.279	0.252	0.285	0.268	0.257	0.243	0.215	0.206	0.215
750	0.342	0.276	0.249	0.282	0.266	0.253	0.240	0.212	0.204	0.210
500	0.334	0.272	0.245	0.277	0.262	0.249	0.236	0.208	0.200	0.205
300	0.325	0.267	0.241	0.272	0.257	0.243	0.231	0.204	0.196	0.200
100	0.373	0.257	0.231	0.261	0.247	0.233	0.222	0.195	0.187	0.195
50	0.309	0.251	0.225	0.255	0.242	0.226	0.216	0.190	0.182	0.188
Size	1M	2.5M	5M	10M	20M	25M	35M	50M	100M	120M
Turning speed [rpm]										
1500	0.260	0.214	0.188	0.236	0.225	0.210	0.204	0.181	0.176	-
1000	0.246	0.206	0.180	0.227	0.217	0.200	0.195	0.174	0.169	-
750	0.237	0.201	0.175	0.222	0.212	0.194	0.189	0.169	0.164	-
500	0.224	0.194	0.168	0.215	0.205	0.187	0.183	0.162	0.157	-
300	0.212	0.187	0.161	0.207	0.198	0.179	0.175	0.155	0.150	-
100	0.195	0.172	0.146	0.191	0.183	0.164	0.160	0.142	0.137	-
50	0.190	0.164	0.138	0.183	0.175	0.155	0.152	0.135	0.130	-

3.1.1.2 丝杆效率 η_{Sp} (钢/青铜)

3.1.1.2 Spindle efficiency ratings η_{Sp} (steel/bronze lubricated)

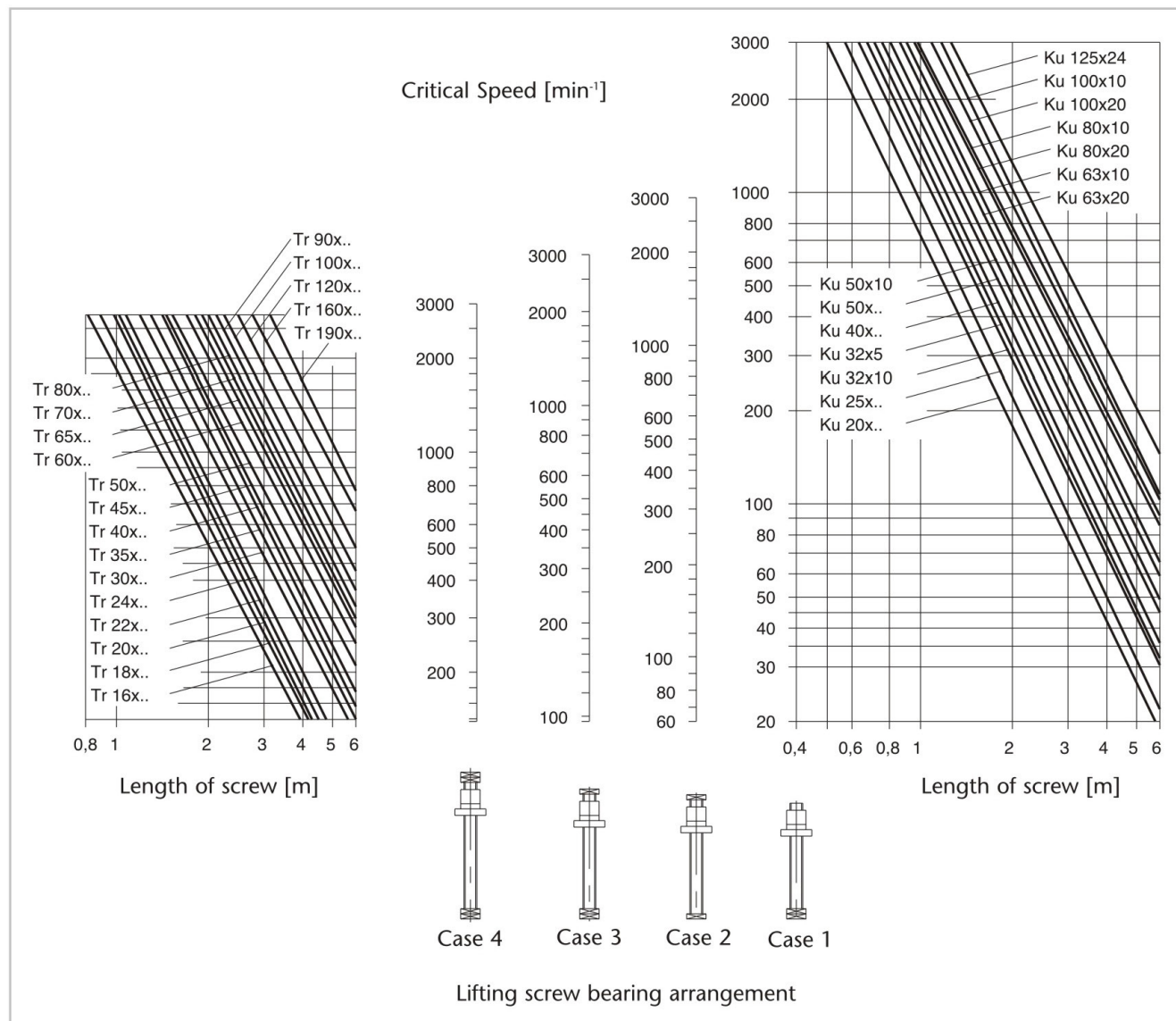
型号 Size	SWL1	SWL2.5	SWL5	SWL10	SWL20	SWL25	SWL35	SWL50	SWL100	SWL120
Tr丝杆 Tr spindle	24×4	30×6	40×7	58×12	65×12	90×16	100×20	120×20	160×23	180×25
效率% Spindle efficiency rating[%]	0.35	0.36	0.30	0.31	0.26	0.24	0.21	0.20	0.16	0.14

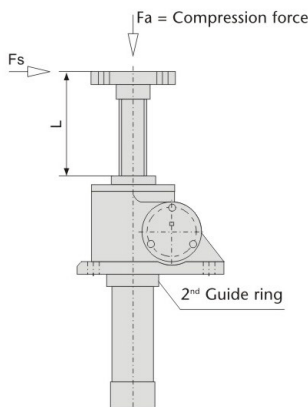
3.1.2 丝杆转速关键转速

3.1.2 Critical spindle turning speed

(仅限配置类型2) 取决于主轴直径, 主轴长度和主轴轴承 (见案例1-4)。

The critical turning speed (only configuration type 2) is dependent on the spindle diameter, the spindle length and the spindle bearing (see case 1-4).





Type 2: F_s permitted in static configuration only

3.1.3 允许丝杆的侧向力

3.1.3 Permitted lateral force on spindle

丝杆上的允许横向力 (F_s) 取决于轴向力 (F_a)。丝杆直径 (d) 丝杆长度 L 作为压缩和压曲力运用负面影响, 考虑这些因素当确定该允许横向力 (F_s) 时。的丝杆最大长度 (L) 受该值的限制一般用于机械工程应用:

“无导向丝杆长度 = 4x自由夹持长度”。

丝杆上的横向力仅允许在螺旋千斤顶上配有两个导向环。

丝杆或行走螺母上的侧向力加强边缘压缩在移动线上, 引导增加磨损和缩短使用寿命。

The permitted lateral force (F_s) on the spindle depends on the axial force (F_a), the diameter of the spindle (d) and the length of the spindle L . As compression and buckling force exercise negative influence, these factors were taken into account when determining this permitted lateral force (F_s). The maximum length of the spindle (L) is limited by the value generally used in mechanical engineering applications: "unguided spindle length = 4x free clamping length".

Lateral force on the spindle is only permitted on screw jacks fitted with two guide rings.

Lateral forces on spindles or travelling nuts exercise a reinforced edge compression on the movement thread, leading to increased wear and a shortened service life.

丝杆许用径向力 F_s 和轴向力 F_a 与行程的关系

The relationship between the allowable radial force F_s and the axial force F_a of the lead screw and the stroke

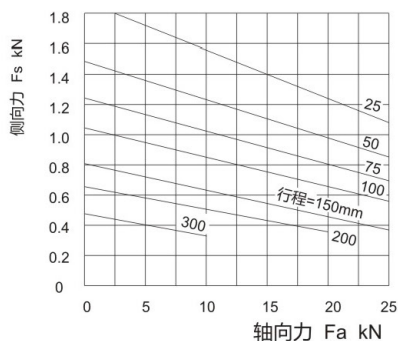


图5 SWL2.5

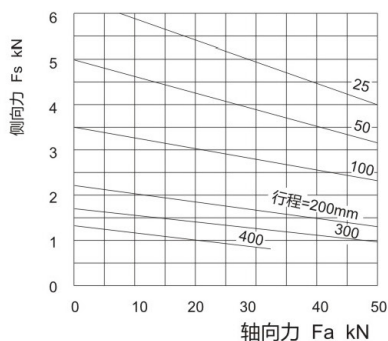


图6 SWL5

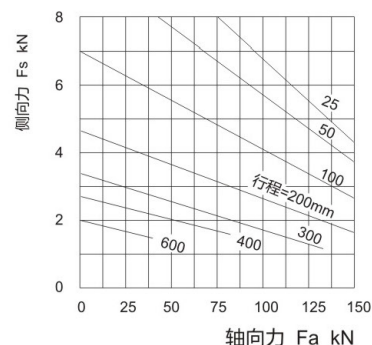


图7 SWL10/15

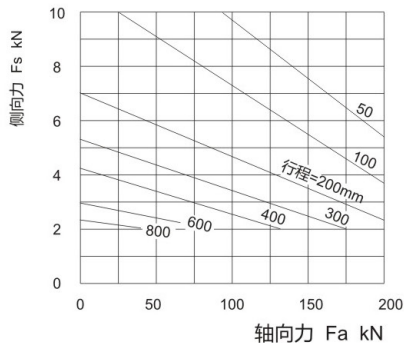


图8 SWL20

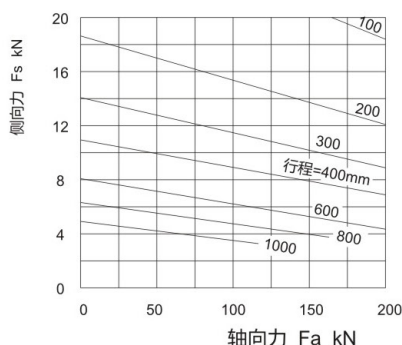


图9 SWL25

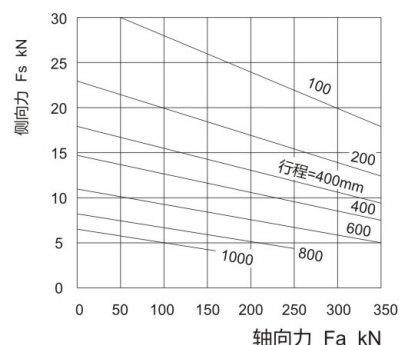
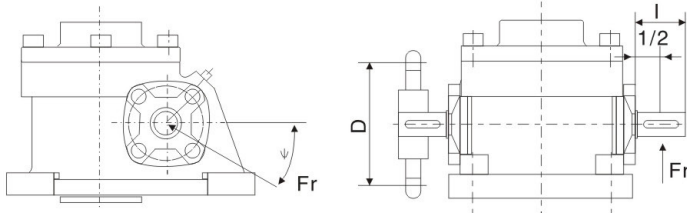


图10 SWL35

3.2 入力轴的许用径向力

1. 蜗杆轴伸上，由于安装齿轮、链轮或带轮所产生的径向力 F_r ，其最大许用力与起长力和型号有关。在1/2处许用的最大径向力和扭矩见图解



2. 齿轮或带轮的最小直径：

$$D_{\min} = 19100 \times \frac{P}{F_{\max} n} = \frac{2M_1}{F_{\max}}$$

式中： $D_{\min}$ --齿轮或带轮的最小直径，m；

P--驱动功率，KW；

$F_{\max}$ --最大径向力，N；

n--蜗杆转速，r/min；

M_1 --驱动扭矩，N·m

Where: $D_{\min}$ --the minimum diameter of the gear or pulley, m;

P--drive power, KW;

$F_{\max}$ --maximum radial force, N;

n--worm speed, r/min;

M_1 --drive torque, N·m

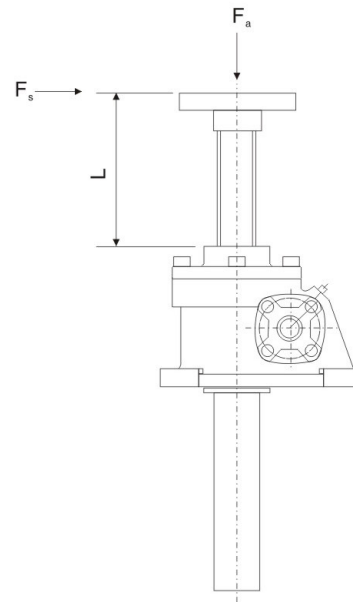
3.2 Allowable radial force of the input shaft

1. The worm shaft is extended. Due to the radial force F_r generated by the gear, sprocket or pulley, the maximum allowable force is related to the length and type. See the maximum radial force and torque allowed at 1/2.

型号	$F_{r\max}$ N	$M_t \max$ N·m
SWL1/1M	160	6.6
SWL2.5/2.5M	350	18
SWL5/5M	750	44.2
SWL10/10M/15/15M	1000	108
SWL20/20M	1300	182
SWL25/25M	2000	314
SWL35/35M	2300	398

注：表中参数是按 $\psi \approx 30^\circ$ 或 330° 的计算。
Note: The parameters in the table are calculated as $\psi \approx 30^\circ$ or 330° .

2. The minimum diameter of the gear or pulley:





SWL-1A

SWL-1B

示例Example：

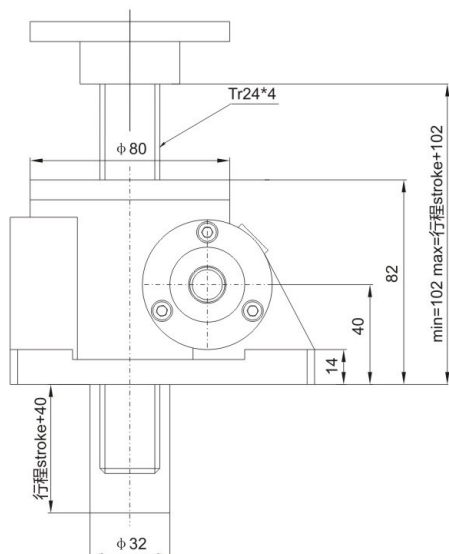
SWL 2.5 M - 1 A II - 300 - FZ - C
 1 2 3 4 5 6 7 8 9

1. SWL：系列号，SWL系列-蜗轮+T型丝杆升降机；SWLB蜗轮+滚珠丝杆升降机；
2. 2.5：型号，以升降机的静载能力作为型号；主要有：1，2.5，5，10，20，25，35，50，100，120；
3. M：升降速度，主要指的是蜗轮副的减速比；M：慢速；P：快速；
4. 1：结构型号；1型：螺母作旋转运动、丝杆作轴向运动（本页展示的产品样机均为1型）；2型：丝杆作旋转运动、螺母作轴向运动；
5. A：装配型式；A型：丝杆（或螺母）向上（安装面）移动；B型：丝杆（或螺母）向下（安装面）移动；
6. II：丝杆头部型式：1型丝杆头部分为I型（圆柱型）、II型（法兰型）、III型（螺纹型）、IV型（扁头型）四种；
2型丝杆头部分为I型（圆柱型）、III型（螺纹型）；
7. 300：升降行程；客户自定义；
8. FZ：丝杆的防护；
1型结构有基本型、防旋转型（F-键防旋，G-方管防旋）和带防护罩型（Z钢管防护-被动侧，X伸缩管防护-主动侧，Q两种都有）；
2型结构有基本型和带防护罩型（X伸缩管防护-主动侧）；
9. C：轴指向A；B；C；D；E；

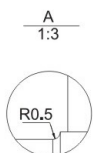
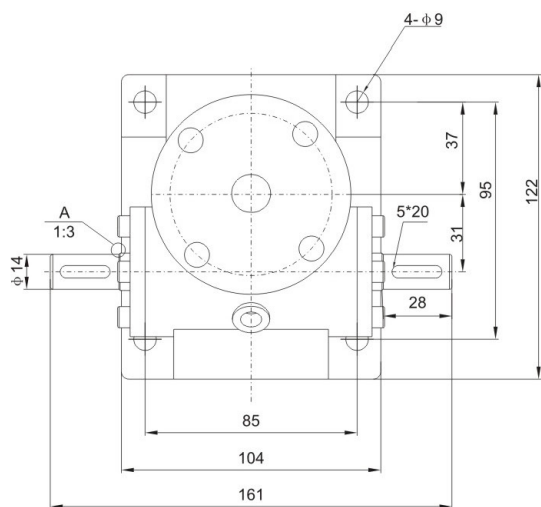
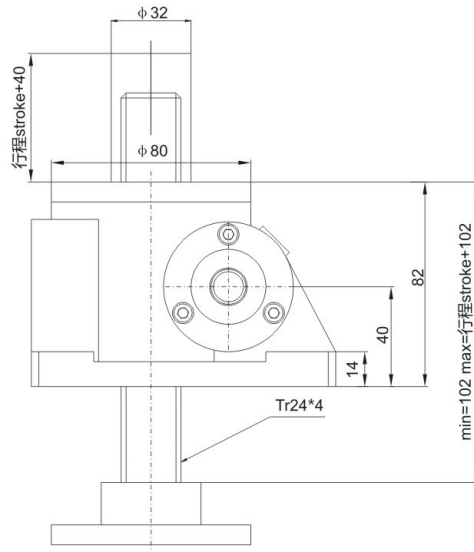
1. SWL: serial number, SWL series - worm gear + T type screw lift; SWLB worm gear + ball screw lift;
2. 2.5: model, with the static load capacity of the lift as the model; mainly: 1, 2.5, 5, 10, 20, 25, 35, 50, 100, 120;
3. M: lifting speed, mainly refers to the deceleration ratio of worm gear pair; M: slow; P: fast;
4. 1: Structural model; Type 1: nut for rotary motion, screw for axial movement (products shown on this page are type I);
Type 2: screw for rotary motion, nut for axial movement;
5. A: assembly type; type A: the screw (or nut) moves up (mounting surface); type B: the screw (or nut) moves down (mounting surface);
6. II: screw head type: 1 type screw head is divided into I type (cylindrical type), type II (flange type), type III (thread type),
type IV (flat head type);
2 type screw head is divided into I type (cylindrical type) and type III (thread type);
7. 300: lifting stroke; customer customization;
8. FZ: anti-rotation and protection of the screw;
Type 1 structure has basic type, anti-rotation type (F-key anti-rotation) and protective cover type (Z steel pipe protection - passive side,
X telescopic tube protection - active side, Q both);
Type 2 structure has basic type and protective cover type (X telescopic tube protection - active side);
9. C: the axis points to A; B; C; D; E;

SWL1 1型结构 (丝杆升降型) / SWL1 type 1 structure (screw lifting type)

1A 丝杆向上
1A Upright translating screw



1B 丝杆向下
1B Inverted translating screw



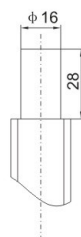
轴指向 Shaft Direction



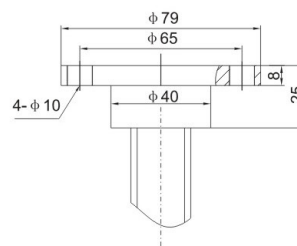
丝杆头部可选

Screw head optional

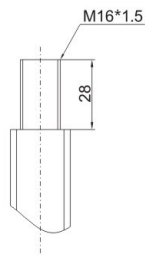
I型 / Type I



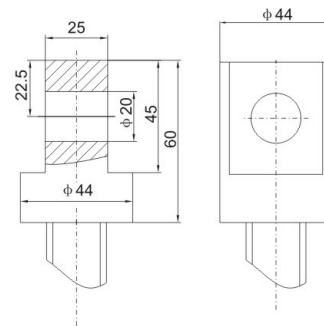
II型 / Type II



III型 / Type III

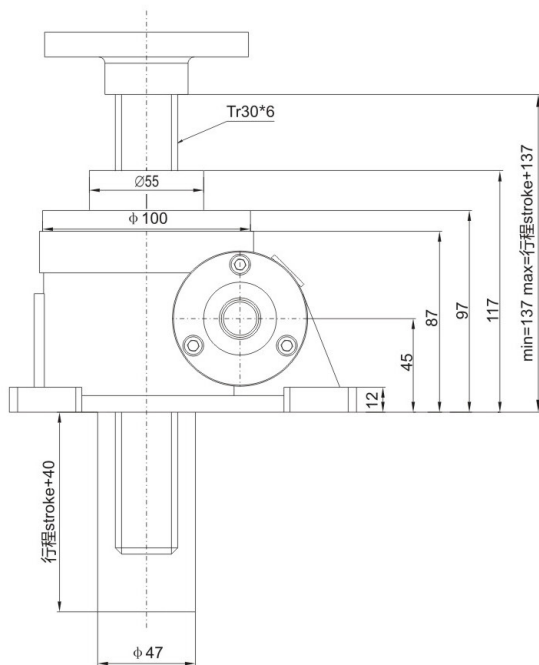


IV型 / Type IV

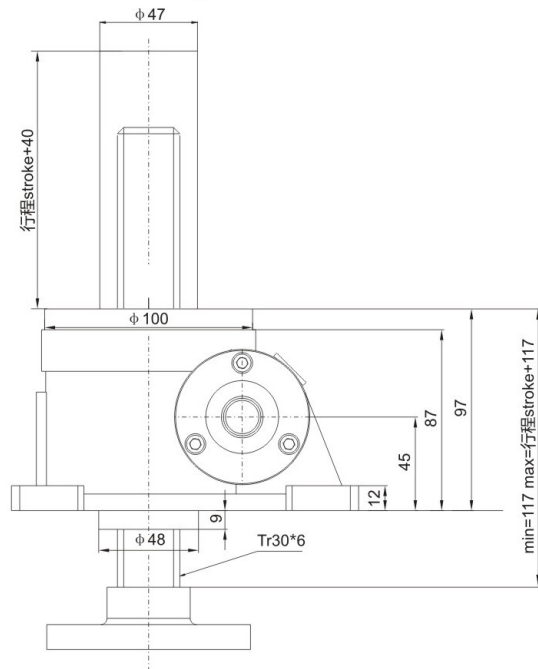


SWL2.5 1型结构 (丝杆升降型) / SWL2.5 type 1 structure (screw lifting type)

1A 丝杆向上
1A Upright translating screw

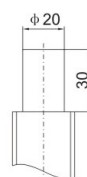


1B 丝杆向下
1B Inverted translating screw

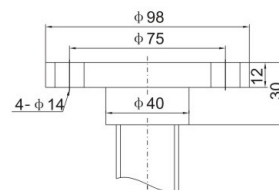


丝杆头部可选
Screw head optional

I型 / Type I



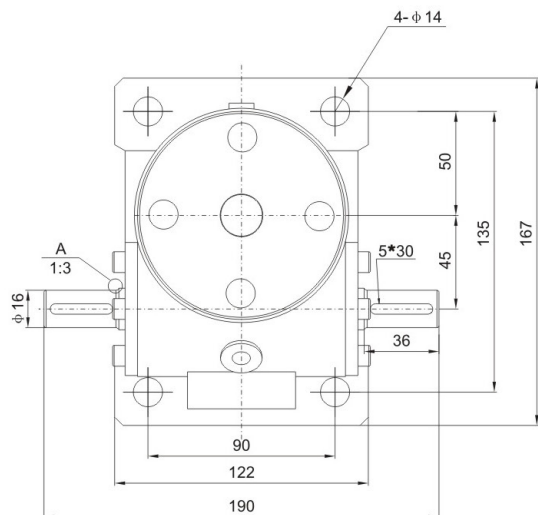
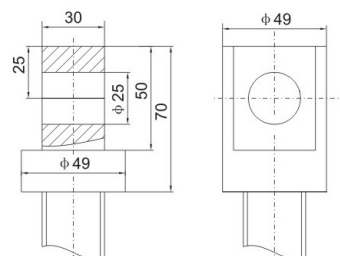
II型 / Type II



III型 / Type III



IV型 / Type IV

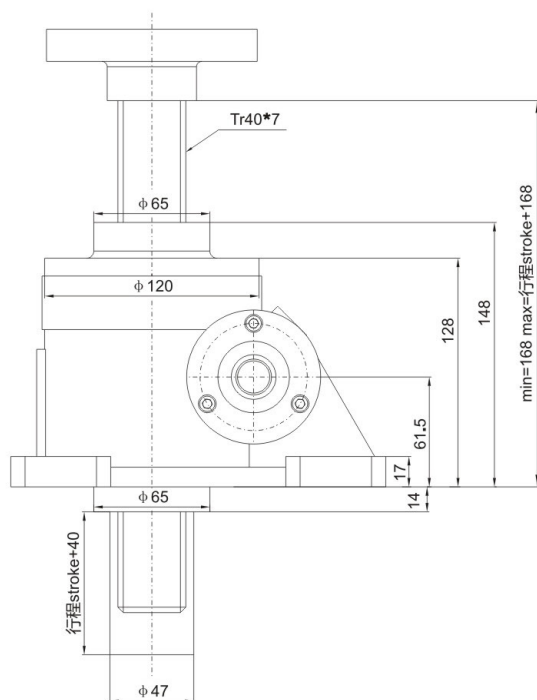


轴指向 Shaft Direction

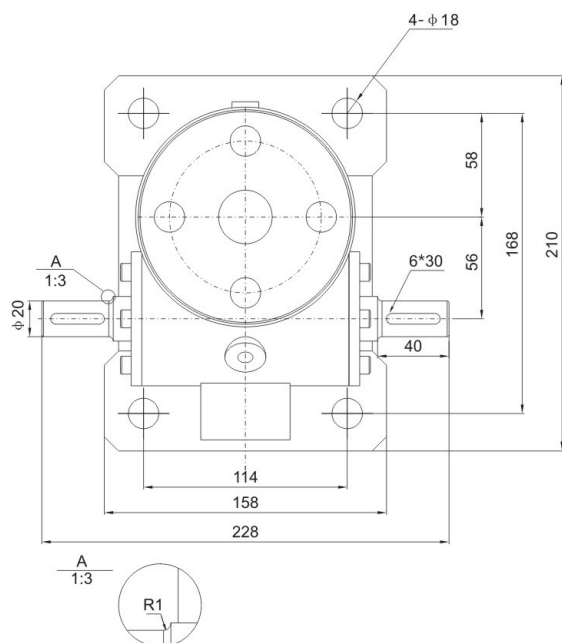
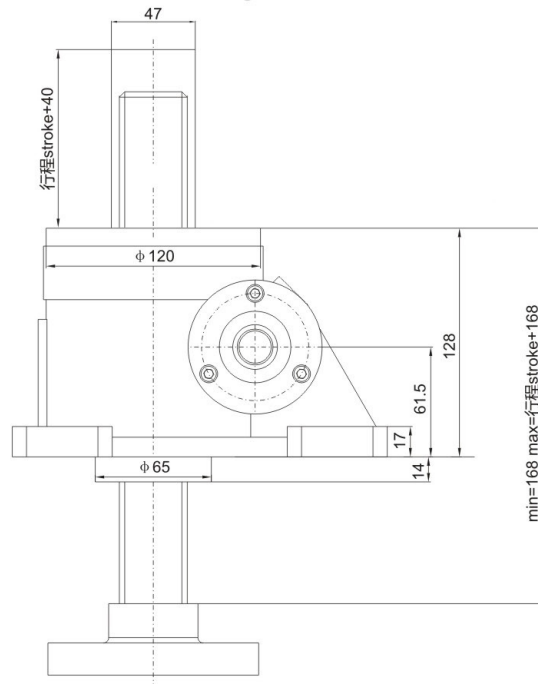


SWL5 1型结构 (丝杆升降型) / SWL5 type 1 structure (screw lifting type)

1A 丝杆向上
1A Upright translating screw



1B 丝杆向下
1B Inverted translating screw



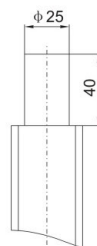
轴指向 Shaft Direction



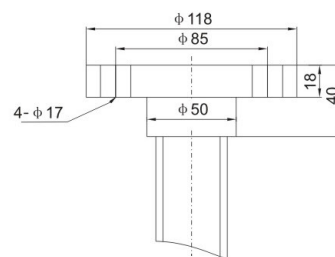
丝杆头部可选

Screw head optional

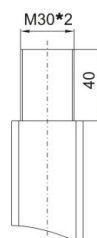
I型 / Type I



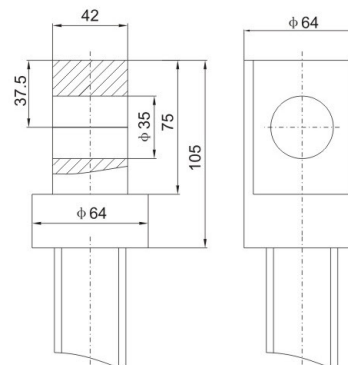
II型 / Type II



III型 / Type III



IV型 / Type IV



1A 丝杆向上

1A Upright translating screw

1B 丝杆向下

1B Inverted translating screw

丝杆头部可选

Screw head optional

I型 / Type I

II型 / Type II

III型 / Type III

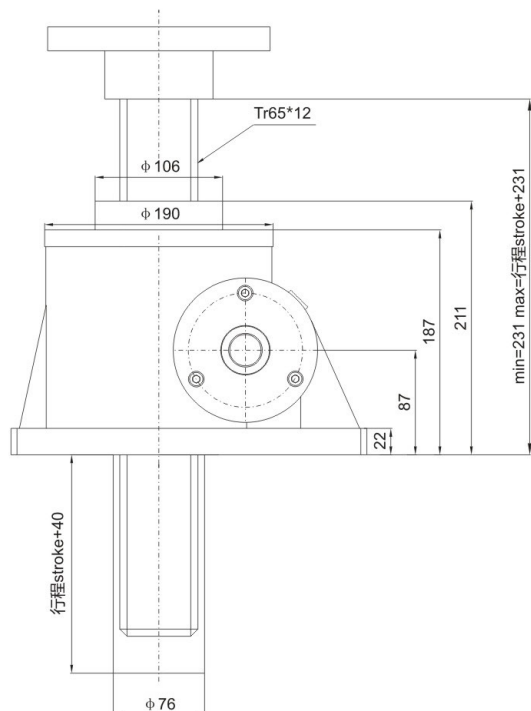
IV型 / Type IV

轴指向 Shaft Direction

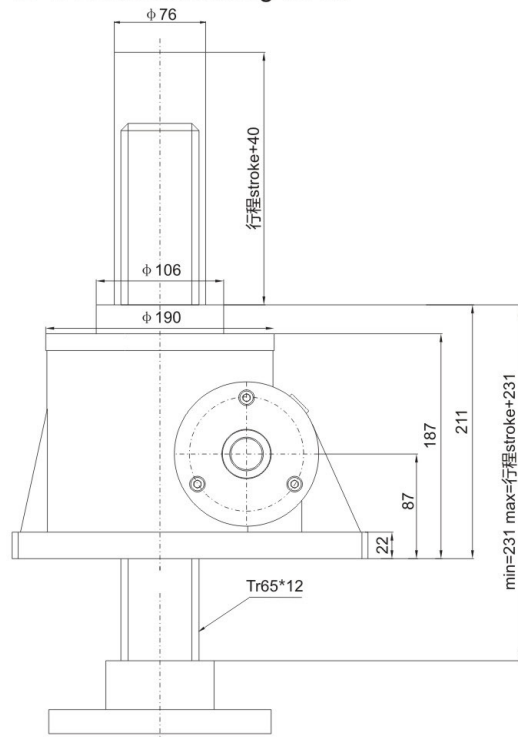
SWL 常用轴指向 C SWL Common axis pointing C	SWL 可选轴指向 B SWL Optional axis pointing B	SWL 可选轴指向 A SWL Optional axis pointing A

SWL20 1型结构 (丝杆升降型) / SWL20 type 1 structure (screw lifting type)

1A 丝杆向上
1A Upright translating screw

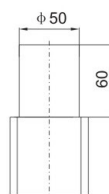


1B 丝杆向下
1B Inverted translating screw

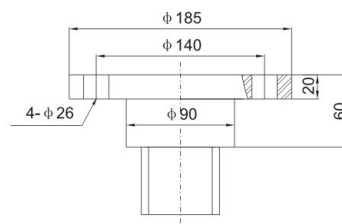


丝杆头部可选
Screw head optional

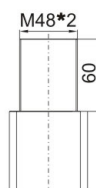
I型 / Type I



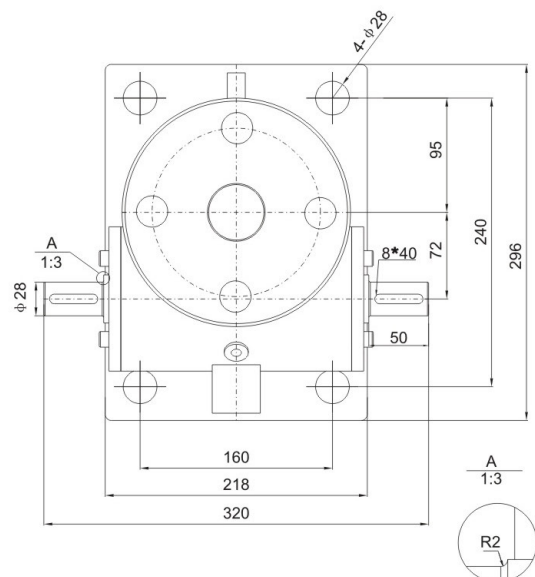
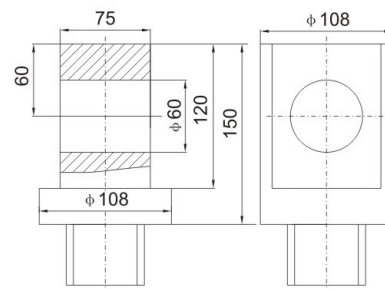
II型 / Type II



III型 / Type III



IV型 / Type IV

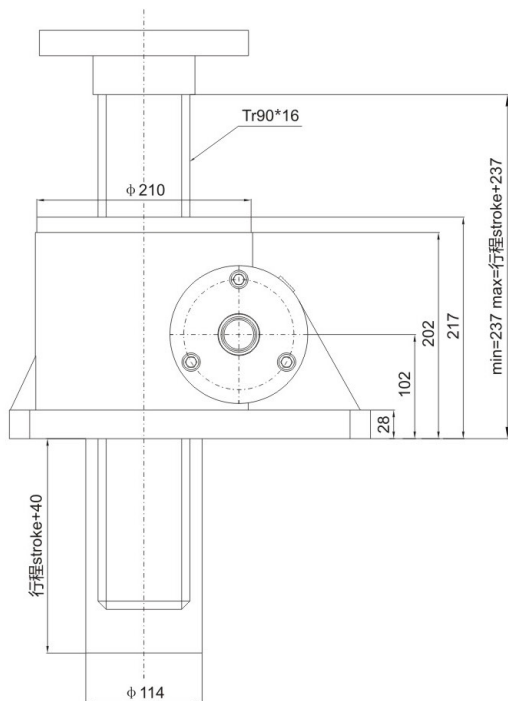


轴指向 Shaft Direction

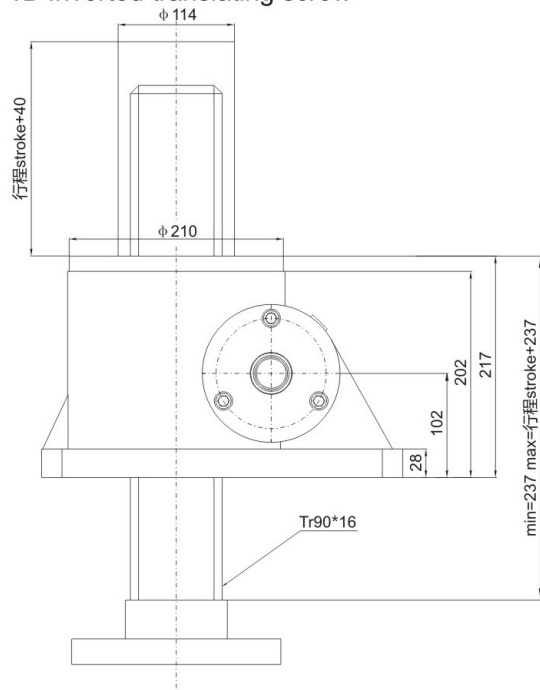


SWL25 1型结构 (丝杆升降型) / SWL25 type 1 structure (screw lifting type)

1A 丝杆向上
1A Upright translating screw



1B 丝杆向下
1B Inverted translating screw

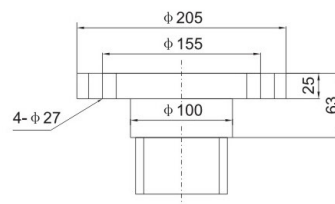


丝杆头部可选
Screw head optional

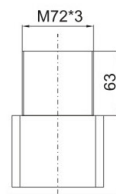
I型 / Type I



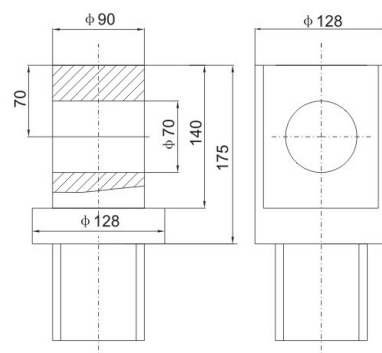
II型 / Type II



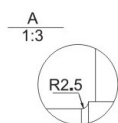
III型 / Type III



IV型 / Type IV

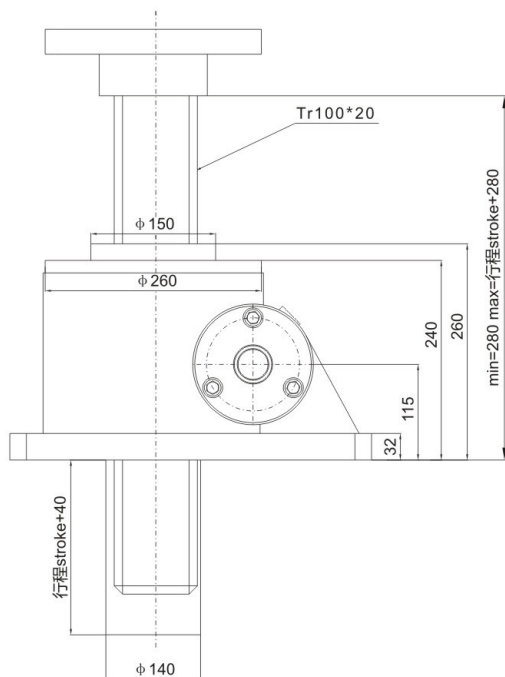


轴指向 Shaft Direction

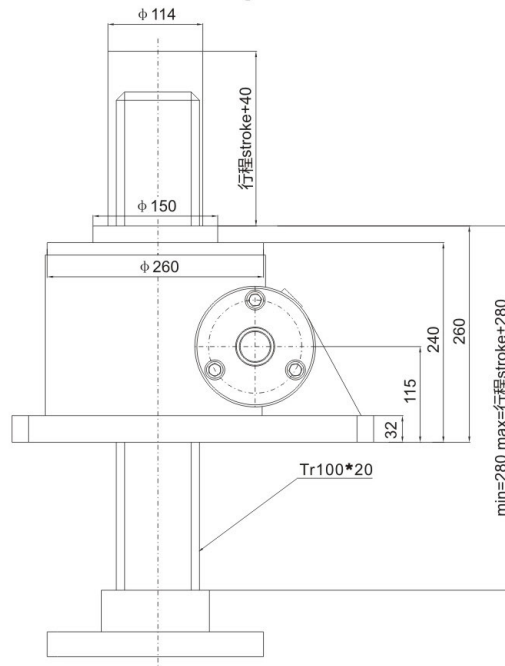


SWL35 1型结构 (丝杆升降型) / SWL35 type 1 structure (screw lifting type)

1A 丝杆向上
1A Upright translating screw



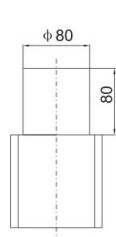
1B 丝杆向下
1B Inverted translating screw



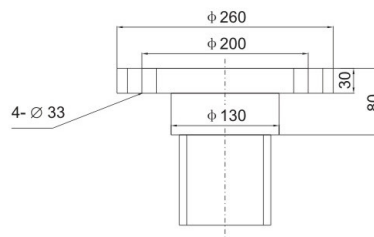
丝杆头部可选

Screw head optional

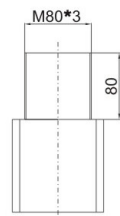
I型 / Type I



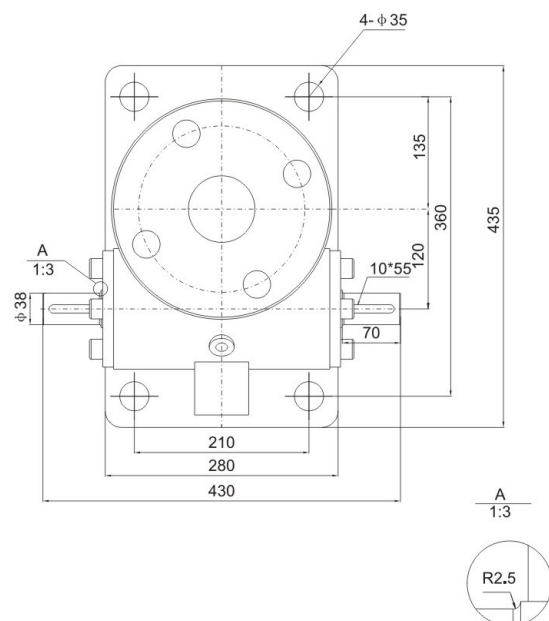
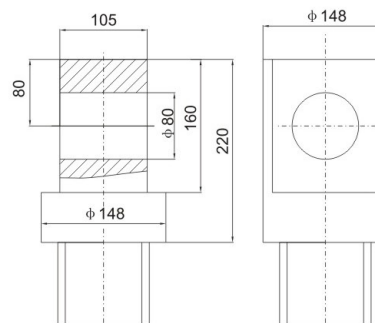
II型 / Type II



III型 / Type III



IV型 / Type IV



轴指向 Shaft Direction



1A 丝杆向上

1A Upright translating screw

1B 丝杆向下

1B Inverted translating screw

丝杆头部可选

Screw head optional

I型 / Type I

II型 / Type II

III型 / Type III

IV型 / Type IV

轴指向 Shaft Direction

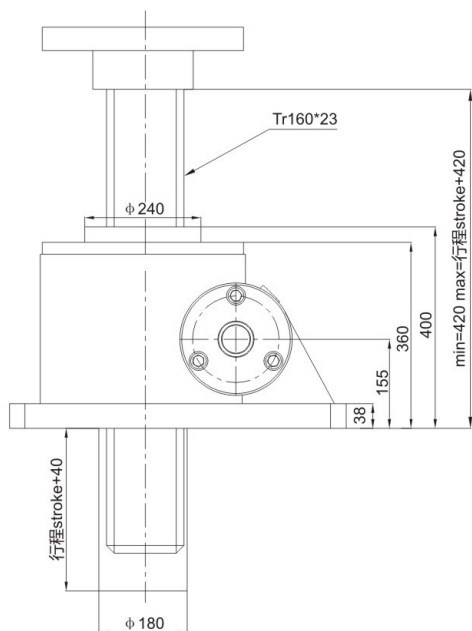
SWL 常用轴指向 C
SWL Common axis pointing C

SWL 可选轴指向 B
SWL Optional axis pointing B

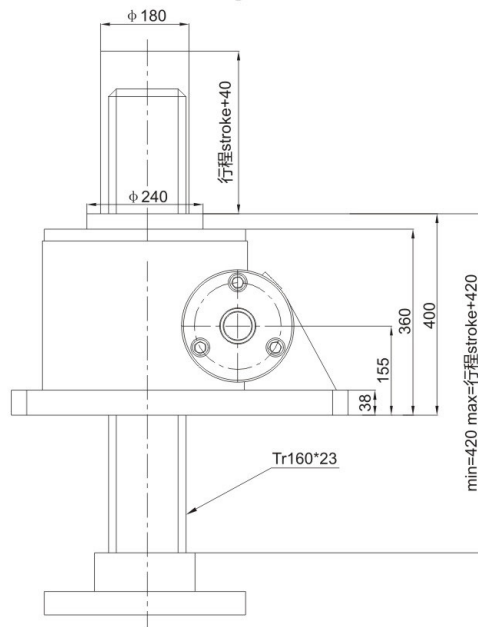
SWL 可选轴指向 A
SWL Optional axis pointing A

SWL100 1型结构 (丝杆升降型) / SWL100 type 1 structure (screw lifting type)

1A 丝杆向上
1A Upright translating screw

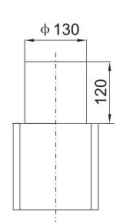


1B 丝杆向下
1B Inverted translating screw

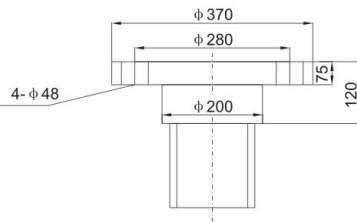


丝杆头部可选
Screw head optional

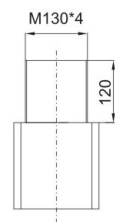
I型 / Type I



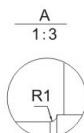
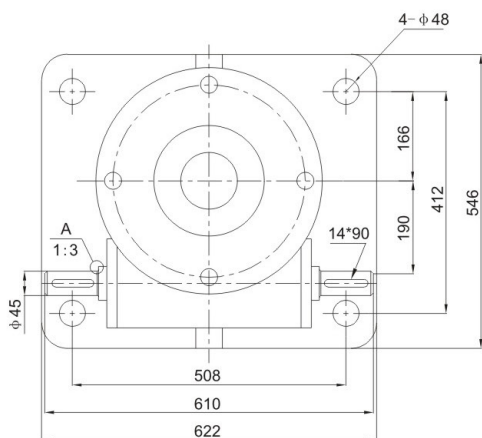
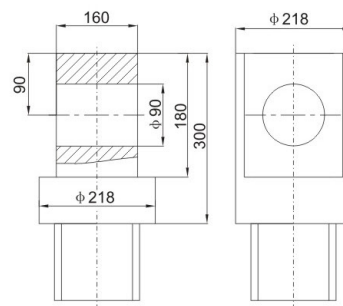
II型 / Type II



III型 / Type III



IV型 / Type IV

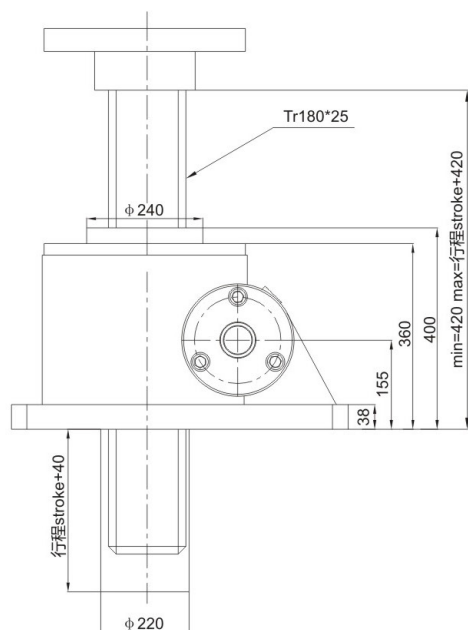


轴指向 Shaft Direction

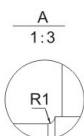
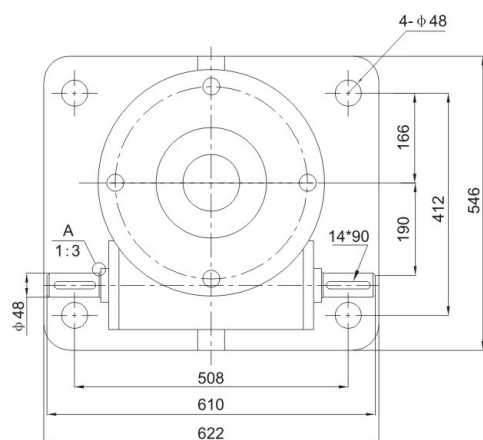
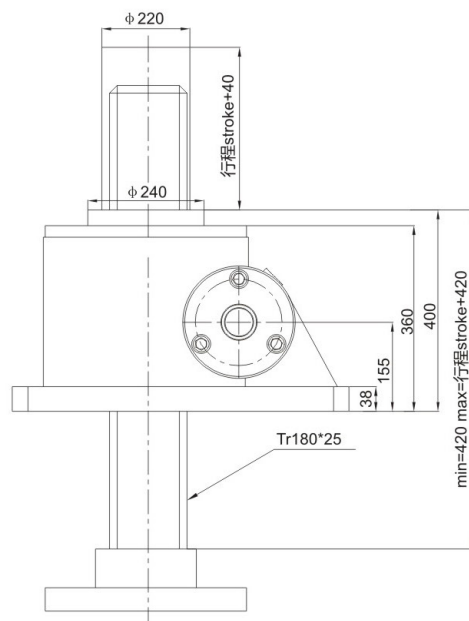


SWL120 1型结构 (丝杆升降型) / SWL120 type 1 structure (screw lifting type)

1A 丝杆向上
1A Upright translating screw



1B 丝杆向下
1B Inverted translating screw

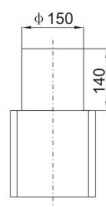


轴指向 Shaft Direction

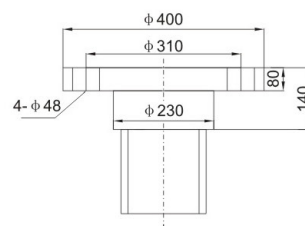


丝杆头部可选 Screw head optional

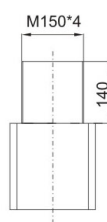
I型 / Type I



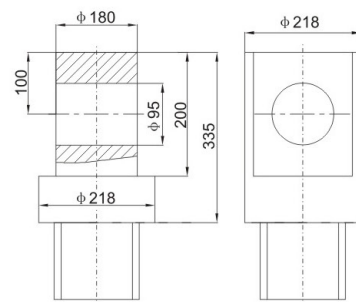
II型 / Type II

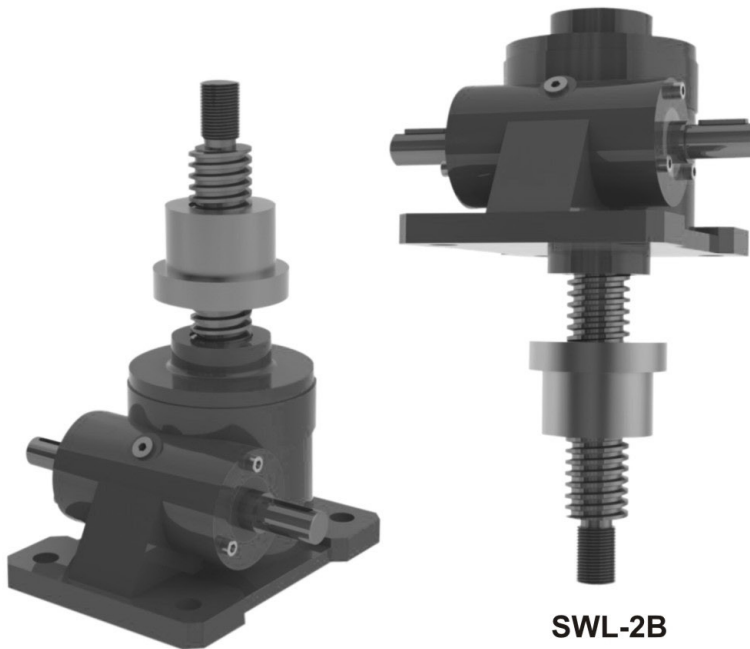


III型 / Type III



IV型 / Type IV





SWL-2A

SWL-2B

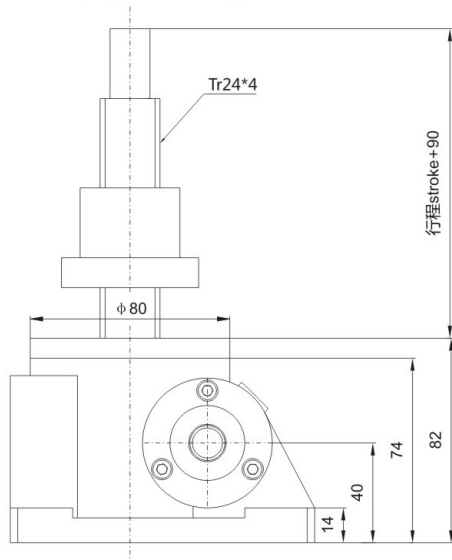
示例Example：

SWL 2.5 M - 2 A III - 300 - FZ - C
1 2 3 4 5 6 7 8 9

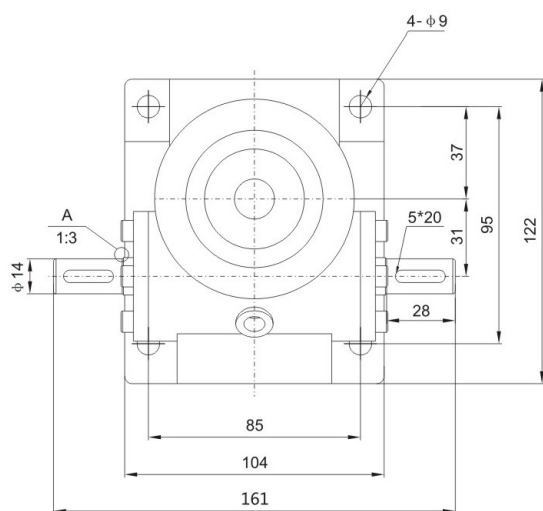
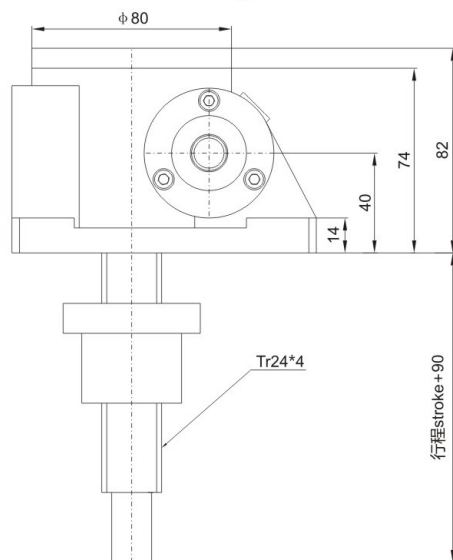
1. SWL：系列号，SWL系列-蜗轮+T型丝杆升降机；SWLB蜗轮+滚珠丝杆升降机；
DSWL系列-蜗轮+T型丝杆升降机，带IEC电机接口型；DSWLB蜗轮+滚珠丝杆升降机，带IEC电机接口型；
 2. 2.5：型号，以升降机的静载能力作为型号；主要有：1，2.5，5，10，20，25，35，50，100，120；
 3. M：升降速度，主要指的是蜗轮副的减速比；M：慢速；P：快速；
 4. 2：结构型号；1型：螺母作旋转运动、丝杆作轴向运动；2型：丝杆作旋转运动、螺母作轴向运动（本页展示的产品样机均为1型）；
 5. A：装配型式；A型：丝杆（或螺母）向上（安装面）移动；B型：丝杆（或螺母）向下（安装面）移动；
 6. III：丝杆头部型式：1型丝杆头部分为I型（圆柱型）、II型（法兰型）、III型（螺纹型）、IV型（扁头型）四种；
2型丝杆头部分为I型（圆柱型）、III型（螺纹型）；
 7. 300：升降行程；客户自定义；
 8. FZ：丝杆的防护；
1型结构有基本型、防旋转型（F-键防旋，G-方管防旋）和带防护罩型（Z钢管防护-被动侧，X伸缩管防护-主动侧，Q两种都有）；
2型结构有基本型和带防护罩型（X伸缩管防护-主动侧）；
 9. C：轴指向A；B；C；D；E；
1. SWL: serial number, SWL series - worm gear + T type screw lift; SWLB worm gear + ball screw lift;
DSWL series - worm gear + T type screw elevator, with IEC motor interface type; DSWLB worm gear + ball screw elevator with IEC motor connection type;
 2. 2.5: model, with the static load capacity of the lift as the model; mainly: 1, 2.5, 5, 10, 20, 25, 35, 50, 100, 120;
 3. M: lifting speed, mainly refers to the deceleration ratio of worm gear pair; M: slow; P: fast;
 4. 2: Structural model; Type 1: nut for rotary motion, screw for axial movement;
Type 2: screw for rotary motion, nut for axial movement (products shown on this page are type I);
 5. A: assembly type; type A: the screw (or nut) moves up (mounting surface); type B: the screw (or nut) moves down (mounting surface);
 6. III: screw head type: 1 type screw head is divided into I type (cylindrical type), type II (flange type), type III (thread type), type IV (flat head type);
2 type screw head is divided into I type (cylindrical type) and type III (thread type);
 7. 300: lifting stroke; customer customization;
 8. FZ: anti-rotation and protection of the screw;
Type 1 structure has basic type, anti-rotation type (F-key anti-rotation) and protective cover type (Z steel pipe protection - passive side, X telescopic tube protection - active side, Q both);
Type 2 structure has basic type and protective cover type (X telescopic tube protection - active side);
 9. C: the axis points to A; B; C; D; E;

SWL1 2型结构 (螺母升降) / SWL1 type 2 construction (nut lifting)

2A 螺母在上
2A Upright rotating screw



2B 螺母在下
2B Inverted rotating screw



A
1:3



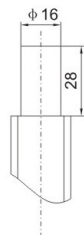
轴指向 Shaft Direction



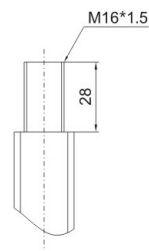
丝杆头部可选

Screw head optional

I型 / Type I

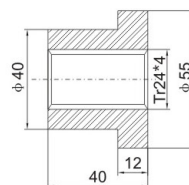


III型 / Type III



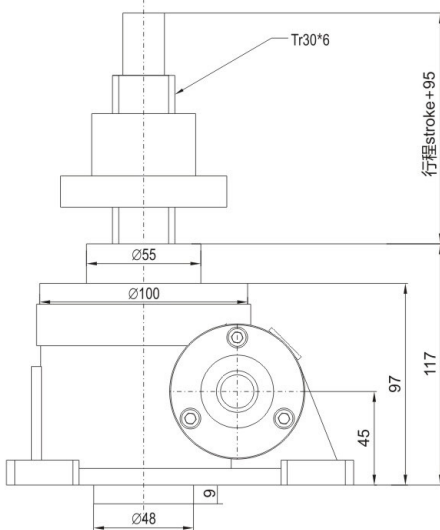
2 型丝杆螺母

Type 2 screw nut

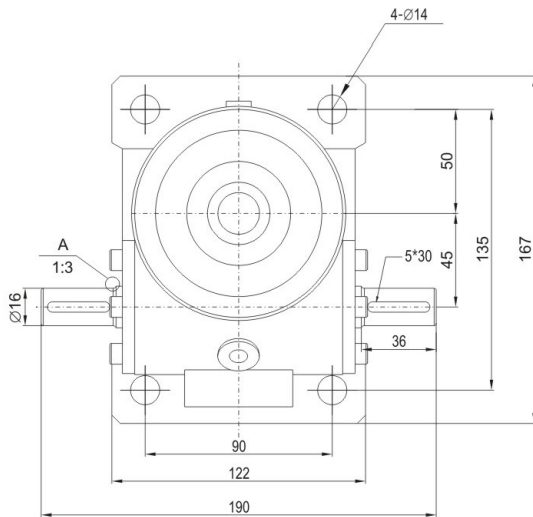
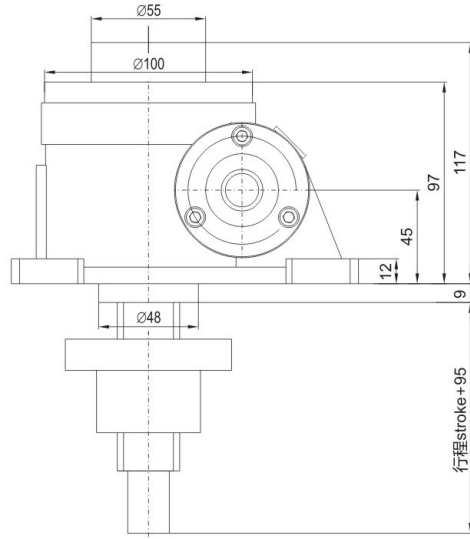


SWL2.5 2型结构 (螺母升降) / SWL2.5 type 2 construction (nut lifting)

2A 螺母在上
2A Upright rotating screw



2B 螺母在下
2B Inverted rotating screw

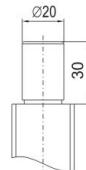


A
1:3

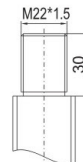


丝杆头部可选
Screw head optional

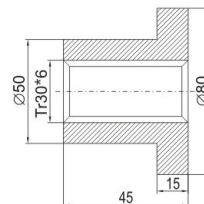
I型 / Type I



III型 / Type III



2 型丝杆螺母
Type 2 screw nut

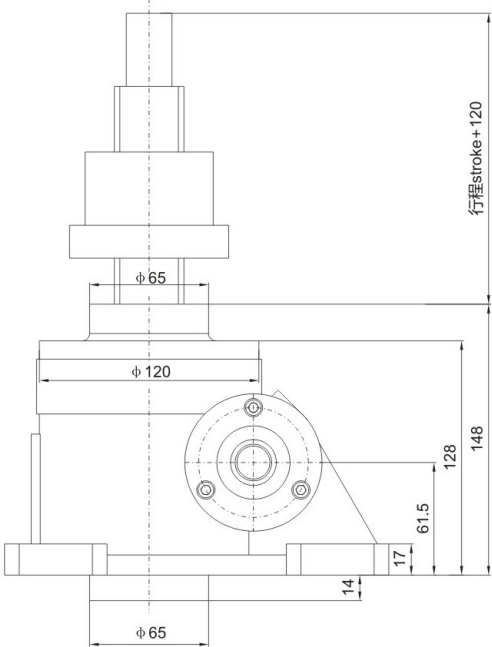


轴指向 Shaft Direction

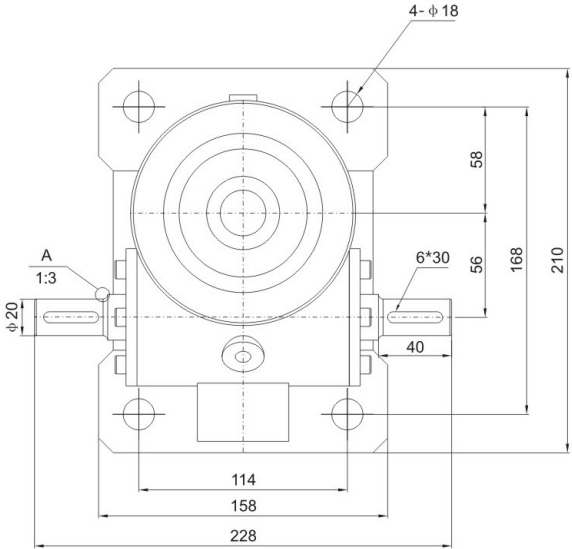
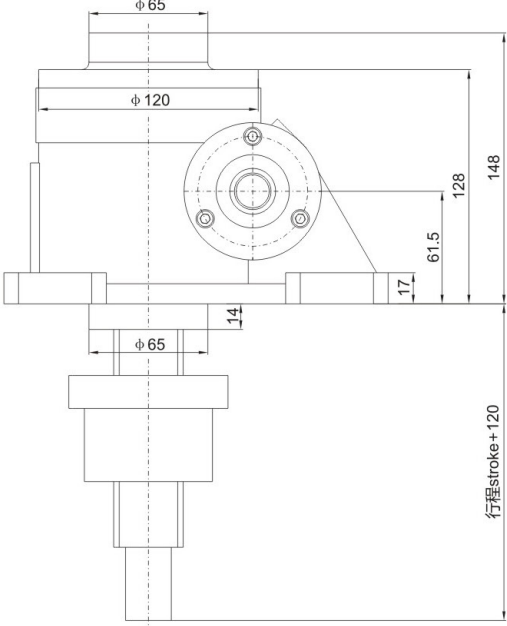


SWL5 2型结构 (螺母升降) / SWL5 type 2 construction (nut lifting)

2A 螺母在上
2A Upright rotating screw

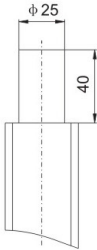


2B 螺母在下
2B Inverted rotating screw

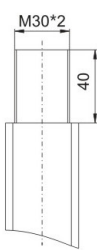


丝杆头部可选
Screw head optional

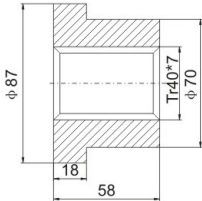
I型 / Type I



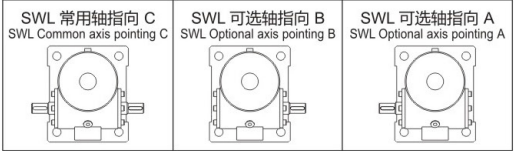
III型 / Type III



2 型丝杆螺母
Type 2 screw nut

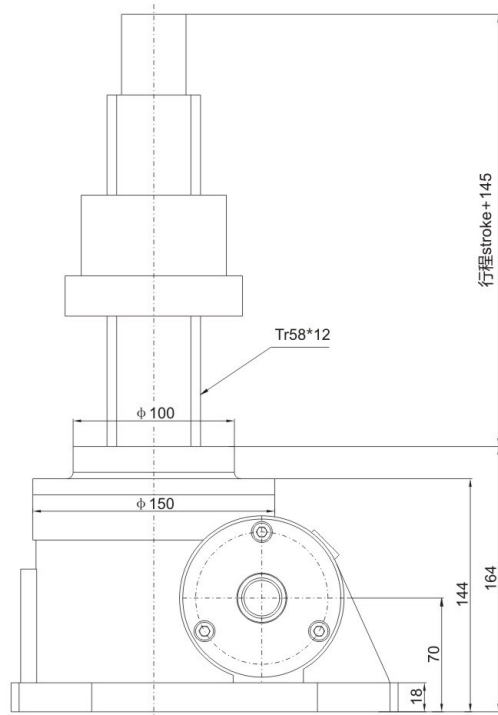


轴指向 Shaft Direction

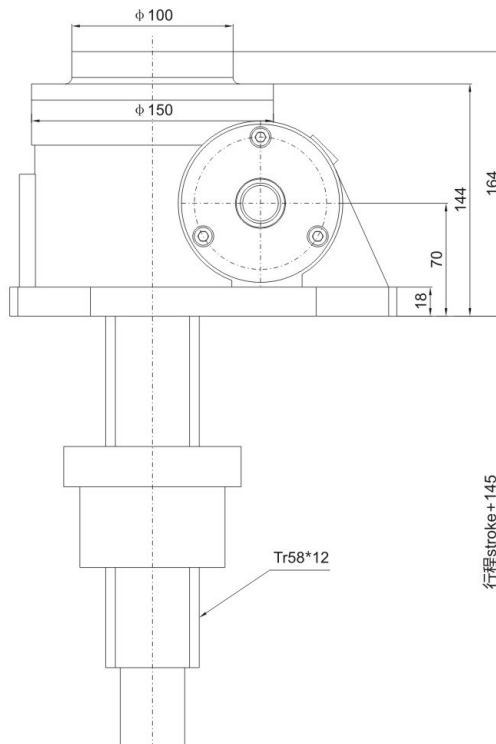


SWL10 2型结构 (螺母升降) / SWL10 type 2 construction (nut lifting)

2A 螺母在上
2A Upright rotating screw



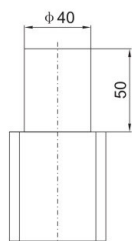
2B 螺母在下
2B Inverted rotating screw



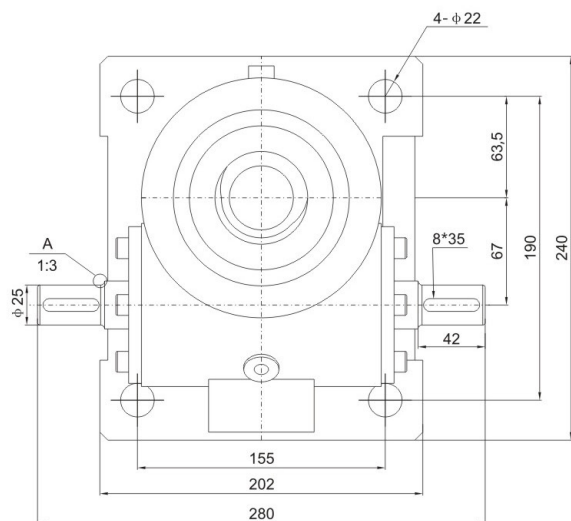
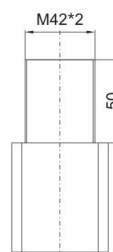
丝杆头部可选

Screw head optional

I型 / Type I



III型 / Type III



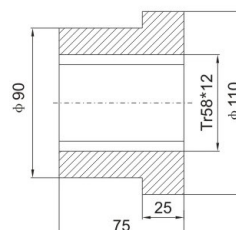
A
1:3



轴指向 Shaft Direction

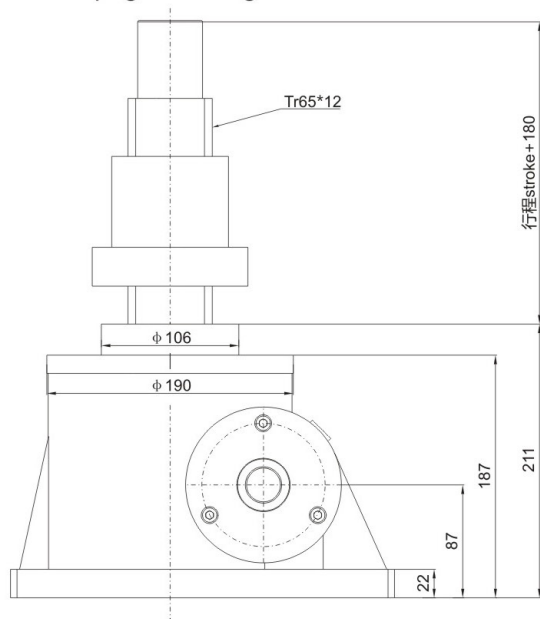


2 型丝杆螺母
Type 2 screw nut

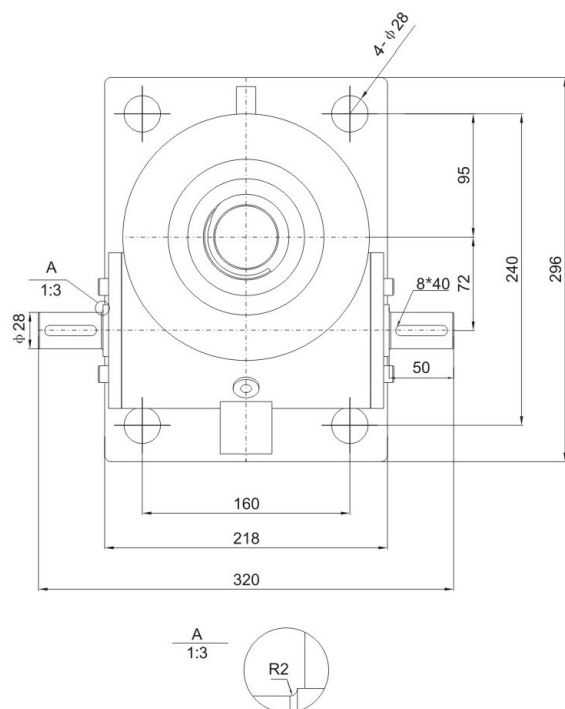
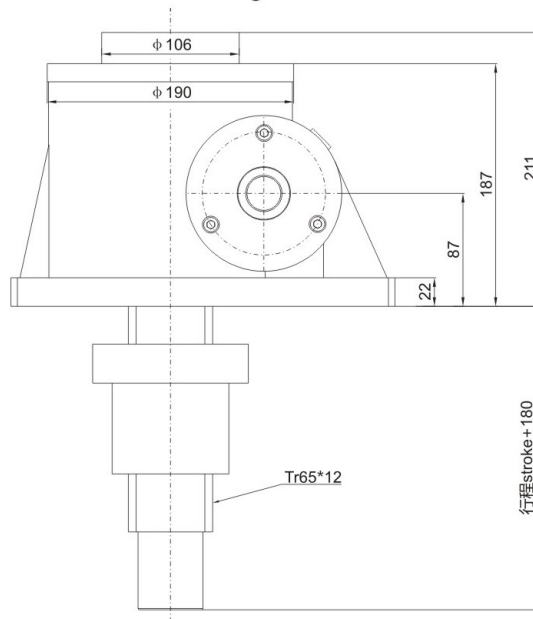


SWL20 2型结构 (螺母升降) / SWL20 type 2 construction (nut lifting)

2A 螺母在上
2A Upright rotating screw



2B 螺母在下
2B Inverted rotating screw



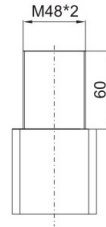
丝杆头部可选

Screw head optional

I型 / Type I

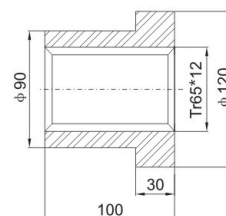


III型 / Type III



2 型丝杆螺母

Type 2 screw nut

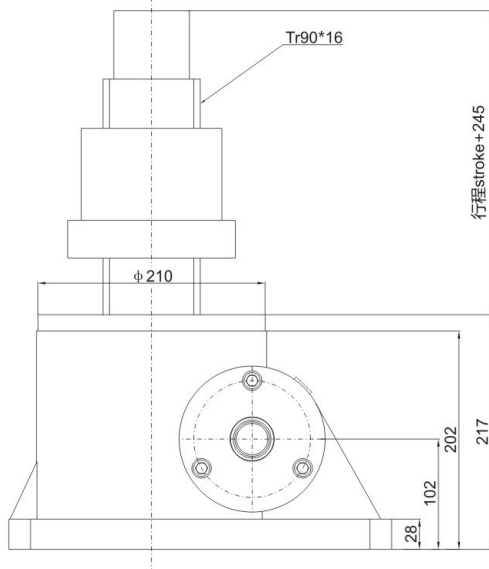


轴指向 Shaft Direction

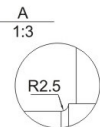
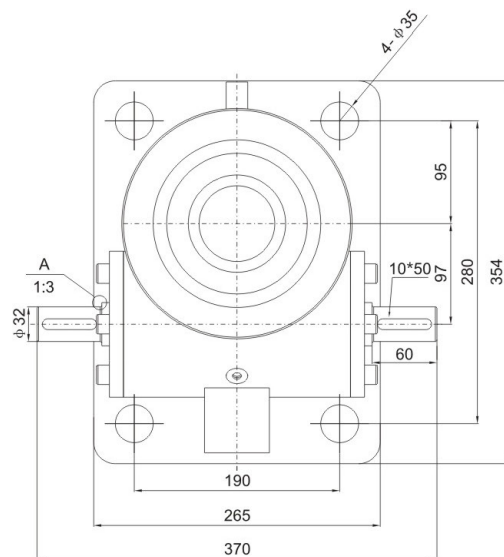
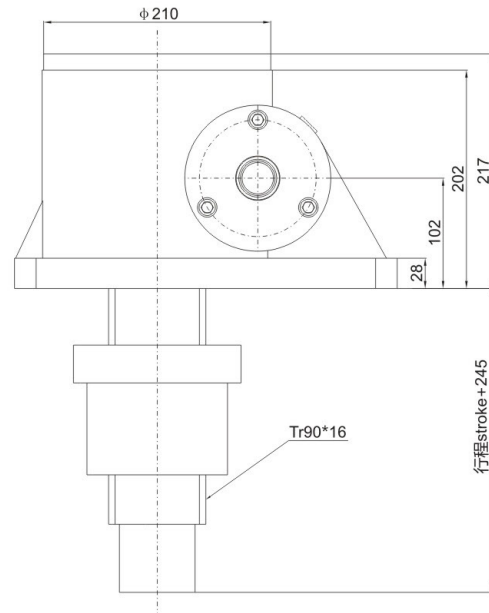


SWL25 2型结构 (螺母升降) / SWL25 type 2 construction (nut lifting)

2A 螺母在上
2A Upright rotating screw



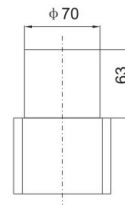
2B 螺母在下
2B Inverted rotating screw



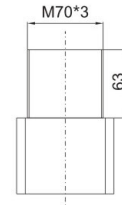
丝杆头部可选

Screw head optional

I型 / Type I

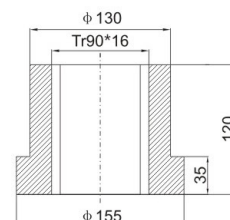


III型 / Type III



2 型丝杆螺母

Type 2 screw nut

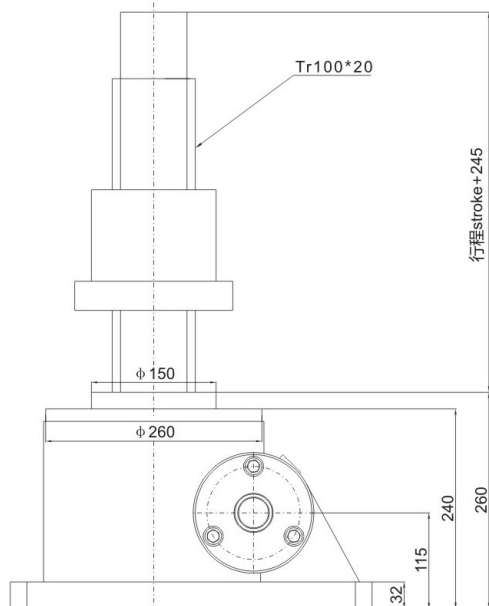


轴指向 Shaft Direction

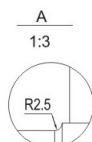
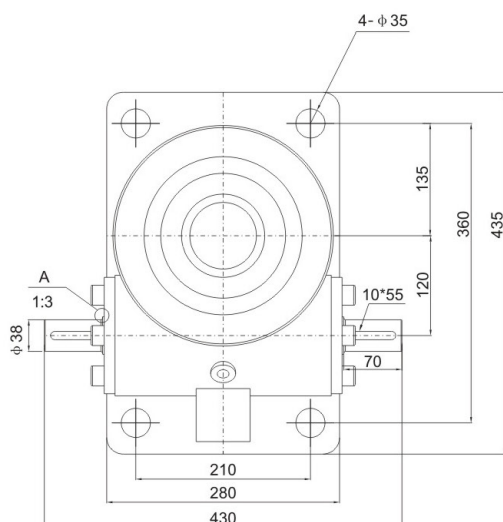
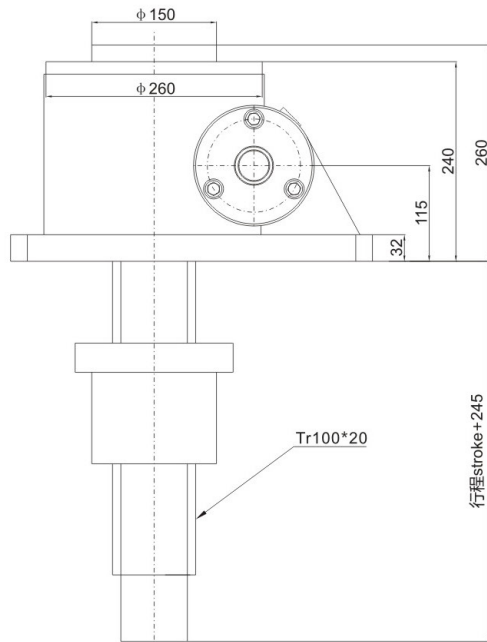


SWL35 2型结构 (螺母升降) / SWL35 type 2 construction (nut lifting)

2A 螺母在上
2A Upright rotating screw



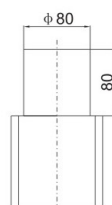
2B 螺母在下
2B Inverted rotating screw



丝杆头部可选

Screw head optional

I型 / Type I

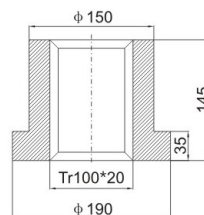


III型 / Type III



2 型丝杆螺母

Type 2 screw nut

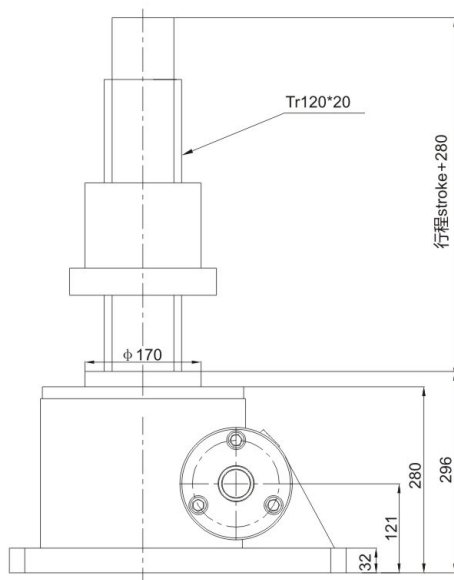


轴指向 Shaft Direction

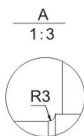
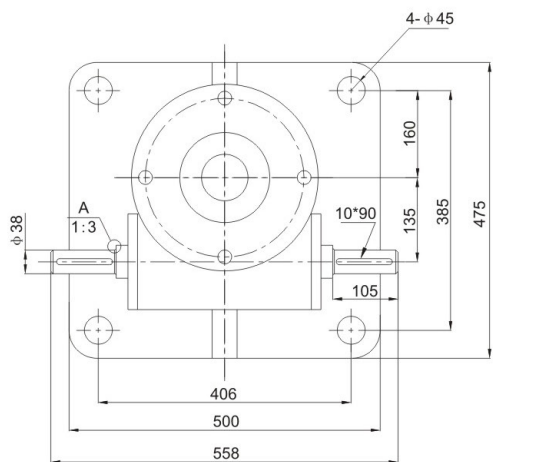
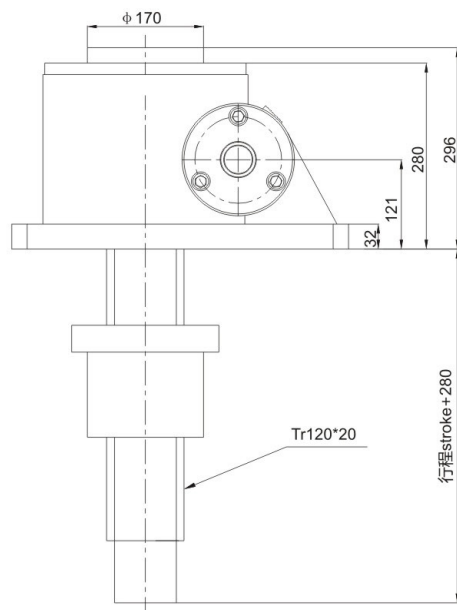


SWL50 2型结构 (螺母升降) / SWL50 type 2 construction (nut lifting)

2A 螺母在上
2A Upright rotating screw



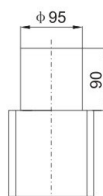
2B 螺母在下
2B Inverted rotating screw



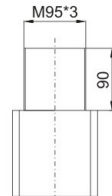
丝杆头部可选

Screw head optional

I型 / Type I

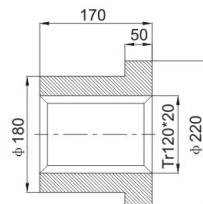


III型 / Type III



2 型丝杆螺母

Type 2 screw nut

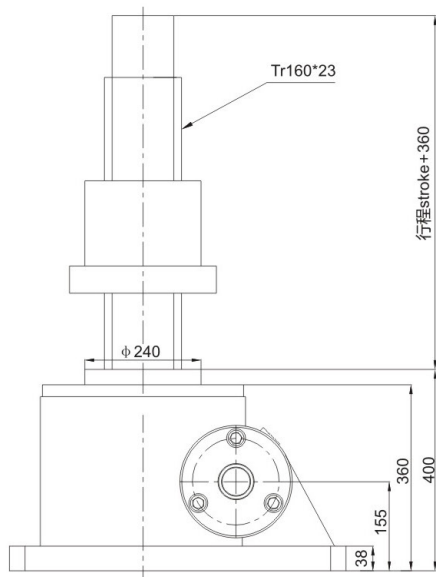


轴指向 Shaft Direction

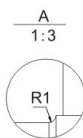
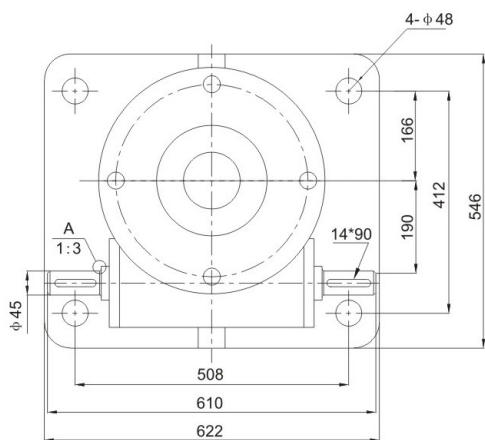
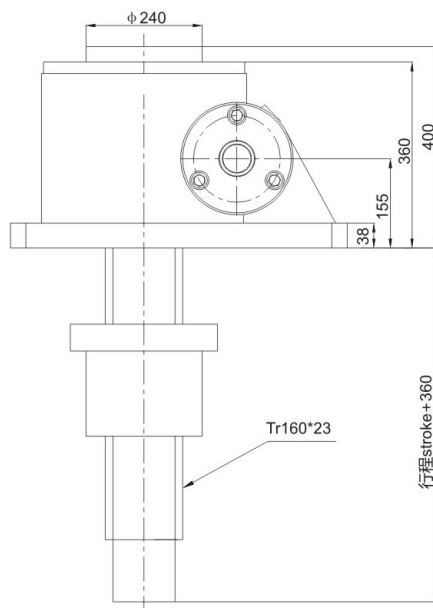


SWL100 2型结构 (螺母升降) / SWL100 type 2 construction (nut lifting)

2A 螺母在上
2A Upright rotating screw

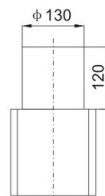


2B 螺母在下
2B Inverted rotating screw

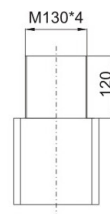


丝杆头部可选
Screw head optional

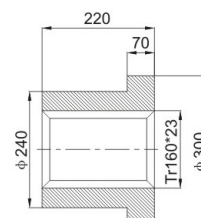
I型 / Type I



III型 / Type III



2型丝杆螺母
Type 2 screw nut

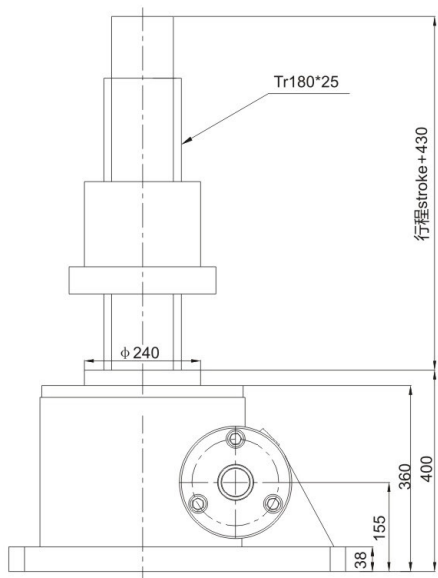


轴指向 Shaft Direction

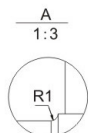
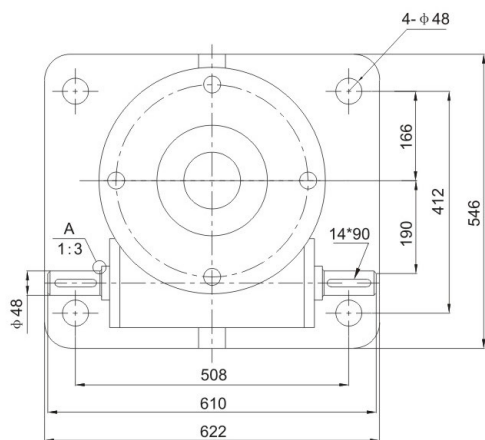
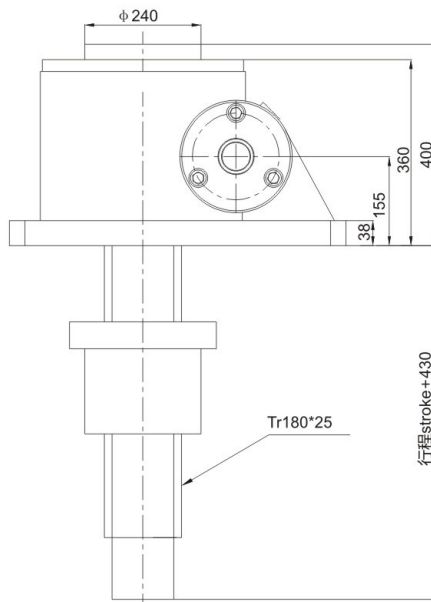


SWL120 2型结构 (螺母升降) / SWL120 type 2 construction (nut lifting)

2A 螺母在上
2A Upright rotating screw

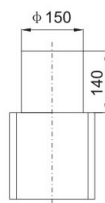


2B 螺母在下
2B Inverted rotating screw

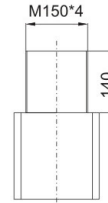


丝杆头部可选
Screw head optional

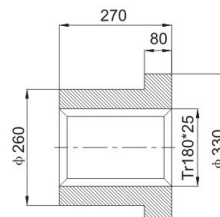
I型 / Type I



III型 / Type III



2型丝杆螺母
Type 2 screw nut

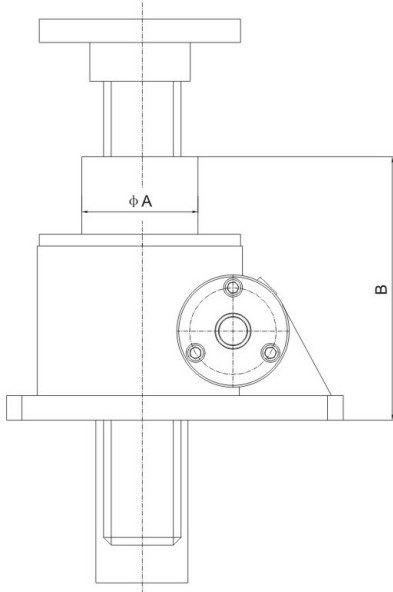


轴指向 Shaft Direction

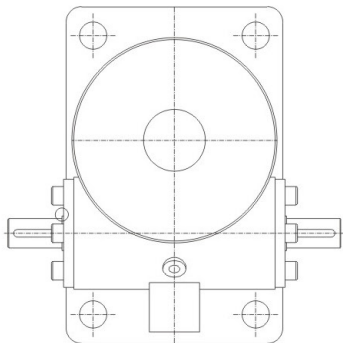
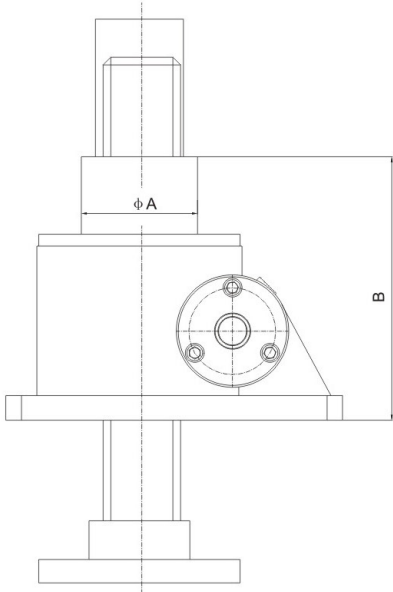


SWLB系列滚珠丝杆升降 / SWLB series ball screw lifting

基本型 1A
Basic type 1A



基本型 1B
Basic type 1B



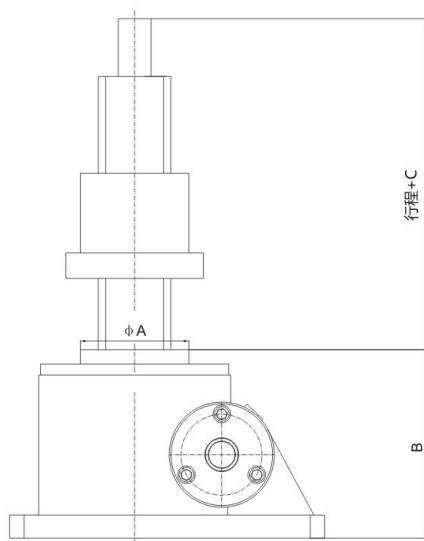
SWLB系列 SWLB series	A	B	轴径 × 导程 dxi Shaft diameter × lead	动载荷 Ca Dynamic load	静载荷 Coa Static load
SWLB 2.5	80	123	2508	7.5kgf	22.8kgf
SWLB 5	95	210	4010	9.7kgf	22.8kgf
SWLB 10	125	226	5516	22.5kgf	70kgf
SWLB 20	135	231.5	6516	22.5kgf	70kgf

轴指向 Shaft Direction

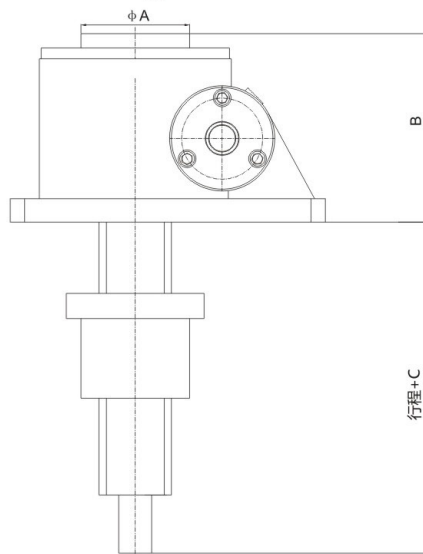


SWLB系列滚珠丝杆升降 / SWLB series ball screw lifting

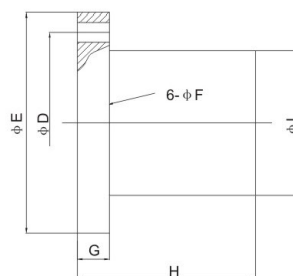
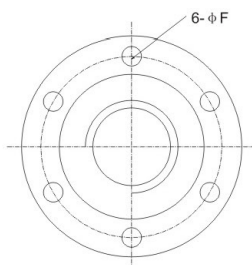
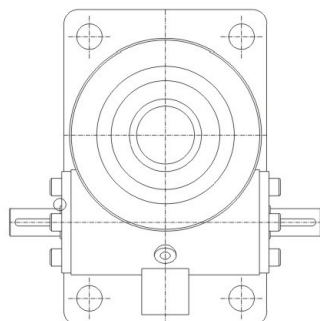
基本型 2A
Basic type 2A



基本型 2B
Basic type 2B



滚珠丝杆螺母
Ball screw nut

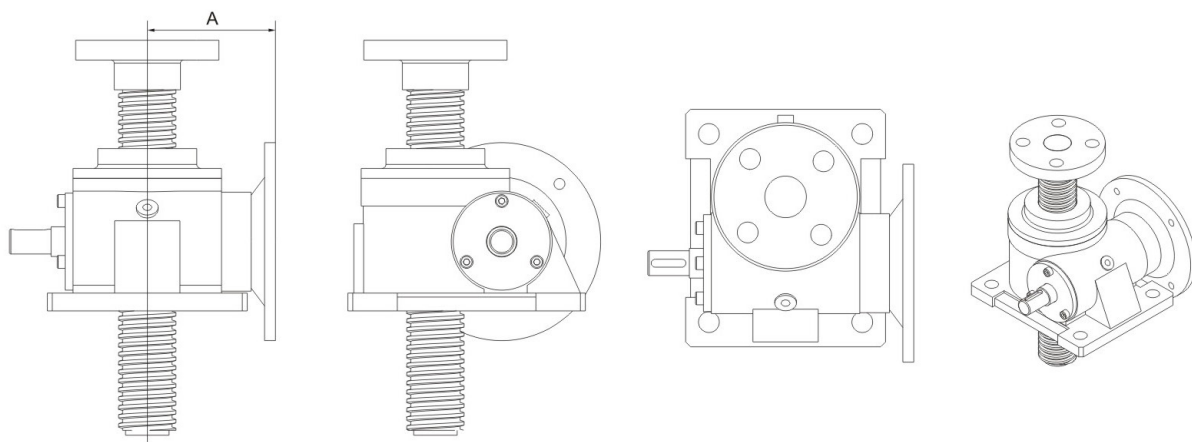


SWLB系列 SWLB series	A	B	C	D	E	F	G	H	I	轴径 × 导程 dxi Shaft diameter × lead	动载荷 Ca Dynamic load	静载荷 Coa Static load
SWLB 2.5	55	117	128.5	77	86	7	13	80	56	2508	7.5kgf	22.8kgf
SWLB 5	65	148	128.5	105	128	11	18	103	85	4010	9.7kgf	22.8kgf
SWLB 10	100	164	128.5	125	152	13.5	22	123	100	5010	22.5kgf	70kgf
SWLB 20	106	211	128.5	140	166	13.5	22	123	118	6310	22.5kgf	70kgf

轴指向 Shaft Direction



DSWL+IEC电机输入法兰的模块组合方式 / DSWL+IEC motor input flange module combination

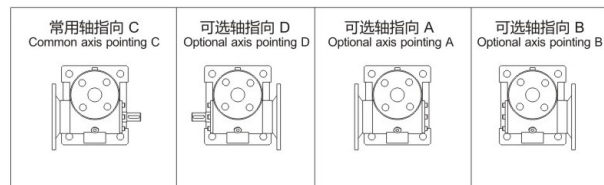


DSWL系列型号 DSWL series model	+	可选IEC电机法兰型号 Optional IEC motor flange type				A
DSWL1	+	63B5	63B14			70.5
DSWL2.5	+	71B5	71B14	80B5	80B14	77/85
DSWL5	+	80B5	80B14	90B5	90B14	3.99
DSWL10	+	90B5	90B14	100B5	100B14	117.5/152.5
DSWL20	+	100B5	100B14	112B5	112B14	145.5

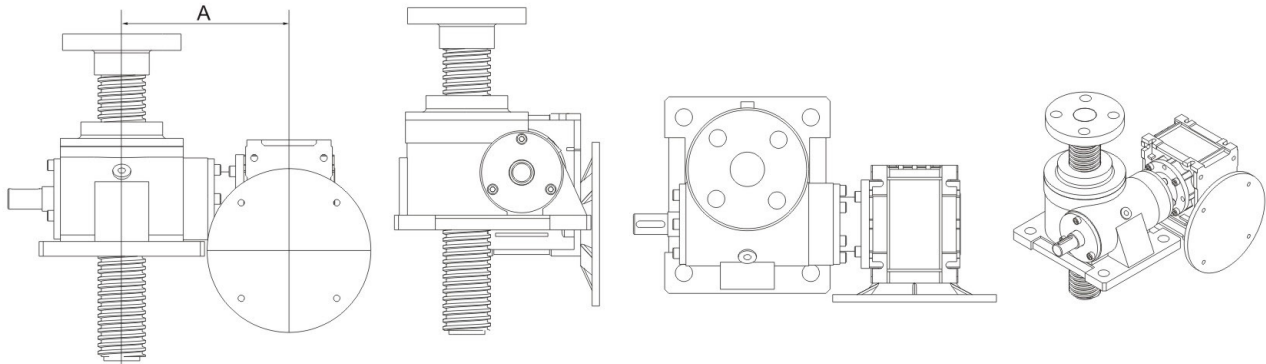
DSWL 2.5 M - 2 A III - 300 - FZ - C + 71B5
 1 2 3 4 5 6 7 8 9 10

1. DSWL: DSWL系列-蜗轮+T型丝杆升降机, 带IEC电机接口型; DSWLB蜗轮+滚珠丝杆升降机, 带IEC电机接口型;
 2. 2.5: 型号, 以升降机的静载能力作为型号; 主要有: 1, 2.5, 5, 10, 20, 25, 35, 50, 100, 120;
 3. M: 升降速度, 主要指的是蜗轮副的减速比; M: 慢速; P: 快速;
 4. 2: 结构型号; 1型: 螺母作旋转运动、丝杆作轴向运动; 2型: 丝杆作旋转运动、螺母作轴向运动 (本页展示的产品样机均为1型);
 5. A: 装配型式; A型: 丝杆 (或螺母) 向上 (安装面) 移动; B型: 丝杆 (或螺母) 向下 (安装面) 移动;
 6. III: 丝杆头部型式: 1型丝杆头部分为I型 (圆柱型)、II型 (法兰型)、III型 (螺纹型)、IV型 (扁头型) 四种; 2型丝杆头部分为I型 (圆柱型)、III型 (螺纹型);
 7. 300: 升降行程; 客户自定义;
 8. FZ: 丝杆的防护;
 1型结构有基本型、防旋转型 (F-键防旋, G-方管防旋) 和带防护罩型 (Z钢管防护-被动侧, X伸缩管防护-主动侧, Q两种都有);
 2型结构有基本型和带防护罩型 (X伸缩管防护-主动侧);
 9. C: 轴指向A; B; C; D; E;
 10. 71B5: IEC输入接口型号;
1. DSWL: DSWL series - worm gear + T type screw elevator, with IEC motor interface type; DSWLB worm gear + ball screw elevator with IEC motor connection type;
2. 2.5: model, with the static load capacity of the lift as the model; mainly: 1, 2.5, 5, 10, 20, 25, 35, 50, 100, 120;
3. M: lifting speed, mainly refers to the deceleration ratio of worm gear pair; M: slow; P: fast;
4. 2: Structural model; Type 1: nut for rotary motion, screw for axial movement;
 Type 2: screw for rotary motion, nut for axial movement (products shown on this page are type I);
5. A: assembly type; type A: the screw (or nut) moves up (mounting surface); type B: the screw (or nut) moves down (mounting surface);
6. III: screw head type: 1 type screw head is divided into I type (cylindrical type), type II (flange type), type III (thread type), type IV (flat head type);
 2 type screw head is divided into I type (cylindrical type) and type III (thread type);
7. 300: lifting stroke; customer customization;
8. FZ: anti-rotation and protection of the screw;
 Type 1 structure has basic type, anti-rotation type (F-key anti-rotation) and protective cover type (Z steel pipe protection - passive side, X telescopic tube protection - active side, Q both);
 Type 2 structure has basic type and protective cover type (X telescopic tube protection - active side);
9. C: the axis points to A; B; C; D; E;
10. 71B5: IEC input connector model;

轴指向 Shaft direction



SWL+RV的模块组合方式 / SWL+RV module combination



SWL系列型号 SWL series model	+	RV系列型号 RV series model	+	可选输入法兰型号 Optional input flange type						A
SWL1	+	RV30	+	56B5	56B14	63B5	63B14			113.5
SWL2.5	+	RV40	+	56B5	56B14	63B5	63B14	71B5	71B14	128.5
SWL5	+	RV50	+	63B5	63B14	71B5	71B14	80B5	80B14	144.5
SWL10	+	RV63	+	71B5	71B14	80B5	80B14	90B5	90B14	198.5
SWL20	+	RV63	+	71B5	71B14	80B5	80B14	90B5	90B14	230

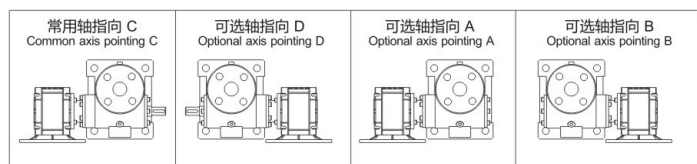
SWL 2.5 M - 1 A II - 300 - FZ - C + RV40 - 10 - 71B14

1 2 3 4 5 6 7 8 9 10 11 12

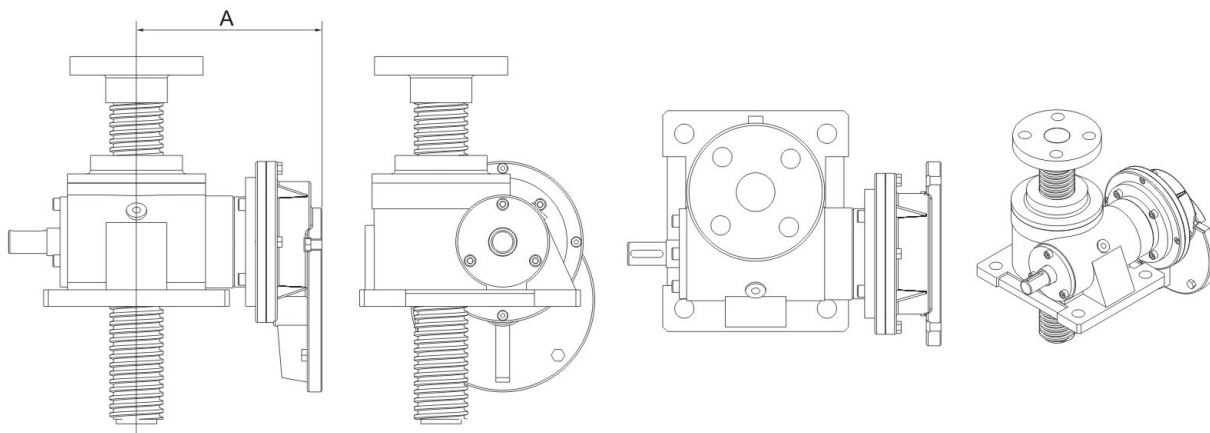
1. SWL : 系列号, SWL系列-蜗轮+T型丝杆升降机; SWLB蜗轮+滚珠丝杆升降机;
2. 2.5 : 型号, 以升降机的静载能力作为型号; 主要有: 1, 2.5, 5, 10, 20, 25, 35, 50, 100, 120;
3. M : 升降速度, 主要指的是蜗轮副的减速比; M : 慢速; P : 快速;
4. 1 : 结构型号; 1型: 螺母作旋转运动、丝杆作轴向运动 (本页展示的产品样机均为1型); 2型: 丝杆作旋转运动、螺母作轴向运动;
5. A : 装配型式; A型: 丝杆 (或螺母) 向上 (安装面) 移动; B型: 丝杆 (或螺母) 向下 (安装面) 移动;
6. II : 丝杆头部型式: 1型丝杆头部为I型 (圆柱型)、II型 (法兰型)、III型 (螺纹型)、IV型 (扁头型) 四种; 2型丝杆头部为I型 (圆柱型)、III型 (螺纹型);
7. 300 : 升降行程; 客户自定义;
8. FZ : 丝杆的防护;
1型结构有基本型、防旋转型 (F-键防旋, G-方管防旋) 和带防护罩型 (Z钢管防护-被动侧, X伸缩管防护-主动侧, Q两种都有);
2型结构有基本型和带防护罩型 (X伸缩管防护-主动侧);
9. C : 轴指向A; B; C; D; E;
10. RV40 : 输入带RV系列减速机;
11. 10 : RV系列减速机的减速比;
12. 71B14 : RV系列减速机输入接口型号;

1. SWL: serial number, SWL series - worm gear + T type screw lift; SWLB worm gear + ball screw lift;
2. 2.5: model, with the static load capacity of the lift as the model; mainly: 1, 2.5, 5, 10, 20, 25, 35, 50, 100, 120;
3. M: lifting speed, mainly refers to the deceleration ratio of worm gear pair; M: slow; P: fast;
4. 1: Structural model; Type 1: nut for rotary motion, screw for axial movement (products shown on this page are type I);
Type 2: screw for rotary motion, nut for axial movement;
5. A: assembly type; type A: the screw (or nut) moves up (mounting surface); type B: the screw (or nut) moves down (mounting surface);
6. II: screw head type: 1 type screw head is divided into I type (cylindrical type), type II (flange type), type III (thread type), type IV (flat head type);
2 type screw head is divided into I type (cylindrical type) and type III (thread type);
7. 300: lifting stroke; customer customization;
8. FZ: anti-rotation and protection of the screw;
Type 1 structure has basic type, anti-rotation type (F-key anti-rotation) and protective cover type (Z steel pipe protection - passive side, X telescopic tube protection - active side, Q both);
Type 2 structure has basic type and protective cover type (X telescopic tube protection - active side);
9. C: the axis points to A; B; C; D; E;
10. RV40: input reducer with RV series;
11. 10: reduction ratio of RV series reducer;
12. 71B14: RV series reducer input contact type;

轴指向 Shaft direction



SWL+PC的模块组合方式 / SWL+PC module combination



SWL系列型号 SWL series model	+	PC系列型号 PC series model	PC的减速比 PC reduction ratio	A
SWL1	+	PC63B5	i=2.93	128.5
SWL2.5	+	PC71B5	i=2.94	142
SWL5	+	PC80B5	i=3	175.5
SWL10	+	PC90B5	i=2.45	202
SWL20	+	PC90B5	i=2.45	223

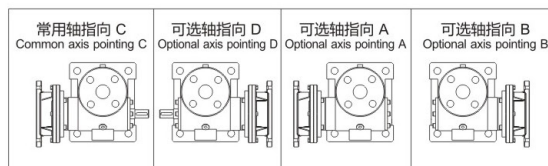
SWL 2.5 M - 1 A II - 300 - FZ - C + PC71B5

1 2 3 4 5 6 7 8 9 10

1. SWL：系列号，SWL系列-蜗轮+T型丝杆升降机；SWLB蜗轮+滚珠丝杆升降机；
2. 2.5：型号，以升降机的静载能力作为型号；主要有：1，2.5，5，10，20，25，35，50，100，120；
3. M：升降速度，主要指的是蜗轮副的减速比；M：慢速；P：快速；
4. 1：结构型号；1型：螺母作旋转运动、丝杆作轴向运动（本页展示的产品样机均为1型）；2型：丝杆作旋转运动、螺母作轴向运动；
5. A：装配型式；A型：丝杆（或螺母）向上（安装面）移动；B型：丝杆（或螺母）向下（安装面）移动；
6. II：丝杆头部型式：1型丝杆头部分为I型（圆柱型）、II型（法兰型）、III型（螺纹型）、IV型（扁头型）四种；2型丝杆头部分为I型（圆柱型）、III型（螺纹型）；
7. 300：升降行程；客户自定义；
8. FZ：丝杆的防护；
1型结构有基本型、防旋转型（F-键防旋，G-方管防旋）和带防护罩型（Z钢管防护-被动侧，X伸缩管防护-主动侧，Q两种都有）；
2型结构有基本型和带防护罩型（X伸缩管防护-主动侧）；
9. C：轴指向A；B；C；D；E；
10. PC71B5：一级齿轮PC的型号；

1. SWL: serial number, SWL series - worm gear + T type screw lift; SWLB worm gear + ball screw lift;
2. 2.5: model, with the static load capacity of the lift as the model; mainly: 1, 2.5, 5, 10, 20, 25, 35, 50, 100, 120;
3. M: lifting speed, mainly refers to the deceleration ratio of worm gear pair; M: slow; P: fast;
4. 1: Structural model; Type 1: nut for rotary motion, screw for axial movement (products shown on this page are type I);
Type 2: screw for rotary motion, nut for axial movement;
5. A: assembly type; type A: the screw (or nut) moves up (mounting surface); type B: the screw (or nut) moves down (mounting surface);
6. II: screw head type: 1 type screw head is divided into I type (cylindrical type), type II (flange type), type III (thread type), type IV (flat head type);
2 type screw head is divided into I type (cylindrical type) and type III (thread type);
7. 300: lifting stroke; customer customization;
8. FZ: anti-rotation and protection of the screw;
Type 1 structure has basic type, anti-rotation type (F-key anti-rotation) and protective cover type (Z steel pipe protection - passive side, X telescopic tube protection - active side, Q both);
Type 2 structure has basic type and protective cover type (X telescopic tube protection - active side);
9. C: the axis points to A; B; C; D; E;
10. PC71B5: model of primary gear PC;

轴指向 Shaft direction





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