

◆ SWL/JWSS 系列蜗轮丝杆升降机

SWL/JWSS SERIES WORM WHEEL SCREW ACTUATOR



宜嘉 — 全球动力专家



上海宜嘉传动机械有限公司
SHANHAI YIKA TRANSMISSION MACHINE CO.,LTD.

www.cnyika.com

» SWL系列



1A型



1B型



2A型



2B型

» JWSS系列



R(圆柱型)



T(法兰型)



S(螺纹型)



H(扁头型)



单侧出轴



单侧出轴



单侧出轴



单侧出轴



电机法兰



电机法兰



电机法兰



电机法兰

各种装配形式均有多种输入方式及丝杆头部组合可供选择，如有特殊需要请咨询客服人员！

1. 概述 Brief

Jwss系列丝杆升降机是我厂参照国外设计的新型系列产品，该产品以其独特的外观融传动与升降为一体，具有体积小重量轻、操作简单、维护方便、输入形式多、使用寿命长等优点，广泛用于试验仪器平台、医用手术台的升降，玻璃纤维塑胶薄膜挤压，钢厂辊轮间隔，管材板材传送位置的调整，高温炉门及大型门窗的开启与关闭，以及其它农业、水利、文化、卫生、化工、建筑、冶金、皮革、焊接设备等各行业。

Jwss series screw elevator is the new type series product made by our factory according to international standards. Combining transmission and lift as a whole, it has the characteristic of unique in appearance, small in volume, light in weight, easy to operate and maintain, various input type and long lifespan, etc. Meanwhile they are widely used in test apparatus platform, medical operation table, extrusion of glass fiber film, adjustment of roller distance and pipe and sheet transmission position in steelworks, open and close of high temperature stove door and big door and window as well as used in other fields such as agriculture, water conservancy, culture, hygiene, chemical industry, construction, metallurgy, leather and welding equipment, etc.

1. 型号、标记 Type、configuration and mark

2.1 型号 Type

JWSS 型为基本型，即输入方式为输入轴型

JWSSD 型为带电机法兰型，即输入方式为法兰型

JWSS is normal type type, input is shaft input mode

JWSSD is motor flange type, means input is flange mode

2.2 输入方式 Input mode

JWSS 型输入方式有三种： I 型为右输入 II 型为左输入 III 型为双轴输入

JWSSD 型输入方式有四种： I 型为右法兰输入 II 型为左法兰输入 III 型为右直联双入

IV 型为左直联双入

JWSS input mode: I type: right shaft input II type: left shaft input III type: double shaft input

JWSSD input mode: I type: right flange input II type: left flange input

III type: right monoblock double input IV type: left monoblock double input

2.3 丝杆头部型式 Screw head form

丝杆头部形式有四种：R型（圆柱型） H型（扁头型） S型（螺纹型） T型（法兰型）

Head form: R type (cylinder form) H type (flat head form) S type (thread form) T type (flange form)

2.4 安装方式 Installation type

A型——丝杆旋转向上移动 D型——丝杆向下移动不旋转

B型——丝杆旋转向下移动 E型——丝杆旋转螺母向上移动

C型——丝杆向上移动不旋转 F型——丝杆旋转螺母向下移动

A type guide screw moves upwards with itself turns

B type guide screw moves downwards with itself turns

C type guide screw moves upwards without itself turns

D type guide screw moves downwards without itself turns

E type guide screw turns and nut moves upwards

F type guide screw turns and nut moves downwards

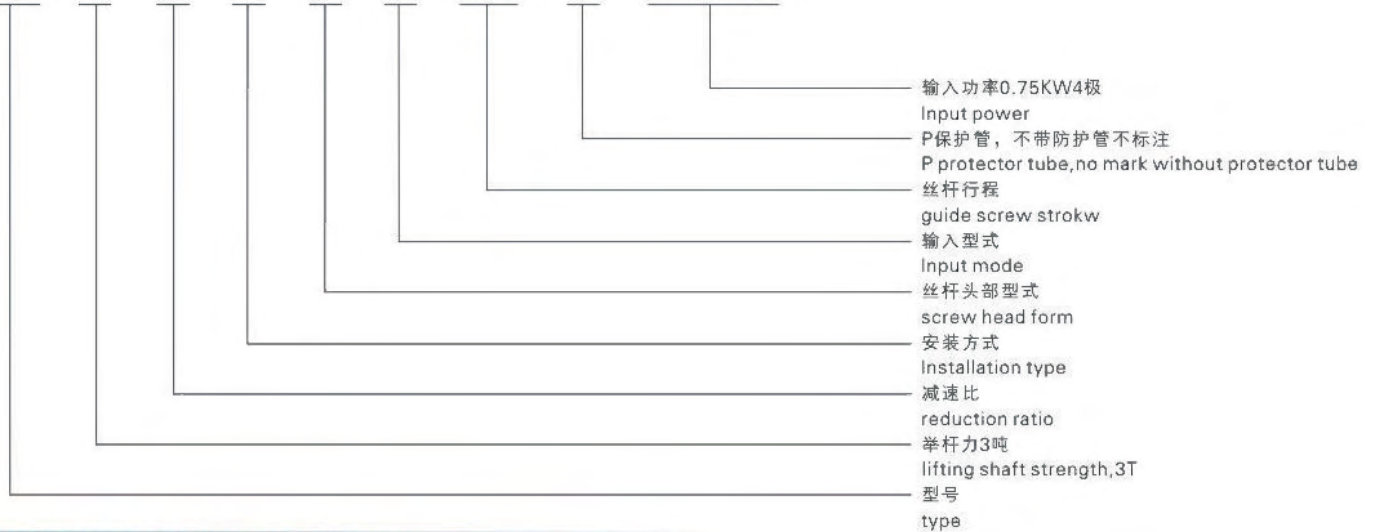
2.5 规格 Specification

按举升力（吨T）分为：2、3、5、10、15、20、30、40、50、100吨十种

According to lifting strength, it is: 2、3、5、10、15、20、30、40、50、100T

2.6 标记示例 Mark sample

JWSSD 3 - 12 - A - R - III - 400 - P - Y0.75(4P)



3 输入功率、负载及升降速度的关系 Relation between input power, load and move speed

型号 大小 能力 type capacity	升降 梯形螺纹 直径 螺距 lifting trapezoid screw diameter pitch	蜗轮 减速比 worm gear reduction ratio	1800RPM 输入轴转速 input shaft rotational speed			1500RPM 输入轴转速 input shaft rotational speed			1200RPM 输入轴转速 input shaft rotational speed			900RPM 输入轴转速 input shaft rotational speed			600RPM 输入轴转速 input shaft rotational speed			300RPM 输入轴转速 input shaft rotational speed		
			输入功率 (KW) input power	举升负载 (Kg) lifting- load	输入功率 (mm/min) lifting speed	输入功率 (KW) input power	举升负载 (Kg) lifting- load	输入功率 (mm/min) lifting speed	输入功率 (KW) input power	举升负载 (Kg) lifting- load	输入功率 (mm/min) lifting speed	输入功率 (KW) input power	举升负载 (Kg) lifting- load	输入功率 (mm/min) lifting speed	输入功率 (KW) input power	举升负载 (Kg) lifting- load	输入功率 (mm/min) lifting speed	输入功率 (KW) input power	举升负载 (Kg) lifting- load	输入功率 (mm/min) lifting speed
JWSS 2T	φ25 P=5	1/5	0.70	500	1800	0.65	550	1500	0.65	700	1200	0.65	900	900	0.47	1000	600	0.38	100	300
		1/10	0.38	500	900	0.38	550	750	0.38	700	600	0.38	750	450	0.38	1000	300	0.19	1350	1500
		1/20	0.38	600	450	0.38	700	375	0.38	900	300	0.38	1200	225	0.19	1350	150	0.19	1350	75
JWSS 3T	φ31 P=6	1/6	0.98	700	1800	0.94	800	1500	0.89	950	1200	0.92	1300	900	0.84	1800	600	0.42	1800	300
		1/12	0.67	950	900	0.65	1100	750	0.61	1300	600	0.58	1650	450	0.47	2000	300	0.38	2000	150
		1/24	0.38	950	450	0.38	1100	375	0.38	1300	300	0.38	1650	225	0.38	2000	150	0.19	2000	75
JWSS 5T	φ38 P=6	1/6	1.40	900	1800	1.29	1000	1500	1.25	1200	1200	1.16	1500	900	0.88	1700	600	0.54	2100	300
		1/12	1.10	1350	900	1.02	1500	750	0.98	1800	600	0.88	2150	450	0.59	2150	300	0.38	2500	150
		1/24	0.78	180	450	0.72	2000	375	0.69	2400	300	0.55	2550	225	0.42	2900	150	0.38	2850	75
JWSS 10T	φ44 P=8	1/8	2.13	1300	1800	1.98	1450	1500	1.86	1700	1200	1.73	2100	900	1.67	3050	600	1.31	4800	300
		1/16	1.13	1300	900	1.05	1450	750	0.98	1700	600	0.95	2200	450	0.88	3050	300	0.69	4800	150
		1/32	0.80	1750	450	0.75	1950	375	0.69	2250	300	0.64	2800	225	0.65	4100	150	0.56	6400	75
JWSS 15T	φ50 P=8	1/8	2.02	1300	1800	1.88	1450	1500	1.76	1700	1200	1.63	2100	900	1.58	3050	600	1.25	4800	300
		1/16	1.07	1300	900	0.99	1450	750	0.93	1700	600	0.90	2200	450	0.83	3050	300	0.65	4800	150
		1/32	0.76	1750	450	0.71	1950	375	0.65	2250	300	0.61	2800	225	0.59	4100	150	0.46	6400	75
JWSS 20T	φ65 P=10	1/10	2.68	1400	1800	2.43	1850	1500	2.26	1950	1200	2.13	2450	900	1.94	3350	600	1.42	4900	300
		1/20	1.43	1600	900	1.48	1850	750	1.38	2250	600	1.29	2800	450	1.19	3850	300	0.86	5600	150
		1/40	1.15	2400	450	1.18	2800	375	1.10	3350	300	1.08	4400	225	0.94	5750	150	0.69	8400	75
JWSS 30T	φ75 P=12	1/12	3.65	1850	1800	3.53	2150	1500	3.41	2600	1200	3.20	3250	900	2.96	4500	600	2.10	6400	300
		1/18	2.67	1900	1200	2.69	2300	1000	2.58	2750	800	2.46	3500	600	2.21	4700	400	1.57	6700	200
		1/36	1.67	2200	600	1.64	2600	500	1.61	3200	400	1.18	3900	300	1.37	5400	200	1.21	9600	100
JWSS 40T	φ80 P=12	1/12	4.17	1975	1800	4.04	2300	1500	3.83	2750	1200	3.83	3625	900	3.50	4975	600	2.49	7050	300
		1/18	3.22	2125	1200	3.22	2550	1000	3.05	3025	800	3.05	4025	600	2.75	5450	400	1.95	7725	200
		1/36	2.15	2625	600	2.09	3050	500	2.00	3650	400	2.00	4875	300	1.81	6600	200	1.41	10300	100
JWSS 50T	φ90 P=14	1/7	9.53	2100	3600	9.23	2450	3000	12.10	2850	2400	8.63	4000	1800	8.25	5450	1200	5.87	7750	600
		1/14	5.79	2350	1800	5.75	2800	1500	0.83	3300	1200	5.42	4550	900	5.09	6200	600	3.59	8750	300
		1/28	4.10	3050	900	3.92	3500	750	3.93	4100	600	3.68	5850	450	3.50	7800	300	2.46	11000	150
JWSS 100T	φ100 P=16	1/8	16.35	3500	3600	16.13	4000	3000	15.90	5400	2400	15.15	7100	1800	14.93	9850	1200	9.75	12950	600
		1/16	11.76	4300	1800	11.63	5400	1500	10.58	7200	1200	11.03	9450	900	9.68	11800	600	7.13	17350	300
		1/32	8.70	5500	900	9.6	6800	750	7.40	10000	600	7.58	14300	450	7.06	1575	300	5.84	26050	150

4 丝杆升降行程与丝杆长度计算

Compute move stroke and screw length

			行程 stroke	杆端S型 S type shaft end		杆端H型 H type shaft end		杆端R型 R type shaft end		杆端T型 T type shaft end	
型号 type	直径 diam- eter	螺距 pitch	护管长 protector tube length	机身+CE+行程 =丝杆总长 body+CE+stroke= whole screw length	丝杆总长-CE =牙长 whole length-CE =tooth length	机身+B+G+行程 =丝杆总长 body+B+G+stroke= whole screw length	丝杆总长-B-G =牙长 whole length-B-G =tooth length	机身+B+行程 =丝杆总长 body+B+stroke= whole screw length	丝杆总长-D =牙长 whole length-D =tooth length	机身+T+行程 =丝杆总长 body+T+stroke= whole screw length	丝杆总长-T =牙长 whole length-T =tooth length
JWSS-2T	25	P=5	300+55=355	110+40+300=450	450-40=410	100+55+20+300=485	485-55-20=410	110+55+300=465	465-55=410	110+25+300=435	435-25=410
JWSS-3T	31	P=6	300+60=360	130+50+300=480	480-50=430	130+65+25+300=520	520-65-25=430	130+65+30=495	495-65=430	130+30+300=460	460-30=430
JWSS-5T	38	P=6	300+60=360	130+50+300=480	480-50=430	130+65+25+300=520	520-65-25=430	130+65+300=495	495-65=430	130+30+300=460	460-30=430
JWSS-10T	44	P=8	300+65=365	160+60+300=520	520-60=460	160+95+32+300=587	587-95-32=460	160+65+300=525	525-65=460	160+40+300=500	500-40=460
JWSS-15T	50	P=8	300+65=365	160+60+300=520	520-60=460	160+95+32+300=587	587-95-32=460	160+65+300=525	525-65=460	160+50+30=510	510-50=460
JWSS-20T	65	P=10	300+75=375	180+80+300=560	560-80=480	180+114+35+300=629	629-114-35=480	180+70+300=550	550-70=480	180+55+300=535	535-55=480
JWSS-30T	75	P=12	///	220+80+300=600	600-80=520	220+135+44+300=699	699-135-44=520	220+75+300=595	959-75=520	220+65+300=585	585-65=520
JWSS-40T	80	P=12	///	260+100+300=600	660-100=560	260+150+54+300=764	764-150-54=560	260+95+300=655	655-95=560	260+70+300=630	630-70=560
JWSS-50T	90	P=14	///	315+120+300=735	735-120=615	315+165+64+300=844	844-165-64=615	315+114+300=729	729-114=615	315+75+300=690	690-75=615
JWSS-100T	100	P=16	///	345+150+300=795	795-150=645	345+200+70+300=915	915-200-70=645	345+140+300=785	785-140=645	345+100+300=745	745-100=645

5 许用弯曲负荷值

Safety bend loading

各种型号及轴端各种负载方式，有关丝杆长度及许用弯子曲负荷可参考以下表格或计算式
screw length and safety bend loading can be counted refer to follow tables or formula about all kinds of type and load on shaft ends

计算方法：

Count method:

$$P_{cr} = n \pi^2 E (K/L)^2 \cdot A \cdot a$$

$$2.1 \times 10^2 \text{ kgf/mm}^2$$

$$K = \frac{d_1}{4}$$

$$A = \frac{\pi (d_1)^2}{4}$$

n: 轴端支承因数

E: 纵向弹性模数

n: shaft end bearing factor

E: longitudinal elastic modulus

K: 最小辅助半径

K—Min auxiliary radius

d₁: 螺纹底径

L: 轴支承长度

A: 丝杆之螺纹底径的断面积

d₁: thread root diameter

L: shaft bearing length

A: basal area of screw thread root diameter

A: 安全因数 a=0.25

丝杆底径 (d₁)

A: safety factor a=0.25

screw root diameter(d₁)

丝杆底径 (d₁)

screw root diameter(d₁)

JWSS 2 (19.8)

JWSS 3 (24.8)

JWSS 5 (31.5)

JWSS 10 (35.9)

JWSS 15 (42)

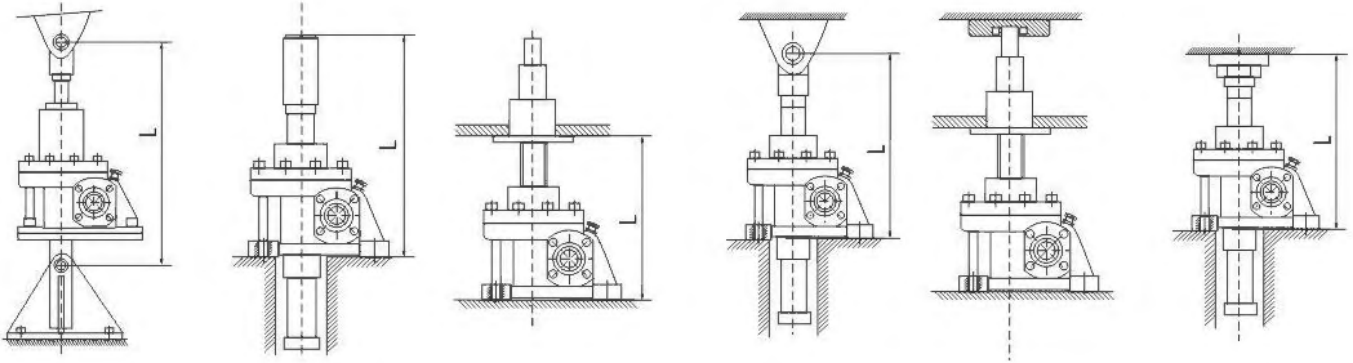
JWSS 20 (54.5)

JWSS 30 (62)

JWSS 40 (67)

JWSS 50 (74)

JWSS 100 (82)



底座支承—轴端支承
base bearing—shaft end bearing

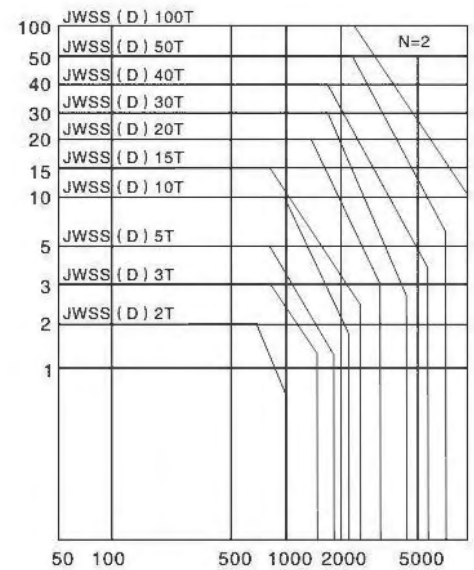
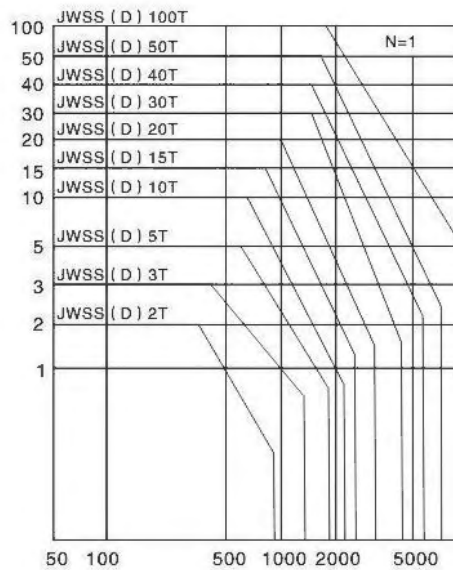
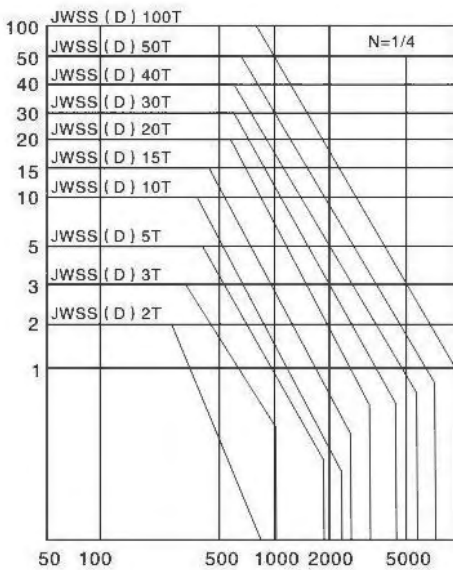
底座固定—轴端自由
base located—shaft end free

底座固定—轴端固定或支撑
base located—shaft end located or supported

许用弯曲负荷 (吨)
safety bend loading

许用弯曲负荷 (吨)
safety bend loading

许用弯曲负荷 (吨)
safety bend loading



轴支承长度 (mm)

轴支承长度 (mm)

轴支承长度 (mm)

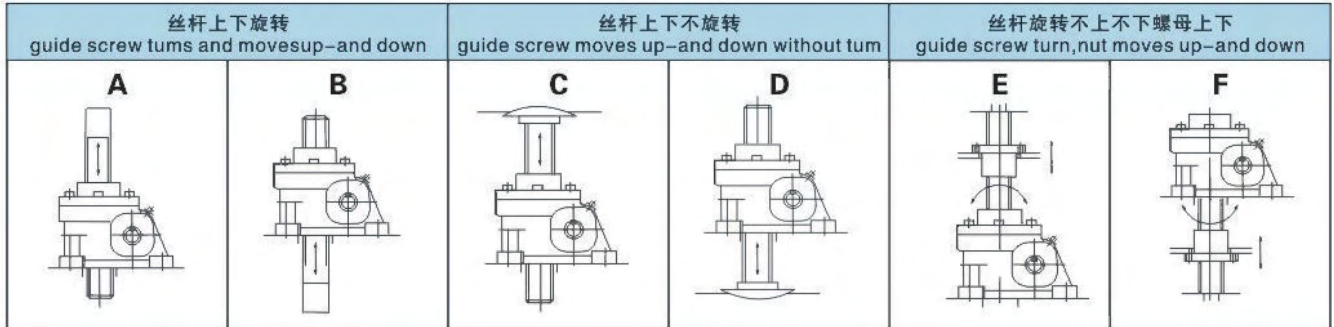
升降机固定—轴端无导向
shaft bearing length (mm)
jack located—shaft end without guider

升降机地支承—轴端支承
(扁头型) —— (扁头型)
shaft bearing length (mm)
jack bearing—shaft end bearing
(flat head) — (flat head)

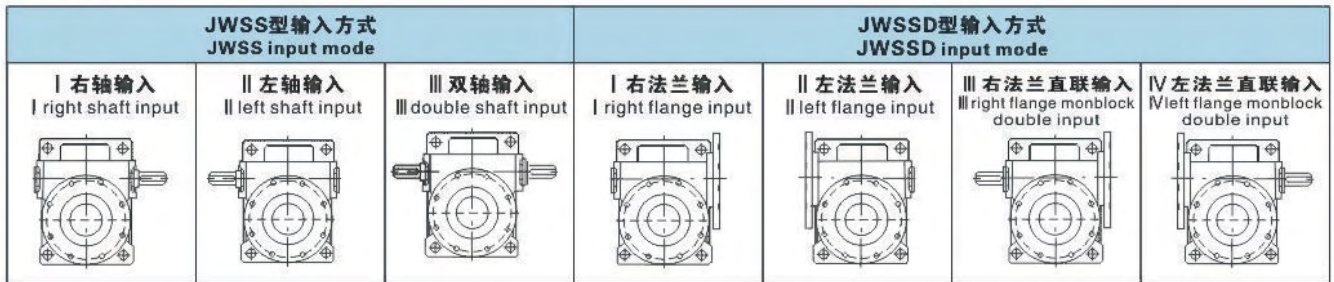
升降机地支承—轴端支承
(扁头型) —— (扁头型)
shaft bearing length (mm)
jack bearing—shaft end bearing
(flat head) — (flat head)

6 安装方式与输入方式 Installation type and input mode

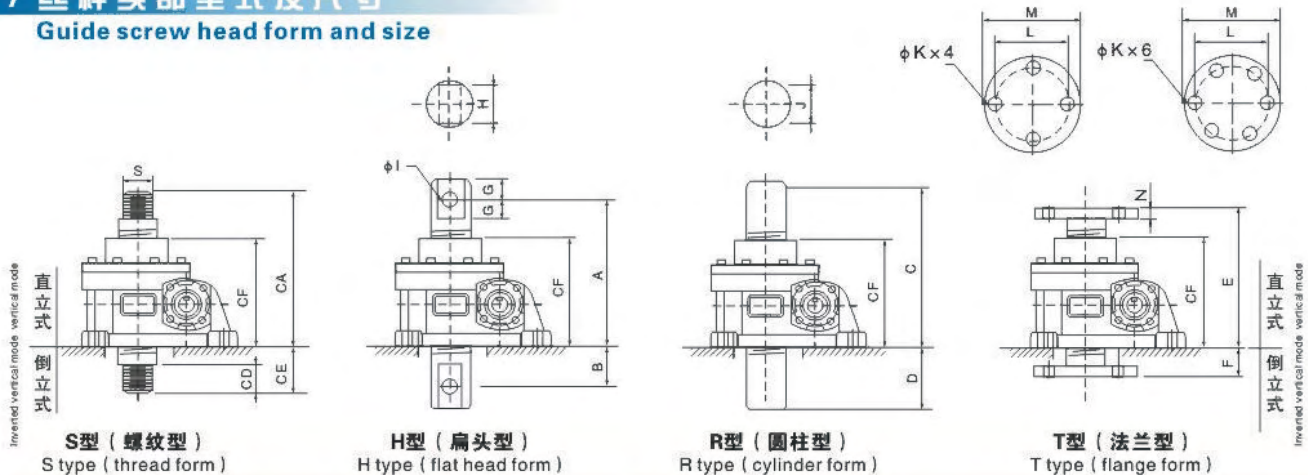
6.1 安装方式 Installation type



6.2 输入方式 input mode



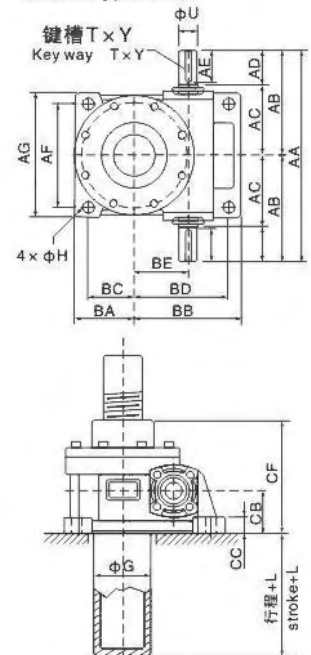
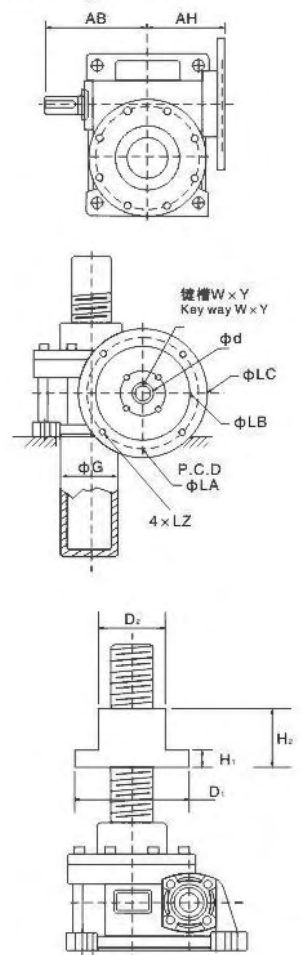
7 丝杆头部型式及尺寸 Guide screw head form and size

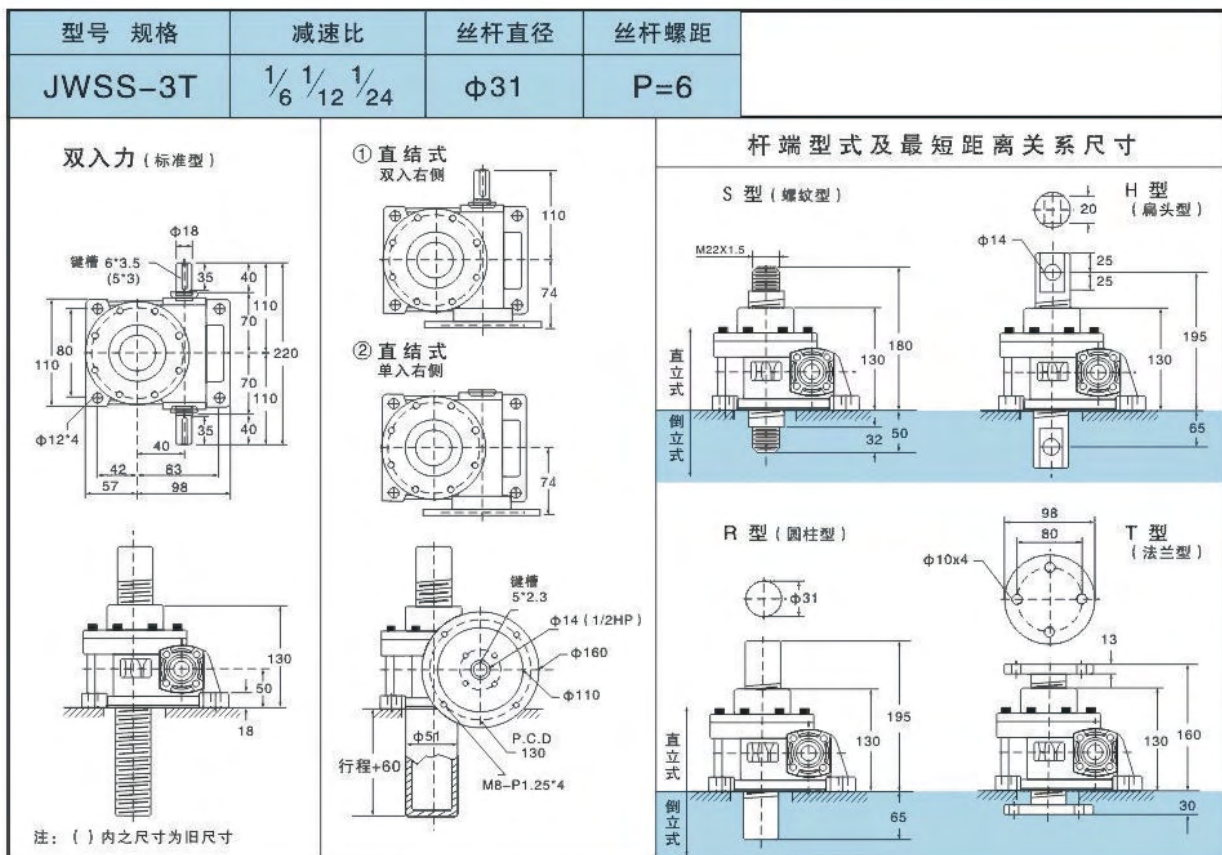
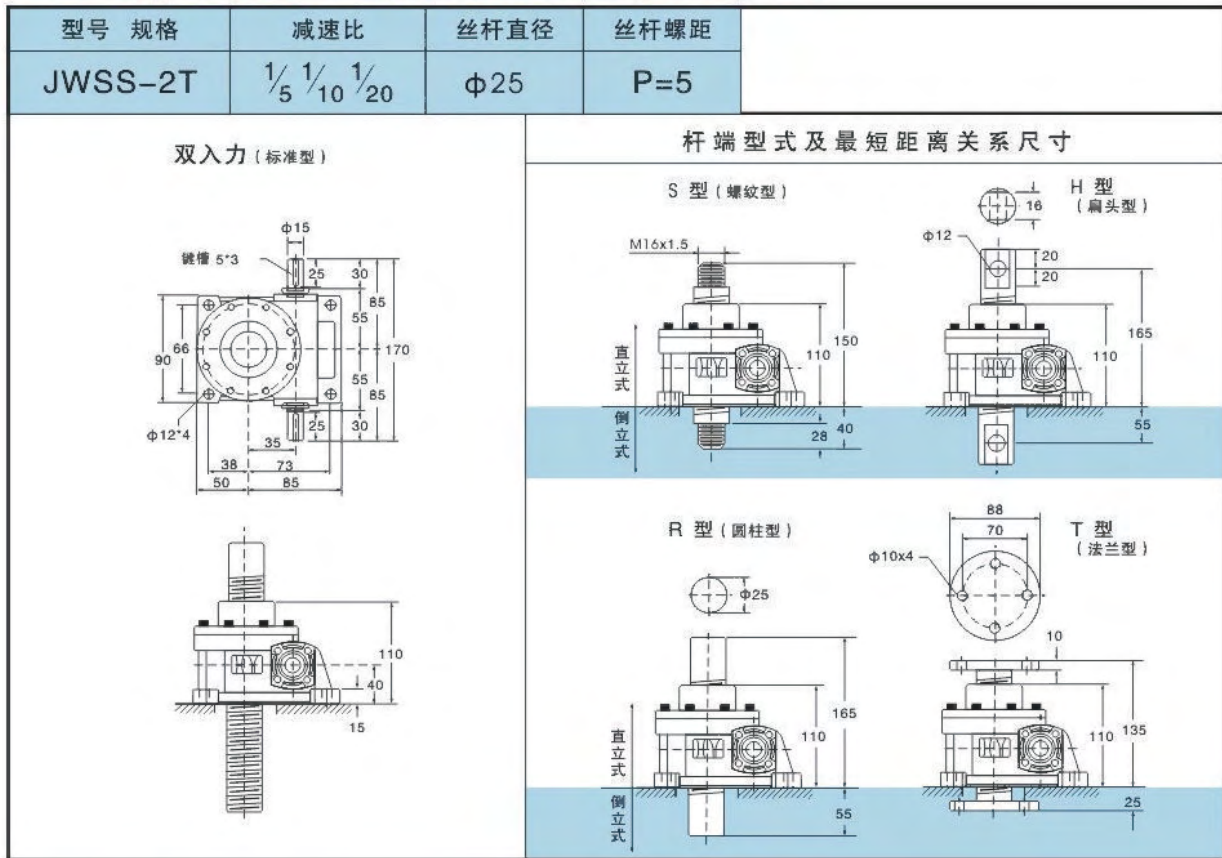


型号 type	CA	CD	CE	S	A	B	C	D	E	F	G	H	ϕI	J	ϕK	L	M	N
JWSS-2T	150	28	40	M16×1.5	165	55	165	55	135	25	20	16	12	25	10	70	88	10
JWSS-3T	180	32	50	M22×1.5	195	65	195	65	160	30	25	20	14	31	10	80	98	13
JWSS-5T	180	35	50	M30×1.5	195	65	195	65	160	30	25	25	16	38	12	90	114	13
JWSS-10T	220	40	60	M33×1.5	255	95	225	65	200	40	32	32	20	44	14	100	138	16
JWSS-15T	220	45	63	M39×1.5	255	95	225	65	210	50	32	36	24	50	18	110	148	20
JWSS-20T	260	55	80	M45×1.5	294	114	250	70	135	55	35	44	26	65	21	125	178	25
JWSS-30T	300	65	80	M60×2	255	135	295	75	185	65	44	56	35	75	21	140	188	28
JWSS-40T	360	70	100	M64×2	410	150	355	95	330	70	54	60	38	80	25	170	218	30
JWSS-50T	435	75	120	M76×2	480	165	429	114	390	75	64	70	45	90	27	200	248	32
JWSS-100T	495	100	150	M80×2	545	200	485	140	445	100	70	80	55	100	27	280	358	35

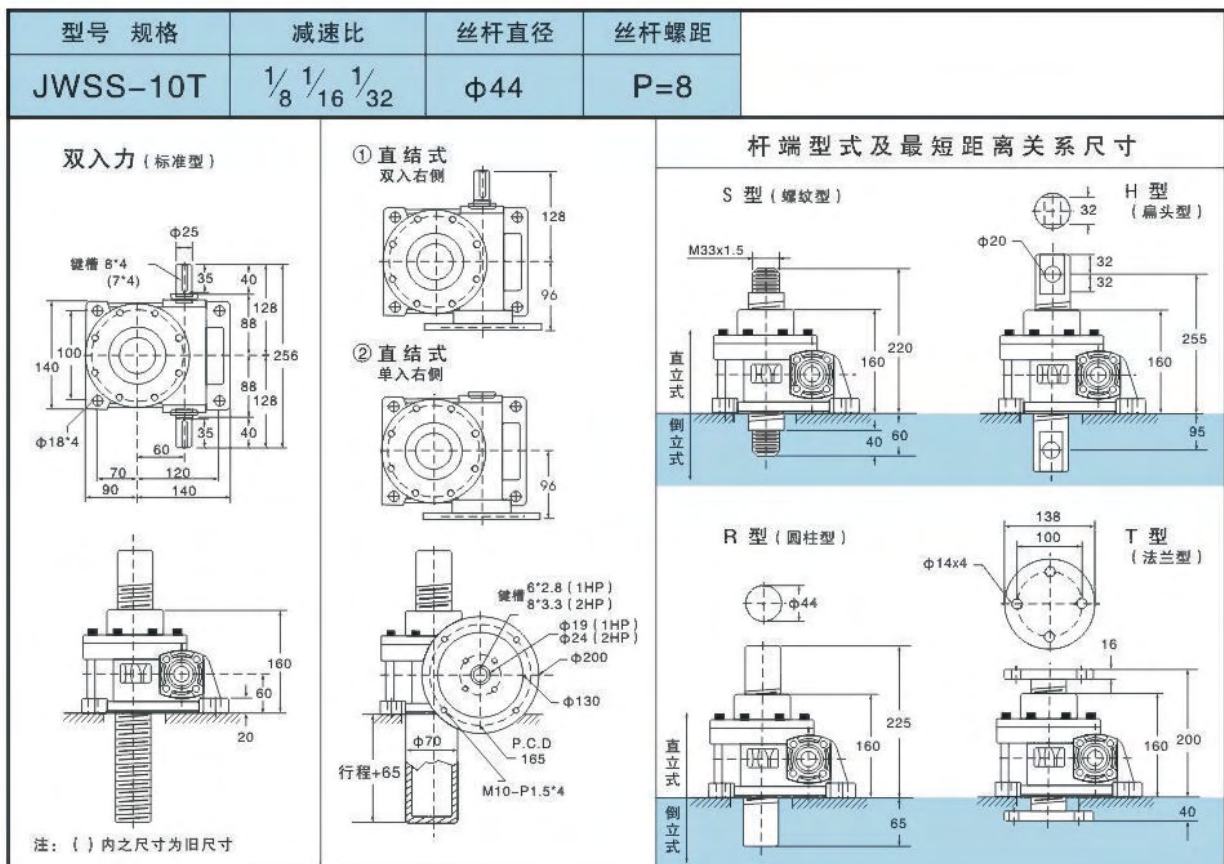
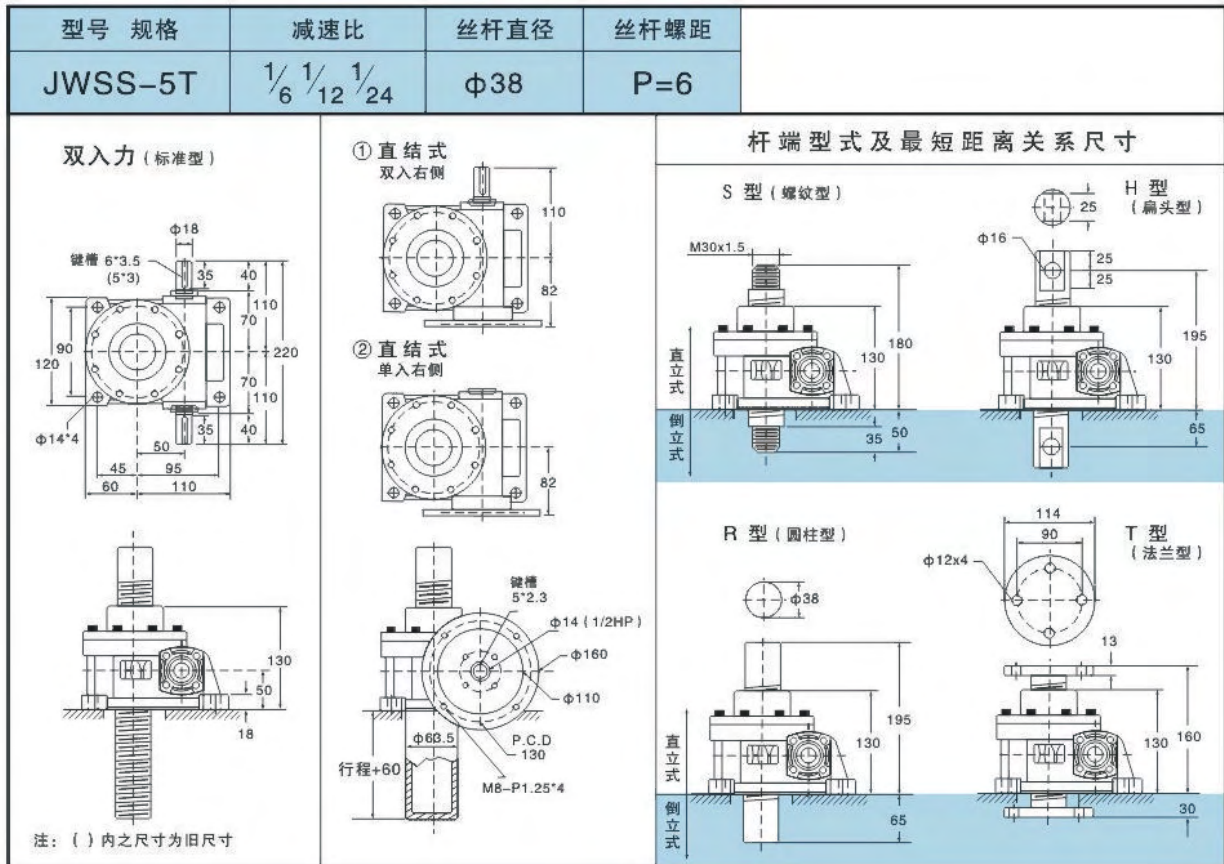
8 JWS S型及JWS S D型安装尺寸
JWSS and JWSSD type installation size

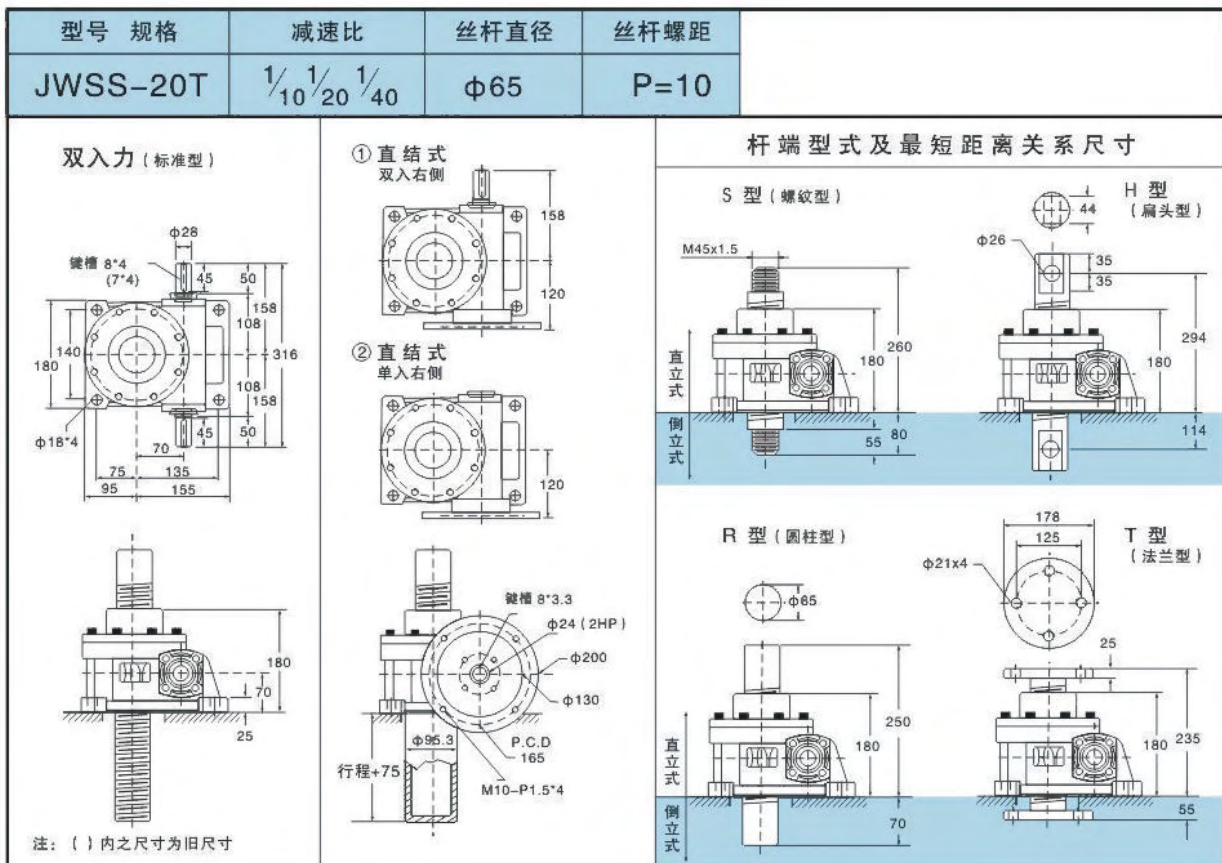
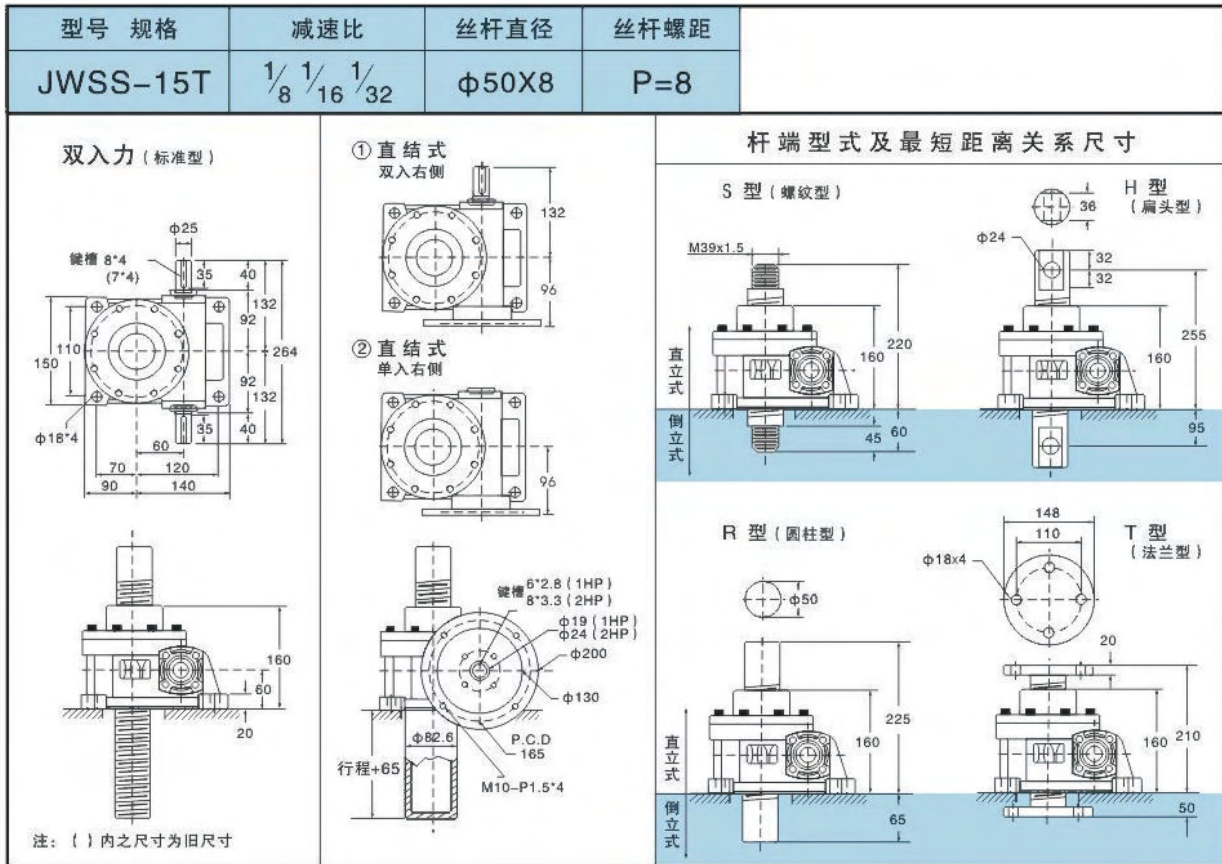
型号 type	JWSS(D) -2t	JWSS(D) -3t	JWSS(D) -5t	JWSS(D) -10t	JWSS(D) -15t	JWSS(D) -20t	JWSS(D) -30t	JWSS(D) -40t	JWSS(D) -50t	JWSS(D) -100t
梯形螺纹 直径螺距 trapezoidal thread diameter pitch	25 P=5	31 P=6	38 P=6	44 P=8	50 P=8	65 P=10	75 P=12	80 P=12	90 P=14	100 P=16
减速比 reduction ratio	1/5 1/10 1/20	1/6 1/12 1/24	1/6 1/12 1/24	1/8 1/16 1/32	1/8 1/16 1/32	1/10 1/20 1/40	1/12 1/18 1/36	1/12 1/18 1/36	1/7 1/14 1/28	1/8 1/16 1/32
AA	170	220	220	256	264	316	390	420	480	550
AB	85	110	110	128	132	158	195	210	240	275
AC	55	70	70	88	92	108	130	145	170	180
AD	30	40	40	40	40	50	65	65	70	95
AE	25	35	35	35	35	45	60	60	65	90
AF	66	80	90	100	110	140	190	210	240	250
AG	90	110	120	140	150	180	230	260	300	320
AH	/	74	82	96	96	120	150	165	194	218
BA	50	57	60	90	90	95	110	130	160	170
BB	85	98	110	140	140	155	200	225	255	285
BC	38	42	45	70	70	75	85	105	130	135
BD	73	83	95	120	120	135	175	200	225	250
BE	345	40	50	60	60	70	100	120	130	150
CB	40	50	50	60	60	70	85	100	120	125
CC	15	18	18	20	20	25	30	30	30	35
CF	110	130	130	160	160	180	220	260	315	345
G	38	48	60	60	76	88	/	/	/	/
U	15	18	18	25	25	28	32	35	45	50
T×V	5×3	6×3.5	6×3.5	8×4	8×4	8×4	10×5	10×5	14×5.5	14×5.5
L	+55	+60	+60	+60	+65	+75	/	/	/	/
LA	/	130	130	135	135	135	215	215	265	265
LB	/	110	110	130	130	130	180	180	230	230
LC	/	160	160	200	200	200	250	250	300	300
LZ	/	M8 P1.25	M8 P1.25	M10 P1.5	M10 P1.5	M10 P1.5	M12 P1.25	M12 P1.75	M12 P1.75	M12 P1.75
d W×Y 直联功率 monoblock ponwer	/	14 5×2.3 0.25/0.37	14 5×2.3 0.25/0.37	19 6×2.8 0.75	19 6×2.8 0.75	24 8×3.3 1.5	28 8×3.3 2.2	28 8×3.3 4	38 10×3.3 5.5	38 10×3.3 7.5
d W×Y 直联功率 monoblock ponwer	/	/	/	24 8×3.3 0.75	24 8×3.3 0.75	/	/	/	/	/
φH	12	12	14	18	18	18	22	22	22	27
D1	75	80	87	110	110	130	155	190	/	/
D2	45	50	55	65	70	90	110	120	/	/
H1	10	10	18	25	25	30	35	35	/	/
H2	40	40	60	65	75	100	120	140	/	/

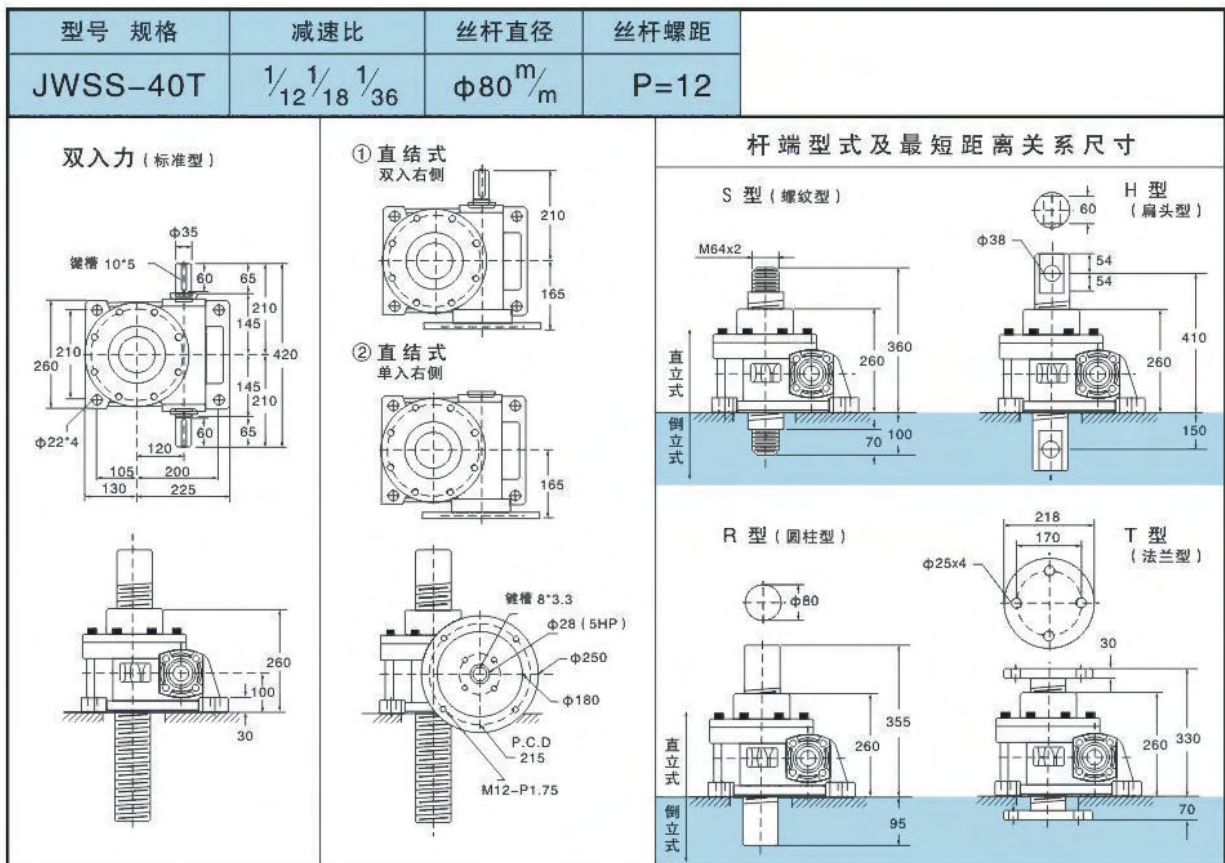
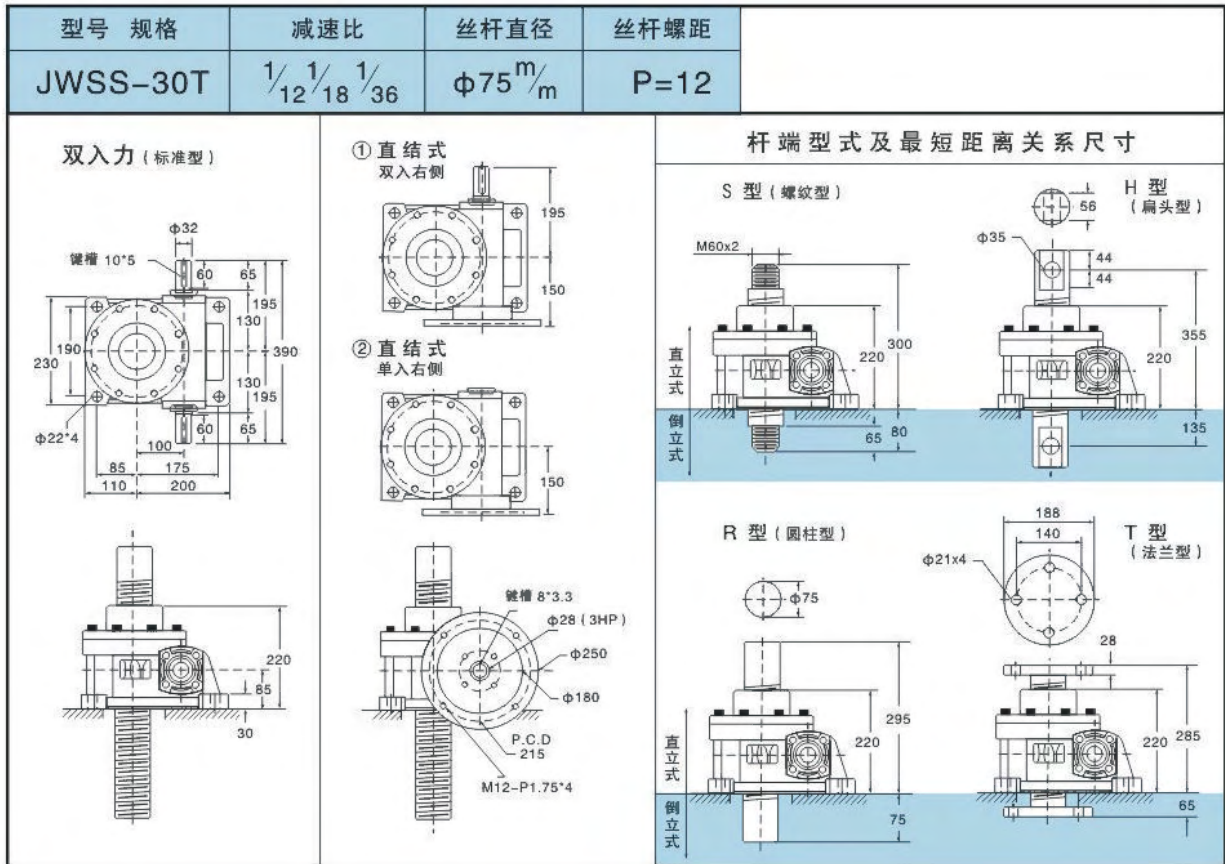
JWSS型尺寸
JWSS type size

JWSSD型尺寸
JWSSD type size


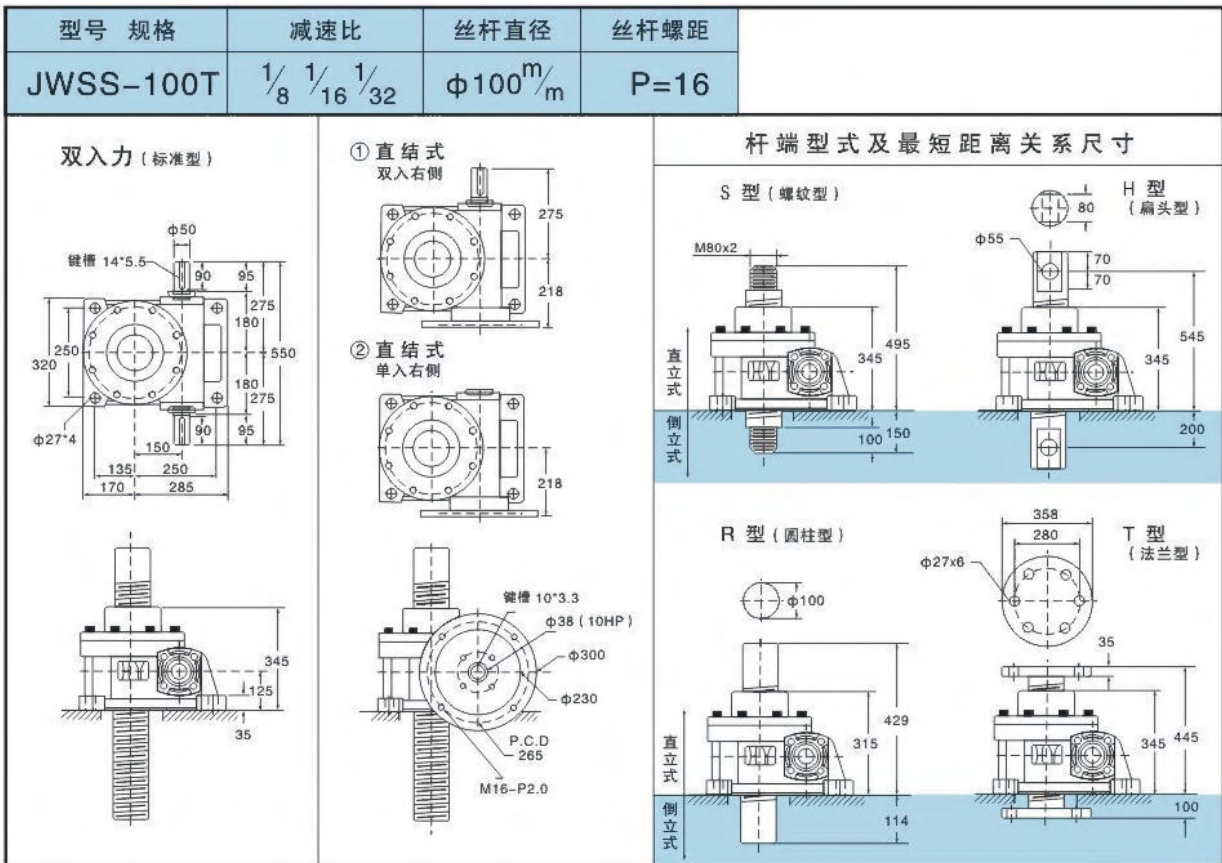
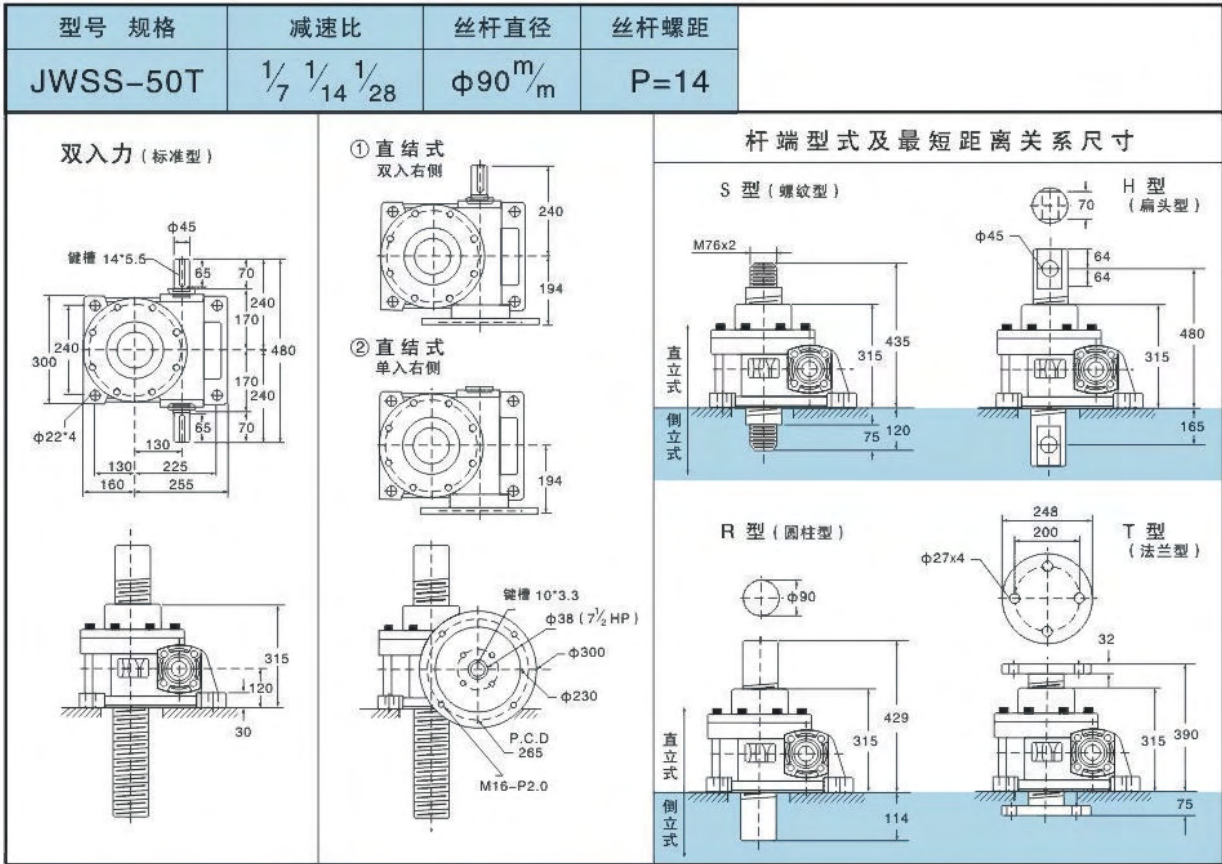
9 JWSS(D)各规格的直观图及尺寸
JWSS(D) Various specifications direct-viewing chart and size


注: () 内之尺寸为旧尺寸











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