www.ludetransmission.com

Lude Transmission

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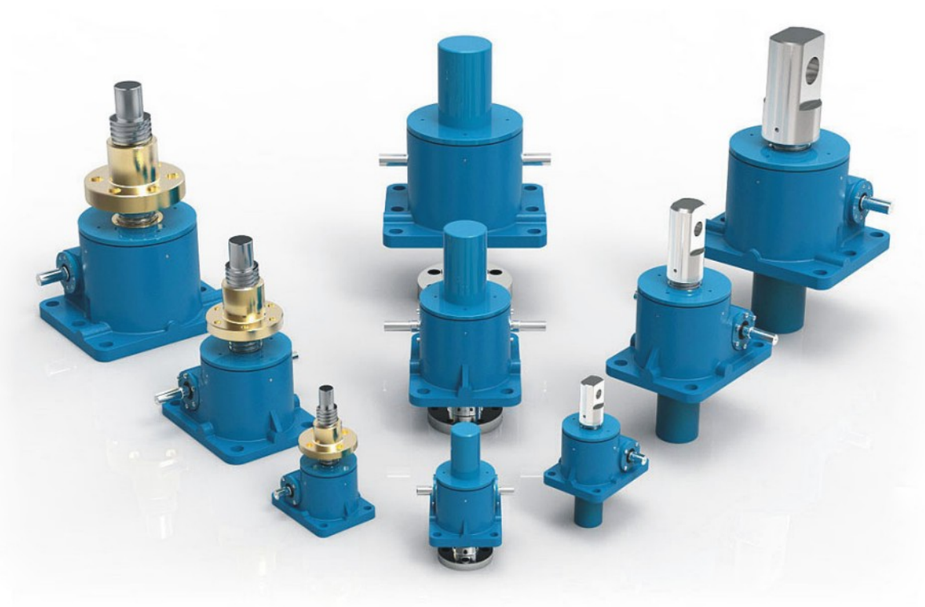
LUDE TRANSMISSION



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COMPANY PROFILE

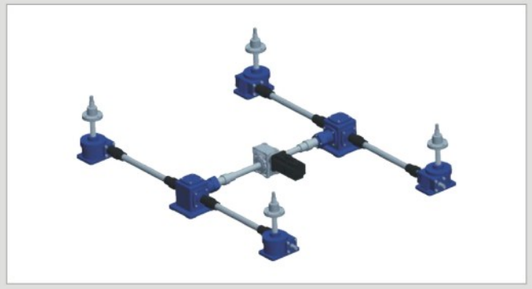
Establishment: Lude Transmission was established in 2001, specialized in production of slewing drive and linear products.
Enterprise scale: Lude introduces the high-end automated processing equipmentand advanced rolling product structure design concept. With Professional technology research and development team, combined with the latest mature technology, we can offer you the leadingedge solution for rotary drive system, linear motion of the mechanical and electrical integration.

Industry positioning: Focusing on slewing drive reducer and linear motion industry; Focusing on industrialmanufacturing
Leading products: 1.Slewing drive/Slewing bearing: Widely Used in varies areas like Truck Mounted Crane, Aerial Working Platform, Welding Positioner, Sprayer, Automated Assembly Line, Mechanical Arm, Palletizer, Lifting Platfom, CT Imaging Equipment, Gamma Knife etc. 2.Screw jacks/Screw lift/Screw lift linkage: Ball screw jack, Trapezoidal screw jack, Bevel gear screw jack.Using advanced high precision rolling elements, we strictly keep checking all the processes, from the product design, material selection, heat treatment to the manufacture process, so to ensure the products with high and precision quality.
Innovation: Innovation is the driving force to promote social progress; Innovation reflects the strength of enterprises; Innovation reflects the courage of enterprises; Innovation reflects the enterprise'ethics.

Win-win principle: Our cause is to be promoted in the cooperation, win-win situation is the most stable,most efficient, the most happy realm of cooperation.
Thanksgiving mindset: To have a thanksgiving mindset is a kind of good character, this mindset can achieve the success of oneself.
Service philosophy: Service is much more important than product and price, we always keep seeking the perfection of our service process and the satisfaction of service result. It is the our primary way to build and maintain long-term customer relationships. We will be always upholding the "heart service, win the world" service philosophy forever, to promote full service awareness in any part of

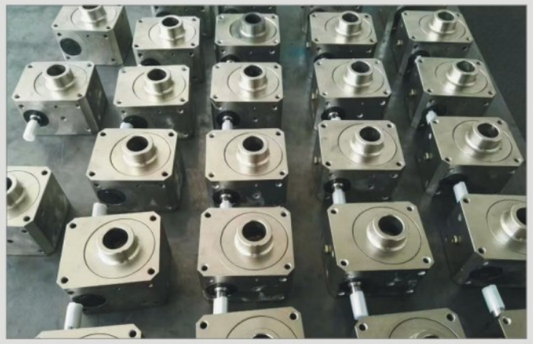
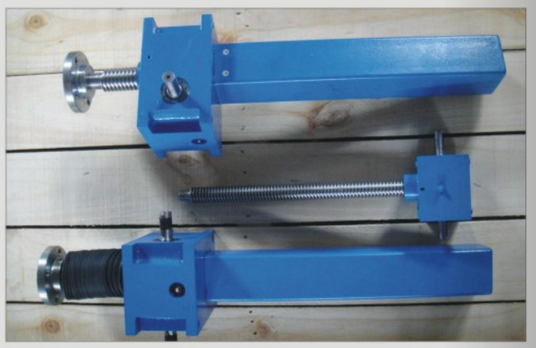
Multiple Screw Jacks Arrangement



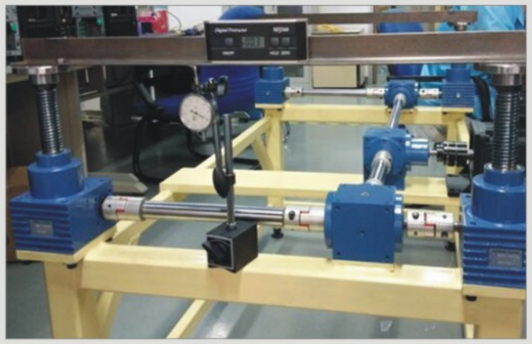



Screw Jacks Pictures Dispaly



Screw Jacks Application

Screw Jack System Accessores

☐ Handwheel

☐ Special configurations

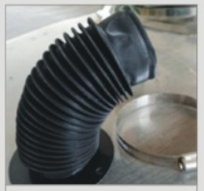
☐ Motors

☐ Controls

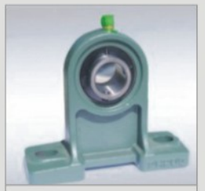
☐ Connecting shaft

☐ Counter

☐ Universal coupling



☐ Lifting screw protective covers



☐ Pillow blocks

☐ Limit switches

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Deceleration for industrial drives
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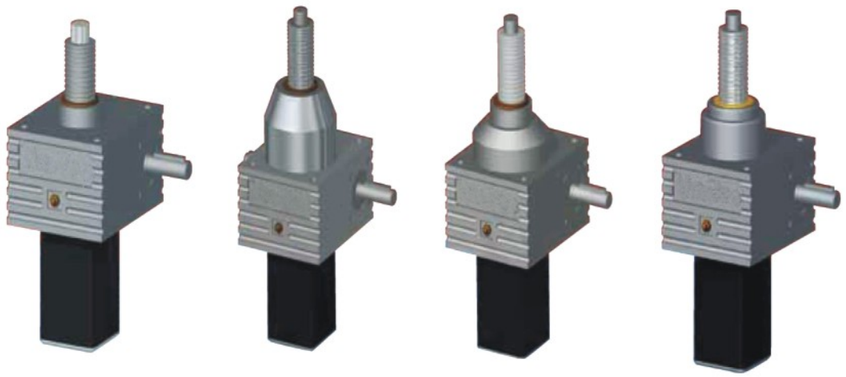
Screw jacks' types

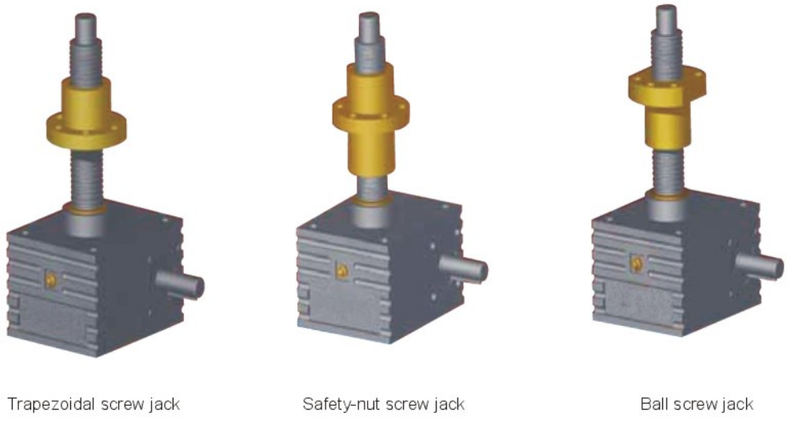
Traveling screw type

Unique ductile iron recessed housing for improved overall performance
Patented square tail hood, control screw rotation
Absolute mechanical synchronous lift system
Safety nut design, monitoring the wear and tear of the product, eliminate hidden dangers
And gear motor and all kinds of accessories module combination to meet customer requirements
Load capacity range: 500 kg - 100 tons



Trapezoidal screw jack | Ball screw jack | Anti-backlash screw jack | Safety-nut screw jack

Traveling nut type



Trapezoidal screw jack | Safety-nut screw jack | Ball screw jack

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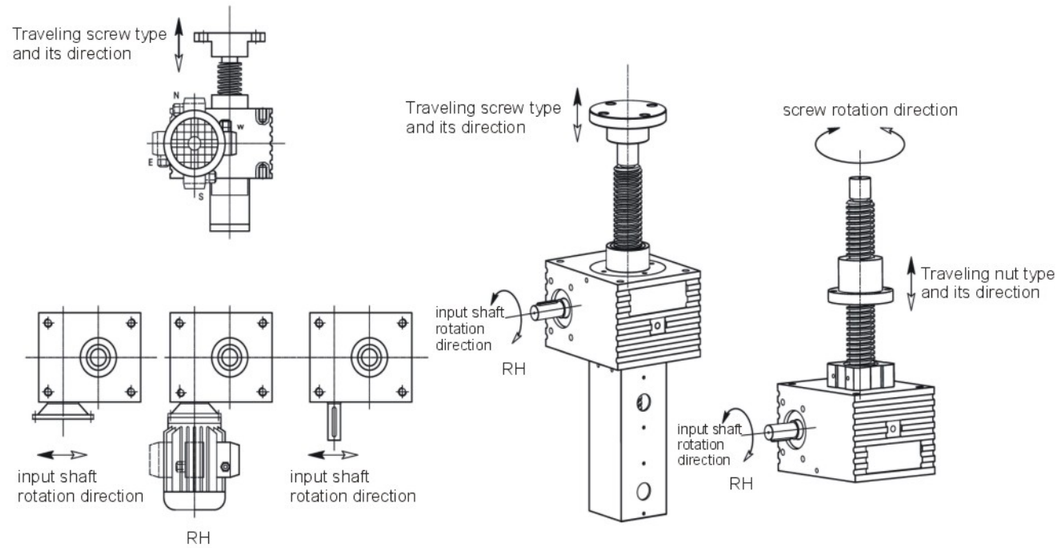
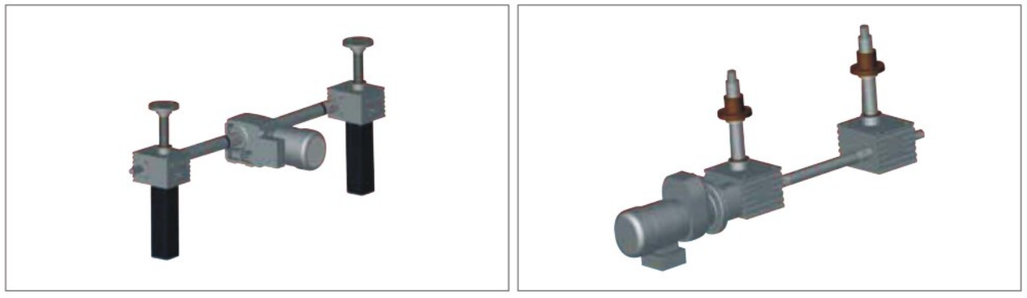
Installation



Application

Screw jak is applied to all fields for lifting or pulling, such as Aircraft maintenance platform, Solar plate, machinery, metallurgy, water conservancy, medical treatment, chemical industry, culture and hygienist etc. Our company can supply whole screw jack system design and solution.

Two-set screw jack system



Four-set screw jack system

Screw jack specification

Model		SJA5	SJA10	SJA20	SJA50	SJA80	SJA100
Maximal load		5	10	20	50	80	100
Screw Diameter×thread dimension (mm)		Tr18×4	Tr20×4	Tr30×6	Tr40×7	Tr50×8	Tr60×9
Ratio	V1	1:4	1:4	1:6	1:7	1:8	1:8
	L1	1:16	1:16	1:24	1:28	1:32	1:32
The stroke of actuator if input 1	V1	1	1	1	1	1	1.125
	L1	0.25	0.25	0.25	0.25	0.25	0.281
Max. input power KW	V1	0.30	0.57	1.14	2.2	2.5	3
	L1	0.15	0.27	0.55	1.1	1.5	2.2
Full load max. start torque	V1	4.2	8	18	48.5	75	100
	L1	1.5	3.1	6.7	20	30	41
Start effiency	V1	0.24	0.25	0.19	0.18	0.17	0.18
	L1	0.16	0.16	0.12	0.11	0.10	0.11
Operating efficiency for 1500RPM	V1	0.34	0.35	0.33	0.32	0.31	0.33
	L1	0.25	0.25	0.24	0.23	0.22	0.23
No-load torque Nm	V1	0.11	0.29	0.40	0.84	1.85	2.1
	L1	0.09	0.18	0.29	0.59	1.12	1.4
Material of housing		Cast iron					
Weight of housing kg		3.2	5	8.5	21.5	36	58
Weight of screw + protection tube per 100mm kg		0.36	0.50	0.75	1.52	2.44	3.02

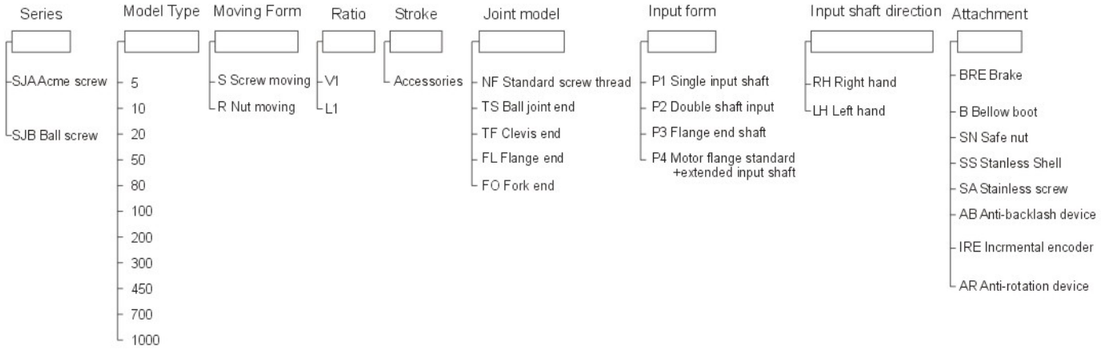
Model		SJA200	SJA300	SJA450	SJA700	SJA1000
Maximal load		200	300	450	700	1000
Screw Diameter×thread dimension (mm)		Tr80×12	Tr100×16	Tr120×16	Tr140×20	Tr160×20
Ratio	V1	1:8.75	1:10.25	1:10.75	1:13.33	1:13.33
	L1	1:35	1:41	1:43	1:40	1:40
The stroke of actuator if input 1	V1	1.371	1.56	1.49	1.5	1.5
	L1	0.343	0.39	0.37	0.5	0.5
Max. input power KW	V1	4	7	11.5	18.5	22
	L1	3.5	5.5	5.5	7.5	9.5
Full load max. start torque	V1	265	460	675	1050	1620
	L1	106	180	275	510	820
Start effiency	V1	0.17	0.18	0.16	0.16	0.15
	L1	0.11	0.12	0.10	0.11	0.10
Operating efficiency for 1500RPM	V1	0.33	0.33	0.30	0.31	0.29
	L1	0.22	0.23	0.20	0.21	0.19
No-load torque Nm	V1	2.8	3.8	5.5	8.5	11
	L1	2.1	3.1	4.5	5.5	7.5
Material of housing		ductile cast iron cast steel				
Weight of housing kg		75	110	200	400	800
Weight of screw + protection tube per 100mm kg		4.5	6.8	9.0	12.5	16.5

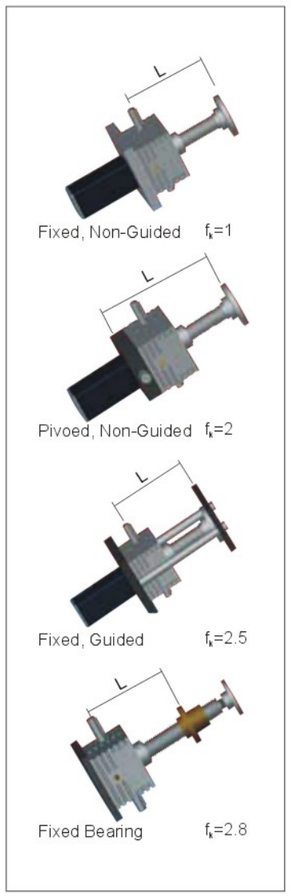
Note: Working environment temperature: -10° -40° (if -40° -70° needed, please consult us).
Can provide double-end, triplehead and ball screw. The lifting speed increases by proportion, please contact us for details.

Selection Considerations

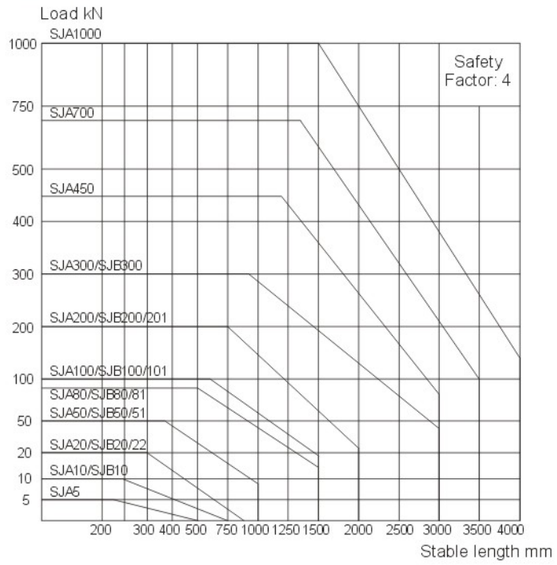
- The working cycle is system within 10 minutes of work for the percentage of time. Ordinary screw jacks is 30%,ballscrews type is 100%,when the actual load is much less than the load, the working system can be appropriately increased, for the specific please contact sales engineer
- The maximum input speed 1800rpm/min
- The actual load to full load is 25% to 100% (that is, the load rate 25% to 100%), the required input torque = rate X full load torque
- When the stroke is greater than 300mm,depending on application usage institutions,pay attention to checking the stability of the way, as per specilic check with sales engineer.
- Adjusted salety lactor selection according to the type of load, uniform load 10-1.21.3-1.5 moderate load,heavy load 1.6-2.5
- Under normal operation,input power of Screw jacks can not exceed the maximum allowable input power, input power = (torque×load lactor ×full input speed) /9550
- The working environment temperature will influence maximum Input power, the actual input power = rated maximum input power× Temperature Coefficien t (-10 ° -25 ° temperature coefficient of 1, 30 ° 0.85，40 ° temperature coefficient temperature coefficient 0.65)
- The combination of coefficient should be considered for synchro-screw jacks,in the calculation of total power loss into account linkage should be considered, 2 sets of combination coelfients lor the 0.95, 3 combination coefficients of 0.9, 4 sets of comblnation coefficients for the 0.85, 6-8 combination coefficient 0.8
- Self-locking Function: SJA series trapezoidal type screw is of self-locking. The self-locking function depends on a variety of parameters: large pitches, different gear ratios, lubrication, friction parameters,ambient influences (such as high or low temperatures), vibritions and mounting position. Ball screw with large pitches are consequently not self-locking. Suitable brakes or braking motors must therefore be considered in such cases.Limited self-locking can be assumed for smaller pitches (single-start).
- Tolerence&Backlash: Trapezoidal-type screw end play 0.15mm, radial play 0.2mm, lifting screw outer diameter and sleeve diameter free play 0.2mm. Ball screw paly depends on different accuracy rated.Worm shaft&worm gear play, high speed(N), worm shaft play ±3 degrees, Low speed(L), ±5 degrees.
- Lateral Force: Usually, screw jack only lift axial loads, donot permit to load any lateral force. Any lateral force will reduce screw jack working life, even damdage screw jack. We suggest, lateral forces that may occur should be taken by an external guide rail.
- Please contact us if special screw jack is needed.

Model dimension





Stability graph



Thin lifting screw may buckle sideways when subjected to compressive loads.Beforethe premissible compressive force is defined for the screw, allowance must be made for safety foactors as appropriate to the installation.

FeffFeff: Max.allowable axial force [kN].

fk: Correction factor that considers the type of screw jack bearing.

Installations 2,3 and 4,which is subjected to enough mounting strength of worm gear and lead screw.

Fcrit: Theortical critical buckling force as a function of the unsupported length [kN].

Sk: Safety factor,sujected to working conditions,following the experiences of mechanical engineering,usually,choose number between 3 and 6.

Screw jack Model-selecting Table

n1=input speed Nm=input torque needed kW=input power needed

SJA5			Loading capacity															
			5kN				4kN				3kN				1kN			
n1	Lifting speed mm/s		Ratio				Ratio				Ratio				Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	23.3	5.8	2.34	0.34	0.80	0.12	1.87	0.27	0.64	0.09	1.40	0.206	0.477	0.070	0.468	0.069	0.159	0.023
900	15.0	3.7	2.49	0.23	0.83	0.08	1.99	0.19	0.66	0.06	1.49	0.141	0.497	0.047	0.497	0.047	0.166	0.016
700	11.7	2.9	2.57	0.19	0.90	0.07	2.05	0.15	0.72	0.05	1.54	0.113	0.543	0.040	0.513	0.038	0.181	0.013
500	8.3	2.1	2.74	0.14	0.95	0.05	2.20	0.11	0.76	0.04	1.65	0.086	0.568	0.030	0.549	0.029	0.189	0.010
300	5.0	1.2	2.84	0.09	1.05	0.03	2.27	0.07	0.84	0.03	0.57	0.018	0.628	0.020	0.568	0.018	0.209	0.007
100	1.7	0.4	3.06	0.03	1.17	0.01	2.45	0.03	0.94	0.01	1.84	0.019	0.702	0.007	0.612	0.006	0.234	0.002
50	0.8	0.2	3.18	0.02	1.24	0.01	2.55	0.01	0.99	0.01	1.91	0.010	0.746	0.004	0.637	0.003	0.249	0.001

SJA10			Loading capacity															
			10kN				8kN				5kN				2kN			
n1	Lifting speed mm/s		Ratio				Ratio				Ratio				Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	23.3	5.8	4.55	0.67	1.59	0.23	3.64	0.53	1.27	0.19	2.27	0.333	0.796	0.117	0.910	0.133	0.318	0.047
900	15.0	3.7	4.82	0.45	1.66	0.16	3.86	0.36	1.33	0.12	2.41	0.227	0.829	0.078	0.965	0.091	0.332	0.031
700	11.7	2.9	4.97	0.36	1.73	0.13	3.98	0.29	1.38	0.10	2.49	0.182	0.865	0.063	0.995	0.073	0.346	0.025
500	8.3	2.1	5.13	0.27	1.89	0.10	4.11	0.22	1.52	0.08	2.57	0.134	0.947	0.050	1.027	0.054	0.379	0.020
300	5.0	1.2	5.49	0.17	1.99	0.06	4.39	0.14	1.59	0.05	2.74	0.086	0.995	0.031	1.098	0.034	0.398	0.012
100	1.7	0.4	5.90	0.06	2.21	0.02	4.72	0.05	1.77	0.02	2.95	0.031	1.105	0.012	1.179	0.012	0.442	0.005
50	0.8	0.2	6.37	0.03	2.49	0.01	5.09	0.03	1.99	0.01	3.18	0.017	1.243	0.007	1.273	0.007	0.497	0.003

SJA20			Loading capacity															
			20kN				15kN				10kN				5kN			
n1	Lifting speed mm/s		Ratio				Ratio				Ratio				Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	23.3	5.8	9.65	1.41	3.32	0.49	7.23	1.06	2.49	0.36	4.82	0.707	1.658	0.243	2.412	0.354	0.829	0.122
900	15.0	3.7	10.27	0.97	3.62	0.34	7.70	0.73	2.71	0.26	5.13	0.484	1.809	0.170	2.567	0.242	0.904	0.085
700	11.7	2.9	10.61	0.78	3.98	0.29	7.96	0.58	2.98	0.22	5.31	0.389	1.990	0.146	2.653	0.194	0.995	0.073
500	8.3	2.1	11.37	0.60	4.19	0.22	8.53	0.45	3.14	0.16	5.68	0.298	2.094	0.110	2.842	0.194	1.047	0.055
300	5.0	1.2	11.79	0.37	4.42	0.14	8.84	0.28	3.32	0.10	5.90	0.185	2.211	0.069	2.948	0.093	1.105	0.035
100	1.7	0.4	12.73	0.13	4.97	0.05	9.55	0.10	3.73	0.04	6.37	0.067	2.487	0.026	3.183	0.033	1.243	0.013
50	0.8	0.2	12.73	0.07	6.63	0.03	9.55	0.05	4.97	0.03	6.37	0.033	3.316	0.017	3.183	0.017	1.658	0.009

SJA50			Loading capacity															
			50kN				35kN				25kN				10kN			
n1	Lifting speed mm/s		Ratio				Ratio				Ratio				Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	23.3	5.8	24.87	3.65	8.65	1.27	17.41	2.55	6.06	0.89	12.43	1.823	4.325	0.634	4.974	0.729	1.730	0.254
900	15.0	3.7	27.44	2.59	9.04	0.85	19.21	1.81	6.33	0.60	13.72	1.293	4.522	0.426	5.489	0.517	1.809	0.170
700	11.7	2.9	28.42	2.08	9.47	0.69	19.90	1.46	6.63	0.49	14.21	1.042	4.737	0.347	5.685	0.417	1.895	0.139
500	8.3	2.1	29.48	1.54	10.47	0.55	20.63	1.08	7.33	0.38	14.74	0.772	5.236	0.274	5.895	0.309	2.094	0.110
300	5.0	1.2	31.83	1.00	11.70	0.37	22.28	0.70	8.19	0.26	15.92	0.500	5.852	0.184	6.367	0.200	2.341	0.074
100	1.7	0.4	34.60	0.36	13.26	0.14	24.22	0.25	9.28	0.10	17.30	0.181	6.632	0.069	6.920	0.072	2.653	0.028
50	0.8	0.2	36.17	0.19	18.09	0.09	25.32	0.13	12.66	0.07	18.09	0.095	9.044	0.047	7.235	0.038	3.617	0.019

Note: The painted area in the table indicates that the selected model has exceeded the maximum allowable input power of the model. If such models need to be selected, the working system will be reduced. Please contact us for specific selection.

Screw jack Model-selecting Table

n1=input speed Nm=input torque needed kW=input power needed

SJA80			Loading capacity															
			80kN				60kN				40kN				20kN			
n1	Lifting speed mm/s		Ratio				Ratio				Ratio				Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	23.3	5.8	41.08	6.02	14.47	2.12	30.81	4.52	10.85	1.59	20.54	3.011	7.235	1.061	10.269	1.505	3.617	0.530
900	15.0	3.7	43.91	4.14	15.16	1.43	32.93	3.10	11.37	1.07	21.95	2.069	7.579	0.714	10.977	1.034	3.790	0.357
700	11.7	2.9	45.48	3.33	15.92	1.17	34.11	2.50	11.94	0.87	22.74	1.667	7.958	0.583	11.369	0.833	3.979	0.292
500	8.3	2.1	48.97	2.56	16.75	0.88	36.73	1.92	12.57	0.66	24.49	1.282	8.377	0.439	12.244	0.641	4.189	0.219
300	5.0	1.2	53.06	1.67	17.69	0.56	39.79	1.25	13.26	0.42	26.53	0.833	8.843	0.278	13.264	0.417	4.421	0.139
100	1.7	0.4	57.88	0.61	19.90	0.21	43.41	0.45	14.92	0.16	28.94	0.303	9.948	0.104	14.470	0.152	4.974	0.052
50	0.8	0.2	60.63	0.32	21.22	0.11	45.48	0.24	15.92	0.08	30.32	0.159	10.611	0.056	15.159	0.079	5.306	0.028

SJA100			Loading capacity															
			100kN				80kN				50kN				20kN			
n1	Lifting speed mm/s		Ratio				Ratio				Ratio				Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	26.2	6.6	54.26	7.95	19.46	2.85	43.41	6.36	15.57	2.28	27.13	3.977	9.732	1.427	10.852	1.591	3.893	0.571
900	16.9	4.2	57.76	5.44	21.32	2.01	46.21	4.35	17.05	1.61	28.88	2.722	10.658	1.004	11.552	1.089	4.263	0.402
700	13.1	3.3	59.69	4.37	23.56	1.73	47.75	3.50	18.85	1.38	29.84	2.187	11.780	0.863	11.937	0.875	4.712	0.345
500	9.4	2.3	63.95	3.35	24.87	1.30	51.16	2.68	19.90	1.04	31.98	1.674	12.435	0.651	12.790	0.670	4.974	0.260
300	5.6	1.4	68.87	2.16	27.98	0.88	55.10	1.73	22.38	0.70	34.44	1.082	13.989	0.439	13.774	0.433	5.596	0.176
100	1.9	0.5	74.61	0.78	31.98	0.33	59.69	0.62	25.58	0.27	37.30	0.391	15.988	0.169	14.922	0.156	6.395	0.067
50	0.9	0.2	77.85	0.41	34.44	0.18	62.28	0.33	27.55	0.14	38.93	0.204	17.218	0.090	15.571	0.082	6.887	0.036

SJA200			Loading capacity															
			200kN				150kN				100kN				50kN			
n1	Lifting speed mm/s		Ratio				Ratio				Ratio				Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	32.0	8.0	132.25	19.39	49.59	7.27	99.19	14.54	37.20	5.45	66.13	9.694	24.797	3.635	33.063	4.847	12.399	1.818
900	20.6	5.1	145.48	13.71	54.55	5.14	109.11	10.28	40.92	3.86	72.74	6.855	27.277	2.571	36.370	3.427	13.639	1.285
700	16.0	4.0	155.87	11.42	57.43	4.21	116.90	8.57	43.07	3.16	77.93	5.712	28.713	2.105	38.967	2.856	14.356	1.052
500	11.4	2.9	161.64	8.46	60.62	3.17	121.23	6.35	45.46	2.38	80.82	4.231	30.308	1.587	40.411	2.116	15.154	0.793
300	6.9	1.7	174.57	5.48	68.19	2.14	130.93	4.11	51.14	1.61	87.29	2.742	34.096	1.071	43.643	1.371	17.048	0.536
100	2.3	0.6	198.38	2.08	83.93	0.88	148.78	1.56	62.95	0.66	99.19	1.039	41.965	0.439	49.595	0.519	20.982	0.220
50	1.1	0.3	207.83	1.09	90.92	0.48	155.87	0.82	68.19	0.36	103.91	0.544	45.462	0.238	51.957	0.272	22.731	0.119

SJA300			Loading capacity															
			300kN				200kN				150kN				10kN			
n1	Lifting speed mm/s		Ratio				Ratio				Ratio				Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	37.3	9.3	231.52	33.94	83.04	12.17	154.34	22.63	55.36	8.12	115.76	16.97	41.52	6.09	77.17	11.31	27.68	4.06
900	24.0	6.0	254.67	24.00	90.95	8.57	169.78	16.00	60.63	5.71	127.33	12.00	45.48	4.29	84.98	8.00	30.32	2.86
700	18.7	4.7	272.86	20.00	100.53	7.37	181.90	13.33	67.02	4.91	136.43	10.00	50.26	3.68	90.95	6.67	33.51	2.46
500	13.3	3.3	282.96	14.81	106.11	5.56	188.64	9.88	70.74	3.70	141.48	7.41	53.06	2.78	94.32	4.94	35.37	1.85
300	8.0	2.0	305.60	9.60	119.37	3.75	203.73	6.40	79.58	2.50	152.80	4.80	59.69	1.88	101.88	3.20	39.79	1.25
100	2.7	0.7	347.27	3.64	146.92	1.54	231.52	2.42	97.95	1.03	173.64	1.82	73.46	0.77	115.76	1.21	48.97	0.51
50	1.3	0.3	363.81	1.90	159.17	0.83	242.54	1.27	106.11	0.56	181.90	0.95	79.58	0.42	121.27	0.64	53.06	0.28

Note: The painted area in the table indicates that the selected model has exceeded the maximum allowable input power of the model.
If such models need to be selected, the working system will be reduced. Please contact us for specific selection.

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Screw jack Model-selecting Table

n1=input speed Nm=input torque needed kW=input power needed

SJA450			Loading capacity															
			450kN				350kN				200kN				100kN			
n1	Lifting speed mm/s		Ratio				Ratio				Ratio				Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	34.7	8.68	355	52.1	133	19.5	276	40.5	104	15.2	158	23.2	59.2	8.68	79	11.6	29.6	4.34
900	22.3	5.58	381	35.9	148	14	296	27.9	115	10.9	169	15.9	65.8	6.2	84.6	7.97	32.9	3.1
700	17.4	4.34	410	30.1	157	11.5	319	23.4	122	8.94	182	13.4	69.7	5.11	91.1	6.68	34.8	2.55
500	12.4	3.1	444	23.3	167	8.72	345	18.1	130	6.78	197	10.3	74	3.88	98.7	5.17	37	1.94
300	7.44	1.86	485	15.2	190	5.98	377	11.8	148	4.65	215	6.76	84.6	2.66	108	3.38	42.3	1.33
100	2.48	0.62	561	5.87	222	2.33	436	4.57	173	1.81	249	2.61	98.7	1.03	125	1.31	49.4	0.52
50	1.24	0.31	666	3.49	266	1.4	518	2.71	207	1.09	296	1.55	118	0.62	148	0.78	59.2	0.31

SJA700			Loading capacity															
			700kN				550kN				400kN				200kN			
n1	Lifting speed mm/s		Ratio				Ratio				Ratio				Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	35	11.7	539	79	265	38.9	424	62.1	208	30.6	308	45.2	152	22.2	154	22.6	75.8	11.1
900	22.5	7.5	576	54.3	293	27.6	453	42.7	230	21.7	329	31	168	15.8	165	15.5	83.8	7.89
700	17.5	5.83	619	45.4	309	22.7	486	35.7	243	17.8	354	25.9	177	13	177	13	88.4	6.48
500	12.5	4.17	669	35	328	17.2	525	27.5	257	13.5	382	20	187	9.8	191	10	93.6	4.9
300	7.5	2.5	760	23.9	371	11.7	597	18.8	292	9.17	434	13.6	212	6.67	217	6.82	106	3.33
100	2.5	0.83	880	9.21	428	4.49	691	7.24	337	3.53	503	5.26	245	2.56	251	2.63	122	1.28
50	1.25	0.42	1045	5.47	506	2.65	821	4.3	398	2.08	597	3.13	289	1.52	298	1.56	145	0.76

SJA1000			Loading capacity															
			1000kN				800kN				600kN				400kN			
n1	Lifting speed mm/s		Ratio				Ratio				Ratio				Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	35	11.7	823	121	419	61.4	659	96.6	335	49.1	494	72.4	251	36.8	329	48.3	168	24.6
900	22.5	7.5	884	83.3	442	41.7	708	66.7	354	33.3	531	50	265	25	354	33.3	177	16.7
700	17.5	5.83	955	70	468	34.3	764	56	374	27.4	573	42	281	20.6	382	28	187	13.7
500	12.5	4.17	1038	54.4	497	26	831	43.5	398	20.8	623	32.6	298	15.6	415	21.7	199	10.4
300	7.5	2.5	1137	35.7	568	17.9	910	28.6	455	14.3	682	21.4	341	10.7	455	14.3	227	7.14
100	2.5	0.83	1327	13.89	663	6.94	1061	11.1	531	5.56	796	8.34	398	4.17	531	5.56	265	2.78
50	1.25	0.42	1592	8.33	796	4.17	1274	6.67	637	3.33	955	5	477	2.5	637	3.33	318	1.67

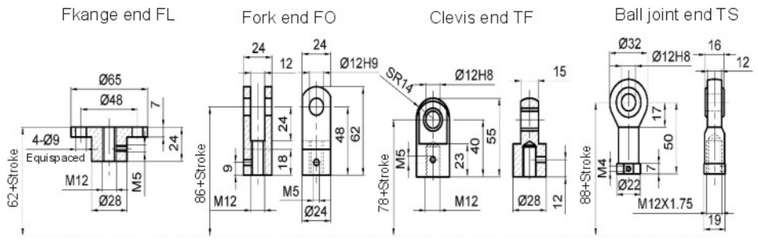
Note: The painted area in the table indicates that the selected model has exceeded the maximum allowable input power of the model.
If such models need to be selected, the working system will be reduced. Please contact us for specific selection.

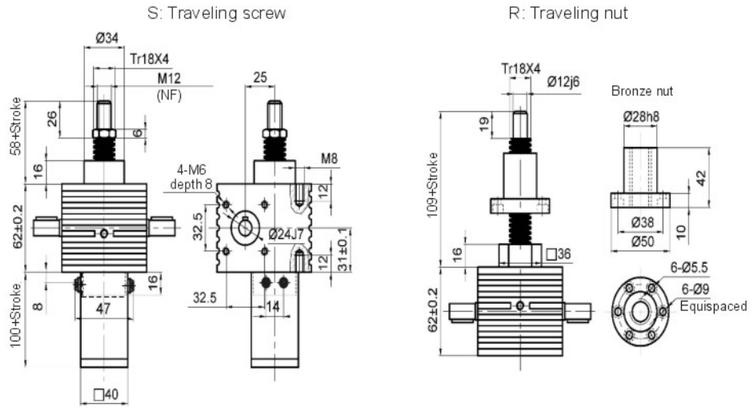
Non-standard Screw Jack

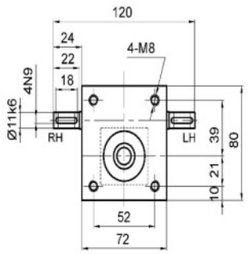
Stainless Screw Jack

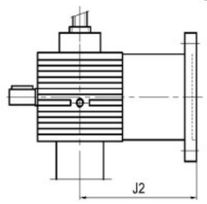
Screw Jack Dimension

SJA5 Screw Jack



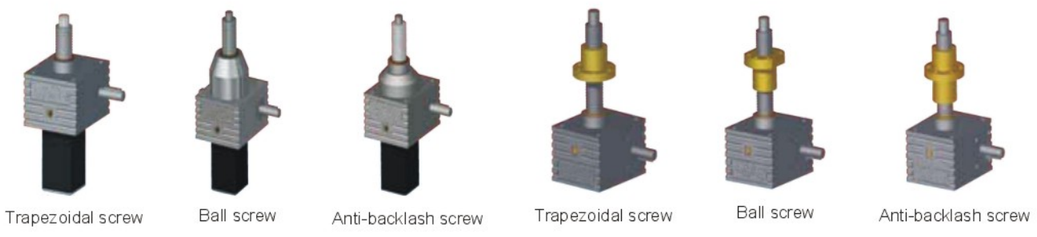




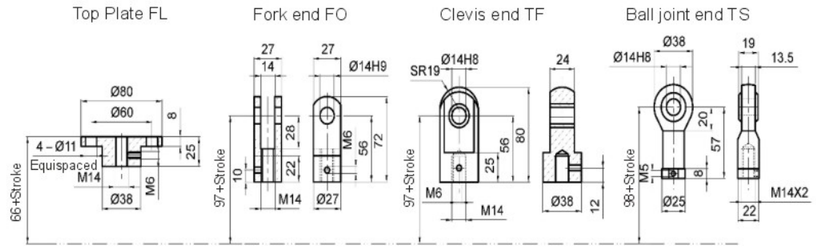


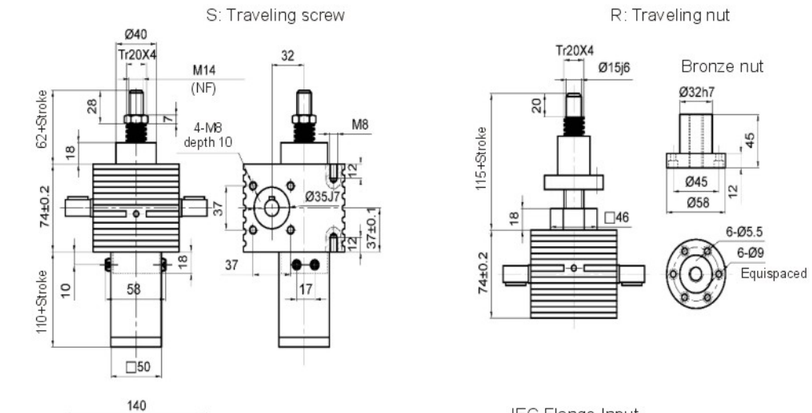
Motor base no.	J2
63B14	99
71B14	106

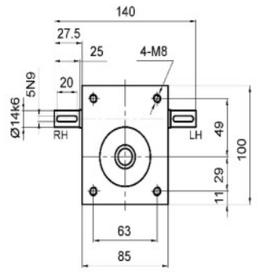
For customer's own special sizes, they could be made to drawings above dimensions are subject to change without notice.

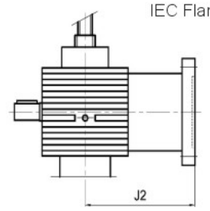


SJA10 Screw Jack









Motor base no.	J2
63B14	62.5
71B14	115.5
80B14	125.5

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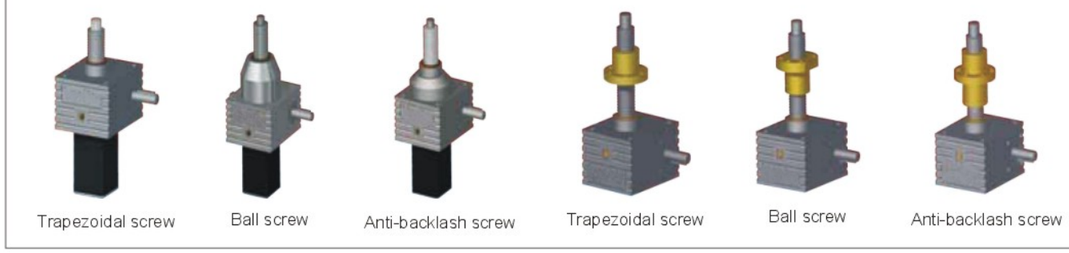
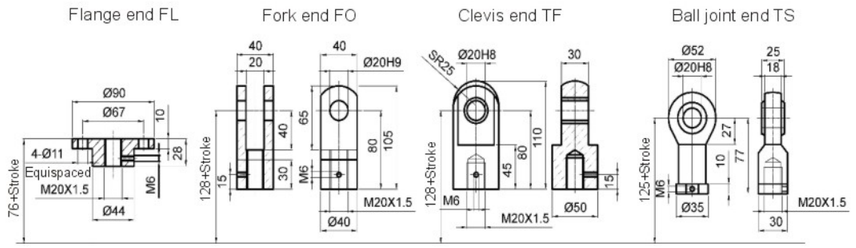
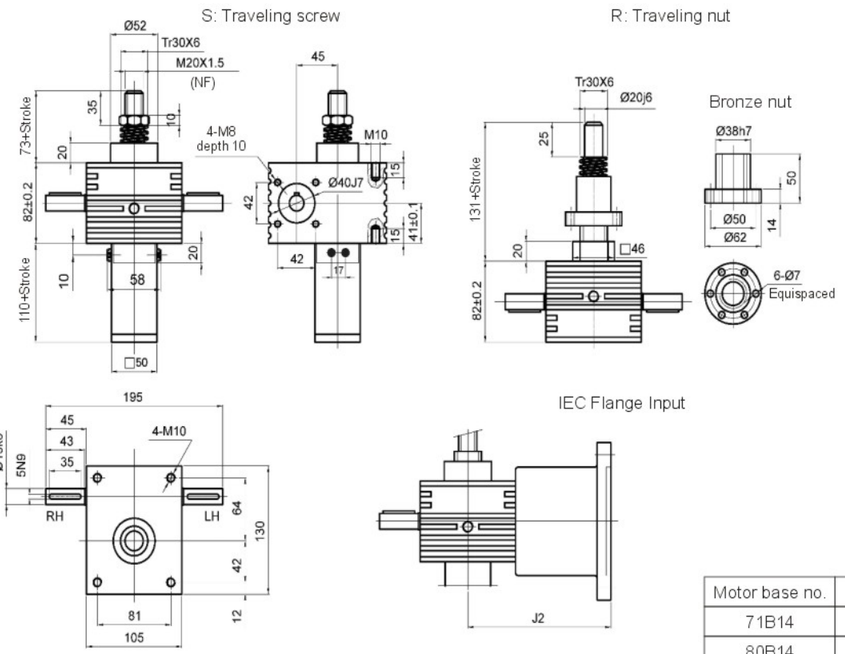


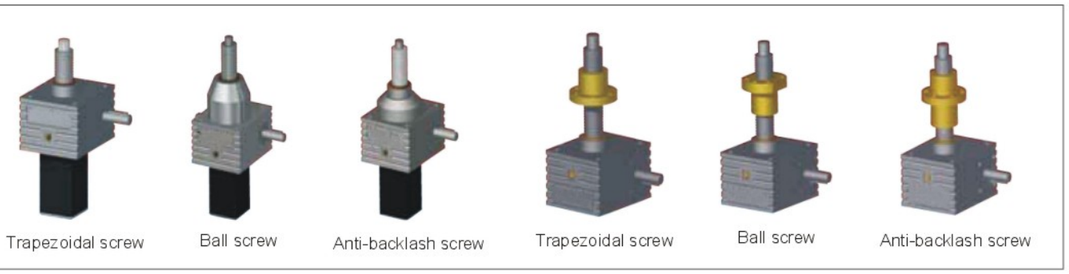
SJA20 Screw Jack





Motor base no.	J2
71B14	75
80B14	155
90B14	165

For customer's own special sizes, they could be made to drawings above dimensions are subject to change without notice.



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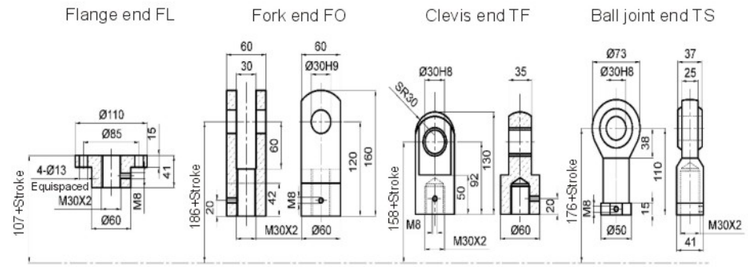
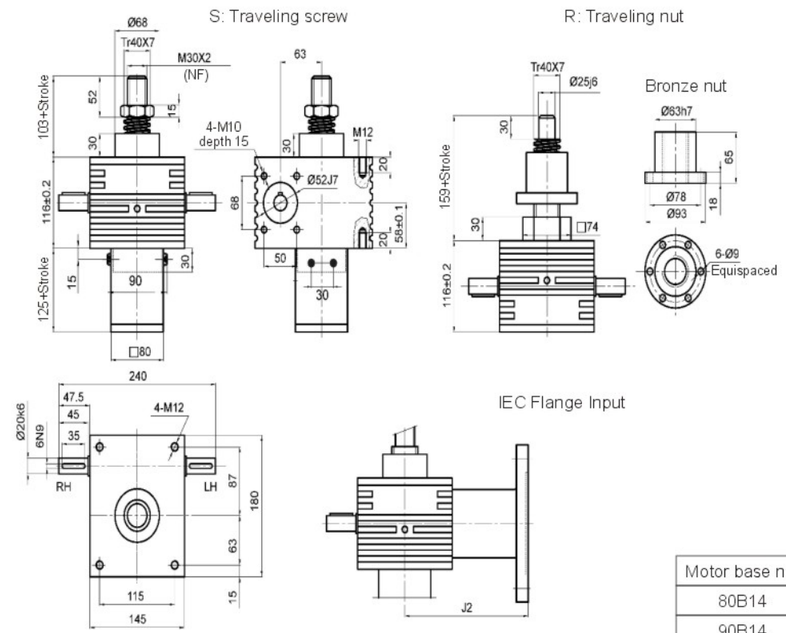
SJA50 Screw Jack





Motor base no.	J2
80B14	98
90B14	190
100B14	200

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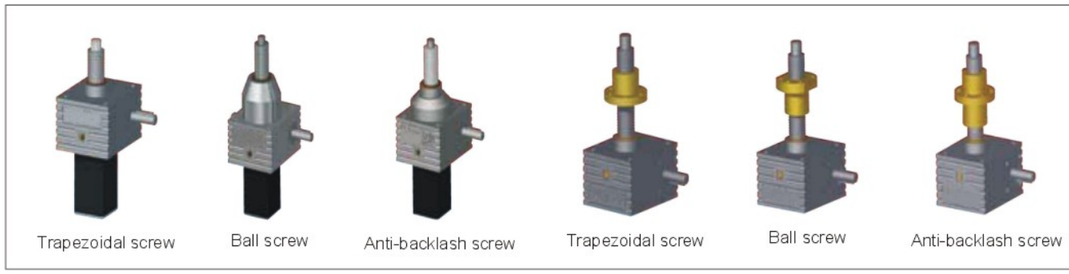
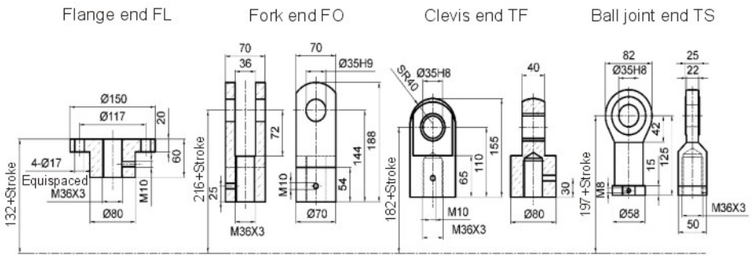
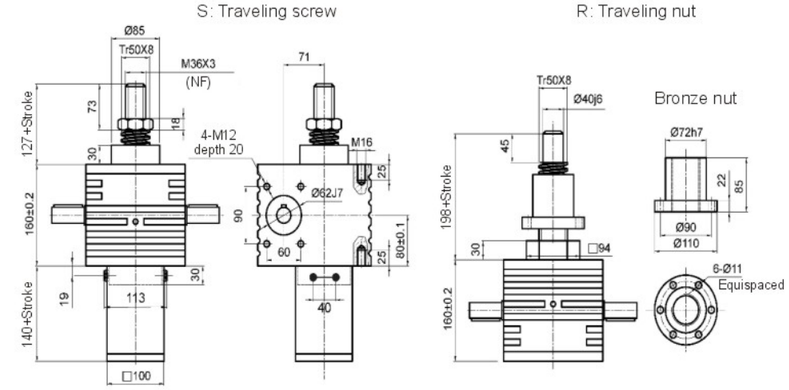
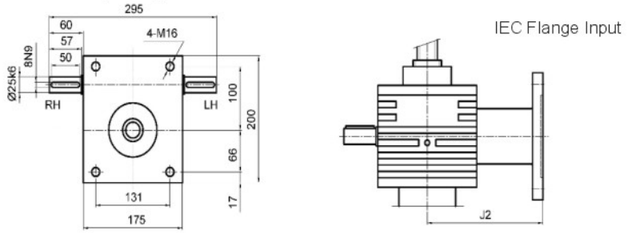


SJA80 Screw Jack

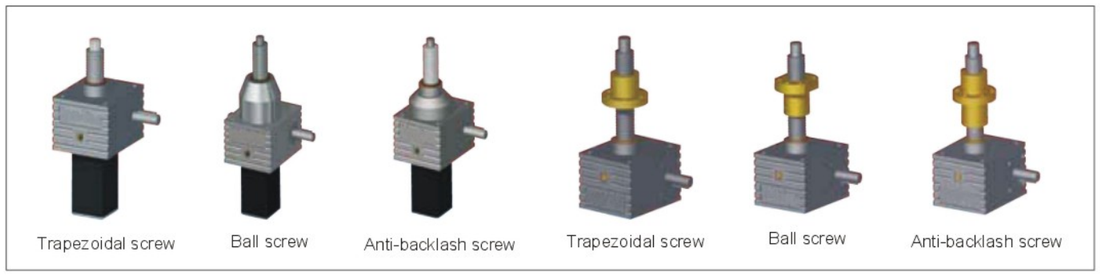






Motor base no.	J2
80B14	115
90B14	115
100B5	231

For customer's own special sizes, they could be made to drawings above dimensions are subject to change without notice.



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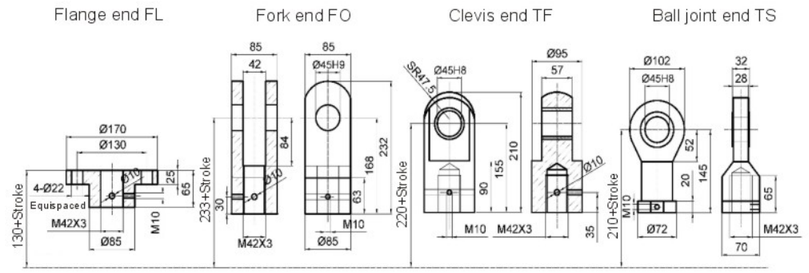
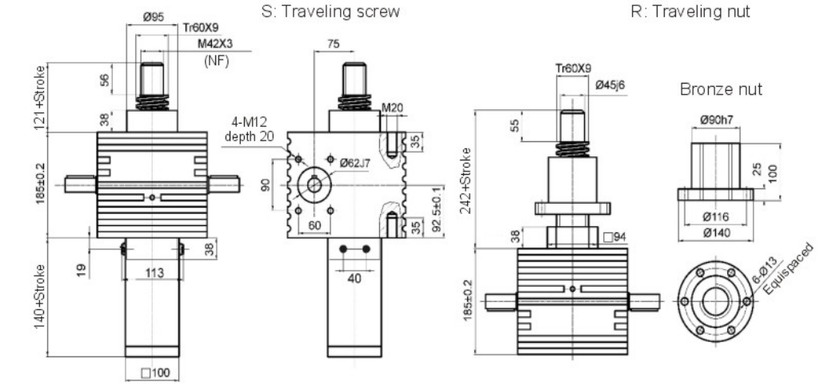
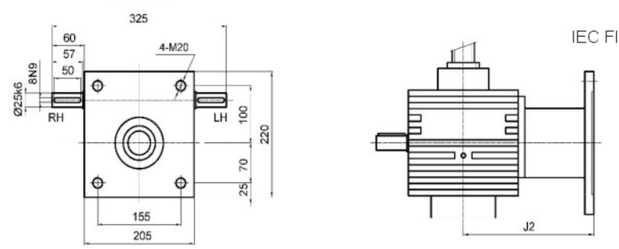
SJA100 Screw Jack

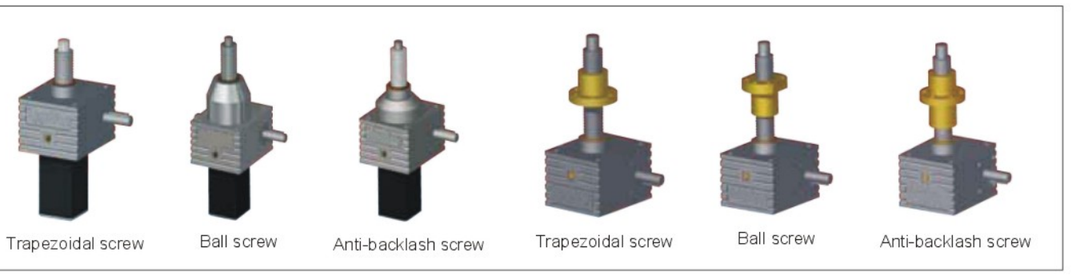




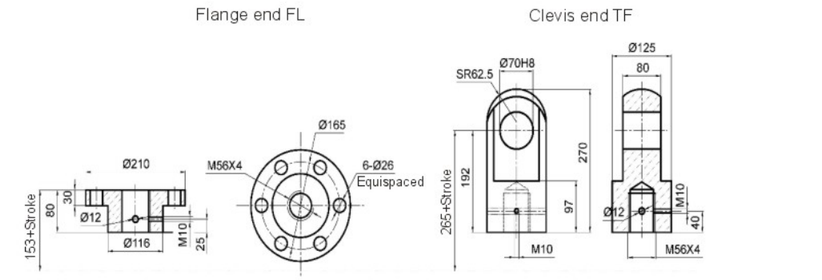


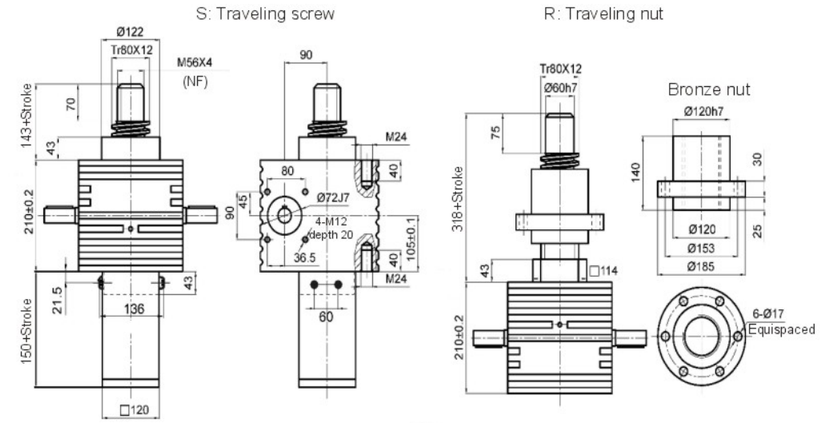
Motor base no.	J2
90B14	130
100B5	246

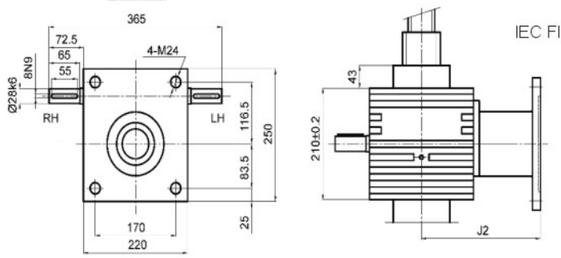
For customer's own special sizes, they could be made to drawings above dimensions are subject to change without notice.



SJA200 Screw Jack

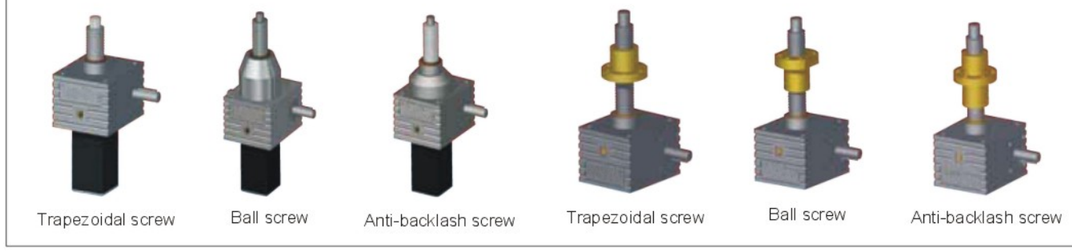




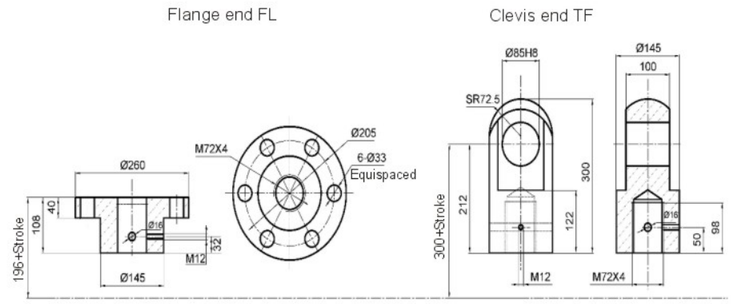


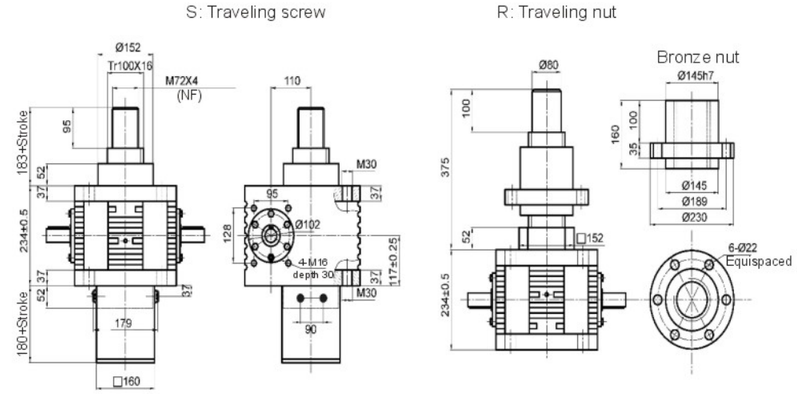
Motor base no.	J2
90B5	138
100B5	268
112B5	268

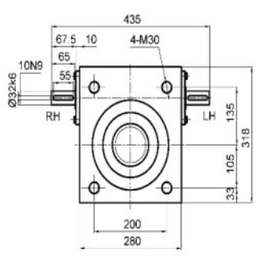
For customer's own special sizes, they could be made to drawings above dimensions are subject to change without notice.



SJA300 Screw Jack







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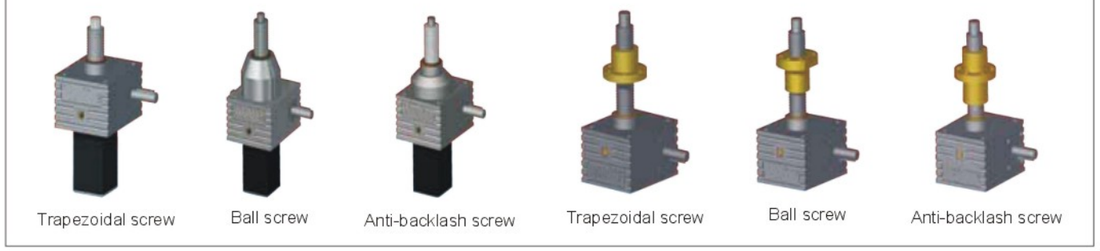
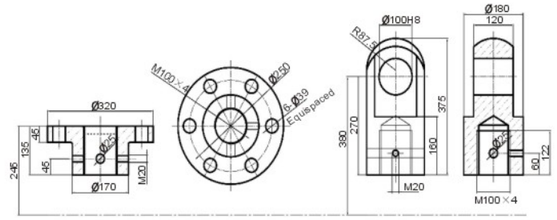


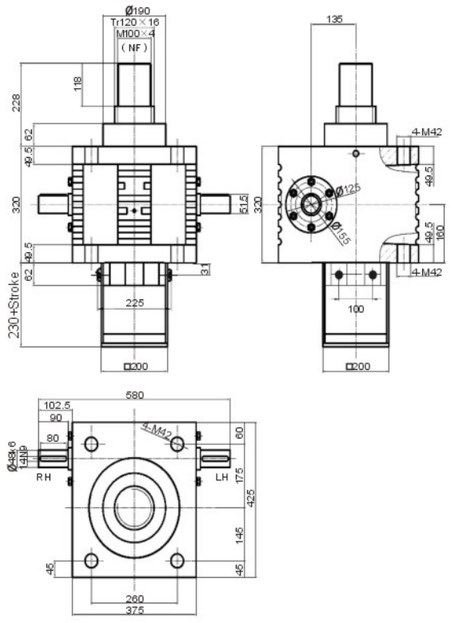
SJA450 Screw Jack

Flange end FL

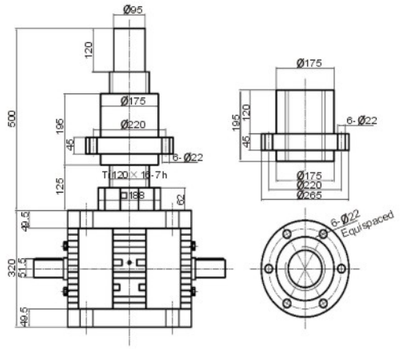


Clevis end TF

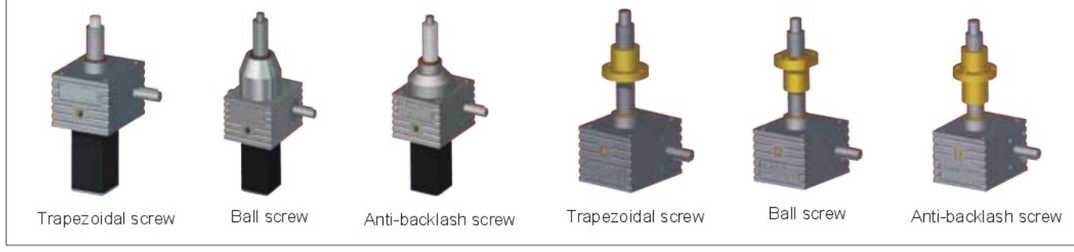
S: Traveling screw



R: Traveling nut



For customer's own special sizes, they could be made to drawings above dimensions are subject to change without notice.



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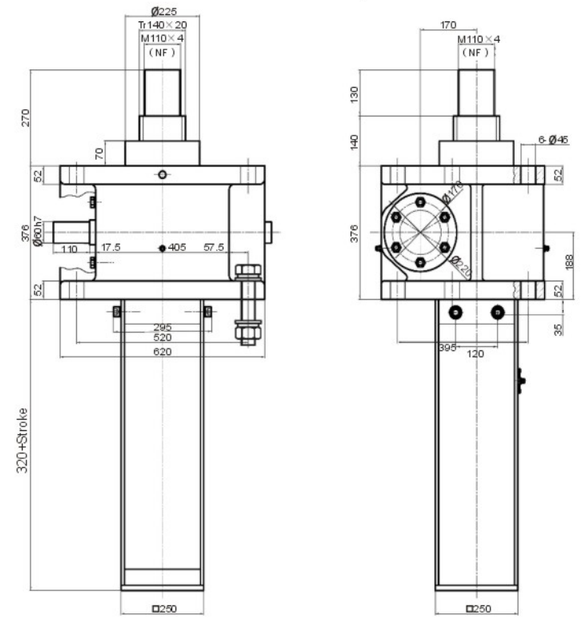
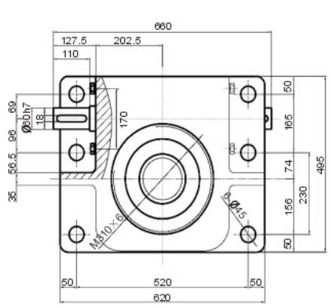
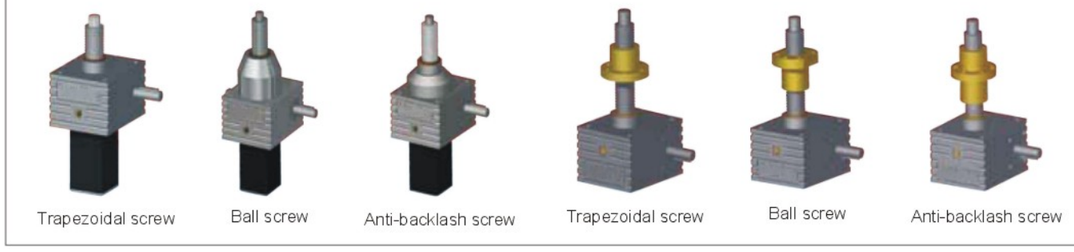
SJA700 Screw Jack

S: Traveling screw



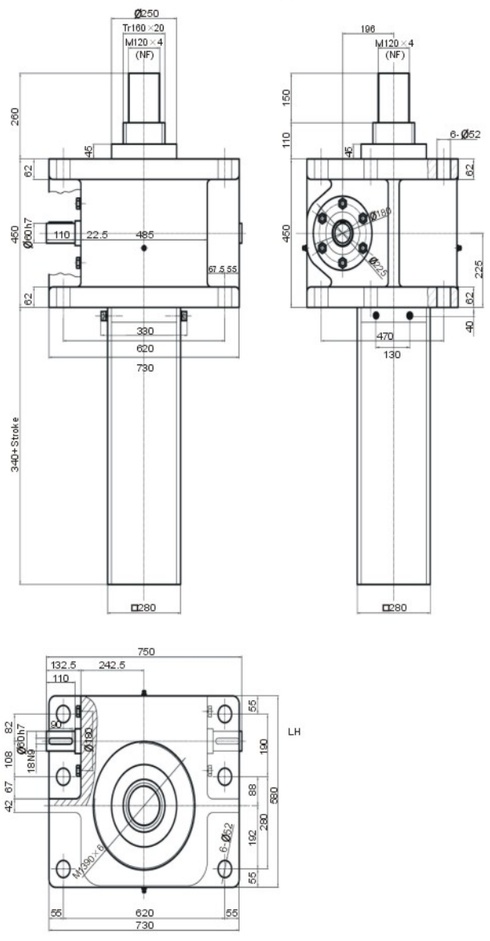


For customer's own special sizes, they could be made to drawings above dimensions are subject to change without notice.

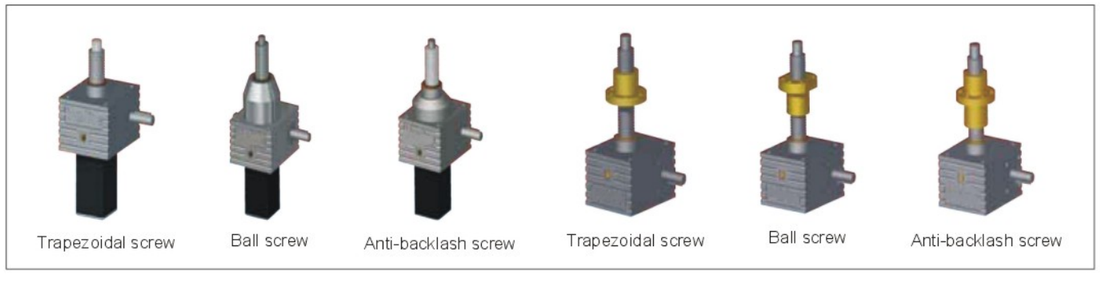


SJA1000 Screw Jack

S: Traveling screw



For customer's own special sizes, they could be made to drawings above dimensions are subject to change without notice.



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Ball screw jack basic parameter table

Model		SJB10	SJB20	SJB21	SJB22	SJB50	SJB51	SJB80	SJB81	SJB100	SJB101	SJB200	SJB201	SJB300
Max lifting load (kN)		10	20	20	20	50	35	60	60	80	70	90	100	150
Dynamic load (kN)		11	17	25	25	46	30	53	56	71	62	78	97	111
Screw dia×pitch (mm)		20×5	32×5	32×10	32×20	40×10	40×20	50×10	50×20	63×10	63×20	80×10	80×20	100×20
Worm ratio	V1	1:4	1:6	1:6	1:6	1:7	1:7	1:8	1:8	1:8	1:8	1:8.75	1:8.75	1:10.25
	L1	1:16	1:24	1:24	1:24	1:28	1:28	1:32	1:32	1:32	1:32	1:35	1:35	1:41
Stroke for one input turn (mm)	V1	1.25	0.83	1.67	3.34	1.43	2.86	1.25	2.5	1.25	2.5	1.14	2.28	1.95
	L1	0.31	0.21	0.42	0.84	0.36	0.72	0.31	0.62	0.31	0.62	0.29	0.58	0.488
Max input power (kW)	V1	0.57	1.14	1.14	1.14	2.2	2.2	2.5	2.5	3	3	4	4	7
	L1	0.27	0.55	0.55	0.55	1.1	1.1	1.5	1.5	2.2	2.2	3.5	3.5	5.5
Max starting torque at full load (Nm)	V1	4.8	8.2	15.3	29.2	34.4	47.4	36.8	72.3	49.0	82.9	53.2	118	157
	L1	1.8	3.4	6.3	12.1	14.6	19.4	15.3	29.9	20.4	34	23.4	52	66.7
Starting efficiency	V1	41	32	35	36	33	34	32	33	32	34	31	31	30
	L1	27	20	21	22	20	21	20	20	20	21	18	18	18
Running efficiency at 1500rpm	V1	59	58	62	65	59	60	58	59	58	60	55	55	53
	L1	42	39	42	44	39	41	39	40	39	41	35	35	35
Housing material		Cast iron												
Weight (kg)		6	9.5	9.5	10	23	24	38	40	62	64	78	78	125
Weight per 100mm screw & protective tube (kg)		0.5	0.8	0.8	0.8	1.6	1.6	2.5	2.5	3.2	3.2	4.6	4.6	7.3

Note: Amblent temperature for all series products:-20 degrees - +40 degrees (consult your local engineer if you require -40 - +70 degrees)

Ball screw jack life calculation

Ball screw jack SJB series life mainly depends on the life of the ball screw and worm gear and other components; we mainly check the life of the ball screw, the worm will wear, but life of the worm is generally longer than the ball screw.

Life expectancy for ball screws L10 is the operating distance at which 90% of ball screws meet or exceed the fatigue life of metal materials. The unit is millions of millimeters. Ball screw life expectancy L10 is not a promise of durability, while life expectancy should need the correct maintenance, no pollutants and the correct lubrication.

If the life expectancy of the ball screw needs to above 90%, then multiply the life expectancy by the following coefficients
95%: L10×62%
96%: L10×53%
97%: L10×44%

Standard ball screw nut life formula:

L10=(**C/Fm**)^{3}x**S**

L10: Theoretical life expectancy kilometers km

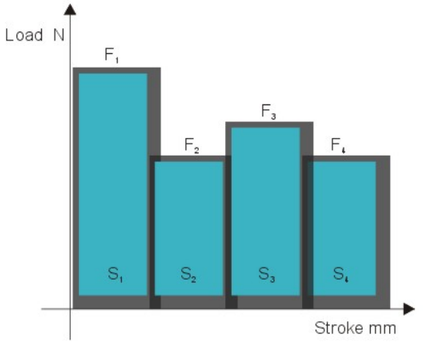
Fm: Weighted average load N

C: Rated dynamic load N **S**: Ball screw stroke mm

The Fm weighted average load is calculated as below:

$$Fm=\sqrt[3]{\frac{F_1^3S_1+F_2^3S_2+F_3^3S_3+F_4^3S_4}{S_1+S_2+S_3+S_4}}$$

Curve graph Load vs stroke



Screw jack parameters

Screw jack model-slecting table

n1=input speed Nm=input torque needed kW=input power needed

SJB10			Loading capacity															
			10kN				8kN				5kN				2kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	29.2	7.3	3.37	0.49	1.18	0.17	2.70	0.40	0.95	0.14	1.69	0.247	0.592	0.087	0.674	0.087	0.237	0.099
900	18.7	4.7	3.62	0.34	1.28	0.12	2.89	0.27	1.02	0.10	1.81	0.170	0.638	0.060	0.723	0.060	0.255	0.068
700	14.6	3.6	3.75	0.28	1.31	0.10	3.00	0.22	1.05	0.08	1.88	0.138	0.654	0.048	0.751	0.048	0.262	0.055
500	10.4	2.6	3.98	0.21	1.38	0.07	3.18	0.17	1.11	0.06	1.99	0.104	0.691	0.036	0.796	0.036	0.276	0.042
300	6.2	1.6	4.14	0.13	1.51	0.05	3.32	0.10	1.21	0.04	2.07	0.065	0.754	0.024	0.829	0.024	0.301	0.026
100	2.1	0.5	4.42	0.05	1.66	0.02	3.54	0.04	1.33	0.01	2.21	0.023	0.829	0.009	0.884	0.009	0.332	0.003
50	1.0	0.3	4.63	0.02	1.78	0.01	3.70	0.02	1.42	0.01	2.31	0.012	0.888	0.005	0.925	0.005	0.355	0.002

SJB20			Loading capacity															
			20kN				15kN				10kN				5kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	19.4	4.8	4.56	0.67	1.69	0.25	3.42	0.50	1.27	0.19	2.28	0.334	0.847	0.124	1.139	0.167	0.423	0.062
900	12.4	3.1	4.80	0.45	1.74	0.16	3.60	0.34	1.30	0.12	2.40	0.226	0.869	0.082	1.201	0.113	0.435	0.041
700	9.7	2.4	4.99	0.37	1.79	0.13	3.74	0.27	1.34	0.10	2.49	0.183	0.893	0.065	1.246	0.091	0.446	0.033
500	6.9	1.7	5.28	0.28	1.83	0.10	3.96	0.21	1.38	0.07	2.64	0.138	0.917	0.048	1.321	0.069	0.459	0.024
300	4.1	1.0	5.50	0.17	2.00	0.06	4.13	0.13	1.50	0.05	2.75	0.086	1.001	0.031	1.376	0.043	0.500	0.016
100	1.4	0.3	5.87	0.06	2.20	0.02	4.40	0.05	1.65	0.02	2.94	0.031	1.101	0.012	1.468	0.015	0.550	0.006
50	0.7	0.2	6.14	0.03	2.36	0.01	4.61	0.02	1.77	0.01	3.07	0.016	1.180	0.006	1.536	0.008	0.590	0.003

SJB21			Loading capacity															
			20kN				15kN				10kN				5kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	39.0	9.7	8.57	1.26	3.16	0.46	6.43	0.94	2.37	0.35	4.29	0.628	1.582	0.232	2.144	0.314	0.791	0.116
900	25.0	6.3	9.01	0.85	3.32	0.31	6.76	0.64	2.49	0.23	4.51	0.425	1.661	0.157	2.253	0.212	0.831	0.078
700	19.5	4.9	9.49	0.70	3.50	0.26	7.12	0.52	2.62	0.19	4.75	0.348	1.749	0.128	2.373	0.174	0.874	0.064
500	13.9	3.5	10.03	0.53	3.69	0.19	7.52	0.39	2.77	0.14	5.02	0.263	1.846	0.097	2.508	0.131	0.923	0.048
300	8.3	2.1	10.63	0.33	4.03	0.13	7.97	0.25	3.02	0.09	5.32	0.167	2.014	0.063	2.658	0.083	1.007	0.032
100	2.8	0.7	11.56	0.12	4.43	0.05	8.67	0.09	3.32	0.03	5.78	0.061	2.215	0.023	2.889	0.030	1.108	0.012
50	1.4	0.3	12.08	0.06	4.58	0.02	9.06	0.05	3.44	0.02	6.04	0.032	2.291	0.012	3.021	0.016	1.146	0.006

SJB22			Loading capacity															
			20kN				15kN				10kN				5kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	77.9	19.5	16.61	2.44	6.04	0.89	12.46	1.83	4.53	0.66	8.31	1.218	3.021	0.443	4.153	0.609	1.510	0.221
900	50.1	12.5	17.43	1.64	6.48	0.61	13.07	1.23	4.86	0.46	8.72	0.821	3.242	0.305	4.358	0.411	1.621	0.153
700	39.0	9.7	18.33	1.34	6.82	0.50	13.75	1.01	5.11	0.37	9.17	0.672	3.408	0.250	4.583	0.336	1.704	0.125
500	27.8	7.0	19.33	1.01	7.18	0.38	14.50	0.76	5.39	0.28	9.67	0.506	3.592	0.188	4.833	0.253	1.796	0.094
300	16.7	4.2	20.45	0.64	7.59	0.24	15.34	0.48	5.70	0.18	10.22	0.321	3.797	0.119	5.112	0.161	1.899	0.060
100	5.6	1.4	22.15	0.23	8.31	0.09	16.61	0.17	6.23	0.07	11.08	0.116	4.153	0.043	5.538	0.058	2.077	0.022
50	2.8	0.7	23.63	0.12	8.86	0.05	17.72	0.09	6.65	0.03	11.81	0.062	4.430	0.023	5.907	0.031	2.215	0.012

Note: The painted area in the table indicates that the selected model has exceeded the maximum allowable input power of the model.
If such models need to be selected, the working system will be reduced. Please contact us for specific selection.

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Screw jack model-slecting table

n1=input speed Nm=input torque needed kW=input power needed

SJB50			Loading capacity															
			50kN				35kN				25kN				10kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	33.4	8.3	19.29	2.83	7.30	1.07	13.50	1.98	5.11	0.75	9.64	1.414	3.648	0.535	3.858	0.566	1.459	0.214
900	21.4	5.4	20.69	1.95	7.49	0.71	14.48	1.36	5.24	0.49	10.35	0.975	3.744	0.353	4.138	0.390	1.497	0.141
700	16.7	4.2	21.47	1.57	7.69	0.56	15.03	1.10	5.38	0.39	10.74	0.787	3.845	0.282	4.294	0.315	1.538	0.113
500	11.9	3.0	22.76	1.19	7.90	0.41	15.93	0.83	5.53	0.29	11.38	0.596	3.952	0.207	4.552	0.238	1.581	0.083
300	7.1	1.8	23.71	0.74	8.62	0.27	16.60	0.52	6.04	0.19	11.85	0.372	4.311	0.135	4.742	0.149	1.724	0.054
100	2.4	0.6	25.29	0.26	9.48	0.10	17.70	0.19	6.64	0.07	12.64	0.132	4.742	0.050	5.058	0.053	1.897	0.020
50	1.2	0.3	26.47	0.14	10.16	0.05	18.53	0.10	7.11	0.04	13.23	0.069	5.081	0.027	5.293	0.028	2.032	0.011

SJB51			Loading capacity															
			50kN				35kN				25kN				10kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	66.7	16.7	37.31	5.47	13.88	2.03	26.12	3.83	9.71	1.42	18.66	2.735	6.939	1.017	7.463	1.094	2.776	0.407
900	42.9	10.7	38.58	3.64	14.59	1.37	27.00	2.54	10.21	0.96	19.29	1.818	7.295	0.687	7.716	0.727	2.918	1.275
700	33.4	8.3	39.93	2.93	15.38	1.13	27.95	2.05	10.77	0.79	19.97	1.463	7.689	0.564	7.986	0.585	3.076	0.225
500	23.8	6.0	42.94	2.25	15.81	0.83	30.06	1.57	11.06	0.58	21.47	1.124	7.903	0.414	8.589	0.450	3.161	0.166
300	14.3	3.6	44.63	1.40	17.24	0.54	31.24	0.98	12.07	0.38	22.31	0.701	8.622	0.271	8.926	0.280	3.449	0.108
100	4.8	1.2	47.42	0.50	18.97	0.20	33.19	0.35	13.28	0.14	23.71	0.248	9.484	0.099	9.484	0.099	3.793	0.040
50	2.4	0.6	50.58	0.26	20.32	0.11	35.41	0.19	14.23	0.07	25.29	0.132	10.161	0.053	10.116	0.053	4.064	0.021

SJB80			Loading capacity															
			80kN				60kN				40kN				20kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	29.2	7.3	27.44	4.02	10.20	1.50	20.58	3.02	7.65	1.12	13.72	2.011	5.101	0.748	6.861	1.006	2.551	0.374
900	18.7	4.7	28.94	2.73	10.47	0.99	21.70	2.05	7.85	0.74	14.47	1.364	5.236	0.493	7.235	0.682	2.618	0.247
700	14.6	3.6	30.03	2.20	10.75	0.79	22.52	1.65	8.07	0.59	15.02	1.101	5.377	0.394	7.508	0.550	2.689	0.197
500	10.4	2.6	31.83	1.67	11.05	0.58	23.87	1.25	8.29	0.43	15.92	0.833	5.527	0.289	7.958	0.417	2.763	0.145
300	6.2	1.6	33.16	1.04	12.06	0.38	24.87	0.78	9.04	0.28	16.58	0.521	6.029	0.189	8.290	0.260	3.015	0.095
100	2.1	0.5	35.37	0.37	13.26	0.14	26.53	0.28	9.95	0.10	17.69	0.185	6.632	0.069	8.843	0.093	3.316	0.035
50	1.0	0.3	37.02	0.19	14.21	0.07	27.76	0.15	10.66	0.06	18.51	0.097	7.106	0.037	9.254	0.048	3.553	0.019

SJB81			Loading capacity															
			80kN				60kN				40kN				20kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	58.3	14.6	53.95	7.91	19.90	2.92	40.47	5.93	14.92	2.19	26.98	3.955	9.948	1.458	13.489	1.977	4.974	0.729
900	37.5	9.4	57.88	5.45	20.94	1.97	43.41	4.09	15.71	1.48	28.94	2.727	10.471	0.987	14.470	1.364	5.236	0.493
700	29.2	7.3	60.06	4.40	21.51	1.58	45.05	3.30	16.13	1.18	30.03	2.201	10.755	0.788	15.016	1.101	5.377	0.394
500	20.8	5.2	63.67	3.33	22.11	1.16	47.75	2.50	16.58	0.87	31.83	1.667	11.053	0.579	15.917	0.833	5.527	0.289
300	12.5	3.1	66.32	2.08	24.12	0.76	49.74	1.56	18.09	0.57	33.16	1.042	12.058	0.379	16.580	0.521	6.029	0.189
100	4.2	1.0	70.74	0.74	26.53	0.28	53.06	0.56	19.90	0.21	35.37	0.370	13.264	0.139	17.685	0.185	6.632	0.069
50	2.1	0.5	74.03	0.39	28.42	0.15	55.52	0.29	21.32	0.11	37.02	0.194	14.211	0.074	18.508	0.097	7.106	0.037

Note: The painted area in the table indicates that the selected model has exceeded the maximum allowable input power of the model.
If such models need to be selected, the working system will be reduced. Please contact us for specific selection.

Screw jack model-slecting table

n1=input speed Nm=input torque needed kW=input power needed

SJB100			Loading capacity															
			100kN				80kN				50kN				20kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	29.2	7.3	34.30	5.03	12.75	1.87	27.44	4.02	10.20	1.50	17.15	2.514	6.377	0.935	6.861	1.006	2.551	0.374
900	18.7	4.7	36.17	3.41	13.09	1.23	28.94	2.73	10.47	0.99	18.09	1.705	6.545	0.617	7.235	0.682	2.618	0.247
700	14.6	3.6	37.54	2.75	13.44	0.99	30.03	2.20	10.75	0.79	18.77	1.376	6.722	0.493	7.508	0.550	2.689	0.197
500	10.4	2.6	39.79	2.08	13.82	0.72	31.83	1.67	11.05	0.58	19.90	1.042	6.908	0.362	7.958	0.417	2.763	0.145
300	6.2	1.6	41.45	1.30	15.07	0.47	33.16	1.04	12.06	0.38	20.72	0.651	7.536	0.237	8.290	0.260	3.015	0.095
100	2.1	0.5	44.21	0.46	16.58	0.17	35.37	0.37	13.26	0.14	22.11	0.231	8.290	0.087	8.843	0.093	3.316	0.035
50	1.0	0.3	46.27	0.24	17.76	0.09	37.02	0.19	14.21	0.07	23.13	0.121	8.882	0.047	9.254	0.048	3.553	0.019

SJB101			Loading capacity															
			100kN				80kN				50kN				20kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	58.3	14.6	66.32	9.72	24.26	3.56	53.06	7.78	19.41	2.85	33.16	4.861	12.132	1.778	13.264	1.944	4.853	0.711
900	37.5	9.4	68.61	6.47	25.51	2.40	54.89	5.17	20.41	1.92	34.30	3.233	12.754	1.202	13.721	1.293	5.101	0.481
700	29.2	7.3	71.06	5.21	26.18	1.92	56.85	4.17	20.94	1.54	35.53	2.604	13.089	0.959	14.211	1.042	5.236	0.384
500	20.8	5.2	75.08	3.93	26.89	1.41	60.06	3.14	21.51	1.13	37.54	1.965	13.443	0.704	15.016	0.786	5.377	0.282
300	12.5	3.1	79.58	2.50	28.42	0.89	63.67	2.00	22.74	0.71	39.79	1.250	14.211	0.446	15.917	0.500	5.685	0.179
100	4.2	1.0	82.90	0.87	31.09	0.33	66.32	0.69	24.87	0.26	41.45	0.434	15.544	0.163	16.580	0.174	6.217	0.065
50	2.1	0.5	88.43	0.46	33.16	0.17	70.74	0.37	26.53	0.14	44.21	0.231	16.580	0.087	17.685	0.093	6.632	0.035

SJB201			Loading capacity															
			200kN				150kN				100kN				50kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	53.2	13.3	131.96	19.35	51.84	7.60	98.97	14.51	38.88	5.70	65.98	9.673	25.921	3.800	32.991	4.836	12.961	1.900
900	34.2	8.5	136.94	12.91	54.98	5.18	102.71	9.68	41.24	3.89	68.47	6.453	27.492	2.591	34.236	3.226	13.746	1.295
700	26.6	6.6	142.31	10.43	58.53	4.29	106.74	7.82	43.90	3.22	71.16	5.216	29.266	2.145	35.578	2.608	14.633	1.073
500	19.0	4.7	148.12	7.76	62.57	3.28	111.09	5.82	46.93	2.46	74.06	3.878	31.284	1.638	37.031	1.939	15.642	0.819
300	11.4	2.8	154.43	4.85	64.80	2.04	115.82	3.64	48.60	1.53	77.21	2.426	32.402	1.018	38.606	1.213	16.201	0.509
100	3.8	0.9	161.29	1.69	67.20	0.70	120.97	1.27	50.40	0.53	80.64	0.844	33.602	0.352	40.322	0.422	16.801	0.176
50	1.9	0.5	168.79	0.88	69.79	0.37	126.59	0.66	52.34	0.27	84.40	0.442	34.894	0.183	42.198	0.221	17.447	0.091

SJB300			Loading capacity															
			300kN				200kN				150kN				100kN			
n1	Lifting speed mm/s		Worm Ratio				Worm Ratio				Worm Ratio				Worm Ratio			
			V1		L1		V1		L1		V1		L1		V1		L1	
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	45.5	11.4	175.68	25.75	66.51	9.75	117.12	17.17	44.34	6.50	87.84	12.877	33.254	4.875	58.561	8.585	22.170	3.250
900	29.2	7.3	182.57	17.21	70.54	6.65	121.72	11.47	47.03	4.43	91.29	8.603	35.270	3.324	60.858	5.735	23.513	2.216
700	22.7	5.7	186.22	13.65	75.09	5.50	124.15	9.10	50.06	3.67	93.11	6.825	37.545	2.752	62.075	4.550	25.030	1.835
500	16.2	4.1	190.03	9.95	80.27	4.20	126.68	6.63	53.51	2.80	95.01	4.974	40.135	2.101	63.342	3.316	26.756	1.401
300	9.7	2.4	198.11	6.22	83.14	2.61	132.07	4.15	55.42	1.74	99.06	3.112	41.568	1.306	66.037	2.074	27.712	0.871
100	3.2	0.8	206.92	2.17	86.22	0.90	137.94	1.44	57.48	0.60	103.46	1.083	43.108	0.451	68.972	0.722	28.738	0.301
50	1.6	0.4	216.54	1.13	89.53	0.47	144.36	0.76	59.69	0.31	108.27	0.567	29.844	0.156	72.180	0.378	29.844	0.156

Note: The painted area in the table indicates that the selected model has exceeded the maximum allowable input power of the model.
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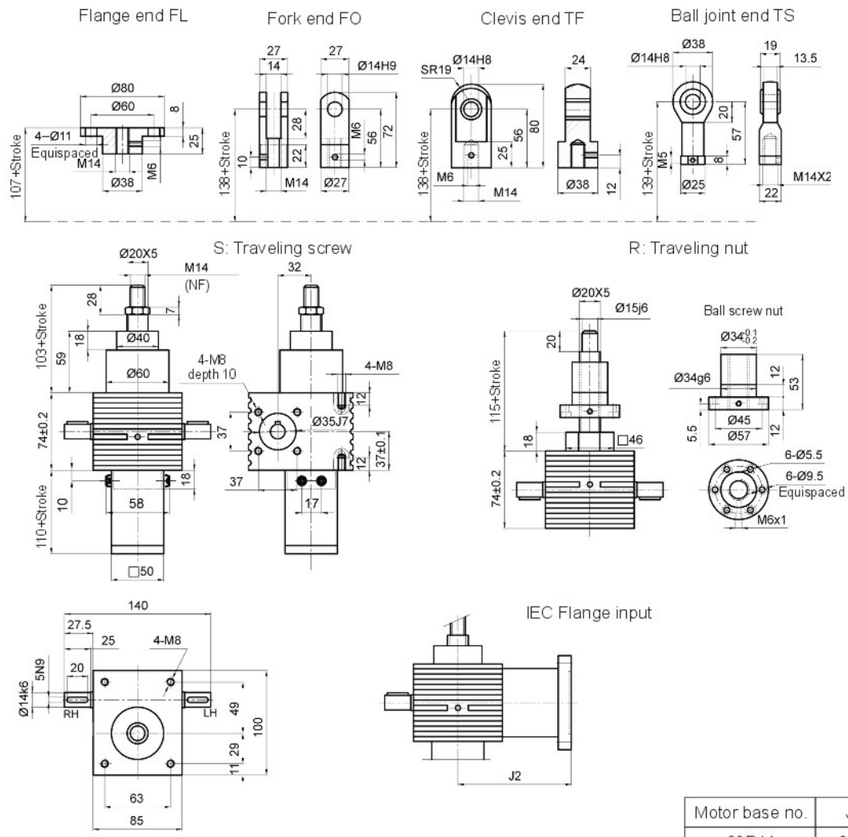
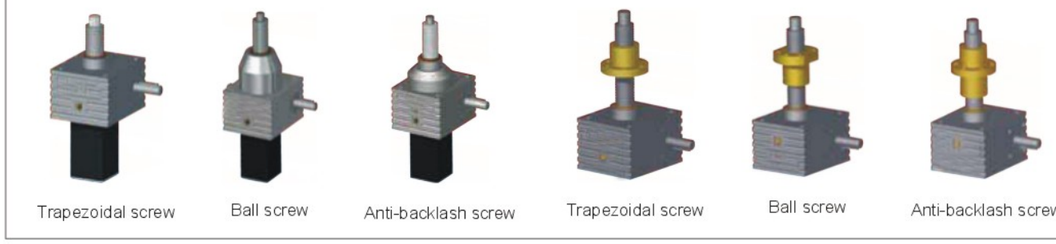
Screw Jack Dimension

SJB10 Screw Jack

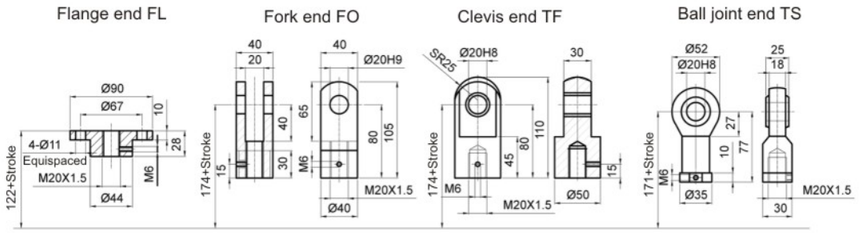


Motor base no.	J2
63B14	62.5
71B14	115.5
80B14	125.5

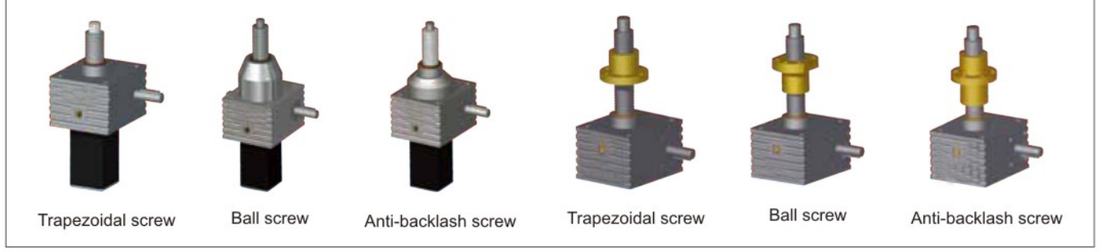


Screw Jack Dimension

SJB20 Screw Jack



Motor base no.	J2
71B14	75
80B14	155
90B14	165



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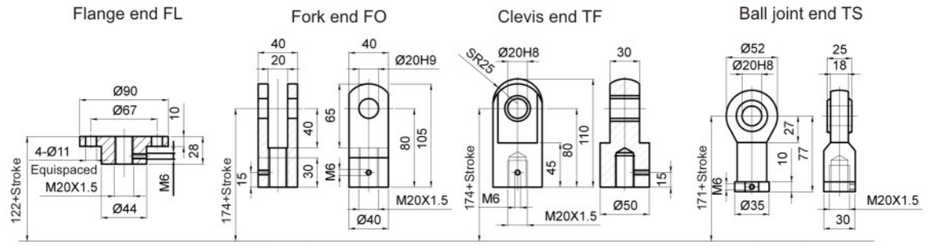
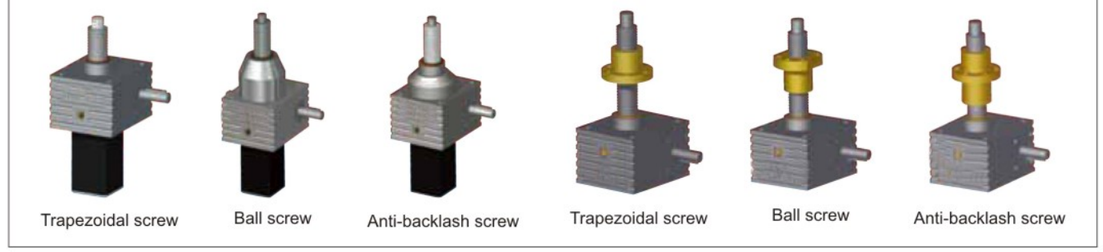
Screw Jack Dimension

SJB21 Screw Jack

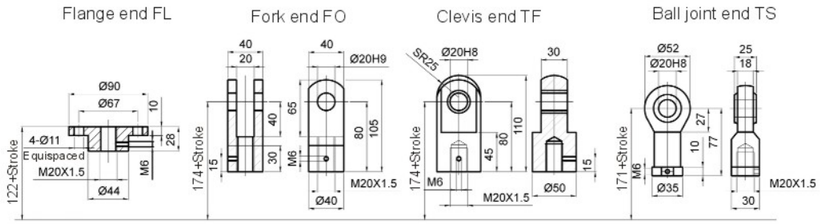


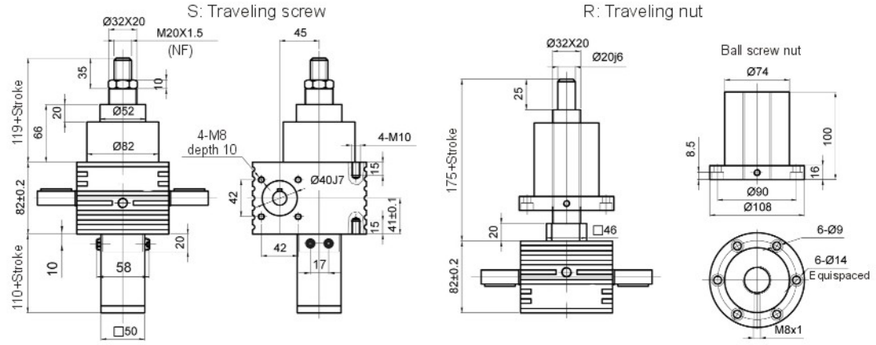
Motor base no.	J2
71B14	75
80B14	155
90B14	165

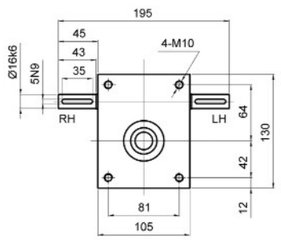


Screw Jack Dimension

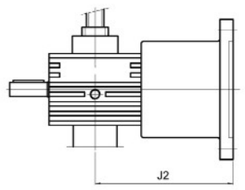
SJB22 Screw Jack



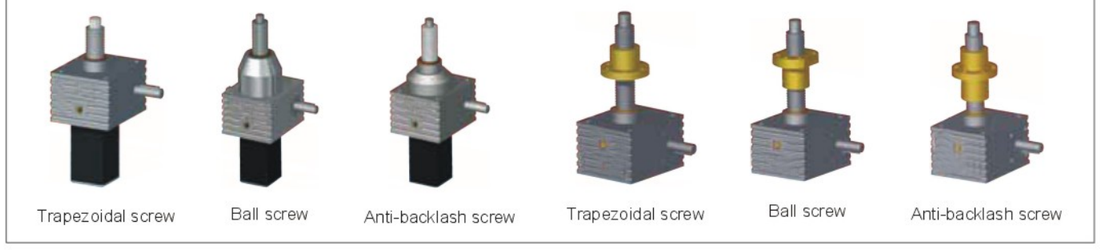




IEC Flange input



Motor base no.	J2
71B14	75
80B14	155
90B14	165



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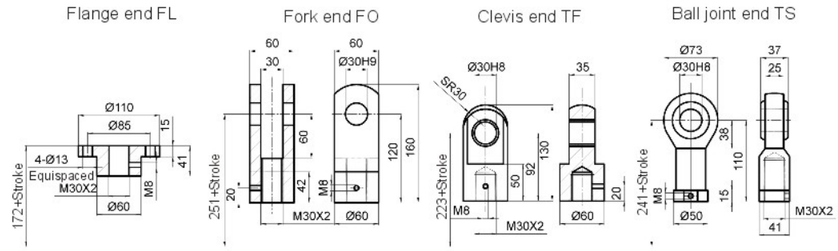
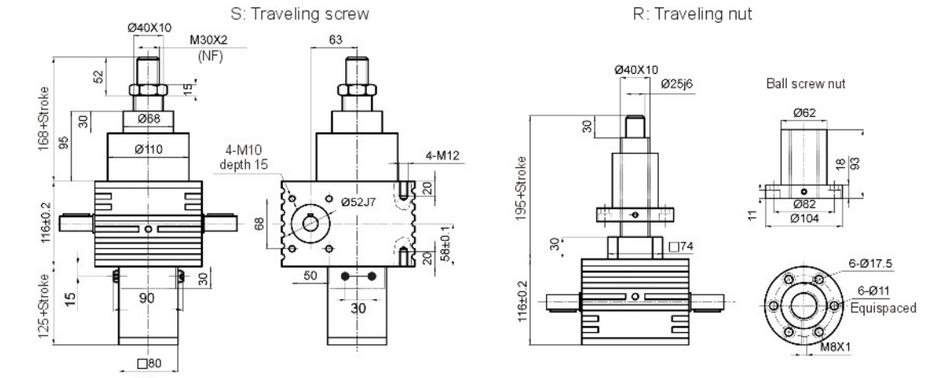
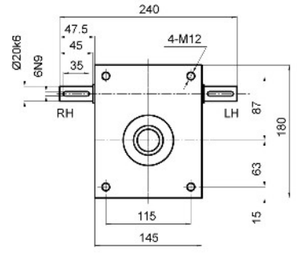
Screw Jack Dimension

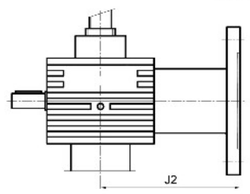
SJB50 Screw Jack



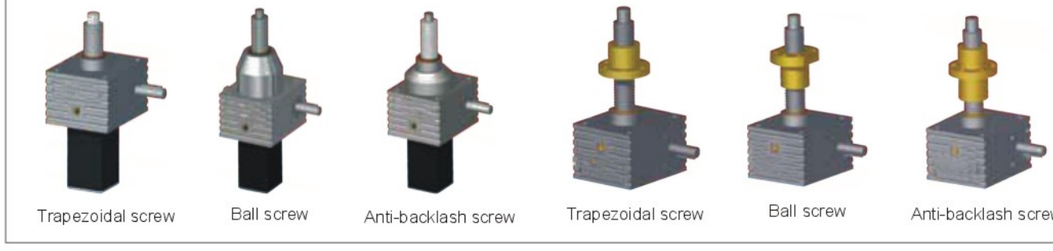




IEC Flange input

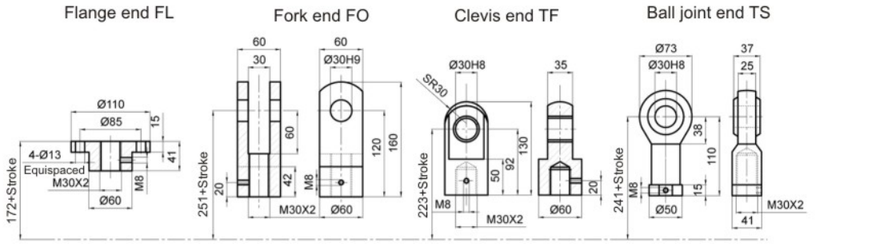


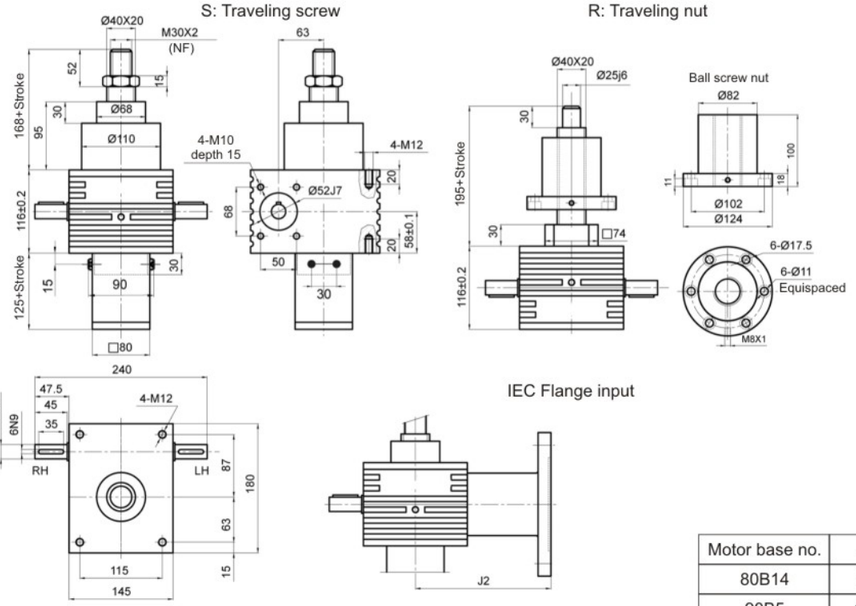
Motor base no.	J2
80B14	98
90B5	190
100B14	200



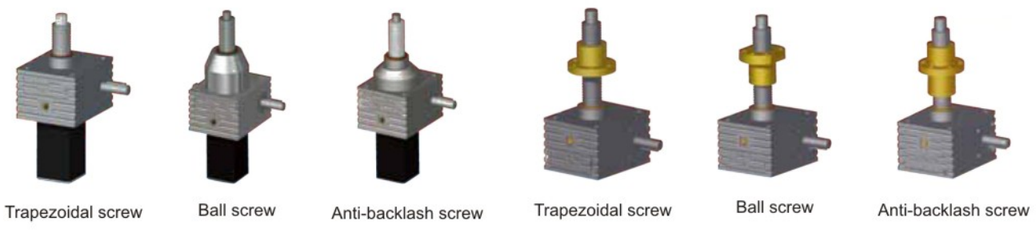
Screw Jack Dimension

SJB51 Screw Jack





Motor base no.	J2
80B14	98
90B5	190
100B14	200



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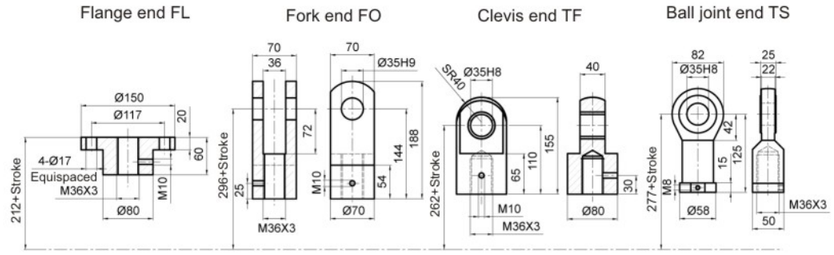
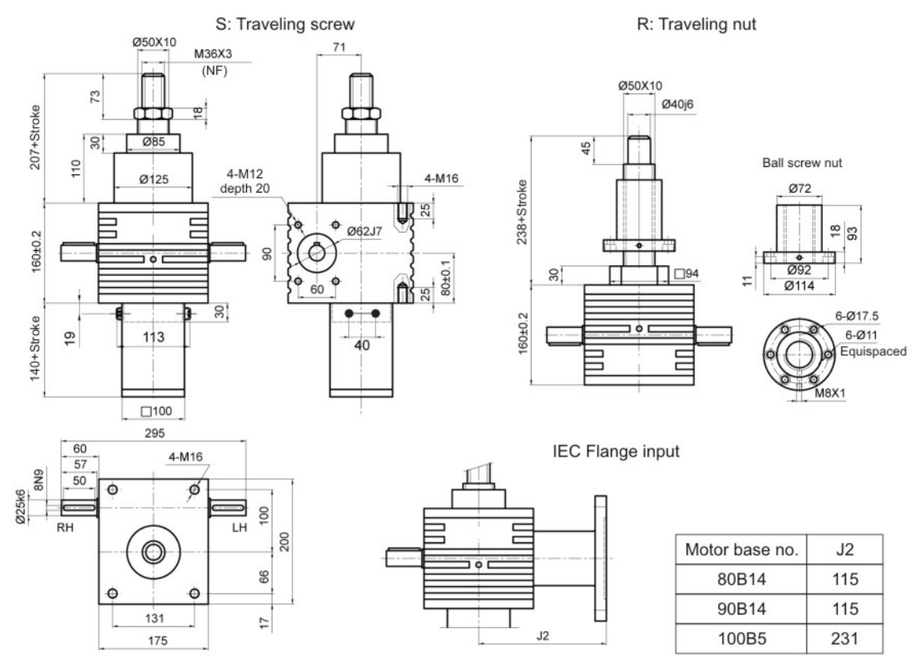
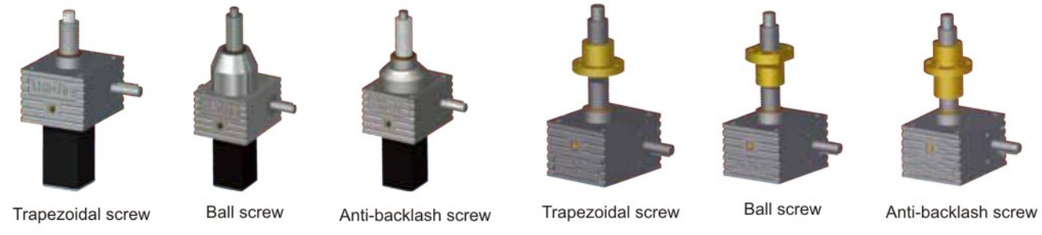
Screw Jack Dimension

SJB80 Screw Jack



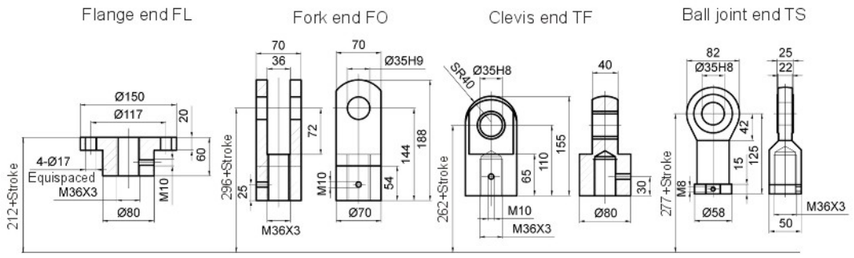


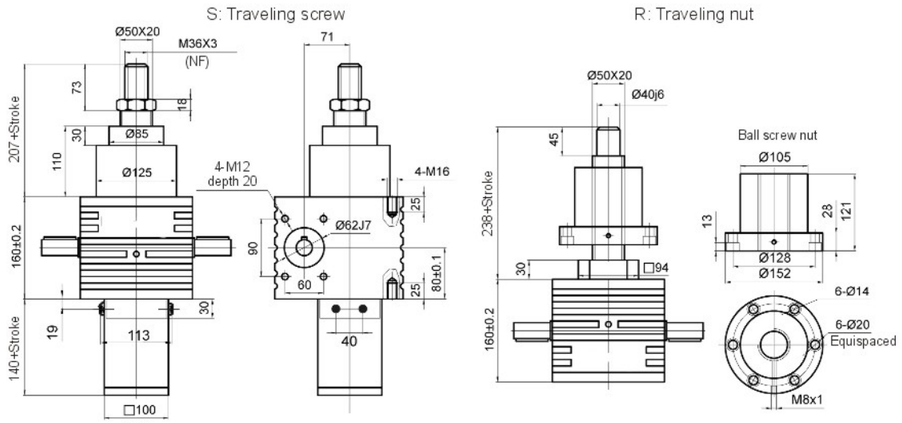
Motor base no.	J2
80B14	115
90B14	115
100B5	231

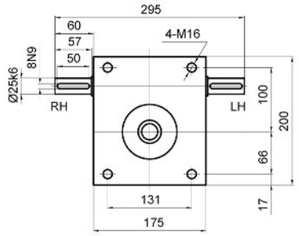


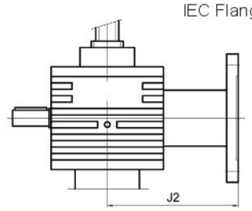
Screw Jack Dimension

SJB81 Screw Jack

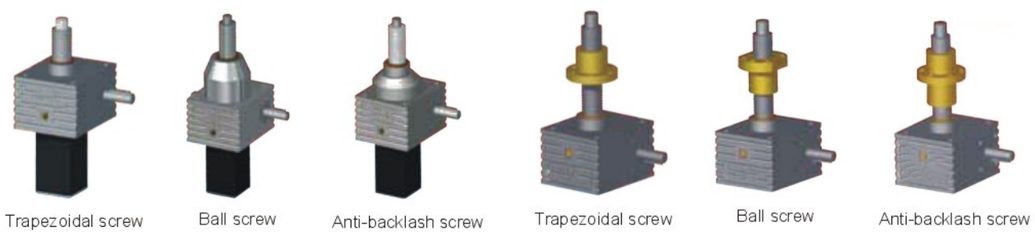








Motor base no.	J2
80B14	115
90B14	115
100B5	231



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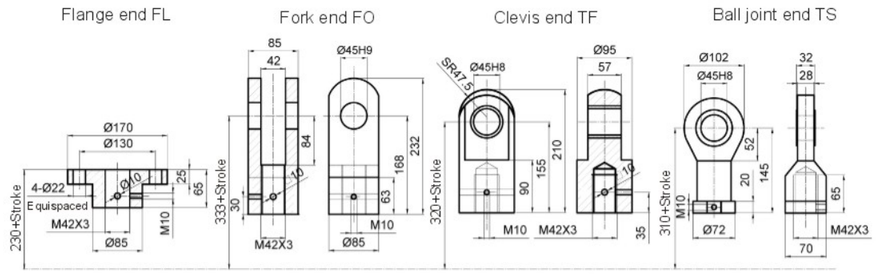
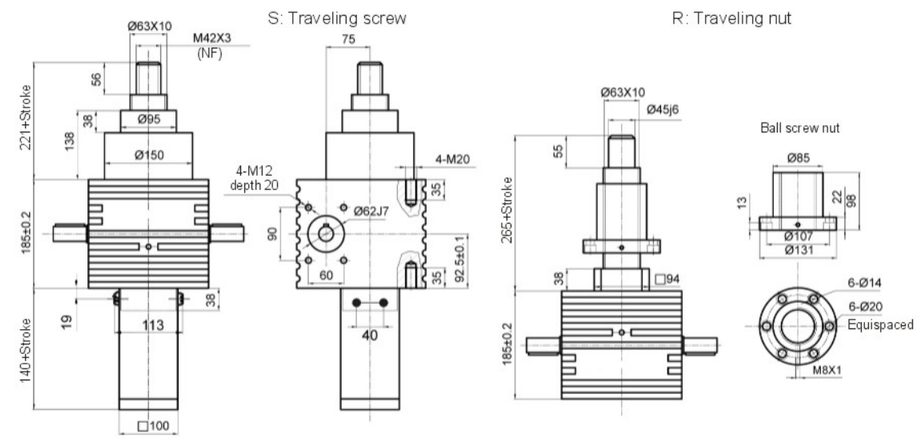
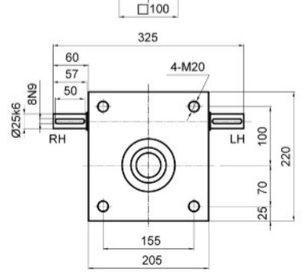
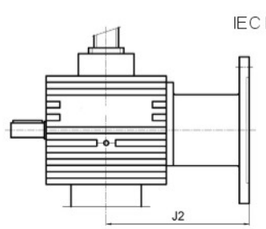
Screw Jack Dimension

SJB100 Screw Jack

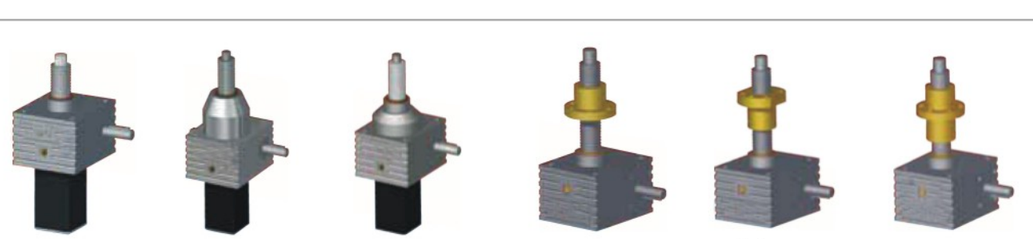






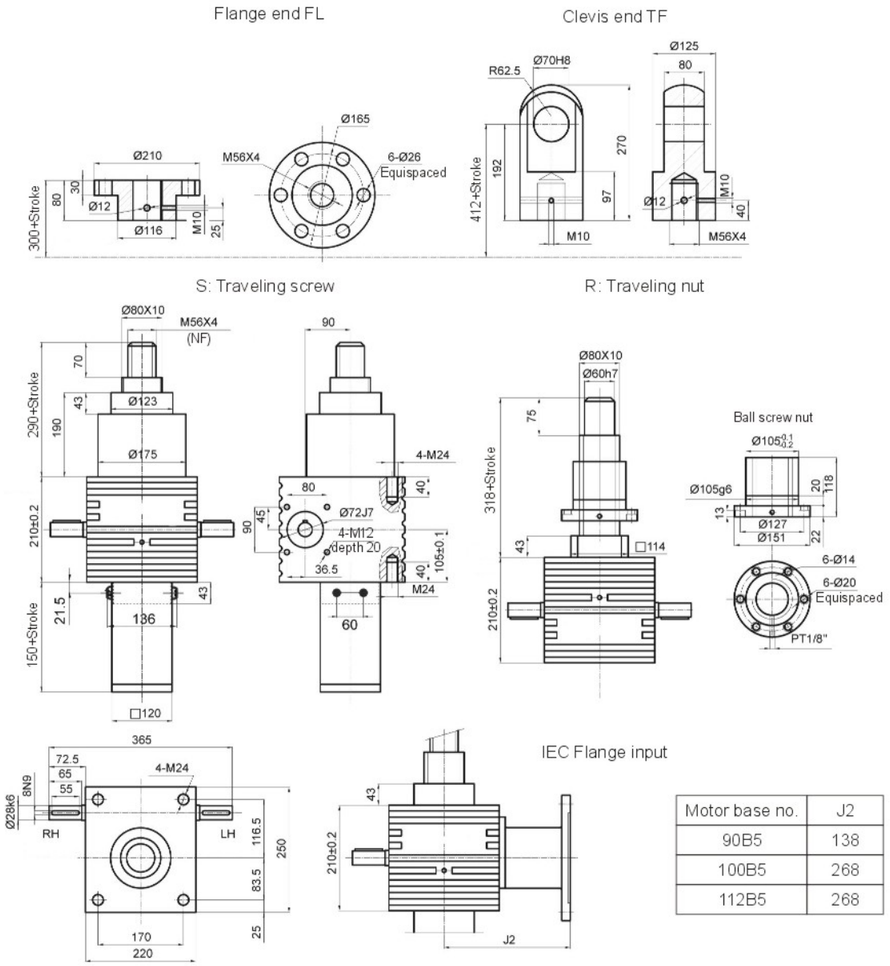


Motor base no.	J2
90B14	130
100B5	246

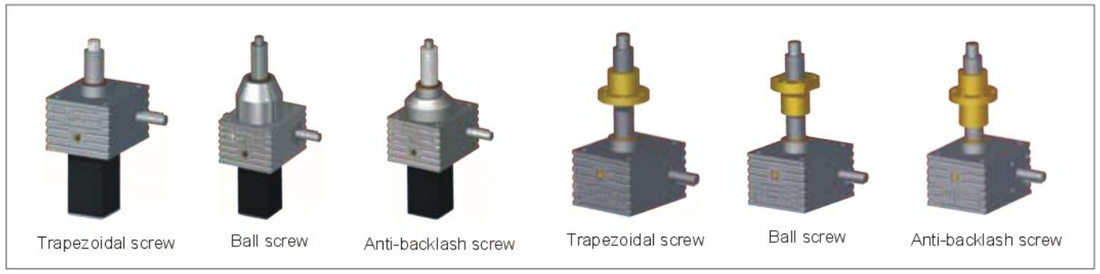


Screw Jack Dimension

SJB200 Screw Jack



Motor base no.	J2
90B5	138
100B5	268
112B5	268



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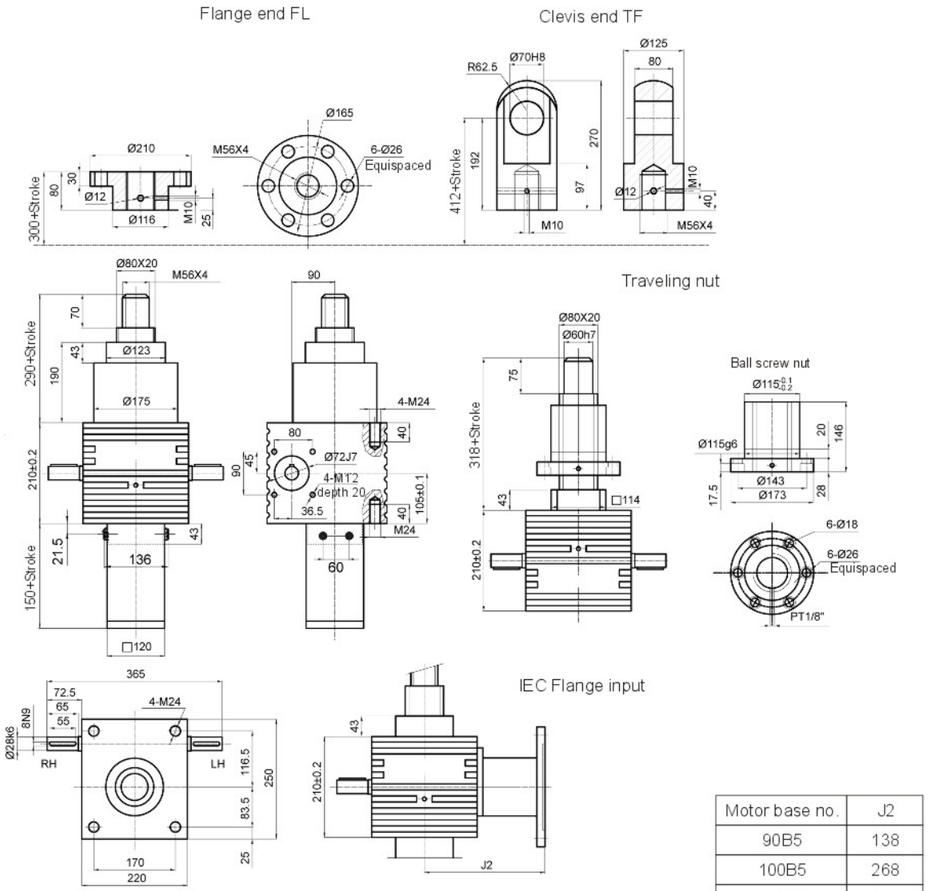
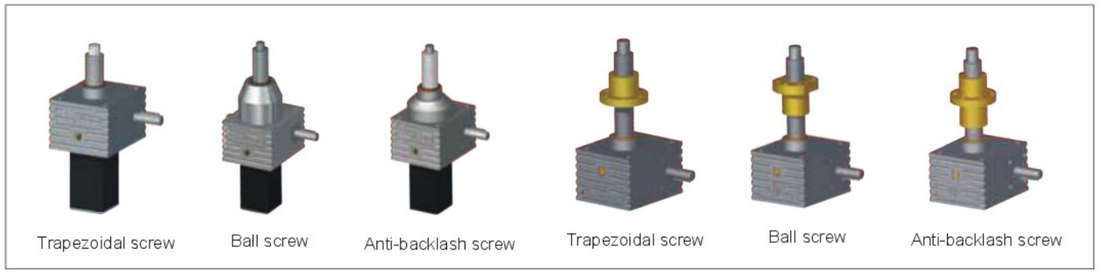
Screw Jack Dimension

SJB201 Screw Jack

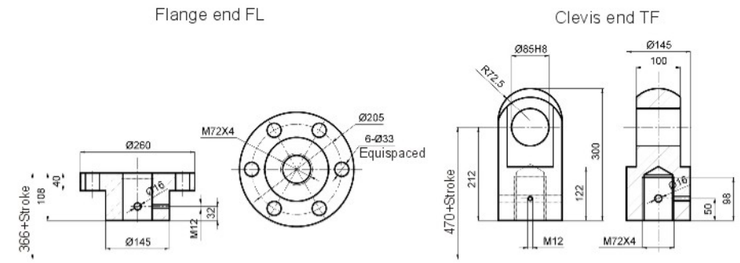


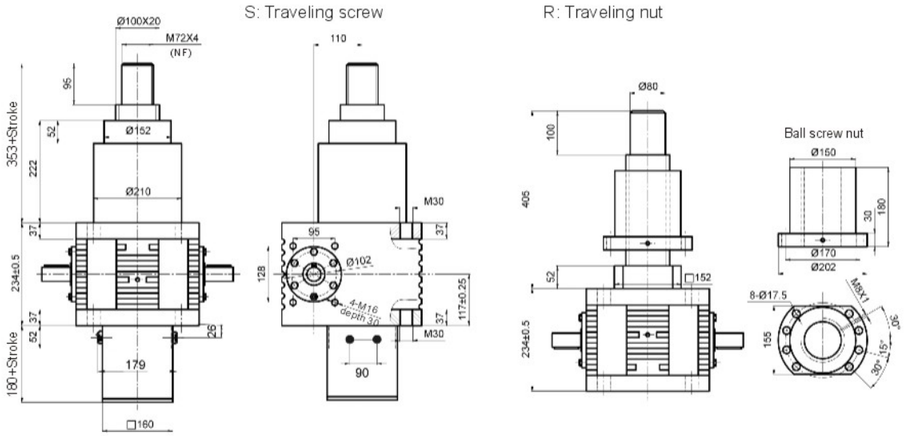
Motor base no.	J2
90B5	138
100B5	268
112B5	268

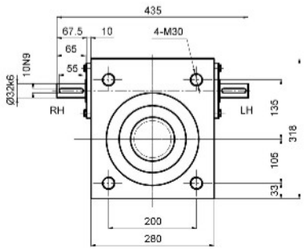


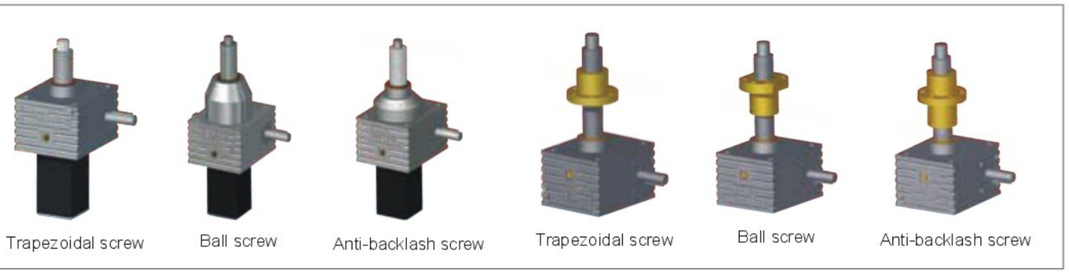
Screw Jack Dimension

SJB300 Screw Jack









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Brief Introduction

SWL series worm gear screw jack is a basis jack-up part, accomplish the functions such as lifting, dropping, pushing and inverting through worm gear drives screw. It is applied to the fields such as machinery, metallurgy, water conservancy, chemical industry, medical treatment, culture and hygienism etc. It has many advantages such as compact configuration, small size, light weight, convenient installation, flexible operation, high reliability and stability and also has a long service life and more connection form. SWL series screw jack can be driven directly by motor or other power or manual. It has self-locking ability, load capacity ranging from 2.5T-120T, input speed up to 1500rpm and lifting speed up to 2.7m/min. It's ambient temperature is -20~100℃, and has different configuration form and assembly type. The lifting height can be highly customized according to user's demand.

Type

2.1. Configuration Form

1 Type - worm gear and screw is threaded and coupled, and screw does axial motion;
2 Type - worm gear joins screw by key, the screw assembled with nut, and the nut does axial motion.

2.2. Assembly Type

Every configuration form has two assembly type

- 1 Type configuration has two assembly type
  - A Type: the screw work end at top
  - B Type: the screw work end at lower side
- 2 Type configuration has two assembly type
  - A Type: screw work end at top and nut uplify or pull it down.
  - B Type: screw work end at lower side and nut press it down or pull it up

2.3. Screw Head Form

1 Type configuration form - screw head form is:
I Type(Cylinder), II Type(Flange), III Type(Thread), IV Type(U Head). See chart 1
2 Type configuration form - screw heard form is:
I Type(Cylinder), III Type(Thread). See chart 2

2.4. Drive Ratio

The screw jack is divided into two types: Normal (P) and Slow (M) .

2.5. Load Capacity T

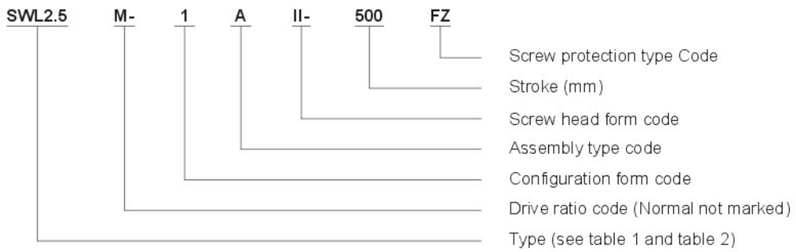
2.5，5，10，15，20，25，35，50，100，120

2.6. Protection of Screw

Protection of screw for 1 Type jack: Normal, Protection rotation(F) and Protective cover(Z).
Protection of screw for 2 Type jack: Normal and Protective cover(Z).

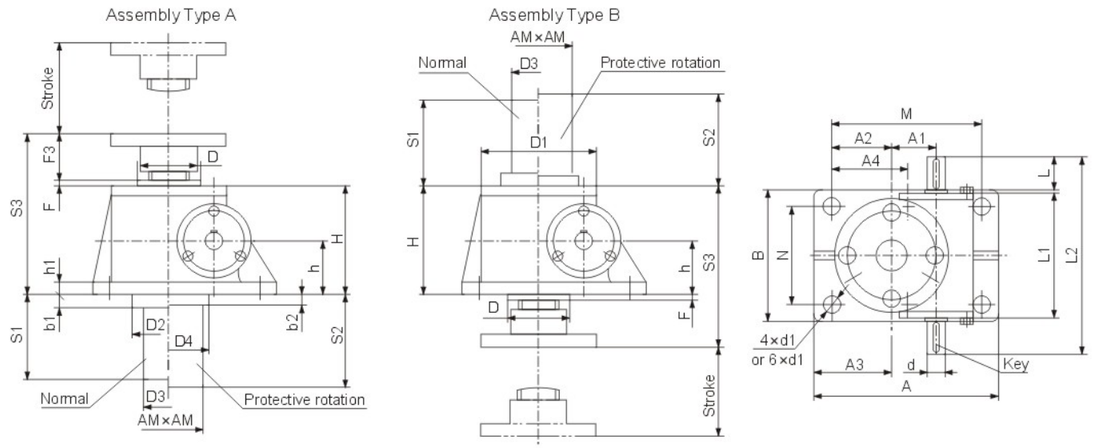
2.7. Mark Sample

Screw Jack



Outline and installation Dimensions

3.1. 1 Type Screw Jack - Outline dimension - refer to chart 1 and table 1



Screw Head Form

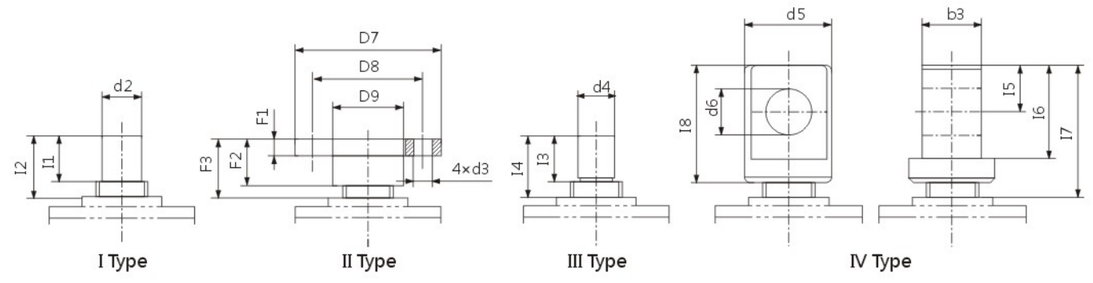
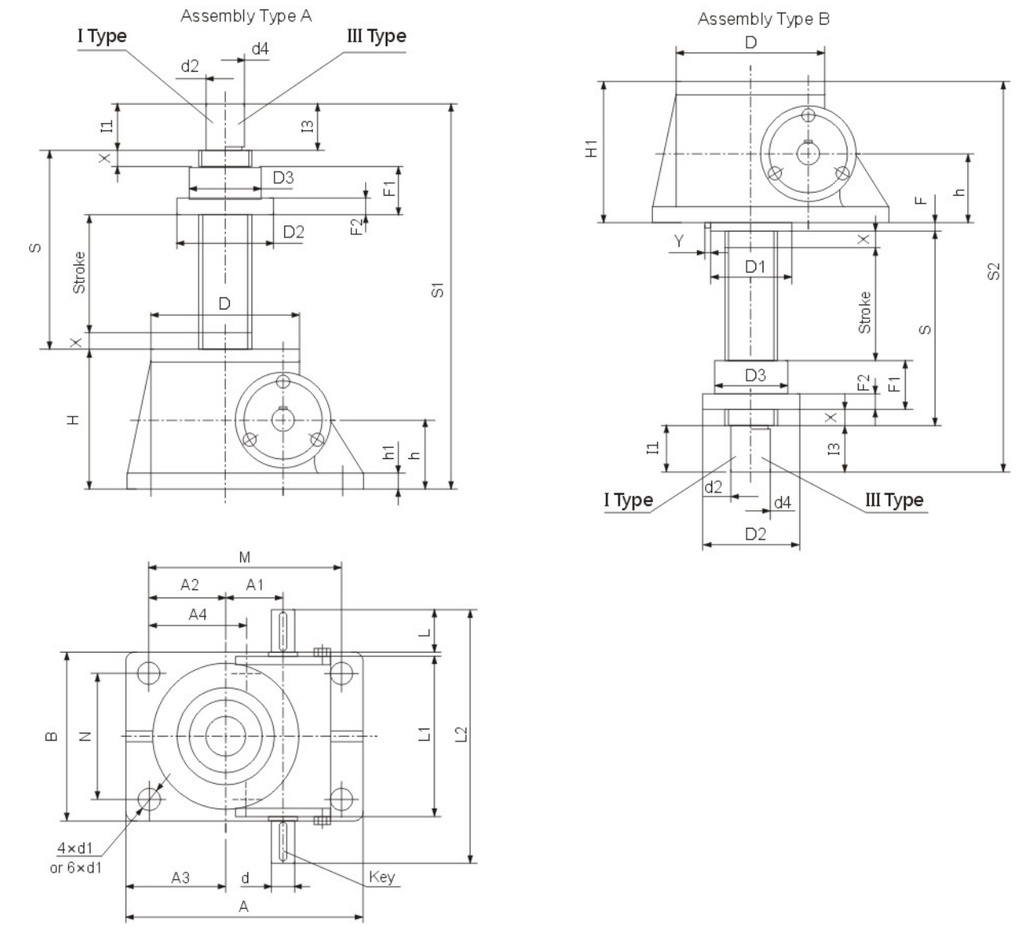


Chart 1 1 Type configuration Type

Table 1

Type			SWL2.5	SWL5	SWL10/15	SWL20	SWL25	SWL35	SWL50	SWL100	SWL120
S1			Stroke+20	Stroke+20	Stroke+20	Stroke+20	Stroke+20	Stroke+20	Stroke+20	Stroke+20	Stroke+20
S2			Stroke+110	Stroke+110	Stroke+150	Stroke+190	Stroke+205	Stroke+250	Stroke+285	Stroke+350	Stroke+400
S3			150.5	193	230	262	317	350	416	550	570
A			165	212	235	295	350	430	475	527.1	526
B			120	155	200	215	260	280	500	526	622
M			135	168	190	240	280	360	385	412	412
N			90	114	155	160	190	210	406	412	508
H			97	130	150	176	217	240	280	360	360
h			45	61.5	70	87	102	115	121	155	155
h1			12	14	16	20	25	30	32	38	42
d(k6)			16	20	25	28	32	38	38	45	48
d1			14	17	21	28	35	35	45	48	48
KeyGB1096			5*5*32	6*6*45	8*7*45	8*7*45	10*8*50	10*8*70	10*8*90	14*9*90	14*9*90
L			32	45	52	52	58	80	100	100	100
L1			110.5	132	172	213.5	221	265	310	380	380
L2			190	228	280	322	355	430	558	610	610
D			48	65	80	100	130	150	170	240	240
D1			98	122	150	185	205	260	300	420	420
D2			70	90	100	120	150	180	220	310	310
D3			45	60	76	83	114	121	145	180	220
D4			98	110	130	170	200	210	260	370	370
AM*AM			50*50	60*60	80*80	80*80	120*120	150*150	150*150	200*200	200*200
A1			45	56	67	72	97	120	135	190	190
A2			50	58	63.5	95	95	135	160	166	166
A3			65	80	86	122.5	130	170	205	223	223
A4			-	-	-	-	-	-	-	206	206
b1			20	25	30	35	35	35	45	60	60
b2			12	12	12	15	19	20	25	30	30
F			8.5	12	6.5	6	8	10	20	36.5	40
Screw Head Form	I	d2(k6)	20	25	40	50	70	80	95	130	150
		l1	30	40	50	58	63	80	90	120	140
		l2	45	51	73.5	80	92	100	120	150	170
	II	D7	98	122	150	185	205	260	300	370	400
		D8	75	85	105	140	155	200	225	280	310
		D9	40	50	65	90	100	130	150	200	230
		d3	14	17	21	26	27	33	39	48	48
		F1	12	18	20	20	25	30	35	75	80
		F2	30	40	50	60	63	80	90	120	140
		F3	45	51	73.5	80	92	100	120	150	170
	III	d4	M22*1.5-6g	M30*2-6g	M42*2-6g	M48*2-6g	M70*3-6g	M80*3-6g	M95*3-6g	M130*4-6g	M150*4-6g
		l3	30	39	50	60	63	80	90	120	140
		l4	45	51	73.5	80	92	100	120	150	170
	IV	d5	50	65	90	110	130	150	180	220	260
		d6(H8)	25	35	50	60	70	80	80	90	95
		b3	30	42	60	75	90	105	120	160	180
		l5	25	37.5	50	60	70	80	80	90	100
		l6	50	75	100	120	140	160	160	180	200
		l7	85	117	153.5	175	204	240	270	330	360
		l8	70	105	130	150	175	220	240	300	335

3.2. 2 Type Screw Jack - Outline dimension - refer to chart 2 and table 2



Screw Head Form

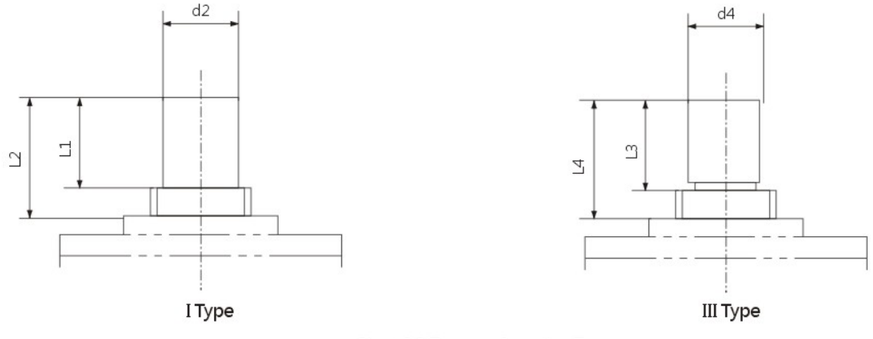


Chart 2 2 Type configuration Type

Table 1

Type			SWL2.5	SWL5	SWL10/15	SWL20	SWL25	SWL35	SWL50	SWL100	SWL120
S			Stroke+85	Stroke+100	Stroke+125	Stroke+150	Stroke+170	Stroke+205	Stroke+250	Stroke+320	Stroke+330
S1			Stroke+215	Stroke+270	Stroke+335	Stroke+404	Stroke+476	Stroke+535	Stroke+603	Stroke+815	Stroke+845
S2			Stroke+238	Stroke+300	Stroke+359	Stroke+430	Stroke+519	Stroke+580	Stroke+685	Stroke+880	Stroke+910
A			165	212	235	295	350	430	475	526	526
B			120	155	200	215	260	280	500	622	622
M			135	168	190	240	280	360	385	412	412
N			90	114	155	160	190	210	406	508	508
H			100	131	160	190	226	250	290	375	375
H1			97	131	150	181	211	250	280	360	360
h			45	61.5	70	87	102	115	121	155	155
h1			12	14	16	20	25	30	32	38	42
d(k6)			16	20	25	28	32	38	38	45n6	48m6
d1			14	17	21	28	35	35	45	48	48
KeyGB1096			5*5*32	6*6*45	8*7*45	8*7*45	10*8*50	10*8*70	10*8*90	14*9*90	14*9*90
L			32	45	52	52	56	80	100	100	100
L1			110.5	132	172	213.5	221	265	314	380	380
L2			190	228	280	322	355	430	558	610	610
D			98	122	150	185	205	260	300	420	420
D1			68	83	110	140	160	180	200	260	260
A1			45	56	67	72	97	120	135	190	190
A2			50	58	63.5	95	95	135	160	166	166
A3			65	80	86	122.5	130	170	205	223	223
A4			-	-	-	-	-	-	-	206	206
F			26	30	34	39	52	45	65	80	80
safety tolerance(X)			20	20	25	25	25	30	40	50	50
Y			3	3	1	3	3	4	5	6	6
Move Nut		D2	80	87	110	120	155	190	220	300	330
		D3(h9)	50	70	90	90	130	150	180	240	260
		F1	45	60	75	100	120	145	170	220	270
		F2	15	18	25	30	35	35	50	70	80
Screw Head Form	I	D2(k6)	20	25	40	50	70	80	95	130	150
		L1	30	40	50	60	80	80	108	127	130
	III	d4	M22*1.5-6g	M30*2-6g	M42*2-6g	M48*2-6g	M70*3-6g	M80*3-6g	M95*3-6g	M130*4-6g	M150*4-6g
		I3	30	39	50	60	63	80	90	120	140

Performance Parameters

4.1. Parameter of Screw Jack - refer to table 3

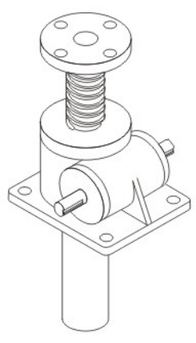
Table 3

Type	SWL2.5	SWL5	SWL10/5	SWL20	SWL25	SWL35	SWL50	SWL100	SWL120
Max. Lifting strength kN	25	50	100/150	200	250	350	500	1000	1200
Max. Pull force kN	25	20	99	166	250	350	500	1000	1200
Screw thread size	Tr30*6	Tr40*7	Tr58*12	Tr65*12	Tr90*16	Tr100*18	Tr120*20	Tr160*23	Tr180*25
Drive ratio of worm and gear (p)	6:1	6:1	7.67:1	8:1	10.67:1	10.67:1	10.67:1	12:1	12:1
Worm stroke per revolution mm (p)	1.0	1.167	1.565	1.5	1.5	1.69	1.87	1.92	2.083
Drive ratio of worm and gear (M)	24:1	24:1	23:1	24:1	32:1	32:1	32:1	36:1	36:1
Worm stroke per revolution mm (M)	0.250	0.292	0.5	0.5	0.5	0.56	0.625	0.638	0.694
Worm torque N.m	Refer to chart 5~13								
Max elongation of screw under pull load	1500	2000	2500	3000	3500	4000	5500	6500	7000
Max elongation of screw under side force load	Refer to chart 4~10								
Max elongation of screw under pressure load	Refer to chart 11~17								
Max safety power kW	1.45	2.59	3.47	4.02	5.38	13.06	13.9	28.5	62
General efficiency under normal speed ratio %	23	21	23	21	19	18	15	13	12
General efficiency under slow speed ratio %	14	12	15	13	11	11	11	10	8
Lubrication volume kg	0.1	0.25	0.5	0.75	1.1	1.9	2.2	2.5	2.5
Weight without stroke kg	7.3	16.2	25	36	70.5	87	420	1010	1350
Screw weight per 100mm kg	0.45	0.82	1.67	2.15	4.15	5.20	7.45	13.6	17.3

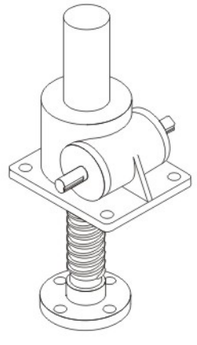
Note:
1. The max safety power means this parameter got in this condition ambient temperature is 20℃, continious running rate is 20%h, worm rotational speed is 1500r/min.
2. General efficiency is a parameter in the grease-lubricated case.
3. Ambient temperature is -20~+80℃.
4. Can be self-locked in stillness state

Assembly Type and Configuration Form

1 Type Configuration

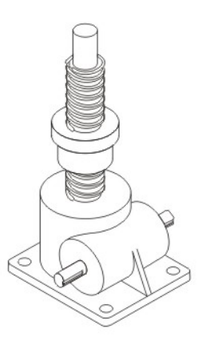


Assembly Type A

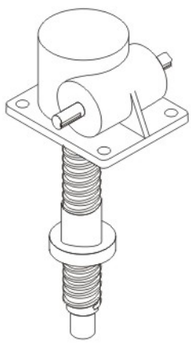


Assembly Type B

2 Type Configuration



Assembly Type A



Assembly Type B

Screw Jack Selection

Then Main Parameters to select screw jacks as so: lifting load(KN), screw stroke(mm), lifting speed(m/min).
Two methods as below.

6.1. Method 1 (For refer only)

Chart 11-chart 17 show the relation between the screw length and limit load under the safety bending torque, according to screw stroke and lifting load, see chart 12-17, find out the screw jack type needed.Then according to the jack type and lifting load table 4 check out if the type meets the need, if the type can't meet the need, then should select higher grade one, till meets the need. (table 4 shows the safety lifting speed of every type under the different lifting load.)

Example Known conditions: lifting load F=20KN, screw stroke is 200mm, lifting speed V=0.45m/min, select the proper screw jack.
Selection process: according to F=20KN, stroke 200mm, refer to chart 12, select SWL2.5 type, then refer to table 4, lifting speed V=0.3m/min which can't meet the need, so select SWL5 type, refer to table 4 again, the lifting speed V=0.7m/min, meet the need, so should select SWL5 type.

6.2. Method 2

Table 5-table 13 is all the sorts of safety lifting speed, torque and power of screw drive, these parameters suitable for this condition: ambient temperature is 20℃, continuous running rate is 20%/h or 30%/10min. Those in the thick lines, according to them to selected jack will overheat, so should avoid selecting speed, calculate the jack's drive power as follow formula, then refer to table 5~table 13, find out the jack type.

Example refer to example 6.1.

First step: calculate drive power

Drive Power:

$$P = \frac{Fa \times v}{60 \times \eta}$$

In Formula:

P --- drive power KW
Fa --- lifting strength kN
V --- lifting speed m/min
η --- general efficiency of transmission (see table 3)

Drive torque:

$$Mt = 9550 \times \frac{p}{n}$$

In Formula:

Mt --- Drive torque N.m
P --- drive power KW
n --- rotation speed r/min

According to the formula: drive power

$$P = \frac{20 \times 0.45}{60 \times 0.21} = 0.714$$

Second Step: Refer to table 5, worm rotational speed is 500r/min, lifting speed is 0.5m/min, lifting load is 20KN, this moment, the safety power is 0.72kw, within thick lines, so can't select it.

Third Step: Refer to table 6, worm rotational speed is 500r/min, lifting speed is 0.583m/min, lifting load is 20KN, this moment, the safety power is 0.9KW, meet the need, so should select SWL5 Type.

Table 4

Type	Lifting strength F KN	Normal speed ratio		Slow speed ratio	
		Lifting speed V m/min	Worm rotational n r/min	Lifting speed V m/min	Worm rotational speed n r/min
SWL2.5	25	<0.05	<50	<0.0125	<50
	20	0.3	300	0.15	600
	15	0.5	500	0.1875	750
	10	0.75	750	0.25	1000
	5	1.5	1500	0.45	1800
	2.5	1.8	1800	0.45	1800
SWL5	50	<0.0583	<50	<0.0146	<50
	40	0.35	300	0.0175	600
	30	0.35	300	0.219	750
	20	0.7	600	0.292	1000
	10	1.166	1000	0.525	1800
	5	2.1	1800	0.525	1800
SWL10/15	100	0.288	200	0.15	300
	75	0.432	300	0.25	500
	50	0.432	300	0.375	750
	35	0.864	600	0.5	1000
	20	1.44	1000	0.9	1800
	10	2.592	1800	0.9	1800
	5	2.592	1800	0.9	1800
SWL20	200	0.15	100	0.1	200
	160	0.15	100	0.15	200
	120	0.3	200	0.15	300
	100	0.3	200	0.25	500
	75	0.45	300	0.375	750
	50	0.75	500	0.5	1000
	25	1.5	1000	0.9	1800
SWL25	250	0.075	50	0.025	50
	200	0.15	100	0.1	200
	160	0.15	100	0.15	300
	130	0.3	200	0.15	300
	100	0.45	300	0.25	500
	75	0.45	300	0.3	600
	50	0.9	600	0.5	1000
SWL35	350	<0.075	<50	<0.025	<50
	300	0.075	50	0.05	100
	250	0.15	100	0.15	300
	200	0.3	200	0.15	300
	150	0.3	200	0.25	500
	100	0.6	400	0.375	750
	50	1.125	750	0.5	1000

Type	Lifting strength F KN	Normal speed ratio		Slow speed ratio	
		Lifting speed V m/min	Worm rotational n r/min	Lifting speed V m/min	Worm rotational speed n r/min
SWL50	500	<0.08	<50	<0.03	<50
	450	0.08	50	0.03	50
	400	0.16	100	0.06	100
	300	0.24	150	0.188	300
	200	0.48	300	0.25	400
	100	0.8	500	0.625	1000
SWL100	1000	<0.08	<50	<0.032	<50
	900	0.08	50	0.032	50
	800	0.159	100	0.064	100
	600	0.238	150	0.096	150
	400	0.317	200	0.192	300
	200	0.635	400	0.639	1000
SWL120	1200	0.104	50	0.035	50
	1000	0.208	100	0.069	100
	900	0.417	200	0.139	200
	800	0.625	300	0.277	400
	600	1.042	500	0.347	500
	400	1.563	750	0.521	750
	200	2.083	1000	0.694	1000

Table 5 (SWL2.5)

worm rotational speed n r/min	lifting speed v m/min		Lifting Strength KN																									
			25				20				15				10				5				2.5				1			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW
1500	1.500	0.375	18	2.7	7.1	1.2	14	2.2	5.7	0.89	11	1.7	4.3	0.67	6.9	1.1	2.9	0.45	3.5	0.54	1.4	0.22	1.7	0.27	0.71	0.11	0.7	0.11	0.28	0.05
1000	1.000	0.250	18	1.8	7.1	0.74	14	1.5	5.7	0.6	11	1.1	4.3	0.45	6.9	0.72	2.9	0.3	3.5	0.36	1.4	0.15	1.7	0.18	0.71	0.07	0.7	0.07	0.28	0.05
750	0.750	0.188	18	1.4	7.1	0.56	14	1.1	5.7	0.45	11	0.82	4.3	0.33	6.9	0.54	2.9	0.22	3.5	0.27	1.4	0.11	1.7	0.14	0.71	0.06	0.7	0.05	0.28	0.05
500	0.500	0.125	18	0.91	7.1	0.37	14	0.72	5.7	0.3	11	0.54	4.3	0.22	6.9	0.36	2.9	0.15	3.5	0.18	1.4	0.07	1.7	0.09	0.71	0.05	0.7	0.05	0.28	0.05
300	0.300	0.075	18	0.54	7.1	0.22	14	0.43	5.7	0.18	11	0.33	4.3	0.13	6.9	0.22	2.9	0.09	3.5	0.11	1.4	0.05	1.7	0.05	0.71	0.05	0.7	0.05	0.28	0.05
200	0.200	0.050	18	0.36	7.1	0.15	14	0.29	5.7	0.12	11	0.22	4.3	0.09	6.9	0.14	2.9	0.06	3.5	0.07	1.4	0.05	1.7	0.05	0.71	0.05	0.7	0.05	0.28	0.05
100	0.100	0.025	18	0.18	7.1	0.07	14	0.14	5.7	0.06	11	0.11	4.3	0.05	6.9	0.07	2.9	0.05	3.5	0.05	1.4	0.05	1.7	0.05	0.71	0.05	0.7	0.05	0.28	0.05
50	0.050	0.013	18	0.09	7.1	0.05	14	0.07	5.7	0.05	11	0.05	4.3	0.05	6.9	0.05	2.9	0.05	3.5	0.05	1.4	0.05	1.7	0.05	0.71	0.05	0.7	0.05	0.28	0.05

Table 6 (SWL5)

worm rotational speed n r/min	lifting speed v m/min		Lifting Strength KN																									
			25				20				15				10				5				2.5				1			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW
1500	1.750	0.438	44.2	6.9	19.3	3.0	35.4	5.6	15.5	2.4	26.5	4.2	11.6	1.8	17.7	2.8	7.7	1.2	8.8	1.4	3.9	0.6	4.4	0.7	1.9	0.3	2.2	0.3	1.0	0.2
1000	1.167	0.292	44.2	4.6	19.3	2.0	35.4	3.7	15.5	1.6	26.5	2.8	11.6	1.2	17.7	1.9	7.7	0.8	8.8	0.9	3.9	0.4	4.4	0.5	1.9	0.2	2.2	0.2	1.0	0.1
750	0.875	0.219	44.2	3.5	19.3	1.5	35.4	2.8	15.5	1.2	26.5	2.1	11.6	0.9	17.7	1.4	7.7	0.6	8.8	0.7	3.9	0.3	4.4	0.3	1.9	0.2	2.2	0.2	1.0	0.1
500	0.583	0.146	44.2	2.3	19.3	1.0	35.4	1.9	15.5	0.8	26.5	1.4	11.6	0.6	17.7	0.9	7.7	0.4	8.8	0.5	3.9	0.2	4.4	0.2	1.9	0.1	2.2	0.1	1.0	0.1
300	0.350	0.088	44.2	1.4	19.3	0.6	35.4	1.1	15.5	0.5	26.5	0.8	11.6	0.4	17.7	0.6	7.7	0.2	8.8	0.3	3.9	0.1	4.4	0.1	1.9	0.1	2.2	0.1	1.0	0.1
200	0.233	0.058	44.2	0.9	19.3	0.4	35.4	0.7	15.5	0.3	26.5	0.6	11.6	0.2	17.7	0.4	7.7	0.2	8.8	0.2	3.9	0.1	4.4	0.1	1.9	0.1	2.2	0.1	1.0	0.1
100	0.117	0.029	44.2	0.5	19.3	0.2	35.4	0.4	15.5	0.2	26.5	0.3	11.6	0.1	17.7	0.2	7.7	0.1	8.8	0.1	3.9	0.1	4.4	0.1	1.9	0.1	2.2	0.1	1.0	0.1
50	0.058	0.015	44.2	0.2	19.3	0.1	35.4	0.2	15.5	0.1	26.5	0.1	11.6	0.1	17.7	0.1	7.7	0.1	8.8	0.1	3.9	0.1	4.4	0.1	1.9	0.1	2.2	0.1	1.0	0.1

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Table 7 (SWL10/15)

worm rotational speed n r/min	lifting speed v m/min		Lifting Strength KN																									
			100				80				60				40				20				10				5			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW
1500	2.348	0.750	108	17.0	53	8.3	87	14.0	43	6.7	65	11.0	32	5.0	44	6.8	22	3.3	22	3.4	11	1.7	11	1.7	5.3	0.8	5.4	0.9	2.7	0.4
1000	1.565	0.500	108	12.0	53	5.6	87	9.1	43	4.4	65	6.8	32	3.3	44	4.5	22	2.2	22	2.3	11	1.1	11	1.1	5.3	0.6	5.4	0.6	2.7	0.3
750	1.174	0.375	108	8.5	53	4.2	87	6.8	43	3.3	65	5.1	32	2.5	44	3.4	22	1.7	22	1.7	11	0.8	11	0.9	5.3	0.4	5.4	0.4	2.7	0.2
500	0.783	0.250	108	5.7	53	2.8	87	4.5	43	2.2	65	3.4	32	1.7	44	2.3	22	1.1	22	1.1	11	0.6	11	0.6	5.3	0.3	5.4	0.3	2.7	0.1
300	0.470	0.150	108	3.4	53	1.7	87	2.7	43	1.3	65	2.0	32	1.0	44	1.4	22	0.7	22	0.7	11	0.3	11	0.3	5.3	0.2	5.4	0.2	2.7	0.1
200	0.313	0.100	108	2.3	53	1.1	87	1.8	43	0.9	65	1.4	32	0.7	44	0.9	22	0.4	22	0.5	11	0.2	11	0.2	5.3	0.1	5.4	0.1	2.7	0.1
100	0.157	0.050	108	1.1	53	0.6	87	0.9	43	0.4	65	0.7	32	0.3	44	0.5	22	0.2	22	0.2	11	0.1	11	0.1	5.3	0.1	5.4	0.1	2.7	0.1
50	0.078	0.025	108	0.6	53	0.3	87	0.5	43	0.2	65	0.3	32	0.2	44	0.1	22	0.1	22	0.1	11	0.1	11	0.1	5.3	0.1	5.4	0.1	2.7	0.1

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Table 8 (SWL20)

worm rotational speed n r/min	lifting speed v m/min		Lifting Strength KN																									
			200				160				120				100				75				50				25			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
1500	2.250	0.750	228	36.0	123	20.0	182	29.0	98	16.0	137	22.0	74	12.0	114	18.0	62	9.6	86	14.0	46	7.2	57	8.9	31	4.8	29	4.5	16	2.4
1000	1.500	0.500	228	24.0	123	13.0	182	19.0	98	11.0	137	15.0	74	7.7	114	12.0	62	6.4	86	8.9	46	4.8	57	6.0	31	3.2	29	3.0	16	1.6
750	1.125	0.375	228	18.0	123	9.6	182	15.0	98	7.7	137	11.0	74	5.8	114	8.9	62	4.8	86	6.7	46	3.6	57	4.5	31	2.4	29	2.2	16	1.2
500	0.750	0.250	228	12.0	123	6.4	182	9.5	98	5.1	137	7.1	74	3.8	114	6.0	62	3.2	86	4.5	46	2.4	57	3.0	31	1.6	29	1.5	16	0.8
300	0.450	0.150	228	7.1	123	3.8	182	5.7	98	3.1	137	4.3	74	2.3	114	3.6	62	1.9	86	2.7	46	1.4	57	1.8	31	1.0	29	0.9	16	0.5
200	0.300	0.100	228	4.8	123	2.6	182	3.8	98	2.1	137	2.9	74	1.5	114	2.4	62	1.3	86	1.8	46	1.0	57	1.2	31	0.6	29	0.6	16	0.3
100	0.150	0.050	228	2.4	123	1.3	182	1.9	98	1.0	137	1.4	74	0.8	114	1.2	62	0.6	86	0.9	46	0.5	57	0.6	31	0.3	29	0.3	16	0.2
50	0.075	0.025	228	1.2	123	0.6	182	1.0	98	0.5	137	0.7	74	0.4	114	0.6	62	0.3	86	0.4	46	0.2	57	0.3	31	0.2	29	0.1	16	0.1

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Table 9 (SWL25)

worm rotational speed n r/min	lifting speed v m/min		Lifting Strength KN																									
			250				200				160				120				100				75				50			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW
1500	1.500	0.500	314	33.0	181	19.0	252	27.0	145	16.0	201	22.0	116	13.0	151	16.0	87	9.1	126	14.0	73	7.6	95	9.9	55	5.7	63	6.6	37	3.8
1000	1.125	0.375	314	25.0	181	15.0	252	20.0	145	12.0	201	16.0	116	9.1	151	12.0	87	6.8	126	9.9	73	5.7	95	7.4	55	4.3	63	4.9	37	2.8
750	0.750	0.250	314	17.0	181	9.5	252	14.0	145	7.6	201	11.0	116	6.1	151	7.9	87	4.5	126	6.6	73	3.8	95	4.9	55	2.8	63	3.3	37	1.9
500	0.600	0.200	314	14.0	181	7.6	252	11.0	145	6.1	201	8.4	116	4.8	151	6.3	87	3.6	126	5.3	73	3.0	95	3.9	55	2.3	63	2.6	37	1.5
300	0.450	0.150	314	9.9	181	5.7	252	7.9	145	4.5	201	6.3	116	3.6	151	4.7	87	2.7	126	3.9	73	2.3	95	3.0	55	1.8	63	2.0	37	1.1
200	0.300	0.100	314	6.6	181	3.8	252	5.3	145	3.0	201	4.2	116	2.4	151	3.2	87	1.7	126	2.6	73	1.5	95	2.0	55	1.1	63	1.3	37	0.8
100	0.150	0.050	314	3.3	181	1.9	252	2.6	145	1.5	201	2.1	116	1.2	151	1.6	87	0.9	126	1.3	73	0.8	95	1.0	55	0.6	63	0.7	37	0.4
50	0.075	0.025	314	1.6	181	0.9	252	1.3	145	0.8	201	1.1	116	0.6	151	0.8	87	0.5	126	0.7	73	0.4	95	0.5	55	0.3	63	0.3	37	0.2

Table 10 (SWL35)

worm rotational speed n r/min	lifting speed v m/min		Lifting Strength KN																									
			350				300				250				200				150				100				50			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW
1500	1.500	0.500	464	49.0	253	27.0	398	42.0	217	23.0	332	35.0	181	19.0	266	28.0	145	16.0	199	21.0	109	12.0	133	14.0	73	7.6	67	6.9	36	3.8
1000	1.125	0.375	464	37.0	253	20.0	398	32.0	217	17.0	332	26.0	181	15.0	266	21.0	145	12.0	199	16.0	109	8.5	133	11.0	73	5.7	67	5.2	36	2.8
750	0.750	0.250	464	25.0	253	14.0	398	21.0	217	12.0	332	18.0	181	9.5	266	14.0	145	7.6	199	11.0	109	5.7	133	6.9	73	3.8	67	3.5	36	1.9
500	0.600	0.200	464	20.0	253	11.0	398	17.0	217	9.1	332	14.0	181	7.6	266	12.0	145	6.1	199	8.3	109	4.5	133	5.6	73	3.0	67	2.8	36	1.5
300	0.450	0.150	464	15.0	253	8.0	398	13.0	217	6.8	332	11.0	181	5.7	266	8.3	145	4.5	199	6.3	109	3.4	133	4.2	73	2.3	67	2.1	36	1.1
200	0.300	0.100	464	9.8	253	5.3	398	8.4	217	4.5	332	7.0	181	3.8	266	5.6	145	3.0	199	4.2	109	2.3	133	2.8	73	1.5	67	1.4	36	0.8
100	0.150	0.050	464	4.9	253	2.7	398	4.2	217	2.3	332	3.5	181	1.9	266	2.8	145	1.5	199	2.1	109	1.1	133	1.4	73	0.8	67	0.7	36	0.4
50	0.075	0.025	464	2.5	253	1.3	398	2.1	217	1.1	332	1.8	181	0.9	266	1.4	145	0.8	199	1.0	109	0.6	133	0.7	73	0.4	67	0.3	36	0.3

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Table 11 (SWL50)

worm rotational speed n r/min	lifting speed v m/min		Lifting Strength KN																									
			500				450				400				350				300				200				100			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW
1500	1.600	0.625	848	88.0	448	47.0	764	80.0	401	42.0	679	71.1	353	37.0	594	62.2	316	33.1	509	53.3	271	28.4	339	35.5	180	18.9	169	17.7	90	9.4
1000	1.200	0.469	848	67.0	448	35.5	764	60.0	401	31.0	679	53.3	353	28.4	594	46.5	316	24.8	509	39.9	271	21.3	339	26.7	180	14.2	169	13.4	90	7.1
750	0.800	0.313	848	44.0	448	23.7	764	40.0	401	21.0	679	35.5	353	18.9	594	31.0	316	16.6	509	26.2	271	14.2	339	17.7	180	9.5	169	8.9	90	4.7
500	0.640	0.250	848	35.0	448	18.9	764	32.0	401	17.0	679	28.4	353	15.2	594	24.8	316	13.3	509	21.3	271	11.4	339	14.2	180	7.6	169	7.1	90	3.8
300	0.480	0.188	848	26.0	448	14.2	764	24.0	401	12.8	679	21.3	353	11.4	594	18.6	316	9.9	509	16.0	271	8.5	339	10.7	180	5.7	169	5.3	90	2.9
200	0.320	0.125	848	18.0	448	9.5	764	16.0	401	8.5	679	14.2	353	7.5	594	12.4	316	6.6	509	10.6	271	5.7	339	7.1	180	3.7	169	3.5	90	1.8
100	0.160	0.060	848	8.9	448	4.5	764	8.0	401	4.0	679	7.1	353	3.6	594	6.2	316	3.2	509	5.3	271	2.8	339	3.5	180	1.8	169	1.7	90	0.9
50	0.080	0.030	848	4.4	448	2.2	764	4.0	401	2.0	679	3.5	353	1.8	594	3.1	316	1.6	509	2.6	271	1.3	339	1.7	180	0.9	169	0.8	90	0.45

Table 12 (SWL100)

worm rotational speed n r/min	lifting speed v m/min		Lifting Strength KN																									
			1000				900				800				700				600				400				200			
			P		M		P		M		P		M		P		M		P		M		P		M		P		M	
	P	M	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW	N.m	kW
1500	1.586	0.639	1938	203	1012	106	1747	183	915	96	1554	162	813	85	1359	142	711	74	1165	122	611	64	776	81	406	42.6	388	40.6	203	21.3
1000	1.189	0.479	1938	152	1012	80	1747	137	915	72	1554	122	813	64	1359	106	711	55	1165	91	611	48	776	61	406	32	388	30.5	203	16
750	0.793	0.319	1938	102	1012	53	1747	91	915	48	1554	81	813	42	1359	71	711	37	1165	61	611	32	776	41	406	21	388	21	203	10.5
500	0.635	0.255	1938	81.4	1012	42.5	1747	73	915	38	1554	65	813	34	1359	56	711	29	1165	48	611	25.5	776	32	406	17	388	16	203	8.5
300	0.476	0.192	1938	61	1012	32	1747	55	915	28.8	1554	49	813	25	1359	42	711	22	1165	36	611	19.2	776	24	406	12.7	388	12	203	6.3
200	0.317	0.128	1938	40.6	1012	21	1747	36	915	19.2	1554	32.5	813	17	1359	28	711	15	1165	24	611	12.8	776	16	406	8.5	388	8	203	4.2
100	0.159	0.064	1938	20.3	1012	10.6	1747	18.3	915	9.6	1554	16	813	8.5	1359	14	711	7.5	1165	12	611	6.4	776	8	406	4.3	388	4	203	2.1
50	0.080	0.032	1938	102	1012	5.3	1747	9.1	915	4.8	1554	8	813	4.2	1359	7	711	3.8	1165	6	611	3.2	776	4	406	2.1	388	2	203	1.05

Lude Transmission
Deceleration for industrial drives

Table 13 (SWL120)

worm rotational speed n r/min	lifting speed v m/min		Lifting Strength kN																			
			200			400			600			800			900			1000			1200		
	P	M	P		M	P		M	P		M	P		M	P		M	P		M	P		M
			kW	N.m	kW	kW	N.m	kW	kW	N.m	kW	kW	N.m	kW	kW	N.m	kW	kW	N.m	kW	kW	N.m	kW
1500	2.083	0.694	57.5	551	28.5	115	1103	57.5	173	1657	86.5	231	2206	115	260	2486	130	289	2762	144	347	3315	173
1000	1.563	0.521	43	551	21.5	86	1103	43	130	1657	65	173	2206	86	195	2486	97	217	2762	108	260	3315	130
750	1.042	0.347	28.5	551	14.2	57	1103	28.5	86	1657	43.5	115	2206	57	130	2486	65	144	2762	72	173	3315	87
500	0.833	0.277	23	551	11.5	46	1103	23	69	1657	34.5	92	2206	46	104	2486	51	115	2762	57	138	3315	69
300	0.625	0.208	17.5	551	8.7	34.5	1103	17.5	52	1657	26	69	2206	34.5	78	2486	39	86	2762	43	104	3315	52
200	0.417	0.139	11.5	551	5.7	23	1103	11.5	34.5	1657	17	46	2206	23	52	2486	26	58	2762	28	69	3315	34
100	0.208	0.069	5.7	551	2.8	11.5	1103	5.7	17	1657	8.5	23	2206	11.5	26	2486	13	29	2762	14.5	34	3315	17
50	0.104	0.035	2.8	551	1.4	5.7	1103	2.8	8.5	1657	4.2	11.5	2206	5.7	13	2486	6.5	14.5	2762	7	17	3315	8.5

The general efficiency under the worm pair lubricated with thin oil(for 2nd type only) refer to table 14

Table 14

Worm speed r/min	Type SWL											
	2.5	2.5M	5	5M	10/15	10M/15M	20	20M	25	25M	35	35M
1500	0.283	0.214	0.257	0.188	0.290	0.236	0.273	0.275	0.262	0.210	0.248	0.204
1000	0.279	0.206	0.252	0.180	0.285	0.227	0.268	0.217	0.257	0.200	0.243	0.195
750	0.276	0.201	0.249	0.175	0.282	0.222	0.266	0.212	0.253	0.194	0.240	0.189
500	0.272	0.194	0.245	0.168	0.277	0.215	0.262	0.205	0.249	0.187	0.236	0.183
300	0.267	0.187	0.241	0.161	0.272	0.207	0.257	0.198	0.243	0.179	0.231	0.175
100	0.257	0.172	0.231	0.146	0.261	0.191	0.247	0.183	0.233	0.164	0.222	0.160
50	0.251	0.164	0.225	0.138	0.255	0.183	0.242	0.175	0.226	0.155	0.216	0.152

The safety radial strength of worm axial elongation

8.1. At the worm axial elongation, the radial strength Fr caused by installing gear, chain wheel or belt wheel, the max safety strength has relation to lifting strength and jack type. The max safety radial strength and torque at the 1/2 point, please see chart 3 and table 15.

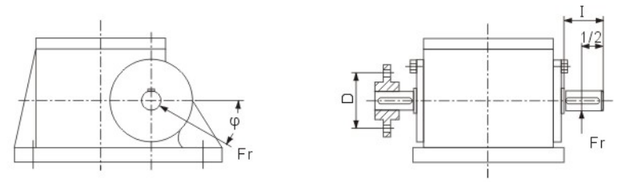


Table 15

Type	Fr-max N	Mt-max N.m
SWL2.5/2.5M	350	18
SWL5/5M	750	44.2
SWL10/10M15/15M	1000	108
SWL20/20M	1300	182
SWL25/25M	2000	314
SWL35/35M	2300	398
Note: parameters in the table counted as 30° or 330°		

8.2. The min diameter of gear or belt wheel:

$$Dmin=19100\times\frac{P}{Fr\text{-}max\times n}=\frac{2Mt}{Fr\text{-}max}$$

In Formula:

Dmin --- The min diameter of gear or belt wheel, m

P --- Drive power, kW

Fr-max --- Max. Radial strength, N

n --- Worm rotational speed, r/min

Mt --- Drive torques, N.m

Relation between the safety side force, axial force and stroke, refer to chart 4-10

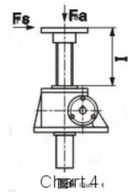


Chart 4

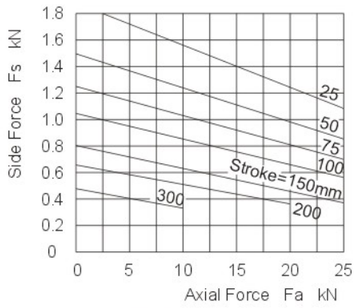


Chart 5 SWL2.5(QWL2.5)

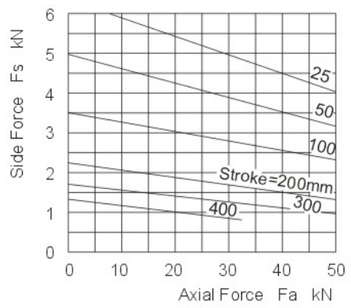


Chart 6 SWL5(QWL5)

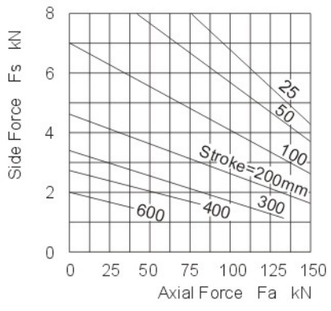


Chart 7 SWL10/15(QWL10/15)

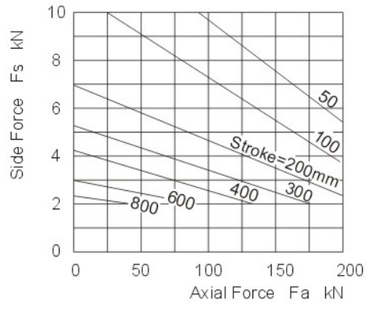


Chart 8 SWL20(QWL20)

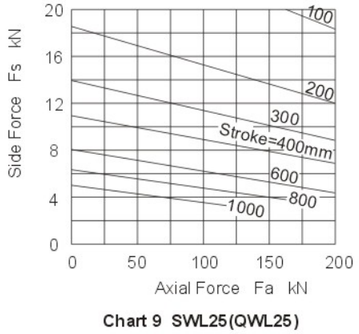


Chart 9 SWL25(QWL25)

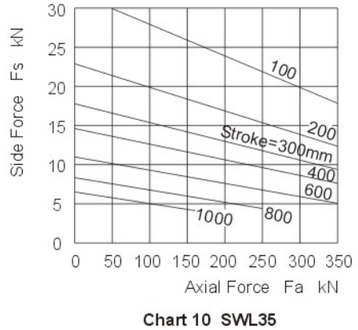


Chart 10 SWL35

The Relation between screw length and limit load

Under euro load I and II, the relation between screw length and limit load, see chart 11-17

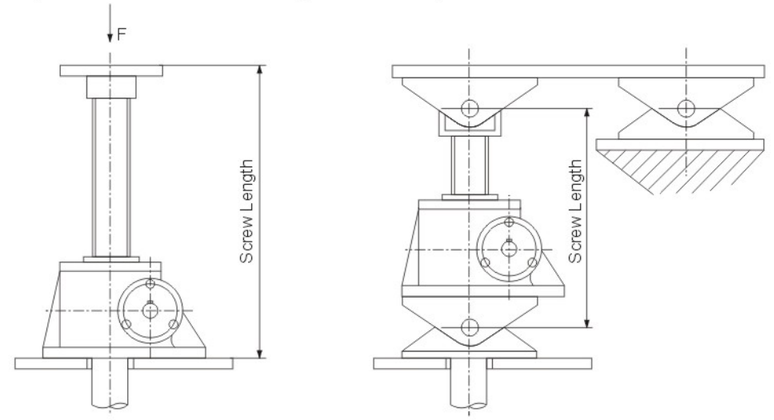


Chart 11

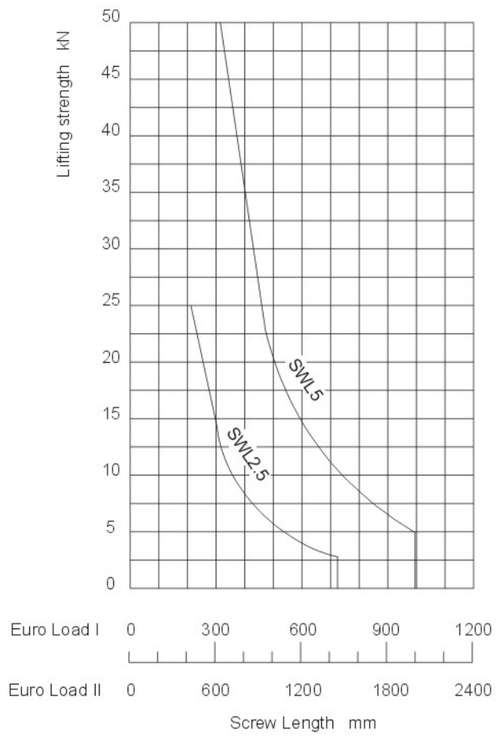


Chart 12

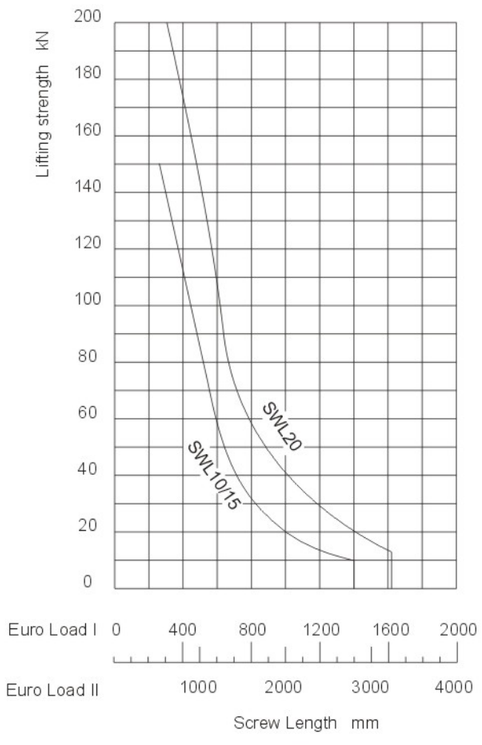


Chart 13

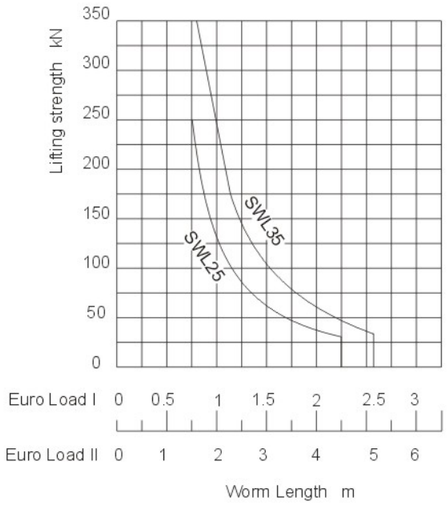


Chart 14

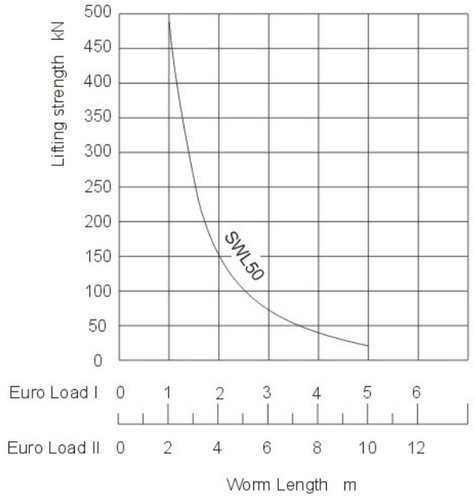


Chart 15

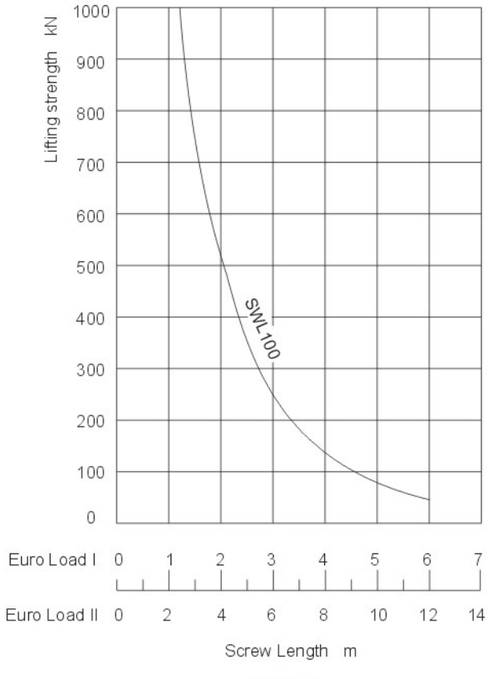


Chart 16

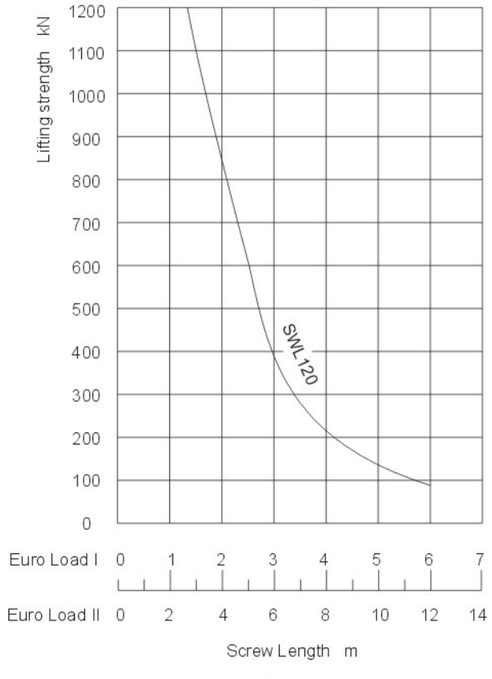


Chart 17

The rated input power of jacks see table 16

Type	Input rotational speed	Normal speed ratio	Slow speed ratio
SWL2.5	1500	1.45	1.45
	1000	1.01	0.32
	750	0.98	0.24
	500	0.82	0.19
SWL5	1500	2.59	0.84
	1000	1.92	0.7
	750	1.77	0.58
	500	1.45	0.43
SWL10/15	1500	3.47	1.31
	1000	2.68	1.06
	750	2.15	0.93
	500	1.89	0.64
SWL20	1500	4.02	1.65
	1000	2.94	1.39
	750	2.46	1.15
	500	2.31	0.77
SWL25	1500	6.38	2.26
	1000	4.42	1.87
	750	3.40	1.51
	500	2.67	1.22
SWL35	1500	13.06	6.36
	1000	11.89	5.28
	750	9.90	4.20
	500	6.56	3.13
SWL50	1000	11.74	6.29
	750	10.62	4.78
	500	8.25	3.63
	300	5.92	2.65
SWL100	1000	23.50	11.78
	750	21.10	9.44
	500	15.70	6.88
	300	10.90	4.94
SWL120	1000	56.41	28.20
	750	53.90	22.20
	500	39.80	16.44
	300	26.70	11.40

The parameter power got in this condition: ambient temperature is 20℃, in the grease-lubricated case, the load beared without any impact.

JW series screw jack overview:

JWM (Trapezoid screw)

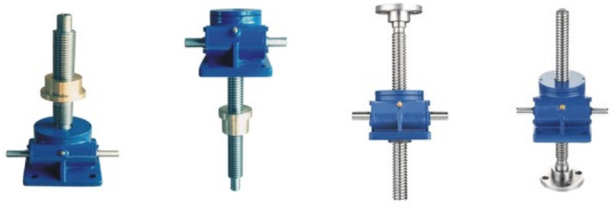
LOW SPEED LOW FREQUENCY

JWM (traqezoidal screw) is suitable for low speed and low frequency.

Main components: Precision trapezoid screw pair and high precision worm-gears pair.

1) Economical:
   Compact design, easy operation, convenient maintenance.
2) Low speed,low frequency:
   Be suitable for heavy load, low speed, low service frequency.
3) Self-lock
   Trapezoid screw has self-lock function, it can hold up load without braking device when screw stops traveling.

Braking device equipped for self-lock will be of malfunction accidentally when large jolt & impact load occur.



JWM (Trapezoid screw) basic parameter table:

Type			JWM010	JWM025	JWM050	JWM100	JWM150	JWM200	JWM300	JWM500	JWM750	JWM1000
Maximal load		(kN)	9.80	24.5	49.0	98.0	147	196	294	490	735	980
Outer diameter of screw		(mm)	20	26	40	50	55	65	85	120	130	150
Small diameter of screw	d	(mm)	14.8	19.7	30.5	38.4	43.4	49.3	67	102	112	127
Pitch of screw	L1	(mm)	4	5	8	10	10	12	16	16	16	20
Ratio	i	H Speed	5	6	6	8	8	8	10⅔	10⅔	10⅔	12
		L Speed	20	24	24	24	24	24	32	32	32	36
Integrated efficiency	η	H Speed	21	21	22	22	20	20	19	15	13	13
		L Speed	12	12	14	15	14	13	11	10	8	8
Permissible output maximal power	(kN)	H Speed	0.49	1.0	2.0	2.8	3.1	5.0	8.4	13.4	14.4	21.4
		L Speed	0.36	0.46	0.63	1.4	2.2	3.2	4.6	5.7	7.2	9.4
No-load torque	T_o	(N • m)	0.29	0.62	1.4	2.0	2.6	3.9	9.8	19.6	29.4	39.2
Permissible torque of input shaft		(N • m)	19.6	49.0	153.9	292.0	292.0	292.0	735.0	1372.0	1764.0	2450.0
Required torque of input shaft at maximal load	(N • m)	H Speed	6.2	16.1	48.7	90.7	149.0	238.1	400.1	856.0	1380.5	2040.9
		L Speed	2.9	7.4	20.0	45.3	72.3	124.0	244.0	453.3	761.3	1278.3
Axial jonrney of screw, when input shaft rotate a circle.	(mm)	H Speed	0.80	0.83	1.33	1.25	1.25	1.50	1.50	1.50	1.50	1.67
		L Speed	0.20	0.21	0.33	0.42	0.42	0.50	0.50	0.50	0.50	0.56
Permissible rotational speed of screw shaft at maximal loading	(rpm)	H Speed	750	600	400	300	200	200	200	150	100	100
		L Speed	1200	600	300	300	290	250	180	120	90	70
Rotational torque of screw at maximal load (N • m)			20.1	65.1	201.5	503.6	813.2	1287.7	2531.9	5551.3	8921.8	13878.3

* Permissible torque of shaft of reducer.
** Include torque under the condition of no-load operating.

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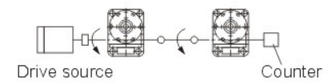
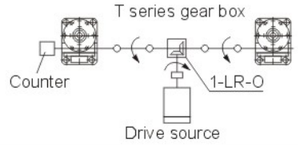
Application example:

Two gear boxes linking:

Linear arrangement

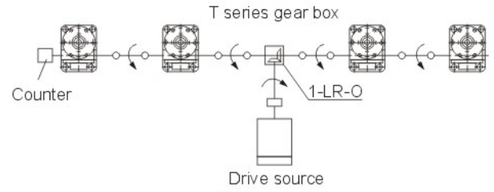


T arrangement

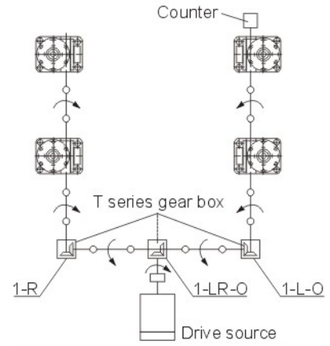


Four gear boxes linking:

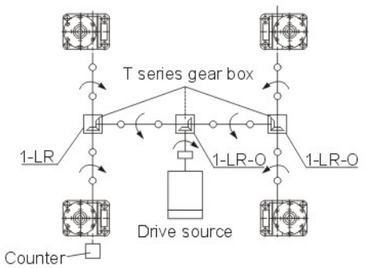
T arrangement



U arrangement

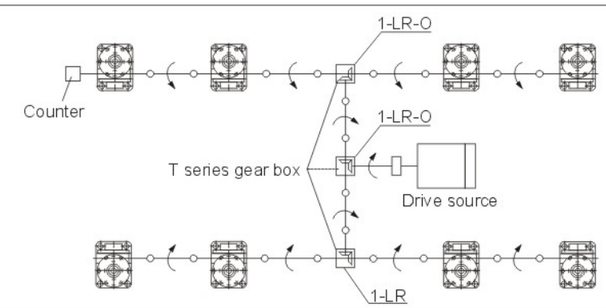


H arrangement



Eight gear boxes linking:

H developed arrangement



2H arrangement

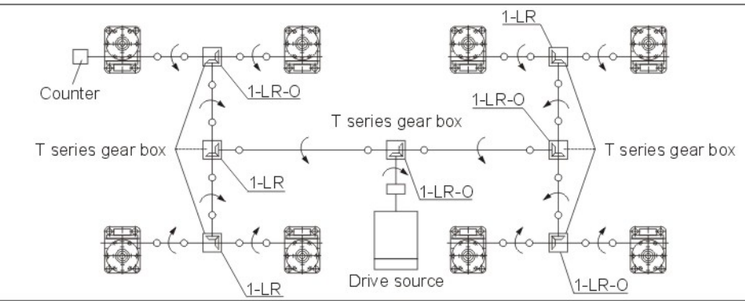
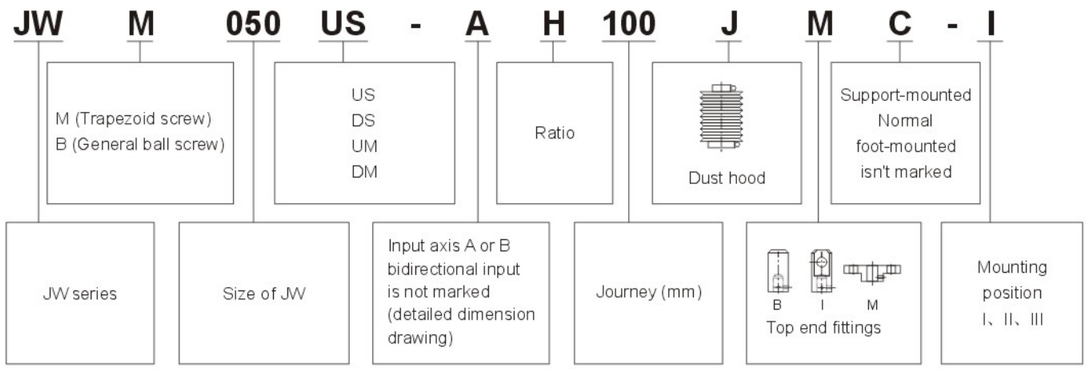


Illustration of types:

Plain mode and Mode with anti-rotation device:



Plain mode (US, DS)

Worm wheel rotating, threaded spindles travel up and down.
Ordinary mounting mode is applied here,

US: UPRISE DS: DROP

* Select US or DS according to the load and mounting positions.
* Anti-rotation measures must be taken because torque on screw will be caused when screw traveling up and down.

US DS US DS

With Anti-rotation device.

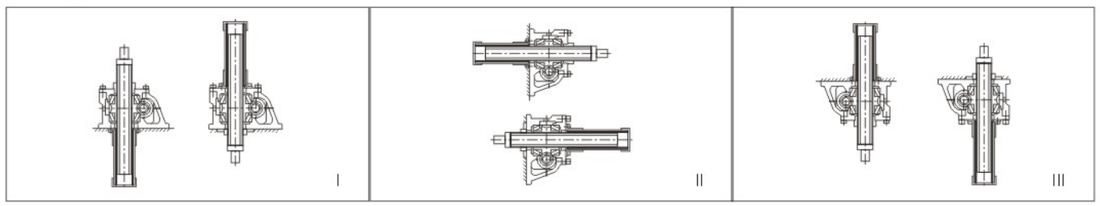
UM: UPRISE DM: DROP

* No rotation of screw, which only travel up and down.
* Select UM or DM according to the load and mounting positions.

(JWM100-JWM200) (JWM010-JWM050)(JWB010-JWB200)

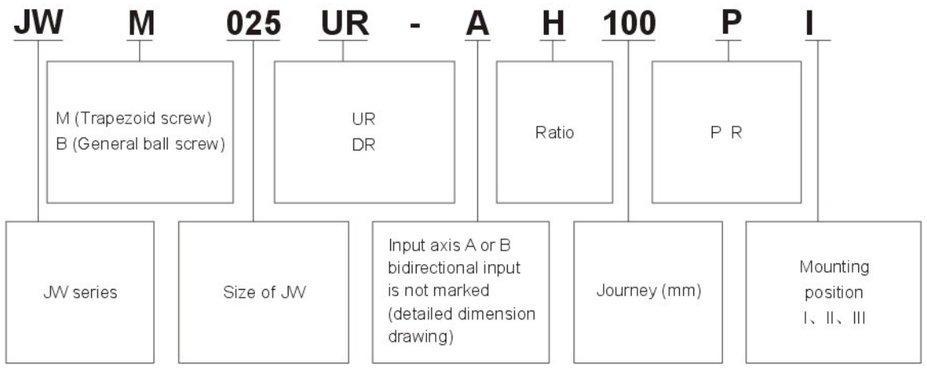
UM DM

Mounting position



Note: Selecting mounting position III, the quality of bolt on housing feet reaches 10.9.

Illustration of type with traveling nut



JW with Traveling nut

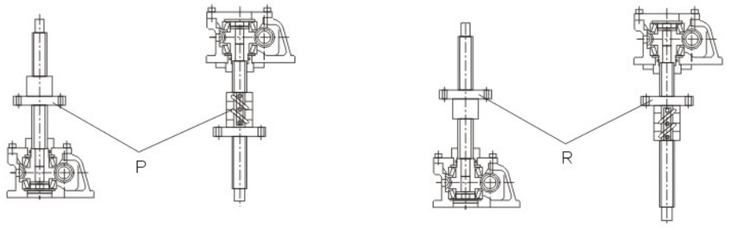
In general, Jack need enough space for screw's traveling journey and dust-hood.
Using traveling nut can help jack realize longer traveling journey in limited space.
The top end fittings are column, it can be a supporting point for a good transmission effect when a long traveling journey is selected.

UR: UPRISE DR: DROP

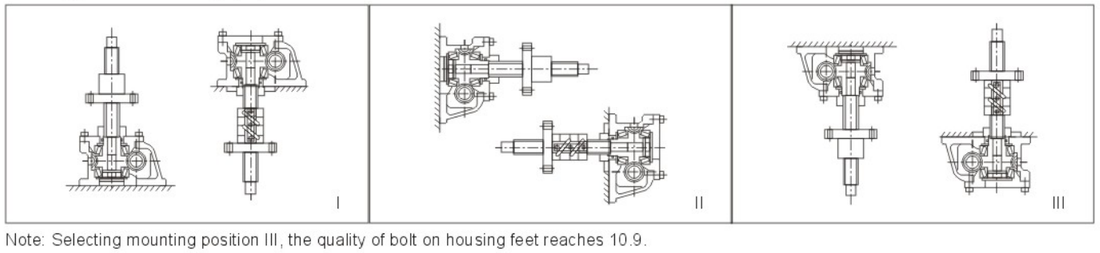
Select UR or DR according to the load and mounting positions.

Mounting direction of traveling nut (P, R)

The mounting direction of traveling nut should be signed on drawing when selecting types.



Mounting position of Jack (I, II, III)



Note: Selecting mounting position III, the quality of bolt on housing feet reaches 10.9.

Note:

1) Select a Jack with sufficient capacity according to safety factor, service journey and stability. And stationary load, dynamic load and shock load must be lower than permissible maximum load.
2) Please note that rotation speed of screw must match load, permissible maximum load, permissible maximum outer load, and permissible rotation speed of screw must be verified. If these figures exceed that of products, jacks will be damaged greatly.
3) The surface temperature will be limited in -15° ~80° when jack working to ensure the temperature of traveling nuts in -15° ~80° .
4) Maximum input speed is 1500r/min.
5) JWM and JWB aren't suitable for continous operation,
   Jack Duty(%ED)
   JWM duty(%ED) cannot exceed 20%ED,
   JWB duty(%ED) cannot exceed 30%ED,

   Duty %ED=

$$\frac{\text{jack operating time(lift \&lower cycle)}}{\text{Elapsed cycle time}} \times 100\%$$

6) When several Jacks are connected on the same axial line, the loaded torque with each Jack must be verified and limited within permissible input torque.
7) Starting torque must be 200% of service torque.
8) At below 0° ambient temperature, changed adhesion of lubrication will lower Jack's efficiency so that sufficient drive is necessary.
9) JWM has self-lock function, but an Extra braking device or drive source with braking device is necessary to be equipped because self-lock will be of mal-function When Jack is loaded a heavy shock.
   JWB has no self-lock function, to avoid backspin of screw under axial load and its weight, a braking device or drive source with braking device is necessary to be equipped and braking torque must be larger than operating torque of jack.
10) Jack's operating conditions

Working Location	Indoor location without rainwater
Ambient Air	Normal
Ambient Temperature	-15℃~40℃
Relative Humidity	Less than 85%

11) When working in dusty space, Jack must be equipped with elastic dust-hood on screw; in open air, shield must be equipped to prevent exposure to wind and rain.
12) When working, Jack cannot be forced to stop, or it will be damaged seriously.
13) Under load, don't change motor drive mode into manual drive, or which will cause backspin of screw and cause great danger.

How to select type:

Determine Jack's type:

calculate total equivalent load Ws (N):

Ws = Wmax × f1

Service factor for driven machine (f1):

Load character	Example	Factor for driven machine (f1)
shockless load & small inertia load	Switch, valve transmission belt swithing device	1.0~1.3
moderate shock & moderate inertia	All kinds of moving devices, all kinds of elevators	1.3~1.5
heavy shock & large inertia	Carrying something by trolley; to keep the position of idling gear	1.5~3.0

Calculate equivalent load of single Jack,

$$W = \frac{WS}{\text{Number} \times \text{Linkage factor (fd)}}$$

Linkage factor(fd):

Number of linkage jack	1	2	3	4	5~8
Linkage factor	1	0.95	0.9	0.85	0.8

Temporarily determine Jack type:

Temporarily determine Jack type after taking full conside-ration of load, spped, journey, efficiency and drive source.
Determine JW type according to service journey, ambient conditions, connection mode of end-fittings.

Verify input power

If required input power under load exceeds permissible maximum input power, please select larger type or lower the speed of screw rotation.

Calculation of required input power under load:

Required rotation speed of input shaft	n1 (r/min)	$n1=\frac{V}{L1}\times i$
Required torque of input shaft	T1 (N • m)	$T1=\frac{W\times L1}{2\pi\times i\times \eta}+T0$
Required input power	P1 (kW)	$P1=\frac{T1\times n1}{9550}$

V: linear speed of screw mm/min L: Pitch of screw (m)
i: ratio W: equivalent load of single jack π:pi
η:Integrated efficiency TO: No-load torque (Nm)
(L1、i、η、TO refer to basic parameter table)

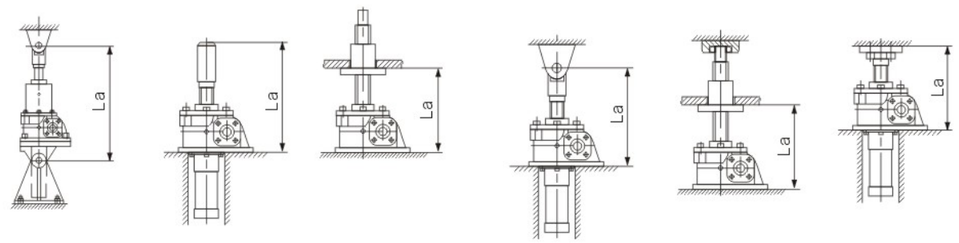
Verify the stability of screw:

Please verify the stability of screw under axial load, larger type should be used when load exceed the critical load.
The formula to calculate the critical load as follows:

$P_{CR}=fm\times(\frac{d^2}{L_a})^2$	ensure	$P_{CR}>W\times SF$ (SF=4)

Pcr: Critical load (N)
d: smal diameter of screw end (mm)(refer to basic parameter table)
fm: support factor
La: distance between load-supporting point and mounting point as drawing.
W: equivalent load of single jack (N)
SF: safety factor (SF=4 as usual)

Verifying the stability of screw, the values of La and fm as follows,



support at both ends fm=10×10⁴ Foot-mounted & movable shaft end fm=2.5×10⁴ Foot-mounted & shaft end supporting or fixed fm=20×10⁴

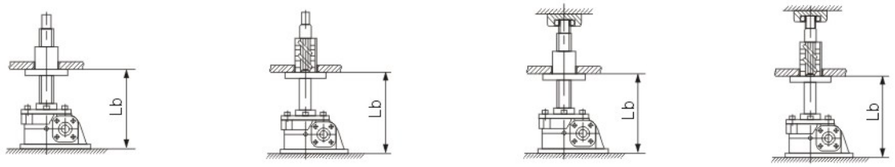
Verifying critical rotation speed:

Using traveling nut, the rotation speed of screw must be lower than critical speed, if no, please select larger type and calculate again.

$$n_c = \frac{96 \times fn \times d \times 10^6}{L_b^2} \qquad n_s = \frac{n1}{i}$$

n_c: Permissible rotation speed of screw
n_s: Rotational speed of screw
d: Small diameter of screw (refer to basic parameter table)
n1: Rotational speed of input shaft
fn: Length factor
i: ratio
Lb: Distance between both supporting face

Verifying the rotation speed of screw, the values of Lb and fn as follows,



Movable shaft end fn=0.36 Shaft end supporting fn=1.56

Ensure: $n_c > n_s$

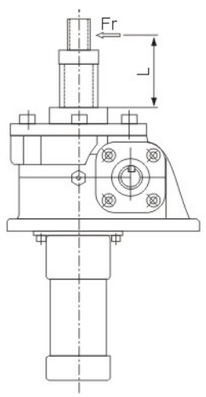
Example for calculation:
Take JWM200UR-H1200PI as example, n1=1200r/min, connecting mode of top-end : I, we can know d=49.3, Lb=1437 referring to dimension and transmission capacity table.

$$n_s = \frac{n1}{i} = \frac{1200}{8} = 150\text{r/min}$$

$$n_c = \frac{96 \times fn \times d \times 10^6}{L_b^2} = \frac{96 \times 1.56 \times 49.3 \times 10^6}{(1437)^2} = 3575\text{r/min}$$

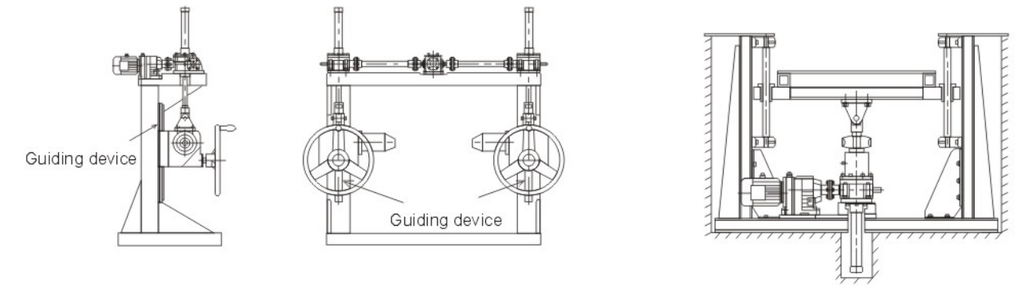
n_c=3575r/min>n_s=150r/min·····ok.

When there is radial load, please add guiding device.
JWM Permitted radial load Fr(N):

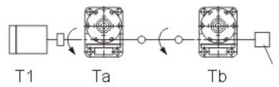


Fr(N) / Type / L(mm)	010	025	050	100	150	200	300	500	750	1000
100	318	57	2500	4010	4610	8210	38200	85300	73500	186200
200	159	290	1250	2010	2300	4110	23000	50400	56800	145000
300	106	190	830	1340	1540	2740	15300	33600	46100	104700
400	79	140	620	1000	1150	2050	11400	25200	39300	78500
500	64	110	500	800	920	1640	9100	20200	33900	62800
600	53	100	420	670	770	1370	7600	16800	29900	52300
700	51	90	360	570	660	1170	6500	14400	26700	44800
800	48	90	310	500	580	1030	5700	12600	24100	39200
900	45	90	280	450	510	910	5000	11200	22000	34800
1000	42	90	250	400	460	820	4500	10100	20200	31300

When operating radial load exceeds critical radial load, please add guiding device, for example,



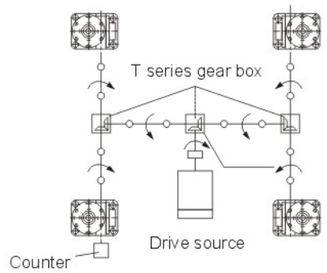
Please verify input torque of each Jack when several Jack are connected on the same input axial line as the following,



Ta: Required torque of input shaft of jack a.
Tb: Required torque of input shaft of jack b.
Required torque of motor T1=Ta+Tb<Promitted input torque of jack a.

Jack selection example:

Example: Four Jacks, linked as the following drawing, normal temperature, thin dust, radial load, with guiding devices on one side, foot-mounted, fixed the screw top-end, 380v/50Hz, service frequency: 2 times/hour,service time: 8 hours.
1. Maximum axial load; 88.2KN/4 Jacks
2. Linear speed: 10mm/s (600mm/min)
3. Service journey: 260mm



Determine Jack type,
1) Calculate total equivalent load Ws (Factor for driven machinc is 1.3)
Ws=Wmax • f1=88200×1.3=114660N
2) Calculate equivalent load of single jack:

$$w = \frac{114660}{4 \times 0.85} = 33724\text{N}$$

3) Temporarily determine type,
Temporarily determine JWB050USH according to speed, efficiency, drive and Load (refer to basic parameter table)
4) Verify journey:
Service journey is 260mm, determine journey should be 300 after considering surplus. (Please refer to dimension sheet of JWB050US).
5) Check input power:
(1) Calculatc required input power:

$$①n1 = \frac{V}{L1} \times i = \frac{0.60}{0.010} \times 6 = 360\text{r/min} \qquad ②T1 = \frac{W \times L1}{2\pi \times i \times \eta} + T0 = \frac{33724 \times 0.010}{2 \times 3.14 \times 6 \times 0.64} + 1.37 = 15.4\text{Nm} \qquad ③P1 = \frac{T1 \times n1}{9550} + T0 = \frac{15.4 \times 360}{9550} = 0.58\text{kW}$$

(2) Verify the stability of screw

For under axial load, refer to transmission table and dimension for the following figures,

d=31.3　　La=604+33=637　　fm=20×10⁴　　SF=4

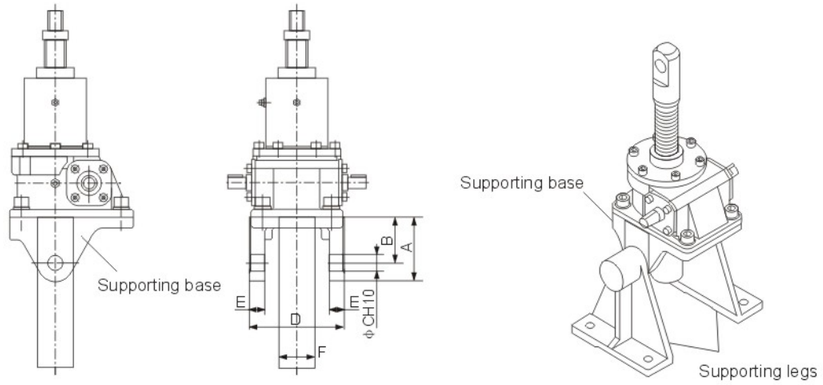
$$P_{CR}=fm\times(\frac{d^2}{L_a})^2=20\times10^4\times(\frac{31.3^2}{637})^2=473073N$$

$$P_F=\frac{P_{CR}}{SF}=\frac{473073}{4}=118268>W=33724$$ ... ...OK

Accessory confirmation:

Support (Mode C mounting):

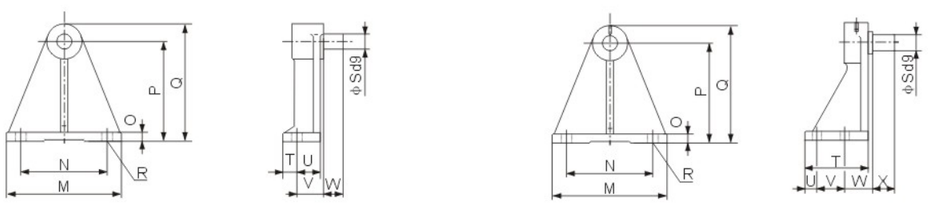
support-mounted mode widely apply to tilting equipment.



Type	A	B	C	D	E	F
010	75	60	15	86	15	35
025	100	75	20	115	20	45
050	105	75	25	158	25	58
100	145	100	40	201	30	76.3
150	155	105	50	224	44	76.3
200	173	110	63	244	50	89.1

Supporting legs:

Matching supporting base and legs realizes multi-angles lifting and lowering.



Type	M	N	O	P	Q	R	S	T	U	V	W	X
010	180	130	15	150	178	2-φ18	15	25	40	45	17	-
025	180	130	15	150	178	2-φ18	20	25	40	45	30	-
050	200	150	15	170	200	2-φ18	25	25	40	45	35	-
100	280	220	22	240	290	4-φ22	40	159	30	70	70	55
150	360	280	27	300	360	4-φ33	50	195	40	85	85	70
200	400	320	30	380	450	4-φ33	63	210	40	90	90	75

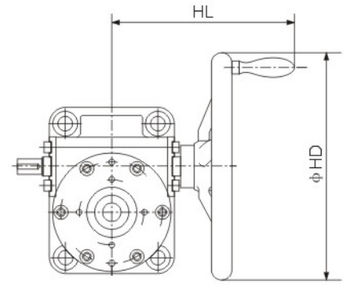
Hand wheel:

Hand wheel only apply to JWM under light shock or vibration condition but not for JWB.

$M_{handwheel}=M_{required}/R_{handwheel}$

JWM025US-H200MI - NV100

Refer to 180　　Hand wheel mode



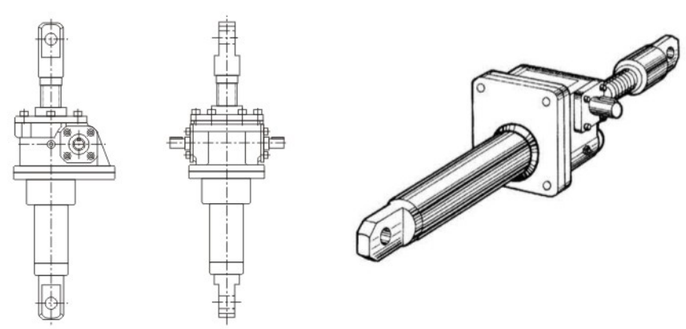
Dimension sheet:　　(mm)

Type	NV80		NV100		NV200		NV250		NV450	
	HD	HL	HD	HL	HD	HL	HD	HL	HD	HL
JWM010	80	122	100	125	—	—	—	—	—	—
JWM025	—	—	100	140	200	198	—	—	—	—
JWM050	—	—	—	—	200	221	250	229	—	—
JWM100	—	—	—	—	—	—	250	242	450	295
JWM150	—	—	—	—	—	—	250	247	450	300
JWM200	—	—	—	—	—	—	—	—	450	304

Note: The dimension of hand wheel is subject to product purchased from other factories.

Double end output :

Apply to open and close devices, reversing devices.

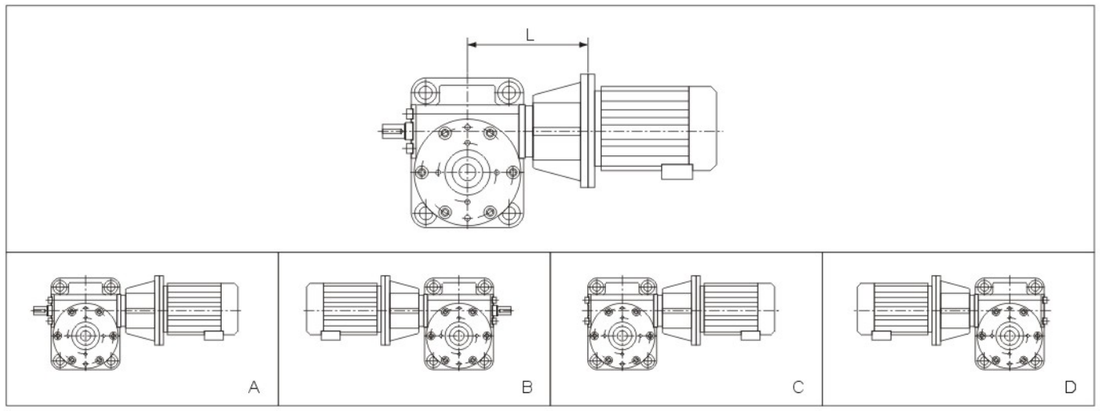


Combination of JW series:

Direct-connected-motor:
Illustration of types:

JWM050US-H200MI - Y - 0.55 - A

Refer to 180	Motor mode	Motor power	Combination



Type	JWM010				JWM025						JWM050					
Motor Power (kW)	0.12	0.18	0.25*	0.37*	0.12	0.18	0.25	0.37	0.55*	0.75*	0.25	0.37	0.55	0.75	1.1*	1.5*
L (mm)	136				142						170					

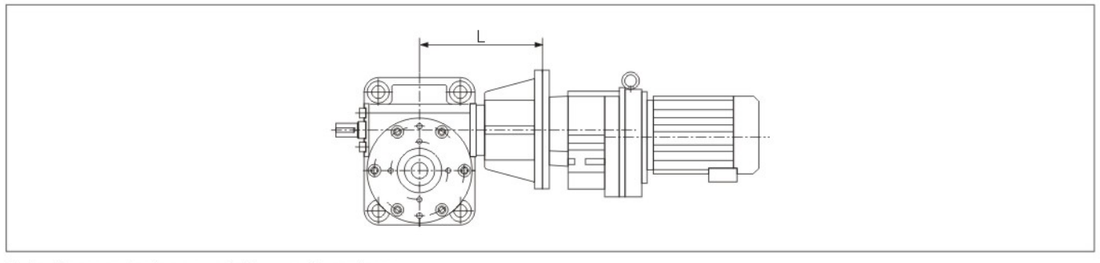
Type	JWM100						JWM150						JWM200					
Motor Power (kW)	0.37	0.55	0.75	1.1	1.5	2.2*	0.55	0.75	1.1	1.5	2.2*	3*	0.75	1.1	1.15	2.2	3	4*
L (mm)	225						232						260					

Note: 1. Motor power must accord with JM basic parameter table.
2. 4-pole motor power are available in the table.
3. 6-pole motors or "*" frequency conversion and braking motors should be foot-mounted for their heavy weight.

Combination with gear motor:
Illustration of types:

JWM050US-H200MI - R37-5-Y-0.55 - A

Refer to 180	Illustration of the gear motor	Combination



Note: If gear motor is over weight, consult us please.

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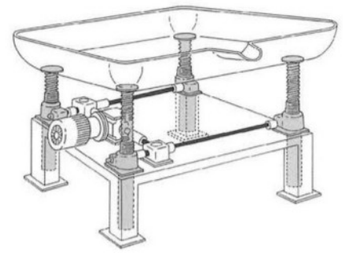
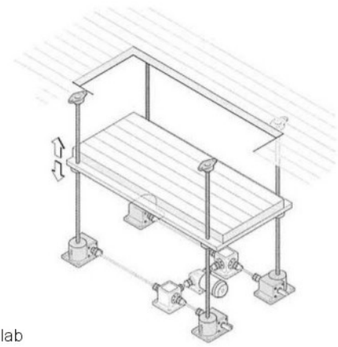
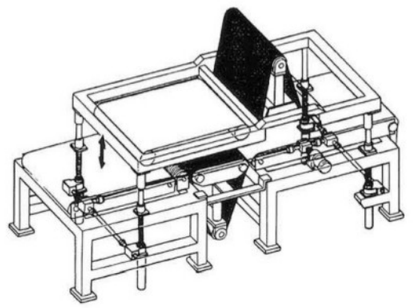
Application example:

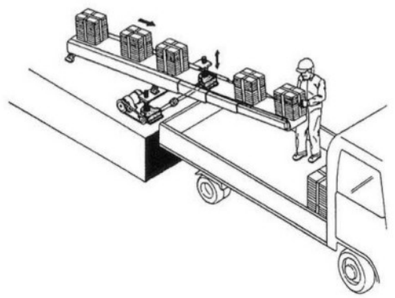




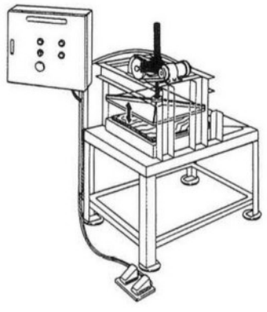
Ascending and descending of flat slab



Adjust operation height of surface machining tool



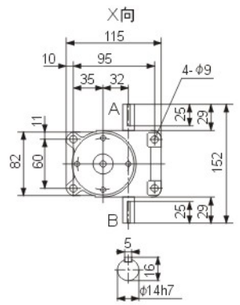
Adjust inclination pitch of conveyer apron

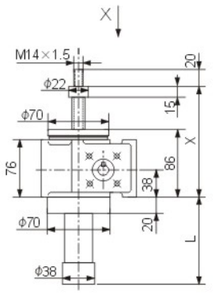


Operation height of straightening machine

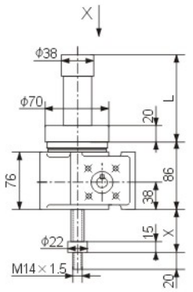
Automatic switch on large windows (doors)

JWM010





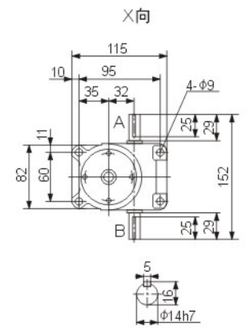
JWM010US

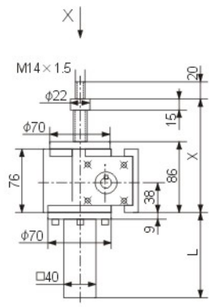


JWM010DS

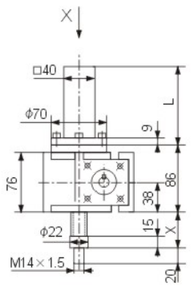
Journey (mm)	U S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	101	201	161	261	194	5.5
200	101	301	161	361	294	5.7
300	101	401	201	501	434	6.1
400	101	501	201	601	534	6.3
500	101	601	236	736	669	6.6
600	101	701	236	836	769	6.9
800	101	901	271	1071	1004	7.5

Journey (mm)	D S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	25	125	75	175	194	5.5
200	25	225	75	275	294	5.7
300	25	325	115	415	434	6.1
400	25	425	115	515	534	6.3
500	25	525	150	650	669	6.6
600	25	625	150	750	769	6.9
800	25	825	185	985	1004	7.5





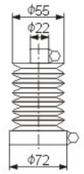
JWM010UM



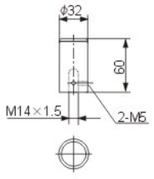
JWM010DM

Journey (mm)	U M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	101	201	161	261	194	6.6
200	101	301	161	361	294	7.2
300	101	401	201	501	434	8.1
400	101	501	201	601	534	8.8
500	101	601	236	736	669	9.6
600	101	701	236	836	769	11
800	101	901	271	1071	1004	12

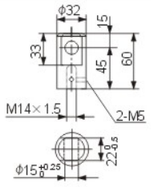
Journey (mm)	D M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	25	125	75	175	194	6.6
200	25	225	75	275	294	7.2
300	25	325	115	415	434	8.1
400	25	425	115	515	534	8.8
500	25	525	150	650	669	9.6
600	25	625	150	750	769	11
800	25	825	185	985	1004	12



J



B



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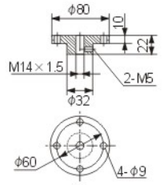
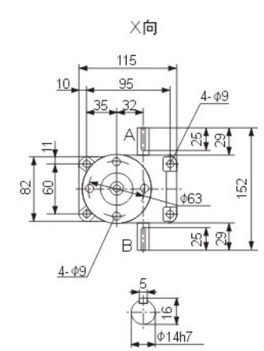
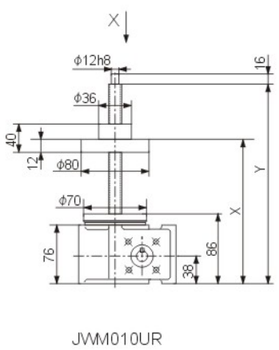
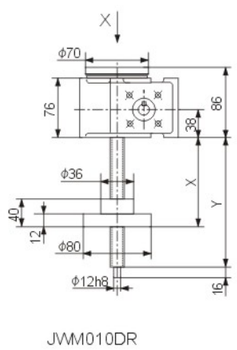


M





JWM010UR



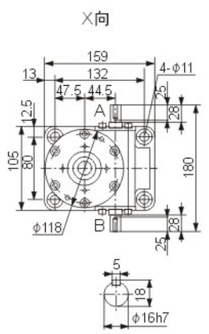
JWM010DR

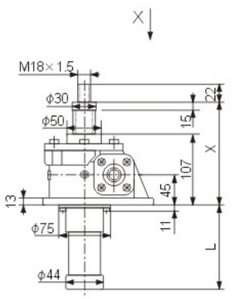
Journey (mm)	U R X MIN	X MAX	L	m (kg)
100	108	208	246	5.9
200	108	308	346	6.1
300	108	408	446	6.2
400	108	508	546	6.4
500	108	608	646	6.6
600	108	708	746	6.8
800	108	908	946	7.2

Journey (mm)	D R X MIN	X MAX	L	m (kg)
100	50	150	160	5.9
200	50	250	260	6.1
300	50	350	360	6.2
400	50	450	460	6.4
500	50	550	560	6.6
600	50	650	660	6.8
800	50	850	860	7.2

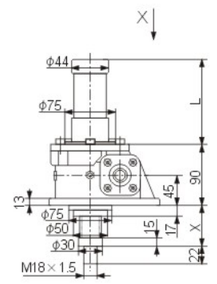
Note: "X⁽¹⁾" is the dimension of jack with dust hood.

JWM025





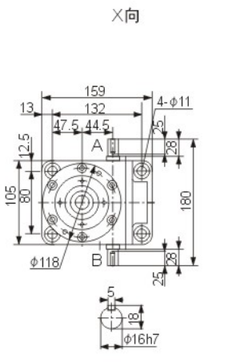
JWM025US

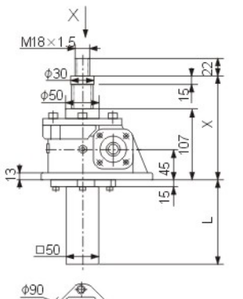


JWM025DS

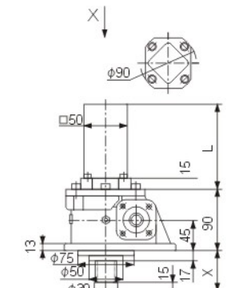
Journey (mm)	U S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	132	232	147	247	149	7.7
200	132	332	147	347	249	8.1
300	132	432	167	467	369	8.5
400	132	532	167	567	469	8.9
500	132	632	187	687	589	9.4
600	132	732	187	787	689	9.8
800	132	932	207	1007	909	11
1000	132	1132	227	1227	1129	12

Journey (mm)	D S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	42	142	57	157	149	7.7
200	42	242	57	257	249	8.1
300	42	342	77	377	369	8.5
400	42	442	77	477	469	8.9
500	42	542	97	597	589	9.4
600	42	642	97	697	689	9.8
800	42	842	117	917	909	11
1000	42	1042	137	1137	1129	12





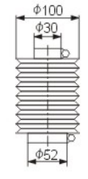
JWM025UM



JWM025DM

Journey (mm)	U M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	132	232	147	247	175	10
200	132	332	147	347	275	12
300	132	432	167	467	395	13
400	132	532	167	567	495	14
500	132	632	187	687	615	15
600	132	732	187	787	715	17
800	132	932	207	1007	935	19
1000	132	1132	227	1227	1155	21

Journey (mm)	D M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	42	142	57	157	175	10
200	42	242	57	257	275	12
300	42	342	77	377	395	13
400	42	442	77	477	495	14
500	42	542	97	597	615	15
600	42	642	97	697	715	17
800	42	842	117	917	935	19
1000	42	1042	137	1137	1155	21



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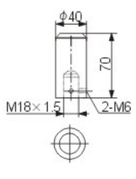

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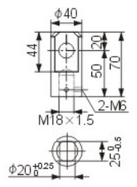

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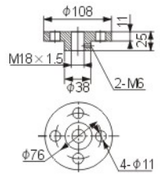
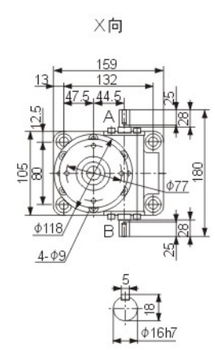
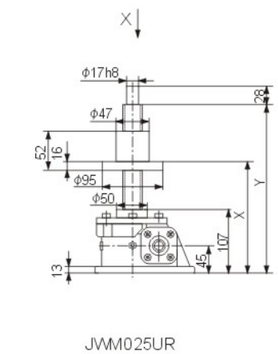
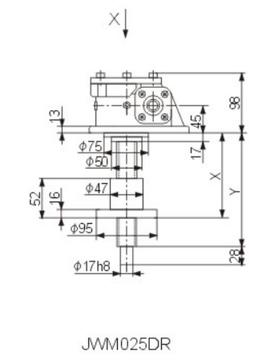


M





JWM025UR



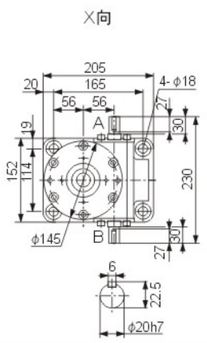
JWM025DR

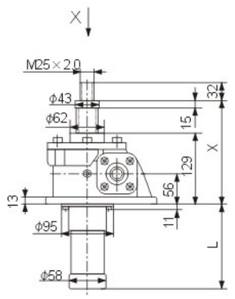
Journey (mm)	U R X MIN	X MAX	L	m (kg)
100	133	233	279	9.2
200	133	333	379	9.5
300	133	433	479	9.9
400	133	533	579	11
500	133	633	679	11
600	133	733	779	11
800	133	933	979	12
1000	133	1133	1179	13

Journey (mm)	D R X MIN	X MAX	L	m (kg)
100	79	179	189	9.2
200	79	279	289	9.5
300	79	379	389	9.9
400	79	479	489	11
500	79	579	589	11
600	79	679	689	11
800	79	879	889	12
1000	79	1079	1089	13

Note: "X⁽¹⁾" is the dimension of jack with dust hood.

JWM050





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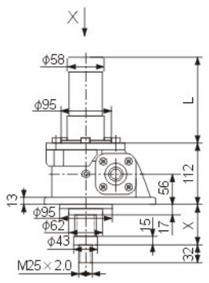
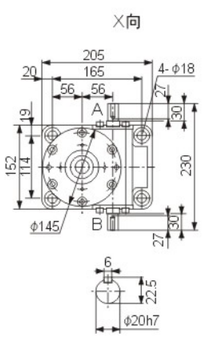
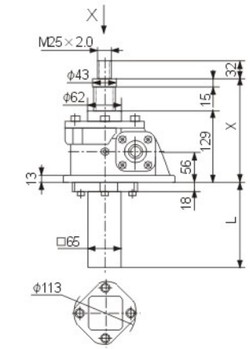


JWM050DS

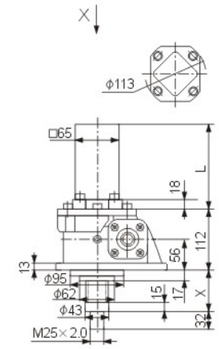
Journey (mm)	U S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	154	254	169	269	147	18
200	154	354	169	369	247	19
300	154	454	189	489	367	20
400	154	554	189	589	467	21
500	154	654	209	709	587	22
600	154	754	209	809	687	23
800	154	954	229	1029	907	25
1000	154	1154	249	1249	1127	27

Journey (mm)	D S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	57	157	147	18
200	42	242	57	257	247	19
300	42	342	77	377	367	20
400	42	442	77	477	467	21
500	42	542	97	597	587	22
600	42	642	97	697	687	23
800	42	842	117	917	907	25
1000	42	1042	137	1137	1127	27





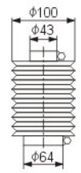
JWM050UM



JWM050DM

Journey (mm)	U M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	154	254	169	269	175	22
200	154	354	169	369	275	24
300	154	454	189	489	395	26
400	154	554	189	589	495	28
500	154	654	209	709	615	30
600	154	754	209	809	715	32
800	154	954	229	1029	935	36
1000	154	1154	249	1249	1155	40

Journey (mm)	D M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	57	157	175	22
200	42	242	57	257	275	24
300	42	342	77	377	395	26
400	42	442	77	477	495	28
500	42	542	97	597	615	30
600	42	642	97	697	715	32
800	42	842	117	917	935	36
1000	42	1042	137	1137	1155	40



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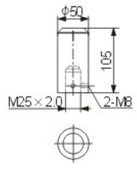

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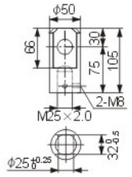

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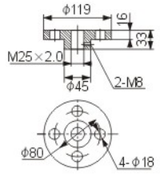
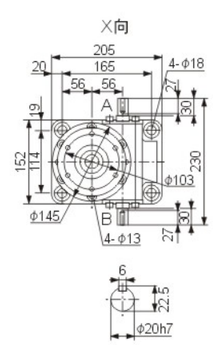
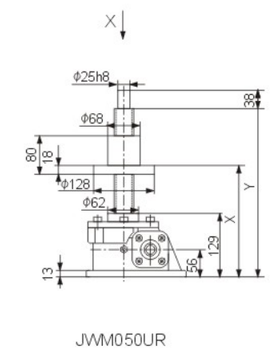
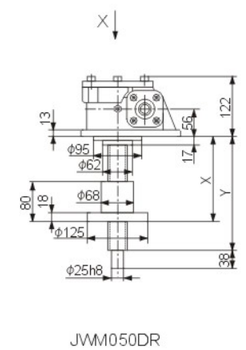


M





JWM050UR



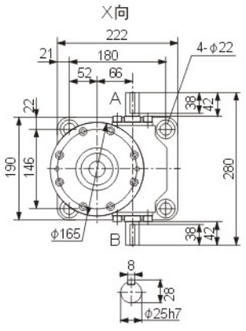
JWM050DR

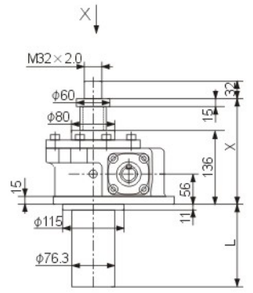
Journey (mm)	U R			
	X		L	m
	MIN	MAX		(kg)
100	157	257	330	22
200	157	357	430	22
300	157	457	530	23
400	157	557	630	24
500	157	657	730	25
600	157	757	830	26
800	157	957	1030	27
1000	157	1157	1230	29

Journey (mm)	D R			
	X		L	m
	MIN	MAX		(kg)
100	107	207	218	22
200	107	307	318	22
300	107	407	418	23
400	107	507	518	24
500	107	607	618	25
600	107	707	718	26
800	107	907	918	27
1000	107	1107	1118	29

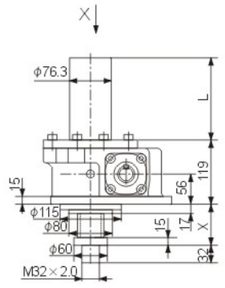
Note: "X(1)" is the dimension of jack with dust hood.

JWM100





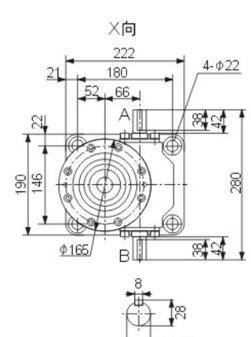
JWM100US

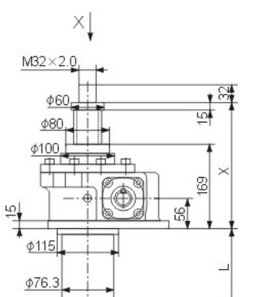


JWM100DS

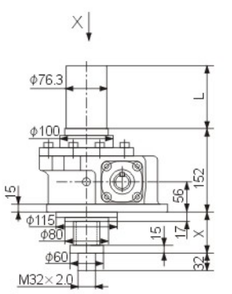
Journey (mm)	U S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	161	261	171	271	151	27
200	161	361	171	371	252	29
300	161	461	186	486	366	32
400	161	561	186	586	466	34
500	161	661	211	711	591	37
600	161	761	211	811	691	40
800	161	961	226	1026	906	45
1000	161	1161	236	1236	1116	50
1200	161	1361	261	1461	1341	56

Journey (mm)	D S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	52	152	151	27
200	42	242	52	252	252	29
300	42	342	67	367	366	32
400	42	442	67	467	466	34
500	42	542	92	592	591	37
600	42	642	92	692	691	40
800	42	842	107	907	906	45
1000	42	1042	117	1117	1116	50
1200	42	1242	142	1342	1341	56





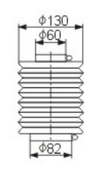
JWM100UM



JWM100DM

Journey (mm)	U M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	194	294	204	304	151	30
200	194	394	204	404	252	32
300	194	494	219	519	366	35
400	194	594	219	619	466	37
500	194	694	244	744	591	40
600	194	794	244	844	691	43
800	194	994	259	1059	906	48
1000	194	1194	269	1269	1116	53
1200	194	1394	294	1494	1341	58

Journey (mm)	D M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	52	152	151	30
200	42	242	52	252	252	32
300	42	342	67	367	366	35
400	42	442	67	467	466	37
500	42	542	92	592	591	40
600	42	642	92	692	691	43
800	42	842	107	907	906	48
1000	42	1042	117	1117	1116	53
1200	42	1242	142	1342	1341	58



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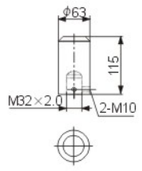

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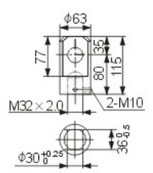

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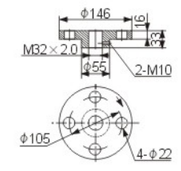
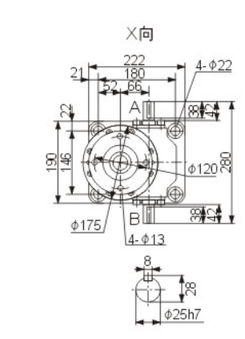
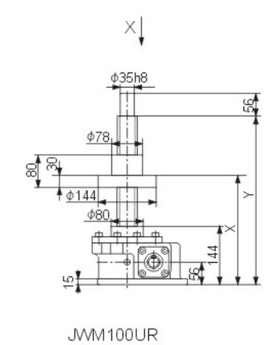
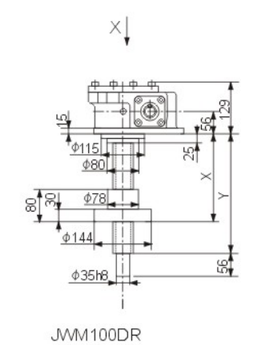


M





JWM100UR



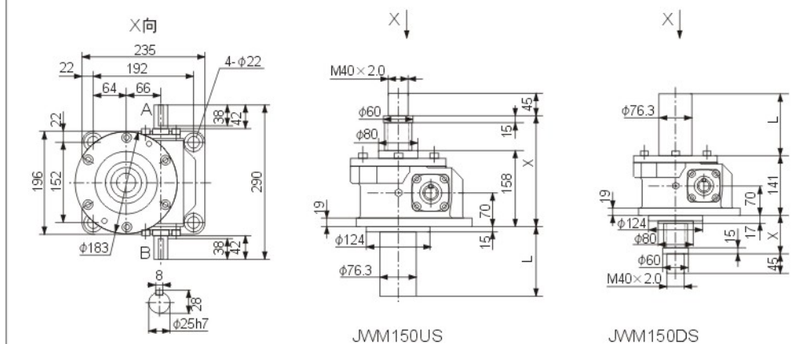
JWM100DR

Journey (mm)	U R			
	X		L	m
	MIN	MAX		(kg)
100	184	284	344	32
200	184	384	444	33
300	184	484	544	34
400	184	584	644	36
500	184	684	744	37
600	184	784	844	38
800	184	984	1044	41
1000	184	1184	1244	43
1200	184	1384	1444	45

Journey (mm)	D R			
	X		L	m
	MIN	MAX		(kg)
100	115	215	225	32
200	115	315	325	33
300	115	415	425	34
400	115	515	525	36
500	115	615	625	37
600	115	715	725	38
800	115	915	925	41
1000	115	1115	1125	43
1200	115	1315	1325	45

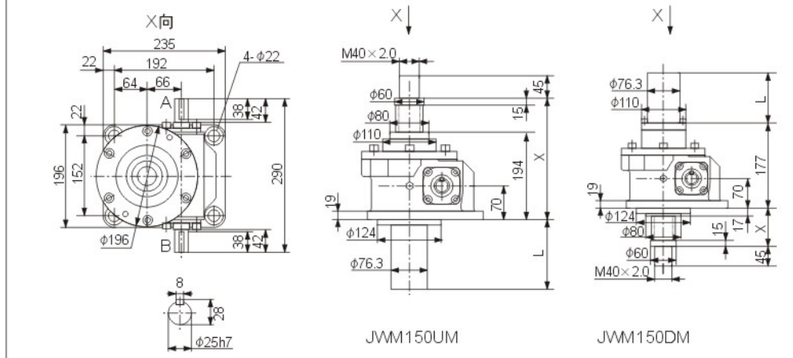
Note: "X(1)" is the dimension of jack with dust hood.

JWM150



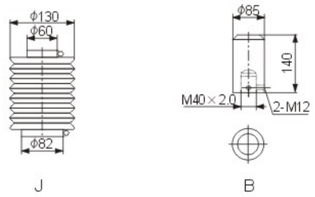
Journey (mm)	U S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	183	283	193	293	151	33
200	183	383	193	393	252	35
300	183	483	208	508	366	38
400	183	583	208	608	466	41
500	183	683	233	733	591	45
600	183	783	233	833	691	47
800	183	983	248	1048	906	53
1000	183	1183	258	1258	1116	59
1200	183	1383	283	1483	1341	65

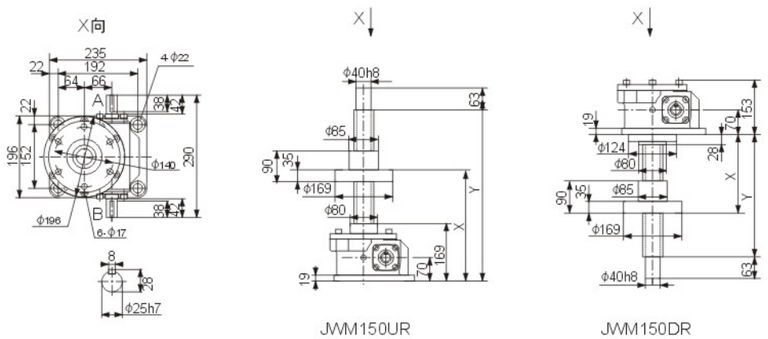
Journey (mm)	D S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	52	152	151	33
200	42	242	52	252	252	35
300	42	342	67	367	366	38
400	42	442	67	467	466	41
500	42	542	92	592	591	45
600	42	642	92	692	691	47
800	42	842	107	907	906	53
1000	42	1042	117	1117	1116	59
1200	42	1242	142	1342	1341	65



Journey (mm)	U M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	219	319	229	329	151	37
200	219	419	229	429	252	40
300	219	519	244	544	366	43
400	219	619	244	644	466	46
500	219	719	269	769	591	49
600	219	819	269	869	691	52
800	219	1019	284	1084	906	58
1000	219	1219	294	1294	1116	64
1200	219	1419	319	1519	1341	69

Journey (mm)	D M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	52	152	151	37
200	42	242	52	252	252	40
300	42	342	67	367	366	43
400	42	442	67	467	466	46
500	42	542	92	592	591	49
600	42	642	92	692	691	52
800	42	842	107	907	906	58
1000	42	1042	117	1117	1116	64
1200	42	1242	142	1342	1341	69



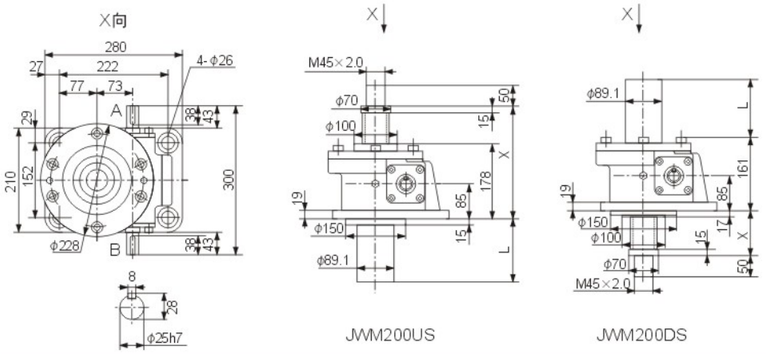


Journey (mm)	U R			
	X		L	m
	MIN	MAX		(kg)
100	214	314	379	40
200	214	414	479	42
300	214	514	579	43
400	214	614	679	45
500	214	714	779	46
600	214	814	879	48
800	214	1014	1079	51
1000	214	1214	1279	54
1200	214	1414	1479	57

Journey (mm)	D R			
	X		L	m
	MIN	MAX		(kg)
100	128	228	239	40
200	128	328	339	42
300	128	428	439	43
400	128	528	539	45
500	128	628	639	46
600	128	728	739	48
800	128	928	939	51
1000	128	1128	1139	54
1200	128	1328	1339	57

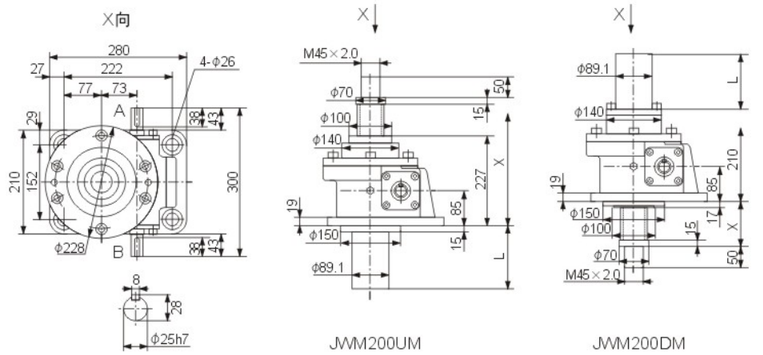
Note: "$X^{(1)}$" is the dimension of jack with dust hood.

JWM200



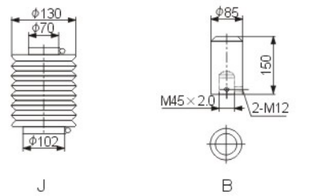
Journey (mm)	U S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	203	303	213	313	151	42
200	203	403	213	413	252	45
300	203	503	228	528	366	49
400	203	603	228	628	466	53
500	203	703	253	753	591	57
600	203	803	253	853	691	60
800	203	1003	268	1068	906	67
1000	203	1203	278	1278	1116	74
1200	203	1403	303	1503	1341	81

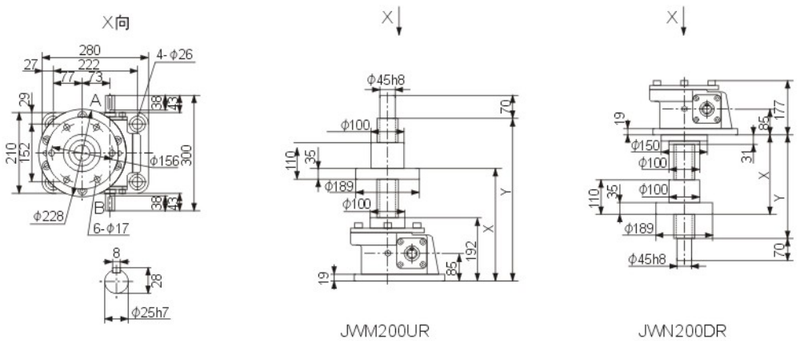
Journey (mm)	D S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	52	152	151	42
200	42	242	52	252	252	45
300	42	342	67	367	366	49
400	42	442	67	467	466	53
500	42	542	92	592	591	57
600	42	642	92	692	691	60
800	42	842	107	907	906	67
1000	42	1042	117	1117	1116	74
1200	42	1242	142	1342	1341	81



Journey (mm)	U M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	252	352	262	362	151	51
200	252	452	262	462	252	55
300	252	552	277	577	366	58
400	252	652	277	677	466	62
500	252	752	302	802	591	66
600	252	852	302	902	691	69
800	252	1052	317	1117	906	76
1000	252	1252	327	1327	1116	83
1200	252	1452	352	1552	1341	90

Journey (mm)	D M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	52	152	151	51
200	42	242	52	252	252	55
300	42	342	67	367	366	58
400	42	442	67	467	466	62
500	42	542	92	592	591	66
600	42	642	92	692	691	69
800	42	842	107	907	906	76
1000	42	1042	117	1117	1116	83
1200	42	1242	142	1342	1341	90





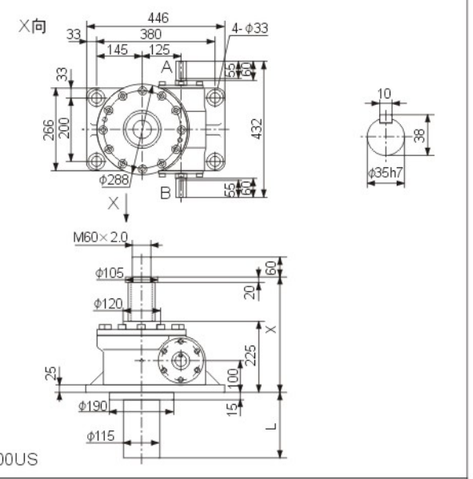
Journey (mm)	U R			
	X		L	m
	MIN	MAX		(kg)
100	237	337	422	56
200	237	437	522	58
300	237	537	622	60
400	237	637	722	62
500	237	737	822	64
600	237	837	922	66
800	237	1037	1122	71
1000	237	1237	1322	75
1200	237	1437	1522	79

Journey (mm)	D R			
	X		L	m
	MIN	MAX		(kg)
100	151	251	261	56
200	151	351	361	58
300	151	451	461	60
400	151	551	561	62
500	151	651	661	64
600	151	751	761	66
800	151	951	961	71
1000	151	1151	1161	75
1200	151	1351	1361	79

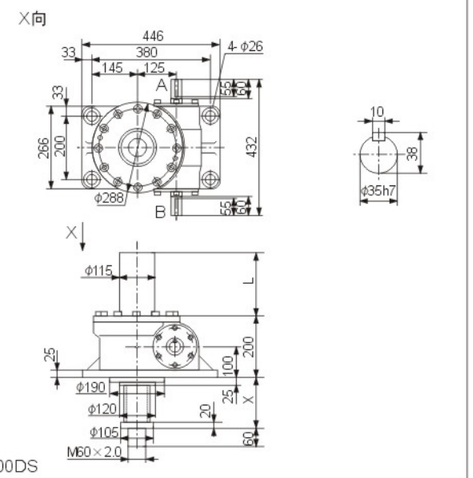
Note: "$X^{(1)}$" is the dimension of jack with dust hood.

JVM300

Journey (mm)	U S					D S					m (kg)
	X		X(1)		L	X		X(1)		L	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	255	355	265	365	160	55	155	65	165	160	118
200	255	455	265	465	260	55	255	65	265	260	123
300	255	555	280	580	375	55	355	80	380	375	128
400	255	655	280	680	475	55	455	80	480	475	134
500	255	755	295	795	590	55	555	95	595	590	139
600	255	855	295	895	690	55	655	95	695	690	145
800	255	1055	310	1110	905	55	855	110	910	905	155
1000	255	1255	330	1330	1125	55	1055	130	1130	1125	167
1200	255	1455	340	1540	1335	55	1255	140	1340	1335	177
1500	255	1755	365	1865	1660	55	1555	165	1665	1660	194



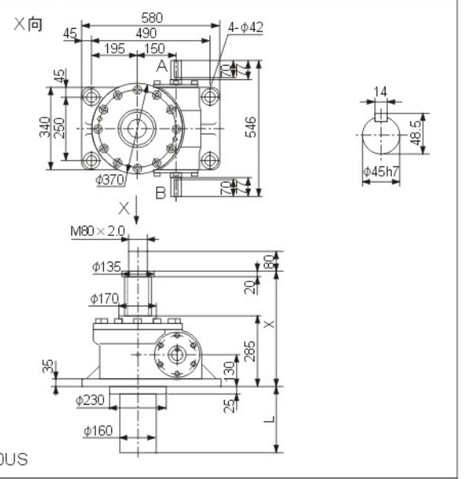
JVM300US



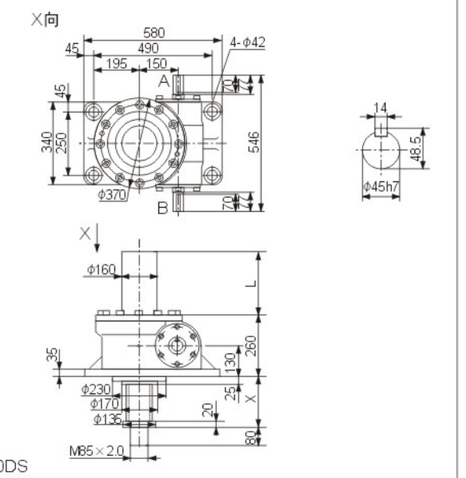
JVM300DS

JVM500

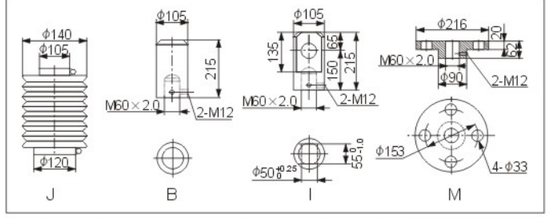
Journey (mm)	U S					D S					m (kg)
	X		X(1)		L	X		X(1)		L	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	315	415	320	420	165	55	155	60	160	165	248
200	315	515	320	520	265	55	255	60	260	265	260
300	315	615	340	640	385	55	355	80	380	385	273
400	315	715	340	740	485	55	455	80	480	485	284
500	315	815	350	850	595	55	555	90	590	595	297
600	315	915	350	950	695	55	655	90	690	695	308
800	315	1115	365	1165	910	55	855	105	905	910	332
1000	315	1315	380	1380	1125	55	1055	120	1120	1125	357
1200	315	1515	390	1590	1335	55	1255	130	1330	1335	380
1500	315	1815	410	1910	1665	55	1555	150	1650	1665	417
2000	315	2315	445	2445	2190	55	2055	185	2185	2190	477

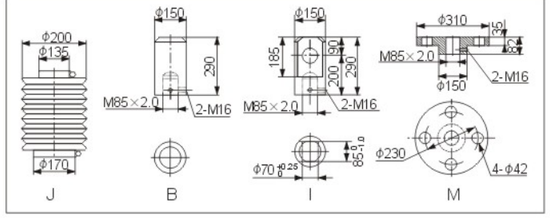


JVM500US



JVM500DS

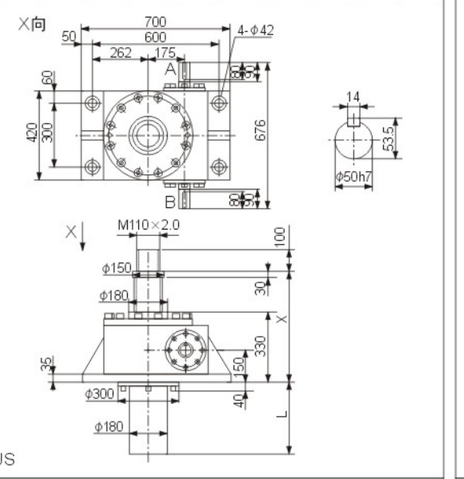




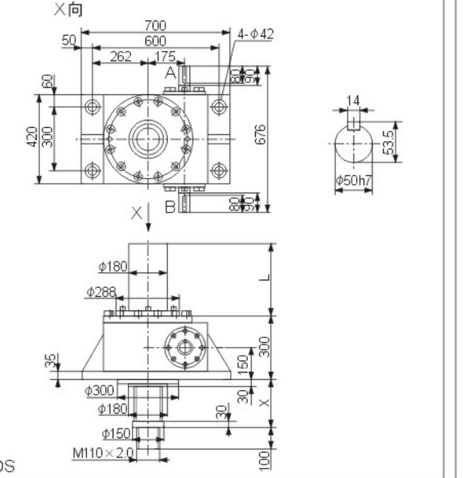
Note: "X(1)" is the dimension of jack with dust hood.

JVM750

Journey (mm)	U S					D S					m (kg)
	X		X(1)		L	X		X(1)		L	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	370	470	380	480	165	70	170	80	180	165	370
200	370	570	380	580	265	70	270	80	280	265	384
300	370	670	395	695	385	70	370	95	395	385	401
400	370	770	395	795	485	70	470	95	495	485	415
500	370	870	410	910	595	70	570	110	610	595	431
600	370	970	410	1010	695	70	670	110	710	695	445
800	370	1170	425	1225	910	70	870	125	925	910	476
1000	370	1370	435	1435	1125	70	1070	135	1135	1125	506
1200	370	1570	450	1650	1335	70	1270	150	1350	1335	536
1500	370	1870	465	1965	1665	70	1570	165	1665	1665	581
2000	370	2370	500	2500	2190	70	2070	200	2200	2190	657



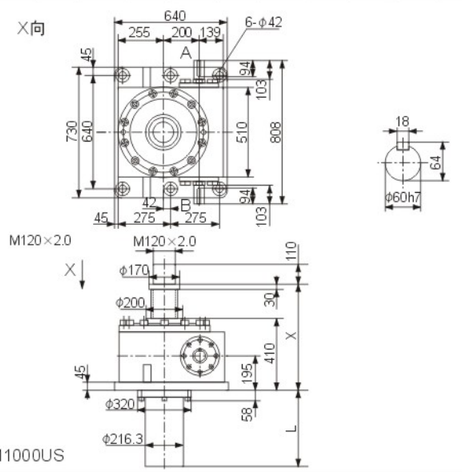
JVM750US



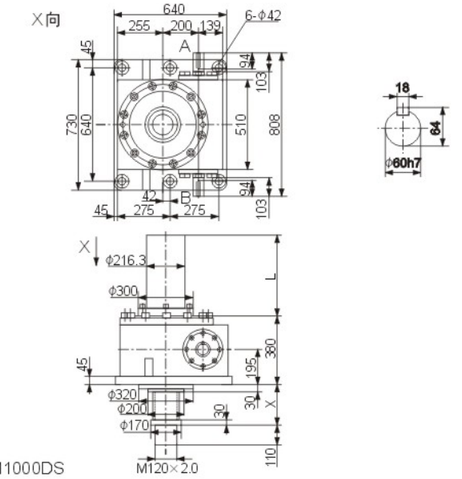
JVM750DS

JVM1000

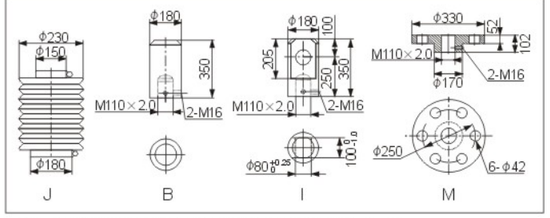
Journey (mm)	U S					D S					m (kg)
	X		X(1)		L	X		X(1)		L	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	450	550	460	560	165	70	170	80	180	165	748
200	450	650	460	660	265	70	270	80	280	265	766
300	450	750	475	775	385	70	370	95	395	385	787
400	450	850	475	875	485	70	470	95	495	485	805
500	450	950	485	985	595	70	570	105	605	595	824
600	450	1050	485	1085	695	70	670	105	705	695	842
800	450	1250	500	1300	910	70	870	120	920	910	881
1000	450	1450	510	1510	1125	70	1070	130	1130	1125	918
1200	450	1650	525	1725	1335	70	1270	145	1345	1335	957
1500	450	1950	545	2045	1665	70	1570	165	1665	1665	1014
2000	450	2450	575	2575	2190	70	2070	195	2195	2190	1109

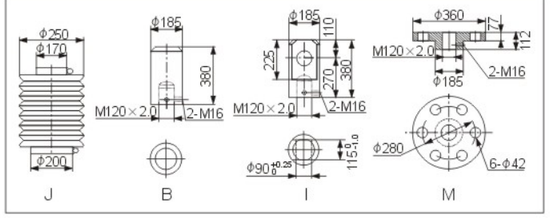


JVM1000US



JVM1000DS





Note: "X(1)" is the dimension of jack with dust hood.

JWB(General ball screw)

HIGH SPEED HIGH FREQUENCY

JWB(General ball screw) is suitable for high speed, high frequency and excellent performance.
Main components: Precision ball screw pair and high precision worm-gears pair.

1) High efficiency
Rolling friction improve efficiency greatly, only a little drive power can generate great thrust force.

2) High speed
Rolling friction speed up travel of screw easily.

3) Lifetime longer
High precision ball screw can make JWB's lifetime longer by 3 timescomparing with JWB.

Note: Braking devices or motor with braking devices are necessary when choosing JWB.

JWB(General ball screw) basic parameter table:

Type			JWB010	JWB025	JWB050	JWB100	JWB150	JWB200	JWB300	JWB500
Maximal load		(kN)	9.8	24.5	49.0	98.0	147	196	294	490
Outer diameter of screw		(mm)	20	25	40	50	55	65	80	100
Small diameter of screw	d	(mm)	17.5	21.4	31.3	39.1	43.1	55.7	74.8	87
Pitch of screw	L1	(mm)	5	8	10	12	12	12	16	20
Ratio	i	H Speed	5	6	6	8	8	8	10⅔	10⅔
		L Speed	20	24	24	24	24	24	32	32
Integrated efficiency	η	H Speed	61	62	64	63	63	62	56	60
		L Speed	34	35	39	43	43	41	34	38
Permissible output maximal power	(kw)	H Speed	0.54	1.3	2.2	3.6	4.0	5.5	8.9	13.3
		L Speed	0.27	0.63	1.0	1.9	2.1	2.8	4.1	6.5
No-load torque	To	(N • m)	0.29	0.62	1.37	1.96	2.65	3.92	9.81	19.6
Keeping torque	(N • m)	H Speed	1.27	4.31	10.78	19.6	39.2	51.0	68.6	140.1
		L Speed	0.26	0.91	2.4	5.8	11.8	15.0	19.5	41.2
Permissible torque of input shaft		(N • m)	19.6	49.0	153.9	292.0	292.0	292.0	735.0	1372.0
Required torque of input shaft at maximal load	(N • m)	H Speed	2.8	9.0	21.5	39.1	77.0	104.5	169.6	317.5
		L Speed	1.4	4.3	9.6	20.4	39.6	54.2	98.5	177.9
Axial displacement of screw, when input shaft rotate a circle.	(mm)	H Speed	1	1.33	1.67	1.5	1.5	1.5	1.5	1.88
		L Speed	0.25	0.33	0.42	0.5	0.5	0.5	0.5	0.63
Permissible rotational speed of screw shaft at maximal loading	(rpm)	H Speed	1500	1400	1000	890	500	500	500	400
		L Speed	1500	1400	1000	890	500	500	400	350
Rotational torque of screw at maximal load		(N • m)	8.7	34.7	86.7	208.2	416.3	555.1	1040.9	2081.7

* Permissible torque of shaft of reducer.
** Include torque under the condition of no-load operating.

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Deceleration for industrial drives
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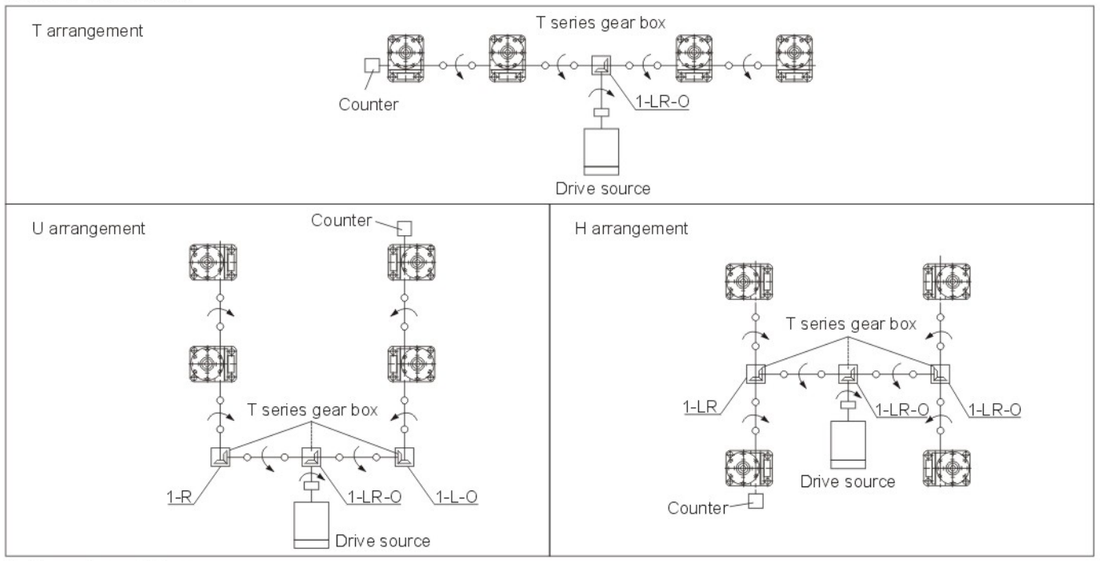
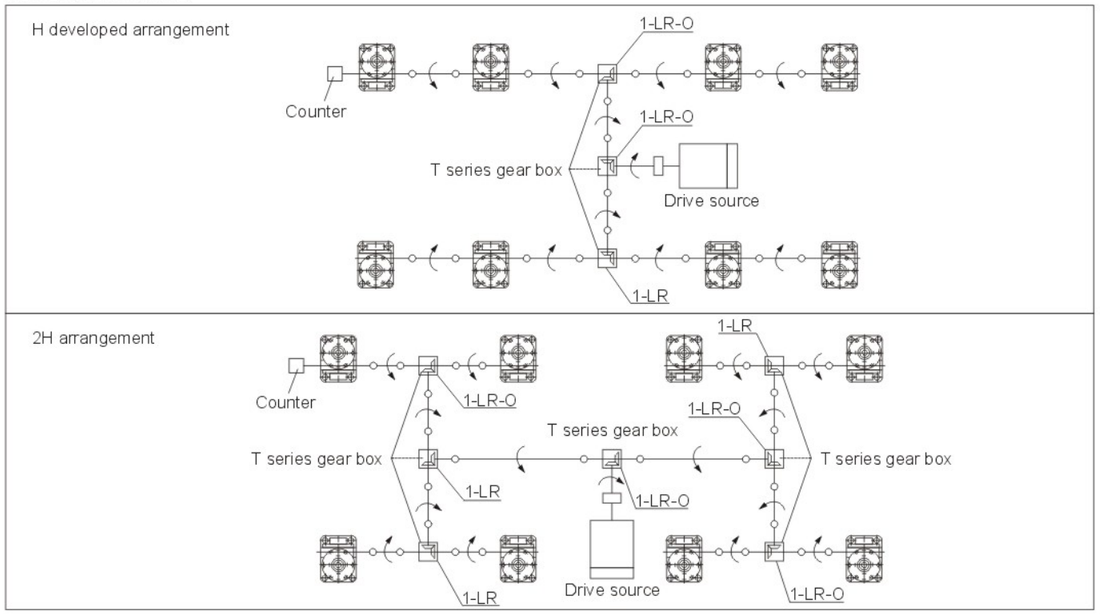
Application example:

Two gear boxes linking:

Four gear boxes linking:



Eight gear boxes linking:



Note:

1) Select a Jack with sufficient capacity according to safety factor, service journey and stability. And static load, dynamic load and shock load must be lower than permissible maximum load.
2) Please note that rotation speed of screw must match load, permissible maximum load, permissible maximum outer load, and permissible rotation speed of screw must be verified. If these figures exceed that of products, jacks will be damaged greatly.
3) The surface temperature will be limited in -15° ~80° when jack working to ensure the temperature of traveling nuts in -15° ~80° .
4) Maximum input speed is 1500r/min.
5) JWM and JWB aren't suitable for continous operation,
Jack Duty(%ED)
JWM duty(%ED) cannot exceed 20%ED,
JWB duty(%ED) cannot exceed 30%ED,

Duty %ED=

$$\frac{\text{jack operating time(lift \&lower cycle)}}{\text{Elapsed cycle time}} \times 100\%$$

6) When several Jacks are connected on the same axial line, the loaded torque with each Jack must be verified and limited within permissible input torque.
7) Starting torque must be 200% of service torque.
8) At below 0° ambient temperature, chang ed adhesion of lubrication will lower Jack's efficiency so that sufficient drive is necessary.
9) JWM has self-lock function, but an Extra braking device or drive source with braking device is necessary to be equipped because self-lock will be of mal-function When Jack is loaded a heavy shock.
JWB has no self-lock function, to avoid backspin of screw under axial load and its weight, a braking device or drive source with braking device is necessary to be equipped and braking torque must be larger than operating torque of jack.
10) Jack's operating conditions

Working Location	Indoor location without rainwater
Ambient Air	Normal
Ambient Temperature	-15℃~40℃
Relative Humidity	Less than 85%

11) When working in dusty space, Jack must be equipped with elastic dust-hood on screw; in open air, shield must be equipped to prevent exposure to wind and rain.
12) When working, Jack cannot be forced to stop, or it will be damaged seriously.
13) Under load, don't change motor drive mode into manual drive, or which will cause backspin of screw and cause great danger.

How to select type:

Determine Jack's type:

calculate total equivalent load Ws (N):

Ws = Wmax × f1

Service factor for driven machine (f1):

Load character	Example	Factor for driven machine (f1)
shockless load & small inertia load	Switch, valve transmission belt swithing device	1.0~1.3
moderate shock & moderate inertia	All kinds of moving devices, all kinds of elevators	1.3~1.5
heavy shock & large inertia	Carrying something by trolley; to keep the position of idling gear	1.5~3.0

Calculate equivalent load of single Jack,

$$W = \frac{WS}{\text{Number} \times \text{Linkage factor (fd)}}$$

Linkage factor(fd):

Number of linkage jack	1	2	3	4	5~8
Linkage factor	1	0.95	0.9	0.85	0.8

Temporarily determine Jack type:

Temporarily determine Jack type after taking full conside ration of load, speed, journey, efficiency and drive source.
Determine JW type according to service journey, ambient conditions, connection mode of end-fittings.

Verify input power

If required input power under load exceeds permissible maximum input power, please select larger type or lower the speed of screw rotation.

Calculation of required input power under load:

Required rotation speed of input shaft	n1 (r/min)	$n1=\frac{V}{L1}\times i$
Required torque of input shaft	T1 (N • m)	$T1=\frac{W\times L1}{2\pi\times i\times \eta}+T0$
Required input power	P1 (kW)	$P1=\frac{T1\times n1}{9550}$

V: linear speed of screw mm/min L: Pitch of screw (m)
i: ratio W: equivalent load of single jack π:pi
η:Integrated efficiency TO: No-load torque (Nm)
(L1、i、η、TO refer to basic parameter table)

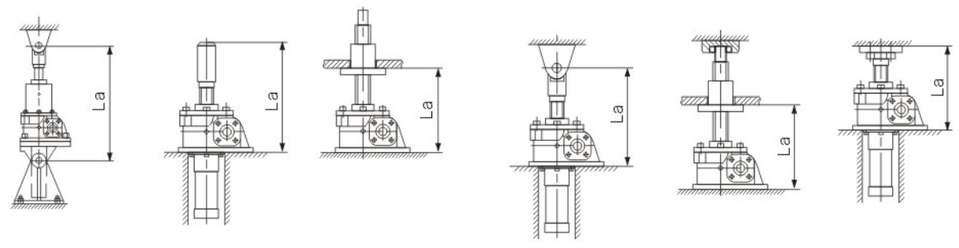
Verify the stability of screw:

Please verify the stability of screw under axial load, larger type should be used when load exceed the critical load.
The formula to calculate the critical load as follows:

$P_{CR}=fm\times(\frac{d^2}{L_a})^2$	ensure	$P_{CR}>W\times SF$ (SF=4)

Pcr: Critical load (N)
d: small diameter of screw end (mm)(refer to basic parameter table)
fm: support factor
La: distance between load-supporting point and mounting point as drawing.
W: equivalent load of single jack (N)
SF: safety factor (SF=4 as usual)

Verifying the stability of screw, the values of La and fm as follows,



support at both ends fm=10×10⁴ Foot-mounted & movable shaft end fm=2.5×10⁴ Foot-mounted & shaft end supporting or fixed fm=20×10⁴

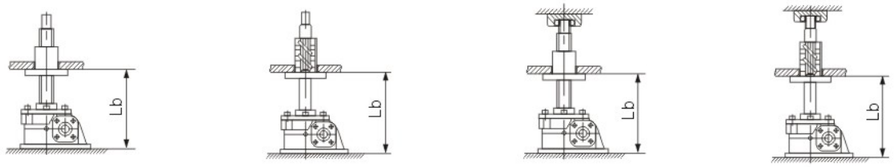
Verifying critical rotation speed:

Using traveling nut, the rotation speed of screw must be lower than critical speed, if no, please select larger type and calculate again.

$$n_c = \frac{96 \times fn \times d \times 10^6}{L_b^2} \qquad n_s = \frac{n1}{i}$$

n_c: Permissible rotation speed of screw
n_s: Rotational speed of screw
d: Small diameter of screw (refer to basic parameter table)
n1: Rotational speed of input shaft
fn: Length factor
i: ratio
Lb: Distance between both supporting face

Verifying the rotation speed of screw, the values of Lb and fn as follows,



Movable shaft end fn=0.36 Shaft end supporting fn=1.56

Ensure: $n_c > n_s$

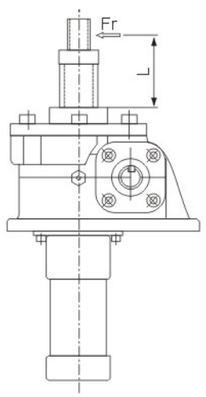
Example for calculation:
Take JWM200UR-H1200PI as example, n1=1200r/min, connecting mode of top-end : I, we can know d=49.3, Lb=1437 referring to dimension and transmission capacity table.

$$n_s = \frac{n1}{i} = \frac{1200}{8} = 150\text{r/min}$$

$$n_c = \frac{96 \times fn \times d \times 10^6}{L_b^2} = \frac{96 \times 1.56 \times 49.3 \times 10^6}{(1437)^2} = 3575\text{r/min}$$

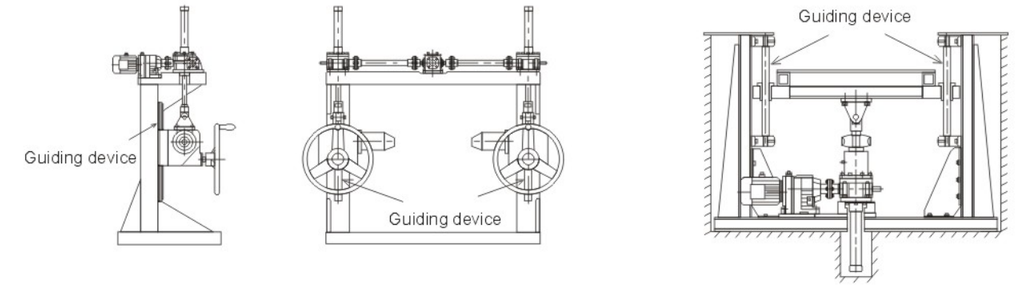
n_c=3575r/min>n_s=150r/min……ok.

When there is radial load, please add guiding device.
JWM Permitted radial load Fr(N):

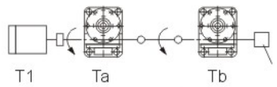


Fr(N) / Type / L(mm)	010	025	050	100	150	200	300	500	750	1000
100	318	57	2500	4010	4610	8210	38200	85300	73500	186200
200	159	290	1250	2010	2300	4110	23000	50400	56800	145000
300	106	190	830	1340	1540	2740	15300	33600	46100	104700
400	79	140	620	1000	1150	2050	11400	25200	39300	78500
500	64	110	500	800	920	1640	9100	20200	33900	62800
600	53	100	420	670	770	1370	7600	16800	29900	52300
700	51	90	360	570	660	1170	6500	14400	26700	44800
800	48	90	310	500	580	1030	5700	12600	24100	39200
900	45	90	280	450	510	910	5000	11200	22000	34800
1000	42	90	250	400	460	820	4500	10100	20200	31300

When operating radial load exceeds critical radial load, please add guiding device, for example,



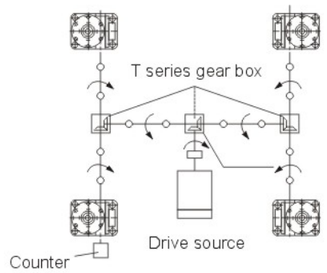
Please verify input torque of each Jack when several Jack are connected on the same input axial line as the following,



Ta: Required torque of input shaft of jack a.
Tb: Required torque of input shaft of jack b.
Required torque of motor T1=Ta+Tb<Promitted input torque of jack a.

Jack selection example:

Example: Four Jacks, linked as the following drawing, normal temperature, thin dust, radial load, with guiding devices on one side, foot-mounted, fixed the screw top-end, 380v/50Hz, service frequency: 2 times/hour,service time: 8 hours.
1. Maximum axial load; 88.2KN/4 Jacks
2. Linear speed: 10mm/s (600mm/min)
3. Service journey: 260mm



Determine Jack type,
1) Calculate total equivalent load Ws (Factor for drivcn machinc is 1.3)
Ws=Wmax • f1=88200×1.3=114660N
2) Calculate equivalent load of single jack:

$$w = \frac{114660}{4 \times 0.85} = 33724\text{N}$$

3) Temporarily determine type,
Temporarily determine JWB050USH according to speed, efficiency, drive and Load (refer to basic parameter table)
4) Verify journey:
Service journey is 260mm, determine journey should be 300 after considering surplus. (Please refer to dimension sheet of JWB050US).
5) Check input power:
(1) Calculatc required input power:

$$①n1 = \frac{V}{L1} \times i = \frac{0.60}{0.010} \times 6 = 360\text{r/min} \qquad ②T1 = \frac{W \times L1}{2\pi \times i \times \eta} + T0$$

$$= \frac{33724 \times 0.010}{2 \times 3.14 \times 6 \times 0.64} + 1.37 = 15.4\text{Nm} \qquad ③P1 = \frac{T1 \times n1}{9550}$$

$$= \frac{15.4 \times 360}{9550} = 0.58\text{kW}$$

(2) Refer to basic parameter table, Pmax=2.2kW>P1 ... ...OK

6. Verify the stability of screw

For under axial load, refer to transmission table and dimension for the following figures,

d=31.3 La=604+33=637 $fm=20\times10^4$ SF=4

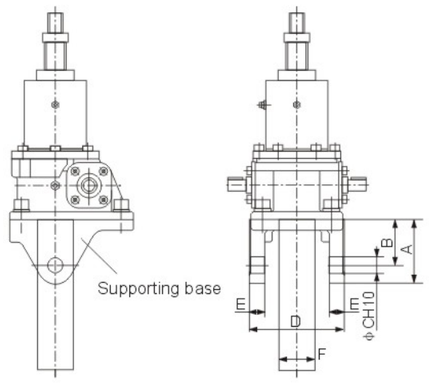
$$P_{CR}=fm\times(\frac{d^2}{L_a})^2=20\times10^4\times(\frac{31.3^2}{637})^2=473073N$$

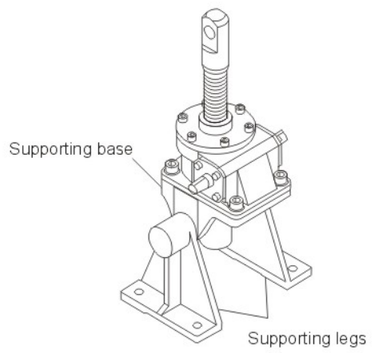
$$P_F=\frac{P_{CR}}{SF}=\frac{473073}{4}=118268>W=33724 \quad \text{... ...OK}$$

Accessory confirmation:

Support (Mode C mounting):

support-mounted mode widely apply to tilting equipment.

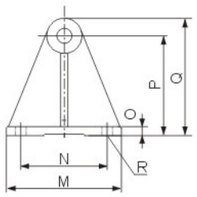


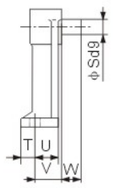


Type	A	B	C	D	E	F
010	75	60	15	86	15	35
025	100	75	20	115	20	45
050	105	75	25	158	25	58
100	145	100	40	201	30	76.3
150	155	105	50	224	44	76.3
200	173	110	63	244	50	89.1

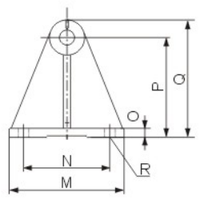
Supporting legs:

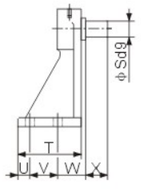
Matching supporting base and legs realizes multi-angles lifting and lowering.





JW010-JW050

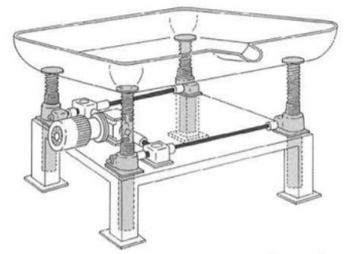


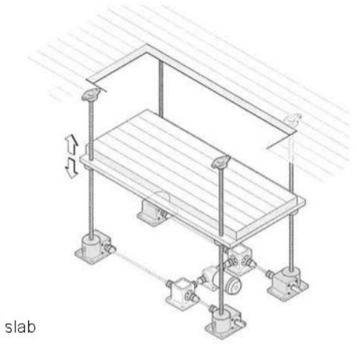


JW100-JW200

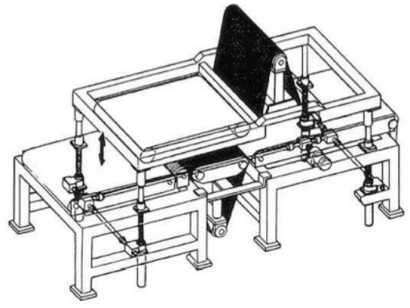
Type	M	N	O	P	Q	R	S	T	U	V	W	X
010	180	130	15	150	178	2-φ18	15	25	40	45	17	-
025	180	130	15	150	178	2-φ18	20	25	40	45	30	-
050	200	150	15	170	200	2-φ18	25	25	40	45	35	-
100	280	220	22	240	290	4-φ22	40	159	30	70	70	55
150	360	280	27	300	360	4-φ33	50	195	40	85	85	70
200	400	320	30	380	450	4-φ33	63	210	40	90	90	75

Application example:

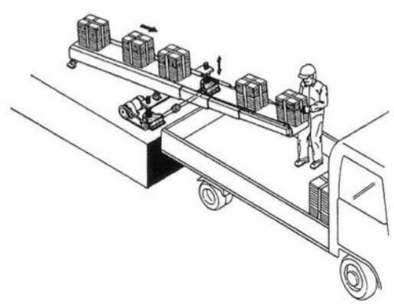




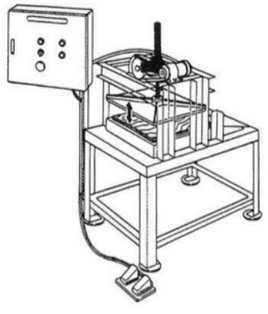
Ascending and descending of flat slab



Adjust operation height of surface machining tool



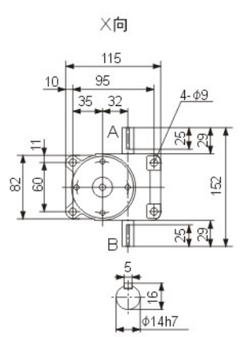
Adjust inclination pitch of conveyer apron

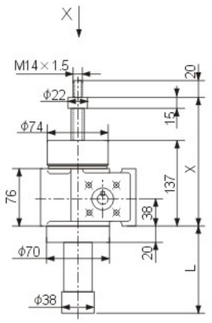


Operation height of straightening machine

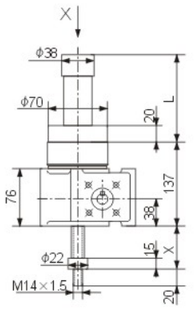
Automatic switch on large windows (doors)

JWB010





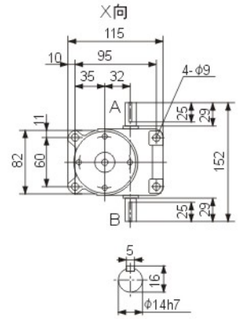
JWB010US

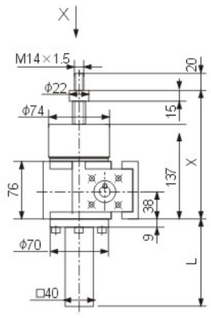


JWB010DS

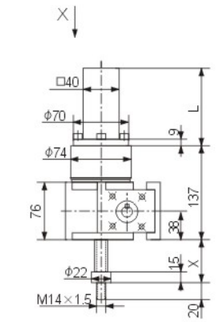
Journey (mm)	U S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	162	262	212	312	194	6.7
200	162	362	212	412	294	7.0
300	162	462	252	552	434	7.4
400	162	562	252	652	534	7.6
500	162	662	287	787	669	8.0
600	162	762	287	887	769	8.2

Journey (mm)	D S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	25	125	75	175	194	6.7
200	25	225	75	275	294	7.0
300	25	325	115	415	434	7.4
400	25	425	115	515	534	7.6
500	25	525	150	650	669	8.0
600	25	625	150	750	769	8.2





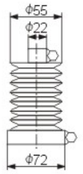
JWB010UM



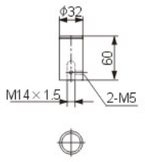
JWB010DM

Journey (mm)	U M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	162	262	212	312	194	7.5
200	162	362	212	412	294	8.2
300	162	462	252	552	434	9.1
400	162	562	252	652	534	9.8
500	162	662	287	787	669	11
600	162	762	287	887	769	12

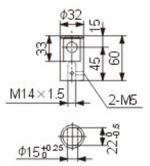
Journey (mm)	D M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	25	125	75	175	194	7.5
200	25	225	75	275	294	8.2
300	25	325	115	415	434	9.1
400	25	425	115	515	534	9.8
500	25	525	150	650	669	11
600	25	625	150	750	769	12



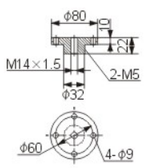
J



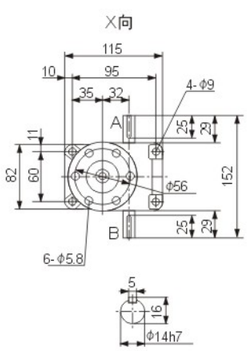
B

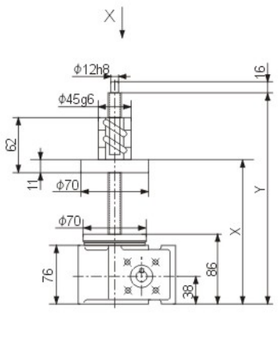


I

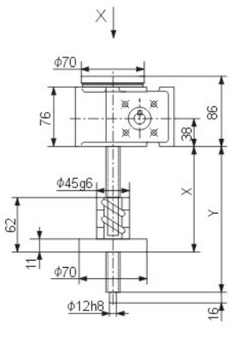


M





JWB010UR



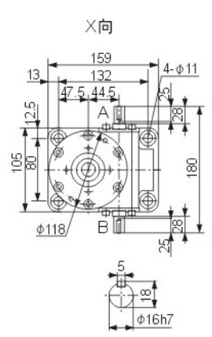
JWB010DR

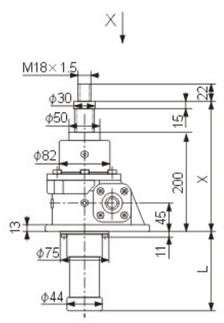
Journey (mm)	U R X MIN	X MAX	L	m (kg)
100	108	208	265	5.9
200	108	308	365	6.1
300	108	408	465	6.4
400	108	508	565	6.6
500	108	608	665	6.8
600	108	708	765	7.0

Journey (mm)	D R X MIN	X MAX	L	m (kg)
100	69	169	179	5.9
200	69	269	279	6.1
300	69	369	379	6.4
400	69	469	479	6.6
500	69	569	579	6.8
600	69	669	679	7.0

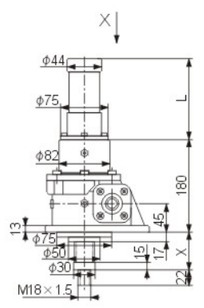
Note: "X(1)" is the dimension of jack with dust hood.

JWB025





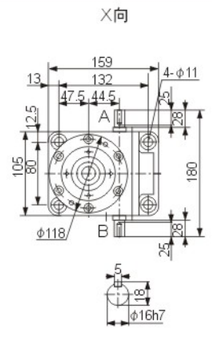
JWB025US

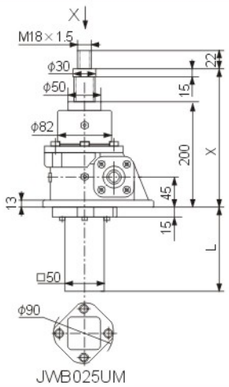


JWB025DS

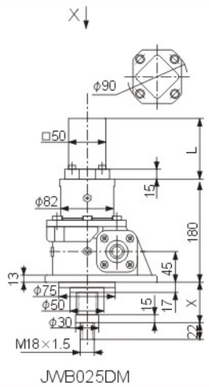
Journey (mm)	U S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	225	325	240	340	149	11
200	225	425	240	440	249	11
300	225	525	260	560	369	11
400	225	625	260	660	469	12
500	225	725	280	780	589	12
600	225	825	280	880	689	13
800	225	1025	300	1100	909	14

Journey (mm)	D S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	42	142	57	157	156	11
200	42	242	57	257	256	11
300	42	342	77	377	376	11
400	42	442	77	477	476	12
500	42	542	97	597	596	12
600	42	642	97	697	696	13
800	42	842	117	917	916	14





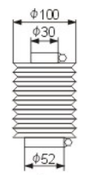
JWB025UM



JWB025DM

Journey (mm)	U M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	225	325	240	340	175	12
200	225	425	240	440	275	13
300	225	525	260	560	395	15
400	225	625	260	660	495	16
500	225	725	280	780	615	17
600	225	825	280	880	715	18
800	225	1025	300	1100	935	21

Journey (mm)	D M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	42	142	57	157	182	12
200	42	242	57	257	282	13
300	42	342	77	377	402	15
400	42	442	77	477	502	16
500	42	542	97	597	622	17
600	42	642	97	697	722	18
800	42	842	117	917	942	21



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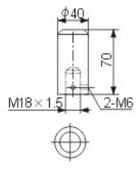

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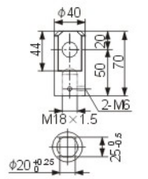

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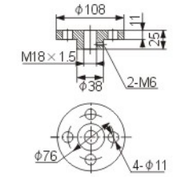

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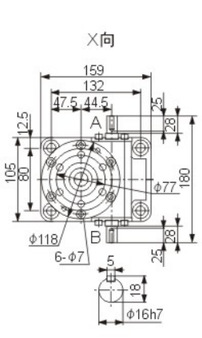
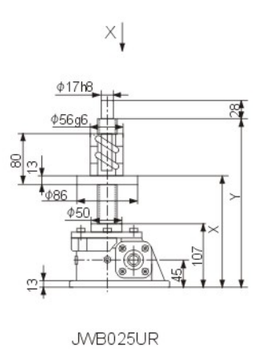
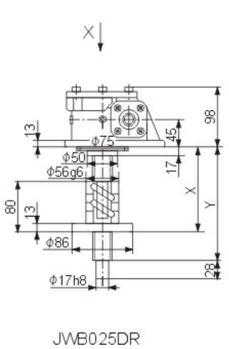




JWB025UR



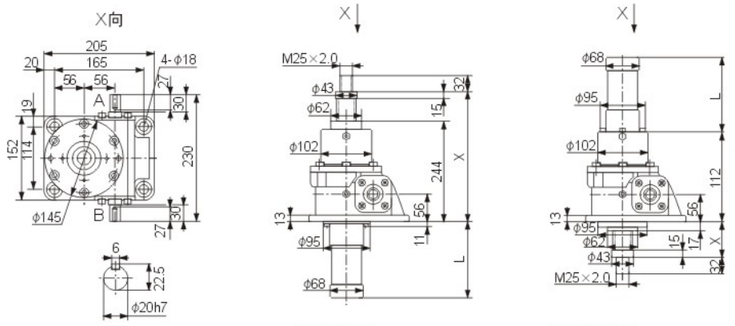
JWB025DR

Journey (mm)	U R X MIN	X MAX	L	m (kg)
100	133	233	309	9.2
200	133	333	409	9.5
300	133	433	509	9.9
400	133	533	609	11
500	133	633	709	11
600	133	733	809	11
800	133	933	1009	12

Journey (mm)	D R X MIN	X MAX	L	m (kg)
100	108	208	219	9.2
200	108	308	319	9.5
300	108	408	419	9.9
400	108	508	519	11
500	108	608	619	11
600	108	708	719	11
800	108	908	919	12

Note: "X(1)" is the dimension of jack with dust hood.

JWB050

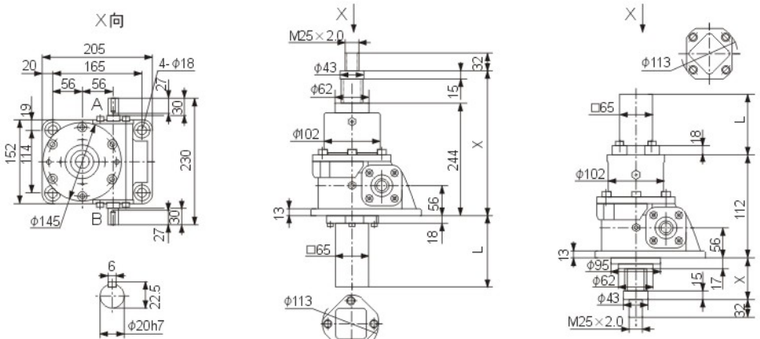


JWB050US

JWB050DS

Journey (mm)	U S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	269	369	284	384	147	23
200	269	469	284	484	247	23
300	269	569	304	604	367	24
400	269	669	304	704	467	25
500	269	769	324	824	587	26
600	269	869	324	924	687	27
800	269	1069	344	1144	907	29
1000	269	1269	364	1364	1127	30

Journey (mm)	D S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	57	157	147	23
200	42	242	57	257	247	23
300	42	342	77	377	367	24
400	42	442	77	477	467	25
500	42	542	97	597	587	26
600	42	642	97	697	687	27
800	42	842	117	917	907	29
1000	42	1042	137	1137	1127	30

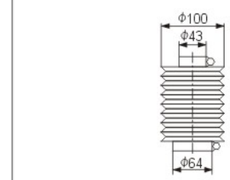


JWB050UM

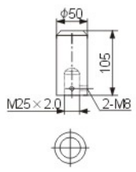
JWB050DM

Journey (mm)	U M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	269	369	284	384	175	25
200	269	469	284	484	275	27
300	269	569	304	604	395	29
400	269	669	304	704	495	31
500	269	769	324	824	615	33
600	269	869	324	924	715	35
800	269	1069	344	1144	935	39
1000	269	1269	364	1364	1155	43

Journey (mm)	D M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	57	157	175	25
200	42	242	57	257	275	27
300	42	342	77	377	395	29
400	42	442	77	477	495	31
500	42	542	97	597	615	33
600	42	642	97	697	715	35
800	42	842	117	917	935	39
1000	42	1042	137	1137	1155	43



J



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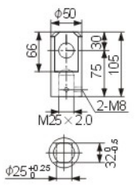

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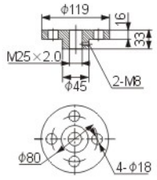

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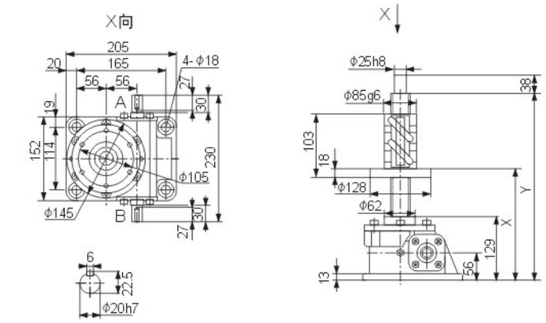
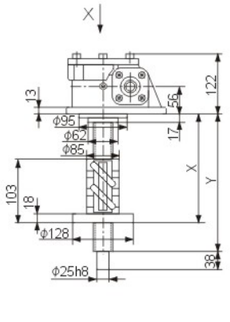


JWB050UR



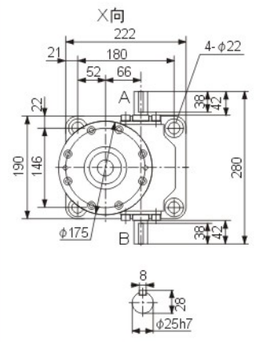
JWB050DR

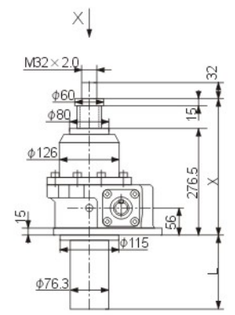
Journey (mm)	U R			
	X		L	m
	MIN	MAX		(kg)
100	157	257	354	21
200	157	357	454	22
300	157	457	554	22
400	157	557	654	23
500	157	657	754	24
600	157	757	854	24
800	157	957	1054	26
1000	157	1157	1254	27

Journey (mm)	D R			
	X		L	m
	MIN	MAX		(kg)
100	130	230	242	21
200	130	330	342	22
300	130	430	442	22
400	130	530	542	23
500	130	630	642	24
600	130	730	742	24
800	130	930	942	26
1000	130	1130	1142	27

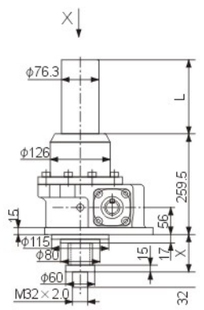
Note: "X(1)" is the dimension of jack with dust hood.

JWB100





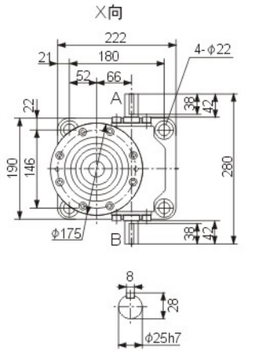
JWB100US

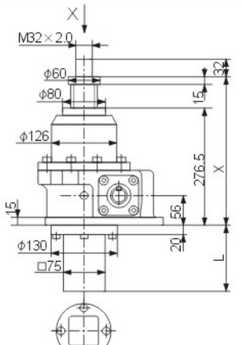


JWB100DS

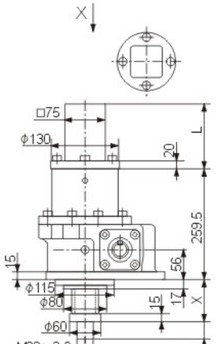
Journey (mm)	U S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	302	402	312	412	151	36
200	302	502	312	512	252	38
300	302	602	327	627	366	41
400	302	702	327	727	466	43
500	302	802	352	852	591	46
600	302	902	352	952	691	48
800	302	1102	367	1167	906	53
1000	302	1302	377	1377	1116	58
1200	302	1502	402	1602	1341	63

Journey (mm)	D S					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	52	152	151	36
200	42	242	52	252	252	38
300	42	342	67	367	366	41
400	42	442	67	467	466	43
500	42	542	92	592	591	46
600	42	642	92	692	691	48
800	42	842	107	907	906	53
1000	42	1042	117	1117	1116	58
1200	42	1242	142	1342	1341	63





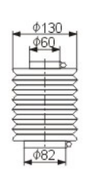
JWB100UM



JWB100DM

Journey (mm)	U M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	302	402	312	412	192	39
200	302	502	312	512	292	42
300	302	602	327	627	407	45
400	302	702	327	727	507	48
500	302	802	352	852	632	52
600	302	902	352	952	732	55
800	302	1102	367	1167	947	61
1000	302	1302	377	1377	1157	67
1200	302	1502	402	1602	1382	74

Journey (mm)	D M					
	X		X(1)		L	m
	MIN	MAX	MIN	MAX		(kg)
100	42	142	52	152	192	39
200	42	242	52	252	292	42
300	42	342	67	367	407	45
400	42	442	67	467	507	48
500	42	542	92	592	632	52
600	42	642	92	692	732	55
800	42	842	107	907	947	61
1000	42	1042	117	1117	1157	67
1200	42	1242	142	1342	1382	74



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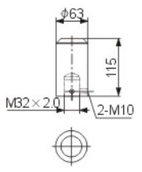

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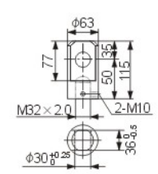

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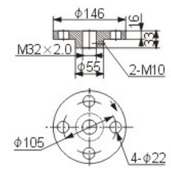
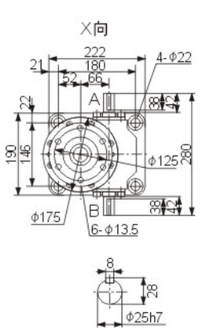
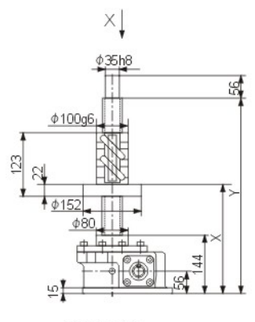
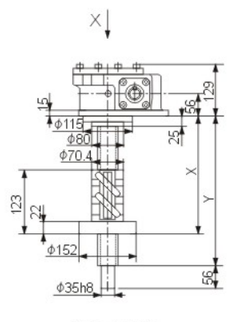


M





JWB100UR



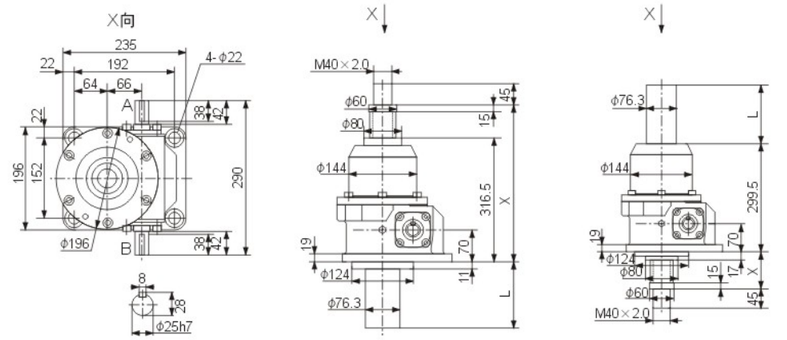
JWB100DR

Journey (mm)	U R			
	X		L	m
	MIN	MAX		(kg)
100	176	276	387	31
200	176	376	487	32
300	176	476	587	33
400	176	576	687	34
500	176	676	787	35
600	176	776	887	36
800	176	976	1087	39
1000	176	1176	1287	41
1200	176	1376	1487	43

Journey (mm)	D R			
	X		L	m
	MIN	MAX		(kg)
100	158	258	268	31
200	158	358	368	32
300	158	458	468	33
400	158	558	568	34
500	158	658	668	35
600	158	758	768	36
800	158	958	968	39
1000	158	1158	1168	41
1200	158	1358	1368	43

Note: "X(1)" is the dimension of jack with dust hood.

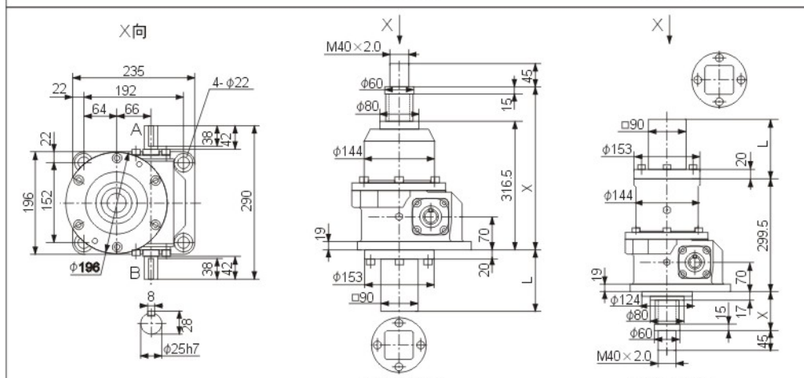
JWB150



JWB150US JWB150DS

Journey (mm)	U S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	342	442	352	452	151	46
200	342	542	352	552	252	48
300	342	642	367	667	366	51
400	342	742	367	767	466	54
500	342	842	392	892	591	57
600	342	942	392	992	691	60
800	342	1142	407	1207	906	65
1000	342	1342	417	1417	1116	70
1200	342	1542	442	1642	1341	76

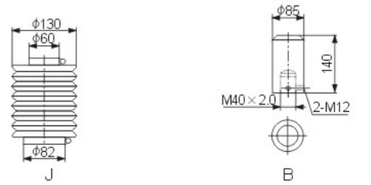
Journey (mm)	D S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	42	142	52	152	151	46
200	42	242	52	252	252	48
300	42	342	67	367	366	51
400	42	442	67	467	466	54
500	42	542	92	592	591	57
600	42	642	92	692	691	60
800	42	842	107	907	906	65
1000	42	1042	117	1117	1116	70
1200	42	1242	142	1342	1341	76

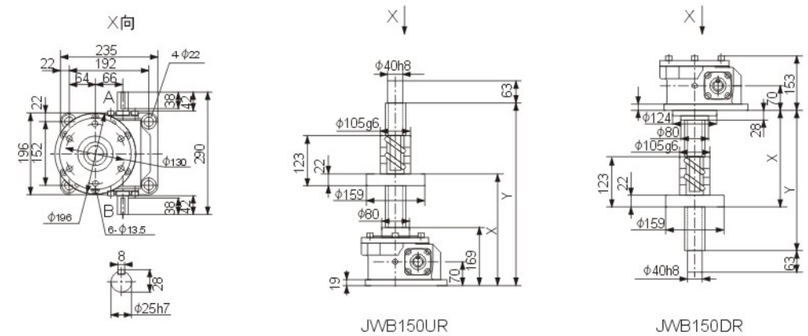


JWB150UM JWB150DM

Journey (mm)	U M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	342	442	352	452	221	52
200	342	542	352	552	321	55
300	342	642	367	667	436	59
400	342	742	367	767	536	62
500	342	842	392	892	661	66
600	342	942	392	992	761	69
800	342	1142	407	1207	976	75
1000	342	1342	417	1417	1186	82
1200	342	1542	442	1642	1411	89

Journey (mm)	D M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	42	142	52	152	221	52
200	42	242	52	252	321	55
300	42	342	67	367	436	59
400	42	442	67	467	536	62
500	42	542	92	592	661	66
600	42	642	92	692	761	69
800	42	842	107	907	976	75
1000	42	1042	117	1117	1186	82
1200	42	1242	142	1342	1411	89





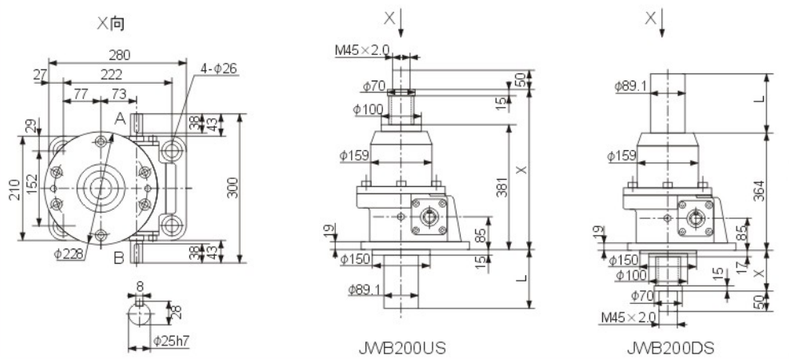
JWB150UR JWB150DR

Journey (mm)	U R X MIN	X MAX	L	m (kg)
100	201	301	412	41
200	201	401	512	42
300	201	501	612	43
400	201	601	712	45
500	201	701	812	46
600	201	801	912	47
800	201	1001	1112	50
1000	201	1201	1312	53
1200	201	1401	1512	55

Journey (mm)	D R X MIN	X MAX	L	m (kg)
100	161	261	272	41
200	161	361	372	42
300	161	461	472	43
400	161	561	572	45
500	161	661	672	46
600	161	761	772	47
800	161	961	972	50
1000	161	1161	1172	53
1200	161	1361	1372	55

Note: "X(1)" is the dimension of jack with dust hood.

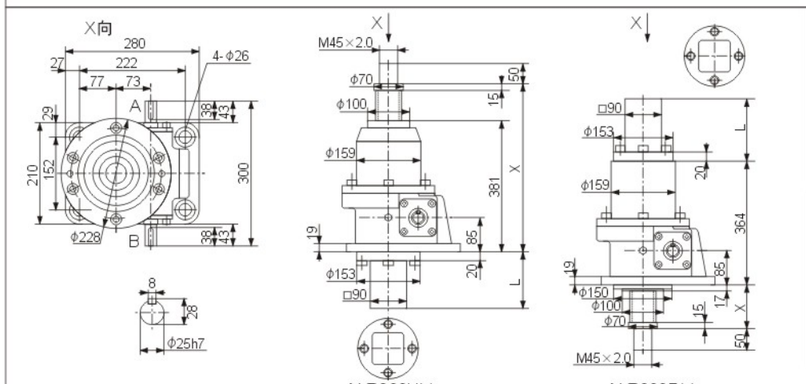
JWB200



JWB200US JWB200DS

Journey (mm)	U S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	406	506	416	516	151	65
200	406	606	416	616	252	68
300	406	706	431	731	366	72
400	406	806	431	831	466	76
500	406	906	456	956	591	80
600	406	1006	456	1056	691	83
800	406	1206	471	1271	906	90
1000	406	1406	481	1481	1116	97
1200	406	1606	506	1706	1357	105

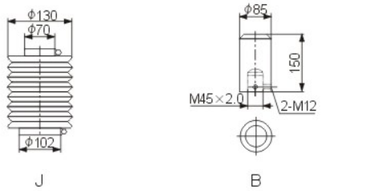
Journey (mm)	D S X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	42	142	52	152	151	65
200	42	242	52	252	252	68
300	42	342	67	367	366	72
400	42	442	67	467	466	76
500	42	542	92	592	591	80
600	42	642	92	692	691	83
800	42	842	107	907	906	90
1000	42	1042	117	1117	1116	97
1200	42	1242	142	1342	1357	105

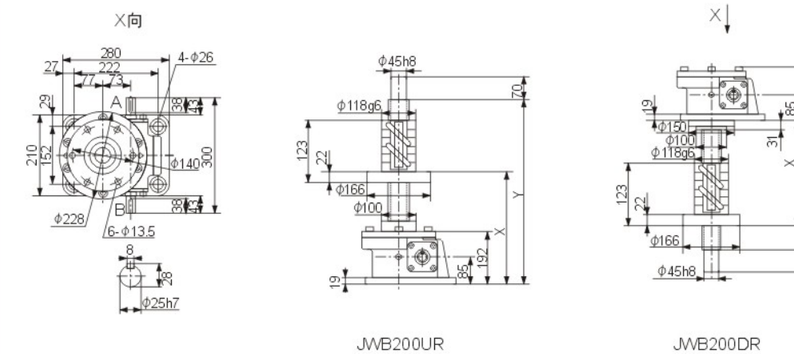


JWB200UM JWB200DM

Journey (mm)	U M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	406	506	416	516	230	72
200	406	606	416	616	330	76
300	406	706	431	731	445	80
400	406	806	431	831	545	84
500	406	906	456	956	670	89
600	406	1006	456	1056	770	93
800	406	1206	471	1271	985	102
1000	406	1406	481	1481	1195	110
1200	406	1606	506	1706	1420	119

Journey (mm)	D M X MIN	X MAX	X(1) MIN	X(1) MAX	L	m (kg)
100	42	142	52	152	230	72
200	42	242	52	252	330	76
300	42	342	67	367	445	80
400	42	442	67	467	545	84
500	42	542	92	592	670	89
600	42	642	92	692	770	93
800	42	842	107	907	985	102
1000	42	1042	117	1117	1195	110
1200	42	1242	142	1342	1420	119





JWB200UR JWB200DR

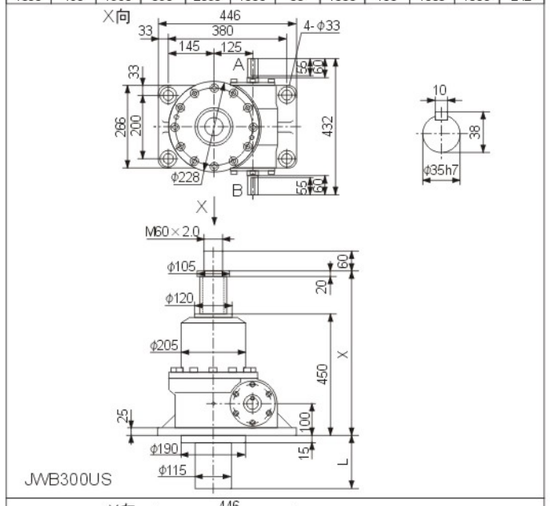
Journey (mm)	U R X MIN	X MAX	L	m (kg)
100	224	324	435	56
200	224	424	535	58
300	224	524	635	60
400	224	624	735	62
500	224	724	835	65
600	224	824	935	67
800	224	1024	1135	71
1000	224	1224	1335	76
1200	224	1424	1535	80

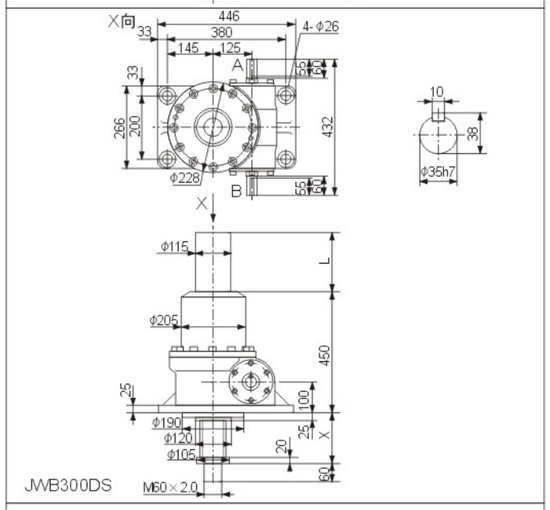
Journey (mm)	D R X MIN	X MAX	L	m (kg)
100	164	264	274	56
200	164	364	374	58
300	164	464	474	60
400	164	564	574	62
500	164	664	674	65
600	164	764	774	67
800	164	964	974	71
1000	164	1164	1174	76
1200	164	1364	1374	80

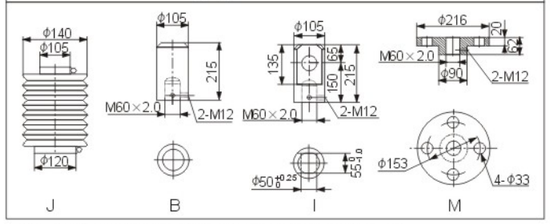
Note: "X(1)" is the dimension of jack with dust hood.

JWB300

Journey (mm)	U S					D S					m (kg)
	X		X(1)		L	X		X(1)		L	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	480	580	490	590	160	55	155	65	165	160	153
200	480	680	490	690	260	55	255	65	265	260	159
300	480	780	505	805	375	55	355	80	380	375	166
400	480	880	505	905	475	55	455	80	480	475	172
500	480	980	520	1020	590	55	555	95	595	590	178
600	480	1080	520	1120	690	55	655	95	695	690	184
800	480	1280	535	1335	905	55	855	110	910	905	197
1000	480	1480	555	1555	1125	55	1055	130	1130	1125	210
1200	480	1680	565	1765	1335	55	1255	140	1340	1335	223
1500	480	1980	590	2090	1660	55	1555	165	1665	1660	242

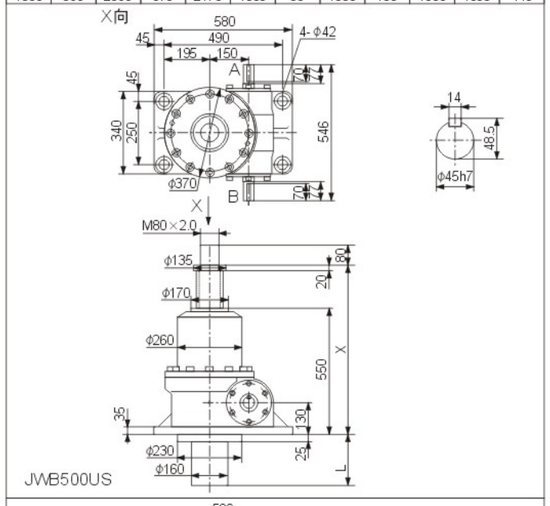


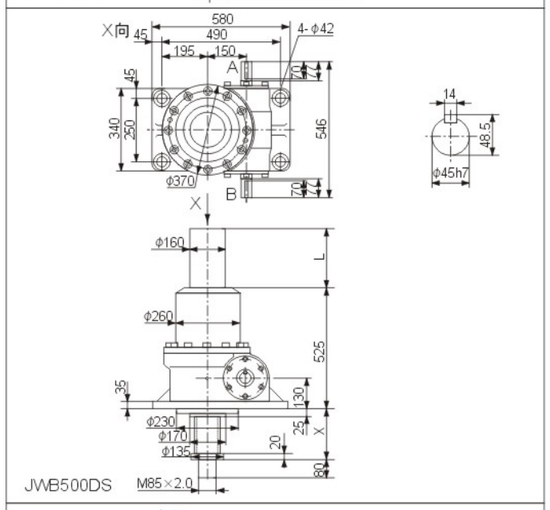


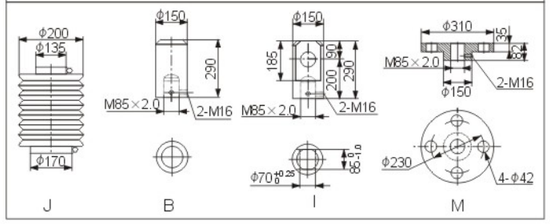


JWB500

Journey (mm)	U S					D S					m (kg)
	X		X(1)		L	X		X(1)		L	
	MIN	MAX	MIN	MAX		MIN	MAX	MIN	MAX		
100	580	680	585	685	165	55	155	60	160	165	310
200	580	780	585	785	265	55	255	60	260	265	320
300	580	880	605	905	385	55	355	80	380	385	330
400	580	980	605	1005	485	55	455	80	480	485	340
500	580	1080	615	1115	595	55	555	90	590	595	350
600	580	1180	615	1215	695	55	655	90	690	695	359
800	580	1380	630	1430	910	55	855	105	905	910	378
1000	580	1580	645	1645	1125	55	1055	120	1120	1125	398
1200	580	1780	655	1855	1335	55	1255	130	1330	1335	417
1500	580	2080	675	2175	1665	55	1555	150	1650	1665	446







Note: "X㈣" is the dimension of jack with dust hood.

Lude Transmission
Deceleration for industrial drives
www.ludetransmission.com

HK Worm Gear Screw Lifter

1. Product Introduction

1.1 HK series worm gear screw lifter (other name is Jack);

1.2 Compact structure, small size;

1.3 Easy mounting, varied typer;

1.4 High reliability. Long service life;

1.5 With the function of ascending, descending, thrusting, overturning;

1.6 Can be applied in one unit or multiple units;

1.7 Wide motivity. It can be drived by electrical motor and manual force;

1.8 It is usually used in low speed situation, widely used in the fields of metallurgy, mechanical, construction, chemical, irrigation works, mediat treatment.

2. Model Introduction

HK	D	10T	–	12	–	A	R	–	300	–	B	–	P
1	2	3		4		5	6		7		8		9

1 Products code
HK––worm gear linear actuator

2 Connector of input shaft
D–with motor flange
Non–code–basic

3 Specification Expressed by the Carrying Tonnage

4 Ratio
12

5 Mounting Option code A
A.B––Basic Model
C.D––Screw fluctuate without rotation
E.F––Screw rotate without fluctuation
more information from 3 Mounting option

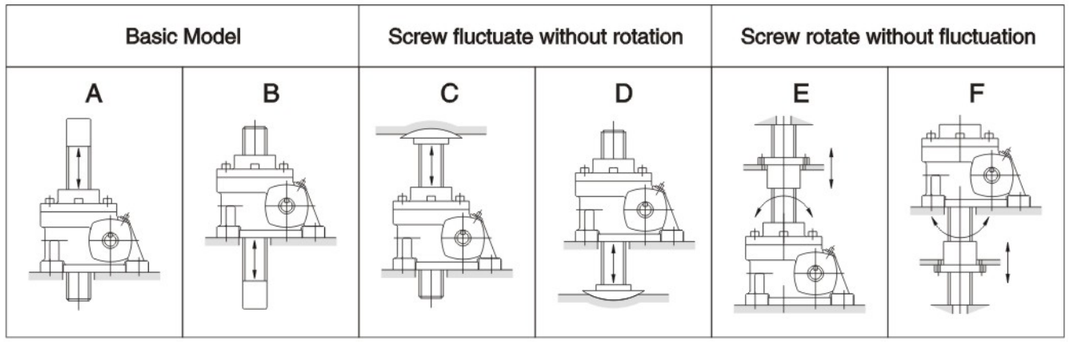
6 Code of screw head
R–Column type
H–Bolt hole type
S–Screw type
T–Copinhg type

7 Tetal 8 species model: 100.200.300.400.500. 600.700.800.1000mm. choose according to using situation. If other modle needed, canbe made to order

8 Shaft direction B
HK series have A.B and C three species
HK D series have A.B.C and D four species

9 Safeguard pipe
P– with safeguard pipe
With out safeguard pipe

3. Mounting Option



Explain:

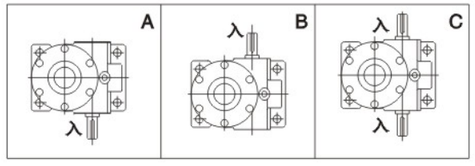
1、 **Basic Model：Screw fluctuate with rotation. This is the installation for basic screw lifter.**
※Notice：There will be rotation force when screw is ascending and decending. So it's need to prevent rotation.

2、 **Screw fluctuate without rotation：work under the situation than the shofe and hav't connection and the life can't rotate.**

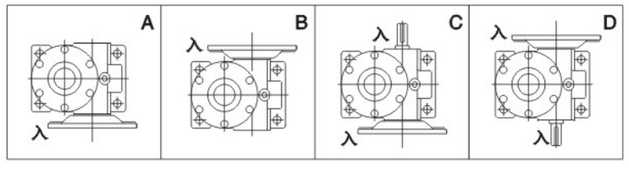
3、 **Screw rotate without fluctuation: To get the longer travel, this prodel screw rotate without fluctuation is an option, which screw rotate and nut move. If longer travel shaft and with bracket will archien high efficing.**

4. Express of Shaft Orientation

4.1 Express of HK series Bearing orientation



4.2 Express of HKD series Bearing orientation



5. Capacity and Model Selection

Model size	Ratio	Input shaft revolution speed 1800r/min			Input shaft revolution speed 1500r/min			Input shaft revolution speed 1200r/min			Input shaft revolution speed 900r/min			Input shaft revolution speed 600r/min			Input shaft revolution speed 300r/min		
		Model size (kw)	Lifter froce (kg)	Hoist speed (m/min)	Model size (kw)	Lifter froce (kg)	Hoist speed (m/min)	Model size (kw)	Lifter froce (kg)	Hoist speed (m/min)	Model size (kw)	Lifter froce (kg)	Hoist speed (m/min)	Model size (kw)	Lifter froce (kg)	Hoist speed (m/min)	Model size (kw)	Lifter froce (kg)	Hoist speed (m/min)
HK-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
HK-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
HK-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
HK-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
HK-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
HK-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
HK-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
HK-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
HK-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
HK-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

6. Model Selection for Screw Lifter

6.1 Total current load calculate

Ws=Wmax × fs

Ws--current load Wmax--max load fs--using coefficient (more information from table1)

Table 1 using coefficient(fs)

using situation	Smooth load;light load inertia	light shock load; mid load inertia	strong shock load; heavy load inertia
using coefficient	1.0~1.3	1.3~1.5	1.5~3.0

6.2 Current load calculate of unit screw lifter

W=Ws/(S × fd)

W--unit current load Ws--current load S --linkage quantity

fd--linkage coefficient(more information from table 2)

Table 2 linkage coefficient(fd)

Linkage quantity	1	2	3	4	5~8
Using coeffient	1	0.95	0.9	0.85	0.8

6.3 Stroke of screw option

Choose adequate stroke of screw with concerning enough screw movement inertia...

6.4 Choose screw model

Choose screw model according to capacity, lifting speed, stroke and driveing fountainhead.

6.5 Screw calculate(more information from table 3)

Table 3 Screw calculate

Model	Screw dia	length of protect pipe	"S"type screw end		"H"type screw end		"R"type screw end		"T"type screw end	
			L1=L+SC	L2=L1-SD	L1=L+HB+HD	L2=L1-HB-HE	L1=L+RB	L2=L1-RC	L1=L+TE	L2=L1-TF
HK-2T	Tr26×5	L+55	L+150	L1-40	L+20+165	L1-50-20	L+165	L1-55	L+135	L1-25
HK-3T	Tr32×6	L+60	L+180	L1-50	L+25+195	L1-65-25	L+195	L1-65	L+160	L1-30
HK-5T	Tr38×6	L+60	L+180	L1-50	L+25+195	L1-65-25	L+195	L1-65	L+160	L1-30
HK-10T	Tr46×8	L+65	L+220	L1-60	L+32+255	L1-95-32	L+225	L1-65	L+200	L1-40
HK-15T	Tr52×8	L+65	L+220	L1-60	L+32+255	L1-95-32	L+225	L1-65	L+210	L1-50
HK-20T	Tr65×10	L+75	L+260	L1-80	L+35+295	L1-115-35	L+250	L1-70	L+235	L1-55
HK-30T	Tr75×12		L+300	L1-80	L+44+355	L1-135-44	L+295	L1-75	L+285	L1-65
HK-40T	Tr80×12		L+360	L1-100	L+54+410	L1-150-54	L+355	L1-95	L+330	L1-70
HK-50T	Tr90×14		L+435	L1-120	L+64+480	L1-165-64	L+430	L1-115	L+390	L1-75
HK-100T	Tr100×16		L+495	L1-150	L+70+545	L1-200-70	L+485	L1-140	L+445	L1-100

Note: L1=Screw total length, L2=Thread length

6.6 Screw stability check

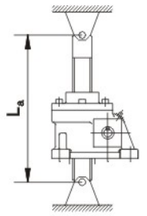
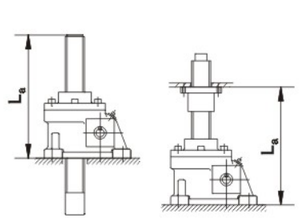
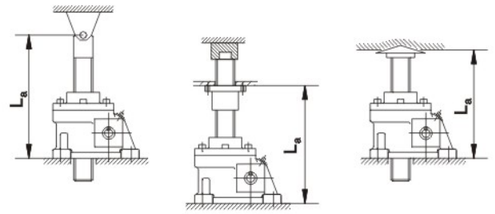
$P_{cr}=f_m \times (d^2/L_a)^2$ Should insure $P_{cr} > W \times S_f$(usual S_f=4)

P_{cr}--Screw critical loading(N) fm-- Length coefficient(more information from table 4)

d--diameter of screw bottom(mm)(more information from table 5) L_a--working length(mm)

W--Current load of unit screw lifter(N) Sf--security coefficient(usual S_f=4)

Table 4 Length coefficient

		
Two ends sustation $f_m=10\times10^{-5}$	One shaft end fixed the other free $f_m=2.5\times10^{-5}$	One shaft end fixed the other free $f_m=20\times10^{-5}$

6.7 Screw speed check

$n_c=96\times10^6\times f_n\times d/L_b^2$

$n_s=n_l/i$ should insure $n_c > n_s$

n_c--screw allowed speed(r/min) ; n_s--screw screwing speed(r/min);

d--diameter of screw bottom(mm); i--ratio; n_l--input shaft screwing speed(r/min);

f_n--Sustation coefficient (more information from table 6); L_b--the distance between sustation(mm).

6.8 Input power check

$P=n_1\times p_1\times w\times10^{-3}/(60\times i\times\eta)$ should insure $p < p_{rated}$

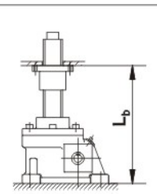
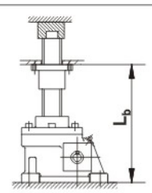
P--needed input power(KW); p_1--axial pitch distance(mm) n_1--input shaft screwing speed(r/min);

w--current load(KN); i--ratio η--general efficiency

Table 5 Diameter of screw bottom

Model	HK-2T	HK-3T	HK-5T	HK-10T	HK-15T	HK-20T	HK-30T	HK-40T	HK-50T	HK-100T
	HK35	HK40	HK50	HK60	HK60B	HK70	HK100	HK120	HK130	HK150
Diameter of screwing bottom	20.5	25	31	37	43	54	62	67	74	82

Table 6 Sustaion coefficient(fn)

	
Two shaft end free fn=0.36	Two shaft end fixed fn=1.56

7. Notes

7.1 **Select the model with proper ratio and load;**

7.2 **The surface** temperature **of speed reducer and nut should be controlled in –15℃~80℃, when the screw lifter is working;**

7.3 **The screw lifter cannot work all the time. The unit is thirty mins for duty ratio of unit one and can not exceed 20%;**

$$\text{Duty ratio (T\%)} = \frac{\text{Time under working/cycle}}{\text{Time under working/cycle + interval/cycle}} \times 100\%$$

7.4 **Insure adequate drive fountainhead;**

7.5 **Theoretically screw has self–lock function, but the self–lock function may not work in heavy shock condition;**

7.6 **Using situation for screw lifter;**

Usingsituation	Norain and water
Ambient air	Dust: usual condition for mill
Ambient temperature	–15℃~40℃
Comparatively humidity	Below 85%

7.7 **Transverse load is not allowed when screw lifter is working. If transverse load occured, pls add direction setting.**

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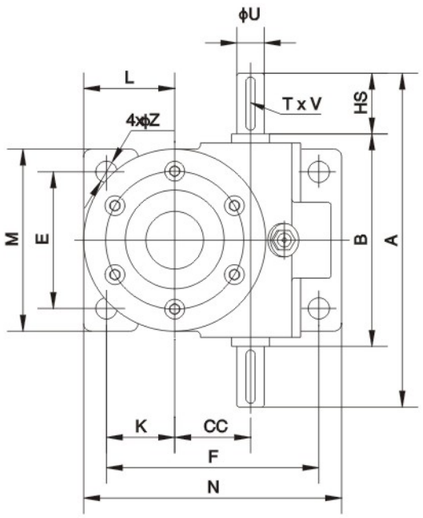
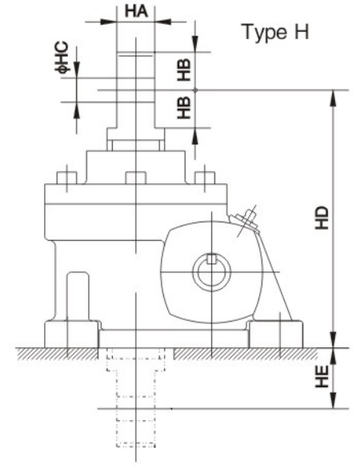
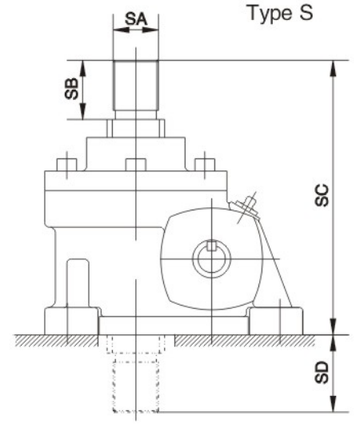
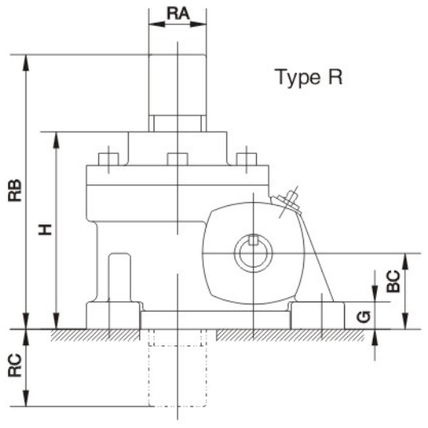
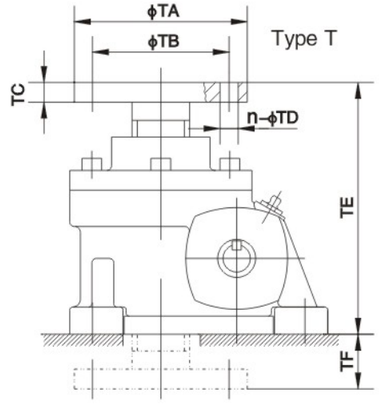
8. Mounting Dimensions of HK Series Worm Gear Screw Lifter



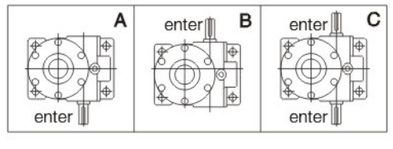








SHAFT DIRECTION



Model size	A B HS	E F Z	BC G H	CC K	Tr	L M N	U T x V	Type of screw head						
								Type R	Type H		Type S		Type T	
								RA RB RC	HA HB HC	HD HE	SA	SB SC SD	TA TB TC	n–TD TE TF
HK–2T	170 110 30	66 111 12	40 15 110	35 38	Tr26x5	50 90 135	15 5 x 3	16 165 55	16 20 12	165 55	M16x1.5	28 150 40	88 70 10	4–ϕ10 135 25
HK–3T	220 140 40	80 125 12	50 18 130	40 42	Tr32x6	57 110 155	18 6 x 3.5	32 195 65	20 25 14	195 65	M22x1.5	32 180 50	98 80 13	4–ϕ10 160 30
HK–5T	220 140 40	90 140 14	50 18 130	50 45	Tr38x6	60 120 170	22 6 x 3.5	38 195 65	25 25 16	195 65	M30x1.5	35 180 50	114 90 13	4–ϕ12 160 30
HK–10T	256 176 40	100 190 18	60 20 160	60 70	Tr46x8	90 140 230	25 8 x 4	46 225 65	32 32 20	255 95	M33x1.5	40 220 60	138 100 16	4–ϕ14 200 40
HK–15T	264 184 40	110 190 18	60 20 160	60 70	Tr52x8	90 150 230	25 8 x 4	52 225 65	36 32 24	255 95	M39x1.5	45 220 60	148 110 20	4–ϕ18 210 50
HK–20T	316 216 50	140 210 18	70 25 180	70 75	Tr65x10	95 180 250	28 8 x 4	65 250 70	44 35 26	295 115	M45x1.5	55 260 80	178 125 25	4–ϕ21 235 55
HK–30T	390 260 65	190 260 22	85 30 220	100 85	Tr75x12	110 230 310	32 10 x 5	75 295 75	56 44 35	355 135	M60x2	65 300 80	188 140 28	4–ϕ21 285 65
HK–40T	420 290 65	210 305 22	100 30 260	120 105	Tr80x12	130 260 355	35 10 x 5	80 355 95	60 54 38	410 150	M64x2	70 360 100	218 170 30	4–ϕ25 330 70
HK–50T	480 340 70	240 355 22	120 30 315	130 130	Tr90x14	160 300 415	45 14 x 5.5	90 430 115	70 64 45	480 165	M76x2	75 435 120	248 200 32	4–ϕ27 390 75
HK–100T	550 360 95	250 385 27	125 35 345	150 135	Tr100x16	170 320 455	50 14 x 5.5	100 485 140	80 70 55	545 200	M90x2	100 495 150	358 280 35	6–ϕ27 445 100

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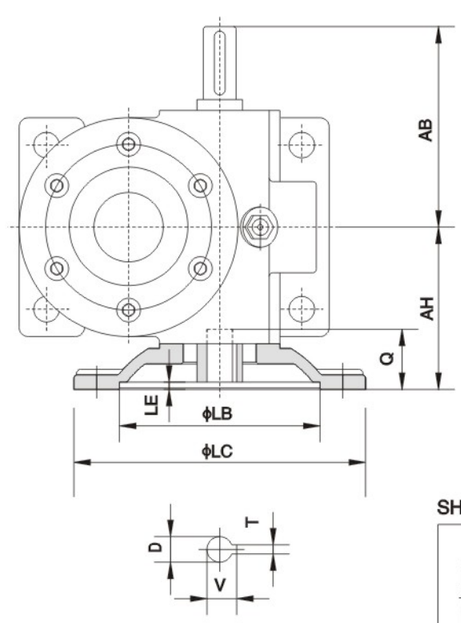
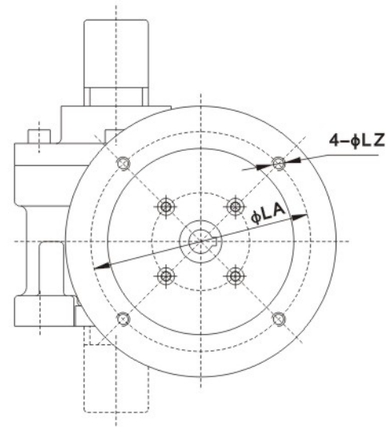
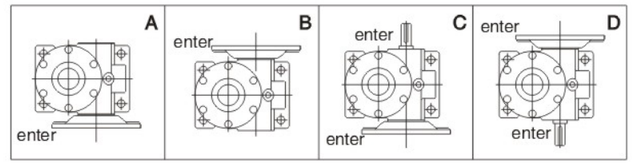
9. Mounting Dimensions of HKD Series Worm Gear Screw Lifter



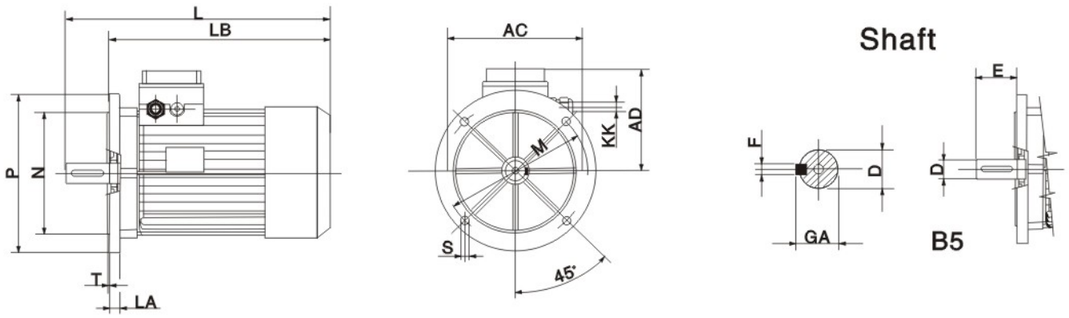


SHAFT DIRECTION



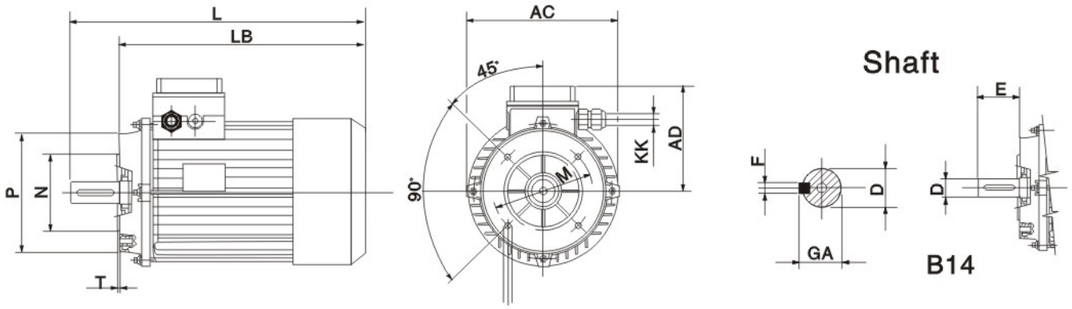
Model size	Flange size	AB	AH	LA	LB	LC	LE	LZ	D	Q	TxV
HK–3T	71B5	72	91	130	110	160	4	M8	ϕ14	33	5x16.3
HK–5T	71B5	80	91	130	110	160	4	M8	ϕ14	33	5x16.3
HK–10T	80B5	100	124	165	130	200	4.5	M10	ϕ19	43	6x21.8
	90B5								ϕ24	53	8x27.3
HK–15T	80B5	132	100	165	130	200	4.5	M10	ϕ19	43	6x21.8
	90B5								ϕ24	53	8x27.3
HK–20T	90B5	158	120	165	130	200	4.5	M10	ϕ24	53	8x27.3
HK–30T	100/112B5	195	150	215	180	250	5	M12	ϕ28	63	8x31.3
HK–40T	100/112B5	210	165	215	180	250	5	M12	ϕ28	63	8x31.3
HK–50T	132B5	240	194	265	230	300	5	M16	ϕ38	83	10x41.3
HK–100T	132B5	275	218	265	230	300	5	M16	ϕ38	83	10x41.3

B5 Electric Motors Dimension



Motor	Overall dim.					Flange B5						Shaft			
	AC	AD	L	LB	KK	M	Nj6	P	LA	S(Ø)	T	D(Ø)	E	F	GA
56	110	96	189	169	M16X1,5	100	80	120	10	7	3	9 M4	20	3	10,2
63	122	96	218	195	M16X1,5	115	95	140	10	9	3	11 M4	23	4	12,5
71	145	125	255	225	M20X1,5	130	110	160	13	10	3,5	14 M5	30	5	16
80	165	135	295	255	M20X1,5	165	130	200	13	12	3,5	19 M6	40	6	21,5
90S	185	145	310	260	M25X1,5	165	130	200	13	12	3,5	24 M8	50	8	27
90L	185	145	335	285	M25X1,5	165	130	200	15	12	3,5	24 M8	50	8	27
100	215	170	380	320	M25X1,5	215	180	250	15	15	4	28 M10	60	8	31
112	240	180	400	340	M25X1,5	215	180	250	15	15	4	28 M10	60	8	31
132S	275	210	470	390	M25X1,5	265	230	300	15	15	4	38 M12	80	10	41
132M	275	210	510	430	M25X1,5	265	230	300	15	15	4	38 M12	80	10	41

B14 Electric Motors Dimension



Motor	Overall dim.					Flange B5						Shaft			
	AC	AD	L	LB	KK	M	Nj6	P	LA	S(Ø)	T	D(Ø)	E	F	GA
56	110	96	189	169	M16X1,5	65	50	80		M5	3	9 M4	20	3	10,2
63	122	96	218	195	M16X1,5	75	60	90		M5	3	11 M4	23	4	12,5
71	145	125	255	225	M20X1,5	85	70	105		M6	3	14 M5	30	5	16
80	165	135	295	255	M20X1,5	100	80	120		M6	3	19 M6	40	6	21,5
90S	185	145	310	260	M25X1,5	115	95	140		M8	3	24 M8	50	8	27
90L	185	145	335	285	M25X1,5	115	95	140		M8	3	24 M8	50	8	27
100	215	170	380	320	M25X1,5	130	110	160		M8	4	28 M10	60	8	31
112	240	180	400	340	M25X1,5	130	110	160		M8	4	28 M10	60	8	31
132S	275	210	470	390	M25X1,5	165	130	200		M10	5	38 M12	80	10	41
132M	275	210	510	430	M25X1,5	165	130	200		M10	5	38 M12	80	10	41

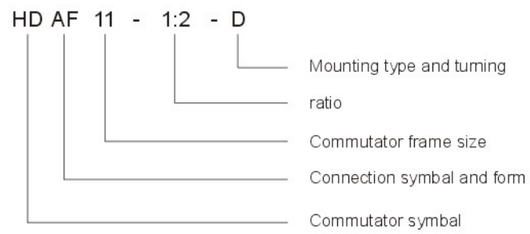
HD series spiral bevel gear unit

HD series spiral bevel gear unit product introduction

spiral bevel gear unit, the following is trait:

1. the box is hexahedron, which can fit different direction mounting
2. long-lift using and big load, sooth transmission, low noise, transmission efficiency can up to 94%-98%
3. spiral bevel gears are made of low carbon alloy steel, through quenching and whetting, come to high precision rigidity tooth transmission
4. HD serie have seven specs, big choosing range, mult-output shaft mode which meet various situation
5. enhancing and reducing speed

Mode designation



Connection symbal and form

HD coupled of input (output) shaft stretch	HAD coupled of input shaft stretch and output shaft mounting
HDF coupled of output shaft with input flange	HDAF input flange、coupled of output shaft mounting

Ratio account

$$\text{Rato } i = \frac{\text{Input speed n1}}{\text{Output speed n2}}$$ When i>1 reducing speed, i<1 adding speed

Choosing type

1. Calculation formula: (1) $P_{IN}=P1\times f$ (not higher than 20/hour)

(2) $P_{IN}=1.2\times P1\times f$ (start 21-60/hour)

(3) $P_{IN}\leq P_N$

select power must be lower or equel to fixed power

note: P_{IN} is select power P1 is demand power, f is service factor, P_N is fixed power.

2. Using quotiety f

Driving machine	Working hours/day (hour)	Load type		
		Uniform load	Medium load	Heavy load
Motor Turbine Hydraulic motor	3	0.8	1	1.5
	3~10	1	1.25	1.25
	10~24	1.25	1.5	2
Gas engine	3	1.25	1.5	2
	3~10	1.5	1.75	2.25
	10~24	1.25	2	2.5

Thermal power

1. thermal power account: $P_{GN}=P_G\times f1\times f2$

$P_{GN}>P1$ (nature cooling)

$P_{GN}<P1$ (fan and oil cooling)

note: surronding temperature coefficient f1, continuous work coefficient f2, commutator thermal capacity P_G, P1: actual need power. P_{GN}: account thermal capacity of commutator

2. surronding temperature coefficient f1

Temperature ℃	10	20	30	40	50
coefficient f1	1.2	1	0.87	0.75	0.64

3. continuous coefficient f2

Working efficiency/hour%	100	80	60	40	20
f2	1	1.2	1.4	1.6	1.8

Thermal capacity P_G(nature cooling)

KW

ratio i	Box type						
	09	11	14	17	21	24	28
1~5	4.5	6.5	11	15.5	24	31	44

Universal technology norm

1. The size of the key and keyway must be accord with GB1095-79、GB1096-79, the tolerance of the keyway width: shaft N9, wheel JS9.
2. The center of the output and input shaft has screw, the standard as follow:
   D=11~13mm screw M3 D>24~30mm screw M10
   >13~16mm screw M5 >30~38mm screw M12
   >16~21mm screw M6 >38~50mm screw M16
   >21~24mm screw M8 >50~85mm screw M20
3. In the diagram of the mouting diemessions, the output shaft can be considered as input shaft if the speed and torque allowed.

Choosing example

Example: beater is drived by spiral bevel gear unit
beater actual need powerP1=28KW; moter power P2=30KW, motor speed n1=2000r/min
ratio i=2, mounting type of commutator D, work 8 hours one day, continuous work
hours of every hour: 60%, start stop 6 times/hour, surrounding temperature:30C.
Choosing type: driving machine of beater is motor, medium load, work 8 hours/day, according to using coefficient table:

f=1.25

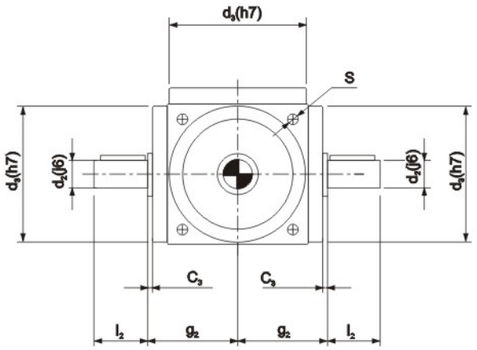
choosing type power: PIN=P1×f=28×1.25=35kw(start stop 6 times/hour)
according to allowable: choosing boxtpye21, PN=52.4KW>35kw
thermal power: bo×21, according to thermal capacity form PG=24KW
according to surrounding temperature form: f1=0.87
according to continuous work coefficient form: f2=1.4
PGN=24×0.87×1.4×29.2KW>28KW
nature cooling is ok choosing type: HD21-2D

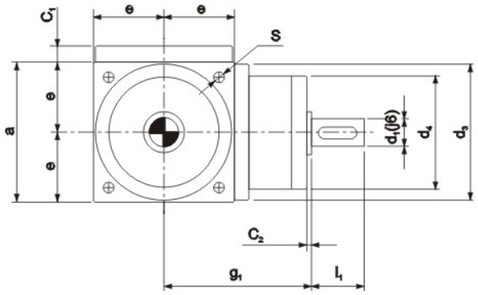
ratio、input (output) speed and allowable input power

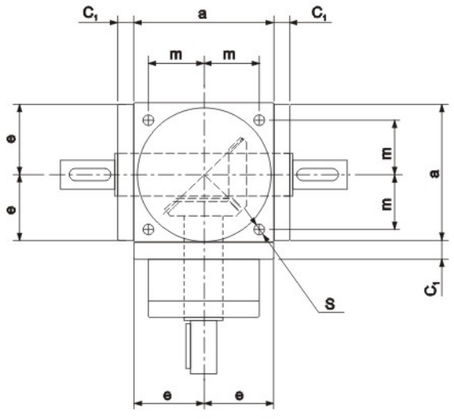
ratio i	Input speed n1 r/min	Output speed n2 r/min	Box type						
			09	11	14	17	21	24	28
			Allowable input power PN(KW)						
1	2000	2000	7.55	13.8	29.9	49.2	84	111	188
	1500	1500	6	11	23.9	39.3	67.5	90.5	156
	1000	1000	4.3	7.85	17.2	28.8	50.5	68	115
	750	750	3.4	6.15	13.4	22.8	40.8	54.5	94.2
1.5	2000	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

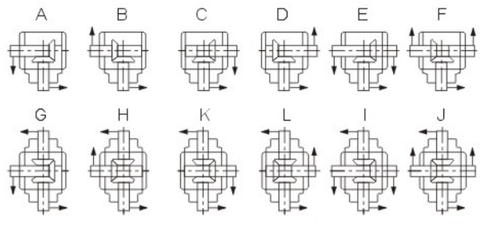
Notes: 1. The allowable power value of this table is used for deceleration.
When it is required to increase speed, the allowable power should be multiplied by the transmission ratio
2. If the input/output shaft exceeds the range in the table, please contact us.

HD09-HD28 (i=1~5) coupled of input (output) shaft stretch
HD outline and mounting dimension





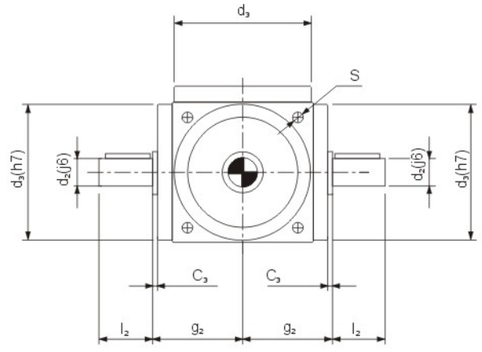


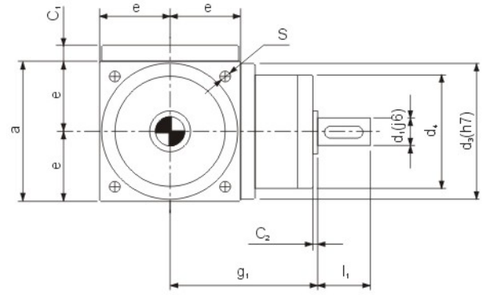


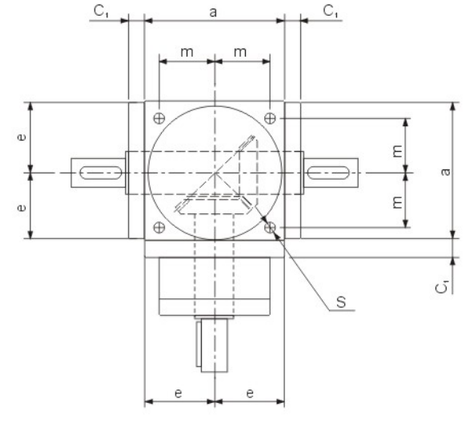
Mounting form and rotation direction

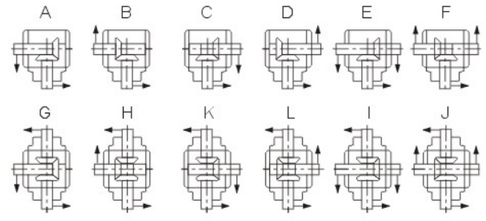
Type	a	C_1	C_2	C_3	d_2	l_2	d_3	e	g_1	g_2	m	S	i=1~2		i=3		i=4		i=5		i=1~3	i=4~5	Weight	Oil
													d_1	l_1	d_1	l_1	d_1	l_1	d_1	l_1	d_4	d_4	Kg	L
09	90	12	2	2	18	35	88	45	100	59	36	M6	18	35	16	30	11	23	11	23	72	62	6	0.2
11	110	12	2	2	22	40	108	55	122	69	44	M8	22	40	20	35	16	30	14	25	81	72	10	0.3
14	140	12	2	2	32	50	135	70	142	84	55	M10	32	50	26	45	20	35	16	30	98	81	20	0.4
17	170	15	2	2	40	60	165	85	168	103	67	M12	40	60	32	50	26	45	22	40	118	98	32	1
21	210	18	2	2	45	70	205	105	220	125	85	M16	45	70	38	55	32	50	30	50	128	110	60	2
24	240	18	2	2	55	85	235	120	240	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	280	160	110	M16	60	110	50	80	45	70	42	70	150	135	115	3

HD09-HD28 (i=1:1.5,i=1:2) coupled of input (output) shaft stretch
HD outline and mounting dimension





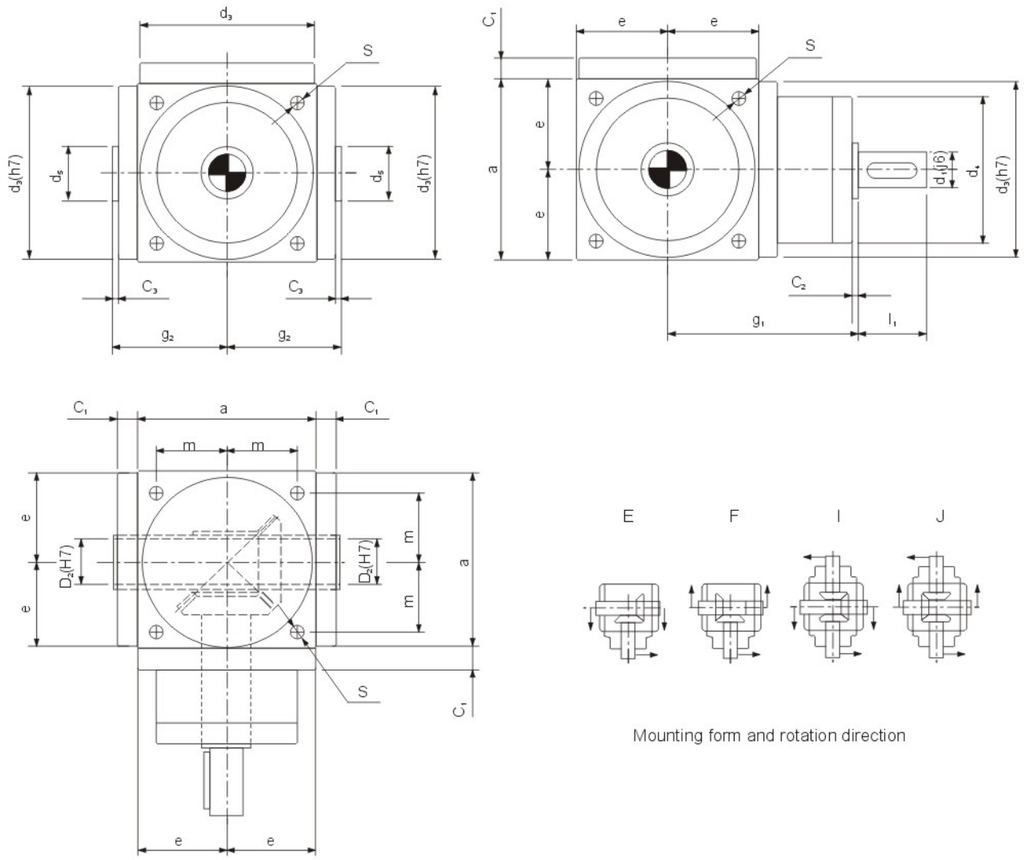




Mounting form and rotation direction

Type	a	C_1	C_2	C_3	d_1	l_1	d_3	e	g_1	g_2	m	S	d_4	i=1:1.5		i=1:2		Weight	Oil
														d_2	l_2	d_2	l_2	Kg	L
09	90	12	2	2	18	35	88	45	100	59	36	M6	72	11	23	18	35	6	0.2
11	110	12	2	2	22	40	108	55	122	69	44	M8	81	14	25	22	40	10	0.3
14	140	12	2	2	32	50	135	70	142	84	55	M10	98	16	30	32	50	20	0.4
17	170	15	2	3	40	60	165	85	168	103	67	M12	118	22	40	40	60	32	1
21	210	18	2	2	45	70	205	105	220	125	85	M16	128	30	50	45	70	60	2
24	240	18	2	2	55	85	235	120	240	140	95	M16	138	35	55	55	85	75	2.5
28	280	18	2	2	60	110	275	140	280	160	110	M16	150	42	70	60	110	115	3

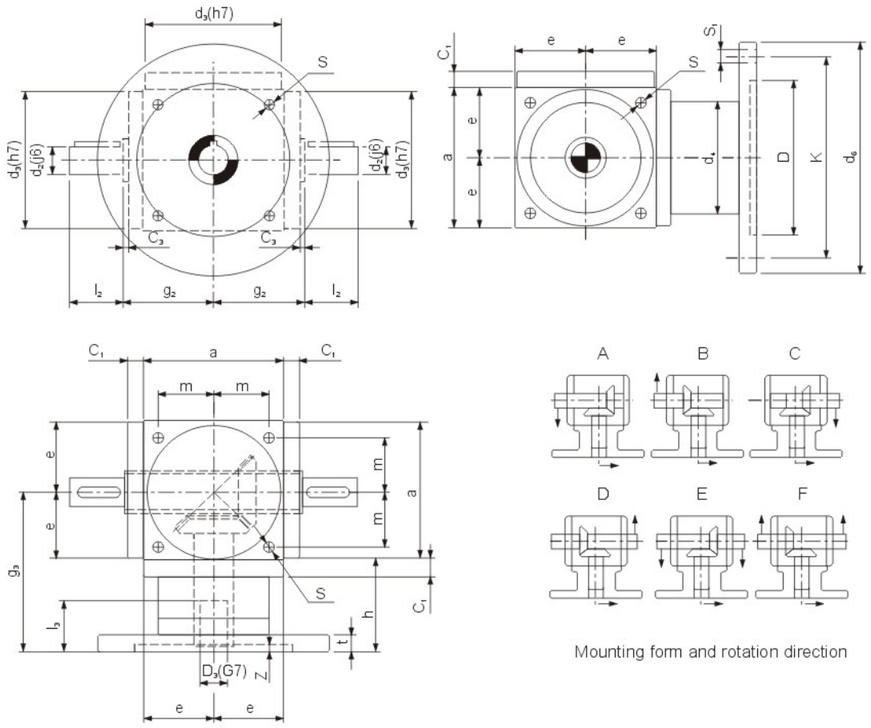
HDA09-HDA28 coupled of input shaft stretch and output shaft mounting
HD outline and mounting dimension



Mounting form and rotation direction

Type	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	Weight	Oil
													d_1	l_1	d_1	l_1	d_1	l_1	d_1	l_1	d_4	d_4	Kg	L
09	90	12	2	2	16	25	88	45	100	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	122	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	142	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	168	103	67	M12	40	60	32	50	26	45	22	40	118	98	32	1
21	210	18	2	2	45	65	205	105	220	125	85	M16	45	70	38	55	32	50	30	50	128	110	60	2
24	240	18	2	2	55	75	235	120	240	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	280	160	110	M16	60	110	50	80	45	70	42	70	150	135	115	3

HDF09-HDF28 coupled of output shaft with input flange
HD outline and mounting dimension



Mounting form and rotation direction

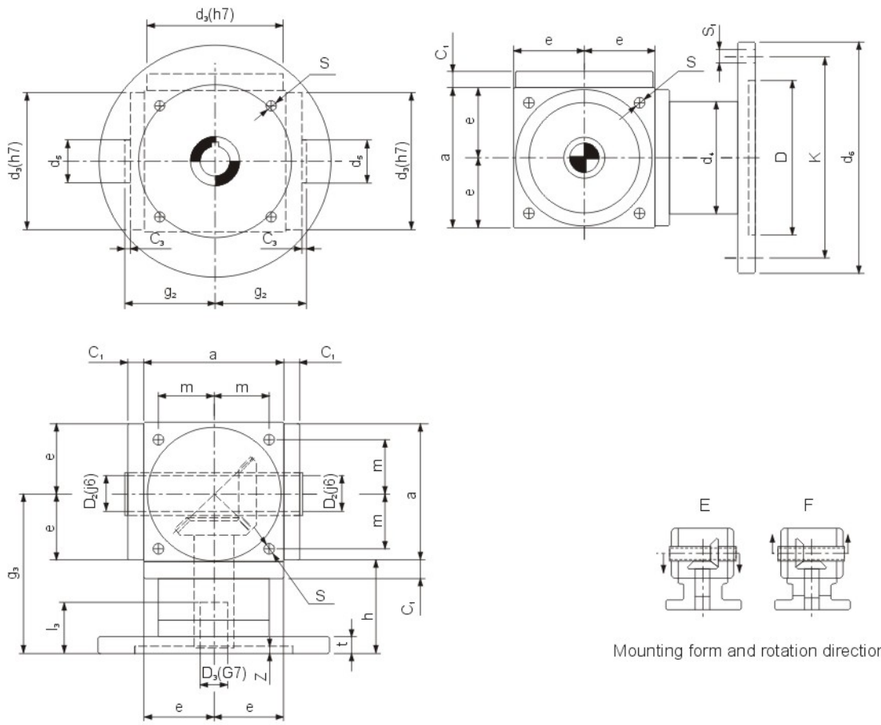
Type	a	C_1	C_3	d_3	d_4	d_2	l_2	i=1~2				i=3~5			
								$D_3 \times l_3$				$D_3 \times l_3$			
09	90	12	2	88	86	18	35	19×43	14×33	11×26	9×23	19×43	14×33	11×26	9×23
11	110	12	2	108	82	22	40	24×53	19×43	14×33	11×26	24×53	19×43	14×33	11×26
14	140	12	2	135	104	32	50	38×83	28×63	24×53	19×43	28×63	24×53	19×43	14×43
17	170	15	3	165	128	40	60	42×115	38×83	28×63	24×53	38×83	28×63	24×53	19×43
21	210	18	2	205	160	45	70	48×115	42×115	38×83	28×63	42×115	38×83	28×63	24×53
24	240	18	2	235	170	55	85	55×115	48×115	42×115	38×83	48×115	42×115	38×83	28×63
28	280	18	2	275	190	60	110	60×145	55×115	48×115	42×115	55×115	48×115	42×115	38×83

Type	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	

d_6	D	K	S_1	t	Z
120	80	100	4×M6	11	3.5
140	95	115	4×M8	11	3.5
160	110	130	4×M8	11	4
200	130	165	4×M10	14	4
250	180	215	4×M12	16	4.5
300	230	265	4×M12	16	4.5
350	250	300	4×M16	20	6
400	300	350	4×M16	20	6
450	350	400	4×M16	25	6

HDAF09-HDAF28 coupled of output shaft with input flange

HD outline and mounting dimension



Mounting form and rotation direction

Type	a	C_1	C_3	d_3	d_4	D_2	d_5	i=1~2 $D_3\times l_3$				i=3~5 $D_3\times l_3$			
09	90	12	2	88	86	16	25	19×43	14×33	11×26	9×23	19×43	14×33	11×26	9×23
11	110	12	2	108	82	22	35	24×53	19×43	14×33	11×26	24×53	19×43	14×33	11×26
14	140	12	2	135	104	28	45	38×83	28×63	24×53	19×43	28×63	24×53	19×43	14×43
17	170	15	3	165	128	38	55	42×115	38×83	28×63	24×53	38×83	28×63	24×53	19×43
21	210	18	2	205	160	45	65	48×115	42×115	38×83	28×63	42×115	38×83	28×63	24×53
24	240	18	2	235	170	55	75	55×115	48×115	42×115	38×83	48×115	42×115	38×83	28×63
28	280	18	2	275	190	60	85	60×145	55×115	48×115	42×115	55×115	48×115	42×115	38×83

Type	e	g_2	g_3	h	m	S	i=1~2 d_6				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	4×M6	11	3.5
140	95	115	4×M8	11	3.5
160	110	130	4×M8	11	4
200	130	165	4×M10	14	4
250	180	215	4×M12	16	4.5
300	230	265	4×M12	16	4.5
350	250	300	4×M16	20	6
400	300	350	4×M16	20	6
450	350	400	4×M16	25	6

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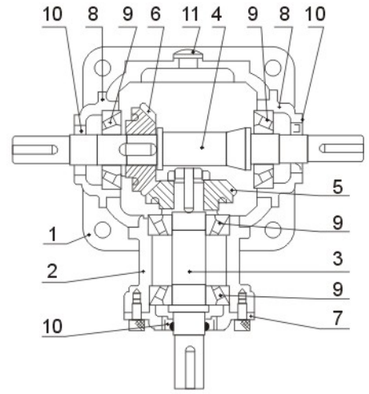
T series spiral bevel gearbox overview:

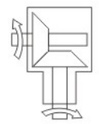
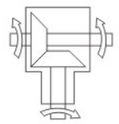
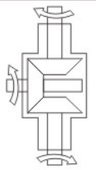
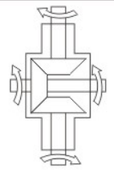
- T series spiral bevel gearbox with various types are standardized, all ratios of 1:1, 1.5:1, 2:1, 2.5:1, 3:1, 4:1 and 5:1 are actual ones. Average effi-ciency is 98%.
- There are one input shaft, two input shafts, unilateral output shaft and double side output shaft.
- Spiral bevel gear can rotate in both directions and transmit smoothly, low noise, light vibration, high performance.
- If ratio is not 1:1, if input speed on single-extendalbe shaft, out put speed will be reduced; if input speed on double-exfendable shaft, output speed will be reduced.

T series structure drawing:



1. Housing
2. Single-extendable shaft bearing seat
3. Single-extendable shaft
4. Double-extendable shaft
5. Spiral bevel gear
6. Spiral bevel gear
7. Bearing seat
8. Bearing seat
9. Bearing
10. Seat
11. Oil gauge

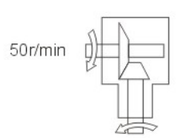
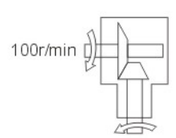
Function of rotation:

1 One single-extendable shaft		2 extendable shafts	
2-extended shaft	3-extended shaft	3-extended shaft	4-extended shaft
			

Specification: Direction of rotation of output shaft varies with that of input shaft.

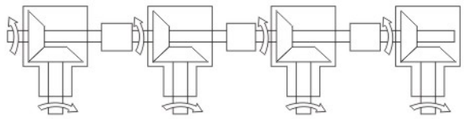
Please pay attention to speed relationship when selecting input shaft (there is nothing in case of ratio of 1:1):

Example: when ratio is 2.

[Reducing]	[Increasing]
	
50r/min 100r/min Output speed is 50rpm, when input speed is 100rpm	100r/min 200r/min Output speed is 200rpm, when input speed is 100rpm

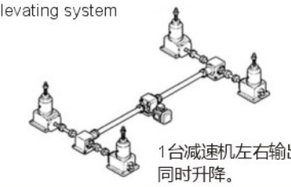
Application example:

Transmission in line



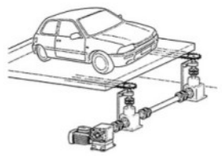
给纵轴连结送力，使横轴同步运转

Elevating system



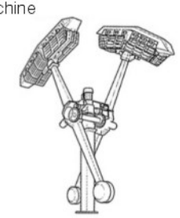
1台减速机左右输出，通过转向后，同时升降。

Tridimensional carbarn



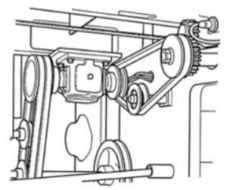
One reducer drive rightand left chain wheel and rotate at the same speed.

Play machine

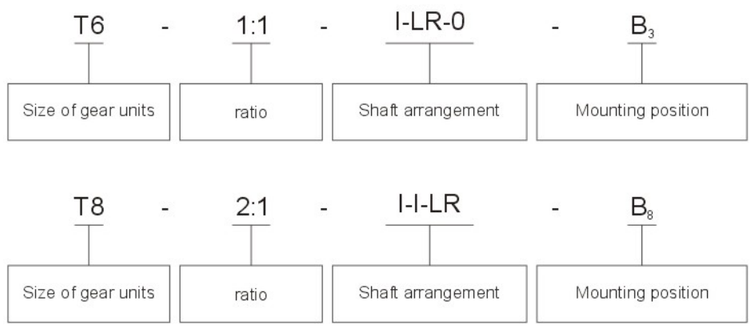


纵横输入，2横轴相反运转

Packing machine



T series model illustration:



T series weight table:

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

T series 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 2:1 2.5:1 3:1	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	22540	28420	33320	39200	49000

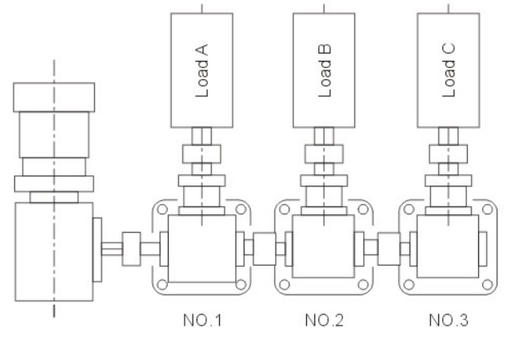
Notes: If there is lower output speed, please choose the maximum Fr in above table.

T series service factor f1:

Load characteristic	Operating time/day (hour)		
	⩽2	2~10	10~24
Uniform	1.00 (1.00)	1.00 (1.25)	1.25 (1.50)
Moderate	1.00 (1.25)	1.25 (1.50)	1.50 (1.75)
Heavy	1.25 (1.50)	1.50 (1.75)	1.75 (2.00)

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

T series selection sample:



Torque loaded on each gearbox is 196Nm, uniform shock, duration of operation is 8 hour per day, service factor f1=1.25, input speed is 300rpm, ratio is 1:1.

Calculate according to formula:

Required torque of each gearbox T2N≥T2×f1=196×1.25=245N・m

No.1 gearbox No.1 gearbox carry torque 245Nm, but No.2 and No.3 gearbox need transfer torque through No.1, Consequently No.1 gearbox should carry torque 735Nm (245Nm+245Nm+245Nm), select T 12according to transmission capacity table.

No.2 gearbox No.3 gearbox still transfers torque of No.3 gearbox besides torque of 245Nm, so, the total torque is 490Nm (245Nm+245Nm), select T10 according to transmission capacity table.

No.3 gearbox Required torque is more than 245Nm because of only load C according to transmission capacity table.

Notes:

1. If ratio is not 1:1, if input speed on single-extendalbe shaft, out put speed will be reduced; if input speed on double-exfendable shaft, output speed will be reduced. When mounting position and dimension are determined, the position of shafts can not be changed.
2. Several T boxes are linked, please verify the load capacity of these boxes.

i	n1	T2		T4		T6		T7		T8	
	r/min	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (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

1. If speed is less than 10rpm, please choose 10rpm.
2. ▭ Please contact us, when order the model with gray sign or that input speed is more than 1450rpm.

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i	n1	T2		T4		T6		T7		T8	
	r/min	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (kw)
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

i	n1	T10		T12		T16		T20		T25	
	r/min	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (kw)	T_{2N} (N・m)	P_{1N} (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
	10	561	0.599	919	0.983	1940	2.14	3205	3.53	5713	6.30
1.5:1	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						
	100	426	3.04	754	5.37						
	10	443	0.316	785	0.56						

1. If speed is less than 10rpm, please choose 10rpm.
2. ▭ Please contact us, when order the model with gray sign or that input speed is more than 1450rpm.

i	n1	T10		T12		T16		T20		T25	
	r/min	T_{2k} (N • m)	P_{1k} (kw)	T_{2k} (N • m)	P_{1k} (kw)	T_{2k} (N • m)	P_{1k} (kw)	T_{2k} (N • m)	P_{1k} (kw)	T_{2k} (N • m)	P_{1k} (kw)
2:1	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
	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
2.5:1	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						
	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						
3:1	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
	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
4:1	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
	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
5:1	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
	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

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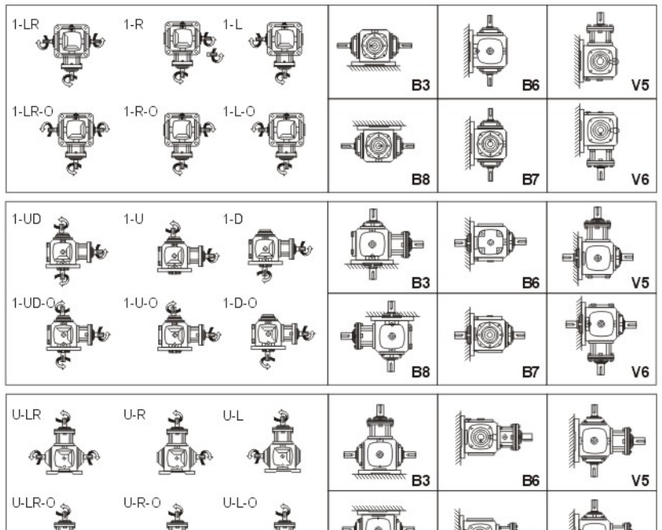
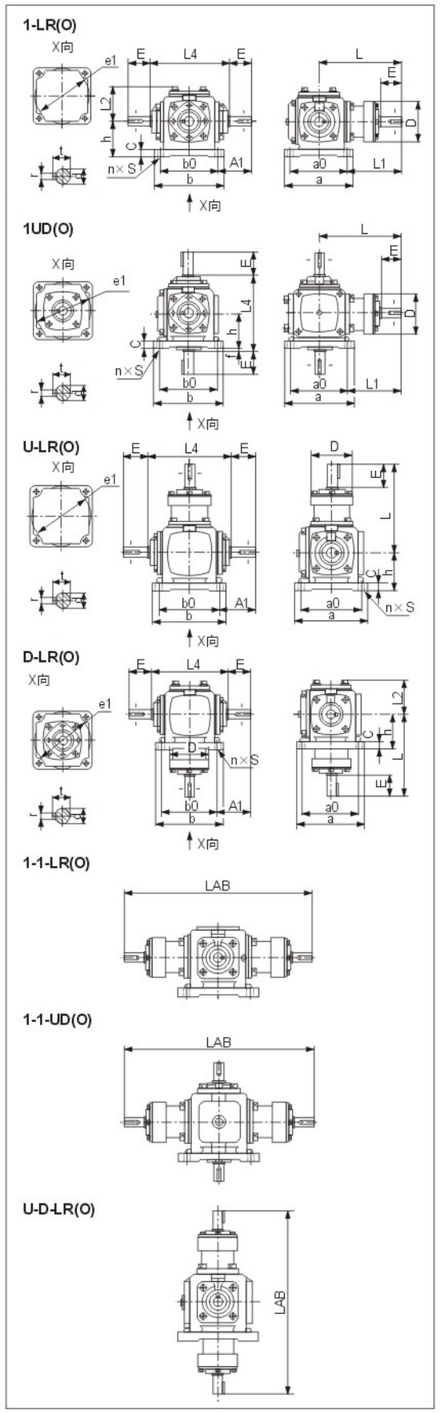
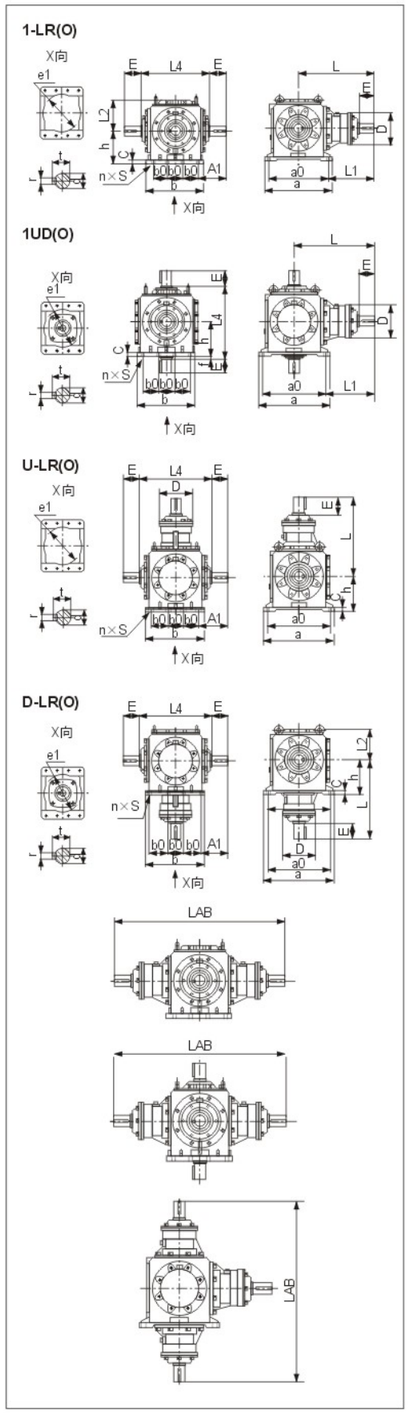
The relationship between shaft arrangements and direction of shaft rotation, Mounting position and dimension sheets:

T2-T16





T20-T25



	T2	T4	T6	T7	T8	T10	T12	T16	T20	T25
A1	48	53.5	81	88	110.5	120	130	150	195	235
a	100	155	190	210	235	285	340	390	490	580
a0	84	125	152	174	195	240	290	330	430	520
b	100	155	190	210	235	285	340	390	410	480
b0	84	125	152	174	195	240	290	330	110	130
C	10	17	17	20	23	25	32	40	32	35
D	58	76	115	125	159	155	168	193	220	270
d(h7)	15	19	25	32	40	45	50	60	72	85
E	33	38	50	62	75	90	100	105	105	130
e1(H8)×深	94×3	155×5	190×5	220×5	250×5	305×5	370×5	420×7	360×10	430×10
f	5	2	17	13	18	10	0	10	10	10
h	52	76	90	100	115	140	175	200	245	290
L	124	180	222	265	308	360	415	455	545	660
L1	82	117.5	146	178	210.5	240	270	290	330	400
L2	52	76	87	97	114.5	133	160	186	217	255
L4	114	156	214	226	266	300	350	420	510	600
LAB	248	360	444	530	616	720	830	910	1090	1324
n	4	4	4	4	4	4	4	4	8	8
r	5	6	8	10	12	14	14	18	20	22
s	9	10.5	14	14	14	16	21	25	21	24
t	17	21.5	28	35	43	48.5	53.5	64	76.5	90

Note: When ratio is 4:1 and 5:1, dimenssion of output shaft is changeless, but that of input is changed as follows:

		T6	T7	T8	T10	T12	T16	T20	T25
4:1	d(h7)	19	22	28	32	36	50	55	70
	E	38	50	62	62	75	100	105	105
	L	210	253	295	332	390	450	545	637
	L1	134	178	212.5	242	270	300	345	400
	LAB	420	566	590	664	780	900	1090	1274
	r	6	6	8	10	10	14	16	20
	t	21.5	24.5	31	35	39	53.5	59	74.5
5:1	d(h7)	19	22	28	32	36	42	50	60
	E	38	50	62	62	75	90	100	105
	L	210	253	295	332	390	440	540	637
	L1	134	178	212.5	242	270	300	340	410
	LAB	420	566	590	664	780	880	1080	1262
	r	6	6	8	10	10	12	14	18
	t	21.5	24.5	31	35	39	45	53.5	64

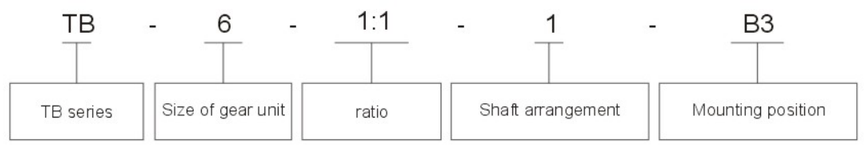
TB series spiral bevel gearbox overview:

Specifications:

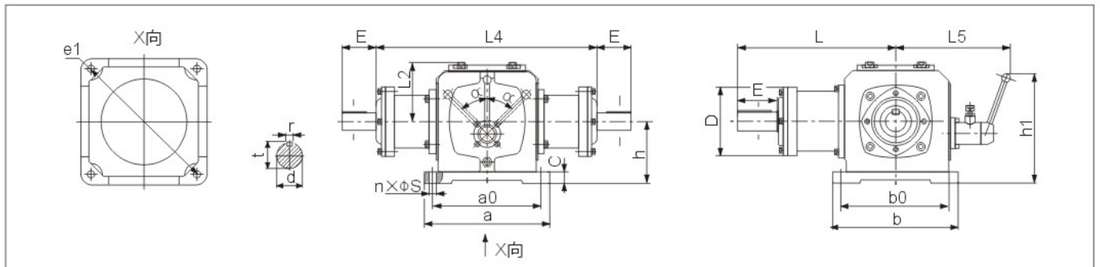
TB series are derivated from T series with interrupting part, transversal part, clutch, to realize the following functions:

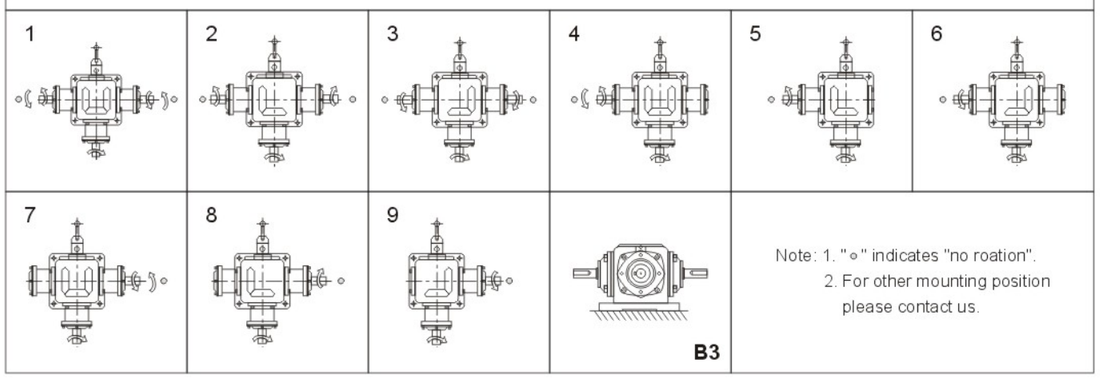
1. Input rotation direction keep no change, output roation direction can be opposite, same or no rotation.
2. Single-shaft-put shaft, double output shafts. In case of double out-put shafts, one shaft rotate, the other can stop; two output shafts can stop rotating or rotate together; and the rotative dinection of two output shafts can be the same or opposite.
3. Generally, ratio is 1:1, if not, please consult us.
4. Beyond type range: TB6、TB7、TB8、TB10、TB12、TB16, please consult us.

TB series model illustration:

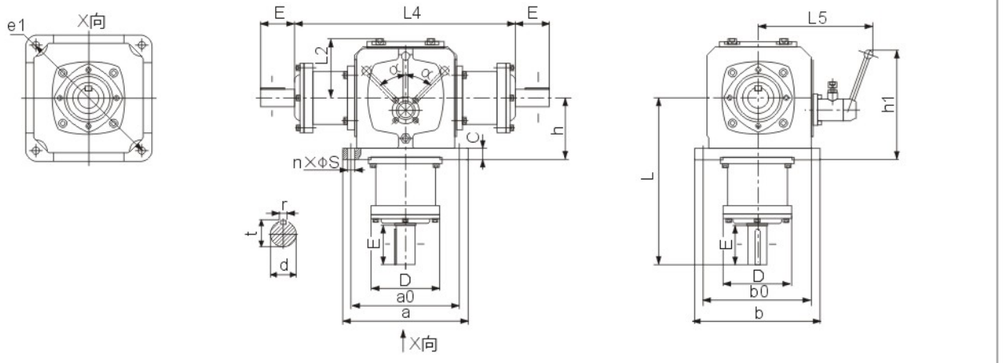


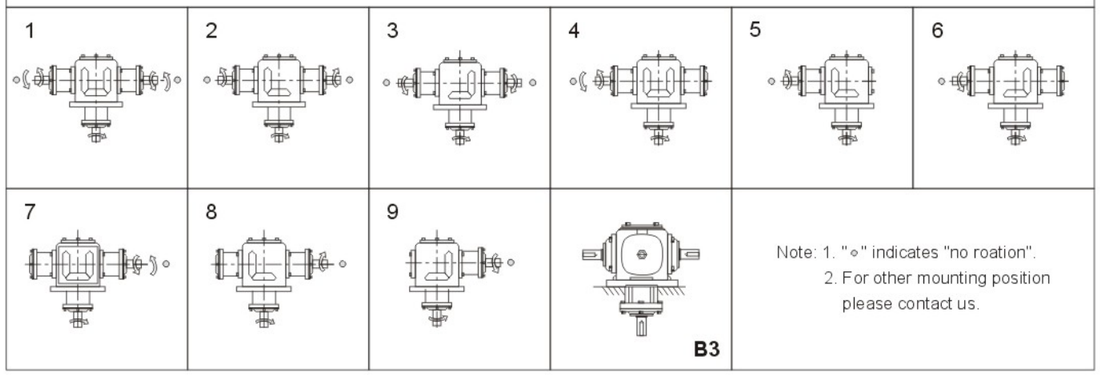
The relationship between shaft arrangements and direction of shaft rotation, Mounting position and dimension sheets:





Note: 1. "∘" indicates "no roation".
2. For other mounting position please contact us.





Note: 1. "∘" indicates "no roation".
2. For other mounting position please contact us.

	TB6	TB7	TB8	TB10	TB12	TB16
a	190	210	235	285	340	390
a0	152	174	195	240	290	330
b	190	210	235	285	340	390
b0	152	174	195	240	290	330
c	17	20	23	25	32	40
d(h7)	25	32	40	45	50	60
E	50	62	75	90	100	105
e1(H8)×深	190×5	220×5	250×5	305×5	370×5	420×7
L2	87	99	114.5	133	160	186
h	90	100	115	140	175	200
L	222	265	308	360	415	455
L4	214	226	266	300	350	420
L5	175	186	239	262	307.5	336
h1	182	192.5	225	248	313.3	324
n	4	4	4	4	4	4
r	8	10	12	14	14	18
S	14	14	14	16	21	25
t	28	35	43	48.5	53.5	64
D	115	125	159	155	168	193
α	45°	45°	40°	40°	42°	42°

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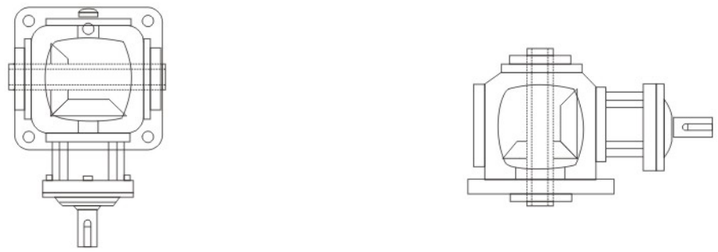
Please refer to us, if selecting shaft with involute spline or shrink disk:



With hollow input or output shaft

With input or output flange

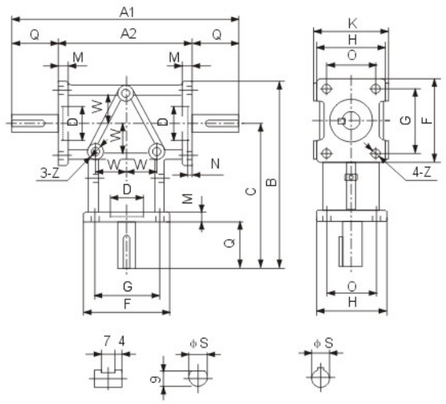
ARA series spiral bevel gear units

ARA 2 - 1:1 - LR

- LR: Shaft arrangement
- 1:1: ratio
- 2: Size of gear units
- ARA: ARA series

Features:

1. Small size,full installation, light weight, aluminum alloy shell.
2. The output of ARA series can select stainless Steel Materials.
3. It has two kinds of ratio respectively 1:1 and 2:1.



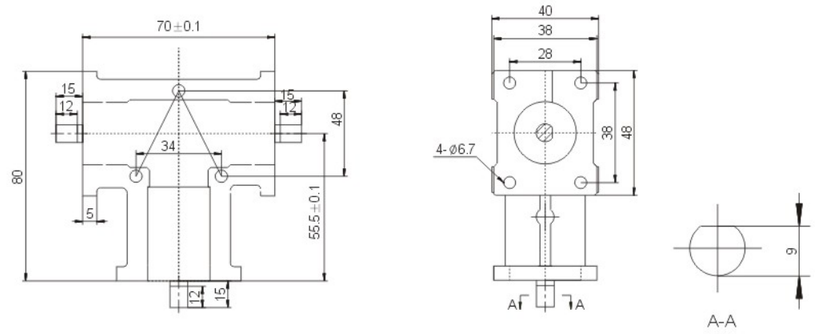
ARA0　　ARA1、2、4

	A1	A2	B	C	D(H7)	F	G	H	K	M	N	O	W	Z	ϕSh7	Q	Flat key
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	5×5
ARA2	252	152	226	177	ϕ42	98	76	72	76	12	5	54	38	ϕ8.8	ϕ20	50	6×6
ARA4	280	160	265	210	ϕ62	110	80	110	110	10.5	5	80	40	ϕ10.8	ϕ24	60	8×7

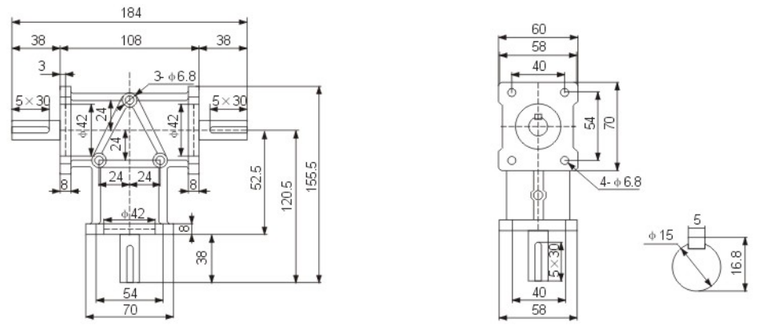
Trasnsmission Capacity Table

ratio	Input speed r/min	input power (kW)			
		ARA0	ARA1	ARA2	ARA4
1:1	1450	0.31	1.11	1.92	4.94
	1150	0.28	0.88	1.73	4.19
	870	0.24	0.66	1.47	3.46
	580	0.18	0.44	1.10	2.45
	400	0.14	0.30	0.76	1.72
	300	0.12	0.23	0.57	1.30
	200	0.08	0.15	0.38	0.88
	150	0.06	0.11	0.28	0.67
	100	0.04	0.08	0.19	0.448
	50	0.02	0.04	0.095	0.231
2:1	1450	0.14	0.55	0.94	3.32
	1150	0.11	0.43	0.74	2.67
	870	0.08	0.33	0.56	2.04
	580	0.05	0.22	0.37	1.38
	400	0.04	0.15	0.26	0.964
	300	0.03	0.11	0.19	0.729
	200	0.02	0.075	0.13	0.492
	150	0.014	0.056	0.10	0.372
	100	0.010	0.038	0.064	0.249
	50	0.005	0.018	0.032	0.125

ARA0



ARA1



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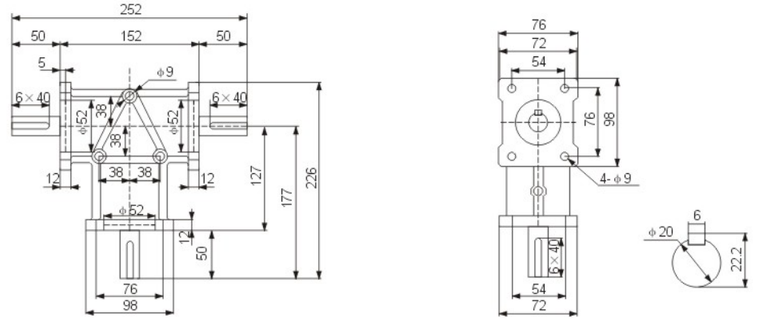

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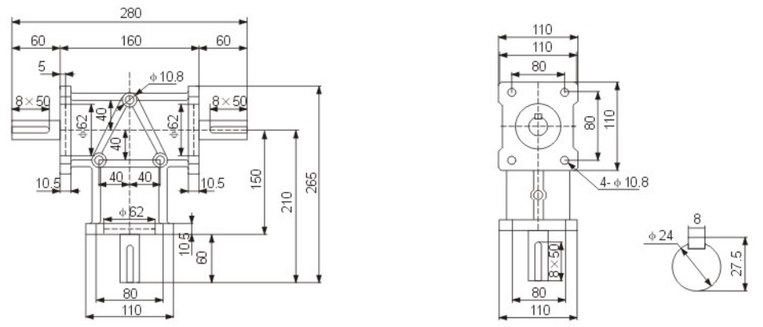
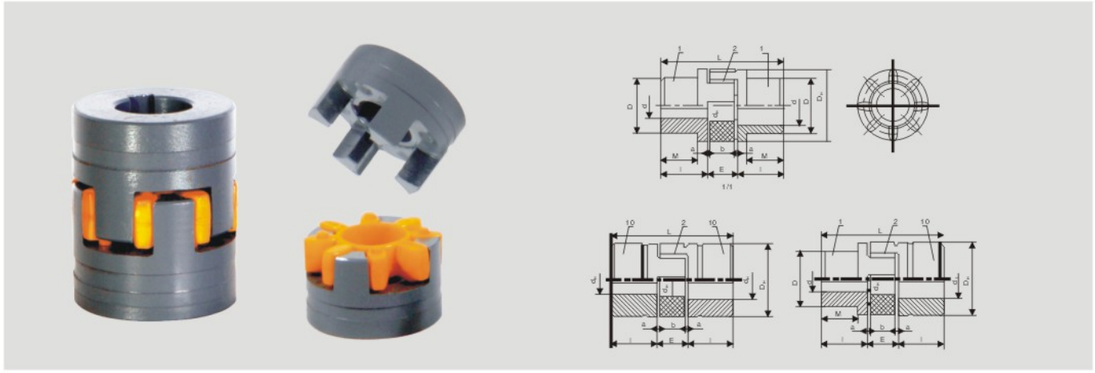


FL Jaw Flexible Couplings



Type & Expressions

FL 9/24 (1a/1a)

- Style
- dmax/d1max
- Jaw Flexible Couplings

Summary

1. Applicable to all types of machinery and hydraulics.
2. Small volume and large transmitted torque.
3. To be plugged in axially,easy assembly,maintenance-free.
4. Balancing axiad, radial and angular misalignment.
5. Dimensions of bore d,d1 available on customer request.
6. Applicable from −40℃ to +100℃,temperature peaks up to 120℃.

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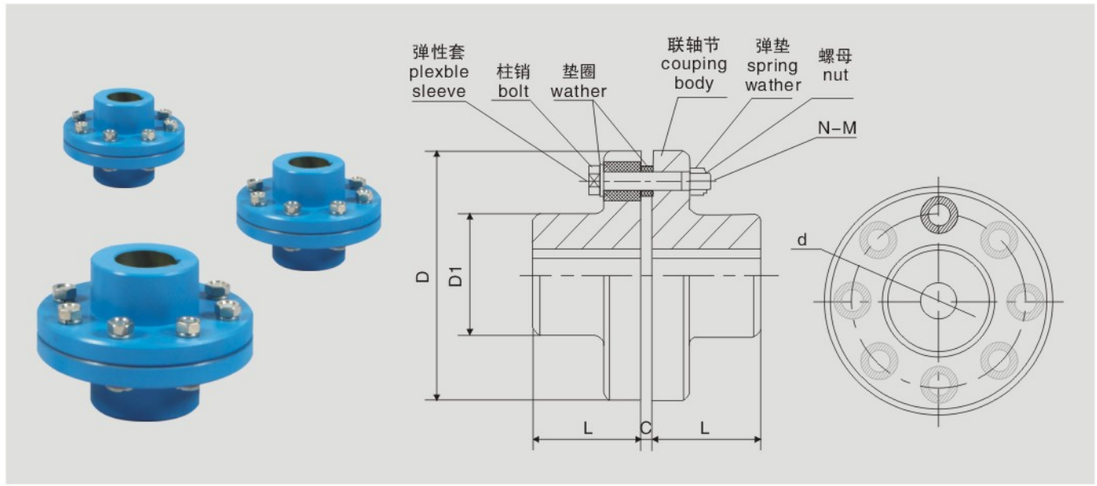
Lude Transmission
Deceleration for industrial drives

Performance parameter

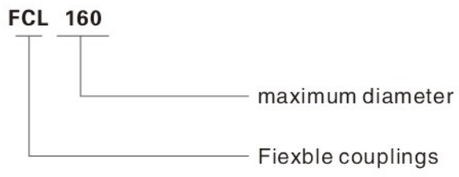
Type		Max speed r/min	Rated power (n=1500r/min) kW	Rated torque N.m	Rated torque N.m	Max.torsio angle
FL9	FL19/24	28000	0.28	1.8	3.5	6.4°
FL14	FL24/28	19000	0.62	4.0	8.0	
	FL28/38	14000	0.77	4.9	9.7	3.2°
	FL38/45	10600	2.67	17	34	
	FL2/55	8500	7.22	46	92	
FL38	FL48/60	7100	14.6	93	185	
FL42	FL55/70	6000	20.4	130	260	
FL48	FL65/75	5600	23.6	150	300	
FL55	FL75/90	4750	28.3	180	360	
FL65	FL90/100	4250	32.2	205	410	
FL75		3550	74.6	475	950	
Fl90		2800	184	1175	2350	

Type	Style	Prebored	Form				Dimensions(mm)									Min.Weight (kg)
			1		1a											
			d		d1		1	E	S	b	L	M	D_H	D	d_H	
			Min	Min	Min	Max										
铝合金压铸 Aluminium Diecasting(Al-D)																
FL9	1a/1a				4	9	10	10	1.0	8	30		20		6	0.017
Fl14	1a/1a				4	16	11	13	1.5	10	35		30		10	0.048
Steel-Noular Iron																Steel
FL19/24	1a/1a				6	24	25	16	2.0	12	66		40		18	0.328
FL24/28	1/1a				8	28	30	18	2.0	14	78		55		27	0.660
FL28/38	1a/1a				10	38	35	20	2.5	15	90		65		30	1.160
FL38/45	1/1a	11	12	38	38	45	45	24	3	18	114	37	80	66	38	2.27
FL42/55	1/1a	13	14	42	42	55	50	26	3	20	126	40	95	75	46	3.57
FL48/60	1/1a	14	15	48	48	60	56	28	3.5	21	140	45	105	85	51	4.80
FL55/70	1/1a	18	20	55	55	70	65	30	4	22	160	52	120	98	60	7.37
FL65/75	1/1a	20	22	65	65	75	75	35	4.5	26	185	61	135	115	68	10.89
FL75/90	1/1a	28	30	75	75	90	85	40	5	30	210	69	160	135	80	17.73
FL90/100	1/1a	38	40	90	90	100	100	45	5.5	34	245	81	200	160	100	29.6
FL38	1/1	11	12	38			45	24	3.0	18	114	37	80	66	38	2.080
FL42	1/1	13	14	42			50	26	3.0	20	126	40	95	75	46	3.210
FL48	1/1	14	15	48			56	28	3.5	21	140	45	105	85	51	4.410
Fl55	1/1	18	20	55			65	30	4.0	22	160	52	120	98	60	6.640
FL65	1/1	20	22	65			75	35	4.5	26	185	61	135	115	68	10.130
FL75	1/1	28	30	75			85	40	5.0	30	210	69	160	135	80	16.030
Fl90	1/1	38	40	90			100	45	5.5	34	245	81	200	160	100	27.50

FCL Jaw Flexible Couplings



Type & Expressions



Summary

Flexible Couplings Model FCL is widely used for its compact designing, easy installation, convenient maintenance,small size and light weight. As long as the relative displacement between shafts is kept within the specified tolerance, B couplings will operate the best function and have a longer working life. Thus it is greatly demanded in medium and minor power transmission systems driven by moters, such as speed reducers, hoists, compressos,conveyers, spinning and weaving machines and ball mills.

Permittable relative displacement:
Radial displacement: 0.2~0.6mm
Angle displacement: 0°30'~1°30'

Lude Transmission
Deceleration for industrial drives
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Size chart & Parameter

Type	Max torque N.m	Max speed r/min	D	D_1	d_1	L	C	n-M	kg
FCL90	4	4000	90	35.5	11	28	3	4-M8x50	1.7
FCL100	10	4000	100	40	11	35.5	3	4-M10x56	2.3
FCL112	16	4000	112	45	13	40	3	4-M10x56	2.8
FCL125	25	4000	125	50	13	45	3	4-M12x64	4.0
FCL140	50	4000	140	63	13	50	3	6-M12x64	5.4
FCL160	110	4000	160	80	15	56	3	8-M12x64	8.0
FCL180	157	3500	180	90	15	63	3	8-M12x64	10.5
FCL200	245	3200	200	100	21	71	4	8-M20x85	16.2
FCL224	392	2850	224	112	21	80	4	8-M20x85	21.3
FCL250	618	2550	250	125	25	90	4	8-M24x110	31.6
FCL280	980	2300	280	140	34	100	4	8-M24x116	44.0
FCL315	1568	2050	315	160	41	112	4	10-M24x116	57.7
FCL355	2450	1800	355	180	60	125	5	8-M30x50	89.5
FCL400	3920	1600	400	200	60	125	5	10-M30x150	113
FCL450	6174	1400	450	224	65	140	5	12-M30x150	145
FCL560	9800	1150	560	250	85	160	5	14-M30x150	229
FCL630	15680	1000	630	280	95	180	5	18-M30x150	296

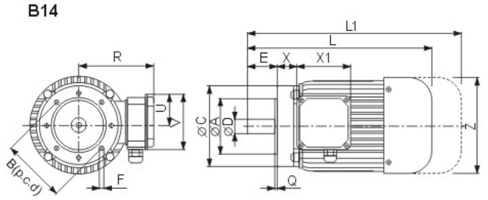
Standard Motor Parameters

Screw jacks can match with the IEC flange size 56--112, B14 and B5 AC motor or motor with brake, it can also match with single phase motor, explosion-proof motor, DC motor and servo motor.

- 3 phase AC motor
- Protection clase: IP44, IP54, IP55
- Voltage: 380V 50HZ
- Insulation: F

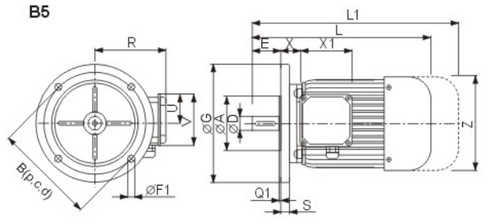
Note: PIs consult us for expecial requires.

B14



If diameter of axle is 29mm, the tolerance iso is j6,
If itis bigger than 29mm, the tolerance iso is k6.
Key bs4235, shaft end din332.

B5



As per motor with brake, the size is the same, only change L to L1.

Size of motor flange	power kw	rotate speed rpm	rated torque Nm	current A 400V	weight kg
56	0.09 0.09 0.13	1380 2830 2710	0.65 0.31 0.48	0.45 0.42 0.48	3.2
63	0.09 0.12 0.13 0.18 0.25	800 880 1370 1370 2800	1.0 1.3 0.92 1.3 0.9	0.5 0.7 0.68 0.85 0.78	4.4
71	0.18 0.25 0.25 0.37 0.37 0.55	890 900 1400 1380 2880 2860	1.9 2.7 1.7 2.5 1.1 1.8	0.85 1.0 0.9 1.2 1.3 2.0	7.5
80	0.37 0.55 0.75 0.75	900 1400 1410 2870	3.9 3.8 5.0 2.56	1.22 1.7 2.0 1.8	12.2
90S	0.75	920	7.8	2.5	15.4
90S	1.1	1390	10.7	3.8	15.4
90L	1.5	1400	12.8	4.6	13.0
90S	1.5	2800	5.2	3.7	15.4
100	1.5 2.2 3.0 3.0	940 1425 1430 2860	15.4 14.8 20.2 10.8	4.4 7.3 8.9 7.2	26.5
112	2.2 4.0	950 1440	22.0 27.0	7.0 8.9	36

size of flange	A	A1	B	B1	C	D	E	F	F1	G	L	L1	Q1	R	S	U	V	X	X1	Z
56	50	80	65	100	80	9	20	M5	8.5	120	187	213	3	110	9	52	92	30	92	110
63	60	95	75	115	90	11	23	M5	9	140	216	238	3	115	10	52	92	25	92	123
71	-	110	-	130	-	14	30	-	9	160	245	276	3.5	124	10	52	92	25	92	138
80	-	130	-	165	-	19	40	-	11	200	275	317	3.5	141	10	60	108	30	108	156
90S	-	130	-	165	-	24	50	-	11	200	300	342	3.5	146	10	60	108	33	108	176
90L	-	130	-	165	-	24	50	-	11	200	325	366	3.5	146	10	60	108	33	108	176
100	-	180	-	215	-	28	60	-	14	250	365	430	4	157	15	60	108	40	108	194
112	-	180	-	215	-	28	60	-	14	250	385	466	4	170	15	60	108	45	108	220

Screw Jacks Application Analysis Form

Buyer's company name _____ Department _____

Address _____ Contact person _____

Phone _____ Fax _____

Website _____ Email _____

Application details and working situation explanation _____

01. Total Load

	Dynamic load (t)	Static load (t)
Pressure		
Pull force		

02. Quantity of screw jack which can bear total load ☐ 1 ☐ 2 ☐ Other _____ ☐ 3 ☐ 4

03. Lifting speed _____ **mm/s**

04. Stroke length _____ **mm**

05. Duty cycle (How many percentage per every 10min):

☐ Duty cycle≤30% ☐ Duty cycle≥50%

☐ 30%<Duty cycle≤50% Operation cycle for every 24 hours: _____

06. Motion ways ☐ Traveling screw jacks ☐ Traveling nut screw jacks

Motion direction ☐ upward ☐ Downward ☐ Horizental

07. Type of screw rod ☐ Screw jacks ☐ Ball screw jacks

08. Whether have direction device ☐ Yes ☐ No

09. Whether need screw rod move and without rotation ☐ Yes ☐ No

10. Positioning _____ **mm**

11. Working temperature _____ ℃ **Working humidity** _____ ℃

Working envoronment _____

12. The attachment way

☐ Flange ☐ Thread end ☐ Hinged head ☐ Double hinged head ☐ Optical axis

13. Other attachment

☐ External box limit switch ☐ Screw rod protective cover ☐ Encoder and display ☐ Motor brake ☐ Bevel diverter ☐ Anti-turn device

☐ Trunion seat ☐ Backlash device ☐ Potentiometer ☐ Motor flange ☐ Safty nut

14. Detailed application(to install with what kind equipment, and how to use it) _____

15. The quantity needed _____ **Need quantity per year** _____

16. Name of competitor _____ **Details** _____ **Type** _____

17. As per special requires, please provide detail drawings