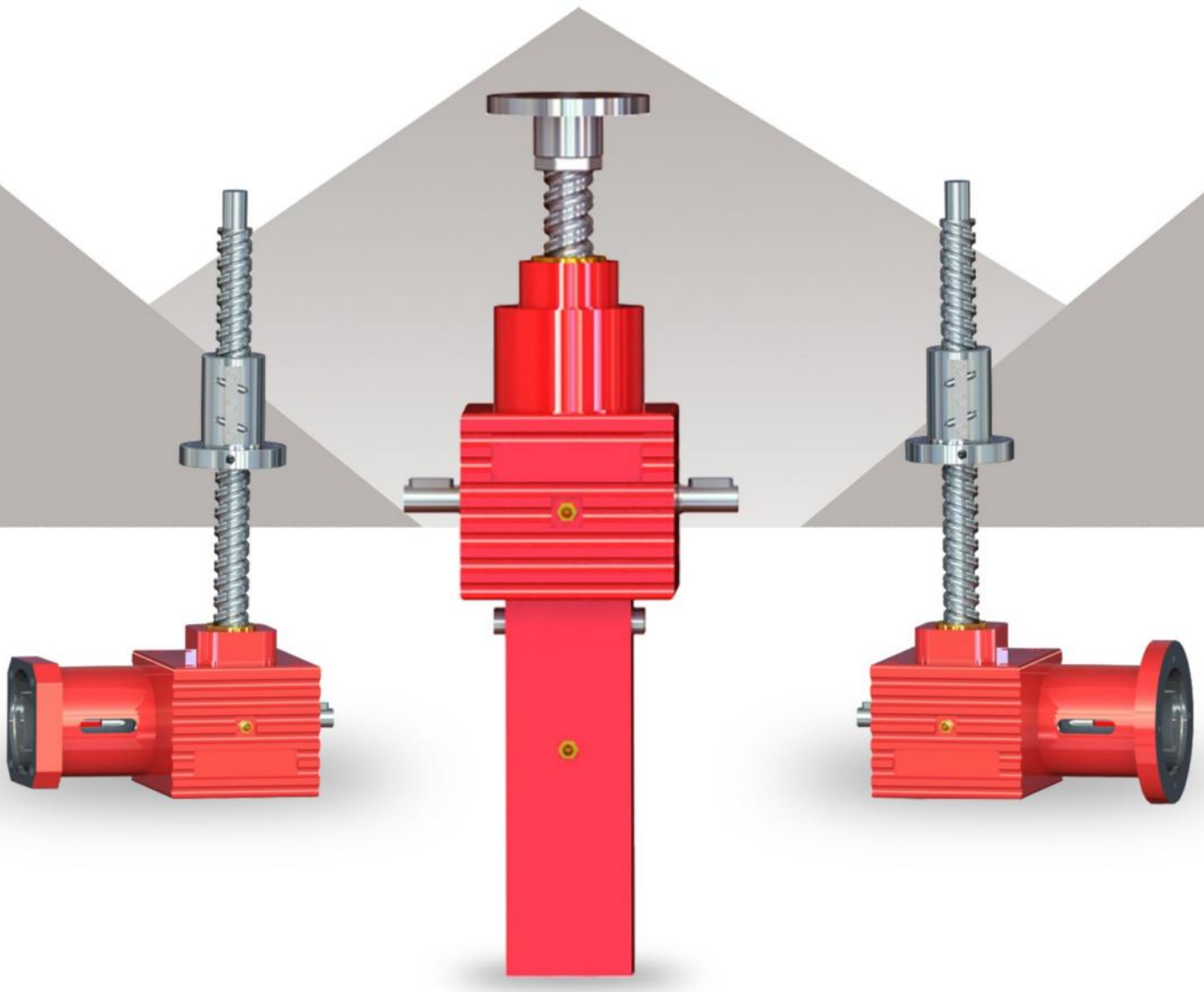




LINEAR MOTION



LUDE TRANSMISSION

SJB Series Ball Screw Jack



Product categories

Linear Motion - Explanation

The compact integrations of the motor and gear reducer with the acme screw, ball screw and the satellite roller screw, unique advantages in terms of the price and the performance provide much more space to the engineer for designing. The new idea dispensed with the consideration of the hydraulic and pneumatic leakage as well as the pipes and valves.

Self-locking: The majority of the products possess the self-locking function, thus increasing the performance security.

Positioning: the positioning accuracy can reach 0.1 mm, and the positioning accuracy of servo actuator can reach 6 μ m.

Precise control: equipped with encoder/potentiometer/rotary transformer, the closed loop positioning can also be realized through the inverter, PLC controller and the servo controller.

Synchronousness: the synchronous lifting can be achieved through the mechanical connection of multiple screw actuators and screw jacks

Overload protection: can be equipped with the safety clutch, and the over-load sensor.

High load capacity: wide range of load capacity from 5kg to 250 tons, with the stroke 6 meters to the maximum.

High speed: the speed of the of the roller screw actuator can reach 2m/s, the continuous traveling life is 15 times than that of the ball screw actuators.

Others advantages: Easy maintenance, low noise, can work normally under the harsh environment of high/low temperature, corrosive and explosive-prone environment.

Product category

Linear actuator

LAP Series



LBP Series





Screw Jack

SJA Series



SJB Series



SC Screw Jack

SCA Series



SCB Series



Servo Actuator

DMB Series



DMB Series



Ball Screw Jack





Selection Table Guide

Performance Table

Size	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
Rated dynamic load kN	11	17	25	25	46	30	53	56	71	62	78	97	111
Screw dia x pitch[mm]	20 x 5	32 x 5	32 x 10	32 x 20	40 x 10	40 x 20	50 x 10	50 x 20	63 x 10	63 x 20	80 x 10	80 x 20	100 x 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	1:10.25
	L1	1:16	1:24	1:24	1:24	1:28	1:28	1:32	1:32	1:32	1:32	1:35	1:41
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
	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
Max input power[kw]	V1	0.57	1.14	1.14	1.14	2.2	2.2	2.5	2.5	3	3	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	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
	L1	1.8	3.4	6.3	12.1	14.6	19.4	15.3	29.9	20.4	34	23.4	66.7
Starting efficiency	V1	0.41	0.32	0.35	0.36	0.33	0.34	0.32	0.33	0.32	0.34	0.31	0.30
	L1	0.27	0.20	0.21	0.22	0.20	0.21	0.20	0.20	0.20	0.21	0.18	0.18
Running efficiency at 1500rpm	V1	0.59	0.58	0.62	0.65	0.59	0.60	0.58	0.59	0.58	0.60	0.55	0.53
	L1	0.42	0.39	0.42	0.44	0.39	0.41	0.39	0.40	0.39	0.41	0.35	0.35
Housing material	Spheroidal graphite 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: Ambient temperature of SJ screw jack is -20°C - +40°C (-40°C - +70°C are available)

Lifetime calculation

The lifetime of Ball screw Jack SJB series depends on the lifetime of ball screw and worm gear and shaft, we just need to calculate the lifetime of screw, worm gear and shaft will wear but normally lifetime is longer than screw.

Theoretically Ball screw lifetime L10 is 90% of stroke ability that screw could reach before metal fatigue, Unit is million millimeter. Theoretically lifetime is not guarantee lifetime. In order to reach max. Lifetime the screw need been appropriate maintainence and lubricate.

If the theoretically lifetime need higher than 90%, need multiply follow coefficient

95%: L10x62% 96%: L10x53% 97%: L10x44%

98%: L10x33% 99%: L10x21%

Nut lifetime calculation:

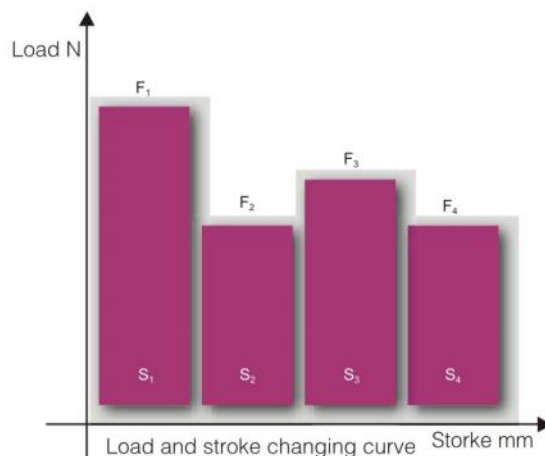
$$L10=(C / F_m)^3 \times S$$

L10: theoretic lifetime km Fm: mean load N

C: Rated dynamic load N S: Ball screw lead mm

Fm mean load calculation:

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





Selection Table Guide



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

SJB10			Lifting Load															
			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	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	0.099	0.237	0.035
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	0.068	0.255	0.024
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	0.055	0.262	0.019
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	0.042	0.276	0.014
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	0.026	0.301	0.009
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			Lifting Load															
			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	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			Lifting Load															
			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	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

Note: The purple figures in the tables indicate operational restrictions due to thermal limits. Selection of screw jacks using these figures should only be carried out in consultation with our engineers. When your selection is made within the areas shaded purple, you will need to reduce duty cycle or choose the bigger size screw jack in order to allow effective heat dissipation.



Selection Table Guide



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

SJB22			Lifting Load															
			20kN				15kN				10kN				5kN			
n1	Lifting speed [mm/s]	Ratio		Ratio		Ratio		Ratio		Ratio		Ratio		Ratio		Ratio		
		V1	L1	V1	L1	V1	L1	V1	L1	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

SJB50			Lifting Load															
			50kN				35kN				25kN				10kN			
n1	Lifting speed [mm/s]	Ratio		Ratio		Ratio		Ratio		Ratio		Ratio		Ratio		Ratio		
		V1	L1	V1	L1	V1	L1	V1	L1	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			Lifting Load															
			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	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	0.275
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

Note: The purple figures in the tables indicate operational restrictions due to thermal limits. Selection of screw jacks using these figures should only be carried out in consultation with our engineers. When your selection is made within the areas shaded purple, you will need to reduce duty cycle or choose the bigger size screw jack in order to allow effective heat dissipation.



Selection Table Guide



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

SJB80			Lifting Load															
			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	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			Lifting Load															
			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	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

SJB100			Lifting Load															
			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	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

Note: The purple figures in the tables indicate operational restrictions due to thermal limits. Selection of screw jacks using these figures should only be carried out in consultation with our engineers. When your selection is made within the areas shaded purple, you will need to reduce duty cycle or choose the bigger size screw jack in order to allow effective heat dissipation.



Selection Table Guide



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

SJB101			Lifting Load															
			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	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			Lifting Load															
			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	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

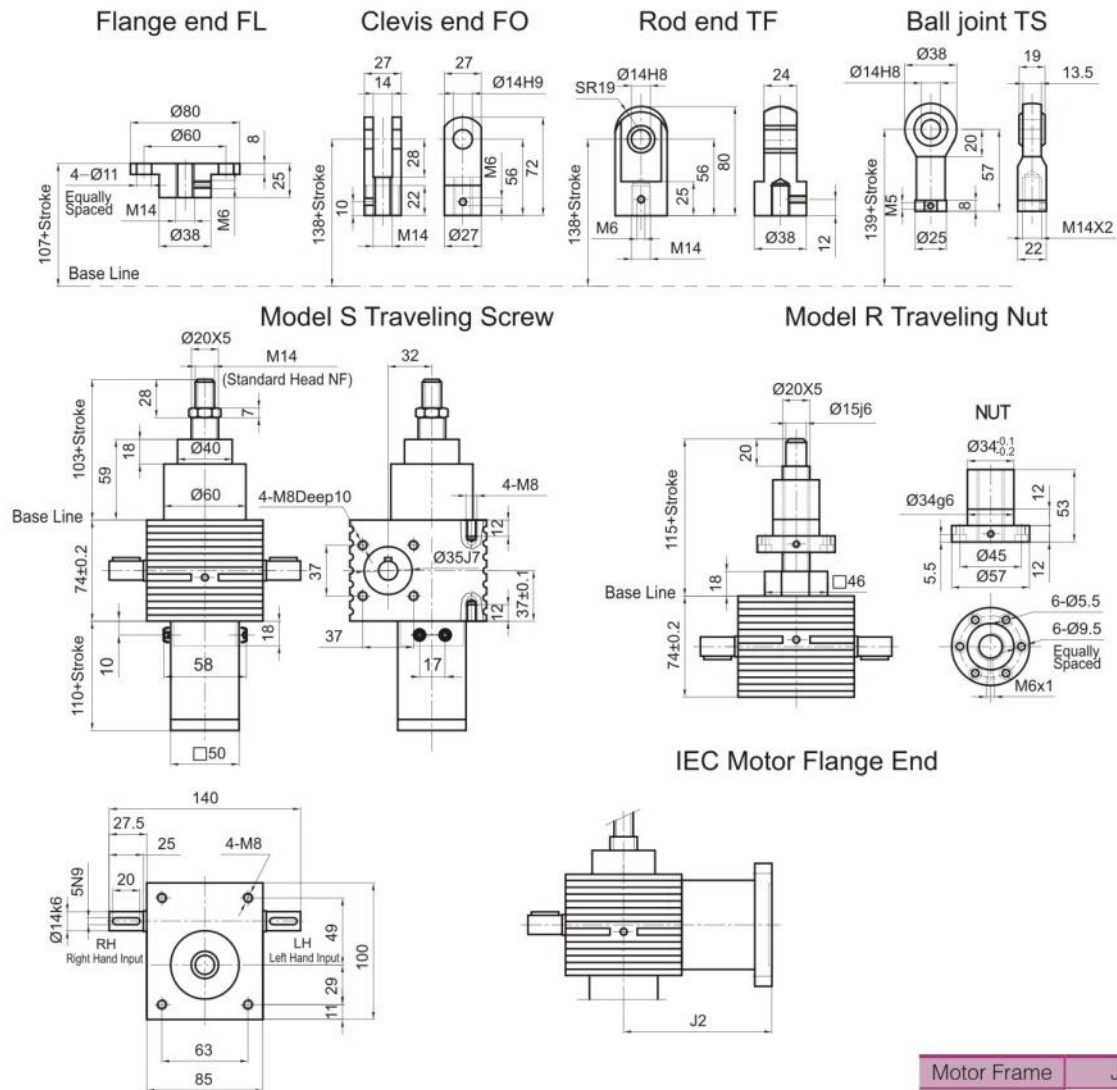
SJB300			Lifting Load															
			300kN				200kN				150kN				100kN			
n1	Lifting speed [mm/s]	Ratio				Ratio				Ratio				Ratio				
		V1		L1		V1		L1		V1		L1		V1		L1		
RPM	V1	L1	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
1400	45.5	11.4	175.68	25.75	66.51	9.75	117.12	17.17	44.34	6.50	87.84	12.877	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	44.766	0.234	72.180	0.378	29.844	0.156

Note: The purple figures in the tables indicate operational restrictions due to thermal limits. Selection of screw jacks using these figures should only be carried out in consultation with our engineers. When your selection is made within the areas shaded purple, you will need to reduce duty cycle or choose the bigger size screw jack in order to allow effective heat dissipation.



Overall Dimensions of Screw Jack

SJB10 Screw Jack



Motor Frame	J2
63B14	62.5
71B14	115.5
80B14	125.5

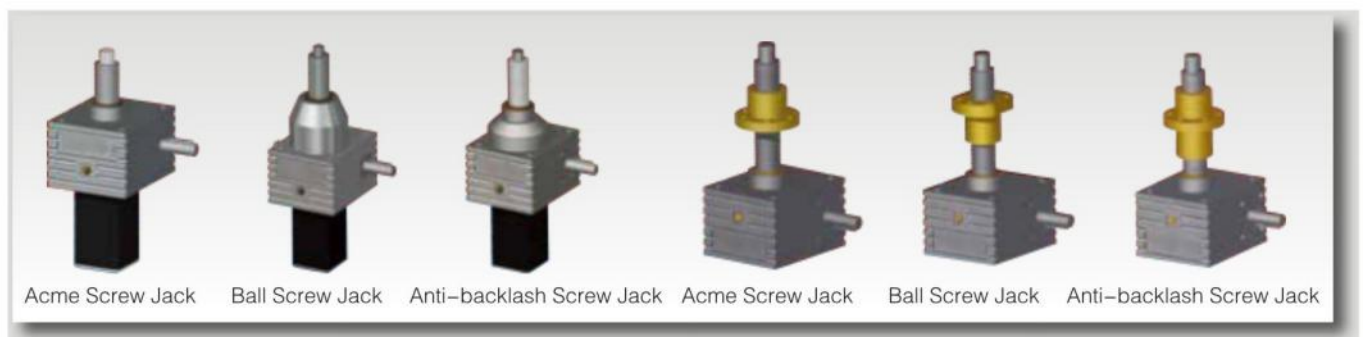
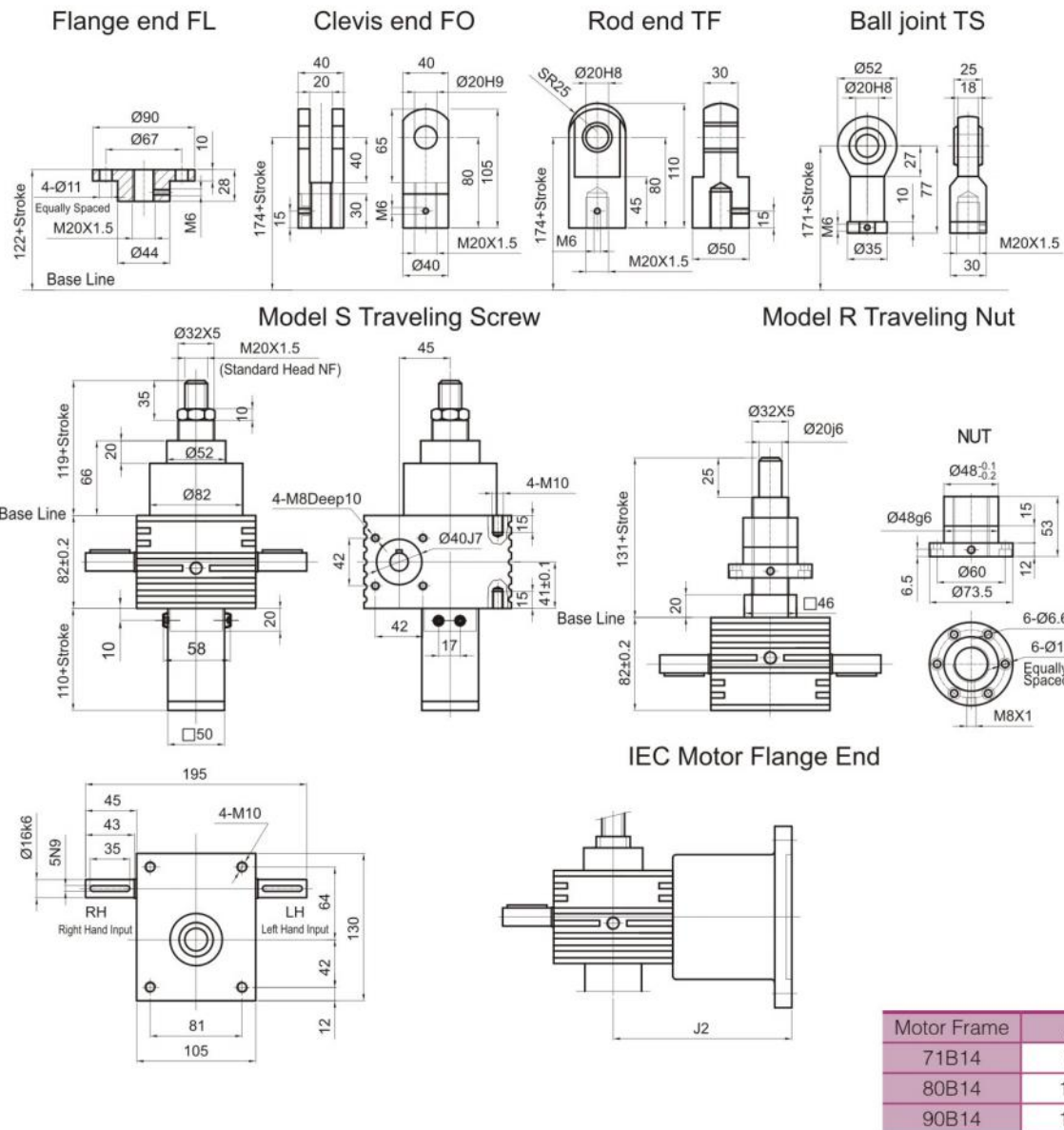




LINEAR MOTION

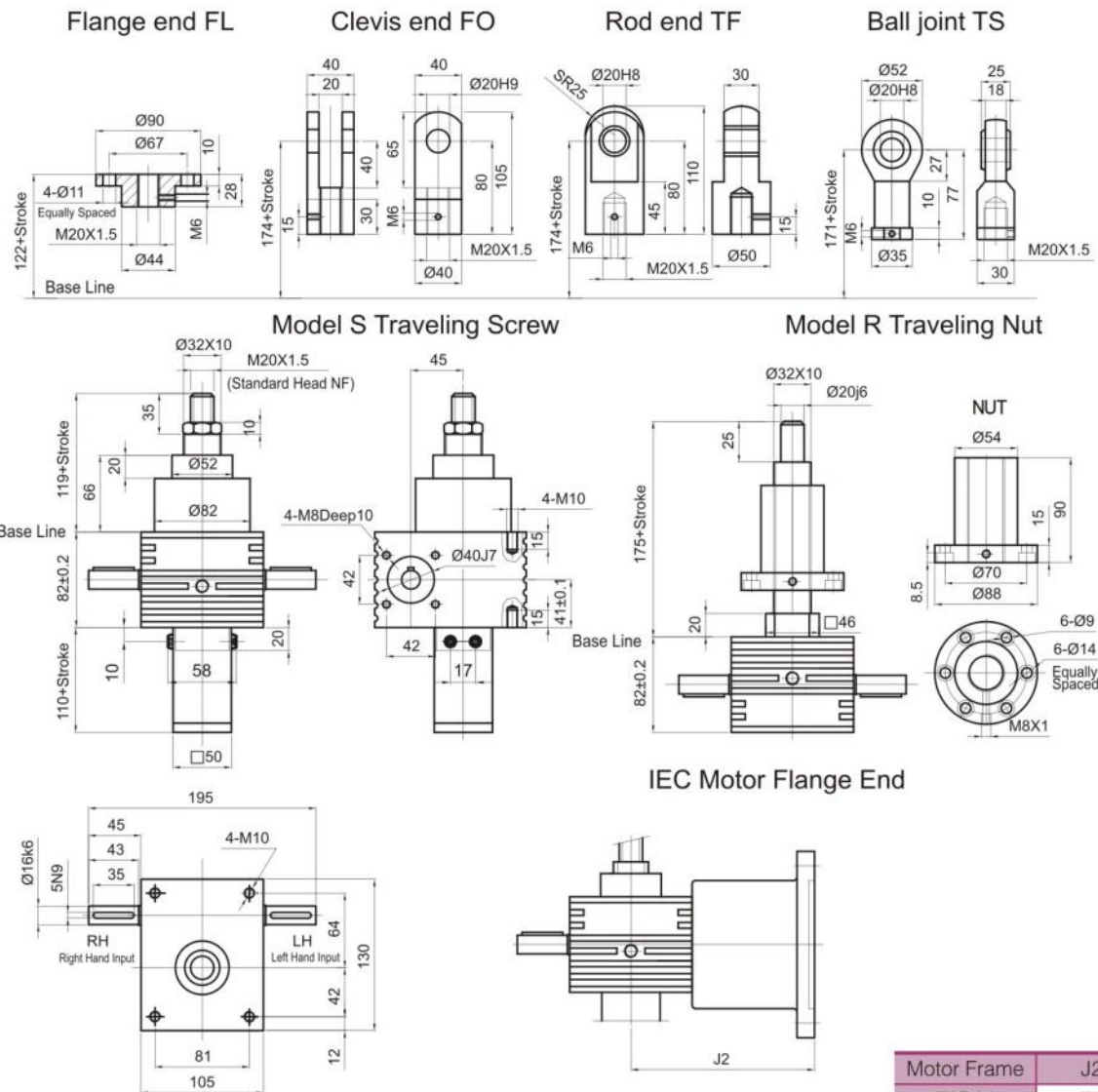
Overall Dimensions of Screw Jack

SJB20 Screw Jack

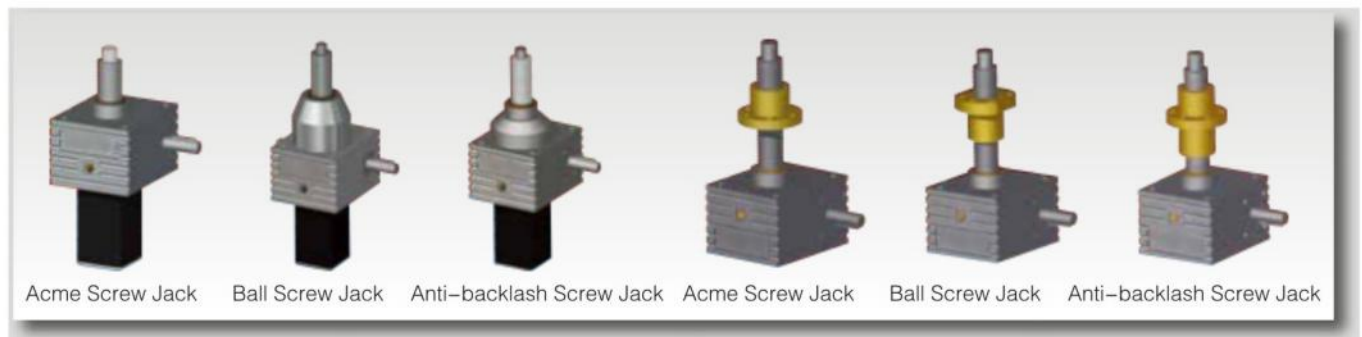




SJB21 Screw Jack



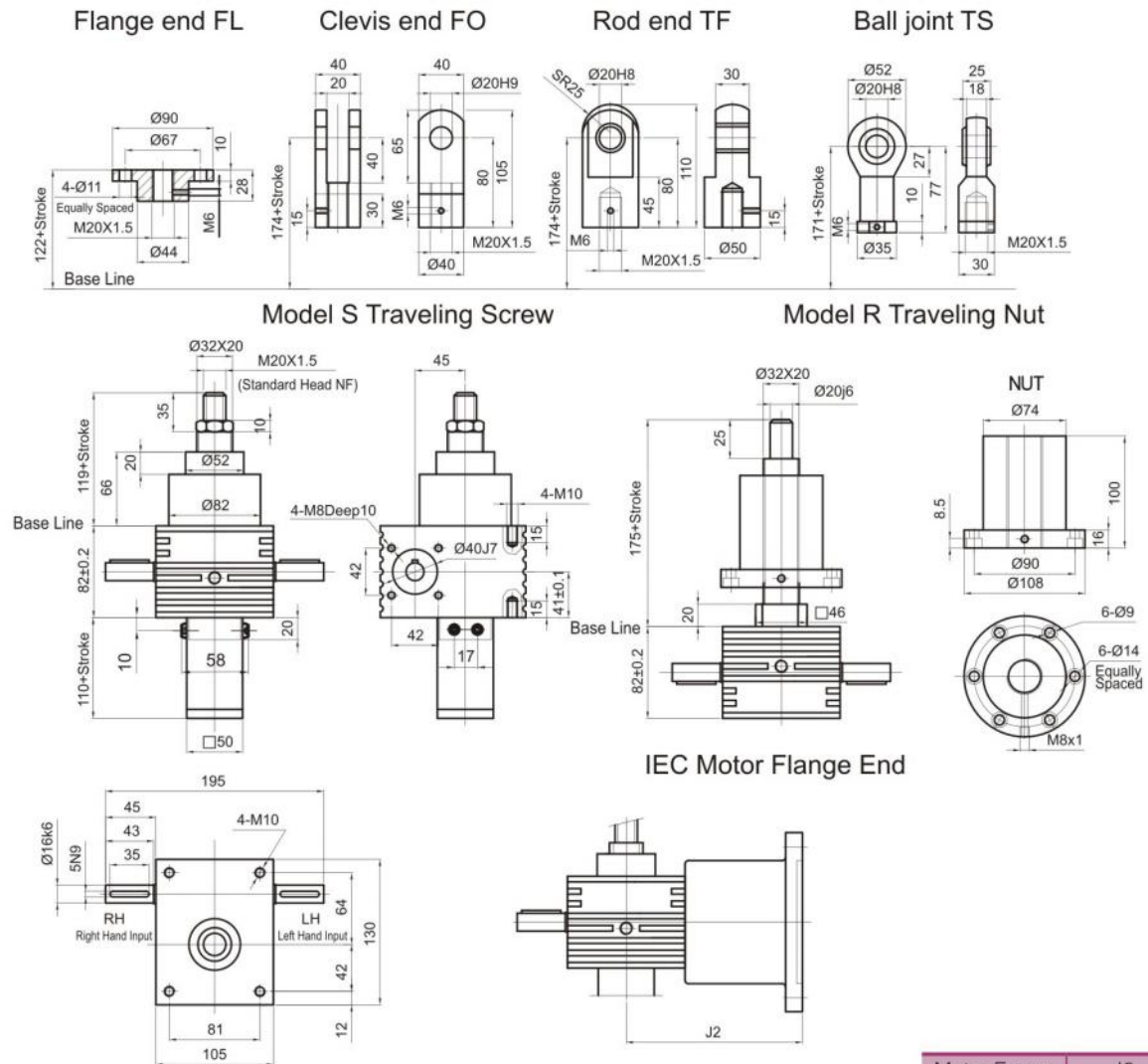
Motor Frame	J2
71B14	75
80B14	155
90B14	165





Overall Dimensions of Screw Jack

SJB22 Screw Jack

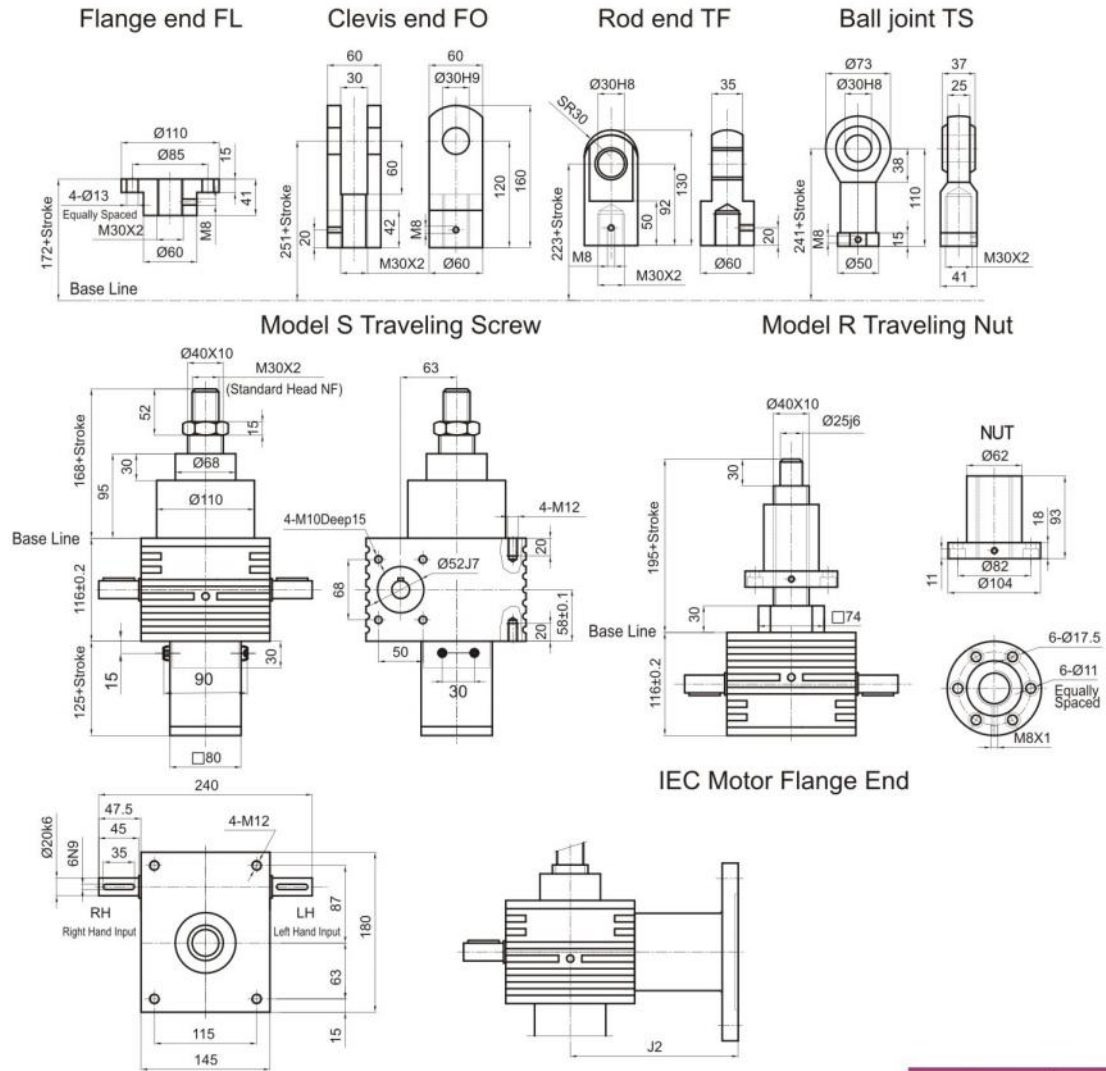


Motor Frame	J2
71B14	75
80B14	155
90B14	165

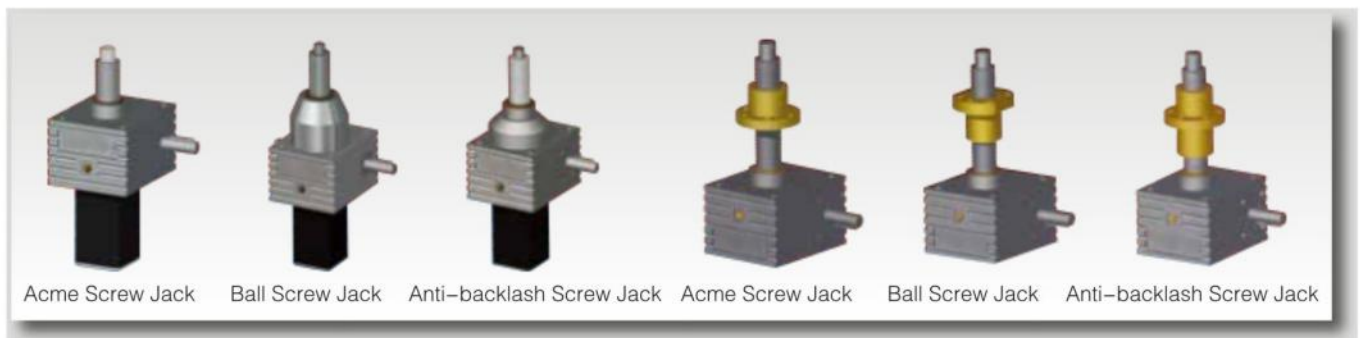




SJB50 Screw Jack



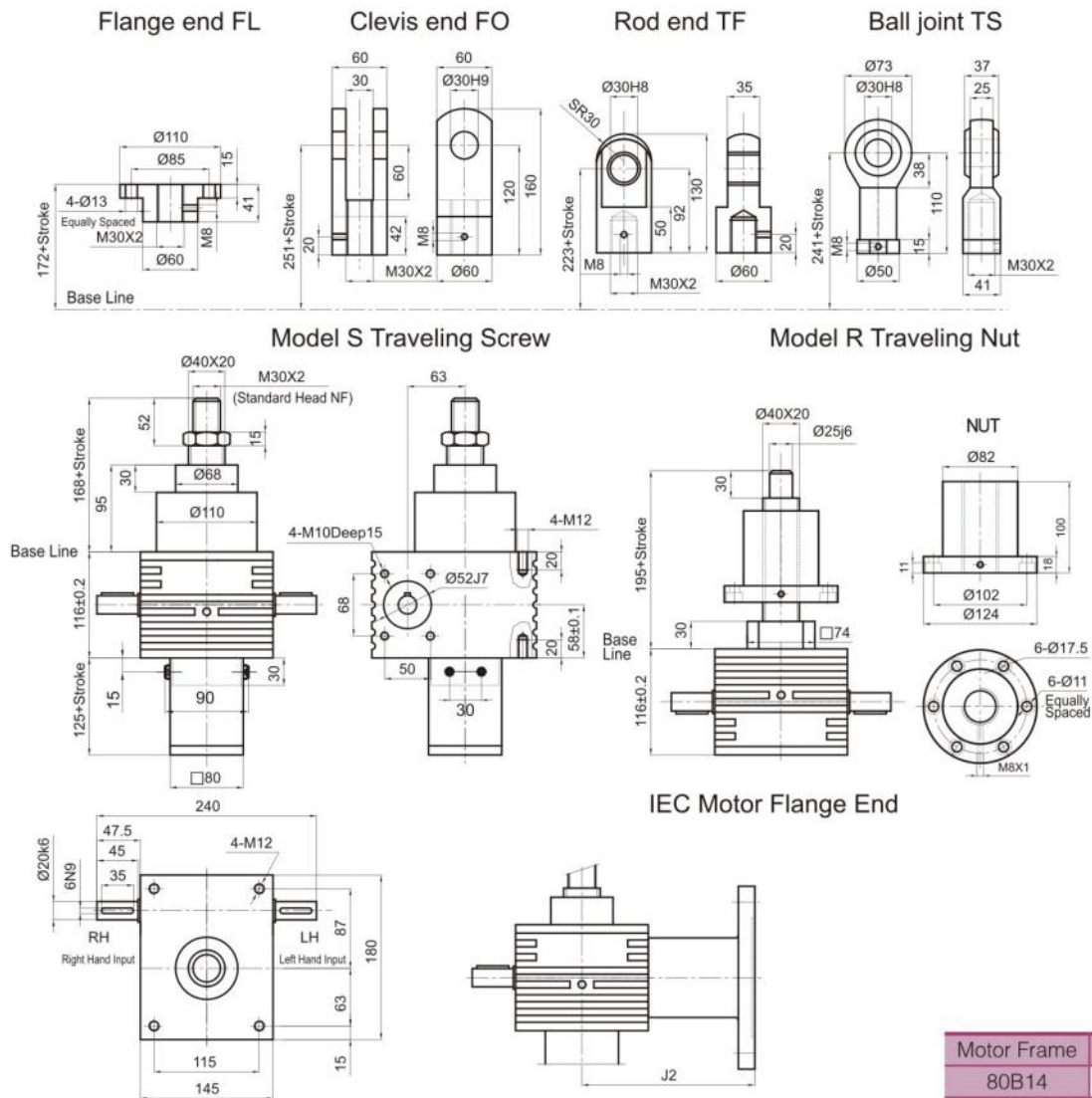
Motor Frame	J2
80B14	98
90B5	190
100B14	200





Overall Dimensions of Screw Jack

SJB51 Screw Jack

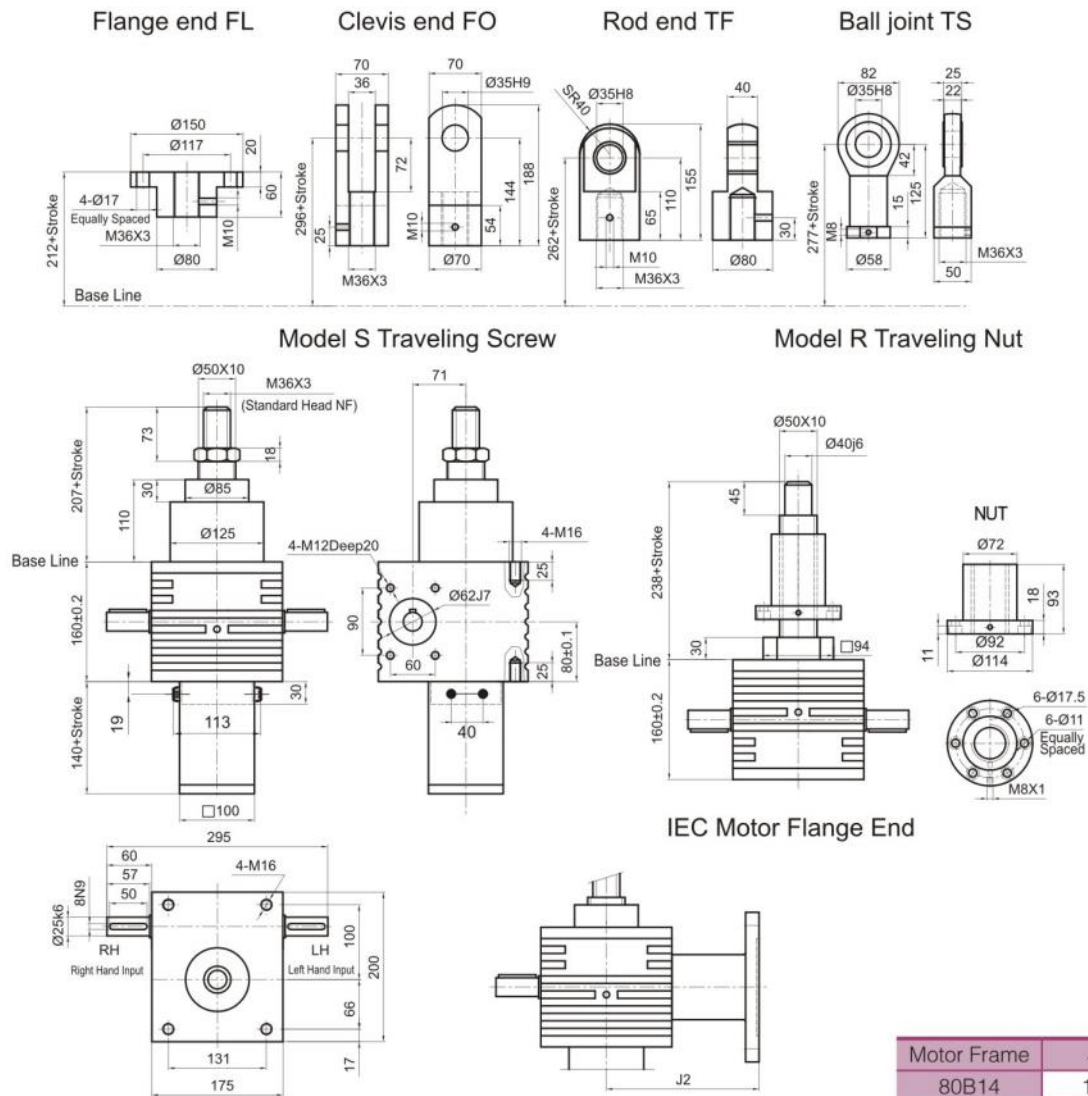


Motor Frame	J2
80B14	98
90B5	190
100B14	200

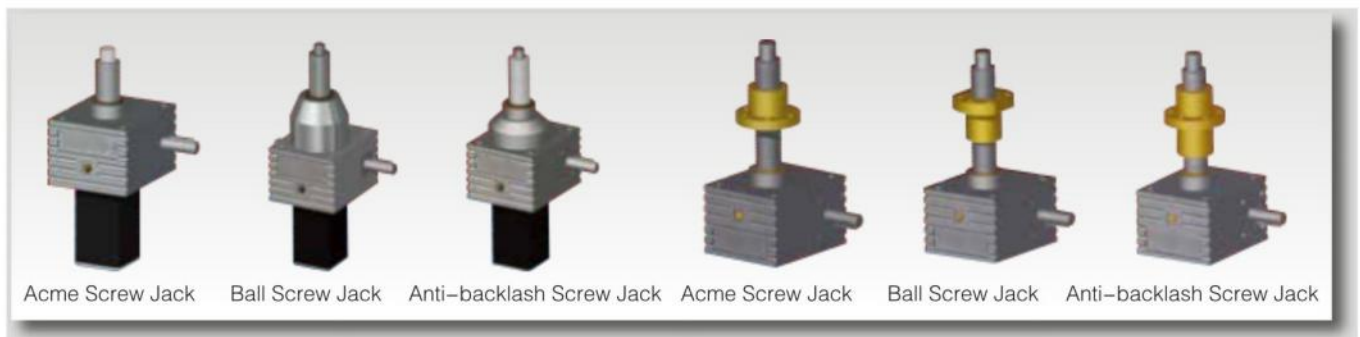




SJB80 Screw Jack



Motor Frame	J2
80B14	115
90B14	115
100B5	231

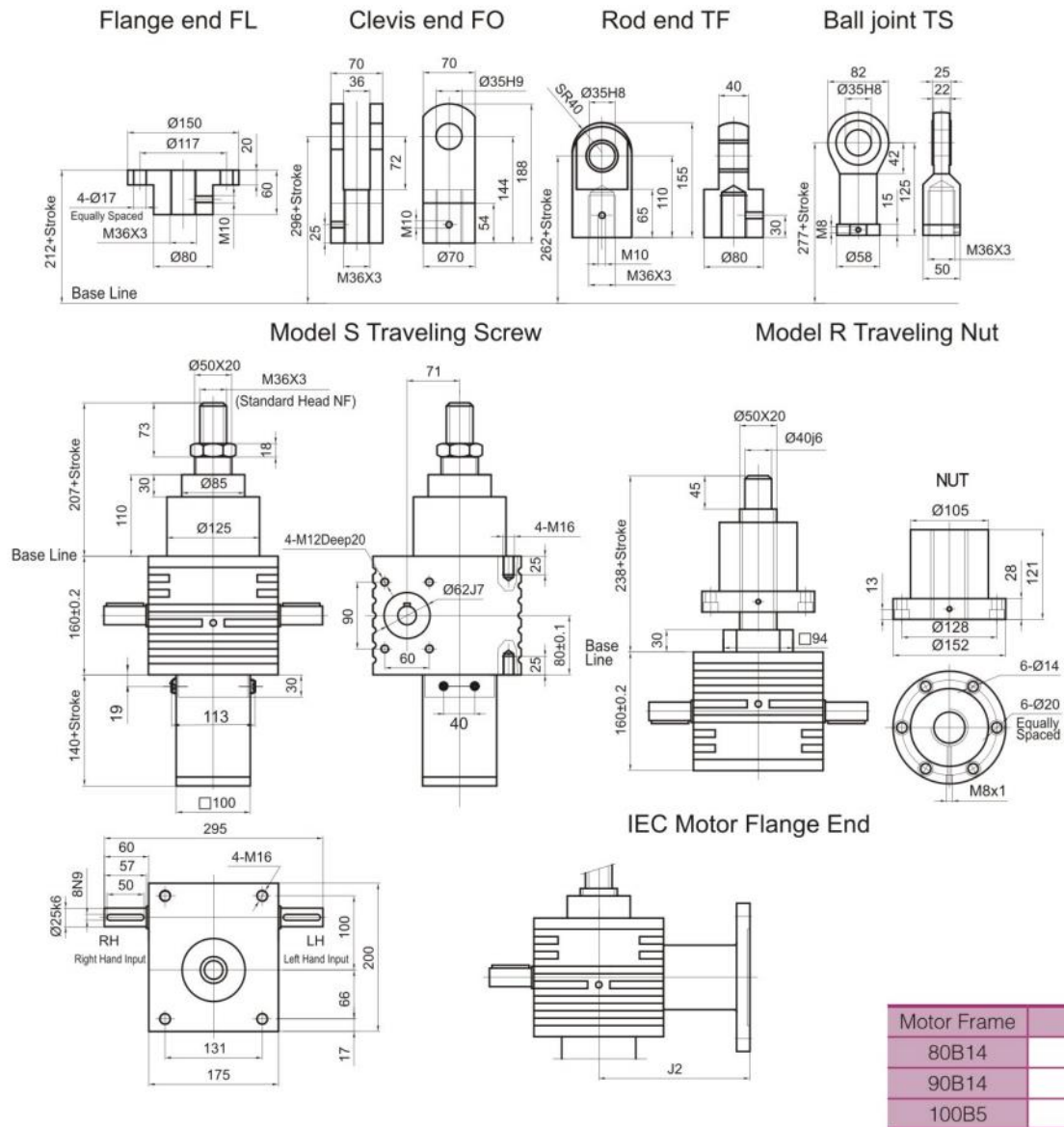




LINEAR MOTION

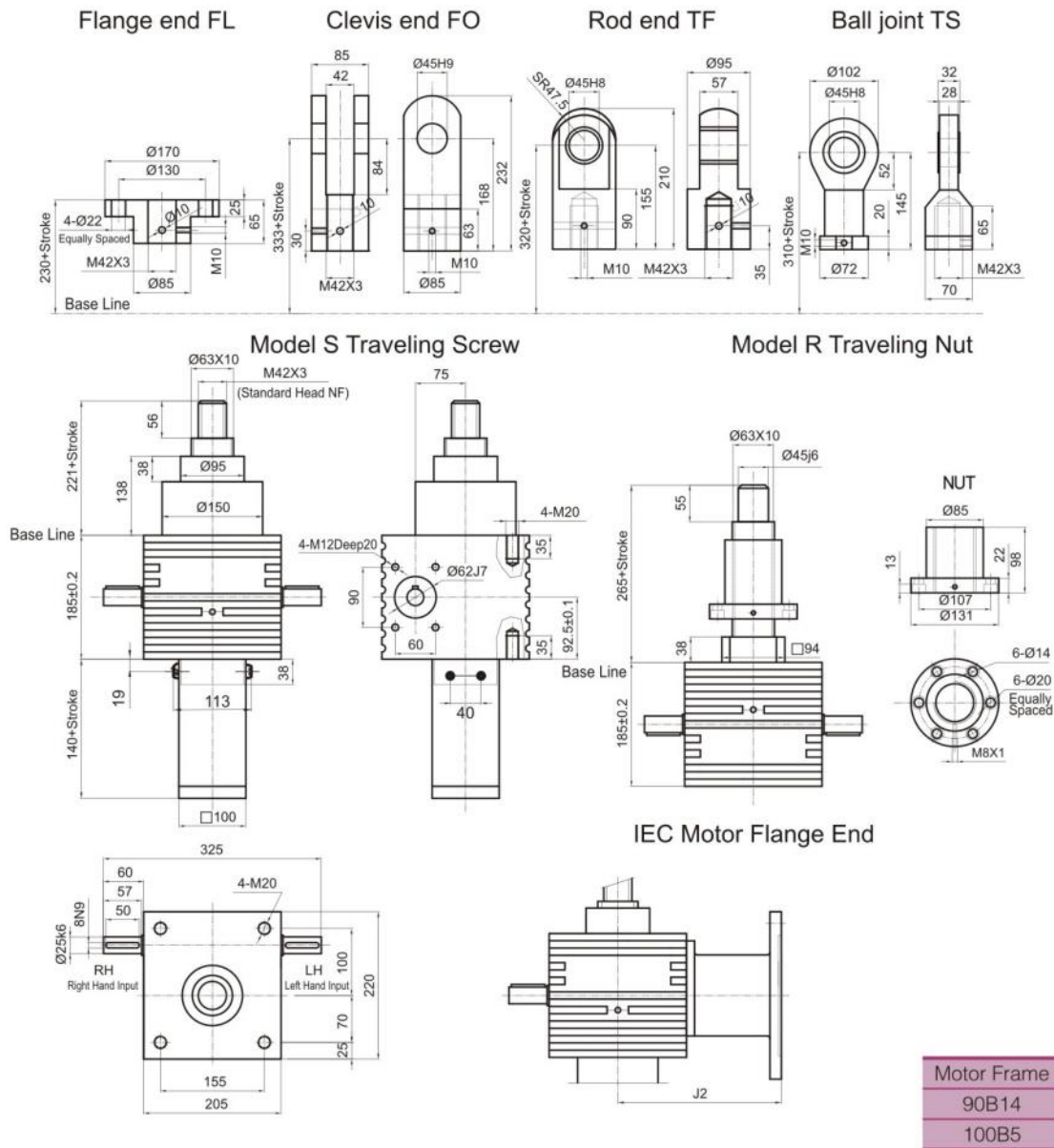
Overall Dimensions of Screw Jack

SJB81 Screw Jack





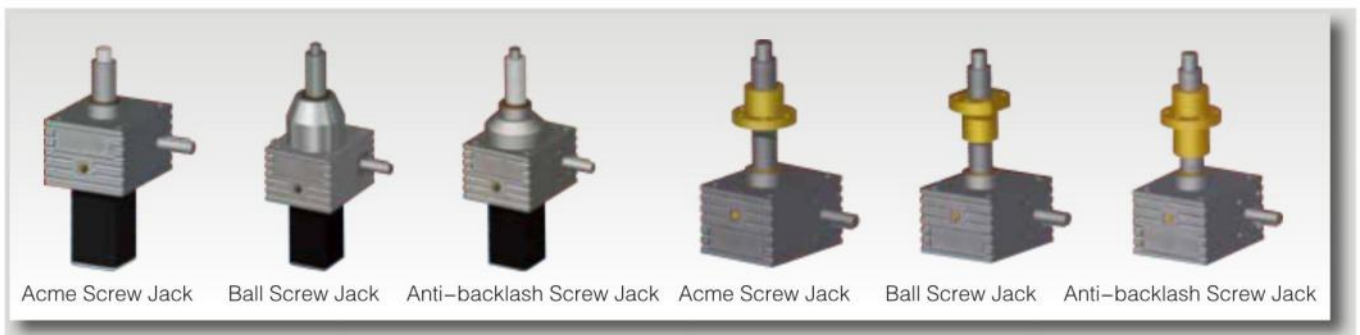
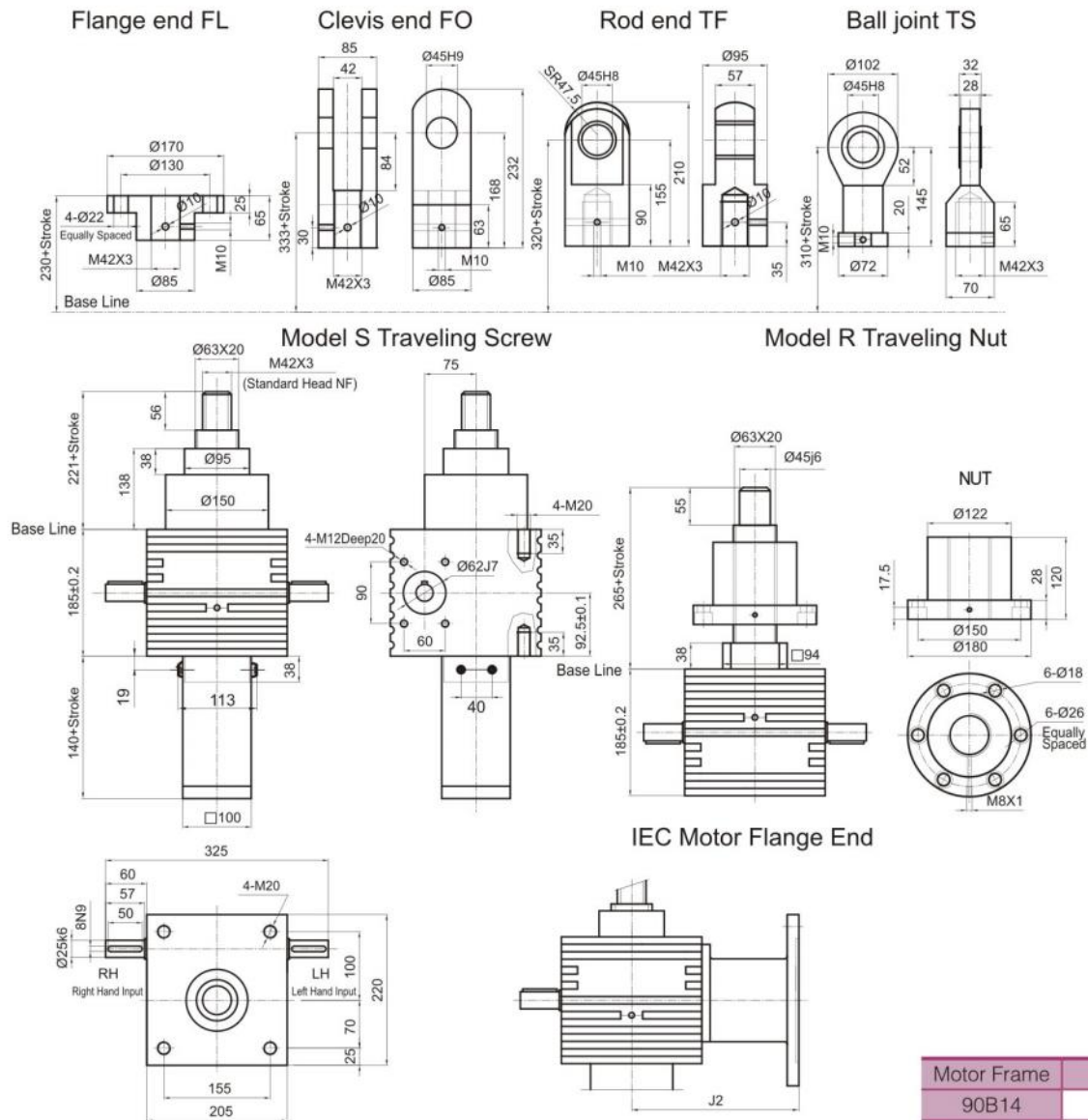
SJB100 Screw Jack





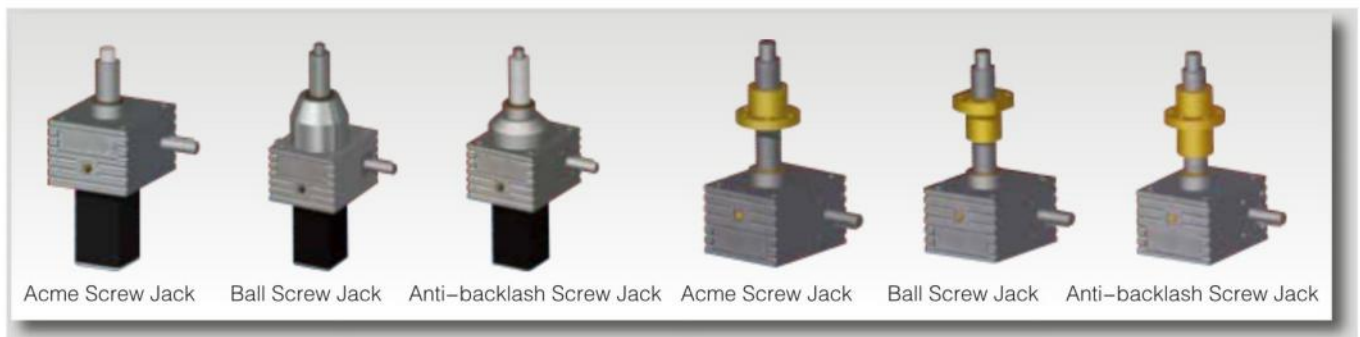
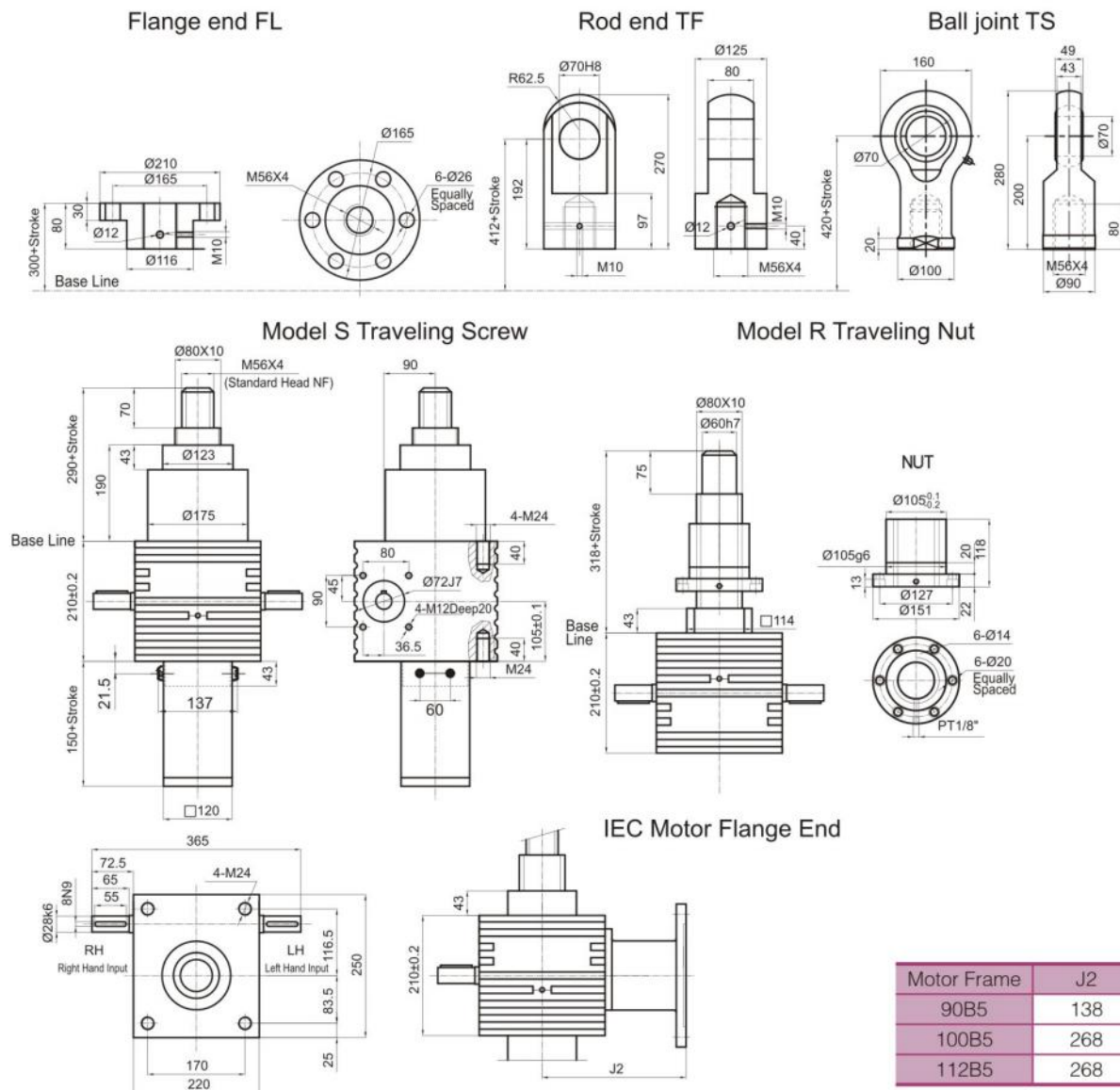
Overall Dimensions of Screw Jack

SJB101 Screw Jack





SJB200 Screw Jack

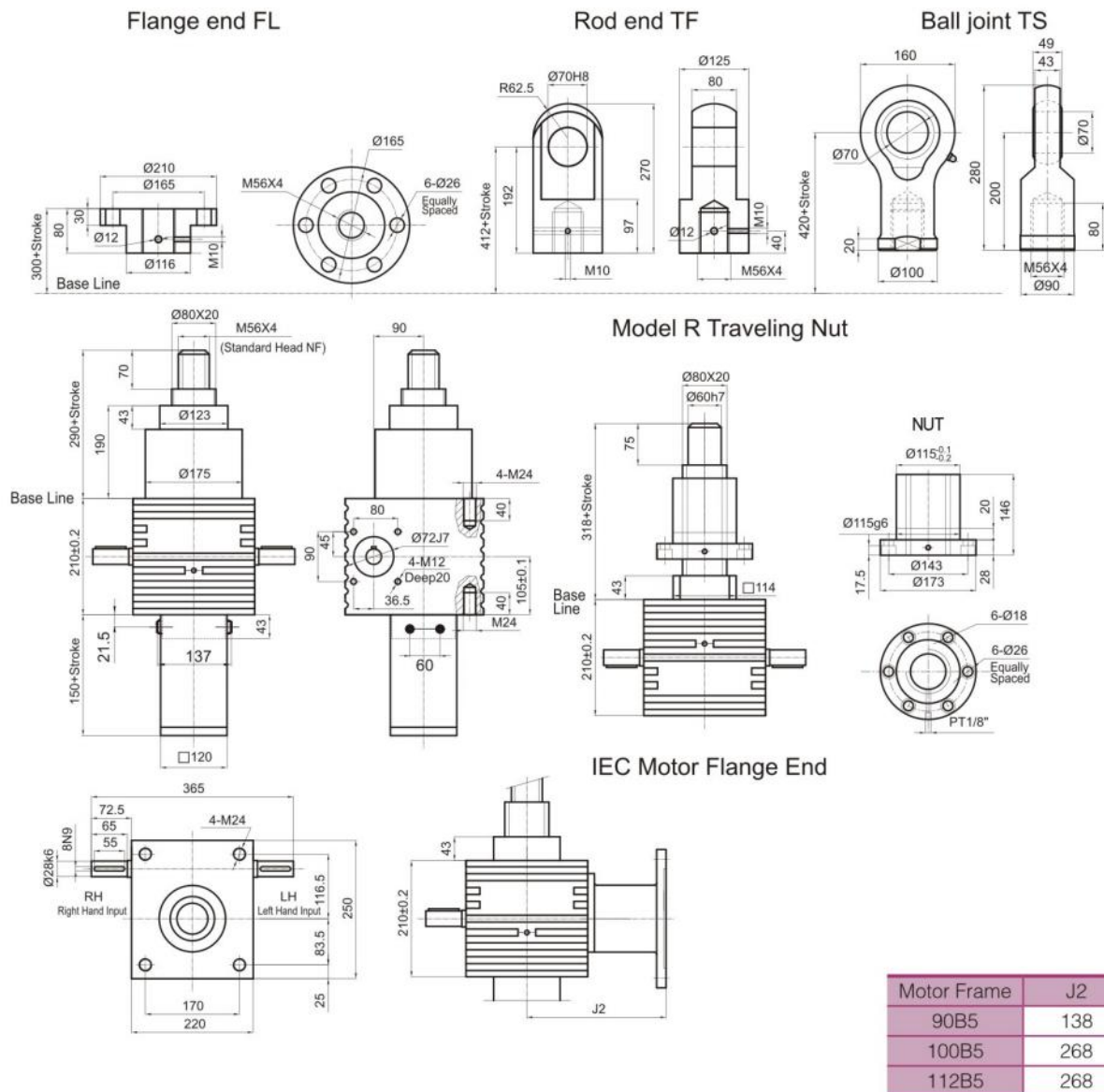




LINEAR MOTION

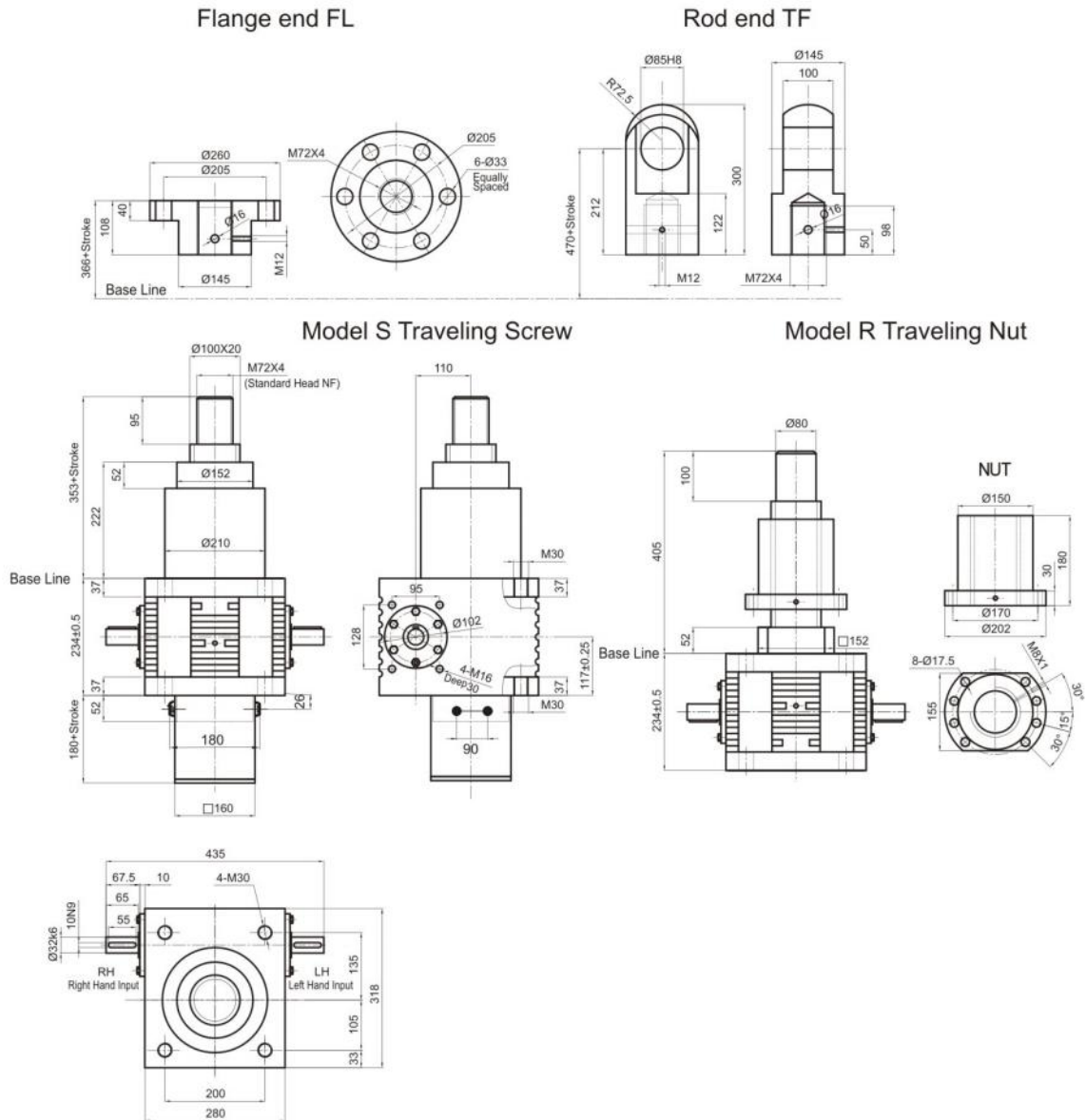
Overall Dimensions of Screw Jack

SJB201 Screw Jack





SJB300 Screw Jack



Acme Screw Jack



Ball Screw Jack



Anti-backlash Screw Jack



Acme Screw Jack



Ball Screw Jack



Anti-backlash Screw Jack



Stainless Screw Jack

KVL(K) Series Stainless Screw Jack

- ◆ KVL(K)60,85,10,120 Series
- ◆ Load capacity : From 5 Ton - 20 Ton
- ◆ Entire Stainless with SS316(Optional SS304,SS329)
- ◆ Including housing, gland, protection tube, Worm shaft, Screw,
- ◆ Worm gear and nut with tin bronze
- ◆ Application : Food , Papermaking , outdoors ambient
- ◆ Classify according to mounting method : KVL Series are foot mounting, KVK series are Clevis mounting
- ◆ Classify according to Movement model: KVL(K)-S are Screw travelling , KVL(K)-R are Nut Traveling



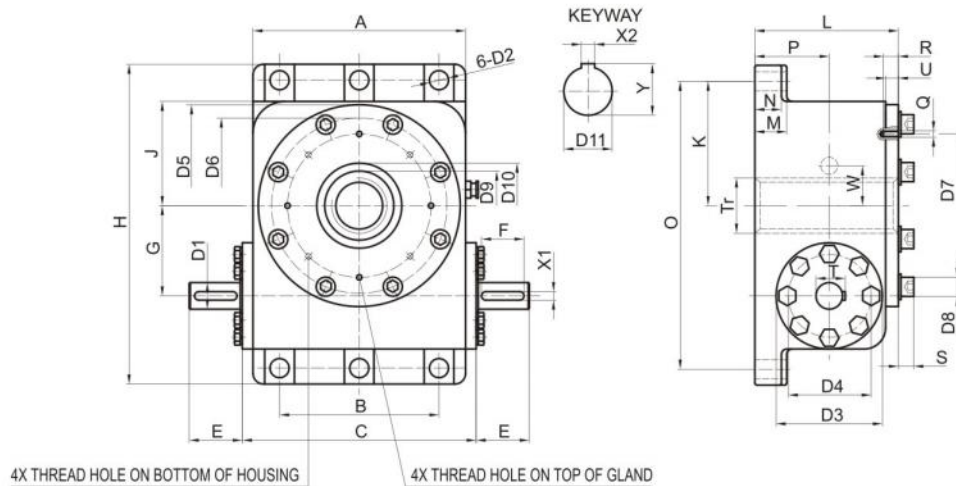
KVL(K) Series performance table

Model		KV60	KV85	KV100	KV120
Rated load kN		50	100	150	200
Screw Dia.X Lead mm		Tr32 × 6	Tr52 × 8	Tr70 × 10	Tr80 × 10
Worm gear ratio	V1	1 : 7.25	1 : 12	1 : 18.5	1 : 19
	L1	1 : 20	1 : 24	1 : 56	1 : 38
Stroke for each input turn(mm)	V1	0.83	0.67	0.54	0.526
	L1	0.3	0.33	0.18	0.263
Max. input power kW	V1	1.3	2.5	3	4.5
	L1	1.0	2.0	2.5	3.5
Start torque at full load Nm	V1	36	70	100	130
	L1	18	50	48	90
Start efficiency	V1	0.17	0.14	0.12	0.12
	L1	0.12	0.10	0.08	0.09
Working efficiency at 100 RPM	V1	0.25	0.21	0.18	0.18
	L1	0.18	0.16	0.13	0.13
Housing material		AISI316			
Weight kg	KVL	15	31	55	90
	KVK	17	35	62	100

Note: Working temperature of K series is from -20°C - +40°C(Please contact Lude if you need special working temperature)

Coding:

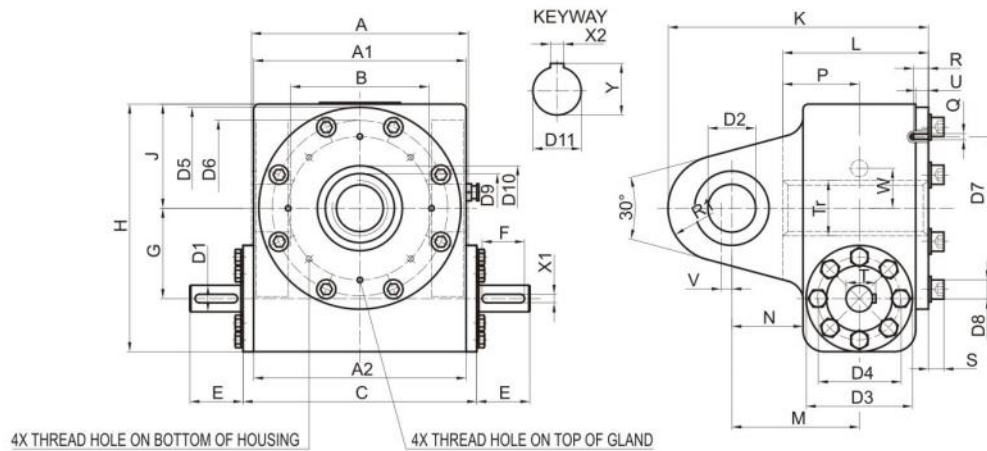
Type	Size	Model	Ratio	Stroke	Front Attachment	Input Versions	Input Shaft Direction	Assessories
KVL Foot Mounting KVK Clevis Mounting	60 85 100 120	S Traveling screw R Traveling nut	V1 L1	100	NF Standard male thread TS Ball joint TF Rod end FL Flange end	P1 Single input shaft P2 Double input shaft	RH Right hand LH Left hand	SA Stainless screw AR Anti-Rotate device WZ Stainless protection tube FCH External limit switch box



Model	KVL60	KVL85	KVL100	KVL120
A mm	140	200	230	294
B mm	112	150	180	244
C mm	156	220	250	322
D1(k6) mm	20	25	30	35
D2 mm	18	18	22	22
D3 mm	85	100	100	120
D4 mm	65	78	78	95
D5 mm	140	190	220	280
D6 mm	120	165	195	245
D7 mm	90	135	140	196
D8 mm	16	18	24	24
D9 mm	45	65	90	100
D10 mm	60	80	110	120
D11(H8) mm	28	48	65	70
E mm	40	50	68	61
F mm	32	40	50	55
G mm	60	85	100	120
H mm	235	301	340	416
J mm	70	98	113	145
K mm	86	118	135	170
L mm	111	135	165	214
M mm	23	30	35	43
N mm	20	25	30	38
O mm	207	271	305	376
P mm	57	70	85	109
Q mm	M6	M6	M6	M8
R mm	10	10	12	15
S mm	12	14.5	21	21
T mm	22.5	28	33	38
Tr mm	32 × 6	52 × 8	70 × 10	80 × 10
U mm	10	12	15	15
W mm	30	15	25	30
X1 mm	6	8	8	10
X2 mm	8	14	18	20
Y mm	31.3	51.8	69.4	74.9



Stainless Screw Jack



Model	KVK60	KVK85	KVK100	KVK120
A(h12) mm	140	200	230	294
A1 mm	140	200	226	292
A2 mm	140	200	230	294
B(H13) mm	96	130	150	204
C mm	156	220	250	322
D1(k6) mm	20	25	30	35
D2(H8) mm	25	35	45	55
D3 mm	85	100	100	120
D4 mm	65	78	78	95
D5 mm	140	190	220	280
D6 mm	120	165	195	245
D7 mm	90	135	140	196
D8 mm	16	18	24	24
D9 mm	45	65	90	100
D10 mm	60	80	110	120
D11(H8) mm	28	48	65	70
E mm	40	50	68	61
F mm	32	40	50	55
G mm	60	85	100	120
H mm	175	233	265	330
J mm	70	98	115	142
K mm	209	245	295	367
L mm	111	137	165	214
M mm	107	120	145	179
N mm	63	67	75	80
P mm	57	72	85	109
Q mm	M6	M6	M6	M8
R mm	10	10	12	15
R1 mm	40	50	70	68
S mm	12	14.5	21	21
T mm	22.5	28	33	38
Tr mm	32 × 6	52 × 8	70 × 10	80 × 10
U mm	10	12	15	15
V mm	8	10	0	15
W mm	30	15	25	30
X1 mm	6	8	8	10
X2 mm	8	14	18	20
Y mm	31.3	51.8	69.4	74.9



System Accessories:

Magnetic Reed Switch (FCM)

The magnetic reed switches have two types: normally closed reed switch (standard) and the normally open limit switch.

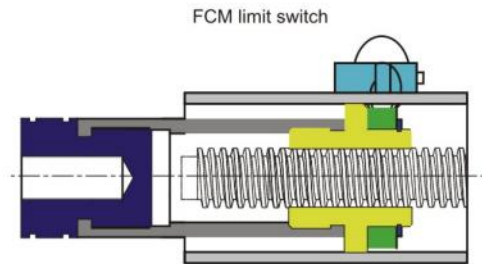
the magnetic ring at the end of the screw shaft moves along with the screw shaft, when the magnetic ring get close to the limit switch, the state of the limit switch will be changed through the magnetic field.

More reed switch can be placed along the stroke length, while the minimal distance between the two switches is 10mm and the magnetic limit switch must be connected to the control circuit. Cable length 1m

Control voltage: 3-130VDC/AC Current: 100mA

Repetitive accuracy: 0.1mm Ambient temperature: -10°C -70°C

Anti-turn device is not available when the actuator is equipped with FCM



External Limit Switches FCE

The FCE device consists of a sealed aluminum alloy box and steel rod. Adjust the position of the rings on steel rod which fixed by screw, we can get the stop position of actuator. Cable length 1m

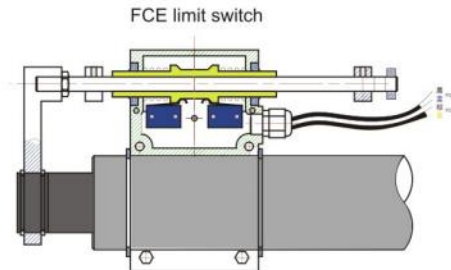
Control voltage: 3-130VDC/AC

Current: 100mA

Repetitive accuracy: 0.1mm

Ambient temperature: -30°C - 70°C

Note: The FCE device is recommended for linear speed lower than 30mm/s, for higher speed it is better to use FCM or use brake.



Limit Switch Box FCH

Mounting in shaft of SJ Screw Jack or SC Actuator. FCH is able to control the extreme position.

Structure with planet gear reducer + cam limit switch + potentiometer. Numbers of control position depends on number of cam switch, Max. 4 position control. Potentiometer is optional, could monitor the position of actuator to achieve close loop control.

Ambient Temperature -40°C - 80°C

Volt: 380V/220V

Protection: IP55, IP67



Proximity limit switch (FCP)

The thread is fixed on the required position outside the protective tube, and can not be adjusted; the normally closed limit switch is the standard.

Control voltage: 10-30VDC

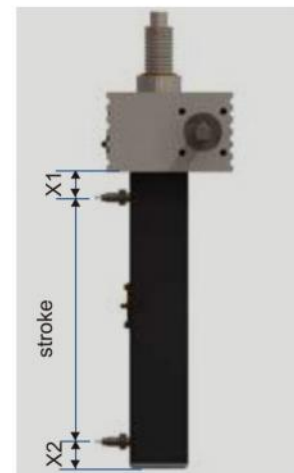
Max output current: 200mA

Repetitive accuracy: 0.04mm

Ambient temperature: -25°C -70°C

Cable length 1m

Type	X1	X2
SJA5	40	45
SJA10/SJB10	40	55
SJA20/SJB20/21/22	45	50
SJA50/SJB50/51	55	45
SJA80/SJB80/81	60	60
SJA100/SJB100/101	70	50
SJA200/SJB200/201	75	50
SJA300/SJB300	95	60





System Accessories

FCG limit switch

Fixed on the rear tube of the screw jack to control the extreme position of the screw shaft. Can be adjusted +5mm up and down when mounted.

The configuration dimension of the limit switch: $80 \times 70 \times 22\text{cm}$

Control voltage: 220AC

Operation current: 10A

Type	X1	X2
SJA5	40	45
SJA10/SJB10	40	55
SJA20/SJB20/21/22	45	50
SJA50/SJB50/51	55	45
SJA80/SJB80/81	60	60
SJA100/SJB100/101	70	50
SJA200/SJB200/201	75	50
SJA300/SJB300	95	60

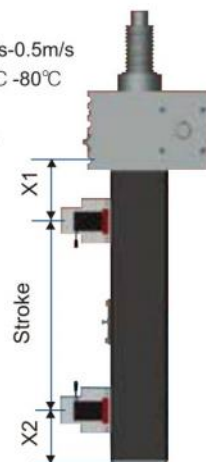
Operation speed: 0.05mm/s-0.5m/s

Ambient temperature: -10°C - 80°C

Protective class: IP67

Lifetime: 10,000,000 times

Cable length 1m

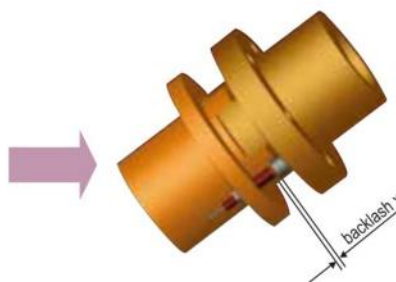


Safety nut (SN)

SN-S safety nut is used in the screw jack with the traveling screw model

SN-R safety nut is used in the screw jack with the traveling nut movement style.

The safety nut is mounted below / above the main nut and normally will not withstand the axial load and only works against the lateral load. The safety nut will hold the whole load if the nut screw does not function. Replacement for the nut is imperative if the wear of the screw exceeds 20% of the pitch (clearance $\times$ changing volume = wear volume). The wear degree can be checked either with eyes or through connecting the sensor to the control circuit, which can sound the alarm timely. Mounting the safety nut will increase the length of the nut, therefore change the configuration of the screw jack, for the specific dimensions please contact the sales engineer.



Bellow Sealed (BS)

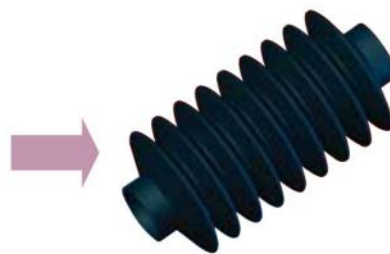
Made of PVC polyester material with sewn construction.

Applicable temperature: -15°C - 70°C

The minimum compressed length of the bellow should be taken into account when mounting the bellow. The compress ratio of the bellow is 10:1

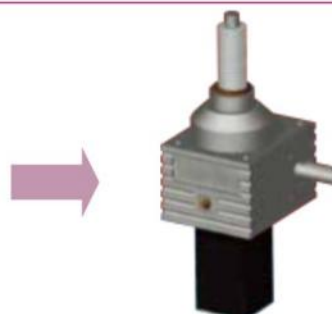
Bellow is preferred for the acme and ball screw jack to prevent the dust and contaminants from damaging the screw.

Both ends of the bellows need to be fixed with the clamps, the position of the bellows need to be confirmed when the order is issued. The BS bellow is also a choice to protect the screw in the harsh environment.



Anti-backlash device (AB)

Used to adjust the opposite clearance of the acme thread nut. The preload will eliminate the teeth clearance of the screw nut, the smaller the clearance; the higher the position accuracy, but the appropriate clearance $> 0.02\text{mm}$ must be guaranteed. Mounting the anti-backlash will decrease the transmission efficiency therefore changing the mechanical parameters of the screw jack. It is advised to lower the duty cycle accordingly.



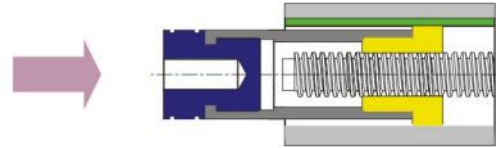


Anti-turn device (AR)

Apply to the LAP series of actuators.

It is recommended that the anti-turn device be used in the application where, which requires that actuator will not self-rotate in the process of movement. A key groove is made on the nut, which ensures the nut and the actuator move in the direction of the key thus prevent the rotating of the actuator.

Caution: due to the mounting interference, anti-turn device should not be used simultaneously in conjunction with the magnetic limit switch FCM.



Incremental rotary encoder (IRE)

Mounted on the input shaft of the screw jack or the screw actuator, the feedback signal forms the closed loop to control the movement of the actuator

Impulse value: 100/500 impulse per running

Voltage: 5VDC

Power supply voltage: 5-30VDC

Ambient temperature: -20°C -110°C

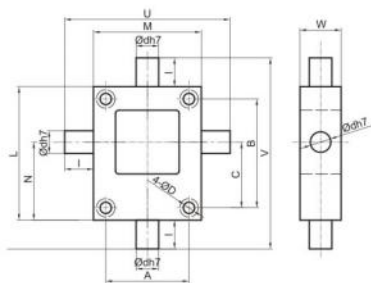
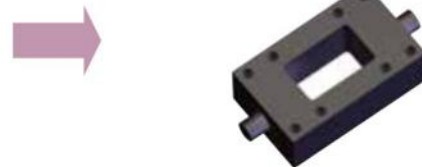
Protective class: IP65



Trunnion mounting panel (HBP)

Fixed on the housing of the screw jack, enable the screw jack to rotate at a certain degree.

The specific dimensions is related to the model type of the screw jack



Model	Trunnion											
	A	B	C	D	L	M	N	U	V	W	d	I
SJA5-S...-HBP	52	60	39	9	80	72	49	108	116	28	15	18
SJA10-S...-HBP	63	78	49	9	100	85	60	127	142	30	17	21
SJA20-S...-HBP	81	106	64	11	130	105	76	161	186	40	22	28
SJA50-S...-HBP	115	150	87	13	180	145	102	225	260	50	32	40
SJA80-S...-HBP	131	166	100	17	200	175	117	277	302	70	42	51
SJA100-S...-HBP	155	170	100	21	220	205	125	321	336	75	48	58
SJA200-S...-HBP	170	200	116.5	26	250	220	141.5	360	390	105	63	70
SJA300-S...-HBP	200	235	135	30	295	270	165	420	445	115	68	75



Disk brake



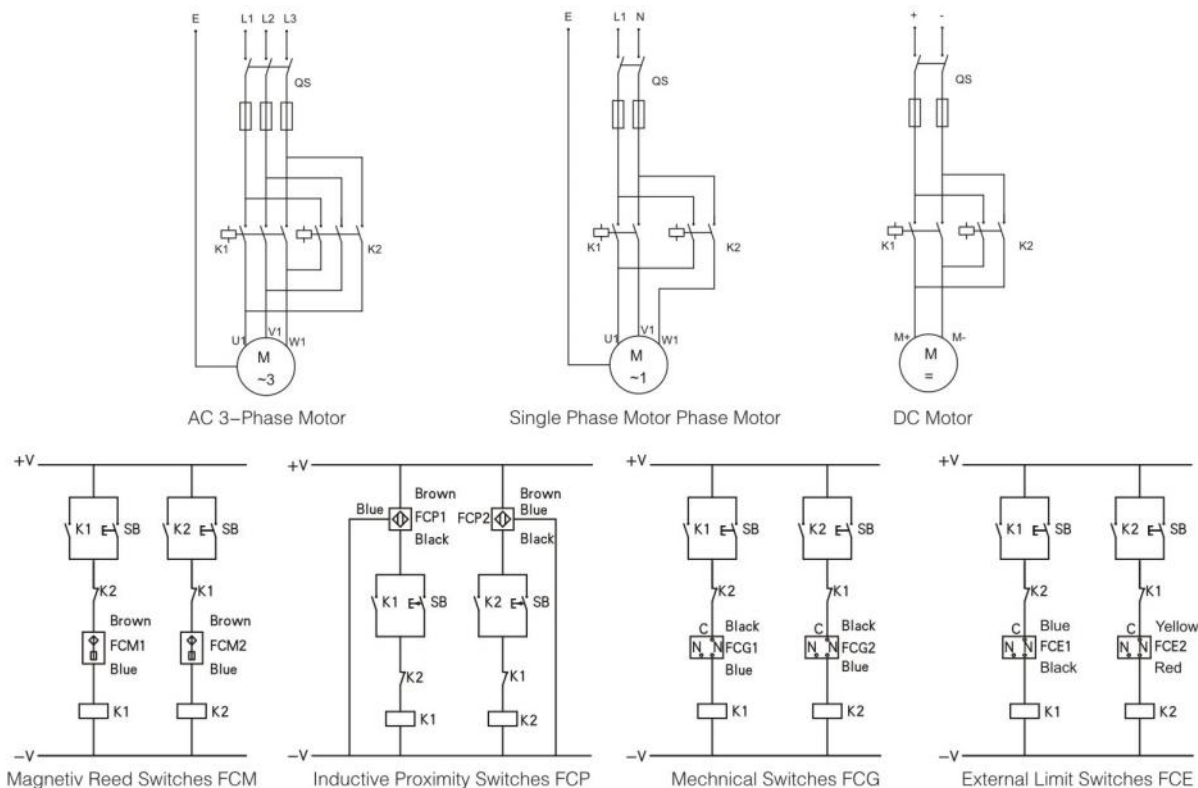
Hand Wheel



Automatic Lubricator



Wiring



Lubrication and Maintenance

LAP/LBP series of actuator

Long life lubricated, free from maintenance.

The worm gear, worm shaft, bearing and the screw has been well lubricated in the factory, unless there is some leakage of oil or damage, please lubricate the actuators according to the following table.

SJA/SJB/SCA/SCB series of screw jack

The worm gear, worm shaft, bearing and the screw has been well lubricated at the factory, the lubricating volume exceeding the volume stated in the table will impinge the mechanical efficiency of the screw jack meantime increase the possibility of the oil leakage.

Actuator	Worm gearbox		Actuating parts		Screw Jack	Worm gearbox		Actuating parts	
	Lubricant	Quantity[g]	Lubricant	Quantity Per 1m[g]		Lubricant	Quantity[g]	Lubricant	Quantity Per 1m[g]
LAP/LBP22	MOBILEP3 or equivalent	30	MOBIL XHP222 or equivalent	100	SJA5	MOBILEP3 or equivalent	80	MOBIL XHP222 or equivalent	300
LAP/LBP25		45		150	SJA/SJB10		130		400
LAP/LBP28		60		200	SJA/SJB/SCA/SCB20/21/22		170		550
LAP/LBP32		60		300	SJA/SJB/SCA/SCB50/51		430		650
LAP/LBP35		90		400	SJA/SJB/SCA/SCB80/81		850		750
LAP/LBP40		130		500	SJA/SJB/SCA/SCB100/101		1100		850
LAP/LBP56		350		700	SJA/SJB/SCA/SCB200/201		1700		1000
LAP/LBP63		700		950	SJA/SJB300		2550		1500
LAP/LBP80		1500		1200	SJA/SJB450		3570		2000
LAP/LBP120		2500		1500	SJA/SJB700		5100		2600
LAP/LBP200		3600		2000	SJA/SJB1000		7200		3300

Choose different types of grease according to different working environments (high or low temperature environment)

Special grease for the food industry is also available

For the high duty cycle screw jack, the grease will lose its lubricating function; entry of granule contaminants might deteriorate the working performance. It is advised to do a thorough cleaning and re-lubricating the screw jack.

It is recommend to use the grease can which is able to supply the continuous lubrication to the inside surface of the housing automatically.

Appropriate lubrication to the lubricating board inside the rear tube should be carried out periodically.

The nut and the screw should be lubricated appropriately every 200 working hours or according to the specific environment.



LINEAR MOTION

AC MOTOR

Actuator and Screw Jace are configured with IEC standard AC 3 Phase motor

Depends Motor RPM we supply 2 Poles , 4 Poles and 6 Poles motor for Linear Actuator

Standard Motor Flange diemsnion are IEC B14 or B5, we also supply non standard flange to meet customer requirement.

Customer can also choose AC single phase motor, DC motor , Step Motor , Servo motor or Explosion-Proof motor.

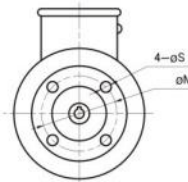
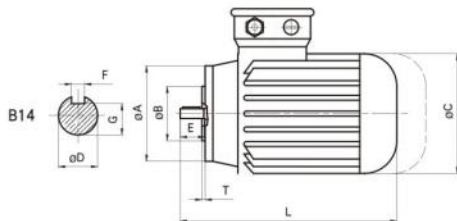
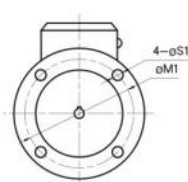
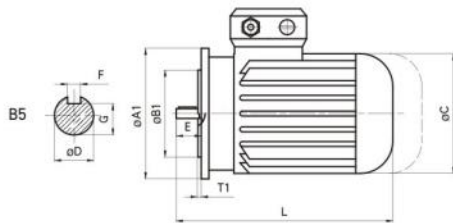
Protection Class: Standard IP54 and Optional : IP55 IP56 IP65 IP66

Insulation Class: F , Optional H

Voltage: 380/220V 50Hz, 440V/255 60Hz

Frequency range: 10-60Hz

Accessories: Brake, Temperature pretection device, Encoder



Frame Size	Power kw	Speed RPM	Rated Torque Nm	Current A/400V	Weight kg
56	0.09	1380	0.65	0.45	3.2
	0.09	2830	0.31	0.42	
	0.12	2710	0.48	0.48	
63	0.09	800	1.0	0.5	4.4
	0.12	880	1.3	0.7	
	0.18	2800	0.61	0.51	
	0.12	1370	0.92	0.68	
	0.18	1370	1.3	0.85	
	0.25	2800	0.9	0.78	
71	0.18	890	1.9	0.85	7.5
	0.25	900	2.7	1.0	
	0.25	1400	1.7	0.9	
	0.37	1380	2.5	1.2	
	0.37	2880	1.1	1.3	
	0.55	2860	1.8	2.0	
80	0.37	900	3.9	1.22	12.2
	0.55	1400	3.8	1.7	
	0.75	1410	5.0	2.0	
	0.75	2870	2.56	1.8	
90S	0.75	920	7.8	2.5	15.4
	1.1	1390	10.7	3.8	
	1.5	2800	5.2	3.7	
	1.5	1400	12.8	4.6	
	2.2	2800	7.37	4.53	
100	1.5	940	15.4	4.4	26.5
	2.2	1425	14.8	7.3	
	3.0	1430	20.2	8.9	
	3.0	2860	10.8	7.2	
112	2.2	950	22.0	7.0	36
	4.0	1440	27.0	8.9	

Frame Size	A	A1	B	B1	C	D	E	F	G	L	M	M1	S	S1	T	T1
56	80	120	50	80	110	9	20	3	7.2	189	65	100	M5	7	3.0	3.0
63	90	140	60	95	122	11	23	4	8.5	225	75	115	M5	9	3.0	3.0
71	105	160	70	110	138	14	30	5	11.0	251	85	130	M6	9	3.5	3.5
80	120	200	80	130	157	19	40	6	15.5	286	100	165	M6	12	3.5	3.5
90S	140	200	95	130	175	24	50	8	20.0	320	115	165	M8	12	3.5	3.5
90L	140	200	95	130	175	24	50	8	20.0	335	115	165	M8	12	3.5	3.5
100	160	250	110	180	196	28	60	8	24.0	377	130	215	M8	15	4.0	4.0
112	160	250	110	180	220	28	60	8	24.0	395	130	215	M8	15	4.0	4.0



LINEAR MOTION

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