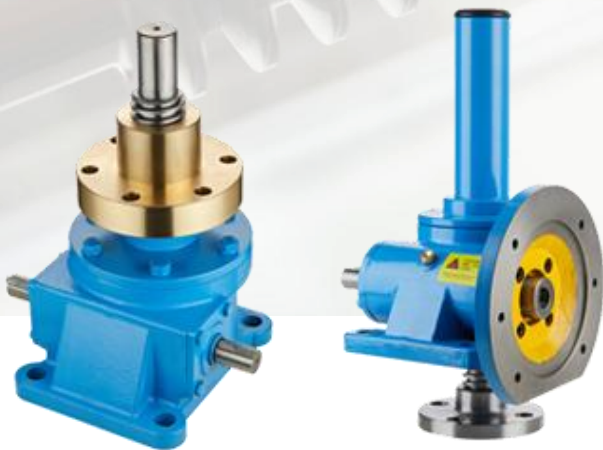




Professional Linear Motion Solutions Provider



SJW Series Worm Gear Screw Jack

Selection
Guidance

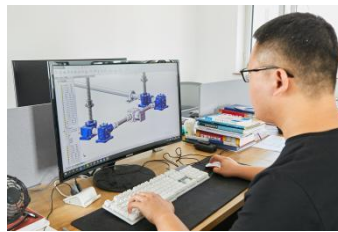


Company Profile

SIJIE is the leading developer and manufacturer of premium, high precision linear motion products in China. Established in 2008, we specialize in screw jack systems, bevel gearboxes and electro-mechanical actuation, lifting and positioning. Our engineers expertly develop bespoke solutions with both flexibility and innovation in mind, enabling us to provide products for the most challenging applications.

Our state-of-the-art factory, boasting 9500m² of floor space, is equipped with a series of advanced processing machines allowing our engineers to develop solutions for both small businesses and multinational organisations. SIJIE'S efficient, skilled team offer technical guidance and quality support, guaranteeing our customers' vision is always achieved.

Our mission is simple. To provide high-quality linear motion products, while consistently offering an unmatched customer service to always exceed customer expectations.



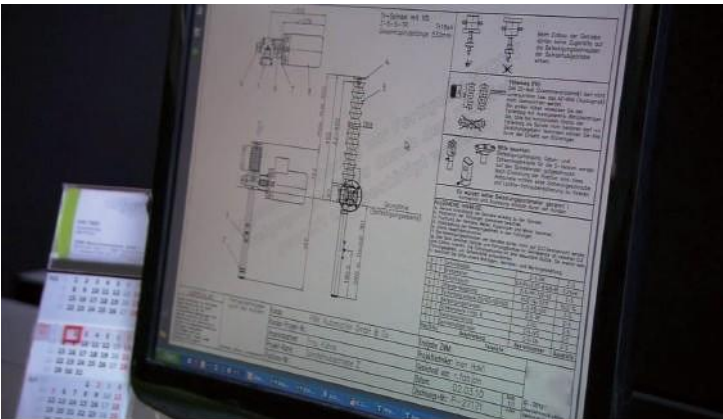
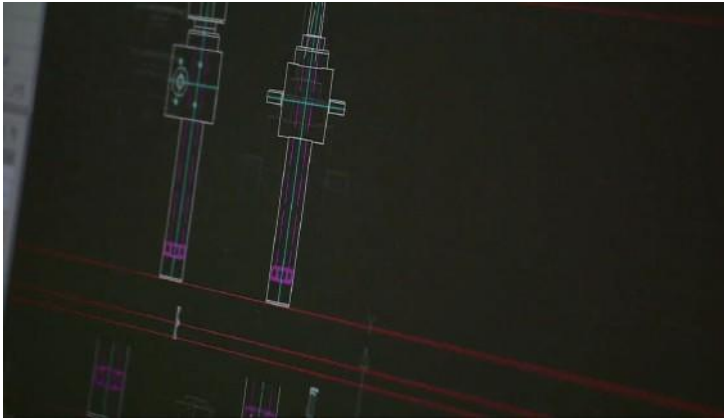
Creating the high-quality product

Focus on details

SIJIE designs worm gear screw jacks which provides rugged, reliable and high performance.

Our engineers expertly develop bespoke solutions with both flexibility and innovation in mind, enabling us to provide products for the most challenging applications.

SIJIE offers the perfect balance of service, cost, performance and quality.



Product Introduction

Description

SIJIE SJW series worm gear screw jacks provide precise positioning, safely self-locking, high performance, and load capacity up to 100 tons. Single jack or multiple jacks system arrangements are available. Standard configurations include translating screw, rotating screw, keyed screw in upright or inverted mounting orientation.



Key Features

- Suitable for low speed, low-frequency and large load operation.
- Major components include trapezoidal screw and high precision worm gear.
- SJW series screw jack has a self-lock feature even without braking.
- Alloy steel input shafts.
- ZQA19-4 tin bronze worm gears.
- Tapered roller bearing or ball thrust bearings offer rugged reliability.
- Double input shafts standard.
- Electric driven and manual operated both are available.
- Protective tube and bellows are available.
- Anti-backlash devices, safety nut, and Anti-rotation are available.
- Customized worm gear screw jacks can be made to your specifications.

Application Range

SIJIE's SJW series worm gear screw jack provides rugged, reliable and high performance, offering tailored solutions to all our customers for many industrial applications.

Our screw jack are widely used for Defense Military, Food Industry, Transportation Industry, Industrial Automation, Energy Industry. We are happy to work with our customers to explore the application of screw jacks in more industries.



SJW Series Specifications

Model		SJW010	SJW025	SJW050	SJW100	SJW150
Maximum lifting force(KN)		9.8	24.5	49.0	98.0	147
Outer Diameter Of Screw (mm)		20	26	40	50	55
Root Diameter Of Screw (mm)		14.8	19.7	30.5	38.4	43.4
Screw lead (mm)		4	5	8	10	10
Gear Ratio	P	5:1	6:1	6:1	8:1	8:1
	M	20:1	24:1	24:1	24:1	24:1
Screw (Nut) travel per turn of worm shaft(mm)	P	0.8	0.83	1.33	1.25	1.25
	M	0.20	0.21	0.33	0.42	0.42
Efficiency (%)	P	22	22	22	22	21
	M	13	13	14	15	14
Maximum input power(KW)	P	0.49	1.0	2.0	2.8	3.1
	M	0.36	0.46	0.63	1.4	2.2
Max. Load, Required Input Torque (N.m)	P	6.2	16.1	48.7	90.7	149.0
	M	2.9	7.4	20.0	45.3	72.3
Max. Load, Permissible Input Speed(rpm)	P	750	600	400	300	200
	M	1200	600	300	300	290
No-Load Torque (N.m)		0.29	0.62	1.4	2.0	2.6
Permissible Input Torque (N.m)		19.6	49.0	153.9	292.0	292.0
Max. Load, Lifting Screw Output Torque(N.m)		20.1	65.1	201.5	503.6	813.2

Model		SJW200	SJW300	SJW500	SJW750	SJW1000
Maximum lifting force(KN)		196	294	490	735	980
Outer Diameter Of Screw (mm)		65	85	120	130	150
Root Diameter Of Screw (mm)		51.3	67	102	112	127
Screw lead (mm)		12	16	16	16	20
Gear Ratio	P	8:1	10.67:1	10.67:1	10.67:1	12:1
	M	24:1	32:1	32:1	32:1	36:1
Screw (Nut) travel per turn of worm shaft(mm)	P	1.50	1.50	1.50	1.50	1.67
	M	0.5	0.5	0.5	0.5	0.56
Efficiency (%)	P	21	20	16	15	15
	M	14	12	11	10	10
Maximum input power(KW)	P	5.0	8.4	13.4	14.4	21.4
	M	3.9	9.8	19.6	29.4	39.2
Max. Load, Required Input Torque (N.m)	P	238.1	400.1	856.0	1380.5	2040.9
	M	124.0	244.0	453.3	761.3	1278.3
Max. Load, Permissible Input Speed(rpm)	P	200	200	150	100	100
	M	250	180	120	90	70
No-Load Torque (N.m)		3.9	9.8	19.6	29.4	39.2
Permissible Input Torque (N.m)		292.0	735.0	1372.0	1764.0	2450
Max. Load, Lifting Screw Output Torque(N.m)		1287.7	2531.9	5551.3	8921.8	13878.3

Remarks: Working environment temperature -10°C - +40°C, please contact us if you need -35°C - +70°C



Product selection mark

Ordering information

Model	Jack Configuration	Gear ratios	Stroke	Screw Configuration	Shafts Input Types	Accessories
SJW010	US: Upright translating screw	P: High speed	Customized	T: Top Plate	A: left side input.	P: Protective Tube
SJW025	IS: Inverted translating screw	H: Low speed		H: Clevis End	B: right side input.	R: Bellows boot
SJW050	UK: Upright keyed screw			R: Plain End	C: double shaft input.	Y: Hand Wheel
SJW100	IK: Inverted keyed screw			S: Thread End	M1: left side motor flange	M: Electric Motor
SJW150	UR: Upright rotating screw			U: Forked Head	M2: right side motor flange	MB: Mounting base
SJW200	IR: Inverted rotating screw			SH: Spherical Hinge	M3: left side motor flange, right side shaft	MBK: Mounting brackets
SJW300					M4: right side motor flange, left side shaft	PB: Pillow block bearing
SJW500						SN: Safety nut
SJW750						LS: Limit switch
SJW1000						TS: Travel Switch

Jack Configuration

US: Upright translating screw

UK: Upright keyed screw

UR: Upright rotating screw

IS: Inverted translating screw

IK: Inverted keyed screw

IR: Inverted rotating screw

Note: US, IS (Screw rotation, do axial motion) UK, IK (Screw anti-rotation, do axial motion)

UR, IR (Screw fixed rotation, traveling nut do axial motion)



US



IS



UK



IK









UR



IR

Screw Top End Configuration

					
T: Top Plate	H: Clevis End	R: Plain End	S: Thread End	U: Forked Head	SH: Spherical Hinge

Worm Shafts Input Types

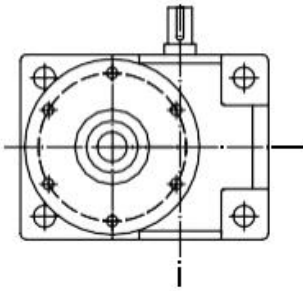
A: left side worm shaft input. B: right side worm shaft input. C: double worm shaft input.

M1: left side motor flange direct input.

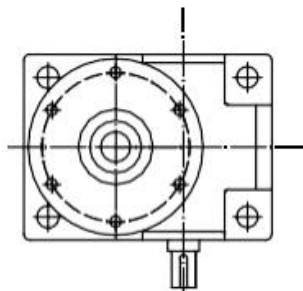
M2: right side motor flange direct input.

M3: left side motor flange direct input, right side worm shaft input.

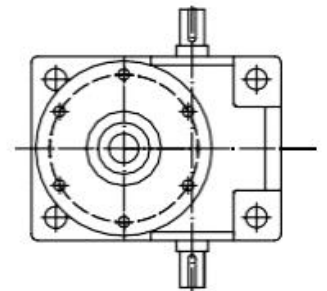
M4: right side motor flange direct input, left side worm shaft input.



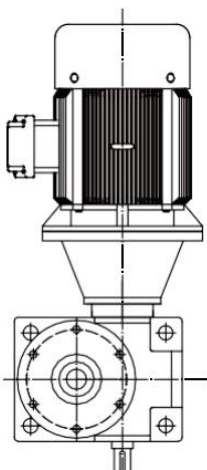
A



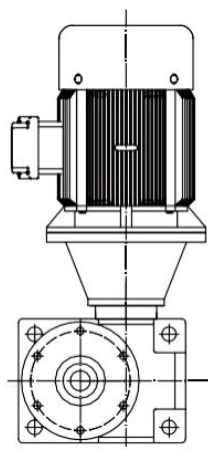
B



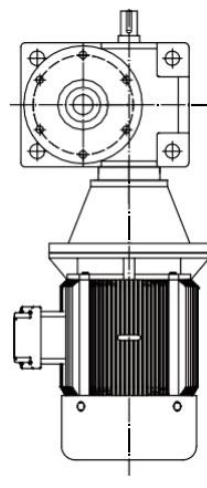
C



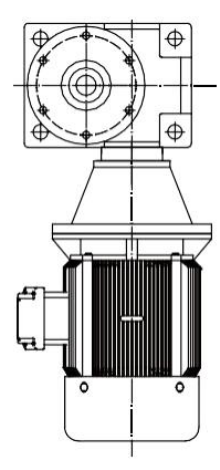
M1



M2



M3



M4

Screw Jack System Accessories:

We can provide the accessories you need to compliment your screw jack system and to ensure the efficient operation, extended life and safety of your system.

P: Protective Tube Standard

R: Dust Cover(Bellows boot)

Y: Hand Wheel

M: Electric Motor

Other accessories,please check below picture.



Protective Tube



Bellows boot



Hand wheel



Electric Motor



Gear reducer



Mounting base



Mounting brackets



Pillow block bearing



Safety nut



Couplings



Bevel Gearbox



Motor flange



Flange blocks



Servo Motor



Inverter



Connecting Shaft



Limit switch



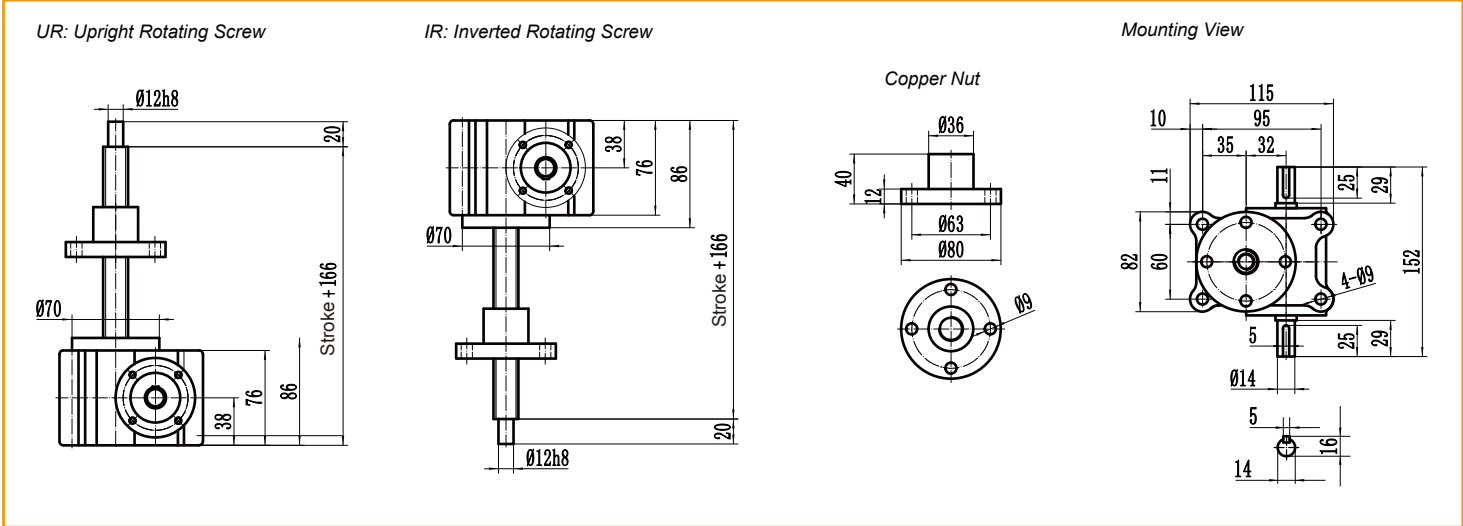
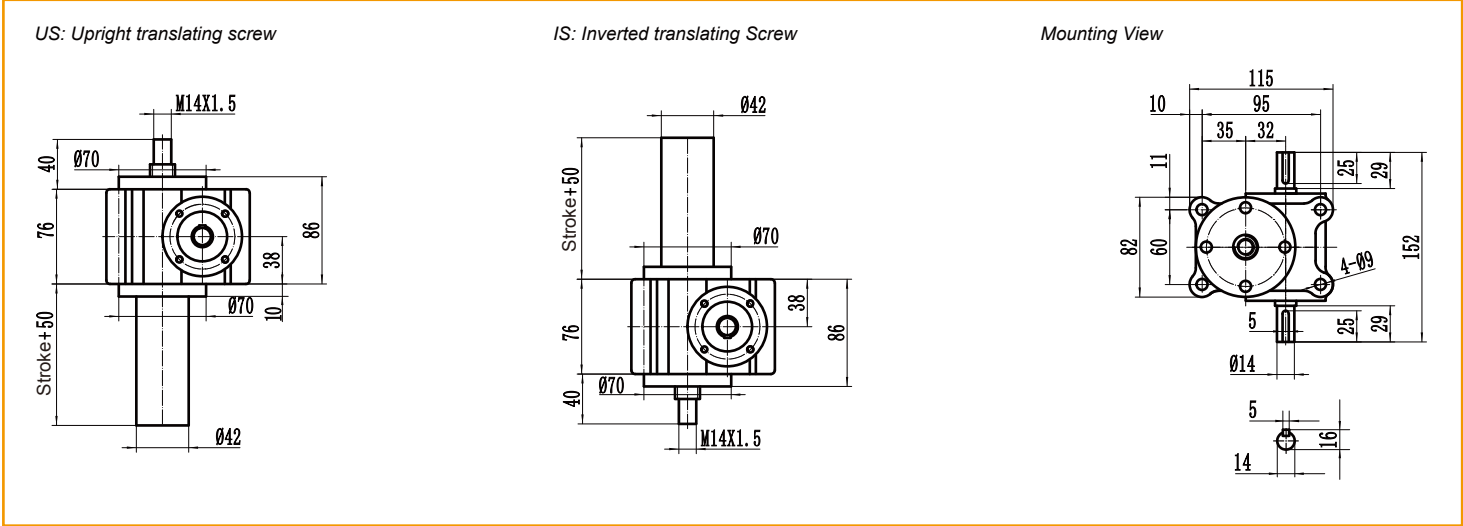
Travel Switch



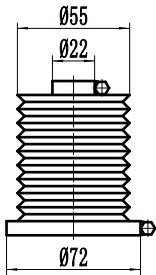
Mounting plate



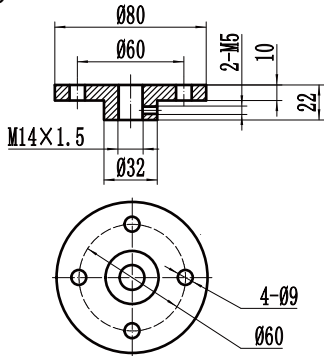
Encoder



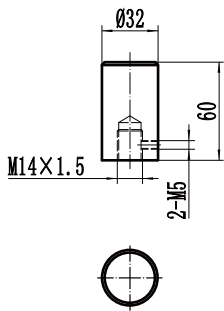
Dust Cover(Bellows)



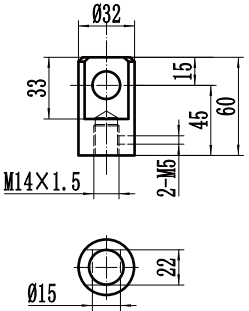
Top Plate



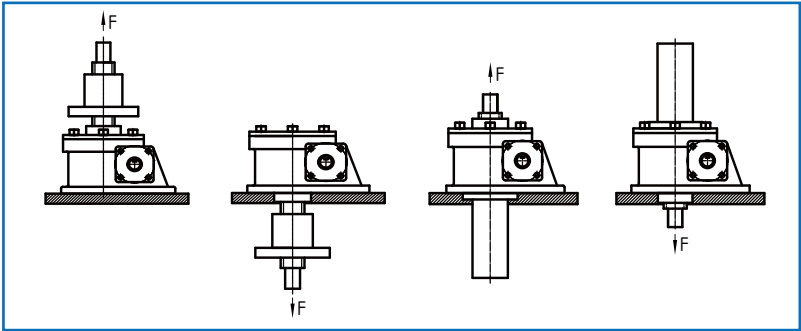
Plain End



Clevis End



Installation diagram

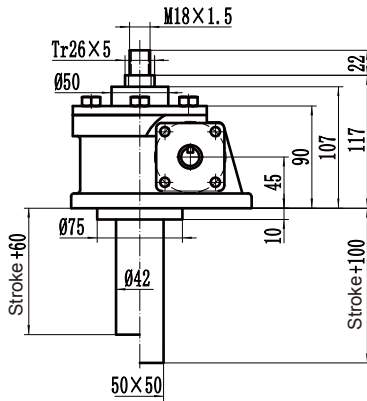


Flange Input
Can be customized

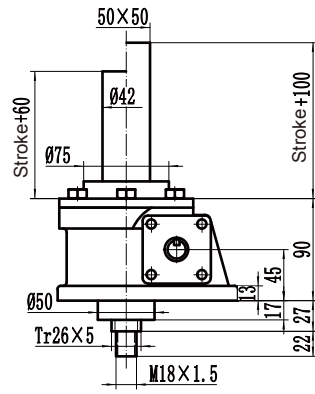
Motor base number	J2
63B5	104
71B5	111
80B5	121

SJW-025 Machine Screw Jack

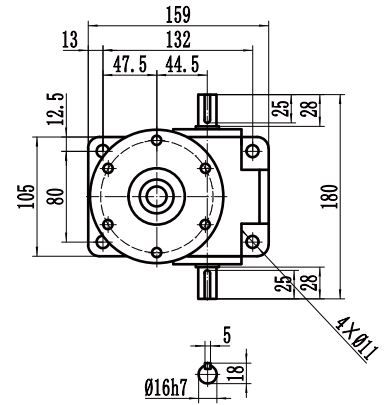
US, UK : Upright translating screw(Screw anti-rotation)



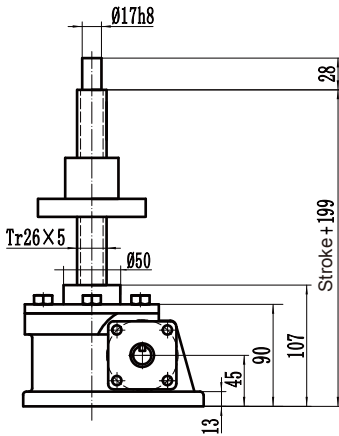
IS, IK : Inverted translating Screw(Screw anti-rotation)



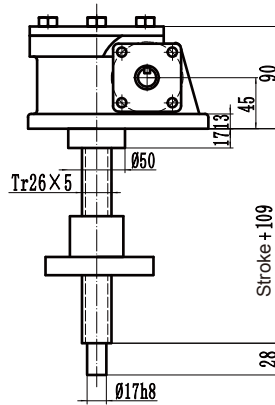
Mounting View



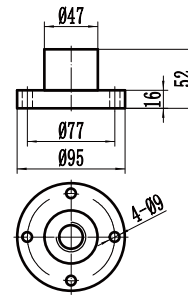
UR: Upright Rotating Screw



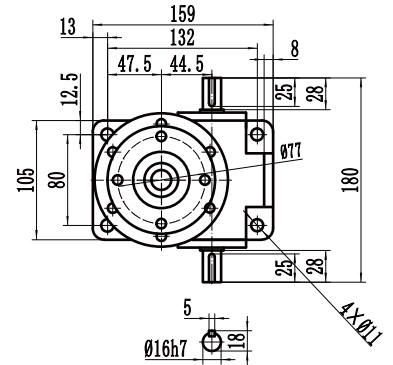
IR: Inverted Rotating Screw



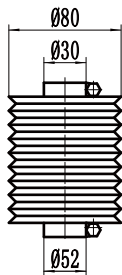
Copper Nut



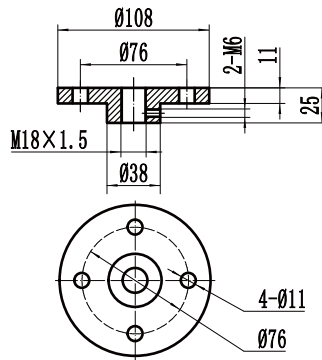
Mounting View



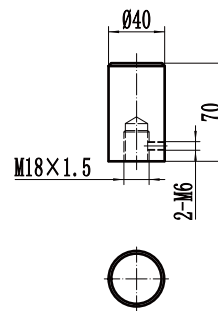
Dust Cover(Bellows)



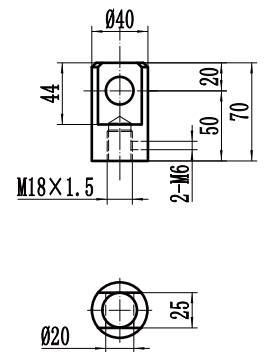
Top Plate



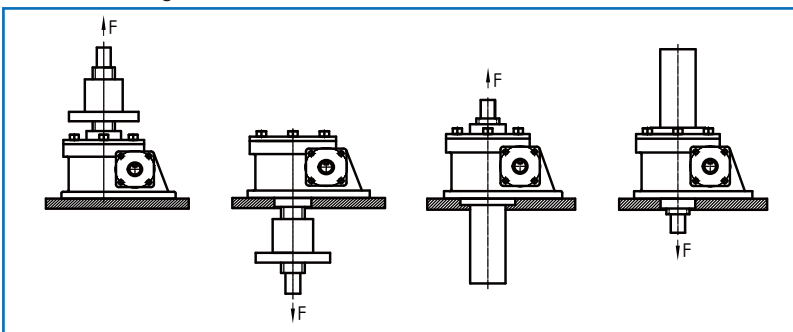
Plain End



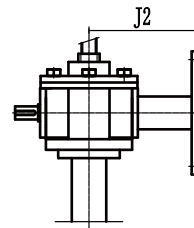
Clevis End



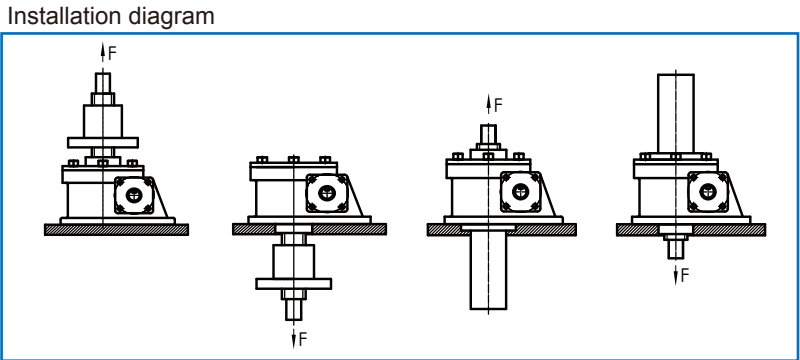
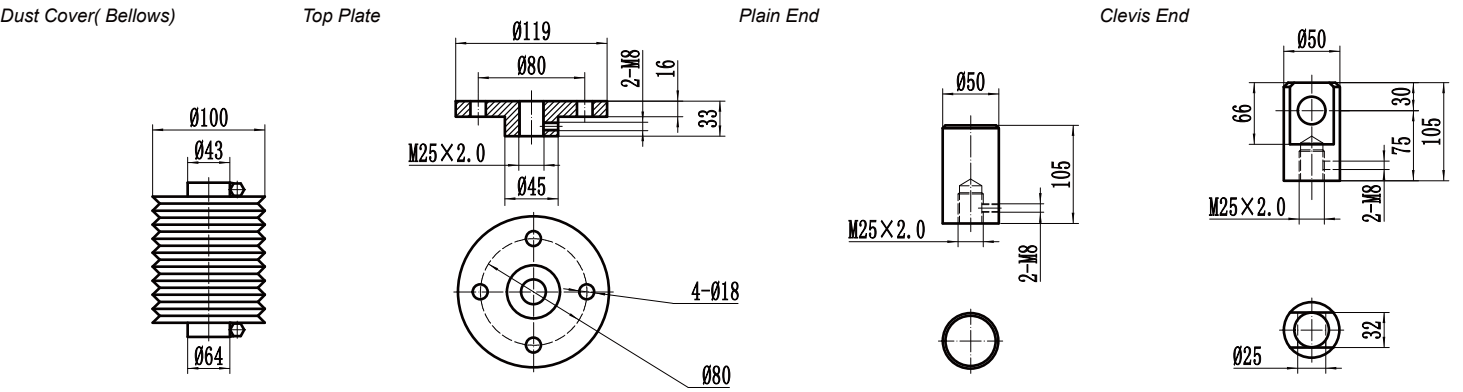
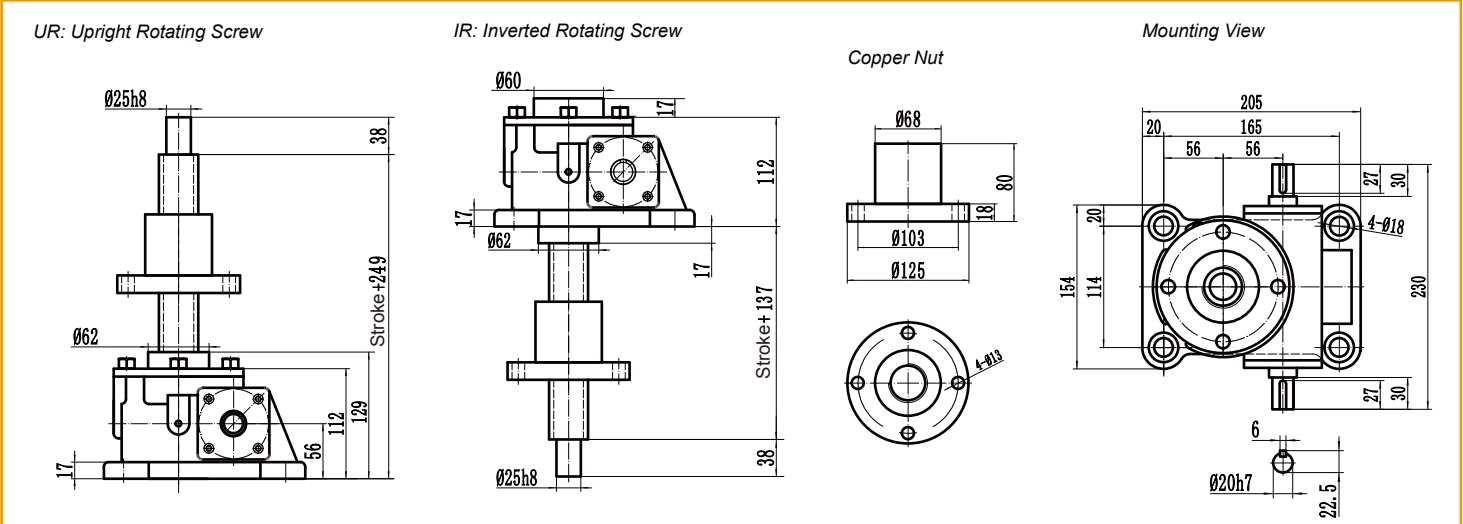
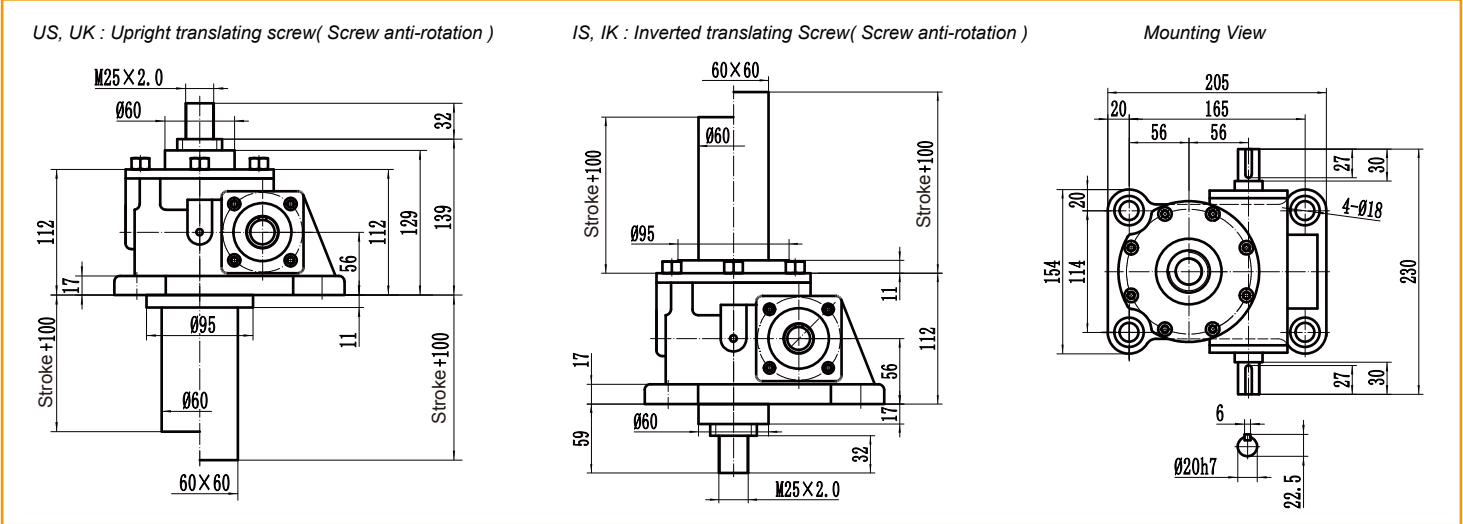
Installation diagram



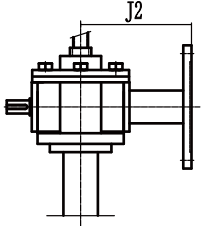
Flange Input
Can be customized



Motor base number	J2
71B5	125
80B5	135
90B5	145



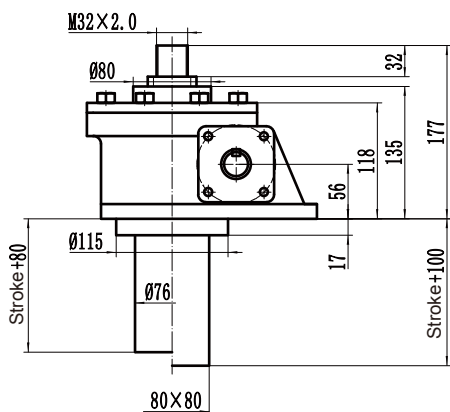
Flange Input
Can be customized



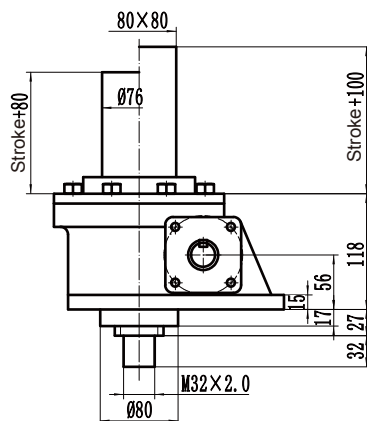
Motor base number	J2
80B5	160
90B5	170
100B5	180

SJW-100 Machine Screw Jack

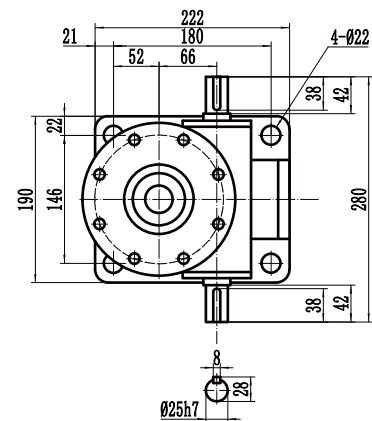
US, UK : Upright translating screw(Screw anti-rotation)



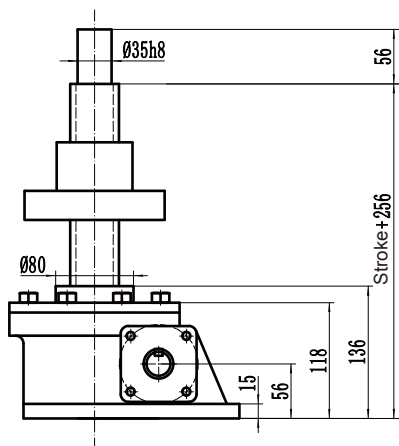
IS, IK : Inverted translating Screw(Screw anti-rotation)



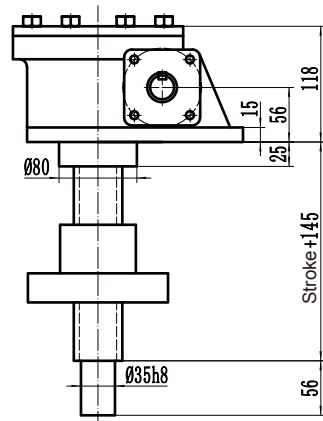
Mounting View



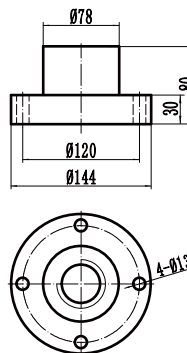
UR: Upright Rotating Screw



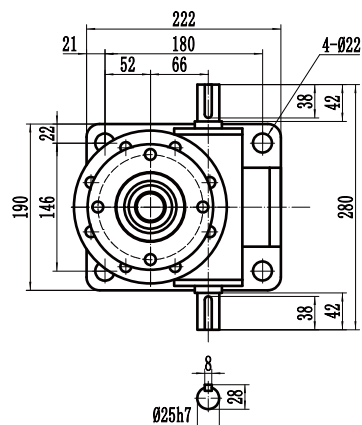
IR: Inverted Rotating Screw



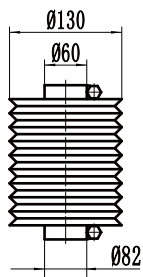
Copper Nut



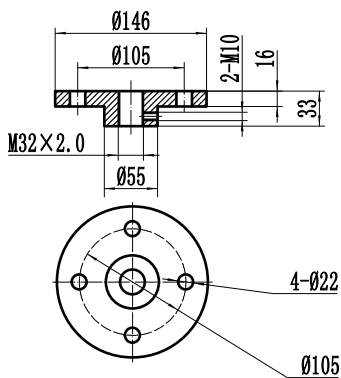
Mounting View



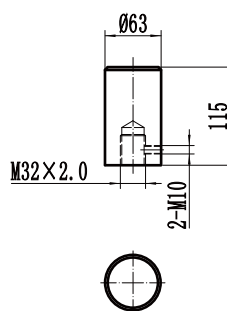
Dust Cover(Bellows)



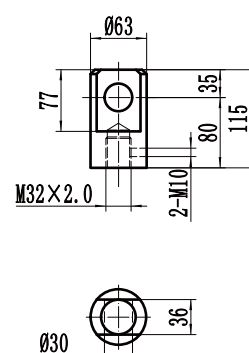
Top Plate



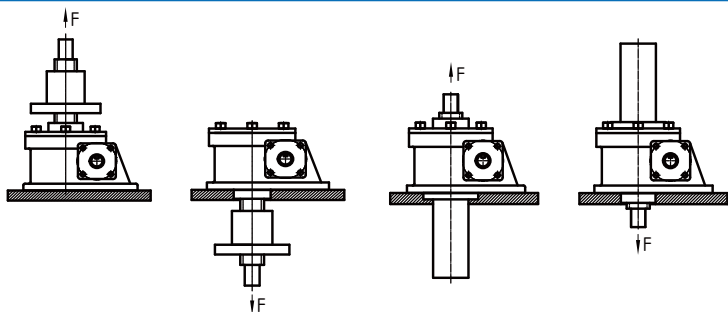
Plain End



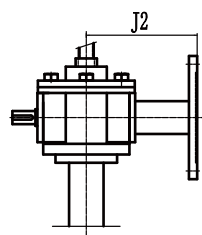
Clevis End



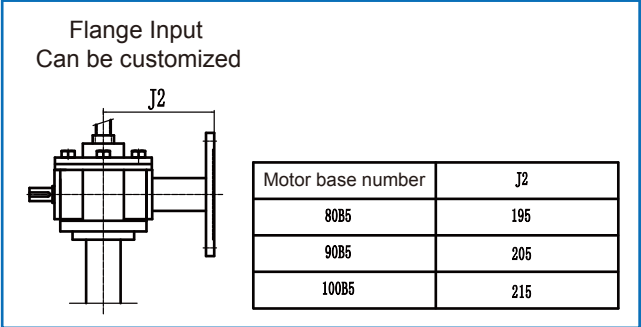
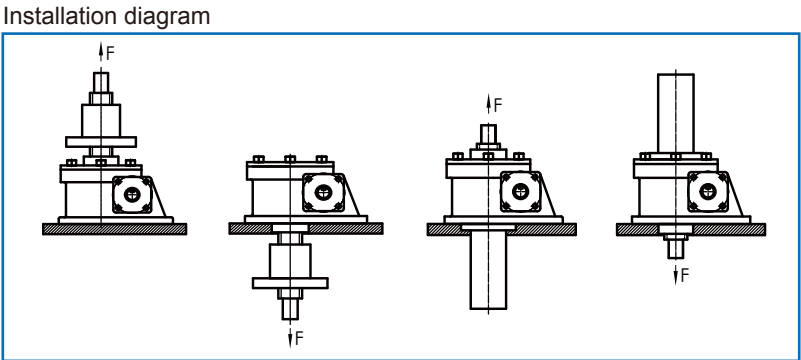
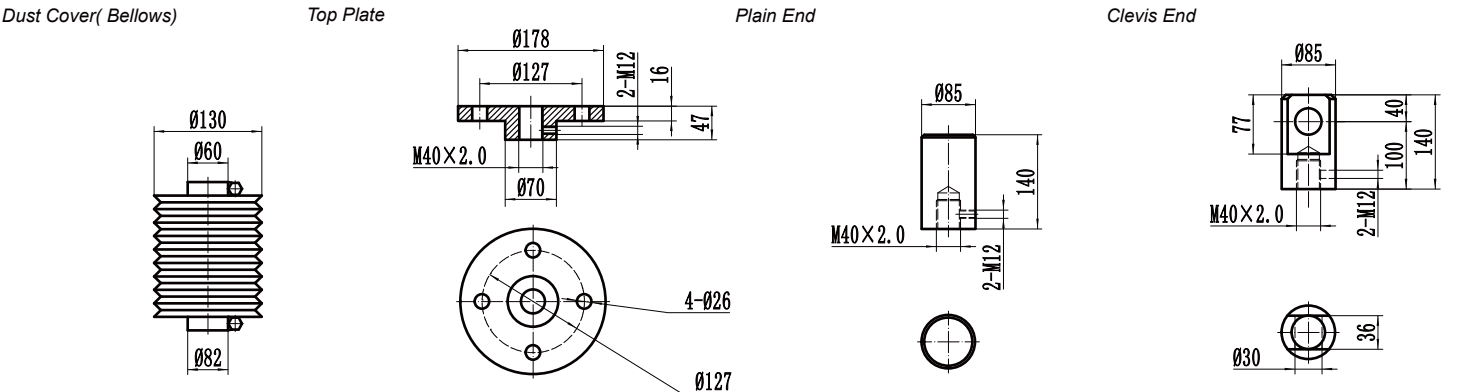
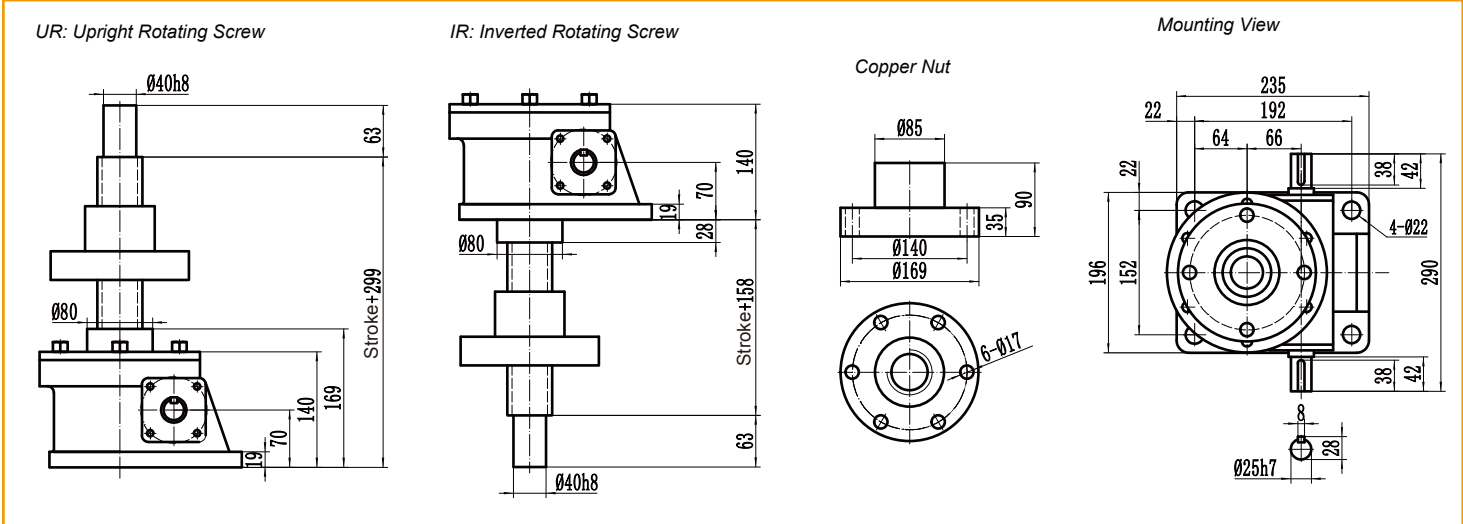
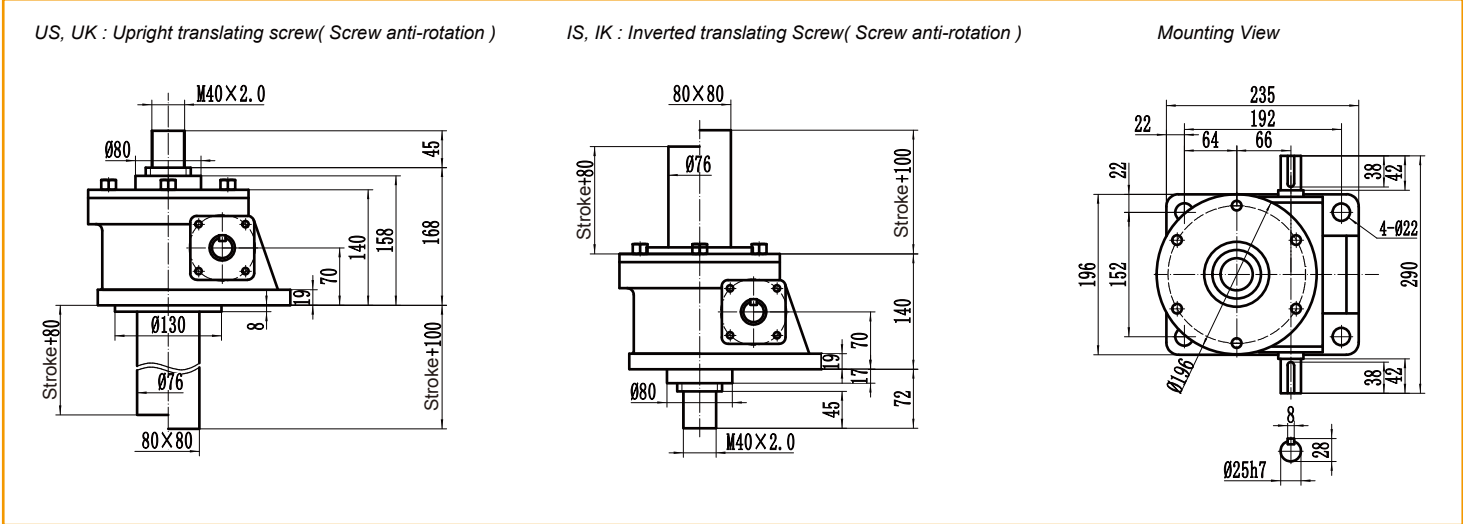
Installation diagram



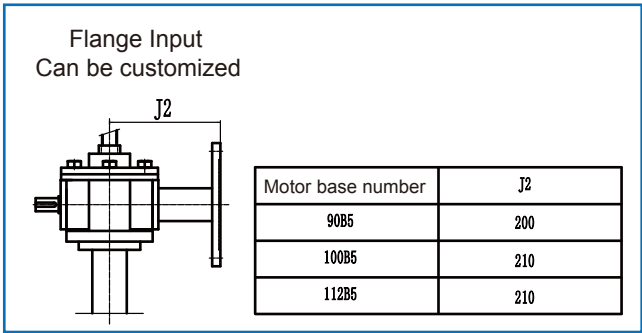
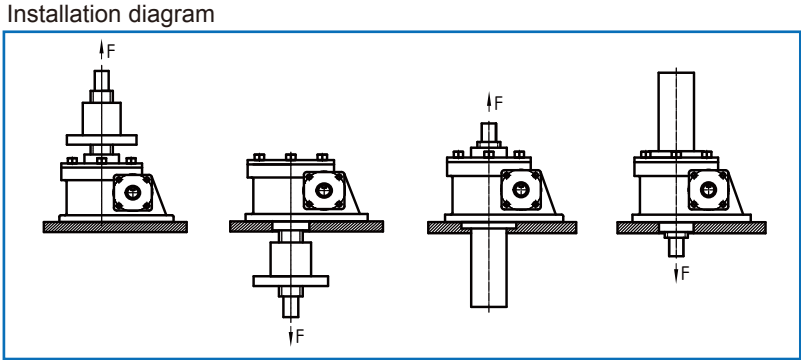
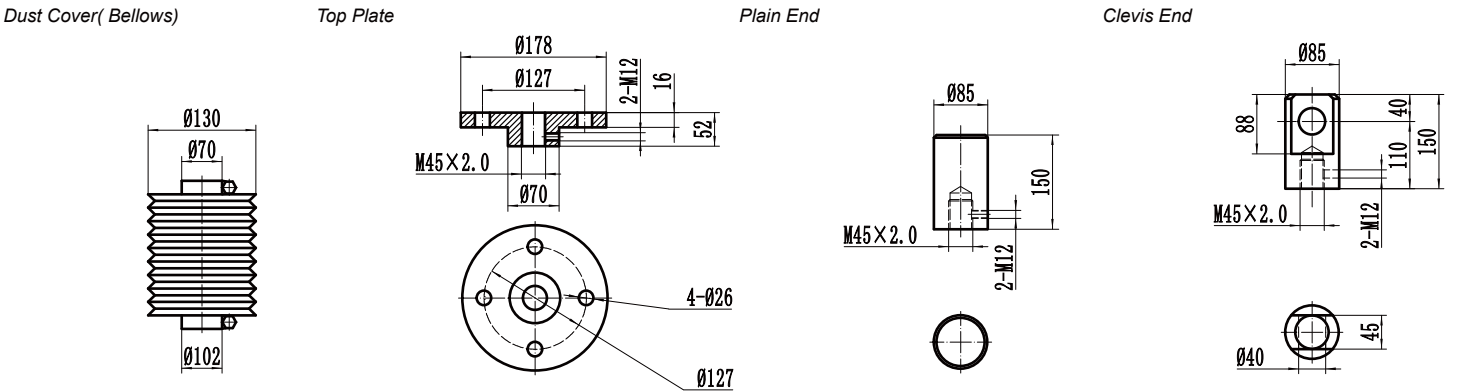
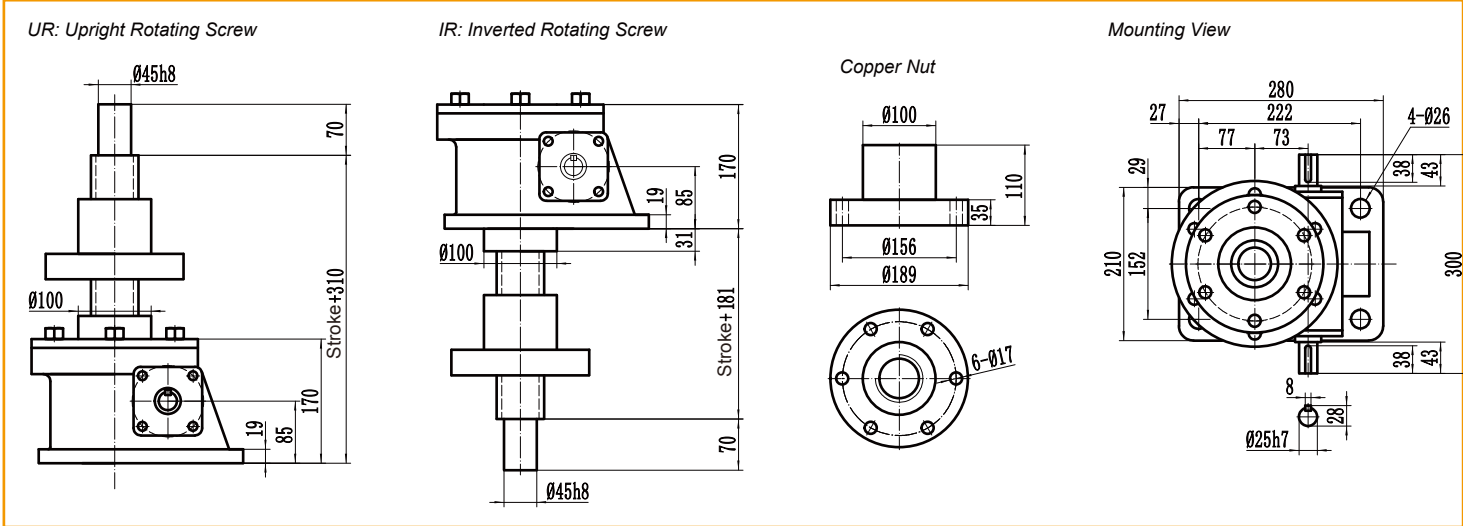
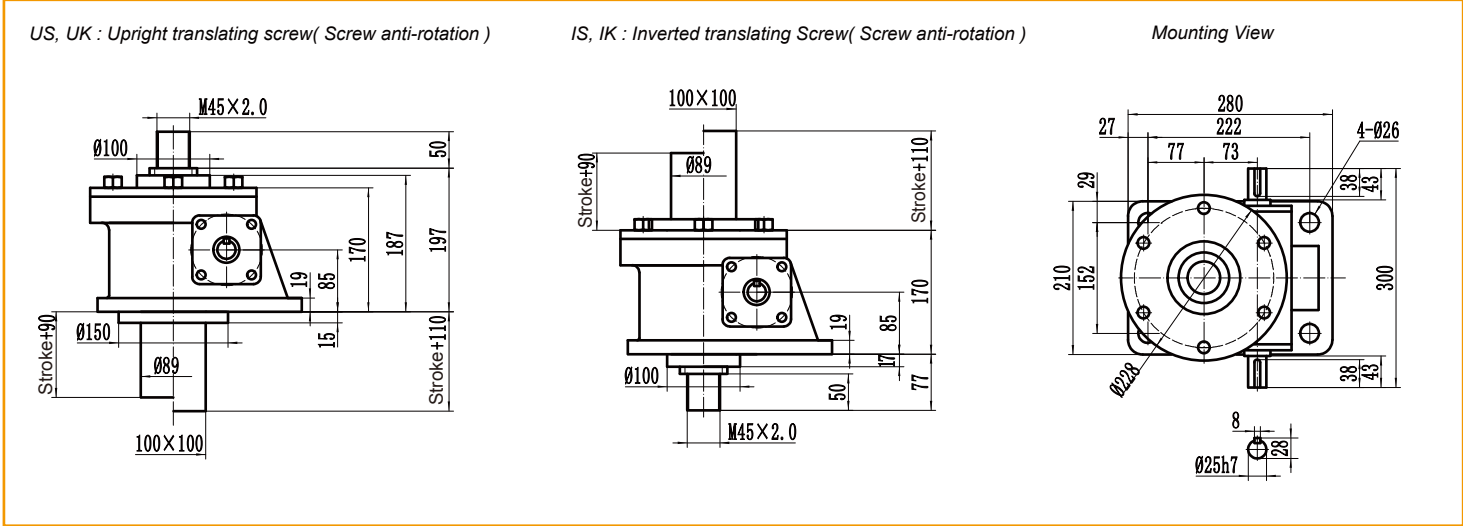
Flange Input Can be customized

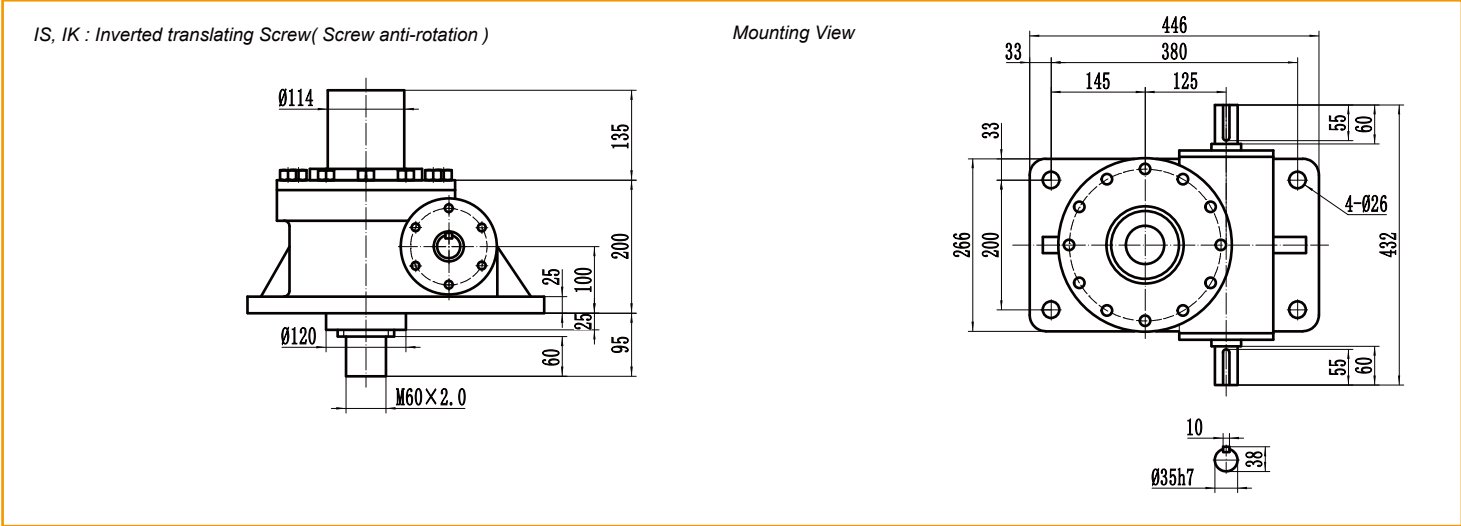
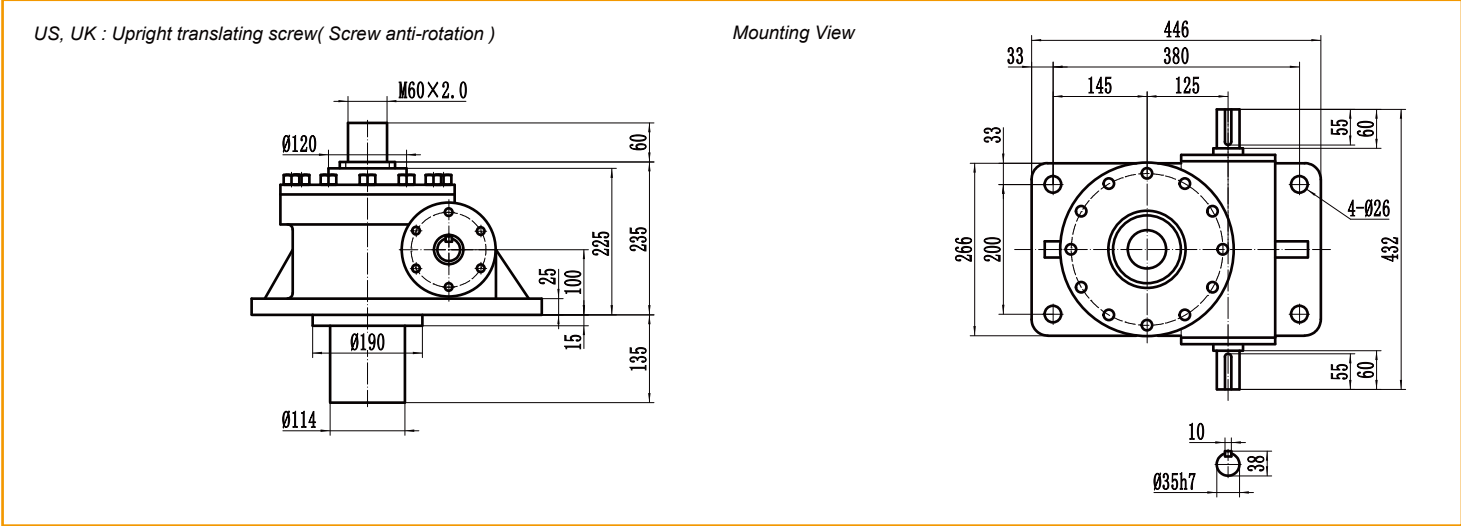


Motor base number	J2
80B5	185
90B5	195
100B5	205



SJW-200 Machine Screw Jack



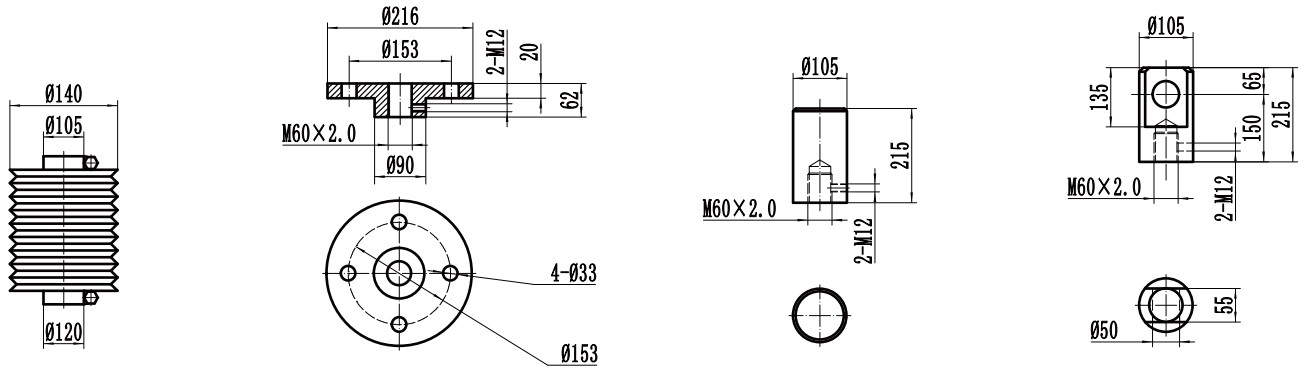


Dust Cover(Bellows)

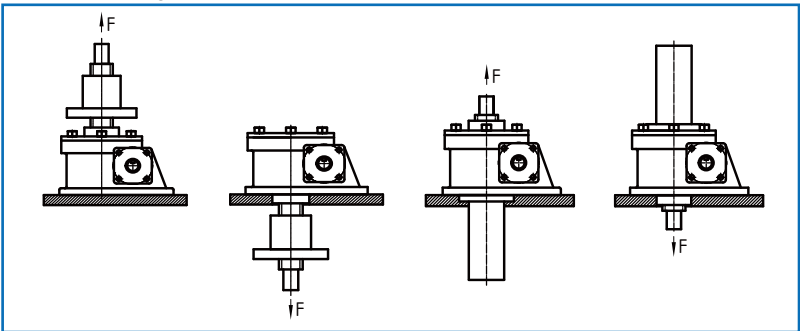
Top Plate

Plain End

Clevis End



Installation diagram

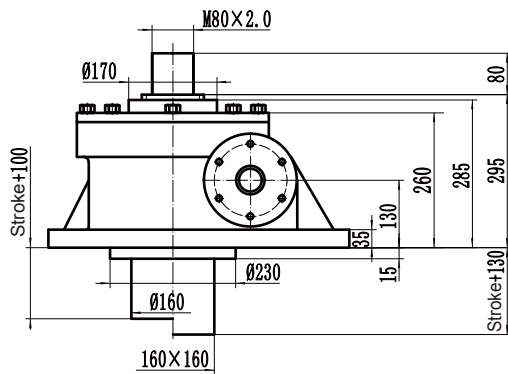


Flange Input
Can be customized

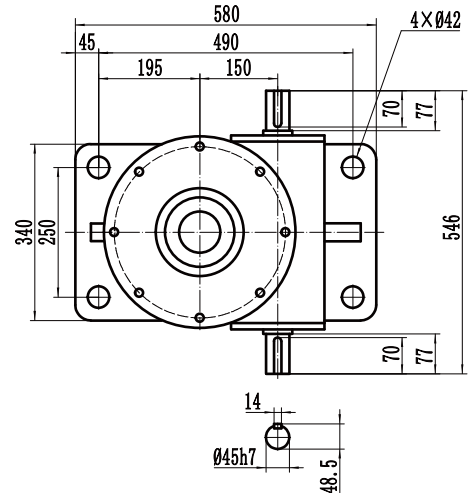
Motor base number	J2
90B5	276
100B5	286
112B5	286

SJW-500 Machine Screw Jack

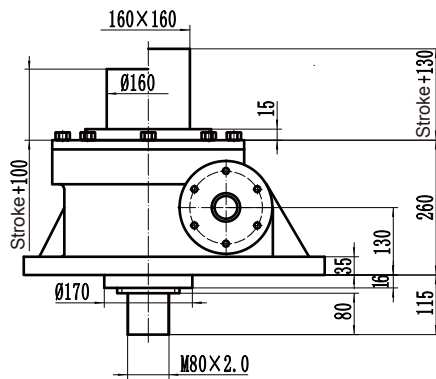
US, UK : Upright translating screw(Screw anti-rotation)



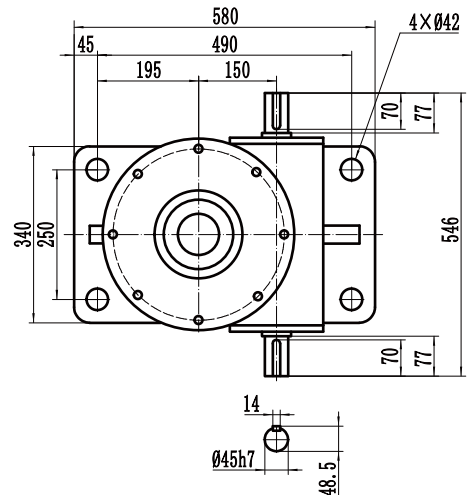
Mounting View



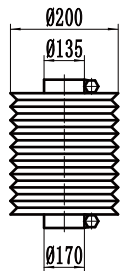
IS, IK : Inverted translating Screw(Screw anti-rotation)



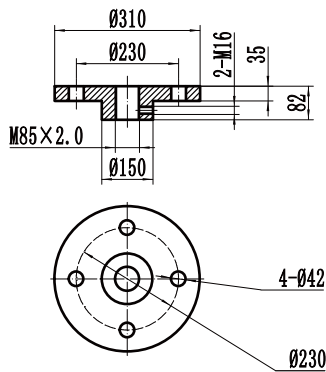
Mounting View



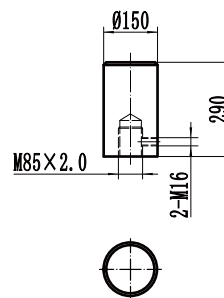
Dust Cover(Bellows)



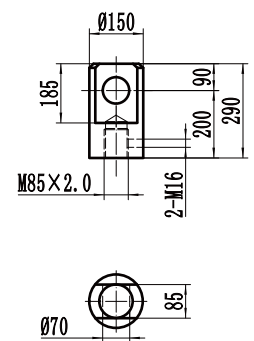
Top Plate



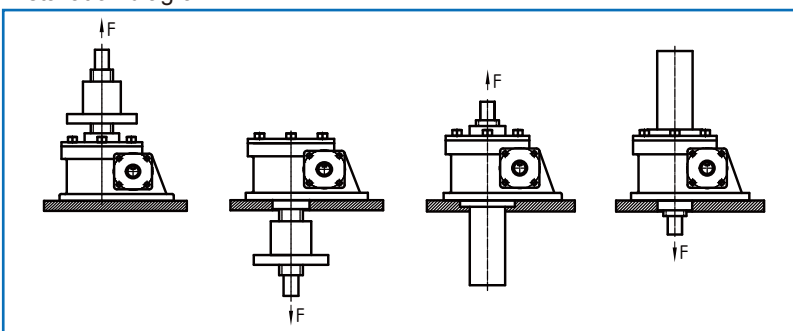
Plain End

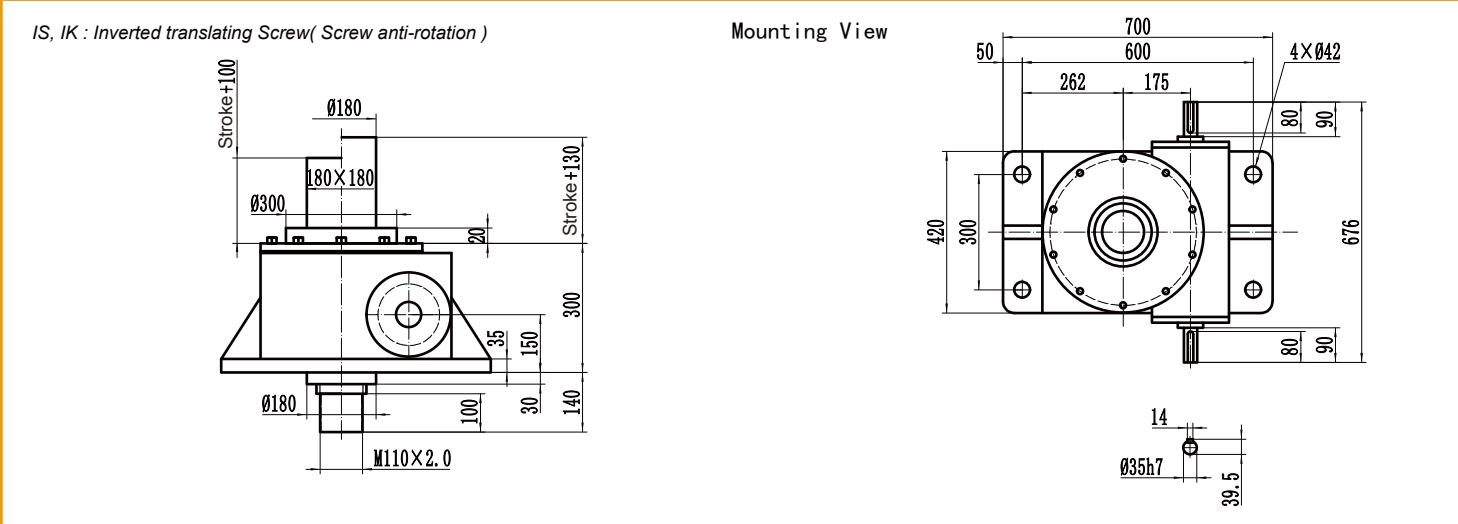
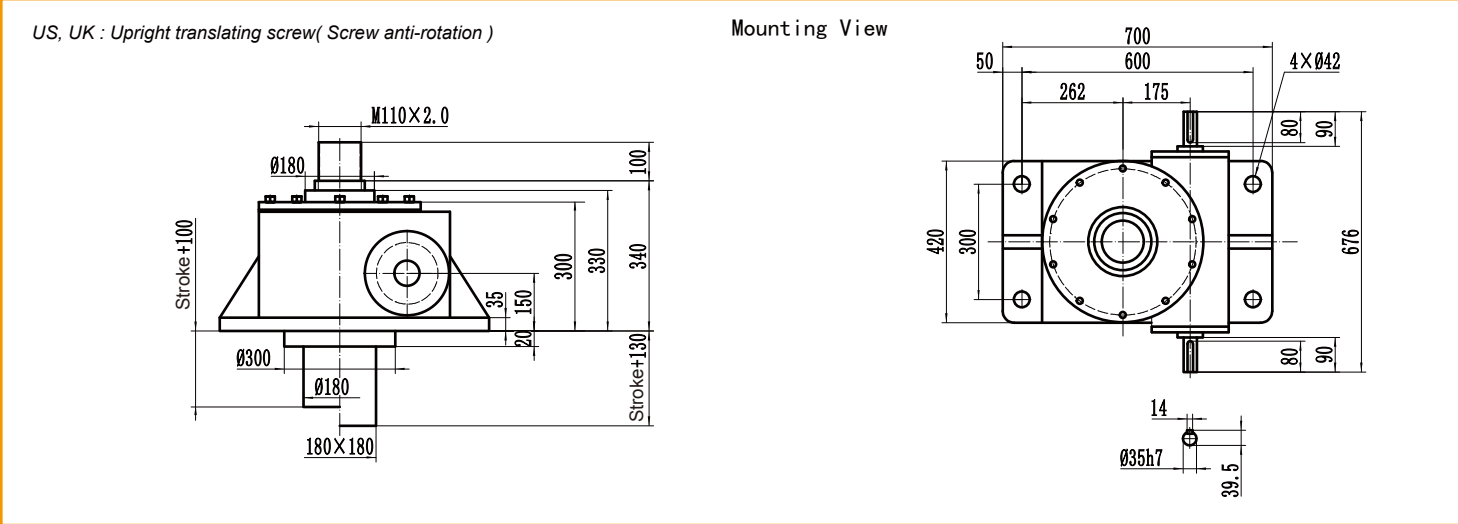


Clevis End



Installation diagram



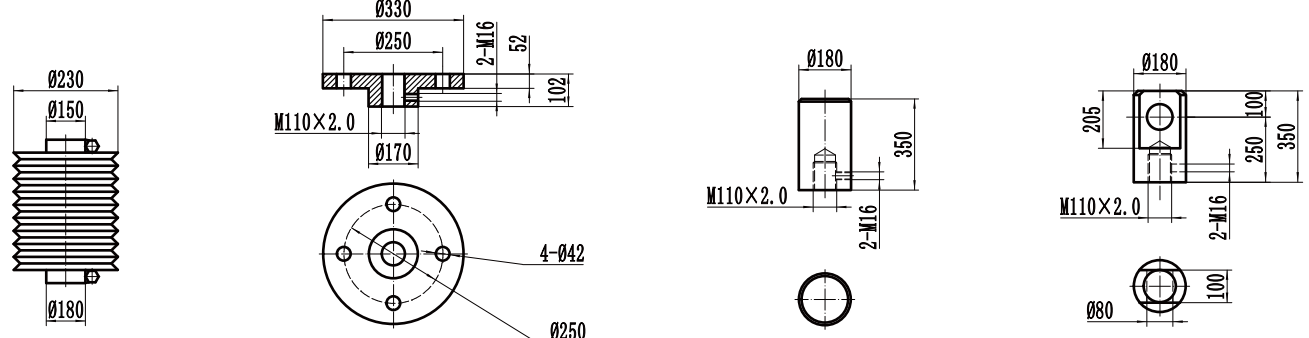


Dust Cover(Bellows)

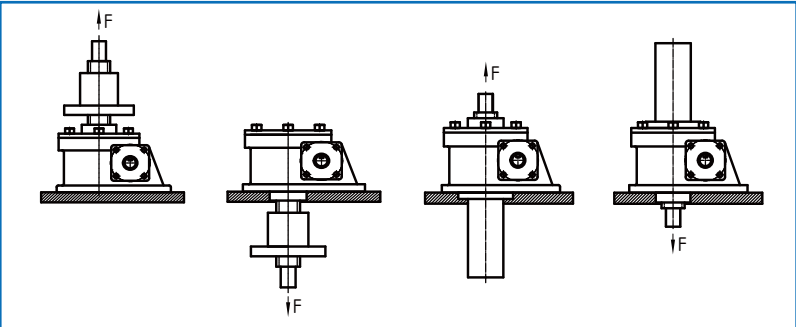
Top Plate

Plain End

Clevis End



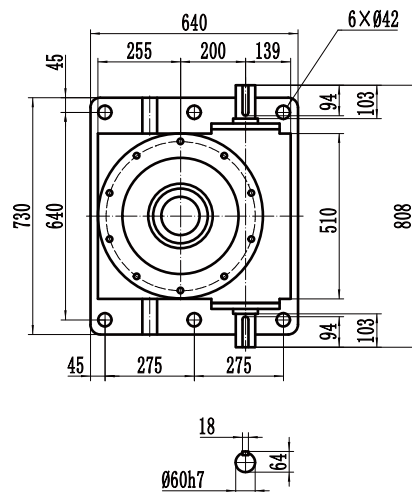
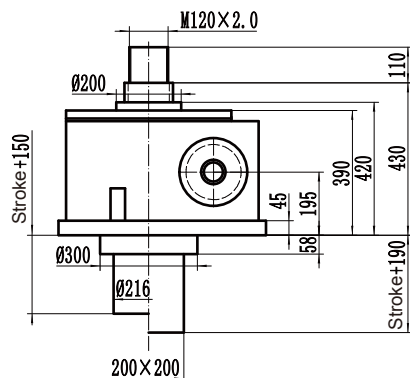
Installation diagram



SJW-1000 Machine Screw Jack

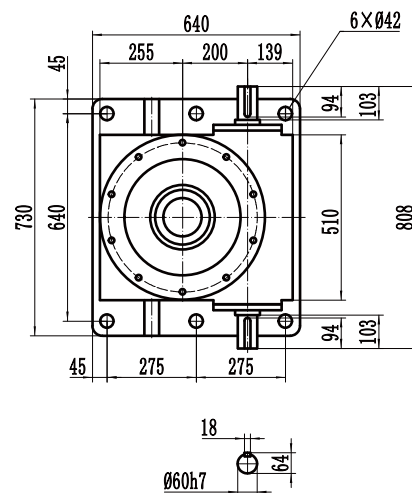
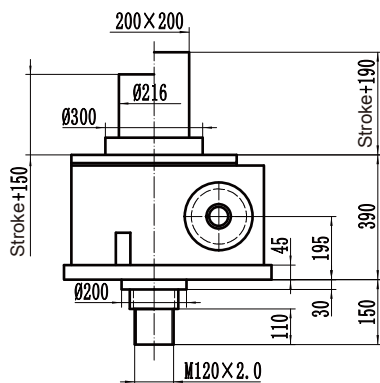
US, UK : Upright translating screw(Screw anti-rotation)

Mounting View



IS, IK : Inverted translating Screw(Screw anti-rotation)

Mounting View

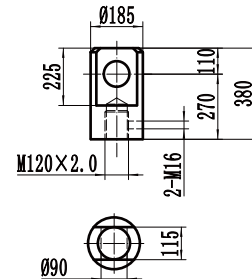
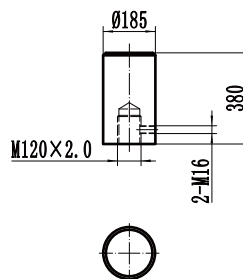
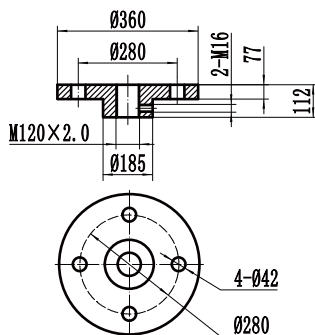
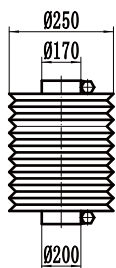


Dust Cover(Bellows)

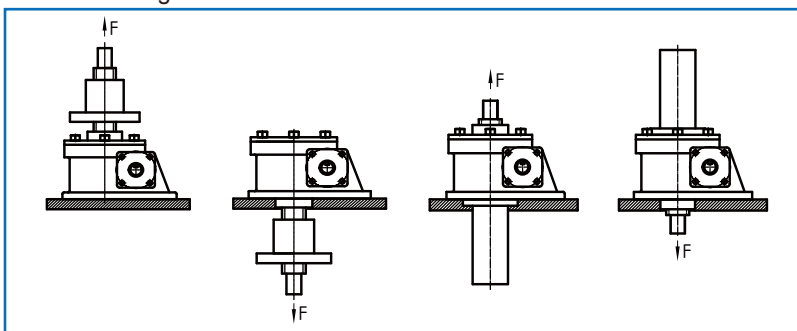
Top Plate

Plain End

Clevis End



Installation diagram



Allowable Buckling Load

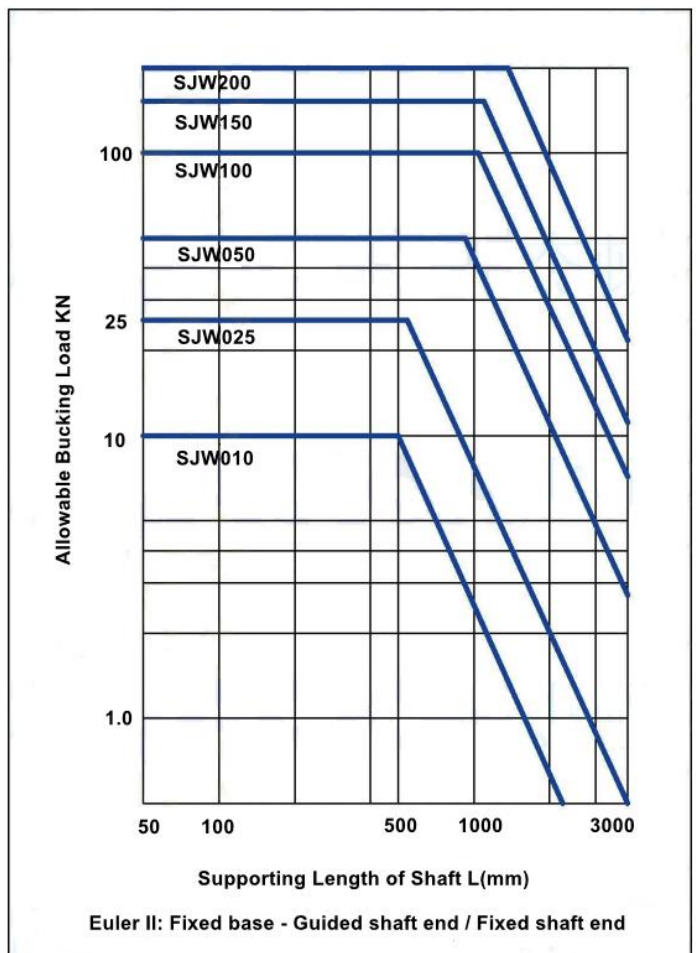
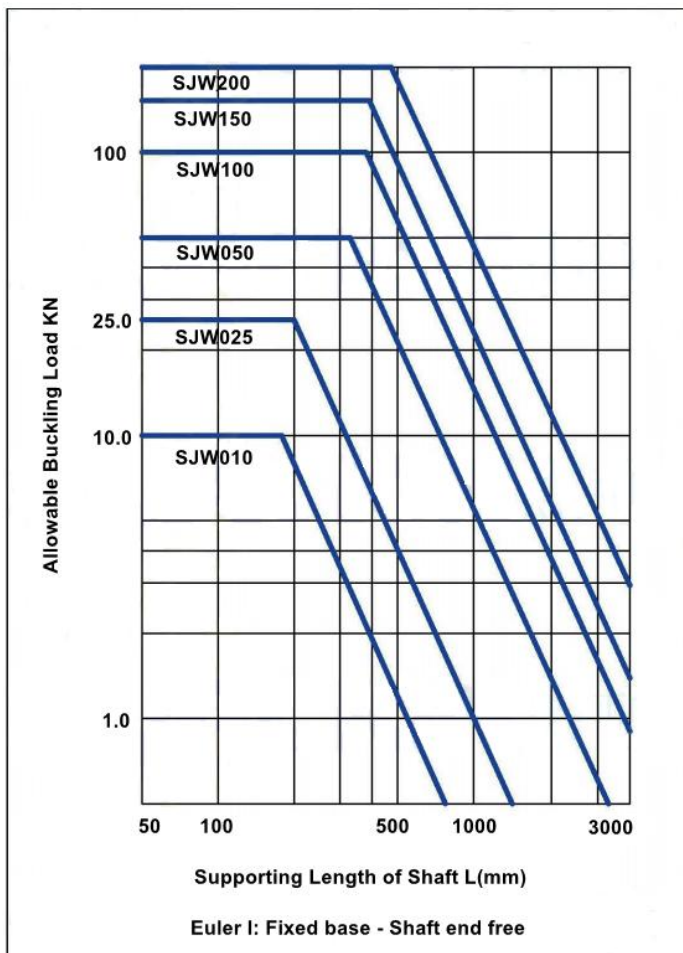
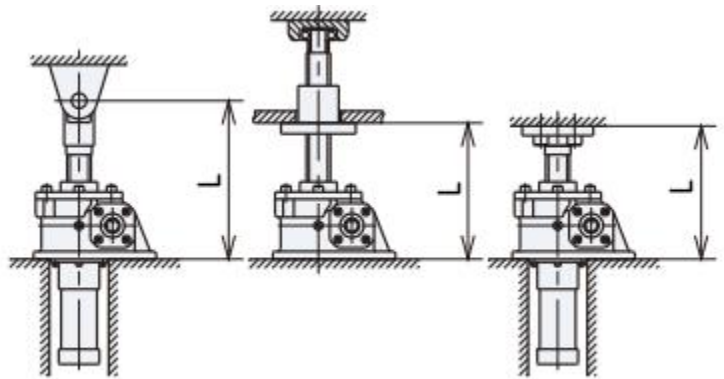
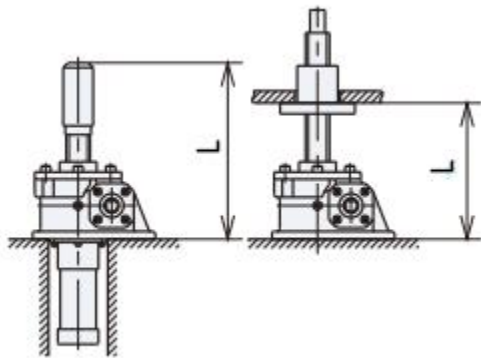
Use this graph to select the correct screw jack model number based on a specific buckling load, for compression loads. The graph for Allowable Buckling Load assumes a load safety factors of $S_f = 4$.

Make sure side load does not apply. The graph below assumes no side load.

If the shaft(lifting screw) is loaded in tension buckling can be avoided, and hence be highly economical.

Euler I: Fixed base - Shaft end free

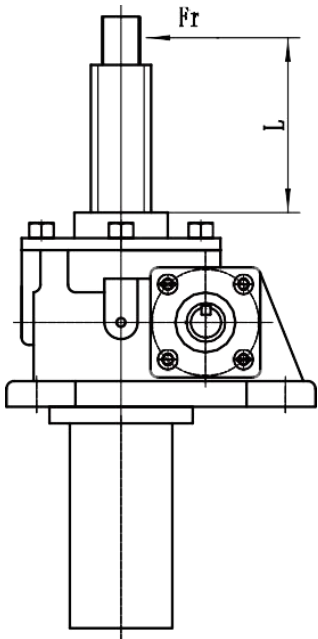
Euler II: Fixed base - Guided shaft end/Fixed shaft end



Allowable Side Load

► SJW Allowable Side load:

Guides are typically used for worm gear Screw Types as shown in the diagram below. However, if the shaft projection distance (L) beyond the housing surface is relatively short, a certain amount of side load is acceptable.

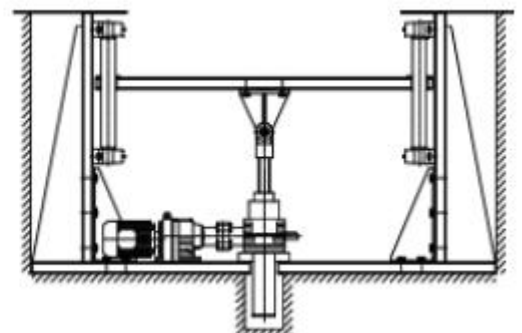
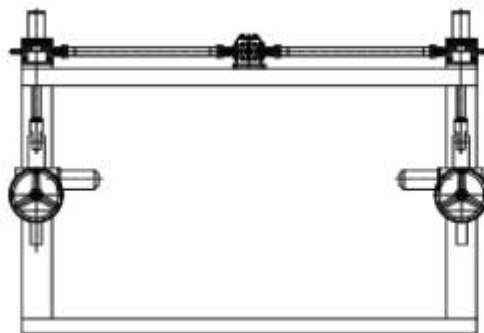
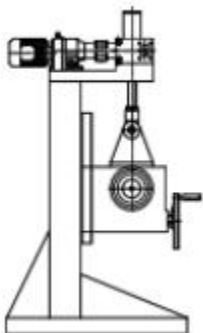


Fr(N) L(mm)	Type									
	010	025	050	100	150	200	300	500	750	1000
100	318	570	2500	4010	4610	8210	38200	85300	73500	186200
200	159	290	1250	2010	2300	4110	23000	50400	56800	145000
300	106	190	830	1340	1540	2740	15300	33600	46100	104700
400	79	140	620	1000	1150	2050	11400	25200	39300	78500
500	110	500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

Notes: If the value in the figure is reached, it may cause the lifting screw to bend.

So please add enough safety factors when selecting the right model.

► When exceeding the allowable side load, please add a guide device. See below:



SJW Worm Gear Screw Jack System

SJW worm gear screw jack system arrangements or configurations can be built in many formats with the use of bevel gearboxes, motors, reduction gearboxes, connecting shafts, couplings, plummer blocks and motion control devices.



"I" Type two jacks system

1 unit motor+ 2 units worm gear screw jacks
+ 4 units couplings+ 2 units connecting shafts



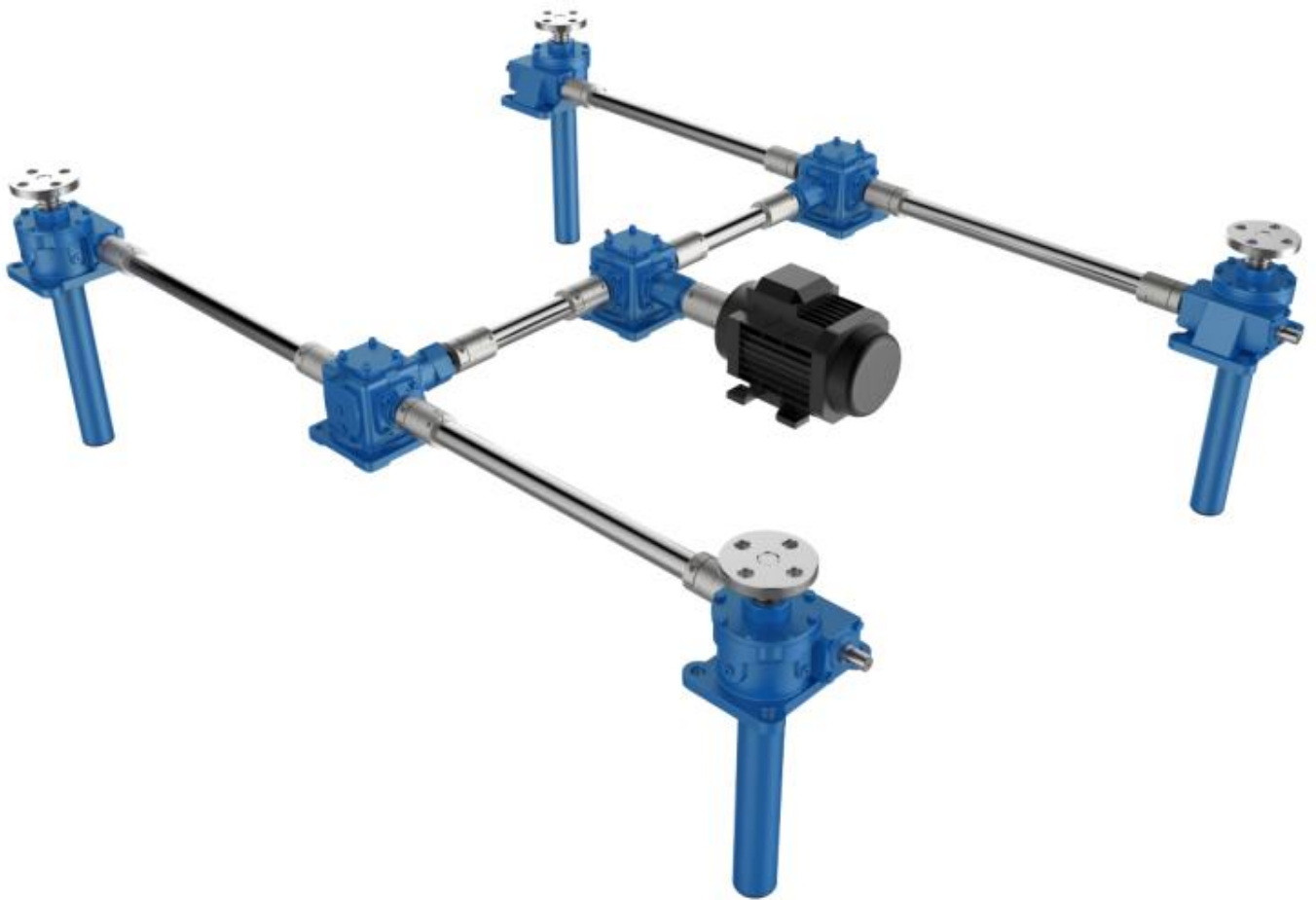
"T" Type two jacks system

1 unit motor+ 2 units worm gear screw jacks
+1 unit spiral bevel gearbox+ 4 units couplings
+ 2 units connecting shafts



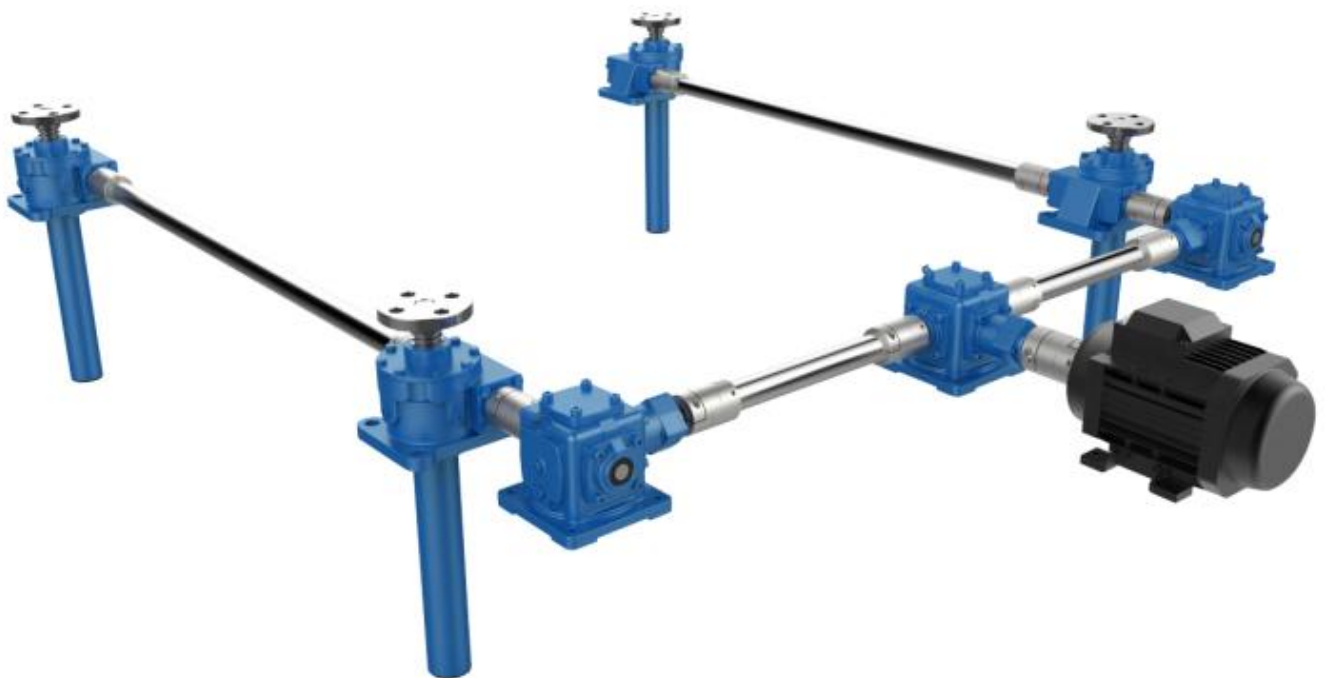
"I" Type two jacks system

1 unit motor+ 2 units worm gear screw jacks
+ 3 units couplings+ 1 units connecting shaft



"H" Type four jacks system

4 units worm gear screw jacks+ 3 units spiral bevel gearboxes+ 1 unit motor+ 6 units connecting shafts+13 units couplings



"U" Type four jacks system

4 units worm gear screw jacks+ 3 units spiral bevel gearboxes+ 1 unit motor+ 4 units connecting shafts+11 units couplings