



Elit Process
Perfection in Engineering



EK Serie

Screw Jack Catalog

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Most of the time, the ideal design is not the fastest, most robust, most accurate or cheapest solution.

Instead, the ideal solution is the optimal balance of the following:

Performance, Life and Cost.

Elit Process offers these ideal engineering solutions to its customers with its 16 years of experience.

Our experience in Aerospace, Energy and Military applications, where standards are high and acceptance conditions are demanding, allows us to serve you as a reliable supplier.

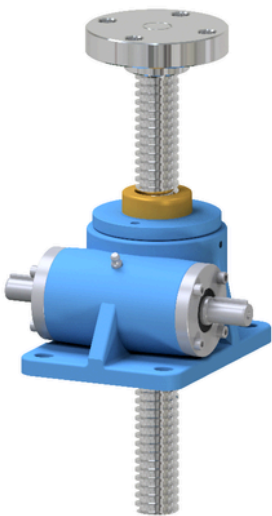
Screw jacks are used in lifting any load, pulling a mechanical part, adjusting the working distances of machine parts and many other linear motion applications. Screw jacks are known by names such as linear motor, linear actuator, screw jack, mechanical jack. In required applications, it is preferable to protect the screw with a bellows, it is possible to protect it from external environmental factors and to make it suitable for environments with a certain atmospheric aggressiveness.

Our primary focus is customer satisfaction. The principle of delivering world-class, quality and reliable products to our customers has enabled us to become one of the world's leading suppliers.

Elit Process offers its customers EK Series Screw Jack solutions.

EK Serie

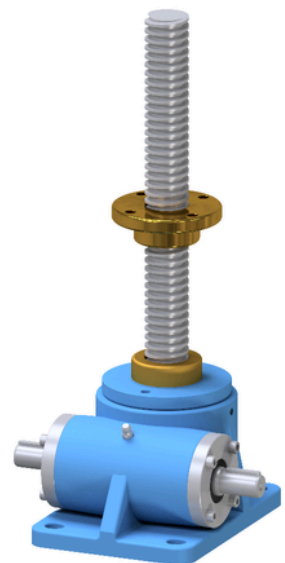
Translating (EK-V)



Features:

- Long life
- Superior reliability
- Higher efficiency
- Durability
- Wide range
- Single source for complete systems

Travelling Nut (EK-S)

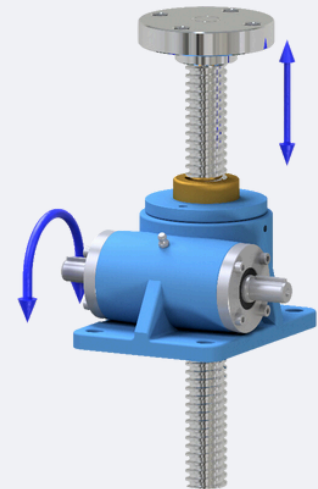


Working Principles and Types

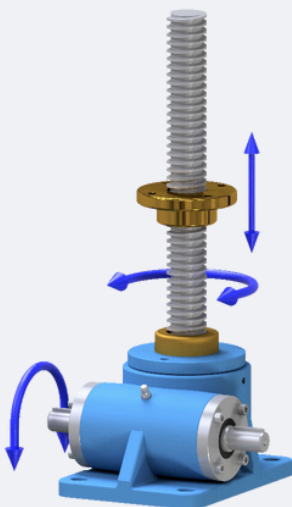
Translating Screw Jack

The basic components of the screw jack are; worm screw, worm gear, screw that provides linear movement and jack body. The worm gear rotates when the worm screw is turned by motor or hand. With the rotation of the worm gear, the screw inside moves linearly up or down. If the screw end connection is connected to a free load, the screw rotates circularly and moves up and down. If it is connected to a fixed load, the jack receives the movement from the reducer gear inside and the Trapezoid screw moves linearly only up and down. In other words, it serves the same function as the wedge type. Thanks to this feature, there is no need to open a keyway for the Trapezoid screw. The progress speed of the screw depends on the turning speed, the number of teeth of the gears and the screw pitch size.

EK-V



EK-S



Travelling Nut Screw Jack

The basic components of the screw jack are; worm screw, worm gear, nut that provides linear movement and jack body. The worm gear rotates when the worm screw is turned by motor or hand. With the rotation of the worm gear, the screw inside it rotates only around its own axis. The flange made of bronze material and threaded into it on the screw shaft moves linearly up or down. One of the purposes of using such systems is that there is no need for a channel or casing for the movement of the screw used in screw type and screw wedge type jacks. In addition, the screw does not go down from the jack base. The progress speed of the screw depends on the turning speed, the number of teeth of the gears and the screw pitch size.

Screw Jack EK Series Selection:

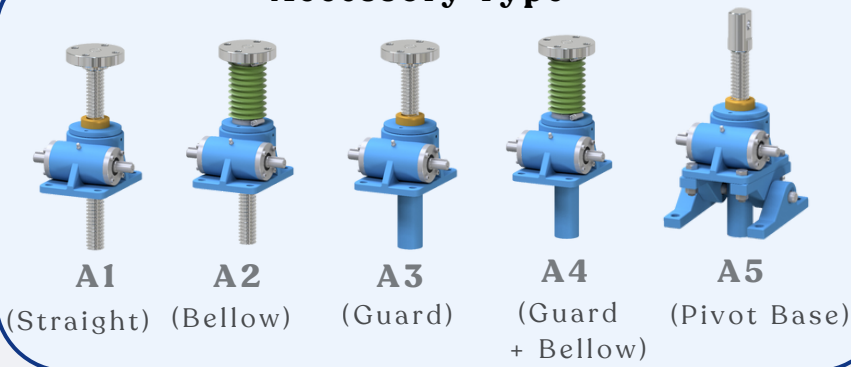
Elit Process EK Series screw jacks pioneer many different industrial applications. Screw jack selections are made according to the parameters set forth by the need and the features in the table below or according to customer requests. Here, the environment and working conditions are taken into consideration. Screw bellows and screw guards are also recommended for screw jacks operating in very dusty and aggressive environments. Elit Process and its engineers, who have 16 years of experience in this field, will determine the most efficient and correct screw jack for you.

In addition to this experience, Elit Process, which has adopted the principle of responding to the special requests of our customers, also does its part in customer-specific manufacturing and supply.

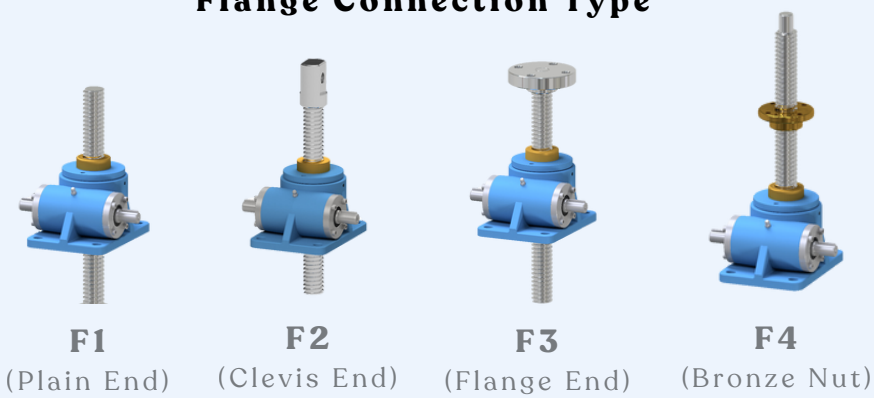
EK15 - VH - M1 - F1 - A1 - 500

Stroke Length (mm)

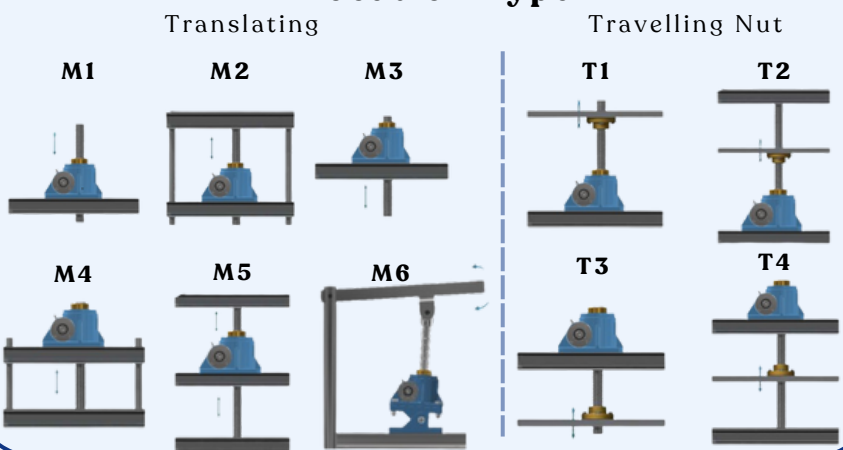
Accessory Type



Flange Connection Type



Location Type

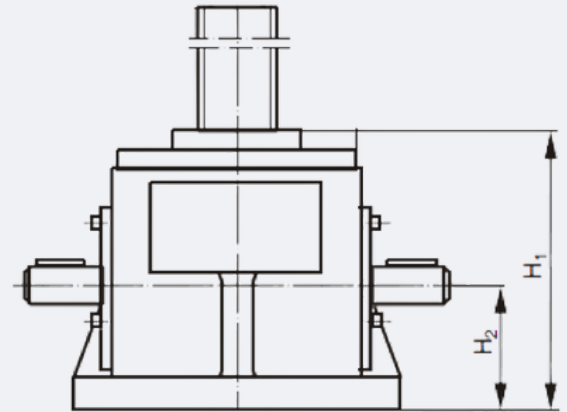
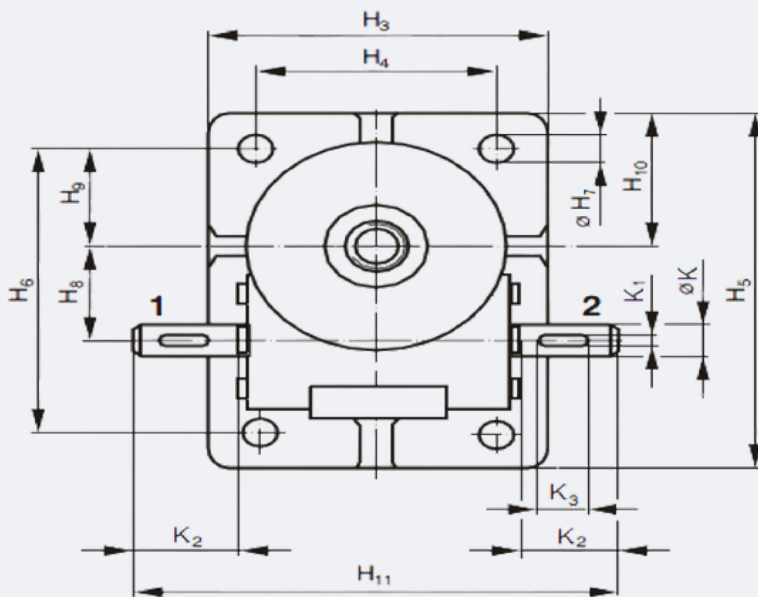


Jack Speed: H(Fast) , L(Slow)

Jack Type: V(Translating), S(Nut)

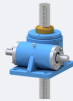
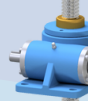
Jack Capacity: 5kN, ..., 350 kN

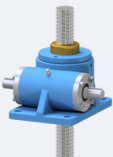
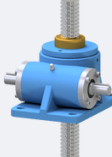
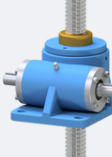
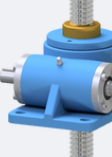
EK Series Dimension Chart



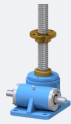
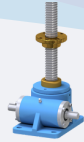
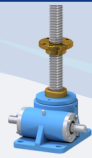
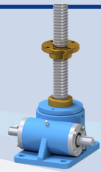
	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	ØK	K1	K2	K3
EK5	90	32	88	70	110	90	Ø9	27	32,5	42,5	130	10k6	3	20	10
EK15	100	36	100	75	135	110	Ø9	36	37,5	50	150	14k6	5	24,5	20
EK30	115	45	120	90	165	135	Ø13	45,2	50	65	180	16k6	5	28,5	22
EK50	145	61,5	160	114	214	168	Ø17	56,2	58	81	230	20k6	6	35	28
EK100	155	66	180	140	220	180	Ø18	63	60	82,5	250	24k6	8	37,5	28
EK150	160	70	203	155	240	190	Ø21	66,8	63,5	88,5	280	25k6	8	46,5	32
EK200	195	87	220	160	297	240	28	72,5	95	124	322	28k6	8	48,5	50
EK300	225	102	265	190	355	280	35	97	95	133	355	34k6	10	59,5	56

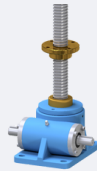
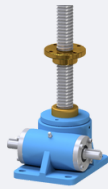
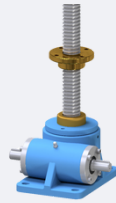
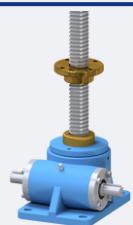
Screw Type Jack Specifications

Screw Type (EK-V)				
Size	EK5	EK15	EK30	ET50
Lifting Force	5kN	15kN	30kN	50kN
Gear Ratio	10:1 (H) 20:1 (L)	8:1 (H) 25:1 (L)	6:1 (H) 24:1 (L)	6:1 (H) 24:1 (L)
Body Material	SFERO (GGG)	SFERO (GGG)	SFERO (GGG)	SFERO (GGG)
Screw	Tr20x6	Tr25x6	Tr30x6	Tr40x7
Body Weight Excluding Screws	1,5 kg	3,2 kg	8,2 kg	18
Torque Corresponding to Lifting Force (Nm)	1.59 (H) 1.2 (L)	5.97 (H) 2.87 (L)	15.92 (H) 5.97 (L)	30.95(H) 11.61 (L)
Highest Rotation Speed	1500	1500	1500	1500
Highest progress Speed (m/min)	0.90 (H) 0.45 (L)	1.12 (H) 0.36 (L)	1.50 (H) 0.37 (L)	1.75 (H) 0.43 (L)

Screw Type (EK-V)				
Size	EK100	EK150	EK200	EK300
Lifting Force	100kN	150kN	200kN	300kN
Gear Ratio	8:1 (H) 24:1 (L)	8:1 (H) 24:1 (L)	8:1 (H) 24:1 (L)	14:1 (H) 32:1 (L)
Body Material	SFERO (GGG)	SFERO (GGG)	SFERO (GGG)	SFERO (GGG)
Screw	Tr55x12	Tr60x12	Tr65x12	Tr90x16
Body Weight Excluding Screws	23 kg	28 kg	40 kg	75 kg
Torque Corresponding to Lifting Force (Nm)	79.58 (H) 39.79 (L)	119.4 (H) 59.7 (L)	159.2 (H) 79.6 (L)	181.9(H) 119.4 (L)
Highest Rotation Speed	1500	1500	1500	1000
Highest progress Speed (m/min)	2.25 (H) 0.75 (L)	2.25 (H) 0.75 (L)	2.25 (H) 0.75 (L)	1.14 (H) 0.50 (L)

Nut Type Jack Features

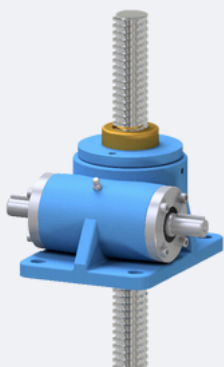
Nut Type (EK-S)				
Size	EK5	EK15	EK30	EK50
Lifting Force	5kN	15kN	30kN	50kN
Gear Ratio	10:1 (H) 20:1 (L)	8:1 (H) 25:1 (L)	6:1 (H) 24:1 (L)	6:1 (H) 24:1 (L)
Body Material	SFERO (GGG)	SFERO (GGG)	SFERO (GGG)	SFERO (GGG)
Screw	Tr20x6	Tr25x6	Tr30x6	Tr40x7
Body Weight Excluding Screws	1,5 kg	3,2 kg	8,2 kg	18
Torque Corresponding to Lifting Force (Nm)	1.59 (H) 1.2 (L)	5.97 (H) 2.87 (L)	15.92 (H) 5.97 (L)	30.95(H) 11.61 (L)
Highest Rotation Speed	1500	1500	1500	1500
Highest progress Speed (m/min)	0.90 (H) 0.45 (L)	1.12 (H) 0.36 (L)	1.50 (H) 0.37 (L)	1.75 (H) 0.43 (L)

Nut Type (EK-S)				
Size	EK100	EK150	EK200	EK300
Lifting Force	100kN	150kN	200kN	300kN
Gear Ratio	8:1 (H) 24:1 (L)	8:1 (H) 24:1 (L)	8:1 (H) 24:1 (L)	14:1 (H) 32:1 (L)
Body Material	SFERO (GGG)	SFERO (GGG)	SFERO (GGG)	SFERO (GGG)
Screw	Tr55x12	Tr60x12	Tr65x12	Tr90x16
Body Weight Excluding Screws	23 kg	28 kg	40 kg	75 kg
Torque Corresponding to Lifting Force (Nm)	79.58 (H) 39.79 (L)	119.4 (H) 59.7 (L)	159.2 (H) 79.6 (L)	181.9(H) 119.4 (L)
Highest Rotation Speed	1500	1500	1500	1000
Highest progress Speed (m/min)	2.25 (H) 0.75 (L)	2.25 (H) 0.75 (L)	2.25 (H) 0.75 (L)	1.14 (H) 0.50 (L)

Flange Connection Types

F1 - Plain End

Plain End is on the screw. Our standards are as in the table.

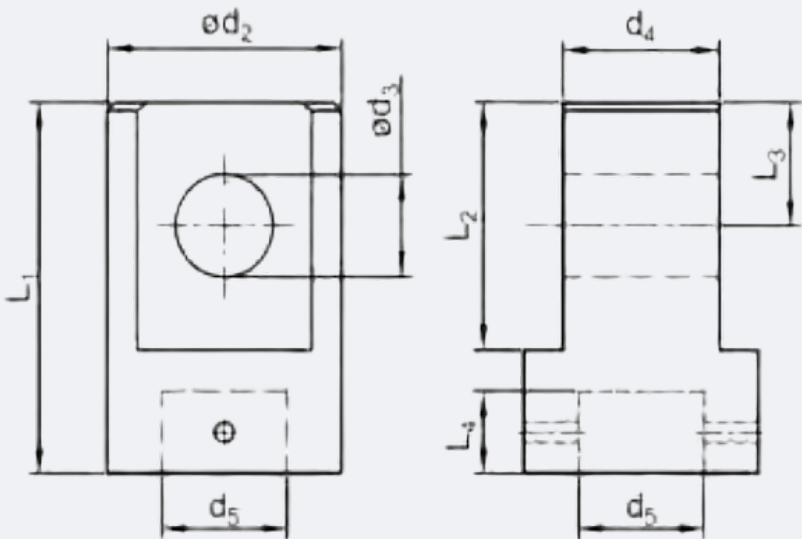
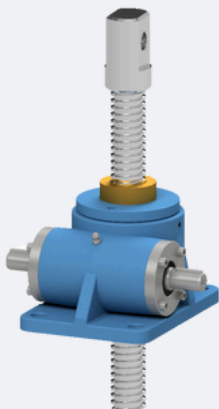


Kriko Tipi	d1
EK 5	Tr 20x6
EK 15	Tr 25x6
EK 30	Tr 30x6
EK 50	Tr 40x7
EK 100	Tr 55x12
EK150	Tr 60x12
EK 200	Tr 65x12
EK 300	Tr 90x16



F2 - Clevis End

Clevis End is made on the screw. Our standards are as in the table.

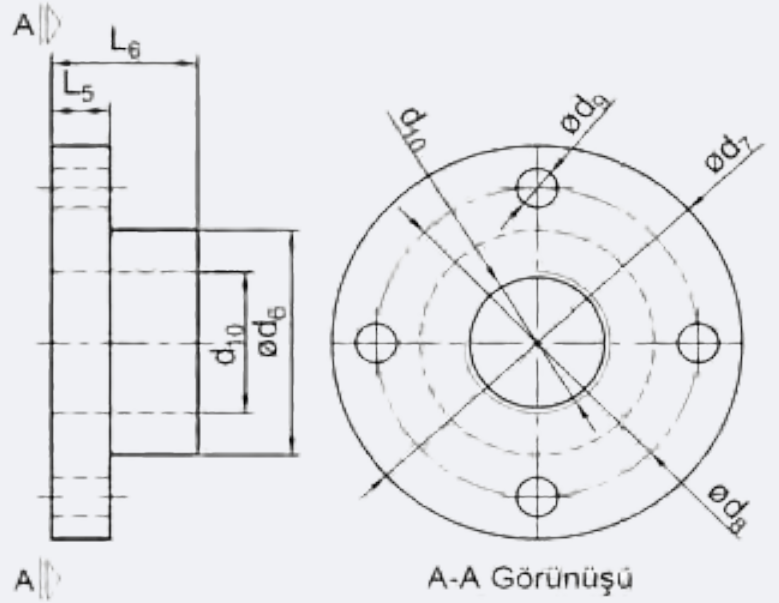
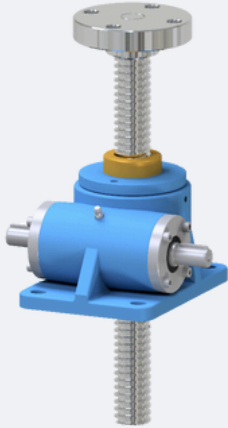


Kriko Tipi	d2	d3	d4	d5	L1	L2	L3	L4
EK 5	30	15	20	M14x1.5	60	30	15	15
EK 15	40	15	30	M16x1.5	65	46	23	20
EK 30	40	15	30	M20x1.5	65	49	23	20
EK 50	60	25	40	M30x1.5	90	60	30	20
EK 100	80	35	60	M42x2	120	90	45	25
EK150	80	35	60	M42x2	120	90	45	25
EK 200	85	40	65	M48x2	130	100	50	25
EK 300	120	50	80	M65x2	170	120	60	40

Flange Connection Types

F3 - Flange Connection Type

A fixed flange connection is made on the screw.
Our standards are as shown in the table.

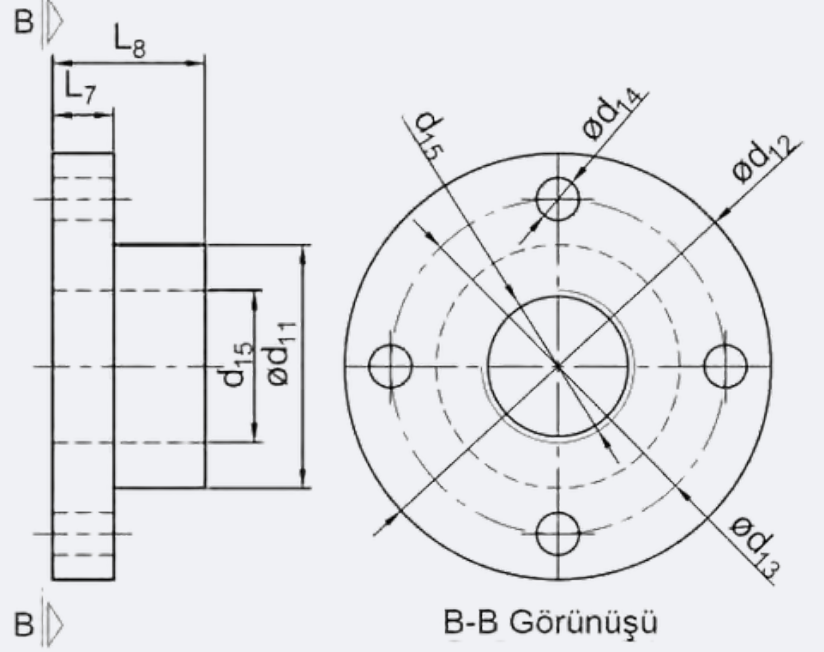
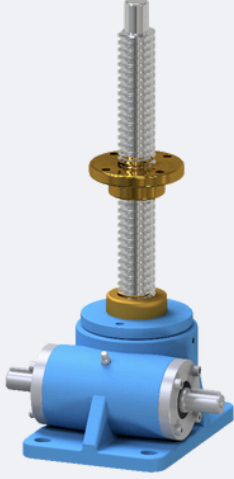


Kriko Tipi	d6	d7	d8	d9	d10	L5	L6
EK 5	25	67	45	Ø 7x4	M14x1.5	12	22
EK 15	40	98	75	Ø 12x4	M16x1.5	18	30
EK 30	40	98	75	Ø 12x4	M16x1.5	18	30
EK 50	50	119	85	Ø 17x4	M30x1.5	20	35
EK 100	60	148	105	Ø 21x4	M42x2	25	45
EK150	65	148	105	Ø 21x4	M42x2	25	45
EK 200	75	175	125	Ø 26x4	M48x2	30	50
EK 300	95	195	145	Ø 26x4	M65x2	30	50

Flange Connection Types

F4 - Nut Connection Type

A fixed flange connection is made on the screw.
Our standards are as shown in the table.



Kriko Tipi	d11	d12	d13	d14	d15	L7	L8
EK 5	40	70	55	Ø 7x4	Tr 20x6	10	25
EK 15	40	70	55	Ø 7x4	Tr 25x6	10	25
EK 30	45	75	60	Ø 7x4	Tr 30x6	10	25
EK 50	60	95	78	Ø 10x4	Tr 40x7	10	30
EK 100	80	125	103	Ø 12x4	Tr 55x12	15	40
EK150	90	140	115	Ø 14x4	Tr 60x12	20	50
EK 200	100	150	125	Ø 14x4	Tr 65x12	25	55
EK 300	130	190	162	Ø 18x4	Tr 90x16	30	70

EK5-V / EK5-S
EK15-V / EK15-S
EK30-V / EK30-S

General Properties and Buckling Loads

Screw Jack	Typ	Speed	Screw	Ratio	Stroke/ 1 Tour
EK5-VH	Screw Type	Fast	Tr 20X6	10:1	0,60 mm
EK5-VL		Slow		20:1	0,30 mm
EK5-SH	Nut Type	Fast	Tr 20X6	10:1	0,60 mm
EK5-SL		Slow		20:1	0,30 mm

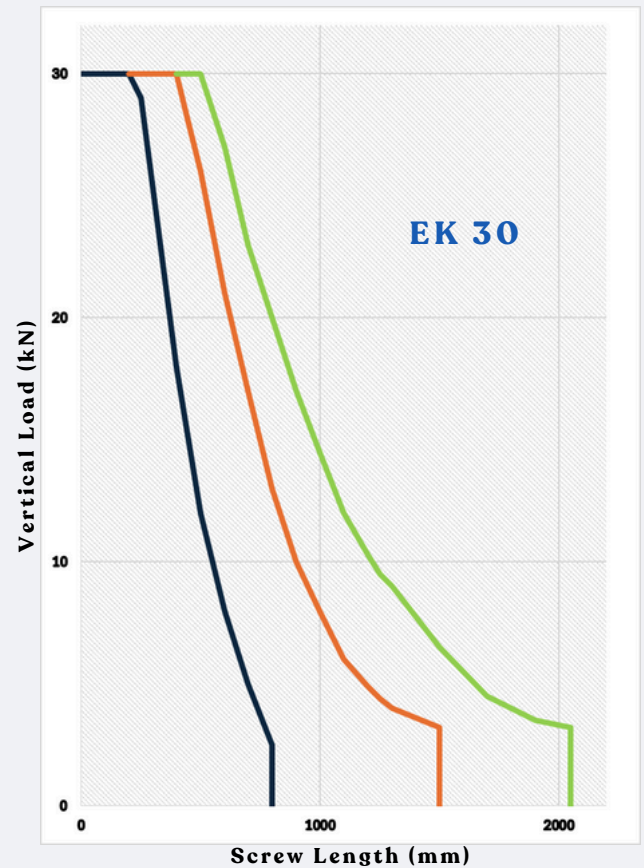
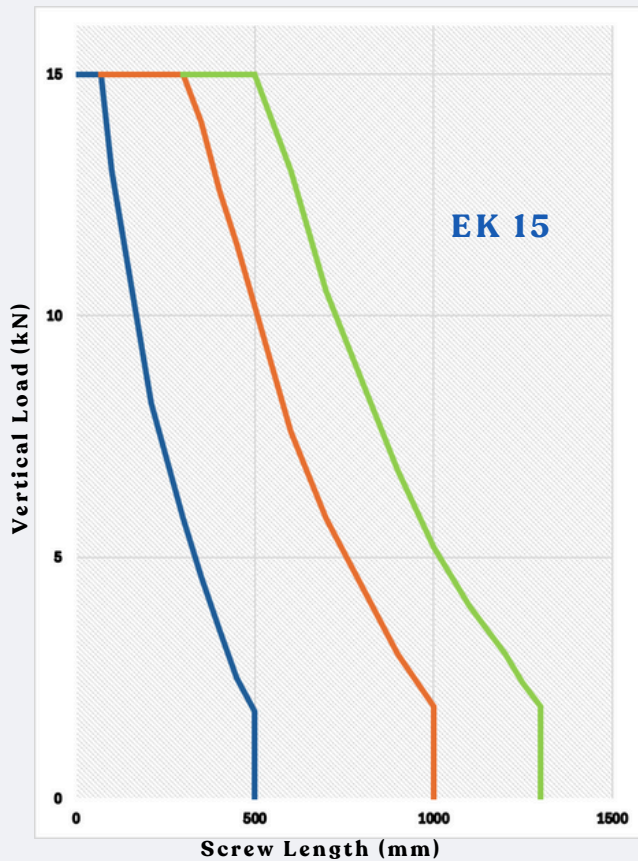
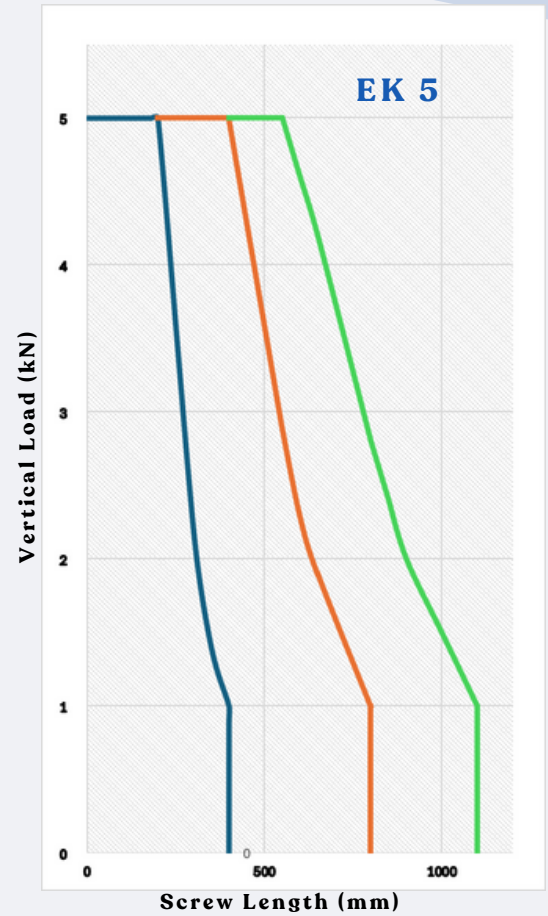
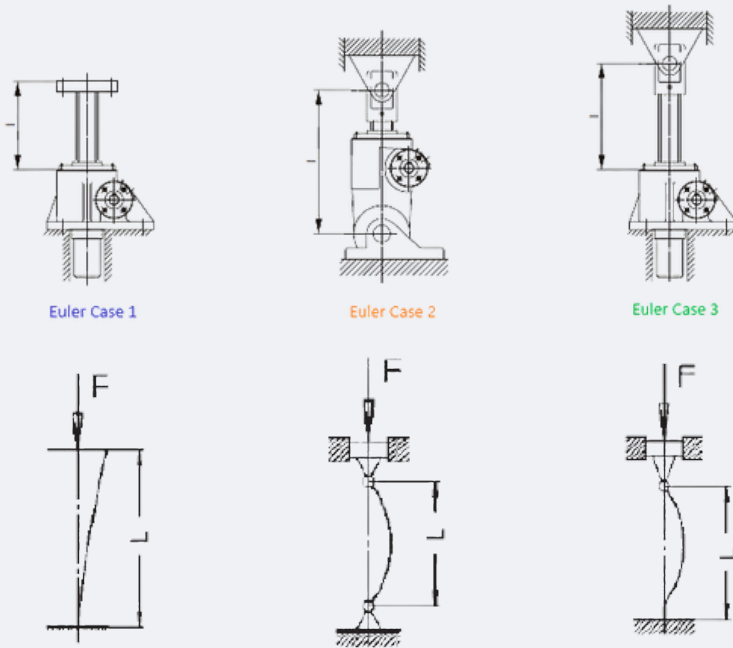
Screw Jack	Typ	Speed	Screw	Ratio	Stroke/ 1 Tour
EK15-VH	Screw Type	Fast	Tr 25X6	8:1	0,75 mm
EK15-VL		Slow		25:1	0,24 mm
EK15-SH	Nut Type	Fast	Tr 25X6	8:1	0,75 mm
EK15-SL		Slow		25:1	0,24 mm

Screw Jack	Typ	Speed	Screw	Ratio	Stroke/ 1 Tour
EK30-VH	Screw Type	Fast	Tr 30x6	6:1	1,00 mm
EK30-VL		Slow		24:1	0,25 mm
EK30-SH	Nut Type	Fast	Tr 30x6	6:1	1,00 mm
EK30-SL		Slow		24:1	0,25 mm

Calculations (EK 5- EK15- EK30)

Buckling Loads on Screw (kN):

The carrying capacity of screw jacks varies according to the length of the screw. The load carrying capacity varies according to the length of the screw and the connection methods of the jack. The connection methods are called Euler 1,2,3. The same graphics are valid for vertical moving screw and vertical moving nut.



EK50-V / EK50-S

EK100-V / EK100-S

EK150-V / EK150-S

General Properties and Buckling Loads

Screw Jack	Typ	Speed	Screw	Ratio	Stroke/ 1 Tour
EK50-VH	Screw Type	Fast	Tr 40x7	6:1	1,16 mm
EK50-VL		Slow		24:1	0,290 mm
EK50-SH	Nut Type	Fast	Tr 40x7	6:1	1,16 mm
EK50-SL		Slow		24:1	0,290 mm

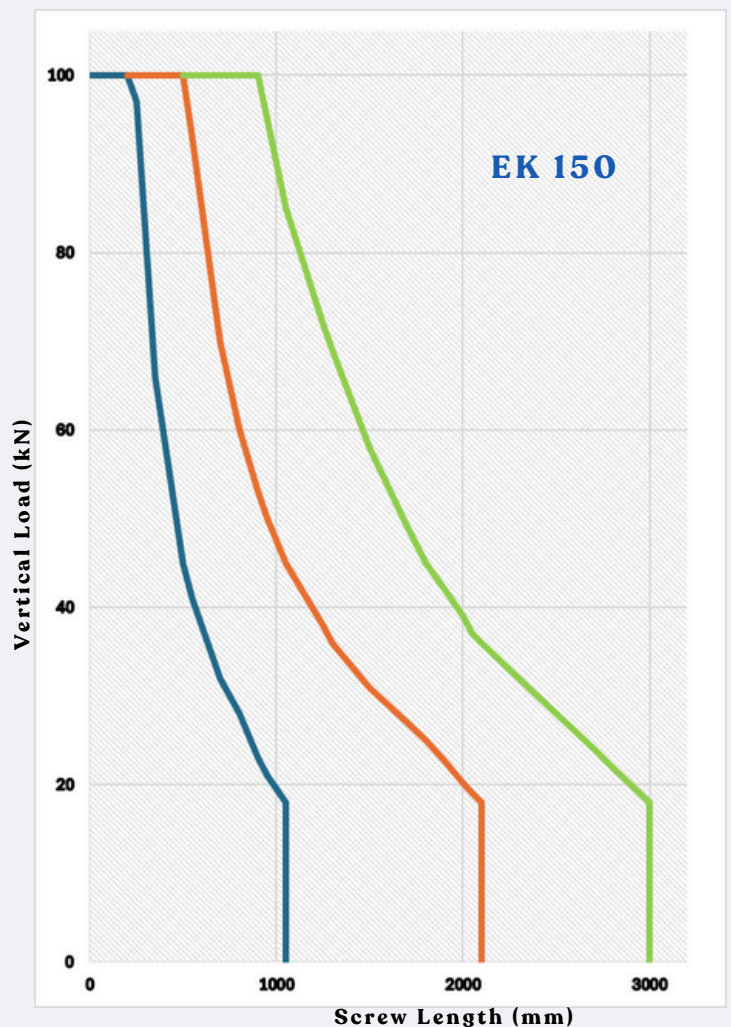
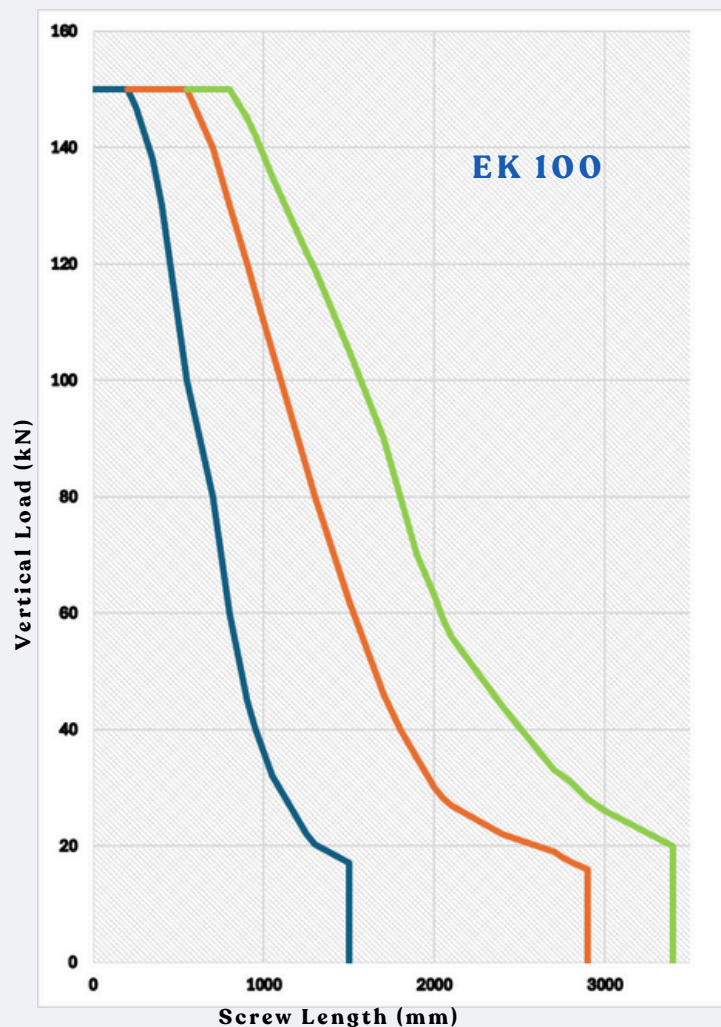
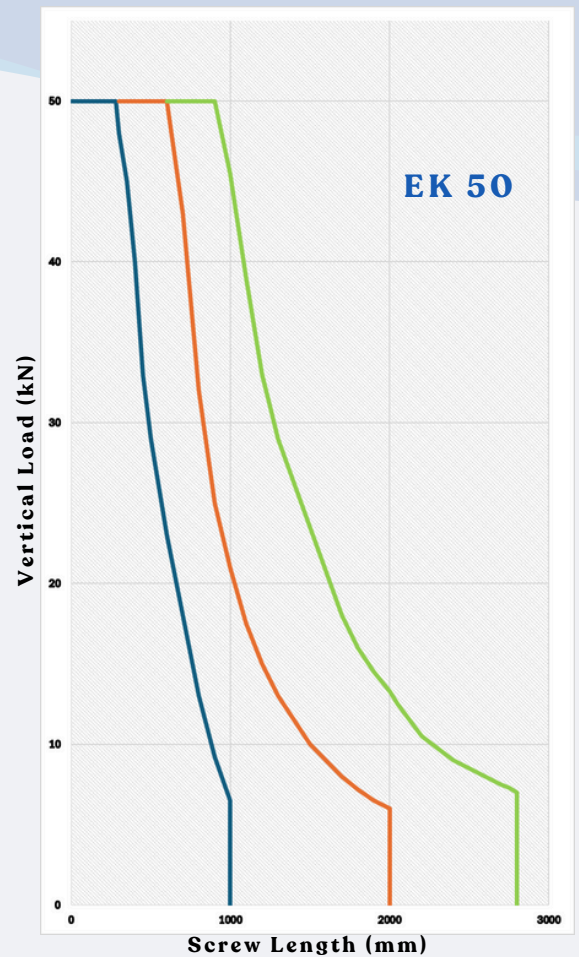
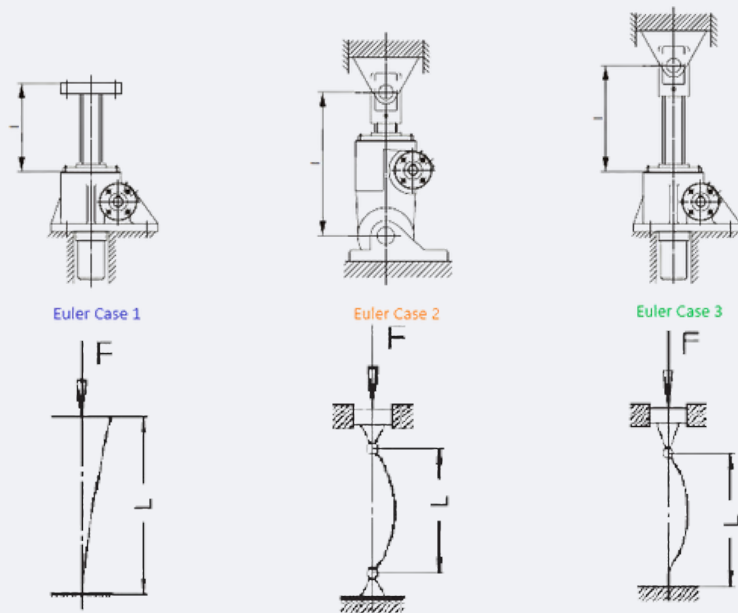
Screw Jack	Typ	Speed	Screw	Ratio	Stroke/ 1 Tour
EK100-VH	Screw Type	Fast	Tr 55x12	8:1	1,50 mm
EK100-VL		Slow		24:1	0,50 mm
EK100-SH	Nut Type	Fast	Tr 55x12	8:1	1,50 mm
EK100-SL		Slow		24:1	0,50 mm

Screw Jack	Typ	Speed	Screw	Ratio	Stroke/ 1 Tour
EK150-VH	Screw Type	Fast	Tr 60x12	8:1	1,50 mm
EK150-VL		Slow		24:1	0,50 mm
EK150-SH	Nut Type	Fast	Tr 60x12	8:1	1,50 mm
EK150-SL		Slow		24:1	0,50 mm

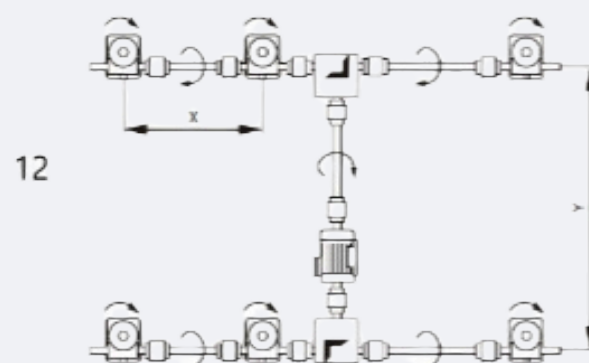
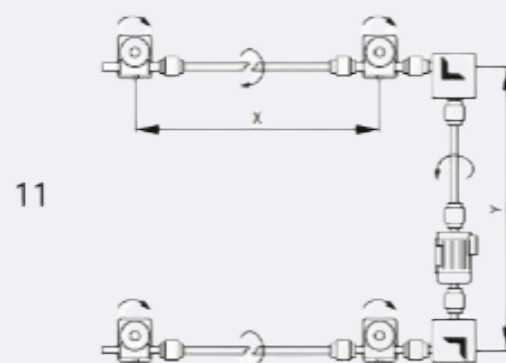
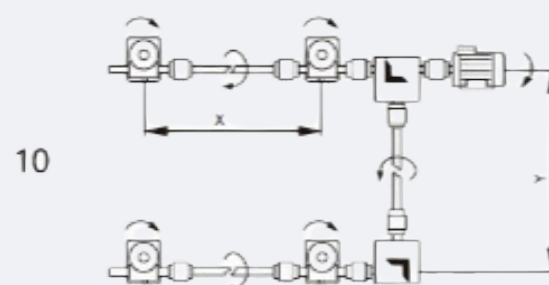
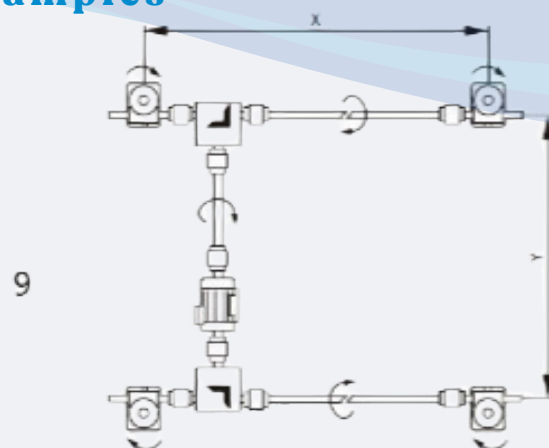
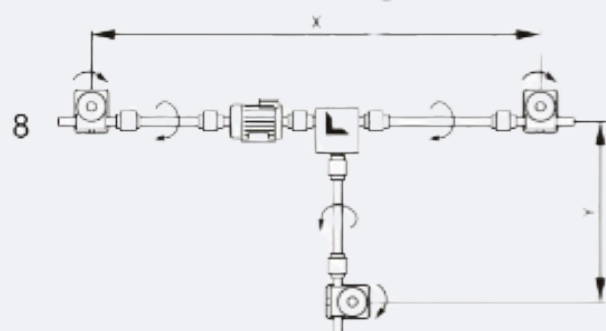
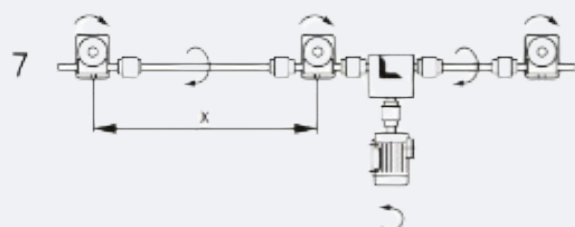
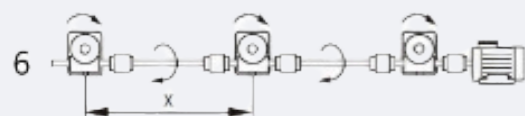
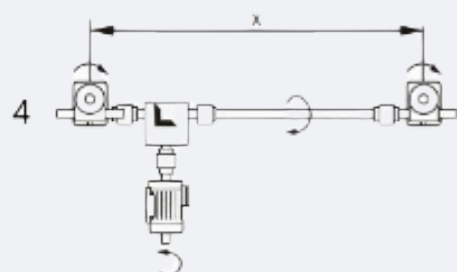
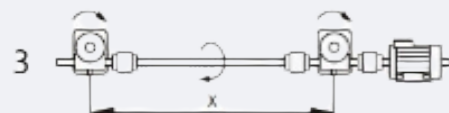
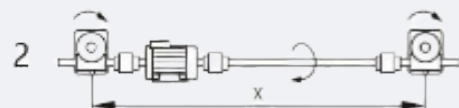
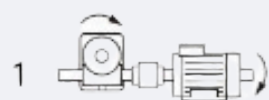
Calculations (EK 50- EK100- EK150)

Buckling Loads on Screw (kN):

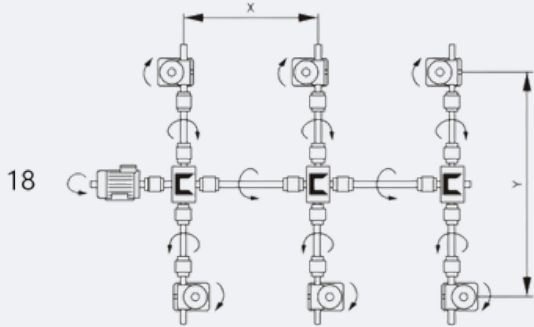
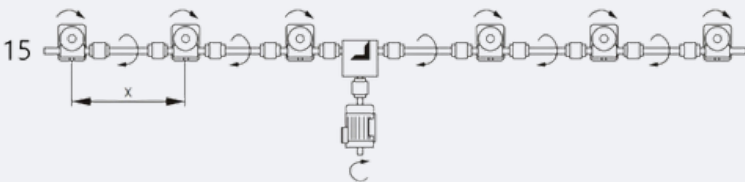
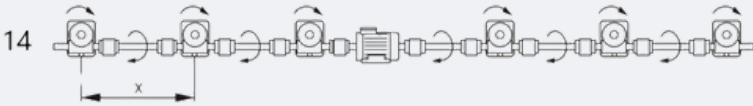
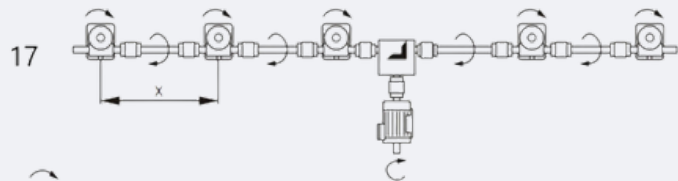
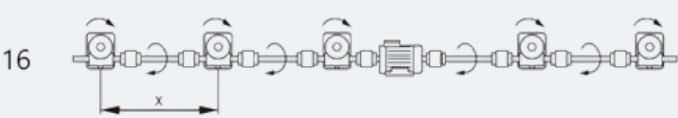
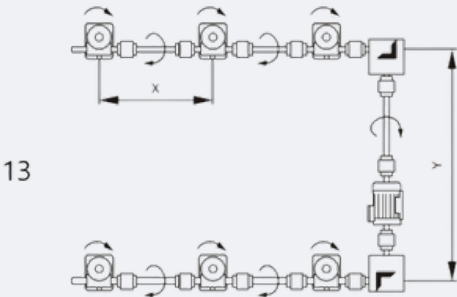
The load carrying capacity of screw jacks varies according to the length of the screw. The load carrying capacity varies according to the length of the screw and the connection methods of the jack. The connection methods are called Euler 1,2,3. The same graphics are valid for vertical moving screw and vertical moving nut.

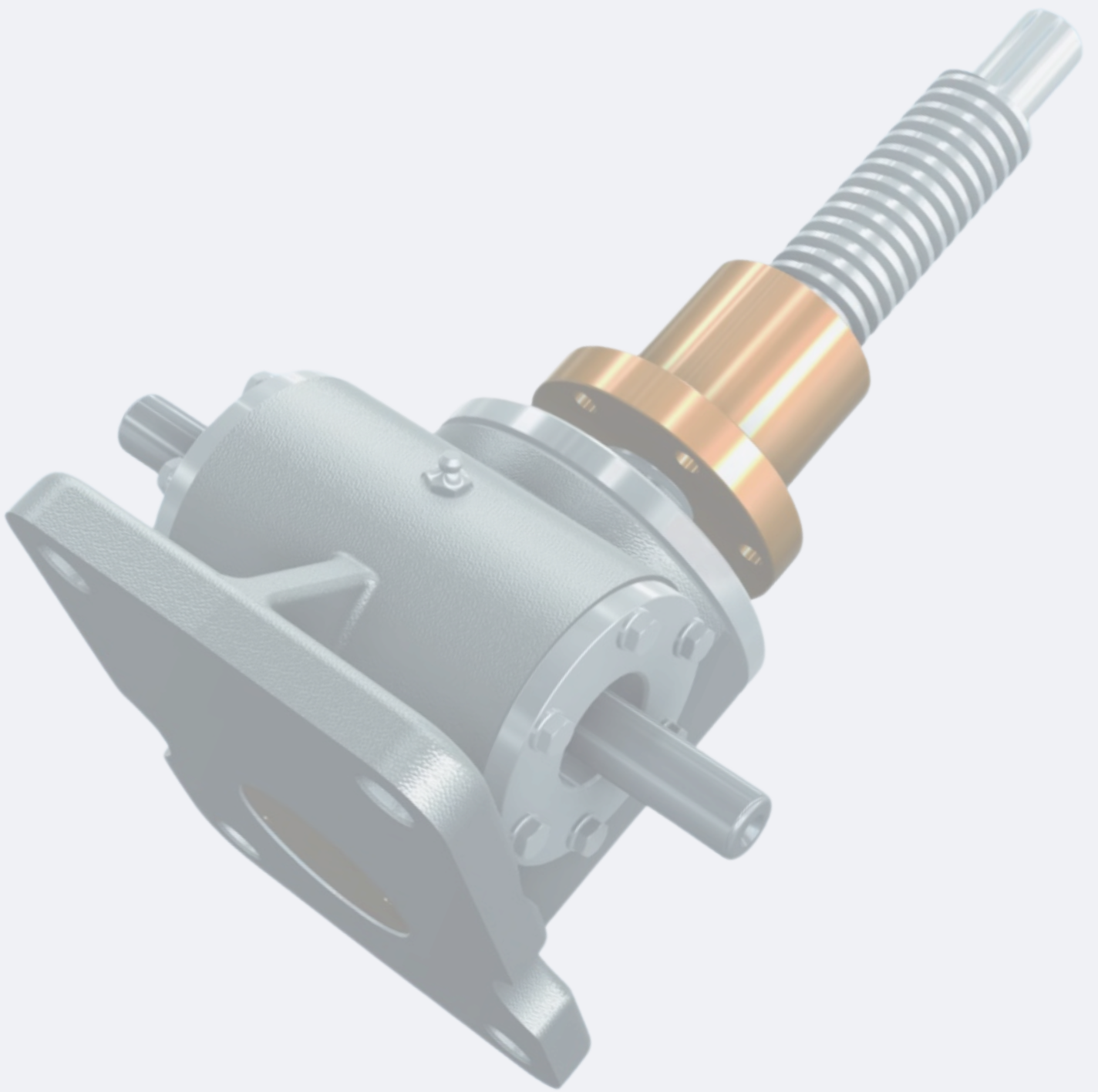


EK Series System Installation Examples



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