

JTS Series Bevel Gear Screw Jack



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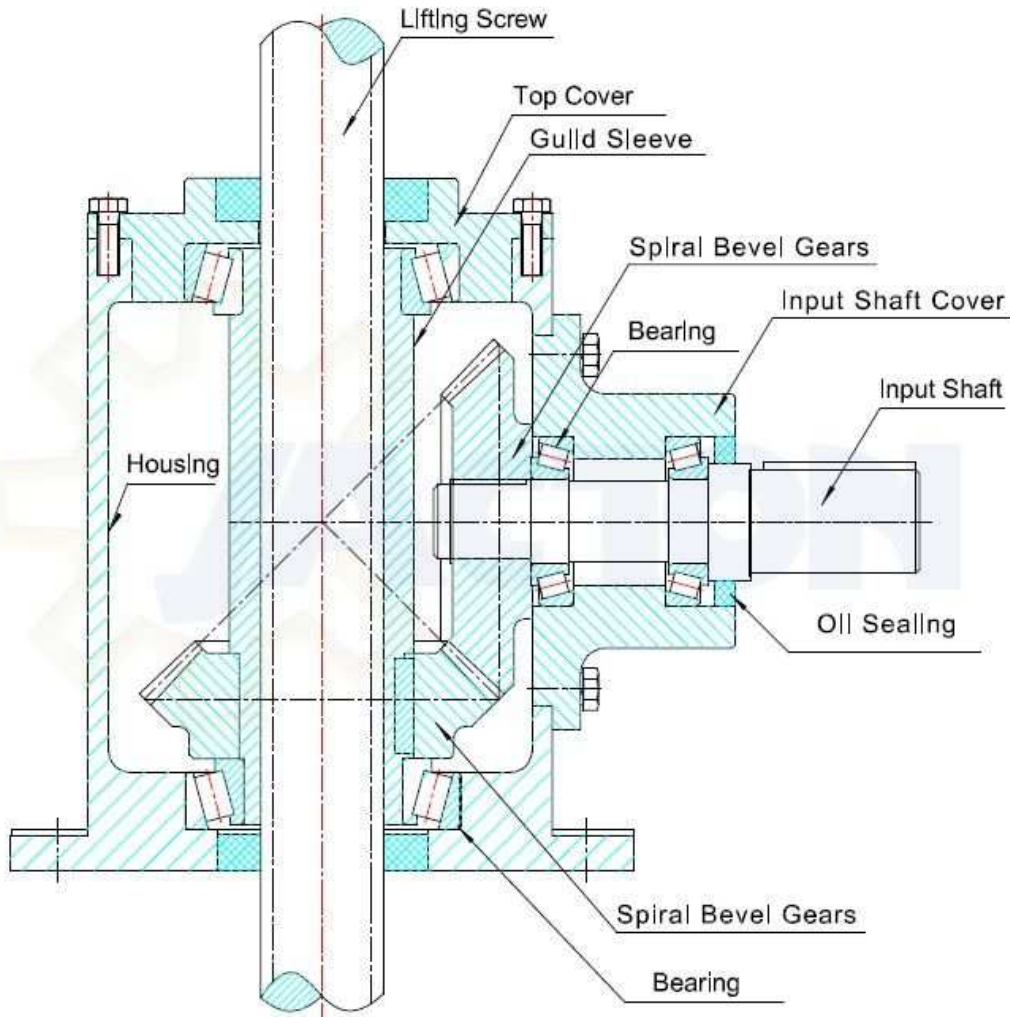
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General Information

JTS Series Screw Jack Features:

- * Model JTS25, JTS50, JTS100, JTS150, JTS200, JTS250, JTS350, JTS500
- * Precision spiral bevel gear sets drive, self-locking acme screw
- * Loading capacity from 25kN to 500kN, max. input 500rpm, high speed up to 6500 mm/min
- * Bevel gear ratios include 1:1, 1.5:1, 2:1, 2.5:1, one, two, three or four drive shafts possible
- * Linear motions: lifting, lowering, pushing, pulling, rolling, tilting and calibrating
- * No standard travel length, all screw jack stroke produced following your needs
- * Translating screw, anti-rotation keyed screw and rotating screw configurations. Anti-rotation keyed screw configuration is using a square protective pipe and square screw bottom end
- * Upright mounting, inverted mounting, double clevis pivot mounting
- * Top plate, threaded end, male clevis, female clevis and plain screw end fittings
- * Manual operation, motor driven or both
- * Single phase ac motor, three phases ac motor, dc 12v, 24v motor, ac gear motors
- * Individual or multiple bevel gear screw jack lift system arrangements
- * Compared to worm gear screw jack, bevel gear screw jack has higher efficiency, longer service life, higher speed. And no need spiral bevel gearboxes, when building a screw jack lift system.

Configurations



Spiral Bevel Gear

High purity rugged alloy steel 20CrMnTiH material
 Carburizing process, case hardened and lapped in pairs for intersecting shafts

Self Locking Acme Screw

1. Acme screw rotary cutting processing machine, high precision
2. 40Cr or C45 Steel Material, customized stainless steel screw

Guild Sleeve

1. Bronze material, high hardness, excellent wear resistance

Rugged Housing

1. CNC precision automatic lathe processing
2. Cast iron or ductile cast iron material, customized aluminum, alloy steel material

Bearing

Heavy duty tapered roller bearing

Specifications

Model		JTS25	JTS50	JTS100	JTS150	JTS200	JTS250	JTS350	JTS500	
Max. load (kN)		25	50	100	150	200	250	350	500	
Lift screw diameter (mm)		30	40	58	58	65	90	105	120	
Lift screw pitch (mm)		6	7	12	12	12	16	16	16	
Bevel gear ratio	H	1:1	1:1	1:1	1:1	1:1	1.5:1	1.5:1	1.5:1	
	L	2:1	2:1	2:1	2:1	2:1	2.5:1	2.5:1	2.5:1	
Lift screw travel stroke (mm) per turn of worm	H	6	7	12	12	12	10.7	10.7	10.7	
	L	3	3.5	6	6	6	6.4	6.4	6.4	
Max. permissible travel stroke (mm)		1500	2000	2500	2500	3000	3500	4500	5500	
Max. travel stroke (mm) under max. compression load	No Guides	250	385	400	500	600	850	900	1000	
	Full Guides	400	770	800	1000	1200	1700	1800	2000	
Worm torque (Nm) at full load	H	92	232	730	1095	1528	2020	3045	4712	
	L	46	116	365	548	764	1212	1828	2828	
Efficiency %		26	24	26	26	25	21	19.5	18	
Power (kw)		$P = T \times n / 9550$				$T - Nm$				$n - rpm$
Weight without travel(kg)		42	78	112	112	148	265	340	450	
Weight of screw per 100 mm travel (kg)		0.45	0.82	1.68	1.68	2.1	4.15	5.8	7.7	
Lubricant		N320 / N680								
Weight of lubricant (kg)		0.6	1	3.3	3.3	4.8	8.4	11.5	18.2	
H: high speed L: low speed										

Selection Guides

JTS - 100 - UR - 300 - H - II - C - HW
 1 2 3 4 5 6 7 8

1. Jack Series

JT: "Jacton" brand

S: S series bevel gear jack

2. Load Capacity

Model	25	50	100	150	200	250	350	500
Load capacity (kN)	25	50	100	150	200	250	350	500

3. Screw Configuration & Mounting Orientation

US: Upright translating screw

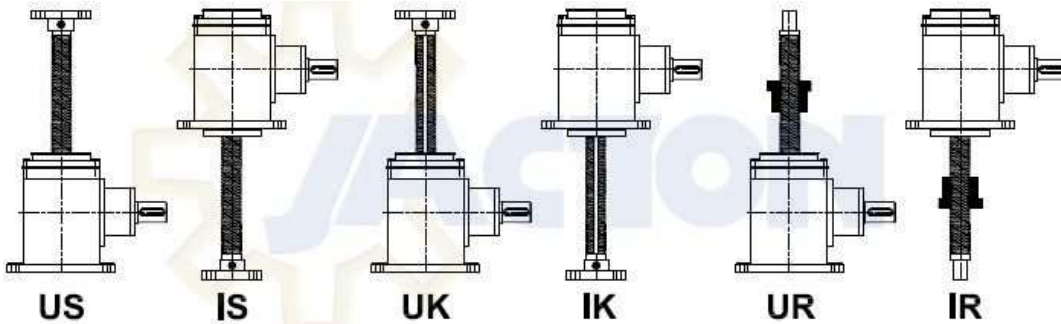
UK: Upright keyed screw

UR: Upright rotating screw

IS: Inverted translating screw

IK: Inverted keyed screw

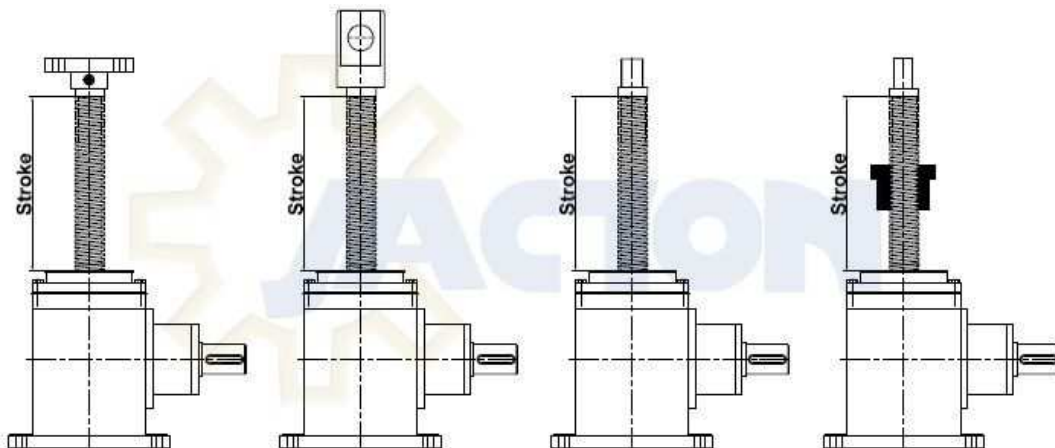
IR: Inverted rotating screw



4. Travel Stroke

300, means travel stroke 300mm

No standard travel stroke, all screw jack stroke produced following your needs



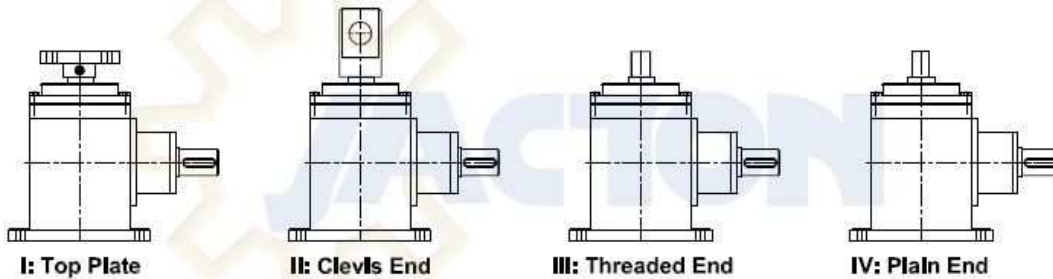
5. Gear Ratio

Each jack model has two gear ratios

Model	25	50	100	150	200	250	350	500
H: high gear ratio	1:1	1:1	1:1	1:1	1:1	1.5:1	1.5:1	1.5:1
Stroke per turn of input shaft (mm)	6	7	12	12	12	10.7	10.7	10.7
L: low gear ratio	2:1	2:1	2:1	2:1	2:1	2.5:1	2.5:1	2.5:1
Stroke per turn of input shaft (mm)	3	3.5	6	6	6	6.4	6.4	6.4

6. Screw End Fittings

bevel gear jack standard lift screw end fittings includes top plate, clevis end, threaded end, plain end. If you have your own lift screw end fitting design, we can make them following your requirements.



7. Drive Shaft Input Types

Note: drive shafts can be rotated in forward and reverse directions, and any one of the shafts can be as input shaft.

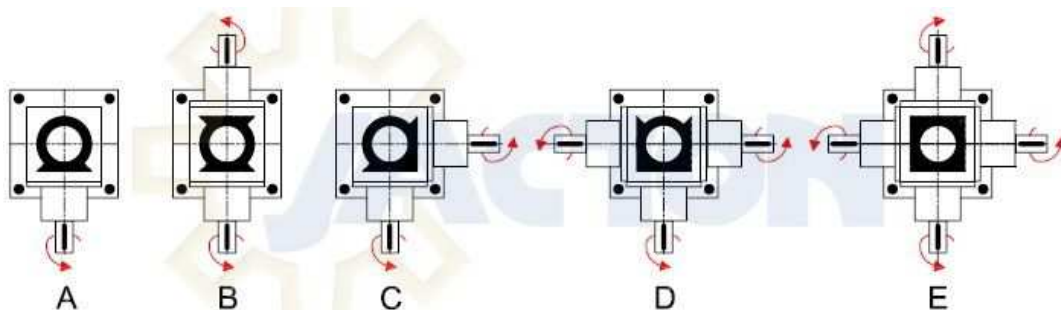
A: Single shaft drive.

B: Two inline shafts drive, input shaft clockwise rotation, another shaft anticlockwise rotation.

C: Two shafts drive right angle, input shaft clockwise rotation, another shaft anticlockwise rotation.

D: Three shafts drive, input shaft clockwise rotation, inline two shafts, one is clockwise rotation, another is anticlockwise rotation.

E: Four shafts drive, input shaft clockwise rotation, inline shaft is clockwise rotation, right angle inline two shafts, one is clockwise rotation, another is anticlockwise rotation.



8. Accessories

N: No accessory

PP: Protective pipe (lifting screw dustproof and rustproof)

BB: Bellows boot (lifting screw dustproof and rustproof)

HW: Hand wheel (hand operated jack, optional hand crank)

DC: Digital counter or digital position indicator (installed on worm shaft, precision display stroke)

EM: Electric motor (motor driven jack, optional ac motor or dc motor)

GR: Gear reducer (motor driven jack with low speed, optional gear motor, worm gear reducer, helical gear reducer)

LS: Limit switches (control stroke, when full extend or full retract travel, the motor will stop)

SN: Stop nut (installed at the bottom of lifting screw, prevent lifting screw from being removed from the jack housing)

PB: Pillow block bearing (when long distance between jack and jack, which fixes connecting shaft, avoid swing)

FC: Flexible coupling (for shafts connection like connecting shaft and worm shaft)

CS: Connecting shaft (for connecting drive shafts like screw jack lift system)

BG: Miter gearbox (right angle transmit rotary motions, power or torque in screw jack lift system)

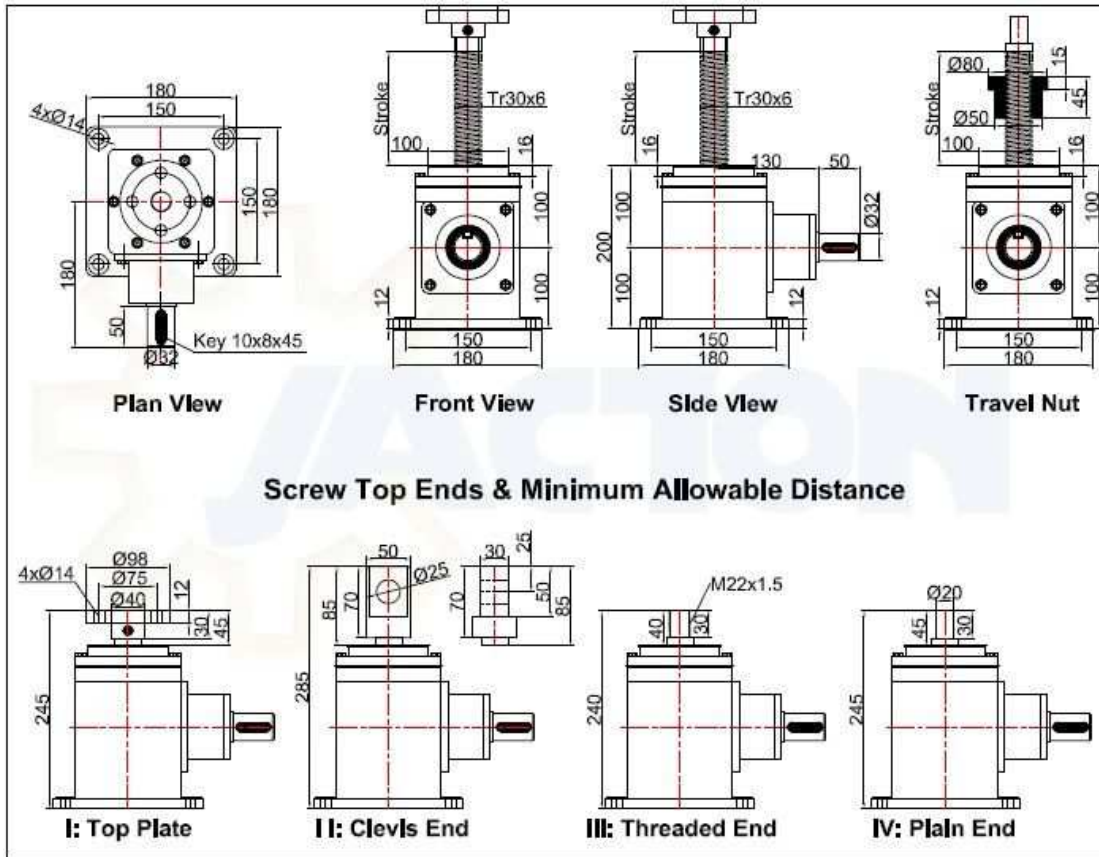
SP: Swivel plate or trunnion mounting plates (installed on jack base with swivel pins for pivoting of loads)

SM: Swivel mounting base or trunnion mounting base (matching swivel plate or trunnion mounting plates)

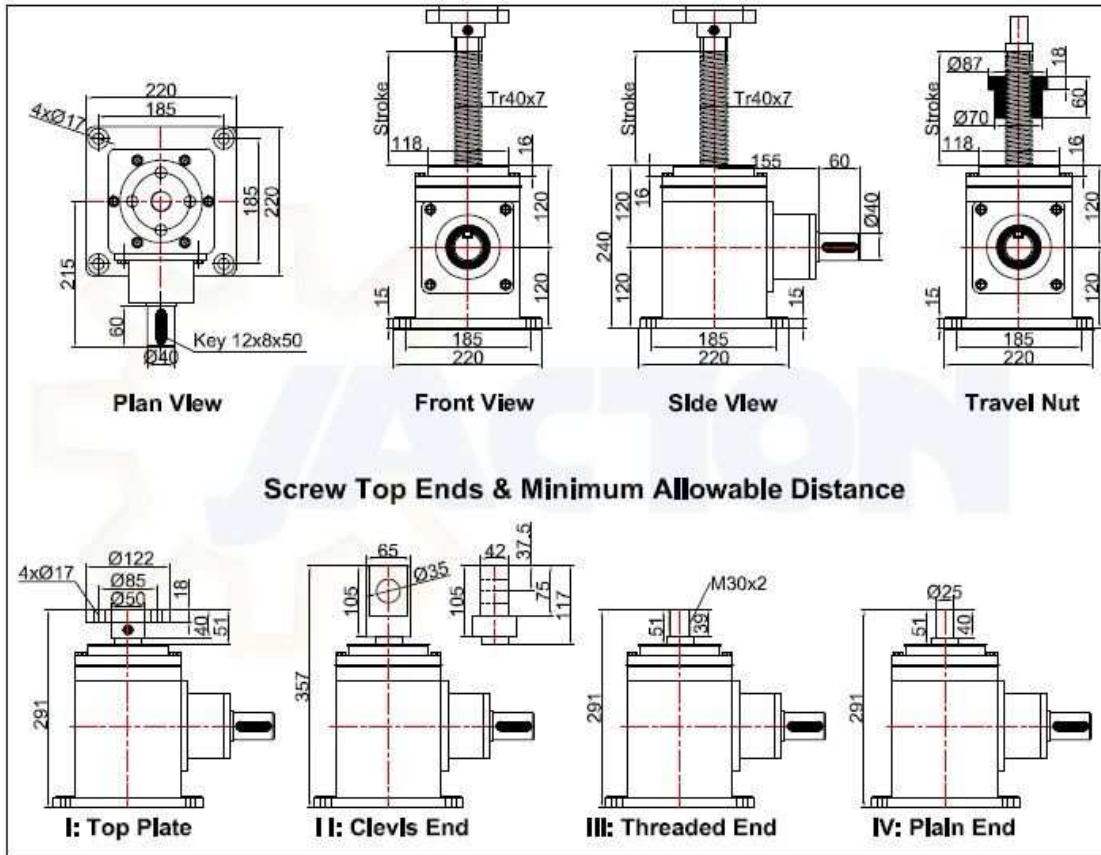


Dimensions

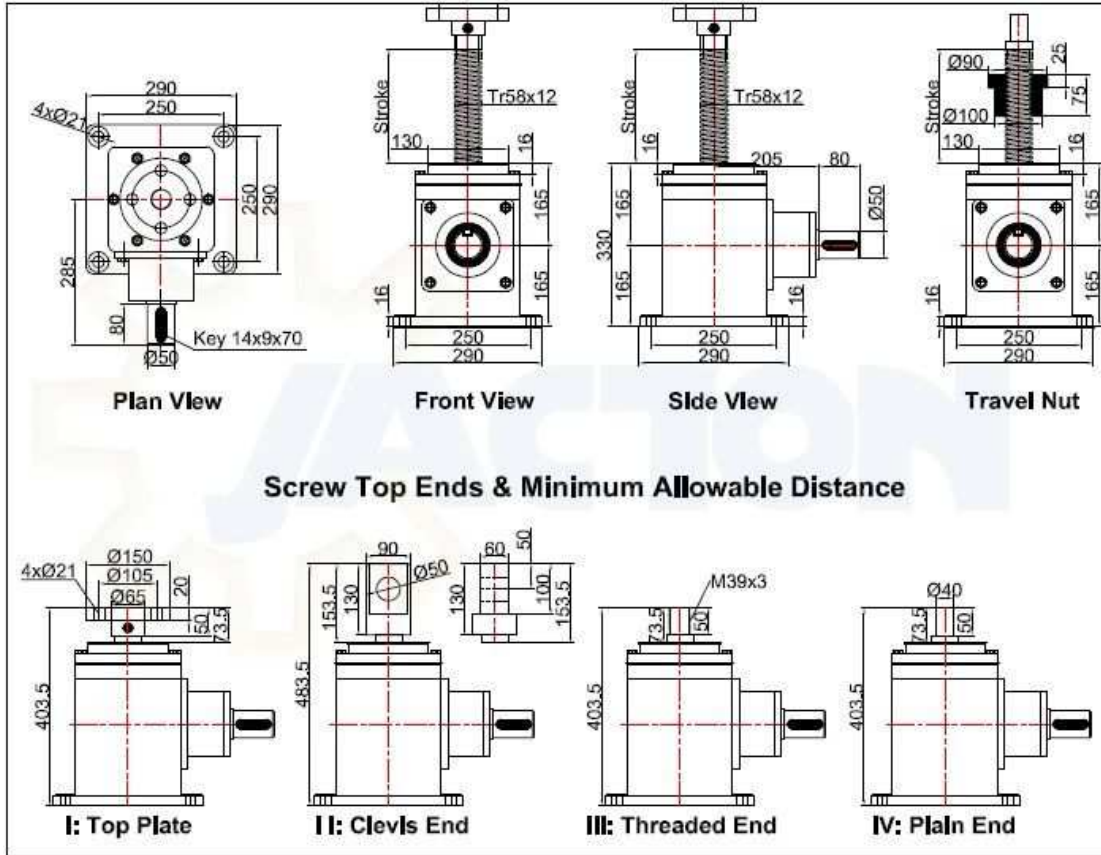
Model JTS25 (Tr 30x6) Dimensions



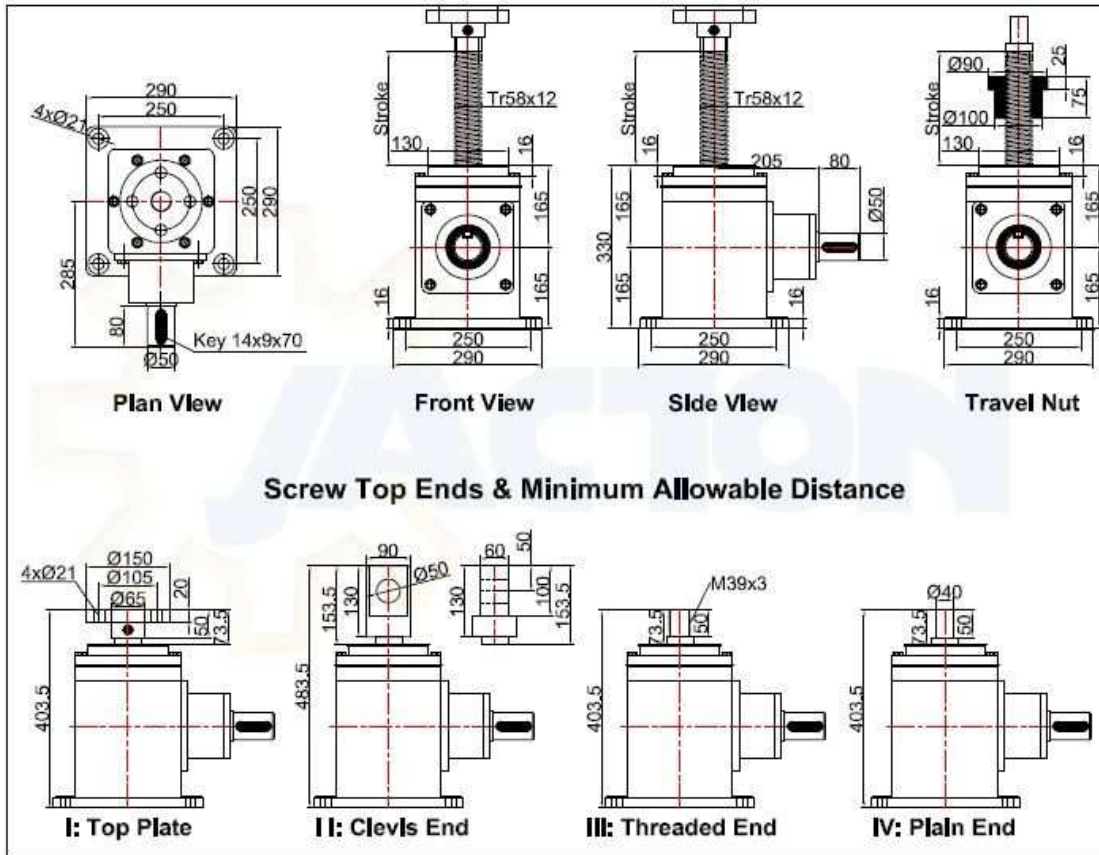
Model JTS50 (Tr 40x7) Dimensions



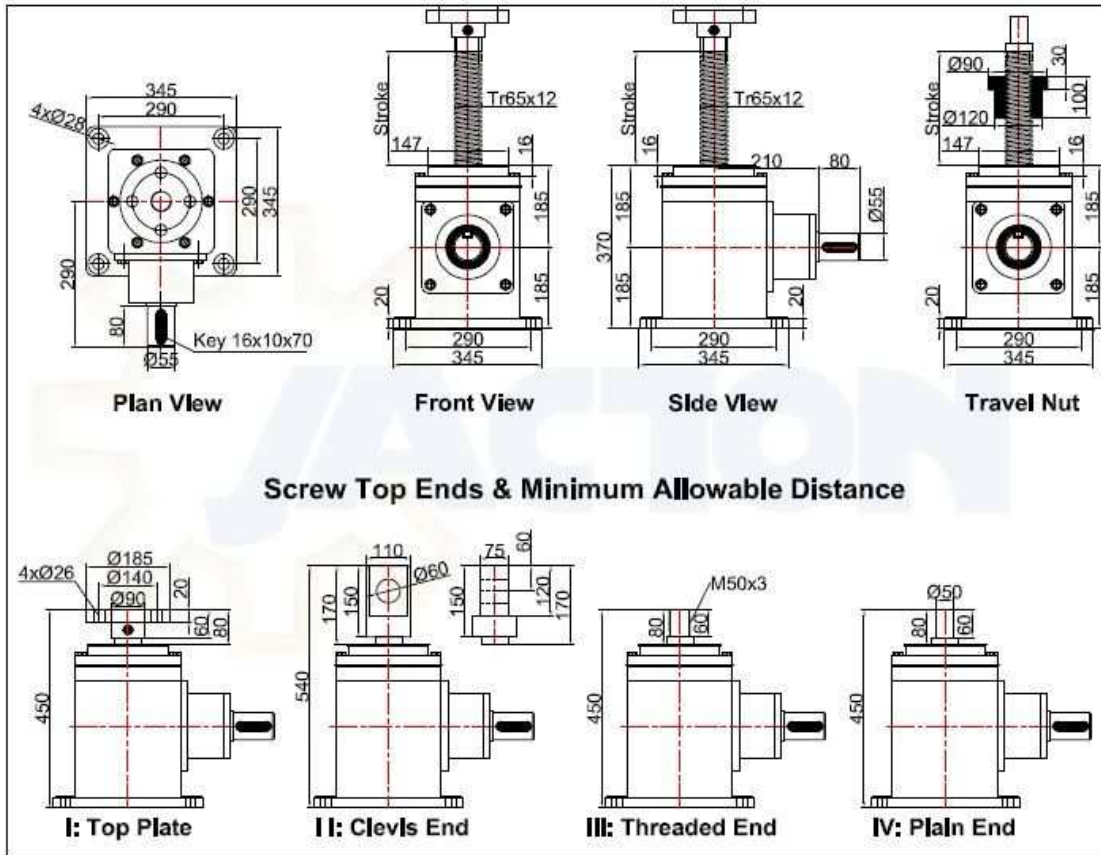
Model JTS100 (Tr 58x12) Dimensions



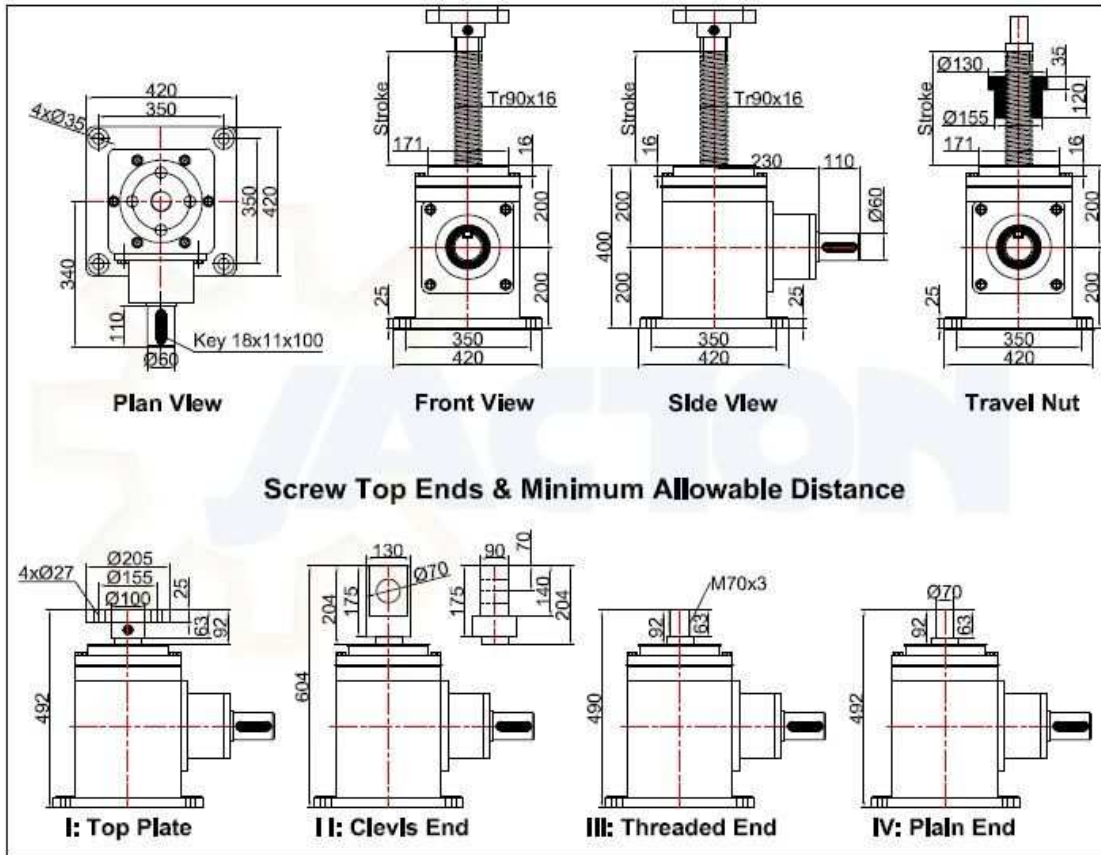
Model JTS150 (Tr 58x12) Dimensions



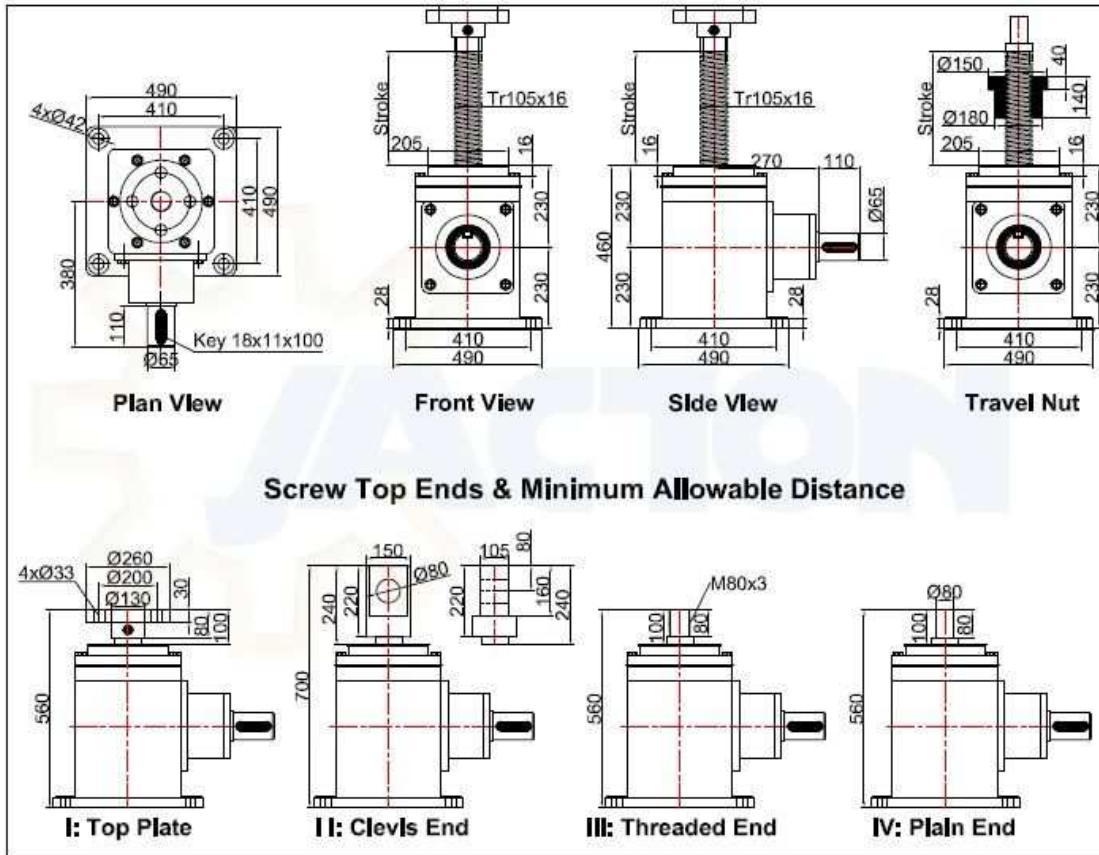
Model JTS200 (Tr 65x12) Dimensions



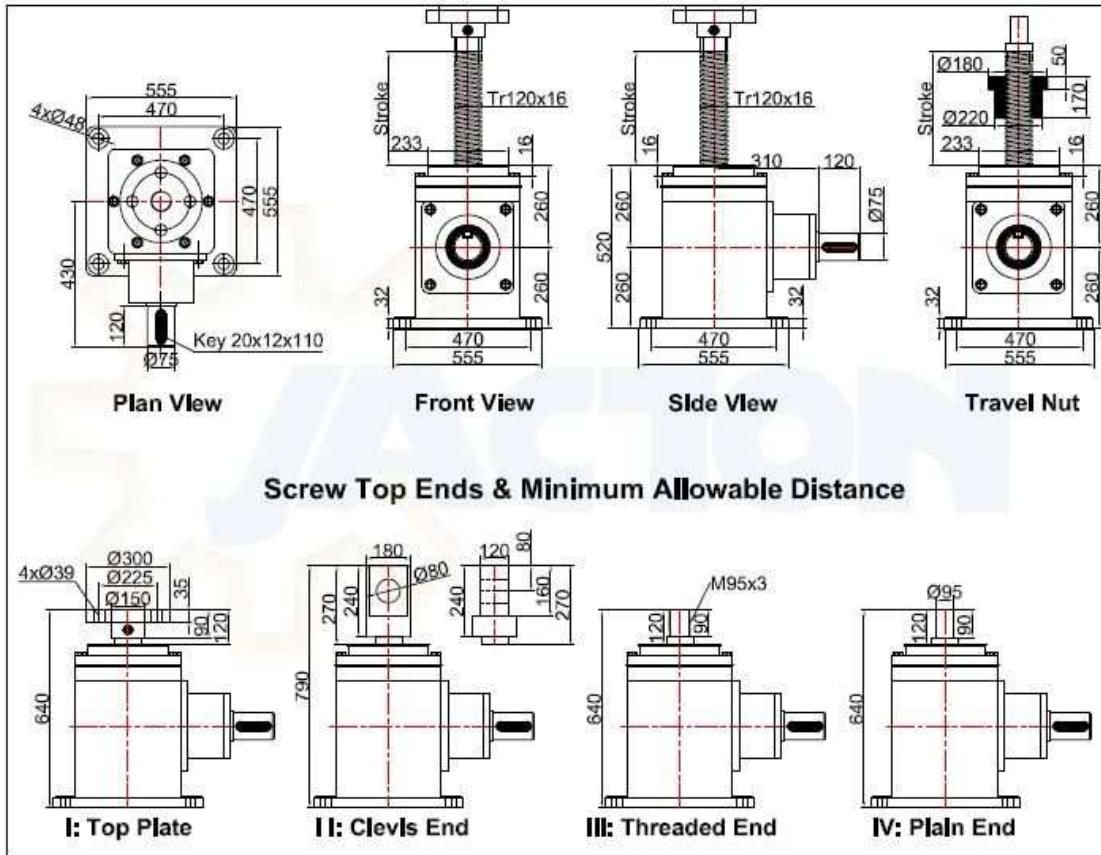
Model JTS250 (Tr 90x16) Dimensions



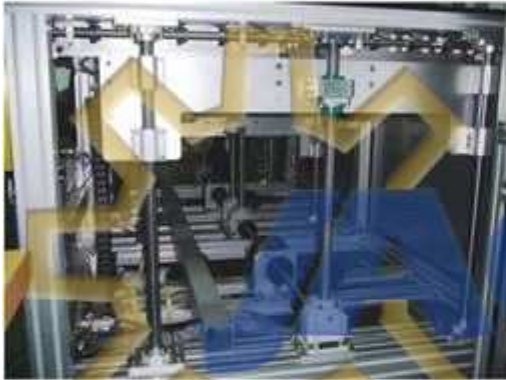
Model JTS350 (Tr 105x16) Dimensions



Model JTS500 (Tr 120x16) Dimensions



Applications



When JTS series bevel gear screw jack is application in bevel gear screw jack lift system, spiral bevel gearbox is not required.

Operation Manual

Installation

1. Bevel gear screw jack should be mounted in a vertical position if liquid oil lubricated. For horizontal mounting contact Jacton Electromechanical Co.,Ltd
2. All loads should be centered on the lifting screw. Excessive side loads will result in increased wear and possible failure.
3. Lifting screws should be plumb, line shaftings should be aligned precisely.
4. Auxiliary equipment and parts assembled on projecting shafts should be installed as close to the housing as possible.
5. Parts should not be fitted so tightly that the force required to assemble could damage the jack.
6. Rotate the main shaft by manual operation after bevel gear screw jacks, spiral bevel gearboxes, couplings and line shaftings are assembled and before connecting power source or applying load. The system should operate freely without binding.

Operation

1. Pinion shaft speed should not exceed 1500rpm.
2. If necessary to operate bevel gear screw jacks at extreme limits of travel, it should be done cautiously. Screw is not retained in housing, a stop nut or limit switch may be furnished. Contact Jacton Technology Co.,Ltd.
3. For bevel gear screw jacks are not equipped with rubber boots, care should be taken to prevent dust and dirt from accumulating on the lift screw threads, whenever possible return jacks to retracted position.
4. Your Jacton jack is a precise piece of equipment, treat it as such. Avoid overloading and excessive pinion shaft speeds. If properly installed and maintained, your Jacton jack should give years of satisfactory service. If repair parts are required, refer to the parts list included in this manual.

Lubrication

1. Bevel gear screw jacks are designed for oil bath operation except upper bearing. Fill oil to recommended level prior to operation and when below recommended level. Operation without proper lubrication will result in severe damage.
2. For normal operation screw and upper bearing should be greased. Rub grease on to the screw. Apply grease to bearing through fitting. Oil level should be checked by removing the upper pipe plug on the side of the jack. This should be done at least once a month. Under severe use grease upper bearing and check grease on screw at least once a week.

Maintenance

1. Check pinion shaft for excessive backlash. Backlash can be eliminated by removing pinion shaft cover and removing shims as required. Replace pinion shaft cover and tighten screws. If this does not eliminate backlash, then pinion should be replaced.
2. Bevel gear screw jack nut acme threads are main load supporting members. If these threads wear too thin the jack could fail. Determine wear by checking jack screw end play at least once a month. Check wear more frequently for severe applications. Contact Jacton Electromechanical Co.,Ltd.

Company History

In 1997, Established Jacton Hardware Fabrication Plant, mainly processing kinds of hardware following customers requirements. Occupied 500 square meters.

In 2000, Established domestic sales department, started to develop local market, mainly processing gear transmission parts such as worm and worm gear, acme threads screw, square threads screw and acme lead screw nut. Meanwhile, sales also sell straight bevel gear and spiral bevel gears for customers.

In 2002, According to some regular customers of steel plants and machines manufacturers, which used Taiwan screw jacks and miter gearboxes, due to long delivery and high price, would affect the normal operations. Jacton Hardware Fabrication Plant started to processing JT acme screw jack and JT miter gearbox following above customers samples.

In 2003, Established engineering department, research and development others models of JT acme screw jack and JT miter gearbox, and draw some factory production drawings and local sales' customers drawing with 2d autocad software.

In 2005, According to local market demands, Jacton Hardware Fabrication Plant is committed to research and development JB/T8809-1998 standard JTW worm screw jack, JTM machine screw jack, JTB ball screw jack and JTP cubic body miter gearbox.

In 2006, Because of local markets fiercely competitive. Established Hongkong office-Jacton International Limited with own US dollars and EURO account. Established international sales department, focused on overseas markets. Meanwhile, "JACTON" as company only brand.

In 2008, According to intl sales market report, cubic body screw jacks and another type cubic body miter gearboxes are very popular in Europe and America markets. After managements meetings, we started to develop JTC cubic screw jack, JTS high speed bevel gear jack, JTV cubic body miter gearbox and JTA corrosion resistance aluminium body miter gearbox.

In 2009, Jacton Hardware Fabrication Plant extension, occupied 5000 square meters. Company improves the processes and products through technology investment, brings in advanced technology, production and testing equipment.

In 2010, Jacton Hardware Fabrication Plant Passed ISO9001:2008 quality management system, we are strictly implement the work flow of ISO9001:2008 certifications, which ensures oversea and local customers are satisfaction with our screw jacks and miter gearboxes and fast delivery time.

In 2012, In order to facilitating management, according to management decisions, sales department and design department moved to Taibao business building. Meanwhile, Jacton Hardware Fabrication Plant changed to be Dongguan Jacton Electromechanical Co.,Ltd.

Contact Us



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