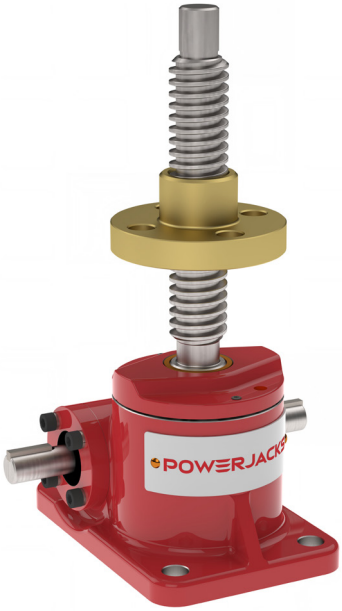
M-Series Screw Jacks

- Inch Machine Screw Jack
- Inch Stainless Steel Machine Screw Jack
- Inch Ball Screw Jack

POWERJACKS
PRECISION ACTUATION

POWERJACKS

Best engineered solution for precision linear actuation, power transmission & jacking systems.



Capability

OUR EXPERTISE HAS BEEN BUILT ON A HISTORY OF MORE THAN 100 YEARS OF ENGINEERING, CRAFTSMANSHIP, VISIONARY DESIGN, QUALITY MANUFACTURE AND CUSTOMER CARE.

Power Jacks is a manufacturing/engineering company specialising in the design and manufacture of actuation, lifting and positioning solutions for applications in Industrial Automation, Energy, Defence, Medical, Transport, and the Civil Engineering sectors.

Headquartered near Aberdeen in the UK, the company is the UK's largest screw jack manufacturing facility, that uses the latest engineering technologies to deliver quality products (ISO 9001) that offer reliability, performance and economy.

Power Jacks deliver this high quality service in a safe (ISO 45001) and environmentally friendly (ISO 14001) working environment thanks to the highly trained, flexible and motivated teams that work throughout the business driving the company to higher levels of performance.

We know our customers demand our engineering expertise to help find a solution for their applications. We take pride in designing and delivering the best solution using standard or special designs that help improve your business.

Our Vision is to become the partner of choice for our products globally
Our Mission is to provide high quality lifting & positioning solutions.

Global Reach

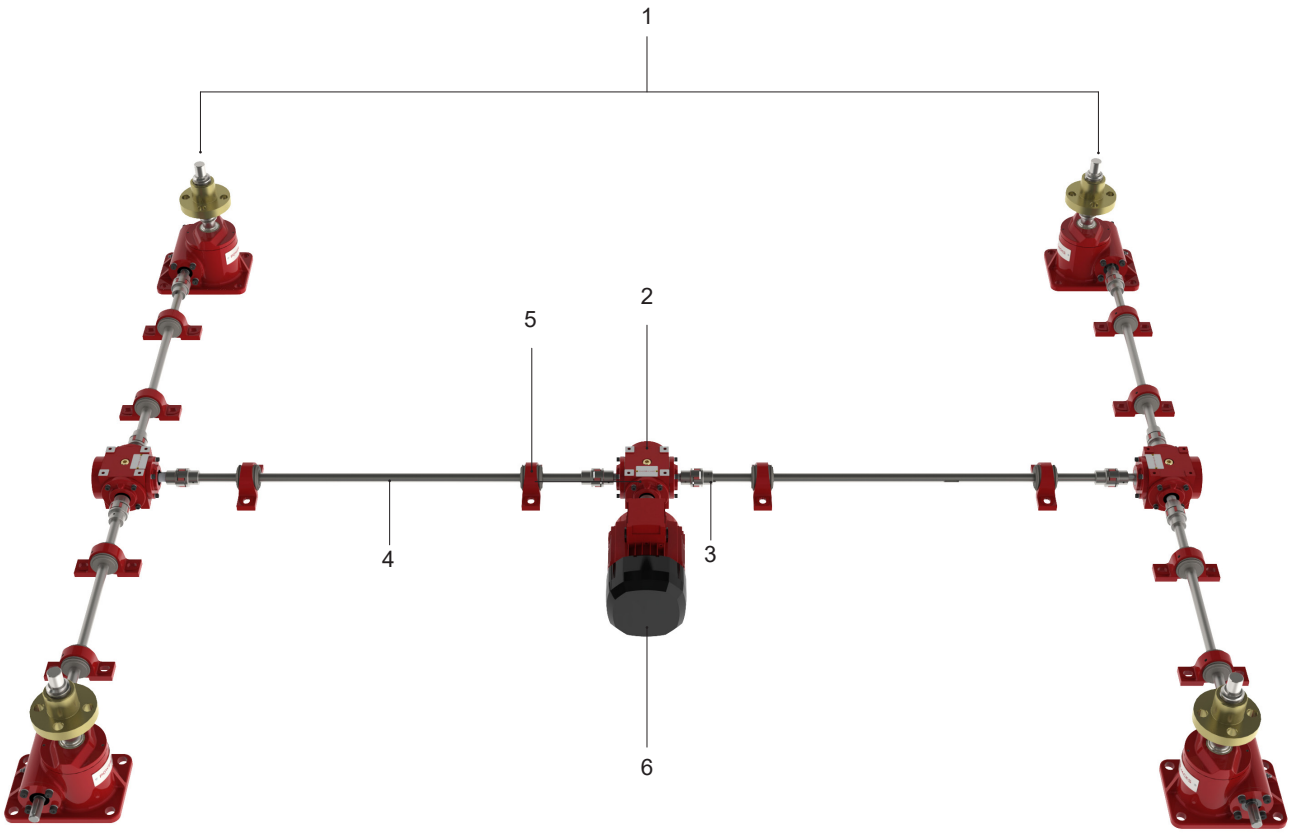
Power Jacks has local representation in 26 countries and supplies its products to more than 80 countries worldwide.

A global reach with a local service as we work closely with our customers to ensure the best solution for all their Electro-Mechanical solution applications.

- Headquarters & Factory
- Local Power Jacks Sales Offices
- Local Representative

Screw jacks can be connected together in systems so that multiple units can be operated and controlled together. These jacking system arrangements or configurations can be built in many formats with the use of bevel gearboxes, motors, reduction gearboxes, drive shafts, couplings, plummer blocks and motion control devices.
Four of the most popular system configurations are the 'H', 'U', 'T' and 'I' configured jacking systems. Note that multiple screw jacks can be linked together mechanically or electrically. The latter is useful if there is no space for linking drive shafts.

Typical 'H' configuration System

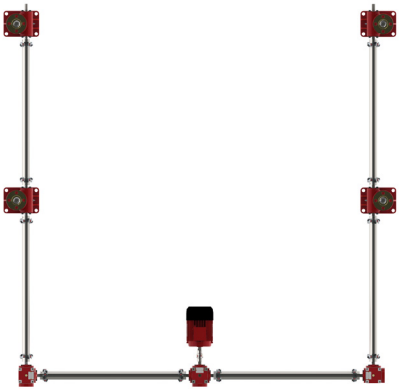


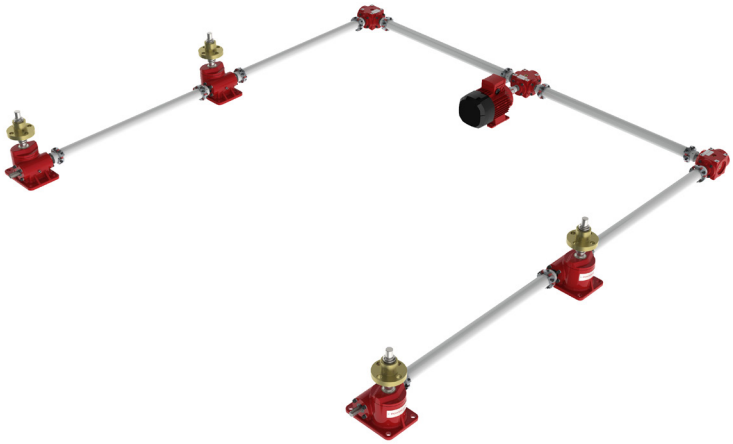
1. Screw Jack
   Build systems using screw jacks ranging from ½ to 250 Ton in capacity.
2. Bevel Gearbox
   For mechanical power transmission in jacking systems.
3. Flexible Coupling
   A range of couplings are available to suit each systems requirements including Jaw, Spacer and Geared types.
4. Drive Shaft
   Every drive shaft is manufactured to order for each system design. Self supporting drive shafts (spacer couplings) are also available.
5. Shaft Supports (plummer blocks).
6. Electric Motor
   Standard electric motors in 3 phase, 1 phase, DC and servo designs. Supplied as a basic motor or as part of a geared motor. Brakes are available for all motors.

Jacking systems are not limited to the number of screw jacks shown here. They are regularly supplied to clients with 2, 4, 6, 8 jack systems. Larger systems can extend up to 16 or higher. With the use of electronic synchronisation/control multiple systems or screw jacks can be used in unison. Extending the possible number of screw jacks used in unison in excess of 100.

To facilitate electronic control of screw jacks, feedback devices (eg encoder, limit switch) are available, mounted on the screw jack or its motor or another system component.

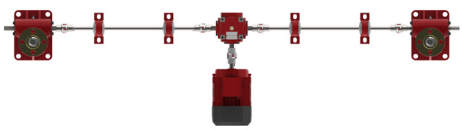
'U' Configuration System





'I' Configuration System

'T' Configuration System



Machine Screw Jacks (Including Stainless Steel)

Example: KM1819-6-BR, 20Ton inverted keyed translating machine screw jack with top plate, 6" of stroke, bellows boots fitted to protect lifting screw and a single ended worm shaft extension on the right-hand side only.

Prefix	-	Basic Model	-	Series Number	-	Stroke (Inches)	-	Suffix
K		M		1819		6		BR

Prefix

S	-	All Stainless Steel Screw Jack (standard material is 316 stainless steel)
K	-	Keyed Lifting Screw

Notes:
1. All prefixes that do not conflict with another may be used in series against one screw jack unit.

Basic Model

M	**-**	**Top Plate on end of lifting screw (standard).**
TM	-	Threaded end on lifting screw.
CM	-	Clevis End on lifting screw.
PM	-	Plain end, with no machining on end of lifting screw.
DM	-	Inverted rotating screw jack.
UM	-	Upright rotating screw jack.
CCM	-	Screw jack unit with double clevis mounting arrangement.

Notes:
1. **Translating machine screw jacks with Top Plate are the standard.**
2. For screw jacks are with plain ended lifting screws consult Power Jacks.
3. For Stainless Steel screw jacks with varying materials and/or plating consult Power Jacks.
4. For external keyed guides consult Power Jacks.

Series Number

Series Number	Capacity (US Short Ton)	Housing Style	Design Notes
2625	0.5	1	Not available in Stainless Steel
2501	1	1	Not available in Stainless Steel
1802	2	2	
1902	2	3	Same performance as 1802. Not available in Stainless Steel.
1805	5	3	
1810	10	3	
1815	15	3	
1820	20	3	
1825	25	3	
1835	35	3	
1850	50	2	
1875	75	2	Not available in Stainless Steel
1899	100	4	
18150	150	4	Not available in Stainless Steel
2250	250	5	Not available in Stainless Steel

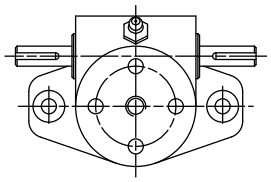
Notes:
1. 1 US Short Ton = 2000 lbs

The Series Number needs to be modified as follows for each of the main screw jack configurations.

Model Type	Action	Example
Upright Translating Screw	None	1805 = 5 Ton Upright Translating Screw Jack
Inverted Translating Screw	Decrease the Series Number by 1	1804 = 5 Ton Inverted Translating Screw Jack
Rotating Screw	Increase the Series Number by 1	1806 = 5 Ton Rotating Screw Jack*
Anti-Backlash	Replace the first digit in the Series Number by 4	4805 = 5 Ton Upright Translating Screw Jack with Anti-Backlash

Note *Upright & Inverted orientation is designated by letters in the "Basic Model".

Housing Styles:



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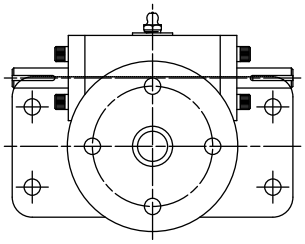

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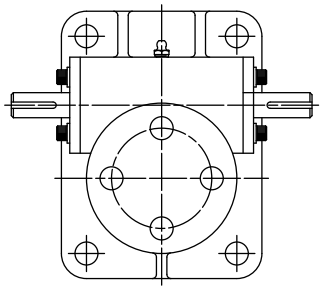

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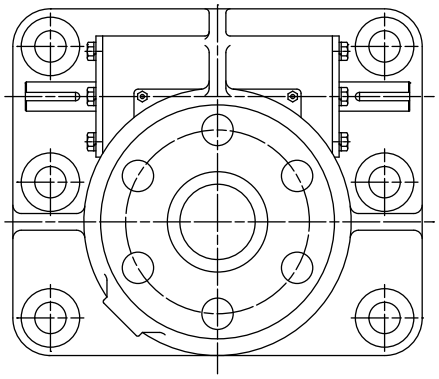

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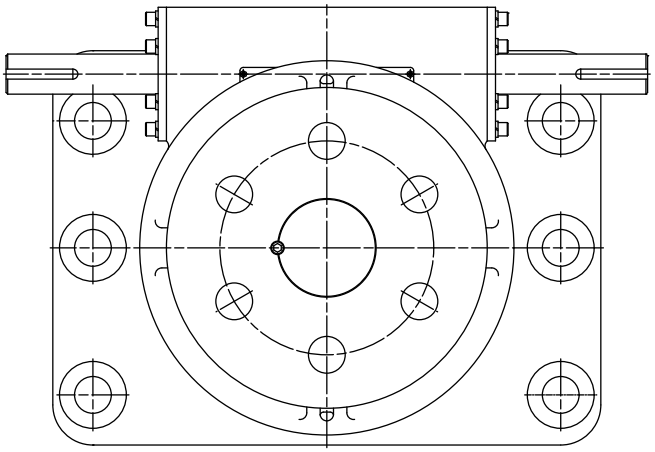


Style 5

Stroke

The characters appearing in this space are to indicate stroke in inches on all standard units, but not on special designs. This space on special screw jack designs is a unique identification number. The numerals do not indicate stroke or type of modification performed on special orders.

Suffix

B	-	Indicates bellows boot required to protect lifting screw.
G	-	Secondary guide for the lifting screw.
L	-	Single-end worm shaft extension on left-hand side only.
R	-	Single-end worm shaft extension or right-hand side only.
1	-	Gear Ratio "2" (optional gear ratio) selected. If not present then Gear Ratio "1" selected.
X	-	Supplied without bottom pipe, but with guide bushing.

Notes:
1. All suffixes that do not conflict with another may be used in series against one screw jack unit.

Ball Screw Jacks

Example: DM2811-6-R, 10Ton inverted rotating ball screw jack, 6" of stroke and a single ended worm shaft extension on the right-hand side only.

Prefix	-	Basic Model	-	Series Number	-	Stroke (Inches)	-	Suffix
N/A		DM		2811		6		R

Basic Model

M	-	Threaded End on lifting screw (standard).
PM	-	Plain end, with no machining on end of lifting screw on ball screw jack unit.
DM	-	Inverted rotating screw jack.
UM	-	Upright rotating screw jack.
KDM	-	Inverted rotating screw jack (specific models only, refer to charts).
KUM	-	Upright rotating screw jack (specific models only, refer to charts).
CCM	-	Screw jack unit with double clevis mounting arrangement.

Notes:
1. **Translating ball screw jacks with a threaded end are the standard.**
2. **Clevis ends and top plates are called out as a separate item on ball screw jack units.**
3. There are no keyed ball screw jacks as the ball screw track cannot be interrupted with a cut key-way, as this would permit loss of recirculating balls.
4. For external "keyed" / "Anti-Rotation" guides consult Power Jacks

Series Number

Series Number	Capacity (US Short Ton)	Housing Style	Design Notes
28631	0.5	1	Not available in Stainless Steel
2802	2	2	Standard 0.25" lifting screw lead.
28021	2	2	Standard 1" lifting screw lead.
2902	2	3	Same performance as 2802.
29021	2	3	Same performance as 28021.
28003	3	2	
2805	5	3	Standard 0.474" lifting screw lead.
28051	5	3	Standard 1" lifting screw lead.
2810	10	3	Standard 0.474" lifting screw lead.
28101	10	3	Standard 1" lifting screw lead.
2820	20	3	
2825	25	3	
2860	50	2	Standard 1" lifting screw lead.

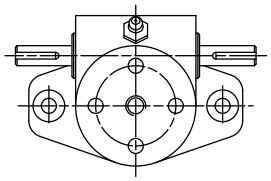
Notes:
1. 1 US Short Ton = 2000 lbs

The Series Number needs to be modified as follows for each of the main screw jack configurations.

Model Type	Action	Example
Upright Translating Screw	None	2805 = 5 Ton Upright Translating Ball Screw Jack
Inverted Translating Screw	Decrease the Series Number by 1	2804 = 5 Ton Inverted Translating Ball Screw Jack
Rotating Screw	Increase the Series Number by 1	2806 = 5 Ton Rotating Screw Jack*

Note *Upright & Inverted orientation is designated by letters in the "Basic Model".

Housing Styles:



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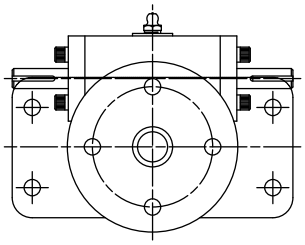

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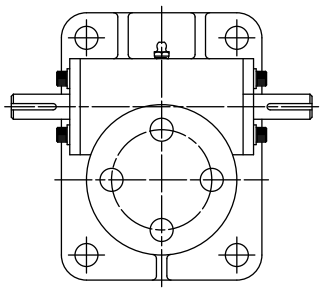

Style 3

Stroke

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Suffix

B	-	Indicates bellows boot required to protect lifting screw.
G	-	Secondary guide for the lifting screw.
L	-	Single-end worm shaft extension on left-hand side only.
R	-	Single-end worm shaft extension or right-hand side only.
1	-	Gear Ratio "2" (optional gear ratio) selected. If not present then Gear Ratio "1" selected.
X	-	Supplied without bottom pipe, but with guide bushing.

Notes:
1. All suffixes that do not conflict with another may be used in series against one screw jack unit.

Guide to Initial Screw Jack Selection Based on Required Performance

The following selection procedure is applicable for Machine Screw and Ball Screw Jacks.

Calculate Power and Torque Requirements

Select a screw jack from the tables with adequate load carrying capacity and note the screw jack efficiency.

Step 1 - Screw Jack Input Speed, N

$$N\ (rpm) = \frac{\text{Linear Speed (inch / min) x Gear Ratio}}{\text{Pitch (inch) x N° of Starts on Lifting Screw}}$$

Note:
1. Input speed should not exceed 1800 rpm.
2. Number of starts on lifting screw is usually 1, unless otherwise stated.

Step 2 - Operating Power (HP), P_{in}

$$P_{in}\ (HP) = \frac{\text{Load (lbf) x Linear Speed (inch / min)}}{\text{2750 x Screw Jack Efficiency}}$$

Note:
1. For loads greater that 25% of the nominal screw jack rated load, the torque can be considered proportional.

Step 3 - Screw Jack Input Torque

$$T_{in}\ (lbf.in) = \frac{P_{in}\ (HP) \times 63000}{N\ (rpm)} \quad \text{OR} \quad \frac{\text{Load (lbf) x Screw Pitch (inch) x N° Screw Starts}}{2 \times \pi \times \text{Screw Jack Efficiency x Screw Jack Gear Ratio}}$$

Step 4 - Mechanical Power & Torque Check

Check whether the screw jack power and torque required for the application is not greater than the maximum allowable mechanical input power (P_{max}) and Torque at Full Load (T_{max}) values specified in the screw jack performance tables.

If $P_{max} > P_{in}$ & $T_{max} > T_{in}$ then the screw jack selected is acceptable for power requirements.

Step 5 - Jacking System Power Input

Total input power for jacking system (HP), P_{sys}:

$$P_{sys}\ (HP) = \frac{\text{Power Input per Screw Jack (HP), } P_{in} \text{ x N° of Screw Jacks}}{\text{Jacking System Arrangement Efficiency x Gearbox Efficiency}}$$

Number of Screw Jacks in System	2	3	4	6-8
Jacking System Efficiency	0.95	0.90	0.85	0.80

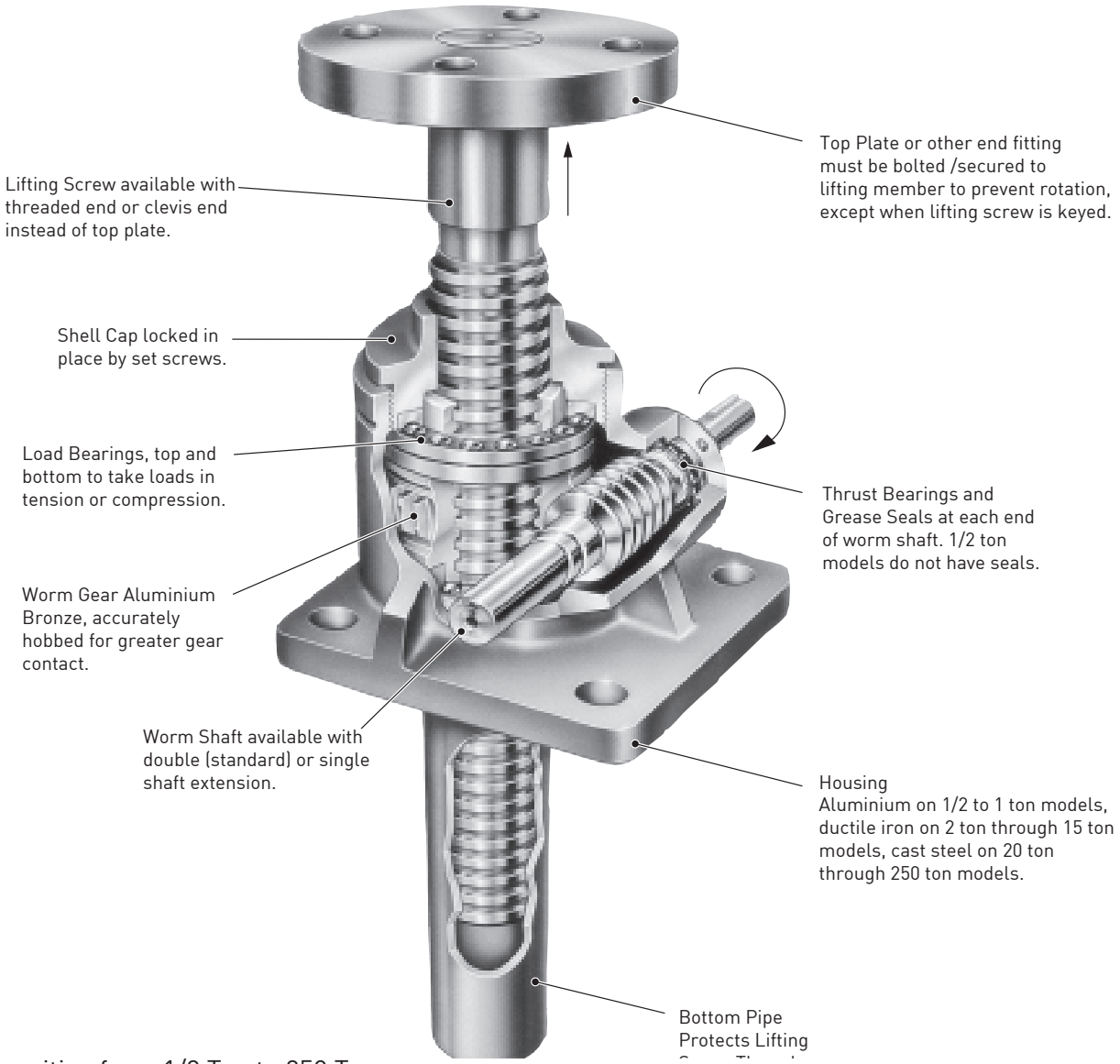
Gearbox Efficiency = Bevel Gearbox Efficiency x Reduction Gearbox Efficiency

Bevel Gearbox Efficiency = 0.95 typical

Reduction Gearbox Efficiency = Consult unit details, if no reduction gearbox present assume efficiency of 1.

Advantages:

- Positive, Mechanical Positioning
- Uniform, Lifting Speed
- Multiple Arrangements
- Anti-Backlash Feature (option)

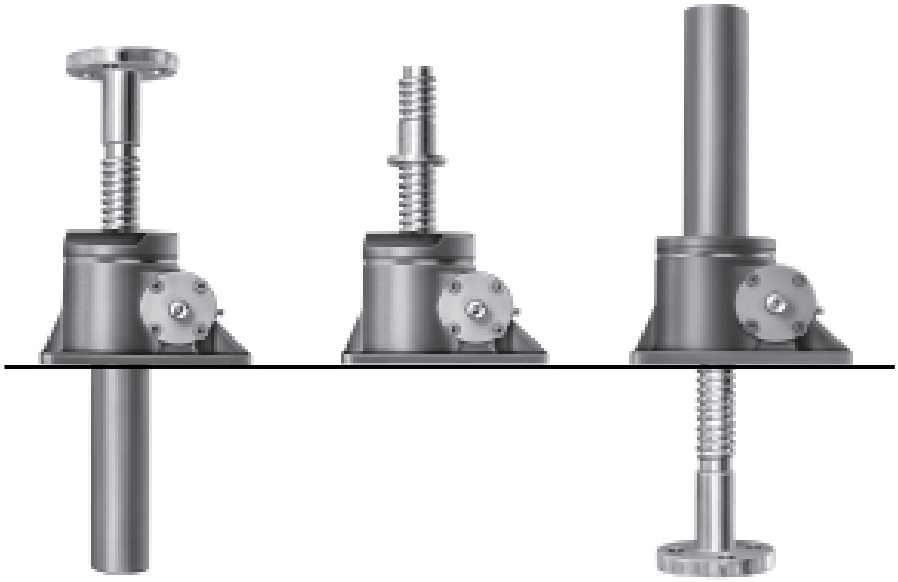


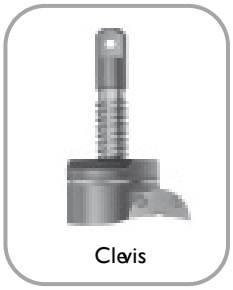
Capacities from 1/2 Ton to 250 Ton
Worm Gear Ratios from 5:1 to 50:1

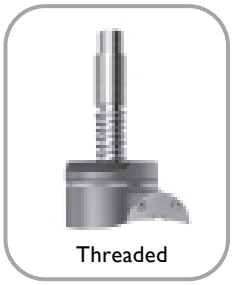
The M-Series Inch / Imperial machine screw jack range is produced in many standard models with a wide range of capabilities, there is a standard model for almost any requirement.
Operated manually or by motor units M-Series screw jack models can be used singly, in tandem or in multiple arrangements Since most capacities have a uniform lifting speed, added economy can be realised in raising unevenly distributed loads by operating the different capacities in unison.
Most M-Series machine screw jack models with higher ratios are self-locking and will hold heavy loads in position indefinitely without creep, in ideal conditions. However if self-locking is critical, a brake motor or other restraining device should be considered. They can be used to push, pull, apply pressure and as linear actuators. They are furnished with standard strokes in increments of 1 inch. Depending upon size and type of load, models are available with strokes up to 25 feet.

Features
- Precise Positioning - Can be controlled accurately for positioning within thousandths of a inch.
- Self-Locking - Will normally hold loads in position without creeping when using the higher ratio units, as long as the screw jack unit is not subject to vibration. If self-locking is critical a brake motor or other restraining device should be considered.
- Uniform Lifting Speed - Since many models have the same gear ratios, various capacities can be used in the same application to lift unevenly distributed loads with uniform speed.
- Quick, Sure Operation - Designed and built to be positive acting, for accurate response to motive power.

Options
- **Anti-Backlash Option** - Reduces vertical backlash between the screw and the worm gear nut to a
- practical minimum for smooth, precise operation and minimum wear.
- **Keyed Option** - Stops a translating screw from rotating when the screw ends are free (unconstrained radially).
- **Bellows Boot Option** - Protects the screw from dust, dirt, moisture and corrosive contaminants.
- **Double Clevis End Option** - Incorporates a special clevis end bottom pipe and a standard clevis end on the lifting screw.





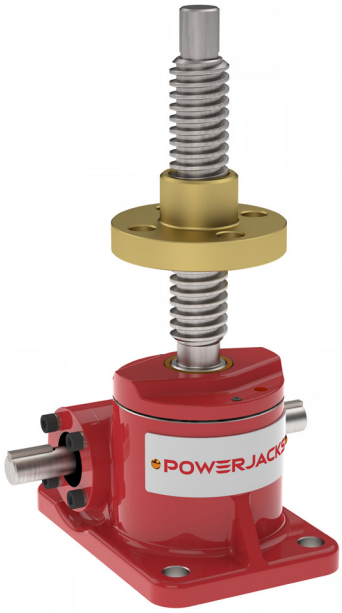


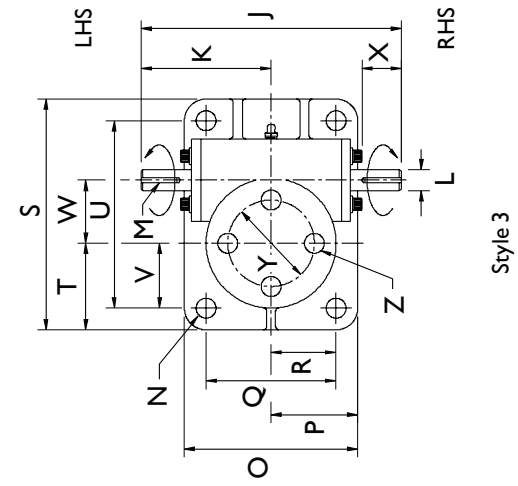
Note:
- Clockwise rotation of worm extends lifting screw on all models (refer to previous page) - counter clockwise available at extra charge.
- Unless a translating lifting screw is keyed, the top should be bolted to the lifting member to prevent the screw from rotating.
- Screw jacks are equipped with "Alemite" grease fittings.
- Recommended lubricants are listed in the installation and maintenance instructions.
- Screw jacks supplied complete with drive shaft keys.

Attachments:
- Nema C-Face flanges, motors, gear boxes, reducers and couplings are available for single screw jack drive or multiple screw jack arrangements.
- Motion control components include motor drives, encoders, limit switches and potentiometers.

Model	Upright	M2625	M2501	M1802 M1902	M1805	M1810	M1815	M1820	M1825	M1835	M1850	M1875	M1899	M18150	M2250
	Inverted	M2624	M2500	M1801 M1901	M1804	M1809	M1814	M1819	M1824	M1834	M1849	M1874	M1898	M18149	M2249
Capacity (Short Tons)		**0.5**	**1**	**2**	**5**	**10**	**15**	**20**	**25**	**35**	**50**	**75**	**100**	**150**	**250**
Lifting Screw	Diameter	0.625	0.75	1	1.5	2	2.25	2.5	3.375	3.75	4.5	5	6	7	9
	Pitch	0.125	0.2	0.25	0.375	0.5	0.5	0.5	0.666	0.666	0.666	0.666	0.75	1	1
	Form	Acme	Acme	Acme	Square	Square	Square	Square	Square	Acme	Square	Square	Square	Square	Square
Worm Gear Ratios	Gear Ratio 1	5:1	5:1	6:1	6:1	8:1	8:1	8:1	10⅔:1	10⅔:1	10⅔:1	10⅔:1	12:1	12:1	50:1
	Gear Ratio 2	-	20:1	24:1	24:1	24:1	24:1	24:1	32:1	32:1	32:1	32:1	36:1	36:1	-
Turns of Worm for 1" Stroke	Gear Ratio 1	40	25	24	16	16	16	16	16	16	16	16	16	12	50
	Gear Ratio 2	-	100	96	64	48	48	48	48	48	48	48	48	36	-
Max. HP per Screw Jack	Gear Ratio 1	1/3	1/2	2	4	5	5	5	8	8	15	15	25	25	35
	Gear Ratio 2	-	0.25	0.5	0.75	1.5	1.5	1.5	2.5	2.5	6	6	11	11	-
Torque at Full Load (in.lb)	Gear Ratio 1	21	55	120	450	950	1430	2050	3360	4000	7500	12000	16000	28100	20000
	Gear Ratio 2	-	25	50	185	490	820	1170	1900	2750	4200	6600	8600	15500	-
Screw Jack Efficiency (%) #1,2,3	Gear Ratio 1	20	24.5	23.2	22.1	22	20.2	18.8	16.4	15.8	13.8	12.4	13	14.1	8
	Gear Ratio 2	-	14	13.3	12.1	14	12.9	12	9.2	8.9	8.3	7.5	8	8.6	-
Weight with Base Stroke of 6" (lb)		2.33	5	17	35	52	66	93	181	240	410	650	1200	1350	2700
Weight for each Additional 1" Stroke (lb)		0.1	0.27	0.33	0.85	1.4	1.5	2.6	3.5	3.7	5.5	6.5	9	12.6	23

Notes:
1. Efficiency values for standard grease lubricated worm gear box and lifting screw.
2. For loads of 25% to 100% of screw jack capacity, torque requirements are approximately proportional to the load.
3. Efficiency values for standard grease lubricated worm gear box and lifting screw.
4. All M-Series screw jacks have grease lubricated gearbox and lead screw as standard.
5. Designs and Performance values subject to change without notice.





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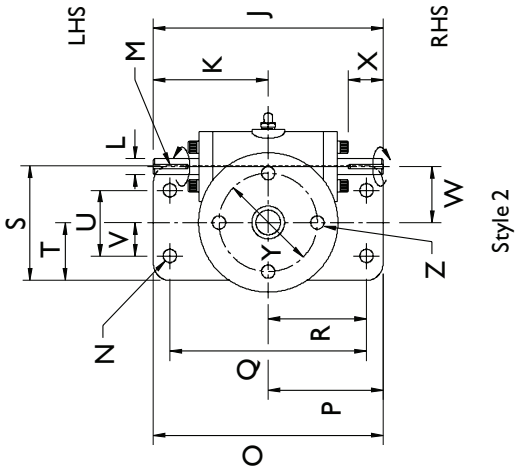

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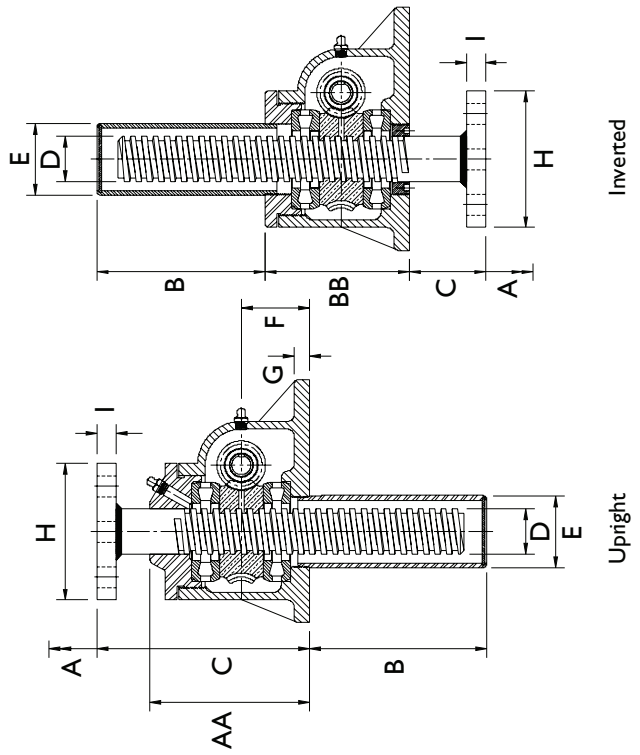
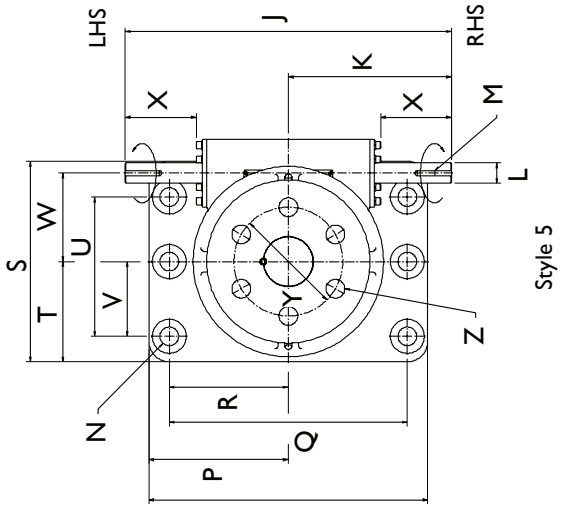
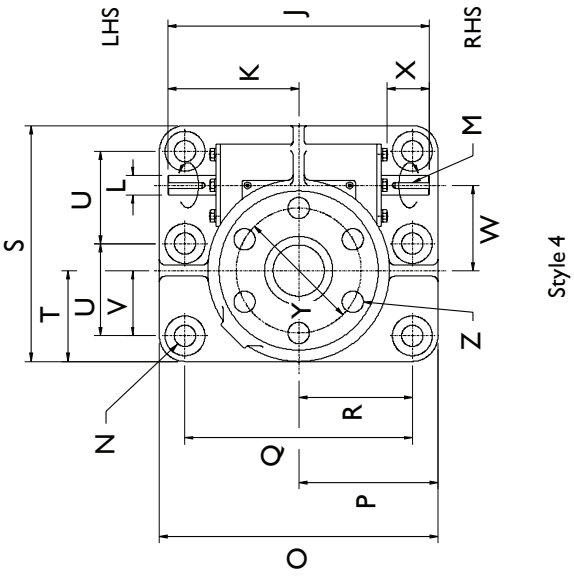


Inverted

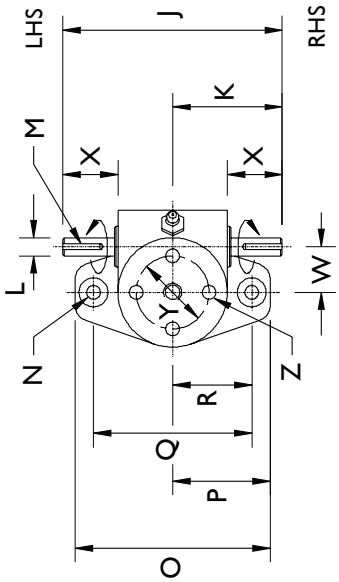
Upright



Style 5



Style 4



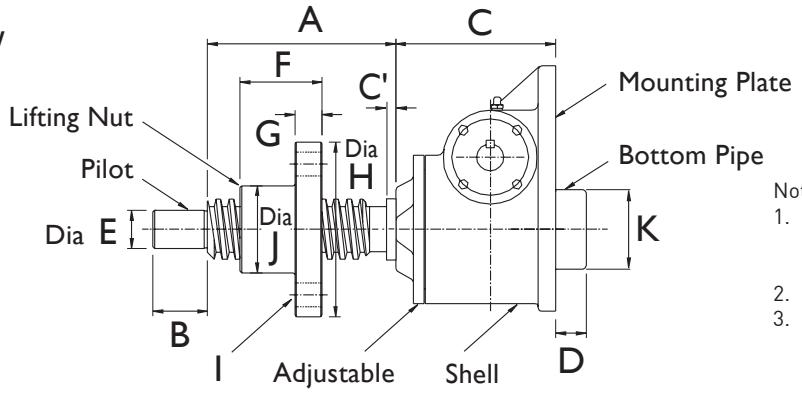
Style I

Note
1. All dimensions in inches
2. Dimensions subject to change without notice
3. LHS = Left Hand Side
4. RHS = Right Hand Side

Model		M2625	M2501	M1802	M1902	M1805	M1810	M1815	M1820	M1825	M1835	M1850	M1875	M1899	M18150	M2250
	Upright															
	Inverted	M2624	M2500	M1801	M1901	M1804	M1809	M1814	M1819	M1824	M1834	M1849	M1874	M1898	M18149	M2249
Capacity	(Short Tons)	0.5	1	2	2	5	10	15	20	25	35	50	75	100	150	250
Style		1	1	2	3	3	3	3	3	3	3	2	2	4	4	5
A	Stroke	As Required														
B	Upright	A+3/4	A	A-1/8	A-1/4	A-1/8	A-1/8	A-1/8	A-1/2	A	A	A - 3/8	A -1/2	A +/- 1/4	A+1/2	A-2
	Inverted	A+3/4	A	A-1/8	A	A-1/8	A-1/8	A-1/8	A-1/2	A	A-1	A - 3/8	A -1/2	A +/- 1/4	A-1.5	A+0.5
C	Upright	4	4.5	5.25	5.25	7	7.25	8	9.25	11	12	13	16.5	24	24	30
	Inverted	2	1.25	1.75	1.75	2.5	2.75	2.75	3	3	4	3.5	5.5	12	12	12
D	DIA.	0.625	0.75	1	1	1.5	2	2.25	2.5	3.375	3.75	4.5	5	6	7	9
E	Upright DIA.	7/8	1 5/16	1 21/32	1 21/32	2 3/8	2 7/8	2 7/8	3 1/2	4.5	4.5	5 9/16	6 5/8	7	8	11
	Inverted DIA.	7/8	1.65	1 21/32	1 21/32	2 3/8	2 7/8	2 7/8	3.5	4.5	4.5	5 9/16	6 5/8	7	8	11
F		1	1.5	1.75	1.75	2.25	2.25	2.25	3.25	4	4	4.75	5.5	6	6	9
G		5/16	3/8	1/2	1/2	1/2	1/2	5/8	3/4	1	1.25	1.25	1 3/8	1.5	1.5	2.5
H	DIA.	2 1/4	3 1/2	4 1/4	4 1/4	4 1/2	5 3/4	5 3/4	5 3/4	8.5	10.5	11.25	11.25	14	14	24
I		5/16	3/8	7/16	7/16	0.6	0.94	0.94	0.94	0.94	1.31	1.25	1 3/8	2 15/16	2 15/16	3 15/16
J		4 1/2	6	7	7	9	11	11	11	14	14	22	24	23	23	48
K		2 1/4	3	3.5	3.5	4.5	5.5	5.5	5.5	7	7	11	12	11.5	11.5	24
L	DIA.	0.375	0.500	0.500	0.500	0.75	1	1	1	1.375	1.375	1.5	1.75	1.75	1.875	3
	Tol +	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000
	Tol -	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002
M		1/8 x 1/116	1/8 x 1/16	1/8 x 1/16	1/8 x 1/16	3/16 x 3/32	1/4 x 1/8	1/4x1/8	1/4x1/8	5/16 x 5/32	0.313 x 0.156	3/8 x 3/16	3/8 x 3/16	1/2 x 1/4	1/2 x 1/4	3/4 x 3/8
		3/4 LNG	1 Lng	1 Lng	1 Lng	1 1/4 Lng	1 1/2 Lng	1 1/2 Lng	1 1/2 Lng	2 Lng	2 Lng	2 1/4 Lng	2 1/4 Lng	3 Lng	3 Lng	5 Lng
N	DIA.	9/32	13/32	13/32	13/32	11/16	13/16	13/16	1 1/8	1 3/8	1.63	1 7/8	2 1/8	1 7/8	1 7/8	2.75
O		4	5	7	4 1/8	6	7.5	7 3/4	8 1/4	10 1/4	10.25	19 3/4	14	24.5	24.5	41
P		2	2 1/2	3.5	2 1/16	3	3 3/4	3 7/8	4 1/8	5 1/8	5.125	9 7/8	7	12.25	12.25	20.5
Q		3 1/4	4	6	3 1/8	4 1/2	5 3/4	6	6	7.5	7.5	16	10	20	20	35
R		1 5/8	2	3	1 9/16	2 1/4	2 7/8	3	3	3.75	3.75	8	5	10	10	17.5
S				3 1/2	6 1/4	8	8 3/4	9 1/4	11	13.75	15.5	9.75	23	20.75	20.75	29.5
T				1 3/4	2.42	3	2 7/8	3 3/8	4 1/8	5 1/8	6	4 7/8	9.5	8	8	14.75
U				2	5 1/4	6 1/2	7	7 1/2	8 3/4	11	12.5	6	19	8 1/8	8 1/8	11 9.5
V				1	1.93	2 1/4	2	2 1/2	3	3.75	4.5	3	7.5	5.75	5.75	11
W	Centre	0.938	1.25	1.703	1.703	2.188	2.598	2.598	2.598	3.75	3.75	5.313	5.313	7.5	7.5	13
	Tol +	+0.003	+0.003	+0.001	+0.001	+0.002	+0.003	+0.003	+0.003	+0.005	+0.005	+0.003	+0.003	+0.003	+0.003	+0.005
	Tol -	-0.000	-0.003	-0.001	-0.001	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
X		1 1/8	1 7/16	1 1/8	1.1	1.5	1.8	1.8	1.5	2.3	2.19	4.44	4.1	3 7/16	3 7/16	10.5
Y	P.C.D	1 1/2	2 1/2	3	3	3	4.13	4.13	4.13	6	7.75	8.75	10.25	11	11	16
Z	DIA.	9/32	7/16	13/32	13/32	11/16	13/16	13/16	13/16	1.06	1.62	1 3/8	1.5	1 7/8	1 7/8	2.75
	No. of Holes	4	4	4	4	4	4	4	4	4	4	4	6	6	6	6
A-A		2 3/8	3 1/4	4 1/16	4 1/16	5.25	5 5/8	6.31	7.13	8.88	8.88	10.88	13.56	17	17	23 1/8
B-B		2 3/8	2 7/8	3 3/4	3 3/4	5.25	5	5.5	7.13	8.88	8.88	10.88	13.56	17	17	23 1/8

Note:
1. All dimensions in inches unless otherwise stated.
2. Dimensions subject to change without notice.
3. For keyed screw jacks consult Power Jacks for dimensions.

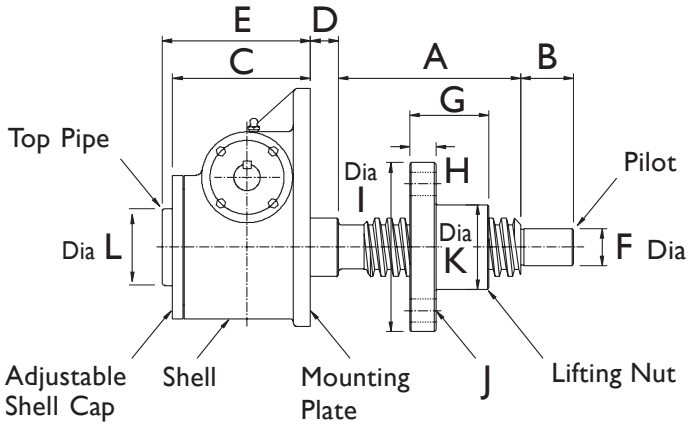
Upright Rotating Screw



Note:
1. For other dimensions and performance data refer to translating screw model.
2. All dimensions in inches.
3. Dimensions subject to change without notice.

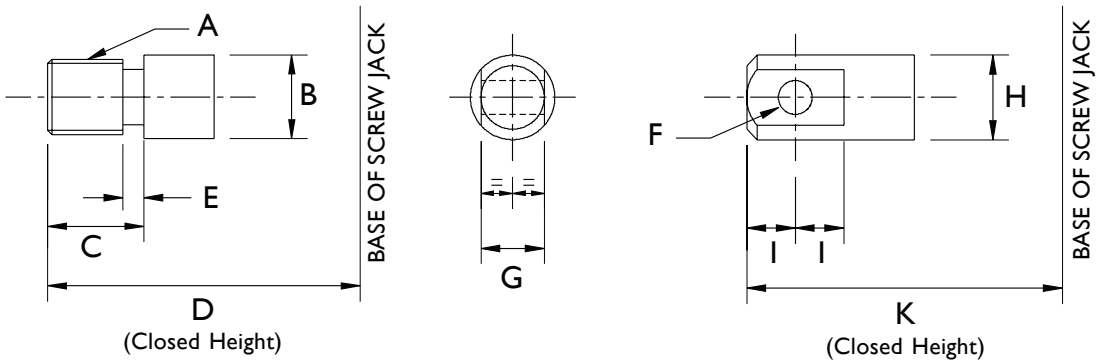
Model	Capacity (Short Tons)	Style	A	B	C	D	E	F	G	H	I			J	K
											Holes	Dia.	P.C.D.		
UM2625	**0.5**	1	Stroke+1 7/8	5/8	2 3/8	0	0.437	7/8	3/8	2.25	4	9/32	1.75	1	0
UM2501	**1**	1	Stroke+1.75	5/8	3 1/4	0	0.5	1.5	0.5	3.25	4	13/32	2 3/8	1.5	0
UM1803	**2**	2	Stroke+2 3/8	0.75	4 1/16	0	0.625	1.5	0.5	3.25	4	13/32	2 3/8	1.5	0
UM1903	**2**	3	Stroke+2 3/8	0.75	4 1/16	0	0.625	1.5	0.5	3.25	4	13/32	2 3/8	1.5	0
UM1806	**5**	3	Stroke+3	1	5.25	0	1	2.5	0.75	4	4	9/16	3	2	0
UM1811	**10**	3	Stroke+4	2	5.63	1	1.249	3	1	6	4	0.81	4.5	3	2 7/8
UM1816	**15**	3	Stroke+4	2	6.31	1	1.5	3	1	6.5	4	0.81	5	3.503	2 7/8
UM1821	**20**	3	Stroke+5	2.5	7.13	1.75	1.75	3	1	7.5	4	0.94	5.5	3.75	3.5
UM1826	**25**	3	Stroke+7	3	12	2	2.5	5.5	1.25	8.5	4	1 1/16	6.5	4.5	4.5
UM1836	**35**	3	Stroke+6	3.5	8.88	2	3	5.5	1.5	9	4	1 1/16	7	5	4.5
UM1851	**50**	2	Stroke+7	4	12	2.5	3.5	6	2	10	6	1 1/16	8	6	5.56
UM1876	**75**	2	Stroke+8.5	4.5	14 5/8	2.5	4	7.5	2	12.5	6	1 1/8	10	7	6 5/8
UM1897	**100**	4	Stroke+8	5	19	5	5	7	2	14	6	1 1/8	11	8	7
UM18151	**150**	4	Stroke+9.75	5.5	19	3.5	5.5	8.75	2.5	15.5	6	1.5	12.5	9	8

Inverted Rotating Screw



Note:
1. For other dimensions and performance data refer to translating screw model.
2. All dimensions in inches.
3. Dimensions subject to change without notice.

Model	Capacity (Short Tons)	Style	A	B	C	D	E	F	G	H	I		J		K	L
												Holes	Dia.	P.C.D.		
DM2625	0.5	1	Stroke+1 7/8	5/8	2 3/8	3/8	2 3/8	0.437	7/8	3/8	2.25	4	9/32	1.75	1	0
DM2501	1	1	Stroke +1.75	5/8	2 7/8	0.25	3.25	0.5	1.5	0.5	3.25	4	13/32	2 3/8	1.5	1.7
DM1803	2	2	Stroke+2 3/8	0.75	3.75	5/8	3.75	0.625	1.5	0.5	3.25	4	13/32	2 3/8	1.5	0
DM1903	2	3	Stroke+2 3/8	0.75	3.75	5/8	3.75	0.625	1.5	0.5	3.25	4	13/32	2 3/8	1.5	0
DM1806	5	3	Stroke+3	1	5.25	2	5.25	1	2.5	0.75	4	4	9/16	3	2	0
DM1811	10	3	Stroke+4	2	5.63	1.13	5.63	1.249	3	1	6	4	0.81	4.5	3	0
DM1816	15	3	Stroke+4	2	5.5	0.81	6.5	1.5	3	1	6.5	4	0.81	5	3.503	2 7/8
DM1821	20	3	Stroke+5	2.5	7.13	0.63	7.88	1.75	3	1	7.5	4	0.94	5.5	3.75	3.5
DM1826	25	3	Stroke+7	3	8 7/8	1.5	9 7/8	2.5	5.5	1.25	8.5	4	1 1/16	6.5	4.5	4.5
DM1836	35	3	Stroke+6	3.5	8.88	0.88	9.88	3	5.5	1.5	9	4	1 1/16	7	5	4.5
DM1851	50	2	Stroke+7	4	10.88	2 5/8	11.5	3.5	6	2	10	6	1 1/16	8	6	5.56
DM1876	75	2	Stroke+8.5	4.5	13.56	3 5/8	15 1/16	4	7.5	2	12.5	6	1 1/8	10	7	6 5/8
DM1897	100	4	Stroke+8	5	17	2	18	5	7	2	14	6	1 1/8	11	8	7
DM18151	150	4	Stroke+9.75	5.5	17	2	17	5.5	8.75	2.5	15.5	6	1.5	12.5	9	8

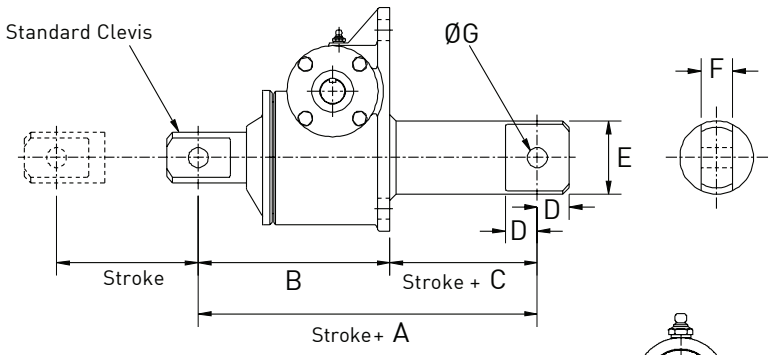


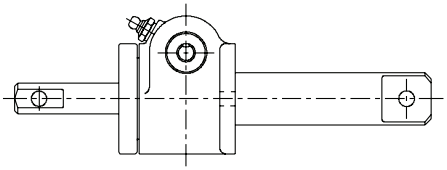
(Closed Height) (Closed Height)

Model	Upright	M2625	M2501	M1802	M1902	M1805	M1810	M1815	M1820
	Inverted	M2624	M2500	M1801	M1901	M1804	M1809	M1814	M1819
Capacity (Short Tons)		0.5	1	2	2	5	10	15	20
Threaded End									
A		3/8-24 UNF-2A	1/2-13 UNC-2A	3/4-10 UNC-2A	3/4-10 UNC-2A	1-8 UNC-2A	1 1/2-6 UNC-2A	1.75-5 UNC-2	2-4.5 UNC-2A
B	DIA.	5/8	0.75	1	1	1.5	2	2.25	2.5
C		1	0.75	1 1/8	1 1/8	1 1/8	1 5/8	2	2.25
D	Upright	4	5 3/8	6	6	8	8.75	9.75	11.5
	Inverted	2	2	2.5	2.5	3.5	4.25	4.25	5
E		1/8	1/8	1/8	0.19	0.19	0.25	0.25	0.25
Clevis End									
F		17/64	21/64	13/32	13/32	0.66	0.78	0.91	1.03
G		0.5	0.5	0.75	0.75	1	1.25	1.5	1.75
H		5/8	0.75	1	1	1.5	2	2.25	2.5
I		0.5	0.5	0.75	0.75	1	1.25	1.25	1.5
J		0.5	3/8	0.75	0.75	1	1.25	1.25	1.5
K	Upright	4	5	5.25	5.25	7	7.5	8.5	10
	Inverted	2	1 5/8	1.75	1.75	2.5	3	3	3.5

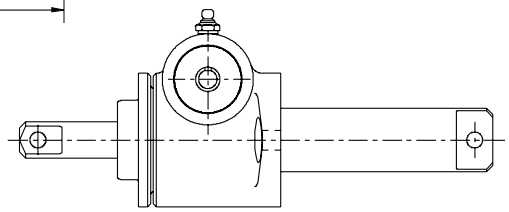
Model	Upright	M1825	M1835	M1850	M1875	M1899	M18150	M2250
	Inverted	M1824	M1834	M1849	M1874	M1898	M18149	M2249
Capacity (Short Tons)		25	35	50	75	100	150	250
Threaded End								
A		2.5-4 UNC-2A	-0.75 UNC-2A	4-4 UNC-2A	4-12 UNC-2A	4 1/2-12 UNC-2A	5-12 UNC-2A	8-12 UNC-2A
B	DIA.	3	3.75	4.5	5	6	7	9
C		3.25	3.75	4.25	4.5	5	5	6
D	Upright	13.75	15	17.5	20.5	25	25	30
	Inverted	5.75	7	8	9.5	12	12	12
E		0.25	0.25	0.25	0.25	0.25	0.25	0.25
Clevis End								
F		1.28	1.53	1 25/32	2 1/32	2 17/32	2 25/32	3 17/32
G		2.25	2.5	3.25	3.5	4.25	5.25	7
H		3	3.75	4.5	5	6	7	9
I		1.75	2	2.5	2.5	3	3	4
J		1.75	2	2.5	2.5	3	3	4
K	Upright	12	13	15	18	24	24	30
	Inverted	4	5	5.5	7	9	9	12

Note:
1. All dimensions in inches unless otherwise stated.
2. Dimensions subject to change without notice.

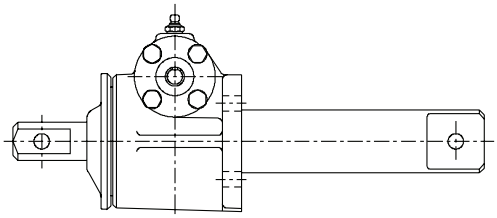




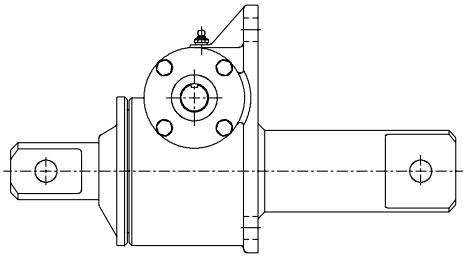
0.25 & 0.5 Ton Arrangement



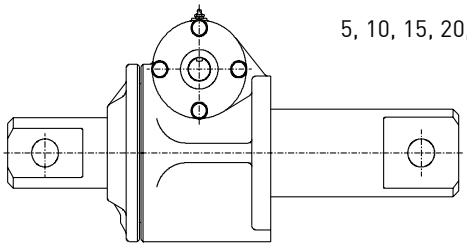
1 Ton Arrangement



2 Ton Arrangement



5, 10, 15, 20, 25, 35 Ton Arrangement

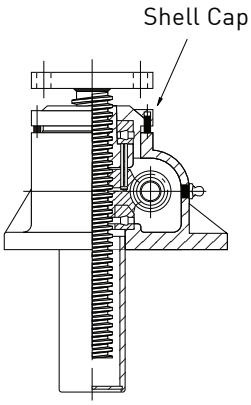


50 Ton Arrangement

Model	CCM 2625	CCM 2501	CCM 1802	CCM 1805	CCM 1810	CCM 1815	CCM 1820	CCM 1825	CCM 1835	CCM 1850
Capacity (Short Tons)	0.5	1	2	5	10	15	20	25	35	50
Housing Style	1	1	2	3	3	3	3	3	3	2
A	5.5	6.5	6.75	9	10.25	11.25	13.5	16	17	19
B	4	5	5.25	7	7.5	8.5	10	12	13	15
C	1.5	1.5	1.5	2	2.75	2.75	3.5	4	4	4
D	-	-	0.75	1	1.25	1.25	1.5	1.75	2	2.5
E	1 1/16	1 5/16	1 21/32	2.38	2.88	2.88	3.5	4.5	4.5	5 9/16
F	0.5	0.5	0.75	1	1.25	1.5	1.75	2.75	2.5	3.25
G	17/64	21/64	0.41	0.66	0.78	0.91	1.03	1.28	1.53	1 25/32
Max Allowable Stroke in Compression at load (lb)	9.25	9.75	14.5	22.5	31	37 3/8	39.25	54	73.5	94.5
	1000 lb	1500 lb	3000 lb	6500 lb	12000 lb	16000 lb	20000 lb	38000 lb	61000 lb	98000 lb
Max Stroke at Full Rated Load in Compression	9.25	8.25	12 1/8	17	22 7/8	25 7/8	29.25	47	69	90.5

Note:
1. For other performance and dimension information refer to translating screw jack model details.
2. All dimensions in inches unless otherwise stated.
3. Dimensions subject to change without notice.

M-Series machine screw jacks with anti-backlash nuts for applications where a reversal of loading from tension to compression is encountered. These are based on the 1800 series screw jacks and are designated 4800 series.

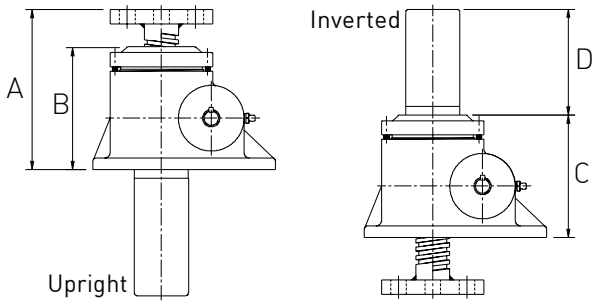


Anti-Backlash Features

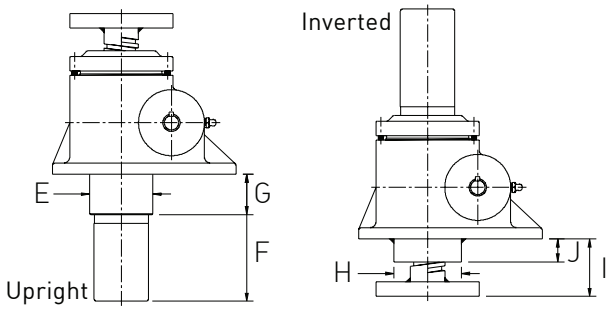
- Reduction in the vertical backlash between the screw and the worm gear nut to a practical minimum for smoother, more precise operation and minimum wear.
- Acts as a safety device, providing a dual nut load carrying unit, when the worm gear becomes worn.
- Wear indicator for critical applications.

The anti-backlash feature can be maintained by adjusting the shell cap until the desired amount of backlash is achieved. To avoid binding and excessive wear, do not adjust lifting screw backlash to less than 0.005".

Anti-Backlash



Keyed Anti-Backlash



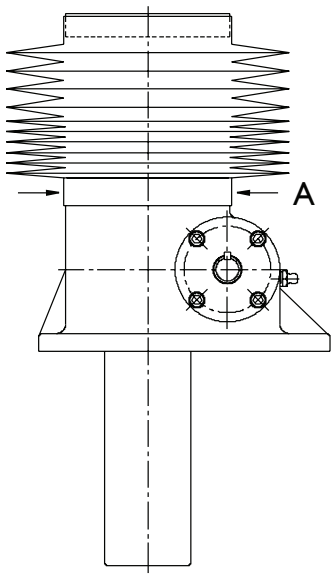
Standard Dimensions (Inches)

Anti-Backlash						Keyed Anti-Backlash						
Model	**A**	**B**	**C**	**D**		**Model**	**E**	**F**	**G**	**H**	**I**	**J**
M4625	4	2.88	2.43	Stroke + 0.75		**M4625-K**	1.25	Stroke + 0.75	0.81	1.25	2	0.81
M4501	5	3.84	3.38	Stroke + 1.63		**M4501-K**	1.06	Stroke + 1.13	0.75	1.5	2	0.75
M4802	5.25	3.88	3.88	Stroke + 0.75		**M4802-K**	2.25	Stroke - 0.13	1.25	2.25	1.75	0.63
M4805	7	5.43	5.43	Stroke - 0.25		**M4805-K**	2.75	Stroke + 0.38	1.75	2.75	2.5	0.88
M4810	7.25	5.75	5.75	Stroke		**M4810-K**	3.38	Stroke	2	3.38	2.75	1.13
M4815	8	6.13	6.13	Stroke		**M4815-K**	3.63	Stroke	2	3.63	2.75	1.25
M4820	9.5	7.75	7.75	Stroke + 0.75		**M4820-K**	4	Stroke + 0.75	1.5	4	3	1
M4825	12	9.69	9.69	Stroke + 1		**M4825-K**	5.5	Stroke	2.25	5.5	3	1.25
M4835	13	9.44	9.44	Stroke + 1.75		**M4835-K**	6.5	Stroke + 0.69	2.38	6.5	4	1.25
M4850	14	11.75	11.75	Stroke + 1.75		**M4850-K**	7	Stroke + 0.75	3	7	5	3
M4875	18.5	15.25	15.25	Stroke + 1		**M4875-K**	7.5	Stroke + 1	4	7.5	6.5	4
M4899	26.5	18.06	18.06	Stroke + 0.5		**M4899-K**	8.5	Stroke + 1	5	8.5	12	5
M48150	26.5	18.06	18.06	Stroke + 0.5		**M48150-K**	10	Stroke + 1	5.56	10	12	5.56

Torque and Efficiencies for Standard Anti-Backlash Screw Jacks

Model	**Upright**	**M4625**	**M4501**	**M4802**	**M4805**	**M4810**	**M4815**	**M4820**	**M4825**	**M4835**	**M4850**	**M4875**	**M4899**	**M48150**
	Inverted	**M4624**	**M4500**	**M4801**	**M4804**	**M4809**	**M4814**	**M4819**	**M4824**	**M4834**	**M4849**	**M4874**	**M4898**	**M48149**
Capacity, Short Tons		0.5	1	2	5	10	15	20	25	35	50	75	100	150
Start-Up Torque at Full Load (in.lb)	**Gear Ratio 1**	24	60	135	500	1005	1658	2261	3712	5083	8022	13204	17004	31330
	Gear Ratio 2	-	27	56	228	526	904	1228	1997	3014	4542	7314	9210	17225
Efficiency Rating	**Gear Ratio 1**	0.168	0.212	0.196	0.199	0.198	0.180	0.176	0.134	0.137	0.124	0.113	0.117	0.127
	Gear Ratio 2	-	0.117	0.119	0.109	0.126	0.110	0.108	0.083	0.077	0.073	0.068	0.072	0.077
Weight with Base Stroke of 6" (lbs)		2.5	6	18	37	55	70	101	197	250	440	750	1325	1475

Note - For loads of 25% to 100% of screw jack capacity, torque requirements are approximately proportional to the load. Performance values subject to change without notice.



- Protects the screw from dust and dirt.
- Helps maintain the proper lubrication.
- Guards against moisture and corrosive contaminants.
- Boots are made of neoprene-coated nylon with sewn construction and considered "splash proof" for liquids. Other materials are available for applications involving full waterproof sealed construction, high temperatures, highly corrosive atmospheres and other special conditions.

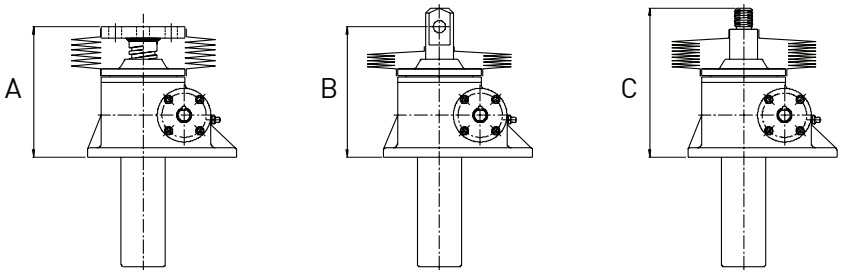
Boot Installation Data

Capacity	1000 lb	1 Ton	2 Ton	5 Ton	10 Ton	15 Ton	20 Ton
Shell Cap Diameter "A"	2.25	2.75	3.5	4.5	5.25	5.625	6

Capacity	25 Ton	35 Ton	50 Ton	75 Ton	100 Ton	150 Ton	250 Ton
Shell Cap Diameter "A"	7.5	7.875	11.25	13.25	10	10	10

Note:
1. For horizontal installations exceeding 18" of travel, internal boot guides / supports are recommended.

Upright Translating Screw Jacks with Bellows Boots

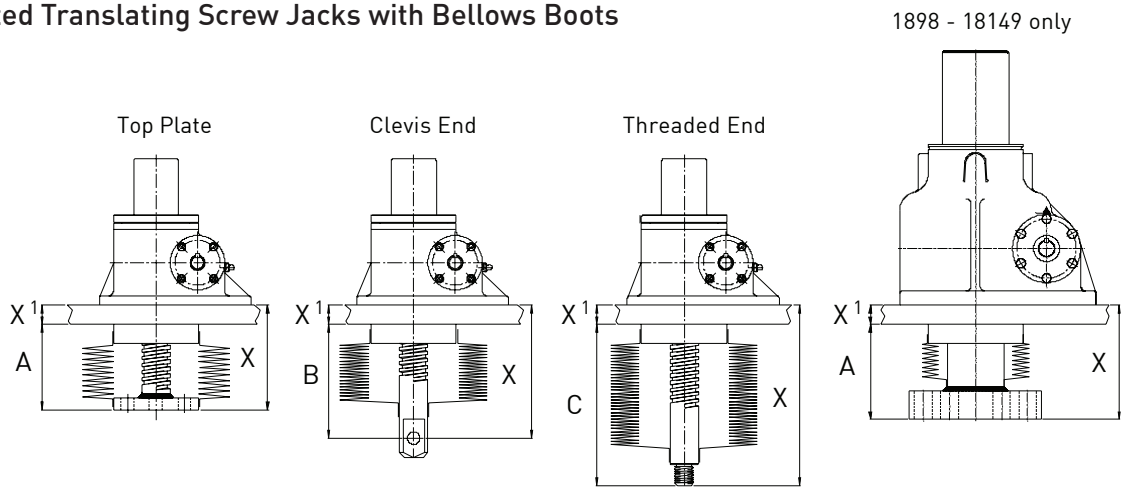


Top Plate Clevis End Threaded End

Model	Boot O.D.	Stroke																							
		0-12"			12"-18"			18"-24"			24"-30"			30"-36"			36"-48"			48"-60"			60"-72"		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
M2625	4.25	4	4	4½	4¼	45/8	4½	4¼	45/8	4½	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M2501	6	4½	5	53/8	51/8	55/8	6	5½	5¾	6¼	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M1802	7.75	5¼	6½	7¼	5¾	7½	8¼	5¾	7½	8¼	5¾	7½	8¼	6¼	8½	9¼	-	-	-	-	-	-	-	-	-
M1902	7.75	5¼	6½	7¼	5¼	7½	8¼	5¾	7½	8¼	5¾	7½	8¼	6¼	8½	9¼	-	-	-	-	-	-	-	-	-
M1805	7.75	7	7	8	7	8½	9½	7	8½	9½	8	8½	9½	8	10	11	9	10	11	-	-	-	-	-	-
M1810	9	7¼	8½	9¾	7¼	8½	9¾	7¼	9½	10¾	8½	9½	10¾	8½	9½	10¾	9½	10½	11¾	10½	11½	12¾	11½	12½	13¾
M1815	9	8	8½	9¾	8	10	11¼	8	10	11¼	9	10	11¼	9	10	11¼	11	12	12¼	11	12	13¼	12	13	14¼
M1820	9	9¼	10	11½	9¼	11	12½	9¼	11	12½	10½	12	13½	10½	12	13½	11½	13	14½	12½	14	15½	13½	15	16½
M1825	10.75	11	12	13¾	11	12	13¾	11	13¼	15	12	13¼	15	12	14½	16¼	13	15¾	17½	14	15¾	17½	15	16¾	18½
M1835	11	12	13	15	12	13	-	12	13	15	12	13¾	15¾	12	13¾	15¾	127/8	14¾	16¾	13¾	15½	17½	14¾	16½	18½
M1850	14.5	13	15	17½	13	16	18½	13	16	18½	14	16	18½	14	17	19½	15	18	20½	16	18	20½	17	19	21½
M1875	16.5	17½	19	21½	17½	19	21½	17½	19	21½	17½	19	21½	17½	19	21½	18½	20	20½	19½	21	23½	20½	22	24½
M1899	11.25	24	24	25	24	24	25	24	24	25	24	24	25	24½	24½	25½	25	25½	26½	26	26½	27½	27	27½	28½
M18150	12.25	24	24	25	24	24	25	24	24	25	24	24	25	24½	24⅜	25⅜	25	25⅛	26⅛	26	26⅞	26⅞	27	26⅝	27⅝
M2250	16	30	-	-	30	-	-	30	-	-	30½	-	-	30½	-	-	31½	-	-	31½	-	-	32	-	-

Note:
1. (-) indicates "not applicable".
2. For lengths of stroke not detailed in the above table consult Power Jacks Ltd.
3. Dimensions subject to change without notice.
4. All dimensions in inches.

Inverted Translating Screw Jacks with Bellows Boots



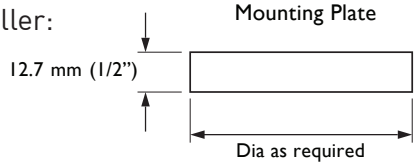
Finding minimum closed dimensions

- Add your structure thickness X^1 to A, B, or C from the appropriate chart to find the minimum closed dimension.
- Other styles and sizes of boots can be supplied.
- In order to use a standard boot, make the mounting plate diameter the same as the shell cap diameter of the appropriate screw jack
- When boots are required for rotating screw jacks, consult Power Jacks Ltd.

Model	Stroke											
	1"-6"			7"-12"			13"-18"			19"-24"		
	A	B	C	A	B	C	A	B	C	A	B	C
M2624	2	2 5/8	2 1/8	2	2 5/8	2 1/8	2 1/8	3¼	2¾	-	-	-
M2500	2 1/16	3	2 5/8	2 1/16	3	2 5/8	2 11/16	3 5/8	3¼	3 1/16	4	3
M1801 & M1901	2 3/8	4 3/8	3 5/8	2 3/8	4 3/8	3 5/8	2 7/8	5 3/8	4 5/8	3	5 3/8	4 5/8
M1804	3 3/16	4 3/16	3 3/16	3 3/16	4 3/16	3 3/16	3 3/16	5 11/16	4 11/16	3½	5 11/16	4 11/16
M1809	3¼	5¾	4½	3¼	5¾	4½	3¼	5¾	4½	3 9/16	7	5¾
M1814	3¼	5¼	4	3¼	5¼	4	3¼	6¾	5½	3 9/16	6¾	5½
M1819	3¼	5 9/16	4 1/16	3¼	5 9/16	4 1/16	3¼	6 9/16	5 1/16	3¼	6 9/16	5 1/16
M1824	3 3/8	6¾	5	33/8	6¾	5	33/8	6¾	5	33/8	7¾	6
M1834	4½	7½	5½	4½	7½	5½	4½	7½	5½	4½	7½	5½
M1849	4 7/8	9 5/16	6 13/16	4 7/8	9 5/16	6 13/16	4 7/8	10 5/16	7 13/16	4 7/8	10 5/16	7 13/16
M1874 a,b,c	2 3/8	6 7/8	4 7/8	2¾	7¼	5¼	3	7½	5½	33/8	7 7/8	5 7/8
M1898	*7 11/16	*8 11/16	**7 11/16	*7 11/16	*8 11/16	**7 11/16	*7 11/16	*8 11/16	**7 11/16	*7 11/16	*8 11/16	**7 11/16
M18149	*7 11/16	*8 11/16	**7 11/16	*7 11/16	*8 11/16	**7 11/16	*7 11/16	*8 11/16	**7 11/16	*7 11/16	*8 11/16	**7 11/16

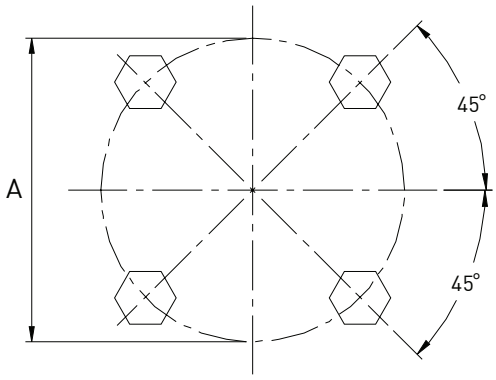
Value of X = a) If $A+X^1$ is less than 5 1/2", X = 5 1/2"
b) If $B+ X^1$ is less than 9 1/2", X = 9 1/2"
c) If $C+ X^1$ is less than 7", X = 7"
*If $A+X^1$ and $B+ X^1$ are less than 12", X = 12". If greater than 12", use dimensions shown.
** If $C+ X^1$ is less than 9", X = 9". If greater than 9", use dimensions shown.

To be manufactured by installer:

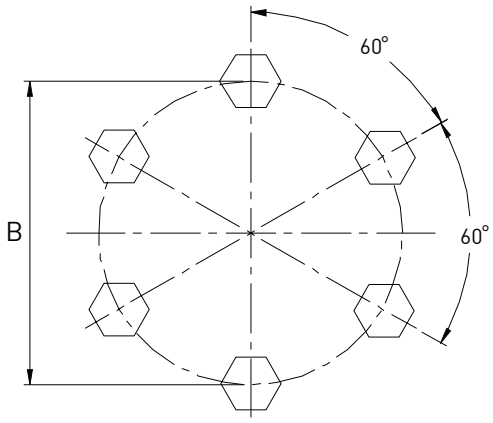


Note: Same values can be used for M4800 models

Note:
1. Dimensions subject to change without notice.
2. All dimensions in inches.
3. For lengths of stroke not detailed in the above table consult Power Jacks Ltd.



Configuration A



Configuration B

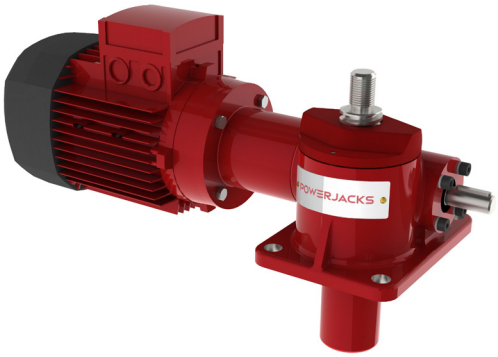
Model	Bolt P.C.D. (inch)	Bolt Information	Configuration
M2625	-	No Flange Bolts	-
M2501	-	No Flange Bolts	-
M1802	1 11/16	1/4 - 20 x 3/4" Long	A
M1805	2 3/8	5/16 - 18 x 3/4" Long	A
M1810	2 3/4	5/16 - 18 x 3/4" Long	A
M1815	2 3/4	5/16 - 18 x 1" Long	A
M1820	3 1/2	3/8 - 16 x 1 1/4" Long	A
M1825	4 1/8	3/8 - 16 x 1 1/4" Long	A
M1835	4 1/4	1/2 - 13 x 1 1/4" Long	A
M1850	5 1/4	5/8 - 11 x 1 1/2" Long	A
M1875	5 3/4	5/8 - 11 x 1 1/2" Long	B
M1899	6 1/4	5/8 - 11 x 1 1/2" Long	B
M18150	6 1/4	5/8 - 11 x 1 1/2" Long	B
M2250	8 1/4	3/4 - 10 x 2" Long	B

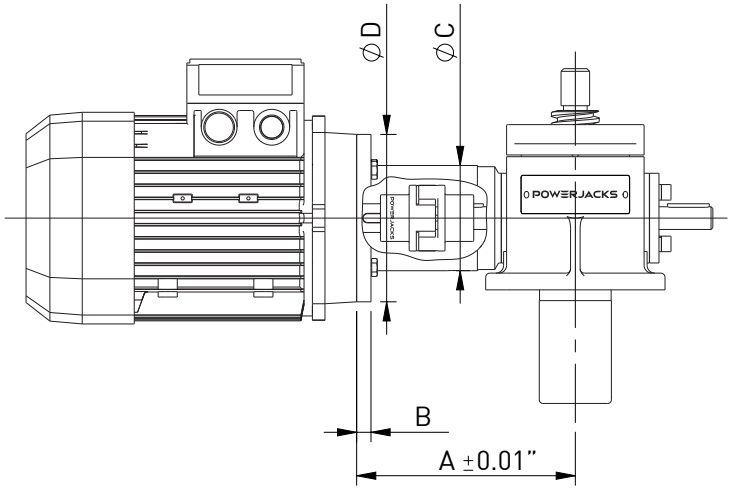
Note:
1. (-) indicates "not applicable".
2. For other performance and dimension information refer to translating screw model pages.
3. Dimensions subject to change without notice.
4. All dimensions in inches.

Motor Adaptors for M-Series Screw Jacks:

- Standard adaptors for inch screw jacks available on request.
- Designed for standard IEC frame sizes.
- Allows direct motor coupling on either side of the screw jack input shaft.
- Complete with drive coupling and mounting hardware.
- NEMA frame size versions available on request.
- Adaptors for other mounting arrangements available on request.

Note: When direct coupling a motor to a screw jack , it is necessary to match motor power to screw jack load so the motor does not exceed the maximum screw jack power.





Screw Jack Model		M1902				M1805				M1810				M1820			
Frame Size	Motor Mounting	A	B	ØC	ØD	A	B	ØC	ØD	A	B	ØC	ØD	A	B	ØC	ØD
71	B14 C105	5.61	0.39	2.80	4.13	-	-	-	-	-	-	-	-	-	-	-	-
80	B14 C120	5.77	0.47	3.19	4.72	6.73	0.47	3.39	4.72	-	-	-	-	-	-	-	-
90	B14 C140	6.20	0.47	3.19	5.51	7.20	0.47	3.46	5.51	8.19	0.47	3.86	5.51	8.58	0.47	4.92	5.51
100	B14 C160	6.61	0.47	3.19	6.30	7.60	0.47	3.46	6.30	8.58	0.47	3.86	6.30	8.98	0.47	4.92	6.30
112	B14 C190	6.61	0.47	3.19	6.30	7.60	0.47	3.46	6.30	8.58	0.47	3.86	6.30	8.98	0.47	4.92	6.30
132	B14 C200	-	-	-	-	8.58	0.55	3.74	7.87	9.45	0.55	3.86	7.87	9.84	0.55	4.92	7.87

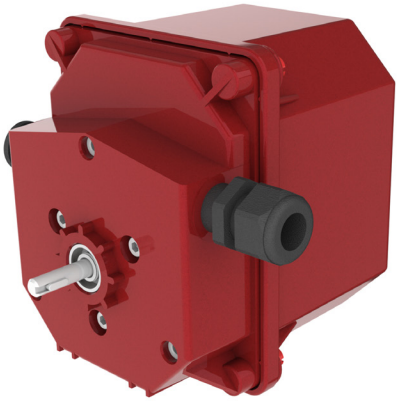
Notes:
1. (-) indicates "not applicable".
2. Motor Adapters for IEC Frames with B5 Flange mounts available on request.
3. Motor Adapters for M1802 screw jacks and those with capacities of 30Ton and above are available on request.
4. Adapters for geared motors are available on request for all types of geared motor or gear head.
5. Motor Adapters for Servo Motors available on request.
6. Motor Adapters for NEMA Frame motors are available on request.
7. All dimensions in inches unless otherwise stated.
8. Dimensions subject to change without notice.

Rotary CAM Limit Switches allow a set of limit switches to be fitted to translating or rotating screw jacks by mounting them directly to the screw jacks worm shaft or in-directly via connecting shafts or gearboxes linking to the screw jacks worm shaft. These limit switches are fully adjustable for position over the entire length of the screw jacks stroke. RLS-51 limit switch features include:-

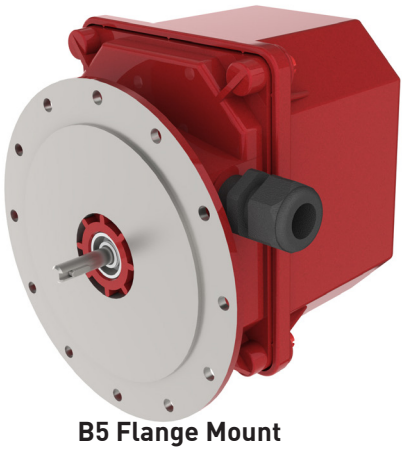
- 2 to 8 position limit switch units
- Each limit switch individually adjustable over the full stroke of the screw jack.
- Changeover switches with Normally Closed & Open contacts.
- Waterproof Enclosure IP66 as standard
- Mounting options for Flange, Face and Foot mounted
- Usable revolutions from 4.1 to 16,000
- Available in three voltages 250V AC, 24V DC & 80V DC
- Modular design to allow a variery of options
- Operating Temperature: -40°C to +80°C
- The mounting kit includes the flexible coupling, worm shaft modification and adaptor bell housing.

Illustrated Examples

All units shown are of the 2 limit switch type.

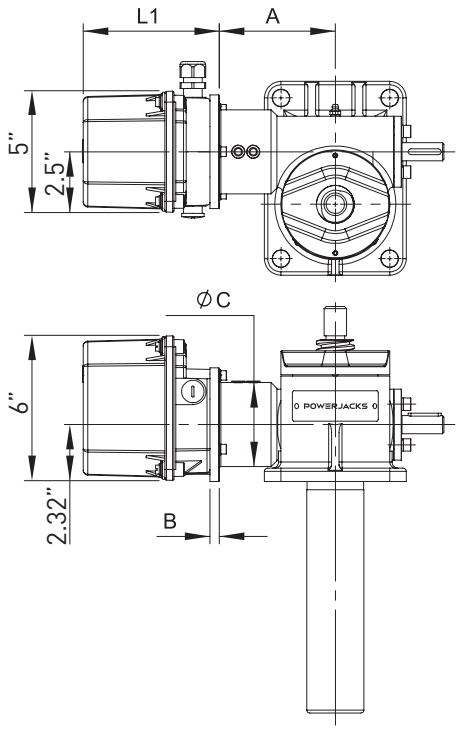


B14 Face Mount



B5 Flange Mount

B3 Foot Mount



Screw Jack Model	M1902				M1805			
Adapter Mounting	Std. Part	A	B	ØC	Std. Part	A	B	ØC
Flange	×	-	-	-	û	-	-	-
Face	✓	4.61	0.39	2.76	ü	5.24	0.39	3.5

Screw Jack Model	M1810				M1820			
Adapter Mounting	Std. Part	A	B	ØC	Std. Part	A	B	ØC
Flange	✓	5.91	0.51	3.86	ü	6.85	0.51	4.92
Face	×	-	-	-	û	-	-	-

Options

- Anti-condensation heater to prevent condensation and excessively low temperatures in the switches.
- Potentiometer feedback drives (2 available) to suit single and multi-turn potentiometers
- Pulse transmitter with 50 pulses per revolution.
- Position indicating plate for block adjustment.
- Motor driven contact block adjuster.
- Mounting for encoders (incremental or absolute).
- Extended drive shaft for feedback devices.
- Aluminium housing for harsh environments and the fitment of large and heavy encoders, IP65 enclosure.
- Cam discs with a 40° cam angle can be provided.
- Stage technology tested unit can be provided to V8G 70 with test certificates.
- Adaptors for M1802 screw jacks available on request.

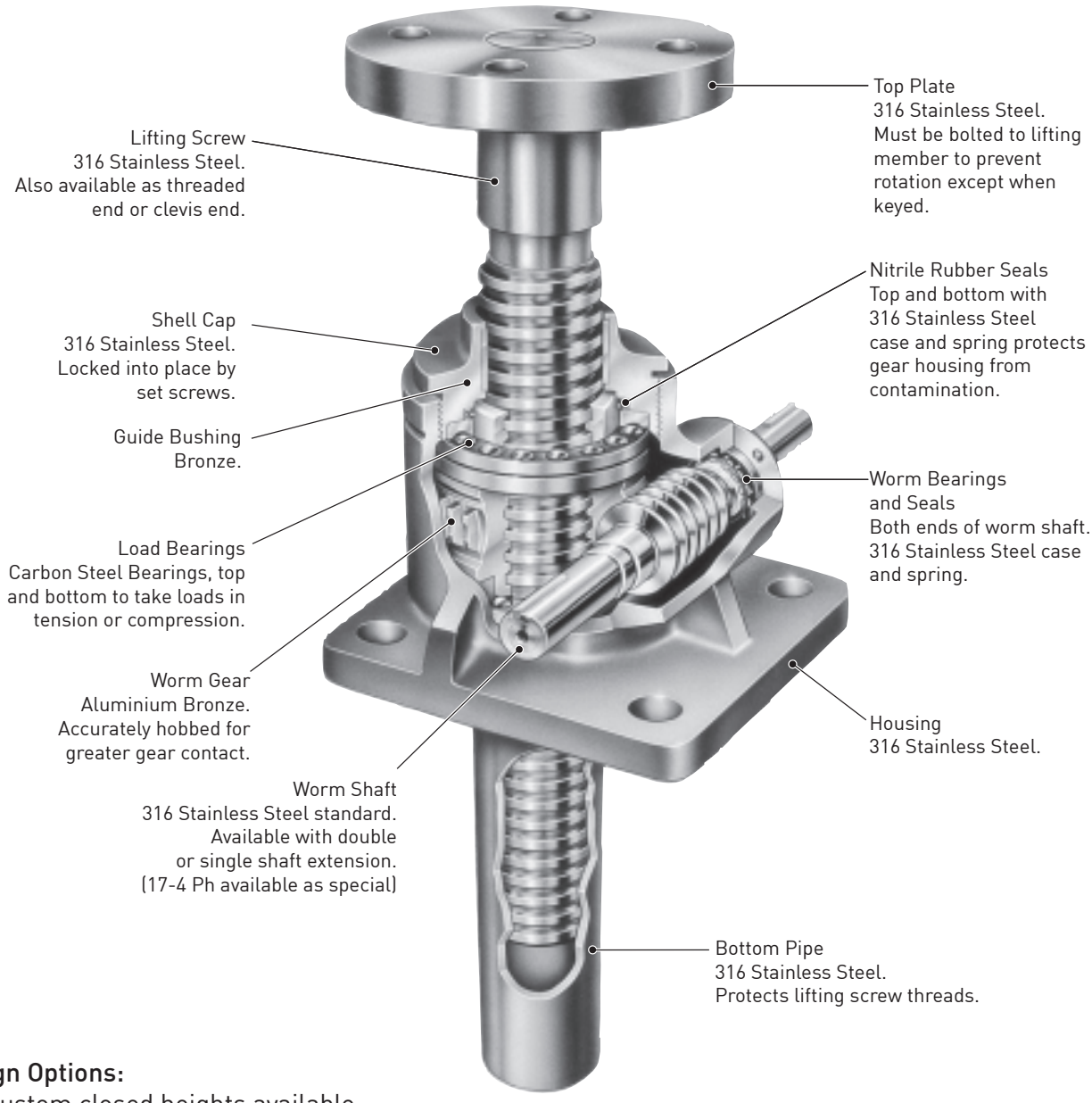
Gear Size	Usable revs. selected	Usable revs. theoretical with 15° cam discs	Gear Ratio	1 rev. of the drive shaft - corresp. to an ang. motion of cam disc =°	Change - over contact reset rev. at driving shaft	Max drive speed (RPM)	Min drive shaft speed (only for change - over contact)	L1 (mm) Limit Switches			
								2	4	6	8
1	4.1	4.16	4.285	84	0.007	1000	0.67	132	132	157	157
	6.5	6.88	7.083	50.8	0.012	1200	1.1				
	11	11.23	11.56	31.14	0.019	1500	1.8				
2	17.5	17.84	18.361	19.6	0.031	1800	2.9	132	132	157	182
	29	29.5	30.35	11.86	0.051	1800	4.7				
	48	48.13	49.538	7.27	0.083	1800	7.7				
3	75	76.45	78.678	4.57	0.131	1800	12.2	132	132	157	182
	125	126.39	130.054	2.77	0.217	1800	20.2				
	205	206.26	212.272	1.69	0.354	1800	33				
4	323	327.6	337.135	1.06	0.562	1800	52	132	157	182	207
	540	541.5	557.284	0.65	0.928	1800	87				
	880	883.8	909.59	0.4	1.515	1800	141				
5	1384	1403.7	1444.62	0.25	2.406	1800	224	132	157	182	207
	2288	2320.2	2387.96	0.15	3.978	1800	371				
	3735	3787.1	3897.58	0.09	6.493	1800	606				
6	5900	6014.77	6190.204	0.06	10.313	1800	*	157	157	182	207
	9800	9942.2	10232.407	0.04	17.047	1800	*				
	16000	16227.6	16701.17	0.02	27.824	1800	*				

Note

1. More than 8 contacts on request.
2. Dimensions with more than 8 contacts and with special executions, eg. potentiometer, on request.
3. RLS-51 Flange thickness = 4mm (0.16").
4. Mounting kits available for all screw jacks. For those not listed, consult Power Jacks.

Features:

- Capacity from 2 Tons through to 100 Tons.
- Worm gear ratios from 6:1 to 36:1
- Corrosion resistant.
- Stainless steel hardware.
- Anti-Backlash models available.
- Available with keyed lifting screws for translating screw models.
- Available in upright and inverted rotating screw models with travelling nut.
- Can be retrofitted into applications where non-stainless steel screw jacks have been previously used.

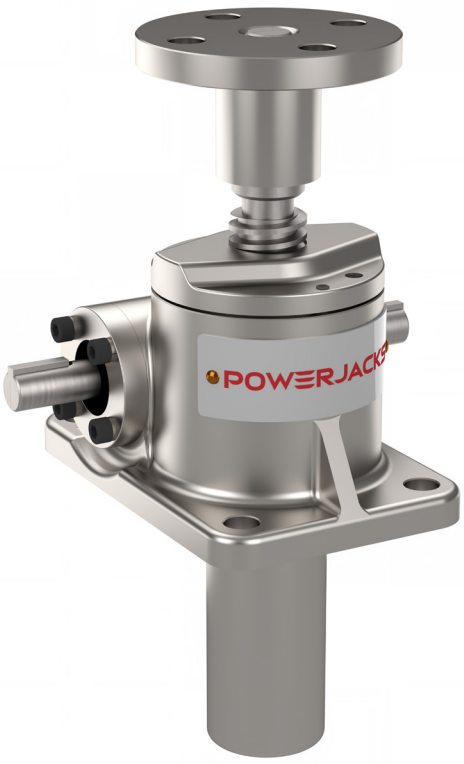


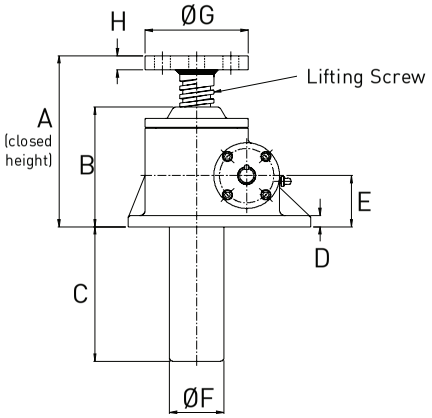
Design Options:

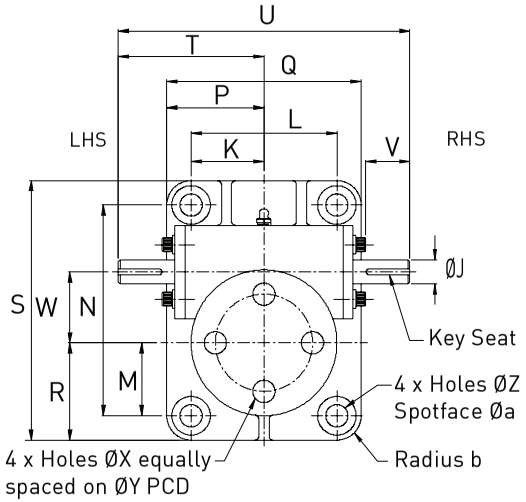
- Custom closed heights available.
- Alternate materials e.g. Duplex stainless steel
- Special designed lifting screw ends
- Full Power Stop Nuts
- Extended or special Worm shaft extensions
- Bellows boots screw protection
- Lifting screw thread pitches
- Design with fully sealed gear cavity to keep water and other contaminants out.

Screw Jack Model	Upright	SM-1802	SM-1805	SM-1810	SM-1815	SM-1820	SM-1825	SM-1835	SM-1850	SM-1899
	Inverted	SM-1801	SM-1804	SM-1809	SM-1814	SM-1819	SM-1824	SM-1834	SM-1849	SM-1898
Capacity (Short Tons)	Sustaining	2	5	10	15	20	25	35	50	100
	Operating**	0.66	1.66	3.33	5	6.66	8.33	11.66	16.66	33.33
Lifting Screw	Diameter	1	1½	2	2¼	2½	3	3¾	4½	6
	Pitch	0.25	0.375	0.5	0.5	0.5	0.666	0.666	0.666	0.75
	Form	Acme	Square	Square	Square	Square	Square	Acme	Square	Square
Worm Gear Ratios	Gear Ratio 1	6:1	6:1	8:1	8:1	8:1	10 2/3:1	10 2/3:1	10 2/3:1	12:1
	Gear Ratio 2	24:1	24:1	24:1	24:1	24:1	32:1	32:1	32:1	32:1
Turns of Worm for 1" stroke	Gear Ratio 1	24	16	16	16	16	16	16	16	16
	Gear Ratio 2	96	64	48	48	48	48	48	48	48
Maximum H.P. per Screw Jack	Gear Ratio 1	2	4	5	5	5	8	8	15	25
	Gear Ratio 2	½	¾	1½	1½	1½	2½	2½	6	11
Start-Up Torque at Operating Load* (In.-lbs)	Gear Ratio 1	40	150	250	475	685	665	1335	2500	5335
	Gear Ratio 2	17	60	135	275	390	400	800	1400	2865
Efficiency Rating	Gear Ratio 1	0.232	0.221	0.237	0.202	0.188	0.187	0.156	0.138	0.13
	Gear Ratio 2	0.133	0.121	0.151	0.129	0.12	0.105	0.089	0.083	0.08
Weight with Base Stroke of 6" (lbs)		19	37	55	70	96	168	250	420	1260

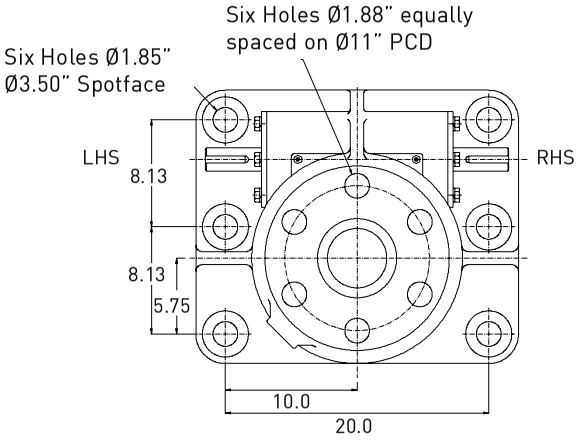
Notes:
1. * For Loads 25% to 100% of screw jack capacity, torque requirements are approximately proportional to load.
2. ** Screw jack has been de-rated for 316 Stainless Steel worm shaft. For full load rating use Duplex or 17-4 PH worm shaft.
3. Designs and Performance values subject to change without notice.







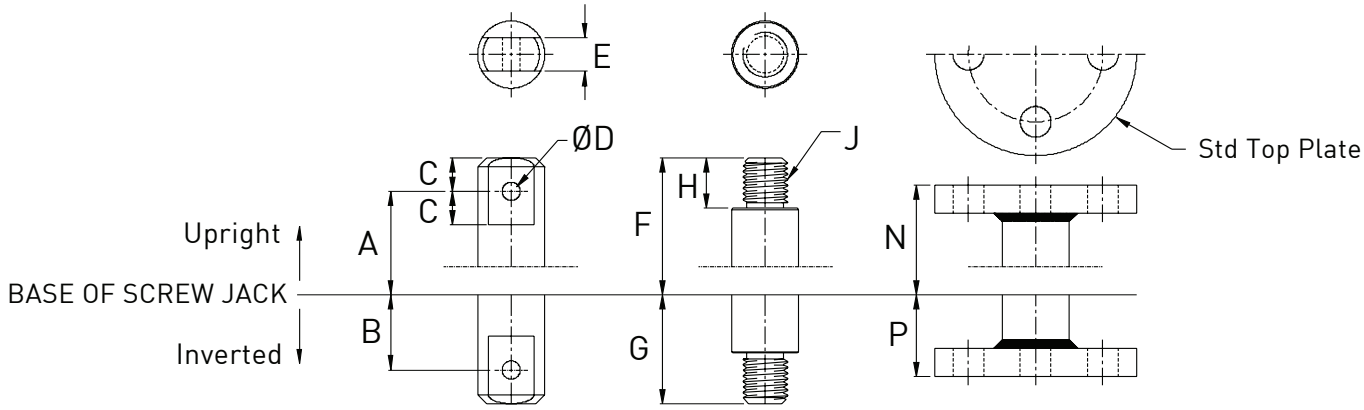
Model SM1899 (100Ton) Mounting Hole Pattern



Model	Capacity (Short Tons)		A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	a	b	Keyseat (b x h x L)
	Sustaining	Operating																											
SM-1802	2	0.66	5.5	4.56	Stroke	0.5	1.750 ±.005	1.66	4.25	0.5	$0.5^{+0.000}_{-0.002}$	3	6	1	2	3.5	7	1.75	3.5	3.5	7	1.12	$1.702^{+0.003}_{-0.000}$	41	3	0.41	0.75	0.5	.125 x .060 x 1.00 LG.
SM-1805	5	1.66	7.5	5.88	Stroke +3/8	0.5	2.250 ±.005	2.38	4.5	0.6	$0.749^{+0.000}_{-0.002}$	2.25	4.5	2.25	6.5	3	6	3	8	4.5	9	1.5	$2.188^{+0.002}_{-0.000}$	0.69	3	0.69	1.19	0.75	.188 x .094 x 1.25 LG.
SM-1810	10	3.33	7.75	6	Stroke +¼	0.5	2.250 ±.005	2.88	5.75	0.94	$1^{+0.000}_{-0.002}$	2.88	5.75	2	7	3.75	7.5	2.88	8.75	5.5	11	1.8	$2.598^{+0.003}_{-0.000}$	0.81	4.13	0.81	1.31	0.88	.250 x .125 x 1.50 LG.
SM-1815	15	5	8	6.31	Stroke +½	0.63	2.750 ±.005	2.88	5.75	0.94	$1^{+0.000}_{-0.002}$	3	6	2.5	7.5	3.88	7.75	3.38	9.25	5.5	11	1.8	$2.598^{+0.003}_{-0.000}$	0.81	4.13	0.81	1.38	0.88	.250 x .125 x 1.50 LG.
SM-1820	20	6.66	10.25	8	Stroke -¼	0.75	3.250 ±.005	3.5	5.75	0.94	$1^{+0.000}_{-0.002}$	3	6	3	8.75	4.13	8.25	4.13	11	5.5	11	1.5	$2.598^{+0.006}_{-0.000}$	0.81	4.13	1.12	1.75	1.13	.250 x .125 x 1.50 LG.
SM-1825	25	8.33	11.75	9.75	Stroke +¼	1	4.000 ±.005	4.5	8.5	0.94	$1.375^{+0.000}_{-0.002}$	3.75	7.5	3.75	11	5.13	10.25	5.13	13.75	7	14	2.3	$3.75^{+0.006}_{-0.000}$	1.06	6	1.38	2.13	1.38	.313 x 156 x 2.00 LG.
SM-1835	35	11.66	12.5	9.56	Stroke +¼	1.25	4.000 ±.005	4.5	10.5	1.31	$1.375^{+0.000}_{-0.002}$	3.75	7.5	4.5	12.5	5.13	10.25	6	15.5	7	14	2.1	$3.75^{+0.006}_{-0.000}$	1.62	7.75	1.62	2.63	1.38	.313 x .156 x 2.00 LG.
SM-1850	50	16.66	13.5	11.38	Stroke	1.25	4.750 ±.005	5.63	11.25	1.25	$1.5^{+0.000}_{-0.002}$	8	16	3	6	9.88	19.75	4.88	9.75	11	22	4.4	$5.313^{+0.003}_{-0.000}$	1.38	8.75	1.88	3.25	1.88	.375 x .188 x 2.25 LG.
SM-1899	100	33.33	24	18.5	Stroke +½	1.5	6.000 ±.005	7	14	2.94	$1.75^{+0.000}_{-0.002}$	*	*	*	*	12.25	24.5	8	20.75	11.5	23	3.4	$7.5^{+0.003}_{-0.000}$	*	*	*	*	*	.500 x .250 x 3.00 LG.

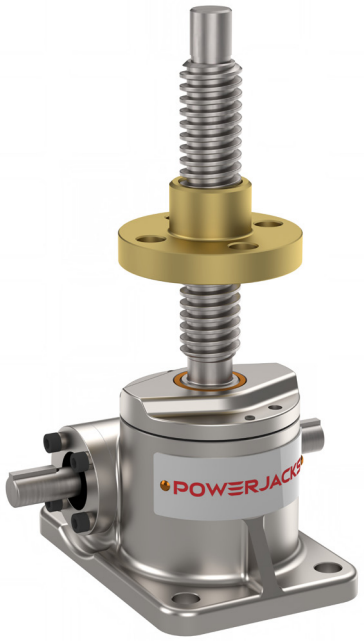
Note:
1. All dimensions in inches unless otherwise stated.
2. Dimensions subject to change without notice.
3. For models SM1802 & SM1850 housinh Style-2 as per standard machine screw.
4. For Keyed Screw Jack dimensions consult Power Jacks.

Standard Stainless Steel Translating Screw Jack End Fitting Dimensions

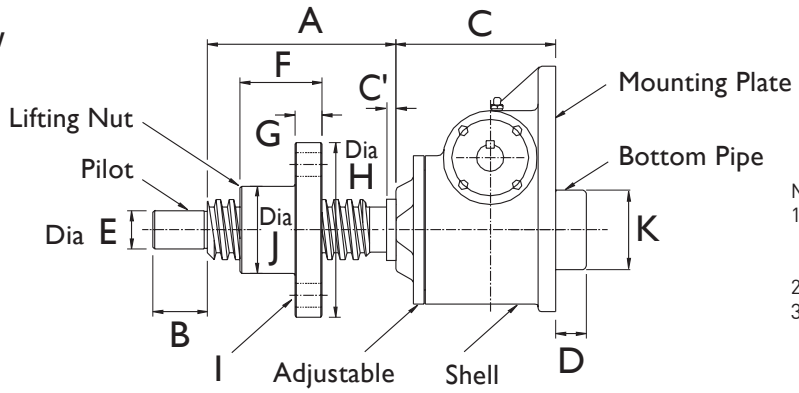


Model No	A*	B*	C	D	E	F	G	H	J	N	P
SM-1802	5 ¼	1 ¾	¾	13/32	¾	6	2½	1 1/8	¾ - 10-UNC-2A	5.25	1 ¾
SM-1805	7	2½	1	21/32	1	8	3½	1 1/8	1-8-UNC-2A	7.5	2 ½
SM-1810	7 ½	3	1 ¼	25/32	1¼	9 ¼	4¼	1 5/8	1½-6-UNC-2A	7.75	2 ¾
SM-1815	8 ½	3	1 ¼	29/32	1½	10 ¼	4¼	2	1¾-5-UNC-2A	8.5	2 ¾
SM-1820	10	3 ½	1 ½	11/32	1¾	12 ½	5	2 ¼	2-4½-UNC-2A	10.25	3
SM-1825	12	4	1 ¾	19/32	2¼	14 ½	5¾	3 ¼	2½-4-UNC-2A	11.75	3
SM-9035	13	5	2	1 17/32	2½	15 ½	7	3 ¾	3¼-4-UNC-2A	12.5	4
SM-1850	15	5½	2 ½	1 21/32	3¼	18	8	4 ¼	4-4-UNC-2A	13.5	3 ½
SM-1899	24	9	3	2 17/32	4¼	25	12	5	4½-12-UNC-2A	24	12

Note:
1. * Closed height dimensions may increase for screw jack units supplied with bellows boots. Consult Power Jacks Ltd.
2. Lifting screw listed above are not keyed. Load must be held/guided to prevent rotation.
3. Keyed lifting screws and keyed anti-backlash models are also available. Consult Power Jacks Ltd.
4. All dimensions in inches unless otherwise stated.
5. Dimensions subject to change without notice.



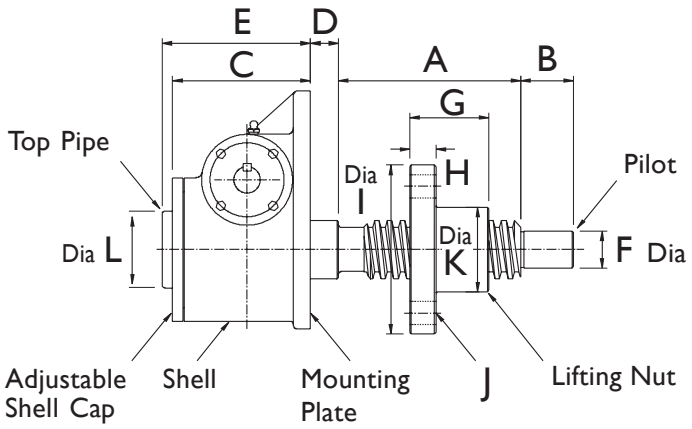
Upright Rotating Screw



Note:
1. For other dimensions and performance data refer to translating screw model.
2. All dimensions in inches.
3. Dimensions subject to change without notice.

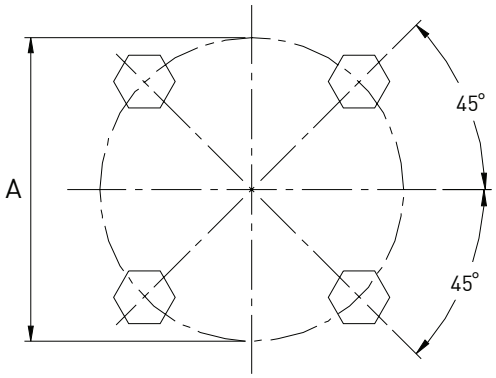
Model	Capacity (Short Tons)	Style	A	B	C	D	E	F	G	H	I			J	K
											Holes	Dia.	P.C.D.		
SUM1803	**2**	2	Stroke+2 3/8	0.75	4 1/16	0	0.625	1.5	0.5	3.25	4	13/32	2 3/8	1.5	0
SUM1806	**5**	3	Stroke+3	1	5.25	0	1	2.5	0.75	4	4	9/16	3	2	0
SUM1811	**10**	3	Stroke+4	2	5.63	1	1.249	3	1	6	4	0.81	4.5	3	2 7/8
SUM1816	**15**	3	Stroke+4	2	6.31	1	1.5	3	1	6.5	4	0.81	5	3.503	2 7/8
SUM1821	**20**	3	Stroke+5	2.5	7.13	1.75	1.75	3	1	7.5	4	0.94	5.5	3.75	3.5
SUM1826	**25**	3	Stroke+7	3	12	2	2.5	5.5	1.25	8.5	4	1 1/16	6.5	4.5	4.5
SUM1836	**35**	3	Stroke+6	3.5	8.88	2	3	5.5	1.5	9	4	1 1/16	7	5	4.5
SUM1851	**50**	2	Stroke+7	4	12	2.5	3.5	6	2	10	6	1 1/16	8	6	5.56
SUM1897	**100**	4	Stroke+8	5	19	5	5	7	2	14	6	1 1/8	11	8	7

Inverted Rotating Screw

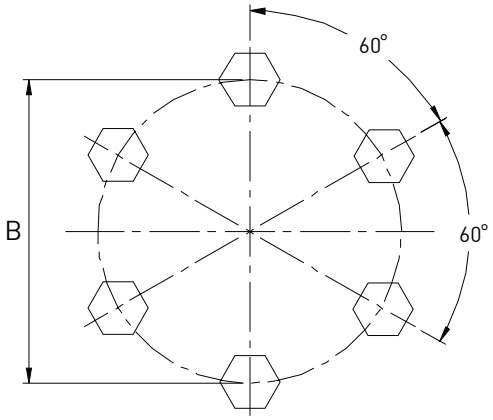


Note:
1. For other dimensions and performance data refer to translating screw model.
2. All dimensions in inches.
3. Dimensions subject to change without notice.

Model	Capacity (Short Tons)	Style	A	B	C	D	E	F	G	H	I	J			K	L
												Holes	Dia.	P.C.D.		
SDM1803	2	2	Stroke+2 3/8	0.75	3.75	5/8	3.75	0.625	1.5	0.5	3.25	4	13/32	2 3/8	1.5	0
SDM1806	5	3	Stroke+3	1	5.25	2	5.25	1	2.5	0.75	4	4	9/16	3	2	0
SDM1811	10	3	Stroke+4	2	5.63	1.13	5.63	1.249	3	1	6	4	0.81	4.5	3	0
SDM1816	15	3	Stroke+4	2	5.5	0.81	6.5	1.5	3	1	6.5	4	0.81	5	3.503	2 7/8
SDM1821	20	3	Stroke+5	2.5	7.13	0.63	7.88	1.75	3	1	7.5	4	0.94	5.5	3.75	3.5
SDM1826	25	3	Stroke+7	3	8 7/8	1.5	9 7/8	2.5	5.5	1.25	8.5	4	1 1/16	6.5	4.5	4.5
SDM1836	35	3	Stroke+6	3.5	8.88	0.88	9.88	3	5.5	1.5	9	4	1 1/16	7	5	4.5
SDM1851	50	2	Stroke+7	4	10.88	2 5/8	11.5	3.5	6	2	10	6	1 1/16	8	6	5.56
SDM1897	100	4	Stroke+8	5	17	2	18	5	7	2	14	6	1 1/8	11	8	7



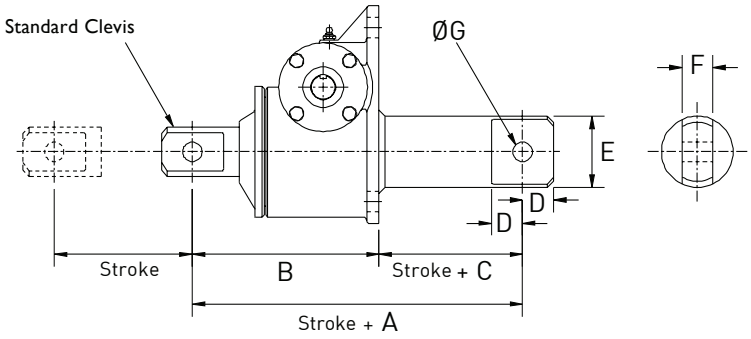
Configuration A

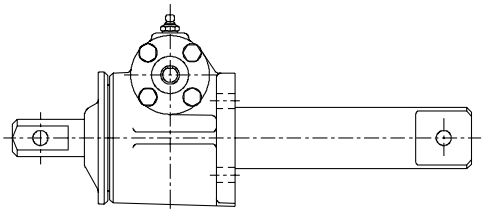


Configuration B

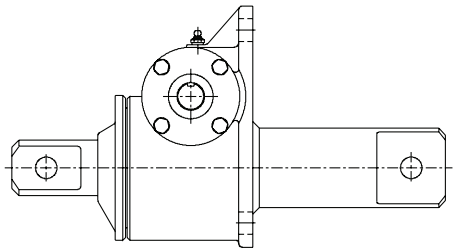
Model	Bolt P.C.D. (inch)	Bolt Information	Configuration
SM1802	1 1⁄16	1/4 - 20 x 3/4" Long	A
SM1805	2 ⅜	5/16 - 18 x 3/4" Long	A
SM1810	2 ¾	5/16 - 18 x 3/4" Long	A
SM1815	2 ¾	5/16 - 18 x 1" Long	A
SM1820	3 ½	3/8 - 16 x 1 1/4" Long	A
SM1825	4 ⅛	3/8 - 16 x 1 1/4" Long	A
SM1835	4 ¼	1/2 - 13 x 1 1/4" Long	A
SM1850	5 ¼	5/8 - 11 x 1 1/2" Long	A
SM1899	6 ¼	5/8 - 11 x 1 1/2" Long	B

Note:
1. For other performance and dimension information refer to translating screw model pages.
2. Dimensions subject to change without notice.
3. All dimensions in inches.

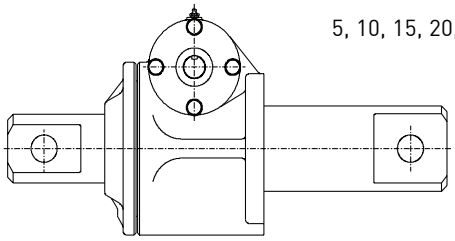




2 Ton Arrangement



5, 10, 15, 20, 25, 35 Ton Arrangement

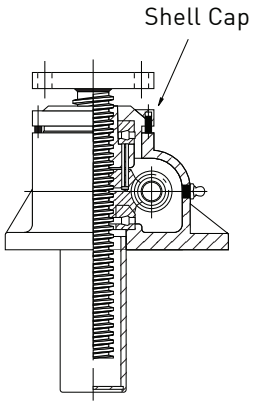


50 Ton Arrangement

Model	SCCM 1802	SCCM 1805	SCCM 1810	SCCM 1815	SCCM 1820	SCCM 1825	SCCM 1835	SCCM 1850
Capacity (Short Tons)	2	5	10	15	20	25	35	50
Housing Style	2	3	3	3	3	3	3	2
A	6.75	9	10.25	11.25	13.5	16	17	19
B	5.25	7	7.5	8.5	10	12	13	15
C	1.5	2	2.75	2.75	3.5	4	4	4
D	0.75	1	1.25	1.25	1.5	1.75	2	2.5
E	1 21/32	2.38	2.88	2.88	3.5	4.5	4.5	5 9/16
F	0.75	1	1.25	1.5	1.75	2.75	2.5	3.25
G	0.41	0.66	0.78	0.91	1.03	1.28	1.53	1 25/32
Max Allowable Stroke in Compression at load (lb)	14.5	22.5	31	37 3/8	39.25	54	73.5	94.5
	3000 lb	6500 lb	12000 lb	16000 lb	20000 lb	38000 lb	61000 lb	98000 lb
Max Stroke at Full Rated Load in Compression	12 1/8	17	22 7/8	25 7/8	29.25	47	69	90.5

Note:
1. For other performance and dimension information refer to translating screw jack model details.
2. All dimensions in inches unless otherwise stated.
3. Dimensions subject to change without notice.

M-Series stainless steel machine screw jacks with anti-backlash nuts for applications where the load changes direction from tension to compression during operation.

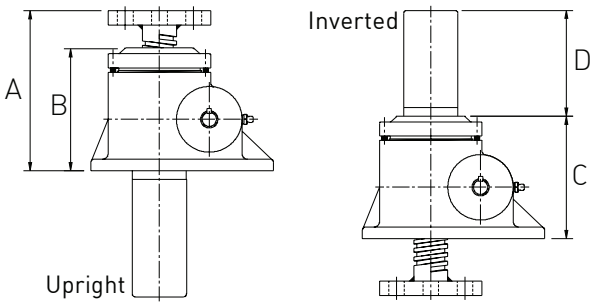


Anti-Backlash Features

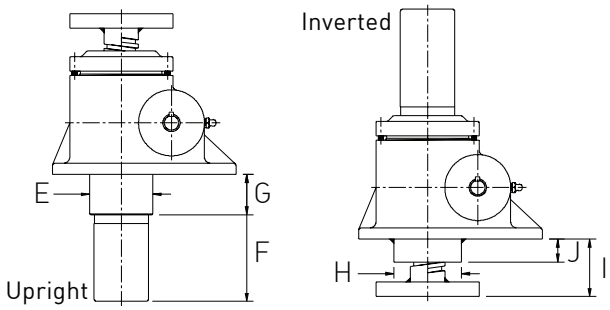
- Reduction in the vertical backlash between the screw and the worm gear nut to a practical minimum for smoother, more precise operation and minimum wear.
- Acts as a safety device, providing a dual nut load carrying unit, when the worm gear becomes worn.
- Wear indicator for critical applications.

The anti-backlash feature can be maintained by adjusting the shell cap until the desired amount of backlash is achieved. To avoid binding and excessive wear, do not adjust lifting screw backlash to less than 0.005".

Anti-Backlash



Keyed Anti-Backlash



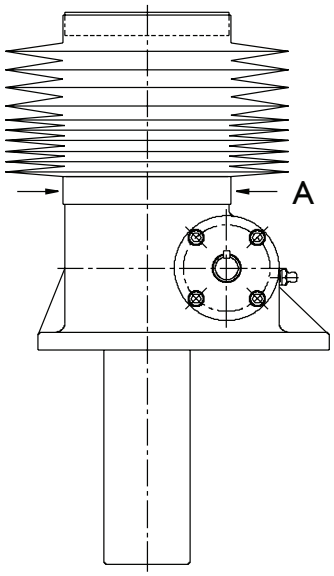
Standard Dimensions (Inches)

Anti-Backlash						Keyed Anti-Backlash						
Model	**A**	**B**	**C**	**D**		**Model**	**E**	**F**	**G**	**H**	**I**	**J**
SM4802	5.25	3.88	3.88	Stroke + 0.75		**SM4802-K**	2.25	Stroke - 0.13	1.25	2.25	1.75	0.63
SM4805	7	5.43	5.43	Stroke - 0.25		**SM4805-K**	2.75	Stroke + 0.38	1.75	2.75	2.5	0.88
SM4810	7.25	5.75	5.75	Stroke		**SM4810-K**	3.38	Stroke	2	3.38	2.75	1.13
SM4815	8	6.13	6.13	Stroke		**SM4815-K**	3.63	Stroke	2	3.63	2.75	1.25
SM4820	9.5	7.75	7.75	Stroke + 0.75		**SM4820-K**	4	Stroke + 0.75	1.5	4	3	1
SM4825	12	9.69	9.69	Stroke + 1		**SM4825-K**	5.5	Stroke	2.25	5.5	3	1.25
SM4835	13	9.44	9.44	Stroke + 1.75		**SM4835-K**	6.5	Stroke + 0.69	2.38	6.5	4	1.25
SM4850	14	11.75	11.75	Stroke + 1.75		**SM4850-K**	7	Stroke + 0.75	3	7	5	3
SM4899	26.5	18.06	18.06	Stroke + 0.5		**SM4899-K**	8.5	Stroke + 1	5	8.5	12	5

Torque and Efficiencies for Standard Anti-Backlash Screw Jacks

Model	**Upright**	**SM4802**	**SM4805**	**SM4810**	**SM4815**	**SM4820**	**SM4825**	**SM4835**	**SM4850**	**SM4899**
	Inverted	**SM4801**	**SM4804**	**SM4809**	**SM4814**	**SM4819**	**SM4824**	**SM4834**	**SM4849**	**SM4898**
Capacity (Short Tons)	**Sustaining**	2	5	10	15	20	25	35	50	100
	****Operating**	0.66	1.66	3.33	5.00	6.66	8.33	11.66	16.66	33.33
Start-Up Torque at Operating Load* (in.lb)**	**Gear Ratio 1**	45	167	264	553	754	758	1694	2674	5668
	Gear Ratio 2	19	76	138	301	409	408	1005	1514	3070
Efficiency Rating	**Gear Ratio 1**	0.196	0.199	0.198	0.180	0.176	0.134	0.137	0.124	0.117
	Gear Ratio 2	0.119	0.109	0.126	0.110	0.108	0.083	0.077	0.073	0.072
Weight with Base Stroke of 6" (lbs)		18	37	55	70	101	197	250	440	1325

Note
* For loads of 25% to 100% of screw jack capacity, torque requirements are approximately proportional to the load.
** Screw jack has been de-rated for 316 Stainless Steel worm shaft. For full load rating use Duplex or 17-4 PH worm shaft.



- Protects the screw from dust and dirt.
- Helps maintain the proper lubrication.
- Guards against moisture and corrosive contaminants.
- Boots are made of neoprene-coated nylon with sewn construction and considered "splash proof" for liquids. Other materials are available for applications involving full waterproof sealed construction, high temperatures, highly corrosive atmospheres and other special conditions.

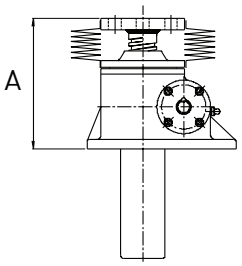
Boot Installation Data

Capacity	2 Ton	5 Ton	10 Ton	15 Ton	20 Ton
Shell Cap Diameter "A"	3.5	4.5	5.25	5.625	6
Boot Outer Diameter	7.75	7.75	9	9	9

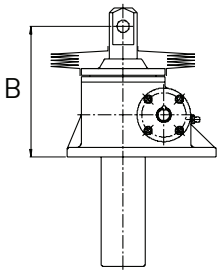
Capacity	25 Ton	35 Ton	50 Ton	100 Ton
Shell Cap Diameter "A"	7.5	7.875	11.25	10
Boot Outer Diameter	10.75	11	14.5	11.25

Note:
1. For horizontal installations exceeding 18" of travel, internal boot guides / supports are recommended.

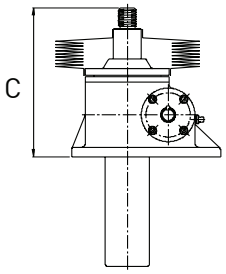
Upright Translating Screw Jacks with Bellows Boots



Top Plate



Clevis End

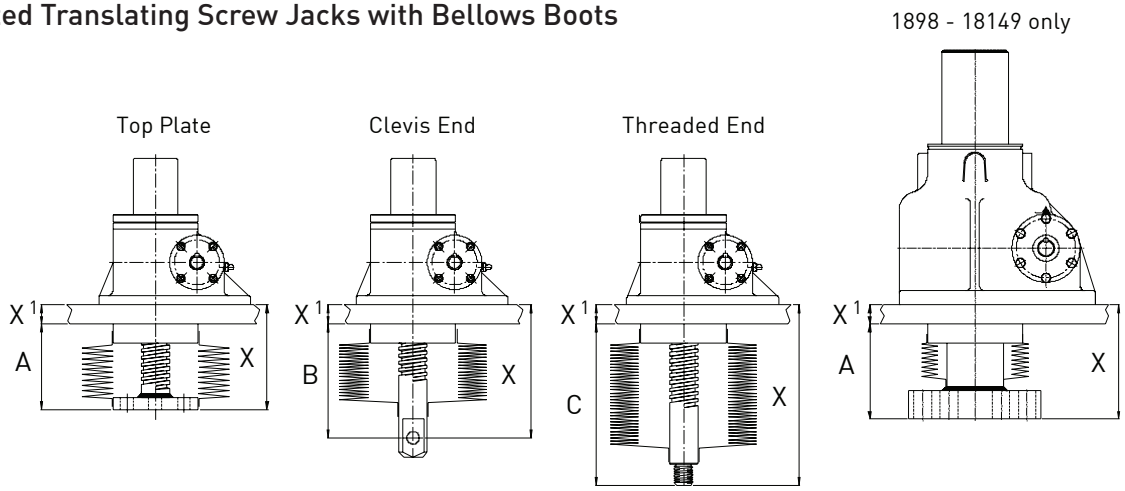


Threaded End

Model	Stroke																							
	0-12"			12"-18"			18"-24"			24"-30"			30"-36"			36"-48"			48"-60"			60"-72"		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
SM1802	5¼	6½	7¼	5¾	7½	8¼	5¾	7½	8¼	5¾	7½	8¼	6¼	8½	9¼	-	-	-	-	-	-	-	-	-
SM1805	7	7	8	7	8½	9½	7	8½	9½	8	8½	9½	8	10	11	9	10	11	-	-	-	-	-	-
SM1810	7¼	8½	9¾	7¼	8½	9¾	7¼	9½	10¾	8½	9½	10¾	8½	9½	10¾	9½	10½	11¾	10½	11½	12¾	11½	12½	13¾
SM1815	8	8½	9¾	8	10	11¼	8	10	11¼	9	10	11¼	9	10	11¼	11	12	12¼	11	12	13¼	12	13	14¼
SM1820	9¼	10	11½	9¼	11	12½	9¼	11	12½	10½	12	13½	10½	12	13½	11½	13	14½	12½	14	15½	13½	15	16½
SM1825	11	12	13¾	11	12	13¾	11	13¼	15	12	13¼	15	12	14½	16¼	13	15¾	17½	14	15¾	17½	15	16¾	18½
SM1835	12	13	15	12	13	-	12	13	15	12	13¾	15¾	12	13¾	15¾	127/8	14¾	16¾	13¾	15½	17½	14¾	16½	18½
SM1850	13	15	17½	13	16	18½	13	16	18½	14	16	18½	14	17	19½	15	18	20½	16	18	20½	17	19	21½
SM1899	24	24	25	24	24	25	24	24	25	24	24	25	24½	24½	25½	25	25½	26½	26	26½	27½	27	27½	28½

Note:
1. (-) indicates "not applicable".
2. For lengths of stroke not detailed in the above table consult Power Jacks Ltd.
3. Dimensions subject to change without notice.
4. All dimensions in inches.

Inverted Translating Screw Jacks with Bellows Boots



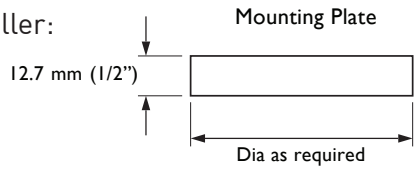
Finding minimum closed dimensions

- Add your structure thickness X^1 to A, B, or C from the appropriate chart to find the minimum closed dimension.
- Other styles and sizes of boots can be supplied.
- In order to use a standard boot, make the mounting plate diameter the same as the shell cap diameter of the appropriate screw jack
- When boots are required for rotating screw jacks, consult Power Jacks Ltd.

Model	Stroke											
	1"-6"			7"-12"			13"-18"			19"-24"		
	A	B	C	A	B	C	A	B	C	A	B	C
SM1801	2 3/8	4 3/8	3 5/8	2 3/8	4 3/8	3 5/8	2 7/8	5 3/8	4 5/8	3	5 3/8	4 5/8
SM1804	3 3/16	4 3/16	3 3/16	3 3/16	4 3/16	3 3/16	3 3/16	5 11/16	4 11/16	3 1/2	5 11/16	4 11/16
SM1809	3 1/4	5 3/4	4 1/2	3 1/4	5 3/4	4 1/2	3 1/4	5 3/4	4 1/2	3 9/16	7	5 3/4
SM1814	3 1/4	5 1/4	4	3 1/4	5 1/4	4	3 1/4	6 3/4	5 1/2	3 9/16	6 3/4	5 1/2
SM1819	3 1/4	5 9/16	4 1/16	3 1/4	5 9/16	4 1/16	3 1/4	6 9/16	5 1/16	3 1/4	6 9/16	5 1/16
SM1824	3 3/8	6 3/4	5	3 3/8	6 3/4	5	3 3/8	6 3/4	5	3 3/8	7 3/4	6
SM1834	4 1/2	7 1/2	5 1/2	4 1/2	7 1/2	5 1/2	4 1/2	7 1/2	5 1/2	4 1/2	7 1/2	5 1/2
SM1849	4 7/8	9 5/16	6 13/16	4 7/8	9 5/16	6 13/16	4 7/8	10 5/16	7 13/16	4 7/8	10 5/16	7 13/16
SM1898	*7 11/16	*8 11/16	**7 11/16	*7 11/16	*8 11/16	**7 11/16	*7 11/16	*8 11/16	**7 11/16	*7 11/16	*8 11/16	**7 11/16

Value of X = *If $A+X^1$ and $B+X^1$ are less than 12", X = 12". If greater than 12", use dimensions shown.
** If $C+X^1$ is less than 9", X = 9". If greater than 9", use dimensions shown.

To be manufactured by installer:

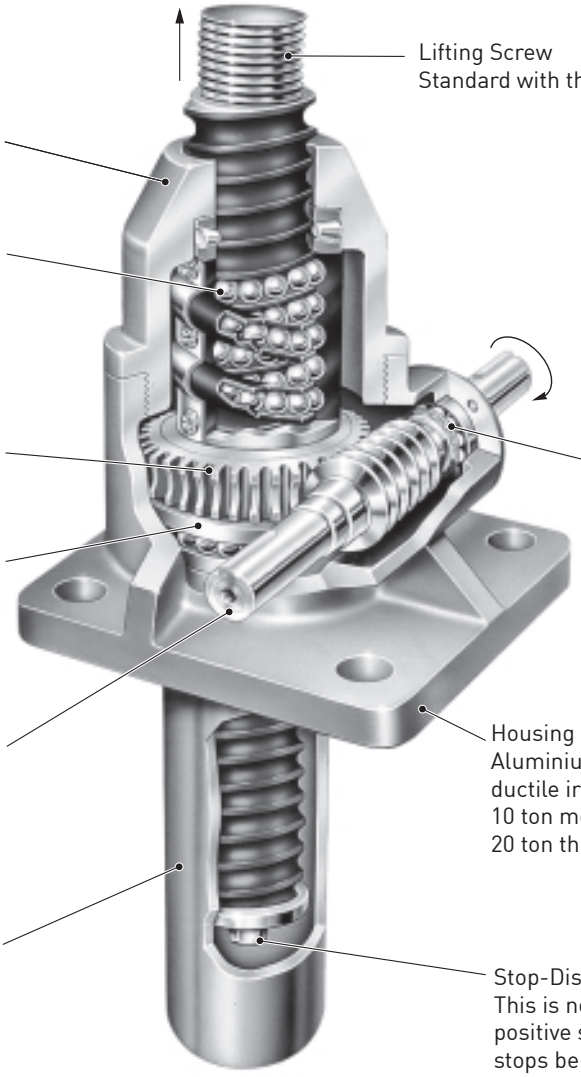


Note: Same values can be used for M4800 models

Note:
1. Dimensions subject to change without notice.
2. All dimensions in inches.
3. For lengths of stroke not detailed in the above table consult Power Jacks Ltd.

Advantages:

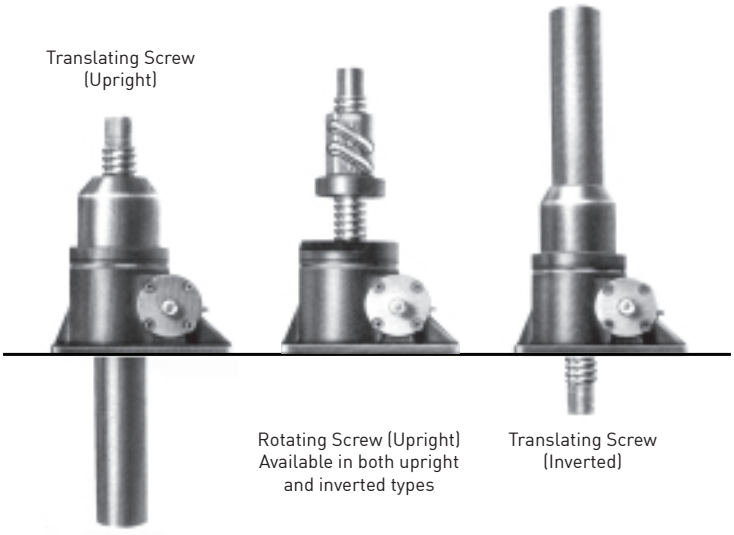
- Move Loads and apply force more efficiently than machine screw jacks.
- Permit faster operation and longer life under load.
- Require less power by providing positive mechanical action.
- Permit synchronisation of multiple units.
- Capacity from 1/2 to 50 tons.
- Handles full load in tension or compression.
- 40 models available.



The M-Series ball screw jack gives you a single-package, high efficiency worm gear screw jack. A ball-bearing type heat-treated screw and mating nut with rolling contact reduces friction to a bare minimum in converting torque to thrust. Overall operating efficiency is as high as 70% in some models, depending on the worm gear ratio.
M-Series ball screw jacks are available as translating or rotating screws in either upright or inverted configurations. In the translating screw type, the ball nut is fixed to the gear and the lifting screw moves up and down through the nut. In the rotating screw type, the screw is fixed to the gear and the ball nut travels along the screw.
Depending on size and type of load, models are available with a stroke up to 10 feet (3 metres). Strokes up to 20 feet (6 metres) are available on request.
Ball screw jacks may be used individually, in tandem or in multiple arrangements. Special models are available on request.

Features
- High Speed - Low friction permits linear motion in some models up to 300 inches/min at 1800 rpm worm shaft speeds, providing maximum horsepower ratings are not exceeded.
- Precise Positioning - Can be controlled accurately for positioning within thousandths of an inch.
- Positive Action - Operates with a high degree of reliability, without the need for costly pumps, hoses or valves.
- Long-Life - Low friction means longer operating life.
- Low Power Usage - Highly efficient design means less power is needed to achieve a given thrust; power needs are much as two-thirds that of machine screw jacks.

Options
- 3 Standard Gear Ratios - Wide selection of gear ratios, increases the amount of raise rates available.
- 2 Ball Screw Lead Options - On the 2, 5 and 10 ton models there is the option of either the standard or a 1“ lead for fast linear speeds.
- Screw on Ends - The standard screw jack has a threaded end to which clevis or top plates can be screwed. Note: these items are shipped loose and must be spot drilled before seating set screws in field installations.
- Bellows Boot Option - Protects the screw from dust, dirt, moisture and corrosive contaminants.
- Double Clevis End Option - Incorporates a special clevis end bottompipe and standard clevis end on the lifting screw.

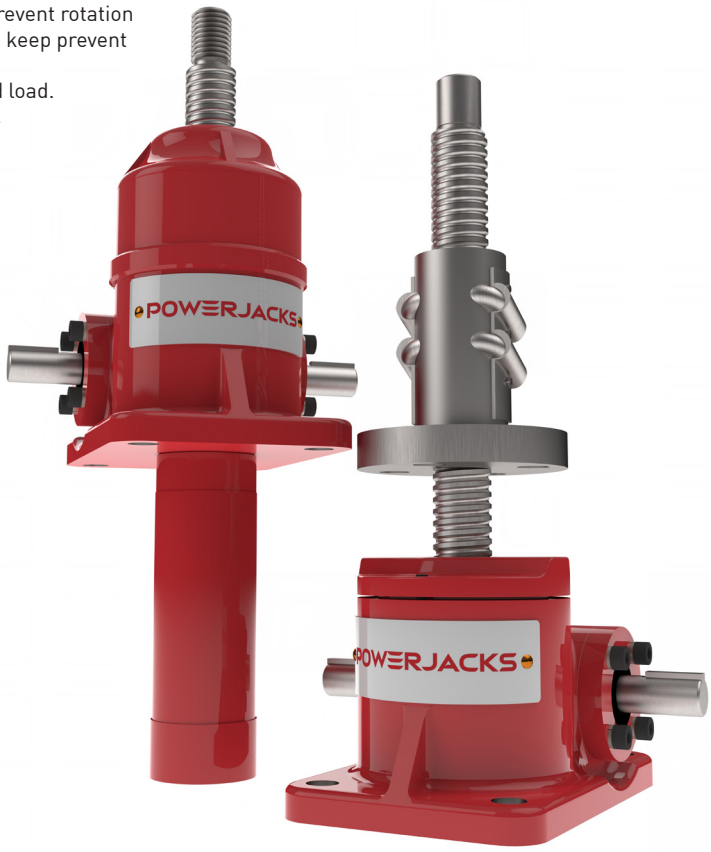


Note:
- A brake is required on M2800 and M2900 screw jack units due to their high efficiency.
- Clockwise rotation of worm raises load on all models except 50 ton ball screw jack. Counter clockwise available at extra charge.
- The lifting screw end should be bolted to the lifting member to prevent the screw from rotating.
- Recommended lubricants are listed in the installation and maintenance instructions.
- Screw jacks supplied complete with drive shaft keys.

Attachments
- IEC and Nema C-Face or flange motor adaptors are available.
- Full range of complementary components for building jacking systems, including motors, gear boxes, drive shafts and couplings.
- Motion control feedback devices including encoders and limit switches are available.

Model	Upright	M28631	M2802 M2902	M28021 M29021	M28003	M2805	M28051	M2810	M28101	M2820	M2825	M2860
	Inverted	M28630	M2801 M2901	M28011 M29011	M28002	M2804	M28041	M2809	M28091	M2819	M2824	M2859
Capacity (Short Tons)		0.5	2	2	3	5	5	10	10	20	25	50
Lifting Screw (Inches)	Diameter	5/8	1	1	1 1⁷⁄₆₄	1.5	1.5	1.5	1.5	2.25	3	4
	Lead	0.2	0.25	1	0.413	0.474	1	0.474	1	0.5	0.66	1
	Root Diam.	0.48	0.82	0.82	0.87	1.14	1.14	1.14	1.14	1.85	2.48	3.338
Worm Gear Ratios	Gear Ratio 1	5:1	6:1	6:1	6:1	6:1	6:1	8:1	8:1	8:1	10 ⅔:1	10 ⅔:1
	Gear Ratio 2	20:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	32:1	32:1
Turns of Worm for 1" Raise	Gear Ratio 1	25	24	6	14.526	12.667	6	16.888	8	16	16.16	10.66
	Gear Ratio 2	100	96	24	58.104	50.667	24	50.667	24	48	48.48	32
Maximum HP per screw jack	Gear Ratio 1	1/3	2	2	2	4	4	5	5	5	8	15
	Gear Ratio 2	⅙	½	½	½	¾	¾	1 ½	1 ½	1 ½	2 ½	6
Starting Torque at Full Load (in. lb)	Gear Ratio 1	10.5	50	180	110	220	500	350	800	700	925	2 700
	Gear Ratio 2	5	25	80	50	90	206	175	400	325	475	1 500
Running Torque at Full Load (in. lb)	Gear Ratio 1	9.5	45	160	100	180	410	300	700	650	825	2 200
	Gear Ratio 2	4.5	20	70	45	80	183	150	290	300	425	1 200
Efficiency Rating (%)	Gear Ratio 1	0.67	59	0.66	0.66	70	0.65	0.63	0.57	61	60	0.68
	Gear Ratio 2	0.35	33	0.38	0.37	39	0.36	0.42	0.46	44	39	0.42
Weight with Stroke of 6" (lbs)		2.75	20	20	21	40	40	50	50	115	235	520
Weight for each Additional 1" Stroke (lbs)		0.1	0.3	0.3	0.4	0.9	0.9	0.9	0.9	1.5	2.9	5
Hold Back Torque at Rated Load (ft.lb)	Gear Ratio 1	1	2	2	7	8	8	11	11	24	24	92
	Gear Ratio 2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2	2	33

Note:
1. Lifting screws listed above are not keyed .Must be held to prevent rotation
2. Hold Back Torque is restraining torque at the worm shaft to keep prevent load from rotating.
3. Input torques are proportional to load, down to 25% of rated load.
4. Designs and Performance subject to change without notice.

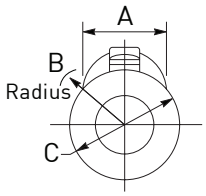


Life Expectancy of Inch Ball Screw and Ball Nut

Predicting screw and nut life lets you forecast necessary replacement, saving time and money. It also permits selection of the most economical screw size.
Use caution when installing the ball screw. The life expectancy listed below may be greatly reduced if ball screws are subjected to misalignment, shock loads, side thrust, environmental contamination or lack of lubrication maintenance.
It is possible to estimate the minimum life of the ball screw and nut only. Because of the many variable operating conditions, we can not accurately predict the life of the worm and gear set in the M-Series screw jacks. Consult Power Jacks Ltd for advice.

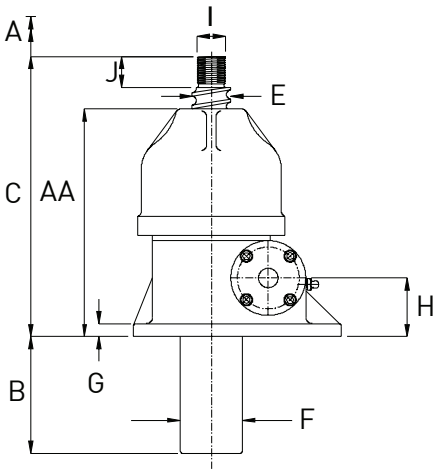
Model	M28631	M2802 M2902	M28021 M29021	M28003	M2805	M28051	M2810	M28101	M2820	M2825	M2860
Capacity (Short Tons)	0.5	2	2	3	5	5	10	10	20	25	50
100% Full Load	400	50	125	250	1000	500	100	50	150	700	600
75% Full Load	1200	150	300	650	2500	1000	350	150	350	2000	1500
50% Full load or Less	3500	500	1000	2200	9000	4000	1000	500	1200	6000	5000

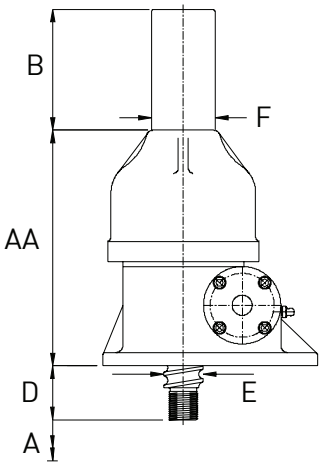
M-Series Ball Nut Return Tube Dimensions



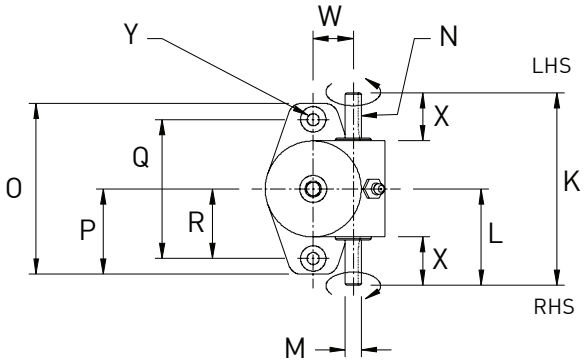
Model	M28631	M2802 M2902	M28021 M29021	M28003	M2805 M2810	M28051 M28101	M2820	M2825	M2860
Lead	0.2	0.25	1	0.413	0.474	1	0.5	0.66	1
A	0.822	1.104	1.104	1.587	1.981	1.718	2.561	3.349	4.029
B (Radius)	0.797	1.194	1.194	1.386	1.69	1.72	2.272	3.076	3.756
C	1 Sq.	1.5 Sq.	1.5 Sq.	2.125 Dia.	2.625 Dia.	2.625 Dia.	3.75 Dia.	4.751 Dia.	5.88 Dia.

Note:
1. Dimensions subject to change without notice.
2. All dimensions in inches.

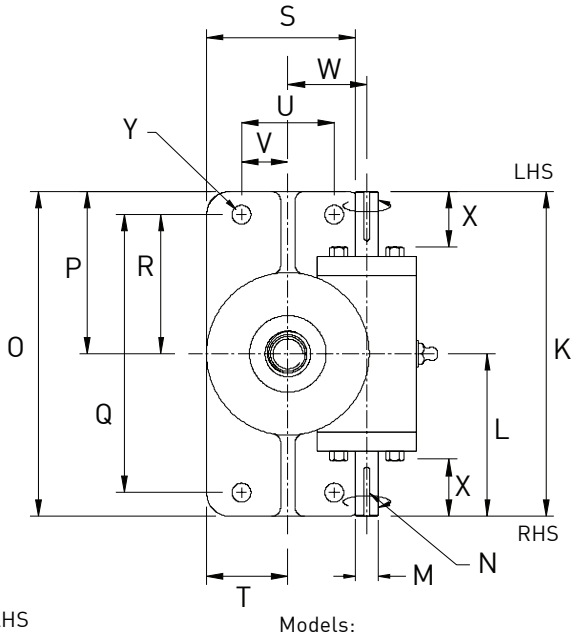




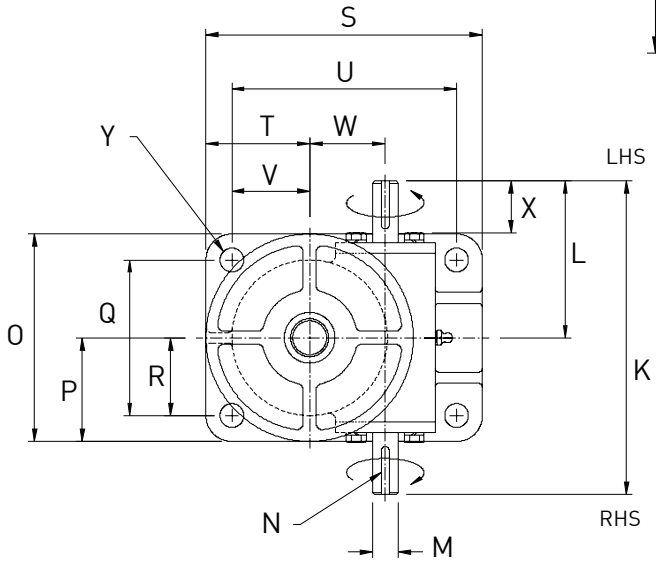
Plan View



Model:
28631



Models:
2802, 28021, 28003, 2860



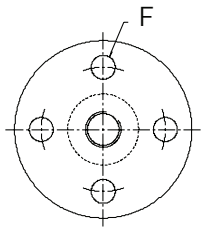
Models:
2902, 29021, 2805, 28051, 2810,
28101, 2820, 2825

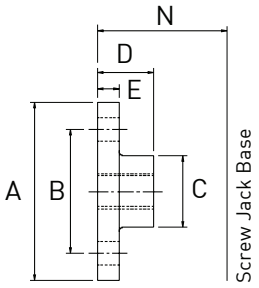
Note:
1. LHS = Left Hand Side
2. RHS = Right Hand Side
3. Dimensions subject to change without notice.
4. All dimensions in inches.

Model										
	Upright	M28631	M2802 M28021	M2902 M29021	M28003	M2805 M28051	M2810 M28101	M2820	M2825	M2860
	Inverted	M28630	M2801 M28011	M2901 M29011	M28002	M2804 M28041	M2809 M28091	M2819	M2824	M2859
Capacity, Tons		0.5	2	2	3	5	10	20	25	50
A		Stroke As Required								
B		A + 1	A + 0.75	A + 0.75	A + 0.75	A + 2	A + 1	A + 0.75	A + 2	A + 2.75
C		5	7.5	7.5	9.25	10.75	10 ⅜	16 ½	19 ¾	25 ⅝
D		1	1 ⅜	1 ⅜	1 ⅜	1 ⅜	1 ½	2 ¾	3 ⅛	3 ⅝
E		⅝	1	1	1 11/64	1 ½	1 ½	2 ¼	3	4
F		1 1/16	1 21/32	1 21/32	1 21/32	2 ⅜	2 ⅞	3 ½	4 ½	5 9/16
G		5/16	0.5	0.5	0.5	0.5	0.5	0.75	1	1.75
H		1 ± 0.003	1.75 ± 0.005	1.75 ± 0.005	1.75 ± 0.005	2.25 ± 0.005	2.25 ± 0.005	3.25 ±0.005	4 ± 0.005	4.75 ±0.005
I		3/8 -24UNF-2A	3/4 -16UNF-2A	3/4 -16UNF-2A	3/4 -16UNF-2A	1 - 14UNS-2A	1 - 14UNS-2A	1.75 - 12UN-2A	2.25 - 12UN-2A	3.25 - 12UN-2A
J		0.75	1 ⅛	1 ⅛	1 ⅛	1 ⅛	1 ⅛	2.25	2.25	2.75
K		4.5	7	7	7	11	11	11	14	22
L		2.25	3.5	3.5	3.5	5.5	5.5	5.5	7	11
M		0.375 0.373	0.5 0.498	0.5 0.498	0.625 0.623	0.749 0.747	0.999 0.997	1 0.998	1.375 1.373	1.5 1.498
N		⅛ x 1/16 x ¾	⅛ x 1/16 x 1	⅛ x 1/16 x 1	3/16 x 3/32 x 1	3/16 x 3/32 x 1¼	¼ x ⅛ x 1½	¼ x ⅛ x 1½	5/16 x 5/32 x 2	⅜ x 3/16 x 2 ¼
O		4	7	4 ⅛	7	6	7 ½	8 ¼	10 ¼	19 ¾
P		2	3 ½	2 1/16	3 ½	3	3 ¾	4 ⅛	5 ⅛	9 ⅞
Q		3 ¼	6	3 ⅛	6	4 ½	5 ¾	6	7 ½	16
R		1 ⅝	3	1 9/16	3	2 ¼	2 ⅞	3	3 ¾	8
S		-	3 ½	6 ¼	3 ½	8	8 ¾	11	13 ¾	9 ¾
T		-	1 ¾	2 7/16	1 ¾	3	2 ⅞	4 ⅛	5 1/8	4 ⅞
U		-	2	5 ¼	2	6 ½	7	8 ¾	11	6
V		-	1	1 15/16	1	2 ¼	2	3	3 ¾	3
W		0.941 0.938	1.705 1.702	1.705 1.702	1.706 1.701	2.190 2.188	2.601 2.598	2.601 2.598	3.755 3.75	5.316 5.313
X		1 ⅛	1 ⅛	1 ⅛	1 ⅛	1 ½	1.8	1 ½	2 5/16	4 7/16
Y		9/32	13/32	13/32	13/32	11/16	13/16	1 ⅛	1 ⅜	1 ⅞
AA		4	7 ½	7 ½	7 ¼	8 ¾	10 ⅜	13	16 ¾	21 ⅜

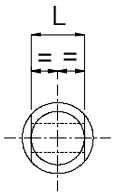
Translating Ball Screw End Fittings

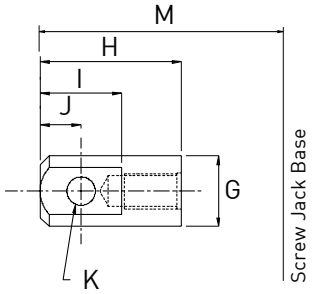
Top Plate





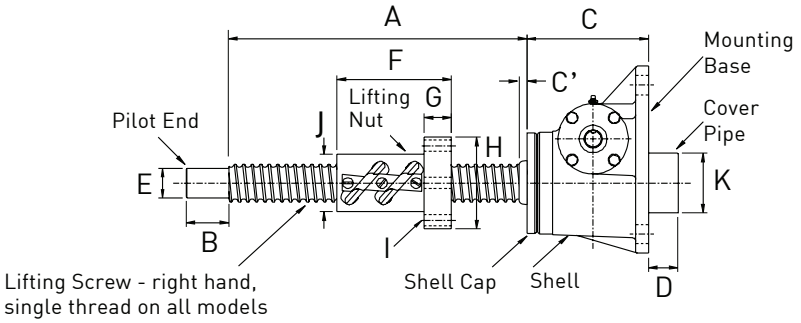
Clevis End





Model		M28631	M2802 M2902	M28021 M29021	M28003	M2805 M28051	M2810 M28101	M2820	M2825	M2860
A		Ø2.25	Ø4.25	Ø4.25	Ø4.25	Ø5	Ø5.75	Ø7	Ø8.5	Ø13
B		PCD 1.5	PCD 3	PCD 3	PCD 3	PCD 3.5	PCD 4.125	PCD 5	PCD 6	PCD 10
C		Ø0.75	Ø1.5	Ø1.5	Ø1.5	Ø1.75	Ø1.75	Ø2.625	Ø3.5	Ø4.5
D		13/16	1 13/16	1 13/16	1 13/16	1.25	1.375	2 5/16	2 5/16	2 13/16
E		5/16	7/16	7/16	7/16	0.625	0.75	1	1	1.375
F		Ø9/32	Ø13/32	Ø13/32	Ø13/32	Ø11/16	Ø13/16	Ø13/16	Ø1 1/16	Ø1 ½
G		Ø0.75	Ø1.5	Ø1.5	Ø1.5	Ø1.75	Ø2	Ø2.625	Ø3.5	Ø5
H		2.25	3	3	3	4.125	4.125	6.25	8.25	9.125
I		1	1.5	1.5	1.5	2.5	2.5	3	5	5.25
J		0.5	0.75	0.75	0.75	1.25	1.25	1.5	2.5	2.625
K		Ø5/16	Ø7/16	Ø7/16	Ø7/16	Ø5/8	Ø¾	Ø1	Ø1	Ø1 ⅜
L		0.5	1	1	1	1.25	1.5	1.75	2.75	3.75
M	Upright	6	8 ⅝	8 ⅝	10 ⅜	12 ½	12 ⅛	19	23 ¼	29 ⅛
	Inverted	2	2 ½	2 ½	2 ½	3 ⅛	3 ¼	5 ¼	6 ⅝	7 ⅜
N	Upright	5	7 ½	7 ½	9 5/16	10 ¾	10 ⅜	16 ½	19 ¾	25 7/16
	Inverted	1 1/16	1 7/16	1 7/16	1 7/16	1 7/16	1 9/16	2 13/16	3 3/16	3 11/16

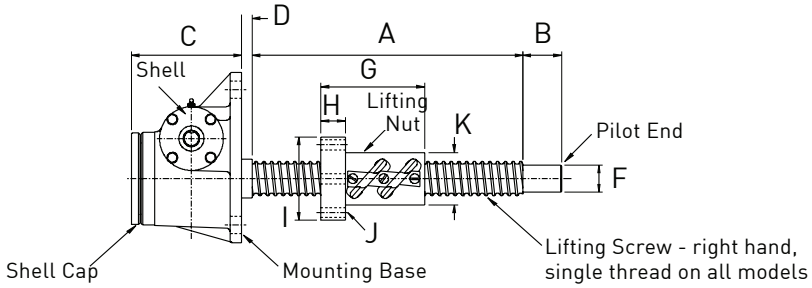
Upright Rotating Screw



Note:
1. *1" Lead models
2. ** Capacity in US Short Tons
3. SQR = Square
4. For other dimensions and performance data refer to translating screw model.
5. All dimensions in inches.
6. Dimensions subject to change without notice.

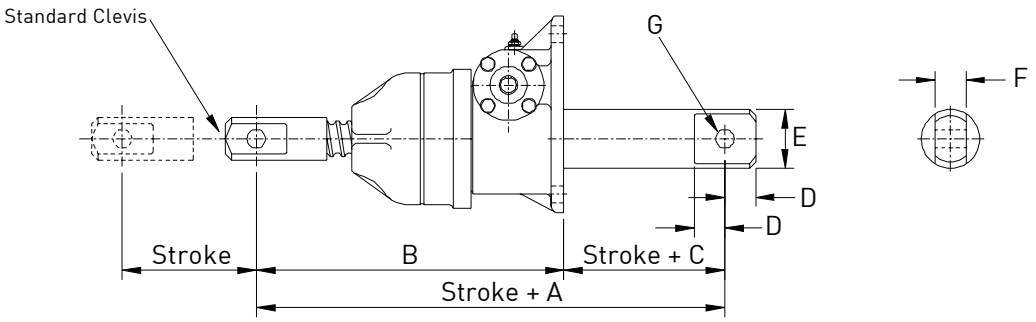
Model		UM 28632	KUM 2803	KUM 28031*	UM 2903	UM 29031*	KUM 28004	KUM 2806	KUM 28061*	UM 2811	UM 28111*	UM 2821	UM 2826	UM 2861*
Capacity**		0.25	2	2	2	2	3	5	5	10	10	20	25	50
Style		1	2	2	3	3	2	3	3	3	3	3	3	2
A		Stroke + 2	Stroke + 3 1⁄16	Stroke + 3 11⁄16	Stroke + 3 1⁄16	Stroke + 3 11⁄16	Stroke + 3 3⁄4	Stroke + 4 5⁄8	Stroke + 4	Stroke + 6	Stroke + 5	Stroke + 8	Stroke + 10	Stroke + 15
B		0.625	1.125	1.125	1.125	1.125	1.125	1	1	1	1	2.5	2.25	3.25
C		2.375	4.063	4.063	4.063	4.063	4.5	5.25	5.25	5.625	5.625	7.125	8.875	10.875
C'		0	0	0	0	0	7⁄16	0	0	0	0	1	1 5⁄8	1 1⁄8
D		0	0	0	0	0	0	0	0	0	0	0	0	0.75
ØE		0.437 0.435	0.750 0.748	0.750 0.748	0.750 0.748	0.750 0.748	0.750 0.748	1.000 0.998	1.000 0.998	1.000 0.998	1.000 0.998	1.750 1.748	2.250 2.248	3.250 3.248
F		1.75	2 3/8	3 1/32	2 3/8	3 1/32	3.395	4.33	3.65	4.33	3.65	6.706	9.395	12.625
G		0.531	0.625	0.625	0.625	0.625	0.832	0.895	1.02	0.895	1.02	1.582	2.02	2.02
ØH		2 5⁄8	3 1⁄4	3 1⁄4	3 1⁄4	3 1⁄4	4 1⁄8	4 15⁄16	4 15⁄16	4 15⁄16	4 15⁄16	5 3⁄8	7 3⁄8	9 3⁄4
I	**Holes**	4 x Ø17⁄64	4 x Ø17⁄64	4 x Ø17⁄64	4 x Ø17⁄64	4 x Ø17⁄64	4 x Ø25⁄64	4 x Ø17⁄32	4 x Ø17⁄32	4 x Ø17⁄32	4 x Ø17⁄32	6 x Ø21⁄32	8 x Ø25⁄32	6 x Ø1 1⁄32
	P.C.D.	2 3⁄32	2 3⁄4	2 3⁄4	2 3⁄4	2 3⁄4	3 7⁄16	4 1⁄16	4 1⁄8	4 1⁄16	4 1⁄8	4 3⁄8	6 1⁄4	8
ØJ		1 SQR.	1.5 SQR.	1.5 SQR.	1.5 SQR.	1.5 SQR.	2.125	2.625	2.625	2.625	2.625	3.375	4.751	5.88
ØK		0	0	0	0	0	0	0	0	0	0	3.5	4.5	5.563

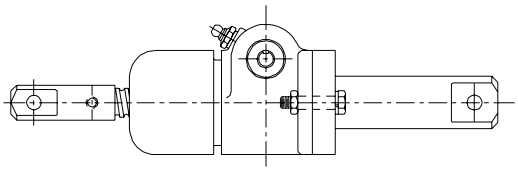
Inverted Rotating Screw



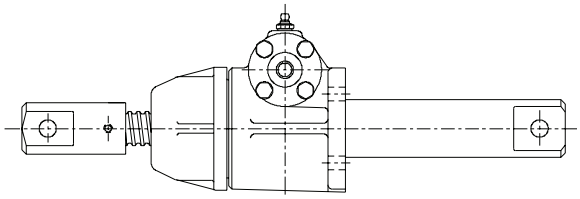
Note:
1. *1" Lead models
2. ** Capacity in US Short Tons
3. SQR = Square
4. For other dimensions and performance data refer to translating screw model.
5. All dimensions in inches.
6. Dimensions subject to change without notice.

Model		DM 28632	KDM 2803	KDM 28031*	DM 2903	DM 29031*	KDM 28004	KDM 2806	KDM 28061*	DM 2811	DM 28111*	DM 2821	DM 2826	DM 2861*
Capacity**		0.25	2	2	2	2	3	5	5	10	10	20	25	50
Style		1	2	2	3	3	2	3	3	3	3	3	3	2
A		Stroke + 2 3⁄8	Stroke + 3	Stroke + 3 5⁄8	Stroke + 3 1⁄16	Stroke + 3 5⁄8	Stroke + 3 3⁄4	Stroke + 4 5⁄8	Stroke + 4	Stroke + 6	Stroke + 5	Stroke + 8	Stroke + 10	Stroke + 15
B		0.625	1.125	1.125	1.125	1.125	1.125	1	1	1	1	2.5	2.25	3.25
C		2.375	4.063	4.063	4.063	4.063	4.5	5.25	5.25	5.625	5.625	7.125	8.875	10.875
D		0	0.625	0.625	0.625	0.625	1	0.75	0.75	1.125	1.125	1.625	2.5	2.5
ØF		0.437 0.435	0.750 0.748	0.750 0.748	0.750 0.748	0.750 0.748	0.750 0.748	1.000 0.998	1.000 0.998	1.000 0.998	1.000 0.998	1.750 1.748	2.250 2.248	3.250 3.248
G		1.75	2 3/8	3 1/32	2 3/8	3 1/32	3.395	4.33	3.65	4.33	3.65	6.706	9.395	12.625
H		0.531	0.625	0.625	0.625	0.625	0.832	0.895	1.02	0.895	1.02	1.582	2.02	2.02
ØI		2 5⁄8	3 1⁄4	3 1⁄4	3 1⁄4	3 1⁄4	4 1⁄8	4 15⁄16	4 15⁄16	4 15⁄16	4 15⁄16	5 3⁄8	7 3⁄8	9 3⁄4
J	**Holes**	4 x Ø17⁄64	4 x Ø17⁄64	4 x Ø17⁄64	4 x Ø17⁄64	4 x Ø17⁄64	4 x Ø25⁄64	4 x Ø17⁄32	4 x Ø17⁄32	4 x Ø17⁄32	4 x Ø17⁄32	6 x Ø21⁄32	8 x Ø25⁄32	6 x Ø1 1⁄32
	P.C.D.	2 3⁄32	2 3⁄4	2 3⁄4	2 3⁄4	2 3⁄4	3 7⁄16	4 1⁄16	4 1⁄8	4 1⁄16	4 1⁄8	4 3⁄8	6 1⁄4	8
ØK		1 SQR.	1.5 SQR.	1.5 SQR.	1.5 SQR.	1.5 SQR.	2.125	2.625	2.625	2.625	2.625	3.375	4.751	5.88

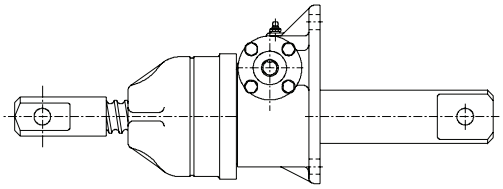




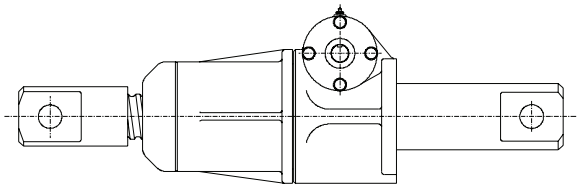
Style 1



Style 2



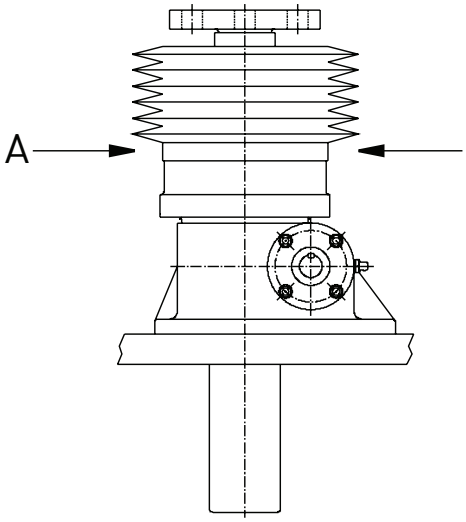
Style 3



Style 4

Model		CCM 28631	CCM 2802 & 28021	CCM 29021	CCM 28003	CCM 2805 & 28051	CCM 2810 & 28101	CCM 2820	CCM 2825	CCM 2860
Capacity (Short Tons)		0.5	2	2	3	5	10	20	25	50
Style		1	2	3	2	3	3	3	3	4
A		8.25	11.125	11.125	12.875	16.25	16	23	30.25	37.125
B		6	8.625	8.625	10.375	12.5	12.125	19	23.25	29.125
C		2.25	2.5	2.5	2.5	3.75	3.875	4	7	8
D		0.5	0.75	0.75	0.75	1.25	1.25	1.5	2.5	2.625
E		1.125	1.625	1.625	1.75	2.375	2.875	3.5	4.5	5.563
F		0.75	1	1	1	1.25	1.5	1.75	2.75	3.75
ØG		5/16	0.5	0.5	0.5	0.75	1	1.25	1.5	2
Max Allowable Stroke in Compression at load (lb)	**Stroke (in)**	7.875	15	15	15.5	20.375	20.5	34.5	47	63.5
	Load (lb)	1000	3800	3800	4200	7400	7400	20000	35000	61000
Max Stroke (inches) at Rated Load in Compression		7.875	14.5	14.5	11.5	16	9.5	21.5	37	47.5

Note:
1. For other performance and dimension details refer to translating ball screw jack section.
2. Dimensions subject to change without notice.
3. All dimensions in inches.



- Protects the screw from dust and dirt.
- Helps maintain the proper lubrication.
- Guards against moisture and corrosive contaminants.
- Boots are made of neoprene-coated nylon with sewn construction and considered "splash proof" for liquids. Other materials are available for applications involving full waterproof sealed construction, high temperatures, highly corrosive atmospheres and other special conditions.

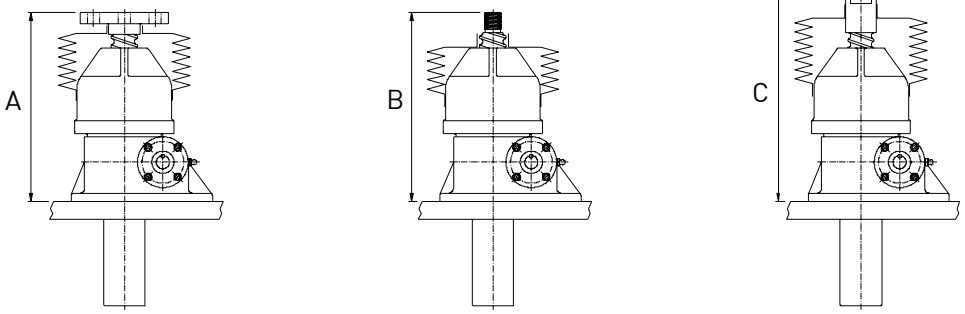
Boot Installation Data

Capacity	1000 lb	2 Ton	3 Ton	5 Ton
Shell Cap Diameter "A"	2.25	3.5	3.5	5.375

Capacity	10 Ton	20 Ton	25 Ton	50 Ton
Shell Cap Diameter "A"	4.5	7	8.875	9.5

Note:
1. For horizontal installations exceeding 18" of travel, internal boot guides / supports are recommended.

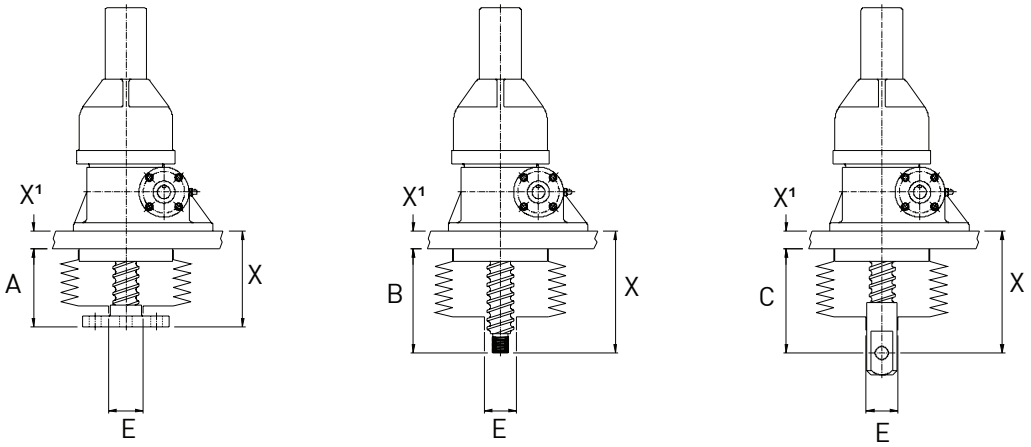
Upright Screw Jacks with Bellows Boots



Closed Height "B"		Stroke								Closed Height	
Model	Boot O.D.	1-12"	18"	24"	30"	36"	48"	60"	72"	"A"	"C"
M28631	4.50	5.000	-	-	-	-	-	-	-	B + 0	B + 1
M2802	6.63	7.500	7.500	7.500	8.500	-	-	-	-	B + 0	B + 1.125
M28021	6.63	7.500	7.500	7.500	8.500	-	-	-	-	B + 0	B + 1.125
M2902	6.63	7.500	7.500	7.500	8.500	-	-	-	-	B + 0	B + 1.125
M29021	6.63	7.500	7.500	7.500	8.500	-	-	-	-	B + 0	B + 1.125
M28003	6.63	9.250	9.250	9.250	10.250	10.250	11.250	-	-	B + 0.0625	B + 1.125
M2805	7.50	10.750	10.750	10.750	12.500	12.500	13.750	-	-	B + 0	B + 1.75
M28051	7.50	10.750	10.750	10.750	12.500	12.500	13.750	-	-	B + 0	B + 1.75
M2810	7.00	10.375	10.375	10.375	11.625	11.625	12.875	-	-	B + 0	B + 1.75
M28101	7.00	10.375	10.375	10.375	11.625	11.625	12.875	-	-	B + 0	B + 1.75
M2820	9.00	16.500	16.500	16.500	16.500	16.500	18.500	20.500	21.500	B + 0	B + 2.5
M2825	11.00	19.750	19.750	19.750	19.750	19.750	21.250	22.750	24.250	B + 0	B + 3.5
M2860	12.00	25.375	25.375	25.375	25.375	25.375	26.375	27.375	28.375	B + 0.0625	B + 3.75

Note:
1. "-" = Not Applicable
2. When boots are required for rotating screw jacks consult Power Jacks Ltd
3. For lengths of stroke not detailed in the above table consult Power Jacks Ltd.
4. All dimensions in inches.
5. Dimensions subject to change without notice.

Inverted Screw Jacks with Bellows Boots



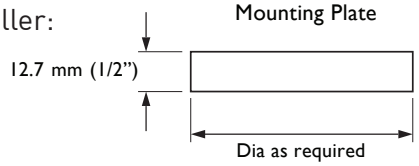
Finding minimum closed dimensions (X)

- Add your structure thickness X^1 to A, B, or C from the appropriate chart to find the minimum closed dimension.
- Other styles and sizes of boots can be supplied.
- In order to use a standard boot, make the mounting plate diameter the same as the shell cap diameter of the appropriate screw jack.
- When boots are required for rotating screw jacks consult Power Jacks Ltd.

Model	Stroke (inches)												Std. Boot Collar Dia.
	1"-6"			7"-12"			13"-18"			19"-24"			
	A	B	C	A	B	C	A	B	C	A	B	C	E
M28630	2	2	2 ¾	2 ⅜	2 ⅜	3¼	2¾	2¾	3 ¾	3 ¼	3 ¼	4 ¼	0.75
M2801 & M2901	4 ³⁄₁₆	4 ⅝	5 ¼	4 ³⁄₁₆	4 ⅝	5¼	4 ³⁄₁₆	4 ⅝	5 ¼	4 ³⁄₁₆	4 ⅝	5 ¼	1.5
M28002	4 ³⁄₁₆	4 ⅝	5 ¼	4 ³⁄₁₆	4 ⅝	5¼	4 ³⁄₁₆	4 ⅝	5 ¼	4 ³⁄₁₆	4 ⅝	5 ¼	1.5
M2804	4 ³⁄₁₆	5 ⅛	6 ⅛	4 ⅝	5 ⅛	6 ⅛	4 ⅝	5 ⅛	6 ⅛	4 ⅝	5 ⅛	6 ⅛	1.75
M2809	4¾	5 ⅛	6 ⅛	4 ¾	5 ⅛	6 ⅛	4 ¾	5 ⅛	6 ⅛	4 ¾	5 ⅛	6 ⅛	1.5
M2819	6 ¾	8	9 ¾	6 ¾	8	9 ¾	6 ¾	8	9 ¾	6¾	8	9 ¾	2.615
M2824	5 ½	6 ¾	9 ½	5 ½	6 ¾	9 ½	5 ½	6 ¾	9 ½	5 ½	6 ¾	9 ½	3.5
M2859	7 ¼	7 ¼	10 ⅞	7 ¼	7 ¼	10 ⅞	7 ¼	7 ¼	10 ⅞	7 ¼	7 ¼	10 ⅞	4.5

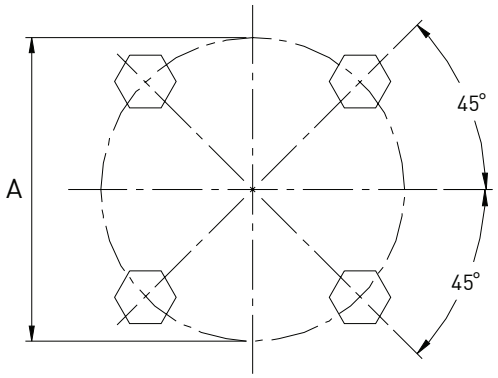
Value of X = *If A+X^1 and B+ X^1 are less than 12", X = 12". If greater than 12", use dimensions shown.
** If C+ X^1 is less than 9", X = 9". If greater than 9", use dimensions shown.

To be manufactured by installer:



Note:
1. Dimensions subject to change without notice.
2. All dimensions in inches.
3. For lengths of stroke not detailed in the above table consult Power Jacks Ltd.

Worm Shaft Flange Bolts

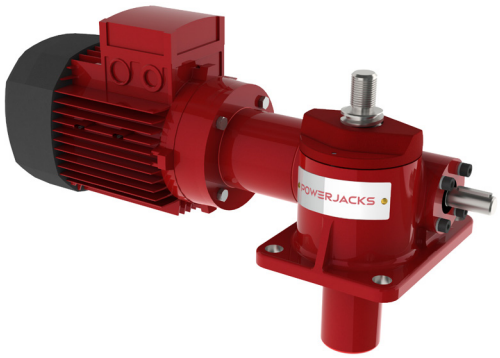


Model	Bolt P.C.D. (inch)	Bolt Information
M28631	-	No Flange Bolts
M2802 & M2902	1 11/16	1/4 - 20 x 3/4" Long
M28003	1 11/16	1/4 - 20 x 3/4" Long
M2805	2 3/8	5/16 - 18 x 3/4" Long
M2810	2 3/4	5/16 - 18 x 3/4" Long
M2820	3 1/2	3/8 - 16 x 1 1/4" Long
M2825	4 1/8	3/8 - 16 x 1 1/4" Long
M2860	5 1/4	5/8 - 11 x 1 1/2" Long

Note:
1. (-) indicates "not applicable".
2. For other performance and dimension information refer to translating screw model pages.
3. Dimensions subject to change without notice.
4. All dimensions in inches.

Motor Adaptors for Ball Screw Jacks

Dimensions and details are the same as the M-Series Machine Screw Jacks (refer to section 2).



Rotary Limit Switch Adaptors for Ball Screw Jacks

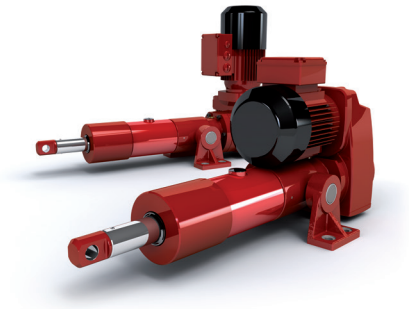
Dimensions and details are the same as the M-Series Machine Screw Jacks (refer to section 2).

Screw Jacks

- E-Series Metric Machine Screw Jacks 5 - 2000kN
- E-Series Metric Stainless Steel Screw Jacks 10 - 1000kN
- E-Series Metric Ball Screw Jacks 10 - 500kN
- C-Series Metric Cubic Machine Screw Jacks 10 - 100kN
- U-Series Subsea Screw Jacks 25 - 1000kN
- Special screw jack designs available up to 35000kN

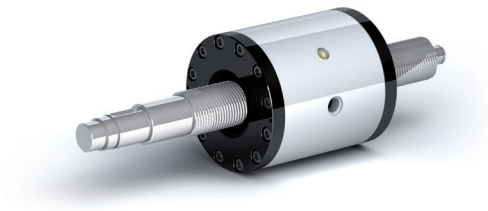
POWERAM Linear Actuators

- Machine Screw, Stainless Steel & Ball Screw Versions
- Low to Medium Duty applications.
- Dynamic Load Ratings 10kN - 200kN as standard
- Linear Speeds up to 5500 mm/min
- Motorised on non-motorised versions.
- Special Designs Available up to 2000kN



Rolaram Linear Actuators

- Ball Screw & Roller Screw
- High load, High Duty, High Speed
- Very High Accuracy
- Dynamic Load Ratings up to 400kN
- Linear Speeds up to 7000 mm/min
- 3-phase AC, 1-phase AC, DC and Servo mtotor drives.
- Special Designs Available



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- Torque Ratings up to 7000Nm
- Special Gear Ratios and Designs Available up to 20000Nm

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