

# MACHINE SCREW JACKS

Joyce offers Machine Screw Jacks in several designs including:

- Translating
- Keyed for non-rotation
- Keyed for traveling nut (KFTN)
- Double clevis
- Trunnion

A guide for ordering is on pages 20 and 21.



# MACHINE SCREW JACKS ORDERING INFORMATION

Instructions: Select a model number from this chart.

Miniature	1-Ton	2-Ton	2-Ton Reverse Base	3-Ton	5-Ton	10-Ton	15-Ton	20-Ton
WJ250 WJ500* WJ1000	WJ51 WJ201	WJT62 WJT122 WJT242 WJT252	RWJT62 RWJT122 RWJT242 RWJT252	WJ63 WJ123 WJ243 WJ253	WJT65 WJT125 WJT245 WJT255	WJ810 WJ2410 WJ2510	WJ815 WJ2415 WJ2515	WJ820 WJ2420 WJ2520
		DWJ62* DWJ122* DWJ242*	DRWJ62* DRWJ122* DRWJ242*	DWJ63* DWJ123* DWJ243*	DWJ65* DWJ125* DWJ245*	DWJ810* DWJ2410*	DWJ815* DWJ2415*	DWJ820* DWJ2420*
25-Ton	30-Ton	35-Ton	50-Ton	50-Ton Reverse Base	75-Ton	100-Ton	150-Ton	250-Ton
WJ1125 WJ3225	WJ1130 WJ3230	WJ1135 WJ3235	WJT1150 WJT3250	RWJT1150 RWJT3250	WJ1175 WJ3275	WJ12100 WJ36100	WJ12150 WJ36150	WJ50250
DWJ1125* DWJ3225*	DWJ1130* DWJ3230*							


**Important Note:** \*Not self-locking, may lower under load. Brake motors or external locking systems are recommended.

**D:** Double Lead Screw

**R:** Reverse Base Jack, (only available on 2-ton and 50-ton jacks).

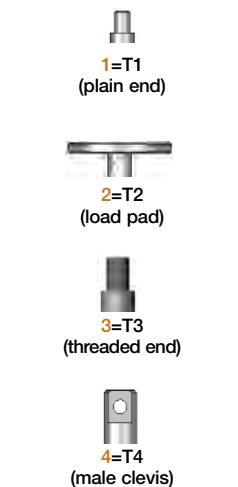
## Sample Part Number: WJT65U1N-18.50-STDX-STDX-B

**Jack Configuration**



**U=Upright**    **I=Inverted**

**End Conditions**



**1=T1**  
(plain end)

**2=T2**  
(load pad)

**3=T3**  
(threaded end)

**4=T4**  
(male clevis)


**Left Side Shaft Code**  
(see below)



**XXXX=Remove**  
**STDX=Standard**  
**CUST=Custom**

For optional shaft codes, see page 21.

**Right Side Shaft Code**  
(see below)



**XXXX=Remove**  
**STDX=Standard**  
**CUST=Custom**

For optional shaft codes, see page 21.

**Additional Options\***

**X=Standard Jack**, no additional options

**S=Additional Specification Required** (comment as necessary)

**Anti-Backlash**  
p. 181

**A=Split Nut**  
**A90=A90 Design**  
**A95=A95 Design**

**Protective Boots**  
pp. 170-173

**B=Protective Boot**  
**D=Dual Protective Boot**

**Finishes** p. 182

**F1=Do Not Paint**  
**F2=Epoxy Paint**  
**F3=Outdoor Paint Process**

**Motor Options**

**M1=Less Motor**  
**M2=Brake Motor**  
**M3=Single Phase Motor (120VAC)**  
**M4=50Hz Motor**  
**M5=Special Motor**

**Grease/Seals**

**H1=High Temperature Operation**  
**H2=Food Grade**

**Screw Stops**


**ST0=Extending**  
**ST1=Retracting**  
**ST2=Both**

\* Specify as many options as needed

**Machine Screw Jack Rise**

Rise is travel expressed in inches and not the actual screw length.

**Jack Designs**



**S=Translating**    **K=Keyed for Non Rotation**    **N=Traveling Nut**    **D=Double Clevis**    **A=KFTN Trunnion\***  
**T=Trunnion\***

\*Standard trunnion mounts available on 2-ton through 20-ton jacks. (See page 183)

# MACHINE SCREW JACKS SHAFT CODES

**Instructions:** Select the appropriate shaft codes for both right and left hand shafts. One shaft code must be specified for each side of the jack.

**Screw Stops (p. 10) and Boots (pp. 170-173)**


Screw stops are optional on machine screw jacks. When specified, the closed height of the jack and/or the protection tube length may be increased.

When boots are added to machine screw jacks, the closed height of the jack may be increased.

**Mechanical Counters (p. 180)**

**CNT0**=0.001" Increments

Note: Contact Joyce for availability and options.



**Hand Wheels (p. 180)**

**HW04**=4" dia  
**HW06**=6" dia  
**HW08**=8" dia  
**HW10**=10" dia  
**HW12**=12" dia


Recommended for self-locking jacks only.



**Geared Potentiometers (p. 175)**


**POTA**=0-10V  
**POTB**=4-20mA  
**POTC**=0-10V w/2 switches  
**POTD**=4-20mA w/2 switches

IP65 rated enclosures



**Encoders (pp. 176-177)**

**ENCA**=Absolute Encoder 0-10 VDC, programmable  
**ENCB**=Absolute Encoder 4-20mA, programmable  
**ENCC**=Absolute Encoder CAN Open  
**ENCD**=Absolute Encoder SSI  
**ENCS**=Stainless Steel Incremental Encoder 1024 PPR  
**ENCX**=Incremental Encoder 200 PPR  
**ENCY**=Incremental Encoder 1024 PPR



**Motors for Systems and Direct Drives (pp. 178-179)**

- All standard motors are 3-phase, 208-230/460 VAC or 230/460 VAC. Other motor options are available. Specify the appropriate motor size from the chart on the right.
- Refer to the "Additional Options" chart on the preceding page as needed.
- Brake motors (M2) are recommended for jacks that are not self-locking, and jacks with double lead screws.
- If the motor frequency will be varied to provide a "soft" start an inverter duty motor may be required.

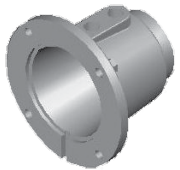
**Motors**

Size	Code
1/4 HP	K
1/3 HP	A
1/2 HP	B
3/4 HP	C
1 HP	D
1-1/2 HP	E
2 HP	F
3 HP	L
5 HP	G
7-1/2 HP	H
10 HP	I
15 HP	J

**Motor Mounts (pp. 178-179)**

Ordering Example:

**MMA A**



**MMA**=56C Motor code from chart at left  
**MMB**=140TC For servo motor mounts see p. 178  
**MMC**=180TC  
**MMD**=210TC

Standard motor adapters are aluminum.

**Mechanical Limit Switches (p. 174)**

Ordering Example: **LA13**

**Models**

Model	Code
LS7-402	LI
LS8-402	LA
LS8-404	LB

Number of DPDT Switches (see p. 174)

NOTE:  
Will always be 0 for LS7 models

**Available Positions**

	1	2*	3	4	5	6*	7	8
Left Side Shaft Options								
Right Side Shaft Options								

• 2, 3, 5, 10, 15, and 20 ton jacks are available with positions #1, #3, and #5  
 • 25, 30, 35, 50, 75, 100, and 150 ton jacks are available with positions #1, #4, #7, and #8  
 \*These positions are not standard. Contact Joyce with your requirements.

# MACHINE SCREW JACKS SPECIFICATIONS

Model	Capacity	Screw Diameter (Inches)	Thread Pitch/Lead	Worm Gear Ratio	Worm Shaft Turns for 1" Travel	Tare Torque (Inch Lbs.)	Starting Torque (Inch Lbs.)	Operating Torque (Inch Lbs.)	Efficiency Rating % Approx.	Screw Torque (Inch Lbs.)	Basic Jack Weight (Lbs.)	Jack Weight per Inch Travel (Lbs.)					
WJ250	250 lbs.	5/8	.125 pitch STUB ACME	5:1	40	1	.047W*	.040W* @ 500 RPM	10.0	.083W*	1.2	0.1					
WJ500	500 lbs.	5/8	.125 pitch .250 lead STUB ACME	5:1	20	1	.041W*	.030W* @ 500 RPM	27.2	.079W*	1.3	0.1					
WJ1000	1,000 lbs.	5/8	.125 pitch STUB ACME	5:1	40	1	.030W*	.021W* @ 500 RPM	19.9	.059W*	1.3	0.1					
WJ51	1 ton	3/4	.200 pitch ACME 2C	5:1	25	3	.038W*	.026W* @ 500 RPM	25.0	.075W*	6	0.3					
WJ201				20:1	100		.017W*	.009W* @ 500 RPM	15.9								
(R)WJT62	2 ton	1	.250 pitch ACME 2C	6:1	24	4	.041W*	.028W* @ 500 RPM	24.2	.098W*	15	0.3					
(R)WJT122				12:1	48		.025W*	.015W* @ 500 RPM	22.0								
(R)WJT242				24:1	96		.018W*	.009W* @ 500 RPM	18.3								
(R)WJT252				25:1	100		.015W*	.0085W* @ 500 RPM	17.0								
D(R)WJ62			6:1	12	.250 pitch .500 lead ACME 2C		12:1	24	4	.057W*			.039W* @ 500 RPM	33.7	.139W*	15	0.3
D(R)WJ122			12:1	24						.035W*			.022W* @ 500 RPM	30.5			
D(R)WJ242			24:1	48						.025W*			.013W* @ 500 RPM	25.4			
WJ63	3 ton	1	.250 pitch ACME 2C	6:1	24	6	.040W*	.029W* @ 500 RPM	24.3	.098W*	17	0.4					
WJ123				12:1	48		.025W*	.016W* @ 500 RPM	22.2								
WJ243				24:1	96		.017W*	.009W* @ 500 RPM	18.5								
WJ253				25:1	100		.0155W*	.009W* @ 500 RPM	17.8								
DWJ63			6:1	12	.250 pitch .500 lead ACME 2C		12:1	24	6	.055W*			.041W* @ 500 RPM	33.8	.139W*	17	0.4
DWJ123			12:1	24						.034W*			.022W* @ 500 RPM	30.7			
DWJ243			24:1	48						.024W*			.013W* @ 500 RPM	25.6			
WJT65	5 ton	1 1/2	.375 pitch STUB ACME	6:1	16	10	.065W*	.044W* @ 300 RPM	23.0	.151W*	32	0.7					
WJT125				12:1	32		.041W*	.025W* @ 300 RPM	20.6								
WJT245				24:1	64		.029W*	.015W* @ 300 RPM	16.7								
WJT255			25:1	100	.250 pitch ACME 2C		12:1	24	10	.022W*			.011W* @ 300 RPM	13.4	.131W*	32	0.7
DWJ65			6:1	12						.072W*			.050W* @ 300 RPM	26.8			
DWJ125			12:1	24						.045W*			.028W* @ 300 RPM	23.9			
DWJ245			24:1	48						.033W*			.017W* @ 300 RPM	19.6			
WJ810	10 ton	2	.500 pitch ACME 2C	8:1	16	20	.061W*	.043W* @ 200 RPM	23.1	.195W*	43	1.3					
WJ2410				24:1	48		.030W*	.018W* @ 200 RPM	18.8								
WJ2510			25:1	100	.250 pitch ACME 2C		8:1	12	20	.024W*			.014W* @ 200 RPM	11.3	.161W*	43	1.3
DWJ810			8:1	12						.070W*			.062W* @ 200 RPM	31.9			
DWJ2410			24:1	36						.035W*			.026W* @ 200 RPM	25.9			

**Important Note:** Series DWJ double lead screw jacks and WJ500 screw jacks are not self-locking. Brake motors or external locking systems are recommended.

(R): Reverse Base Jack.

\*W: Load in pounds.

**Tare Torque:** Initial torque to overcome seal and normal assembly drag. This value must be added to starting torque or operating torque values.

**Starting Torque:** Torque value required to start moving the rated load (dissipates to operating torque values once the load begins moving).

**Operating Torque:** Torque required to continuously raise a given load at the input RPM listed.

**Note:** If your actual input RPM is 20% higher or lower than the listed RPM, please refer to JAX® Online to determine actual torque values at your RPM.

**Screw Torque:** Torque required to resist screw rotation (Translating Design Jacks) and traveling nut rotation (Keyed for Traveling Nut Design Jacks).

**Lead:** The distance traveled axially in one rotation of the lifting screw.

**Pitch:** The distance from a point on a screw thread to a corresponding point on the next thread, measured axially.

**Note:** This chart is provided for reference only. For specific information such as column loading, allowable continuous travel and other performance factors please refer to JAX® Online software or contact Joyce.

# MACHINE SCREW JACKS SPECIFICATIONS

Model	Capacity	Screw Diameter (Inches)	Thread Pitch/Lead	Worm Gear Ratio	Worm Shaft Turns for 1" Travel	Tare Torque (Inch Lbs.)	Starting Torque (Inch Lbs.)	Operating Torque (Inch Lbs.)	Efficiency Rating % Approx	Screw Torque (Inch Lbs.)	Basic Jack Weight (Lbs.)	Jack Weight per Inch Travel (Lbs.)
WJ815	15 ton	2 1/4	.500 pitch ACME 2C	8:1	16	30	.069W*	.047W* @ 200 RPM	21.1	.210W*	59	1.4
WJ2415				24:1	48		.036W*	.020W* @ 200 RPM	16.6			
WJ2515			.250 pitch ACME 2C	25:1	100		.026W*	.015W* @ 200 RPM	10.2			
DWJ815		2 1/4		.333 pitch .666 lead ACME 2C	8:1		12	.079W*	.058W* @ 200 RPM	34.4		
DWJ2415			24:1		36		.041W*	.025W* @ 200 RPM	27.0			
WJ820	20 ton	2 1/2	.500 pitch ACME 2C	8:1	16	40	.075W*	.051W* @ 200 RPM	19.6	.227W*	77	1.9
WJ2420				24:1	48		.039W*	.022W* @ 200 RPM	15.4			
WJ2520			.250 pitch ACME 2C	25:1	100		.029W*	.016W* @ 200 RPM	9.4			
DWJ820		2 1/2		.375 pitch .750 lead ACME 2C	8:1		10.67	.088W*	.061W* @ 200 RPM	24.5		
DWJ2420			24:1		32		.046W*	.026W* @ 200 RPM	19.3			
WJ1125	25 ton	3 3/8	.666 pitch Stub ACME	11:1	16	50	.088W*	.055W* @ 200 RPM	18.3	.313W*	164	3.1
WJ3225				32:1	48		.053W*	.025W* @ 200 RPM	13.5			
DWJ1125		3 3/8	.562 pitch 1.125 lead ACME 2C	11:1	9.5		.106W*	.067W* @ 200 RPM	25.1			
DWJ3225				32:1	28.5		.063W*	.030W* @ 200 RPM	18.6			
WJ1130	30 ton	3 1/2	.666 pitch ACME 2C	11:1	16	60	.088W*	.055W* @ 200 RPM	18.3	.313W*	164	3.0
WJ3230				32:1	48		.052W*	.025W* @ 200 RPM	13.5			
DWJ1130		3 1/2	.5625 pitch 1.125 lead ACME 2C	11:1	9.5		.107W*	.067W* @ 200 RPM	25.1			
DWJ3230				32:1	28.5		.064W*	.030W* @ 200 RPM	18.6			
WJ1135	35 ton	3 3/4	.666 pitch ACME 2C	11:1	16	70	.093W*	.057W* @ 200 RPM	17.4	.328W*	240	3.4
WJ3235				32:1	48		.055W*	.026W* @ 200 RPM	12.9			
(R)WJT1150	50 ton	4 1/2	.666 pitch ACME 2C	11:1	16	100	.095W*	.063W* @ 150 RPM	15.8	.378W*	387	6.1
(R)WJT3250				32:1	48		.050W*	.027W* @ 150 RPM	12.4			
WJ1175	75 ton	5	.666 pitch ACME 2C	11:1	16	155	.107W*	.067W* @ 150 RPM	14.8	.418W*	610	6.5
WJ3275				32:1	48		.056W*	.028W* @ 150 RPM	11.7			
WJ12100	100 ton	6	.750 pitch ACME 2C	12:1	16	205	.112W*	.072W* @ 90 RPM	13.9	.495W*	1010	10.0
WJ36100				36:1	48		.059W*	.031W* @ 90 RPM	10.8			
WJ12150	150 ton	7	1.00 pitch ACME 2C	12:1	12	300	.134W*	.084W* @ 90 RPM	15.7	.595W*	1350	12.2
WJ36150				36:1	36		.070W*	.037W* @ 90 RPM	12.1			
WJ50250	250 ton	9	1.00 pitch ACME 2C	50:1	50	500		.036W* @ 60 RPM	8.8	.711W*	3415	21.0

**Important Note:** Series DWJ double lead screw jacks and WJ500 screw jacks are not self-locking. Brake motors or external locking systems are recommended.

(R): Reverse Base Jack.

\*W: Load in pounds.

**Tare Torque:** Initial torque to overcome seal and normal assembly drag. This value must be added to starting torque or operating torque values.

**Starting Torque:** Torque value required to start moving the rated load (dissipates to operating torque values once the load begins moving).

**Operating Torque:** Torque required to continuously raise a given load at the input RPM listed.

**Note:** If your actual input RPM is 20% higher or lower than the listed RPM, please refer to JAX® Online to determine actual torque values at your RPM.

**Screw Torque:** Torque required to resist screw rotation (Translating Design Jacks) and traveling nut rotation (Keyed for Traveling Nut Design Jacks).

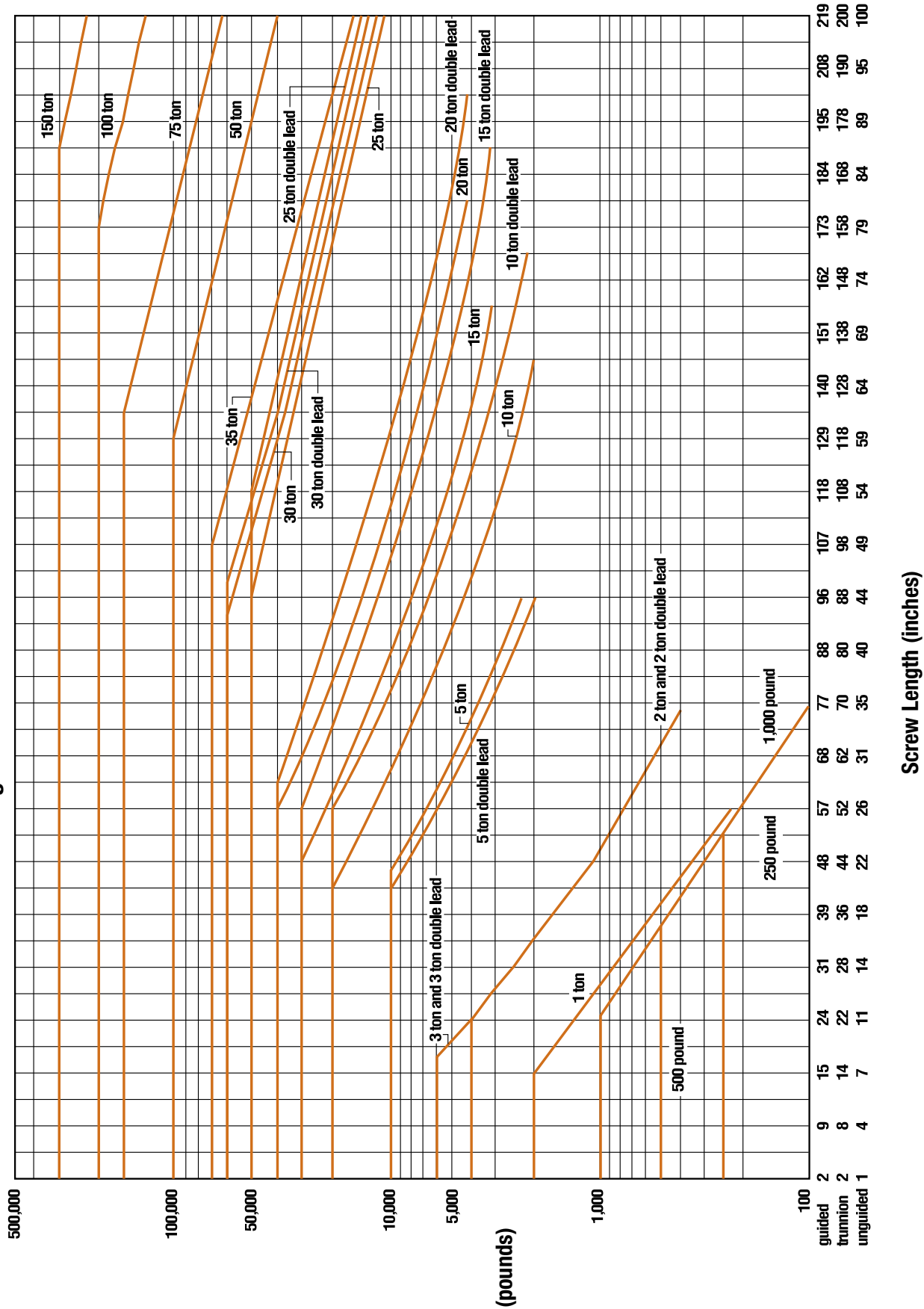
**Lead:** The distance traveled axially in one rotation of the lifting screw.

**Pitch:** The distance from a point on a screw thread to a corresponding point on the next thread, measured axially.

**Note:** This chart is provided for reference only. For specific information such as column loading, allowable continuous travel and other performance factors please refer to JAX® Online software or contact Joyce.

# MACHINE SCREW JACKS COLUMN LOADING

Machine Screw Jack Column Loading Chart

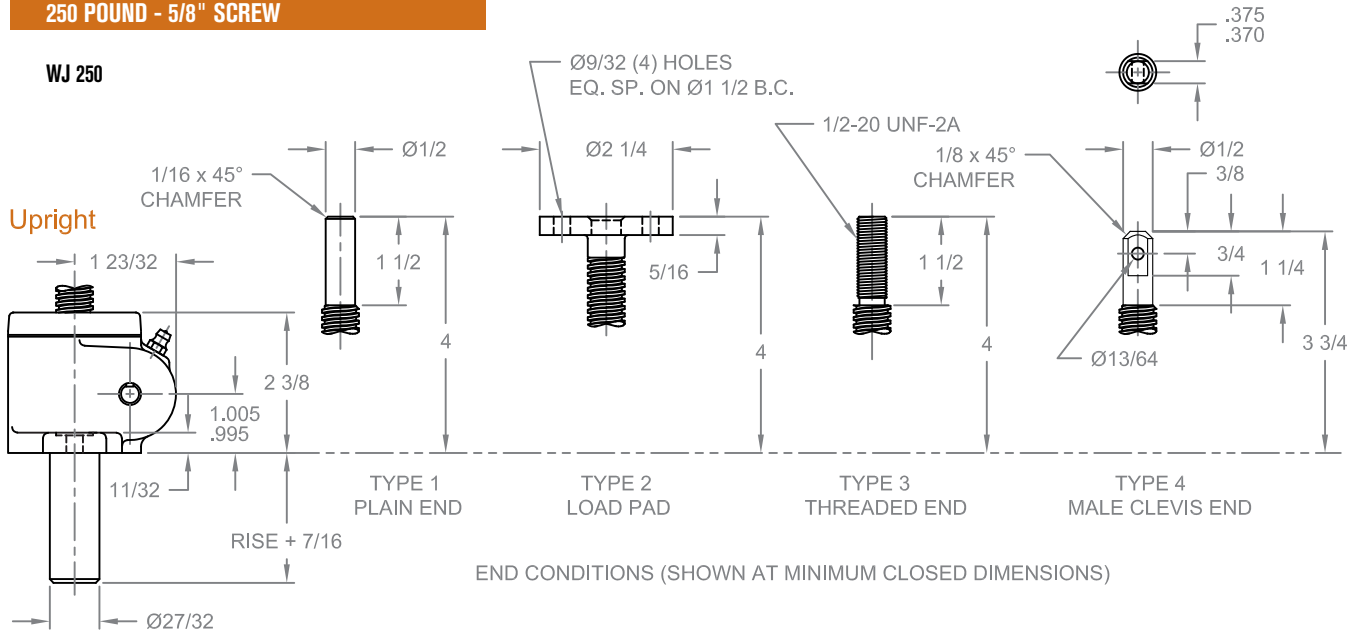


This chart includes a 2:1 Factor-of-Safety based on the Euler-Johnson equation for column loading (Oberg, Erik et al: Machinery's Handbook, 24th Edition. c. 1992 Industrial Press Inc.) The horizontal portion of each line represents the jack's maximum dynamic capacity. Under static conditions, these lines can be exceeded. Please contact factory for assistance.

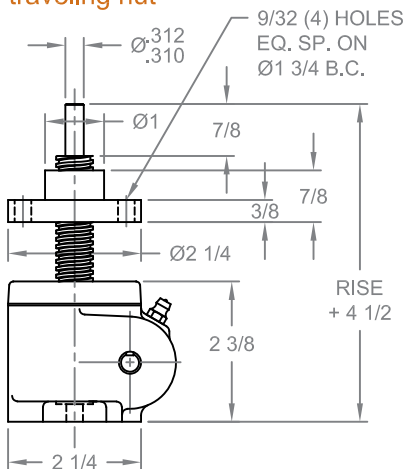
# MACHINE SCREW JACKS

250 POUND - 5/8" SCREW

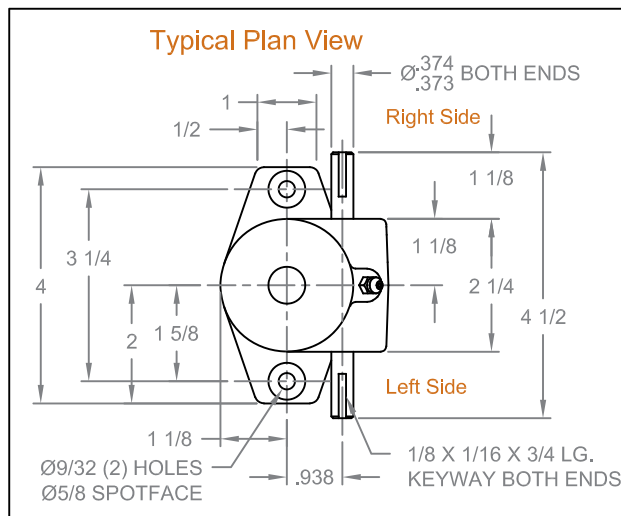
WJ 250



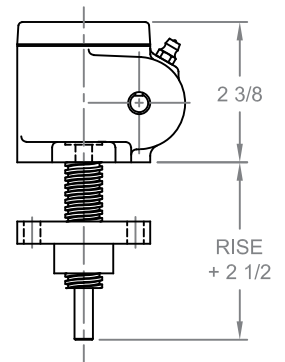
Upright traveling nut



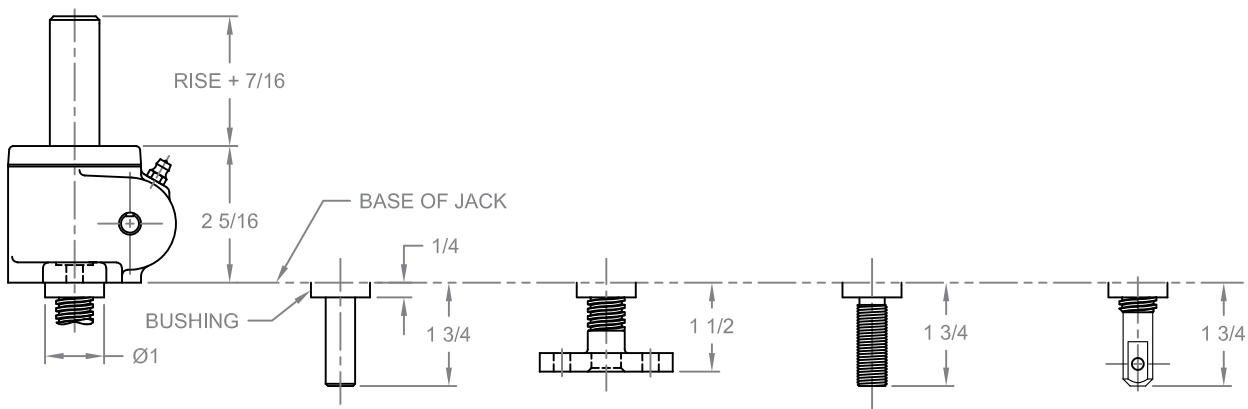
Typical Plan View



Inverted traveling nut



Inverted

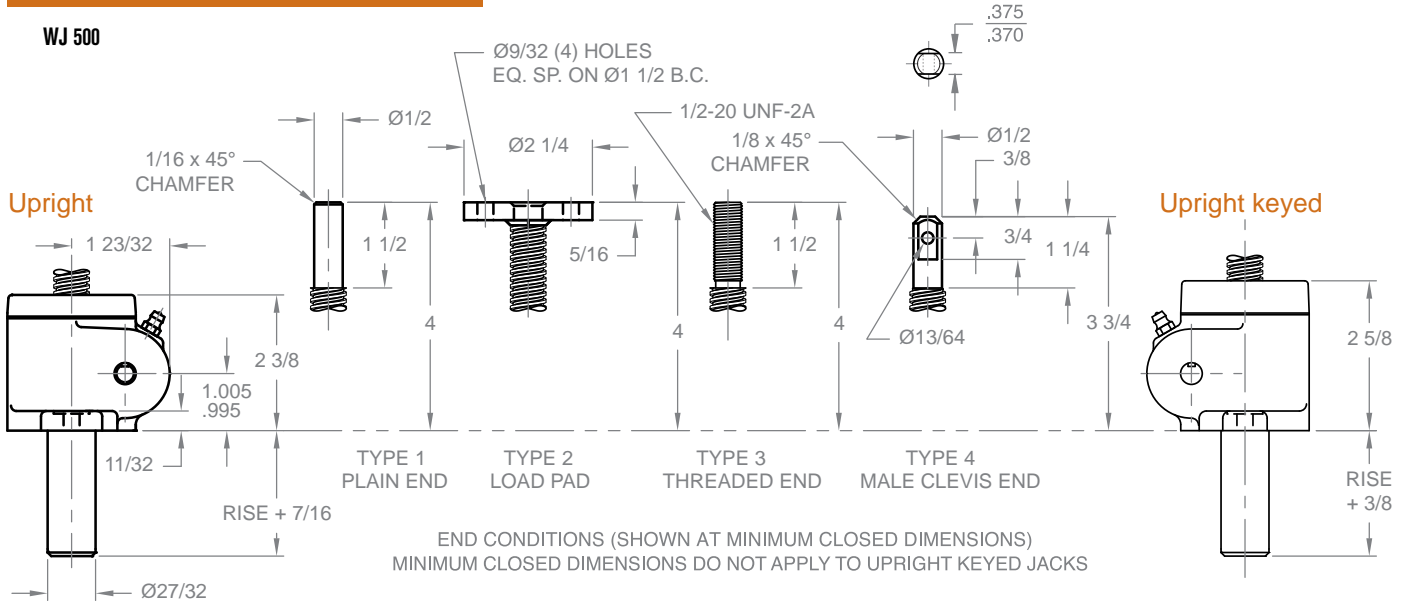


Material Notes: Housing and protection tube are aluminum. lifting screw is 304 S.S. Input shaft (worm) is 416 S.S.  
Note: Drawings are artist's conception - not for certification; dimensions are subject to change without notice.

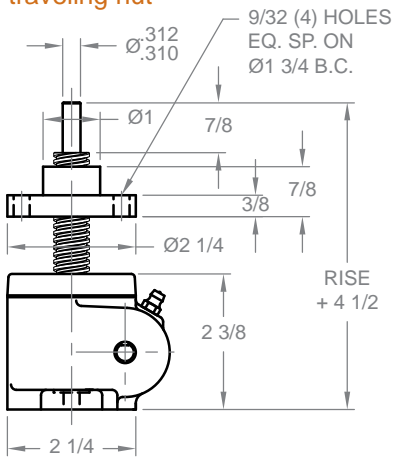
# MACHINE SCREW JACKS

500 POUND - 5/8" SCREW

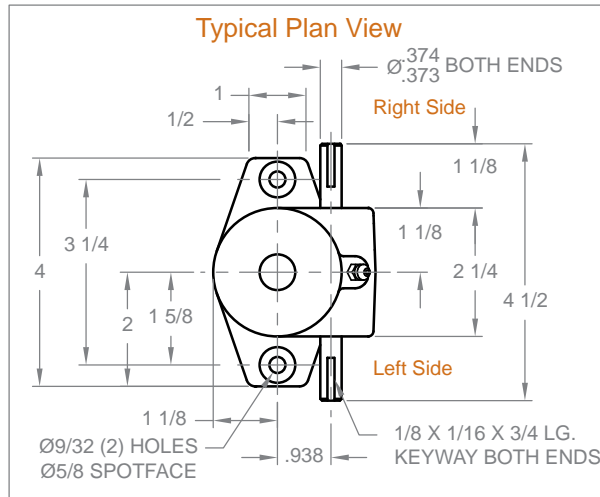
WJ 500



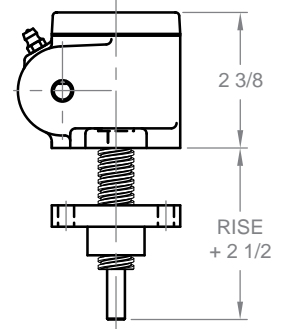
**Upright traveling nut**



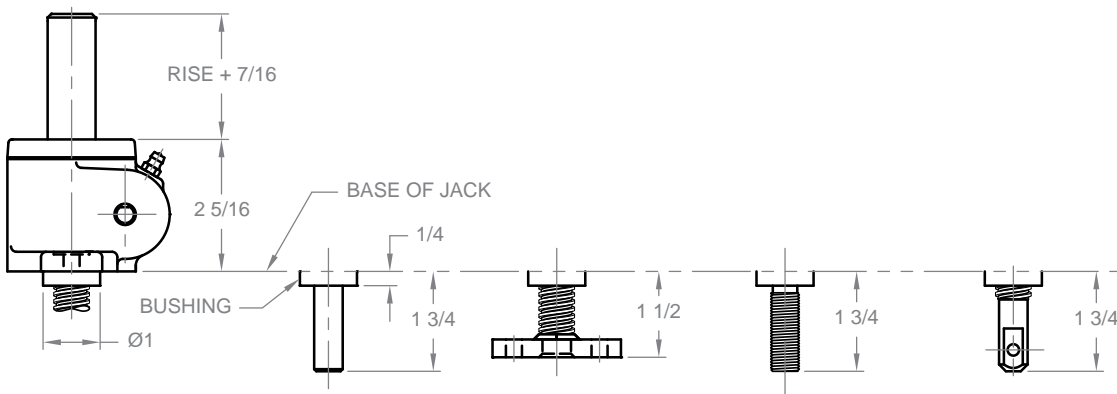
**Typical Plan View**



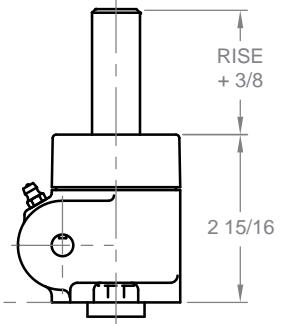
**Inverted traveling nut**



**Inverted**



**Inverted keyed**



Material Notes: Housing and protection tube are aluminum. Lifting screw is 304 S.S. Input shaft (worm) is 416 S.S.

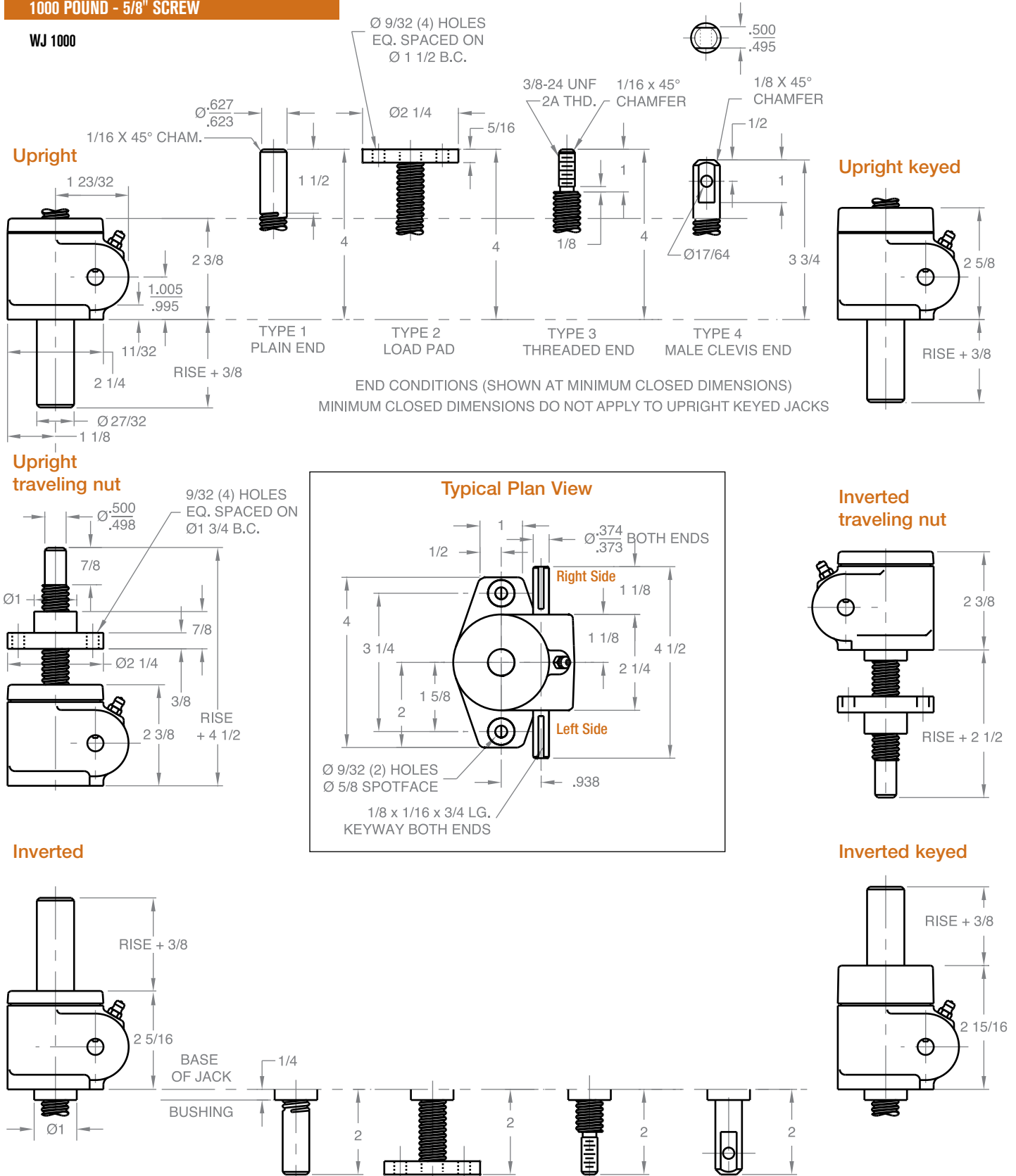
Note: Drawings are artist's conception - not for certification; dimensions are subject to change without notice.



# MACHINE SCREW JACKS

1000 POUND - 5/8" SCREW

WJ 1000



Material Notes: Housing and protection tube are aluminum. Lifting screw is 304 S.S. Input shaft (worm) is 416 S.S.

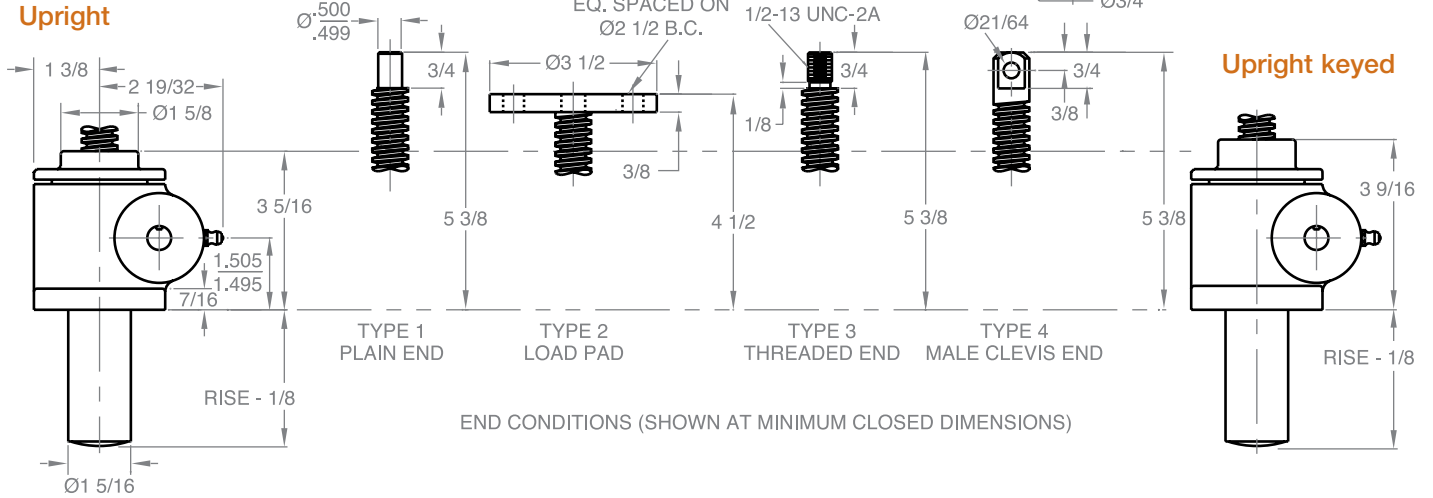
Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

# MACHINE SCREW JACKS

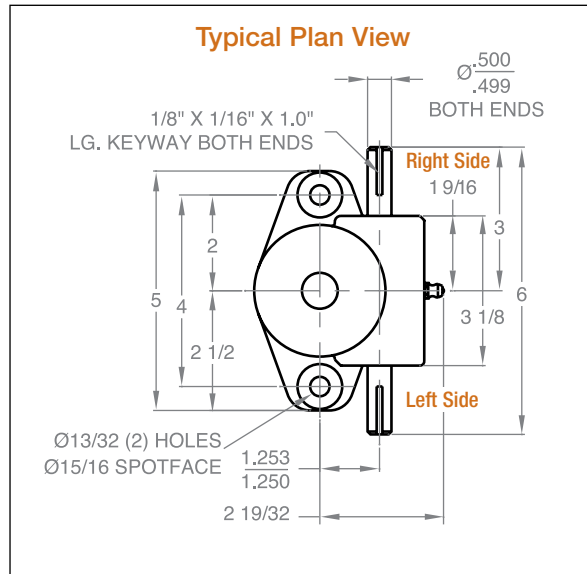
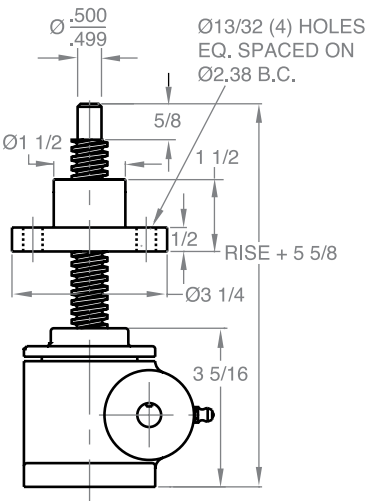
1 TON - 3/4" SCREW

WJ 51 / WJ 201

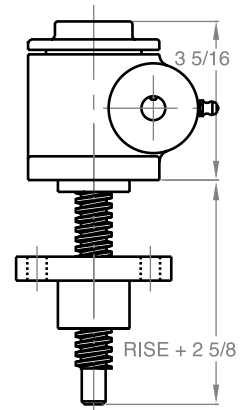
Upright



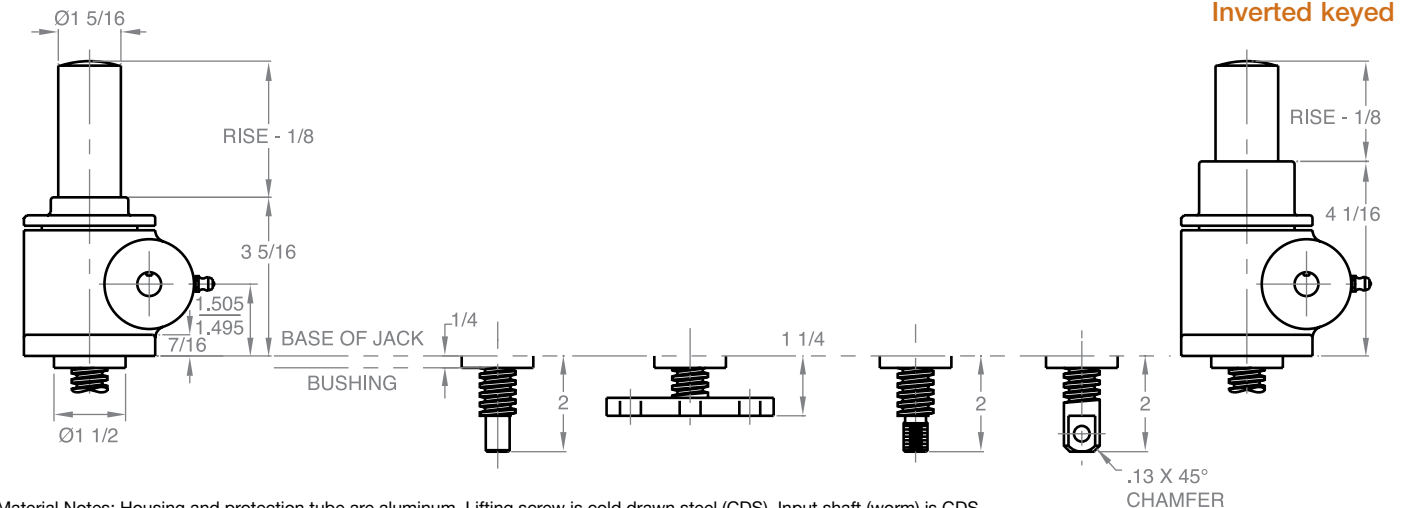
Upright traveling nut



Inverted traveling nut



Inverted



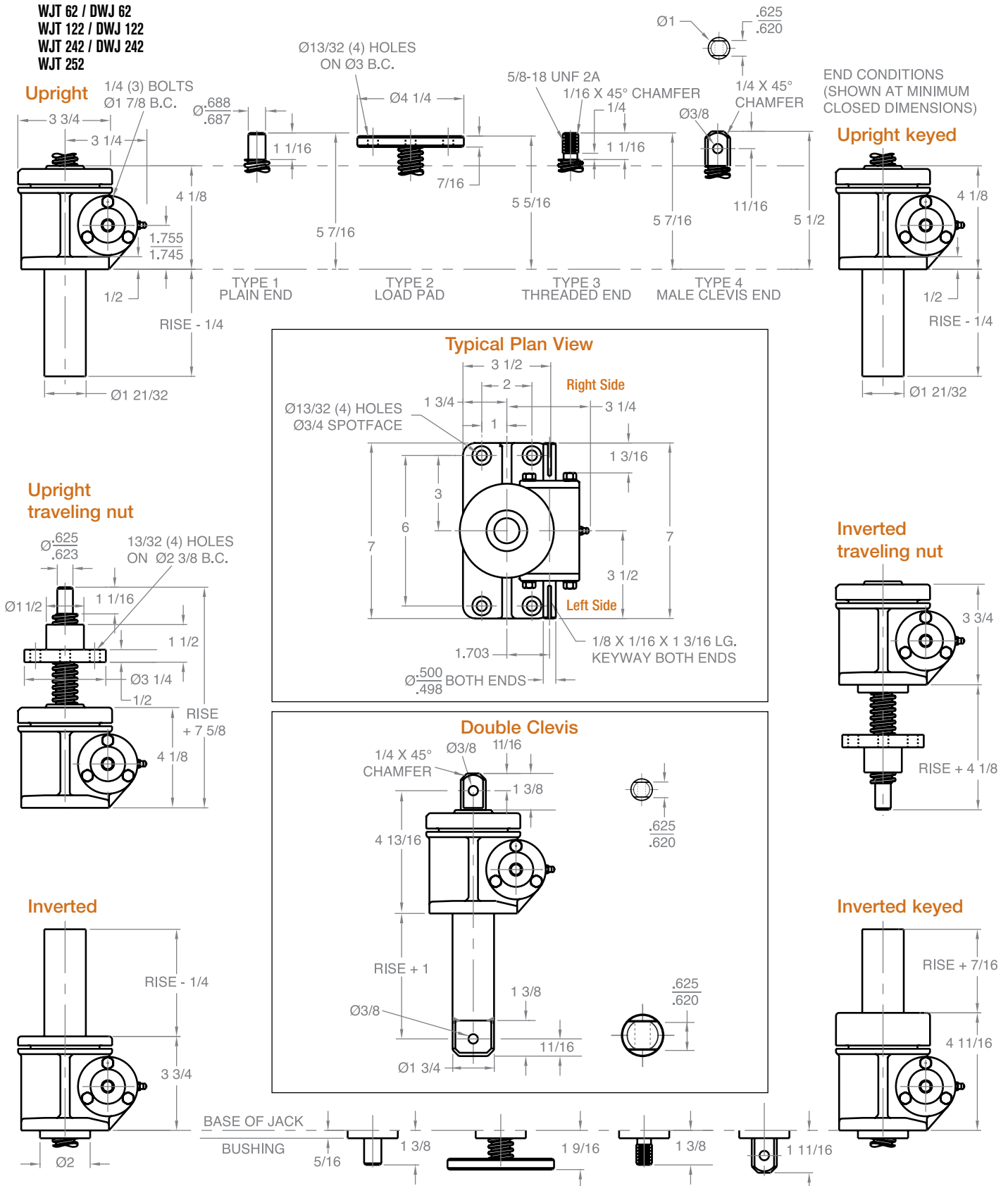
Material Notes: Housing and protection tube are aluminum. Lifting screw is cold drawn steel (CDS). Input shaft (worm) is CDS.

Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

# MACHINE SCREW JACKS

## 2 TON - 1" SCREW

WJT 62 / DWJ 62  
 WJT 122 / DWJ 122  
 WJT 242 / DWJ 242  
 WJT 252



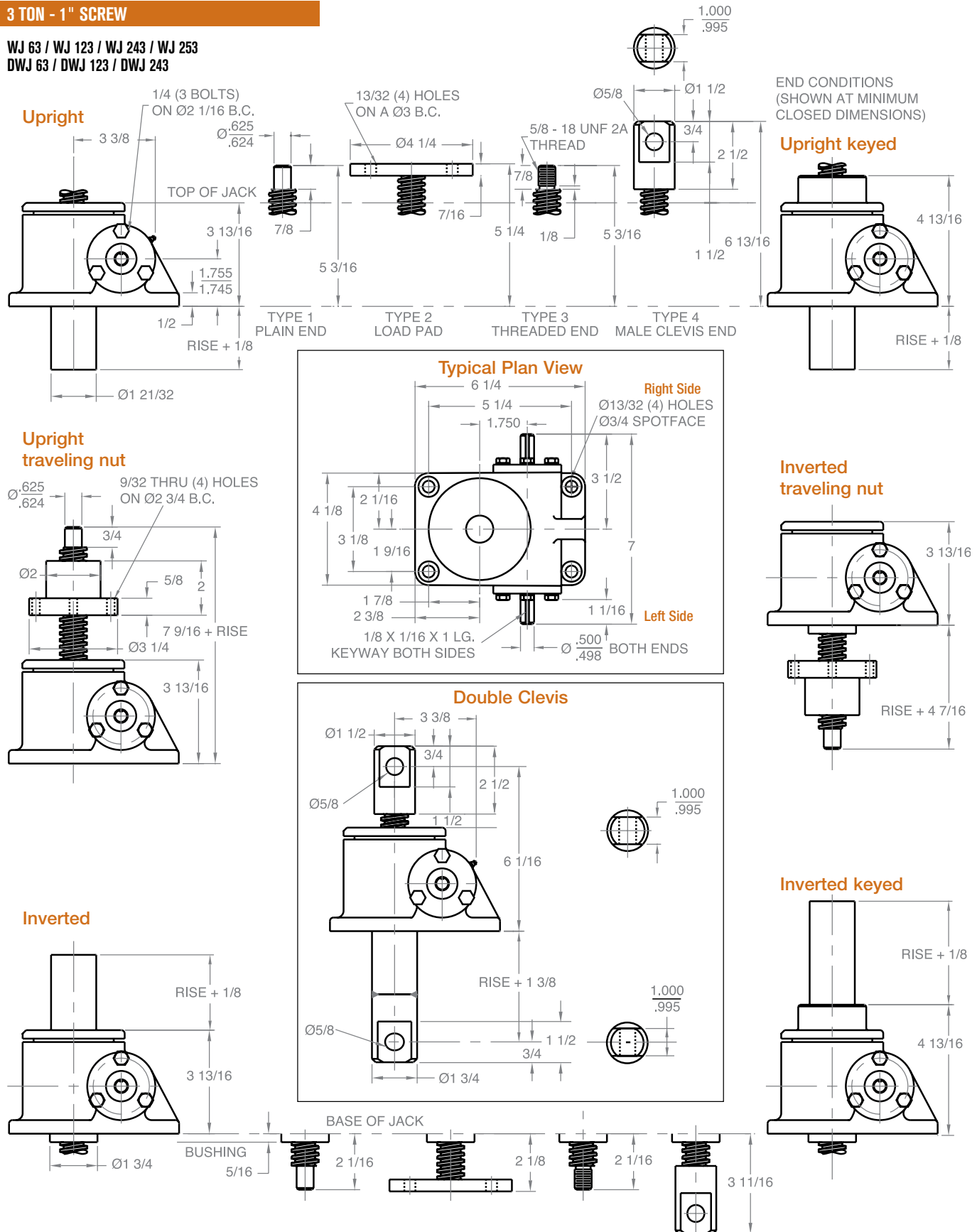
Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.



# MACHINE SCREW JACKS

## 3 TON - 1" SCREW

WJ 63 / WJ 123 / WJ 243 / WJ 253  
 DWJ 63 / DWJ 123 / DWJ 243

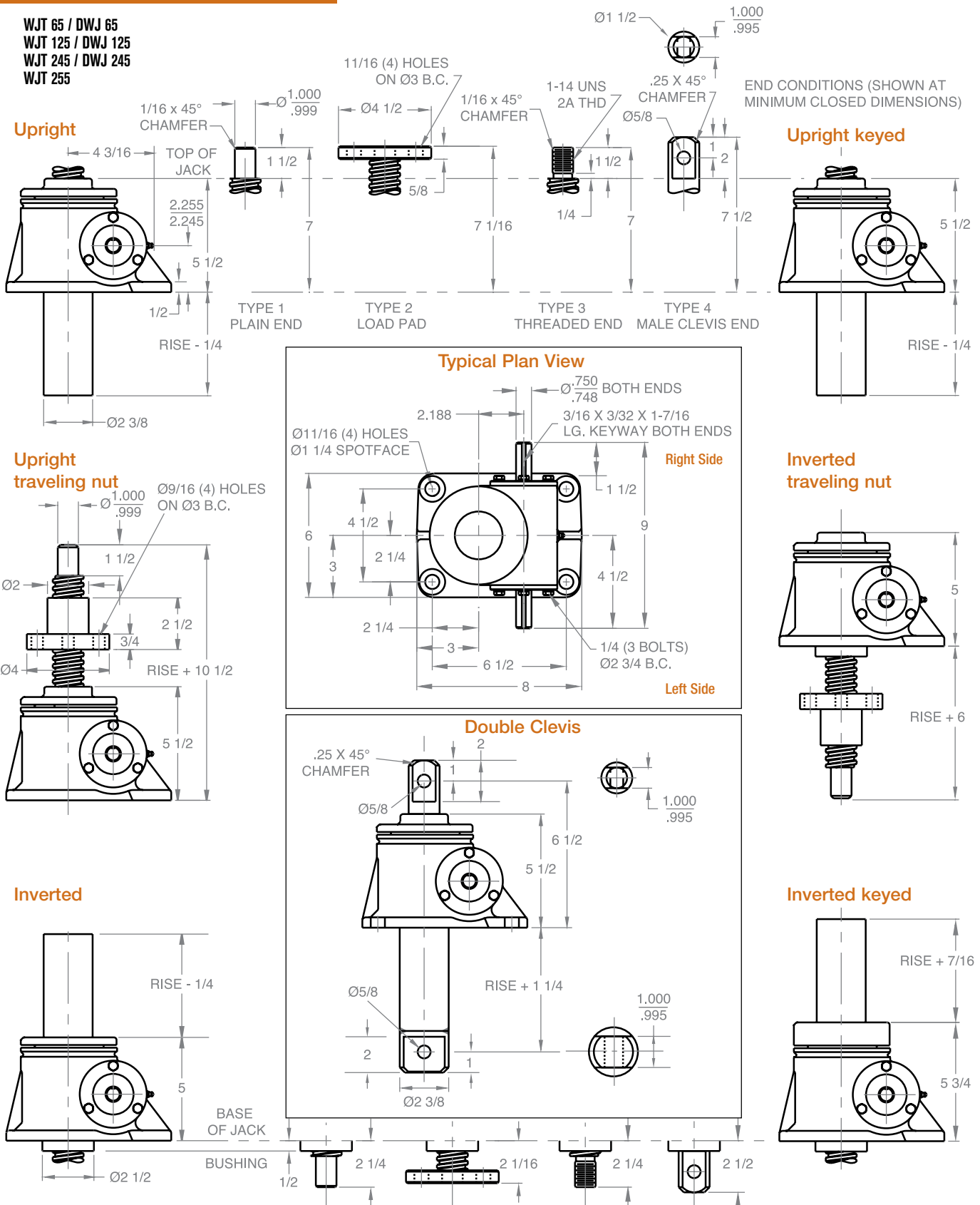


Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice. Minimum closed dimensions do not apply to upright keyed jacks.

# MACHINE SCREW JACKS

## 5 TON - 1 1/2" SCREW

WJT 65 / DWJ 65  
 WJT 125 / DWJ 125  
 WJT 245 / DWJ 245  
 WJT 255



Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

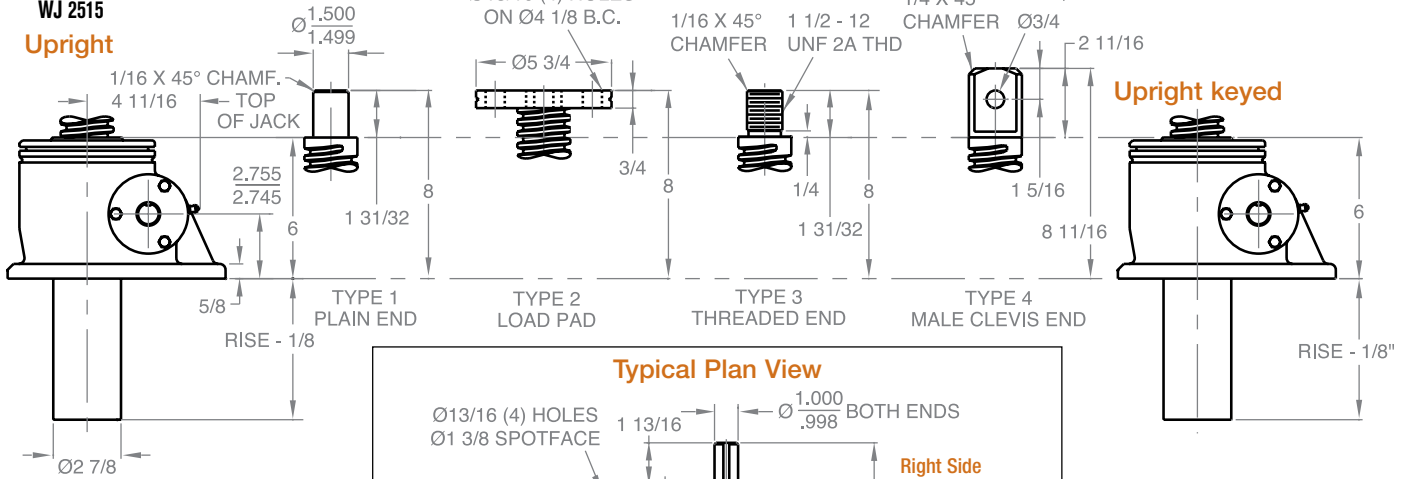


# MACHINE SCREW JACKS

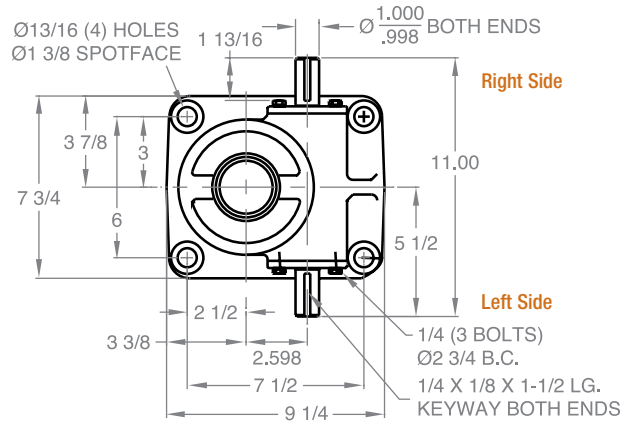
15 TON - 2 1/4" SCREW

WJ 815 / DWJ 815  
WJ 2415 / DWJ 2415  
WJ 2515

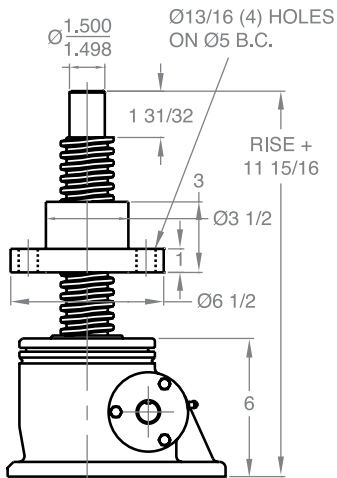
## Upright



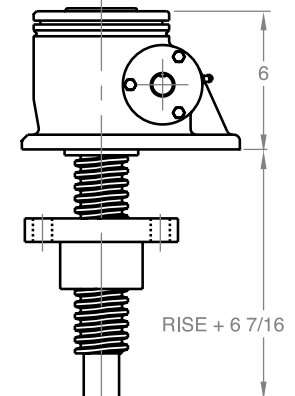
## Typical Plan View



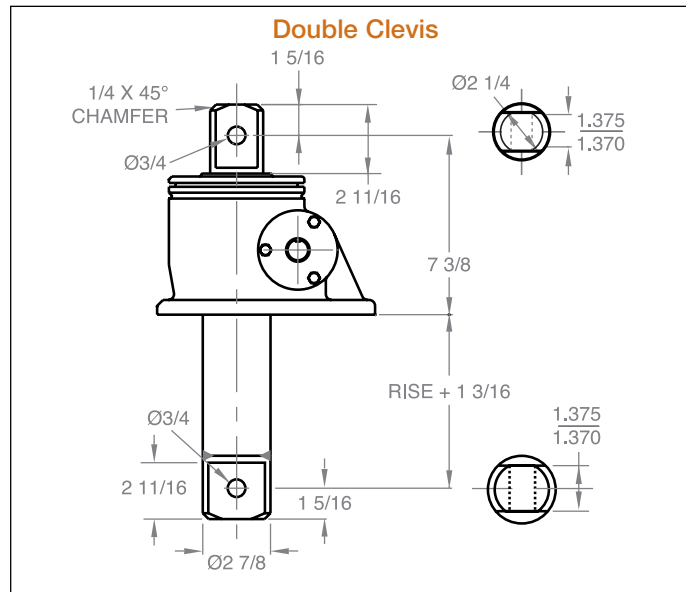
## Upright traveling nut



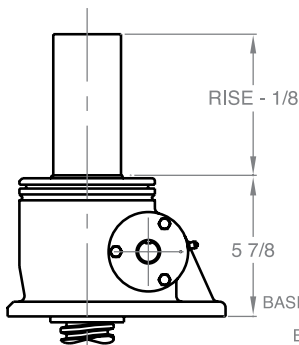
## Inverted traveling nut



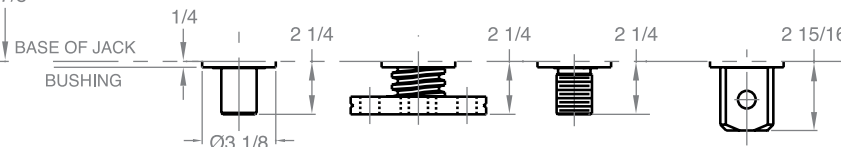
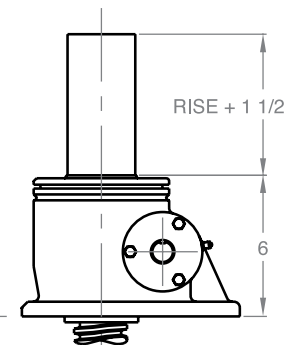
## Double Clevis



## Inverted



## Inverted keyed



Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

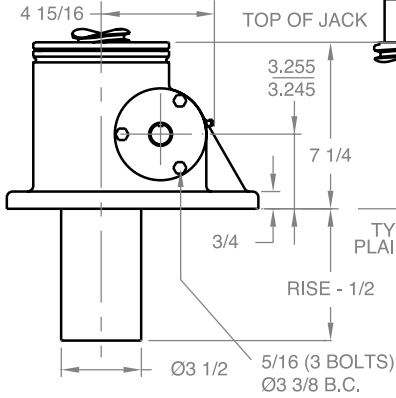


# MACHINE SCREW JACKS

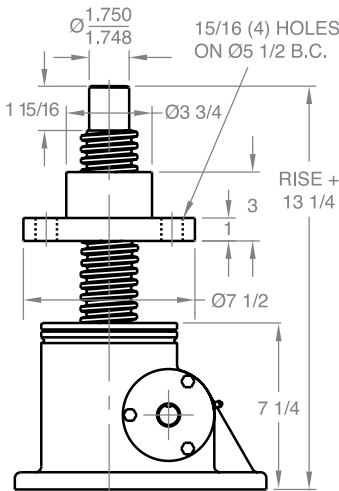
## 20 TON - 2 1/2" SCREW

WJ 820 / DWJ 820  
WJ 2420 / DWJ 2420  
WJ 2520

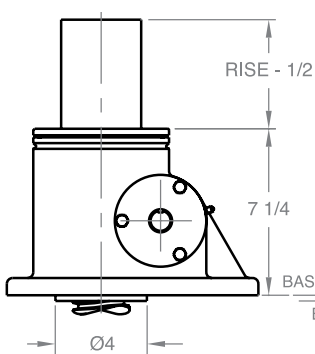
### Upright



### Upright traveling nut

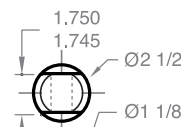


### Inverted



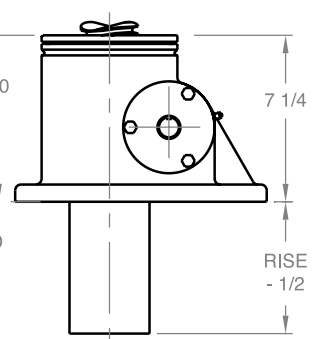
13/16 (4) HOLES ON Ø4 1/8 B.C.

1 3/4-12 UNF 2A

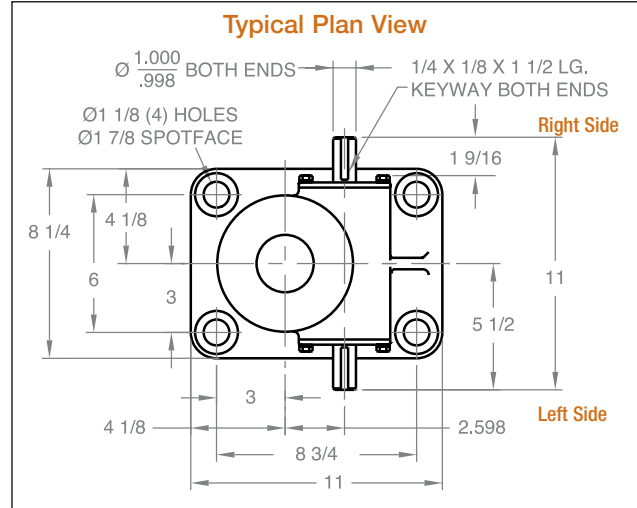


END CONDITIONS (SHOWN AT MINIMUM CLOSED DIMENSIONS)

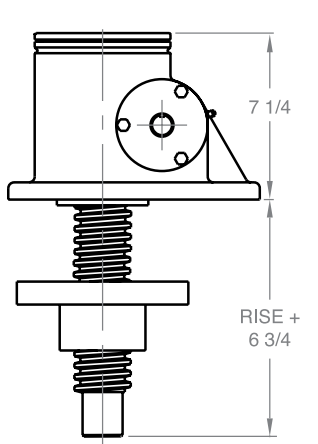
### Upright keyed



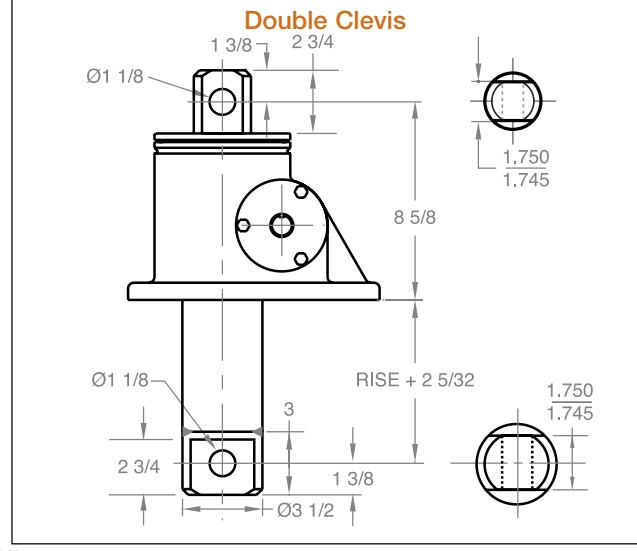
### Typical Plan View



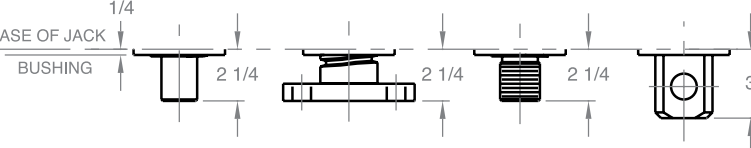
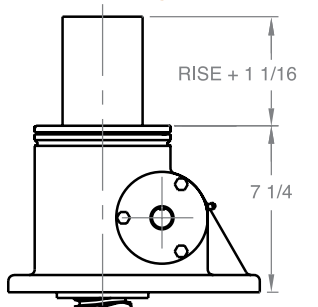
### Inverted traveling nut



### Double Clevis



### Inverted keyed

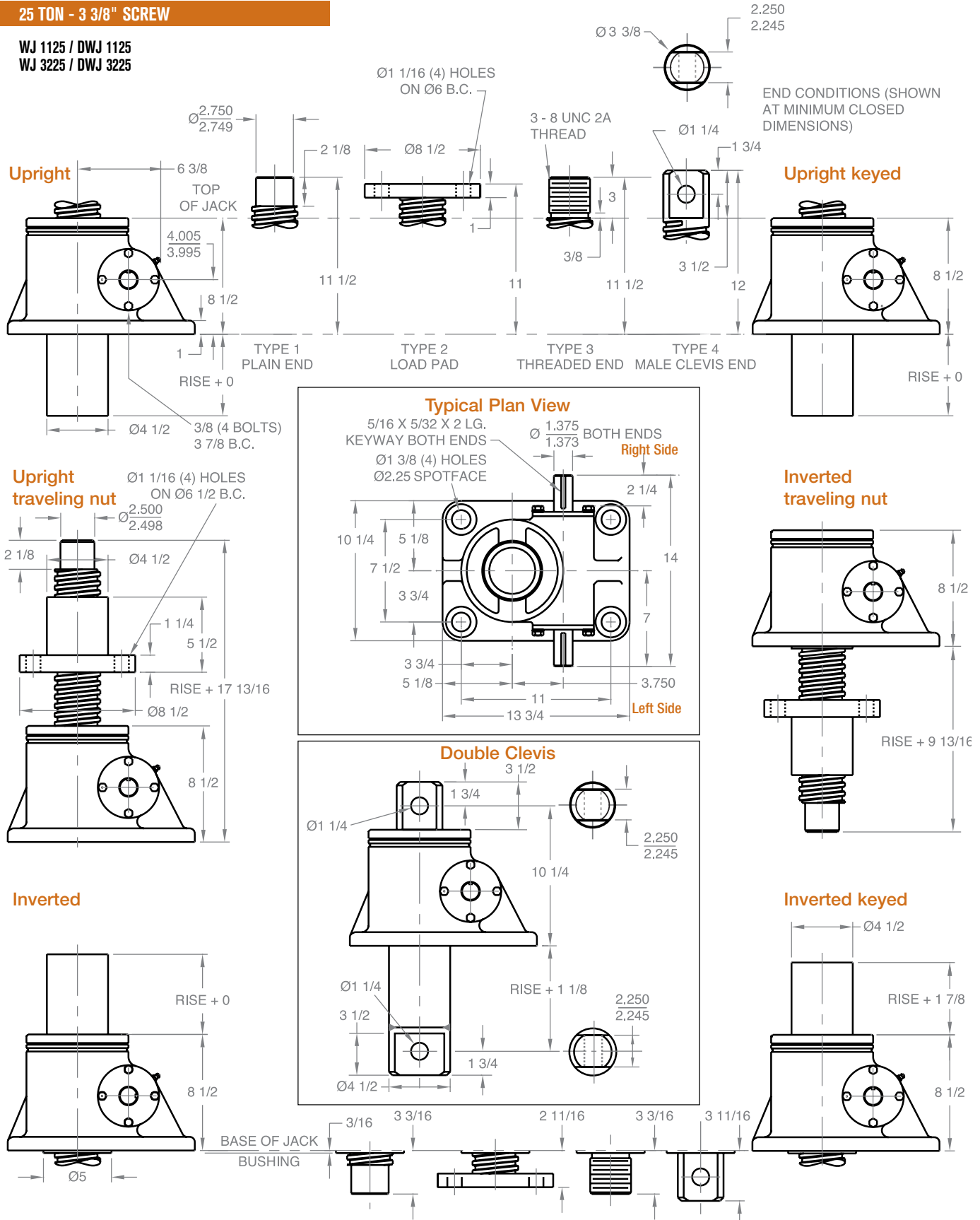


Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

# MACHINE SCREW JACKS

25 TON - 3 3/8" SCREW

WJ 1125 / DWJ 1125  
WJ 3225 / DWJ 3225



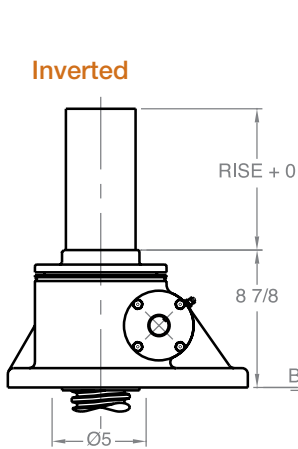
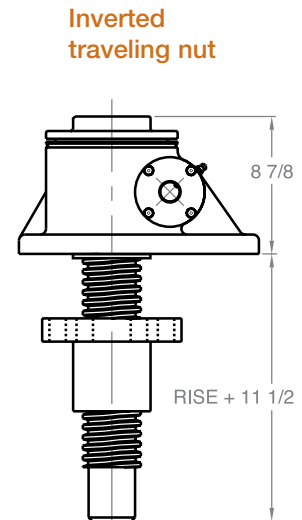
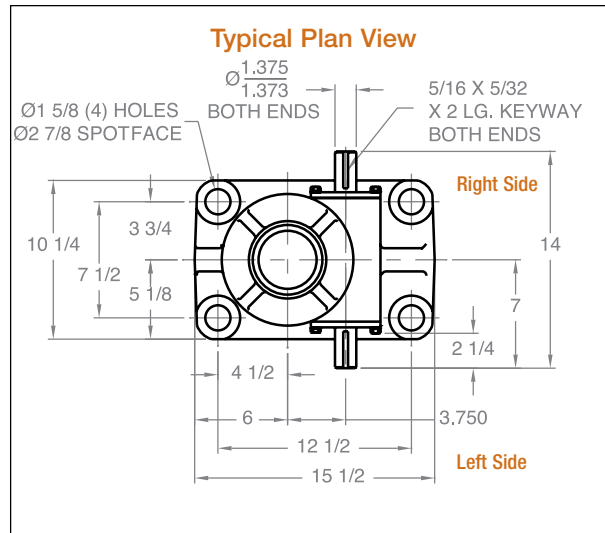
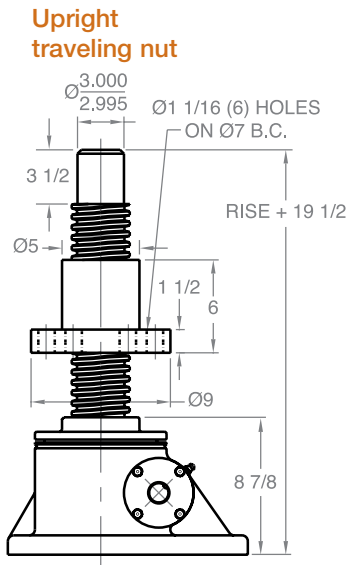
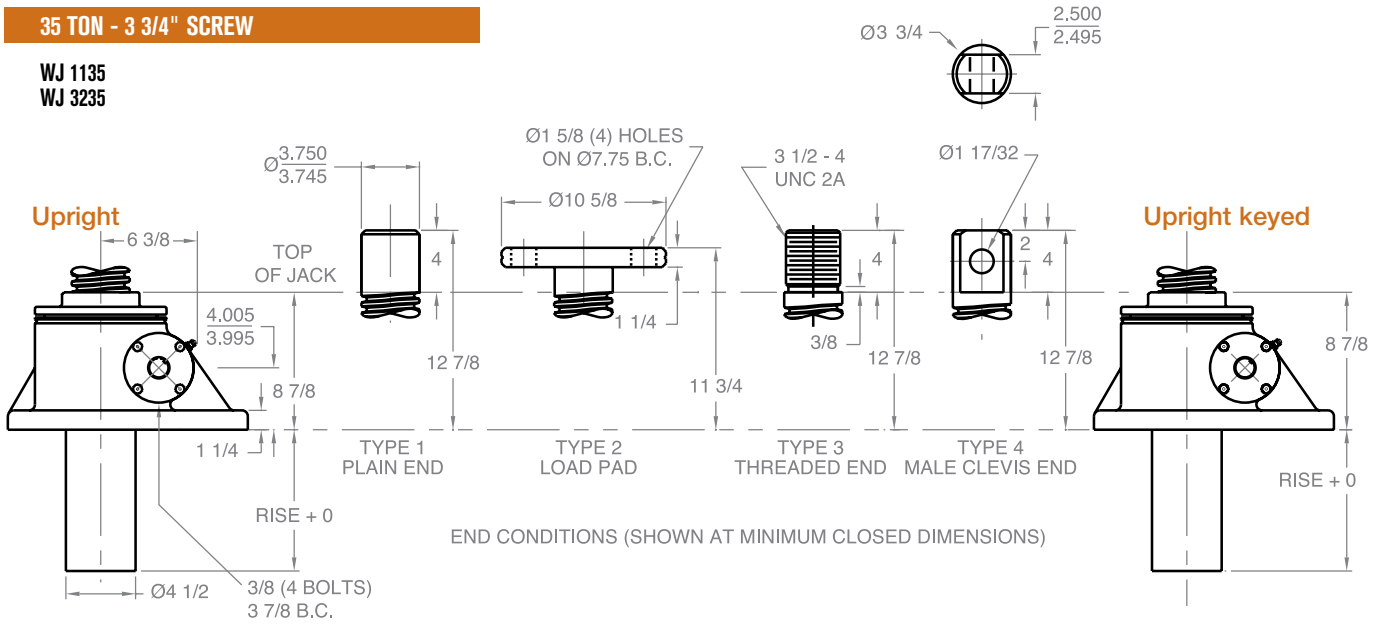
Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.



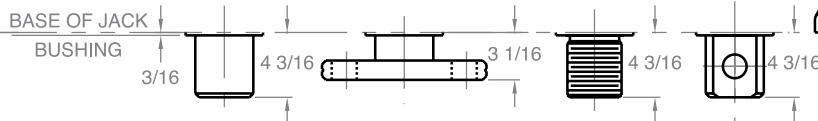
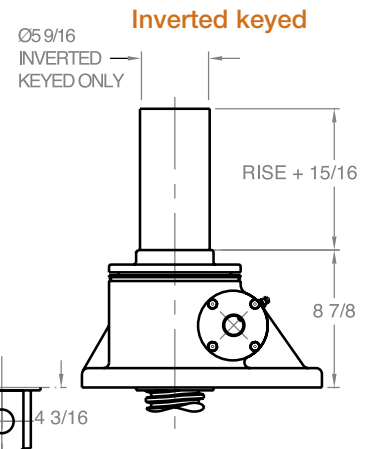
# MACHINE SCREW JACKS

35 TON - 3 3/4" SCREW

WJ 1135  
WJ 3235



FOR DOUBLE CLEVIS DESIGN CONTACT JOYCE

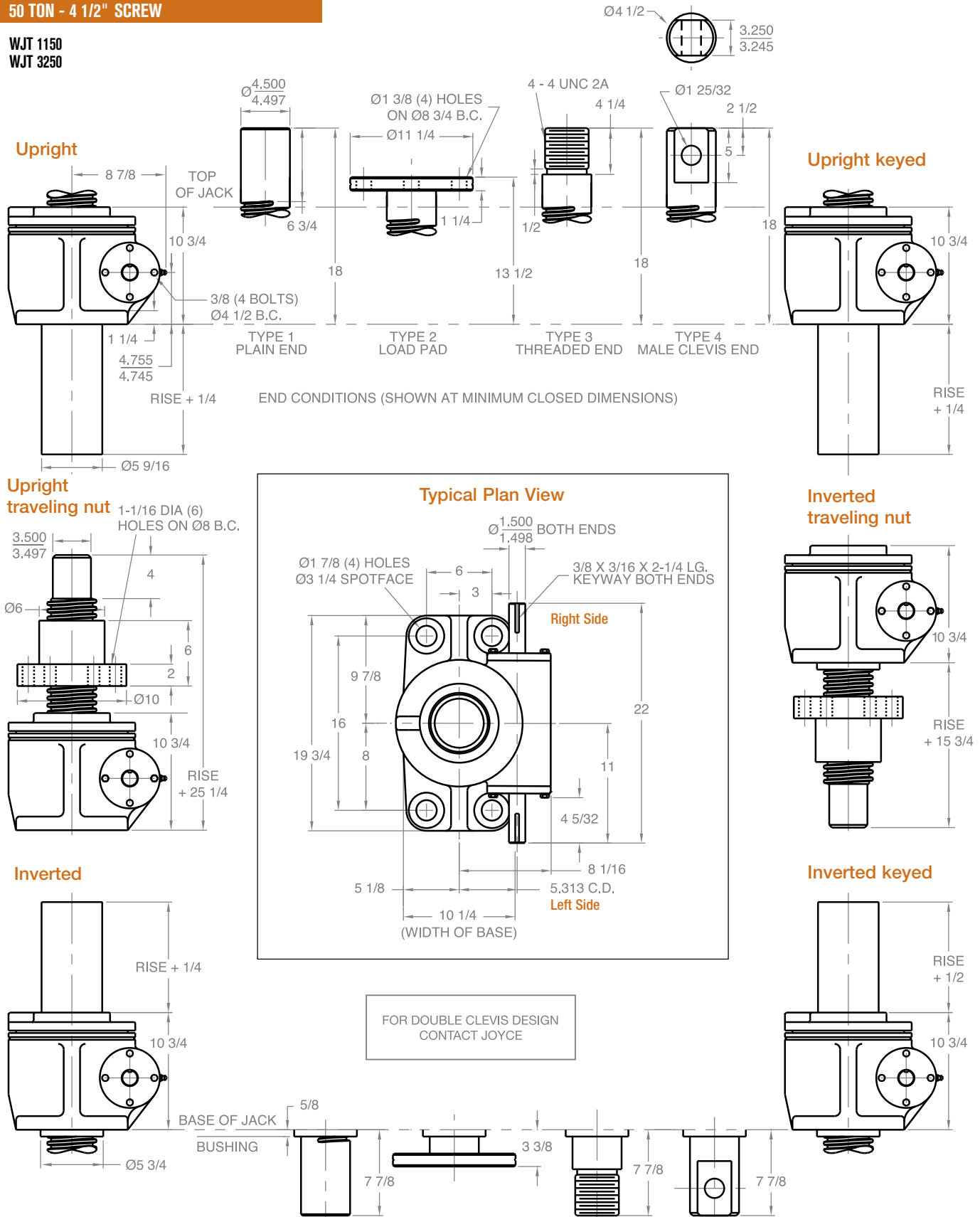


Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

# MACHINE SCREW JACKS

## 50 TON - 4 1/2" SCREW

WJT 1150  
WJT 3250

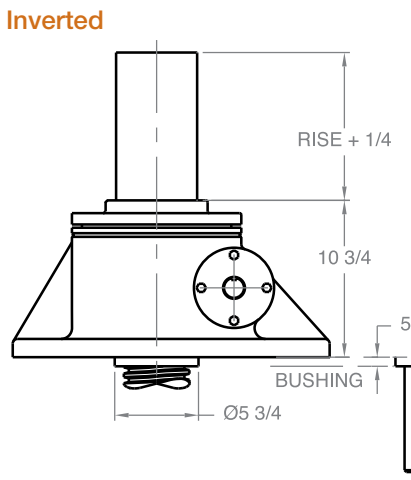
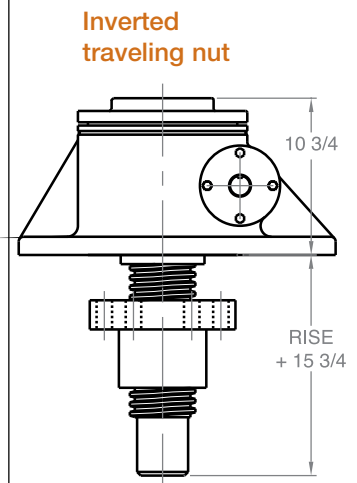
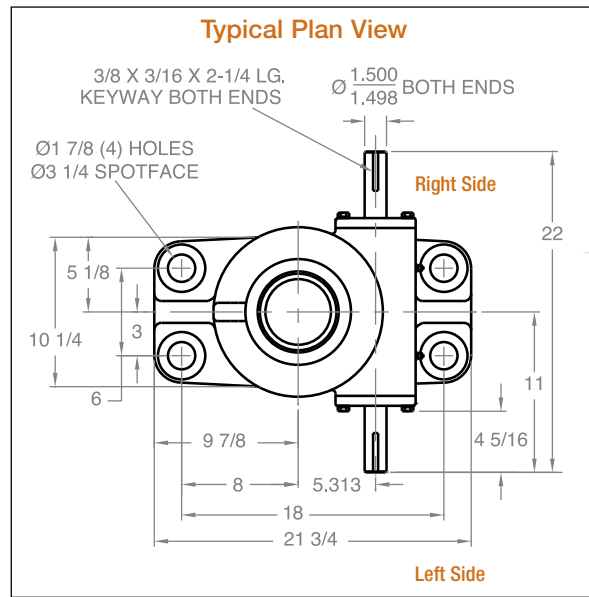
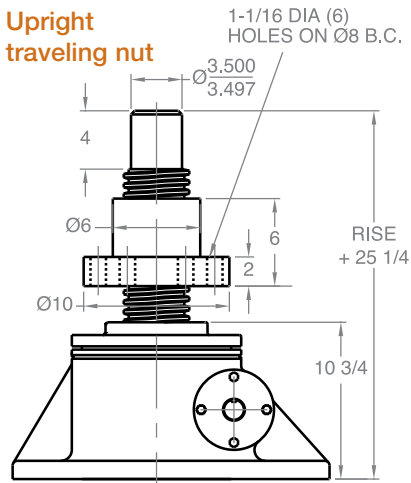
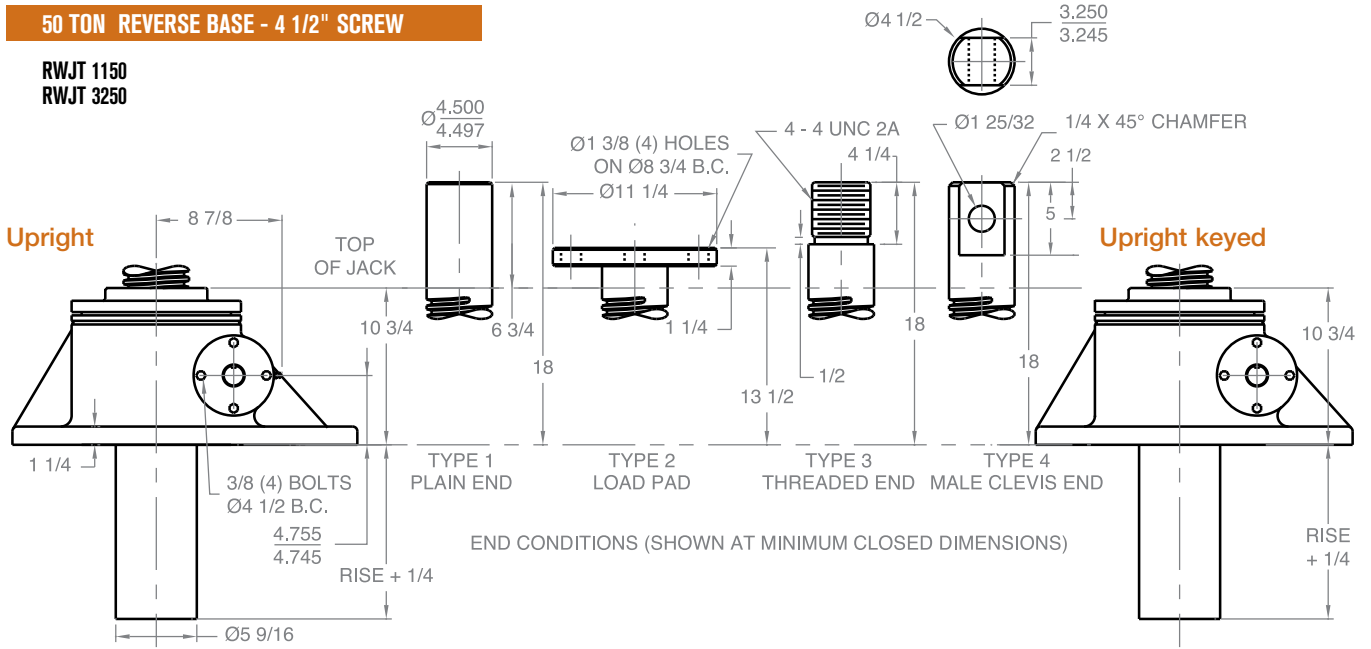


Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

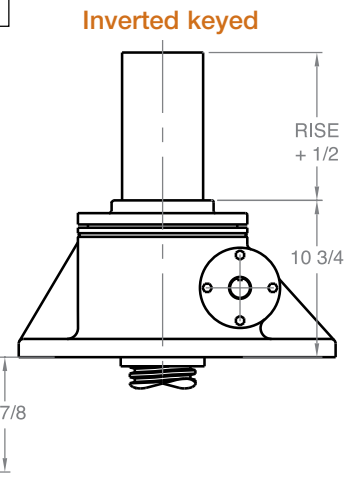
# MACHINE SCREW JACKS

## 50 TON REVERSE BASE - 4 1/2" SCREW

RWJT 1150  
RWJT 3250



FOR DOUBLE CLEVIS DESIGN  
CONTACT JOYCE

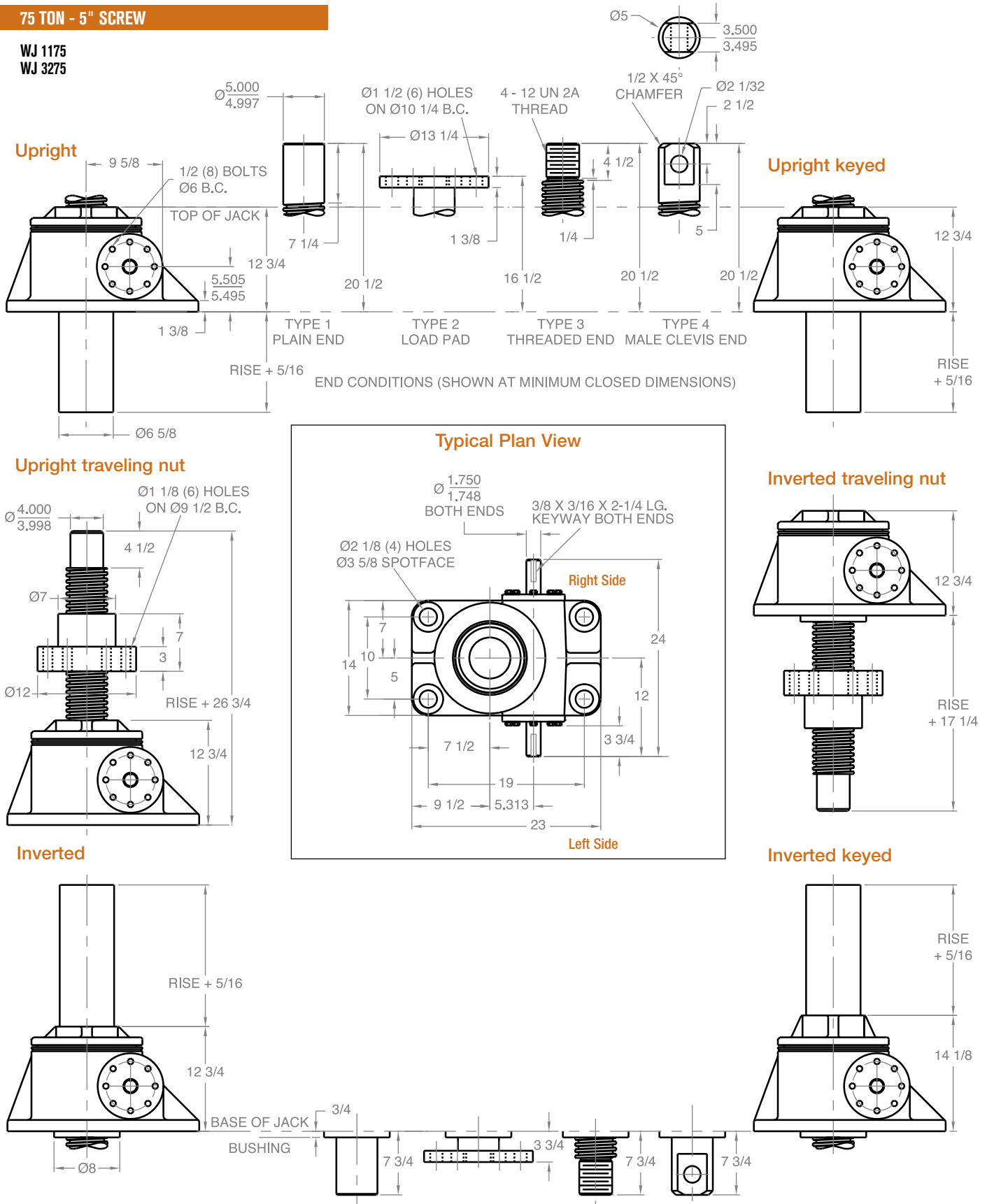


Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

# MACHINE SCREW JACKS

## 75 TON - 5" SCREW

WJ 1175  
WJ 3275



Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

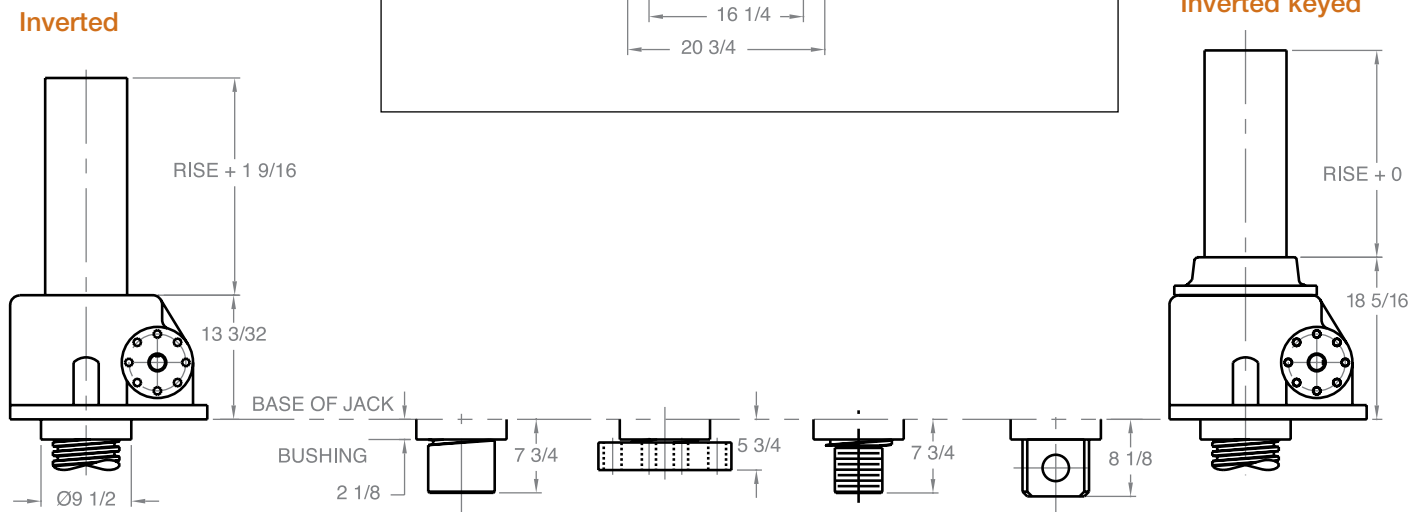
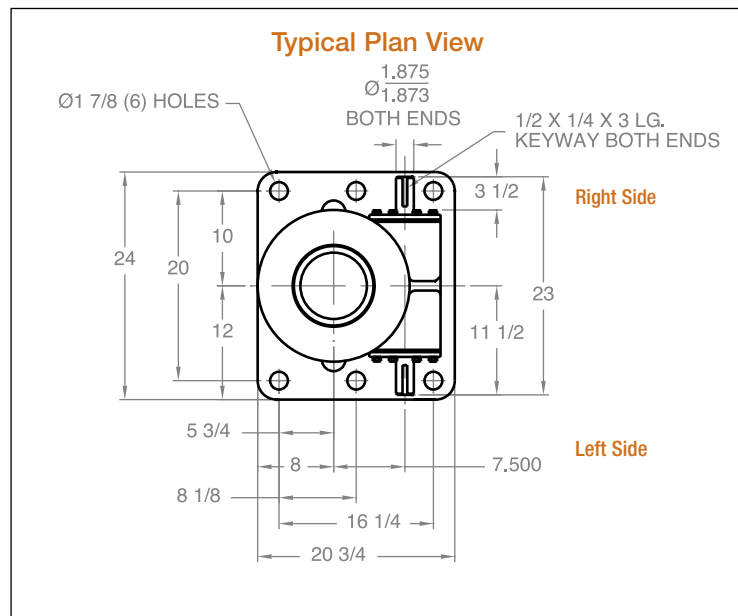
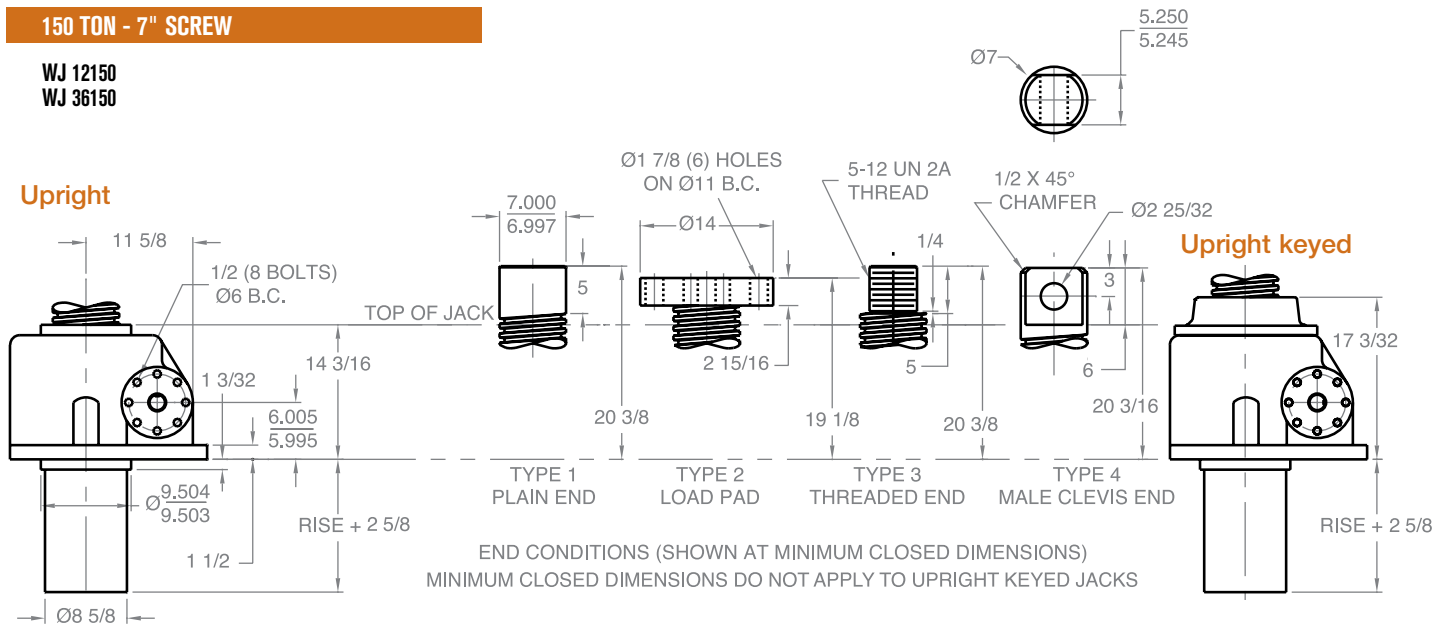




# MACHINE SCREW JACKS

## 150 TON - 7" SCREW

WJ 12150  
WJ 36150



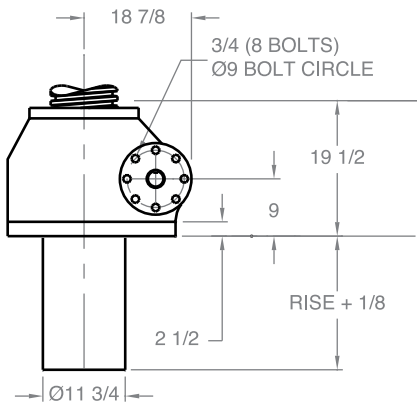
Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice. Minimum closed dimensions do not apply to upright keyed jacks.

# MACHINE SCREW JACKS

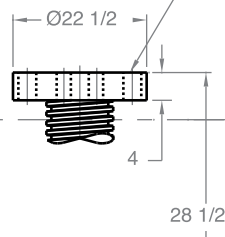
250 TON - 9" SCREW

WJ 50250

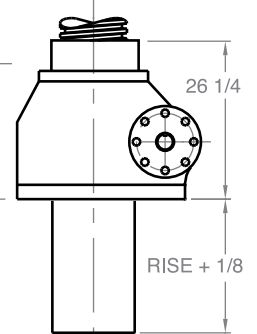
Upright



Ø2 3/4 (6) HOLES  
ON Ø17 B.C.



Upright keyed

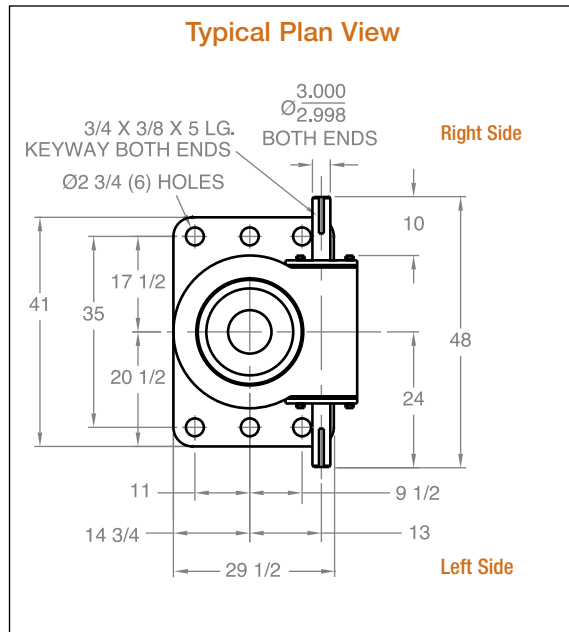


TOP OF JACK

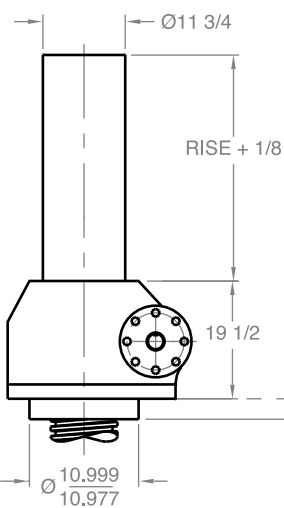
TYPE 2  
LOAD PAD

END CONDITION (SHOWN AT MINIMUM CLOSED DIMENSION)

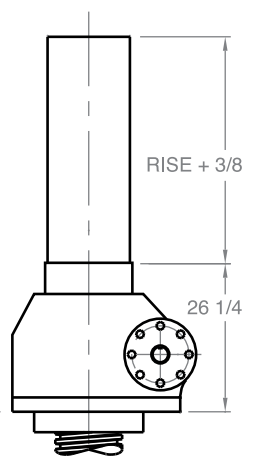
Typical Plan View



Inverted



Inverted keyed



Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice. Minimum closed dimensions do not apply to upright keyed jacks.

# MACHINE SCREW ComDRIVES®



Joyce machine screw ComDRIVES® combine a machine screw jack, motor and gear reducer into a single compact unit. ComDRIVES are available in 2-ton through 30-ton capacities. They provide travel speeds up to 35.1 inches per minute. ComDRIVES with single lead screws (CD) are self-locking; those with double lead screws (DCD) may require a brake motor or external locking device to hold position.

Four standard end conditions are available and ComDRIVES can be fitted with protective boots. Limit switches, anti-backlash devices, and other options are also available.

#### ComDRIVE Benefits:

- Can power an entire jacking system.
- Reduces the number of components that must be specified.
- Simplifies design.
- Reduces installation costs with only a single plate needed to mount the jack body.
- Reduces the number of couplings and shafts required in multi-jack systems.
- Standard 230/460 volt, 3-phase, 60 hertz motor included.

ComDRIVES can be specified without the motor. The reducer flange accepts standard NEMA motor frame sizes.

Joyce can customize ComDRIVES to meet your specifications. Ask about larger size ComDRIVES.

#### Joyce offers Machine Screw ComDRIVES in several designs including:

- Translating
- Keyed for non-rotation
- Keyed for traveling nut (KFTN)
- Double clevis
- Trunnion mount

A guide for ordering is on pages 46 and 47.

# MACHINE SCREW ComDRIVES® ORDERING INFORMATION

Instructions: Select a model number from this chart.

2-Ton	3-Ton	5-Ton	10-Ton	15-Ton	20-Ton	25-Ton	30-Ton
CD62 CD122 CD242	CD63 CD123 CD243	CD65 CD125 CD245	CD810 CD2410	CD815 CD2415	CD820 CD2420	CD1125 CD3225	CD1130 CD3230
DCD62* DCD122* DCD242*	DCD63* DCD123* DCD243*	DCD65* DCD125* DCD245*	DCD810* DCD2410*	DCD815* DCD2415*	DCD820* DCD2420*	DCD1125* DCD3225*	DCD1130* DCD3230*

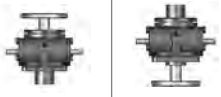
**Important Note:** \*Not self-locking, may lower under load. Brake motors or external locking systems are recommended.

**DCD:** Double lead screw.

(For 25:1 ratio contact Joyce.)


## Sample Part Number: CD65U2S-18.50-P1AB-STDX-B

### Jack Configuration



**U=Upright**    **I=Inverted**

### End Conditions



**1=T1**  
(plain end)


**2=T2**  
(load pad)

**3=T3**  
(threaded end)

**4=T4**  
(male clevis)

### Left Side Shaft Code

(see below)




**XXXX=Remove**  
**STDX=Standard**  
**CUST=Custom**

For optional shaft codes, see page 47.

### Right Side Shaft Code

(see below)



**XXXX=Remove**  
**STDX=Standard**  
**CUST=Custom**

For optional shaft codes, see page 47.

### Additional Options\*

**X=Standard Jack**, no additional options

**S=Additional Specification Required** (comment as necessary)

**Anti-Backlash p. 181**

**A=Split Nut**  
**A90=A90 Design**  
**A95=A95 Design**

**Protective Boots pp. 170-173**  
**B=Protective Boot**  
**D=Dual Protective Boot**

**Finishes p. 182**  
**F1=Do Not Paint**  
**F2=Epoxy Paint**  
**F3=Outdoor Paint Process**

**Motor Options**  
**M1=Less Motor**  
**M2=Brake Motor**  
**M3=Single Phase Motor (120VAC)**  
**M4=50Hz Motor**  
**M5=Special Motor**

**Grease/Seals**  
**H1=High Temperature Operation**  
**H2=Food Grade**

**Screw Stops**  
Extending and retracting stops are standard on ComDRIVES.

\* Specify as many options as needed

### ComDRIVE® Rise

Rise is travel expressed in inches and not the actual screw length. When companion jacks are ordered with the ComDRIVE®, their screws are lengthened to match the ComDRIVE®.

### Jack Designs



**S=Translating**    **K=Keyed for Non Rotation**    **N=Traveling Nut**    **D=Double Clevis**    **A=KFTN Trunnion\***  
**T=Trunnion\***

\*Standard trunnion mounts available on 2-ton through 20-ton jacks. (See page 183)

# MACHINE SCREW ComDRIVES<sup>®</sup> SHAFT CODES

**Instructions:** Select the appropriate shaft codes for both right and left hand shafts. One shaft code must be specified for each side of the ComDRIVE<sup>®</sup>.

## Screw Stops (p. 10) and Boots (pp. 170-173)

Extending and retracting screw stops are standard on ComDRIVES. When boots are added to ComDRIVES, the closed height of the unit may be increased.

## Mechanical Counters (p. 180)

CNT0=0.001" Increments

Note: Contact Joyce for availability and options.



## G geared Potentiometers (p. 175)

POTA=0-10V

POTB=4-20mA

POTC=0-10V w/2 switches

POTD=4-20mA w/2 switches

IP65 rated enclosures



## Encoders (pp. 176-177)

ENCA=Absolute Encoder 0-10 VDC, programmable

ENCB=Absolute Encoder 4-20mA, programmable

ENCC=Absolute Encoder CAN Open

ENCD=Absolute Encoder SSI

ENCS=Stainless Steel Incremental Encoder 1024 PPR

ENCX=Incremental Encoder 200 PPR

ENCY=Incremental Encoder 1024 PPR



## ComDRIVE Reducers (pp. 49-57)

Ordering Example: **P2AC**

Motor code from chart at right

### Mounting Positions

### Ratio

Code	P1	P2	P3	P4	Ratio
Left Side Shaft Options					5:1 Code A
					7.5:1 Code B
					10:1 Code C
Right Side Shaft Options					15:1 Code D
					Special Ratio Code X

### Motors

Size	Code
1/4 HP	K
1/3 HP	A
1/2 HP	B
3/4 HP	C
1 HP	D
1-1/2 HP	E
2 HP	F
3 HP	L
5 HP	G
7-1/2 HP	H
10 HP	I
15 HP	J

All standard motors are 3-phase, 208-230/460 VAC or 230/460 VAC. Other motor options are available including international voltages, and single phase AC. Specify the appropriate motor size from the chart above. Refer to the "Additional Options" chart on the preceding page as needed. Brake motors are required for ball screw ComDRIVES<sup>®</sup>. Contact Joyce for options that are not listed.

## Mechanical Limit Switches (p. 174)

Ordering Example: **LA13**

Models	
Model	Code
LS7-402	LI
LS8-402	LA
LS8-404	LB

Number of DPDT Switches (see p. 174)

NOTE:  
Will always be 0 for LS7 models

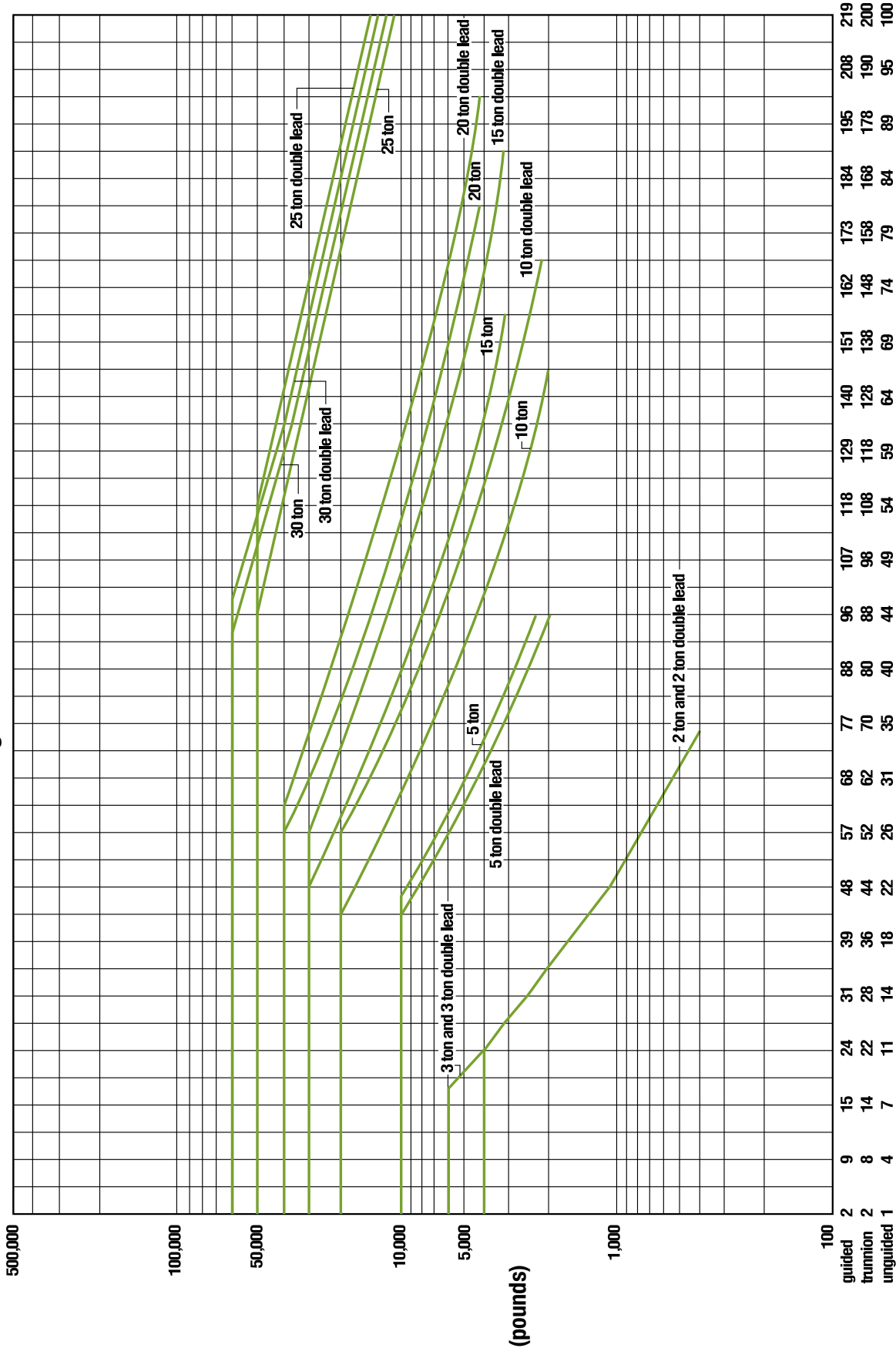
### Available Positions

	1	2*	3	4	5	6*	7	8
Left Side Shaft Options								
Right Side Shaft Options								

- 2, 3, 5, 10, 15, and 20 ton ComDRIVES are available with positions #1, #3, and #5.
- 25 and 30 ton ComDRIVES are available with positions #1, #4, #7 and #8.
- \* These positions are not standard. Contact Joyce with your requirements.

# MACHINE SCREW ComDRIVES<sup>®</sup> COLUMN LOADING

Machine Screw ComDRIVE<sup>®</sup> Column Loading Chart



Screw Length (inches)

This chart includes a 2:1 Factor-of-Safety based on the Euler-Johnson equation for column loading (Oberg, Erik et al: Machinery's Handbook, 24th Edition, c. 1992 Industrial Press Inc.) The horizontal portion of each line represents the jack's maximum dynamic capacity. Under static conditions, these lines can be exceeded. Please contact factory for assistance.

# MACHINE SCREW ComDRIVES<sup>®</sup> SPECIFICATIONS

2 Ton Model Number		CD62			CD122		CD242			DCD62			DCD122		DCD242		
Reducer Ratio		5	7 1/2	10	5	7 1/2	5	7 1/2	10	5	7 1/2	10	7 1/2	5	7 1/2	10	
Travel Speed IPM		13.88	9.50	7.04	6.94	4.75	3.47	2.38	1.76	27.75	19.00	14.08	9.50	6.94	4.75	3.52	
Lifting Capacity, Lbs.	1/3 HP	1,865	2,650	3,500	3,350	4,000	4,000	4,000	4,000	1,300	1,850	2,450	3,300	3,830	4,000	4,000	
	1/2 HP	2,875	4,000	4,000	4,000					2,000	2,825	3,720	4,000	4,000			
	3/4 HP	4,000								3,060	4,000						
3 Ton Model Number		CD63			CD123		CD243			DCD63			DCD123		DCD243		
Reducer Ratio		5	7 1/2	10	5	7 1/2	5	7 1/2	10	5	7 1/2	10	7 1/2	5	7 1/2	10	
Travel Speed IPM		13.88	9.50	7.04	6.94	4.75	3.47	2.38	1.76	27.75	19.00	14.08	9.50	6.94	4.75	3.52	
Lifting Capacity, Lbs.	1/3 HP	1,910	2,700	3,555	3,425	4,790	5,610	6,000	6,000	1,335	1,890	2,485	3,350	3,925	5,415	6,000	
	1/2 HP	2,920	4,095	5,380	5,235	6,000	6,000			2,045	2,865	3,765	5,085	6,000	6,000		
	3/4 HP	4,430	6,000		6,000					3,100	4,340		6,000				
5 Ton Model Number		CD65			CD125		CD245			DCD65			DCD125		DCD245		
Reducer Ratio		5			10		10			5			10		10		
Travel Speed IPM		20.81			10.56		5.28			27.75			14.08		7.04		
Lifting Capacity, Lbs.	1 HP	3,760			6,980		10,000			3,320			6,170		10,000		
	1 1/2 HP	5,755								5,085							
	2 HP	7,750								6,845							
10 Ton Model Number		CD810			CD2410			DCD810			DCD2410						
Reducer Ratio		5			10			5			10			5			
Travel Speed IPM		20.81			10.56			6.94			27.76			14.09			
Lifting Capacity, Lbs.	1 HP	3,680			7,070			9,000			16,760			3,150			
	1 1/2 HP	5,760						14,090						4,925			
	2 HP	7,840						19,165						6,700			
	3 HP	12,150			20,000			20,000			20,000			10,385			
	5 HP													19,450			
15 Ton Model Number		CD815			CD2415			DCD815			DCD2415						
Reducer Ratio		5			10			5			10			5			
Travel Speed IPM		20.81			10.56			6.94			27.76			14.09			
Lifting Capacity, Lbs.	1 HP	3,140			6,200			7,535			14,385			2,715			
	1 1/2 HP	5,035						12,085						4,350			
	2 HP	6,925						16,620						5,990			
	3 HP	10,850			20,425			26,040			30,000			9,380			
	5 HP	18,515						30,000						16,010			
20 Ton Model Number		CD820			CD2420			DCD820			DCD2420						
Reducer Ratio		5			10			5			10			5			
Travel Speed IPM		20.81			10.56			6.94			27.76			14.09			
Lifting Capacity, Lbs.	1 HP	2,715			5,570			6,520			12,920			2,265			
	1 1/2 HP	4,475						10,745						3,730			
	2 HP	6,235						14,965						5,195			
	3 HP	9,880			18,785			23,715			40,000			8,235			
	5 HP	17,000						40,000						14,175			
25 Ton Model Number		CD1125			CD3225			DCD1125			DCD3225						
Reducer Ratio		5			10			5			10			5			
Travel Speed IPM		20.79			10.55			6.93			35.12			17.82			
Lifting Capacity, Lbs.	3 HP	9,050			17,165			20,390			36,800			7,385			
	5 HP	15,700			29,420			35,390			50,000			12,815			
	7 1/2 HP	23,930			45,755			50,000						19,530			
	10 HP	32,625			50,000									26,625			
	15 HP	49,410												40,325			
30 Ton Model Number		CD1130			CD3230			DCD1130			DCD3230						
Reducer Ratio		5			10			5			10			5			
Travel Speed IPM		20.82			10.57			6.94			35.12			17.82			
Lifting Capacity, Lbs.	3 HP	9,435			17,540			21,260			37,620			7,535			
	5 HP	16,100			29,815			36,280			60,000			12,885			
	7 1/2 HP	24,335			46,170			54,840						19,430			
	10 HP	33,040			60,000			60,000						26,385			
	15 HP	49,845												39,800			

**Important Note:** DCD models may lower under load. Brake motors or external locking systems are recommended.



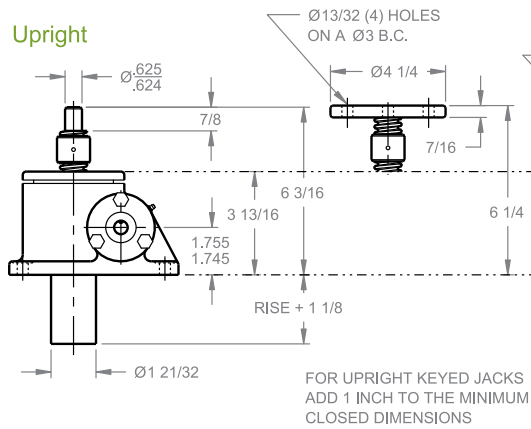


# MACHINE SCREW ComDRIVES®

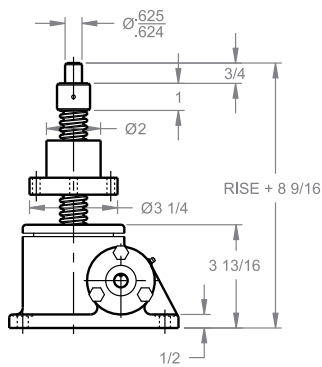
## 3 TON - 1" SCREW

CD 63 / DCD 63  
 CD 123 / DCD 123  
 CD 243 / DCD 243

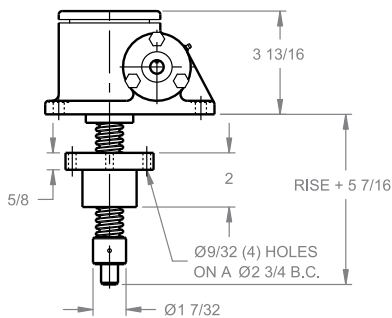
### Upright



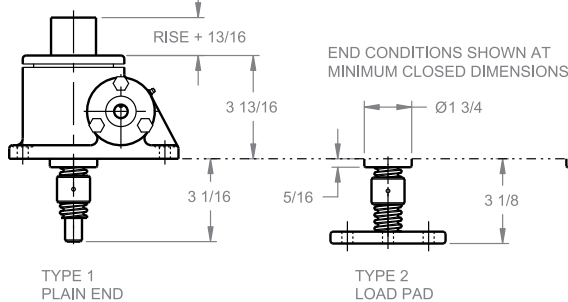
### Upright traveling nut



### Inverted traveling nut



### Inverted



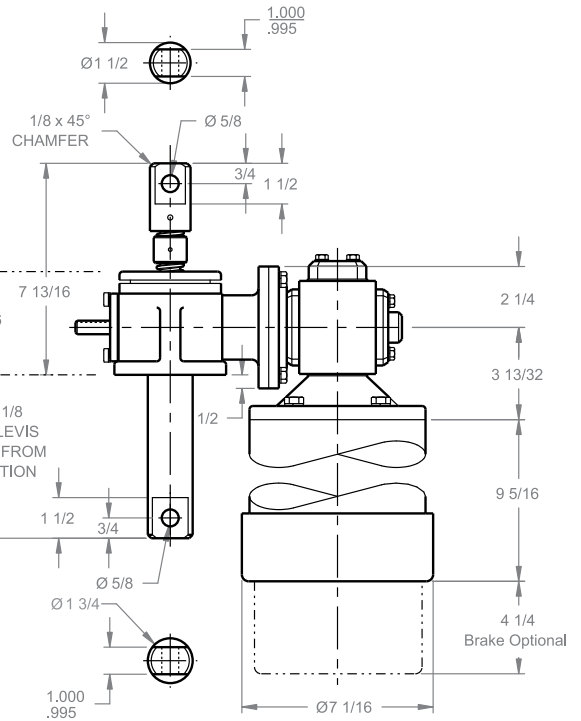
TYPE 1  
PLAIN END

TYPE 2  
LOAD PAD

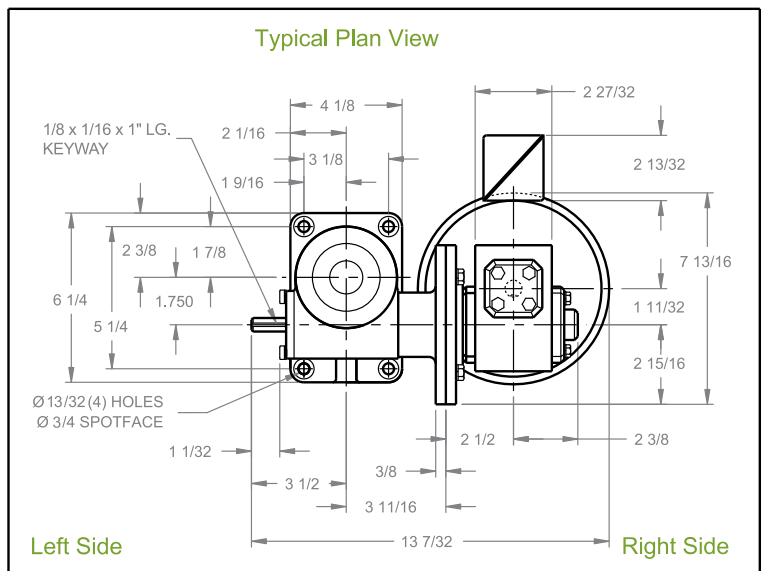
TYPE 3  
THREADED END

TYPE 4  
MALE CLEVIS END

NOTE: FOR LIFTING CAPACITIES SEE PAGE 49



### Typical Plan View



Left Side

Right Side

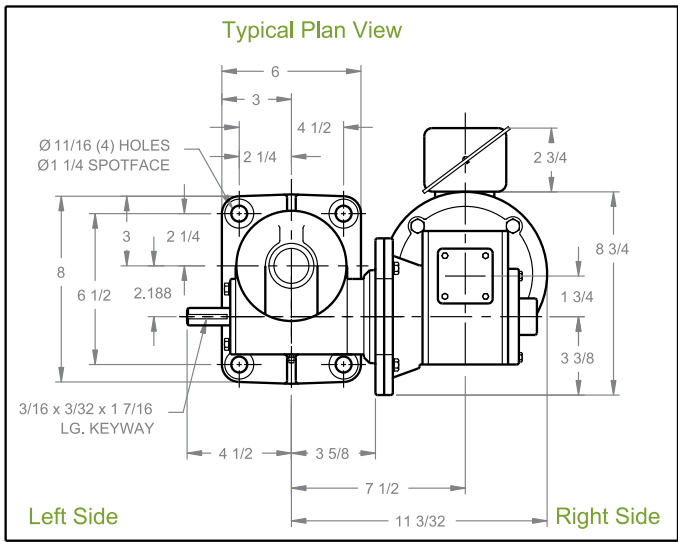
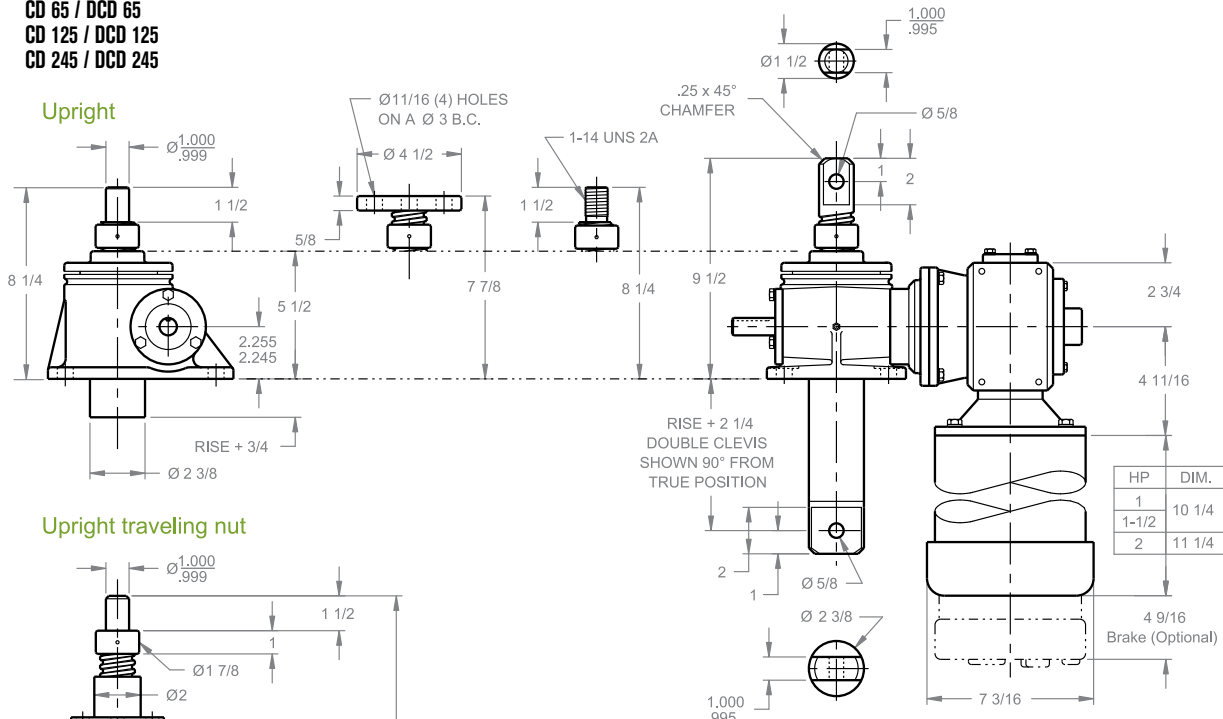
Reducer Shown  
Rotated 180°  
From Plan View

Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

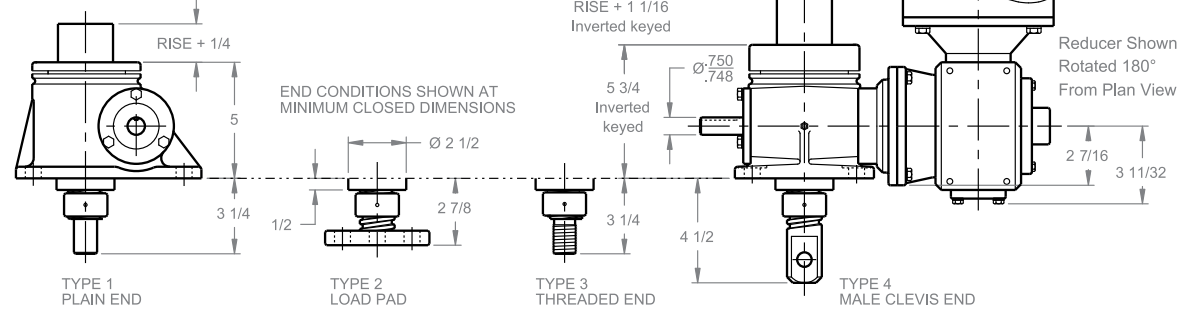
# MACHINE SCREW ComDRIVES®

## 5 TON - 1 1/2" SCREW

CD 65 / DCD 65  
 CD 125 / DCD 125  
 CD 245 / DCD 245



### Inverted



NOTE: FOR LIFTING CAPACITIES SEE PAGE 49

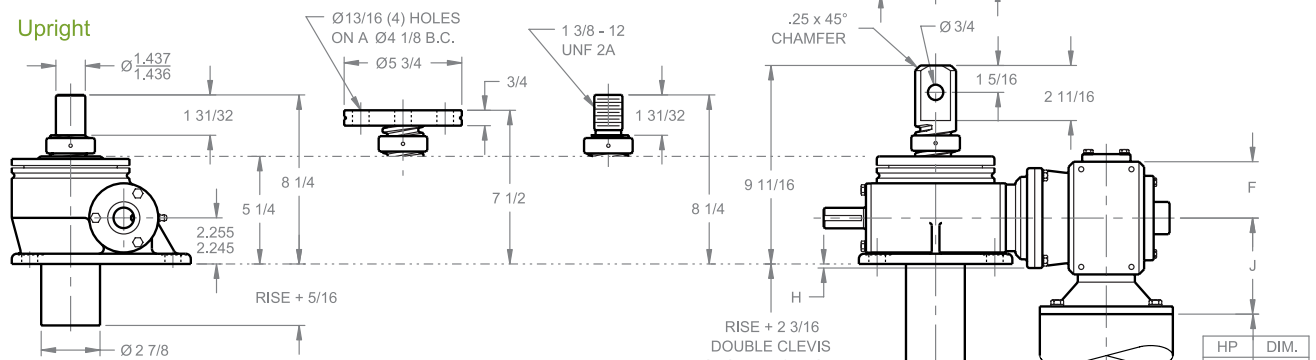
Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

# MACHINE SCREW ComDRIVES®

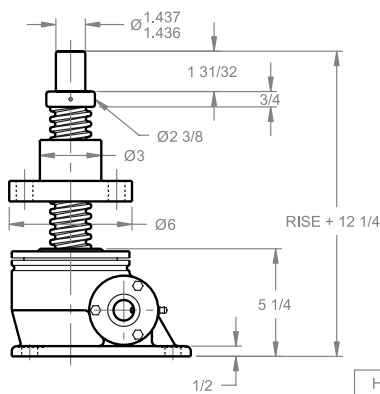
## 10 TON - 2" SCREW

CD 810 / DCD 810  
CD 2410 / DCD 2410

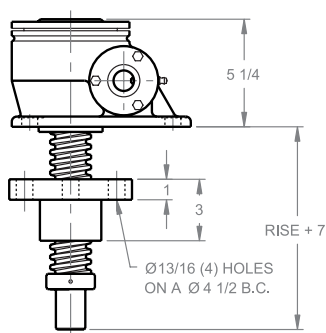
### Upright



### Upright traveling nut



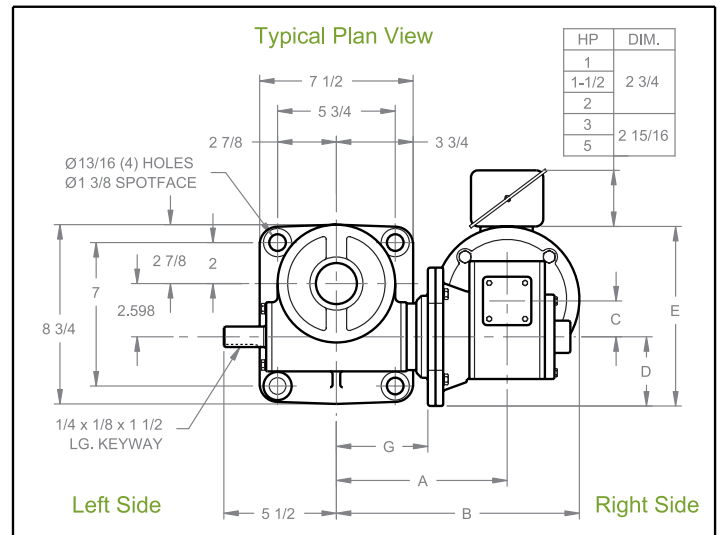
### Inverted traveling nut



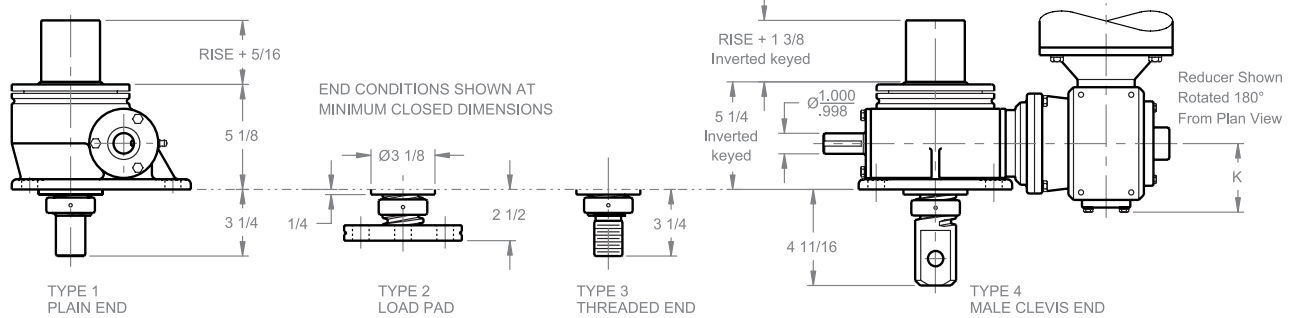
REDUCER DIMENSIONS

HP	1, 1 1/2, 2	3, 5
A	8 11/32	8 29/32
B	11 21/32	13 17/32
C	1 3/4	2 5/8
D	3 3/8	4 7/16
E	8 7/16	11 11/16
F	2 3/4	3 7/8
G	4 15/32	4 15/32
H	3/16	1 5/8
J	4 11/16	5 3/4
K	3 11/32	4 5/16

### Typical Plan View



### Inverted



NOTE: FOR LIFTING CAPACITIES SEE PAGE 49

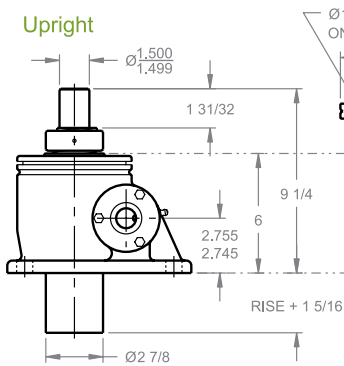
Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

# MACHINE SCREW ComDRIVES®

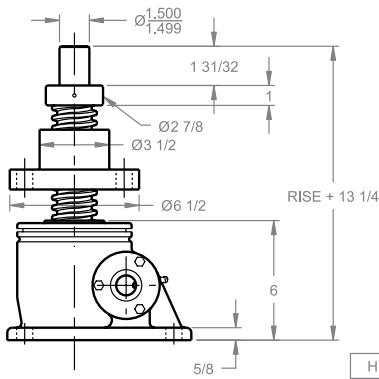
## 15 TON - 2 1/4" SCREW

CD 815 / DCD 815  
CD 2415 / DCD 2415

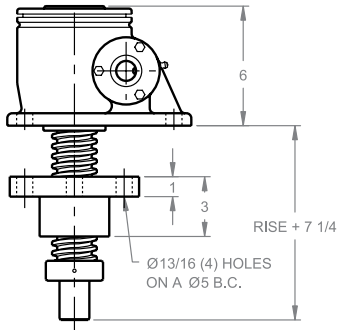
### Upright



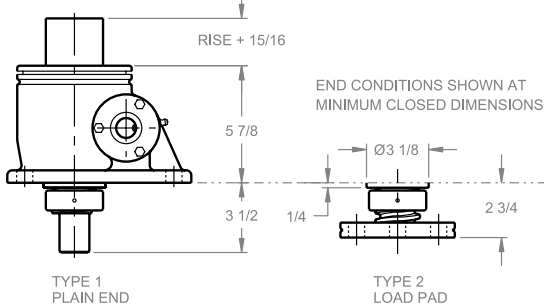
### Upright traveling nut



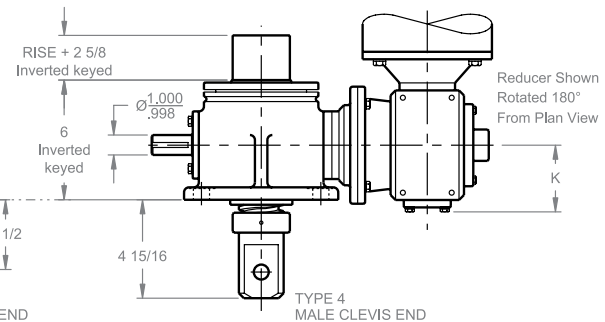
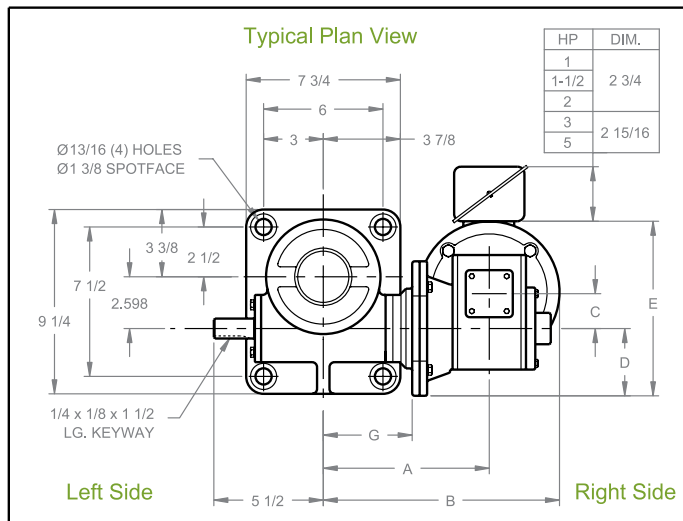
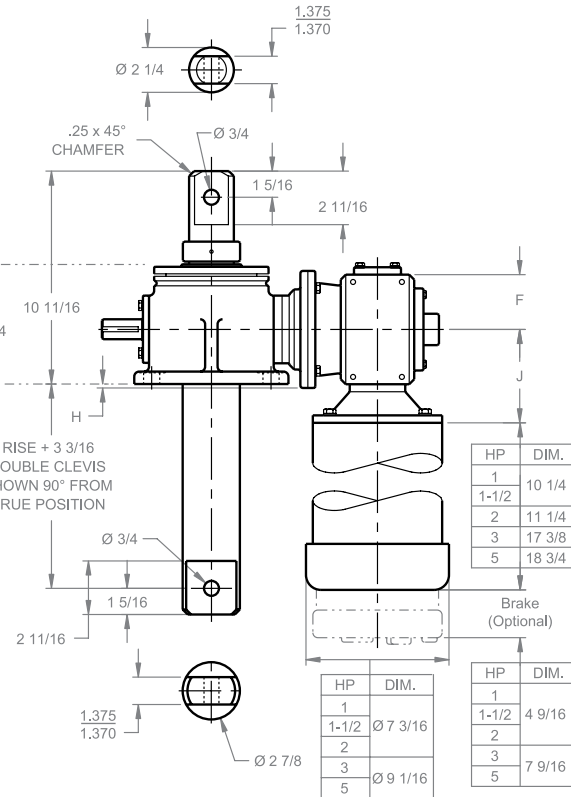
### Inverted traveling nut



### Inverted



NOTE: FOR LIFTING CAPACITIES SEE PAGE 49

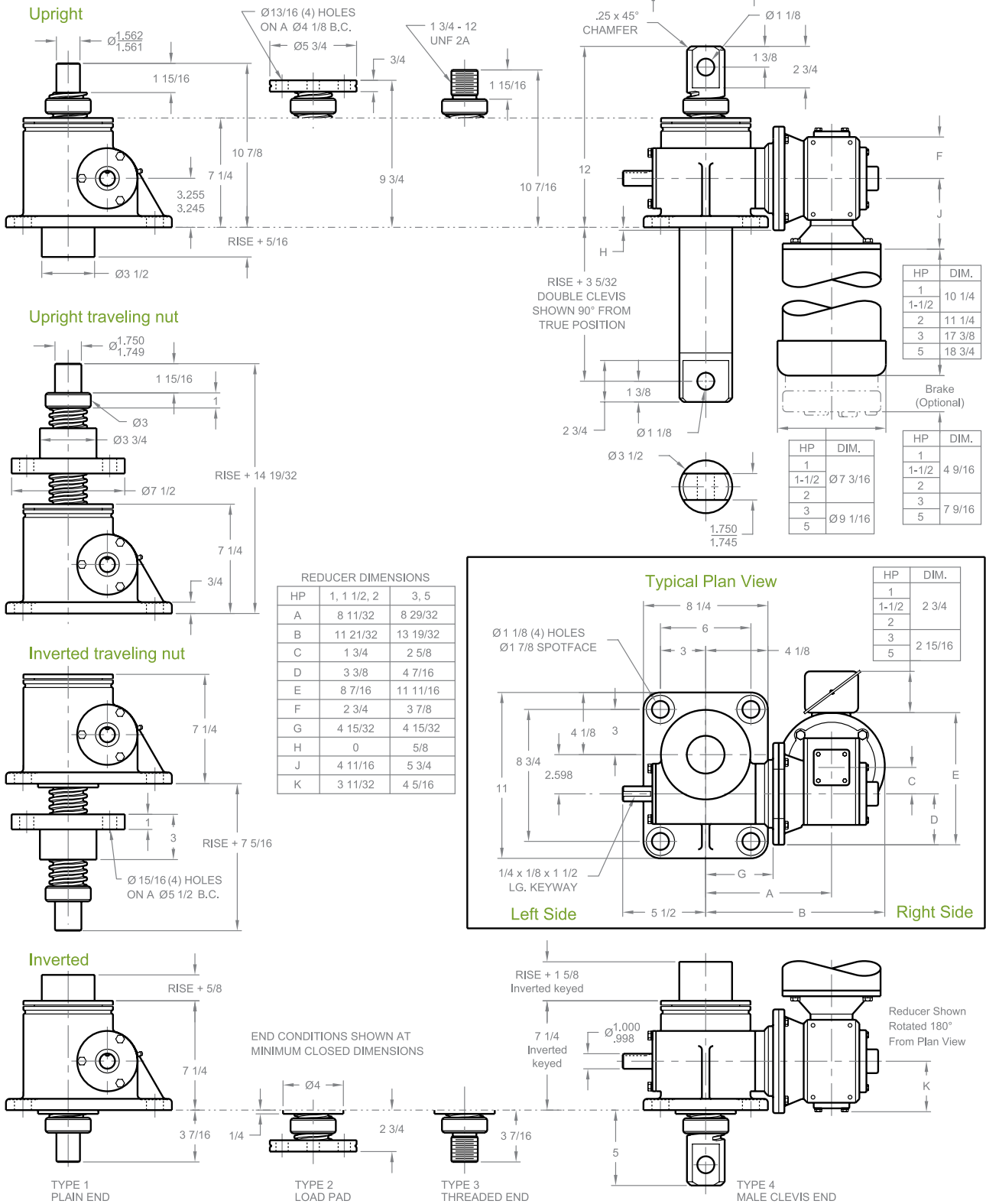


Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

# MACHINE SCREW ComDRIVES®

## 20 TON - 2 1/2" SCREW

CD 820 / DCD 820  
CD 2420 / DCD 2420



NOTE: FOR LIFTING CAPACITIES SEE PAGE 49

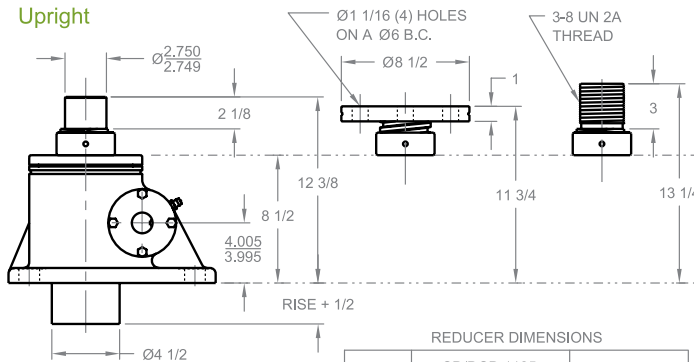
Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

# MACHINE SCREW ComDRIVES®

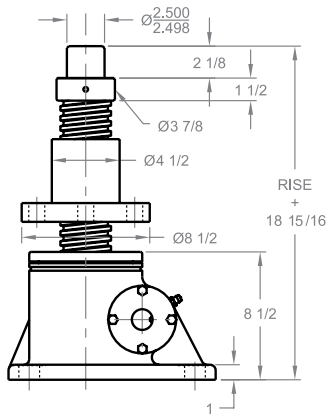
## 25 TON - 3 3/8" SCREW

CD 1125 / DCD 1125  
CD 3225 / DCD 3225

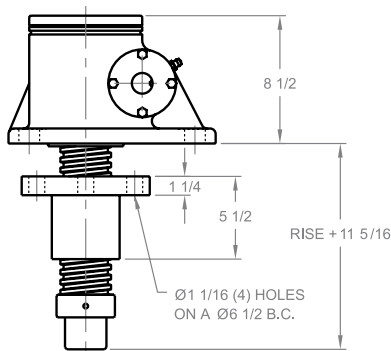
### Upright



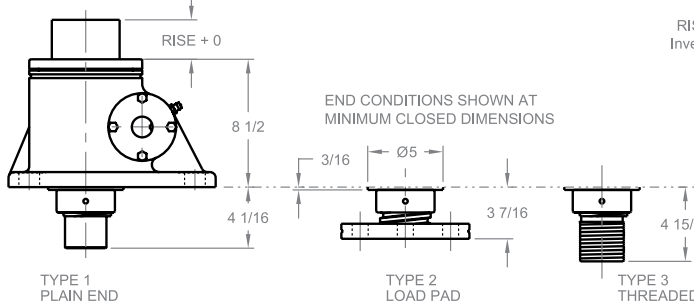
### Upright traveling nut



### Inverted traveling nut



### Inverted



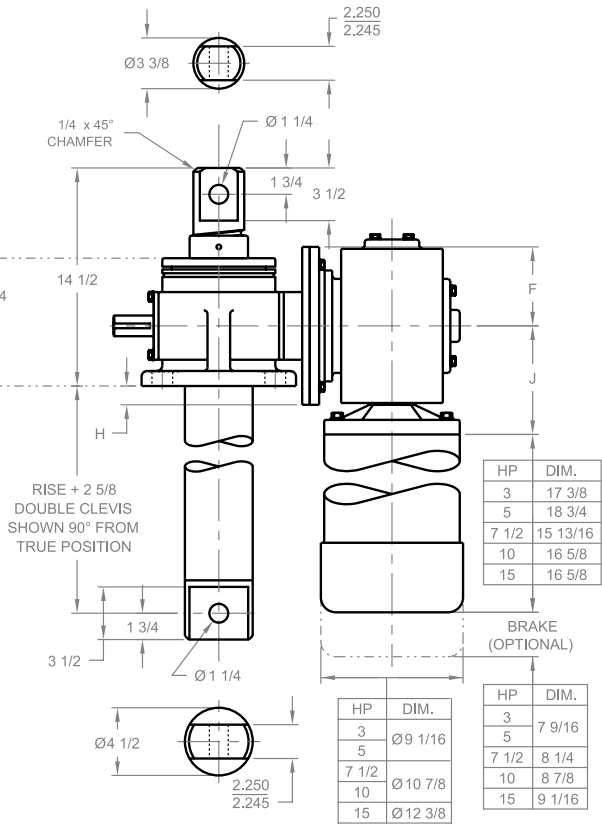
TYPE 1 PLAIN END

TYPE 2 LOAD PAD

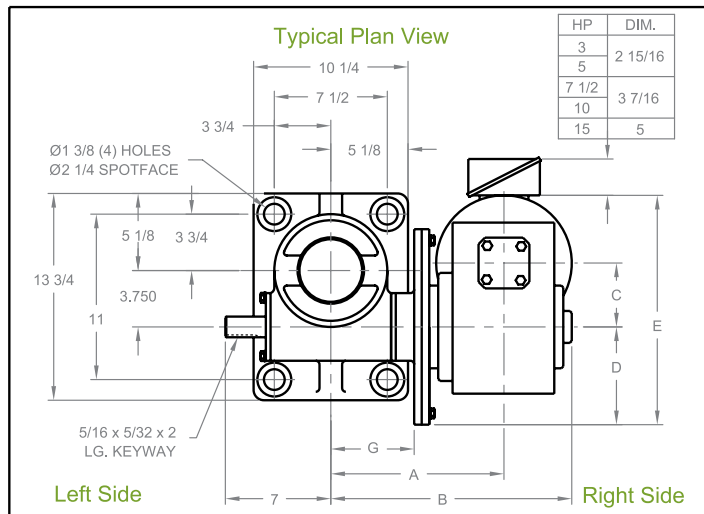
TYPE 3 THREADED END

TYPE 4 MALE CLEVIS END

NOTE: FOR LIFTING CAPACITIES SEE PAGE 49



### Typical Plan View



Left Side

Right Side

Reducer Shown Rotated 180° From Plan View

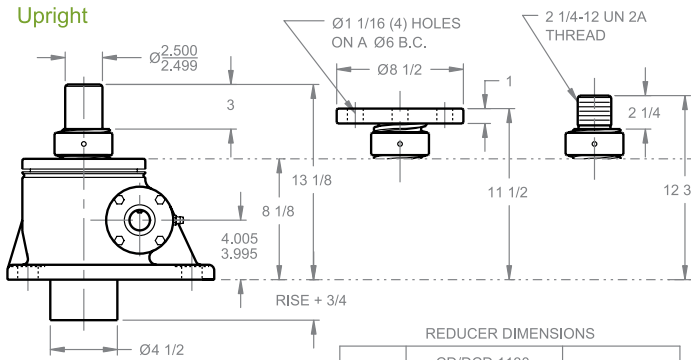
Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.

# MACHINE SCREW ComDRIVES®

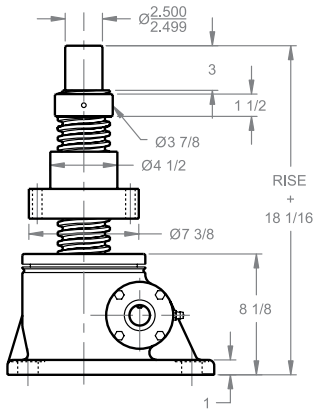
## 30 TON - 3 1/2" SCREW

CD 1130 / DCD 1130  
CD 3230 / DCD 3230

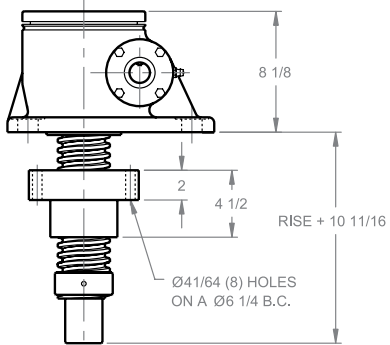
### Upright



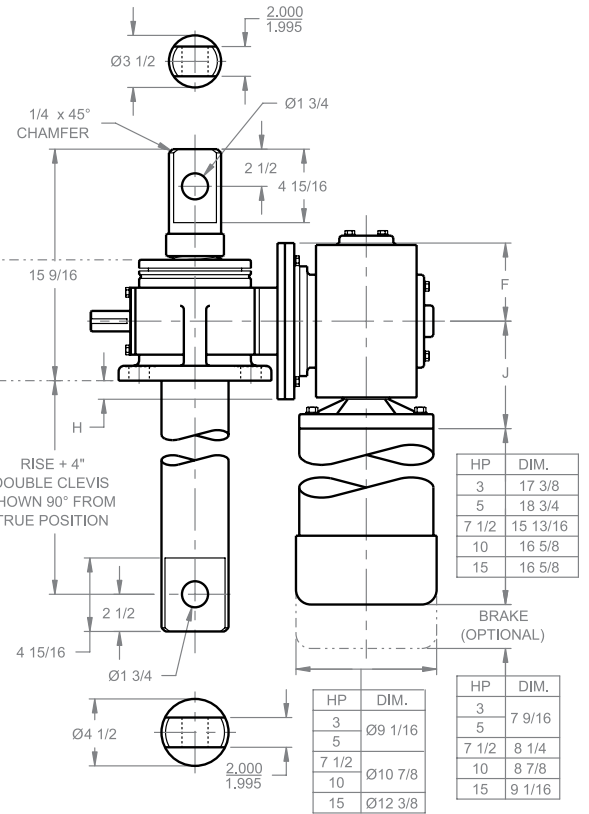
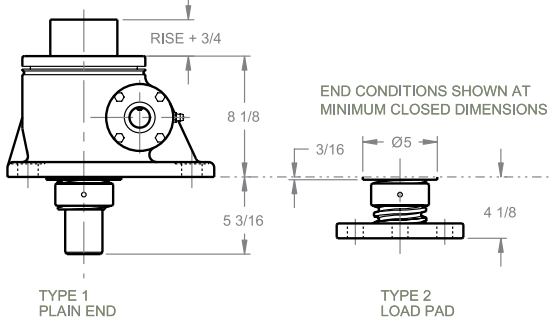
### Upright traveling nut



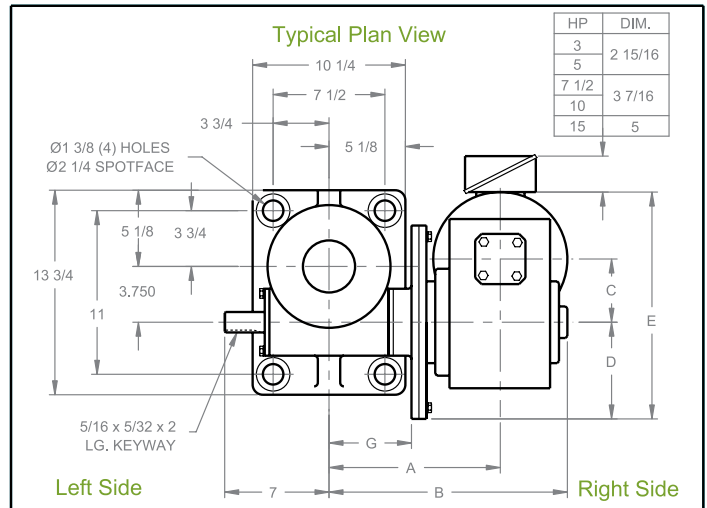
### Inverted traveling nut



### Inverted



### Typical Plan View



Left Side

Right Side

END CONDITIONS SHOWN AT MINIMUM CLOSED DIMENSIONS

TYPE 1 PLAIN END

TYPE 2 LOAD PAD

TYPE 3 THREADED END

TYPE 4 MALE CLEVIS END

Reducer Shown Rotated 180° From Plan View

Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.