

# SOLAR TRACKING DRIVE SOLUTIONS

EXPERTISE  
EXPERIENCE  
RELIABILITY  
VALUE



[www.joycedayton.com](http://www.joycedayton.com)



# SOLAR TRACKING ACTUATORS

Joyce Solar Actuators are designed to precisely position smaller solar tracking equipment. Their robust and efficient DC motor (24V or 36V) keeps power consumption to a minimum. Travel speeds remain nearly constant regardless of the load. Ideal for rugged environments common to the solar industry, these cost-effective solar actuators have an IP65 protection rating. Self-locking features in the mechanism ensure that the solar actuators can be held in position throughout the daily tracking cycle.

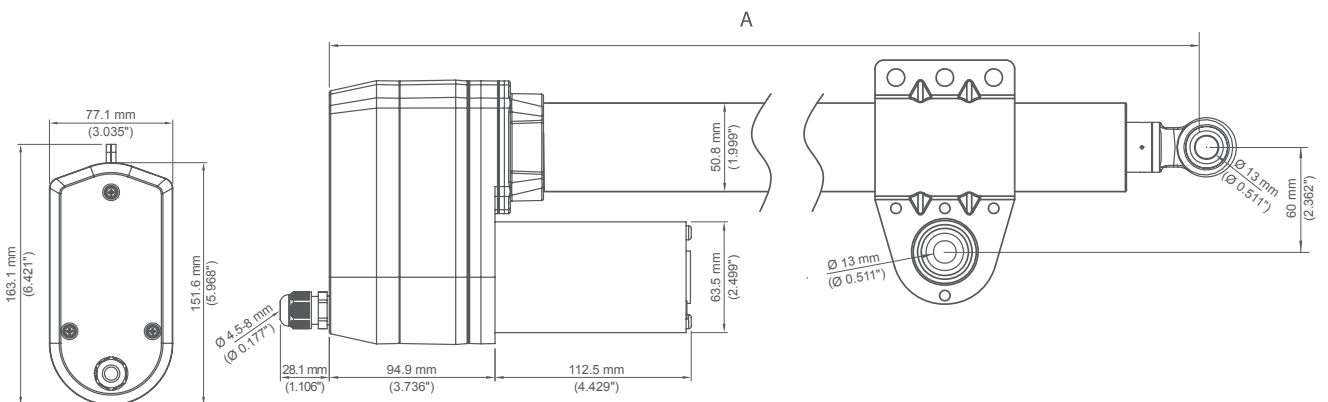
Each solar actuator is lubricated for life and includes an adjustable clevis that allows the unit to be appropriately positioned for the particular application.

## Specifications

- Double clevis mounting for easy installation
- Clutch for overload protection
- Adjustable limit switches for flexible travel settings
- Reed sensor digital feedback for accurate positioning
- Duty cycle is 25% (4 min. running, 12 min. rest)
- IP65 rating provides protection against outdoor conditions
- Lubricated for life to reduce maintenance costs

## Options

- Available in 24V and 36V
- Three stroke lengths – 450 mm (18 in), 600 mm (24 in), 900 mm (36 in)
- Trunnion or end clevis mounts available



Dimensions and ordering information are on the back of this brochure.

Contact Joyce/Dayton with all your lifting and positioning needs.

# SOLAR TRACKING JACKS

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Joyce Solar Jacks are specifically designed for heavy-duty solar tracking applications. Available in machine screw and ball screw models, these cost-effective and efficient jacks precisely position loads at speeds typical of solar tracking operations.

Configurations are available to meet individual customer tracking and positioning requirements. These jacks are designed for outdoor applications and built to stand up to environmental challenges found at solar installations around the world.

## Specifications

- Cast aluminum housing provides superior corrosion resistance
- Up to 48 inches of travel, can be customized to your requirements
- Integral trunnion provides for simplified mounting and installation
- Optimized drive efficiency for lower power consumption
- Low maintenance for reduced operating costs
- Stainless steel clevis provides corrosion-resistant end condition
- Bellows boot provides protection for the screw

## Options

- AC or DC motor
- Position sensor
- Limit switch
- Customized jack solutions

**Machine Screw Jack**



**Ball Screw Jack**



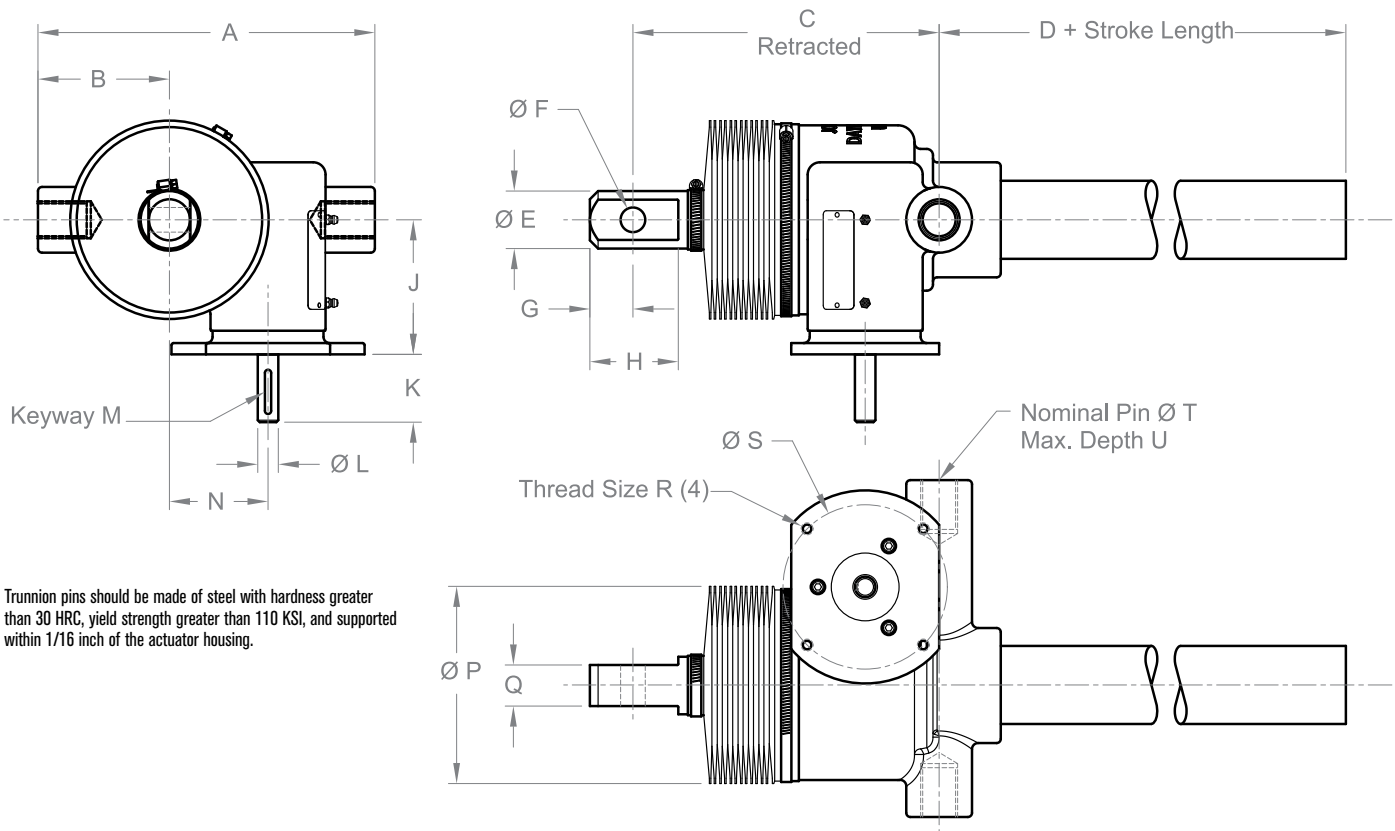
# SOLAR TRACKING JACKS (STM) – MACHINE SCREW JACKS

These self-locking, solar tracking jacks are designed to precisely position loads at speeds up to 3.75 inches per minute.

To obtain a quotation or place an order, please contact us at 800-523-5204 or solar@joycedayton.com

STM – Machine Screw Jacks		
Part Number	Typical Dynamic Load Capacity*	Typical Static Load Capacity*
STM-2	4,000 lb.	4,000 lb.
STM-5	10,000 lb.	10,000 lb.
STM-15	30,000 lb.	30,000 lb.
STM-30	60,000 lb.	60,000 lb.

\*Actual load capacities may vary depending on desired life and travel speed requirements.



Trunnion pins should be made of steel with hardness greater than 30 HRC, yield strength greater than 110 KSI, and supported within 1/16 inch of the actuator housing.

Machine Screw Solar Tracking Jack (STM) Dimensions																			
Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
STM-2	8.250	3.250	8.5	1.0	1.75	0.75	1.31	2.69	3.69	2.06	0.625	0.188 Sq x 1.0 Lg	1.88	5.5	1.250	5/16-18	5.00	0.75	1.00
STM-5	10.250	4.000	9.5	1.0	1.75	0.75	1.31	2.69	4.12	2.06	0.625	0.188 Sq x 1.0 Lg	3.00	6.0	1.250	5/16-18	5.00	1.00	1.50
STM-15	11.750	4.625	10.5	1.0	2.00	0.75	1.31	2.69	5.31	2.13	1.00	0.250 Sq x 1.25 Lg	3.75	6.5	1.375	5/16-18	5.875	1.50	1.75
STM-30	20.000	9.000	14.5	2.0	3.00	1.50	2.00	4.00	8.00	3.13	1.00	0.250 Sq x 1.25 Lg	6.00	8.0	1.750	3/8-16	8.00	2.00	2.25

Dimensions are in inches.

Contact Joyce/Dayton with all your lifting and positioning needs.

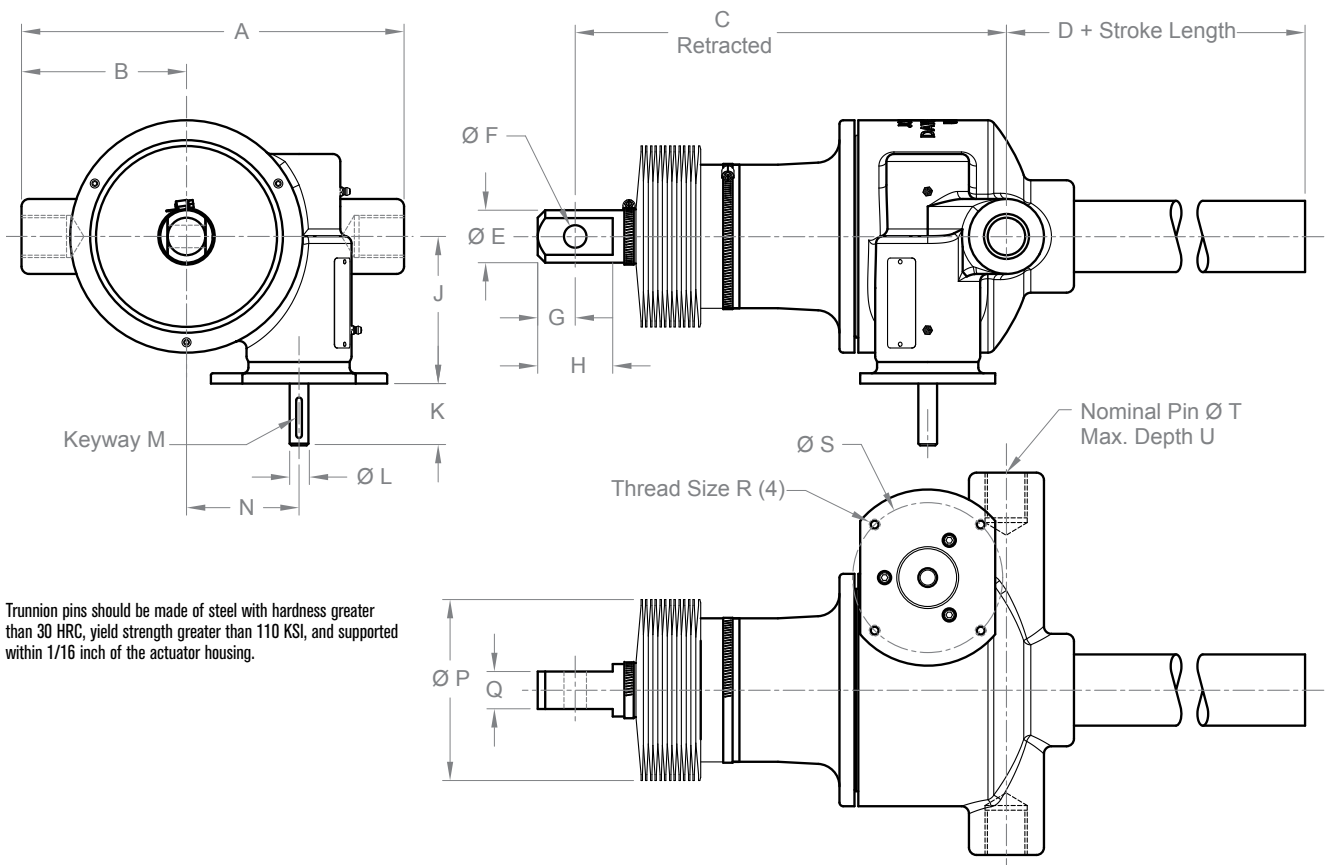
# SOLAR TRACKING JACKS (STB) – BALL SCREW JACKS

These highly efficient, solar tracking jacks are designed to precisely position loads at speeds up to 3.75 inches per minute. A brake motor is required to hold position.

To obtain a quotation or place an order, please contact us at 800-523-5204 or solar@joycedayton.com

STB – Ball Screw Jacks		
Part Number	Typical Dynamic Load Capacity*	Typical Static Load Capacity*
STB-4.5	9,000 lb.	20,000 lb.
STB-11	22,000 lb.	40,000 lb.
STB-44	88,000 lb.	88,000 lb.

\*Actual load capacities may vary depending on desired life and travel speed requirements.



Trunnion pins should be made of steel with hardness greater than 30 HRC, yield strength greater than 110 KSI, and supported within 1/16 inch of the actuator housing.

Ball Screw Solar Tracking Jack (STB) Dimensions																				
Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	
STB-4.5	12.75	5.50	15.5	1.0	1.75	0.75	1.25	2.50	4.9	2.06	0.625	0.188 Sq x 1.0 Lg	3.75	6.0	1.250	5/16-18	5.00	1.25	1.50	
STB-11	12.750	5.750	19.5	1.5	2.75	1.25	1.50	3.00	5.1	2.06	0.625	0.188 Sq x 1.0 Lg	3.75	6.5	1.750	5/16-18	5.00	1.75	2.00	
STB-44	20.000	9.500	27.50	2.5	4.50	1.78	2.375	4.50	8.0	3.13	1.00	0.250 Sq x 1.25 Lg	5.00	13.0	2.750	3/8-16	8.00	3.00	4.00	

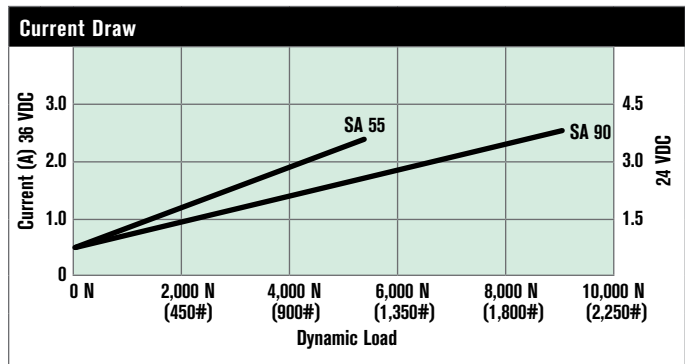
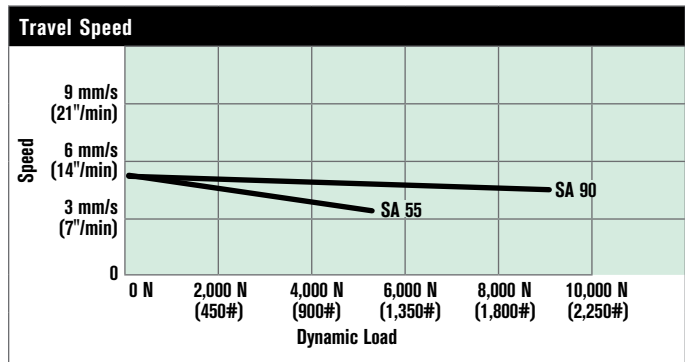
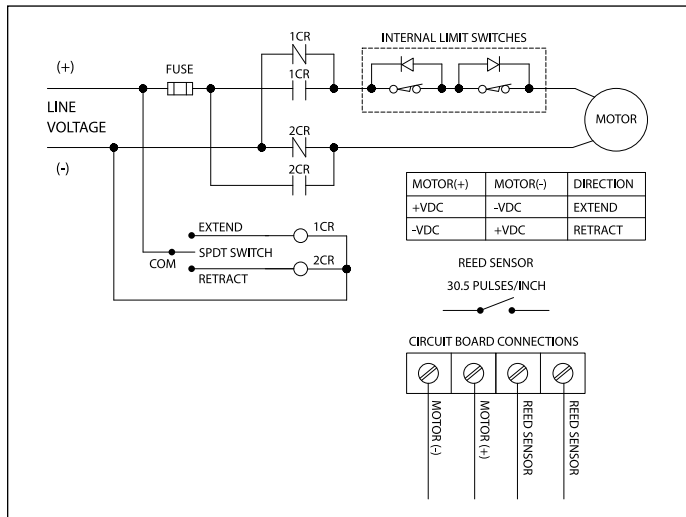
Dimensions are in inches.

# SOLAR TRACKING ACTUATORS (SA) – SOLAR ACTUATORS

Choose part number from the chart below.

SA – Solar Actuators					
Part Number	Voltage	Dynamic Load Capacity	Static Load Capacity	Stroke	"A" Retracted
SA5524C450	24V	5,500 N (1,200 lb.)	13,600 N (3,000 lb.)	450 mm (18 in.)	764 mm (30.1 in.)
SA5536C450	36V				
SA5524C600	24V	5,500 N (1,200 lb.)	13,600 N (3,000 lb.)	600 mm (24 in.)	917 mm (36.1 in.)
SA5536C600	36V				
SA5524C900	24V	5,500 N (1,200 lb.)	13,600 N (3,000 lb.)	900 mm (36 in.)	1269 mm (50.0 in.)
SA5536C900	36V				
SA9024C450	24V	9,000 N (2,000 lb.)	17,100 N (3,800 lb.)	450 mm (18 in.)	810 mm (31.9 in.)
SA9036C450	36V				
SA9024C600	24V	9,000 N (2,000 lb.)	17,100 N (3,800 lb.)	600 mm (24 in.)	963 mm (37.9 in.)
SA9036C600	36V				
SA9024C900	24V	9,000 N (2,000 lb.)	17,100 N (3,800 lb.)	900 mm (36 in.)	1,315 mm (51.7 in.)
SA9036C900	36V				

## Typical Performance Characteristics



Additional options are available for Solar Jacks and Actuators. Contact Joyce/Dayton with your design requirements.

## Joyce/Dayton Corp.

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