

INTEGRATED ACTUATORS



Joyce integrated actuators are designed to lift and precisely position loads of up to one ton. Translating tube (TT) integrated actuators are well suited for use in industrial environments where protection of the lifting screw mechanism is critical and low maintenance is desired. Traveling nut (TN) integrated actuators are best suited for use in environments that are relatively clean and free of dust.

Requiring only electric power, Joyce integrated actuators may be used in place of hydraulic cylinders, eliminating the cost and potential for leaks associated with hydraulic systems.

Integrated actuators include NEMA 56C-face motor flanges, and are capable of moving at speeds up to 345 inches per minute. Dynamic speed/load rating charts can be viewed along with product drawings on pages 139 to 142. Both acme screw (IA, DIA) and ball screw (BIA, HBIA) models are designed to operate at the charted capacities under both tension and compression loading.

Joyce Integrated Actuator Features and Benefits:

- Chrome plated (BIA, HBIA) or stainless steel (IA, DIA) inner cylinder tube resists harsh contaminants while providing smooth cylinder translation.
- Tube seals retain lubrication while preventing dirt and grime from entering the internal cavity and contaminating the lifting screw.
- Aluminum cast housing provides durable protection for screw and internal components.
- Rigid cylinder tube guide bearings provide resistance to buckling (external guides are required when side loads are present).
- Alloy steel input shafts riding on tapered roller bearings provide proper wormgear alignment for increased service life.
- Input shaft seals prevent the loss of lubrication.

Joyce can customize integrated actuators to meet your specifications.

Joyce offers Integrated Actuators in the following designs:

- **Translating tube**
- **Traveling nut**

An illustration and a guide for ordering are on pages 136 and 137.

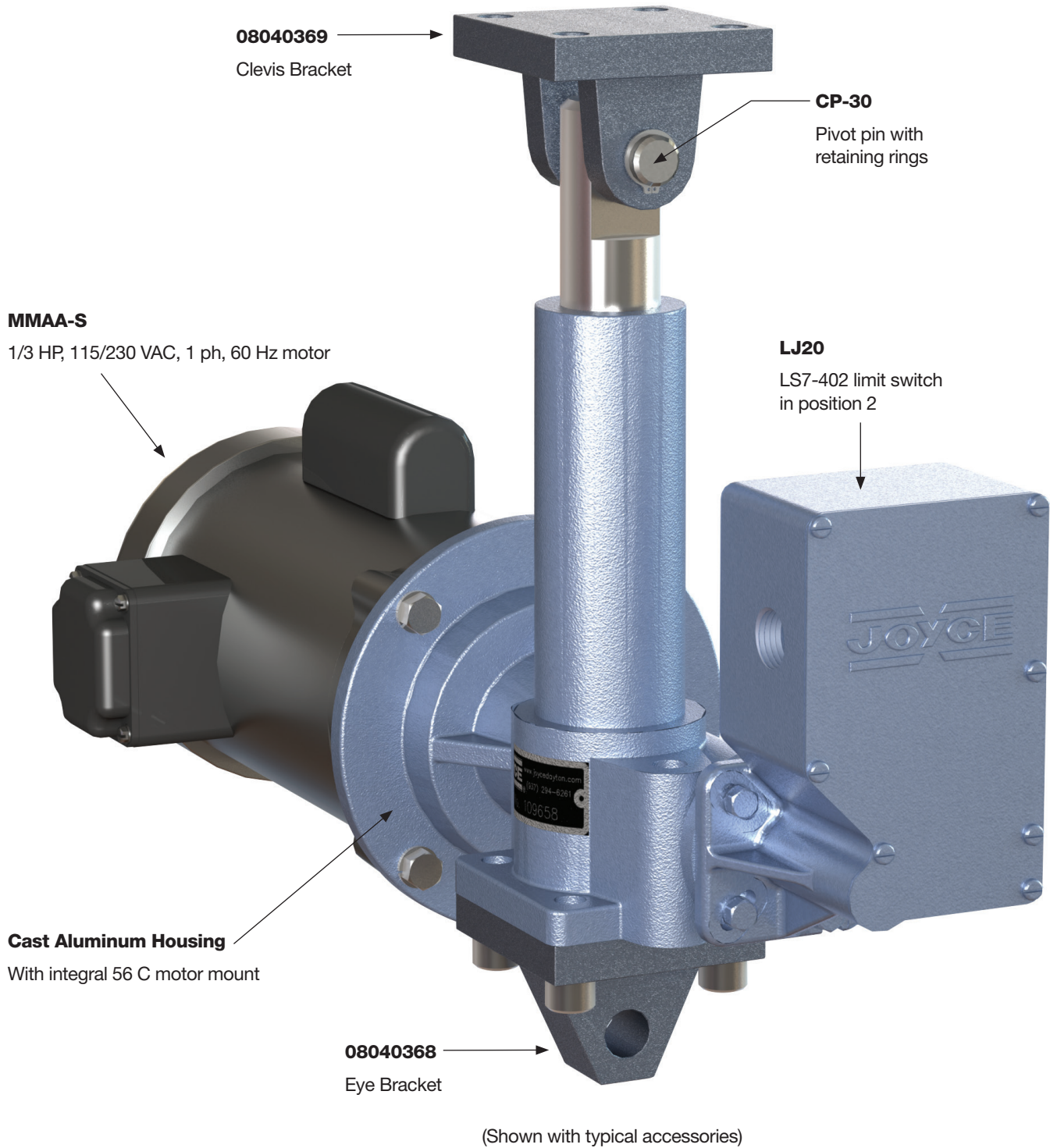


Scan the QR Code to view this product on our website.

INTEGRATED ACTUATORS

Integrated Actuator

(Example: IA51TT-6-LJ20-MMAA-S)



INTEGRATED ACTUATORS ORDERING INFORMATION

Instructions: Select a model number from this chart.

ACME 1" diameter, .25" pitch	ACME 1" diameter, .25" pitch/.50" lead	Ball 1" diameter, .25" pitch	Ball 1" diameter, 1.00" pitch
IA51 IA201	DIA51* DIA201*	BIA51* BIA201*	HBIA51*

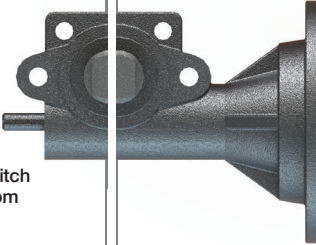
Important Note: *Integrated actuators may lower under load. Brake motors or external locking systems are recommended.

Sample Part Number: IA51-TT-6.00-LJ20-MMAA-S

Integrated Actuator Configuration	
TT Translating Tube	TN Keyed for Traveling Nut

Integrated Actuator Rise
Rise is travel expressed in inches and not the actual tube length. Contact Joyce for rises greater than 24"

Left Side Shaft Code	Right Side Shaft Code
<p>XXXX=Remove Shaft STDX=Standard CUST=Custom</p> <p>LJ10 LJ20 LJ30 LJ40</p> <p>See limit switch positions from chart below</p>	<p>RMMT=Remove Motor Mount MMA=Standard</p> <p>Motor code from chart below</p>




Limit Switches	1	2	3	4
Position				
Left side Shaft				
Code	LJ10	LJ20	LJ30	LJ40

Motors	
Size	Code
1/4 HP	K
1/3 HP	A
1/2 HP	B
3/4 HP	C
No Motor	X

Standard Motors					
Voltage	Speed (rpm)	1/4 HP	1/3 HP	1/2 HP	3/4 HP
115/230 VAC Single Phase	1140			X	X
115/230 VAC Single Phase	1725	X	X	X	X
115/230 VAC Single Phase w/brake	1725		X	X	X
230/460 VAC Three Phase	1140	X	X	X	X
230/460 VAC Three Phase	1725	X	X	X	X
230/460 VAC Three Phase w/brake	1725	X	X	X	X
12 VDC Permanent Magnet	1800	X	X	X	X
24 VDC Permanent Magnet	1800		X	X	X
90 VDC Permanent Magnet	1750	X	X	X	X
180 VDC Permanent Magnet	1750	X	X	X	X

Options** (see chart to left)	
X	No additional options
M	Modify standard actuator
C12	12 VDC motor
C24	24 VDC motor
C90	90 VDC motor
C180	180 VDC motor
K	Brake motor
R	1140 RPM motor
S	Single phase 115/230 1-ph. 60 Hz

** Specify as many options as needed.

Optional Accessories (p. 138)		
		
Clevis Bracket 08040369	Pivot Pin with retaining rings CP-30	Eye Bracket 08040368

INTEGRATED ACTUATORS OPTIONS

Motors

Standard 56C-NEMA frame motors are available in:

AC Motors

- 1/4, 1/3, 1/2, and 3/4 HP
- 1140 or 1725 rpm
- Single or three phase
- With or without brake

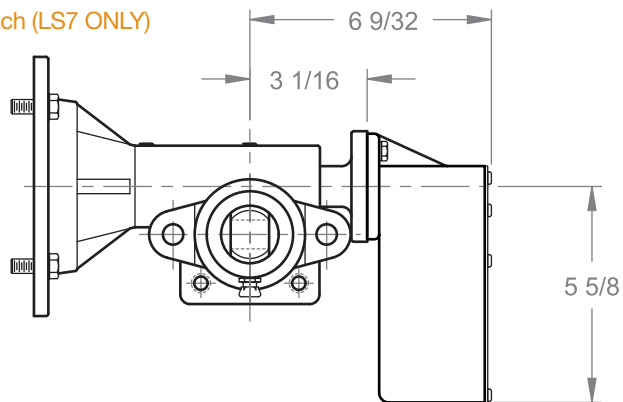
DC Motors

- 1/4, 1/3, 1/2, and 3/4 HP
- 1750 rpm or 1800 rpm
- 90 and 180 volts

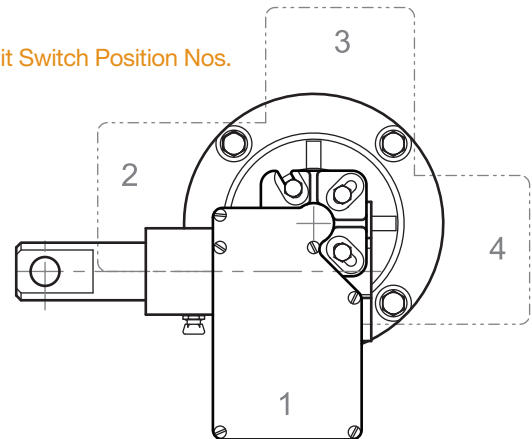
Ring Encoders

Contact Joyce with your requirements.

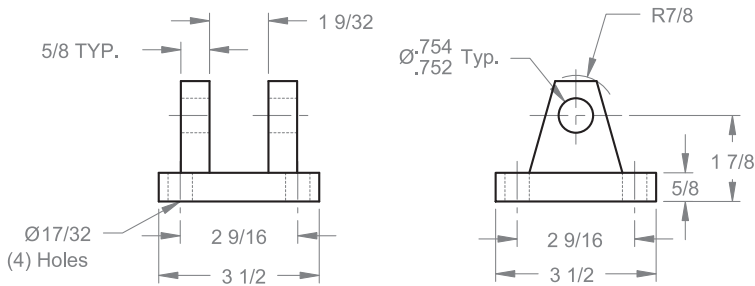
Limit Switch (LS7 ONLY)



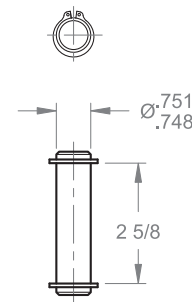
Limit Switch Position Nos.



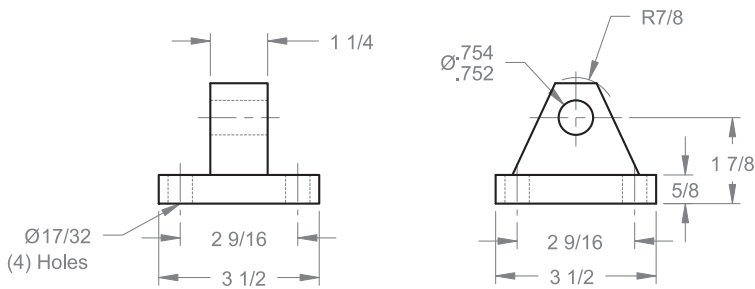
Clevis Accessories



Clevis Bracket #08040369



Pivot Pin
With Retaining Rings
CP-30



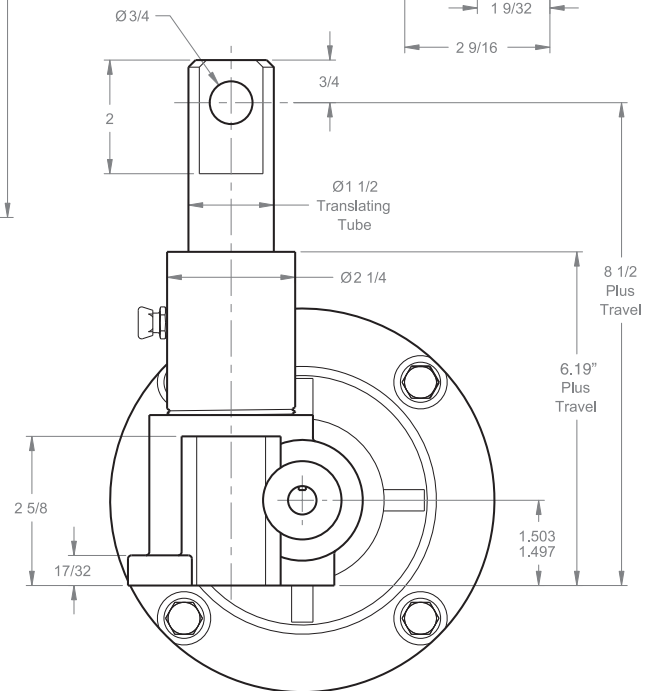
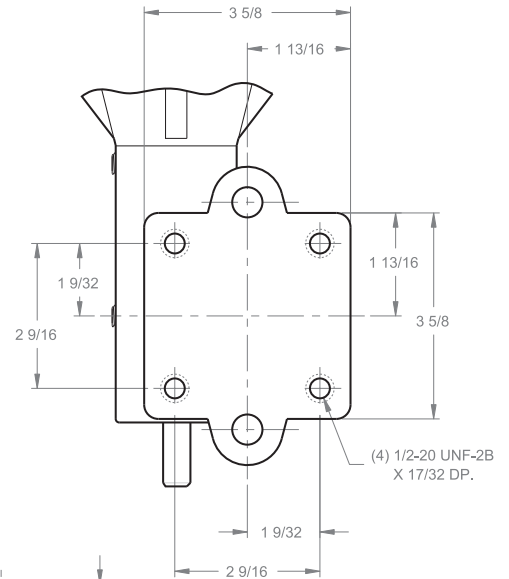
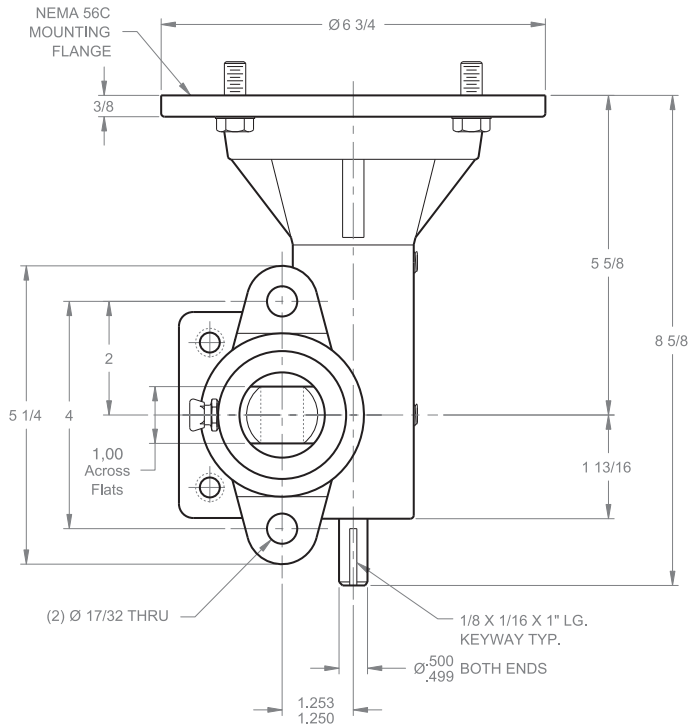
Eye Bracket #08040368

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

INTEGRATED ACTUATORS

250-2000 POUND INTEGRATED ACME SCREW

IA 51TT / DIA 51TT
IA 201TT / DIA 201TT



Model Number	ACME Threaded Lifting Screw	Wormgear Ratio	Worm Shaft Turns/1" Travel	Motor RPM	Lifting Speed (Inches/Minute)	Rated Load (lbs.) with given motor size		
						1/3 HP Motor	1/2 HP Motor	3/4 HP Motor
IA51TT	1" diameter .25" pitch	5:1	20	1140	57	550	850	1250
				1725	86	375	550	850
IA201TT	1" diameter .25" pitch	20:1	80	1140	14	1775	2000	2000
				1725	21	1225	1850	2000
DIA51TT	1" diameter .25" pitch .50" lead	5:1	10	1140	114	375	575	875
				1725	172	250	400	600
DIA201TT	1" diameter .25" pitch .50" lead	20:1	40	1140	28	1250	1875	2000
				1725	43	850	1300	1950

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.

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

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

An Illustration and ordering information are on pages 136 and 137

937-294-6261

sales@joycedayton.com

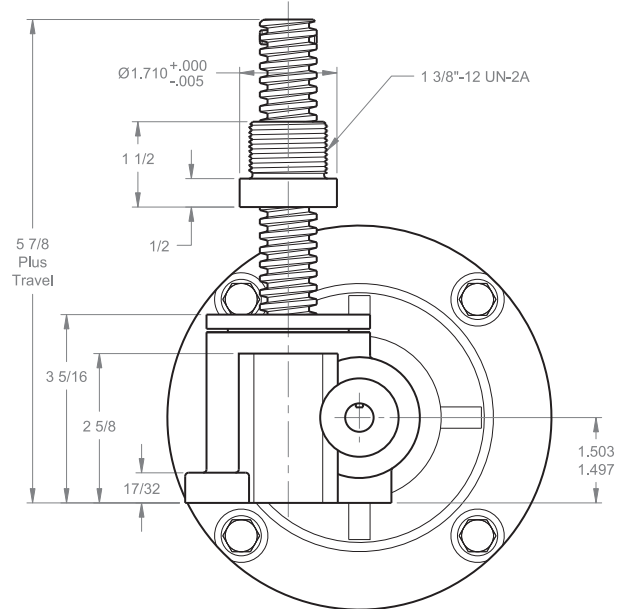
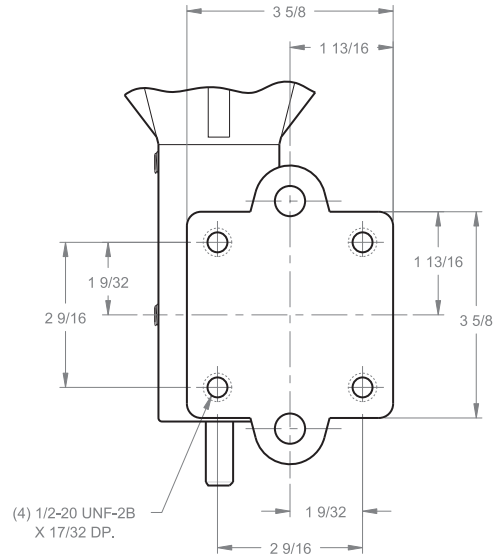
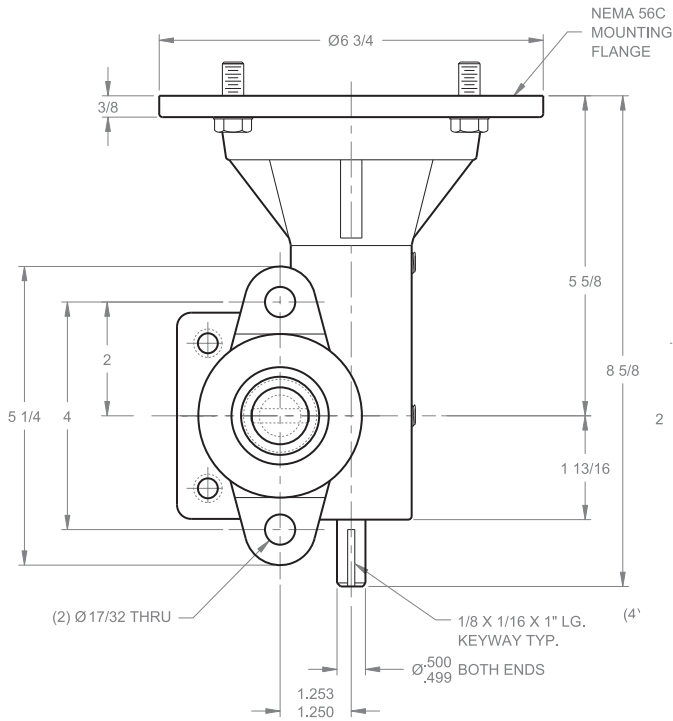
joycedayton.com

139

INTEGRATED ACTUATORS

250-2000 POUND INTEGRATED ACME SCREW

IA 51TN / DIA 51TN
IA 201TN / DIA 201TN



Model Number	ACME Threaded Lifting Screw	Wormgear Ratio	Worm Shaft Turns/1" Travel	Motor RPM	Lifting Speed (Inches/Minute)	Rated Load (lbs.) with given motor size		
						1/3 HP Motor	1/2 HP Motor	3/4 HP Motor
IA51TN	1" diameter .25" pitch	5:1	20	1140	57	550	850	1250
				1725	86	375	550	850
IA201TN	1" diameter .25" pitch	20:1	80	1140	14	1775	2000	2000
				1725	21	1225	1850	2000
DIA51TN	1" diameter .25" pitch .50" lead	5:1	10	1140	114	375	575	875
				1725	172	250	400	600
DIA201TN	1" diameter .25" pitch .50" lead	20:1	40	1140	28	1250	1875	2000
				1725	43	850	1300	1950

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.

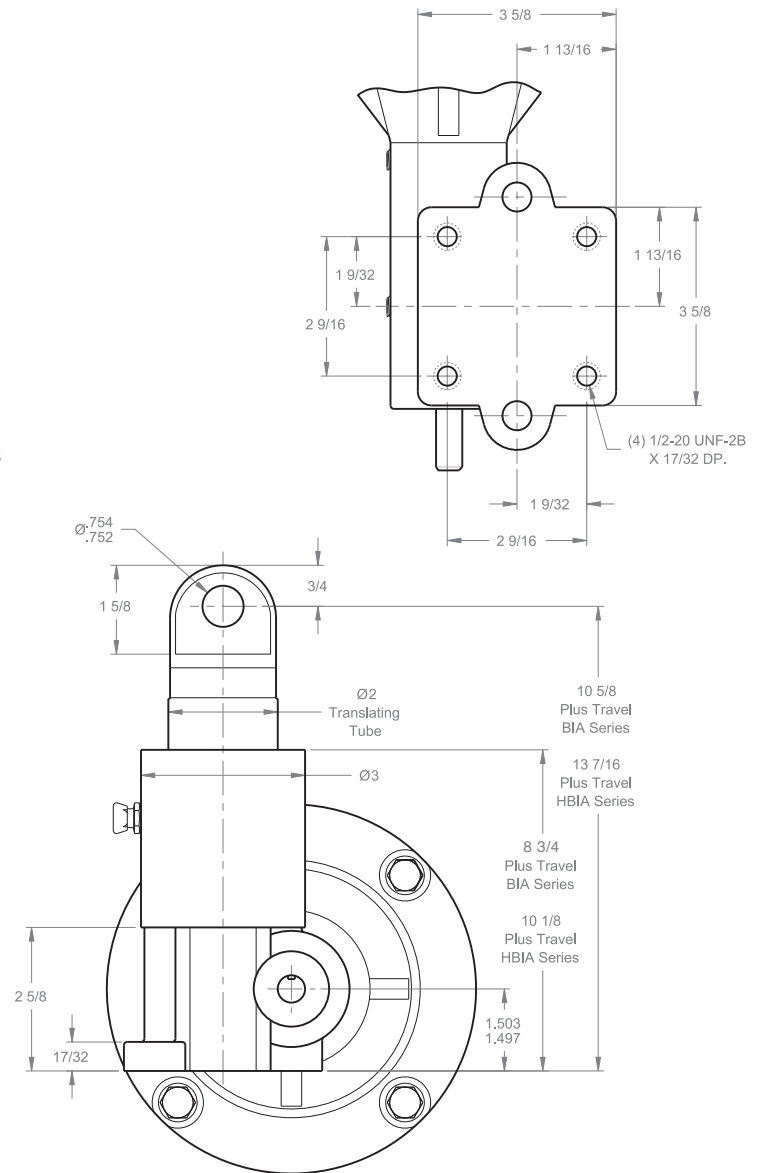
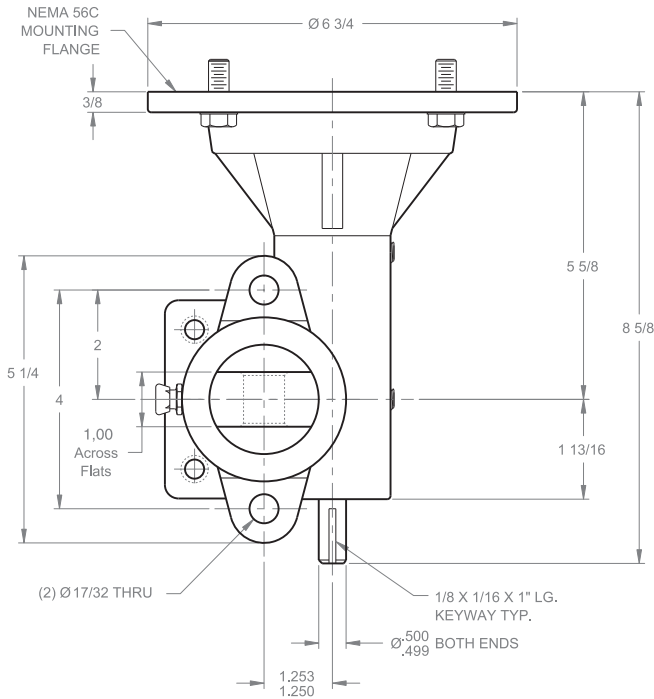
Important Note: DIA models may lower under load. Brake motors or external locking systems are recommended.

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

INTEGRATED ACTUATORS

100-2000 POUND INTEGRATED BALL SCREW

BIA 51TT / HBIA 51TT
BIA 201TT



Model Number	ACME Threaded Lifting Screw	Wormgear Ratio	Worm Shaft Turns/1" Travel	Motor RPM	Lifting Speed (Inches/Minute)	Rated Load (lbs.) with given motor size			
						1/4 HP Motor	1/3 HP Motor	1/2 HP Motor	3/4 HP Motor
BIA51TT	1" diameter .250" lead ball screw	5:1	20	1140	57	925	1225	1850	2000
				1725	86	625	825	1250	1875
BIA201TT	1" diameter .250" lead ball screw	20:1	80	1140	14	2000	2000	2000	2000
				1725	21	2000	2000	2000	2000
HBIA51TT	1" diameter 1.000" lead ball screw	5:1	5	1140	228	225	300	450	700
				1725	345	100	200	300	450

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.

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

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

EDRIVE[®]

ACTUATORS

ELECTRIC LINEAR ACTUATORS



Our EDrive brand electric linear actuators are perfect for tough, industrial automation applications where conservative design, rugged construction, long life, and high precision are required.

EDrive electric actuators are an ideal replacement for older power solutions like hydraulic and pneumatic linear actuators.

Eliminator HD™

- Rated thrust up to 40,000 lbf
- High velocity up to 20 in/sec, stroke up to 48 inches

Eliminator HDL™ with Integrated Load Cell

- Rated thrust up to 25,000 lbf
- High velocity up to 20 in/sec, stroke up to 48 inches

Eliminator SD™

- Extreme thrust capacity up to 100,000 lbf
- Velocity up to 12 in/sec, Strokes up to 48 inches

Eliminator SPL™ with Integrated Load Cell

- Thrust up to 25,000 lbf
- High velocity to 20 in/sec, Strokes to 48 inches

Eliminator SS™

- Rated thrust up to 2,000 lbf
- Extreme speed up to 63 in/sec, stroke up to 48 inches

Tac LS™

- Long stroke actuator with thrust up to 2,000 lbf
- Velocity up to 40 in/sec, stroke from 24 to 60 inches

Tac VP™

- Compact actuator with thrust up to 2,000 lbf
- Velocity up to 40 in/sec, stroke up to 24 inches

Tac VT™

- Compact actuator with thrust up to 2,000 lbf
- Velocity up to 40 in/sec, Stroke rate up to 24 inches

Universal Actuator™

- Rated thrust up to 500 lbf
- Velocity up to 50 in/sec



Scan the QR Code to view
EDrive on our website.