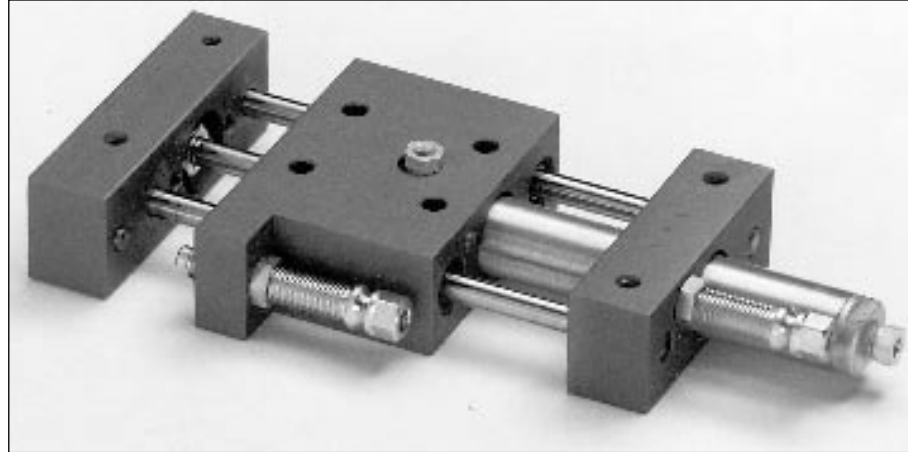


# LA-1 Linear Actuator



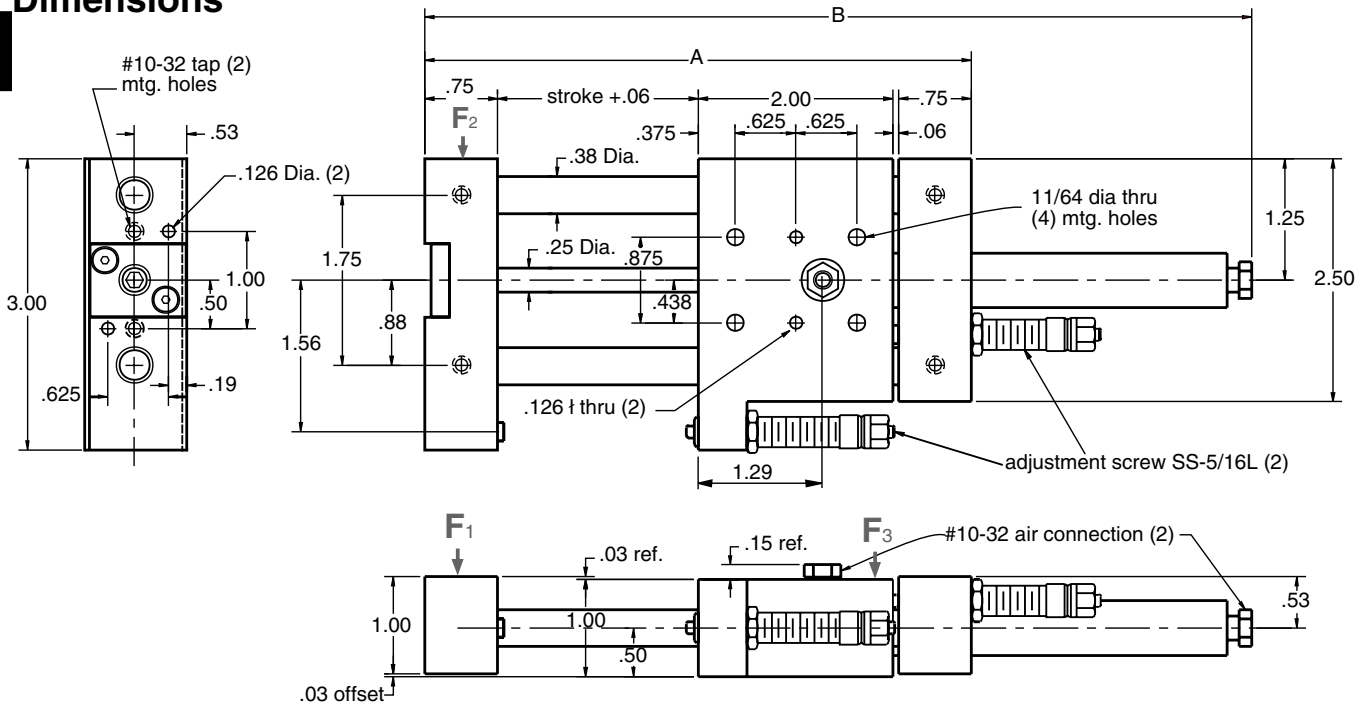
## Features

- 9/16" bore
- 0.375" dia. case hardened & ground shafts
- 4 linear ball bearings and seals
- Cylinders can be rebuilt
- Chrome plated cylinder rods
- Adjustable stopscrews for end of stroke adjustment
- Sensing switches can be used with stopscrews
- Compressed air from 60-100 psi
- 10-32 air connection



- Tapped & dowel pin holes in anodized body for ease of mounting
- End blocks anodized and include tapped & dowel pin holes

## Dimensions



Type	Stroke	A	B	Weight
LA-1-1	1"	4.62	6.50	1.2
LA-1-2	2"	5.62	8.50	1.3
LA-1-3	3"	6.62	10.50	1.4
LA-1-4	4"	7.62	12.50	1.5

## Ordering

The LA-1 comes in four standard stroke lengths: # = 1, 2, 3, & 4. Custom stroke lengths are available upon request.

**LA-1-# - CR for Clean Room option**

# LA-1 Linear Actuator

## Applications

B-1P Gripper mounted on the end of an LA-1 which is mounted vertically to the end of an LA-2. This application is depicted in our CMU- (Combined Motion Units) LL21.

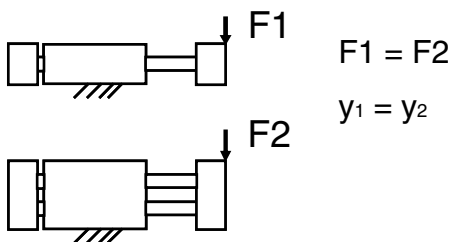


B-1P Gripper mounted on top of an RD-1 which is mounted to the end of an LA-1 as seen on the CMU-LR11.

## Technical Data

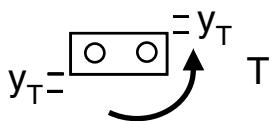
Force @ 80 psi = 14 lbs  
 Repeat accuracy = +/-0.0005"  
 Life expectancy = >100 million travel nches

Force diagrams below depict the load (F#) and the resultant deflection (y#) caused by that force (or torque T).



$$F1 = F2$$

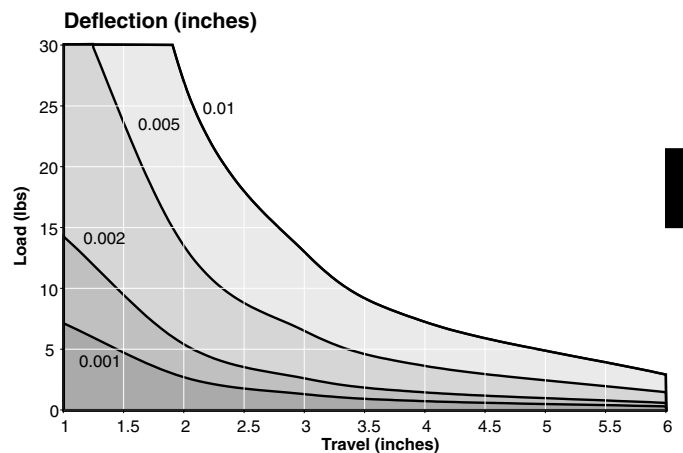
$$y1 = y2$$



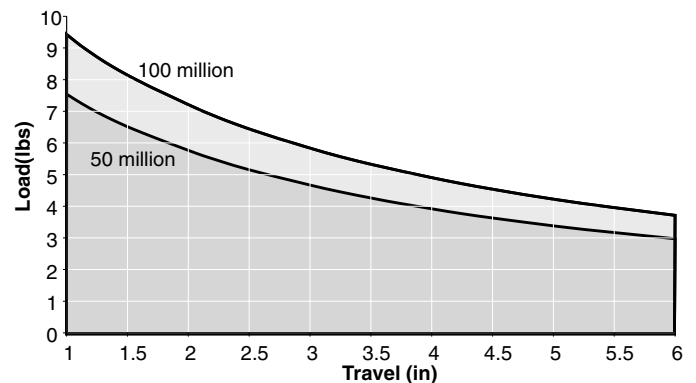
$$T = F1 * 0.88$$

$$y_T = y1 * .5$$

## F1 Load vs. Travel at set Deflections for the LA-1



## Life (millions of inches traveled) vs. Travel & Load



## Options

Sensing switches are available as an option. They are mounted to the stopscrews as seen in the photo to the right. For specifications on sensing please see page 143.

For clean room applications the LA-1 is available with stainless steel guide rods,

stainless steel hardware, non-lube sleeve-type bushings, and nickel-plated stopscrews and shock absorbers.



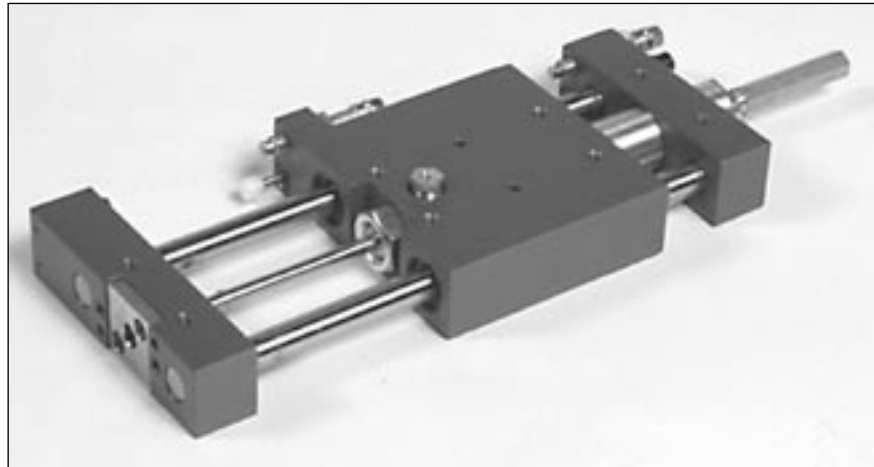
Optional sensing switches available. See pages 143-149

# LA-2 Linear Actuator

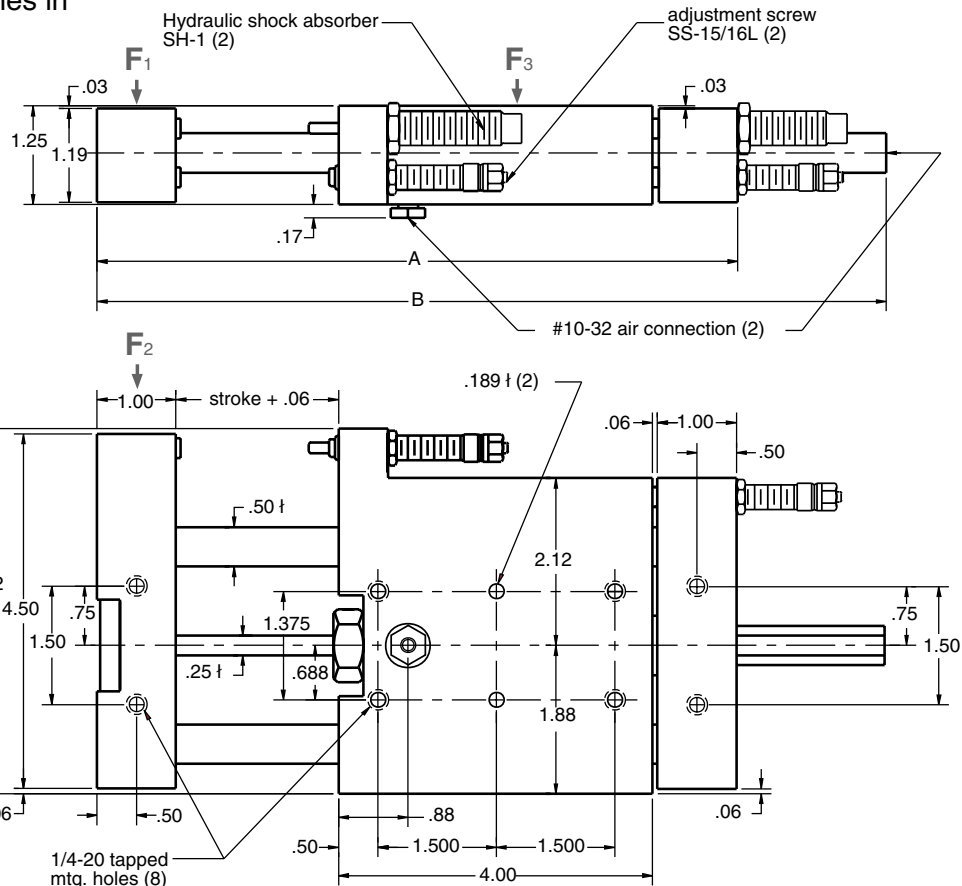


## Features

- 3/4" bore
- 0.500" dia. case hardened & ground shafts
- 4 linear ball bearings and seals
- Cylinders can be rebuilt
- Chrome plated cylinder rods
- Adjustable stopscrews for end of stroke adjustment
- Sensing switches can be used with stopscrews
- Compressed air from 60-100 psi
- 10-32 air connection
- Tapped & dowel pin holes in anodized body for ease of mounting



- End blocks anodized and include tapped & dowel pin holes
- Hydraulic shock absorbers



Type	Stroke	A	B	Weight
LA-2-2	2"	8.12	10.0	4.0
LA-2-4	4"	10.12	14.0	4.5
LA-2-6	6"	12.12	18.0	5.0
LA-2-8	8"	14.12	22.0	5.5

## Ordering

The LA-2 comes in four standard stroke lengths: # = 2, 4, 6, & 8. Custom stroke lengths are available upon request.

**LA-2-# - CR for Clean Room option**

# LA-2 Linear Actuator

## Applications

LA-2 mounted vertically to a TSHD-3 Heavy Duty Table Slide. A B-2S Gripper is mounted to the end of the slide. This configuration represents a TSL-32 Combined Motion Unit.



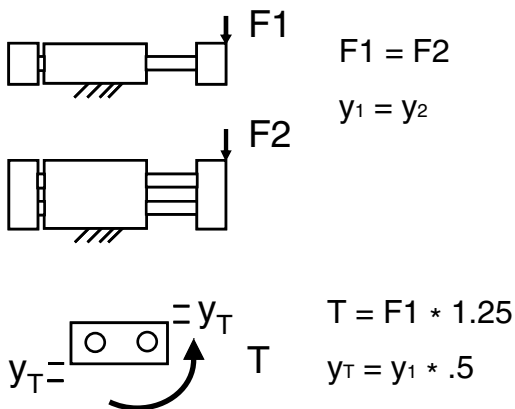
Two LA-2-4 actuators mounted to each other for a 4 position pick-up and drop-off application.



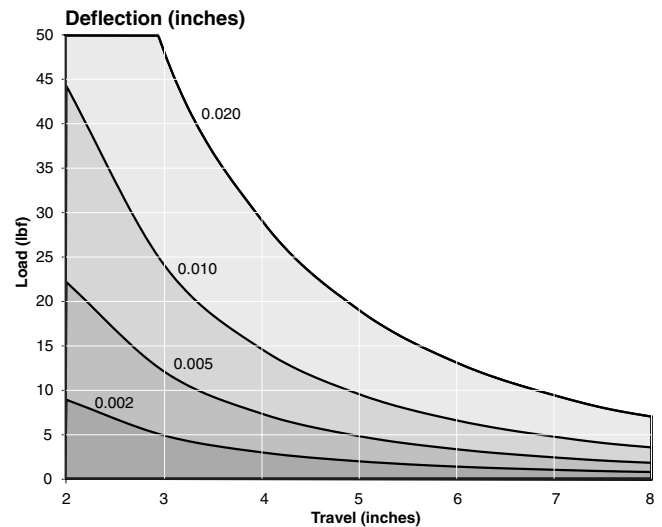
## Technical Data

Force @ 80 psi = 32 lbs  
 Repeat accuracy = +/-0.0005"  
 Life expectancy = >100 million travel inches

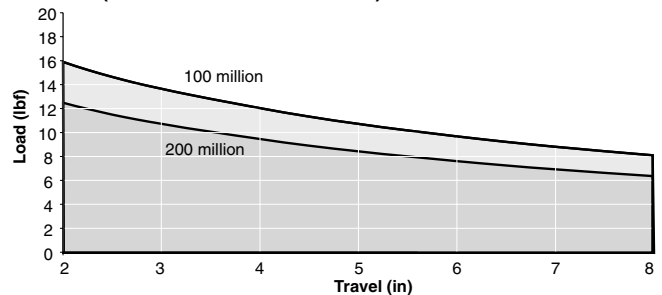
Force diagrams below depict the load (F#) and the resultant deflection (y#) caused by that force (or torque T).



## F1 Load vs. Travel at set Deflections for the LA-2



## Life(millions of inches traveled) vs. Travel & Load



## Options

Sensing switches are available as an option. They are mounted to the stopscrews as seen in the photo to the right. For specifications on sensing please see page 143.

For clean room applications the LA-2 is available with stainless steel guide rods,

stainless steel hardware, non-lube sleeve-type bushings, and nickel-plated stopscrews and shock absorbers.

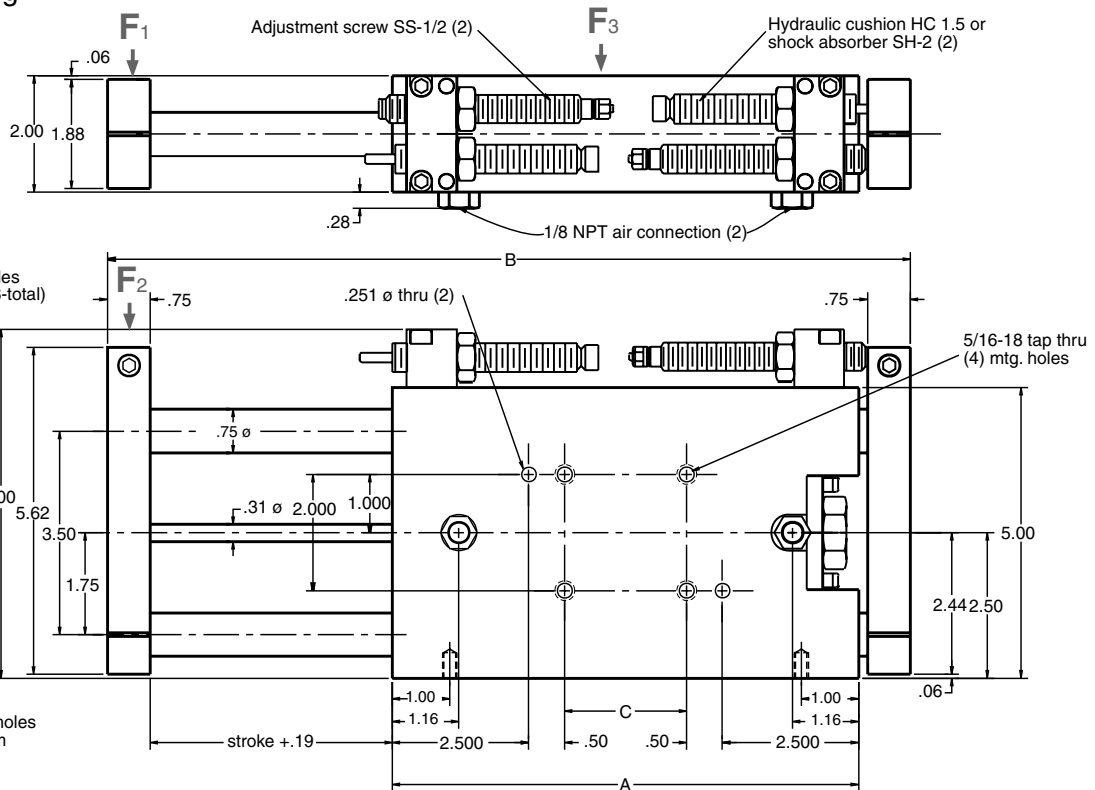
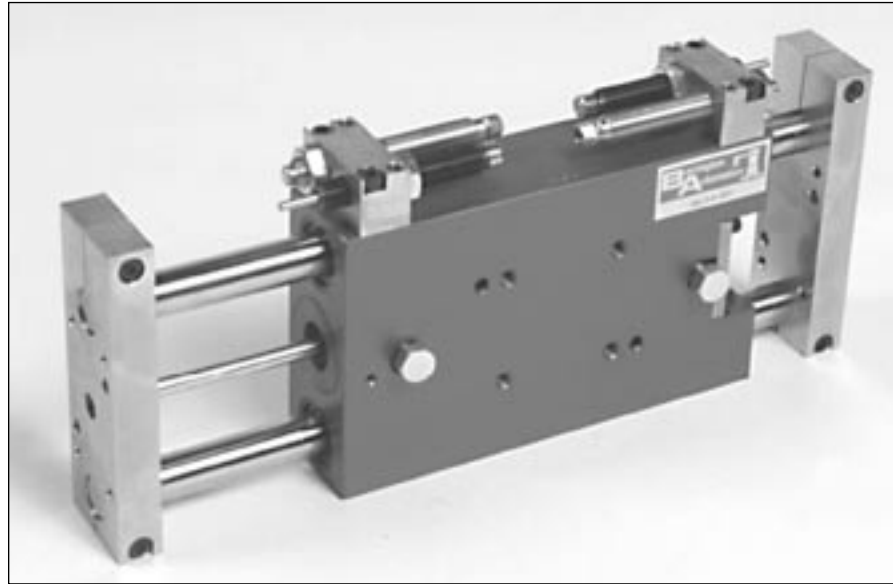


# LA-3 Linear Actuator



## Features

- 1 1/8" bore
- 0.750" dia. case hardened & ground shafts
- 4 linear ball bearings and seals
- Cylinders can be rebuilt
- Chrome plated cylinder rods
- Adjustable stopscrews for end of stroke adjustment
- Sensing switches can be used with stopscrews
- Compressed air from 60-100 psi
- 1/8 NPT air connection
- Tapped & dowel pin holes in anodized body for ease of mounting
- End blocks anodized and include tapped & dowel pin holes



Type	Stroke	A	B	C	Weight
LA-3-4	0-4"	8.12	14.00	2.12	16
LA-3-8	0-8"	12.12	22.00	6.12	20
LA-3-12	0-12"	16.12	30.00	10.12	24
LA-3-16	0-16"	20.12	38.00	14.12	28

## Ordering

The LA-3 comes in four standard stroke lengths: = 4, 8, 12, & 16. Custom stroke lengths are available upon request.

**LA-3- # - CR for Clean Room option**

# LA-3 Linear Actuator

## Applications

B-2P Gripper mounted on the end of an LA-3 which is mounted vertically on a TSHD-4 Heavy Duty Table Slide. This application is depicted in our CMU- (Combined Motion Units) TSL43.

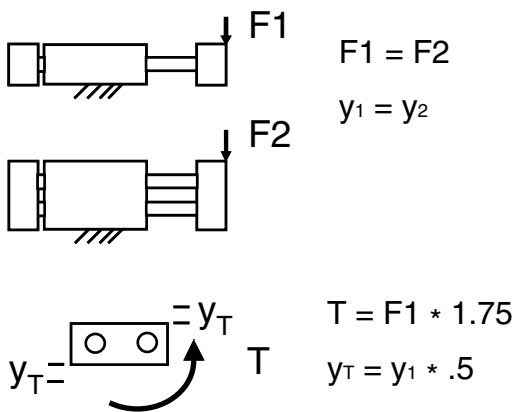


B-2S Gripper mounted on top of an RD-3 which is mounted to the end of an LA-3 as seen on the CMU-LR33.

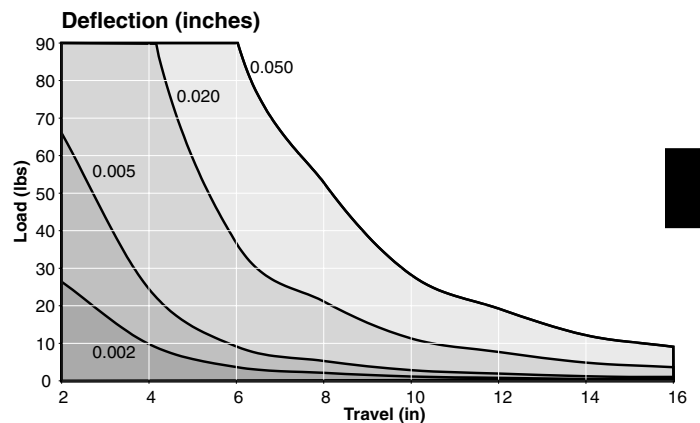
## Technical Data

Force @ 80 psi = 72 lbs  
 Repeat accuracy = +/-0.0005"  
 Life expectancy = >100 million travel inches

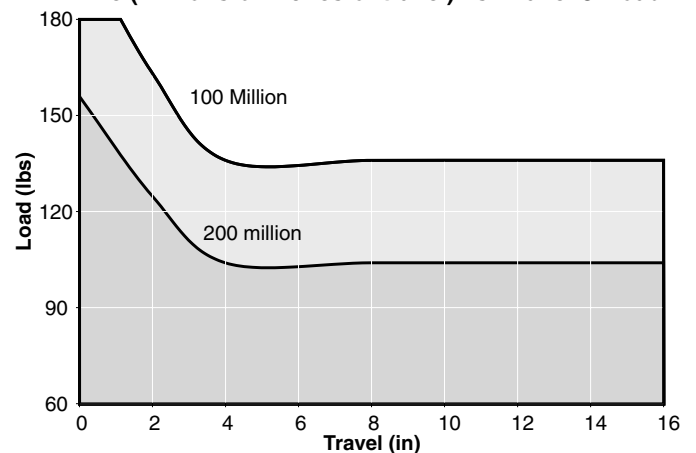
Force diagrams below depict the load (F#) and the resultant deflection (y#) caused by that force (or torque T).



## F1 Load vs. Travel at set Deflections for the LA-3



## Life (millions of inches of travel) vs. Travel & Load



## Options

Sensing switches are available as an option. They are mounted to the stopscrews as seen in the photo to the right. For specifications on sensing please see page 143.

For clean room applications the LA-3 is available with stainless steel guide rods,

stainless steel hardware, non-lube sleeve-type bushings, and nickel-plated stopscrews and shock absorbers.

