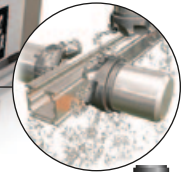


PL Series

PLA BALL SCREW DRIVEN LINEAR ACTUATOR



Hardened Steel V-Raceway



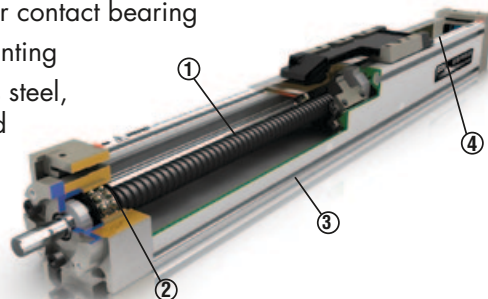
Made in the USA

FEATURES & BENEFITS

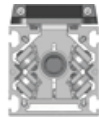

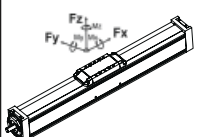
- **High Speed Cam Roller Design** - Pre-loaded ball bearing cam rollers are guided by the patent pending Integral V™ hardened steel raceways. Creates smooth precision guidance
- **Ball, Acme or Lead Screw Driven** - high positioning accuracy and high load/torque load requirements
- **SIMO®** - (Simultaneous Integral Milling Operation) patent pending machining process for precision machined surfaces on all housing sides
- **Accessories:** couplings, mounting clamps, motor mounts, limit switches, gear reducers, shaft extensions etc.

KEY FEATURES

- (1) Positioning accuracy assured by ball or lead screw drive
- (2) Double row angular contact bearing
- (3) T-slots for easy mounting
- (4) Seal strip - stainless steel, magnetically sealed



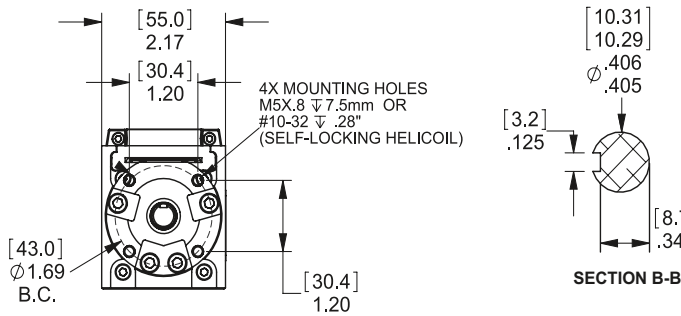
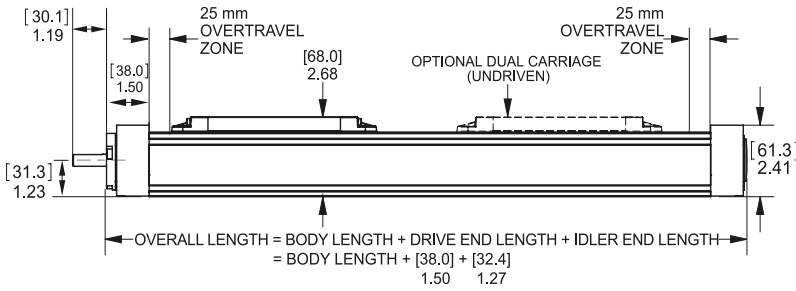
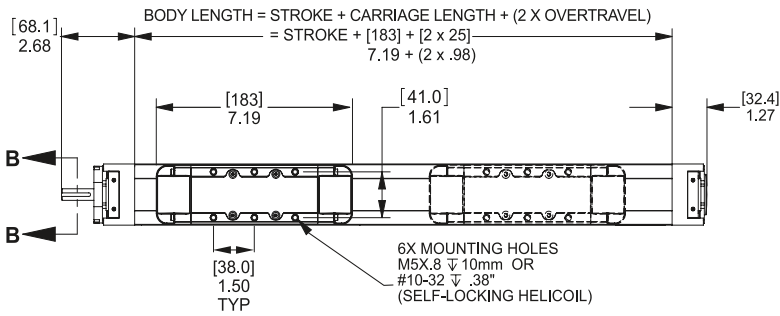
TECHNICAL DATA

					
Size	mm	55 x 55	in	2.17 x 2.17	
Max. Speed - 1" Lead	m/s	2	in/s	79	
Max. Stroke Length*	mm	2710	in	107	
Min. Stroke Length	mm	50	in	1.97	
Max RPM*	4755				
Base Weight	Kg	1.636	lbf	3.61	
Add for 100 mm of Stroke	Kg	0.379	lbf	0.84	
Max. Load	Fx⁴	N	1958	lbf	440
	Fy	N	285	lbf	64
	Fz	N	980	lbf	220
Max. Moments	Mx	Nm	12	lbf-in	106
	My	Nm	52	lbf-in	460
	Mz	Nm	52	lbf-in	460
Moment of Inertia	Ix	cm ⁴	29	in ₄	0.70
	Iy	cm ⁴	32	in ⁴	0.77
Max. Radial Load on Input Shaft	N	200	lbf	45	
No Load Torque	Nm	0.015	lbf-in	0.13	
	<p>For combined loads, the combined loading cannot exceed the following formula.</p> $\frac{F_{yA}}{F_y} + \frac{F_{zA}}{F_z} + \frac{M_{xA}}{M_x} + \frac{M_{yA}}{M_y} + \frac{M_{zA}}{M_z} \leq 1$				

NOTE:

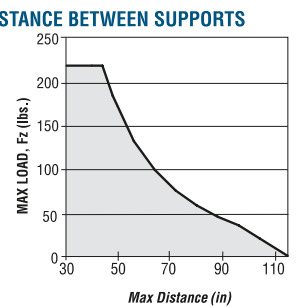
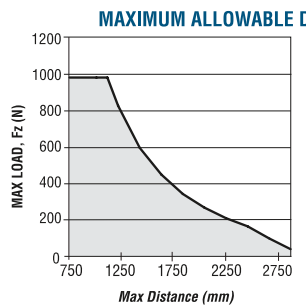
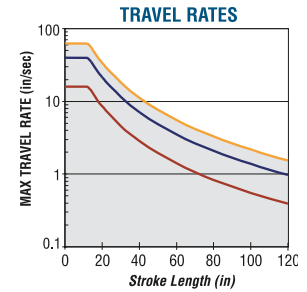
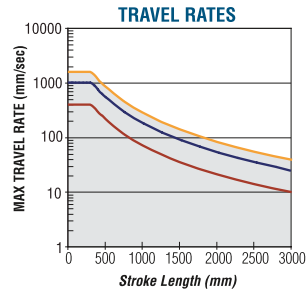
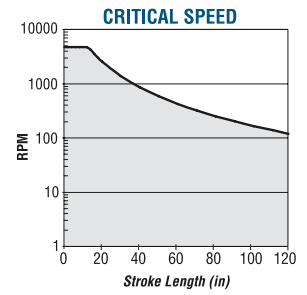
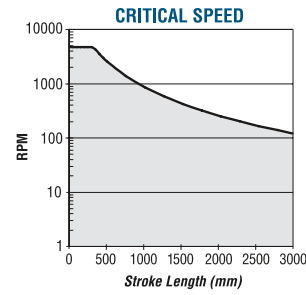
1. Moment arms for calculating moments should be measured from the centerline of the driveshaft.
 2. Limit switches must be used in order to prevent the carriage from contacting the actuator end blocks, resulting in damage.
 3. 25mm of over-travel has been added to the body length in each direction to allow for carriage over-travel. 25mm is the recommended over-travel; although a minimum of 10mm may be specified for special applications.
 4. Fx applies to ball and acme screws only. Contact manufacturer for lead screw values.
- *Max length and speed are limited by critical speed of screw. Max load is limited by column strength of screw. Values listed are theoretical max.

DIMENSIONAL INFORMATION



LOAD RANGE (Ball & Acme Screws)

The recommended operating range is below and to the left of the shown curves. Speeds indicated by the curves are based upon 80% of the critical speed of the ball screw. Higher recommended speed ranges can be achieved by selecting a larger lead ball screw.



■ .200/5.08 mm lead
 ■ .500/12.7 mm lead
 ■ 1.00/25.4 mm lead
 ■ All equal the same
 Measured with 0.631" diameter ball screw

ORDERING INFORMATION

EXAMPLE: PLA055S-01JX-XXXX-1CD2M

PLA	055	X	- XX	XX	X	- XXXX	- X	X	X	X	X
Series	Size (mm) (Base x Height)	Drive	Journal Configuration	Leads	Accuracy	Body Length	#Carriages	Carriage Style	Bearing Quantity	Bearing Type	Mounting Holes
PLA Screw Driven	55mm x 55mm						1 = Driven (S) 2 = (1) Driven & Undriven	C = Standard Length	D = Double - 16 Rollers (S)	2 = Sealed Steel (S)	I = in. (#10-32) M = mm (S) (M5 x 0.8)

SEE CHART BELOW.

Drive	Journal Config.	Leads**	Accuracy
N = No motor-undriven	00 = Undriven	Ball Screw	X = ISO CLASS 10 ($< \pm 21\mu\text{m}/300\text{mm}$) ($< \pm .008"/\text{ft.}$)
P* = Ball screw with pre-loaded nut	01 = 1 Drive Shaft (S) 02 = 2 Drive Shafts (Both Ends)	AK = 0.1875" (4.76mm) AM = 0.100" (2.54mm) AN = 0.125" (3.18mm)	7 = ISO CLASS 7 ($< \pm 52\mu\text{m}/300\text{mm}$) ($< \pm .002"/\text{ft.}$)
S = Ball screw with ball nut (S)		AX = 0.1969" (5mm) AA = 0.200" (5.08mm) AC = 0.500" (12.7mm)	5 = ISO CLASS 5 ($< \pm 23\mu\text{m}/300\text{mm}$) ($< \pm .0009"/\text{ft.}$)
C = Acme screw w/ bronze nut		AA = 0.2000" (5.08mm) AD = 1.000" (25.4mm)	
D = Acme screw w/ polymer nut		AJ = 0.3937" (10mm)	
L = Lead screw w/ polymer nut*			
K = Lead screw w/ polymer anti-backlash nut*			

(S) = Standard

*Requires an extended length carriage, please contact PBC Linear.

* Contact manufacturer prior to ordering lead screw option.

**Contact manufacturer for lead /acme screw options and accuracy combinations. Not all combinations are available.

PLEASE NOTE: To ensure quick delivery, PBC reserves the right at its sole discretion to upgrade accuracy class or bearing quantity (free of charge), with or without notice, if the requested option is unavailable.

Product information and 2D/3D CAD drawings available for download at www.pbclinear.com
 For technical & application information call **1-888-962-8979**.

The data and specifications in this publication have been carefully compiled and are believed to be accurate and correct. However, it is the responsibility of the user to determine and ensure the suitability of PBC Linear® products for a specific application. PBC Linear® only obligation will be to repair or replace without charge, any defective components if returned promptly. No liability is assumed beyond such replacement. Specifications are subject to change without notice. LITPL-001 [r4-13]

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