

## **LP300E & LP400E XY Stages**



The LP300E and LP400E are low profile stages developed for use where aesthetics and compact size are important. Often used in inspection or optical metrology instruments where the stage is fully visible to the user, care has been taken to make sure these stages look as good as they perform. Considerable attention is paid to the quality of the surface finish on all exposed parts, and the linear encoders, lead screw drives, motors, and cable routing are fully integrated within the body of the stage.

Despite being only 100mm tall, performance has not been compromised. Precision grade, recirculating caged ball bearing guides provide smooth, quiet travel, long life, good load capacity, and low angular and straightness errors. Horizontal and vertical straightness of travel errors are  $\pm 2.0\mu\text{m}$ . Non-contact, hysteresis free, linear encoders directly monitor the position of the stage carriage to virtually eliminate the contribution of errors inherent in a mechanical drive such as hysteresis, thermal drift due to friction, and lead screw pitch errors. Bidirectional repeatability is  $\pm 0.5\mu\text{m}$  and linear accuracy is  $\pm 6.0\mu\text{m}$ . Performance of each stage is certified using a laser interferometer.



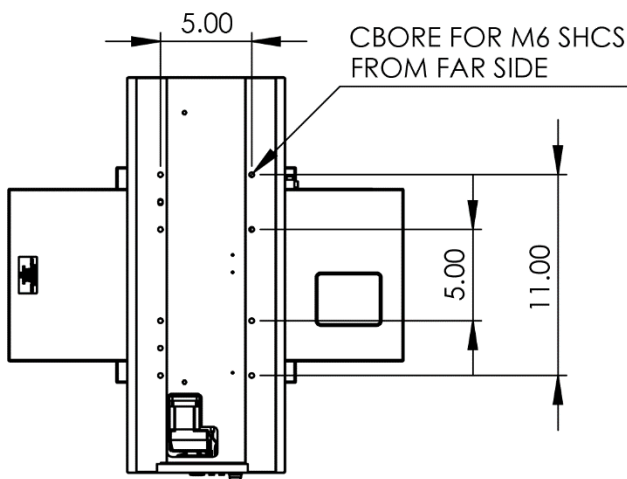
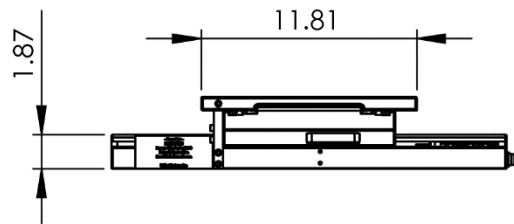
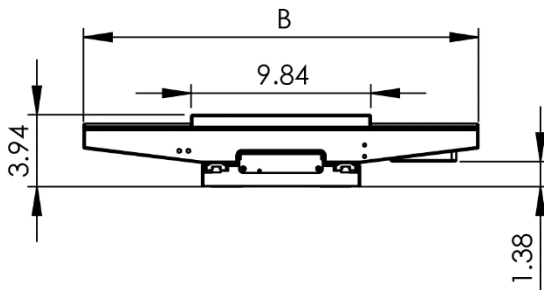
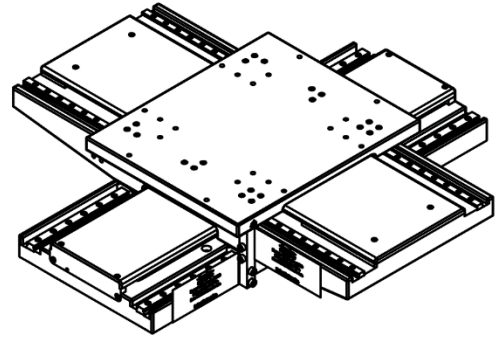
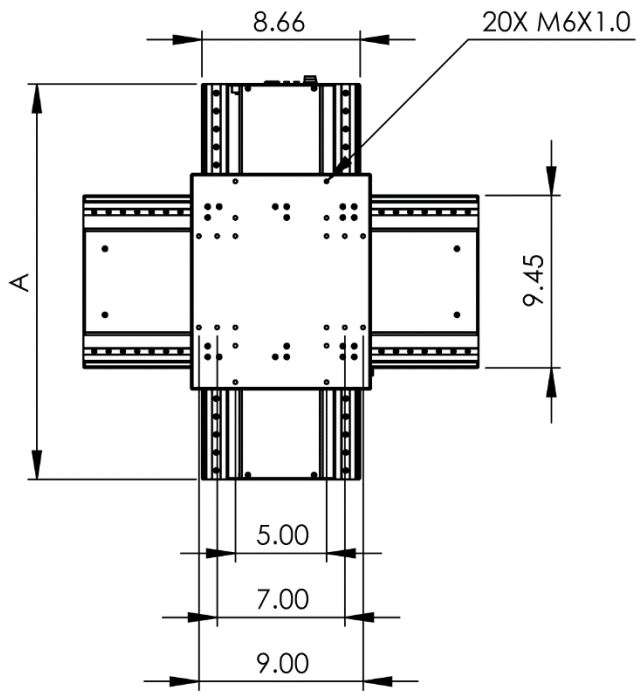
For simple, cost effective motion control the LP300E and LP400E use stepper motors with integral motor drivers and controllers. Communication to the host computer is by RS422/485, typically configured for multi-drop communication to support control of multiple axes using a single port. The RS422/485, power, and one I/O are looped through at the connector plate to simplify the integration of additional axes of motion (e.g. a Z Axis mounted to a bridge). There is also an optional auxiliary cable service loop available to support additional axes of motion or active tooling mounted on top of the stage.

<b>Specifications</b>		
	<b>LP300E</b>	<b>LP400E</b>
Travel	304mm x 304mm	410mm x 410mm
Straightness of Travel	±2.0µm	
Flatness of Travel	±2.0µm	
Bi-Directional Repeatability	±0.5µm	
Linear Accuracy	±6.0µm	
Position Feedback	0.5µm Linear Encoder	
Stage Top TIR Through Travel	150µm Max	
Orthogonality	±10 arc-sec	
Drive Screw	0.100" Lead Screw	
Motor Microstepping Factor	51200 steps/revolution	
Input Power	24VDC Standard (12-48VDC available)	



# RELIANT SYSTEMS INC

Precision Automation Systems



STAGE TRAVEL	DIMENSION A	DIMENSION B
12" (304MM)	21.65"	21.65"
16" (410MM)	25.59"	25.59"

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