



March 28, 2003

**Item Name:** Five Axis Linear Motor Powered Positioning Stage

**P/N:** SRS5-002-04-005A

**Description:** Compact, five axis linear positioning stage for vibration free operation and precision positioning

**Specifications:**

- Zero Backlash Three Phase Brushless Linear Motors
- Recirculating Ball Linear Bearings
- Integral Cable Carriers
- 5-micron Resolution Linear Encoders
- Continuous Force: 5 lbs. (22N) per axis
- Peak force: 15 lbs. (67 N) per axis
- Total travel, each axis: 2 inches (50.8 mm)
- Max acceleration: 5 g's
- Closed loop accuracy (typical): 0.0007 inches/ft (+/-58 microns/meter)
- Closed loop repeatability (typical): 0.0004 inches (+/-10 microns)
- Electronics requirement – 3 phase digital sinusoidal brushless amplifier, programmable motion controller
- Footprint: 18.9 inches wide x 8 inches long x 3.1 inches tall

Options – longer travel lengths, custom mounting holes, larger/smaller cable carriers, 1 and 0.1 micron resolution encoders, larger motors, X - Y compound configurations

**Benefits Summary:** The SRS5-002-04-005A positioning stage offers a very compact platform for the precise positioning of delicate payloads in high-cycle applications. This extremely smooth running linear stage enables the engineer to reduce the footprint of the machine and at the same time maximize throughput. Traditional single axis positioning stages, performing the same motion, take up to three times the space required by the five axis linear positioning stage. The zero backlash brushless linear motors eliminate the wear problems associated with mechanical drive mechanisms and offer a platform that maintains its precision accuracy.

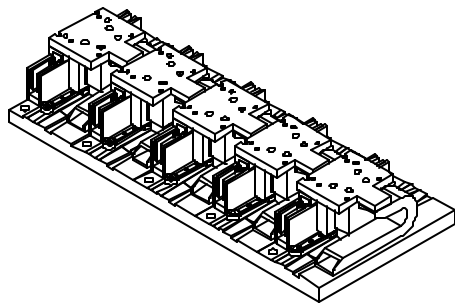
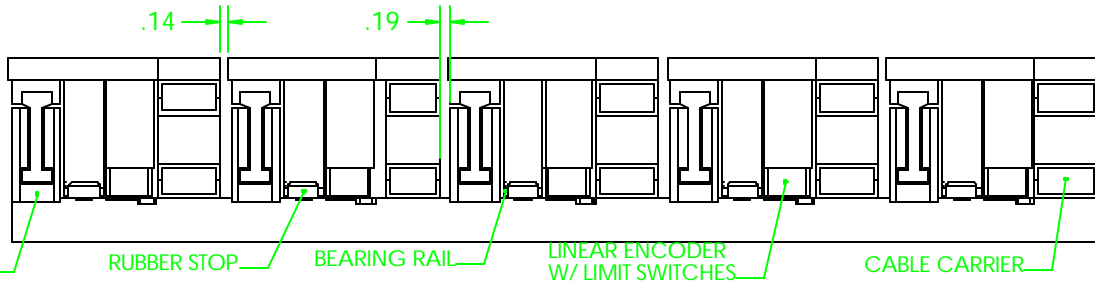
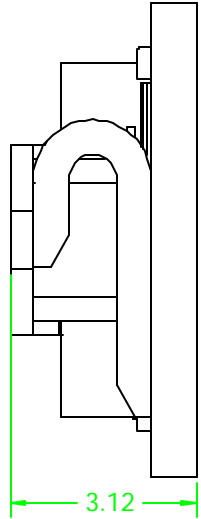
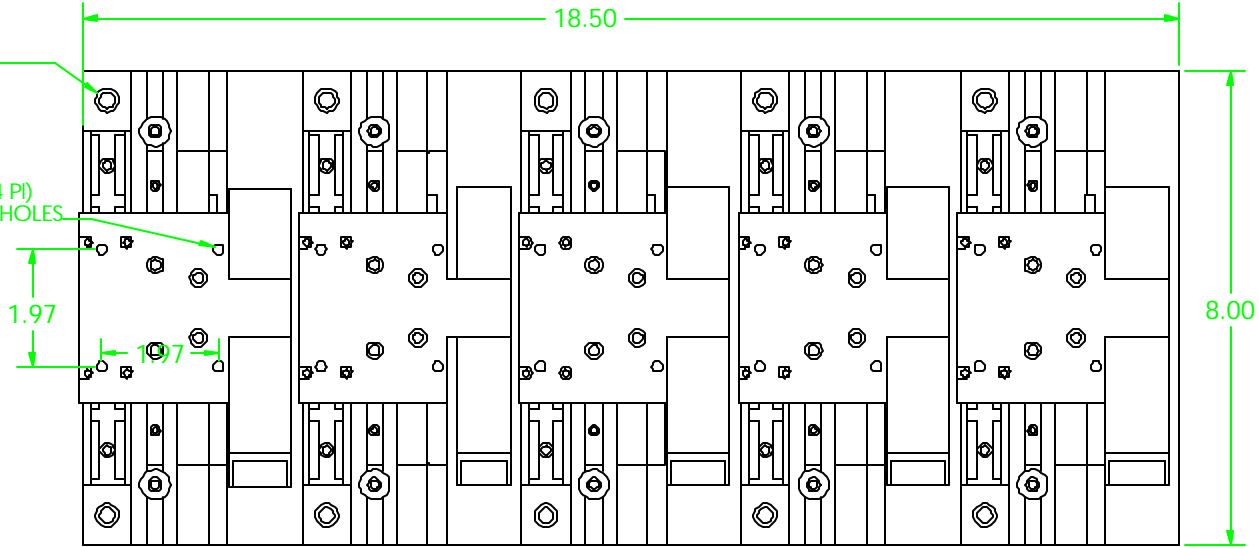
**Application:** The SRS5-002-04-05A positioning stage is designed for a large variety of demanding applications including high speed assembly, vision inspection, test and measurement, optical grinding, finishing and polishing, among many other applications requiring rapid and accurate positioning.

**Innovation in Linear Motion**

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1/4-20 C'Bore (10 Pl)  
Mounting Holes

TAP  $\phi$ .177 X .25 Dp (4 Pl)  
CAMERA MOUNTING HOLES



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**5 SR Stage Assembly**

UNLESS OTHERWISE SPECIFIED:  
ALL DIMENSIONS IN DECIMALS  
XXX ANGLES ±1°  
XX ±.010 FILLETS AND  
X ±.020 CORNERS DIS  
REMOVE ALL BURRS, CHAMFER EDG

MATERIAL		FINISH	
DRWN	DATE	APPROVED	DATE
MPW	11-15-02	MPW	11-15-02

TITLE	DWG #	REV	SHEET
5 SR Stage Assembly	40-0036	---	---

