



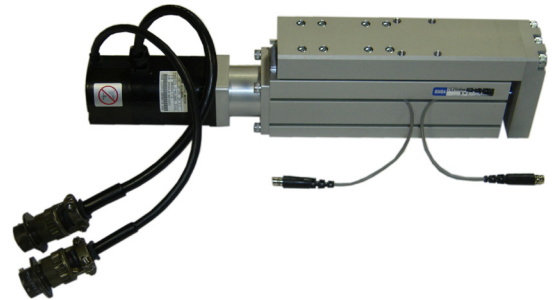
NPA Electric Actuator Increases Accuracy and Repeatability

Challenge:

A mattress manufacturer was seeking to replace a competitor's electric slide, dissatisfied with its accuracy and repeatability. The actuator was being used to install mattress springs in an assembly process. The manufacturer needed to program 16 positions within 0.015 inches, and needed a 120mm stroke. In particular, side to side motion could not be tolerated, and moment loads had to be accommodated.

Solution:

Bimba quoted a replacement based on our pneumatic NPA (Narrow Profile Actuator) cylinder. The NPA's ball rail and tooling plate were used as is, but the cylinder was replaced with a servo, encoder, and enclosed pre-loaded lead screw combination with an anti-backlash nut. Maximum thrust was measured to be 75 pounds at 2 inches per second, with better than 0.010 inches of backlash. Overall dimensions are shown in the drawing below. The actuator was a perfect drop in replacement, and fulfilled the customer's durability and accuracy requirements.



Benefits:

- Program for multiple positions.
- Accuracy within 0.015".

Other Applications:

- Pick and Place
- Product Assembly
- Product Handling and Positioning
- Multi Axis

