

FLEXDRIVE-8



flexdrive-8-CLS

PRODUCT SUMMARY

FLEXDRIVE-8® Series linear positioning tables, using a high-performance ball screw drive for positioning applications where high accuracy, longer travels, and high-load carrying capacities are required.

- Long travel 100 to 600 mm
- Heavy-duty design with multi-track precision guide system for load capacity up to 75 kg.
- High stiffness, constant support geometry saddle accepts loading from multiple directions
- High speeds to 900 mm/sec
- FLEXDRIVE built rugged for reliable operation

Flexdrive-8 Features & Benefits

Flexdrive series stages are rugged mechanical motion platforms for continuous duty operation where long life and high reliability are essential prerequisites. The flexdrive-8 series modular design with the constant support geometry, are space efficient, precise and reliable building blocks for integration into single and multi-axis positioning machines. Flexdrive-8 achieves outstanding performance in both static precision positioning and narrow bandwidth dynamic positioning as found in laser machining and welding, semiconductor fabrication, PC board manufacturing, robotics and automation tasks, high-speed precision fabricating processes for metals, ceramics and exotic materials, metrology and inspection work

Applications

This positioning table is designed as a fine precision machine with selected high-performance components to achieve outstanding positioning performance with extended life expectancy. The stage base is fabricated from a specially selected hardened high-strength aluminum alloy slab, precision machined to extremely close tolerances. In addition, the saddle is equipped with a wear resistant hard-coat anodized protective finish.

The guide system features advanced technology multi-track linear bearings. The four integrally preloaded bearing carriages establish the proper stiffness and achieve constant support geometry for the saddle. This precise and rigid motion platform produces exceptional results in terms of accuracy and motion trajectory, even with high payload.

FD-8 SP	
Travel Length (mm)	150-1000
Drive System	NEMA #23 Servomotor Ground Ball Screw
Maximum Acceleration	Payload Dependent
Maximum Speed	Unladen 400 mm/s
Maximum Thrust	100 N
Recommended Maximum Load	
L1 Parallel to base	100 kg
L2 Tension Perpendicular to base	100 kg
L3 Compression Perpendicular to base	100 kg
Feedback	Rotary Encoder / Linear Encoder L.E)
Accuracy	+/- 20 μ /300mm +/- 10 μ m /m L.E.
TTL resolution	1 μ /pulse 100 nm/pulse L.E.
Repeatability	5x Resolution
Construction	Aluminum Alloy Body Hard Coat Gray Anodize 3 side Stainless Steel Cover

Flexdrive-8 Specifications

	FD-8150	FD-8300	FD-8600	FD-8750	FD-81000
Travel Length (mm)	150	300	600	750	1000
Trajectory Control					
Accuracy					
Rotary Encoder	± 20 µm/ft	± 25 µm/ft	± 30 µm/ft	± 30 µm/ft	± 50 µm/ft
Linear Encoder	± 10 µm/ft	± 15 µm/ft	± 20 µm/ft	± 20 µm/ft	± 30 µm/ft
Straightness/Flatness	± 2.0 µm /100mm	± 3.0 µm /100mm	± 3.5 µm /100mm	± 4.0 µm /100mm	± 5.0 µm /100mm
Yaw/Pitch/Roll	10 arc-sec	10 arc-sec	10 arc-sec	10 arc-sec	10arc-sec
2 axis system					
Orthogonality					
Standard Grade	10 arc-sec	10 arc-sec	10 arc-sec	10 arc-sec	10arc-sec
High Precision	5 arc-sec	5 arc-sec	5 arc-sec	5 arc-sec	5 arc-sec

Notes:

- All trajectory data based on axis uniformly supported over full length on precision mounting surface with vibration isolation.
- Payload capacities are recommended values to achieve maximum lifetime in the worst-case scenario featuring maximum dynamic operation and off-center loading.
- Force, acceleration and speed performance are based on operations with NUTEC ELECTRONIC controls.