



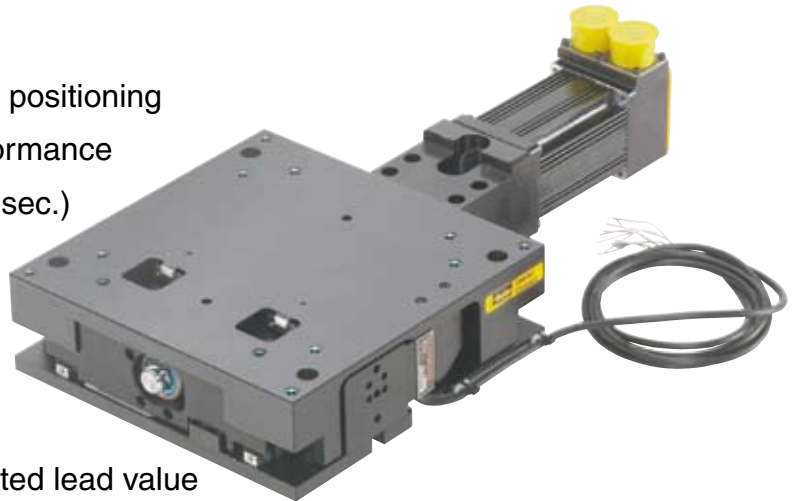
ZP200 Vertical Lift 'Wedge' Table

192-590014 N3/UK
Feb 2006



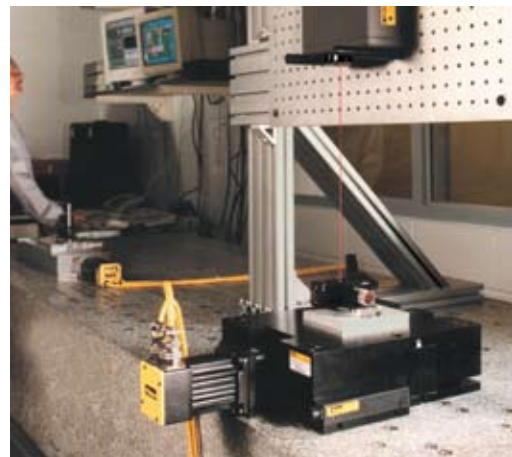
Features

- Precision platform for vertical (Z-axis) positioning
- Continuous duty - High dynamic performance
- Precision straightness (± 15 arc sec.) throughout range of motion
- Precision ground ballscrew drive
5, 10 or 20mm lead
- Multi-axis compatibility with XR and LXR tables
- Laser tested and certified with calibrated lead value



Quality Design and Construction

The ZP200 Z axis lift table is a stable platform which provides precise vertical translation and positioning, while maintaining X-Y integrity. Recirculating square rail bearings are incorporated into a unique variation of 'wedge' mechanics to enable reliable high dynamic performance without the potential loss of travel encountered with crossed roller bearings. The ZP200 is compatible with XR and LXR tables for multi-axes systems, and it can be utilised as the system base axis or top axis to fit the motion requirements of the application. Standard mounting holes and dowel pin holes accommodate repeatable mounting.



ZP utilised in a laser test set-up

Options:

- Linear Encoder option with selectable resolutions of 0.1, 0.5, 1.0 μm
- Fail-safe brake (field installable - mounts directly to the ballscrew drive)
- Class 10 Clean Room Preparation
- Selectable motor mounting and couplings for SM16 or NEMA 23 servo or stepper motors.
- Easily adjusted travel limit and 'home' sensors are provided in an enclosed sensor pack

Specifications

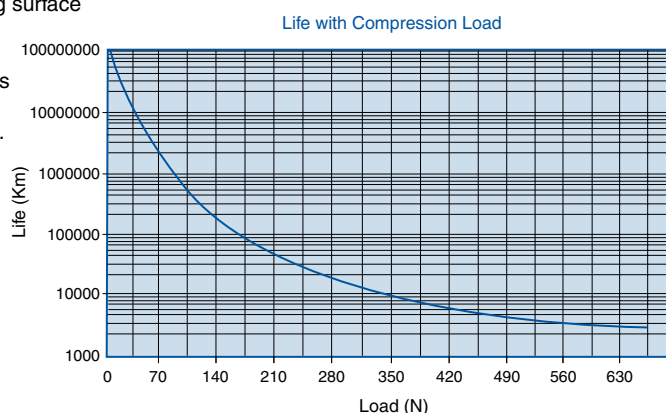
Precision	Standard	
Travel (Z-axis)	25 mm (limit to limit)	25 mm (limit to limit)
Positional Accuracy with no encoder ^{1, 2, 7} with linear encoder ^{3, 6, 7}	8 µm 8 µm	20 µm n/a
Positional Repeatability with no encoder ^{1, 7} with 1.0 µm linear encoder ^{6, 7} with 0.5 µm linear encoder ^{6, 7} with 0.1 µm linear encoder ^{6, 7}	±3 µm ±5 µm ±4 µm ±3 µm	±10 µm n/a n/a n/a
Lift Lead Ratio⁴ 5 mm lead ballscrew drive 10 mm lead ballscrew drive 20 mm lead ballscrew drive		1.8199 mm/revolution 3.6397 mm/revolution 7.2794 mm/revolution
Lift Velocity 5 mm lead ballscrew drive 10 mm lead ballscrew drive 20 mm lead ballscrew drive		110 mm/sec 220 mm/sec 440 mm/sec
Load Capacity (normal)	15 kg	75 kg
Duty Cycle		100%
Max Acceleration		7.2 m/sec ²
Efficiency		90%
Max Breakaway Torque⁵		0.15 Nm
Max Running Torque⁵		0.13 Nm
Linear Bearing – Coeff. Of Friction		0.01
Ballscrew Diameter		16 mm
Unit Weight		5.82 kg
Top Plate Weight		2.25 kg
Pitch⁷	± 15 Arc Sec.	± 45 Arc Sec.
Roll⁷	± 15 Arc Sec.	± 25 Arc Sec.
Input Inertia 5 mm lead ballscrew drive 10 mm lead ballscrew drive		2.32 x 10 ⁻⁵ Kg-m ² 2.51 x 10 ⁻⁵ Kg-m ²

- 1 Measured 38mm directly above the true centre of the top mounting surface
- 2 Measured using calibrated lead value (provided)
- 3 Slope correction value provided.
- 4 Lift per 1 motor shaft revolution. Lift lead listed is nominal. All units are provided with a calibrated lead value.
- 5 Torque ratings are measured with unit unloaded, travelling upward.
- 6 Measured directly over encoder on outer edge.
- 7 Pitch and Roll error by 10 Arc seconds per 5 Kg of load assuming the load CG is located in the centre of the stage platform. Cantilevered loading increases these errors further.

Table/Life Load Chart

Compression (normal load)

The graph provides a preliminary evaluation of the support bearing lifeload characteristics. The curves show the life/load relationship when the applied load is centered on the carriage, normal (perpendicular) to the carriage mounting surface.



For final evaluation of live vs load, including off centre, tension, and side loads please consult an Electromechanical application engineer.

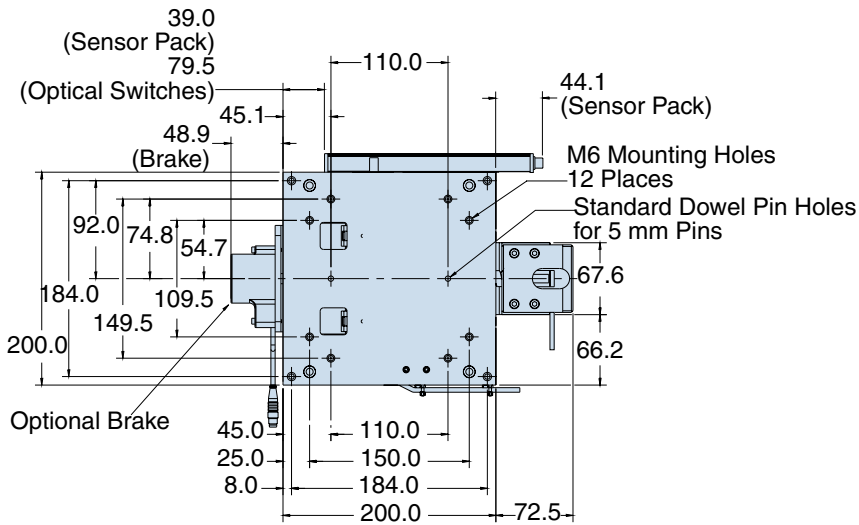


ZP200 Vertical Lift 'Wedge' Table

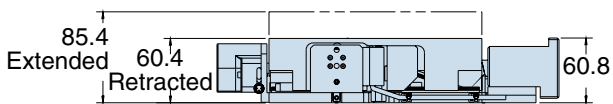
High Precision

ZP200 Dimensions mm

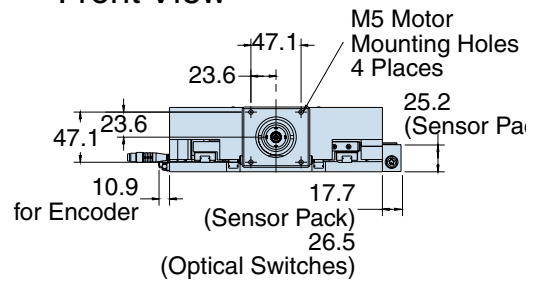
Top View



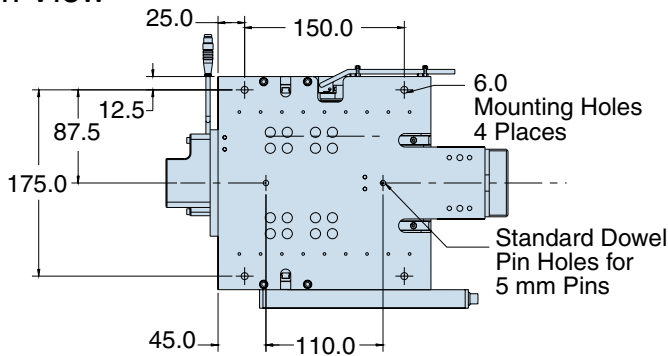
Side View



Front View



Bottom View

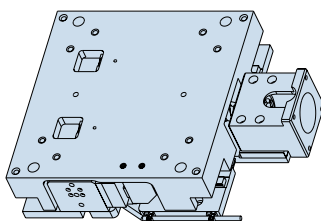


100-9274-01 XR Adapter Plate

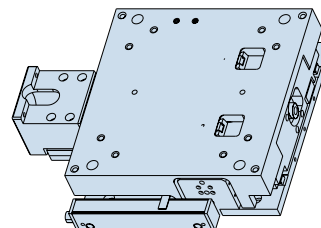
A multi-axis adapter plate is available to mount the ZP200 to an XR/LXR table or, mount an XR/LXR table to the ZP200. This plate is 9.53mm thick and includes standard dowel pin holes for repeatable alignment.

	ZP200 as Base	ZP200 as Top Axis
404XR	Yes	n/a*
404LXR	Yes	n/a*
406XR	Yes	Yes
406LXR	Yes	Yes
206 Rotary	Yes	n/a*

* Not recommended - consult factory



Encoder



Sensor Pack

ZP200 How to Order

	ZP200	T01	M	S	D2	H12	L12	C3	M3	E3	B2	R1	P1
Model Series	ZP200												
Travel													
25mm.....	T01												
Mounting													
Metric.....	M												
Grade													
Precision.....	P												
Standard.....	S												
Drive Screw													
5 mm lead.....	D2												
10 mm lead.....	D3												
20 mm lead.....	D4												
Home Sensor													
No sensor.....	H1												
N.C. current sinking - sensor pack.....	H11												
N.O. current sinking - sensor pack.....	H12												
N.C. current sourcing - sensor pack.....	H13												
N.O. current sourcing - sensor pack.....	H14												
Travel Limit Sensor													
No sensor.....	L1												
N.C. current sinking - sensor pack.....	L11												
N.O. current sinking - sensor pack.....	L12												
N.C. current sourcing - sensor pack.....	L13												
N.O. current sourcing - sensor pack.....	L14												
Coupling													
No coupling.....	C1												
6.35mm bore Bellows.....	C3												
9.525mm bore Bellows.....	C5												
9.0 mm bore Bellows.....	C23												
Motor Mount													
No motor mounts.....	M1												
SM16/BE16 motor.....	M2												
NEMA 23 and SM23 motors.....	M3												
Neometric 55.....	M51												
BE23 motor mount.....	M61												
Linear Encoder Option													
No encoder.....	E1												
1.0 micron.....	E2												
0.5 micron.....	E3												
0.1 micron.....	E4												
5 micron.....	E5												
Sine/cosine encoder.....	E7												
Brake Option													
No brake.....	B1												
Shaft brake.....	B2												
Environmental													
Class 1000.....	R1												
Class 10.....	R2												
Place Holder													
	P1												

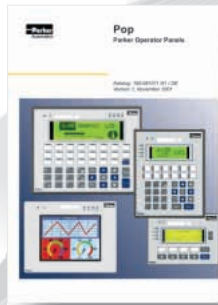




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