

HZR Series

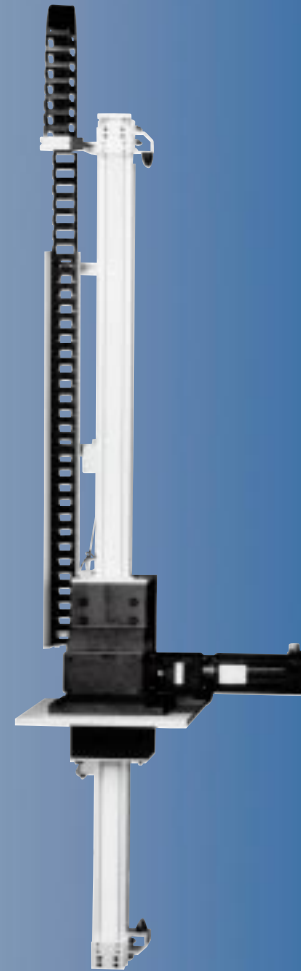
Features

- Designed as a vertical axis unit
- Load lifting capacities up to 150 kg
- Velocity up to 10 meters/sec.
- Positional repeatability of $\pm 0,2$ mm
- Torsion-resistant housing
- Roller wheel bearings for smooth vertical motion
- High vertical acceleration

The HZR is a rugged vertical axis unit unique to the high speed automation industry. It is specifically designed to satisfy the mechanical demands placed on the vertical axis of a multi-axis gantry robot – utilized for high throughput lifting and transporting of heavy or bulky loads.

The payload is supported by a high strength extruded aluminum profile which is lifted and guided

through a torsion-resistant cast aluminum housing. Maintenance-free, heavy duty polyamide bearing wheels evenly distribute and support the high forces induced by rapid horizontal acceleration of the load. A wear-free, steel cord reinforced timing belt transmits large traction forces to provide high accelerations and lifting capability in the vertical direction.



Typical Fields of Application

Materials handling: palletization, feeding, removal

Textile machinery building: crosscutting, slitting and stacking, quilting, seam stitching

Process engineering: painting, coating, bonding

Storage technology: commissioning, inventory

Machine tool building: workpiece loading, tool changing

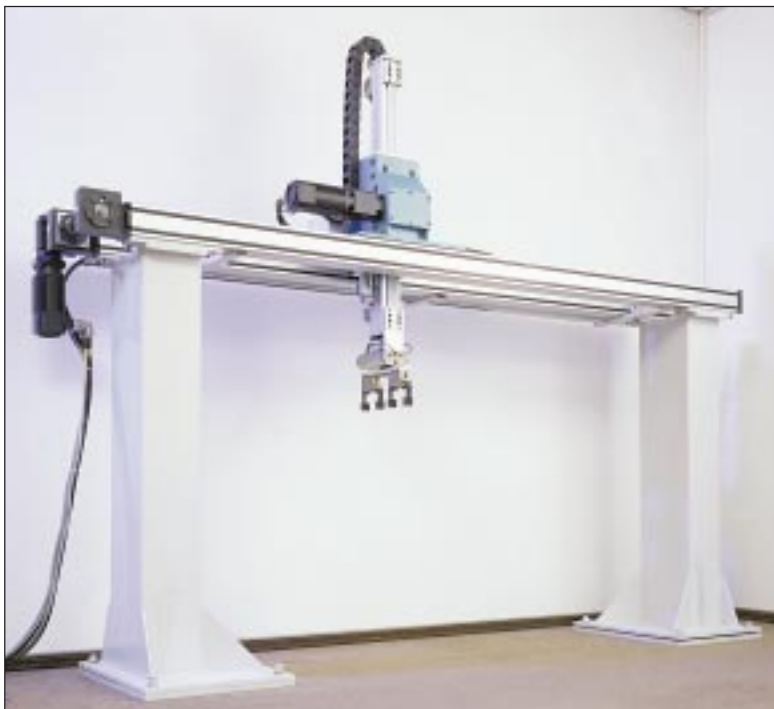
Testing technology: guiding ultrasonic sensors

HZR Series Specifications

Characteristic	Units	HZR80	HZR100
Unit Weight			
Basic Unit (1 meter 39.4 inches travel)	kg (lb)	37 (81.8)	60 (132.3)
Weight of additional length	kg/m (lbft)	7,4 (4.9)	10,2 (6.85)
Moment of Inertia (based on 1 meter travel)			
Inertia reflected to drive pulley	kg-cm ² (lb-in ²)	250 (85.4)	357 (122.0)
Travel and Speed¹			
Maximum Speed	m/s (in/s)	5 (200)	5 (200)
Maximum Acceleration	m/s ² (in/s ²)	10 (393)	10 (393)
Maximum Travel	m (in)	1 (39.3)	1,5 (39.3)
Geometric Data			
Cross Section (square profile)	mm (in)	80 (3.2)	100 (3.9)
Moment of Inertia I _x	cm ⁴ (in ⁴)	187,1 (4.5)	383,3 (9.2)
Section Modulus, W	cm ³ (in ³)	46,7 (2.85)	76,6 (4.67)
Pulley Data, Torques, Forces			
Travel Distance per Revolution	mm/rev (in/rev)	240 (9.45)	240 (9.45)
Pulley Diameter	mm (in)	76,4 (3.01)	76,4 (3.01)
Maximum Drive Torque	Nm (lb-in)	108 (15,29)	168 (23,79)
Static Load	kg (lb)	75 (165)	150 (331)
Maximum Belt Traction (effective load)	N (lb)	2822 (635)	4410 (992)
Repeatability	mm (in)	±0,1 (±0.004)	±0,1 (±0.004)

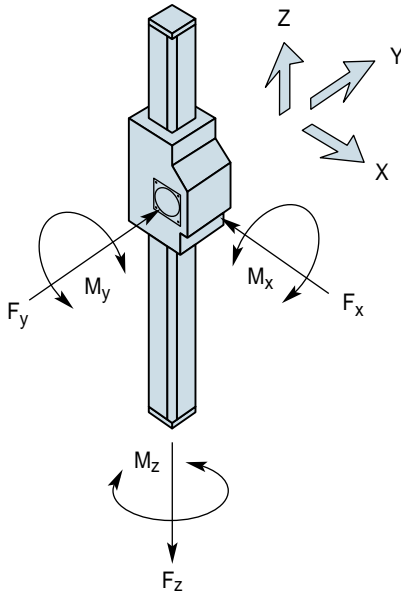
¹ For higher speeds, accelerations or longer travel consult Daedal Application Engineering for assistance.

High Speed Automation



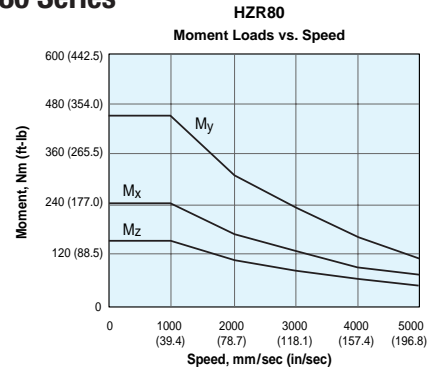
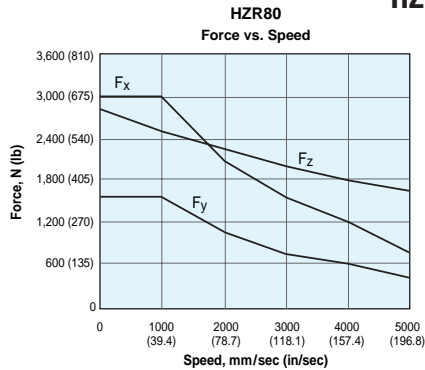
HZR Series Performance Curves

Force and Moment Loading

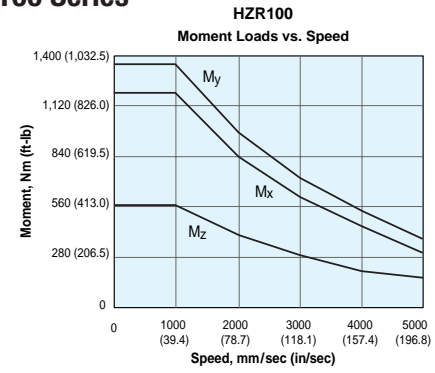
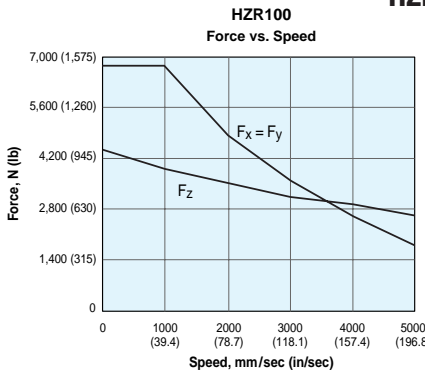


The software package (DimAxes) is available for determination of precise carriage loading. Visit www.daedalpositioning.com to request a Gantry Robot CD.

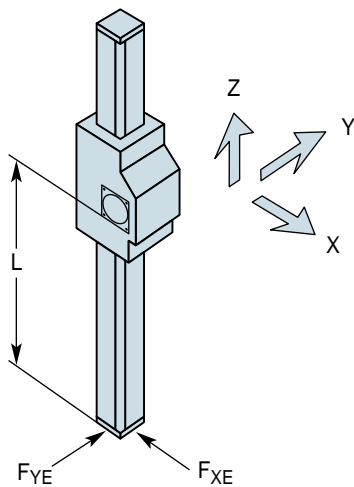
HZR80 Series



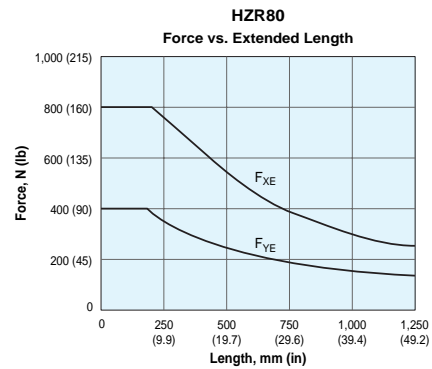
HZR100 Series



Extension Loads



HZR80 Series



HZR100 Series

