

## Hexapod



### HP-550

- + Six axes Parallel Kinematic System
- + Travel ranges linear 100 mm x 100 mm x 100 mm
- + Travel ranges rotation Rx, Ry 40°, Rz 60°
- + Maximum speed 2 mm/ sec
- + Pivot Point can be set by the customer
- + User friendly software
- + Load capacity central (Fx; Fy) 30 kg / (Fz) 50 kg

The HP-550 Hexapod system can perform motions in all six degrees of freedom. Due to the parallel kinematic design architecture, the system can achieve a much higher stiffness than a conventional stages stack. Typical Hexapod applications include antenna positioning, medical research, laser technology, semiconductor technology and optical systems. An optimized design insures maximum system stiffness and spatial resolutions up to 0.5  $\mu\text{m}$ . Vacuum versions are available on request. The system use a Delta- Tau controller includes advanced algorithms for inverse kinematic transformations within a user- friendly software package.

## Specifications

HP-550			
Load Characteristics	Fx (N)	Fy (N)	Fz (N)
DC- B-027	300	300	500

## Specifications

Travel Range	Linear X, Y, Z (mm)	100 x 100 x 100 *
	Rotation Rx, Ry, Rz (°)	40, 40, 60 *
<b>Motor (Pitch 1 mm)</b>		<b>DC- B-027</b>
Speed max. X, Y, Z (mm/ sec)		2
Speed max. Rx, Ry, Rz (°/ sec)		1
Velocity Range (mm/ sec)		0.01 .. 2 **
Velocity Range (°/ sec)		0.001 .. 1 **
Weight (kg)		33
Bi- directional Repeatability	Linear X, Y, Z (µm)	± 4, ± 4, ± 3
	Rotation Rx, Ry, Rz (°)	± 0.002
Resolution calc. without load	Linear X, Y, Z (µm)	0.016
	Rotation Rx, Ry, Rz (°)	depending on the position of the pivot point
Resolution typical without load	Linear X, Y, Z (µm)	0.5
	Rotation Rx, Ry, Rz (°)	0.00057
Current (A)		0.9
Voltage Range (V)		24
Stiffness, theoretical Kx, Ky, Kz (N/ µm)		on request
Material		Stainless steel, Aluminum black anodized

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\* The maximum travel ranges in the different coordinate directions (X, Y, Z, RX, RY, RZ) are interdependent. The data for each axis in this table shows its maximum travel, where all other axes are at their zero positions. If the other linear or rotational coordinates are not zero, the available travel may be less.

\*\* leg speed

## Order Information

**6005910030**

HP-550 Hexapod, DC Gear Motor- B-027, Optical Limit Switch

All data are superseded by any new release.  
The newest release for data sheets is available for  
download at [www.pi.ws](http://www.pi.ws).  
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## Drawings / Images

DC-  
B-027

