



## Hexapod HEX66V0

### 6-DOF Electric Motion Platform



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### Major Features

ACUTRONIC is proud to introduce the HEX66V0 Six-DOF Motion System, a powerful and affordable multi-purpose motion simulation solution for development, production, in-process test, calibration and final inspection purposes.

The HEX66V0 Hexapod uses six linear electric drives to provide accurate and repeatable position and rate motion in six degrees of freedom (three translational and three rotational). The solution consists of the motion platform, its 19" control and power rack, a wall-mounted main-switch box and all required interconnecting cables and documentation.

For securing the Unit Under Test (UUT), the hard anodized aluminium table top has an M8 Helicoiled® hole pattern on a 100mm x 100mm grid.

Installation of the HEX66V0 is fast and simple: Leveling feet allow for adjustment and alignment of the Hexapod. For small test payloads no special anchoring of the platform is required. For high dynamic applications and/or large payloads the table may be bolted to a rigid support surface.

A signal tower with flashing lights indicates the system status for the safety of the users.

The system runs on standard single phase power input (230VAC, 50/60Hz) and has a Gigabit Ethernet interface to communicate with the power and control unit.

The HEX66V0 can be commanded in all six degrees of freedom simultaneously. One or more commands can be executed at an update frequency of 100Hz by loading a CSV file containing the motion profile into the GUI computer.

The HEX66V0 can simulate the limited Pitch and Roll motion of a vehicle tied to Earth. However, to realistically simulate the motion or to playback captured real time motion profiles or telemetry data, continuous Yaw is a requirement.

The HEX66V0 is designed to accommodate a Rate Table with continuous Yaw motion to fully meet real-world motion in a controlled environment.

- Provides 6 degrees of freedom:  
3 translation axes and 3 rotational axes
- Fixed or programmable pivot point
- Maximum durability and lowest life cycle costs
- Operated from a host computer via TCP/IP over Ethernet interface.
- Easy-to-use Graphical User Interface (GUI) software included.
- Position data logging and motion profile playback.
- Software, drivers and Command CSV File samples are provided.



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Payload			
Mass	max. 150 kg		
Maximum Envelope (L x W x H)	800mm x 800mm x 800mm (Center of Gravity Centric Table Top)		
Static and Dynamic Performance	Roll Axis $\theta_x$	Pitch Axis $\theta_y$	Yaw Axis $\theta_z$
Angular Range*	$\pm 30$ deg	$\pm 30$ deg	$\pm 30$ deg
Simultaneous Angular Range*	slope limitation of 22 deg over 360 degrees		
Repeatability	$\pm 0.1$ deg	$\pm 0.1$ deg	$\pm 0.1$ deg
Maximum Rate	$\pm 100$ deg/sec	$\pm 100$ deg/sec	$\pm 100$ deg/sec
	Heave X	Surge Y	Sway Z
Linear Range*	$\pm 90$ mm	$\pm 120$ mm	$\pm 120$ mm
Repeatability	$\pm 0.1$ mm	$\pm 0.1$ mm	$\pm 0.1$ mm
Maximum Rate	$\pm 500$ mm/s	$\pm 500$ mm/s	$\pm 500$ mm/s

\*May not achieve maximum rotation and linear displacement simultaneously.



Hexapod with Power and Control Rack

The specifications identified in this data sheet are representative of standard systems. To satisfy customer specific requirements ACUTRONIC is able to design systems with specifications that are increased or decreased relative to standard systems.