

# Series 6DOF5000E

## Electric Motion Platform



- **6 Degrees of Freedom**
- **2500 Kg Payload/5500 lbs**
- **Integrated Design**
- **Electric Actuation**

### **Worldwide Support**

#### **North & South America:**

Moog Inc., East Aurora, New York 14052-0018 • Telephone: 716/687-4000 • Fax: 716/687-4467

#### **Europe:**

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Moog GmbH, Böblingen, Germany • Telephone: +49(0)7031-622-0 • Fax: +49(0)7031-622-100

Moog Sarl, Cedex, France • Telephone: +33(0)1 45607000 • Fax: +33(0)1 45607001

Moog Sarl Sucursal En España, Orio, Spain • Telephone: +34(0)9 43133240 • Fax: +34(0)9 43133180

#### **Pacific:**

Moog Australia Pty. Ltd., Mulgrave, Australia • Telephone: +61(0)3 9561-6044 • Fax: +61(0)3 9562-0246

Moog Japan Ltd., Hiratsuka, Japan • Telephone: +81(0)463-55-3615 • Fax: +81(0)463-54-4709

# Series 6DOF5000E

## Moog Inc.

Moog Motion Systems offer high performance solutions to motion simulator requirements. Fifty years of experience and a proven track record makes Moog the world's leading supplier of motion system components and integrated platforms in both the training and entertainment markets.

Moog produces both 4 degree and 6 degree of freedom (DOF) motion bases, with actuator strokes ranging from 12 to 62 inches and load capacities up to 14,600 Kg (32,200 lbs).

## Specifications: 6DOF5000E Size:

Settled Height .....1.22 m (48")  
 Foot Print .....≈2.6 m (w) x 2.3 m  
 (≈101" (w) x 92")  
 System Weight .....1450 Kg (3200 lbs)

## Facility:

Floor Loading Compression  
 Average Operating ... 14,500 Kg/m<sup>2</sup>  
 (1900 lb/ft<sup>2</sup>)  
 Main.....3φ, 220-230 vac.  
 50-60 Hz  
 50 Amp service

## Load:

Max. Customer Payload...2500 Kg (5500 lbs)  
 CG Location  
 Horizontal.....≤ 0.1m (4")  
 (from centroid)  
 Vertical.....≤ 0.61m (24")  
 (above the top of flying platform)  
 Motion Centroid .....0.22m (9")  
 (below the top of flying platform)  
 Mass Moment of Inertia (relative to centroid)  
 Pitch Axis .....5405 Kg-m<sup>2</sup>  
 (48,000 in-lb-sec<sup>2</sup>)  
 Roll Axis .....4050 Kg-m<sup>2</sup>  
 (36,000 in-lb-sec<sup>2</sup>)  
 Yaw Axis .....5405 Kg-m<sup>2</sup>  
 (48,000 in-lb-sec<sup>2</sup>)

## Actuator Features:

- DC Brushless Servomotor
- Fold-back design for low boarding height and efficient field service
- Ballscrew or rollerscrew design
- Internal hydraulic snubbers
- Resolver position feedback
- End of stroke limit switches
- Motors contain internal thermal protection
- Actuator brakes available for "freeze mode"/E-stop circuit

## Documentation:

- Facility Requirements
- Installation Instructions
- Operation/Maintenance Manual

## Reliability:

- Custom high efficiency drives and actuators optimized for performance and long life in demanding applications. Designed for a minimum 10 year life.
- Detailed fault tree analysis for all single point and multiple failure modes has been performed.
- Drives have been life cycle tested and have proven field history.

## Field Service and Repair:

- One (1) year part warranty from the date of shipment
- Worldwide support
- Installation and training support provided

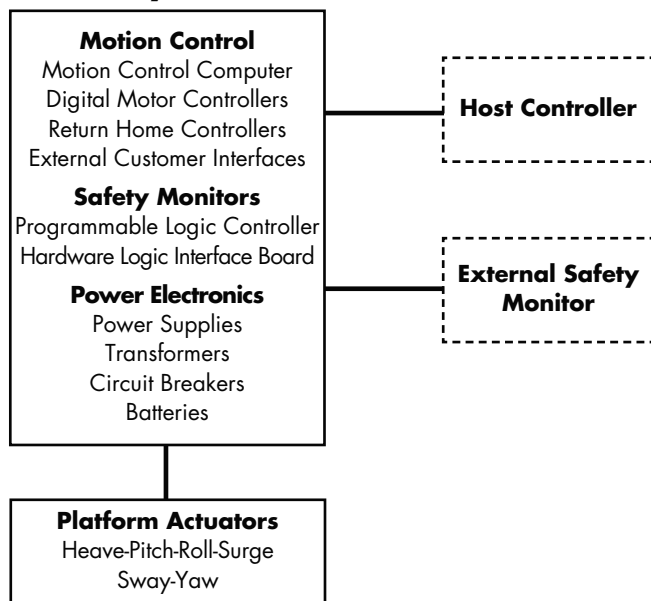
## Compliance:

- The system is designed to U.S. and European electrical codes.
- The system utilizes UL and CE compliant components.
- TUV Certificate/stamp available
- Designed to meet the AFGS-87241A requirement to egress to home position in event of major single point failures.
- Electronics are CE marked

## Interface Options:

- Serial Interface (RS-485)
- Ride Storage
  - Non-ride Storage (real-time)
- Ethernet Interface
- Real Time
  - Real Time with Motion Cueing (Motion Dynamics Algorithm)

## Motion System Interfaces:



## Motion:

Degree of Freedom	Displacement Comb. Motion	Displacement Single DOF	Velocity	Acceleration
Pitch	±24 deg	±18 deg	±40 deg/s	±250 deg/s <sup>2</sup>
Roll	±22 deg	±19 deg	±35 deg/s	±250 deg/s <sup>2</sup>
Yaw	±29 deg	±26 deg	±50 deg/s	±250 deg/s <sup>2</sup>
Heave	±0.25 m (±9.8 in)	±0.25 m (±9.8 in)	±0.50 m/s (±19.7 in/s)	+0.8 G
Surge	±0.49 m (±19.3 in)	±0.38 m (±15.0 in)	±0.76 m/s (±29.9 in/s)	±0.8 G
Sway	±0.52 m (±20.5 in)	±0.36 m (±14.2 in)	±0.76 m/s (±29.9 in/s)	±0.8 G

Specifications are subject to change without notice.