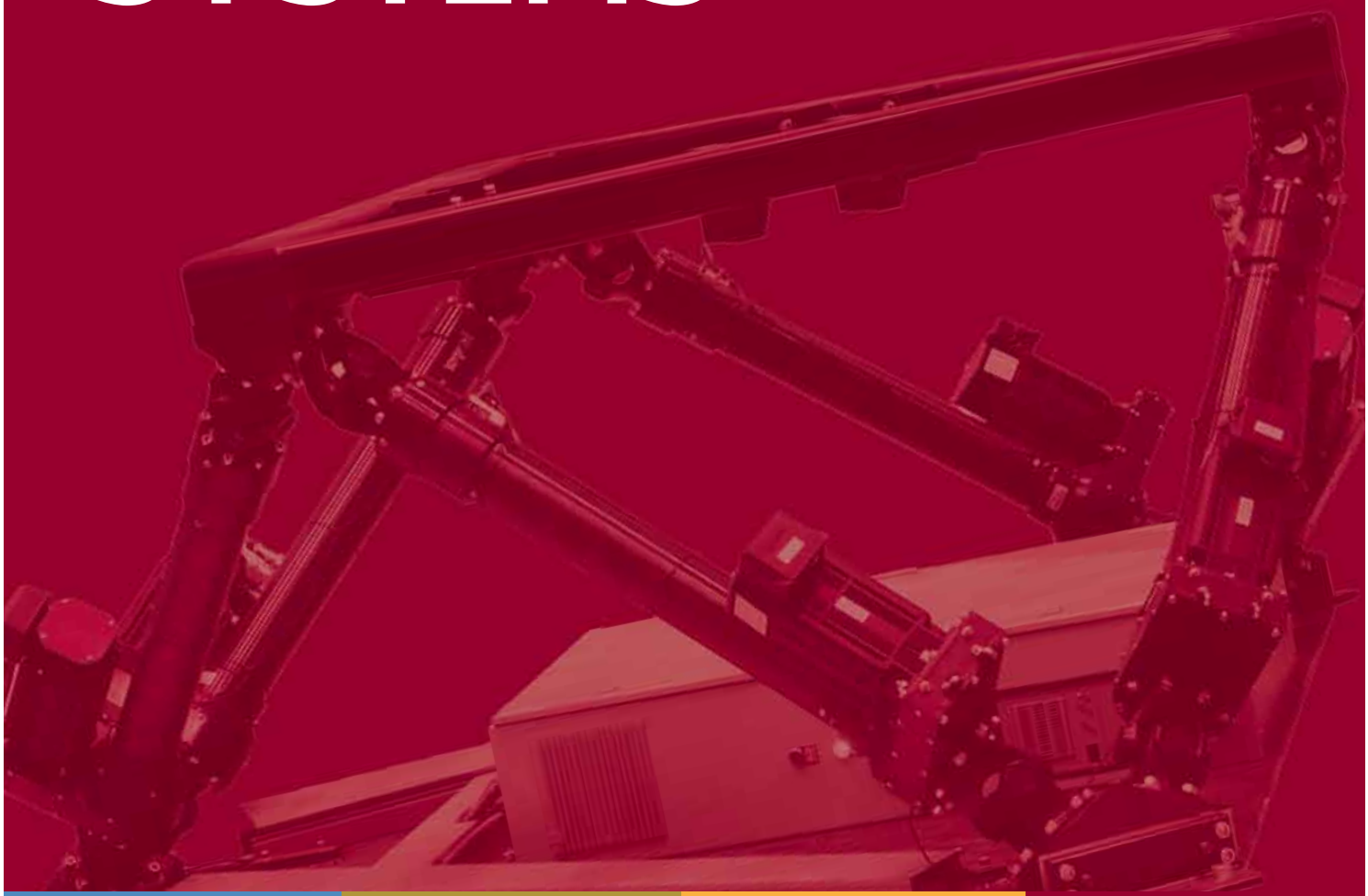
# MOTION SYSTEMS



Rev 2, 0709

ELECTRIC AND HYDRAULIC MOTION SYSTEMS FOR A WIDE RANGE OF PAYLOAD APPLICATIONS

WHAT MOVES YOUR WORLD

MOOG

# STATE-OF-THE-ART SOLUTIONS FROM A WORLD LEADER IN MOTION SYSTEMS

Unsurpassed innovation and technological expertise combined with close customer collaboration make Moog a leader in the design and development of 6-Degrees of Freedom (DOF) electric and hydraulic motion platforms.

Around the world, our motion platforms for payloads ranging from 1,000 kg to 14,500 kg (2,200 to 32.000 lb) help customers provide highly realistic motion cues in simulators for trucks, armored vehicles, tanks, trains, and fixed wing and rotary wing aircraft.

Working closely with customers to provide solutions that are precisely matched to their unique requirements, our design teams offer a wealth of technical knowledge and real-world experience for all 6-DOF and special systems.

Our turnkey approach encompasses complete hydraulic and electric systems including motion bases, generic- or application-specific software, training, replacement parts, repair, and assistance in tuning, installation and system acceptance.

Combining a long history in hydraulic technology, Moog offers a complete electro-hydraulic motion system, consisting of an energy efficient Hydraulic Power Unit (HPU), distribution system, long life actuators with high-performance servovalves and a digital control system.  With 40 years of high fidelity performance associated with legacy systems, we have become synonymous with electric technology since designing the first 4,500 kg (10,000 lb) *electric platform in 1994. In fact, Moog motion systems provide the highest level of performance available in the industry:

- High performance motion cueing for enhanced realism
- High reliability with digital control loops that do not drift or deteriorate for greater fidelity
- High degree of modularity and scalability for greater flexibility in system design
- Cost-effective design and operation
- Comprehensive safety system architecture
- Easy to install, use and maintain
- Simple troubleshooting via PC-based software
- Extensive product support and service facilities in Europe, Americas and Asia/Pacific
- Built-in test features that record performance parameters
- Integrated safety features such as return to home upon critical failure mode

# HELPING YOU MEET TODAY'S SIMULATION CHALLENGES

Around the world, our forward-thinking engineers help customers design and implement motion platform solutions that set new standards in performance, fidelity and versatility. Through close collaboration and a willingness to tailor our approach to meet your unique needs, Moog gives you the leadership edge.

### Attaining higher levels of fidelity

The advancement of visual systems today means you now require the same level of realism in your motion systems. Our high-performance all-electric solutions are designed to offer an unprecedented level of fidelity to match the motion cues to the sophisticated visuals.

Increased reliance on simulator-based pilot training drives the need for constant innovation in training systems. Our team co-developed the world's first all-electric high payload flight simulator (up to 14,000 kg [31,000 lb] Gross Moving Data) to receive Level D Certification from the US Federal Aviation Administration (FAA) and European Joint Aviation Authority (JAA), and the US Military's "Ready for Training" accreditation. This safe and reliable solution allows pilots to log their required zero flight time training hours on the ground—not in an actual aircraft.

### Maximizing your availability and investment

A key concern for training centers around the world is ensuring more availability with a goal of 24/7 training. Our all-electric systems require low maintenance (in fact, our customers estimate as much as 80% lower maintenance costs), leading to higher availability.

In addition, our motion platforms help maximize your investment in training facilities and systems by improving the energy efficiency of your systems by as much as 75%. Besides this significant reduction in energy consumption, the electric solution lowers the need for investment infrastructure and facilities since there is no need for a pump room or expensive pipe system. What's more, there are no environmental costs of oil or waste disposal.

### Adding flexibility to training systems

Our integrated systems are scalable from low to high payloads and can meet the training needs of customers including business jets, commercial aircraft, helicopters and new categories like Very Light Jets (VLJs). Common software and hardware interfaces across all our subsystems mean easier and faster installation, commissioning and user training. Our experience means we can help you reduce development time and ensure that the subsystems we recommend have the best performance/size ratio to meet your exact requirements.

### Tapping into worldwide support

The surging demand for pilot training in developing countries means OEMs and training centers require a partner with global reach and experience. Over the years, we've installed more than 500 simulators working in tandem with some of the world's most recognized organizations. In addition, our operations in 26 countries worldwide mean that a team of trained engineers is there to support you wherever you are.

### Finding the right solution

Our deep knowledge of motion platforms ensures you have resources and the proven solutions you require to meet your specific challenges. From helping you successfully transition from hydraulic to electric technology to incorporating advances in motion control, Moog is there for you with ideas, expertise and ongoing support. With many legacy systems currently in the field, we can upgrade your equipment without needing to replace it.

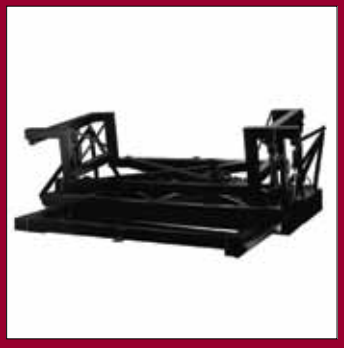
## SPECIAL SYSTEMS

Special systems can be designed to precisely match your unique application requirements. Our wide array of technologies and design expertise mean systems can be customized to meet your specific performance needs in a number of DOF (2, 3, 4, 5 and 7) and platform characteristics.

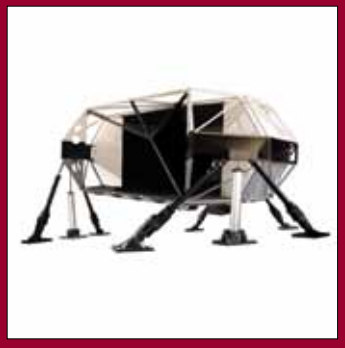
Platform

Platform

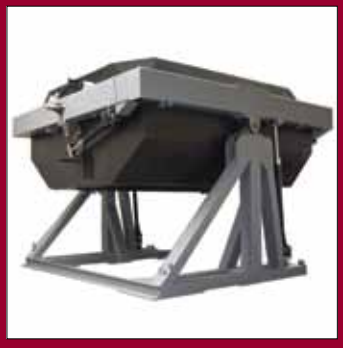
7 DOF



5 DOF



Spider Series



2 DOF

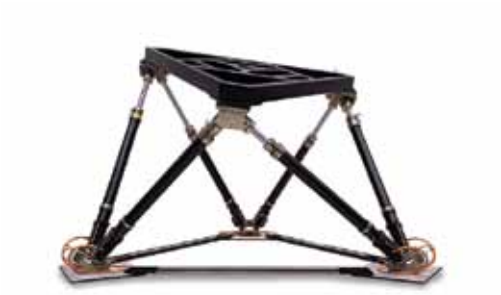
# SPECIFICATIONS: METRIC

| Model | MB-E-6DOF/12/1000KG | MB-E-6DOF/ 24/1800KG | MB-EP-6DOF/ 24/2800KG | MB-EP-6DOF/36/4500KG | MB-EP-6DOF/36/8000KG |
|---|---|---|---|---|---|
| **DOF Max. Excursion Surge (Single \|\| Max.)** | ± 0.25 m \|\| ± 0.27 m | - 0.46 m/ + 0.57 m \|\| ± 0.57 m | | - 0.69 m/+ 0.85 m \|\| ± 0.85 m | - 0.69 m/ +0.81 m \|\| ± 0.83 m |
| **Sway (Single \|\| Max.)** | ± 0.25 m \|\| ± 0.26 m | ± 0.46 m \|\| ± 0.49 m | | ± 0.69 m \|\| ± 0.73 m | ± 0.69 m \|\| ± 0.72 m |
| **Heave (Single \|\| Max.)** | ± 0.18 m \|\| ± 0.18 m | ± 0.39 m \|\| ± 0.39 m | | ± 0.59 m \|\| ± 0.59 m | ± 0.59 m \|\| ± 0.59 m |
| **Roll (Single \|\| Max.)** | ± 21.0° \|\| ± 22.0 ° | ± 23.2 ° \|\| ± 23.8 ° | | ± 23.9 ° \|\| ± 25.1° | ± 21.0 ° \|\| ± 22.0 ° |
| **Pitch (Single \|\| Max.)** | ± 22.0 ° \|\| -23.0 °/ + 25.0 ° | - 23.0 °/ + 25.6 ° \|\| - 27.4 °/ + 31.6 ° | | - 23.5 °/ + 25.9 ° \|\| - 29.3 °/ + 32.9 ° | - 20.2 °/ + 21.8 ° \|\| -25.2 °/ + 27.9 ° |
| **Yaw (Single \|\| Max.)** | ± 22.0 ° \|\| ± 23.0 ° | ± 24.3 ° \|\| ± 27.5 ° | | ± 26.5 ° \|\| ± 29.2 ° | ± 22.4 ° \|\| ± 24.0 ° |
| **DOF Max.* Velocity** | | | | | |
| **Surge** | ± 0.50 m/s | ± 0.70 m/s | | ± 0.90 m/s | ± 0.70 m/s |
| **Sway** | ± 0.50 m/s | ± 0.70 m/s | | ± 0.90 m/s | ± 0.70 m/s |
| **Heave** | ± 0.30 m/s | ± 0.50 m/s | | ± 0.70 m/s | ± 0.60 m/s |
| **Roll** | ± 30.0 °/s | ± 34.0 °/s | | ± 33.0 °/s | ± 23.0 °/s |
| **Pitch** | ± 30.0 °/s | ± 35.0 °/s | | ± 32.0 °/s | ± 22.0 °/s |
| **Yaw** | ± 40.0 °/s | ± 36.0 °/s | | ± 35.0 °/s | ± 24.0 °/s |
| **DOF Max Acceleration** | | | | | |
| **Surge** | ± 6.0 $m/s^2$ | ± 7.0 $m/s^2$ | | ± 8.0 $m/s^2$ | ± 6.0 $m/s^2$ |
| **Sway** | ± 6.0 $m/s^2$ | ± 7.0 $m/s^2$ | | ± 8.0 $m/s^2$ | ± 6.0 $m/s^2$ |
| **Heave** | ± 5.0 $m/s^2$ | ± 10.0 $m/s^2$ | | ± 10.0 $m/s^2$ | ± 10.0 $m/s^2$ |
| **Roll** | ± 500 °/$s^2$ | › 225 °/$s^2$ | | › 150 °/$s^2$ | › 125 °/$s^2$ |
| **Pitch** | ± 500 °/$s^2$ | › 225 °/$s^2$ | | › 150 °/$s^2$ | › 125 °/$s^2$ |
| **Yaw** | ± 400 °/$s^2$ | › 225 °/$s^2$ | | › 150 °/$s^2$ | › 125 °/$s^2$ |
| **Gross Moving Load (GML) up to** | 1,000 kg | 1,800 kg | 2,800 kg | 4,500 kg | 8,000 kg |
| **GML moment of Inertia about X-axis** | 650 kg $m^2$ | 3,000 kg $m^2$ | 5,000 kg $m^2$ | 15,000 kg $m^2$ | 30,000 kg $m^2$ |
| **GML moment of Inertia about Y-axis** | 650 kg $m^2$ | 3,000 kg $m^2$ | 5,000 kg $m^2$ | 15,000 kg $m^2$ | 30,000 kg $m^2$ |
| **GML moment of Inertia about Z-axis** | 650 kg $m^2$ | 3,000 kg $m^2$ | 5,000 kg $m^2$ | 15,000 kg $m^2$ | 30,000 kg $m^2$ |
| **GML CoG above moving platform centroid** | ≤ 0.60 m | ≤ 1.0 m | | ≤ 1.25 m | ≤ 1.50 m |
| **Top of Platform** | 0.71 m | 1.22 m | | 1.58 m | 1.94 m |
| **Ground Frame Diameter** | Approximately 2.6 m | Approximately 3.1 m | | Approximately 4.8 m | Approximately 5.8 m |
| **Actuator Stroke** | 300 mm | 600 mm | | 900 mm | |
| **Power Requirements** | 100-120 VAC, 50/60 Hz | 3 phase 400 VAC, 50/60 Hz | | 3 phase 400 VAC, 50/60 Hz | |
| **Average Power Consumption** | 4 KVA | 5 KVA | 6 KVA | 9 KVA | 10 KVA |
| **Peak Power Consumption** | 20 KVA | 28 KVA | 28 KVA | 30 KVA | 35 KVA |
| **Electronics & Software** | Motion Control Computer, Motion Software, Ethernet UDP | Motion Control Computer, Motion Software, Ethernet UDP, Reflective Memory, SCRAM Net host interface | | Motion Control Computer, Motion Software, SCRAM Net host interface, Maintenance & diagnostics laptop, Ethernet UDP, Reflective Memory | |
| **Typical Simulation Applications** | Low cost car and truck driving | Rail vehicles, low cost car, truck and tank driving | | FAA & JAA Level B/C/D full flight simulation, car, truck and tank simulation | |

## ORDERING INFORMATION

| Motion Base | Electric / Electric Pneumatic / Hydraulic | NUMBER OF DOF | STROKE (INCH) | GROS MOVING PAYLOAD (KG) | EXAMPLE |
|---|---|---|---|---|---|
| MB | E / EP / H | #DOF | | | MB-E-6DOF/12/1000KG |

# SPECIFICATIONS: METRIC



| MB-EP-6DOF/60/8000KG | MB-EP-6DOF/60/14000KG | MB-E-6DOF/60/14000KG | MB-H-6DOF/60/14515KG |
|---|---|---|---|
| - 1.2 m/ + 1.4 m \|\| ± 1.4 m<br>± 1.2 m \|\| ± 1.2 m<br>± 0.98 m \|\| ± 0.98 m<br>± 26.3 ° \|\| ± 28.2 °<br>- 25.8 °/ + 28.5 ° \|\| - 33.6 °/ + 37.5 °<br>± 30.6 ° \|\| ± 33.2 ° | - 1.2 m/ + 1.2 m \|\| ± 1.5 m<br>± 1.2 m \|\| ± 1.2 m<br>± 0.96 m \|\| ± 0.96 m<br>± 25.5 ° \|\| ± 27.2 °<br>- 25.1°/ + 27.6 ° \|\| - 31.7 °/ + 35.2 °<br>± 29.5 ° \|\| ± 33.1 ° | - 1.07 m/ + 1.3 m \|\| ± 1.32 m<br>± 1.08 m \|\| ± 1.2 m<br>± 0.87 m \|\| ± 0.97 m<br>± 26.2 ° \|\| ± 28.9 °<br>- 24.1 °/ + 26.5 ° \|\| - 27.0 ° / + 29.9 °<br>± 33.0 ° \|\| ± 36.9 ° | -1.06 m/ + 1.32 m \|\| ±1.40 m<br>± 1.09 m \|\| ± 1.51 m<br>± 0.88 m \|\| ± 0.88 m<br>± 26.2 ° \|\| ± 33.3 °<br>- 24.2 °/ + 26.8 ° \|\| - 32.7 °/ + 37.2 °<br>± 33.1 ° \|\| ± 34.9 ° |
| ± 1.00 m/s<br>± 1.00 m/s<br>± 0.80 m/s<br>± 23.0 °/s<br>± 22.0 °/s<br>± 25.0 °/s | ± 1.00 m/s<br>± 1.00 m/s<br>± 0.80 m/s<br>± 22.0 °/s<br>± 21.0 °/s<br>± 25.0 °/s | ± 1.0 m/s<br>± 1.0 m/s<br>± 0.8 m/s<br>± 22.0 °/s<br>± 21.0 °/s<br>± 25.0 °/s | ± 0.7 m/s<br>± 0.7 m/s<br>± 0.6 m/s<br>± 20.0 °/s<br>± 20.0 °/s<br>± 20.0 °/s |
| ± 8.0 m/s²<br>± 8.0 m/s²<br>± 10.0 m/s²<br>› 180 °/s²<br>› 180 °/s²<br>› 180 °/s² | ± 7.0 m/s²<br>± 7.0 m/s²<br>± 10.0 m/s²<br>› 150 °/s²<br>› 150 °/s²<br>› 150 °/s² | ± 7.0 m/s²<br>± 7.0 m/s²<br>± 10.0 m/s²<br>› 150 °/s²<br>› 150 °/s²<br>› 150 °/s² | ± 10.0 m/s²<br>± 10.0 m/s²<br>± 10.0 m/s²<br>± 250 °/s²<br>± 250 °/s²<br>± 250 °/s² |
| 8,000 kg | 14,000 kg | 14,000 kg | 14,515 kg |
| 30,000 kg m² | 50,000 kg m² | 67,790 kg m² | 101,700 kg m² |
| 30,000 kg m² | 50,000 kg m² | 67,790 kg m² | 108,500 kg m² |
| 30,000 kg m² | 50,000 kg m² | 54,230 kg m² | 81,350 kg m² |
| ≤ 1.5 m | ≤ 1.8 m | ≤ 1.8 m | ≤ 1.91 m |
| 2.32 m | 2.61 m | 2.4 m | 2.1 m |
| Approximately 7.0 m | Approximately 7.5 m | Approximately 7.0 m | 6.4 m |
| ≤ 1.5 m | | | 1.5 m |
| 3 phase 400 VAC, 50/60 Hz | | | 460 VAC, 50/60 Hz |
| 10 KVA | 20 KVA | 20 KVA | 139 KVA (HPU has 150 HP pumps) |
| 50 KVA | 70 KVA | 100 KVA | |
| Motion Control Computer, Motion Software, SCRAM Net host interface, maintenance and diagnostics laptop, Ethernet UDP, reflective memory | | | Motion Control Computer, Motion Software, Automatic ATP, Maintenance monitor station, Ethernet |
| FAA & JAALevel C/D full flight simulation, car, truck and tank simulation | | | FAA & JAALevel D full flight simulation, tank turret simulation and test platforms |

This technical data is based on current available information and is subject to change at any time by Moog.
Specifications for specific systems or applications may vary.

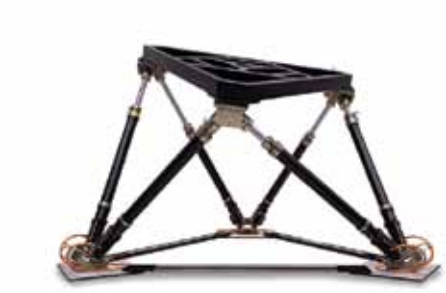
# SPECIFICATIONS: US MEASUREMENTS

| Model | MB-E-6DOF/12/ 1000KG | MB-E-6DOF/24/ 1800KG | MB-EP-6DOF/ 24/2800KG | MB-EP-6DOF/36/4500KG | MB-EP-6DOF/36/8000KG |
|---|---|---|---|---|---|
| **DOF Max. Excursion Surge (Single \|\| Max.)** | ± 9.8 in \|\| ± 10.6 in | - 18.1 in/ + 22.4 in \|\| ± 22.4 in | | - 27.2 in/ + 33.5 in \|\| ± 33.5 in | - 27.2 in/ + 31.9 in \|\| ± 32.7 in |
| **Sway (Single \|\| Max.)** | ± 9.8 in \|\| ± 10.2 in | ± 18.1 in \|\| ± 19.3 in | | ± 27.2 in \|\| ± 28.7 in | ± 27.2 in \|\| ± 28.3 in |
| **Heave (Single \|\| Max.)** | ± 7.1 in \|\| ± 7.1 in | ± 15.4 in \|\| ± 15.4 in | | ± 23.2 in \|\| ± 23.2 in | ± 23.2 in \|\| ± 23.2 in |
| **Roll (Single \|\| Max.)** | ± 21.0° \|\| ± 22.0 ° | ± 23.2 ° \|\| ± 23.8 ° | | ± 23.9 ° \|\| ± 25.1° | ± 21.0 ° \|\| ± 22.0 ° |
| **Pitch (Single \|\| Max.)** | ± 22.0 ° \|\| -23.0 °/ + 25.0 ° | - 23.0 °/ + 25.6 ° \|\| - 27.4 °/ + 31.6 ° | | - 23.5 °/ + 25.9 ° \|\| - 29.3 °/ + 32.9 ° | - 20.2 °/ + 21.8 ° \|\| -25.2 °/ + 27.9 ° |
| **Yaw (Single \|\| Max.)** | ± 22.0 ° \|\| ± 23.0 ° | ± 24.3 ° \|\| ± 27.5 ° | | ± 26.5 ° \|\| ± 29.2 ° | ± 22.4 ° \|\| ± 24.0 ° |
| **DOF Max.* Velocity** | | | | | |
| **Surge** | ± 19.7 in/s | ± 27.6 in/s | | ± 35.4 in/s | ± 27.6 in/s |
| **Sway** | ± 19.7 in/s | ± 27.6 in/s | | ± 35.4 in/s | ± 27.6 in/s |
| **Heave** | ± 11.8 in/s | ± 19.7 in/s | | ± 27.6 in/s | ± 23.6 in/s |
| **Roll** | ± 30.0 °/s | ± 34.0 °/s | | ± 33.0 °/s | ± 23.0 °/s |
| **Pitch** | ± 30.0 °/s | ± 35.0 °/s | | ± 32.0 °/s | ± 22.0 °/s |
| **Yaw** | ± 40.0 °/s | ± 36.0 °/s | | ± 35.0 °/s | ± 24.0 °/s |
| **DOF Max Acceleration** | | | | | |
| **Surge** | ± 0.61 g | ± 0.71 g | | ± 0.82 g | ± 0.61 g |
| **Sway** | ± 0.61 g | ± 0.71 g | | ± 0.82 g | ± 0.61 g |
| **Heave** | ± 0.51 g | ± 1.0 g | | ± 1.0 g | ± 1.0 g |
| **Roll** | ± 500 °/s² | > 225 °/s² | | > 150 °/s² | > 125 °/s² |
| **Pitch** | ± 500 °/s² | > 225 °/s² | | > 150 °/s² | > 125 °/s² |
| **Yaw** | ± 400 °/s² | > 225 °/s² | | > 150 °/s² | > 125 °/s² |
| **Gross Moving Load (GML) up to** | 2,200 lb | 3,900 lb | 6,200 lb | 9,900 lb | 17,600 lb |
| **GML moment of Inertia about X-axis** | 1,100 slug ft² | 4,900 slug ft² | 8,250 slug ft² | 24,750 slug ft² | 49,500 slug ft² |
| **GML moment of Inertia about Y-axis** | 1,100 slug ft² | 4,900 slug ft² | 8,250 slug ft² | 24,750 slug ft² | 49,500 slug ft² |
| **GML moment of Inertia about Z-axis** | 1,100 slug ft² | 4,900 slug ft² | 8,250 slug ft² | 24,750 slug ft² | 49,500 slug ft² |
| **GML CoG above moving platform centroid** | ≤ 23.6 in | ≤ 39.4 in | | ≤ 49.2 in | ≤ 59.1 in |
| **Top of Platform** | ≤ 28.0 in | 48.0 in | | 62.2 in | 76.4 in |
| **Ground Frame Diameter** | Approximately 102 in | Approximately 122 in | | Approximately 189 in | Approximately 228 in |
| **Actuator Stroke** | 12 in | 24 in | | 36 in | |
| **Power Requirements** | 100-120 VAC, 50/60 Hz | 3 phase 400 VAC, 50/60 Hz | | 3 phase 400 VAC, 50/60 Hz | |
| **Average Power Consumption** | 4 KVA | 5 KVA | 6 KVA | 9 KVA | 10 KVA |
| **Peak Power Consumption** | 20 KVA | 28 KVA | 28 KVA | 30 KVA | 35 KVA |
| **Electronics & Software** | Motion Control Computer, Motion Software, Ethernet UDP | Motion Control Computer, Motion Software, Ethernet UDP, Reflective Memory, SCRAM Net host interface | | Motion Control Computer, Motion Software, SCRAM Net host interface, Maintenance & diagnostics laptop, Ethernet UDP, Reflective Memory | |
| **Typical Simulation Applications** | Low cost car and truck driving | Rail vehicles, low cost car, truck and tank driving | | FAA & JAA Level B/C/D full flight simulation, car, truck and tank simulation | |

## ORDERING INFORMATION

| Motion Base | Electric / Electric Pneumatic / Hydraulic | NUMBER OF DOF | STROKE (INCH) | GROS MOVING PAYLOAD (KG) | EXAMPLE |
|---|---|---|---|---|---|
| MB | E / EP / H | #DOF | | | MB-E-6DOF/12/1000KG |

# SPECIFICATIONS: US MEASUREMENTS



| MB-EP-6DOF/60/8000KG | MB-EP-6DOF/60/14000KG | MB-E-6DOF/60/30800LB | MB-H-6DOF/60/32000LB |
|---|---|---|---|
| - 45.3 in/ + 55.9 in \|\| ± 57.5 in<br>± 45.3 in \|\| ± 47.6 in<br>± 38.6 in \|\| ± 38.6 in<br>± 26.3 ° \|\| ± 28.2 °<br>- 25.8 °/ + 28.5 ° \|\| - 33.6 °/ + 37.5 °<br>± 30.6 ° \|\| ± 33.2 ° | - 46.1 in/ + 55.9 in \|\| ± 57.5 in<br>± 46.1 in \|\| ± 48.4 in<br>± 37.8 in \|\| ± 37.8 in<br>± 25.5 ° \|\| ± 27.2 °<br>- 25.1°/ + 27.6 ° \|\| - 31.7 °/ + 35.2 °<br>± 29.5 ° \|\| ± 33.1 ° | - 42.4 in/ + 51.7 in \|\| ± 51.8 in<br>± 42.7 in \|\| ± 47.2 in<br>± 34.3 in \|\| ± 38.4 in<br>± 26.2 ° \|\| ± 28.9 °<br>- 24.1 °/ + 26.5 ° \|\| - 27.0 ° / + 29.9 °<br>± 33.0 ° \|\| ± 36.9 ° | -41.7 in/ + 52.0 in \|\| ± 55.1 in<br>± 42.9 in \|\| ± 59.5 in<br>± 34.6 in \|\| ± 34.6 in<br>± 26.2 ° \|\| ± 33.3 °<br>- 24.2 °/ + 26.8 ° \|\| - 32.7 °/ + 37.2 °<br>± 33.1 ° \|\| ± 34.9 ° |
| ± 39.4 in/s<br>± 39.4 in/s<br>± 31.5 in/s<br>± 23.0 °/s<br>± 22.0 °/s<br>± 25.0 °/s | ± 39.4 in/s<br>± 39.4 in/s<br>± 31.5 in/s<br>± 22.0 °/s<br>± 21.0 °/s<br>± 25.0 °/s | ± 39.4 in/s<br>± 39.4 in/s<br>± 31.5 in/s<br>± 22.0 °/s<br>± 21.0 °/s<br>± 25.0 °/s | ± 27.6 in/s<br>± 27.6 in/s<br>± 23.6 in/s<br>± 20.0 °/s<br>± 20.0 °/s<br>± 20.0 °/s |
| ± 0.82 g<br>± 0.82 g<br>± 1.0 g<br>› 180 °/s²<br>› 180 °/s²<br>› 180 °/s² | ± 0.71 g<br>± 0.71 g<br>± 1.0 g<br>› 150 °/s²<br>› 150 °/s²<br>› 150 °/s² | ± 0.71 g<br>± 0.71 g<br>± 1.0 g<br>› 150 °/s²<br>› 150 °/s²<br>› 150 °/s² | ± 1.0 g<br>± 1.0 g<br>± 1.0 g<br>± 250 °/s²<br>± 250 °/s²<br>± 250 °/s² |
| 17,600 lb | 30,800 lb | 30,800 lb | 30,000 lb |
| 22,140 slug ft² | 56,900 slug ft² | 50,030 slug ft² | 75,055 slug ft² |
| 22,140 slug ft² | 36,900 slug ft² | 50,030 slug ft² | 80,075 slug ft² |
| 22,140 slug ft² | 36,900 slug ft² | 40,022 slug ft² | 60,037 slug ft² |
| ≤ 59.1 in | ≤ 70.9 in | ≤ 70.9 in | ≤ 75.2 in |
| 91.3 in | 103 in | 94.5 in | 82.7 in |
| Approximately 276 in | Approximately 295 in | Approximately 275.6 in | 252 in |
| 60 in | | | |
| 3 phase 400 VAC, 50/60 Hz | | | 460 VAC, 50/60 Hz |
| 10 KVA | 20 KVA | 20 KVA | 139 KVA (HPU has 150 HP pumps) |
| 50 KVA | 70 KVA | 100 KVA | |
| Motion Control Computer, Motion Software, SCRAM Net host interface, maintenance and diagnostics laptop, Ethernet UDP, reflective memory | | | Motion Control Computer, Motion Software, Automatic ATP, Maintenance monitor station, Ethernet |
| FAA & JAALevel C/D full flight simulation, car, truck and tank simulation | | | FAA & JAALevel D full flight simulation, tank turret simulation and test platforms |

This technical data is based on current available information and is subject to change at any time by Moog.
Specifications for specific systems or applications may vary.

# TAKE A CLOSER LOOK

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