Inertial sensors and navigation systems are used in an increasing number of applications. Traditional markets such as land vehicles, aircraft, satellites, missiles, ships, and submarines are now joined by emergent applications such as autonomous or unmanned vehicles, mobile devices, wearables, and virtual reality hardware. Every year, millions of inertial sensors, navigation systems and optronic payloads dedicated to those applications are designed, calibrated and tested using iXblue motion simulators.

Leveraging 60 years of unique experience in the design and manufacturing of advanced motion simulators, iXblue rate tables offer unrivaled price-performance ratio. Scalable, they provide accuracy and dynamic capabilities that precisely meet the specific needs of each customer.

From the definition of the need, to the design, production, installation and maintenance phases, iXblue is there every step of the way to ensure the success of every single project.
iXblue at a glance

<table>
<thead>
<tr>
<th>60</th>
<th>140+</th>
<th>80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>YEARS OF EXPERIENCE</td>
<td>MILLION EUROS OF TURNOVER</td>
<td>OF TURNOVER ACHIEVED ABROAD</td>
</tr>
<tr>
<td>750+</td>
<td>30+</td>
<td>20%</td>
</tr>
<tr>
<td>EMPLOYEES</td>
<td>COUNTRIES WITH IXBLUE MOTION SIMULATORS</td>
<td>OF TURNOVER REINVESTED EACH YEAR IN R&amp;D</td>
</tr>
<tr>
<td>600+</td>
<td>SERVING OVER</td>
<td>24/7</td>
</tr>
<tr>
<td>MOTION SIMULATORS OPERATING WORLDWIDE</td>
<td>500 CUSTOMERS EVERY YEAR</td>
<td>TECHNICAL SUPPORT</td>
</tr>
</tbody>
</table>
iXblue, your partner in motion simulation

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A FULL RANGE OF MOTION SIMULATORS FOR TEST AND CALIBRATION

EXTENSIVE EXPERIENCE
With over 600 systems operating worldwide, iXblue offers a complete range of motion systems including single and multi-axis rate tables, dynamic motion simulators and centrifuges. A complete range of systems for the accurate test and calibration of inertial components (gyros, INS, IMU, AHRS, accelerometers), seekers and optical sensors.

ADVANCED PERFORMANCE
iXblue motion simulators are designed with key components chosen for having the best quality. Brushless motors, optical encoders and slip-ring capsules are critical to the performance of the complete system.

Every rate table comes with iXblue nGine controller and ProaXe Graphical User Interface, which are the most advanced control electronics available in terms of performance, efficiency and safety.

SCALABILITY
iXblue motion simulators are fully scalable and can be tailored to meet customers specific requirements, including the design of special tabletops, dedicated slip-rings with customized lines, special rotary-joints and optional climatic chambers.

TRACK RECORD
Customers operate iXblue’s motion simulators for a wide range of applications, including:
- Avionics
- Automotive
- Autonomous vehicles
- Drones
- Optronics
- R&D
- Virtual Reality
- Wearables

24/7 CUSTOMER SUPPORT
iXblue’s dedicated Customer Support team ensures 24/7 global support through their regional offices in the EMEA, NORAM, LATAM and APAC regions:
- On-site and remote maintenance
- Maintenance contracts
- Retrofit and upgrade of existing motion simulators
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EVO Series

<table>
<thead>
<tr>
<th>Series</th>
<th>1-AXIS</th>
<th>2-AXIS</th>
<th>2-AXIS</th>
<th>3-AXIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum payload mass (kg)</td>
<td>20 to 100</td>
<td>20</td>
<td>20 to 100</td>
<td>20 to 100</td>
</tr>
<tr>
<td>Table-top / Mounting tray (mm)</td>
<td>Ø 250 to 700</td>
<td>180 x 180</td>
<td>Ø 300 to 700</td>
<td>Ø 300 to 700</td>
</tr>
</tbody>
</table>

Mechanical Specifications (applicable for all axis)

| Position accuracy (arc sec) | ± 5 to ± 1 | ± 10 | ± 5 to ± 1 | ± 5 to ± 1 |
| Wobble (arc sec) | < 5 to < 1 | < 15 | < 5 to < 1 | < 5 to < 1 |
| Orthogonality (arc sec) | N/A | < 20 | < 2 | < 2 |

Dynamic Specifications

| Maximum rate (°/s) | ± 500 to ± 3 000 | ± 150 to ± 300 | ± 1 500 to ± 3 000 | ± 1 500 to ± 3 000 |
| Peak accel (no load) (°/s²) | ± 500 to ± 40 000 | ± 150 | ± 1 000 to ± 15 000 | ± 1 000 to ± 5 000 |
| Bandwidth -1dB (Hz) | 50 to 150 | 20 | 20 | 50 to 100 |
| Environmental Chamber (optional) | Range (°C) | -70 to +150 | -40 to +85 | -70 to +150 | -70 to +150 |

CTR Series

<table>
<thead>
<tr>
<th>CENTRIFUGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum payload mass (kg)</td>
</tr>
<tr>
<td>Maximum (kg.g)</td>
</tr>
<tr>
<td>Mounting tray (mm)</td>
</tr>
</tbody>
</table>

Dynamic Specifications

| Rate accuracy (ppm) | ± 50 to ± 1 |
| Maximum rate (°/s) | ±1000 to ± 3000 |
| Maximum acceleration (g) | 100 |
| Unbalance detection (kg.m) | 0.1 |
| Dynamic balancing | Automatic |
| Arm length variation accuracy (um) | < 1 |
| Environmental Chamber (optional) | Range (°C) | -70 to +150 |
A FULL RANGE OF MOTION SIMULATORS FOR TEST AND CALIBRATION

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EVO-10 Series
- 1-AXIS
- Maximum payload mass (kg) 20 to 100
- Table-top / Mounting tray (mm) Ø 250 to 700
- Position accuracy (arc sec) ± 5 to ± 1
- Wobble (arc sec) < 5 to < 1
- Orthogonality (arc sec) N/A

EVO-AMI Series
- 2-AXIS
- Maximum payload mass (kg) 20
- Table-top / Mounting tray (mm) 180 x 180
- Position accuracy (arc sec) ± 10
- Wobble (arc sec) < 1
- Orthogonality (arc sec) < 20

EVO-20 Series
- 2-AXIS
- Maximum payload mass (kg) 20 to 100
- Table-top / Mounting tray (mm) Ø 300 to 700
- Position accuracy (arc sec) ± 5 to ± 1
- Wobble (arc sec) < 5 to < 1
- Orthogonality (arc sec) < 2

EVO-30 Series
- 3-AXIS
- Maximum payload mass (kg) 20 to 100
- Table-top / Mounting tray (mm) Ø 300 to 700
- Position accuracy (arc sec) ± 5 to ± 1
- Wobble (arc sec) < 5 to < 1
- Orthogonality (arc sec) < 2

CTR Series
- CENTRIFUGES
- Maximum payload mass (kg) 100
- Maximum (kg.g) 5000
- Mounting tray (mm) 400 x 400
- Rate accuracy (ppm) ± 50 to ± 1
- Maximum rate (°/s) ±1000 to ± 3000
- Maximum acceleration (g) 100
- Unbalance detection (kg.m) 0.1
- Dynamic balancing Automatic
- Arm length variation accuracy (um) < 1
- Environmental Chamber (optional)

ADVANCED DESIGN FOR UNRIVALED PERFORMANCE

ADVANCED MECHANICS

iXblue uses best-in-class tools and processes for mechanical design and finite-element-analysis providing:

- Higher resonant frequencies resulting in wider bandwidth
- Best-in-class precision of mechanical structures
- Modularity of design between all Series for better commonality and lower upgrade costs

ADVANCED ELECTRONICS

iXblue pioneered the use of key state-of-the-art technologies in motion simulation:

- Low cogging AC direct drive motors designed for enhanced stability
- High performance drives with minimum ripple
- High performance optical encoders with high resolution (< 0.02 arc sec)
- High quality standard or custom slip-rings, and fiber-optic, gas and fluid rotary joints
- Proprietary model based digital electronics for improved positioning and rate accuracy

UNRIVALED CONTROL

iXblue has patented advanced axis control technologies that are implemented within the nGine controller:

- Auto-tuning of controller parameters
- Adaptive sine bandwidth enhancement with minimal attenuation and phase-shift
- Anti-coupling between axis
- Advanced unbalance and fault detection
- Auto-tuned anti-cogging
- Real-time built-in-test
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