New Lower Price Flat-Trac® III Classic Test System Developed for Basic Testing Needs

In response to requests from our customers, MTS is introducing a new, lower price Flat-Trac system with performance capabilities similar to the Flat-Trac system first introduced by MTS. Called the Flat-Trac III Classic Tire Force and Moment Measurement System, it has genuine Flat-Trac quality and engineering throughout. It is designed to meet requests for steady state force and moment tire testing needs.

The new Classic is a close cousin to the MTS Flat-Trac III Steady State system, and comes with certification that it meets all listed specifications. It has an electric roadway drive motor, a rotating flat surface stainless steel belt and, like all Flat-Trac systems, is capable of controlled slip angle, camber angle, and radial loading of the tire. And it has the same multi-component load cells for measuring force and moment data that the Steady State Flat-Trac III system uses.

**Flat-Trac® III Classic Benefits**
- Performs steady state force and moment tests
- Priced about 30% less than the Flat-Trac Steady State System
- Engineered for basic quality and qualification tests both inside and outside the R&D environment
- Based on proven Flat-Trac engineering, design, and manufacturing practices
- Standard pre-engineered configuration

**Design**
The Classic features the capacity and capability for testing passenger car and light truck tires under a wide range of conditions. You can dynamically change tire attitudes and loads on its continuous flat surface, while simultaneously measuring tire-generated forces and moments. You can take data under steady state or slowly changing conditions. The Flat-Trac III Classic system can also be used for running simple roadway simulations.

Drawing on the Flat-Trac heritage and patents from all earlier designs, the Flat-Trac III Classic system provides you with a wide range of capabilities not available with tire test systems of other manufacturers. One reason is the performance of its continuous-loop stainless steel belt tensioned between two drums. Testing is performed on the flat portion of the belt that is supported by a hydrodynamic water bearing.

The tire spindle assembly is mounted on an A-frame positioned over the belt. This design allows the tire assembly to be steered (slip angle) about the center of the tire, and also to be cambered (inclination angle) about the tire patch.

**Capabilities**
The Flat-Trac III Classic system has been configured to perform free rolling steady state testing like the original Flat-Trac I systems. And, although the Classic is principally a steady state measurement system, it is capable of performing slip angle sweep tests at modest rates.

A pre-defined verification test report demonstrates that the system meets a standard set of specifications, runs certain specified tests, and produces certain specified reports. Typically, reported information would include:
- Calibration reports
- Performance test results
- Test results for some conventional steady state tests

**Controller**
The same flexible, powerful control system is used in the Classic that is used in all other Flat-Trac III systems. It provides
nearly the same functionality as the Flat-Trac Steady State system, limited of course by the Classic’s machine performance parameters.

The digital controller is easy to use and enhances productivity. A conventional PC is used to configure tests and analyze results. It employs spreadsheet software to give you the ability to configure both industry standard and unique tire tests. Plus, you get the full capabilities of the software for data analysis and report generation.

**Control Parameters**
- Slip Angle or Lateral Force
- Inclination (Camber) Angle
- Roadway Speed
- Loaded Radius/Normal Force
- Tire Inflation Pressure

**Data Acquisition Parameters**
- Slip Angle
- Inclination (Camber) Angle
- Loaded Radius
- Longitudinal Force
- Lateral Force
- Normal Force
- Overturning Moment
- Aligning Torque
- Roadway Speed
- Inflation Pressure

A complete set of electronic manuals is provided with the system.

### Specifications

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tire Size</td>
<td></td>
</tr>
<tr>
<td>Maximum Diameter</td>
<td>910 mm</td>
</tr>
<tr>
<td>Minimum Diameter (loaded)</td>
<td>400 mm</td>
</tr>
<tr>
<td>Maximum Width</td>
<td>350 mm</td>
</tr>
<tr>
<td>Roadway Speed, maximum</td>
<td>±150 km/hour</td>
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<tr>
<td>Roadway Test Surface, bearing load area</td>
<td>350 mm L x 400 mm W</td>
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<tr>
<td>Slip Angle</td>
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<tr>
<td>Slip Angle Sweep Rate, maximum</td>
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<tr>
<td>Inclination Angle</td>
<td>-10 to +30 degrees</td>
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<tr>
<td>Inclination Angle Sweep Rate, maximum</td>
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<tr>
<td>Vertical Force, maximum</td>
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<tr>
<td>Lateral Load, maximum</td>
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<tr>
<td>Hydraulic Power Supply</td>
<td>55 lpm (at 60 Hz)</td>
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<tr>
<td>Tire Pressure Range</td>
<td>700 kPa</td>
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</tbody>
</table>

Specifications subject to change without notice.