Model 3000
Performance Brake Dynamometer
The Model 3000 Dynamometer (Model 3000) is a full-sized system specifically designed to evaluate braking performance characteristics up to 5650 Nm for automotive and light truck brake assemblies. This state-of-the-art machine incorporates a 2-disc inertia section combined with electric motor Inertia Simulation (I-Sim) capability to replicate actual operating conditions.

The Model 3000 is the perfect machine for running research and development test protocols on brake calipers, friction material, drums and rotors in a controlled test environment that has been proven to correlate with vehicle test data. The ProLINK control and data acquisition system allows manual or fully automatic unattended operation.

Key Benefits

- Latest technology software and controls
- Proven components with low maintenance
- Highly configurable with many options
- Controls and power cabinet integrated onto machine as a single unit
- Ease of installation (no concrete foundation required)
- Safety interlocks on all guard doors
- Fold-away brake chamber for ease of technician test part setup

Key Features

- Tabular step-by-step test script generation
- Customizable graphical data review software (RevDataPlus) for brake engineer
- Automated reporting tools through MS-Excel
- High accuracy electric inertia simulation (I-Sim)
- Servo brake profile control
- Precision sensors for measurement: shaft speed, torque, pressure, fluid displacement, brake temperature, cooling air speed, air temperature and humidity
- Integrated interface to DTV measurement, NVH, water spray and park brake systems
- In-line reaction torque sensor with calibration fixture for torque
- Power brake bleed system
- Brake knuckle test fixture
- Compact pedestal workstation
Test Procedures

- Performance Wear
- Thermal Roughness
- Lining Wear vs. Temperature
- City Traffic Route Simulations

Optional Systems

- Low speed static torque drive system
- Water spray and brake soak system
- Increased test speed from 2000 rpm to 2500 rpm
- Low drag torque measurement tailstock
- E-Caliper interface and power supply
- NI DIAdem data converter
- Environmental temperature and humidity control system
- Video monitoring camera
- Dual by wire
- Regen sim
- High speed cooling air up to 120 kph
- Brake emission modification ready

- Fade and Effectiveness
- Brake Output vs. Temperature
- Rotor Corrosion

- Mechanical parking brake apply
- Disc Thickness Variation (DTV) measurement
- NVH measurement system
- Electric brake fluid apply system
- RegenSim for hybrid vehicle braking simulation
- Thermally insulated test chamber
## Specifications

<table>
<thead>
<tr>
<th></th>
<th>Model 3000 Dyno (standard)</th>
<th>Model 3000 Dyno (with enhanced options)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Software</td>
<td>ProLINK</td>
<td>ProLINK</td>
</tr>
<tr>
<td>Sample Rate</td>
<td>5000 samples/sec</td>
<td>5000 samples/sec</td>
</tr>
<tr>
<td>Drive Motor</td>
<td>186 kW</td>
<td>186 kW</td>
</tr>
<tr>
<td>Shaft Speed</td>
<td>0 - 2000 rpm</td>
<td>0 - 2500 rpm</td>
</tr>
<tr>
<td>Brake Torque</td>
<td>5650 Nm</td>
<td>5650 Nm</td>
</tr>
<tr>
<td>Drag Torque</td>
<td>n/a</td>
<td>70 Nm</td>
</tr>
<tr>
<td>Mechanical Inertia</td>
<td>42.7 - 128 kgm²</td>
<td>42.7 - 128 kgm²</td>
</tr>
<tr>
<td>Inertia Range with I-Sim</td>
<td>5 - 260 kgm²</td>
<td>5 - 260 kgm²</td>
</tr>
<tr>
<td>Brake Apply Pressure</td>
<td>206.8 bar</td>
<td>300 bar</td>
</tr>
<tr>
<td>Brake Apply Rate</td>
<td>689 bar/sec</td>
<td>862 bar/sec</td>
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