**General Information**

The MPW110 system is a Macro Scale Wear Tester and while used to primarily perform Pin-on-Disc or Ball-on-Disc tests, it can also be used to perform Thrust Washer, Four-Ball, Ball-on-Flat, and oscillating tests as well. The temperature and humidity within the test environment is set prior to the test and can even be adjusted during testing. Temperature is precisely controlled up to ±1° using PID control.

The equipment is manufactured to evaluate the friction and wear characteristics for various materials including metal, ceramic, composites, coatings, nano, and bio materials.

To adjust the load application range from light load to heavy load, the pressure load is configured by a two-stage lever.

The system is configured to measure wear loss and friction coefficient in real time during testing and the results can be simultaneously stored in a computer.

**Control Parameters**

- Rotation Speed (rpm)
- Load (kgf)
- Temperature (°)
- Humidity (%)
- Time (sec)
- Cycle
- Lubricant Chamber Temperature
- Microsoft Windows XP Compatible
- User-friendly screen configuration
- Average and Peak Curve Readings
- Real Time Data Display and Storage
- Can modify parameters during test

**Recorded Parameters**

- Rotation speed (rpm)
- Friction force (N)
- Sliding speed (m/sec)
- Wear loss (μm)
- Sliding distance (m)
- Temperature (stage, specimen surface: °)
- Test time (sec)
- Test cycle (cycle)
- Friction coefficient (μ)
Multi-Purpose Wear Test System – MPW110

- **Test Modes**
  - Pin-on-Disc (One Pin or Three Pin) (ISO 7148, ASTM G99)
  - Ball-on-Disc (One Ball or Three Ball) (ISO 7148)
  - Thrust Washer (ASTM D3702)
  - Ball-on-Flat Test (ASTM G133)

- **Software**

- **Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Load Capacity</td>
<td>1,000 N (optional 10,000 N)</td>
</tr>
<tr>
<td>Min. Load Capacity</td>
<td>2 N</td>
</tr>
<tr>
<td>Friction Sensor</td>
<td>50 N or 200 N</td>
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<tr>
<td>Wear Loss Measuring Sensor</td>
<td>±0.5 μm</td>
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<tr>
<td>Rotation Speed</td>
<td>1 – 1,500 rpm (optional 3,000 rpm)</td>
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<tr>
<td>Heating Range</td>
<td>RT150°C (optional 1100°C)</td>
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<tr>
<td>Humidity Control Range</td>
<td>30 – 90% R.H ±5%</td>
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<tr>
<td>End Mode</td>
<td>Time, cycle, friction</td>
</tr>
<tr>
<td>Power</td>
<td>AC 220 V, single phase</td>
</tr>
<tr>
<td>Size</td>
<td>W 700 X D 450 X H 700 mm (adjustable)</td>
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<tr>
<td>Weight</td>
<td>≈ 200 kg</td>
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</tbody>
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