Four-Ball Wear Test System – FBW130

◆ General Information
The FBW130 performs Four-Ball testing according to ASTM D2783, ASTM D2266, ASTM D4172 and ASTM D2596 standards. It is manufactured with sufficient frame strength and the use of air pressure for heavy test loads ensures smooth pressure application.

By using the Four-Ball test method and the extreme pressure properties measurement method, it measures the wear resistance characteristics and extreme-pressure performance for a diverse range of lubrication oils and greases.

Also, this equipment performs the Load-Wear Index (Mean-Hertz Load) and Weld Point, by means of the Four-Ball Extreme-Pressure (EP) Test.

Lubrication oils are evaluated using AISI standard Steel No. E-52100 (bearing steel) 12.7 mm, grade 25 EP (Extra Polish) Rockwell C hardness 64-66 as its default test steel ball.

◆ Control Parameters
- Rotation speed (rpm)
- Load (N)
- Temperature (°)
- Time (sec)
- Cycle

◆ Recorded Parameters
- Rotation Speed (rpm)
- Friction Force (N)
- Temperature (°)
- Test Time (sec)
- Test Cycle (cycle)
- Friction Coefficient (µ)

◆ Test Modes

◆ Accessories
- Wear scar measuring system
- Four-Ball Jig: ASTM D2596

◆ Specifications

<table>
<thead>
<tr>
<th>Load Range</th>
<th>Max. 8,000 N</th>
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<tbody>
<tr>
<td>RPM</td>
<td>30 – 2,000 rpm</td>
</tr>
<tr>
<td>Temperature</td>
<td>RT100°C ±2°C</td>
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<tr>
<td>Test Ball</td>
<td>12.7 mm steel ball</td>
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<tr>
<td>Optional Ball</td>
<td>Ø 3 1/8&quot;, Ø 5/16&quot;, Ø 1/2”</td>
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<tr>
<td>Loading Method</td>
<td>Air Pressure</td>
</tr>
<tr>
<td>Optional Function</td>
<td>100 kgf at 20,000 rpm 300 kgf at 15,000 rpm 600 kgf at 3,000 rpm 800 kgf at 1,700 rpm</td>
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<tr>
<td>Weight</td>
<td>≈ 25kg</td>
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Friction Force
Friction Coefficient
Dry and Wet Tests