

Universal Multi-Function Wear Test System – UFW200

<http://www.uskoreahotlink.com/products/testing-inspection/friction-wear-tribometers/>

The **UFW200** system evaluates abrasiveness, fretting, galling, and seizure through four types of friction and wear testing methods (rotating, reciprocating, block-on-ring, and scratch testing). This system reveals friction and wear characteristics for various materials including metals, rubber, ceramics, composites, coatings, as well as nanomaterials and biomaterials.

Conducting tests under various environmental conditions is possible by controlling areas such as pressure through a static loading system, humidity, and test temperature through a hot air convection heating system. The control system software and data acquisition system displays test data in real-time while simultaneously storing the data in a computer to prevent loss of test data during unexpected test stoppage or power interruption. By providing multiple testing methods, reliable data can be collected using the most relevant tests for the sample being evaluated.

Multi-Function Tests

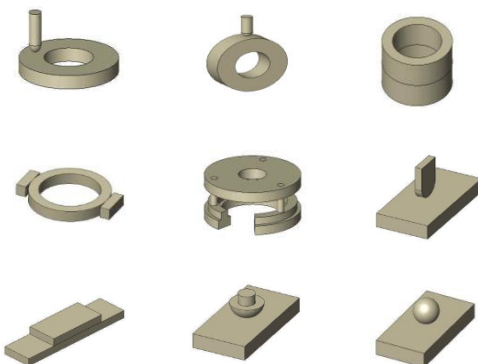
- Static and dynamic friction test
- Adhesive, abrasive, and scratch wear test
- Multi-cycle, multi-axis fatigue wear test
- Pull-off adhesion wear test

Test Modes

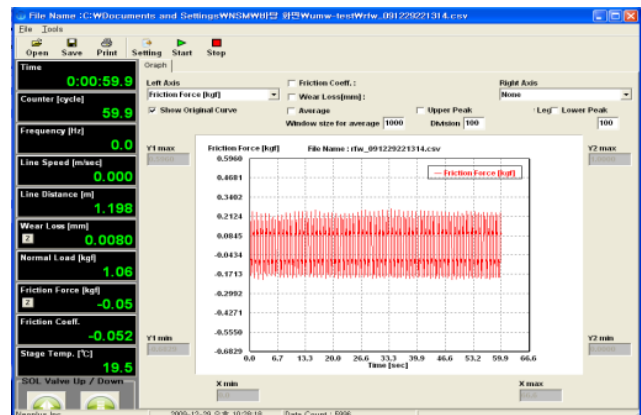
- Pin-on-Disc (One Pin) (ISO 7148, ASTM G99)
- Ball-on-Disc (One Ball) (ISO 7148)
- Sliding contact wear test
- Bearing life
- Block-on-Ring
- Scuffing wear
- Reciprocating motion test
- Scratch



Test Methods



System Software



Rotating Test Module

- Pin-on-Disc (One Pin) (ISO 7148, ASTM G99)
- Ball-on-Disc (One Ball) (ISO 7148)
- Four-Ball

Pin-on-Disc or Ball-on-Disc Test

- Stationary or automatic positioning on disc radius
 - Speed: 0 – 1,000 rpm
- Automatic Radius Positioning
 - Range: 70 mm
 - Resolution: 0.1 mm



Block-on-Ring, Pin-on-Ring, Ball-on-Ring, Test Module

- Upper Block: 5 x 15 x 10 mm
- Lower Ring: Dia. 20-70 mm
- Rotation Speed: 1 – 1,000 rpm
- Upper Pin: Dia. 3 – 10 mm
 - Flat, spherical, or conical end



Linear Reciprocating Test Module

- Upper Pin, Ball, or Block Specimen
- Distance: 0 – 50 mm
- Reciprocating Frequency: 0.1 – 50 Hz
- Reciprocating Stroke: 0.1 – 25 mm

Wear and Fretting Tests

- Upper Pin, Ball, or Block Specimen
 - Stationary or automatic positioning on disc radius
- Automatic Radius Positioning
 - Range: 50 mm
 - Resolution: 1 μ m

Engine Tests

- Upper piston ring: stationary
- Lower cylinder liner: reciprocating

