

Roller on Roller Tribometer

Roller on roller features independently driven twin disc configuration offering rolling-sliding contacts with a wide range of contact pressures. The roller on roller set up is widely accepted as a reliable precursor to FZG tests. Being modular, multiple contact configurations like block on ring, ball on ring, conformal contacts are also possible, making it a truly multifunctional tribometer that can be used for evaluating materials and lubricants used in rolling element bearings, gears and rail-wheel applications.

Variable Contact Geometries

Multifunctional system capable of changing the test configuration from line contact (roller on roller) to area (pin on roller or block on roller) or point (ball on roller) contact. Along with the ease of operation, it helps to achieve high throughput research.

Unmatched Speed Control

The speed of each roller is controlled independently of each other using two servo motors. Therefore, variable slide to roll ratio (0 to 200%) can be achieved by setting different spindle speeds for two rollers. The motion direction can be set to clockwise or counterclockwise to simulate lubricant entrainment and reverse entrainment (starvation) conditions.

Friction Torque & Linear Wear Sensors

Friction torque is generated during the motion of the rollers in contact. This friction torque is acquired by a torque sensor. Linear displacement of the rollers due to creep and wear is measured using a linear variable differential transducer (LVDT) fixed to the stationary block on the top spindle assembly.

Automatic Loading

The twin disc tribometer comprised of two parallel spindles where each spindle is driven by a variable speed motor, automated loading unit, heating unit, friction torque sensor and linear wear sensor.

The servo controlled loading system provides a wide range of contact pressures and flexibility of continuous, ramped and custom load profiles.



Specifications

Upper specimen	Roller: 47 mm in diameter, 10 mm wide (flat and crowned roller). Test block: 6.35 x 6.35 x 6.35 mm
Lower specimen	Roller: 47 mm in diameter, 10 mm wide (flat roller)
Speed	2 to 2000 rpm
Normal load	0.1 to 8 kN (automatic loading)
Temperature	Up to 120 °C (lubricated conditions). Up to 700 °C (dry conditions)

