Pin-on-Disc Tribometer

Tribology in a nutshell.

www.tetra-ilmenau.de
Tribology is the science and engineering of interacting material surfaces in relative motion. A Tribometer is an instrument for characterizing friction, wear, scratch resistance and influences of certain lubrication and environmental conditions to the tribological system behavior. BASALT-S2 is a research instrument for a high-resolution view in local and temporal dimension of tribomechanics.

Precision measurement
- Nominal force (load) up to 10 N
- Dynamic force control
- Tangential force (friction) ±10 N
- Temperature and humidity
- Force resolution 1 mN

Relative motion
- Dynamic rotation and oscillation
- Low vertical and radial run-out
- Track speed 1 mm/s ... 1.3 m/s
- Easy clamping of specimen discs up to Ø60 mm

Advanced Data Mining
- Data acquisition rate 1 kHz
- Measure data streaming to PC
- Jitter <1 μs
- Advanced recording rules
- Exportable ASCII files for analysis

Benefits
Reproducible Measurement
Enhanced Information Depth
Intuitive Operation
Exceptional Cost-Benefit-Ratio
Fast Service
Certified Quality
ISO 9001:2008
„Made in Germany“

Application
- Metals, ceramics and glass
- Polymers and elastomers
- Textile, wood and paper
- Composite materials
- Thin films (CVD, PVD, optical ...)
- Coatings (i.e. lacquer, PTFE ...)
- Mineral oils and greases
- Biogenic and solid lubricants
- Surface-Microstructures
- Semiconductors and Electronics (passivation, metallization, MEMS)
- Medicine technologies and pharmacy
- Consumer Goods
- and many more ...
Users

Small and medium-sized enterprise

- Highest precision
- Compact device
- Always one step ahead.

Contract research lab

- Automate recurring tasks
- Fast return on invest
- Always one step ahead.

Portfolio

Delivery includes

- Device with rotation table
- 2D-force-sensor $F_{n} \leq 10 \text{ N}$ | $\pm F_{t} \leq 10 \text{ N}$
- 1x Ø6 mm ball holder
- 1x Disc holder (Ø20 – 50 mm)
- Software Installer with e-Manual (USB)
- Start Specimen Set (Steel Ball/ Steel Disc)
- Cables and printed manual

Optional Accessories

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<th>Environment</th>
<th>Data Acquisition</th>
<th>Calibration</th>
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<td><img src="image" alt="Pin holders" /> Ø3-10mm 1/8” – 1/2</td>
<td><img src="image" alt="Insulation Cover" /> Temp./Humidity - Sensors &amp; Gas Inlets</td>
<td><img src="image" alt="Workstations" /> Desktop/Notebook Pre-installed Software</td>
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<td><img src="image" alt="Face chuck" /> for irregular specimen shapes</td>
<td><img src="image" alt="Lubrication cup" /> for lubricated experiments</td>
<td><img src="image" alt="Calibration Tool" /> Calibrating 2D-force-sensor with weight set</td>
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Application consultancy and sales

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International partners for consultancy, sales and service

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