

Biotribometer

ASTM D732, ASTM G59, ASTM G102, ISO 14242

A biomaterials tester for prescreening bulk materials and coatings.

Testing biomaterials for their tribological properties is very important in order to create safe and reliable implants. However, testing implants using a joint simulator is complex, time consuming and very expensive.

The BioTribometer is widely used as a precursor to joint implant simulators, primarily for research and development of biomaterials that replace bio interfaces in orthopedic and dentistry.

Every station in the BioTribometer can be equipped with sensors to measure the friction and compound wear of biomaterials while generating clinically relevant conditions.

Options

- Single station or multiple station system (1 or 6 stations)
- Pin rotation module
- Frictional force and wear measurement module
- Temperature control and measurement module
- Lubricant recirculation system
- Tribocorrosion module

DESIGNED FOR ENDURANCE

AVAILABLE IN SINGLE OR SIX STATION VERSION

Available in 1 or 6 station configuration, the BioTribometer is designed for any lab, small or large to effectively test tribological characteristics of their biomaterials. Since test durations in biotribology applications are usually quite long, the system is carefully designed for years of trouble free operation.



FULLY PROGRAMMABLE STAGE CUSTOM DESIGNED FULLY PROGRAMMABLE MULTI-AXIS STAGE

The high service life stages are designed ground up for taking on high cycle testing demands of biomaterials testing. The stages can be programmed to operate in any trajectory that is desired by the user. Preset trajectories like linear reciprocation, circle, square, figure of 8 (or "butterfly") and rectangle are available on the software for quick start of testing.

The BioTribometer can generate cross shear motions along with loading profiles and a sliding speed in relation to the gait cycles, as per ISO 14242-1 and ASTM F732.

TRIBOCORROSION MODULE

A specially developed tribocorrosion module is available as an option for the BioTribometer. It can be plugged into a compatible potentiostat to evaluate the electrochemical behavior of biomaterials during friction and wear tests. A compatible potentiostat / galvanostat is also available from Ducom as an option for ordering together with the tribocorrosion module.

The tribocorrosion module allows users to determine the polarization resistance, corrosion rate (mm/year), corrosion current, corrosion potential according to the ASTM G59 and ASTM G102.

