



SI-H Basic Muscle Tester

Basic research system for mechanical measurements of intact muscles



Combining the versatility of the KG force transducers and a solid platform for mechanical studies, the Muscle Tester (Basic Research System) can be equipped with a linear motor and laser diode for running advanced muscle studies.

With the Basic Tester, at least four key experimental areas of muscle research can be examined.

- By measuring the myomechanical properties of contracting and relaxing muscle strips, scientists can measure intact muscle responses to electrical stimulation or tetanus.
- Measure twitch amplitude and kinetics analysis, time to peak, 50% relaxation velocities, starting curve and diastolic force development.

- Add a linear motor with control units to measure mechanical muscle properties like slack-test, isotonic release, constant velocity release, stretch release, vibration studies, after-loaded contractions and eccentric contractions.
- Add a laser diode for simultaneous measurement of the sarcomere length.

Features

- Small footprint and economical setup
- Data Recording and Analysis included
- Controlled heating from 30-42°C, and optional cooling to 5°C
- Modular design for flexibility when upgrading
- Constructed with corrosion-free materials (Stainless steel, anodized aluminium, plastic)
- Includes a set of preparation mounting devices
- Two-chamber cuvette system for oxygenating the incubation medium and mounting the preparation
- Additional accessories include binocular microscope, vacuum system for changing the solution, temperature controlled solution container and a stimulator



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Key Experiments

- Measure intact muscle responses to electrical stimulation or tetanus
- Measure myomechanical properties of contractions and relaxation in muscle strips
- Perform eccentric contractions in skeletal muscle
- Twitch amplitude and kinetics analysis, time to peak, (50%) relaxation velocities, starting curve, diastolic force development with Muscledata Software
- A linear motor plus control units can be adapted to measure mechanical muscle properties such as slack test, isotonic release, constant velocity release, stretch release, vibration
- Simultaneous measurement of the sarcomere length is possible by laser diode diffraction.

Accessories

- Cuvette systems for perfusion and combined optical measurements
- Laser diode for sarcomere length in skinned and intact muscle
- Software-controlled stimulator and tetanizer
- Removable binocular microscope for mounting and dissection on the bench
- Motor action control panel for hardware control while using your own data acquisition system
- Compatible with KG force transducer series and specialty mounting supports for cells and tissues

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SI Heidelberg
A World Precision Instruments Company
www.si-heidelberg.com

World Precision Instruments, Inc.

USA: International Trade Center, 175 Sarasota Center Boulevard, Sarasota FL 34240-9258 USA

Tel: 941-371-1003 • Fax: 941-377-5428 • E-mail: info@wpiinc.com • Internet: <http://www.wpiinc.com>

Germany: Zossener Str. 55, D-10961 Berlin, Germany • Tel: 030-6188845 • Fax: 030-6188670 • E-mail: wptide@wpi-europe.com

China & Hong Kong: WPI Shanghai Trading Co., Ltd. • Tel: +86 688 85517 • E-mail: ChinaSales@china.wpiinc.com

UK: Astonbury Farm Business Centre • Aston, Stevenage, Hertfordshire SG2 7EG England • Tel: 01438-880025 • E-mail: wpiuk@wpi-europe.com