

ORTHOPAEDICS & DEVICES FOR OSTEOSYNTHESIS

Instron - A Total Solution Provider



Reliability



Ease of Use

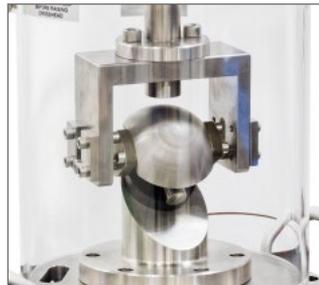


Repeatability



Reduced
Maintenance

Instron has considerable experience of mechanical testing in orthopaedics: from basic static testing of raw materials, to impact loading of joint components, through to complete simulation for evaluating the fatigue and wear properties in vivo. Through every phase of implant development, our solutions meet a vast array of demands found within the orthopaedics field. One example of this is testing of devices for osteosynthesis. The failure of spinal constructs is usually catastrophic due to the high amounts of in vivo loading that they are subjected to. This leads to unbearable pain for the individual. It is absolutely essential that spinal implants do not fail but provide stability to the spine whilst arthrodesis takes place. The load required to result in spinal fracture can be determined via a simple static test, whilst the number of cycles to failure can be resolved by a cyclic test.



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Instron® - A Total Solution Provider



Reliability

For over 75 years, Instron has designed and manufactured dependable materials testing systems. Instron's professional services team offers calibration, and preventive maintenance to keep Instron systems running for years. Despite test system robustness, Instron systems maintain the precision to measure micron-size displacements and gram-level forces.



Ease of Use

The patented stiffness based tuning reduces the time required to tune and simplifies the process by automatically calculating the optimum control gains. This gives the user repeatable and reliable results. In addition, WaveMatrix software offers a highly-visual environment with step-by-step method set up. Laboratories will therefore save time as the training is quick and easy.



Repeatability

ElectroPuls provides you with phenomenal data accuracy. Coupled with Instron Dynacell for reduction of inertial errors and patented "Stiffness Based Tuning", you can have confidence in your system for hassle-free testing. consistent, accurate results allow full validation to bring product to market.



Reduced Maintenance

With only a single-phase electrical connection to the wall, ElectroPuls systems are dynamic testing machines of the future that do not have the environmental impact of conventional servohydraulic technologies. That means no oil, no three-phase electrical power, no water-cooling supplies, no external acoustic attenuation systems, and no costly, complex maintenance routines.



Fatigue resistance of modular hip implants can be evaluated to ISO 7206 or ASTM F2068



Testing of spinal constructs to ASTM F1717 on the ElectroPuls E1000 all-electric dynamic test instrument



Fatigue testing of knee tibial trays to ISO 14879-1



Intervertebral body fusion devices can be tested to ASTM F2077 and F2267 on either the ElectroPuls™ or 8870 servohydraulic fatigue systems



Bone Screw Testing to ASTM F543 prescribes four separate tests in order to assess the mechanical properties of the screw.



The ElectroPuls™ E10000 Linear-Torsion test instrument can be fitted with a saline bath for long-term fatigue tests, or can be used to perform combined linear-torsion tests on whole bones



If fatigue testing of bone screws is not a requirement, the Torsion Add-On for 5940 or 5960 systems can test to all four Annexes in ASTM F543

Instron's instruments and technologies are used for various types of tests across many diverse medical sectors. The flexibility of Instron systems to adapt to numerous applications make our systems truly universal.

Designed from the ground up for touch, Instron's static testing software, Bluehill Universal, is easy-to-use, increases testing efficiency, and contains modular features that enable users to run the most complex tests.

With ISO 9001 accreditation, our goal is to provide the best ownership experience by delivering the highest quality products, expert support, and world-class service. Instron Connect provides users with a powerful communication platform via a secure connection between the Instron system at your facility and Instron's global technical support engineers. With Instron Connect, users receive faster remote technical support, reduce risk with schedule verification and preventive maintenance reminders, and are effortlessly able to keep up to date with the latest software features.



Medical Sectors

Visit our website to learn more about the different medical sectors we support: go.instron.com/bio



BIOMATERIALS &
TISSUE ENGINEERING



ORTHOPAEDICS



DENTISTRY &
DENTAL MATERIALS



IMPLANTABLE
DEVICES



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