

EndoLab Knee Simulator Type 3/1-03

The Test Experts



The EndoLab Experience

Since 1999, EndoLab® performs wear testing of knee implants using a simulator according to ISO14243-1. Designed for our certification tests, the machine has been continuously optimized and additional features have been added. Five years of testing experience are now included in the type 3/I-03 simulator.

High Performance Hydraulics

The latest version type 3/I-03 is based on four independent servo hydraulic controllers. The EndoLab® servo hydraulics system enables precise, high performance and reproducible test conditions all over the test period. Special, custom made actuators have proven to withstand the long term testing conditions in our laboratories. A special sealing system reduces the internal friction to outstanding low values required for precise biomechanical.

State of the Art User Interface

All major functions of the simulator can be controlled using the SPS panel directly at the machine frame. Machine set-up is easy to perform using that panel. More complex functions required for the test itself can be adjusted using the EndoLab® software programmed under LabView®.

For the safety of the operator, all work required for set-up of the specimens is performed at reduced system pressure as well as at reduced actuator speed. Full system performance is enabled after the machine housing has been closed.



Flexible and Safe Operation

The simulator incorporates four test stations. One of the test stations can be optionally used as a reference station. The test chambers are individually sealed and can be removed from the simulator without opening. Temperature of the test fluid is individually controlled to achieve the tolerances given by ISO 14243-1.

All test stations are equipped with sensors to ensure that the correct temperature and fluid level is maintained. Machine shutdown is automatically performed at user defined limit levels.



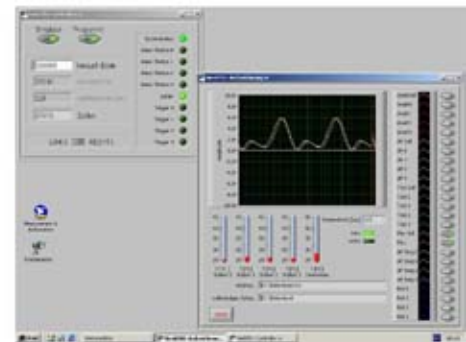
Versatile Hydraulic Controllers

To enable maximum performance of the system, real time communication between the load curve generator and the controllers has been established. This electronic feature gives the user the opportunity to select PID-values at down to 1 ms time steps.

Meets Today Your Demands of Tomorrow

Besides the force and flexion functions given by ISO 14243-1, the ap-translation as well as the rotation of the components can be visualized in real time. All test data is stored to hard disc at user defined intervals. The data can be imported using spread sheet calculation programs (Excel®).

As a matter of course, routine tests according to ISO 14243-1 can be performed. In addition, the simulator type 3/1-03 enables the definition of free implant loading curves. Up to 16 independent blocks can be user defined and stored to the controller using the EndoLab® software. The sequence as well as the duration of the blocks can be defined by the user to enable complex loading of the components.





For further Information
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