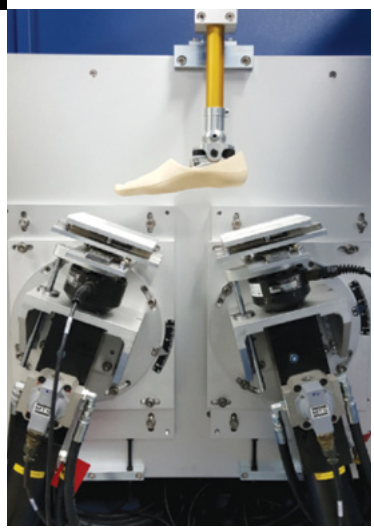
APPLICATION NOTE

Prosthetic Ankle Foot TestStand – Two-Channel



The MTS TestStand approach enables OEMs, suppliers and contract test labs to adapt to evolving component testing requirements with speed, efficiency and confidence.

THE MTS TESTSTAND APPROACH

The MTS TestStand approach is designed to offer the cost advantages of an in-house system, but with faster deployment and less risk. Essentially, it is a collaborative effort between the test lab and MTS to define specific test objectives and then determine how best to achieve them within the available budget and time frame.

TestStand solutions leverage more than five decades of MTS testing expertise, as well as high-quality MTS TestLine™ components. To keep costs in check, MTS works closely with customers to determine which elements of the test system they can machine in-house or manufacture locally, with our guidance.

PROSTHETIC ANKLE FOOT TESTSTAND

This two-channel TestStand is designed to test and validate the static and cyclic strength performance on lower-limb prostheses where, with one exception, compound loadings are produced by the application of a single test force. The compound loads in the test sample relate to the peak values of the components of loading which normally occur at different instants during the stance phase of walking.

Both loads are controlled and measured with MTS Series 661 load cells & LVDTs respectively using FlexTest controller software.

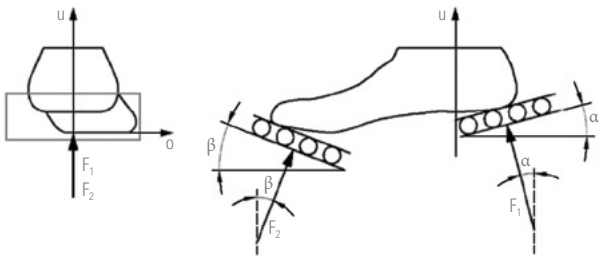
System Content

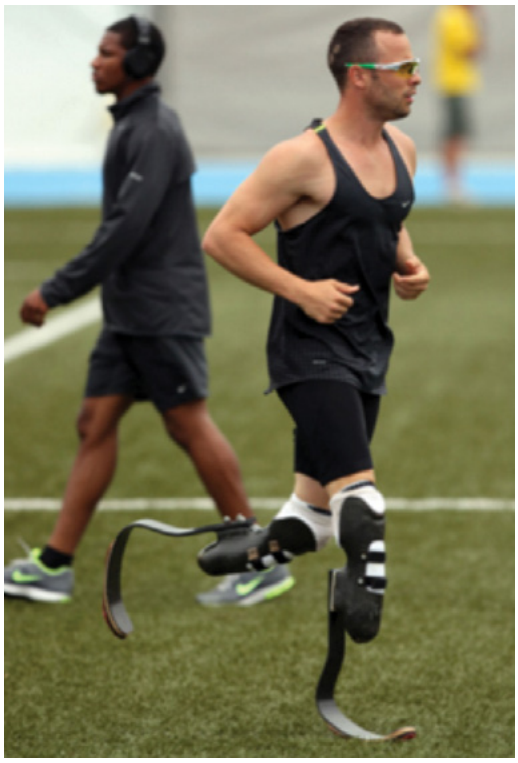
- Two Series 242.01 Actuator Assemblies
- Prosthetic ankle foot mounting fixture
- One FlexTest® 40 Controller: 2 channels, 1 station; with 793.10 MPT, 793.03 Calculation and 793.08 PVP
- One Series 293.11 Hydraulic Service Manifold
- SilentFlo™ 505.11 Hydraulic Power Unit
- Hydraulic hoses
- MTS Installation and Support services

System Performance

- Max. Displacement (Tiptoe): +/- 50 mm
- Max. Displacement (Heels): +/- 50 deg
- Max. Load (Tiptoe) : +/- 5 kN
- Max. Load (Heels) : +/- 5 kN

Heel load input angle (α) is 15 degrees, Tiptoe load input (β) is 20 degrees, and align angle with Tiptoe & Heel (γ) is 8 degrees. All of these angles can be adjustable.





THE TESTS DESCRIBED IN ISO 10328:2005

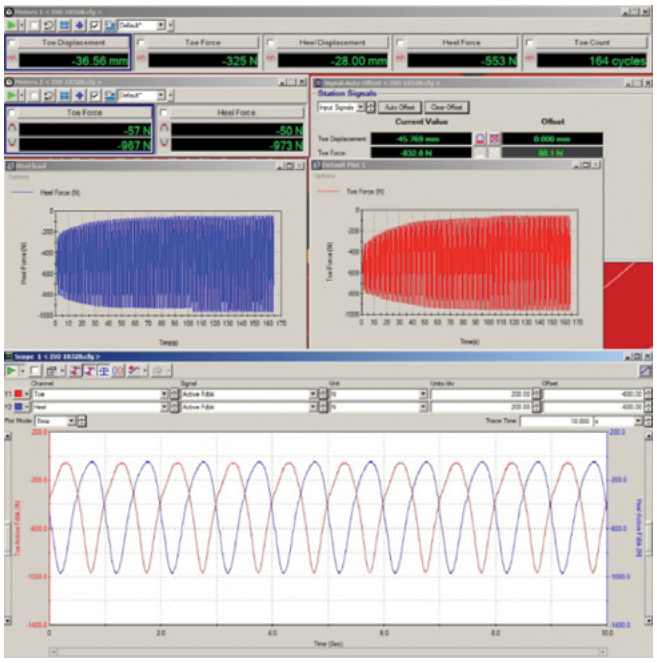
» Principal static and cyclic tests for all components

» Separate static and cyclic tests on ankle-foot devices and foot units for all ankle-foot devices as single components including ankle units or ankle attachments and all foot units as single components

EXPERT SUPPORT, WHEN AND WHERE YOU NEED IT

Test professionals throughout the world rely on MTS' innovative technologies, high-quality test systems and applications expertise to optimize their testing programs. We complement this industry-leading portfolio with an unmatched suite of global service and support, all designed to increase your uptime and reduce your total cost of ownership.

By supporting your test program from facilities planning and system integration through final equipment de-commission, MTS offers a single, reliable resource for helping you optimize your system performance, manage your budget, protect your data integrity and maintain your schedule predictability.



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