Prosthetics Load and Fatigue Testing

Load Cell

Industry: CPG

Summary

Customer Challenge

Prosthetic limbs must be tested for extreme loading that can occur during falls, accidents, and sports movements. Fatigue testing of prosthetic components determines the expected lifespan of the components under normal usage for consumers who need them.

Interface Solution

A static load test apparatus uses SSMF Fatigue Rated S-type Load Cell attached to hydraulic actuators to apply and measure loads. A fatigue testing machine uses SSMF Fatigue Rated S-type Load Cell to apply and measure cyclic loads.

Results

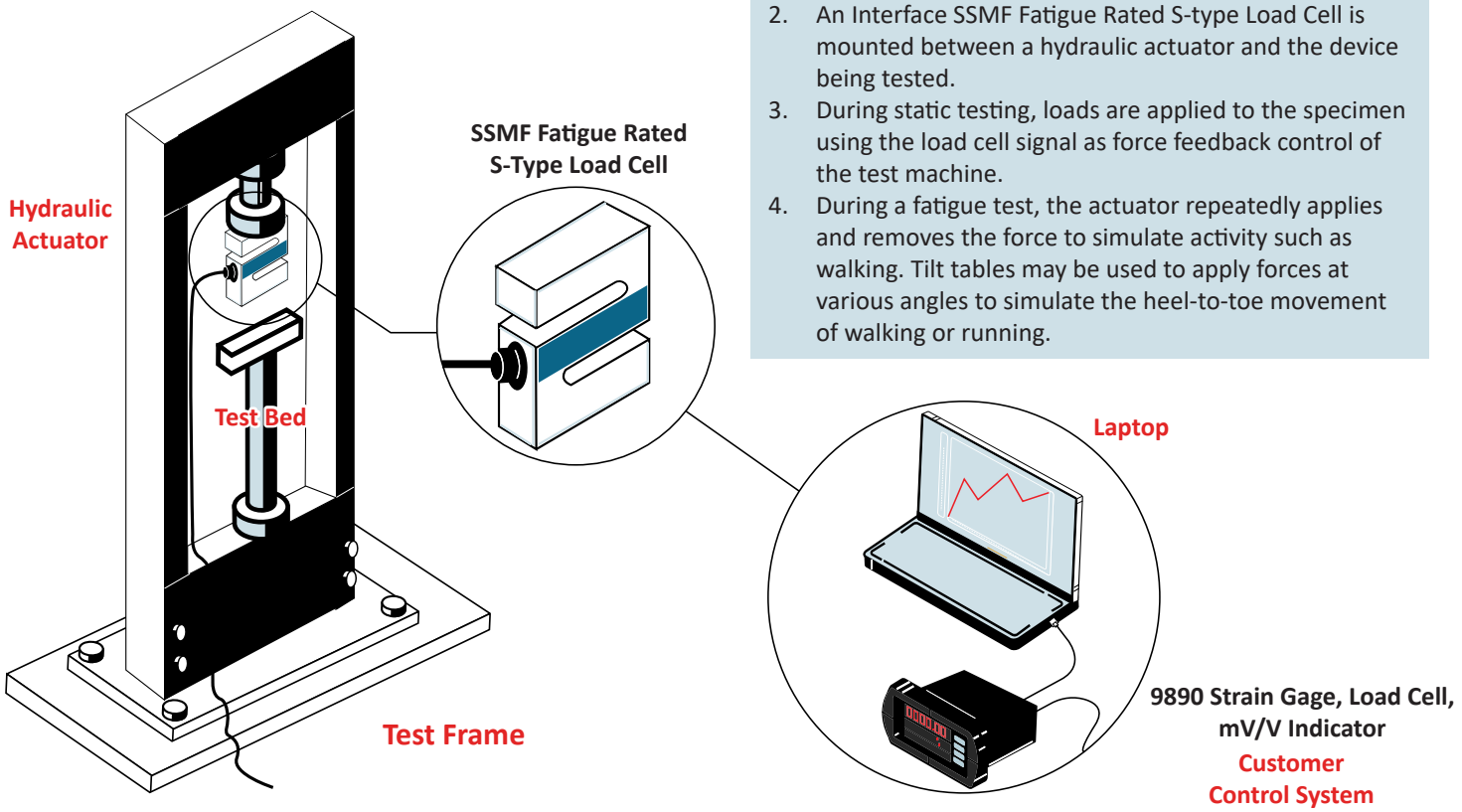
Engineers determine whether prosthetic materials and designs will withstand the rigors of daily use and occasional highload situations.

Materials

- SSMF Fatigue Rated S-type Load Cell
- 9890 Strain Gage, Load CEll, mV/V Indicator with Logging Software and Analog Output

How It Works

1. Various configurations of compression and tension test machines can be used depending on the type of prosthetic device being tested. Often the same machine can be used for static and fatigue testing.
2. An Interface SSMF Fatigue Rated S-type Load Cell is mounted between a hydraulic actuator and the device being tested.
3. During static testing, loads are applied to the specimen using the load cell signal as force feedback control of the test machine.
4. During a fatigue test, the actuator repeatedly applies and removes the force to simulate activity such as walking. Tilt tables may be used to apply forces at various angles to simulate the heel-to-toe movement of walking or running.



interface
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