

Ball and Socket Prosthetic Multi-Axis

Industry: Medical and Healthcare

Summary

Customer Challenge

A medical device manufacturer was developing a new design for an artificial hip joint, and needed to validate load consistency, and the durability of their design.

Interface Solution

A Model 6A40B 6A Series 6-Axis Standard Capacity Load Cell was mounted to the manufacturer's test machine, where loads were applied to simulate actual use. A Model BX8-AS BlueDAQ Series Data Acquisition System was connected to the sensor to collect data.

Results

After analyzing the data the manufacturer was able to improve the durability of their design.

Materials

- 6A Series 6-Axis Standard Capacity Load Cell
- BX8- AS BlueDAQ Series Data Acquisition System with Industrial Enclosure
- Customer PC for data logging and analysis

How It Works

1. A test profile was set and the loads monitored and fed back into the test machine to control the loads.
2. The output of the 6-Axis sensor was connected to the BX8-AS BlueDAQ Series Data Acquisition System with Industrial Enclosure which was connected via USB cable to the PC.
3. BlueDAQ Software in the PC converts raw data signals to actual force and torque values at the ball joint and the analog output for the load axes from the BX8 were connected to the test machine for load control.
4. The customer analyzed the data and made the required design modifications to improve the durability of the artificial hip joint.

