

Ball and Socket Prosthetic Multi-Axis

Industry: Medical and Healthcare

Summary

Customer Need / 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 6-Axis Load Cell was mounted to the manufacturer's test machine, where loads were applied to simulate actual use. A Model BX8 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

- 6A40B 6-Axis Load Cell
- BX8- AS Multi-Channel Bridge Amplifier with BlueDAQ Software
- 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 Model BX8 Data Acquisition Amplifier 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.

