Fitness Equipment and Machines

Load Cell

Industry: CPG

Summary

Customer Challenge

A fitness machine manufacturer wants multiple load measurement systems for their different fitness machines such as the elliptical, leg press, rowing machine, and the cable machine. They want to ensure the machines malfunction properly to prevent injuries for consumers using the machines at home or at their local gyms.

Interface Solution

A combination of products such as the WMCFP Overload Protected Sealed Stainless Steel Miniature Load Cell, SSB Sealed Beam Load Cells, and AT103 Axial Torsion Force and Torque Transducers. Paired with Interface's proper instrumentation, the forces can be measured, graphed, and displayed during the testing stage.

Results

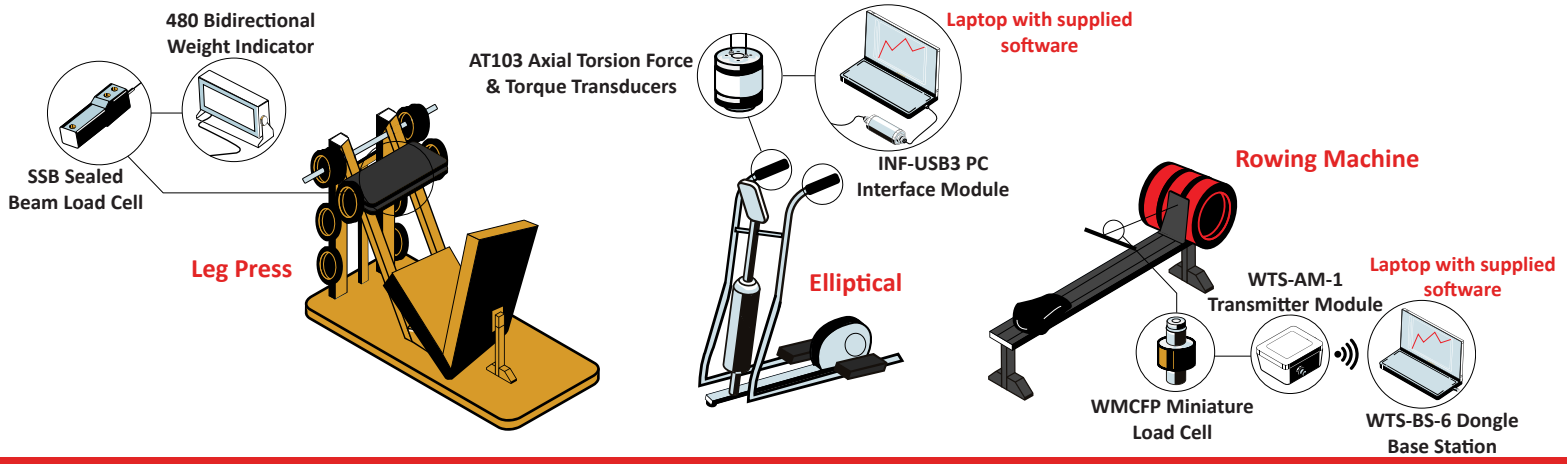
Interface's products all effectively measured forces needed for those working out or undergoing athletic training. Not only did it ensure the machines were working properly, but it also helped those using them to track their endurance performance.

Materials

- Two AT103 Axial Torsion Force & Torque Transducers
- WMCFP Overload Protected Sealed Stainless Steel Miniature Load Cell
- SSB Sealed Beam Load Cell
- INF-USB3 Universal Serial Bus Single Channel PC Interface Module
- 480 Bidirectional Weight Indicator
- WTS-AM-1 Wireless Strain Bridge Transmitter Module
- WTS-BS-6 Wireless Telemetry Dongle Base Station
- Customer PC or Laptop

How It Works

1. **Elliptical**-Two AT103 Axial Torsion Force & Torque Transducers can be installed inside of the handles of the elliptical. This will measure the athlete's push and pull forces when in use. Data can be measured when paired with the INF-USB3 Universal Serial Bus Single Channel PC Interface Module, and displayed with the customer's laptop.
2. **Leg Press**- An SSB Sealed Beam Load Cell can be installed under the plate of the leg press. Forces from when someone pushes up on the leg press will be measured using the 480 Bidirectional Weight Indicator.
3. **Rowing Machine**- The WMCFP Overload Protected Sealed Stainless Steel Miniature Load Cell is installed in line of the rowing cable, with rod end bearings. When pulled, forces are recorded using the WTS-AM-1 Wireless Strain Bridge Transmitter Module, and transmitted to a PC or laptop through the WTS-BS-6 Wireless Telemetry Dongle Base Station.



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