

# Inflatable Space Habitat Load Cell

Industry: Aerospace

## Summary

### Customer Challenge

Inflatable space habitats are the newest innovation in the space industry, creating a new space for humans to live and work past the Earth's atmosphere. A space company wants to test the overall design and material of the inflatable habitat by conducting a burst test.

### Interface Solution

Multiple clevises and LP Stainless Steel Load Pins are attached to the in the webbing material that create the inflatable habitat. When pressure is increased within the inflatable habitat, the load pins will capture how much force the heavy duty material will hold at specific pressures until it explodes.

### Results

Interface's LP Stainless Steel Load Pins successfully measured the amount of force the inflatable habitat could withstand during the burst test.

## Materials

- LP Stainless Steel Load Pins
- Clevises
- BX6-BT Portable 6-Channel High Speed Bluetooth Data Logger with supplied Log100 Software
- Inflatable Structure
- Customer PC

## How It Works

1. Clevises and LP Stainless Steel Load Pins are embedded in the base of the inflatable habitat, where straps of hard duty material are woven together, creating the habitats structure. The LP's are connected to the BX6-BT Portable 6-Channel High Speed Bluetooth Data Logger.
2. The habitat is inflated, and PSI is increased slowly until the habitat bursts.
3. The LP's measure the amount of force the woven heavy duty fabric could handle until it bursts.
4. Data is wirelessly transmitted from the BX6-BT Portable 6-Channel High Speed Bluetooth Data Logger to the customer's PC via Bluetooth. The data can be displayed, recorded, and graphed using supplied Log100 software. The customer also has the option to log data onto an SD Card and upload the data to the PC through the SD Card.

