

Success Story

Monitoring Temperature and Pressure for the Stunt Industry

The Problem

An amusement park was looking for a solution for an aquatic stunt show that allowed maintenance technicians to monitor pressure and temperature levels of an accumulator device used in the show. The high-velocity application is designed with a pressure vessel powered by a bladder that's charged with hydraulic oil. When released, the energy goes from the accumulator into a hydraulic cylinder, which launches a jet skier and a tethered water skier into the air – approximately 20 feet off the ground – and into the water.

The bladder has a tendency to blow or leak, which can create a dangerous situation for the stunt people. Any loss of nitrogen in the system reduces the velocity of the launch. Hydraulic oil temperature is also a concern as local temperatures can reach 115°F, and the stunt show runs every 25 minutes from 8 a.m. until sunset. Oil temperatures higher than 120°F can create mechanical problems.

SensoNODE™ Blue is Parker's series of Bluetooth-powered sensors. Compact, energy-efficient, and wireless, they are designed to provide simple and useful solutions for diagnostic and condition monitoring applications. SensoNODE monitors assets to help predict problems and prevent downtime, and delivers the information to your mobile device.

SCOUT™ Mobile software gives access to machine and process measurements right on your mobile device. The user-friendly interface makes connecting to sensors uncomplicated and measurements easy-to-read. With customizable dashboards and alarms, you can focus on the data that's most important to you and be alerted when your measurement thresholds are exceeded. Exporting of data is done with a click of one button, which sends a .csv file right to your email.

The Solution

Installing two SensoNODE™ Blue pressure sensors at critical points allowed maintenance technicians to monitor the accumulator's hydraulic pressure and temperature levels. Using SCOUT™ Mobile software on their mobile phones helps technicians track those levels and warns technicians when they are too high or too low, allowing them to address issues to help keep the performers safe.



Success Factors

Wireless sensors made diagnostics easier to perform, allowing for increased frequency and quicker identification of issues.

Small sensors with flexible antennae allow technicians to fit them in hard-to-reach areas of the hydraulic equipment.

Can track analytics on the accumulator, improving preventive maintenance.

SCOUT Mobile alarms warn of dramatic pressure or temperature drops or spikes with alerts appearing on a user's mobile device.

Customer Value

The performance uses radio frequencies to operate the stunts, including pyrotechnics and explosions. Having a wireless monitoring device was initially a concern, but because SensoNODE Blue uses Bluetooth® wireless technology, it did not cause interference with the stunt controls.



Parker Hannifin Corporation | **Quick Coupling Division**
8145 Lewis Road, Minneapolis, MN 55427

parker.com/conditionmonitoring