

# Hydraulic Pressure Switch Test Stand

## Challenge

John Henry Foster Company was asked to provide a fully functional, turn-key fixture for cycle & burst testing of Pressure Switches. The system would cycle test switches up to 5000 PSI with programmable time delays and pressure spikes. A burst test to 10,000 PSI was also required. Further needs include; system to be contained within a minimal footprint, provide accurate and reliable results, be safe and easy to operate, and run on power available in India.

## Goals

- Turn-Key Machine
- Safe Operation
- +/- 10 PSI Accuracy on tests < 1000 PSI
- +/- 50 PSI Accuracy on tests > 1000 PSI
- Simultaneous Testing of up to 18 Pressure Switches
- Definable Testing Sequence
  - Operating Pressure, Time Delays, Cycle Profile, and Pressure Spike

## System Features

- Turn-Key machine assembled, tested, and shipped from JHF
- Allen Bradley PLC, Delta Motion Controller
- Bosch-Rexroth and Sun Hydraulic Proportional Valves
- JHF Custom Software on Windows® based PC for Machine Operation, Graphical Representations, and Data Collection
- Microsoft Database for Sequence and Test Result Storage
- On-Demand data export
- 4 ft X 3 ft footprint
- Enclosed Testing Area with Safety Interlocks
- Dual Bosch Rexroth Hydraulic Power Units
- 415 VAC Components

## Project Success

- +/- 10 PSI Accuracy to 5000 PSI
- Definable Burst and Cycle Tests
- Shipment to India within Time and Budget Constraints

