

Examples of Industries Served

- Centrifuge Manufacturers
- Pellet Mill Manufacturers
- Heavy Machine Manufacturers
- Irrigation Equipment Manufacturers
- Tool and Die Manufacturers
- Food Service Companies
- Medical Equipment Manufacturers
- Medical Researchers



Case Study

Opportunity:

A heavy equipment manufacturer needed to test their hydraulic parking brakes. This would allow them to find and correct faulty brakes before being installed on a machine. They needed to pressurize the brake to 250psi and hold this pressure for at least ten minutes. They wanted a pressure reading at the beginning of the test, and at the end of the test a reading of pressure loss during the test, test time elapsed and a pass/fail indicator. They also wanted the operator to be able to select an acceptable pressure loss from the operator interface.

Solution:

CMDI designed and built a small power unit and control system to accomplish the above tasks. The control system used an Allen Bradley Micrologix PLC and Panel View operator interface mounted in a Hoffman slope top enclosure. The hydraulic power unit used a Baldor motor, a Vickers gear pump and valves, Act level switches and a Deltrol check valve. Since a small amount of oil stayed with each unit tested, and the customer only wanted to fill the unit once a week, a five gallon reservoir was used. A low level alarm was programmed to warn the operator when

the tank level was low, and an emergency low-level shutdown was programmed to prevent damage to the pump. The entire unit was mounted on a 80/20 framework. The unit was fully assembled and tested at CMDI's facility before shipping to the customer.

Sequence of events:

The operator attaches the unit to be tested and presses the start button. The unit pressurizes to 250psi and begins the test. Readout of the starting pressure is displayed on the operator interface and the time of test starts to count-up. The test continues until the operator presses the test





stop button (the operator cannot stop the test until at least ten minutes have passed). When the operator stops the test, the pressure reading at the end of test, the time of test, and pressure loss during the test are displayed on the operator interface. A red (fail) or a green (pass) indicator will also light and the unit being tested will depressurize. The operator can then either repair the unit or send it to be installed on the machine.