Emerging Technologies

AUTOMATED COMPRESSOR TEST SYSTEM

Brief Description:

Emerging Technologies, LLC. was called upon to develop a custom Compressor Test System for functional test of a small battery operated compressor unit. The existing prototype DUT fixture design was to be incorporated with the new system.
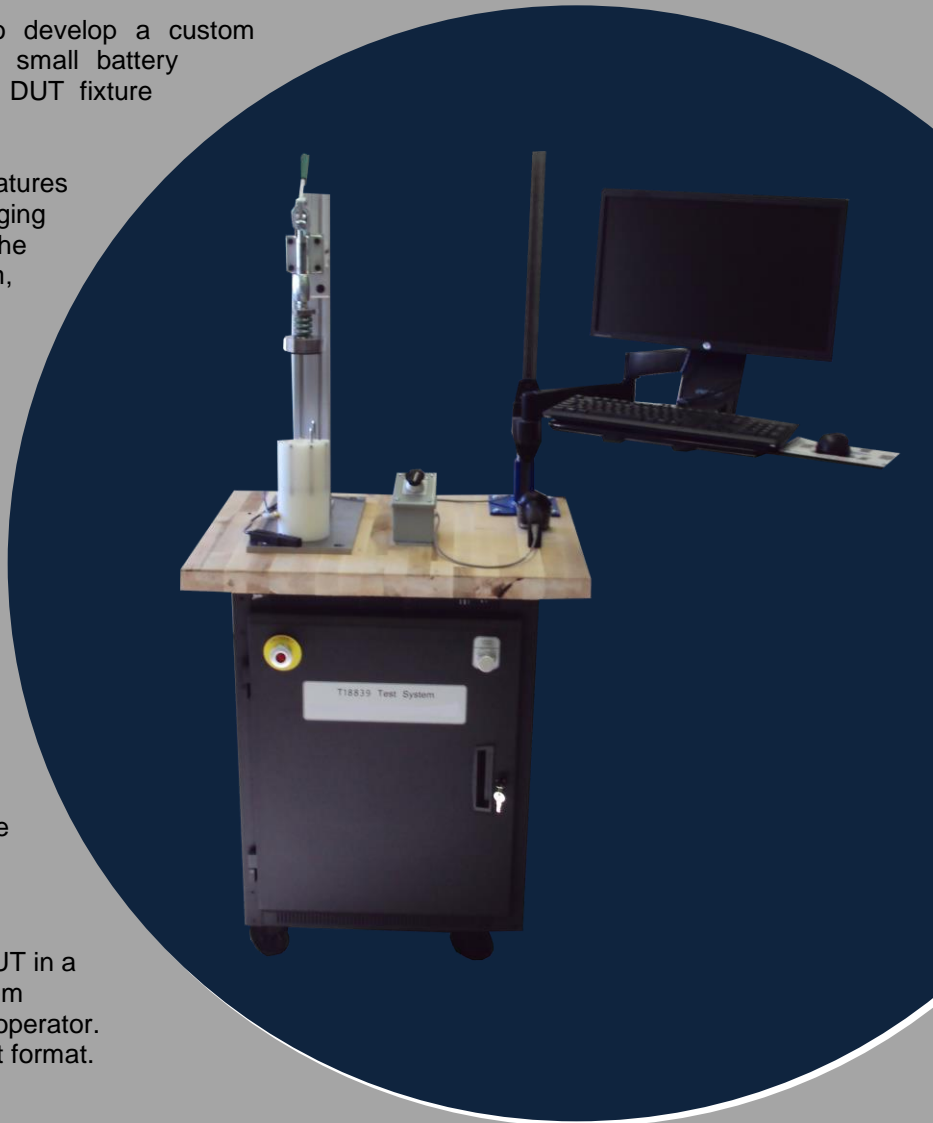
The new system incorporated many of the base features employed on systems previously provided by Emerging Technologies for systems used elsewhere within the client's manufacturing operations. Pressure, vacuum, voltage, current, time, and temperature are automatically tested against the configurable test specifications. Test results are stored locally and optionally to a remote server. A test report is generated at completion of the test. Additionally, the user has the ability to manually set backpressure and pressure bleed rates via internal panel mounted controls. Configuration is read at application startup and results are stored in a delimited text file for later review.

The design included the development of a complete documentation package, customer written LabVIEW test application, and joint customer validation period.

The final system was placed in an easy to maneuver enclosure with a butcher block top allowing ample space for the DUT fixture.

Customer Benefit:

The customer is able to confirm performance of the DUT in a state of near completion. The majority of the test system functions are automated requiring little effort from the operator. Results are stored automatically in an easy to interpret format.

ET Responsibilities:
- Functional Specification Generation
- ✓ Design / Engineering
- ✓ Fabrication
- ✓ Programming – Software
- Programming – Firmware
- Circuit & PCB Design
- On-Site Commissioning
- ✓ Post Commissioning Support
- Other

Technologies:
- Embedded Computers
- Microcontrollers
- ✓ Visual Software
- ✓ Control Software
- ✓ Data Acquisition
- ✓ Computer Based Control
- ✓ Communications
- ✓ System Integration
- ✓ Other – Backpressure Control

Special Features:
- ✓ Configurable System Hardware & Configuration Files.
- ✓ Test Results Remote Server Storage Option.
- ✓ Automated Configurable Test Sequences.
- ✓ DUT Specific Custom Interface Fixture.
- ✓ Operator Friendly Design.

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