

## Automated Actuator / Pressure Test System



### THE CHALLENGE

APPLICATION: PRESSURE AND LEAK TESTING OF VALVE ACTUATORS

#### The Application:

The purpose of this system is to test the performance of new or serviced actuators or systems and effects of pressure decay over a fixed period of time in order to ensure quality of completed instruments.

### THE SOLUTION

EVOLUTION MEASUREMENT AUTOMATED ACTUATOR TEST SYSTEM

Systems are housed in a self-contained test housing for the purpose of leak-testing valve actuators. The nature of the test is a pressure-decay over a fixed time period.

The actuator to be tested is connected to the test enclosure via quick disconnect fittings and a pre-defined pressure (up to a maximum of 10bar) applied to both sides of the UUT. The pressure feeds are then isolated and the pressure drop measured by means of a sensor connected to each port. The system then calculates the pressure drop in the required units, compares against pre-set limits and generates a pass/fail indication to the operator.



## Automated Actuator / Pressure Test System

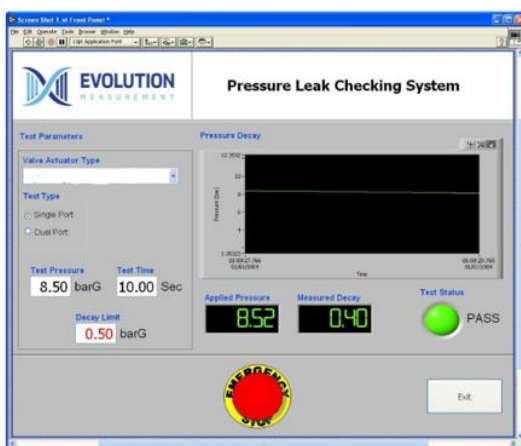
The system incorporates a Rotary Encoder for real-time monitoring of the actuator's position and this information is recorded as part of each test. The encoder is mounted to a fixture that quickly slots directly into the top of the actuator with no special tooling. The operator simply engages the encoder in the actuator – a special adapter is provided fitted to the encoder. Resolution of the encoder is better than 1 degree and results are collected and stored with pressure information. An indicator is provided on the screen and an 'auto-detect' displays the sense of actuator under test.



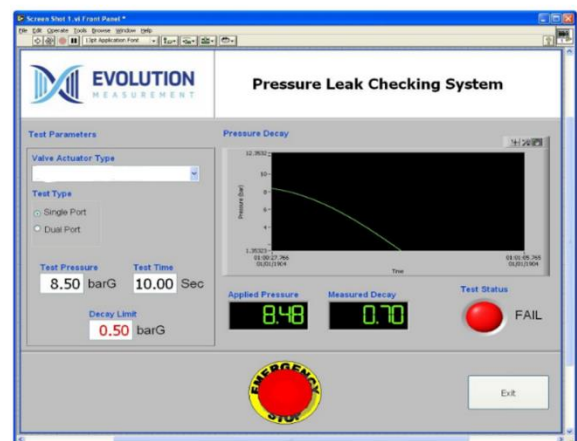
The test enclosure contains all the equipment necessary to perform its function, the test port is in the form of a quick-release connector (such as Swagelok or Hansen), a supply of clean air and mains 240v is required for the enclosure.

The test enclosure is constructed incorporating a panel PC along with a touch-screen for the operator. A VESA mount is provided on the rear of the screen to enable fixing to wall or arm.

Bespoke software is written in LabVIEW and supplied in the form of an executable programme.



Pass



Fail

## Automated Actuator Test System

### Specifications:

Maximum fill rate:	750lpm
Pressure Measurement Accuracy:	1%
Pressure Setting Accuracy:	1%
Pressure Range:	0 – 10 Bar
Pressure Supply:	11 Bar

Control valve life >30 million 100% steps

Valve life 200 million cycles

### Software Development

Covers the development of the software to customer specification. To be developed in conjunction with the customer and this will be available as an executable programme to work with all types of handle valve actuator.

Future modifications or upgrades may require additional charges, but this initially includes all development of the system described.

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