



FORWARD TECHNOLOGY

a Crest Group Company



(shown with optional features)

Leak Tester

Forward Technology has been integrating leak testing operations into production lines for over 40 years. Testing parts for leakage has become crucial in a number of industries due to safety requirements, quality control issues, and time-saving demands. We know how plastic parts react to leak test operations and our systems combine operator friendliness with detailed process information collection.

Our PLC based leak testing systems employ a non-destructive test to ensure the integrity of the part. Air testing detects small leaks and eliminates the need for part drying. We offer several air testing methods: pressure decay, vacuum decay, chamber decay, and occlusion testing. Our engineers can assist in analyzing your particular leak testing application.

Standard Features

- **Allen Bradley CompactLogix Controller Analyzer** with custom programming complete with precision test logic and calibration capability. Completely expandable design allows simple upgrades of capabilities as the users needs change. Electronic control and precise repeatability provide quantifiable test results and eliminates operator decision making as seen with other test techniques such as immersion (dunk), soap solution, and visual gauge based testing.
- **16-Bit Analog to Digital Resolution** offers ultra-fine resolution to detect even miniscule leakage quickly and with superb repeatability.
- **32+ Available Inputs/Outputs** allow optimal flexibility in mating of the test analyzer to fixturing. Eliminates the costly requirement of adding an additional PLC to an Analyzer-Only when using multiple motion fixturing. System remains upgradeable for almost limitless control and testing possibilities.
- **Built-In Multi-Channel Transducer Capacity** as each test system is constructed with the capability to optionally upgrade to 4 or more independently controlled testing channels with minimal increase in investment.
- **Allen Bradley PanelView Plus 7 - 700 Color 6.5" Touch-Screen Graphical Display** simplifies parameter input and allows the following to be displayed:
 - Fill / Stabilize / Test / Exhaust Timers
 - Current PSI
 - Measured Pressure Change (Δ -P) OR Measured Leak Rate (SCCM)
 - Part Counters
 - Ethernet Connectivity
- **User Programmable Windows for Test Pressure and Leakage Limits** allow user to enter min/max values for critical parameters used to determine whether part has failed or passed.
- **Leakage Measurement in Standard Cubic Centimeters/Minute (SCCM) or Pressure Change (Δ -P)** enables user to display leakage in the format they prefer. SCCM is commonly used in automotive market segments. Appliance, medical, and electronic markets commonly use Δ -P.
- **Compensation & Calibration Menus** allow user to "teach" the tester what a known passed part will look like as well as how that part will look with a known (certified) leak rate orifice installed. Used most often when displaying leak rate in SCCM.
- **Multi-Level Passcode Protection** limits parameter adjustment to qualified personnel only.
- **25 Test Program/Setup Memory** allows storage for instant recall, minimizing tool change time.
- **Certified Leak Test Orifice** allows user to perform both periodic calibration and verification that tester is programmed properly to detect target leakage. (Orifice provided with tooling order and sized for specific application).
- **Precision Sealed Industrial Electronic Pressure Transducer** allows ultra-precise measurement of pressure changes typically to the nearest 0.0001 PSI. Sealed construction prevents damage to transducer even when liquid is present in test air lines.
- **Manual Precision Test Pressure Regulator** allows user to manually adjust pressure settings with fine-tuning control.
- **Zero-Leakage Fill Valve(s) with Fail-Safe Supply Ventilation** used at each discreet test channel. Unlike standard industrial valves, these precision valves are designed to prevent even miniscule leakage through the seals. Fail-Safe ventilation protects each test cycle against a false "PASS" resulting from leakage through the fill valve due to gradual seal wear or contaminant in the valve. During the Stabilize and Test steps (when the fill valve traps test pressure within the part), a secondary ventilation valve releases pressure from the supply side of the precision fill valve. By releasing this pressure, any possible leakage through the fill valve will result in test pressure being vented backward through the fill valve to atmosphere, causing a pressure drop during these steps which causes the test to fail (instead of re-supplying the test part with pressure were the supply side not to be vented to atmosphere).
- **NEMA 12 Enclosure** offers complete protection of critical electronic and pneumatic system components in even the worst industrial environments.
- **Standard "Off-the-Shelf" Hardware** minimizes downtime delays and expense as common Allen Bradley hardware and standard pneumatic components are the foundation for the system and are carried by most local distributors.
- **Zero Force Cycle Activation Switches** reduce operator fatigue.
- **Large Multi-Colored Indicator Light** that illuminates red, green, or yellow to indicate test status.



MECHANICAL SPECIFICATIONS:

Weight: Varies depending upon application
Dimensions: Varies depending upon application
Color: Forward Technology Two-Tone Grey

ELECTRICAL & PNEUMATIC SPECIFICATIONS:

Power Requirements: 120VAC, 1 PH, 50-60 Hz
Pneumatic Requirements: 80 PSI (5.62 kg/sq cm)
1/2" Supply Line

WARRANTY INFORMATION:

Forward Technology leak testing systems are warranted to be free from defects in material & workmanship for one year from delivery.

Optional Features

- **CONTROLS:** Expandable to accommodate up to 8 test cavities simultaneously.
- **OPERATOR INTERFACE:** AB PanelView Plus 7 - 1000 upgrade offers a larger 10.4" color display.
- **PNEUMATIC POWERED SAFETY DOOR:** Recommended for leak testing parts at high pressures.
- **PART DROP CHUTES:** Parts can be automatically sorted into good and bad part bins.
- **DUAL PRESSURE/FAST FILL:** For use with larger parts or proof testing. Allows for faster cycle times.
- **ELECTRONIC REGULATORS:** Allows pressures to be programmed via the passcode-protected PLC memory. Can be programmed to establish multiple test pressures, often eliminating the need for dual or more pressure regulators.
- **VENTURI VACUUM GENERATOR:** Allows testing of components where negative test pressure is required. This system converts positive compressed air pressure to negative pressure/vacuum.
- **TOOLING:** Tooling fixtures are not included as part of the base machine price and must be purchased separately.
- **PART MARKING:** Ink stamp, hot die stamp, mechanical engraving, and impact marking are just a few of the technologies available to identify successful leak tested parts.
- **ELECTRICAL FUNCTIONAL TESTING:** Used for verifying operation, function, or continuity of floats, motors, and other electromechanical devices.



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