

[www.intertechdevelopment.com](http://www.intertechdevelopment.com)

Instrumentation  
Air Test Systems  
Helium Test Systems  
Hydraulic Test Systems  
Functional Test Systems  
Integrated Assembly & Test

**ISO 9001 Registered**  
**ISO 17025 Accredited**

**Worldwide Support:**

**InterTech Development Company**  
**Headquarter**

7401 N. Linder Avenue, Skokie, IL 60077, USA  
T: 1.847.679.3377

W: [intertechdevelopment.com](http://intertechdevelopment.com)  
E-mail: [sales@intertechdevelopment.com](mailto:sales@intertechdevelopment.com)

**InterTech Europe**  
Villeurbanne, France

**InterTech Shanghai Technical Center**  
Shanghai, China

**InterTech Korea**  
Gyeonggi-Do, Korea

**InterTech Southeast Asia**  
Singapore

**InterTech India**  
Chennai, India

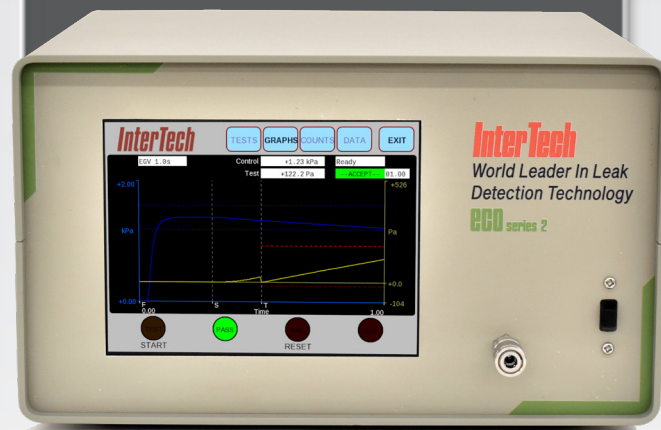
**InterTech Mexico**  
Saltillo, Mexico

**InterTech Canada**  
Toronto, Canada

Specifications subject to change without notice

**ECO SERIES 2**  
**REVISION 7**

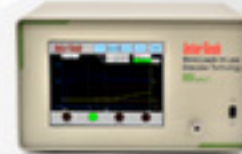
The InterTech eco series 2 leak detector is a low cost, **ultra-high resolution, pressure change instrument.**



**Pressure change leak testing using advanced 32-bit system processing proprietary algorithms utilizing 28-bit A/D conversion.**

## Test Technology and Operation

The pressure transducer is connected to the test part. When this circuit is filled with air and isolated from the supply, any leak results in a pressure change. The transducer output provides a measurement of the pressure change proportional to the leak rate.



## ECO SERIES 2

### Pressure Decay Leak Detector

- Absolute pressure transducer used to eliminate barometric pressure fluctuations.
- Pressure Ranges:
  - 2 kPa – 35 kPa (0.0006 Pa resolution)
  - 10 kPa – 200 kPa (0.0010 Pa resolution)
  - 20 kPa – 800 kPa (0.0040 Pa resolution)
  - (Optional) High pressure construction: 40 kPa – 1380 kPa (0.0080 Pa resolution)
  - (Optional) Programmable pressure regulator
  - Vacuum: -100 kPa to -2 kPa (0.0006 Pa resolution)
- A/D Conversion: 28-bit, up to 1200 conversions/second for fast testing.
- Timer increments: 0.01 sec.

## Calibration

**Calibration** is NIST traceable using a transfer standard such as the CalMaster CM-15 which can be connected to the panel mounted calibration port. This allows the instrument to provide a reading in flow units (sccm typical). A menu driven sequence results in the independent calibration of instrument zero and span.

## Operator Displays and Keypad

6.5 in (640 x 480) color monitor with touch-screen provides a user friendly and flexible operator interface.

- 32-bit processor with ultra-high resolution 28-bit A/D converter.
- Password protection is a standard feature.
- Amber, green, red displays indicate test-in-progress, accept, reject, and trouble status.
- User selectable language: English, German, French, Spanish, Korean, and Chinese.

Fail-Safe Operation

Test pressure and flow transducer status are monitored during each test cycle to ensure correct operation of all components of the test circuit. Fault conditions are signaled by a red light, error message, and test record entry. The trouble contact output can be programmed to energize after a user selectable consecutive number of rejects.

User Connections and Controls

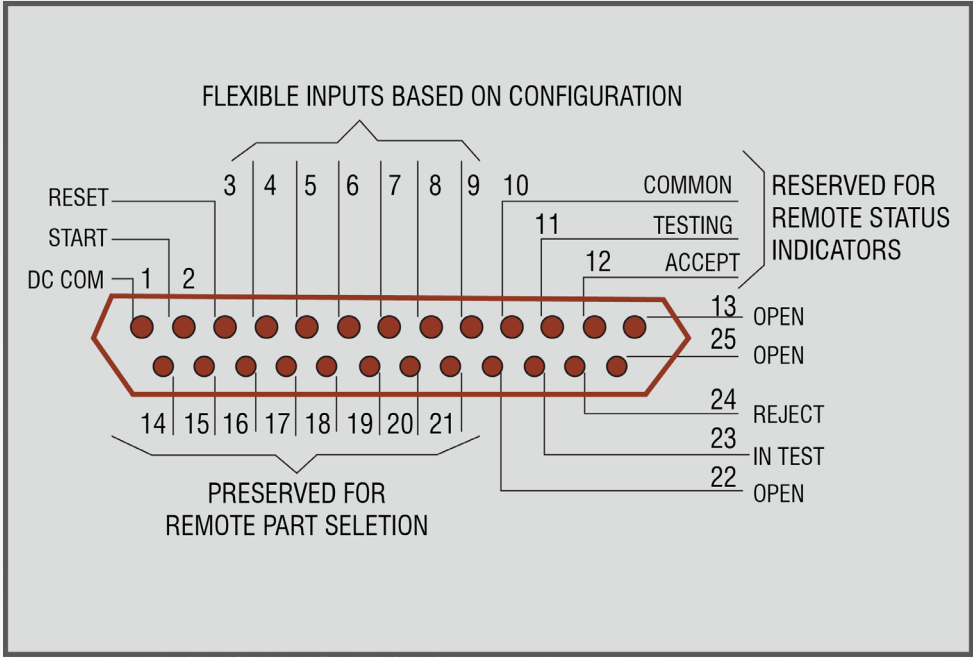
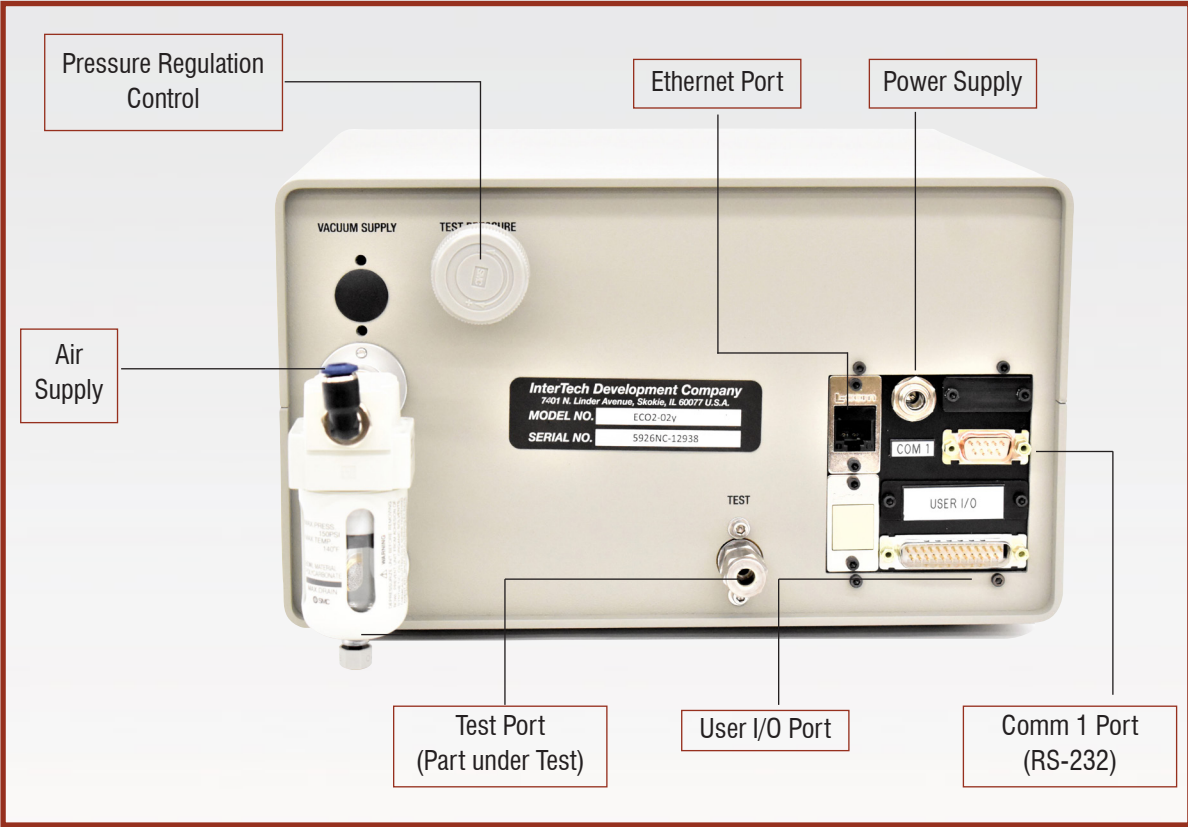
- Power Connection**  
24 vdc universal power adapter.
- Pneumatic Connection**  
Air Supply Port – 6 mm push-on type.  
Test Port – 6 mm compression type.  
Calibration Port (front side).

- Communication Connection**  
1 USB Port to upload/download data files & program restore/n restore/ backup.  
Ethernet Port to connect with factory/ host network (TCP/IP).
- User I/O Connection**  
25-Pin male user I/O Port.  
Inputs: Start, Reset, Part Select.  
Outputs: In Test, Reject.

Test Displays and Menus

All functions are Menu driven with touch-screen prompts for ease of use.

- The normal test mode display includes:
- Test state: Ready, Fill, Stabilize, and Test.
  - Test status: Accept, Cause of Reject.
  - Display of pressure in kPa (or other engineering units), or can be calibrated to sccm



- Real-time display of pressure, pressure change, and time remaining.
- Gauge R&R screen display of test records, automatically calculates R%R percentages based on the number of trials.

Seal check facilitates troubleshooting (continuous test state display, indicating time elapsed). Counts display shows total accepts, rejects, and related statistics. Test program Edit Menu allows the on-site entry of new test programs and changes to existing programs without the need for a remote terminal. Additional menus prompt the user through calibration, print, and diagnostic functions.

### Test Programs

Up to 99 different test programs may be selected.

**Test Parameters include:**

- Fill/stabilize/test times.
- Minimum and maximum pressure limits.
- Upper and lower accept limits.
- Calibration factors.

**User Selectable Features include:**

- Hold pressure on reject.

### Set-up

The leak detector may operate as a stand alone instrument, or can easily be interfaced with a PLC or PC.

**The test cycle can be started and reset:**

- Manually by depressing the front panel controls.
- By the PLC using digital start and reset inputs.
- By using the Ethernet control (TCP/IP, EthernetIP).

**In addition:**

The test program can be externally selected using digital I/O's or Ethernet (TCP/IP, EthernetIP).

### Data Storage, Statistics & Communications

One USB Port is included for storing test records to the USB drive.

**Up to 40,000,000 test records may be stored onboard and include:**

- Part number, part name, date, time, test value, pass/fail status.

**Statistics calculated on the buffer records include:**

- Mean standard deviation.
- Mean +/- 3 standard deviation

**Counts, accumulated since last CLEAR command include:**

- Total – pass – fail.

**Buffer records, counts, and statistics:**

- Can be recorded on demand.
- Cleared on demand, or automatically, on part changeover.
- Viewed on the counts display.

- Individual test records are automatically transferred to the Ethernet port at the end of each test and can also be printed (user selectable) at that time.
- Past records viewable on demand.
- Copy part parameters (pdf) to the USB-drive.
- USB backup/restore system & configuration file to the USB-drive.
- Download test records to the USB-drive.
- Save R&R study (.pdf) to the USB-drive.

SPECIFICATIONS			
Dimensions	273mm(D) x 277mm(W) x 166mm(H)	Inlet Filter	5 micron particulate filter
Touch-Screen Display	6.5 in color monitor, 640x480 resolution	Pneumatic connections	(1) test port, (1) air supply, (1) calibration port
Weight	2.7 kg.	Test outputs(4)	5-30VDC, 0.3 Amp contact closures (accept - reject - trouble - testing)
Power Supply	Universal input external wall mount AC adapter (included) rated 1.5 Amps at 24 vdc	Test inputs(2)	24VDC digital (cycle start & cycle reset)
Air Supply	Clean, dry, and minimum 70 kPa higher than test pressure		

### Options

- **High pressure construction: 40 kPa – 1380 kPa (0.0080 Pa resolution).**
- **Programmable pressure regulator** (2 kPa – 35 kPa,10 kPa – 200 kPa, 20 kPa – 800 kPa, or 40 kPa – 1380 kPa)