SENTINEL C20
Leak Test Instrument

HIGHLIGHTS

- ✓ High resolution pressure decay and leak testing
- ✓ -14.7 to 100 psig pressure ranges
- ✓ Program calibration with Cal Ratio Feedback
- ✓ Test Pressure Compensation
- ✓ Environmental Drift Correction
- ✓ Quik Test
- ✓ RS232 communication
- ✓ Global friendly control interface
- ✓ Self-Test diagnostic verification

DESCRIPTION

The compact wall mount Sentinel C20 World Edition instrument is the industry's most cost effective pressure decay leak test instrument. Designed with the same 32 bit processor and 24 bit A/D technology as all Sentinel instruments, the C20 is known for its accuracy, speed, and repeatability.

Pressure Decay Test Types

- Pressure/Vacuum decay - leak standard
- Pressure/Vacuum decay - ΔP
- Pressure/Vacuum decay - ΔP/ΔT

C20 SPECIFICATIONS

Instrument Housing	C20 Wall mount configuration 9" w x 6.5" h x 7.25" d (229 x 165 x 184 mm)
Electrical	100-240 VAC, 50/60 Hz supply power 3 amps, max.
Air Quality	ISO 8573-1:2010 [2:2:2] Compressed air or nitrogen only
Pilot	60 psig (4.1 bar) minimum
Operating Temperature	41-104° F (5-40° C)
Operating Humidity	90% non-condensing
Digital I/O	6 inputs and 3 outputs, 24 V - 1 A max.
Instrument Weight	~12.5 lbs (5.7 kg)

C20 Pressure Decay Feature

Pressure decay leak testing is the measurement of pressure loss over time. The use of absolute pressure transducers increases the accuracy of the test by measuring the pressure relative to a sealed vacuum reference, eliminating barometric pressure change issues.

Measurement Resolution

- **Test Pressure / Pressure Loss**
  Displayed Resolution:
      Range is selectable X - X.XXXXX displayed units during pre-fill, fill, stabilize, test, and exhaust

  Transducer Options:

Range	Measurement	Resolution
0-20 psia	-14.7 to 5 psig	0.00001 psig
0-45 psia	-14.7 to 30 psig	0.00001 psig
0-115 psia	-14.7 to 100 psig	0.00002 psig

- **Leak Rate**
  Displayed Resolution:
      Range is selectable X - X.XXXXX displayed
  Instrument Resolution: 0.0005 scc/min

Leak Standard

- Internal Leak Standard located on the valve manifold

Pressure Regulators

- Instrument maximum   1
- Manual regulator options
  0 to 30 psig
  0 to 100 psig
  Vacuum

Quik Test Function

- Monitors the instantaneous in-test results and ends the testing process early when it is obvious that a reject or accept result is imminent
- Reduces test time
- Analyzes test results in real time

Pressure Decay Test Circuit
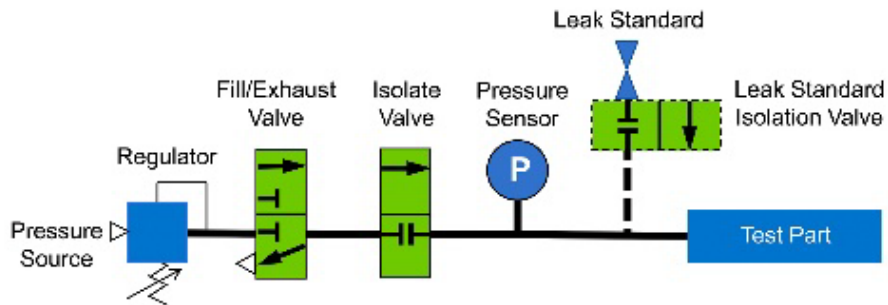
4 Test Programs

- Program selection and flexibility
- Pressure and vacuum test types
- Timers
- Pressure limits
- Reject limits
- Calibration parameters
- Units of measurement
- Digital I/O
- Seal control

Data Management & Storage:

- 5,000 tests stored in on-board memory
- Statistic data tracking for static trending capability
    - History length
    - Accept %
    - Reject %
    - Accept Average
    - Reject Average
    - Accept Std Deviation
    - Sample Size (since last reset)
- Resettable production counters:
    - Accept
    - Reject
    - Malfunction
- Test result log viewable on display
- USB for system backup, updates, and restore

Environmental Drift Correction

- Maintains calibration accuracy by monitoring and automatically making continuous small adjustments for changes in temperature and environmental conditions

Self-Test Functions:

- Internal leak detection process
- Program calibration verification (with a leak standard is used)

Automatic Calibration

- An easy to perform routine that calibrates the instrument to a "master part"
- Batch calibration to average over multiple parts, if required
- Permits manual edits of calibration data

Test Pressure Compensation

- Compares programmed test pressure to actual test pressure and correlates a comparative measurement for the leak test to maintain accuracy

High-speed 32-bit Processor and 24-Bit A/D Converter

- Exceptionally fast, high resolution test processing
- Stable yet extremely responsive pressure/flow measurements

Units of Measure

- Pressure: ATM, Bar, cmHg, inHg, kPa, Mpa, mBar, mmHg, Pa, Torr, psia, psig, psiv, mmWC, iWC, cmWC, ksc
- Flow: sccm, sccs, scch, slpm, slps, slph, scfm, scfs, scfh
- Time: msec, sec, min
- All of the above selected globally or per test program

Test Ports

- 1 concurrent test port, standard
- 1/4" Colder fitting for test line connection
- Other connection sizes available (consult factory)

24 Volts Digital Inputs/Outputs

- 6 User configurable inputs
- 3 User configurable outputs
- One programmable digital output to detect: Malfunction, In-Cycle, Exhaust, and Seal Extend options

RS232 Communication Ports

- 2-Way communication
- Test result data transmission with definable fields
- Pressure streaming for waveform analysis
- Generated reports with test data and configuration

Compact Enclosure Design

- Communication connections located at the side, test ports, and pressure regulators on the bottom of the unit
- Nema 12 industrial enclosure, die cast aluminum

Full-Color LCD Display

- 480 x 136 pixels
- User-friendly icon-based menus
- Menu operating modes: Basic , Advanced, Admin
- Displays active/inactive status of digital inputs & outputs

Selectable Menu Languages

- Language neutral operator interface
- English, Chinese, Korean, and Spanish language options

Test Result Lights

- For In-test, Accept, and Reject status results
- Eliminates stack lights

Password Security

- Select menu items to secure or unsecure

Help Menus

- On-screen popup window description of parameters (activated by single shortcut key)
- Minimizes need to have the equipment manual present when programming the instrument

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