Graftel, Inc.

- Incorporated in 1991 to provide innovative new equipment for both ILRT and LLRT testing
- Graftel designs, manufactures and calibrates a full line of both ILRT and LLRT testing instrumentation.
- The ILRT system introduced saved many hours of critical path time and is now the primary system used in the United States.
- Graftel also teaches seminars on Appendix J testing and provides full on-site consulting services for both ILRT and LLRT.

Quality Assurance Program

- Appendix B Part 21 QA Program
- Recent Full NUPIC Appendix B Audit for Calibration, Testing and Software Services
- Certified By LAB to ISO 17025-2005 for Both Lab and Field Calibration Services

Model 9623-7 LRM

Model 9623 LRM

Model 9623-07 LRM

- Model 9623-07 Local Leakage Rate Testing System is a compact, light weight and rugged rig used for performing flowmake-up or pressure decay Type B and C tests on valves, flanges, airlocks and other containment barriers.

- This state-of-the-art unit utilizes all digital flow instrumentation. The microprocessor based laminar flow elements may be relied upon to accurately and repeatability measure air or nitrogen flow. The user may custom specify the three ranges desired, from 500 sccm to 200 SLM full scale.

- Flow rates are direct reading in units switchable between scfh, slm or sccm. Either air or nitrogen may be used. Pressure and temperature effects are automatically compensated for, no correction factors are ever required.

SPECIFICATIONS

- Approx 20 Lbs.
- 12 VDC From Included Battery Pack or DC Adaptor
- Ruggedized Color Touch Screen
- Pressure Regulator: 0.5 to 90 psig
- Max Inlet Pressure: 160 psig

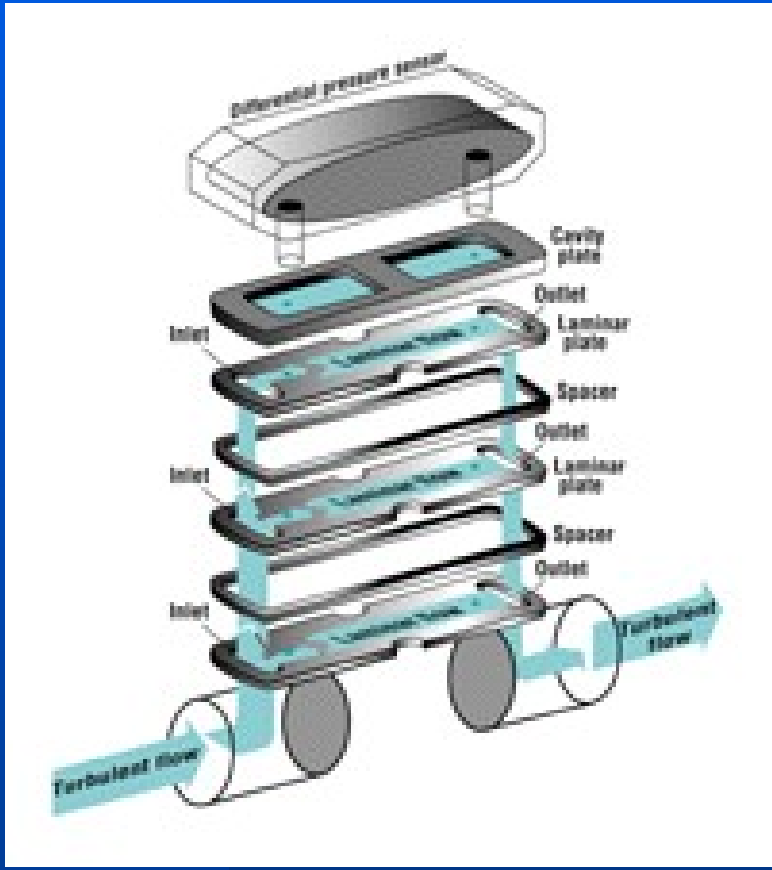
FEATURES

- The monitor is powered by 12 VDC. This may be supplied by either the included rechargeable battery pack or by the power adapter/charger with wall plug.
- A high accuracy digital pressure gauge is used to measure the test volume's pressure.
- Flow rates are direct reading in units switchable between *scfh, slm, sccm or any other user specified units*.
- Air, nitrogen and/or any specified gas may be used.
- Pressure and temperature effects are automatically compensated for, no correction factors are ever required
- All options selected and controlled by a rugged color touch screen display: no switches, pots or buttons.

FLOW MEASUREMENT

- Three Individual Flow Meters
- User Specifies Each of the Three Ranges
- Full Scales of 50 sccm to 200 SLM Available
- Accuracy 1% of full scale
- Reverse Flow Reading Up to 50% of full scale
- Calibration Interval 1 year

Laminar Flow Meter



Theory

The flow rate is determined by creating a pressure drop across a unique internal restriction, known as a laminar flow element, and measuring differential pressure across it. The relationship between pressure drop and flow is a linear measurement.

Laminar vs Thermal Mass

Laminar Flow

- Small Power requirements
- Extremely Stable
- Water does not effect the meter. They can be blown dried in the field.
- Compensated for both temperature and pressure effects
- No warm up time
- Standard accuracy of 1% which can be increased to 0.5% with a two step calibration

Thermal Mass

- High Power requirements
- Subject to calibration drift under non-ideal conditions such as dirty, wet or oily air
- Need temperature compensation
- Long warm up time

Pressure Gauge

- User Specify Range
  - -30 to 0 inHg
  - 0 to 30 psig
  - 0 to 100 psig
- Accuracy: 0.25% Full Scale
- Stability: Less than 0.5% FS drift per year
- User adjustable zero

Pressure Regulator

- Tescon Model 26
- Highest Quality Regulator Available
- User Adjustable Venting or Nonventing Operation
- Highly Sensitive
- Bubble-Tight, 316 Stainless
- Internal Air Filter
- Up to 2200 psi Inlet Pressure

Powering the LRM

- DC Power Supply

and/or

- External Battery Pack

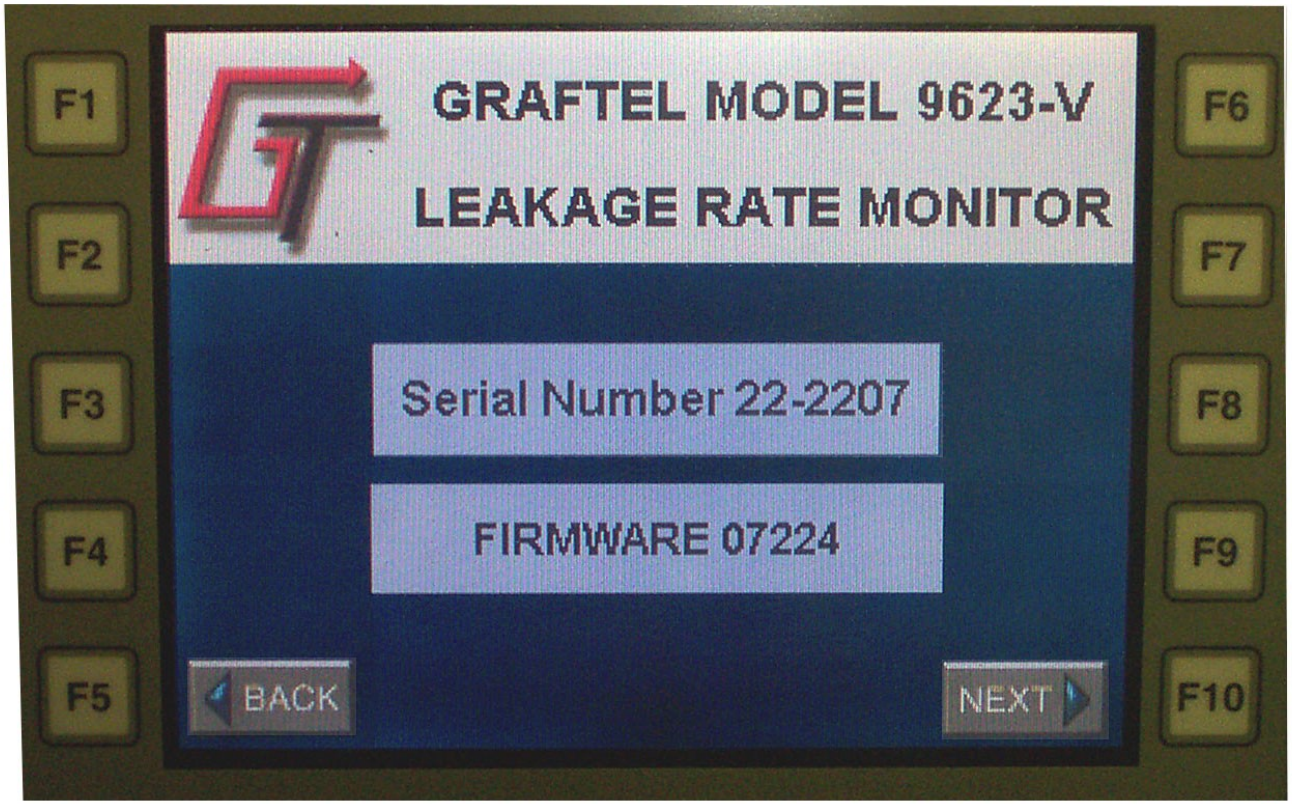
2 Pocket Battery Belts

- **Contains an auto reset circuit breaker**
- **Uses a replaceable external fuse**
- **Quick release belt fit 28 to 50 inch waist**

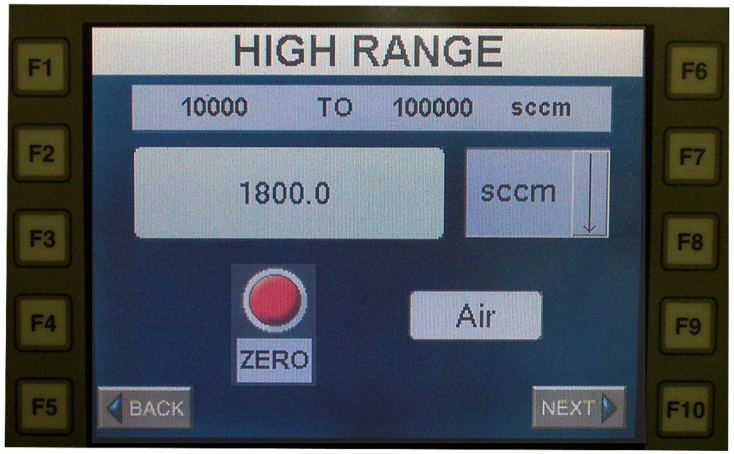
Model	Weight, lbs	Capacity, ah	Run Times, hrs
PRB- 7	5.5	7	7
PRB-9	6	9	9
PRB-12	8.5	12	14
PRB-15	11	14.4	16
PRB-18	12	18	19

PRB-12

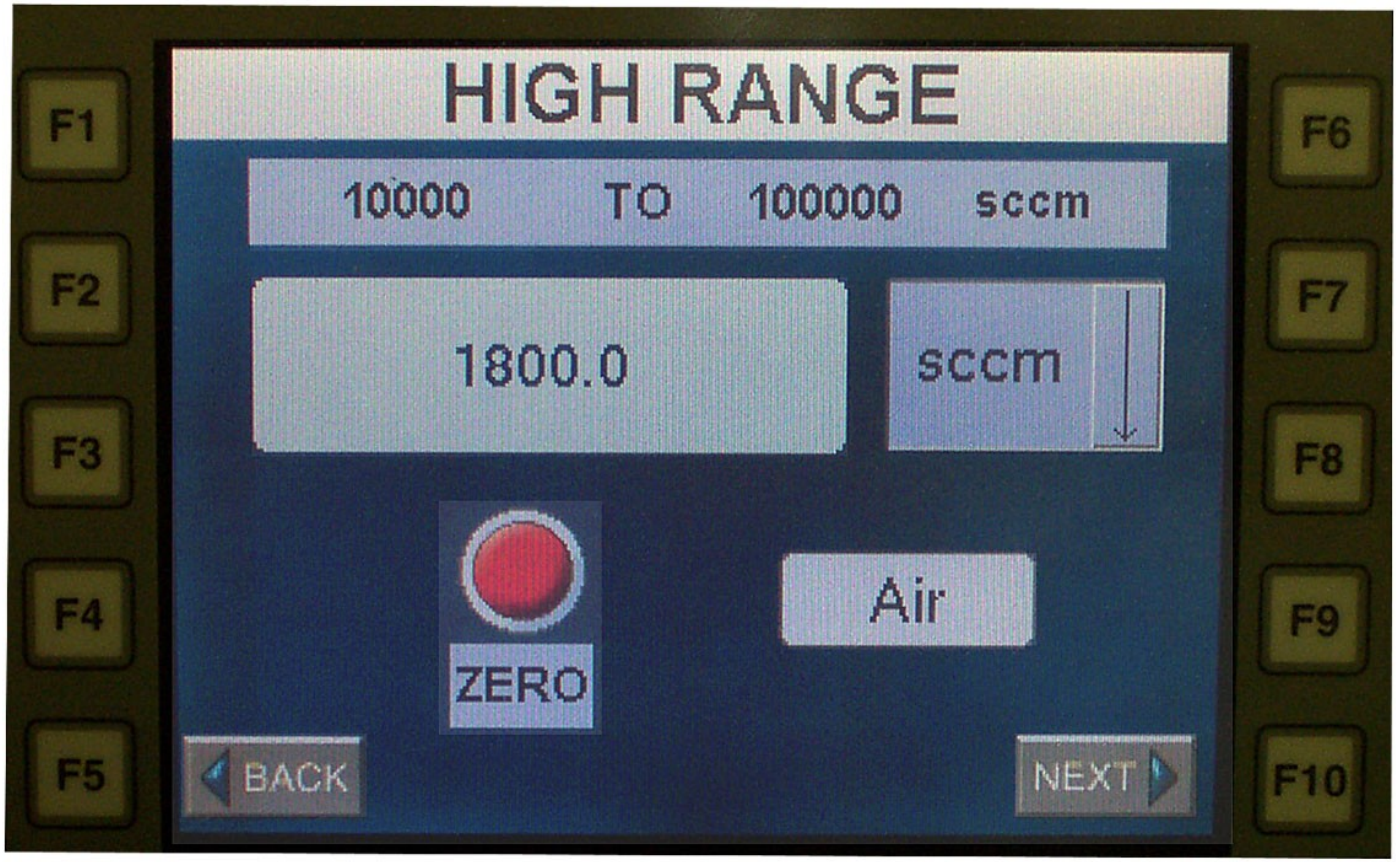
Color Touch Screen Control



Select Flow Range



Select Units, Gas, Zero Meter



Flow Meter Calibration

- Performed By Touch Screen Controls
- Zero Meter With No Flow
- Set Span at 80% FS Flow Rate Using Touch Screen Button
- Verify Accuracy at 0, 20, 40, 60 and 80% FS

Pressure Gauge Calibration

- Zero and Span Pots on Gauge
- Set Zero at Ambient Pressure
- Set Span at 80% FS
- Verify Accuracy at 0, 20, 40 and 80% FS

Options

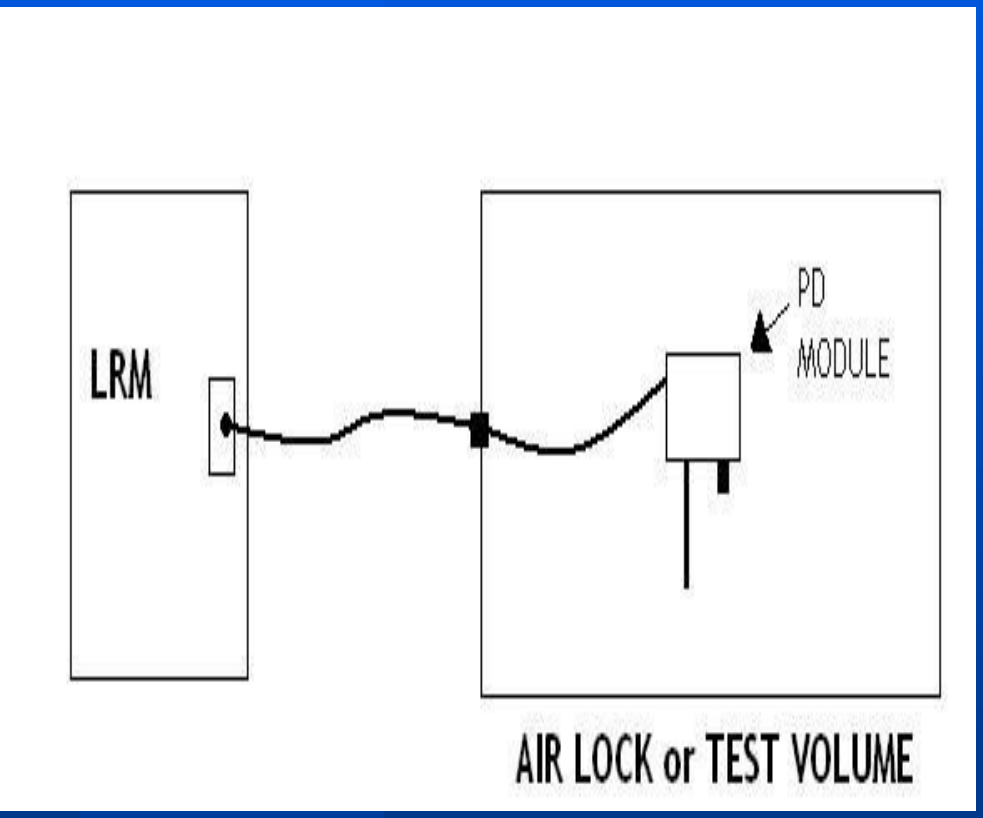
- **PRESSURE DECAY MODULE**

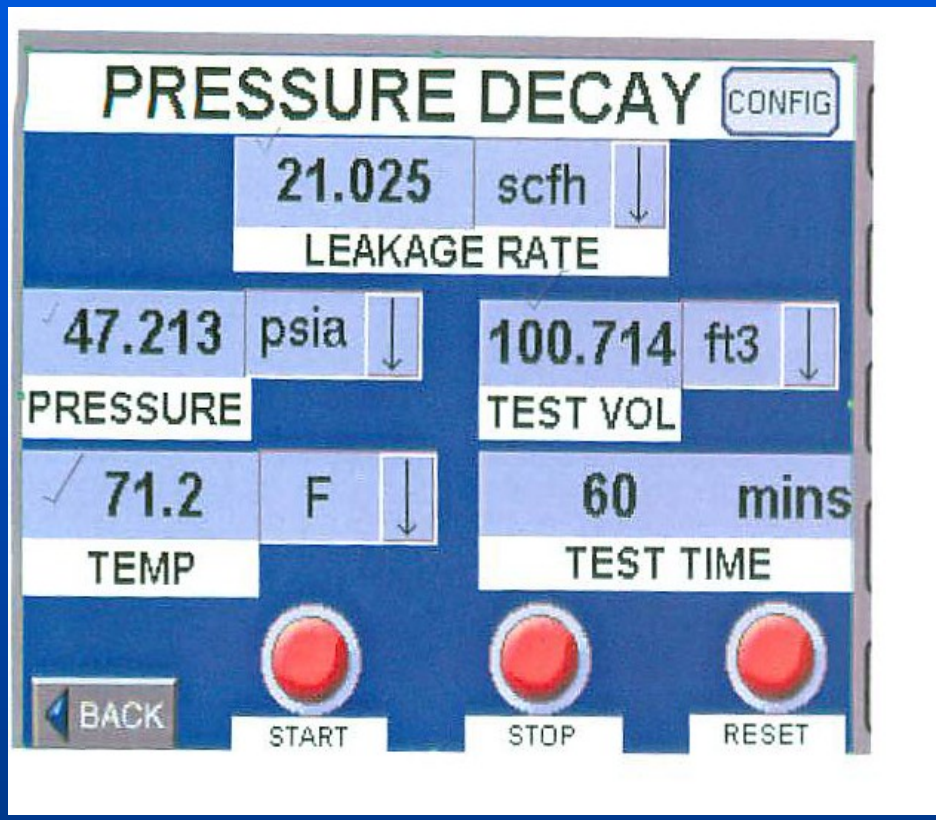
Remote module connects to the monitor and measures temperature and pressure, allows for a pressure decay test to be performed

- **QUICK FILL MANIFOLD**

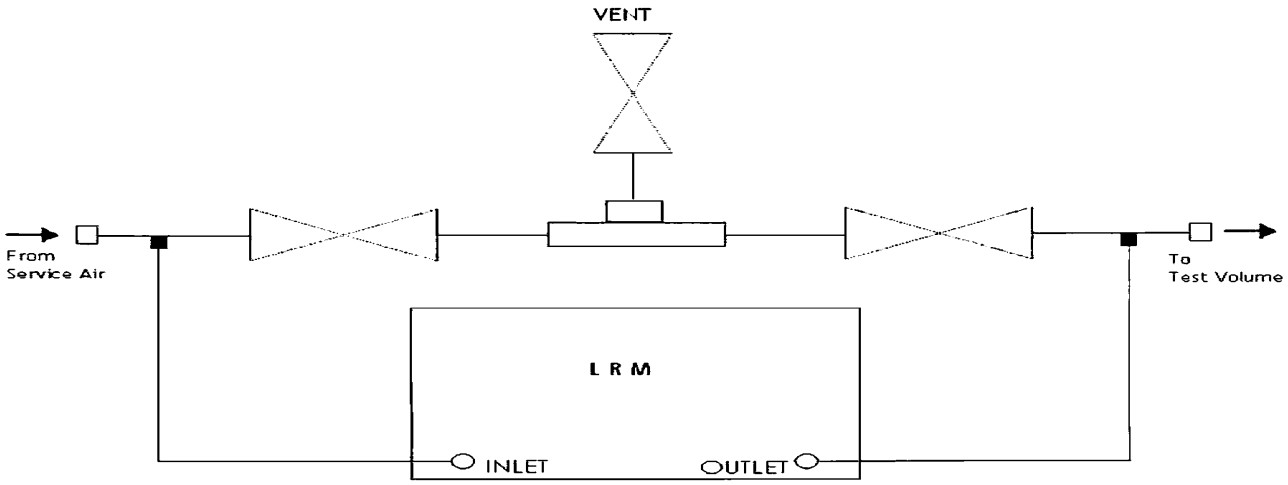
This manifold allows for rapid filling and venting large test volumes.

Pressure Decay Module





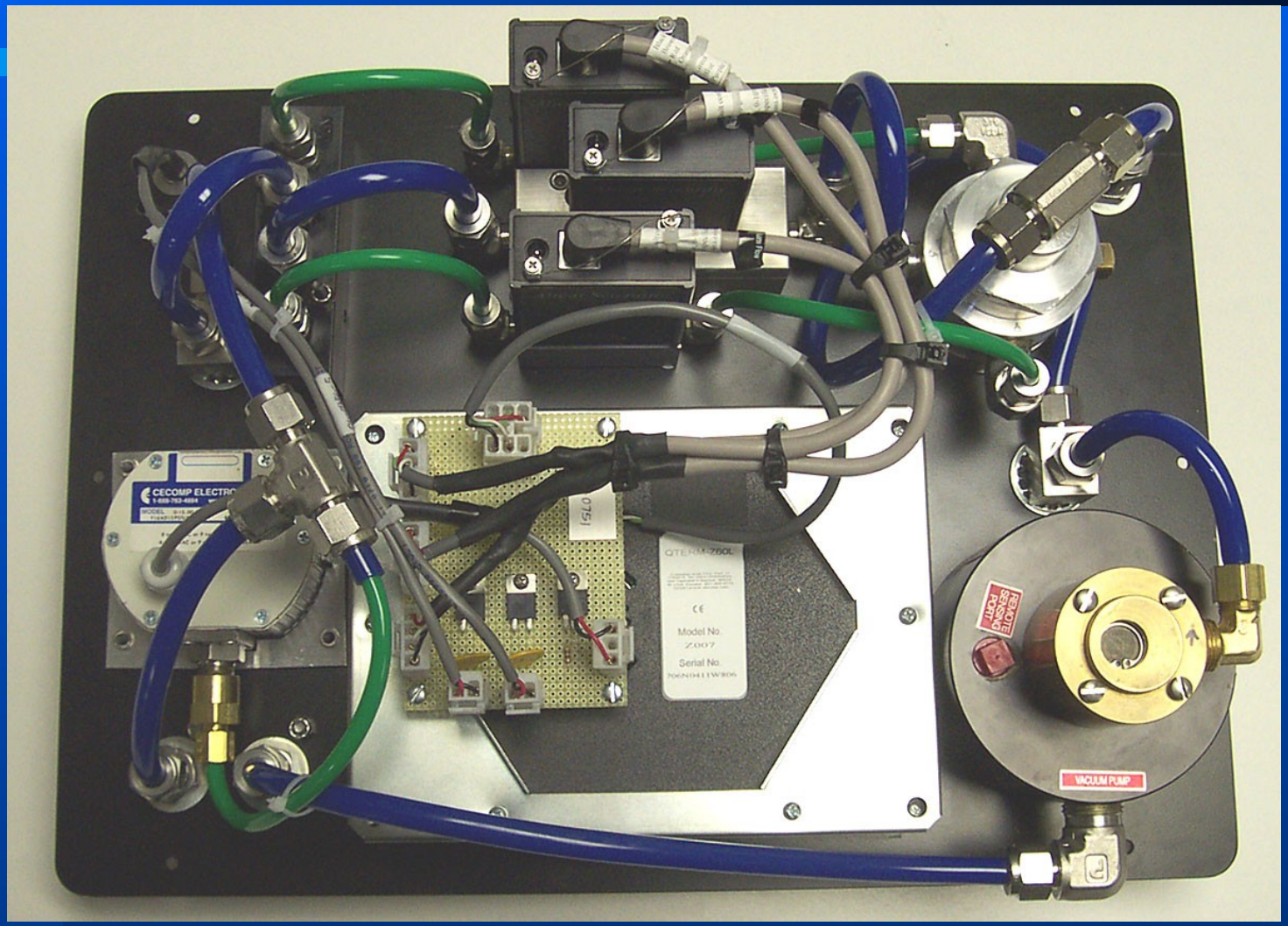
Quick Fill Manifold



Service

- All Flow Meters and Pressure Gauges are Self Contained
- All Calibration Constants Contained Inside of Instruments
- New Meters May be Lab Calibrated and Then Installed with No Adjustments
- Existing Meters May be Calibrated inside or Outside of LRM

Simple Uncluttered Construction Allows For Extreme Ease of Maintenance



On-Site Calibration and Repair

Graftel has a NUPIC audited Appendix B program that allows for on-site calibration services

With our portable flow standards and nuclear trained field personal, we can calibrate and repair the 9623-07 and other instruments at your facility.

Replacement Parts

- All Parts Either Stocked or Off-the – Shelf With Less than one Week Lead Time
- Most Parts Commercially Available From Numerous Independent Sources
- Touch Screen Software Nonproprietary

9623-07 Users' Info Exchange

- By third quarter 2009 the Graftel web site shall have a forum for 9623-07 users to post and request information
- The users' comments shall be incorporated by Graftel to make periodic hardware and firmware modifications and improvements.
- Firmware updates shall be available on-line for all users at no cost
- A 9623-07 users meeting may be held in 2010 in conjunction with the APOG meeting