



# NIST Traceable Certification of VRC Vacuum Gauges

All Vacuum Research gauges are carefully calibrated before they are shipped. However, in certain very critical applications your customer or your own Quality or Meteorology department may require written assurance of traceability of calibration. For such situations we can provide a certificate for any of our gauges. Our calibration quality system complies with ANSI/NCSL Z540-1-1994.

All you have to do is contact our customer service department for an "RGA" number and ship your instrument and sensor to us. We'll adjust the zero and full scale of your instrument to agree with our NIST calibration standards. We'll also compare your instrument to these standards throughout the entire range, and certify the actual readings.

This certification can be provided on new instruments or on older instruments whenever you require it. Price is FOB our plant. Shipping costs to and from our plant are not included. Usual time required for certification is seven to 10 days after we receive your instrument.

### Ordering Information

#### Pirani Convection, or Diaphragm Gauges

Certificates issued after repair or adjustment only P/N: 912900 . . . . . \$191.

Certificates for as received plus after repair or adjustment P/N: 912901 . . \$311.

#### Wide Range Diaphragm Manometers

Certificates issued after repair or adjustment only P/N: 912902 . . . . . \$288.

Certificates for as received plus after repair or adjustment P/N: 912903 . . \$453.

**NIST Traceable Vacuum Gauge Calibration Certificate**

We certify that the "Calibration Standards" used in this test are traceable to NIST calibration standards, that the data presented below are true and correct and that the instrument tested met all of manufacturers performance specifications at the time of this test.

Calibration Quality System complies with ANSI/NCSL Z540-1-1994.

**This Test performed by:** \_\_\_\_\_ **Manager of Test Facility:** \_\_\_\_\_  
 Signature \_\_\_\_\_ Date \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Name \_\_\_\_\_ Title \_\_\_\_\_ Name \_\_\_\_\_ Title \_\_\_\_\_

**Customer Name** \_\_\_\_\_ **Customer Asset No.** \_\_\_\_\_

VRL Device Being Certified:	Date of This Certification Test _____		
	Pressure Indicated By Calibration Standard	Pressure Indicated By After Repair and/or Recalibration	Pressure Indicated By Device Being Certified As Received Without Repair and/or Recalibration
Instrument P/N: _____	_____	_____	_____
S/N: _____	_____	_____	_____
Transducer PN: _____	_____	_____	_____
S/N: _____	_____	_____	_____
<b>Calibration Standard Used for This Certification:</b>			
Instrument Model: _____	_____	_____	_____
S/N: _____	_____	_____	_____
Transducer Model: _____	_____	_____	_____
S/N: _____	_____	_____	_____
Accuracy of Standard: _____	_____	_____	_____
Standard's Calibration Date: _____	_____	_____	_____
<b>Test Conditions:</b>			
Ambient Temperature during test: _____	_____	_____	_____
% RH: _____	_____	_____	_____
Was Calibration Adjusted Prior To Test? Yes _____ No _____	_____	_____	_____
Were Repairs Required? Yes _____ No _____	_____	_____	_____
Remarks: _____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

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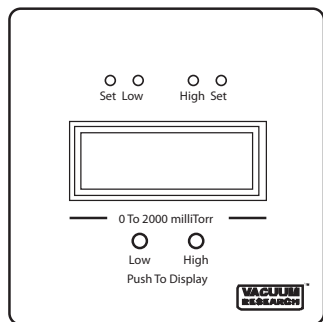
## Pressures Used for NIST Calibrations at Vacuum Research

Wide Range Gauge Calibration Points	100 mTorr Gauge Calibration Points	2000 mTorr Gauge Calibration Points	20 Torr Gauge Calibration Points	Convection Gauge Calibration Points	1500 Torr Gauge Calibration Points
000 mT	0.00 mT	0 mT	0.00 Torr	000 mT	0 Torr
10 mT	.10 mT	5 mT	.05 Torr	10 mT	5 Torr
50 mT	1.00 mT	10 mT	.10 Torr	25 mT	10 Torr
100 mT	2.50 mT	25 mT	.25 Torr	50 mT	25 Torr
250 mT	5.00 mT	50 mT	.50 Torr	75 mT	50 Torr
500 mT	7.50 mT	75 mT	.75 Torr	100 mT	75 Torr
750 mT	10.00 mT	100 mT	1.00 Torr	250 mT	100 Torr
900 mT	12.50 mT	250 mT	2.50 Torr	500 mT	200 Torr
1000 mT	15.00 mT	500 mT	5.00 Torr	750 mT	250 Torr
1250 mT	17.50 mT	750 mT	7.50 Torr	1000 mT	300 Torr
1500 mT	20.00 mT	900 mT	9.25 Torr	5 Torr	400 Torr
1750 mT	30.00 mT	1000 mT	10.00 Torr	10 Torr	500 Torr
	40.00 mT	1250 mT	12.50 Torr	20 Torr	600 Torr
	50.00 mT	1500 mT	15.00 Torr	30 Torr	700 Torr
	75.00 mT	1750 mT	17.50 Torr	50 Torr	ATM
	100 mT	2000 mT	20.00 Torr		



### Easy To Use, No Electronics Training Needed

These compact and easy to use electronic calibrators allow you to adjust both zero and full scale of any Vacuum Research gauge without the use of a vacuum system, and without any electronics training. Just follow the step by step procedure on the calibrator front panel to insure performance the same as a new gauge.



### NIST Traceable Certification of Vacuum Gauge Calibrators

All Calibrators are tested to strict standards prior to shipment. In addition to this you need certification of the testing, it is available for new and existing calibrators. For recertification of your existing calibrators, please contact the factory for an "RGA" number, and return the calibrator freight prepaid with your purchase order. Time required for certification is 5 to 7 days.

#### Certificate of NIST Traceable Calibration both as received and after repair and adjustment

For Wide Range and Convection Gauge Calibrators  
 P/N: 912904 ..... \$300.  
 For Pirani, Diaphragm and Thermocouple Gauge Calibrators  
 P/N: 912905 ..... \$152.

#### Certificate of NIST Traceable Calibration after repair or adjustment only

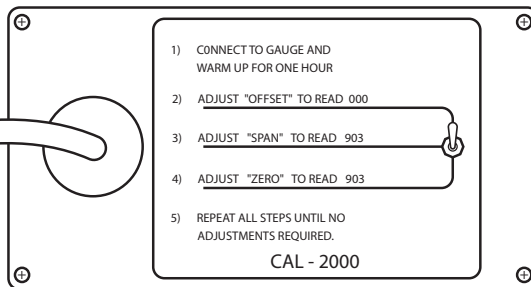
For Wide Range and Convection Gauge Calibrators  
 P/N: 912906 ..... \$191.  
 For Pirani, Diaphragm and Thermocouple Gauge Calibrators  
 P/N: 912907 ..... \$98.

Making sure that your vacuum gauges are working properly has never been easier. These calibrators do not require any electronics training yet they allow you to adjust your Vacuum Research Gauge exactly to like new factory specification.

The procedure is simple. You begin by unplugging the vacuum gauge sensor cable from the gauge tube and plugging it into the calibrator. After allowing one hour for warm up you adjust the offset on the rear of your gauge to read "000".

You then adjust the "span" to the specified value. Repeat the procedure two or three times until no adjustment is needed and the job is done. Your gauge calibration is now the same as it was when leaving the factory.

After calibrating the electronic portion of your vacuum gauge you may want to install a factory fresh gauge tube. Because the tube is exposed to pump fluid vapors and other dirt from your process it may become contaminated and give erroneous readings. It is good practice to compare on a regular basis the readings with your "working" gauge tube and a brand new tube or one that is known to be clean.



**Buy Now! Go to [www.vacuumresearch.com](http://www.vacuumresearch.com) to order online**

### Ordering Information

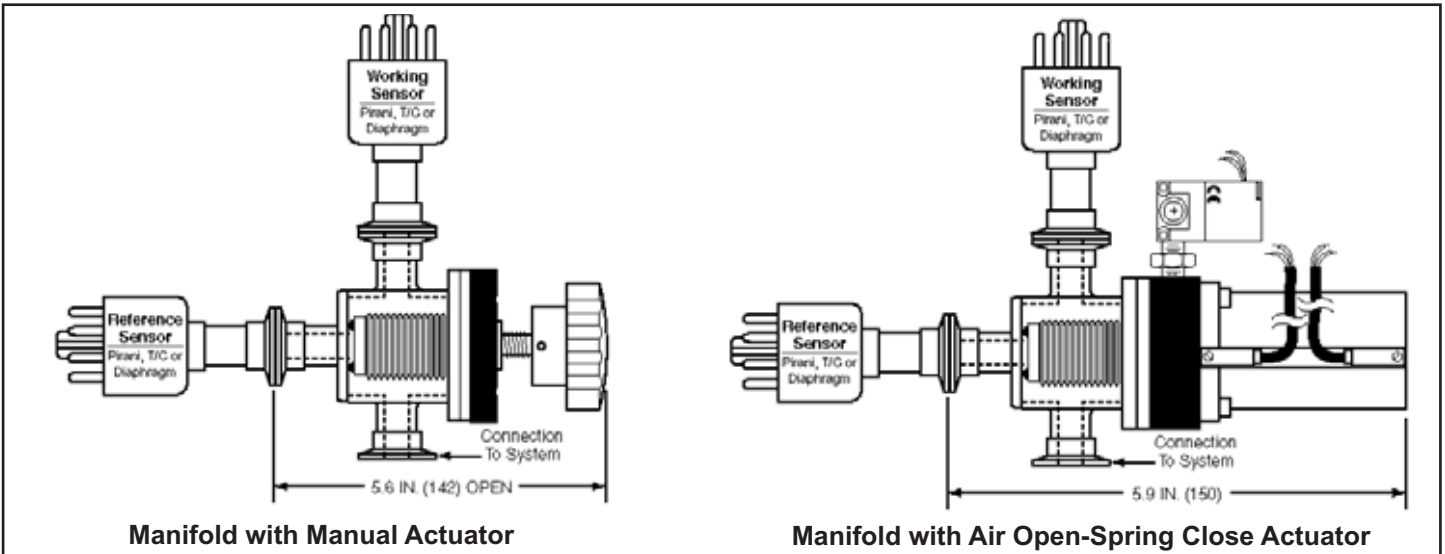
- 0.5 - 1200 Torr Manometer Calibrator Kit.....P/N: 912300...\$355.
- Wide Range Manometer Calibrator Kit.....P/N: 912110...\$545.
- Calibrator for Digital Convection Gauge .....P/N: 912170...\$485.
- Calibrator for Analog Convection Gauge.....P/N: 912183...\$238.
- 100 mTorr Pirani Gauge Calibrator.....P/N: 912019...\$238.
- 2000 mTorr Pirani Gauge Calibrator.....P/N: 912008...\$238.
- 20 Torr Pirani Gauge Calibrator.....P/N: 912009...\$238.
- Dual Range Pirani Gauge Calibrator.....P/N: 912010...\$238.
- 1500 Torr Diaphragm Gauge Calibrator.....P/N: 912027...\$238.
- 30" Hg to 150.0 PSIG Gauge Calibrator.....P/N: 912021...\$238.
- Thermocouple Gauge Calibrator.....P/N: 902114...\$238.
- 0.1 to 20 PSIG Calibrator.....P/N: 912039...\$238.
- 0.1 to 200 PSIG Calibrator.....P/N: 912040...\$238.
- 1 to 1000 PSIG Calibrator.....P/N: 912041...\$238.



Photo shows manual manifold with NW-6 ports

- Verify complete system; sensor and display
- Easily confirm vacuum gauge calibration
- Satisfy ISO-9000 auditors and inspectors
- Choose Manual or Electro-pneumatic actuator
- Use with any brand or type of vacuum gauge

With ever increasing needs to verify vacuum gauge accuracy many gauge manufacturers, including Vacuum Research, now offer electronic calibrators or "reference tubes." Although such devices are helpful they only deal with the control or display part of the gauge and do nothing to evaluate the sensor. This is unfortunate because in the real world most vacuum gauge errors involve the sensor. Vacuum Research developed these manifolds to make it easy to compare your working gauge with a reference gauge or a certified standard gauge. Burned out filaments and ruptured diaphragms are easy to diagnose but the most typical failure mode of a vacuum gauge is a gradual shift in calibration due to pump fluid and dirt on the sensor. Such changes can be easily detected with these manifolds because the two sensors are only inches apart.



Manifold with Manual Actuator

Manifold with Air Open-Spring Close Actuator

**Ordering Information**

Our standard manifolds have 300 series stainless steel bodies and NW-16 ports for sensor and system connection. Other flanges such as NW-25 are available as are compression type quick connects for 1/8 inch NPT, 1/2 inch O.D. and 0.75 inch O.D. All manifolds use a welded bellows stem seal.

**NW-16 Calibration Manifold, Manual Actuator**

Stainless steel manifold body with welded bellows. All 3 ports NW-16. P/N: 912274. . . . . \$380.

**NW-16 Calibration Manifold, Air Open - Spring Close**

Stainless steel manifold body with welded bellows. All 3 ports NW-16. (Solenoid and Position Indicators not included.) P/N: 912275. . . . . \$398.

*Buy Now! Go to [www.vacuumresearch.com](http://www.vacuumresearch.com) to order online*

**3 Way Solenoid for Air Open-Spring Close Manifold** Add suffix to manifold P/N: SOL-120 VAC, SOL-230 VAC or SOL-24 VDC To manifold cost. . . . . Add \$118.

**Position Indicators**

Air open-spring close manifolds can be equipped with a pair of SPST switches to indicate valve open and closed. These unpowered switches have contacts rated for 1 amp @ 300V, non-inductive. Add the suffix 'PI' to P/N & to price of manifold. . . . . Add \$101./pair

**Additional Port for Roughing**

Add an additional NW-16 port for connection of a roughing pump to the reference tube side of the manifold. Add suffix 'RP' to P/N & to price of manifold. . . . . Add \$93.