



# 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 after repair or adjustment only P/N: 912900 ..... \$203.

Certificates for as received plus after repair or adjustment P/N: 912901 ..... \$330.

#### 100 mTorr Pirani Gauges

Certificates after repair or adjustment only P/N: 912911 ..... \$310.

Certificates for as received plus after repair or adjustment P/N: 912912 ..... \$410.

#### Wide Range Diaphragm Manometers

Certificates after repair or adjustment only P/N: 912902 ..... \$306.

Certificates for as received plus after repair or adjustment P/N: 912903 ..... \$481.

## 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 manufacturer's performance specifications at the time of this test.

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

This Test performed by:

Signature \_\_\_\_\_ Date \_\_\_\_\_

John F. Hartnett,

President

Vacuum Research Corp.

Name \_\_\_\_\_

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

Address \_\_\_\_\_

VRC Device Being Certified: Instrument P/N: \_\_\_\_\_ Date of This Certification \_\_\_\_\_ SO # \_\_\_\_\_

S/N: \_\_\_\_\_ Calibration Standard Device As Received Device As Calibrated Limit Allowed Min. Max. 4 to 20 mA Output

Transducer PN: \_\_\_\_\_ S/N: \_\_\_\_\_

0 mTorr \_\_\_\_\_ 0 0

Calibration Standard Used (Primary): Instrument Model: \_\_\_\_\_ 5 mTorr \_\_\_\_\_ 2 8

S/N: \_\_\_\_\_ 10 mTorr \_\_\_\_\_ 7 13

Transducer Model: \_\_\_\_\_ 25 mTorr \_\_\_\_\_ 22 28

S/N: \_\_\_\_\_ 50 mTorr \_\_\_\_\_ 47 53

Accuracy of Standard: \_\_\_\_\_ 75 mTorr \_\_\_\_\_ 71 78

Standard's Calib. Date: \_\_\_\_\_ 100 mTorr \_\_\_\_\_ 95 105

Calibration Standard Used (2nd if Needed): Instrument Model: \_\_\_\_\_ 250 mTorr \_\_\_\_\_ 237 262

S/N: \_\_\_\_\_ 500 mTorr \_\_\_\_\_ 475 525

Transducer Model: \_\_\_\_\_ 750 mTorr \_\_\_\_\_ 712 787

S/N: \_\_\_\_\_ 900 mTorr \_\_\_\_\_ 855 945

Accuracy of Standard: \_\_\_\_\_ 1000 mTorr \_\_\_\_\_ 950 1050

Standard's Calib. Date: \_\_\_\_\_ 1250 mTorr \_\_\_\_\_ 1187 1312

Ambient Conditions During Test: Temp.: \_\_\_\_\_ °F % RH: \_\_\_\_\_ 1500 mTorr \_\_\_\_\_ 1425 1575

Was Calibration Adjusted Prior To As Received Test? Yes \_\_\_ No \_\_\_ 1750 mTorr \_\_\_\_\_ 1662 1837

Were Repairs Required? Yes \_\_\_ No \_\_\_ 2000 mTorr \_\_\_\_\_ 1900 2100

Remarks: \_\_\_\_\_

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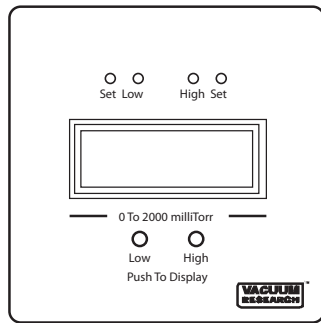
## Pressures Used for NIST Calibrations at Vacuum Research

Wide Range Gauge Calib. Points	100 mTorr Pirani Gauge Calib. Points	2000 mTorr Pirani Gauge Calib. Points	20 Torr Pirani Gauge Calib. Points	50 Torr Pirani Gauge Calib. Points	Convection Gauge Calib. Points	1500 Torr Gauge Calib. Points
000 mT	0.00 mT	0 mT	0.00 mT	0.00 Torr	000 mT	0 Torr
10 mT 2 Torr	.10 mT	5 mT	.50 mT	.10 Torr	10 mT	5 Torr
50 mT 5 Torr	1.00 mT	10 mT	100 mT	.25 Torr	25 mT	10 Torr
100 mT 10 Torr	2.50 mT	25 mT	250 mT	.50 Torr	50 mT	25 Torr
250 mT 50 Torr	5.00 mT	50 mT	500 mT	1.00 Torr	75 mT	50 Torr
500 mT 100 Torr	7.50 mT	75 mT	750 mT	2.50 Torr	100 mT	75 Torr
750 mT 200 Torr	10.00 mT	100 mT	1000 mT	5.00 Torr	250 mT	100 Torr
900 mT 300 Torr	12.50 mT	250 mT	2.50 Torr	9.25 Torr	500 mT	200 Torr
1000 mT 400 Torr	15.00 mT	500 mT	5.00 Torr	10.00 Torr	750 mT	250 Torr
1250 mT 500 Torr	17.50 mT	750 mT	7.50 Torr	12.50 Torr	1000 mT	300 Torr
1500 mT 600 Torr	20.00 mT	900 mT	9.25 Torr	15.00 Torr	5 Torr	400 Torr
1750 mT ATM	30.00 mT	1000 mT	10.00 Torr	17.50 Torr	10 Torr	500 Torr
	40.00 mT	1250 mT	12.50 Torr	20.00 Torr	20 Torr	600 Torr
	50.00 mT	1500 mT	15.00 Torr	30.00 Torr	30 Torr	700 Torr
	75.00 mT	1750 mT	17.50 Torr	50.00 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 ..... \$332.
- For Pirani, Diaphragm and Thermocouple Gauge Calibrators  
P/N: 912905 ..... \$168.

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

- For Wide Range and Convection Gauge Calibrators  
P/N: 912906 ..... \$212.
- For Pirani, Diaphragm and Thermocouple Gauge Calibrators  
P/N: 912907 ..... \$109.

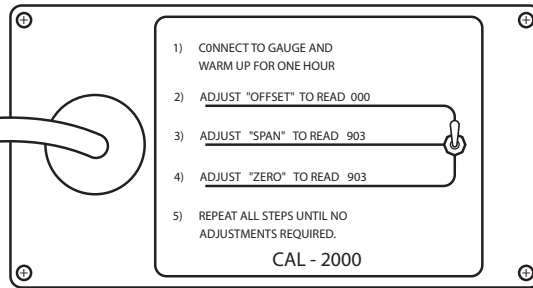
Making sure that your vacuum gauges are working properly has never been easier. These calibrators do not require any electronics training yet they allow you to adjust your Vacuum Research Gauge exactly to like new factory specification.

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**

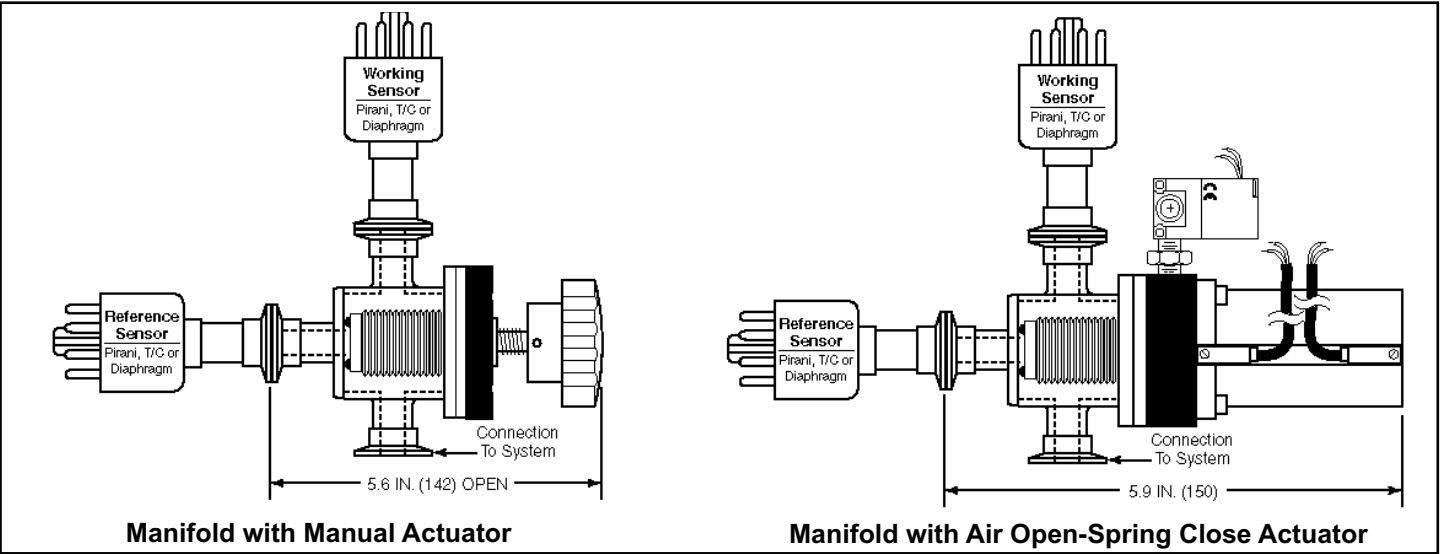
- 0.5 - 1200 Torr Manometer Calibrator Kit .....P/N: 912300.....\$392.
- Wide Range Manometer Calibrator Kit.....P/N: 912110.....\$602.
- Calibrator for Digital Convection Gauge .....P/N: 912170.....\$535.
- Calibrator for Analog Convection Gauge .....P/N: 912183.....\$264.
- 100 mTorr Pirani Gauge Calibrator.....P/N: 912019.....\$264.
- 2000 mTorr Pirani Gauge Calibrator.....P/N: 912008.....\$264.
- 20 Torr & 50 Torr Pirani Gauge Calibrator ....P/N: 912009.....\$255.
- Dual Range Pirani Gauge Calibrator .....P/N: 912010.....\$264.
- 1500 Torr Diaphragm Gauge Calibrator.....P/N: 912027.....\$264.
- 30" Hg to 150.0 PSIG Gauge Calibrator.....P/N: 912021.....\$264.
- Thermocouple Gauge Calibrator .....P/N: 902114.....\$264.
- 0.1 to 20 PSIG Calibrator .....P/N: 912039.....\$264.
- 0.1 to 200 PSIG Calibrator .....P/N: 912040.....\$264.
- 1 to 1000 PSIG Calibrator .....P/N: 912041.....\$264.



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.



**Ordering Information**

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

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. . . . . \$420.

**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. . . . . \$440.

**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 \$131.

**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 \$112./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 \$103.