



SOUTHWEST RESEARCH INSTITUTE®

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Institute Quality Systems
Institute Calibration Laboratory
Phone: 210-522-5215 Fax 210-522-4834



Calibration Laboratory
Certificate #0972-01

Certificate of Calibration

Cost Center / Customer: DIV20 / DON BANNON

Mail Stop: B51

Manufacturer/Model: ASHCROFT / 0 to 30 in. Hg

Description: PRESSURE GAUGE

Serial Number: 13762

Asset Number: 013762

Procedure: PRESSURE GAGES - 29 MAR 06

Work Order: 303093439

Date Issued: 1-Apr-2010

Date Calibrated: 1-Apr-2010

*** Date Due :** 1-Apr-2011

**** Results:** AS-LEFT

Temperature: 68.0 °F

Humidity: 42 %RH

Barometer: N/A

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 2005, ANSI/NCCL Z540-1-1994 and relevant requirements of the ISO 9000-2000 standard. This certificate shall not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. This certificate shall not be used to claim product endorsement by Southwest Research Institute, American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government. Results of this calibration relate only to the instrument described above at the time of calibration and does not imply any long term stability of the instrument.

*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. **Data type found in this certificate or attached measurement report must be interpreted as: Found-left - adjustment and/or repair was not performed, As-found - data is before unit is adjusted and/or repaired, As-left - data is after adjusted and/or repaired was performed. The customer has sole responsibility for determination of in-/out-of-tolerance or compliance/noncompliance.

Measurement uncertainty calculated in accordance with the method described in the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM), for a confidence level of approximately 95 percent using a coverage factor of $k=2$.

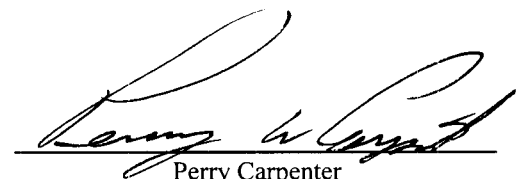
Remarks: ASME Grade B Tolerance (2% Middle Half, 3% First and Last Quarter of Dial)

Standards Used

<u>Asset #</u>	<u>Manufacturer</u>	<u>Model</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
005259	MENSOR	5014	PRESSURE CALIBRATOR	8-Dec-2009	8-Jun-2010


Walt Hill

Laboratory Manager


Perry Carpenter

Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303093439	Mfr:	Ashcroft	Tech:	PWC
Asset No:	013762	Model:	0 to 30 in. Hg	Type Data:	As-found
Serial No:	13762	Type:	Vacuum Gauge	Cal Date:	29-Mar-10
Remarks: ASME Grade B Tolerance (2% Middle Half, 3% First and Last Quarter of Dial) Referenced to 0 °C.					

Function/Range	Test Point	TI Reading	Difference	± Limit	± Uncertainty	Result	% Limit
Pressure	in/Hg	in/Hg	in/Hg	in/Hg	in/Hg	Result	
	0.0	0.0	0.0	0.9	0.065	Pass	0%
	7.5	8.0	0.5	0.6		Pass	83%
	15.0	15.5	0.5	0.6		Pass	83%
	22.5	23.0	0.5	0.6		Pass	83%
	28.5	28.7	0.2	0.9		Pass	22%
	22.5	23.0	0.5	0.6		Pass	83%
	15.0	15.5	0.5	0.6		Pass	83%
	7.5	8.0	0.5	0.6		Pass	83%
	0.0	0.0	0.0	0.9		Pass	0%

END OF REPORT

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303093439	Mfr:	Ashcroft	Tech:	PWC
Asset No:	013762	Model:	0 to 30 in. Hg	Type Data:	As-left
Serial No:	13762	Type:	Vacuum Gauge	Cal Date:	1-Apr-10
Remarks: ASME Grade B Tolerance (2% Middle Half, 3% First and Last Quarter of Dial) Referenced to 0 °C. Instrument exceeds 70% of limit unable to adjust.					

Function/Range	Test Point	TI Reading	Difference	± Limit	± Uncertainty	Result	% Limit
Pressure	in/Hg	in/Hg	in/Hg	in/Hg	in/Hg	Result	
	0.0	0.0	0.0	0.9	0.065	Pass	0%
	7.5	8.0	0.5	0.6		Pass	83%
	15.0	15.5	0.5	0.6		Pass	83%
	22.5	23.0	0.5	0.6		Pass	83%
	28.5	28.7	0.2	0.9		Pass	22%
	22.5	23.0	0.5	0.6		Pass	83%
	15.0	15.5	0.5	0.6		Pass	83%
	7.5	8.0	0.5	0.6		Pass	83%
	0.0	0.0	0.0	0.9		Pass	0%

END OF REPORT