



SOUTHWEST RESEARCH INSTITUTE®

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Institute Quality Systems
Institute Calibration Laboratory
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Calibration Laboratory
Certificate #0972-01

Certificate of Calibration

Cost Center / Customer: DIV20 / DON BANNON

Mail Stop: B51

Manufacturer/Model: OMEGA / FL-110

Description: ROTAMETER

Serial Number: 06295

Asset Number: 015219

Procedure: FLOW, GAS - 6 JUL 09

Work Order: 303098837

Date Issued: 27-Dec-2010

Date Calibrated: 27-Dec-2010

*** Date Due :** 27-Dec-2011

**** Results:** FOUND-LEFT

Temperature: 68.0 °F

Humidity: 35 %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/NC SL 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: STP 70 °F 29.92 InHg 25 PSI. Readings taken at center of float. See measurement report for actual data.

Standards Used

<u>Asset #</u>	<u>Manufacturer</u>	<u>Model</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
007502	SIERRA	101 Cal Bench	GAS FLOW CALIBRATION SYSTEM	12-Nov-2010	12-Nov-2011

Walt Hill

Laboratory Manager

Perry Carpenter

Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303098837	Mfr:	Omega	Technician:	PWC
Asset No:	015219	Model:	FL-110	Type Data:	Found-left
Serial No:	06295	Type:	Rotameter	Cal Date:	27-Dec-10
Remarks: No pass/fail per customer request. All readings are taken @ center of float.					
STP 70°F			Cal Position: Upright		
29.92 in Hg		25 psi		K Factor: 1.000	
				Test Gas: Air	

Function/Range	Test Point	TI Reading	± Uncertainty	Results
Flow	sccm	Scale Div.	sccm	See Remarks
	2.2	10.0	0.43	
	6.2	20.0		
	11.2	30.0		
	16.5	40.0		
	24.8	50.0		
	40.2	60.0		
	56.2	70.0		
	71.2	80.0		
	87.0	90.0		
	103.8	100.0		

END OF REPORT