National Institute of Standards and Technology

NVLAP®

National Voluntary Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation

CALIBRATION LABORATORIES **NVLAP LAB CODE 200377-0**

COLORADO ENGINEERING EXPERIMENT STATION INC.
54043 WCR 37
Nunn, CO 80648
Mr. Roger Shaffer
Phone: 970-897-2711 Fax: 970-897-2710
E-Mail: rshaffer@ceesi.com
URL: http://www.ceesi.com

NVLAP Code: 20/A01 ANSI/NCSL Z540-1-1994; Part 1 Compliant

MECHANICAL

NVLAP Code: 20/M05
Flow Rate - Compressible Gases

Range in lb/min	*Best Uncertainty (±) in %*[note 1]	*Remarks*
0.1	0.075	Gravimetric System
0.2	0.074	Gravimetric System
0.4	0.072	Gravimetric System
0.7	0.069	Gravimetric System
1.0	0.066	Gravimetric System
2.0	0.058	Gravimetric System
4.0	0.045	Gravimetric System
7.0	0.035	Gravimetric System

September 30, 2005

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10	0.034	Gravimetric System
0.1	0.379	Critical Flow Venturis
0.2	0.358	Critical Flow Venturis
0.4	0.341	Critical Flow Venturis
0.7	0.331	Critical Flow Venturis
1.0	0.325	Critical Flow Venturis
2.0	0.317	Critical Flow Venturis
4.0	0.312	Critical Flow Venturis
7.0	0.311	Critical Flow Venturis
10	0.312	Critical Flow Venturis
10	0.073	Volumetric System
20	0.087	Volumetric System
40	0.102	Volumetric System
70	0.114	Volumetric System
100	0.120	Volumetric System

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200	0.130	Volumetric System
400	0.137	Volumetric System
700	0.140	Volumetric System
10	0.318	Critical Flow Venturis
20	0.321	Critical Flow Venturis
40	0.328	Critical Flow Venturis
70	0.335	Critical Flow Venturis
100	0.342	Critical Flow Venturis
200	0.356	Critical Flow Venturis
400	0.375	Critical Flow Venturis
700	0.393	Critical Flow Venturis
700	0.415	Critical Flow Venturis
1000	0.427	Critical Flow Venturis
2000	0.455	Critical Flow Venturis
4000	0.487	Critical Flow Venturis
7000	0.516	Critical Flow Venturis

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10000	0.536	Critical Flow Venturis
12000	0.547	Critical Flow Venturis

NVLAP Code: 20/M05
Flow Rate - Compressible Gases

Range in accm	*Best Uncertainty (±)in %*[note 1]	*Remarks*
1.0 to 8.5	0.476	Piston Prover, Tube 0
7.0 to 60	0.429	Piston Prover, Tube 1
38 to 335	0.420	Piston Prover, Tube 2
110 to 970	0.433	Piston Prover, Tube 2.5
660 to 3450	0.416	Piston Prover, Tube 3

NVLAP Code: 20/M05
Flow Rate - Water

Range in gpm	*Best Uncertainty (±) in %*[note 1]	*Remarks*
0.1 to 2100	0.1	Liquid Flow System

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NVLAP Code: 20/M05
Flow Rate

Range in acfh[note 3]	*Best Uncertainty (±)in %*[note 1]	*Remarks*
14,000 to 1,500,000[note 2]	0.23	Natural Gas System

1. Represents an expanded uncertainty using a coverage factor, k=2, at an approximate level of confidence of 95%.
2. Up to 10 flow standards can be placed in parallel to achieve the desired flow rate.
3. Calibrations performed at Colorado Engineering Experiment Station (CEESI) Iowa High Flow Facility, 2365 240th Street, Garner, IA 50438.

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