



**National Voluntary  
Laboratory Accreditation Program**



**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005**

**Colorado Engineering Experiment Station Inc.**

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**CALIBRATION LABORATORIES**

**NVLAP LAB CODE 200377-0**

*NVLAP Code:* 20/A01

ANSI/NCSL Z540-1-1994; Part 1

Compliant

**MECHANICAL**

*NVLAP Code:* 20/M05

Flow Rate - Compressible Gases

<i>Range in lb/min</i>	<i>Best Uncertainty (±) in %<sup>note 1</sup></i>	<i>Remarks</i>
0.1	0.076	Gravimetric System
0.2	0.075	Gravimetric System
0.4	0.073	Gravimetric System
0.7	0.071	Gravimetric System
1.0	0.068	Gravimetric System
2.0	0.060	Gravimetric System
4.0	0.048	Gravimetric System
7.0	0.038	Gravimetric System
10	0.037	Gravimetric System
0.1	0.351	Critical Flow Venturis
0.2	0.328	Critical Flow Venturis
0.4	0.310	Critical Flow Venturis
0.7	0.298	Critical Flow Venturis
1.0	0.292	Critical Flow Venturis
2.0	0.283	Critical Flow Venturis
4.0	0.277	Critical Flow Venturis

2009-10-01 through 2010-09-30

*Effective dates*

*Sally S. Bruce*

*For the National Institute of Standards and Technology*



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7.0	0.276	Critical Flow Venturis
10	0.276	Critical Flow Venturis
10	0.080	Volumetric System
20	0.093	Volumetric System
40	0.108	Volumetric System
70	0.119	Volumetric System
100	0.125	Volumetric System
200	0.135	Volumetric System
400	0.142	Volumetric System
700	0.147	Volumetric System
10	0.285	Critical Flow Venturis
20	0.288	Critical Flow Venturis
40	0.296	Critical Flow Venturis
70	0.304	Critical Flow Venturis
100	0.311	Critical Flow Venturis
200	0.327	Critical Flow Venturis
400	0.348	Critical Flow Venturis
700	0.369	Critical Flow Venturis
700	0.378	Critical Flow Venturis
1000	0.391	Critical Flow Venturis
2000	0.421	Critical Flow Venturis
4000	0.456	Critical Flow Venturis
7000	0.487	Critical Flow Venturis
10 000	0.508	Critical Flow Venturis
12 000	0.520	Critical Flow Venturis

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**NVLAP Code:** 20/M05  
Flow Rate - Compressible Gases

<b>Range in accm</b>	<b>Best Uncertainty (<math>\pm</math>) in % <sup>note 1</sup></b>	<b>Remarks</b>
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

<b>Range in gpm</b>	<b>Best Uncertainty (<math>\pm</math>) in % <sup>note 1</sup></b>	<b>Remarks</b>
0.1 to 2100	0.1	Liquid Flow System

**NVLAP Code:** 20/M05  
Flow Rate

<b>Range in acfh <sup>note 2</sup></b>	<b>Best Uncertainty (<math>\pm</math>) in % <sup>note 1</sup></b>	<b>Remarks</b>
14 000 to 1 500 000 <sup>note 3</sup>	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. Calibrations performed at Colorado Engineering Experiment Station (CEESI) Iowa High Flow Facility, 2365 240<sup>th</sup> Street, Garner, IA 50438.
3. Up to 10 flow standards can be placed in parallel to achieve the desired flow rate.

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