



LABORATORY/OFFICE:
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COLORADO ENGINEERING EXPERIMENT STATION INC.

...the primary source for flow measurement solutions...



IOWA HIGH FLOW FACILITY
2365 240th St.
Garner, IA 50438
Phone: 641-923-3664
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Calibration of a Critical Flow Venturi

Model: Serial Number:

For: Order:

Data File: Job Number: Date: 00 January 1900

Inlet Diameter: 2.157 Inches Throat Diameter: 0.125 Inches

Test Gas: AIR Standard Density: 0.074895 lbm/ft³

at standard conditions of 529.67 °R, and 14.696 Psia

Press: Meter INLET static pressure in psia

Temp: INLET temperature, degrees Rankine

Cd: Coefficient of discharge

ReyNo: Throat Reynolds number

LBMS: Mass flowrate in pounds mass per second

C*: Critical flow factor, dimensionless

Pt.	Press	Temp	Cd	ReyNo	LBMS	C*
1	125.31	529.6	0.98669	347491	0.03519	0.6873
2	115.80	529.4	0.98683	321423	0.03252	0.6871
3	115.83	529.4	0.98683	321475	0.03253	0.6871
4	105.67	529.2	0.98714	293575	0.02968	0.6869
5	96.82	529.2	0.98720	269085	0.02719	0.6867
6	96.82	529.3	0.98718	269061	0.02719	0.6867
7	86.53	529.2	0.98744	240619	0.02430	0.6865
8	77.84	529.3	0.98749	216507	0.02185	0.6864
9	77.83	529.3	0.98750	216485	0.02185	0.6864
10	67.92	529.3	0.98748	188948	0.01906	0.6862
11	58.06	529.3	0.98710	161525	0.01628	0.6860
12	58.06	529.3	0.98711	161502	0.01628	0.6860
13	48.57	529.0	0.98661	135196	0.01362	0.6858
14	39.97	528.9	0.98576	111195	0.01119	0.6856
15	39.99	529.0	0.98549	111213	0.01120	0.6856
16	29.47	528.7	0.98353	81872	0.00823	0.6854
17	19.90	528.4	0.98104	55197	0.00555	0.6852
18	19.94	528.6	0.98065	55272	0.00555	0.6852



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STATEMENT OF UNCERTAINTIES

Calibration of a Critical Flow Venturi

Model: Serial Number:

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Data File: Job Number: Date: 00 January 1900

Inlet Diameter: 2.157 Inches Throat Diameter: 0.125 Inches

Test Gas: AIR Standard Density: 0.074895 lbm/ft³

at standard conditions of 529.67 °R, and 14.696 Psia

Press: Uncertainty in Pressure at a 95% confidence(%)

Temp: Uncertainty in Temperature at a 95% confidence(%)

Cd: -

ReyNo: Uncertainty in Reynolds Number at a 95% confidence(%)

LBMS: Uncertainty in Mass Flowrate at a 95% confidence(%)

C*: Uncertainty in Critical Flow Function at a 95% confidence(%)

Pt.	Press	Temp	Cd	ReyNo	LBMS	C*
1	0.030	0.034	-	2.019	0.273	0.0500
2	0.030	0.034	-	2.019	0.274	0.0500
3	0.030	0.034	-	2.019	0.274	0.0500
4	0.030	0.034	-	2.019	0.276	0.0500
5	0.030	0.034	-	2.019	0.278	0.0500
6	0.030	0.034	-	2.019	0.278	0.0500
7	0.030	0.034	-	2.020	0.280	0.0500
8	0.030	0.034	-	2.020	0.284	0.0500
9	0.030	0.034	-	2.020	0.284	0.0500
10	0.030	0.034	-	2.021	0.288	0.0500
11	0.030	0.034	-	2.021	0.293	0.0500
12	0.030	0.034	-	2.021	0.293	0.0500
13	0.030	0.034	-	2.022	0.299	0.0500
14	0.030	0.034	-	2.023	0.305	0.0500
15	0.030	0.034	-	2.023	0.305	0.0500
16	0.030	0.034	-	2.024	0.314	0.0500
17	0.030	0.034	-	2.026	0.323	0.0500
18	0.030	0.034	-	2.026	0.323	0.0500

