

ISO/IEC 17025 ACCREDITED CALIBRATION CERTIFICATE: 1.34633260

Instrument adjustment:

☐ AS FOUND ☒ AS LEFT

Comments:

CORIOLIS ISO/IEC 17025 VERIFY

Model Code	Serial ID	Order ID	Line	Item	Customer Tag
CMFS040MB67N2BAE2ZZ	12161187	10298941	2.1	1	
PUCK800	25983526				

Meter Parameters					
D1: 0	FD: 1600	Density PCP/PCF: 0.0/0.0000	DFQ1: 0		
D2: 1	DensCal: 05652065474.42	Flow PCP/PCF: 0.0/0.0	DFQ2: 0		
K1: 5652.29	DensMF: 1	FlowCal: 29.7674.51	FFQ: 0		
K2: 6547.447	VolMF: 1	Zero(uSec): 0.0111	FTG: 0		
DT: 4.423	MassMF: 1	Mass flow cutoff(kg/min): 0.038	DTG: 0		

Average Calibration Results for Meter Under Test

Grp	Mass Rate (kg/min)	Mass Total (kg)	Mass Error (%)	Volume Rate (l/min)	Volume Total (l)	Volume Error (%)	Density (kg/m ³)	Density Error (kg/m ³)	Fluid Pressure (kPa)*	Fluid Temp (°C)*
1	38.68	38.73623	-0.010	38.77	38.82959	-0.015	997.5957	0.05	221.9	23.5
2	3.776	3.779047	-0.015	3.785	3.788284	-0.015	997.5617	0.00	213.4	23.4
3	19.09	19.12770	-0.002	19.14	19.17643	0.001	997.4585	-0.04	207.5	23.7

*These measurement results are not part of the laboratories scope of accreditation.

Calibration Uncertainties									Manufacturer Specifications		
Grp	Rpts (n)	Mass Rate (kg/min)	Mass u_A (%)	Mass U_{95} (%)	Volume u_A (%)	Volume U_{95} (%)	Density u_A (kg/m ³)	Density U_{95} (kg/m ³)	Mass Spec \pm (%)	Volume Spec \pm (%)	Density Spec \pm (kg/m ³)
1	4	38.68	0.009	0.035	0.011	0.038	0.02	0.09	0.050	0.071	0.50
2	3	3.776	0.005	0.032	0.005	0.032	0.00	0.08	0.050	0.071	0.50
3	3	19.09	0.001	0.030	0.004	0.032	0.04	0.11	0.050	0.071	0.50

Calibration Operator

BIJAY KHALING

Print

Signature

Date

Eng, Global Calibration Quality

Ahmed Almazoory

Print

Signature

Date

Note: Calibration certificate without signatures and seal is not valid.

End of calibration certificate



Micro Motion, Inc. 7070 Winchester Circle, Boulder CO 80301 USA

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Object:	Coriolis flow meter	These measurements have been made using the calibration standard listed, which is traceable to the International System of Units (SI), through one or more of the following National Metrology Institutes: CENAM-Mexico, INM-Romania, NIM-China, NIST-USA, and VSL-The Netherlands.
Object description-100% rate:	38.6 KG/MIN	
Manufacturer:	Micro Motion, Inc.	
Type:	CMFS040MB67N2BAE2ZZ	
Serial number:	12161187	
Customer:	GENERAL ELECTRIC CO 4000 BUECHEL BANK RD LOUISVILLE, KY, 40225-0001, US	This calibration was performed by comparison to a reference meter (dynamic start/stop reference meter method) as described in ISO 10790:2015(E) "Measurement of fluid flow in closed conduits - Guidance to the selection, installation and use of Coriolis meters (mass flow, density and volume flow measurements)", Annex A "Calibration techniques", and the internal procedure(s) listed below.
Order number:	10298941	
Date of calibration:	2018.07.24 23:32:14	
Calibration fluid:	H2O	
Calibration standard:	TSM1A	
Reference conditions:	208 ... 222 kPa(g) 23.4 ... 23.8 degC	Internal procedures: GWI 24
Environmental conditions:	85 kPa(a) 22.1 ... 22.5 degC 15 ... 85 %RH	
Measurement uncertainty:	The reported expanded uncertainties (U_{95}) are based on the combined uncertainties multiplied by a coverage factor $k=2$, which provides a confidence level of approximately 95%. All uncertainties have been determined in accordance with the GUM and EA 04/2.	

The processes used to obtain these calibration results comply with the requirements of ISO/IEC 17025:2005, and ANSI/NCSL Z540-1-1994; Part 1.

This calibration certificate only applies to the item(s) identified and shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the United States Federal Government.



Micro Motion, Inc.

Transmitter Configuration Report

12161827

Product Code	Serial ID	Order ID	Line	Item	Customer Tag
CMFS040MB67N2BAE2ZZ	12161187	10298941	2.1	1	
5700R12CBAAZZZ	12161827	10298941	2.41	1	
PUCR800	25983526				



10298941
10298941

2.1 1
2.41 1

Process

Process ID : 1.34634363
Process Time : 2018.07.25 13:29:15
Process Stand : SSCB-CONFIG2@SSCB



Sensor

Units

D1 : 0
D2 : 1
DFQ1 : 0
DFQ2 : 0
DT : 4.423
DTG : 0
Density Meter Factor : 1
FCF : 29.767
FD : 1600
FFQ : 0
FT : 4.51
FTG : 0
Flow PCP : 30
Flow PCF : 0
K1 : 5652.29
K2 : 6547.447
Mass Flow Meter Factor : 1
Volume Flow Meter Factor : 1

Units

Density Unit : G/CM3
GSV Flow Unit : SCFM
Mass Flow Unit : G/SEC
Pressure Unit : POUNDS/SQUARE INCH
Special GSV Base Time Unit : MIN
Special GSV Base Volume Unit : standard cubic feet
Special GSV Conv Factor : 1
Special GSV Flow Unit Text : NONE
Special GSV Total Text : NONE
Special Mass Base Unit : G
Special Mass Conv Factor : 1
Special Mass Flow Text : NONE
Special Mass Time Unit : SEC

MVD Channel Assignments

Special Mass Total Text : NONE
Special Volume Base Unit : L
Special Volume Conv Factor : 1
Special Volume Flow Text : NONE
Special Volume Time Unit : SEC
Special Volume Total Text : NONE
Temperature Unit : C
Velocity Unit : meters per second
Volume Flow Unit : L/MIN

Assignments

Channel C Assignment : Frequency (Primary) Output [#1]
Channel C Power : Active (internally powered)

Ranges

Event 1 Setpoint : 0
Event 1 Type : Event Low (Event "OFF" if PV > SP)
Event 2 Setpoint : 0
Event 2 Type : Event Low (Event "OFF" if PV > SP)

Other

Calibration Process ID : 1.34633260
Core Software Rev : 450
Default Gateway Sec1 : 0
Default Gateway Sec2 : 0
Default Gateway Sec3 : 0
Default Gateway Sec4 : 0
Density Cutoff : 0.2
Density Damping : 1.28
Density High Limit : 5
Density Low Limit : 0
Fault Dwell Time : 0

Other

Feature Bits : 512

Flow Damping : 0.64

IP Address Sec1 : 192

IP Address Sec2 : 168

IP Address Sec3 : 0

IP Address Sec4 : 1

LD Type : 0

Mass Flow Cutoff : 1.333333

Pressure Comp Line Pressure : 0

Pressure Compensation State : OFF

Slug Duration : 0

Subnet Mask Sec1 : 255

Subnet Mask Sec2 : 255

Subnet Mask Sec3 : 255

Subnet Mask Sec4 : 0

Tag :

Temperature Damping : 4.8

Transmitter Software Rev : 140

Volume Flow Cutoff : 0.08