Micro Motion, Inc.

Mass Flowmeter Calibration Certificate

13159825

Product Code	Serial ID	Order ID	Line	Item	Customer Tag
CNG050S290NCAAEZZZ	13159825	10249434	1.1	4	18011205

Process

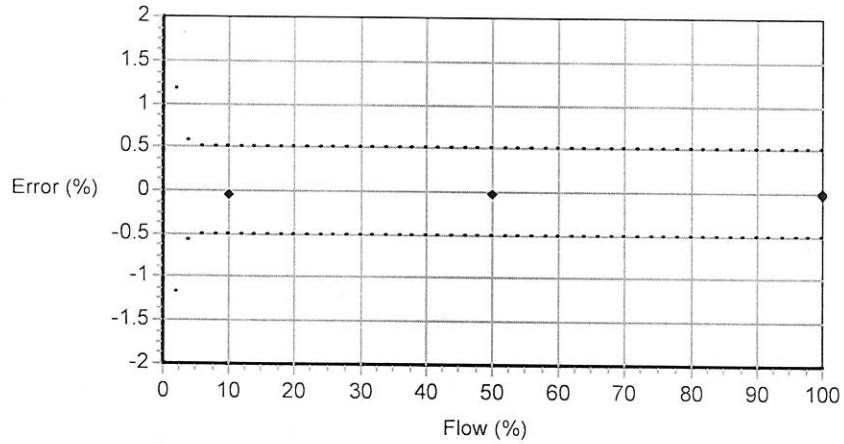
Process ID : 5.26371568
Process Time : 2017.04.05 15:43:23
Process Stand : TSGCNG@SSCN
Stand Uncertainty : +/-0.030%
Fluid : H20
100% Rate : 38.6 KG/MIN
Pickoff : 1
Max Rate P/T : 47.56 PSIG/25 C

Results

Status : PASS
D1 : 0
D2 : 1
K1 : 4046.135
K2 : 4223.655
DT : 4.25
FD : 0
DTG : 0
DFQ1 : 0
DFQ2 : 0
FlowCal : 137.714.50
FFQ : 0
FTG : 0
DensCal : 04046042244.25
FCF : 137.71
FT : 4.5

CHEN, QING
Technician
This certificate is produced by an electronic data system and is valid without signature.

Detail



Flow (%)	Flow Rate (kg/min)	Meter Total (kg)	Reference Total (kg)	Error (%)	Specification (±%)
100.0	38.6	39.15455	39.16273	-0.021	0.500
10.0	3.86	3.777332	3.778959	-0.043	0.500
50.0	19.3	19.61427	19.61778	-0.018	0.500
100.0	38.6	39.32697	39.32797	-0.003	0.500

Traceable to one or more of the following National Metrology Institutes: NIM-China, NIST-USA, and VSL-The Netherlands

Micro Motion, Inc.

Transmitter Configuration Report

3370456

Product Code	Serial ID	Order ID	Line	Item	Customer Tag
CNG050S290NCAAEZZZ	13159825	10249434	1.1	4	18011205
2700I13ABAEZWZ	3370456	10249434	1.34	4	
PUCK700	33350416				

Process

Process ID : 1.33714517
Process Time : 2017.05.03 22:27:25
Process Stand : SSCB-CONFIG1@SSCB

Sensor

D1 : 0
D2 : 1
DFQ1 : 0
DFQ2 : 0
DT : 4.25
DTG : 0
Density Meter Factor : 1
Density Press Comp Factor : 0
FCF : 137.71
FD : 0
FFQ : 0
FT : 4.5
FTG : 0
Flow PCP : 0
Flow PCF : 0
K1 : 4046.135
K2 : 4223.655
Mass Flow Meter Factor : 1
Temperature Cal Factor : 1.00000T.00000
Volume Flow Meter Factor : 1

Units

Density Unit : G/CUCM
GSV Flow Unit : SCFM
Mass Flow Unit : G/S
Pressure Unit : PSI
Special GSV Flow Unit Text : NONE
Special Mass Base Unit : GRAM
Special Mass Conv Factor : 1
Special Mass Flow Text : NONE
Special Mass Time Unit : SEC
Special Mass Total Text : NONE
Special Volume Base Unit : LITER

Units

Special Volume Conv Factor : 1
Special Volume Flow Text : NONE
Special Volume Time Unit : SEC
Special Volume Total Text : NONE
Temperature Unit : DEGC
Volume Flow Unit : L/MIN

Assignments

Event 1 Variable : DENSITY
Event 2 Variable : DENSITY
Frequency1 Scaling Method : FREQUENCY/FLOW
Frequency Variable 1 : MASS FLOW RATE
mA1 Variable : MASS FLOW RATE

Ranges

Event 1 Setpoint : 0
Event 1 Type : LOW ALARM
Event 2 Setpoint : 0
Event 2 Type : LOW ALARM
Frequency1 Active State : ACTIVE HIGH
Frequency1 Hertz : 1000
Frequency1 Pulses/Unit : 25.90674
Frequency1 Rate : 38.6
Frequency1 Units/Pulse : 0.0386
mA1 LRV : 0
mA1 URV : 38.6

Faults

Frequency1 Fault Behavior : UPSCALE
Frequency1 Fault Value : 15000
RS485 Fault Behavior : NONE
mA1 Fault Behavior : DOWNSCALE
mA1 Fault Value : 2

Other

Calibration Process ID : 5.26371568

18011205

Other

Core Software Rev	35
Density Cutoff	0.2
Density Damping	1.6
Density High Limit	5
Density Low Limit	0
Direction	FORWARD
Fault Dwell Time	0
Feature Key	1
Flow Damping	0.8
HART Device ID	3344743
LD Coil	0
LD Type	0
Mass Flow Cutoff	1.836
Pressure Comp Line Pressure	0
Pressure Compensation State	OFF
RS485 Baud	1200
RS485 Parity	ODD
RS485 Protocol	HART
Slug Duration	0
Tag	
Temperature Damping	4.8
Transmitter Software Rev	66
Volume Flow Cutoff	0.11016

Tulsa Gas Technologies, Inc.
4809 S. 101st East Ave Tulsa, OK 74146
PHONE: 918-665-2641 FAX: 918-665-2657

2/20/2018
Dispenser Serial Number 18011205

Micro Motion Transmitter Configuration

Required settings for correct operation of Micro Motion mass flow meter.

Transmitter Model Number:	2700
Sensor Model Number:	CNG095
Transmitter Serial Number:	3370456
Sensor Serial Number	13159825
Flow Calibration Factor:	137.714.50
Flow Units	lb/min

Communication on RS-485

Protocol	Modbus ASCII 7 Bit
Modbus Address	1
Baud Rate	9600
Parity	Even
Stop Bits	1

HART Communication

Superimposed on Primary mA (PV)

Analog Output (4-20 mA)

Analog Variable (PV)	Mass Flow
Lower Range Value	00000 lb/min
Upper Range Value	300.000 lb/min
mA Cutoff	0.0000 lb/min

Freq/Rate

Frequency variable (TV)	Mass Flow
Frequency Cutoff	0.2500 lb/min
Pulses per Unit	1000.00000 per lb

Temperature

Temp Units	deg F