

Product Code CNG050S290NCAAEZZZ Serial ID 13075174

Order ID 10167697

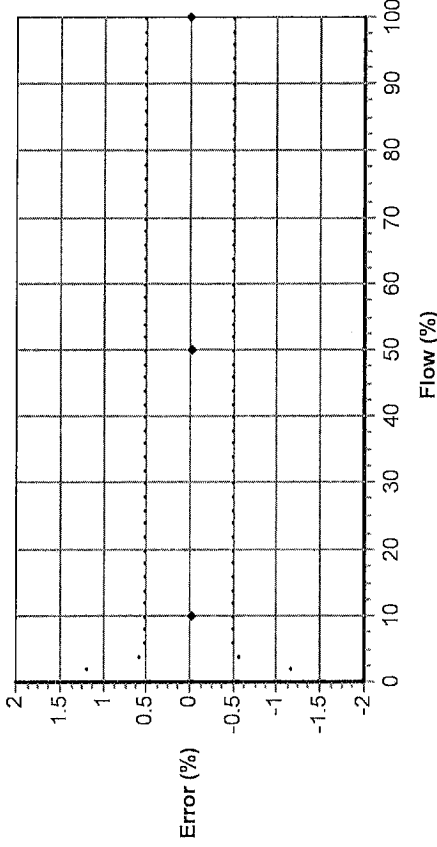
Line 1.1 Item 1.1 Customer Tag 1

14101021A

Process

Detail

Process ID : 5.24965108
Process Time : 2014.04.11 19:41:24
Process Stand : TSGCNG@SSCN
Stand Uncertainty : +/-0.030%
Fluid : H2O
100% Rate : 38.6 KG/MIN
Pickoff : 1
Max Rate P/T : 50.13 PSIG/25 C



Results

Status : PASS

D1 : 0
D2 : 1
K1 : 4023.746
K2 : 4193.231
DT : 4.25
FD : 0
DTG : 0
DFQ1 : 0
DFQ2 : 0
FlowCal : 141.674.50
FFQ : 0
FTG : 0
DensCal : 04024041934.25
FCF : 141.67
FT : 4.5

Table with 6 columns: Flow (%), Flow Rate (kg/min), Meter Total (kg), Reference Total (kg), Error (%), Specification (±%).

Signature: XIA, RONG
Technician

Product Code	Serial ID	Order ID	Line	Item	Customer Tag
CNG050S290NCAAEZZZ	13075174	10167697	1.1	1	
2700I13ABAEZWW	3282751	10167697	1.34	1	
PUCK700	33061601				

21A

Process

Process ID : 1.30927307
 Process Time : 2014.05.03 11:12:16
 Process Stand : DENSITY CONFIG@SSCB



Sensor

D1 : 0
 D2 : 1
 DFQ1 : 0
 DFQ2 : 0
 DT : 4.25
 DTG : 0
 Density Meter Factor : 1
 Density Press Comp Factor : 0

Units

Special Volume Base Unit : LITER
 Special Volume Conv Factor : 1
 Special Volume Flow Text : NONE
 Special Volume Time Unit : SEC
 Special Volume Total Text : NONE
 Temperature Unit : DEGF
 Volume Flow Unit : GAL/MIN

Assignments

Event 1 Variable : DENSITY
 Event 2 Variable : DENSITY
 Frequency Scaling Method : FREQUENCY/FLOW
 Frequency Variable : 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
 Frequency Active State : ACTIVE HIGH
 Frequency Hertz : 1000
 Frequency Pulses/Unit : 93264.24
 Frequency Rate : 38.6
 Frequency Units/Pulse : 1.072222E-5

Units

Density Unit : LB/CUFT
 Mass Flow Unit : LB/HR
 Pressure Unit : PSI
 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

Faults

Frequency Fault Behavior : DOWNSCALE
 Frequency Fault Value : 15000
 RS485 Fault Behavior : NONE

Faults

mA1 Fault Behavior : DOWNSCALE
mA1 Fault Value : 2

Other

Calibration Process ID : 5.24965108
Core Software Rev : 34
Density Cutoff : 12.48559
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 : 3064180
LD Coil : 0
LD Type : 0
Mass Flow Cutoff : 14.57167
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 : 0.02910119

2/A



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

10/13/2014
Dispenser Serial Number 14101021
SIDE A

Micro Motion Transmitter Configuration

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

Transmitter Model Number: 2700
Sensor Model Number: CNG050
Transmitter Serial Number: 3282751
Sensor Serial Number 13075174
Flow Calibration Factor: 141.674.50
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

Micro Motion, Inc.

Mass Flowmeter Calibration Certificate

13074074

Product Code CNG050S290NCAAEZZZ
Serial ID 13074074

Order ID 30006350

Line 3.1 Item 1 Customer Tag

1401021B

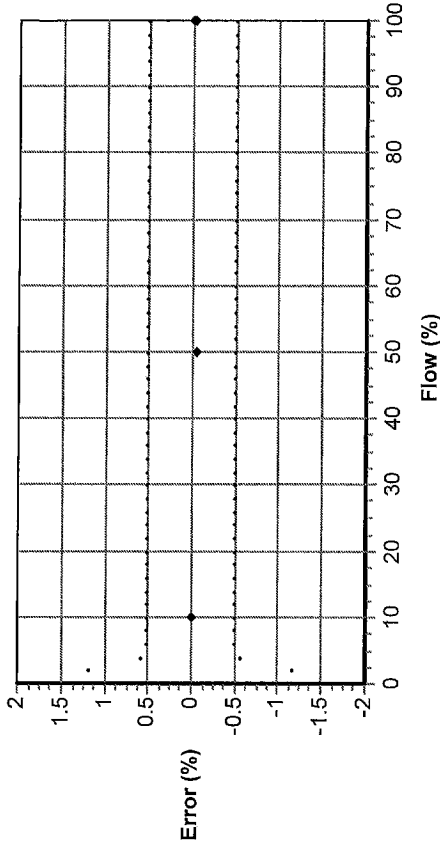
Process

Process ID : 5.24961269
Process Time : 2014.04.09 14:48:35
Process Stand : TSGCNG@SSCN
Stand Uncertainty : +/- 0.030%
Fluid : H2O
100% Rate : 38.6 KG/MIN
Pickoff : 1
Max Rate P/T : 49.29 PSIG/24.8 C

Results

Status : PASS
D1 : 0
D2 : 1
K1 : 4050.175
K2 : 4220.247
DT : 4.25
FD : 0
DTG : 0
DFQ1 : 0
DFQ2 : 0
FlowCal : 139.054.50
FFQ : 0
FTG : 0
DensCal : 04050042204.25
FCF : 139.05
FT : 4.5

Detail



Flow (%)	Flow Rate (kg/min)	Meter Total (kg)	Reference Total (kg)	Error (%)	Specification (±%)
100.0	38.6	29.43379	29.43715	-0.011	0.500
10.0	3.86	2.990664	2.990721	-0.002	0.500
50.0	19.3	14.83044	14.83622	-0.039	0.500
100.0	38.6	28.74542	28.75034	-0.017	0.500

(by) *Johang A.*
XIA, ROY
Technician

2/B

Product Code	Serial ID	Order ID	Line	Item	Customer Tag
CNG050S290NCAAEZZZ	13074074	30006350	3.1	1	
2700I13ABAEZMZ	3286634	30006350	3.34	1	
PUCK700	33070032				

Process

Process ID : 1.31066107
 Process Time : 2014.06.12 16:00:45
 Process Stand : SSCB-CONFIG1@SSCB

Sensor

Units

D1 : 0
 D2 : 1
 DFQ1 : 0
 DFQ2 : 0
 DT : 4.25
 DTG : 0
 Density Meter Factor : 1
 Density Press Comp Factor : 0
 FCF : 139.05
 FD : 0
 FFQ : 0
 FT : 4.5
 FTG : 0
 Flow PCP : 0
 Flow PCF : 0
 K1 : 4050.175
 K2 : 4220.247
 Mass Flow Meter Factor : 1
 Temperature Cal Factor : 1.00000T.00000
 Volume Flow Meter Factor : 1

Assignments

Special Volume Base Unit : LITER
 Special Volume Conv Factor : 1
 Special Volume Flow Text : NONE
 Special Volume Time Unit : SEC
 Special Volume Total Text : NONE
 Temperature Unit : DEGF
 Volume Flow Unit : GAL/MIN
 Event 1 Variable : DENSITY
 Event 2 Variable : DENSITY
 Frequency Scaling Method : FREQUENCY/FLOW
 Frequency Variable : 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
 Frequency Active State : ACTIVE HIGH
 Frequency Hertz : 1000
 Frequency Pulses/Unit : 93264.24
 Frequency Rate : 38.6
 Frequency Units/Pulse : 1.072222E-5
 mA1 LRV : 0
 mA1 URV : 38.6

Faults

Frequency Fault Behavior : DOWNSCALE
 Frequency Fault Value : 15000
 RS485 Fault Behavior : NONE

Units

Density Unit : LB/CUFT
 Mass Flow Unit : LB/HR
 Pressure Unit : PSI
 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

Faults

mA1 Fault Behavior : DOWNSCALE
mA1 Fault Value : 2

Other

Calibration Process ID : 5.24961269
Core Software Rev : 34
Density Cutoff : 12.48559
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 : 3075148
LD Coil : 0
LD Type : 0
Mass Flow Cutoff : 14.57167
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 : 0.02910119



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Dispenser Serial Number 14101021
SIDE B

Micro Motion Transmitter Configuration

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

Transmitter Model Number: 2700
Sensor Model Number: CNG050
Transmitter Serial Number: 3286634
Sensor Serial Number 13074074
Flow Calibration Factor: 139.054.50
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
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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