

Product Code CNG050S290NCAAEZZZ Serial ID 13200399 Order ID 10285247 Line 1.1 Item 2 Customer Tag 18041213A

Process ID: 5.26861422

Process Time: 2018.02.09 14:27:38

Process Stand: TSGCNG@SSCN:1

Stand Uncertainty: +/-0.030%

Fluid: H2O

100% Rate: 38.6 KG/MIN

Pickoff: 1

Max Rate P/T: 47.15 PSIG/23.9 C

Results

Status: PASS

D1: 0

D2: 1

K1: 4032.416

K2: 4203.578

DT: 4.25

FD: 0

DTG: 0

DFQ1: 0

DFQ2: 0

FlowCal: 139.434.50

FFQ: 0

FTG: 0

DensCal: 04032042044.25

FCF: 139.43

FT: 4.5

LI, MENG

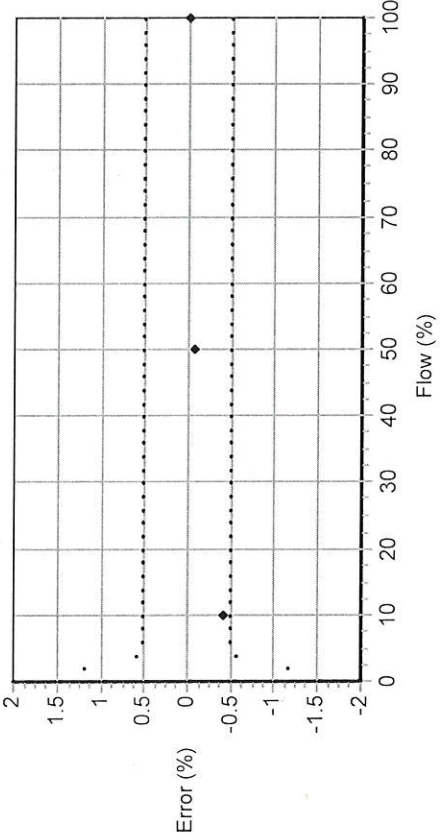
Technician

This certificate is produced by an electronic data system and is valid without signature.

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

Process

Detail



Flow (%)	Flow Rate (kg/min)	Meter Total (kg)	Reference Total (kg)	Error (%)	Specification (±%)
100.0	38.6	38.63603	38.63466	0.004	0.500
10.0	3.86	3.776431	3.792069	-0.412	0.500
50.0	19.3	19.59786	19.60868	-0.055	0.500
100.0	38.6	39.26135	39.26427	-0.007	0.500

Product Code	Serial ID	Order ID	Line	Item	Customer Tag
CNG050S290NCAAEZZZ	13200399	10285247	1.1	2	
2700I13ABAEZWW	3401196	10285247	1.36	2	
PUCK700	33478993				

1804/213A

Process

Process ID : 1.34398643
 Process Time : 2018.04.04 12:25:53
 Process Stand : SSCB-CONFIG1@SSCB



Sensor

D1 : 0
 D2 : 1
 DFQ1 : 0
 DFQ2 : 0
 DT : 4.25
 DTG : 0
 Density Meter Factor : 1
 FCF : 139.43
 FD : 0
 FFQ : 0
 FT : 4.5
 FTG : 0
 Flow PCP : 30
 Flow PCF : 0
 K1 : 4032.416
 K2 : 4203.578
 Mass Flow Meter Factor : 1
 Volume Flow Meter Factor : 1

Units

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
 Volume Flow Unit : L/MIN

MVD Channel Assignments

Channel B Power : Active (internally powered)

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

Frequency1 Active State : Active High
 Frequency1 Hertz : 1000
 Frequency1 Output Mode : Single
 Frequency1 Pulses/Unit : 1.554404
 Frequency1 Rate : 643.3333
 Frequency1 Units/Pulse : 0.64333333
 mA1 LRV : 0
 mA1 URV : 643.3333

Faults

Frequency1 Fault Behavior : Upscale
 Frequency1 Fault Value : 15000

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

Faults

mA1 Fault Behavior : Downscale (Default)
mA1 Fault Value : 2

Other

Calibration Process ID : 5.26861422

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 : 3502902

LD Type : 0

Mass Flow Cutoff : 1.836

Pressure Comp Line Pressure : 0

Pressure Compensation State : OFF

RS485 Baud : 1200 baud

RS485 Parity : Odd

RS485 Protocol : HART

Slug Duration : 0

Tag :

Temperature Damping : 4.8

Transmitter Software Rev : 80

Volume Flow Cutoff : 0.11016

18041213A



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

4/30/2018

Dispenser Serial Number 18041213

Side A

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: 3401196
Sensor Serial Number 13200399
Flow Calibration Factor: 139.434.50
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

Product Code: CNG050S290NCAAEZZZ Serial ID: 13201989 Order ID: 10285247 Line: 2.1 Item: 2 Customer Tag: 18041213B

Process ID: 5.26882340 Process Time: 2018.03.01 0:31:54 Process Stand: TSGCNG@SSCN:1 Stand Uncertainty: +/-0.030% Fluid: H2O 100% Rate: 38.6 KG/MIN Pickoff: 1 Max Rate P/T: 50.54 PSIG/23.8 C

Process

Detail

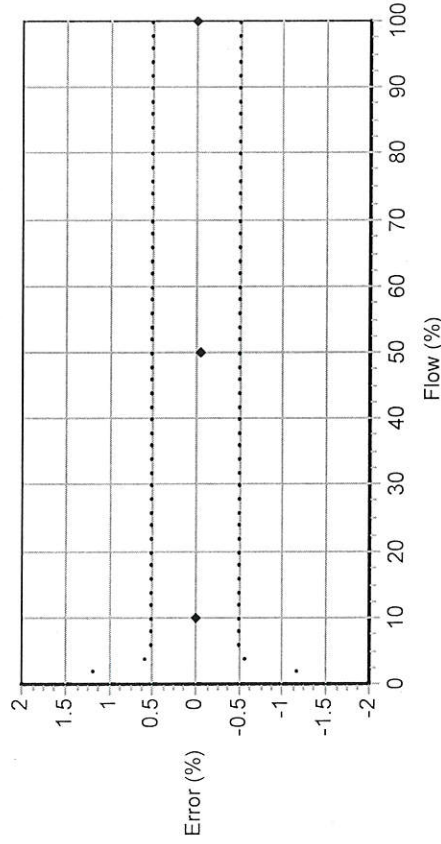


Process ID : 5.26882340
 Process Time : 2018.03.01 0:31:54
 Process Stand : TSGCNG@SSCN:1
 Stand Uncertainty : +/-0.030%
 Fluid : H2O
 100% Rate : 38.6 KG/MIN
 Pickoff : 1
 Max Rate P/T : 50.54 PSIG/23.8 C

Results

Status : PASS

D1 : 0
 D2 : 1
 K1 : 4058.263
 K2 : 4230.551
 DT : 4.25
 FD : 0
 DTG : 0
 DFQ1 : 0
 DFQ2 : 0
 FlowCal : 137.594.50
 FFQ : 0
 FTG : 0
 DensCal : 04058042314.25
 FCF : 137.59
 FT : 4.5



Flow (%)	Flow Rate (kg/min)	Meter Total (kg)	Reference Total (kg)	Error (%)	Specification (±%)
100.0	38.6	38.41022	38.41483	-0.012	0.500
10.0	3.86	3.800427	3.800982	-0.015	0.500
50.0	19.3	19.68085	19.69109	-0.052	0.500
100.0	38.6	39.30574	39.30639	-0.002	0.500

LI, MENG
 Technician

By Bal Carter

This certificate is produced by an electronic data system and is valid without signature.

Product Code	Serial ID	Order ID	Line	Item	Customer Tag
CNG050S290NCAAEZZZ	13201989	10285247	2.1	2	
2700I13ABAEZWW	3401219	10285247	2.36	2	
PUCK700	33479022				

18041213B

Process

Process ID : 1.34398471
 Process Time : 2018.04.04 11:04:53
 Process Stand : SSCB-CONFIG1@SSCB



Sensor

Units

D1 : 0
 D2 : 1
 DFQ1 : 0
 DFQ2 : 0
 DT : 4.25
 DTG : 0
 Density Meter Factor : 1
 FCF : 137.59
 FD : 0
 FFQ : 0
 FT : 4.5
 FTG : 0
 Flow PCP : 30
 Flow PCF : 0
 K1 : 4058.263
 K2 : 4230.551
 Mass Flow Meter Factor : 1
 Volume Flow Meter Factor : 1

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
 Volume Flow Unit : L/MIN

MVD Channel Assignments

Channel B Power : Active (internally powered)

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

Frequency1 Active State : Active High
 Frequency1 Hertz : 1000
 Frequency1 Output Mode : Single
 Frequency1 Pulses/Unit : 1.554404
 Frequency1 Rate : 643.3333
 Frequency1 Units/Pulse : 0.64333333
 mA1 LRV : 0
 mA1 URV : 643.3333

Faults

Frequency1 Fault Behavior : Upscale
 Frequency1 Fault Value : 15000

Units

Density Unit : G/CM3
 GSV Flow Unit : SCEM
 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

180412.13B

Faults

mA1 Fault Behavior : Downscale (Default)
mA1 Fault Value : 2

Other

Calibration Process ID : 5.26882340

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 : 5965876

LD Type : 0

Mass Flow Cutoff : 1.836

Pressure Comp Line Pressure : 0

Pressure Compensation State : OFF

RS485 Baud : 1200 baud

RS485 Parity : Odd

RS485 Protocol : HART

Slug Duration : 0

Tag :

Temperature Damping : 4.8

Transmitter Software Rev : 80

Volume Flow Cutoff : 0.11016



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4/30/2018

Dispenser Serial Number 18041213

Side B

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: 3401219
Sensor Serial Number 13201989
Flow Calibration Factor: 137.594.50
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