



M.A. Selmon Co., Inc

www.maselmon.com

4 Oxford Road, Milford, CT 06460

203-377-3525 203-377-5238 (fax)

December 2, 2016

Dunn Paper
2 Forbes Street
East Hartford, CT 06108

Subject: Report for Scotland Street Flow Meter

This report includes:

1. Flow Calibration Survey performed on November 29, 2016.
2. Reference Meter and Device under Test Information.
3. Laboratory Test on the Transducers used for Calibration.
4. Transfer statement verify our Laboratory Calibration.

Installed Siemens Meter Total Gallons	Portable Flexim Meter Total Gallons
52	0
77	25
101	50
127	75
152	100
178	125
204	150
229 (177 GAL)	175
.992 % accy	

Regards,

Devin Yazmer

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devin@maselmon.com

Meter programmed data



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Quantity	Unit	A
Outer Diameter	inch	6.626
Wall thickness	inch	0.248
Wall material		Stainless Steel
Roughness	inch	0.000
Fluid		Water
Fluid SOS	m/s	1457.7
Fluid temp.	°F	55.0
Fluid pressure	bar(a)	1.000
Transducer S/N		M2N74419
Sound paths		2
Transducer distance	inch	2.752
Volume Units		USgpm
Damping	s	30

Channel	Quantity	Quality	Mean	Std.Dev	Unit	Points	Valid	Min	Max	Max-Min	Min@	Max@
A	Flow velocity		0.22	0.01	fps	15	15	0.21	0.24	0.02	11/29/2016 12:31:49 PM	11/29/2016 12:42:49 PM
A	Volume flow		20.56	0.60	USgpm	15	15	19.62	21.73	2.11	11/29/2016 12:31:49 PM	11/29/2016 12:42:49 PM
A	Volume POS		201.18	137.26	gal	15	15	18.43	421.62	403.19	11/29/2016 12:34:49 PM	11/29/2016 12:33:49 PM
A	Volume NEG		0.03	0.04	gal	15	15	0.00	0.09	0.09	11/29/2016 12:34:49 PM	11/29/2016 12:29:49 PM
A	Sound speed		1451.9	0.5	m/s	15	15	1451.6	1453.9	2.3	11/29/2016 12:30:49 PM	11/29/2016 12:29:49 PM
A	Amplitude		56.20	0.75	%	15	15	56.00	59.00	3.00	11/29/2016 12:30:49 PM	11/29/2016 12:29:49 PM
A	SCNR		30.93	0.25	dB	15	15	30.00	31.00	1.00	11/29/2016 12:41:49 PM	11/29/2016 12:29:49 PM
A	SNR		30.20	1.60	dB	15	15	29.00	36.00	7.00	11/29/2016 12:30:49 PM	11/29/2016 12:29:49 PM
A	Vari.amplitude		0.07	0.25	%	15	15	0.00	1.00	1.00	11/29/2016 12:30:49 PM	11/29/2016 12:29:49 PM
A	Vari.time		n/a	n/a	%	15	0	n/a	n/a	n/a	n/a	n/a
A	Diag error bits		0	0		15	15	0	0	0	11/29/2016 12:29:49 PM	11/29/2016 12:29:49 PM
A	Gain		64.39	1.10	dB	15	15	60.27	64.68	4.41	11/29/2016 12:29:49 PM	11/29/2016 12:30:49 PM

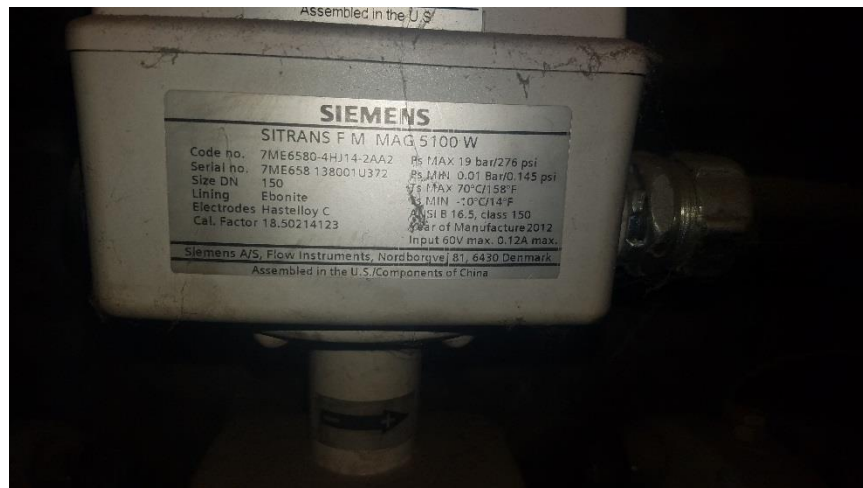
Customer Site Name
 Location
 Confined Space

**Dunn Paper
 Dunn Paper East Hartford
 Scotland Street Pipe
 No**

Application
 Pipe Size
 Sensor Location

**Scotland Street MAGFLO Meter
 6"**

REFERENCE METER (Ref)		DEVICE UNDER TEST (DUT)	
Reference	Flexim	DUT	Siemens Sitrans MAG Meter
Model	Fluxus F601	Model	7ME6580-4HJ14-2AA2
Serial #	M2N7-3344	Serial #	7ME658 138001 U372





Calibration Certificate

Device under test (DUT)

Transducer: M2N7

Ser. No.: 3344

Transmitter: Flexim

F601

Ser. No.: 06011644

Pipe ID [inch]: 6.11

Fluid:

Water

Temperature:

69.8 °F

Range[Gal/min]: 900

Spec. Accuracy: 1.0% of rate

Offset Allowance:

±0.03 ft/s

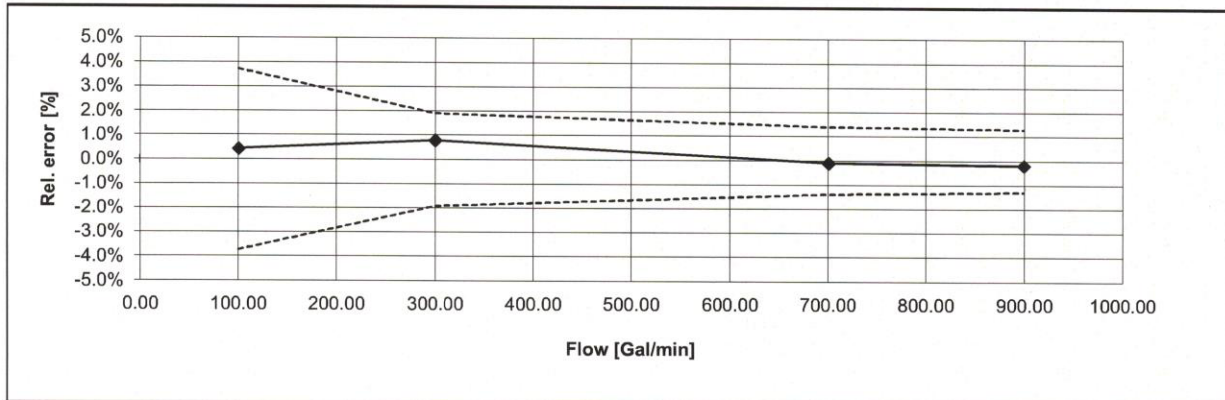
Certificate No.: (US) 20160202-005

Customer Name & Address:

M.A. Selmon
4 Oxford Road Suites D9 & D10
Milford, CT 06460

Test results

Meas. Point	Meas. Time s	Standard	DUT	measurement error		Limit	Standard	pass/ fail
		Flowrate Qn Gal/min	Flowrate Qp Gal/min	Flowrate (Qp-Qn) Gal/min	Flowrate (Qp-Qn) / Qn %	Flowrate Q Gal/min;%	Velocity v ft/s	
1	60	0.02	0.07	0.05	0.0Gpm	2.7Gpm	0.0	p
2	60	100.10	100.53	0.44	0.4%	3.7%	1.1	p
3	60	299.90	302.23	2.33	0.8%	1.9%	3.3	p
4	60	700.31	699.68	-0.64	-0.1%	1.4%	7.7	p
5	60	899.55	897.97	-1.58	-0.2%	1.3%	9.9	p



The indicated instrument meets the accuracy data published in the specification (passed / failed).

p

The instrument specified above was calibrated against measurement standards which are traceable to the National Institute of Standards and Technologies (NIST).

The calibration was carried out according to the guidelines monitored by our certified QM system in compliance with DIN EN ISO 9001.

Standard: YOKOGAWA AXF100C
Calibration due: 12.04.2016
for Calibration-Rig

Ser. No.: AAXFBC533 714
Certificate No. 15FXM-0004_1

Rig: PS101

Date: 02/02/16

Test eng.: Matthew Parody

Signature:

This certificate contains 1 page and should be copied only in its entirety.

FLEXIM AMERICAS Corporation
250V Executive Drive Edgewood NY 11717
ph

FB10-810 US Calibration Cert 5 Pts
03/07/2014

Rev 02

Transfer Calibration Statement

Meters

This document is applicable to all Flexim meters which are delivered with Wet Flow Calibration documentation

Definition of Calibration

Flexim's calibration facility contains nominal pipe sizes for the calibration of Flexim meters. Two pipe sizes are typically utilized: a 6" stainless steel pipe is used for calibration of M size transducers and a 2" stainless pipe is used for calibration of Q size transducers. Flexim electronics employ digital circuitry that is not subject to drift and has no influence on the instrument's calibration performance. Any adjustment of calibration that might be necessary from the manufacturing of Flexim metering system components is a result of manufacturing tolerances of the transducer. After Wet Flow calibration of the transducer/meter under test a "sensprom" module is created which contains the calibration information. This module is serialized with the transducer serial number. When the meter is received this module is installed into the Flexim meter as per the instructions in the manual. With a portable Flexim meter this module is part of the transducer connector and does not have to be installed.

Statement of Transferability

When installed on a pipe other than the wet flow calibration pipe, the Flexim meter will maintain its published calibration accuracy within the following guidelines:

1. The true user pipe dimensions are installed correctly.
2. The installation attends to the instruction manual guidelines.

The uncertainty factor of the transfer calibration is 0.412% ref: uncertainty analysis_33005