Product/Calibration Data Sheet

Device Information

Serial Number
01B30170376

Model Number
SLA5820D1BAB1A2A1

Customer
Brooks Instrument KFT

Full Scale Pressure
100 Bar(A)

Customer Gas
Hydrogen

Customer Full Scale Flow
1000 NML/MIN

Calibration Pressure
100 Bar(A)

Reference Pressure
0 Bar(A)

Controller Type
Upstream

Digital/Analog I/O
DeviceNet I/O None-Digital Communication Only

Calibration Information

Application Number
1

Calibration Pressure
100 Bar(A)

Reference Pressure
0 Bar(A)

Orifice Factor
0.269

Calibration Flow Rate
269 NML/MIN

Calibration Gas
Nitrogen

Calibration Location
Hatfield

Pressure Gauge ID
G-462

Calibrator
1209

Calibration Date/Time
4/25/2013 8:59:16 AM

Mechanical Information

Valve Type
Normally Closed (100 Bar)

Valve Seat Material
Viton

Orifice Size
0.0055

Restrictor Size/Sensor Type
Not Applicable (No Restrictor) 20-100 Bar(a) (290-1450 PSIA)

Sensor S/N
N/A

Mounting Attitude
#1: Horz Base Dn

O-ring/Seal Material
Viton

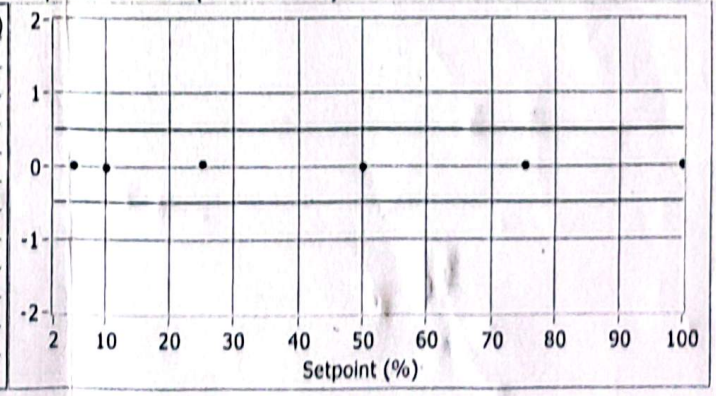
Mechanical Connections
1/4" Tube Compression

Remarks

Calibration Check Data

Setpoint (%)	Output (%)	Bar(A)	Error (% Full Scale)
0.0	0.187	0.1658	-
5.0	4.999	5.01441	0.01441
10.0	9.964	9.97714	-0.02286
25.0	24.988	25.03532	0.03532
50.0	49.970	49.98377	-0.01622
75.0	75.004	75.00153	0.00153
100.0	99.998	100.00484	0.00484

Setpoint Vs Error (% Full Scale)



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Brooks Instrument

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CamScanner

Product/Calibration Data Sheet

Device Information

Serial Number
F24632-001

Model Number
SLA5850SC1EE1A2A1

Customer
PMC Building,

Customer Fluid
Hydrogen Chloride

Full Scale Flow
1 slpm

Reference Temp/Pressure
0 °C/760 mmHg

Customer Inlet Pressure
500 Psi g

Customer Outlet Pressure
495 Psi g

Input
RS-485 None-Digital Communication Only

Output
RS-485 None-Digital Communication Only

Customer Part Number
N/A

Calibration Information

Calibration Inlet Pressure
34.47 bar g

Calibration Outlet Pressure
34.11 bar g

Gas Conversion Factor
0.983

Calibration Fluid
Nitrogen

Calibration Software/Revision
DeltaCal Version 1.3.31 S

Calibration Location
BMH

Calibration System ID
04001/07

Calibrator
BRH op 381

Calibration Date/Time
4/12/2013 12:57:11 PM

Calibration Procedure
CAL-060 Rev. 6

Calibration #
1 of 1

Mechanical Information

Valve Type
Normally Closed

Valve Seat Material
EPDM

O-ring/Seal Material
EPDM

Mounting Attitude
#1 Horizontal Base Down

Power Supply
24 VDC

Reference Number
1

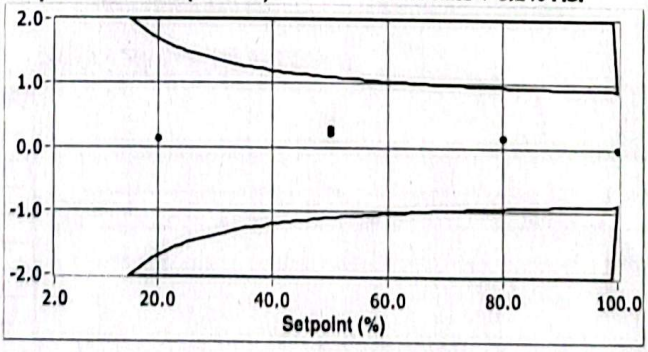
Alternate ID
N/A

Calibration Notes
N/A (Hart Tag Name: 24632001, Hart Unique ID: 2463201, Hart Data Rate: 19200)

Calibration Check Data

Setpoint (%)	Output (%)	Flow (slpm)	Error (% Rate)
0.00	-0.009	0	-
20.00	19.991	0.20024	0.12
50.00	49.993	0.50143	0.29
80.00	80.015	0.80112	0.14
100.00	100.006	0.99986	-0.01
50.00	49.995	0.50113	0.23
0.00	0.012	0	-

Setpoint Vs Error (% Rate) **0.7% Rate + 0.2% F.S.**



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BRH-OP 381

Approved by: _____

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Ref. OPN-004-1

CamScanner

Product/Calibration Data Sheet

Device Information

Serial Number
01B30170375

Model Number
SLA5820D1BAB1A2A1

Customer
Brooks Instrument KFT

Full Scale Pressure
100 Bar(A)

Customer Gas
Hydrogen

Customer Full Scale Flow
500 NML/MIN

Calibration Pressure
100 Bar(A)

Reference Pressure
0 Bar(A)

Controller Type
Upstream

Digital/Analog I/O
DeviceNet I/O None-Digital Communication Only

Calibration Information

Application Number
1

Calibration Pressure
100 Bar(A)

Reference Pressure
0 Bar(A)

Orifice Factor
0.269

Calibration Flow Rate
134.5 NML/MIN

Calibration Gas
Nitrogen

Calibration Location
Hatfield

Pressure Gauge ID
G-462

Calibrator
1209

Calibration Date/Time
4/24/2013 1:44:48 PM

Mechanical Information

Valve Type
Normally Closed (100 Bar)

Valve Seat Material
Viton

Orifice Size
0.004

Restrictor Size/Sensor Type
Not Applicable (No Restrictor) 20-100 Bar(a) (290-1450 PSIA)

Sensor S/N
N/A

Mounting Attitude
#1: Horz Base Dn

O-ring/Seal Material
Viton

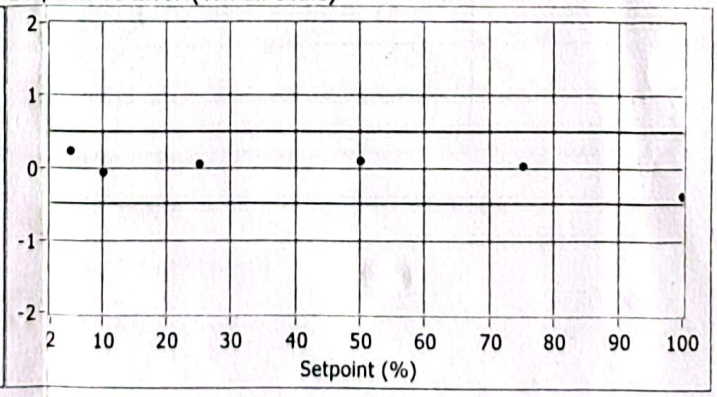
Mechanical Connections
1/4" Tube Compression

Remarks

Calibration Check Data

Setpoint (%)	Output (%)	Bar(A)	Error (% Full Scale)
0.0	0.016	0.00924	-
5.0	5.237	5.25135	0.25135
10.0	9.944	9.9528	-0.04720
25.0	24.916	25.0553	0.05530
50.0	49.941	50.1144	0.11440
75.0	74.899	75.04342	0.04342
100.0	99.570	99.62728	-0.37272

Setpoint Vs Error (% Full Scale)



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CamScanner

Brooks Instrument B.V.
P.O. Box 56
3900 AB Veenendaal
The Netherlands

Calibration Data Sheet

FLOMEGA
Liquid mass flow meter/controller

Customer : PMC
Tag no. : *
P.O. no. : PCS-13-1275
O.E.M. file no. : *

Serial no. : F24631/001
Model no. : 5882/D1A13A0F1

PROCESS CONDITIONS			CALIBRATION CONDITIONS		
Fluid	: NAPTHA		Fluid	: WATER	
Temp.	: 20.0	°C	Temp.	: 21.0	°C
Upstr.press.	: pa 74.000	bar	Upstr.press.	: pa 6.0	bar
Downstr.press.	: pa 34.000	bar	Downstr.press.	: pa 1.0	bar
Range	: 8.0 - 400.0	g/h			
Cp-value	: 2054.0	J/kg.K			
Density	: 670.9	kg/m^3			
Viscosity	: 0.3	cP			
Thermal cond.	: 0.2000	W/m.K			

SW1			JUMPERS (pin 2 and)								
1	2	3	1	2	5	7	6	11	13	14	15
X	O	O	1	3	1	1	1	3	1	3	3

"x" = close "o" = open

CALIBRATION DATA

Signal output [% of F.S.]	Desired flow [g/h]	Actual flow [g/h]	Actual flow [g/h water]	Error [% of max.]
100.0	400.0000	401.76	197.30	0.44
75.0	300.0000	301.00	147.82	0.25
50.0	200.0000	200,57	98.50	0.14
25.0	100.0000	101,24	49.72	0.31
10.0	40.0000	40,93	20.10	0.23

Orifice size : 0.01000 inch
Valve seat mat'l : VITON
O-ring mat'l : VITON
Max. oper.press. : 100 bar
Helium leak test : 1*10^-6 mbar.l/s
Tool no. : 03164/02
Sensor Output TP5: 0.0 mV
Gradient Volt.TP4: 0.000 V
Valve Voltage : 7.5 V (at 10 % setpoint)
Attitude : 1
I/O Signal : 4-20 mA
Power Supply : 24 VDC

Date : 16- 5-2013
Calibrator : OP-106
Certified by : _ _ _ _ _ _ _ _ _ _

Remarks :

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EC Declaration of Conformity

No: BID 013 Rev. G

We,

Brooks Instrument B.V.
Neonstraat 3
6718 WX Ede
The Netherlands

Manufactured by,

Brooks Instrument LLC
407 West Vine Street
Hatfield, PA 19440
USA

Declare under our sole responsibility that the product,

SMART II Digital Industrial Elastomer Sealed Series
SLA5810 and SLA5820 Pressure Controllers
SLA5840 Remote Transducer Pressure Controller
SLA5850, SLA5851, and SLA5853 Thermal Mass Controllers
SLA5860, SLA5861, SLA5863 & 64 Thermal Mass Meters

to which this declaration relates, is in conformity with the provisions of the European Community Directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of the applied standards and when applicable or required, a European Community notified body certification, as shown in the attached schedule.

(Signature)

Jan Willem van Rijswijk
(Name - printed)

15 August 2011
(Date of issue)

Technical Director, EMA
(Function name - printed)

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VAT no. NL818752403 B01

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SCHEDULE

EC Declaration of Conformity BID 013 Rev. G

SMART II Digital Industrial Elastomer Sealed Series
SLA5810 and SLA5820 Pressure Controllers
SLA5840 Remote Transducer Pressure Controller
SLA5850, SLA5851, and SLA5853 Thermal Mass Controllers
SLA5860, SLA5861, SLA5863 & 64 Thermal Mass Meters

Electronics

EMC Directive (2004/108/EC)

Digital I/O Communications, Model Code Position 9

Code A: Analog 15 V and 24 V DC
Code D and V: Device Net Digital Communications
Code S: Analog IO w RS485 Communications

EN 61326-1: 2006

ATEX Directive (94/9/EC)

Safety Certification, Model Code Position 18 =Code 2
Type of protection "n" Type Examination
Certificate:
KEMA 04ATEX1118 X
EN 60079-15: 2003

Flow Meter Assembly

Pressure Equipment Directive (97/23/EC)

Design Standards:
ASME B31.3: 1999 with 2000 Addenda or later revision

Module H Conformity Assessment:
Certificate Number: 11-PED-ROT-H-11.007820-01

SLA5853 and SLA63: Nominal Device size DN40 [line size DN15 thru DN40]

PED Notified Body
Det Norske Veritas (DNV) [Notified Body Number: 0427]
Det Norske Veritas B.V. - PCNL
Zwolseweg 1
2994 LB Barendrecht
The Netherlands

Note: SLA5850, SLA5860, SLA5851, and SLA5861: Equipment falls under "Sound Engineering Practice (SEP) "according to the Directive.

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EC Declaration of Conformity

No: BID 021 Rev. E

We,

Brooks Instrument B.V.
Neonstraat 3
6718 WX Ede
The Netherlands

Manufactured by,

Brooks Instrument LLC
407 West Vine Street
Hatfield, PA 19440
USA

Declare under our sole responsibility that the products,

Flomega Series
Models 5881/5882/5891/5892

to which this declaration relates, is in conformity with the provisions of the European Community Directives, including the latest amendments, as shown in the attached schedule.

Assumption of conformity is based on the application of the applied standards and when applicable or required, a European Community notified body certification, as shown in the attached schedule.

(Signature)

Jan Willem van Rijswijk
(Name - printed)

19 April 2011
(Date of issue)

Technical Director, EMA
(Function name – printed)

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BROOKS INSTRUMENT

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SCHEDULE

EC Declaration of Conformity BID 021 Rev. E

Flomega Series

Electrical Assembly

EMC Directive (2004/108/EC)

EN 61326-1: 2006

ATEX Directive (94/9 EC)

Type of protection "n" Type Certificate: KEMA 99ATEX3626
EN 60079-15: 2003
EN 50281-1-1: 1998 + A1

Production Quality Assessment: KEMA 04ATEXQ3215
Acc to directive 94/9/EC

KEMA/DEKRA (notified body number: 0344)
Utrechtseweg 310
6812 AR Arnhem
The Netherlands

Flow Meter Assembly

Pressure Equipment Directive (97/23/EC)

Note: Equipment falls under "Sound Engineering Practice (SEP) "according to the PED Directive

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