

Certificate of Calibration Fluke Park Laboratory

Description:	PRESSURE MEASUREMENT MODULE	Certificate Number:	1500237904
Manufacturer:	FLUKE CALIBRATION	Date of Calibration:	04 May 2018
Model:	PM200-BG250K	Date Due:	
Serial Number:	3841067	Temperature:	20.0 to 26.0 °C
Status:	AS-LEFT	Relative Humidity:	10 to 70 %RH
		Pressure:	95 to 103 kPa
Calibration:	FULL	Issue Date:	04 May 2018
Procedure:	FLUKE PM SERIES PRESSURE MODULE CALIBRATION : 20180317		
Customer:	VIDITEC SA BUENOS AIRES, AR	RMA/SO Number:	31484656
PO Number:	IRV PO 1763		

This calibration is traceable to the SI through recognized national measurement institutes (NIST, PTB, NPL, NIM, NRC, etc.), radiometric techniques, or natural physical constants and is in compliance with ISO/IEC 17025:2005 and ANSI/NCSL Z540.1. The calibration has been completed in accordance with the Fluke Corporate Quality System document QSD 111.0. Calibration certificates without identification of the authorizing person are not valid. This certificate applies to only the item identified and shall not be reproduced other than in full, without the specific written approval by Fluke Corporation.

This calibration certificate may contain data that is not covered by the Scope of Accreditation. The unaccredited test points, where applicable, are indicated by an asterisk (*), or confined to clearly marked sections. This certificate shall not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Measurement uncertainties at the time of test are given where applicable. They are calculated in accordance with the method described in the ISO Guide to the Expression of Uncertainty in Measurement. The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95 %.

Comments:



Cert # : 1500237904
 Date Cal: 04 May 2018
 Date Due:
 S/N : 3841067
877-355-3225 www.Flukecal.com

Cert: 1500237904
 Due:
 S/N: 3841067

Approved Signatory
Josh Hanger
 Authorized Signatory

Standards Used

Description	Serial Number	Due-Date
DH INSTRUMENTS PC-7100/7600-10 KPA/KG PISTON-CYLINDER	902	04-Jan-2019
DH INSTRUMENTS PC-7607-5 KPA/KG PISTON-CYLINDER	410	19-Jun-2019
FLUKE CALIBRATION MS-AMH-38 MASS SET	2815	18-May-2018
FLUKE CALIBRATION MS-AMH-38 MASS SET	2814	14-Jun-2018
DH INSTRUMENTS PG7607 PISTON GAUGE BASE	169	06-Jul-2018
FLUKE CALIBRATION PG7601 BASE	1157	04-Oct-2018

Quality Manuals

This calibration has been completed in accordance with:

The Fluke Corporate Quality Manual, QSD 111.00, Revision 121, Dated July, 2017 and/or

The Fluke 17025 Quality Manual, QSD 111.41, Revision 005, Dated Sept. 2014

Test Description

This **Fluke Calibration PM200-BG250K Pressure Measurement Module** was inspected on receipt and judged to be suitable for calibration.

At least four hours were allowed for the **PM200-BG250K** to thermally stabilize in the calibration laboratory before commencing any test. The pressure transducer was pressurized from its minimum to maximum pressure to exercise the pressure sensing element and assists in identifying leaks before data is collected.

The pressure transducer was zeroed and comparisons were performed in kPa throughout the range at specified points with Fluke Calibration working standards. Each applied and test result listed is derived from a multi-measurement data average, only after the pressure is considered to be stable and at equilibrium. Unless otherwise indicated, the horizontal plane of reference for pressure measurement is center of the test connection.

In the data pages that follow: "**Applied**" is the pressure defined by the reference at equilibrium. "**Test Result**" is the pressure indicated by the **PM200-BG250K**. "**Error**" is the absolute error in reported pressure units calculated as (Test Result – Applied). "**Measurement Uncertainty**" is the expanded uncertainty of measurement that corresponds to an approximate coverage probability of 95% and "**Specification**" is the applicable tolerance applied to the data type.

Specifications:

The PM200-BG250K Pressure Measurement Module has an uncertainty no greater than:

Model	Range	Specification ¹
PM200-BG250K	-100 kPa to 250 kPa	±(0.02% of Full Scale)

Adjustment Tolerance²:

Pressure: ±(0.01% of Full Scale)

Notes:

1. One year specification. Full Scale is defined as maximum positive full scale value of the PM200.
2. Adjustment tolerance is the As Left specification.

If manufacturer's specifications are listed, measured values greater than the manufacturer's specification limits are indicated by 'MV>Spec'.

Applied	Test Result	Error	Measurement Uncertainty	Specification
AS LEFT DATA				
GAUGE PRESSURE VERIFICATION				
PM200-BG250K ORIENTATION: HORIZONTAL				
Reported Unit: kPa				
Conversion Factor: 1 kPa = 1000 Pa				
0.00000 kPa	0.0006 kPa	0.00060 kPa	6.2E-002 Pa	0.0250 kPa
50.13826 kPa	50.1457 kPa	0.00744 kPa	8.5E-001 Pa	0.0250 kPa
100.37370 kPa	100.3783 kPa	0.00460 kPa	1.6E+000 Pa	0.0250 kPa
149.60040 kPa	149.6075 kPa	0.00710 kPa	2.4E+000 Pa	0.0250 kPa
199.79960 kPa	199.8078 kPa	0.00820 kPa	3.2E+000 Pa	0.0250 kPa
249.96760 kPa	249.9660 kPa	-0.00160 kPa	4.0E+000 Pa	0.0250 kPa
199.79960 kPa	199.8079 kPa	0.00830 kPa	3.2E+000 Pa	0.0250 kPa
149.60030 kPa	149.6078 kPa	0.00750 kPa	2.4E+000 Pa	0.0250 kPa
100.37370 kPa	100.3792 kPa	0.00550 kPa	1.6E+000 Pa	0.0250 kPa
50.13826 kPa	50.1466 kPa	0.00834 kPa	8.5E-001 Pa	0.0250 kPa
0.00000 kPa	0.0020 kPa	0.00200 kPa	7.1E-002 Pa	0.0250 kPa

AS LEFT COEFFICIENTS:
 C0: 0.000500 psi C1: 1.000070
 Medium used: Nitrogen
 Date Tested: 20180503

Reported Unit: psi
 Conversion Factor: 1 psi = 6894.759 Pa

0.000000 psi	0.00009 psi	0.000087 psi	6.5E-006 psi	0.00363 psi
7.271938 psi	7.27302 psi	0.001079 psi	1.2E-004 psi	0.00363 psi
14.557971 psi	14.55864 psi	0.000667 psi	2.4E-004 psi	0.00363 psi
21.697698 psi	21.69873 psi	0.001030 psi	3.5E-004 psi	0.00363 psi
28.978474 psi	28.97966 psi	0.001189 psi	4.7E-004 psi	0.00363 psi
36.254726 psi	36.25449 psi	-0.000232 psi	5.9E-004 psi	0.00363 psi
28.978474 psi	28.97968 psi	0.001204 psi	4.7E-004 psi	0.00363 psi
21.697683 psi	21.69877 psi	0.001088 psi	3.5E-004 psi	0.00363 psi
14.557971 psi	14.55877 psi	0.000798 psi	2.4E-004 psi	0.00363 psi
7.271938 psi	7.27315 psi	0.001210 psi	1.2E-004 psi	0.00363 psi
0.000000 psi	0.00029 psi	0.000290 psi	8.3E-006 psi	0.00363 psi

Reported Unit: bar
 Conversion Factor: 1 bar = 1E+05 Pa

0.0000000 bar	0.000006 bar	0.0000060 bar	6.2E-007 bar	0.000250 bar
0.5013826 bar	0.501457 bar	0.0000744 bar	8.5E-006 bar	0.000250 bar
1.0037370 bar	1.003783 bar	0.0000460 bar	1.6E-005 bar	0.000250 bar
1.4960040 bar	1.496075 bar	0.0000710 bar	2.4E-005 bar	0.000250 bar
1.9979960 bar	1.998078 bar	0.0000820 bar	3.2E-005 bar	0.000250 bar
2.4996760 bar	2.499660 bar	-0.0000160 bar	4.0E-005 bar	0.000250 bar
1.9979960 bar	1.998079 bar	0.0000830 bar	3.2E-005 bar	0.000250 bar
1.4960030 bar	1.496078 bar	0.0000750 bar	2.4E-005 bar	0.000250 bar
1.0037370 bar	1.003792 bar	0.0000550 bar	1.6E-005 bar	0.000250 bar
0.5013826 bar	0.501466 bar	0.0000834 bar	8.5E-006 bar	0.000250 bar
0.0000000 bar	0.000020 bar	0.0000200 bar	7.1E-007 bar	0.000250 bar

Applied	Test Result	Error	Measurement Uncertainty	Specification
---------	-------------	-------	-------------------------	---------------

NEGATIVE GAUGE PRESSURE VERIFICATION:
PM200-BG250K ORIENTATION: HORIZONTAL

Reported Unit: kPa
Conversion Factor: 1 kPa = 1000 Pa

-0.11665 kPa	-0.1283 kPa	-0.01165 kPa	3.4E-001 Pa	0.0250 kPa
-25.20846 kPa	-25.2229 kPa	-0.01444 kPa	7.6E-001 Pa	0.0250 kPa
-49.85088 kPa	-49.8659 kPa	-0.01502 kPa	1.1E+000 Pa	0.0250 kPa
-74.96855 kPa	-74.9831 kPa	-0.01455 kPa	1.5E+000 Pa	0.0250 kPa
-94.02546 kPa	-94.0412 kPa	-0.01574 kPa	1.7E+000 Pa	0.0250 kPa
-74.96666 kPa	-74.9820 kPa	-0.01534 kPa	1.4E+000 Pa	0.0250 kPa
-49.84941 kPa	-49.8654 kPa	-0.01599 kPa	1.1E+000 Pa	0.0250 kPa
-25.21285 kPa	-25.2287 kPa	-0.01585 kPa	7.6E-001 Pa	0.0250 kPa
-0.12307 kPa	-0.1407 kPa	-0.01763 kPa	4.1E-001 Pa	0.0250 kPa

Medium used: Nitrogen
Date Tested: 20180503

Reported Unit: psi
Conversion Factor: 1 psi = 6894.759 Pa

-0.016919 psi	-0.01861 psi	-0.001690 psi	4.9E-005 psi	0.00363 psi
-3.656177 psi	-3.65827 psi	-0.002094 psi	1.1E-004 psi	0.00363 psi
-7.230257 psi	-7.23244 psi	-0.002178 psi	1.6E-004 psi	0.00363 psi
-10.873266 psi	-10.87538 psi	-0.002110 psi	2.1E-004 psi	0.00363 psi
-13.637236 psi	-13.63952 psi	-0.002283 psi	2.5E-004 psi	0.00363 psi
-10.872992 psi	-10.87522 psi	-0.002225 psi	2.1E-004 psi	0.00363 psi
-7.230044 psi	-7.23236 psi	-0.002319 psi	1.6E-004 psi	0.00363 psi
-3.656814 psi	-3.65911 psi	-0.002299 psi	1.1E-004 psi	0.00363 psi
-0.017850 psi	-0.02041 psi	-0.002557 psi	5.9E-005 psi	0.00363 psi

Reported Unit: bar
Conversion Factor: 1 bar = 1E+05 Pa

-0.0011665 bar	-0.001283 bar	-0.0001165 bar	3.4E-006 bar	0.000250 bar
-0.2520846 bar	-0.252229 bar	-0.0001444 bar	7.6E-006 bar	0.000250 bar
-0.4985088 bar	-0.498659 bar	-0.0001502 bar	1.1E-005 bar	0.000250 bar
-0.7496855 bar	-0.749831 bar	-0.0001455 bar	1.5E-005 bar	0.000250 bar
-0.9402546 bar	-0.940412 bar	-0.0001574 bar	1.7E-005 bar	0.000250 bar
-0.7496666 bar	-0.749820 bar	-0.0001534 bar	1.4E-005 bar	0.000250 bar
-0.4984941 bar	-0.498654 bar	-0.0001599 bar	1.1E-005 bar	0.000250 bar
-0.2521285 bar	-0.252287 bar	-0.0001585 bar	7.6E-006 bar	0.000250 bar
-0.0012307 bar	-0.001407 bar	-0.0001763 bar	4.1E-006 bar	0.000250 bar