

Certificate of Gauge Calibration

Issued by: Retrotec location Netherlands
Date of Calibration: 2020-02-11

Certificate Number: 403289 122525
Results: As Found



AC-1943

This calibration laboratory has been assessed by the ANSI-ASQ National Accreditation Board and meets the requirements of international standard ISO/IEC 17025.

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Instrument:

Description: Pressure and Flow Gauge
Manufacturer: Retrotec
Model Number: DM32 4A
Serial Number: 403289

Calibrated By: Frans Dam

Signature

Environmental conditions:

Temperature: 20°C ±2°C
Relative Humidity: 50% ±10%
Mains Voltage: 120V ±10V
Mains Frequency: 60Hz ±1Hz

Comments:

Results recorded as received. No adjustment performed.

Calibration Information:

The Device was calibrated against laboratory standards whose values are traceable to recognized national standards. The uncertainty represents an expanded uncertainty using a coverage factor of K=2 to approximate a 95% confidence level. In tolerance conditions are based on test results falling within specified limits without taking uncertainty into account. The uncertainty evaluation has been carried out in accordance with ISO/IEC 17025 requirements.

Calibration Procedure:

CP-35-01

This Calibration Certificate shall not be reproduced except in full, without written approval from Retrotec

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Calibration Results

Channel A			Channel B		
Applied Value (Pa)	Reading (Pa)	Error (%)	Applied Value (Pa)	Reading (Pa)	Error (%)
-749.99	-746.90	0.41	-749.99	-748.30	0.23
-600.00	-598.60	0.23	-600.00	-600.70	0.12
-300.02	-299.90	0.04	-300.02	-301.14	0.37
-149.99	-149.90	0.06	-149.99	-150.60	0.41
-100.00	-99.90	0.10	-100.00	-100.90	0.90
-75.02	-74.60	0.56	-75.02	-75.40	0.51
-49.99	-49.60	0.78	-49.99	-50.30	0.62
-25.00	-24.60	1.60	-25.00	-25.10	0.40
-15.00	-14.40	4.00	-15.00	-15.04	0.27
-10.00	-9.60	4.00	-10.00	-9.80	2.00
0.01	0.00	N/A	0.01	0.00	N/A
10.00	9.98	0.20	10.00	9.90	1.00
15.01	15.00	0.07	15.01	14.90	0.73
24.99	24.90	0.36	24.99	24.90	0.36
50.00	49.90	0.20	50.00	49.90	0.20
75.00	74.60	0.53	75.00	74.80	0.27
100.01	99.90	0.11	100.01	100.18	0.17
150.00	149.60	0.27	150.00	150.00	0.00
300.00	299.86	0.05	300.00	300.20	0.07
600.01	597.48	0.42	600.01	599.00	0.17
750.01	744.96	0.67	750.01	746.60	0.45

Instrument display resolution is 0.1 Pa.

Uncertainties

Calibration and measurement capability (Expanded Uncertainty) is .01 Pa + 0.3% of reading (Range 0 - 20 000 Pa) based on a 95% confidence interval, using coverage of K=2.


Initial

The Pressure Range uncertainty limits are compliant with (meets or exceeds requirements from) the following standards or guidelines:

NFPA 2001 ±1 Pa (up to ±50 Pa)	EN13829 ±2 Pa (up to ±60 Pa)	ATTMA: TS1 ±2 Pa (up to ±100 Pa)	ASTM E779-10 ±5% or 0.25 Pa whichever is greater	CGSB ±1 Pa (up to ±50 Pa)	FD P50-784 ±1% or 1 Pa whichever is greater
ISO14520 ±1 Pa (up to ±60 Pa)	EN15004 ±1 Pa (up to ±100 Pa)				