

Certificate of Gauge Calibration

Issued by: Retrotec
Date of Calibration: 2020-11-26

Certificate Number: 412045 112744
Results: As Found



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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.

Instrument:

Description:	Pressure and Flow Gauge
Manufacturer:	Retrotec
Model Number:	DM32 10A
Serial Number:	412045

Calibrated By: Mike Shtunyk

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		
Applied Value (Pa)	Reading (Pa)	Error (%)
-750.00	-752.85	0.38
-599.99	-602.41	0.40
-299.99	-301.19	0.40
-149.97	-150.59	0.41
-100.00	-100.40	0.40
-75.01	-75.27	0.35
-50.02	-50.18	0.32
-25.00	-25.06	0.24
-15.02	-15.10	0.53
-10.00	-10.05	0.50
-0.02	0.04	N/A
10.01	10.03	0.20
14.99	15.01	0.13
25.00	25.05	0.20
50.00	50.12	0.24
74.99	75.28	0.39
100.00	100.32	0.32
150.00	150.48	0.32
300.01	301.06	0.35
600.01	601.99	0.33
749.98	752.50	0.34

Channel B		
Applied Value (Pa)	Reading (Pa)	Error (%)
-750.00	-753.24	0.43
-599.99	-602.73	0.46
-299.99	-301.29	0.43
-149.97	-150.59	0.41
-100.00	-100.41	0.41
-75.01	-75.30	0.39
-50.02	-50.21	0.38
-25.00	-25.10	0.40
-15.02	-15.00	0.13
-10.00	-10.01	0.10
-0.02	0.00	N/A
10.01	10.06	0.50
14.99	15.05	0.40
25.00	25.10	0.40
50.00	50.24	0.48
74.99	75.33	0.45
100.00	100.43	0.43
150.00	150.61	0.41
300.01	301.23	0.41
600.01	602.42	0.40
749.98	753.05	0.41

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.

MS
Initial

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

NFPA 2001 ±1 Pa ±(10 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)	USACE ±1% or 0.25 Pa ±(25 to 250) Pa	TITLE 24 ±1% or 0.2 Pa whichever is greater	RESNET ±1% or 0.5 Pa whichever is greater	FD E51-767 ±2.5% or 3 Pa whichever is greater