

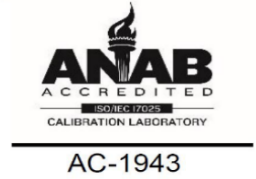
Certificate of Gauge Calibration

Issued by: **Wohler Retrotec EU B.V.**
Calibration Date: **2023-07-24**

Certificate Number: **409618 102222**
Results: **As Left**



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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: 409618

Calibrated by: Max Kabel

Signature

Issue Date: 2023-07-24

Environmental conditions:

Temperature: 20°C ±6°C
Relative Humidity: 50% ±30%
Mains Voltage: 120V ±10V
Mains Frequency: 60Hz ±1Hz

Comments:

Results recorded as received. No adjustment performed.
This calibration applies only to the unit listed on this certificate.

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 (%)
-750.01	-753.62	0.48	-750.01	-750.84	0.11
-600.01	-602.73	0.45	-600.01	-602.86	0.47
-299.99	-301.16	0.39	-299.99	-302.00	0.67
-200.00	-200.91	0.46	-200.00	-201.03	0.52
-150.00	-150.68	0.45	-150.00	-150.78	0.52
-99.99	-100.56	0.57	-99.99	-100.54	0.55
-75.00	-75.41	0.55	-75.00	-75.49	0.65
-49.99	-50.32	0.66	-49.99	-50.44	0.90
-25.00	-25.28	1.12	-25.00	-25.27	1.08
-15.01	-15.24	1.53	-15.01	-15.24	1.53
-10.00	-10.19	1.90	-10.00	-10.24	2.40
-0.03	-0.12	N/A	-0.03	-0.10	N/A
9.99	9.89	1.00	9.99	9.85	1.40
15.00	14.87	0.87	15.00	14.81	1.27
25.00	25.00	0.00	25.00	24.62	1.52
49.99	49.94	0.10	49.99	49.98	0.02
75.01	75.00	0.01	75.01	75.01	0.00
100.01	100.03	0.02	100.01	100.06	0.05
150.00	150.23	0.15	150.00	150.14	0.09
200.00	200.14	0.07	200.00	200.34	0.17
300.01	300.41	0.13	300.01	300.49	0.16
599.99	601.14	0.19	599.99	600.83	0.14
750.04	751.38	0.18	750.04	751.06	0.14

Traceability is to the International System of Units (SI), consensus standards, or ratio type measurements through national standards realized and maintained by NIST or an NMI.

Instrument display resolution is 0.1 Pa.

Uncertainties

Calibration and measurement capability (Expanded Uncertainty) is 0.073% of reading + 0.14 Pa (Range 0 - 2 000 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:

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Name	Accuracy Requirements	Expiration Date
NFPA 2001	± 1 Pa \pm (10 to 50 Pa)	2024-07-24
EN13829	± 2 Pa (up to ± 60 Pa)	2028-07-24
ATTMA: TS1	± 2 Pa (up to ± 100 Pa)	2024-07-24
ASTM E779-10	$\pm 5\%$ or 0.25 Pa whichever is greater	2028-07-24
CGSB	± 1 Pa (up to ± 50 Pa)	2024-07-24
FD P50-784	$\pm 1\%$ or 1 Pa whichever is greater	2024-07-24
ISO14520	± 1 Pa (up to ± 60 Pa)	2028-07-24
EN15004	± 1 Pa (up to ± 100 Pa)	2028-07-24
USACE	$\pm 1\%$ or 0.25 Pa \pm (25 to 250) Pa	2025-07-24
TITLE 24		
RESNET380		
ISO9972	± 1 Pa (up to ± 100 Pa)	2028-07-24
FD E51-767	$\pm 2.5\%$ or 3 Pa whichever is greater	2025-07-24
RE2020	$\pm 3\%$ or 0.5 Pa \pm (50 to 200) Pa	2025-07-24

End of report