



GWS Metrology Services

CBRE - GWS LLC
Metrology Services
9410 Bunsen Parkway
Suite 100B
Louisville, KY 40220
502-495-5700



Certificate Number:
CBRE-21809-ZT
Rev. Level: 2

Calibration Certificate

Date of Cal:
03-Aug-2021

PO Number
33627418

Customer :
GE APPLIANCES - A HAIER COMPANY
GE APPLIANCE PARK
LOUISVILLE, KY 40225

Work Order
54382

Asset Number : AP2/220172
Manufacturer : ALICAT SCIENTIFIC
Description : METER FLOW
Department : AP2
Location : WATER HEATER

Serial Number : 220172
Model Number : MW40SLPM-D

Cal. Location : IN-LAB

Environmental Data

Temp : 23.9 °C
Humidity : 44.8 %

Calibration Information

***Calibration Due Date : 08/03/2022
Condition As Received : Out of Tolerance
Condition As Returned : Adjusted

Procedures used for this Calibration:

Procedure #	Procedure Description	Rev #	Rev Date
CP-0580	FLOW CALIBRATIONS WITH MOLBOX SYSTEM	00	8/12/2015

Traceability Information

Asset Number	Description	Cal. Due Date	Reference Number
MET-0129	TERMINAL, MASS FLOW	11/11/2021	CBRE-13747-DJB
MET-0131	ELEMENT, LAMINAR FLOW	11/10/2021	CBRE-13745-DJB
MET-0604	MODULE, PRESSURE, ABSOLUTE, DIGITAL	11/16/2021	CBRE-13786-DJB
MET-0732	METER, TEMPERATURE/ HUMIDITY	3/18/2022	CBRE-12977-CMH

Traceability to NIST or other national metrology institutes for secondary measurement standards is established through laboratories approved by the CBRE-GWS, LLC Metrology Services quality assurance program. Test reports and calibration certificates maintained by CBRE - GWS are available upon request to the recipient of this calibration report.

Calibrated By: ZACHARY THOMAS - Metrologist

This is to certify that the above listed instrument/gage was inspected by CBRE GWS Metrology Services using a procedure(s) developed from the manufacturer specifications, accepted industry practices and/or customer requirements. The CBRE GWS Metrology Services Quality System conforms to ISO/IEC-17025:2017. It is hereby further certified that the inspection described herein was performed using standards whose values are traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST) or other National Metrology Institute (NMI), or have been derived from accepted values of natural constants, or have been derived by the ratio type of self calibration techniques. Uncertainties are estimated at a 95% confidence level. (k=2). The results indicated in this certificate relate only to the item(s) listed above. CBRE GWS Metrology Services responsibility shall in no event nor for any reason whatsoever exceed the purchase price of this calibration.

*** Calibration due dates are only issued if requested by the customer and are based upon customer dictated recall intervals.

See tolerance updates

Calibration Certificate (Cont)

Certificate Number : CBRE-21809-ZT

CALIBRATION TEST POINTS

* Not accredited for this parameter

VERDICT- (P)=Passed, (A)=Adjusted, (L)=Limited, (F)=Failed, (R)=Report of Value only

Description	Nominal	Tol -	Tol +	As Found	As Left	Units	Verdict	Comment
Flow Linearity	4.00	3.89	4.11	4.05	4.01	L/min	P	502 kPa is a bit high. We test at 3.5 to 14 in W.C gauge. The meter is actually set to in HG.
	8.00	7.86	8.14	8.09	8.02	L/min	P	
	12.00	11.82	12.18	12.14	12.03	L/min	P	
	16.00	15.79	16.21	16.18	16.03	L/min	P	
	20.00	19.76	20.24	20.22	20.04	L/min	P	
	24.00	23.73	24.27	24.26	24.04	L/min	P	
	28.00	27.70	28.30	28.30	28.05	L/min	P	
	32.00	31.66	32.34	32.35	32.06	L/min	A	
	36.00	35.63	36.37	36.39	36.07	L/min	A	
	40.00	39.60	40.40	40.43	40.08	L/min	A	
Pressure	502.266	498.499	506.033	504.050	504.050	kPa	P	
Temperature	21.92	21.17	22.67	22.65	22.65	°C	P	

The verdicts above are based upon a direct comparison of the measured value at the time of calibration, to a published or customer supplied tolerance for the specification listed. CBRE-GWS does not include the measurement uncertainty in making these determinations unless specifically requested. It is the responsibility of the user of this equipment to determine if the accept / reject tolerances meet the requirements of the intended measurement process.

Certificate Comments :

Register 41 @ 32868.
Register 26 changed from 76381 to 75381.
Register 42 Returned to 12288.

See if you can hit +/- 0.75 C. See excel.

calibrated @ 60 degree F

Expanded measurement uncertainty at an approximate 95% confidence level (k=2)

± 0.13 % iv

Is totalized flow an option to check? See excel