



KROHNE

▶ measure the facts

Certificate

Douglas Palacios

has attended the

OPTIMASS Seminar

in Mexico City, on the 24th January 2023.

Main topics covered:

- Introduction to Coriolis & OPTIMASS Range
- OPTIMASS applications
- Large Line Sizes in Coriolis
- Entrained Gas Management (EGM)
- EGM, Bluetooth & Ethernet IP Demo
- OPTIMASS sizing
- Concentration Measurement, Net Oil & Water Cut

Hector Obele Trigos
General Manager
KROHNE MEXICO

Juan Carlos Ballesta
International Product Manager
Mass Flow

**KROHNE**

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Cristo Navarro

Has successfully participated in the:

International Service Training 2024 – Basic Level

In Panama City from the 8th to the 12th of April.

This series focused on hands-on trainings, content wise

- Ultrasonic flow meters
- Electro magnetic flow meters
- Coriolis flow meters
- Level meters
- Pressure meters

KROHNE Global Service

Training & Knowledge Manager Service
KROHNE Messtechnik GmbH – Duisburg – Germany

CALIBRATION TEST CERTIFICATE

This calibration complies with ANSI/NCSL Z540-1-1994.

CUSTOMER: COMPRES S A
CUSTOMER P.O.: 2602BKROH**INSTRUMENT TYPE:** GS 8 B
KAL. #: 273035 441**SERIAL NO.:** U1227700030007**Date:** 2/17/26**CALIBRATION REF. STD:** KROHNE 10 OHM STANDARD RESISTOR, ASSET NO. 2338
NIST TRACEABLE expiration date: 8/10/26
Last calibration date: 8/10/25**TEST INSTRUMENTS:** KEYSIGHT MODEL 34465A, ASSET NO. 2504
NIST TRACEABLE expiration date: 8/01/26
Last calibration date: 8/01/25**CALIBRATION PROCEDURE:**

The KROHNE GS 8 B Simulator is connected to a precision stable constant current source of approx. +/- 125 mAdc. The GS 8 B signal voltage is then measured at the constant current value for each rate switch position. The values are calculated to obtain the voltage difference (% absolute error) as referred to the KROHNE standard millivolt signal reference of each switch position. The collective uncertainty of the calibration process does not exceed 25% of the acceptable GS 8 B tolerance. (WI GS 8 B-03 GS 8 B Calibration)

AMBIENT TEMP. (C): 22.6**RELATIVE HUMIDITY (%):** NA**THIS INSTRUMENT PASSED REQUIRED CALIBRATION SPECIFICATIONS****RANGE READINGS:**

The different range settings are coordinated with each switch position and are individually verified. The adjusted % error readings below indicate range linearity with respect to the KROHNE standard signal reference for each rate switch position. Automated test measurements are obtained using a calibrated Keysight MODEL 34465A DVM to obtain sufficient resolution. The voltage output is used to check all switch positions on the GS 8 B verifying that data error percentages meet calculated error band limits. For switch position "0" direct mVdc readings determine 0 (0 Ft/Sec) setting compliance.

GS 8 B	Reference	Compensated	Calibration	Error
Rate Setting	Voltage(Mvdc)	signal	As Found / As Left	Limits
		Voltage(Mvdc)	Adjusted % Error	
<u>0 (0 Ft/Sec)</u>	0.000000	0.000055	0.000055	+/- 0.001 mVdc
<u>A (0.5 Ft/Sec)</u>	0.128107	0.128204	0.075%	+/- 0.4 % Dev
<u>B (1 Ft/Sec)</u>	0.256215	0.256097	-0.046%	+/- 0.4 % Dev
<u>C (2 Ft/Sec)</u>	0.512430	0.512279	-0.029%	+/- 0.4 % Dev
<u>D (5 Ft/Sec)</u>	1.281074	1.280720	-0.028%	+/- 0.4 % Dev
<u>E (10 Ft/Sec)</u>	2.562149	2.561118	-0.040%	+/- 0.4 % Dev


J. Yun 2/17/26
Calibration Technician**KROHNE, Inc. 55 Cherry Hill Drive Beverly, MA USA 01915 TEL: 1-800-FLOWING FAX: 978-535-1720**

ONLY INTACT COPIES OF THIS CERTIFICATE MAY BE MADE. PARTIAL COPIES ARE NOT PERMITTED WITHOUT EXPRESS PERMISSION BY KROHNE INC.

KROHNE

CALIBRATION TEST CERTIFICATE

This calibration complies with ANSI/NCSL Z540-1-1994.

CUSTOMER: KROHNE
CUSTOMER P.O.:

INSTRUMENT TYPE: GS 8 B
KAI. #:

SERIAL NO.: U2527308353110

Date: 11/07/25

CALIBRATION REF. STD: KROHNE 10 OHM STANDARD RESISTOR, ASSET NO. 2338

NIST TRACEABLE expiration date: 8/10/26

Last calibration date: 8/10/25

TEST INSTRUMENTS: KEYSIGHT MODEL 34465A, ASSET NO. 2504

NIST TRACEABLE expiration date: 8/01/26

Last calibration date: 8/01/25

CALIBRATION PROCEDURE:

The KROHNE GS 8 B Simulator is connected to a precision stable constant current source of approx. +/- 125 mAdc. The GS 8 B signal voltage is then measured at the constant current value for each rate switch position. The values are calculated to obtain the voltage difference (% absolute error) as referred to the KROHNE standard millivolt signal reference of each switch position. The collective uncertainty of the calibration process does not exceed 25% of the acceptable GS 8 B tolerance. (WI GS 8 B-03 GS 8 B Calibration)

AMBIENT TEMP. (C): 21.9

RELATIVE HUMIDITY (%): NA

THIS INSTRUMENT PASSED REQUIRED CALIBRATION SPECIFICATIONS

RANGE READINGS:

The different range settings are coordinated with each switch position and are individually verified. The adjusted % error readings below indicate range linearity with respect to the KROHNE standard signal reference for each rate switch position. Automated test measurements are obtained using a calibrated Keysight MODEL 34465A DVM to obtain sufficient resolution. The voltage output is used to check all switch positions on the GS 8 B verifying that data error percentages meet calculated error band limits. For switch position "0" direct mVdc readings determine 0 (0 Ft/Sec) setting compliance.

GS 8 B Rate Setting	Reference Voltage(Mvdc)	Compensated signal Voltage(Mvdc)	Calibration As Found / As Left Adjusted % Error	Error Limits
0 (0 Ft/Sec)	0.000000	-0.000086	-0.000086	+/- 0.001 mVdc
A (0.5 Ft/Sec)	0.128107	0.128226	0.092%	+/- 0.4 % Dev
B (1 Ft/Sec)	0.256215	0.256531	0.123%	+/- 0.4 % Dev
C (2 Ft/Sec)	0.512430	0.512746	0.062%	+/- 0.4 % Dev
D (5 Ft/Sec)	1.281074	1.281923	0.066%	+/- 0.4 % Dev
E (10 Ft/Sec)	2.562149	2.562221	0.003%	+/- 0.4 % Dev

J. Yun 11/07/25

Calibration Technician

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Información del cliente

Cliente: ASA
Localización: Pozo xx
Lugar de calibración: San Salvador, El Salvador
Atención: Ing. Mendoza

Condiciones ambientales

Fluido: Agua
Densidad: 997 kg/m³
Temperatura: 28 °C

Datos del instrumento

Equipo: Medidor de flujo electromagnético
Fabricante: KROHNE
Modelo: OPTIFLUX 6000C 24VDC
Número de serie: A1187997

Diámetro nominal: DN50 (2")
Rango de medición: 0 a 18 m³/h
Constante de calibración GKL: 6.7294
Salida: 4-20mA / HART

Datos de equipo patrón

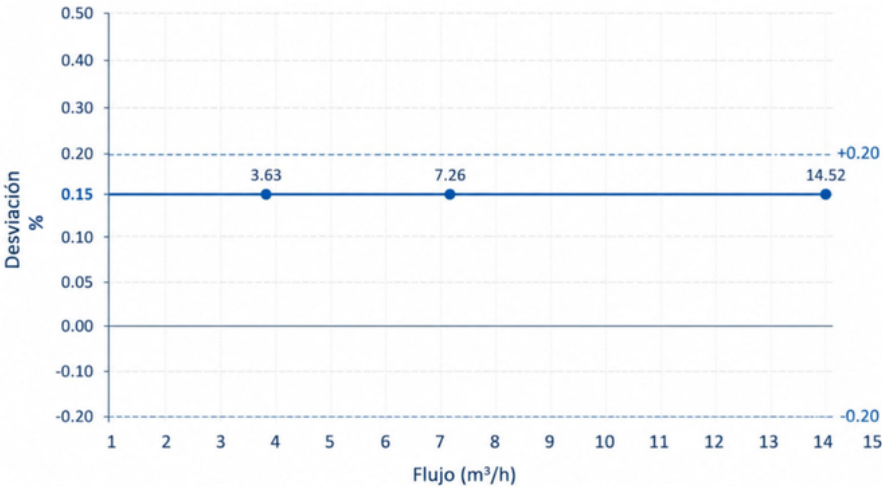
Equipo patrón: G S 8 B Simulator de flujo
Serie: U2527308353110
Vigencia: 01/08/2026
Trazabilidad: Esta calibración cumple con ANSI/NCSL Z540-1-1994 NIST TRAZABLE

Certificado No: CAL-2026-001
Fecha de calibración: 06/06/2026
Proxima calibración: junio 2027

Resultados de calibración

Punto de prueba	Ajuste de la perilla	Valor de corriente mA	Frecuencia Hz	Flujo Calculado del patron m ³ /h	Flujo registrado medidor m ³ /h	Desviación
1	0	4.00	0.00	0.00	0.00	0.00%
2	A	7.22	201.37	3.62	3.63	0.15%
3	B	10.44	402.74	7.25	7.26	0.15%
4	C	16.89	805.47	14.50	14.52	0.15%

Gráfica de datos



Incertidumbre de medición

La incertidumbre expandida de la medición es de $\pm 0.15\%$ de la lectura, calculada con un factor de cobertura $k = 2$, correspondiente a un nivel de confianza aproximado del **95 %**. La incertidumbre considera las contribuciones asociadas al patrón de referencia, la resolución de los instrumentos y la repetibilidad de las mediciones.

Conformidad

Los resultados obtenidos durante la calibración indican que las desviaciones observadas se encuentran dentro de la tolerancia especificada de $\pm 0.2\%$ de la lectura. Considerando la incertidumbre expandida de medición de $\pm 0.15\%$ ($k = 2$), el instrumento cumple con los criterios de aceptación establecidos.

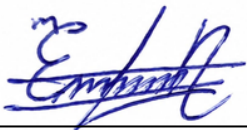
Resultado: CONFORME

Observaciones:

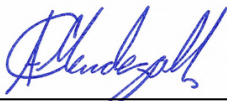
Sin observaciones

Calibrado por:

Revisado y aprobado por:



Ing. Cristo Navarro
Soporte Técnico



Ing. Carlos Mendoza
Soporte Técnico



Ing. Douglas Palacios
Representante de
Instrumentación y Vapor

