

**CERTIFICADO DE CALIBRACIÓN / CALIBRATION CERTIFICATE**

**INNOVATECIS CIA. LTDA.**

JOSE MARIA GUERRERO N69-170 Y ALFONSO DEL HIERRO

QUITO, ECUADOR

(+593) 02 6040 607

innovatec@innovatec.com.ec

**Certificado No.** (Certificate #): 64160

**Fecha de Recepción** (Reception Date): 2025-12-08

**Fecha de Calibración** (Calibration Date): 2025-12-18

**Próxima Fecha de Calibración** (Calibration Due):

**Fecha de Emisión** (Emission Date): 2025-12-18

**Cliente** (Client): SERVICIOS MARITIMOS SERVINTMAR S.A.S

SANTA ELENA / LA LIBERTAD / LA LIBERTAD / AV. 2 S/N Y CALLE 27, SANTA ELENA, SANTA ELENA (SEDE PRINCIPAL)

**Información del Instrumento** (Instrument Information)

**Equipo** (Instrument): Cinta de aforo

**Marca** (Brand): LUFKIN

**Modelo** (Model): N/A

**Serie** (Serial #): NN-64160

**Ubicación** (Location):

**Código** (Code): SVM-C-002

**Lugar de Calibración** (Place of Calibration): Lab. INNOVATEC  
(Ecuador)

**Int. de Medición:** (0 a 100) ft  
(Measurement Range)

**División de escala:** 1 ft  
(Resolution)

**Datos de Calibración** (Calibration Info)

**Procedimiento**  
(Procedure): INN-PC-17 Por comparación

**Condiciones Ambientales** (Environmental Conditions)

**Temp. Inicial** (Initial Temp.): 21.1 °C

**Temp. Final** (Final Temp.): 21.4 °C

**Hum. Inicial** (Initial Hum.): 55.8 %HR

**Hum. Final** (Final Hum.): 55.6 %HR

**Trazabilidad** (Traceability Info)

**Patrón** (Standard)

**Marca** (Brand)

**Cert. #**

**Ultima Calibración** (Last Cal.)

**Período** (Period)

Cinta 100 m

KISTENMACHER

US011-MKE-CI-24448381-1

2024-12-31

2 Años

**Resultados** (Results)

Ver Resultados en Hoja Adjuntada

See results in attached Sheet

El presente Certificado de Calibración posee la trazabilidad en esta magnitud hacia el Patrón Nacional, a través de la realización de la unidad de medida en el NPL, NIST, u otro Laboratorio Nacional reconocido al Sistema Internacional de Medidas. La calibración fue realizada bajo un Sistema de Gestión de Laboratorio conforme a la Norma ISO/IEC 17025:2017. Los resultados y su incertidumbre reportada con un nivel de confianza de  $k=2$ , 95% son relacionados a este instrumento y en el tiempo que se realizó las medidas. Este Laboratorio no se responsabiliza de los perjuicios que pueda ocasionar el uso inadecuado del instrumento calibrado. La reproducción parcial es prohibida, la reproducción total deberá hacerse con la autorización escrita aprobada por INNOVATEC Industrial Solutions. *This Certificate of Calibration provides traceability of measurement to the National Standard, through units of measurement realized at the NPL, NIST or other recognized National Standard Laboratories to the International System of Units. The calibration was performed under a Laboratory Management System in accordance with the ISO/IEC 17025:2017 Standard. The results and the reported uncertainty at a confidence level of  $k=2$ , 95% are related only to this instrument and at the time of measurement. This Laboratory is not responsible for any damages that may result from improper use of the calibrated instrument. Partial reproduction is forbidden, the total reproduction must have an approved written authorization by INNOVATEC Industrial Solutions.*

**Comentarios:** Los valores marcados con "#", no se encuentran dentro del Alcance de Acreditación de A2LA, pero si en la competencia técnica de INNOVATEC Industrial Solutions.  
(Comments):

**Calibrado por:** Estephanie Estrada  
(Calibrated by):

**Aprobado por:**  
(Approved by):

**Fin de Certificado** (End of Certificate)

Certificado No.: 64160

Fecha de Calibración: 2025-12-18

Equipo (Instrument): Cinta de aforo

Marca (Brand): LUFKIN

Clase de Exactitud (Accuracy Class): Clase I (Class I)

| Valor UBP | Valor Patrón | Error   | EMP     | Incertidumbre | Valor UBP | Valor Patrón | Error | EMP | Incertidumbre |
|-----------|--------------|---------|---------|---------------|-----------|--------------|-------|-----|---------------|
| ft        | ft           | in      | in      | (Uncertainty) | ft        | ft           | in    | in  | (Uncertainty) |
| # 0       | 0.00000      | 0.002   | ± 0.2   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 0.04  | 0.04019      | -0.002  | ± 0.016 | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 1.2   | 1.20019      | -0.002  | ± 0.4   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 3.5   | 3.50000      | 0.000   | ± 0.9   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 6.49  | 6.49023      | -0.003  | ± 1.4   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 9.01  | 9.01020      | -0.002  | ± 2     | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 12.51 | 12.51037     | -0.004  | ± 2.7   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 15.49 | 15.49034     | -0.004  | ± 3.2   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 18.52 | 18.52048     | -0.006  | ± 3.9   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 22.53 | 22.53054     | -0.007  | ± 4.7   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 26.12 | 26.12038     | -0.005  | ± 5.4   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 30.03 | 30.03044     | -0.005  | ± 6.2   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 34.1  | 34.10037     | -0.004  | ± 7     | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 38.1  | 38.10036     | -0.004  | ± 7.8   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 42.05 | 42.05042     | -0.005  | ± 8.6   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 46.06 | 46.06026     | -0.003  | ± 9.4   | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 50.2  | 50.20036     | -0.004  | ± 10.2  | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 54.24 | 54.24019     | -0.002  | ± 11    | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 58.35 | 58.35037     | -0.004  | ± 11.8  | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 62.27 | 62.27035     | -0.004  | ± 12.6  | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 66.58 | 66.58057     | -0.007  | ± 13.5  | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 69.73 | 69.73040     | -0.005  | ± 14.1  | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 70.19 | 70.19055     | -0.007  | ± 14.2  | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 74.21 | 74.21063     | -0.008  | ± 15    | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 78.89 | 78.89056     | -0.007  | ± 15.9  | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 82.25 | 82.25052     | -0.006  | ± 16.6  | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 86.17 | 86.17066     | -0.008  | ± 17.4  | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 90.34 | 90.34052     | -0.006  | ± 18.2  | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 94.27 | 94.27056     | -0.007  | ± 19    | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 98.36 | 98.36074     | -0.009  | ± 19.8  | ± 2.9E-01 in  |           |              |       |     |               |
| 0 a 99.18 | 99.18081     | -0.0097 | ± 20    | ± 2.9E-01 in  |           |              |       |     |               |