

CALIBRATION CERTIFICATE

Number **VG250434**

Page 1 of 2

Mettler-Toledo S.A.E.
Laboratorio de Calibración

Carrer Segrià 7 - 9
08940 Cornellà de Llobregat (Barcelona)
Tel. 93 223 76 00
Laboratorio.Calibracion@mt.com

METTLER TOLEDO



ITEM **Piston operated burette**

MANUFACTURER **Mettler Toledo**

MODEL **DV 1020**

NOMINAL VOLUME **20 ml**

IDENTIFICATION **B231174736**

ITEM NUMBER **-**

APPLICANT **Tec Instrumental SA**
Blas Parera 1007
(B1602CTS) Florida-Vte Lopez

Calibration date **01 July 2025**

Authorized Signatory

*This certificate in digital format is the original one.
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Este certificado se expide de acuerdo con las condiciones de la acreditación concedida por ENAC, que ha comprobado las capacidades de medida del laboratorio y su trazabilidad a patrones nacionales o internacionales.
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Instrument information

Burette	Mettler Toledo
Serial number	0434
Nominal volume	2 ml

Calibration procedure

Procedure PEC/MTE/22 based to the ISO 8655 norm and the METTLER TOLEDO manuals.
The measured volume corresponds with delivered volume (Ex) at the reference temperature of 20 °C.

Calibration conditions

Ambient temperature	Min. 0 °C	Max. 0 °C
Relative humidity	% Hr % Hr	
Pressure	Presión atm. mbar	

Maintenance: Before calibration, seals (references 101003 and 25737) and piston have been replaced, and burette glass has been cleaned.

Traceability

Standard equipment used		
Balance	BAL01	AT201 - 5 decimal places balance
Burette drive	VAL-T50	T50
Water temperature	TER 144	0,1 °C resolution
Ambient conditions	REG05	(air Temp, rH)
Class III water	2419109811	

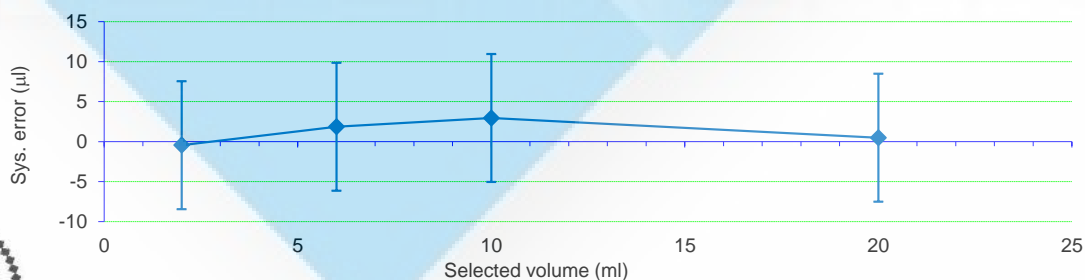
The measured volume has been calculated conform to ISO/TR 20461:2023.
The traceability of measurements are referred to laboratories accredited by ILAC signatories accreditation bodies or national laboratories EURAMET signatories.

Uncertainty

The reported expanded measurement uncertainty is stated as the standard measurement uncertainty multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95 %.

Calibration results (after maintenance)

Burette stroke	10%	30%	50%	100%	
Selected volume	2	6	10	20	ml
Water temperature	19,8	19,8	19,8	19,8	°C
Measured volume	1999,6	6001,9	10003,0	20000,5	µl
Systematic error	-0,4	1,9	3,0	0,5	µl
Measurement uncertainty	8,0	8,0	8,0	8,0	µl
Random error	1,00	0,33	1,18	1,24	µl
Max. Permissible Sys. Error	40	40	40	40	µl
Max. Permissible Random Error	14	14	14	14	µl
Evaluation*	Pass	Pass	Pass	Pass	



* Evaluation and permissible errors from ISO 8655-3:2022. According with this norm, uncertainty is not taken into account.

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Technician: P.Cuenca

Remarks: ---