



# CALIBRATION CERTIFICATE

Number VG 230211

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



## METTLER TOLEDO

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ITEM Piston operated burette

MANUFACTURER Mettler Toledo

MODEL DV 1010

NOMINAL VOLUME 10 ml

IDENTIFICATION B504536332

APPLICANT **METTLER-TOLEDO PAC RIM AG-TAIWAN**  
2F., No 17, Lane 171, Sec. 2 , Jiuzong Rd  
11494 Taipei City Taiwan

Calibration date 23 May 2023

Authorized Signatory

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Any printing will be considered as a copy.*

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**Instrument information**

Burette DV 1010  
 Serial number B504536332  
 Nominal volume 10 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. 20,1 °C Max. 20,1 °C  
 Relative humidity 60,2 % Hr  
 Pressure 1010,9 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 TER128 0,1 °C resolution  
 Ambient conditions REG02 (air Temp, rH)  
 Class III water 2307309810

The measured volume has been calculated conform to ISO/TR 20461:2023.

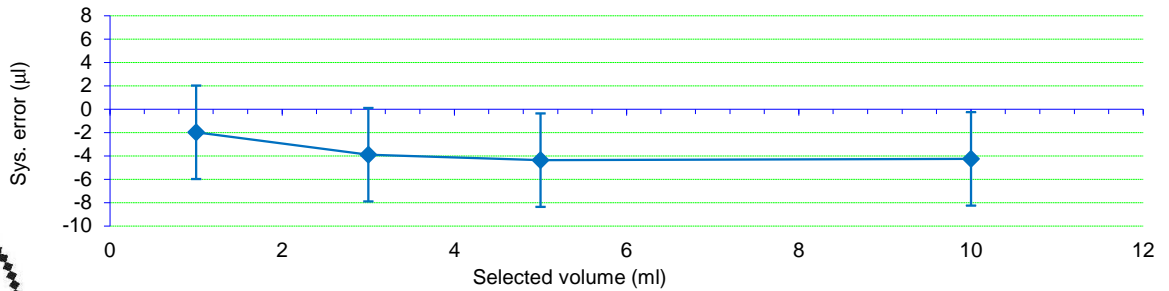
The traceability of measurements are referred to laboratories accredited by ILAC signatories accreditation bodies or national laboratories EURAMET signatories.

**Uncertainty**

The reported expanded uncertainty of measurement is stated as the Standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with document EA-4/02 M: 2022.

**Calibration results (after maintenance)**

Burette stroke	10%	30%	50%	100%	
<b>Selected volume</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>10</b>	<b>ml</b>
Water temperature	20,5	20,5	20,5	20,5	°C
Measured volume	998,0	2996,1	4995,7	9995,8	µl
<b>Systematic error</b>	<b>-2,0</b>	<b>-3,9</b>	<b>-4,3</b>	<b>-4,2</b>	<b>µl</b>
Measurement uncertainty	4,0	4,0	4,0	4,0	µl
Random error	0,15	0,42	0,37	0,39	µl
Max. Permissible Sys. Error	20	20	20	20	µl
Max. Permissible Random Error	7	7	7	7	µl
<b>Evaluation*</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	



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

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Technician: D. Gallardo  
 Remarks: ---