CALIBRATION CERTIFICATE

Nº 61 / LC10.038

Number **VG 190170**

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

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ITEM	Piston operated burette
MANUFACTURER	METTLER TOLEDO
MODEL	ME-51107126
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	17 May 2019

Autorized Signatory

Firmado digitalmente por Vanessa Parra
Fecha: 2019.05.17 11:08:07 +02'00'

Instrument information

Burette	ME-51107126
Serial number	B504536332
Nominal volume	10 ml

Calibration procedure

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

Calibration conditions

Ambient temperature	Min. 19,9 ºC	Max. 20,5 ºC
Relative humidity	53,3 % Hr	
Pressure	941,2 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	MOT01	T50
Water temperature	TER68	0,1 ºC resolution
Ambient conditions	REG02	(air Temp, rH)
Class III water	1833602829	

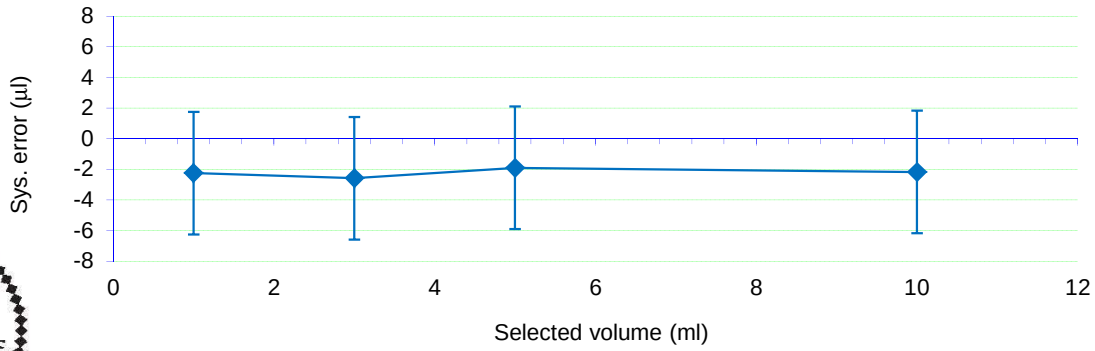
The reference water density is refered to the ISO/TR 20461 (2000) tables.
The traceability of measurements are refered to laboratories accredited by recognized ILAC organisms or national laboratories EUROMET participants.

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 EAL publication EAL-R2.

Calibration results (after maintenance)

Burette stroke	10%	30%	50%	100%	
Selected volume	**1**	**3**	**5**	**10**	**ml**
Water temperature	19,7	19,7	19,9	19,7	ºC
Measured volume	997,8	2997,4	4998,1	9997,8	µl
Systematic error	**-2,2**	**-2,6**	**-1,9**	**-2,2**	**µl**
Relative error at selected volume	-0,22%	-0,09%	-0,04%	-0,02%	
Relative error at nominal volume	-0,02%	-0,03%	-0,02%	-0,02%	
Measurement uncertainty	**4**	**4**	**4**	**4**	**µl**



METTLER TOLEDO Laboratorio de Calibración

Technician: Vanessa Parra
Coslada, 17 May 2019

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