



Organisme belge d'Accréditation  
Belgische Accreditatieinstelling  
Belgische Akkreditierungsstelle  
Belgian Accreditation Body

EA MLA Signatory

Bijlage bij accreditatie-certificaat  
Annexe au certificat d'accréditation  
Annex to the accreditation certificate  
Beilage zur Akkreditierungszertifikat

# 001-CAL

EN ISO/IEC 17025:2017

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Geldigheidsperiode / Validité / Validity / Gültigkeitsdauer	2022-01-13 - 2026-06-01

### Maureen Logghe

Voorzitster van het Accreditatiebureau  
La Présidente du Bureau d'Accréditation  
Chair of the Accreditation Board  
Vorsitzende des Akkreditierungsbüro

De accreditatie werd uitgereikt aan / L'accréditation est délivrée à /  
The accreditation is granted to / Die akkreditierung wurde erteilt für:

**TRESCAL nv**  
**Vosstraat, 200**  
**2600 Antwerpen**

Activiteitencentra / Sites d'activités / Sites of activities / Standorte mit aktivitäten:

Locatie 1: BERCHEM	Vosstraat 200 2600 Antwerpen
Locatie 2: WELLIN	Rue Jean Meunier, 2 6922 Wellin
Locatie 3: LOUVAIN-LA-NEUVE	Rue du Bosquet, 7 1348 Ottignies-Louvain-la-Neuve

## Time and Frequency Berchem Calibration and Measurement Capabilities

Relative time

Measured quantity, instrument or gauge	Range	expanded uncertainty (*)	Remarks	Calibration procedure
Tachometers, stroboscopes (optical)	1,2 rpm to 100 000 rpm	$3,0 \times 10^{-7} \times n$		P2-02-E.041
Mechanical tachometers	10 rpm to 17 000 rpm	$0,050 \text{ rpm} + 10 \times 10^{-5} \times n$		P2-02-E.046

n: number of rotations in rpm

Measured quantity, instrument or gauge	Range	expanded uncertainty (*)	Remarks	Calibration procedure
Frequencymeters, frequencygenerators, counters	1 Hz	$5,0 \times 10^{-11} \times f$	<ul style="list-style-type: none"> <li>• generate</li> <li>• fixed points</li> </ul>	P2-02-E.004
	1 MHz	$5,0 \times 10^{-11} \times f$		
	5 MHz	$5,0 \times 10^{-11} \times f$		
	10 MHz	$5,0 \times 10^{-11} \times f$		
	0,002 Hz to 3 GHz	$6,0 \times 10^{-11} \times f$	<ul style="list-style-type: none"> <li>• measure</li> </ul>	P2-02-E008
0,002 Hz to 4 GHz	$5,0 \times 10^{-9} \times f$	<ul style="list-style-type: none"> <li>• generate</li> </ul>	RP/02/KC/E.01 P2-02-E.007 P2-02-E035	

Measured quantity, instrument or gauge	Range	expanded uncertainty (*)	Remarks	Calibration procedure
Electronic chronometers	n.a.	0,10 s / 24 h	direct measurement	P2-02-E.014
Mechanic chronometers	n.a.	5,0 s / 24 h	direct measurement	
Electronic & mechanic chronometers	Standard 0 h to 72 h	0,50 s / 24 h with a minimum van 0,30 s	By comparison with a standard chronometer via a digital-optical recorder	P1-02-E.003
Signal-triggered chronometers	Standard 0 h to 72 h	0,15 s / 24 h with a minimum van 0,060 s	By comparison with a standard chronometer via a digital-optical recorder	

(\*) the smallest uncertainty of measurement the laboratory can provide to its customers, expressed as the expanded uncertainty having a coverage probability of approximately 95%.

## Time and Frequency Wellin Calibration and Measurement Capabilities

Relative time

Measured quantity, instrument or gauge	Range	expanded uncertainty (*)	Remarks	Calibration procedure
Tachometers, stroboscopes (optical)	6 rpm to 100 000 rpm	$3,0 \times 10^{-7} \times n$		P2-02-E.041

*n*: number of rotations in rpm

Measured quantity, instrument or gauge	Range	expanded uncertainty (*)	Remarks	Calibration procedure
Frequency meter, Reference oscillator	1 Hz	$5 \times 10^{-11} \times f$	Frequency generated by a Rubidium controlled by GPS. Calibration made by generation or comparison.	P2-02-E.031D
	1 MHz			P2-02-E.031D
	5 MHz			P2-02-E.031D
	10 MHz			P2-02-E.031D
	0,1 Hz to 10 MHz	$1 \times 10^{-10} \times f + 0,1 \mu\text{Hz}$	Frequency generation	P2-02-E.054
	10 MHz to 45 GHz	2 Hz		P2-02-E.056
Frequency generator	0,1 Hz to 10 MHz	$6 \times 10^{-11} \times f + 0,1 \mu\text{Hz}$	Frequency measurement (Square wave)	P2-02-E.055
	10 Hz to 3 GHz	$6 \times 10^{-11} \times f + 0,1 \text{mHz}$	Frequency measurement (Sine wave)	P2-02-E.055
	3 GHz to 45 GHz	$6 \times 10^{-11} \times f + 2 \text{Hz}$	Frequency measurement	P2-02-E.057

Measured quantity, instrument or gauge	Range	expanded uncertainty (*)	Remarks	Calibration procedure
Electronic chronometers	n.a.	0,10 s / 24 h	direct measurement	P2-02-E.014
Mechanic chronometers	n.a.	5,0 s / 24 h	direct measurement	

(\*) the smallest uncertainty of measurement the laboratory can provide to its customers, expressed as the expanded uncertainty having a coverage probability of approximately 95%.