Hellenic Accreditation System

Annex F2/14 to the Certificate No. **887**-4

SCOPE of ACCREDITATION

of the

Testing & Calibration Laboratory

of

METRISIS CALIBRATIONS P.C.

for the performance of calibrations

Calibration item / Parameters	Range of measurement	Expanded measurement uncertainty (k=2)*	Remarks
Mass measurements			
Standard weights			OIML R111:2004 Capability to calibrate standard weights up to OIML class:
	1 mg to 2 mg	8,7 µg	F2
	5 mg to 10 mg	8,9 µg	F2
	20 mg to 50 mg	8,9 µg	F1
	100 mg to 200 mg	9,0 µg	F1
	500 mg	9,1 µg	F1
	1 g	9,4 µg	E2
	2 g	9,7 µg	E2
	5 g	10 µg	E2
	10 g	11 µg	E2
	20 g	12 µg	E2
	50 g	15 µg	E2
	100 g	87 µg	F1
	200 g	92 µg	E2
	500 g	0,92 mg	F2
	1 kg	1,0 mg	F1
	2 kg	1,9 mg	F1
	5 kg	9,0 mg	F2
	10 kg	83 mg	M1
	20 kg	83 mg	F2

Calibration item / Parameters	Range of measurement	Expanded measurement uncertainty (k=2)*	Remarks
Non-automatic weighing instruments	1 mg to 20 mg	0,004 mg	EURAMET/cg-18/v.04:2015 Standard weights used, OIML class: E1: 1 g to 611 g E2: 1 mg to 38,5 kg F1: 1 mg to 50,8 kg F2: 1 mg to 9,1 kg M1: 5 kg to 360 kg M2: 50 g to 340 kg M3: 50 g to 460 kg Calibration is performed on-site.
	50 mg	0,005 mg	
	100 mg	0,007 mg	
	200 mg	0,008 mg	
	500 mg	0,011 mg	
	1 g	0,013 mg	
	2 g	0,016 mg	
	5 g	0,021 mg	
	10 g	0,027 mg	
	20 g	0,033 mg	
	50 g	0,040 mg	
	100 g	0,067 mg	
	200 g	0,13 mg	
	500 g	0,33 mg	
	1 kg	2,1 mg	
	2 kg	4,0 mg	
	5 kg	11 mg	
	10 kg	21 mg	
	20 kg	40 mg	
	50 kg	0,33 g	
	100 kg	3,7 g	
	200 kg to360 kg	$6,7 \times 10^{-5}$	
	500 kg	52 g	
	700 kg	92 g	
	1000 kg	0,29 kg	
	1160 kg	0,40 kg	
	1160 kg to10440 kg	$(3,44 \times 10^{-4} \times m + 1,2 \times N)$ kg m: load of standard weights in kg N: number of substitution loads	EURAMET/cg-18/v.04:2015 using substitution loads of known material and density supplied by the customer according to the recommendations of the laboratory. Standard weights used, OIML class: M1: 360 kg M2: 340 kg M3: 460 kg Calibration is performed on-site.
Vehicle suspension testers	0 kg to 1160 kg per wheel	0,090 %	Calibration according to manufacturer guidelines: CARTEC, BOSCH, ATT, MAHA, BEISSBARTH και CORGHI Calibration is performed on-site.

Calibration item / Parameters	Range of measurement	Expanded measurement uncertainty (k=2)*	Remarks
Exhaust Gas analyzers calibration			
Exhaust gas analyzers class 0, I and II for gasoline operated vehicles, portal exhaust gas analyzers	C_3H_8 : 2000 x 10^{-6} vol 600 x 10^{-6} vol 200 x 10^{-6} vol	 0,60 % 0,74 % 0,95 %	OIML R 99-1&2:2008 Calibration can also be performed on-site.
	CO : 3,5 % vol 1,0 % vol 0,5 % vol	 0,34 % 0,29 % 0,34 %	
	CO_2 : 14 % vol 10 % vol 6 % vol	 0,46 % 0,46 % 0,47 %	
	O_2 : [0,5 % to 20 %] vol	1,0 %	
Exhaust gas analyzers for diesel operated vehicles	Absorption: 0% to 100%	0,80 %	Calibration according to directive 72/306/EEC, Annex VII, par. 3.6. Available standard reference filters: HELMA, MAHA, SENSORS/ CARTEC, TEXA, BOSCH, TECHNOTEST Calibration can also be performed on-site.
	Absorption coefficient (opacity): 0 m^{-1} to 9,99 m^{-1}	0,040 m^{-1}	
Dimensional measurements			
Vehicle side slip testers	-20 mm to +20 mm	0,010 mm	Calibration according to manufacturer guidelines: CARTEC, BOSCH, ATT, MAHA, BEISSBARTH, CORGHI Calibration is performed on-site.
Force measurements			
Vehicle brake force testers			Calibration according to manufacturer guidelines:
	0 kN to 40 kN	0,90 %	CARTEC
	0 kN to 5 kN 5 kN to 40 kN	0,40 % 0,20 %	MAHA
	0 kN to 40 kN	0,40 %	BOSCH/ATT
	0 kN to 40 kN	0,40 %	CORGHI
	0 kN to 40 kN	0,30 %	BEISSBARTH
			Calibration is performed on-site.
Photometric measurements			

Calibration item / Parameters	Range of measurement	Expanded measurement uncertainty (k=2)*	Remarks
Vehicle headlight testers	Illuminance: 0 to 240 lux	2,6 %	Calibration according to manufacturer guidelines: CARTEC, BOSCH, MAHA, BEISSBARTH, TECNOLUX & TECNOIL, TECNOCOLOR, CORGHI Calibration is performed on-site.
	Inclination of incident light beam: 0% 2% (vertically) 2% (horizontally)	 0,032 % 0,056 % 0,040 %	
Temperature measurements			
Temperature / temperature controlled climatic chambers of volume up to 2000 l (ovens, incubators, autoclaves, refrigerators, freezers), isothermal blocks, PCR	-80 °C to -20 °C	0,16 °C	DKD-R 5-7:2018 For temperature ranges -80 °C up to -20 °C and 180 °C up to 400 °C calibration is performed at different positions of the chamber according to method (C) of the guideline. Calibration can also be performed on-site.
	-20 °C to 0 °C	0,15 °C	
	0 °C to 150 °C	0,14 °C	
	150 °C to 180 °C	0,22 °C	
	180 °C to 250 °C	0,25 °C	
	250 °C to 400 °C	1,1 °C	
Direct reading thermometers, temperature recorders with external sensor	-20 °C to 0 °C	0,05 °C	DKD-R 5-1:2018 Calibration can also be performed on-site.
	0 °C to 60 °C	0,04 °C	
	60 °C to 120 °C	0,03 °C	
	120 °C to 150 °C	0,05 °C	
	150 °C to 180 °C	0,17 °C	
Temperature recorders	-10 °C to 0 °C	0,20 °C	DKD-R 5-1:2018
	0 °C to 45 °C	0,15 °C	
	45 °C to 70 °C	0,23 °C	
Liquid in-glass thermometers of partial/total immersion	-20 °C to 0 °C	0,05 °C	COFRAC LAB GTA 08:2018 ISO 386:1977 ASTM E77:2014 Calibration in isothermal bath. Calibration can also be performed on-site.
	0 °C to +60 °C	0,04 °C	
	60 °C to 120 °C	0,03 °C	
	120 °C to 150 °C	0,05 °C	
	150 °C to 180 °C	0,17 °C	
Volume measurements			
Piston operated pipettes	2 µl	1,65%	EURAMET/cg-19/ v.3.0 2018
	5 µl	0,67%	
	10 µl	0,35%	
	20 µl	0,20%	
	50 µl	0,13%	
	100 µl έως 50 ml	0,12%	

Calibration item / Parameters	Range of measurement	Expanded measurement uncertainty (k=2)*	Remarks
Piston volumetric apparatus (dispensers, digital burettes, titrators)	1ml to 100 ml	0,13 %	EURAMET/cg-19/ v.3.0 2018
Bulb pipettes, volumetric flasks, cylinders	1 ml	0,20 %	
	2 ml to 5 ml	0,10 %	
	10 ml to 15 ml	0,050 %	
	20 ml to 25 ml	0,040 %	
	50 ml to 100 ml	0,030 %	
	150 ml to 500 ml	0,020 %	
	1000 ml to 2000 ml	0,030 %	
Spectrophotometric measurements			
Absorption / Spectrophotometers of visible and UV radiation, in the range: 235 nm to 800 nm	0 to 0,65 AU (UV)	5,2 mAU**	ASTM E 275-08(2022) Calibration can also be performed on-site.
	0 AU to 0,25 AU (visible)	2,8 mAU**	
	0,25 AU to 0,50 AU (visible)	3,2 mAU**	
	0,50 AU to 1,00 AU (visible)	3,9 mAU**	

** Where expanded uncertainty (with a probability of 95% coverage) is accompanied by the corresponding unit, it is absolute, while where it is not accompanied by a unit, it is relative.*

The Calibration & Measurement Capability (CMC), includes the measured quantity, measurement range and measurement uncertainty and expresses the smallest measurement uncertainty that can be achieved during a calibration.

*** Uncertainty values are estimated assuming a spectrophotometer having a resolution of 0,1mAU.*

Permanent laboratory premises address: **95 Lambrou Katsoni str, 183 44, Moschato, Piraeus.**

Approved Signatories: **C. Konstantopoulos, G. Fardis.**

This Scope of Accreditation replaces the previous one dated 12.03.2026.

The Accreditation Certificate No. **887**-4, to ELOT EN ISO/IEC 17025:2017, has been extended according to ESYD's decision and it is valid until 29.07.2026.

Athens, 21.05.2026

Konstantinou Evangelos Apostolos
CEO of ESYD