Hellenic Accreditation System

Annex F2/12 to the Certificate No. **500**-5

SCOPE of ACCREDITATION

of the

Calibration Laboratory

of

“AUTOVISION SAKAR S.A.
Private Technical Inspection of Vehicles -Certifications”

Measurand / Calibration item	Range of measurement	Calibration & Measurement Capability (k=2)*	Remarks
Dimensional measurements			
Motor vehicles side slip measurement devices	(-15 to +15) m/km		Calibration according to manufacturer’s inspection instructions. Calibration is performed on-site.
		0,09 m/km	Actia Automotive S.A. (Actia Muller S.A., Muller BEM). Internal method ΓΔ.ΕΔ.020.
		0,12 m/km	Beissbarth GmbH. Internal method ΓΔ.ΕΔ.020B.
		0,20 m/km	MAHA Mashinenbau Haldenwang GmbH. Internal method ΓΔ.ΕΔ.020M.
Motor vehicles tires tread wear gauges	0 mm to 3 mm	0,17 mm	Internal method ΓΔ.ΕΔ.020. Calibration can also be performed on-site.
Motor vehicles headlights beam vertical inclination measurement devices	0 % to 4 %	0,12 %	Calibration according to manufacturer’s inspection instructions. Internal method ΓΔ.ΕΔ.020. Calibration can also be performed on-site.

Measurand / Calibration item	Range of measurement	Calibration & Measurement Capability (k=2)*	Remarks
Force measurements			
Two-wheeled motor vehicles brake force measurement devices	[0 N έως 0,5 kN) [0,5 kN έως 1 kN) [1 kN έως 2 kN) [2 kN έως 2,7 kN]	7 N 8 N 11 N 14 N	Manufacturer: Actia Automotive (Actia Muller, Muller). Calibration according to manufacturer's inspection instructions. Internal method ΓΔ.ΕΔ.020. Calibration is performed on-site.
Light motor vehicles brake force measurement devices	[0 N έως 1,1 kN) [1,1 kN έως 2,2 kN) [2,2 kN έως 3,3 kN) [3,3 kN έως 4,4 kN) [4,4 kN έως 5,5 kN]	6,6 N 7,4 N 9,4 N 12,0 N 15,6 N	
Heavy motor vehicles brake force measurement devices	[0 N έως 11,1 kN) [11,1 kN έως 22,2 kN) [22,2 kN έως 33,3 kN) [33,3 kN έως 44,4 kN]	59 N 0,11 kN 0,16 kN 0,21 kN	
Light motor vehicles brake force measurement devices	[0 N έως 1,2 kN) [1,2 kN έως 2,5 kN) [2,5 kN έως 3,7 kN) [3,7 kN έως 5,0 kN) [5,0 kN έως 6,2 kN]	25 N 22 N 24 N 25 N 23 N	Manufacturer: Beissbarth. Calibration according to manufacturer's inspection instructions. Internal method ΓΔ.ΕΔ.020Β. Calibration is performed on-site.
Heavy motor vehicles brake force measurement devices	[0 N έως 12,5 kN) [12,5 kN έως 31,0 kN) [31,0 kN έως 40,0 kN]	0,31 kN 0,32 kN 0,33 kN	
Two-wheeled motor vehicles brake force measurement devices	[0 N έως 1,5 kN) [1,5 kN έως 2,5 kN]	12 N 13 N	Manufacturer: MAHA. Calibration according to manufacturer's inspection instructions. Internal method ΓΔ.ΕΔ.020Μ. Calibration is performed on-site.
Light motor vehicles brake force measurement devices	[0 N έως 3 kN) [3 kN έως 4 kN) [4 kN έως 5 kN) [5 kN έως 6 kN]	32 N 33 N 34 N 35 N	
Heavy motor vehicles brake force measurement devices	[0 N έως 3 kN) [3,0 kN έως 3,75 kN) [3,75 kN έως 6 kN) [6,0 kN έως 10,0 kN) [10,0 kN έως 12,5 kN) [12,5 kN έως 20,0 kN) [20,0 kN έως 30,0 kN]	74 N 77 N 87 N 0,11 kN 0,13 kN 0,19 kN 0,28 kN	

Measurand / Calibration item	Range of measurement	Calibration & Measurement Capability (k=2)*	Remarks
Motor vehicles suspension testers			Calibration according to manufacturer's inspection instructions. Calibration is performed on-site.
	0 N to 5900 N per wheel	17 N	Actia Automotive S.A. (Actia Muller S.A., Muller BEM). Internal method ΓΔ.ΕΔ.020.
		45 N	Beissbarth GmbH. Internal method ΓΔ.ΕΔ.020B.
		32 N	MAHA Mashinenbau Haldenwang GmbH. Internal method ΓΔ.ΕΔ.020M.
Two-wheeled motor vehicles weighing devices	1470 N to 4420 N	12 N	Calibration according to manufacturer's inspection instructions. Manufacturer: – Actia Automotive (Actia Muller, Muller). Internal method ΓΔ.ΕΔ.020. – MAHA Mashinenbau Haldenwang GmbH. Internal method ΓΔ.ΕΔ.020M. Calibration is performed on-site.
Photometric measurements			
Motor vehicles headlight beam illuminance measurement devices	6 lx to 144 lx (passing beams)	2,5 lx	Calibration according to manufacturer's inspection instructions. Internal method ΓΔ.ΕΔ.020. Calibration is performed on-site.
	32 lx to 240 lx (driving beams)	7,7 lx	
Exhaust emission measurements			
Exhaust emission analyzers of class 0, I, and II, for motor vehicles operating with petrol	[CO] (0,5 to 5) % vol	94×10^{-4} % vol	Calibration according to manufacturer's inspection instructions. Internal method ΓΔ.ΕΔ.020. Maximum tolerance errors according to recommendation OIML R 99-1&2:2008, par. 5.5.2, table 4. Calibration can be performed on-site.
	[CO_2] (4 to 16) % vol	62×10^{-3} % vol	
	[C_3H_8] (200 to 4000) parts per 10^6 vol	11 parts per 10^6 vol	

Measurand / Calibration item	Range of measurement	Calibration & Measurement Capability (k=2)*	Remarks
Exhaust emission analyzers for motor vehicles operating with diesel	Opacity (N) 0% to 100% Absorption coefficient (k) 0 m^{-1} to 9,99 m^{-1}	0,69 % 0,016 m^{-1}	Calibration according to Directive 72/306/EOK, Annex VII, par 3.6. Internal method ΓΔ.ΕΔ.020. Calibration can be performed on-site.
Pressure measurements			
Motor vehicles tires pressure measurement devices	100 kPa to 1100 kPa	14 kPa	According to Guide DKD-R 6-1:2014. Calibration can be performed on-site.
Pressure measurement devices of compressed air brake systems of heavy motor vehicles	0 kPa to 1200 kPa	10 kPa	

** Where uncertainty is accompanied by the corresponding unit, it is absolute, while where it is not accompanied by a unit, it is relative.*

Site of assessment: **Permanent Laboratory premises, 77, Rovertou Galli str., 163 46 Ilioupoli, Greece.**
Approved Signatory: **D. Angelakopoulos**

This Scope of Accreditation replaces the previous one dated 08.09.2021.
The Accreditation Certificate No. **500**-5, to ELOT EN ISO/IEC 17025:2017, is valid until 19.01.2025.

Athens, 26.05.2023

Christos Nestoras
CEO of ESYD