

Scope of Accreditation

Accredited person: CHIRANALAB, s.r.o.

Nám. Dr. A. Schweitzera 194, 916 01 Stará Turá

The organisational unit carrying out the activities of an accredited person:

Calibration Laboratory

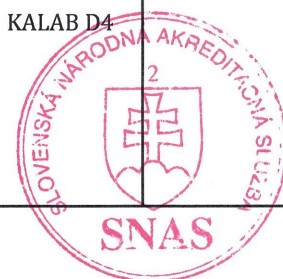
Place of activity of the accredited person:

Nám. Dr. A. Schweitzera 194, 916 01 Stará Turá

Identification number of the accredited person: 039/K-052

Laboratory with fixed scope of accreditation.

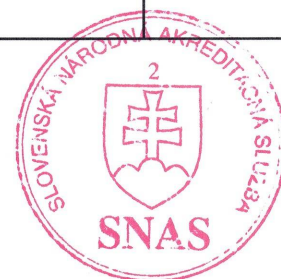
Item	Kind of measuring instrument, measuring means	Measured quantity	Measurement range	Expanded uncertainty U ($k=2$)	Established methods		Other specifications
					Kind/Principle	Identification	
1.1	End scales	Length	(0.5 to 100) mm 4th order	$(0.2 + 2.0 \cdot L) \mu\text{m}$	Comparative method with end scales parallel	KALAB D1	Calibration performed in the laboratory
			(0.5 to 100) mm 5th order	$(0.5 + 5.0 \cdot L) \mu\text{m}$			
1.2	Micrometers		(0 to 100) mm	$(0.9 + 3.1 \cdot L) \mu\text{m}$ (caliper micrometers)	Comparative method with end scales parallel 4th order	KALAB D2	
			(0 to 500) mm	$(1.4 + 3.1 \cdot L) \mu\text{m}$ (caliper micrometers)	Comparative method with end scales parallel 5th order		
			(0 to 200) mm	$(1.4 + 3.1 \cdot L) \mu\text{m}$ (passameters, micropassameters, micrometric depth gauges)	Comparative method with end scales parallel 5th order		
		(0 to 250) mm	$(1.8 + 3.1 \cdot L) \mu\text{m}$ (two-touch, three-touch cavity gauges)	Comparative method with end scales parallel 5th order			
		(0 to 300) mm	$(1.4 + 3.1 \cdot L) \mu\text{m}$ (micrometer heads, punches)	Comparative method with smooth rings			
1.3	Calipers	(0 to 1000) mm	$(16 + 0.54 \cdot L) \mu\text{m}$ (calipers, thickness gauges, depth gauges and altimeters with scale divisions of 0.01 and 0.02 mm)	Comparative method with end scales of parallel and control rings	KALAB D3		
			$(32 + 0.54 \cdot L) \mu\text{m}$ (calipers, depth gauges and altimeters with scale divisions of 0.05 and 0.1 mm)				
1.4	Dial and digital deviation meters	(0 to 50) mm	1.5 μm	Direct measurement with length gauge and I-Checker	KALAB D4		
		(0 to 300) mm	2.0 μm (dial gauges, two-touch cavity gauges) 2.0 μm (two-touch cavity gauges, subits, measuring heads)	Direct measurement with high gauge Direct measurement with length gauge			



Annex to Certificate of Accreditation No. K-052 dated 25.11.2025.

The Annex is an integral part of
the certificate

Item	Kind of measuring instrument, measuring means	Measured quantity	Measurement range	Expanded uncertainty U ($k=2$)	Established methods		Other specifications
					Kind/Principle	Identification	
1.5	Roller and flat gauges, joint gauges, measuring wires for threads Adjusting scales	Length	(0.05 to 100) mm	$(1.9 + 0.8 \cdot L) \mu\text{m}$	Direct measurement with micrometer Direct measurement with length gauge	KALAB D5	Calibration performed in the laboratory
			(0.05 to 300) mm	$(1.1 + 0.8 \cdot L) \mu\text{m}$			
			(0.1 to 300) mm	$(1.9 + 0.8 \cdot L) \mu\text{m}$	Direct measurement with length gauge		
1.6	Snap gauges	Length	(0.1 to 500) mm	$(2.0 + 1.3 \cdot L) \mu\text{m}$	Comparative method with end scales parallel	KALAB D6	Calibration performed in the laboratory
1.7	Threaded plug gauges		(3 to 100) mm	$(2.5 + 1.0 \cdot L) \mu\text{m}$	Direct measurement with micrometer	KALAB D7	
			(3 to 200) mm	$(2.1 + 1.0 \cdot L) \mu\text{m}$	Direct measurement with length gauge		
	Threaded rings Smooth rings		(3 to 200) mm	$(2.3 + 0.7 \cdot L) \mu\text{m}$			
1.8	Special measuring instruments: Gauges made according to technical standards and drawings, length measures, knife rulers	(2 to 200) mm	$(1.6 + 0.7 \cdot L) \mu\text{m}$		KALAB D8		
		(0 to 200) mm	$(2.5 + 1.0 \cdot L) \mu\text{m}$	Direct measurement with microscope			
		(0 to 1000) mm	$(200 + 26 \cdot L) \mu\text{m}$	Direct measurement with linear fixed gauge			
1.9	Protractors	Plane angle	0° to 360°	2' (with division up to 2')	Direct measurement with microscope	KALAB D8	Calibration performed in the laboratory
				3' (with division up to 5')			
1.10	Angles	Plane angle	$\alpha = 90^\circ$ Arm length (50 to 600) mm	5' (with division up to 10' and more)	Direct measurement with height gauge	KALAB D8	Calibration performed in the laboratory
				10''			



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Item	Kind of measuring instrument, measuring means	Measured quantity	Measurement range	Expanded uncertainty U ($k=2$)	Established methods		Other specifications
					Kind/Principle	Identification	
2.1	Digital DC voltmeters	Electrical voltages	(0.01 to 2) mV (2 to 20) mV (20 to 200) mV (0.2 to 2) V (2 to 20) V (20 to 200) V (200 to 1100) V (100 to 6000) V	$(2.6 \cdot 10^{-6} + 2.5 \cdot 10^{-4} \cdot MH)$ V $(2.6 \cdot 10^{-6} + 1.2 \cdot 10^{-5} \cdot MH)$ V $(2.5 \cdot 10^{-6} + 1.4 \cdot 10^{-5} \cdot MH)$ V $(9.2 \cdot 10^{-6} + 5.8 \cdot 10^{-6} \cdot MH)$ V $(8.2 \cdot 10^{-5} + 4.5 \cdot 10^{-6} \cdot MH)$ V $(8.7 \cdot 10^{-4} + 6.0 \cdot 10^{-6} \cdot MH)$ V $(5.8 \cdot 10^{-3} + 7.2 \cdot 10^{-6} \cdot MH)$ V $(10 + 6.0 \cdot 10^{-3} \cdot MH)$ V	Voltage measurement with a calibrator, or comparison with a multimeter	KALAB E1 (EURAMET cg -15)	Calibration performed in the laboratory
2.2	Analogue DC voltmeters		(0.01 to 2) mV (2 to 20) mV (20 to 200) mV (0.2 to 2) V (2 to 20) V (20 to 200) V (200 to 1100) V (100 to 6000) V	$(3.5 \cdot 10^{-5} + 2.5 \cdot 10^{-4} \cdot MH)$ V $(2.6 \cdot 10^{-5} + 5.2 \cdot 10^{-7} \cdot MH)$ V $(2.6 \cdot 10^{-5} + 5.2 \cdot 10^{-7} \cdot MH)$ V $(3.0 \cdot 10^{-4} + 2.9 \cdot 10^{-7} \cdot MH)$ V $(2.3 \cdot 10^{-3} + 2.5 \cdot 10^{-7} \cdot MH)$ V $(2.7 \cdot 10^{-2} + 3.4 \cdot 10^{-7} \cdot MH)$ V $(2.9 \cdot 10^{-1} + 2.4 \cdot 10^{-7} \cdot MH)$ V $(10 + 6.0 \cdot 10^{-3} \cdot MH)$ V	Voltage measurement with a calibrator, or comparison with a multimeter	KALAB E2	
2.3	Digital DC ammeters	Electric current	(10 to 200) μ A (0.2 to 2) mA (2 to 20) mA (20 to 200) mA (0.2 to 2) A (2 to 3) A (3 to 7.5) A (7.5 to 15) A (15 to 20) A	$(5.0 \cdot 10^{-9} + 9.4 \cdot 10^{-5} \cdot MH)$ A $(5.0 \cdot 10^{-8} + 5.5 \cdot 10^{-5} \cdot MH)$ A $(5.0 \cdot 10^{-7} + 5.5 \cdot 10^{-5} \cdot MH)$ A $(5.0 \cdot 10^{-6} + 5.5 \cdot 10^{-5} \cdot MH)$ A $(1.1 \cdot 10^{-4} + 9.9 \cdot 10^{-5} \cdot MH)$ A 8.9 $\cdot 10^{-3}$ A 2.1 $\cdot 10^{-2}$ A 4.2 $\cdot 10^{-2}$ A 8.9 $\cdot 10^{-2}$ A	Measuring current with a calibrator, or comparing with an ammeter	KALAB E1 (EURAMET cg -15)	
2.4	Analogue DC ammeters		(10 to 200) μ A (0.2 to 2) mA (2 to 20) mA (20 to 200) mA (0.2 to 2) A (2 to 3) A (3 to 7.5) A (7.5 to 15) A (15 to 20) A	$(2.0 \cdot 10^{-8} + 5.4 \cdot 10^{-5} \cdot MH)$ A $(2.4 \cdot 10^{-7} + 2.2 \cdot 10^{-5} \cdot MH)$ A $(2.1 \cdot 10^{-6} + 2.4 \cdot 10^{-5} \cdot MH)$ A $(2.4 \cdot 10^{-5} + 2.2 \cdot 10^{-5} \cdot MH)$ A $(2.3 \cdot 10^{-4} + 7.0 \cdot 10^{-5} \cdot MH)$ A A 8.9 $\cdot 10^{-3}$ A 2.1 $\cdot 10^{-2}$ A 4.2 $\cdot 10^{-2}$ A 8.9 $\cdot 10^{-2}$ A	Measuring current with a calibrator, or comparing with an ammeter	KALAB E2	
2.5	Digital AC voltmeters ($f = 40$ Hz - 1 kHz)	Electrical voltages	(0.1 to 2) mV (2 to 20) mV (20 to 200) mV (0.2 to 2) V (2 to 20) V (20 to 200) V (200 to 1100) V (100 to 6000) V	$(1.2 \cdot 10^{-5} + 6.0 \cdot 10^{-6} \cdot MH)$ V $(1.2 \cdot 10^{-5} + 5.6 \cdot 10^{-5} \cdot MH)$ V $(1.8 \cdot 10^{-5} + 1.9 \cdot 10^{-4} \cdot MH)$ V $(8.3 \cdot 10^{-5} + 1.5 \cdot 10^{-4} \cdot MH)$ V $(8.3 \cdot 10^{-4} + 1.5 \cdot 10^{-4} \cdot MH)$ V $(7.1 \cdot 10^{-3} + 1.6 \cdot 10^{-4} \cdot MH)$ V $(1.2 \cdot 10^{-1} + 2.0 \cdot 10^{-4} \cdot MH)$ V $(10 + 6.0 \cdot 10^{-3} \cdot MH)$ V	Voltage measurement with a calibrator, or comparison with a multimeter	KALAB E1 (EURAMET cg -15)	
2.6	Analogue AC voltmeters ($f = 50$ Hz)		(0.1 to 2) mV (2 to 20) mV (20 to 200) mV (0.2 to 2) V (2 to 20) V (20 to 200) V (200 to 1100) V (100 to 6000) V	$(1.2 \cdot 10^{-5} + 6.0 \cdot 10^{-6} \cdot MH)$ V $(1.2 \cdot 10^{-5} + 5.4 \cdot 10^{-5} \cdot MH)$ V $(4.4 \cdot 10^{-5} + 1.2 \cdot 10^{-4} \cdot MH)$ V $(5.3 \cdot 10^{-4} + 6.1 \cdot 10^{-5} \cdot MH)$ V $(5.0 \cdot 10^{-3} + 6.4 \cdot 10^{-5} \cdot MH)$ V $(5.0 \cdot 10^{-2} + 6.7 \cdot 10^{-5} \cdot MH)$ V $(4.6 \cdot 10^{-1} + 7.9 \cdot 10^{-5} \cdot MH)$ V $(10 + 6.0 \cdot 10^{-3} \cdot MH)$ V	Voltage measurement with a calibrator, or comparison with a multimeter	KALAB E2	



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Item	Kind of measuring instrument, measuring means	Measured quantity	Measurement range	Expanded uncertainty U ($k=2$)	Established methods		Other specifications
					Kind/Principle	Identification	
2.7	Digital AC ammeters (f = 40Hz - 1kHz)	Electric current	(10 to 200) μ A (0.2 to 2) mA (2 to 20) mA (20 to 200) mA (0.2 to 2) A	($1.5 \cdot 10^{-8} + 1.2 \cdot 10^{-4} \cdot MH$) A ($1.6 \cdot 10^{-7} + 6.5 \cdot 10^{-5} \cdot MH$) A ($1.6 \cdot 10^{-6} + 2 \cdot 10^{-4} \cdot MH$) A ($2.7 \cdot 10^{-5} + 4.6 \cdot 10^{-5} \cdot MH$) A ($2.6 \cdot 10^{-4} + 2.5 \cdot 10^{-4} \cdot MH$) A	Measuring current with a calibrator, or comparing with an ammeter	KALAB E1 (EURAMET cg -15)	Calibration performed in the laboratory
	Digital AC ammeters (f = 50 Hz)		(2 to 5) A (5 to 20) A	$8.9 \cdot 10^{-3}$ A $3.1 \cdot 10^{-2}$ A			
2.8	Analogue AC ammeters (f = 50 Hz)		(10 to 200) μ A (0.2 to 2) mA (2 to 20) mA (20 to 200) mA (0.2 to 2) A (2 to 5) A (5 to 20) A	($2.8 \cdot 10^{-8} + 8.9 \cdot 10^{-5} \cdot MH$) A ($4.8 \cdot 10^{-7} + 2.9 \cdot 10^{-5} \cdot MH$) A ($4.1 \cdot 10^{-6} + 3.3 \cdot 10^{-5} \cdot MH$) A ($5.5 \cdot 10^{-5} + 2.5 \cdot 10^{-5} \cdot MH$) A ($4.8 \cdot 10^{-4} + 1.9 \cdot 10^{-4} \cdot MH$) A $8.9 \cdot 10^{-3}$ A $3.1 \cdot 10^{-2}$ A	Measuring current with a calibrator, or comparing with an ammeter	KALAB E2	
2.9	Resistance decades	Electrical resistance	(1 to 100) Ω (100 to 1000) Ω (1 to 10) k Ω (10 to 100) k Ω (0.1 to 1) M Ω (1 to 10) M Ω (10 to 100) M Ω	($5.6 \cdot 10^{-3} + 4.3 \cdot 10^{-7} \cdot MH$) Ω ($4.2 \cdot 10^{-2} + 6.3 \cdot 10^{-7} \cdot MH$) Ω ($4.2 \cdot 10^{-1} + 6.3 \cdot 10^{-7} \cdot MH$) Ω ($5.2 + 5.1 \cdot 10^{-7} \cdot MH$) Ω ($1.1 \cdot 10^2 + 6.7 \cdot 10^{-7} \cdot MH$) Ω ($2.3 \cdot 10^3 + 2.9 \cdot 10^{-6} \cdot MH$) Ω ($3.5 \cdot 10^4 + 1.4 \cdot 10^{-3} \cdot MH$) Ω	Measuring DC resistance with multimeter	KALAB E3 (EURAMET cg -15)	
2.10	Digital electrical resistance gauges (DC)	Electrical resistance	0.001 Ω	$9.5 \cdot 10^{-7}$ Ω	DC resistance measurement with calibrator, or resistance decade, or resistance normal	KALAB E1 (EURAMET cg -15)	
			0.01 Ω	$7.5 \cdot 10^{-7}$ Ω			
			0.1 Ω	$5.4 \cdot 10^{-5}$ Ω			
			1 Ω	$1.5 \cdot 10^{-4}$ Ω			
			10 Ω	$4.4 \cdot 10^{-4}$ Ω			
			100 Ω	$4.0 \cdot 10^{-3}$ Ω			
			1 k Ω	$1.9 \cdot 10^{-2}$ Ω			
			10 k Ω	$1.9 \cdot 10^{-1}$ Ω			
			100 k Ω	2.4 Ω			
			1 M Ω	$5.0 \cdot 10^1$ Ω			
2.11	Analogue electrical resistance gauges (DC)	Electrical resistance	0.001 Ω	$9.5 \cdot 10^{-7}$ Ω	DC resistance measurement with calibrator, or resistance decade, or resistance normal	KALAB E2	
			0.01 Ω	$7.5 \cdot 10^{-6}$ Ω			
			0.1 Ω	$6.0 \cdot 10^{-5}$ Ω			
			1 Ω	$1.5 \cdot 10^{-4}$ Ω			
			10 Ω	$3.9 \cdot 10^{-3}$ Ω			
			100 Ω	$3.7 \cdot 10^{-2}$ Ω			
			1 k Ω	$3.9 \cdot 10^{-1}$ Ω			
			10 k Ω	4.1 Ω			
			100 k Ω	$4.1 \cdot 10^2$ Ω			
			1 M Ω	$4.2 \cdot 10^2$ Ω			
10 M Ω	$6.1 \cdot 10^3$ Ω						
			100 M Ω	$6.7 \cdot 10^4$ Ω			



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					Kind/Principle	Identification	
3.1	Direct-indicating pressure gauges	Pressure	(-2500 to 0 to 2500) Pa (-95 to 0 to 100) kPa (10 to 700) kPa (0.1 to 3.5) MPa (-100 to 0 to 200) kPa (0.1 to 3000) kPa (0.1 to 1) MPa (1 to 10) MPa (10 to 100) MPa (3 to 30000) kPa	(1.1 + 1.6.10 ⁻³ . MH) Pa (1.5 + 1.4.10 ⁻⁴ . MH) Pa (0.01 + 8.6.10 ⁻⁴ . MH) kPa (0.18 + 4.7.10 ⁻⁴ . MH) kPa (0.001 + 1.2.10 ⁻³ .MH) kPa (0.01 + 0.001. MH) kPa (0.21 + 4.5.10 ⁻⁵ . MH) kPa (2.9.10 ⁻⁴ . MH) MPa (4.5. 10 ⁻⁴ . MH) MPa (0.1 kPa + 0.001. MH) kPa	Direct comparison of the reference value with the value on the calibrated instrument	KALAB T1 KALAB T2	Calibration performed in the laboratory and at the customer's site.
3.2	Pressure transducers		Pressure	(-2500 to 0 to 2500) Pa (-95 to 0 to 100) kPa (10 to 700) kPa (0.1 to 3.5) MPa (-100 to 0 to 200) kPa (0.1 to 3000) kPa (0.1 to 1) MPa (1 to 10) MPa (10 to 100) MPa (3 to 30000) kPa	(1.1 + 1.6.10 ⁻³ . MH) Pa (1.5 + 1.4.10 ⁻⁴ . MH) Pa (0.01 + 8.6.10 ⁻⁴ . MH) kPa (0.18 + 4.7.10 ⁻⁴ . MH) kPa (0.001 + 1.2.10 ⁻³ .MH) kPa (0.01 + 0.001. MH) kPa (0.21 + 4.5.10 ⁻⁵ . MH) kPa (2.9.10 ⁻⁴ . MH) MPa (4.5. 10 ⁻⁴ . MH) MPa (0.1 kPa + 0.001. MH) kPa	Indirect pressure measurement via output signal by calibrated transducer	KALAB T3 EURAMET CG-3
4.1	Load cells (thrust and pressure)	Strength		(2 to 1000) N	(0.2 + 0.00036 . F) N	Direct comparison with reference load cells	KALAB F1
5.1	Gas flow meters		Gas flow	(0.02 to 8) m ³ h ⁻¹ (0.02 to 40) m ³ h ⁻¹ (40 to 100) m ³ h ⁻¹	0.76 % (connection to rotameter) 0.44 % (connection to gas meter) 0.76 % (connection to gas meter)	Direct comparison by volume method	KALAB P1
6.1	Glass thermometers and direct indicating thermometers	Temperature		(-40 to 300) °C	(0.044 °C + 1.6.10 ⁻⁴ . t) °C	Direct comparison with the standard	KALAB TH1
6.2			(-20 to 250) °C	(0.124 °C + 1.6.10 ⁻⁴ . t) °C	Calibration performed at the customer's site		
6.3	Resistance thermometers and temperature transducers	Temperature	(-40 to 300) °C	(0.044 °C + 2.0.10 ⁻⁴ . t) °C	Direct comparison with the standard	KALAB TH2	Calibration performed in the laboratory
6.3	Infrared thermometers		(-10 to 50) °C (50.1 to 200) °C (200.1 to 300) °C	2.8 °C 3.2 °C 3.8 °C	Direct comparison with a reference thermometer in a black body	KALAB TH3	Calibration performed in the laboratory
7.1	Relative humidity meters	Relative air humidity	(20 to 90) %	2.9 %	Direct comparison with the standard	KALAB V1	Calibration performed in the laboratory and at the customer's site

Legend: L = length in metres, t = temperature in °C, KM - end scales, F = force in N
MH = measured value given in SI base units.
KALAB – calibration procedures

