SNAS SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA

CERTIFICATE
OF ACCREDITATION

No. K-100
dated 23.09.2026

The Slovak National Accreditation Service issues a Certificate of Accreditation to an accredited body pursuant to Section 26 par.6 of Act No. 53/2023 Coll. on Accreditation of Conformity Assessment Bodies (hereinafter referred to as the "Accreditation Act").

Slovenská legálna metrológia, n. o.
Geologická 9966/1, 821 06 Bratislava – mestská časť Podunajské Biskupice
ID Number: 37 954 521

Organizational unit performing the activity of the Accredited Body:
Calibration laboratory

Workplace of the Accredited Body:
Workplace Bratislava, Geologická 1, 821 06 Bratislava
Workplace Nitra, Kmeťkova 3, 949 01 Nitra
Workplace Banská Bystrica, Hviezdoslavova 31, 974 01 Banská Bystrica
Workplace Žilina, Závodského 33, 010 04 Žilina
Workplace Košice, Zemplínska 46, 040 01 Košice

Identification number of the Accredited Body: 058/K-100

Area of accreditation: Calibration laboratory

The accredited body demonstrated its competence to perform the accredited activity fulfilling the accreditation requirements of **ISO/IEC 17025: 2017** Standard when performing calibration of measuring instruments and measures of length, measuring instruments and measures of angle, taximeters, level measuring instruments, measuring instruments and measures of volume, flow, measuring instruments and measures of mass, force, torque, pendulum impact testing machines, hardness testers for rubber and plastics, pressure, contact and non-contact measuring instruments of temperature, measuring instruments and measures of electrical quantities (voltage, current, resistance, power, energy, inductance, capacitance, electrical impedance, quality of electrical energy), frequency and time, tachograph testers, speedometers, tachometers, rotational frequency generators measuring instruments and measures of pH, conductivity, index of refraction, measuring instruments of humidity, density meters, breath analyzers, motor vehicle exhaust gas analyzers within the accreditation scope delineated in the Annex of this Certificate of Accreditation. The Annex shall form an integral part of the Certificate of Accreditation.

Number and date of issue of the accreditation decision: No. 058/13067/2026/2 dated 17.09.2026

Validity of the accreditation decision:
The accreditation decision No. 058/13067/2026/2 dated 17.09.2026 takes effect on 23.09.2026 and is valid until 03.07.2030.

SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA SNAS

Štefan Král
director

SNAS is signatory to the EA MLA and ILAC MRA.

record number: 13067/717968

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Activity specification

Accredited body: Slovenská legálna metrológia, n.o.
Geologická 9966/1, 821 06 Bratislava – mestská časť Podunajské Biskupice

Organizational unit performing the activity of the accredited body:
Calibration laboratory

Identification number of the accredited body: 058/K-100

LABORATORY WITH A FIXED SCOPE OF ACCREDITATION

Laboratory / workplaces	Metrological workplace Bratislava Geologická 1, 821 06 Bratislava	Metrological workplace Nitra Kmeťkova 3, 949 01 Nitra	Metrological workplace Banská Bystrica, Hviezdoslavova 31, 974 01 Banská Bystrica	Metrological workplace Žilina Závodského 33, 010 04 Žilina	Metrological workplace Košice Zemplínska 46, 040 01 Košice
Laboratory of Length					
Length	1.1 – 1.13 1.33	1.8, 1.33	1.8, 1.33	1.8, 1.10, 1.11, 1.33	1.2 – 1.5 1.8, 1.10, 1.11, 1.33
	1.14 – 1.32 1.34	-	1.20	1.34	1.18, 1.20
Plane angle	1.35 – 1.38	-	-	-	-
Laboratory of volume and flow					
Volume	2.3, 2.4	-	2.1 – 2.5	-	2.3, 2.4
Flow	2.6, 2.7, 2.8	2.6	2.6, 2.8, 2.9	2.6	2.6, 2.8, 2.9
Laboratory of mass					
Weighing instrument and weights, grain tester	3.1 - 3.3	3.1 - 3.3	3.1 - 3.3, 3.4	3.1 - 3.3	3.1 - 3.3
Laboratory of force					
The force, mechanical energy, moment of force	4.1- 4.3	4.3	-	4.1- 4.3	4.3
Strength Laboratory – Hardness					
Hardness	4.4	-	-	-	-
Laboratory of pressure					
Pressure	5.1 –5.3, 5.7 5.8	5.7	5.1 – 5.3, 5.4 - 5.8	5.7	5.7, 5.8
Laboratory of temperature, ~~heat~~					
Temperature	6.1 – 6.6	-	6.4, 6.6	-	-
Laboratory of electrical quantities					
DC and AC voltage and AC current, DC resistance	7.1 – 7.7	-	-	-	7.1 – 7.6
DC and AC electric power and electric energy	-	-	-	-	7.8 – 7.10
Electric energy	7.12	-	-	-	-
Voltage ratio, AC resistance, capacitance, inductance	7.11, 7.13 -7.15	-	-	-	-
Laboratory of frequency, time and mechanical movement					
Speed	8.4	-	-	-	-
Time and frequency, speed	8.1 – 8.3, 8.5	-	-	-	8.1, 8.2
Laboratory of physical and chemical quantities					
Reference materials	-	-	9.1 – 9.3	-	-
Optical quantities	-	-	9.4	-	-
Chemical quantities	-	-	9.5, 9.6, 9.8	9.7	9.7
Humidity	9.11	-	9.9 – 9.11	-	-
Density	-	-	9.12	-	-

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

LABORATORY OF LENGTH

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Identification	
LENGHT, AREA (GEOMETRICAL QUANTITIES)							
1.1	Gauge blocks	Length, area	(0 to 100) mm	(0,06 + 0,54 · L) µm	direct comparison with gauge blocks (standard) on gauge blocks comparator.	PP-11-01 (STN EN ISO 3650)	SLM
			(125 to 1 000) mm	(0,1 + 0,58 · L) µm			
1.2	Micrometric measurement instruments		(0 to 500) mm	(1 + 5 · L) µm	direct comparison with gauge blocks	PP-11-04 (VDI/VDE/DGQ 2618)	SLM
1.3	Micrometric bore gauge (two-contact and three-contact)		(0 a to 70) mm	(2,1 + 3 · L) µm	direct comparison with setting rings	PP-11-06 (STN 25 1430, VDI/VDE/DGQ 2618)	SLM
1.4	Vernier caliper (vernier height gauges, depth gauges, and tooth gauges)		(0 to 2 000) mm	(10 + 10 · L) µm	direct comparison with gauge blocks	PP-11-04 (VDI/VDE/DGQ 2618)	SLM
1.5	Measuring instrument with measuring arms		(0 to 1 000) mm	(10 + 10 · L) µm	direct comparison with gauge blocks	PP-11-04 (VDI/VDE/DGQ 2618)	SLM
1.6	Instrument for measuring coating thickness		(22 to 4 000) µm	(0,5 + 2 000 · L) µm	direct comparison with calibration foils	PP-11-06 (VDI/VDE/ DGQ 2618)	SLM
1.7	Measuring tape Material measures of length (metal or other material)		to 100 m	(30 + 7 · L) µm	direct comparison with measuring tape (standard) direct measurement with length encoder	PP-11-05 (STN 99 1005, TPM 0410-97)	SLM *3
1.8	Line gauge Material measures of length (metal or other material)		(0 to 2 000) mm	(2 + 0,8 · L) µm	direct comparison with ruler (standard)	PP-11-06 (STN 99 0378	
1.9	Retractable tape measure Material measures of length (metal or other material)		to 50 m	(40 + 23 · L) µm	direct comparison with measuring tape (standard) direct measurement with length encoder	PP-11-06:2026 (STN 99 1005:2003)	SLM EXT *3
	Height gauge (stadiometer)		to 10 m	2,4 mm	direct comparison with length standard		
1.10	Measuring device for measuring the length of wound materials		(1 to 100) m	0,08 %	direct comparison with measuring tape (standard) direct measurement with length encoder	PP-11-05 (STN 25 6112)	SLM EXT *4
1.11	Measuring track		(0 to 50) m	(3 + 0,44 · L) mm	direct comparison with measuring tape	PP-11-05	EXT
1.12	Instrument for measuring multiple dimensions		to (5 x 5 x 5) m	d/3	direct comparison with measuring tape	PP-11-05	SLM EXT *8
1.13	Measuring device for determining the surface area of leather		(0 to 1 500) dm²	0,3 dm²	direct comparison with measuring tape	PP-11-05	SLM EXT *9
1.14	Linear length sensor		(0,1 to 16) m	0,02 mm	direct comparison with laser interferometer	PP-11-02	SLM EXT
1.15	Automatic level gauge		(0,5 to 16) m	0,4 mm	direct comparison with laser interferometer	PP-11-02 (OIML R 85)	SLM EXT *7
			(0,8 to 36) m	(0,06 + 0,035 · L) mm	direct measurement with length encoder	OIML R 85 (PP-11-13)	SLM, EXT *7
1.16	Rangefinder		(0 to 16) m	0,7 mm	direct comparison with laser interferometer	PP-11-02 (ISO 16331-1:2017)	SLM EXT
1.17	Surface plate and straightedge		to (2 000 x1 600 x 300) mm	0,005 mm	direct comparison with laser interferometer	PP-11-02 (ISO 8512-1, ISO 8512-2)	SLM EXT

SLOVENSKÁ AKREDITAČNÁ SLUŽBA SNAS

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U ($k = 2$)	Established method		Other specifications
					Type/ Principle	Identification	
1.18	Feeler gauge	Length, area	(0,01 to 25) mm	$(2 + 0{,}8 \cdot L)$ µm	direct comparison with micrometric calipers direct comparison with universal length machine (ULM)	PP–11-06 (STN 25 1670, DIN 2275)	SLM
1.19	Optical scale and ruler		(0 to 300) mm	4 µm	direct comparison with CMM	PP–11-03 (STN 99 1005)	SLM
1.20	Test sieve		(0 to 300) mm	8 µm	direct comparison with a CMM direct comparison with microscope	PP–11-03, PP–11-06 (STN ISO3310-1 STN ISO3310-2 STN ISO3310	SLM *6
			(4 to 300) mm	50 µm	direct comparison with calipers		
1.21	Gauge		(0 to 300) mm	5 µm	direct comparison with a CMM	PP–11-03 (VDI/VDE/DGQ 2618)	SLM
1.22	Micrometric caliper gauge		(25 to 300) mm	$(1{,}3 + 3 \cdot L)$ µm	direct comparison with a ULM	PP–11-07 (STN 25 1435, VDI/VDE/DGQ 2618)	SLM
1.23	Calibration foil		(8 až 5 000) µm	$(0{,}3 + 100 \cdot L)$ µm		PP-11-07: 2026 (VDI/VDE/DGQ 2618: 2021)	SLM
1.24	Snap gauge		(5 to 300) mm	$(1{,}1 + 2 \cdot L)$ µm		PP–11-07 (VDI/VDE/DGQ 2618)	SLM
1.25	setting ring		(1 to 300) mm	$(1{,}1 + 2 \cdot L)$ µm		PP–11-07 (VDI/VDE/DGQ 2618)	SLM
1.26	Plain gauge		(4 to 150) mm	$(1{,}1 + 2 \cdot L)$ µm		PP–11-07 (VDI/VDE/DGQ 2618)	SLM
1.27	Thread gauge for external thread		(6 to 150) mm	$(2{,}1 + 0{,}6 \cdot L)$ µm		PP–11-07 (VDI/VDE/DGQ 2618)	SLM
1.28	Thread gauge for internal thread		(4 to 100) mm	$(2{,}1 + 0{,}6 \cdot L)$ µm		PP–11-07 (VDI/VDE/DGQ 2618)	SLM
1.29	Dial gauge (dial indicator, lever-type dial gauge, inductive length sensor, micro comparator)		(0 to 100) mm	$(1{,}8 + 1{,}2 \cdot L)$ µm	direct comparison with dial gauge calibrator direct comparison with micrometric head	PP-11-08 (STN 25 1816, ISO 463:2006)	SLM
1.30	Measuring wedge		(0,1 to 100) mm	10 µm	direct comparison withs height gauge	PP-11-09	SLM
1.31	Wheel circumference gauge		(0 to 600) mm	0,4 mm			
1.32	Radius gauge and template		(0 to 35) mm	4 µm	direct comparison with contourograph	PP-11-10 (VDI/VDE/DGQ 2618)	SLM
1.33	Taximeter and distance counter		Traveled distance in m	0,5 % of traveled distance	direct comparison with GPS	PP-11-12 STN EN 50148, OIML R 21	SLM EXT *5
			Elapsed time in s	0,08 % of elapsed time			
1.34	Extensometer and deformation gauge, as part of testing tensile machines and presses		(0,01 to 100) mm	0,2 µm	direct comparison with extension meter calibrator	PP-24-05 ASTM E 83-10a, STN EN ISO 9513	SLM EXT
			(100 to 600) mm		direct comparison with height gauge		

NOTES:
*3 or the purposes of Annex No. 3, item No. 1.1.1 of Annex No. 1 to Decree of ÚNMS SR No. 161/2019 Coll.
*4 for the purposes of Annex No. 4, item No. 1.1.2 of Annex No. 1 to Decree of ÚNMS SR No. 161/2019 Coll.
*5 for the purposes of Annex No. 5, item No. 1.1.3 of Annex No. 1 to Decree of ÚNMS SR No. 161/2019 Coll.
*6 for the purposes of Annex No. 6, item No. 1.1.4 of Annex No. 1 to Decree of ÚNMS SR No. 161/2019 Coll.
*7 for the purposes of Annex No. 7, item No. 1.1.5 of Annex No. 1 to Decree of ÚNMS SR No. 161/2019 Coll.

SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA
SNAS

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Identification	

*8 for the purposes of Annex No. 8, item No. 1.1.6 of Annex No. 1 to Decree of ÚNMS SR No. 161/2019 Coll.
*9 for the purposes of Annex No. 9, item No. 1.2.1 of Annex No. 1 to Decree of ÚNMS SR No. 161/2019 Coll.
d value of the measuring instrument division
L length value in meters
SLM internal calibration within SLM laboratory
EXT external calibration outside SLM laboratory

LABORATORY OF LENGTH

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Identification	
ANGLE							
1.35	Square (Angle ruler)	Angle	α = 90°, arm lenght up to 600 mm	3,1″	direct comparison with a height gauge	PP-11-09	SLM
1.36	Protractor		4 x 90°	3′	direct comparison with angular reference gauges	PP-11-11 (VDI/VDE/DGQ 2618)	SLM
1.37	Inclinometer (Slope gauge)		2 x 90°	3′	direct comparison with angular reference gauges	PP-11-11 (VDI/VDE/DGQ 2618)	SLM
	Spirit level (Bubble level)		to 0,5 µm/m	0,05 µm/m	direct comparison with a sine ruler and gauge blocks	PP-11-11	SLM
1.38	Angular measuring instrument - angle gauges - angle sensor		(0 to 360) °	5″	direct comparison with angular standard device	PP-11-11:2026	SLM

POZNÁMKY:
α Nominal angle
SLM internal calibration within SLM laboratory
EXT external calibration outside SLM laboratory

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

LABORATORY VOLUME, FLOW

Item	Type of measuring instrument		Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
						Type/ Principle	Identification	
VOLUME								
2.1	Laboratory measure and volume measure	standard measure of volume	Volume	(20 ≤ V ≤ 100) cm³	1 · 10⁻³ · V*	indirect comparison using the mass method	EURAMET cg-19 STN 70 4103 STN EN ISO 4787 STN EN 60601-2-24 (PP-13-03)	SLM EXT *21
				(100 < V ≤ 2 000) cm³	2 · 10⁻⁴ · V*			
		measuring bank		(5 ≤ V ≤ 10) cm³	6 · 10⁻³ · V*			
				(10 < V ≤ 100) cm³	5 · 10⁻³ · V*			
				(100 < V ≤ 2000) cm³	5 · 10⁻⁴ · V*			
		measuring cylinder		(5 ≤ V ≤ 10) cm³	6 · 10⁻³ · V*			
				(10 < V ≤ 100) cm³	3 · 10⁻³ · V*			
				(100 < V ≤ 2000) cm³	1 · 10⁻³ · V*			
		pipette		(0,001 ≤ V ≤ 0,01) cm³	2 · 10⁻¹ · V*			
				(0,01 < V ≤ 0,1) cm³	2 · 10⁻² · V*			
				(0,1 < V ≤ 1) cm³	2 · 10⁻³ · V*			
				(1 < V ≤ 10) cm³	2 · 10⁻⁴ · V *			
				(10 < V ≤ 200) cm³	1 · 10⁻⁴ · V*			
		burette		(1 ≤ V ≤ 10) cm³	1 · 10⁻³ · V*			
				(10 < V ≤ 100) cm³	3 · 10⁻⁴ · V*			
		pycnometer		(20 ≤ V ≤ 100) cm³	1,5 · 10⁻³ · V*			
				(100 < V ≤ 200) cm³	1 · 10⁻³ · V*			
		bottle and flacon		(20 ≤ V ≤ 100) cm³	1 · 10⁻² · V*			
				(100 < V ≤ 2000) cm³	2 · 10⁻³ · V*			
		medical volume measure (syringe, test tube)		(1 ≤ V ≤ 10) cm³	1 · 10⁻² · V*			
				(10 < V ≤ 100) cm³	1 · 10⁻³ · V*			
				(100 < V ≤ 200) cm³	5 · 10⁻⁴ · V*			
		dosing device, titrator		(0,2 ≤ V ≤ 10) cm³	3 · 10⁻² · V*			
				(10 < V ≤ 100) cm³	6 · 10⁻⁴ · V*			
				(100 < V ≤ 200) cm³	6 · 10⁻⁵ · V*			
		other measure and measure of volume		(0,001 to 2 000) cm³	0,008 % + 0,004 µL			
				(0,05 to 9 000) cm³	1% + 5 µL	direct comparison using the volumetric method		
2.2	Tap volume measure	tap vessel		(20 ≤ V ≤ 100) cm³	9 · 10⁻³ · V*	indirect comparison using the mass method, direct comparison with reference volume measures	STN 99 6141, STN 99 6142 (PP-13-02)	SLM EXT *22 *23
				(100 < V ≤ 2000) cm³	2 · 10⁻³ · V*			
		tap dispenser		(20 ≤ V ≤ 100) cm³	1 · 10⁻² · V*			
				(100 < V ≤ 500) cm³	2 · 10⁻³ · V*			
		automatic dispenser		(20 ≤ V ≤ 100) cm³	1 · 10⁻² · V*		(PP-13-02) (PP-13-03)	
				(100 < V ≤ 1000) cm³	2 · 10⁻³ · V*			
2.3	Measuring instrument and measure of liquid volume	standard measure of volume		(2 to 500) L	0,01 %		STN 25 7511 STN 99 6312 (PP-13-01)	SLM EXT
		measuring container and watering can		(2 to 1 000) L	0,06 %			SLM EXT *20
		transport barrel		(2 to 1 500) L	0,10 %			SLM EXT *25
		other measure and measure of volume		(2 to 1 500) L	0,10 %			SLM EXT

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument		Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
						Type/ Principle	Identification	
2.4	Storage tank	barrel	Volume	(0,002 to 5) m³	0,10 %	direct comparison using the volumetric method	STN 25 7511 STN 25 7513 (PP-13-04) (PP-13-08)	SLM EXT *24 *25
		tank and cistern		(1 to 50) m³				
		milk tank		(1 to 50) m³				
		stationary tank		(0,05 to 100 000) m³				
		other large volume tank		(0,05 to 100 000) m³				
		stationary tank		(25 to 100 000) m³	0,08 %	geometric method	STN 99 6423 (PP-13-05)	
2.5	Measurement of the volume of wood mass			volume in the range of geometric dimensions (0,2 to 1) m mean (1 to 35) m length	5 mm (mean) 6 mm (length) 0,01 m3 (volume)	geometric method	PP-13-15	EXT
FLOW								
2.6	Flow meter and flow volume of liquid Measuring systems for continuous and dynamic measurement of quantities of liquids other than water	liquid other than water	Flow of liquid	flow volume in the flow range (0,01 to 2000) L/min	0,15 %	direct comparison with the overflow quantity standard, indirect comparison by mass method	STN 99 7503 STN 99 6710 (PP-13-07) (PP-13-08) (PP-13-10)	SLM EXT *15 *16 *17
		alcohol		flow volume in the flow range (0,2 to 20) L/min	0,07 %	direct comparison with the overflow quantity standard	STN 99 6010 (PP-13-06)	EXT *18
		liquefied gas		flow volume in the flow range (5 to 400) L/min	0,18 %	direct comparison with the master meter	STN 99 7503 STN 99 6710 (PP-13-09)	EXT *15 *16 *17
		water		volume or mass flowed within the flow range (0,002 to 0,2) m³/h or (0,002 to 0,2) t/h	0,2 mL (g) + 0,06 % (SV)			
					0,2 mL (g) + 0,25 % (TÚV)	indirect comparison by mass method	STN EN 1434 STN 25 7820 STN EN ISO 4064 (PP-13-12)	SLM *10 *47 *13
				volume or mass flowed within the flow range (0,2 to 160) m³/h or (0,2 to 160) t/h	0,06 % (SV)			
					0,10 % (TÚV)			
				volume or mass flowed within the flow range (160 to 320) m³/h or (160 to 320) t/h	0,07 % (SV)			
					0,10 % (TÚV)			
				flow volume in the flow range (0,002 to 0,2) m³/h	0,16 % (SV)	direct comparison with the master meter		
					0,16 % (TÚV)			
				flow volume in the flow range (0,2 to 320) m³/h	0,25 % (SV)			
					0,30 % (TÚV)			
2.7	Test bench of water meter for cold and hot water, flow meter and flow measuring element of heat meter			flow volume in the flow range (0,04 to 70) m³/h	0,25 %	direct comparison with the master meter	STN 99 6810 STN 25 7820 STN EN ISO 4064 (PP-13-13)	EXT

SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA
SNAS

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Identification	
2.8	Meter of flow volume of water with free level	Flow of liquid	flow in the range of flow rate (0,07 to 1,2) m/s	2,1 % from the flow value	indirect comparison using the speed method	STN ISO EN 748 (PP-13-14)	EXT *11
			flow volume in the range of flow rate (1 to 10) L/s	1,3 %	direct comparison with the master meter or overflow quantity		
2.9	Flow meter and flow volume of gas	Gas flow	flow mass in the flow range (0,1 to 100) kg/min	0,33 % from the measured mass	direct comparison by mass method	STN 99 6810 (PP-13-11)	EXT *28 **

NOTES:

*10 for the purposes of Annex No. 10, item No. 1.3.1 and 1.3.2 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*11 for the purposes of Annex No. 11, item No. 1.3.3 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*13 for the purposes of Annex No. 13, item No. 1.3.5 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*15 for the purposes of Annex No. 15, item No. 1.3.6 and 1.3.7 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*16 for the purposes of Annex No. 16, item No. 1.3.6 and 1.3.7 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*17 for the purposes of Annex No. 17, item No. 1.3.6 and 1.3.8 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*18 for the purposes of Annex No. 18, item No. 1.3.9 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*20 for the purposes of Annex No. 20, item No. 1.3.12 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*21 for the purposes of Annex No. 21, item No. 1.3.13 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*22 for the purposes of Annex No. 22, item No. 1.3.14 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*23 for the purposes of Annex No. 23, item No. 1.3.15 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*24 for the purposes of Annex No. 24, item No. 1.3.16 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*25 for the purposes of Annex No. 25, item No. 1.3.17, 1.3.18 and 1.3.19 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*28 for the purposes of Annex No. 28, item No. 1.3.24 a) of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*47 for the purposes of Annex No. 47, item No. 3.5 b) of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.

% from the measured volume
V measured volume in cm^3
TUV domestic hot water
SV cold water
SLM internal calibration within SLM laboratory
EXT external calibration outside SLM laboratory
** measured medium CNG, LPG
* absolute value of the uncertainty of the measured value

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

LABORATORY OF MASS

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U ($k = 2$)	Established method		Other specification
					Type/ Principle	Identification	
MASS							
3.1	Weight	Mass	1 mg	0,003 mg	direct comparison with a weight standard	STN 17 7805 OIML R 111 (PP-21-01)	SLM *29
			2 mg	0,003 mg			
			5 mg	0,003 mg			
			10 mg	0,003 mg			
			20 mg	0,004 mg			
			50 mg	0,005 mg			
			100 mg	0,005 mg			
			200 mg	0,007 mg			
			500 mg	0,008 mg			
			1 g	0,01 mg			
			2 g	0,013 mg			
			5 g	0,015 mg			
			10 g	0,020 mg			
			20 g	0,025 mg			
			50 g	0,03 mg			
			100 g	0,05 mg			
			200 g	0,10 mg			
			500 g	0,25 mg			
			1 kg	0,50 mg			
			2 kg	1,0 mg			
			5 kg	2,5 mg			
			10 kg	5 mg			
			20 kg	10 mg			
			50 kg	0,2 g			
	Weight for testing weighing instrument with high weighing capacity		100 kg	0,4 g		STN 17 7805 OIML R 47 OIML R 111 (PP-21-04)	SLM EXT
			200 kg	0,75 g			
			500 kg	3 g			
			1000 kg	4 g			
			2000 kg	33 g			
	Railway wagon with weights		to 80 000 kg	$3.10^{-5} \cdot m$		STN 17 7805 OIML R 47 (PP-21-04)	EXT
	Special weight		to 10 mg	0,03 mg		OIML R 111 (PP-21-01)	SLM
			to 100 mg	0,05 mg			
			to 1 g	0,1 mg			
			to 10 g	0,2 mg			
			to 100 g	0,5 mg			
			to 1 kg	5 mg			
			to 10 kg	50 mg			
			to 20 kg	0,1 g			
			to 100 kg	3 g		OIML R 111 (PP-21-04)	SLM EXT
			to 500 kg	4 g			
			to 1000 kg	5 g			
			to 2000 kg	33 g			

SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA
SNAS

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument		Measured quantity	Measurement range	Expanded uncertainty U ($k = 2$)	Established method		Other specification
						Type/ Principle	Identification	
3.2	Non-automatic weighing instrument	I AC	Mass	to 50 kg	$1 \cdot 10^{-6} \cdot m$	direct comparison with a weight standard, or substitute load or substitute load	STN EN 45 501 EURAMET cg-18 (PP-21-02)	SLM EXT *30
		II AC		to 52 kg	$2 \cdot 10^{-6} \cdot m$			
				to 1 500 kg	$5 \cdot 10^{-6} \cdot m$			
		III AC		to 1 500 kg	$5 \cdot 10^{-6} \cdot m$			
				to 2 000 kg	$2 \cdot 10^{-5} \cdot m$			
				to 5 000 kg	$3 \cdot 10^{-5} \cdot m$			
				to 80 000 kg	$5 \cdot 10^{-5} \cdot m$			
				to 120 000 kg	$1 \cdot 10^{-4} \cdot m$			
		IIII AC		to 1 500 kg	$3 \cdot 10^{-5} \cdot m$			
				to 5 000 kg	$4 \cdot 10^{-5} \cdot m$			
				to 80 000 kg	$2 \cdot 10^{-4} \cdot m$			
				to 120 000 kg	$3 \cdot 10^{-4} \cdot m$			
3.3	Automatic weighing instrument			to 500 kg	$1 \cdot 10^{-5} \cdot m$	direct comparison with a weight standard or the reference mass	STN 17 7051 STN 17 7052 STN 17 7053 STN 17 7054 OIML R 50 -1, -2 OIML R 51 -1, -2 OIML R 61 -1, -2 OIML R 106 -1, -2 OIML R 107 -1, -2 (PP-21-05)	EXT *32
				to 5 000 kg	$2 \cdot 10^{-5} \cdot m$			
				to 120 000 kg	$1 \cdot 10^{-4} \cdot m$			
				to 120 000 kg	$1 \cdot 10^{-4} \cdot m$			
	Automatic instrument for weighing road vehicles in motion and measuring axle loads for single-axle load and axle-group load			to 20 000 kg	$5 \cdot 10^{-5} \cdot m$	direct comparison with a weight standard or the reference mass	STN 17 7015 OIML R 134 -1, -2 (PP-21-06)	EXT *31
				to 120 000 kg	$1 \cdot 10^{-4} \cdot m$			
3.4	Measuring instruments for cereals			mass per hectoliter 1 L	0,1 kg · hl^{-1}	direct comparison of results with a standard	PP-21-11	SLM *33

NOTES:

*29 for the purposes of Annex No. 29, item No. 2.1.1, 2.1.2 a 2.1.3 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*30 for the purposes of Annex No. 30, item No. 2.1.4, 2.1.5, 2.1.6 and 2.1.7 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*31 for the purposes of Annex No. 30, item No. 2.1.8 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*32 for the purposes of Annex No. 30, item No. 2.1.9, 2.1.10, 2.1.11, 2.1.12 and 2.1.13 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*33 for the purposes of Annex No. 30, item No. 2.1.14 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.

m measured mass in kg
AC accuracy classes
SLM internal calibration within SLM laboratory
EXT external calibration outside SLM laboratory

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

LABORATORY OF FORCE

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Identification	
FORCE							
4.1	Uniaxial testing machine	Force	20 mN to 1000 kN tension/compression	0,1 %	direct comparison with a force standards	STN EN ISO 7500-1 ASTM E4 (PP-24-01)	EXT *39
			1 MN to 5 MN compression	0,3 %			
	Testing machine for hardened concrete		0,2 MN to 5 MN compression	0,3 %		STN EN 12 390-4 (PP-24-01)	EXT *39
	Tension creep testing machine		20 mN to 1000 kN tension	0,1 %		STN EN ISO 7500-2 ASTM E4 (PP-24-01)	EXT *39
	Tensioning machine for prestressed concrete		10 kN to 500 kN compression	0,3 %		STN 99 4802 (PP-24-01)	EXT *41
	Force gauge, force measuring device		20 mN to 100 kN tension/compression	0,04 %		STN EN ISO 7500-1 STN EN ISO 376 (PP-24-01)	SLM EXT
			20 mN to1000 kN tension/compression	0,1 %			EXT
MECHANICAL ENERGY							
4.2	Pendulum impact testing machines	Mechanical energy	(0,05 to 1 000) J	0,1 %	direct method, which is static in nature, involves measurement of the critical parts of the machine	STN EN ISO 148-2 ASTM E23, part A2 (PP-24-02)	SLM EXT *39
TORQUE							
4.3	Torque wrench, torque screwdriver	Torque	(0,2 to 10) N·m	0,5 % + 0,01 N·m	direct comparison with a torque standards	PP-24-03: 2026 (STN EN ISO 6789 – 1:2018)	SLM EXT *42
			(10 to 1 000) N·m	0,3 %			
			(2 to 1 000) N·m	0,3 % + 0,02 N·m			SLM *42
			(1000 až 2000) N·m	1 %			SLM BA *42
	Torque measuring device		(2 to 1 000) N·m	0,2 % + 0,01 N·m		STN EN ISO 6789 - 2, EURAMET cg-14 (PP-24-03)	SLM EXT
			(2 to 1 000) N·m	0,3 % + 0,02 N·m			SLM
HARDNESS							
4.4	Hardness tester A, D, AO, AM, IRHD	Hardness	(10 to 100) for type A, D, AO, AM (30 to 100) for type IRHD	0,25 %	direct comparison on a calibration device or weighing instrument	STN EN ISO 868, ISO 18898 (PP-24-06)	SLM

REMARKS:

*39 for the purposes of Annex No. 39, item No. 2.4.1, 2.4.2 a 2.4.3 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*41 for the purposes of Annex No. 41, item No. 2.4.5 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*42 for the purposes of Annex No. 42, item No. 2.4.6 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.

% from the measured volume
SLM internal calibration within SLM laboratory
EXT external calibration outside SLM laboratory

SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA SNAS

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

LABORATORY OF PRESSURE

Item	Type of measuring instrument		Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Established method	
						Type/ Principle	Indentification		
PRESSURE									
5.1	Deformation pressure gauge	Negative pressure	Pressure	(-95 to -10) kPa	0,05 % FS	direct comparison	EURAMET cg-17: 2022 (PP-23-03, 2026)	Medium: gas	SLM EXT
				(-10 to 0) kPa	0,1 % FS				
				(-90 to 0) kPa	0,02 kPa	direct comparison			SLM BB EXT BB
				(-90 to 0) kPa	0,02 kPa	Non-direct comparison			SLM BB
		Over pressure		(0 to 50) kPa	0,1 % FS	direct comparison			SLM EXT
				(50 to 20 000) kPa	0,05 % FS				SLM
				(20 000 to 60 000) kPa	0,1 % FS				
				(250 to 4 000) kPa	0,1 % FS			Medium: oil	EXT SLM
				(4 000 to 100 000) kPa	0,05 % FS				SLM
				(250 to 70 000) kPa	0,1 % FS				
		Absolute pressure		(5 až 2 000) kPa	0,05 % FS			Medium: gas	SLM EXT
				(2 000 to 20 000) kPa	0,05 % FS				
		Differential presssure *1		(0,005 to 15) kPa	0,1 % FS				SLM
				(15 to 100) kPa	0,05 % FS				
				(100 to 1 000) kPa	0,05 % FS				
		Differential pressure		(0,005 to 0,5) kPa	0,25 Pa	Non-direct comparison			SLM BB EXT BB
				(0,5 to 15,0) kPa	0,05 % R				SLM BB
		Barometric pressure		(80 to 110) kPa	9 Pa	direct comparison			SLM BB
				(80 to 110) kPa	50 Pa	direct comparison			EXT BB
5.2	Digital pressure gauge	Negative pressure		(-90 to 0) kPa	0,02 %R	direct comparison		Medium: gas	SLM BB EXT BB
				(-90 to 0) kPa	0,02 kPa	Non-direct comparison			SLM BB
				(-95 to -10) kPa	0,05 % RDG	Non-direct comparison			SLM EXT
				(-10 to 0) kPa	0,1 % RDG				

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument		Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Established method	
						Type/ Principle	Indentification		
		Over pressure	Pressure	(0 to 40) kPa	0,05 % RDG	Non-direct comparison	EURAMET cg-17: 2022 (PP-23-03: 2026)		
				(40 to 100) kPa	0,05 % RDG				SLM
				(100 to 5 000) kPa	0,01 % RDG				EXT
				(5 000 to 20 000) kPa	0,05 % RDG			Medium: oil	SLM
				(2 000 to 20 000) kPa	0,2 % RDG				
				(5 000 to 100 000) kPa	0,01 % RDG				
		Differential pressure		(0,005 to 0,5) kPa	0,25 Pa	Non-direct comparison		Medium: gas	SLM BB EXT BB
				(0,5 to 15,0) kPa	0,05 % FS				SLM BB
				(0 to 2 000) kPa	0,01 %FS + 0,025%RDG	direct comparison			SLM BB EXT BB
		Differential pressure *1		(0,005 to 15) kPa	0,1 % RDG	direct comparison		Medium: gas	SLM EXT
		Absolute pressure		(5 to 200) kPa	0,05 % RDG + 20 Pa				
				(200 to 5 000) kPa	0,01 % RDG				
				(5 000 to 20 000) kPa	0,01 % RDG				
				(2 000 to 20 000) kPa	0,05 % RDG				
				(0 to 1 200) kPa	0,1 % RDG			Medium: oil	EXT
				(1 200 to 70 000) kPa	0,2 % RDG				
		Barometric pressure		(80 to 110) kPa	50 Pa	direct comparison		Medium: gas	EXT BB
				(80 to 110) kPa	6 Pa	direct comparison			SLM *38
5.3	Pressure Transducer (analogue output)	Negative pressure		(-90 to 0) kPa	0,02 kPa	Non-direct comparison		Medium: gas	SLM BB
		Over pressure		(0,005 to 15) kPa (15 to 100) kPa (100 to 5000) kPa (5000 to 20000) kPa	0,15 % R 0,15 % R 0,015 % R 0,02 % R	Non-direct comparison		Medium: gas	SLM *38
		Absolute pressure		(3 to 95) kPa	0,03 % R				
				(95 to 200) kPa	0,025 % R				
				(200 ato5 000) kPa	0,015 % R+6 Pa				
				(5 000 to 20 000) kPa	0,02 % R+6 Pa				
				(10 to 100) MPa	0,025 % R			Medium: oil	SLM EXT *38
				(10 až 200) MPa	0,025 % R + 6 Pa				
		Barometric pressure		(80 to 110) kPa	9 Pa	Non-direct comparison		Medium: gas	SLM BB
				(80 to 110) kPa	50 Pa				EXT BB
		Differential pressure		(0,005 to 10) kPa	0,04 % R	Non-direct comparison			SLM BB EXT BB
				(10 to 100) kPa	0,02 % R				SLM BB
									EXT BB

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument		Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Established method	
						Type/ Principle	Indentifi cation		
5.4	Pressure Transducer (HART or digital output)	Negative pressure		(0,005 to 15) kPa (15 to 100) kPa (100 to 5000) kPa (5000 to 20000) kPa	0,1% FS + 1 Pa 0,015 % FS + 10 Pa 0,015 % FS 0,02 % FS	direct comparison		Medium: gas	SLM EXT *38
		Absolute pressure		(5 to 200) kPa (200 to 5 000) kPa (5 000 to 20 000) kPa	0,05 % RDG + 20 Pa 0,01 % RDG 0,02 % RDG				
5.5	Bullet pressure gauge	Over pressure		(3 až 100) kPa (100 to 5 000) kPa (2 to 20) MPa (1,2 to 12) MPa (12 to 100) MPa	0,02 % RDG 0,006 % RDG 0,008 % RDG 0,006 % RDG 0,008 % RDG	non-direct comparison with piston pressure gauge	EURAMET cg-3 (PP-23-07)	Medium: gas Medium: oil	SLM
5.6	Tire pressure gauge	Over pressure		(0,05 to 10) MPa	0,009 % RDG			Medium: gas	
5.7	Non-invasive blood pressure monitor (tonometer) -mechanical -electro mechanical	Over pressure		(0 to 20) bar	0,02 bar	direct comparison	EN 12645 (PP-23-02)	SLM EXT *36	
5.8	Bullet pressure gauge	Over pressure		(0 to 400) mmHg	0,9 mmHg	direct comparison	PP-23-01	SLM EXT *37	

NOTES:
*36 for the purposes of Annex No. 36, item No. . 2.3.1 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*37 for the purposes of Annex No. 37, item No. . 2.3.2 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*38 for the purposes of Annex No. 38, item No. . 2.3.3 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll
*1 in range to 16 kPa for static pressure 300 Pa
% RDG of reading value
% FS of full scale
% **R from range the gauge
SLM BB Internal calibration within SLM laboratory
EXT BB External calibration outside SLM laboratory

LABORATORY OF TEMPERATURE

SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA SNAS

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Identification	
TEMPERATURE							
6.1	Resistance and semiconductor sensor	Temperature	0,01 °C (-80 to 0) °C (0 to 100) °C (100 to 270) °C (270 to 500) °C (500 to 660) °C	0,001 °C 0,04 °C 0,02 °C 0,03 °C 0,1 °C 0,2 °C	direct measurement in the triple point of water	STN EN 60751 STN EN 1434-5 (PP-31-02)	SLM *45, *46
6.2	Paired temperature sensors - a member of heat meter		(0 to 200) °C	0,03 °C 0,01 °C *1	comparison with a temperature sensor or thermometer		
6.3	Thermoelectric sensor		(-80 to 270) °C (270 to 600) °C (600 to 1 200) °C	0,2 °C 0,5 °C 1,5 °C	comparison with a temperature sensor or thermometer	EURAMET cg-8 STN EN 60584-1 (PP-31-02)	
6.4	Direct-indicating thermometer, temperature measuring instrument, temperature transducer *2		(-80 to -40) °C (-40 to 90) °C (90 to 270) °C (270 to 500) °C (500 to 1 200) °C	0,04 °C 0,03 °C 0,04 °C 0,2 °C 1,5 °C	comparison with a thermometer or temperature sensor	PP-31-03	SLM EXT *43, *44, *45
6.5	Temperature calibrator, thermostat and temperature field generation device		(-80 to -40) °C (-40 to 90) °C (90 to 270) °C (270 to 500) °C (500 to 1 200) °C	0,04 °C 0,03 °C 0,04 °C 0,2 °C 1,5 °C	comparison with a thermometer or temperature sensor	PP-31-05	
6.6	Infrared thermometer		(-20 to 0) °C (0 to 30) °C (30 to 140) °C (-20 to 0) °C (0 to 30) °C (30 to 140) °C (140 to 250) °C (250 to 500) °C	1,5 °C 1,0 °C 0,5 °C 1,5 °C 1,0 °C 0,5 °C 1,0 °C 1,5 °C	indirect comparison with the thermometer and the black body model direct comparison with the calibrator of infrared thermometer	ASTM E2847-13 (PP-31-06)	SLM

NOTES:
*43 for the purposes of Annex No. 43, item No. 3.1 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*44 for the purposes of Annex No. 44, item No. 3.2 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*45 for the purposes of Annex No. 45, item No. 3.3 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*46 for the purposes of Annex No. 46, item No. 3.5 a) of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*1 for the temperature difference between the sensors included in the pair
*2 when calibrating transducers (voltage and current output), the expanded uncertainty is arithmetically increased by 0.002% of the transducer range
SLM Internal calibration within SLM laboratory
EXT External calibration outside SLM laboratory

LABORATORY OF ELECTRICAL QUANTITIES

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method: Type/ Principle	Established method: Identification	Other specifications
DC VOLTAGE							
7.1	DC voltage measuring instruments, calibrator and DC voltage measure	DC voltage	(0 to 0,2) V	4,2 µV/V + 0,4 µV	direct measurement with a standard, direct comparison with the standard, direct comparison with multimeter using artifact	EURAMET cg-15 (P-40-02, PP-40-03)	SLM EXT
			(0,2 to 2) V	3,5 µV/V + 0,4 µV			
			(2 to 20) V	3,5 µV/V + 3,3 µV			
			(20 to 200) V	5,1 µV/V + 37 µV			
			(200 to 1 050) V	5,1 µV/V + 0,63 mV			
			(1 to 6) kV	0,3 % + 0,5 V	comparison with a standard with a voltage converter using an artifact		SLM
			(1 to 40) kV	0,3 % + 0,5 V	direct measurement with standard		EXT
			(0,2 to 2) V	2 µV/V + 0,2 µV	direct comparison with a voltage reference, direct measurement of the voltage reference output		EXT
			(2 to 20) V	2 µV/V + 2,0 µV			SLM
			(20 to 200) V	5 µV/V			
			0,1 V *1	6,0 µV/V			
			1 V	1,5 µV/V			
			10 V	1,5 µV/V			
7.2	Simulator and indicator of thermometer with thermoelectric temperature sensor	Temperature	(-200 to 1 700) °C	0,01 °C *2	direct measurement direct comparison comparison with a multimeter using an artifact		SLM EXT

NOTES:
*1 the minimum nominal input impedance of the meters 5 GΩ
*2 depending on the sensor type, thermoelectric sensors type B, E, J, K, N, R, S, T
SLM Internal calibration within SLM laboratory
EXT External calibration outside SLM laboratory

AC VOLTAGE							
7.3	AC voltage measuring instrument, calibrator and AC voltage measure	AC voltage	(0,01 to 22) mV	0,037 % + 6,1 µV / (10 to 20) Hz	direct measurement with a standard, direct comparison with the standard, direct comparison with multimeter using artifact	EURAMET cg-15 (P-40-02, PP-40-03)	SLM EXT
				0,014 % + 6,1 µV / (20 to 40) Hz			
				0,013 % + 6,1 µV / (40 to 20 000) Hz			
				0,031 % + 6,1 µV / (20 to 50) kHz			
				0,077 % + 7,6 µV / (50 to 100) kHz			
				0,17 % + 15 µV / (100 to 300) kHz			
				0,22 % + 30 µV / (300 to 500) kHz			
				0,42 % + 30 µV / (0,5 to 1) MHz			
			(22 to 220) mV	0,037 % + 18 µV / (10 to 20) Hz			
				0,014 % + 10 µV / (20 to 40) Hz			
				0,0088 % + 10 µV / (40 to 20 000) Hz			
				0,019 % + 9,2 µV / (20 to 50) kHz			
				0,048 % + 25 µV / (50 to 100) kHz			
				0,11 % + 8,7 µV / (100 to 300) kHz			
				0,22 % + 25 µV / (300 to 500) kHz			
				0,42 % + 52 µV / (0,5 to 1) MHz			
		AC voltage	(0,22 to 2,2) V	0,037 % + 54 µV / (10 to 20) Hz	direct measurement with a standard, direct	EURAMET cg-15 (P-40-02, PP-40-03)	SLM EXT

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Identification	
	AC voltage measuring instrument, calibrator and AC voltage measure			0,014 % + 17 µV / (20 to 40) Hz	comparison with the standard, direct comparison with multimeter using artifact		
				0,0065 % + 10 µV / (40 to 20 000) Hz			
				0,010 % + 20 µV / (20 to 50) kHz			
				0,013 % + 45 µV / (50 to 100) kHz			
				0,052 % + 0,11 mV (100 to 300) kHz			
				0,16 % + 0,15 mV / (300 to 500) kHz			
				0,26 % + 0,45 mV (0,5 to 1) MHz			
			(2,2 to 22) V	0,037 % + 0,54 mV / (10 to 20) Hz			
				0,014 % + 0,17 mV / (20 to 40) Hz			
				0,0065 % + 0,058 mV / (40 to 20 000) Hz			
				0,010 % + 0,20 mV / (20 to 50) kHz			
				0,013 % + 0,23 mV / (50 to 100) kHz			
				0,039 % + 0,87 mV / (100 to 300) kHz			
				0,16 % + 1,5 mV / (300 to 500) kHz			
				0,23 % + 4,7 mV / (0,5 to 1 MHz)			
			(22 to 220) V	0,037 % + 5,4 mV / (10 to 20) Hz			
				0,014 % + 1,7 mV / (20 to 40) Hz			
				0,0080 % + 0,79 mV / (40 to 20 000) Hz			
				0,029 % + 1,8 mV / (20 to 50) kHz			
				0,053 % + 8,6 mV / (50 to 100) kHz			
				0,32 % + 51 mV / (100 to 300) kHz			
				1,6 % + 0,036 V / (300 to 500) kHz			
				2,8 % + 0,33 V / (0,5 to 1) MHz			
			(220 to 1 100) V	0,045 % + 9,1 mV / (20 to 40) Hz			
				0,01 % + 7,6 mV / (40 to 1 000) Hz			
				0,013 % + 22 mV / (1 to 10) kHz *4			
			(1 to 6) kV	0,030 % / 50 Hz	comparison with a reference meter with a voltage converter using an artifact		SLM
			(6 to 28) kV *3	0,50 % / 50 Hz			SLM
			(1 to 28) kV	0,50 % / 50 Hz			EXT

NOTES:
Expanded uncertainty in AC voltage is expressed as expanded uncertainty / frequency range
*3 measuring instruments only to 6 kV
*4 measuring instruments to 1 kHz
SLM Internal calibration within SLM laboratory
EXT External calibration outside SLM laboratory

DC CURRENT

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method: Type/ Principle	Established method: Identification	Other specifications
7.4	DC current measuring instrument, calibrator and DC current measure	DC current	(1 to 100) pA	0,1 %	indirect method using voltage calibrator and resistance standard	EURAMET cg-15 (PP-40-02, PP-40-03)	SLM
			(0,1 to 5) nA	0,01 %			
			(5 to 220) nA	0,003 %			
			(0,22 to 22) µA	0,002 %			
			(0 to 200) µA	16 µA/A + 0,73 nA	direct measurement with a standard, direct comparison with the standard, direct comparison with a multimeter using an artifact, comparison with a multimeter and a current converter		SLM EXT
			(0,2 to 2) mA	9 µA/A + 3,4 nA			
			(2 to 20) mA	11 µA/A + 32 nA			
			(20 to 200) mA	42 µA/A + 0,91 µA			
			(0,2 to 2,2) A	0,01 % + 18 µA			
			(2,2 to 10) A	0,063 % + 0,63 mA			
			(10 to 20) A	0,11 % + 0,82 mA			
			(20 to 100) A	0,11 % + 4,1 mA			
			(100 to 300) A	0,03 %			
	DC current measuring instrument, calibrator and DC current measure	DC current	(10 to 150) A *4	0,51 % + 0,14 A	comparison with calibrator and current coil, comparison with a multimeter using an artifact and a current coil	EURAMET cg-15 (PP-40-02, PP-40-03)	SLM EXT
			(150 to 1 025) A *4	0,51 % + 0,27 A			
			(1 to 10) kA *4	0,51 % + 0,85 A			

NOTES:
*4 only non-contact ammeters (Hall probe, fluxgate, with optical fibers)
SLM Internal calibration within SLM laboratory
EXT External calibration outside SLM laboratory

AC CURRENT

7.5	AC current measuring instrument, calibrator and AC current measure	AC current		0,034 % + 20 nA / (10 to 20) Hz	direct measurement with a standard, direct comparison with the standard, direct comparison with a multimeter using an artifact, comparison with a multimeter and a current converter	EURAMET cg-15 (P-40-02, PP-40-03)	SLM EXT
				0,022 % + 12 nA / (20 to 40) Hz			
				0,014 % + 10 nA / (40 to 1 0000) Hz			
			(0,001 to 0,22) mA	0,038 % + 15 nA / (1 to 5) kHz			
				0,15 % + 79 nA / (5 to 10) kHz			
				0,14 % + 43 nA / (10 to 20) kHz*5			
				0,93 % + 34 nA / (20 to 100) kHz*5			
			(0,22 to 2,2) mA	0,034 % + 39 nA / (10 to 20) Hz			
				0,022 % + 32 nA / (20 to 40) Hz			
				0,014 % + 41 nA / (40 to 1 000) Hz			
				0,027 % + 0,14 µA / (1 to 5) kHz			
				0,15 % + 0,79 µA / (5 to 10) kHz			
				0,14 % + 0,043 µA / (10 to 20) kHz*5			
				0,93 % + 0,034 µA / (20 to 100) kHz*5			

SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA 2 SNAS

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method: Type/ Principle	Established method: Identification	Other specifications
	AC current measuring instrument, calibrator and AC current measure	AC current	(2,2 to 22) mA	0,034 % + 0,39 µA / (10 to 20) Hz	direct measurement with a standard, direct comparison with the standard, direct comparison with a multimeter using an artifact, comparison with a multimeter and a current converter	EURAMET cg-15 (P-40-02, PP-40-03)	SLM EXT
				0,022 % + 0,32 µA / (20 to 40) Hz			
				0,014 % + 0,41 µA / (40 to 1 000) Hz			
				0,027 % + 0,66 µA / (1 to 5) kHz			
				0,15 % + 5,9 µA / (5 to 10) kHz			
				0,14 % + 6,3 µA / (10 to 20) kHz*5			
				0,93 % + 5,3 µA / (20 to 100) kHz*5			
			(22 to 220) mA	0,034 % + 3,9 µA / (10 to 20) Hz			
				0,022 % + 3,2 µA / (20 to 40) Hz			
				0,014 % + 2,7 µA / (40 to 1 000) Hz			
				0,027 % + 3,9 µA / (1 to 5) kHz			
				0,15 % + 6,0 µA / (5 to 10) kHz			
				0,14 % + 63 µA / (10 to 20) kHz*5			
			(0,22 to 2,2) A	0,033 % + 36 µA / (20 to 40) Hz			
				0,033 % + 36 µA (40 to 1 000) Hz			
				0,06 % + 0,11 mA / (1 to 5) kHz			
				0,94 % + 67 µA / (5 to 10) kHz			
				0,7 % + 0,32 mA / (10 to 20) kHz*5			
			(2,2 to 10) A	0,026 % + 1,3 mA / (10 to 1 000) Hz			
				0,089 % + 1,7 mA / (1 to 5) kHz			
				0,18 % + 7,2 mA / (5 to 10) kHz			
				0,68 % + 41 mA / (10 to 20) kHz*5			
			(10 to 20) A	0,016 % + 12 mA / (10 to 65) Hz			
				0,029 % + 12 mA / (65 to 300) Hz			
				0,099 % +12 mA/ (300 to 1 000) Hz			
				0,3 % + 38 mA / (1 to 3) kHz			
				0,98 % + 77 mA / (3 to 6) kHz			
				2,9 % +0,12 A / (6 to 10) kHz			

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Identification	
7.5	AC current measuring instrument, calibrator and AC current measure	AC current	(20 to 120) A	0,016 % + 23 mA / (10 to 65) Hz	direct measurement with a standard, direct comparison with the standard, direct comparison with a multimeter using an artifact, comparison with a multimeter and a current converter	EURAMET cg-15 (P-40-02, PP-40-03)	SLM EXT
				0,029 % + 35 mA / (65 to 300) Hz			
				0,099 % + 0,12 A / (300 to 1 000) Hz			
				0,30 % + 0, 28 A / (1 to 3) kHz			
				0,98 % + 0,5 A / (3 to 6) kHz			
				3,9 % + 0,87 A / (6 to 10) kHz			
			(120 to 300) A *5	0,05 % / (45 to 65) Hz			
			(10 to 150) A*6	0,29 % + 0,02 A / (45 to 65) Hz	comparison with calibrator and current coil, comparison with a multimeter using an artifact and a current coil		
			(150 to 1 025) A*6	0,29 % + 0,05 A / (45 to 65) Hz			
			(0,1 to 6) kA *6	0,7 % + 0,71 A / (45 to 65) Hz			

NOTES:
Expanded uncertainty in AC is expressed as expanded uncertainty / frequency range
*5 only calibrators and measures
*6 only non-contact ammeters (Hall probe, clamp, Rogowski coils)
SLM Internal calibration within SLM laboratory
EXT External calibration outside SLM laboratory

RESISTANCE

7.6	Electrical resistance measuring instrument, calibrator and electrical resistance measure, resistance decades	Resistance	(0 to 0,1) mΩ	150 μΩ + 1 nΩ	indirect method using a current source and a voltage meter, indirect comparison with resistance measure (comparison of voltage drop), direct measurement, direct comparison direct comparison with resistance standard, direct comparison with a multimeter using an artifact, indirect method using a voltage source and a current meter	EURAMET cg-15 (PP-40-02, PP-40-03, PP-40-04)	SLM EXT
			(0,1 to 1) mΩ	100 μΩ/Ω			
			(1 to 10) mΩ	20 μΩ/Ω			
			(10 to 100) mΩ	5 μΩ/Ω			
			(0,1 to 10 000) Ω	3 μΩ/Ω			
			(10 to 20) kΩ	4 μΩ/Ω			
			(20 to 200) kΩ	4 μΩ/Ω			
			(0,2 to 2) MΩ	7 μΩ/Ω			
			(2 to 20) MΩ	15 μΩ/Ω			
			(20 to 200) MΩ	30 μΩ/Ω			
			(0,2 to 2) GΩ	100 μΩ/Ω			
			(2 to 20) GΩ	500 μΩ/Ω			
			(20 to 80) GΩ	2000 μΩ/Ω			
			(0,08 to 1) TΩ	6000 μΩ/Ω			
7.7	Simulator and indicator of thermometer with a resistance temperature sensor	Temperature	(-200 to 850) °C	0,0009 % + 0,003 °C *7	direct measurement, direct comparison direct comparison with multimeter using artifact		

NOTES:
*7 depending on the sensor type, resistance temperature sensors with a nominal resistance at 0 °C in the range (10 to 10 000) Ω.
% of the measured value
SLM Internal calibration within SLM laboratory
EXT External calibration outside SLM laboratory

SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA SNAS

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Identification	
ELECTRICAL POWER AND ENERGY							
7.8	Single-phase and three-phase meters for measuring electric power (apparent, reactive, active) and alternating current energy (apparent, reactive, active), calibrator of electric power and energy and electricity meter	AC power and energy	0,01 VA to 82,8 kVA at current (0,01 to 120) A voltage (1 to 300) V frequency 50 Hz	0,03 % from the measured value of electrical power or energy	direct comparison with the standard, direct measurement with a standard	PP-40-08	SLM EXT *49
			0,005 VA to 82,8 kVAr at current (0,01 to 120) A voltage (1 to 300) V frequency 50 Hz sin φ (-1 to 1)	0,04 % from the measured value of electrical power or energy	direct comparison with the standard, direct measurement with a standard	PP-40-08	
			0,005 W to 82,8 kW at current (0,01 to 120) A voltage (1 to 300) V frequency 50 Hz cos φ (-1 to 1)	0,03 % from the measured value of electrical power or energy	direct comparison with the standard, direct measurement with a standard	STN EN 50470 (PP-40-08)	
7.9	DC electric power and energy measuring instrument, calibrator of DC electric power, energy and electricity measuring instrument	DC power and energy	0 mW to 22 W at current (0 to 0,02) A DC voltage (0,1 to 1100) V DC	30 µW/W + (1·10^{-9}·U) W	direct comparison with the standard, direct measurement with a standard	PP-40-08	SLM EXT
			2 mW to 242 W at current (0,02 to 0,22) A DC Voltage (0,1 to 1100) V DC	60 µW/W + (1·10^{-6}·U) W			
			22 mW to 2,42 kW at current (0,22 to 2,2) A DC Voltage (0,1 to 1100) V DC	100 µW/W + (20·10^{-6}·U) W			
			0,22 W to 22 kW at current (2,2 to 20) A DC voltage (0,1 to 1100) V DC	100 µW/W + (1·10^{-3}·U) W			
			2 W to 110 kW at current (20 to 100) A DC voltage (0,1 to 1100) V DC	110 µW/W + (5·10^{-3}·U) W			
			10 W to 330 kW at current (100 to 300) A DC voltage (0,1 to 1100) V DC	500 µW/W			
7.10	Measuring instrument and measure of power factor and phase shift	AC power and energy	(0 to 1) at current (0,001 to 120) A, voltage í (1 to 300) V, frequency 50 Hz	0,003	direct comparison with the standard, direct comparison with the calibrator	PP-40-08	SLM EXT
			(0 to 360) ° at current (0,001 to 120) A, voltage (1 to 300) V, frequency 50 Hz	0,3 °			

NOTES:
*49 for the purposes of Annex No. 49, item No. 4.1, 4.2, 4.3, 4.4 and 4.5 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
SLM Internal calibration within SLM laboratory
EXT External calibration outside SLM laboratory
U voltage value

SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA SNAS

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument		Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
						Type/ Principle	Identification	
DERIVED QUANTITIES								
7.11	Measuring instrument and measuring unit of strain gauge force and weight sensors		Derived quantities	(0 to 10) mV/V	70 nV/V *8	direct measurement of the voltage ratio using a reference multimeter and strain gauge simulator	PP-40-07	SLM
7.12	Electricity quality measuring instrument	Voltage asymmetry of a 3-phase network	Derived quantities	(0 to 10) % At the voltage (1 to 300) V, frequency 50 Hz	0,04 % (the absolute value of the quantity)	direct measurement of the output of the calibrator	PP-40-09	SLM EXT
		Harmonic interference		(0 to 15) % from the amplitude of the first harmonic for (50 to 1 000) Hz at the voltage of the first harmonic (30 to 300) V, and frequency 50 Hz	0,10 % from the level of the first harmonic			
				(0 to 15) % from the amplitude of the first harmonic for (1 000 to 1 500) Hz at the voltage of the first harmonic (30 to 300) V, and frequency 50 Hz	0,13 % from the level of the first harmonic			
		Inter-harmonic interference		(0 to 15) % z from the amplitude of the first harmonic for (50 to 1 500) Hz at the voltage of the first harmonic (30 to 300) V and frequency 50 Hz	(0,35 to 0,80) % from the level of the first harmonic			
		Total harmonic distortion (THD)		(0 to 40) % at the voltage (30 to 300) V, bandwidth (0 to 1 500) Hz	0,3 % (the absolute value of the quantity)			
		Flicker – Blinking (Pst)		0,5;1 at the voltage 230 V, frequency 50 Hz, CPM (1;2;7;39;110; 1 620;4 000), modulation rectangle	2,5 % from the measured value			
				10 at the voltage 230 V, frequency 50 Hz, CPM (1;2;7;39;110; 1 620;4 000), modulation rectangle	4,7 % from the measured value			

NOTES:

*8 frequency range DC to 5 kHz
CPM number of events per minute
SLM Internal calibration within SLM laboratory
EXT External calibration outside SLM laboratory

INDUCTANCE								
7.13	Measuring instrument and measure of electrical inductance *9	Electrical inductance	1 µH to 10 H	0,06 %	direct measurement of inductance standards	PP-40-05 PP-40-06	SLM	
			1 µH to 10 µH	0,12 %	direct measurement, direct comparison			
			10 µH to 100 H	0,06 %				

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Identification	
CAPACITY							
7.14	Measuring instrument and measure of electrical capacity*9	Electrical capacity	1 pF to 1 µF	0,015 %	direct measurement of capacity standards	PP-40-05 PP-40-06	SLM
			1 pF to 10 pF	0,12 %	direct measurement, direct comparison		
			10 pF to 50 µF	0,06 %			
			50 µF to 1 mF	(0,12 + 10,89·C) %			
			1 mF to 10 mF	(0,17 + 5,18·C) %			
			10 mF to 10 F	(0,19 + 1,88·C) %			
			100 µF to 10 F *10	0,15 %	indirect method using a current calibrator and a multimeter (capacitor charging over time)		
ELECTRICAL IMPEDANCE							
7.15	Impemdance measuring instrument and conductivity measuring instrument and impedance measure *9	Electrical impedance	0,00001 to 10 Ω	0,1 %	indirect method using a current calibrator and a multimeter	PP-40-05 PP-40-06	SLM
			0,1 Ω to 100 Ω	0,4·$Z^{-0,5}$	direct measurement, direct comparison		
			100 Ω to 100 kΩ	0,06 %			
			100 kΩ to 10 MΩ	0,12 %			

NOTES:

*9 measurement range and expanded uncertainty is frequency dependent, frequency range 20 Hz to 100 kHz.
*10 measured by DC
% of the measured value
C capacity value in F
Z Impedance value (AC) in Ω
SLM Internal calibration within SLM laboratory
EXT External calibration outside SLM laboratory

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

LABORATORY OF FREQUENCY, TIME AND MECHANICAL MOVEMENT

Item	Type of measuring instrument		Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
						Type/ Principle	Indentification	
FREQUENCY AND TIME								
8.1	Frequency measuring instrument and frequency measure	Frequency reference	Frequency and time	1 Hz, 1 MHz; 5 MHz; 10 MHz	$1{,}8 \cdot 10^{-11} \cdot f$	direct measurement, direct comparison	PP-40-02 PP-40-03 PP-60-01	SLM
		Counter, frequency and period measuring instrument, generator and calibrator generating frequency and period		0,001 Hz to 225 MHz	$1{,}1 \cdot 10^{-10} \cdot f$	direct measurement, direct comparison		SLM EXT
8.2	Stopwatch			23 h, 59 min, 59 s	$1{,}0 \cdot 10^{-7} \cdot T + 1{,}2 \cdot d + 0{,}5$ ms	direct comparison	PP-60-02	SLM EXT
				24 h	0,01 s / 24 h	indirect method using a standard reader and a coupling member, comparison with stopwatch calibrator	PP-60-03	
	Time measuring instrument			1 µs to 1 h*(2)	$1{,}1 \cdot 10^{-10} \cdot T + 0{,}5$ ns	direct measurement, direct comparison	PP-60-02	
				23 h, 59 min, 59 s	$1{,}0 \cdot 10^{-7} \cdot T + 1{,}2 \cdot d + 0{,}5$ ms	direct comparison	PP-60-02	
				24 h	0,01 s / 24 h	indirect method using a standard reader and a coupling member, comparison with stopwatch calibrator	PP-60-03	
8.3	Multifunctional tester (tachograph tester, clock speed meter)	Speed simulator (own speed)		(0 to 300) km/h	0,01 km/h	indirect method using a standard reader and a coupling member, comparison with stopwatch calibrator	PP-40-03	SLM EXT *35
		Hour measuring instrument		(-99 to 99) s/24 h	0,004 s / 24 h	indirect comparison	PP-60-01	
		Vehicle constant measuring instrument		(99 to 99 999) imp/km	0,1 %	indirect method by simulating the vehicle constant using a pulse generator	PP-60-05	
		Pulse counter		(1 to 999 999 999)	1	direct comparison	PP-40-02	

SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA SNAS

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Indentification	
NOTES: *35 for the purposes of calibrating standards used for verification according to Annex No. 35, item No. 2.2.2 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll. % of the measured value f frequency value in Hz T time value in s d value of the division SLM Internal calibration within SLM laboratory EXT External calibration outside SLM laboratory							
SPEED							
8.4	Vehicle speed measuring instrument	Speed	(1 to 130) km/h	0,15 km/h	indirect comparison	PP-22-03	SLM EXT
			(1 to 130) km/h	0,5 km/h	direct comparison		
	Speed measuring instrument as part of technological equipment		(0,1 to 278) mm/s	0,1 %	indirect comparison		
FREQENCY OF MECHANICAL MOVEMENT)							
8.5	RPM meter Measuring instrument generating and measuring RPM	RPM (frequency of mechanical movement)	(1 to 30 000) 1/min	0,01 % + 0,6 · d	indirect measurement, indirect comparison	PP-60-04	SLM EXT
			(1 to 100 000) 1/min	0,005 %	indirect measurement, indirect comparison	PP-60-04	
NOTES: d resolution of measuring instrument SLM Internal calibration within SLM laboratory EXT External calibration outside SLM laboratory							

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

LABORATORY OF PHYSICAL-CHEMICAL QUANTITIES

Item	Type of measuring instrument	Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
					Type/ Principle	Identification	
REFERENCE MATERIALS							
9.1	Reference material for refractometery	Index of refraction	Index of refraction (1,28 to 1,81)	5.10^{-5}	optical method indirect comparison	OIML R 108 OIML R 124 (PP-72-01)	SLM
9.2	Reference material for pH-metry	pH	(1,679 to 10,000) pH	0,015 pH	indirect comparison with CRM	OIML R 54 STN 65 0305 STN 99 9000 (PP-70-01)	SLM
9.3	Reference material for conductometry	Conductivity	(0,005 to 2,00) $S \cdot m^{-1}$	(0,0005 + 0,003·κ) $S \cdot m^{-1}$	direct measurement using RLCG of the bridge and conduction cells	OIML R 56 (PP-70-03)	SLM
OPTICAL QUANTITIES							
9.4	Refractometer	Index of refraction	Index of refraction (1,3 to 1,7)	$0,8.10^{-4}$	optical method indirect comparison	STN 99 7345 (PP-72-02)	SLM *59
			Percentage of sugar (0 to 95) hmot. %, °Brix	0,1 hmot. %, °Brix			
CHEMICAL QUANTITIES							
9.5	pH-meter	pH	(1,68 to 12,45) pH	0,02 pH	direct comparison with RM	STN 65 0305 STN 99 9000 (PP-70-02)	SLM EXT
			(1 to 13) pH and / or (-2 000 to 2 000) mV	0,002 pH and /or 0,01 mV	indirect method		
9.6	Conductometer	Conductivity	(0,005 to 2,00) $S \cdot m^{-1}$	(0,0008 + 0,003·κ) $S \cdot m^{-1}$	direct comparison using RM	OIML R 68 (PP-70-04)	SLM EXT
9.7	Analyzer exhaust gases	Chemical quantities	Volume fraction CO (0,425 to 4,025) %	Volume fraction 0,01 %	direct comparison with CRM	OIML R 99 STN 99 9701 (PP-75-02)	SLM EXT *61
			Volume fraction CO_2 (5,1 to 16,1) %	Volume fraction 0,1 %			
			Volume fraction HC (85 to 1 150)·10^{-6}	Volume fraction 5.10^{-6}			
9.8	Analyzer breath		Mass concentration of ethanol in N_2 0,14 $mg \cdot l^{-1}$	Mass concentration of ethanol in N_2 0,004 $mg \cdot l^{-1}$	direct comparison with CRM	STN 99 6501 OIML R 126 (PP-75-01)	SLM *62
			Mass concentration of ethanol in N_2 0,48 $mg \cdot l^{-1}$	Mass concentration of ethanol in N_2 0,007 $mg \cdot l^{-1}$			
			Mass concentration of ethanol in N_2 0,90 $mg \cdot l^{-1}$	Mass concentration of ethanol in N_2 0,011 $mg \cdot l^{-1}$			
			Mass concentration of ethanol in N_2 1,40 $mg \cdot l^{-1}$	Mass concentration of ethanol in N_2 0,015 $mg \cdot l^{-1}$			
HUMIDITY							
9.9	Moisture meters for cereals, oilseeds and legumes	Moisture	Relative humidity (5 to 45) %	Relative humidity 0,3 % *	indirect comparison by gravimetric method	OIML R 59 STN 46 1025 STN ISO 7700-1 (PP-74-01)	SLM EXT *60
9.10	Moisture meters of solid substances		Relative humidity (7 to 20) %	Relative humidity 0,4 % *	indirect comparison by gravimetric method	OIML R 92 STN EN 13 183-1 (PP-74-02)	SLM
				Relative humidity 1,8 %	indirect comparison by the electrical resistance simulation method		
9.11	Relative humidity meter		Relative humidity (10 to 70) % (>70 to 95) %	Relative humidity 1,5 % 2,0 %	direct comparison with standard humidity sensor	PNÚ 3410.2 (PP-70-05)	SLM EXT

SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA
SNAS

Annex to the Certificate of Accreditation No. K-100 dated 23.09.2026.

The Annex is an integral part of the Certificate of Accreditation

Item	Type of measuring instrument		Measured quantity	Measurement range	Expanded uncertainty U (k = 2)	Established method		Other specifications
						Type/ Principle	Identification	
DENSITY								
9.12	Density meter	Laboratory hydrometer with particle value ≤ 0,2 kg·m^{-3}	Density	(600 to 2 000) kg·m^{-3}	0,06 kg·m^{-3}	hydrostatic weighing	OIML R 44 OIML G 14 STN 25 7616 STN 25 7619 STN 25 7621 (PP-71-01)	SLM *56, *57
		Laboratory hydrometer with particle value ≤ 0,5 kg·m^{-3}			0,07 kg·m^{-3}			
		Laboratory hydrometer with particle value ≤ 1 kg·m^{-3}			0,12 kg·m^{-3}			
		Laboratory hydrometer with particle value > 1 kg·m^{-3}			0,20 kg·m^{-3}			
		Muster gauges		(10 to 30) kg·hl^{-1}	0,1 kg·hl^{-1}			
		Sugar meter		Mass fraction (0 to 25) % hm.	Mass fraction 0,05 % hm.			
		Alcohol meter		Volume fraction (0 to 86) % obj.	Volume fraction 0,08 % obj.			
				Volume fraction (87 to 100) % obj.	Volume fraction 0,03 % obj.			

NOTES:

*56 for the purposes of Annex No. 56, item No. 7.1.1, 7.1.2 a 7.1.3 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*57 for the purposes of Annex No. 57, item No. 7.1.4 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*59 for the purposes of Annex No. 59, item No. 7.2.1 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*60 for the purposes of Annex No. 60, item No. 7.3.1 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*61 for the purposes of Annex No. 61, item No. 7.4.1 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.
*62 for the purposes of Annex No. 62, item No. 7.4.2 of Annex No. 1 to the decree of the ÚNMS SR No. 161/2019 Coll.

*	absolute value
κ	conductivity value
CRM	certified reference material
RM	reference material
RLCG	resistive, inductive, capacitive, conductive
SLM	Internal calibration within SLM laboratory
EXT	External calibration outside SLM laboratory