

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

**Český metrologický institut**  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

**Calibration laboratory locations:**

- |   |  |
|---|--|
| 1. <b>Regional Inspectorate Praha</b>                   | Radiová 1136/3, 102 00 Praha 10 – Hostivař |
| 2. <b>Regional Inspectorate České Budějovice</b>        | U Sirkárny 33/5, 370 04 České Budějovice 4 |
| 3. <b>Regional Inspectorate Plzeň</b>                   | Bendova 539/11, 301 00 Plzeň               |
| 4. <b>Regional Inspectorate Liberec</b>                 | Slunečná 23, 460 01 Liberec                |
| 5. <b>Regional Inspectorate Most</b>                    | Vladislava Vančury 1428/7, 434 01 Most     |
| 6. <b>Regional Inspectorate Pardubice</b>               | Průmyslová 455, 530 03 Pardubice           |
| 7. <b>Regional Inspectorate Brno</b>                    | Okružní 31, 638 00 Brno                    |
| 8. <b>Regional Inspectorate Jihlava</b>                 | Romana Havelky 17, 586 01 Jihlava          |
| 9. <b>Regional Inspectorate Kroměříž</b>                | Kotojedy 73, 767 01 Kroměříž               |
| 10. <b>Regional Inspectorate Opava</b>                  | Gudrichova 41, 746 01 Opava                |
| 11. <b>Regional Inspectorate Olomouc</b>                | I.P. Pavlova 671/141, 779 00 Olomouc       |
| 12. <b>Laboratories for Primary Metrology in Prague</b> | V Botanice 4, 150 72 Praha 5               |
| 13. <b>TESTCOM Praha</b>                                | Hvožd'anská 3, 148 00 Praha 4              |



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Length

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
1*	Strain gauges for mechanical testing of materials	0 mm	to	25 mm			0.9 μm	ČSN EN ISO 9513	151-MP-C003	1, 6, 10
		25 mm	to	50 mm			1.3 μm			
		50 mm	to	1,000 mm			20 μm			
		0 mm	to	10 mm			0.9 μm	ASTM E83	151-MP-C005	
		10 mm	to	50 mm			1.3 μm			
		50 mm	to	1,000 mm			20 μm			
2	Gauge blocks	0.3 mm	to	1,000 mm		2nd order 3rd order 4th order 5th order	(0.5L +0.05) μm (1L +0.1) μm (2L +0.2) μm (5L +0.5) μm	Mechanical comparison with a standard using a comparator or length gauge	614-MP-C033 (ČSN EN ISO 3650)	4, 6, 7
3*	Mechanical comparators of nominal length (0.3 to 100) mm	-0.01 mm	to	+0.01 mm			0.032 μm	Comparison using gauge blocks	614-MP-C005	4, 7
4*	Length measuring instruments and gauges	0 m	to	20 m			(0.4L +0.02) μm	Direct measurement by a laser interferometer	614-MP-C006	7, 12
5	Micrometers	0 mm	to	500 mm			(5L +1.5) μm	Comparison with gauge blocks and gauges	614-MP-C008	4, 6, 7
6	Calipers	0 mm	to	1,000 mm			20 μm	Comparison with gauge blocks, gauges and rings	614-MP-C009	4, 6, 7
7	Length measuring instruments, meters and gauges	0 mm	to	1,000 mm			(2L +0.2) μm	Direct measurement by a length gauge	614-MP-C029	4, 6, 7



11 01-P508b K-20240701

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
8	Test sieves	0.005 mm	to	150 mm		(4L +1.5) μm	Calibration on a 2D optical instrument, using slide gauge or limit gauges	614-MP-C102	6, 7	
9	Roundness / balls, rings, cylinders, cones (Maximum diameter 350 mm)	-2 mm	to	+2 mm		Q[0.025;0.01R] μm	Direct measurement by a ring gauge	614-MP-C103	7	
	Straightness and parallelity / rings, cylinders, cones, straightness and parallelity standards (Maximum horizontal path: 200 mm Maximum vertical path: 300 mm)	-2 mm	to	+2 mm		Q[0.2;0.01R] μm				
10	Diameter / thread limit gauges, plain limit gauges	1 mm	to	100 mm		2.5 μm	Calibration on IAC MasterScanner XP 10060 analyzer	614-MP-C106	7	
11	Gauges, standards, artefacts	0 mm	to	600 mm		(2.5L +1.2) μm	Calibration on a linear height gauge	614-MP-C104	6	
		0 mm	to	2,550 mm		Q[0.09; 0.4L] μm	Measurement on a coordinate measuring machine	815-MP-C503	7, 12	
12*	Coordinate measuring machine / system	- tactile	0 m	to	6 m		Q[0.01;0.2L] μm	Comparison with the standard	815-MP-C501	7, 12
		- optical	0 m	to	3 m		Q[0.01;0.2L] μm			
		- multisensor	0 m	to	3 m		Q[0.01;0.2L] μm			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
	- optical 3D - articulated arm - computer tomography - laser-trackers	0 m	to	3 m		Q[0.3;1L] μm Q[0.3;1L] μm Q[0.3;1L] μm Q[0.3;1L] μm				
13	Tape measures, length and distance gauges	0.3 m	to	30 m		Q[100; 3L] μm Q[20; 20L] μm	Comparison using a tape measure, micrometer head	815-MP-C510	6, 12	
14*	Machines with electronic measurement of cubic content of wooden logs - length - diameter	0 m	to	30 m		7 mm 0.2 mm	Comparison using an artefact measured by a standard or direct comparison with a standard	411-MP-C003	4	
15*	Roughness / setting standard - geometrical standard type C - geometrical standard type D	0.01 μm	to	1 μm	Pt Pt Ra, Rq, Rpm, Rk profiles, material ratios, Rsk, Rp3z, Rku, Rc, Rdq, Rdc Rmax, RzISO, Rp, Rv, Rz, Rt, Rz1, Rz2, Rz3, Rz4, Rz5 Ra, Rq, Rpm, Rk profiles, material ratios, Rsk, Rp3z, Rku, Rc, Rdq, Rdc	Q[20; 50Pt] nm Q[20; 20Pt] nm Q[10; 30Ra] nm Q[20; 40Rp] nm Q[10; 40Ra] nm	Contact measurement	813-MP-C306	12	
		1 μm	to	100 μm						
		0.01 μm	to	100 μm						
		0.01 μm	to	100 μm						

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
	- geometrical standard type C and D	0.01 μm	to	1 μm		Rmax, RzISO, Rp, Rv, Rz, Rt, Rz1, Rz2, Rz3, Rz4, Rz5 Horizontal characteristics	Q[20; 50Rp] nm Q[20; 50Sm] nm			
16*	Roughness meter for setting standards	0.01 μm	to	1 μm		All characteristics	3.4 % 1.2 %	Contact measurement	813-MP-C306	12
	Roughness meter for geometrical standards	1 μm	to	6,000 μm						
17	Counting efficiency / Optical counters of aerosol particles	0 η	to	5 η		Particle size (0 to 50) μm	9 %	Comparison with PSL particles	614-MP-C105 ISO 21501-4, cl. 6.2, 6.4, 6.6	7
18	Linear thermal expansion / gauge blocks to 100 mm	0.1 μm·m <sup>-1</sup> ·K <sup>-1</sup>	to	100 μm·m <sup>-1</sup> ·K <sup>-1</sup>		At a temperature difference of 4 °C or more	0.29 μm·m <sup>-1</sup> ·K <sup>-1</sup>	Measurement of length change at a defined temperature change	411-MP-C010	12
						At a temperature difference of 3 °C or more	0.35 μm·m <sup>-1</sup> ·K <sup>-1</sup>			
						At a temperature difference of 2 °C or more	0.49 μm·m <sup>-1</sup> ·K <sup>-1</sup>			
						At a temperature difference of 1 °C or more	0.95 μm·m <sup>-1</sup> ·K <sup>-1</sup>			
19*	Length gauges rolling, contactless	0.1 m	to	10 <sup>5</sup> m				Comparison using a tape measure, non-contact length gauges or non-contact length gauge reference standard	620-MP-C002	9
20*	Length sensors, thickness sensors, indicators	0 mm	to	150 mm			0.005 %	Comparison with parallel gauge blocks	411-MP-C011	4
							0.2 μm			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

- <sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.
- <sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.
- <sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).
- L nominal length expressed in metres



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Plane angle

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
1	Autocollimators	-4,000 "	to	+4,000 "		$Q[0.01; 2 \cdot 10^{-5} \cdot \varphi; 6 \cdot 10^{-9} \cdot \varphi^2]$	Comparison with a small angle generator	411-MP-C004	4	
2*	Levels, autocollimators, inclinometers	-180 °	to	180 °		0.05"	Comparison with a rotary table or autocollimator	411-MP-C004	4	
3*	Index heads and tables, goniometers, instruments for checking angular divisions, angle encoders, torque wrench angle sensors, built-in angle sensors, polygons, angle gauges, optical prisms	0 °	to	360 °		0.03"	Comparison with an optical polygon, autocollimator or rotary table	411-MP-C006	4, 9	
4	Polygons, optical prisms, angle gauges	0 °	to	360 °		0.05"	Measurement using two autocollimators	411-MP-C006	4	
5	Angle gauges	0 °	to	360 °		60"	Comparison with angle gauges	411-MP-C006	4	

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

$\varphi$  nominal angle of rotation in [ " ]



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Volume, flow rate

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
1	Static volume/ Measuring vessels	0.2 mL	to	21,000 mL		Distilled water	0.01 %	Gravimetric method	616-MP-C016 (ČSN EN ISO 4787, EURAMET cg-19)	6, 7
2*	Static volume/ metal measuring vessels – limit, scaled, with a graduation mark	2 L	to	1,000 L		Distilled water / water	0.01 %	Gravimetric method	615-MP-C151 (ČSN EN ISO 4787, EURAMET cg-19)	6, 7, 10
3	Static volume / Piston volume meters piston pipettes and syringes other piston gauges	0.5 µL 10 µL	to	10,000 µL 200,000 µL		Distilled water	0.13 % + 0,01 µL 0.04 %.	Gravimetric method	616-MP-C017 (ČSN EN ISO 8655-6 EURAMET cg-19)	6, 7
4*	Static volume/ Stationary reservoirs and tanks	5 dm <sup>3</sup>	to	500 dm <sup>3</sup>			0.3 %	Volume method	551-MP-C401	6
		20 dm <sup>3</sup>	to	100 m <sup>3</sup>			0.3 %	Flow method		
5	Volume and velocity gas meters and flow meters for gas	0.06 m <sup>3</sup> ·h <sup>-1</sup>	to	1,200 m <sup>3</sup> ·h <sup>-1</sup>			0.25 %	Flow method	512-MP-C103, chap. 5.1	6
		8 m <sup>3</sup> ·h <sup>-1</sup>	to	10,000 m <sup>3</sup> ·h <sup>-1</sup>			0.19 %	Volume method	512-MP-C103, chap. 5.2	
		0.3 m <sup>3</sup> ·h <sup>-1</sup>	to	1,600 m <sup>3</sup> ·h <sup>-1</sup>			0.20 %		512-MP-C103, chap. 5.3	
		0.016 m <sup>3</sup> ·h <sup>-1</sup>	to	16 m <sup>3</sup> ·h <sup>-1</sup>		Q <sub>min</sub> to 0.1Q <sub>max</sub> 0.1Q <sub>max</sub> to Q <sub>max</sub>	0.65 % 0.28 %		512-MP-C103, chap. 5.4	





Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location	
		min.	unit	max.	unit						
		0.02 m <sup>3</sup> ·h <sup>-1</sup>	to	160 m <sup>3</sup> ·h <sup>-1</sup>	Q <sub>min</sub> to 0.1Q <sub>max</sub> 0.1Q <sub>max</sub> to Q <sub>max</sub>	0.70 %		512-MP-C103, chap. 5.5			
		9.5 dm <sup>3</sup> ·h <sup>-1</sup>	to	760 dm <sup>3</sup> ·h <sup>-1</sup>		0.50 %				Gravimetric method	512-MP-C103, chap. 5.6
		0.5 m <sup>3</sup> ·h <sup>-1</sup>	to	280 m <sup>3</sup> ·h <sup>-1</sup>		0.16 %				Volume method	512-MP-C103, chap. 5.7
6	Float flow meters	0.01 m <sup>3</sup> ·h <sup>-1</sup>	to	0.75 m <sup>3</sup> ·h <sup>-1</sup>		1 %	Volume method	512-MP-C104	6		
		0.75 m <sup>3</sup> ·h <sup>-1</sup>	to	1.3 m <sup>3</sup> ·h <sup>-1</sup>		1.3 %					
		1.3 m <sup>3</sup> ·h <sup>-1</sup>	to	25 m <sup>3</sup> ·h <sup>-1</sup>		1 %					
7	Conversion number Z / Gas calculators	0.8	to	275	(-30 to +80) °C (0.8 to 135) bar	0.06 %	Temperature and pressure measurement by volume flow simulation	512-MP-C105	6		
8	Flow velocity  anemometers	0.3 m·s <sup>-1</sup>	to	5 m·s <sup>-1</sup>	Air	0.3 % + 0.01 m·s <sup>-1</sup> 0.5 %	Comparison with a LDA standard	615-MP-C147	7		
		5 m·s <sup>-1</sup>	to	50 m·s <sup>-1</sup>							
	0.5 m·s <sup>-1</sup>	to	5 m·s <sup>-1</sup>	0.5 % + 0.01 m·s <sup>-1</sup> 0.7 %		Comparison with a standard – Pitot tube					
	anemometers in the traction line	0.05 m·s <sup>-1</sup>	to	0.5 m·s <sup>-1</sup>		0.5 % + 0.005 m·s <sup>-1</sup>		615-MP-C149			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
9	Water flow meters (water meters), flow meters of heat meters and flow meters tested by water volume or volume flow rate mass or mass flow rate volume or volume flow rate volume or volume flow rate volume or volume flow rate	0.05 m <sup>3</sup> ·h <sup>-1</sup>	to	150 m <sup>3</sup> ·h <sup>-1</sup>	Water (10 to 30) °C	0.10 %	Gravimetric method	615-MP-C142	7	
						0.10 %				
						0.25 %				
						0.16 %				
						0.09 %				
						0.07 %				
0.05 %										
					(10 to 30) °C	0.10 %	Volume method with a piston			
					(30 to 90) °C	0.12 %				
					(10 to 30) °C	0.06 %	Gravimetric method			
					(30 to 90) °C	0.08 %				
					(10 to 30) °C	0.10 %				
					(30 to 90) °C	0.12 %				
10	Volume flow rate or volume / Flow meters	3 dm <sup>3</sup> ·min <sup>-1</sup>	to	1,000 dm <sup>3</sup> ·min <sup>-1</sup>	Hydrocarbons based liquids	0.10 %	Volume method with a piston	615-MP-C143	7	

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
	for liquids other than water									
11*	Mass flow rate or mass / meters and measuring systems for cryogenic liquids	70 kg·min <sup>-1</sup>		to	400 kg·min <sup>-1</sup>	Cryogenic liquids	0.50 %	Mass method with a measuring loop	615-MP-C148	7
12	Mass or mass flow rate / Micro-flow meters	1 g·h <sup>-1</sup>		to	50 g·h <sup>-1</sup>	Distilled water (20 to 30) °C	0.30 %	Gravimetric method	615-MP-C158	7
		50 g·h <sup>-1</sup>		to	6,000 g·h <sup>-1</sup>		0.16 %			
	Volume or volume flow rate / Micro-flow meters	1 ml·h <sup>-1</sup>		to	50 ml·h <sup>-1</sup>		0.30 %	Volumetric method with a flow meter or a piston		
		50 ml·h <sup>-1</sup>		to	6,000 ml·h <sup>-1</sup>		0.16 %			

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

v velocity in m·s<sup>-1</sup>



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Mass

Ord. number 1	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
1	Mass of weights	1 mg	to 20 mg		0.0010 mg	Comparison with a reference weight	612-MP-C131	1 to 11
			50 mg		0.0013 mg			
			100 mg		0.0016 mg			
			200 mg		0.0020 mg			
			500 mg		0.0026 mg			
			1 g		0.003 mg			
			2 g		0.004 mg			
			5 g		0.005 mg			
			10 g		0.006 mg			
			20 g		0.008 mg			
			50 g		0.010 mg			
			100 g		0.016 mg			
			200 g		0.030 mg			
			500 g		0.080 mg			
			1 kg		0.15 mg			
			2 kg		0.30 mg			
			5 kg		0.80 mg			
			10 kg		1.5 mg			
			20 kg		3.3 mg			
			50 kg		8 mg			
			100 kg		50 mg			
			200 kg		100 mg			
			500 kg		250 mg			
			1,000 kg		500 mg			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
 CAB number 2202, CMI Calibration Laboratory  
 Okružní 772/31, 638 00 Brno

Ord. number <sub>1</sub>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
2*	Balances with non-automatic and automatic function	0 g		to	20 kg	Weight E <sub>2</sub>	5 · 10 <sup>-7</sup>	Loading using a reference weight	612-MP-C132	1-11
		20 kg		to	50 kg	F <sub>1</sub>	1.6 · 10 <sup>-6</sup>			
		50 kg		to	600 kg	F <sub>2</sub>	5 · 10 <sup>-6</sup>			
		600 kg		to	200,000 kg	M	1.6 · 10 <sup>-5</sup>			

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Mechanical motion

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
1*	Acceleration of linear harmonic mechanical vibrations / vibration sensors	0.01 m·s <sup>-2</sup>		to	400 m·s <sup>-2</sup>	0.1 Hz to 5 kHz 5 to 20 kHz	1.0 % 1.5 %	Comparison with a standard sensor	812-MP-C207	12
2*	Sensitivity of vibration sensors / vibration transducers <sup>4)</sup>	0.01 pC/m·s <sup>-2</sup>		to	1,000 pC/m·s <sup>-2</sup>	0.1 Hz to 5 kHz 5 to 20 kHz	1.0 % 1.5 %	Comparison with a standard sensor	812-MP-C207	12
		0.01 mV/m·s <sup>-2</sup>		to	10,000 mV/m·s <sup>-2</sup>	0.1 Hz to 5 kHz 5 to 20 kHz	1.0 % 1.5 %			
		0.1 mV/m·s <sup>-1</sup>		to	10,000 mV/m·s <sup>-1</sup>	0.1 Hz to 5 kHz 5 to 20 kHz	1.0 % 1.5 %			
3*	Transmission / amplifiers and filters	10 <sup>-7</sup> V/V 0.001 mV/pC		to	10 <sup>7</sup> V/V 1,000 mV/pC	0.1 Hz to 100 kHz	0.5 % or <sup>6</sup> 0.1 dB	By simulated electrical signal	812-MP-C207	12
4*	Acceleration / vibrometers without a sensor <sup>4)</sup>	0.01 m·s <sup>-2</sup>		to	10,000 m·s <sup>-2</sup>	0.1 Hz to 100 kHz	0.5 %	By simulated electrical signal	812-MP-C207	12
	Velocity / vibrometers without a sensor <sup>4)</sup>	0.01 m·s <sup>-1</sup>		to	1,000 mm·s <sup>-1</sup>	0.1 Hz to 100 kHz	0.5 %			
5*	Maximum value of half-sine wave mechanical shock / acceleration sensors <sup>4)</sup>	1 m·s <sup>-2</sup>		to	100,000 m·s <sup>-2</sup>		1.2 %	Comparison with a standard sensor	812-MP-C208	12
6*	Vibration frequency	0.1 Hz		to	10 kHz		0.01 %	Measurement using a counter	812-MP-C207; 812-MP-C210	12



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
7*	Velocity of transport vehicles and objects	1 km·h <sup>-1</sup>		to	999 km·h <sup>-1</sup>		0.2 km·h <sup>-1</sup>	Comparison with a standard speedometer Measurement using an optoelectronic delay line	812-MP-C209	
		0.1 km·h <sup>-1</sup>		to	320 km·h <sup>-1</sup>		0.01 %			
8*	Revolution – impulse generators and meters <sup>5</sup>	0.01 min <sup>-1</sup>		to	100,000 min <sup>-1</sup>		1 %	Contact method Contactless method	812-MP-C212	12
		0.01 s <sup>-1</sup>		to	10,000,000 s <sup>-1</sup>		10 <sup>-10</sup>			
9*	Linear motion velocity / velocity meters for mechanical parts	0.01 mm·s <sup>-1</sup>		to	1,000 m·s <sup>-1</sup>		0.01 %	Measurement of time and distance using an electric, optoelectronic or electronic delay line	812-MP-C201	12
10*	Linear motion acceleration / acceleration meters for mechanical parts	-200 m·s <sup>-2</sup>		to	200 m·s <sup>-2</sup>		0.01 %	Measurement of time and distance using an electric, optoelectronic or electronic delay line	812-MP-C201	12

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

<sup>4</sup> Acceleration can be specified also in g, sensor sensitivity in pC/g, resp. mV/g units, where 1 g = 9.81 m·s<sup>-2</sup>

<sup>5</sup> Revolutions - impulses can be specified also in Hz as the number of revolutions - impulses per 1 s.

<sup>6</sup> Acc. To the type of transmission expression



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Force, mechanical tests

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
1	Force / force-proving instruments	1 N 20 kN	to	20 kN 1 MN		0.00004 0.0002	Calibration using a standard instrument or by suspending weights (ČSN EN ISO 376)	811-MP-C101	12	
2*	Force / force-proving instruments	0.02 N 5 N	to	5 N 2 MN		0.002 0.001	Calibration by a force transmission standard (force-proving instrument) or by suspending weights	811-MP-C111	1, 4, 6, 9, 10	
3*	Torque / torque measuring instruments	0.02 N·m 0.2 N·m 1 N·m 100 N·m 1 kN·m	to	0.2 N·m 1 N·m 100 N·m 1 kN·m 10 kN·m		0.001 0.00009 0.00008 0.0001 0.0004	Calibration by a standard torque measuring instrument, torque transmission standard (torque sensor) or using weights and torque arms	811-MP-C102	4, 9, 12	
4*	Torque / torque wrenches	0.02 N·m	to	3 kN·m		0.005	Calibration by a torque transmission standard (torque sensor) (ČSN EN ISO 6789-1, ČSN EN ISO 6789-2)	811-MP-C103	4, 9, 12	





Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
5*	Torque / equipment for the calibration of torque wrenches	0.02 N·m		500 N·m			0.001	Calibration by reference torque wrench, torque transmission standard (torque sensor) or by means of weights and torque arms	811-MP-C104	9, 12
		500 N·m	to	10 kN·m		0.0004				
6*	Torque / tightening tools and systems	0.25 N·m		10 kN·m			0.005	Calibration by a calibration device for torque wrenches, torque screwdrivers and tighteners	411-MP-C103	4, 9
7*	Machines for mechanical testing of materials	0.02 N	to	5 MN	Pressure	0.28 %	Calibration by a force transmission standard (force-proving instrument) or weights (ASTM E4, ČSN EN ISO 7500)	151-MP-C001; 151-MP-C004	1, 4, 6, 10	
		0.02 N	to	2 MN	Tension	0.28 %				
		200 kN	to	2 MN	Self-setting of the upper pressure plate	0.34 %	ČSN EN 12390-4 Annex A	151-MP-C001	1, 4, 6, 10	
		0.01 kN/s	to	150 kN/s	Increase in force	0.7 %	Direct comparison with force and time standards, program AED PANEL32	151-MP-C006	6	
8*	Pendulum hammers for notch impact strength testing of materials	0.01 J	to	2.5 kJ		0.42 % + 0.1 J	Calibration by a force transmission standard (force-proving instrument) and length standard (ČSN EN ISO 148-2,	151-MP-C002	1, 6, 10	



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
								ČSN EN ISO 13802, ASTM E23, BS 131-4)		
9*	Hardness plates and products	10 HRA	to	100 HRA	Rockwell A	0.2 HR	ČSN EN ISO 6508-3, ASTM E18	813-MP-C301	12	
10 HRB		to	110 HRB	Rockwell B						
10 HRC		to	80 HRC	Rockwell C						
10 HRD		to	90 HRD	Rockwell D						
10 HREW		to	110 HREW	Rockwell E						
10 HRFW		to	110 HRFW	Rockwell F						
10 HRGW		to	100 HRGW	Rockwell G						
10 HRHW		to	110 HRHW	Rockwell H						
6 HRKW		to	110 HRKW	Rockwell K						
10 HR15N		to	100 HR15N	Rockwell 15N	0.26 HR					
10 HR30N		to	100 HR30N	Rockwell 30N						
10 HR45N		to	90 HR45N	Rockwell 45N						
10 HR15TW		to	100 HR15TW	Rockwell 15T						
10 HR30TW		to	90 HR30TW	Rockwell 30T						
6 HR45TW		to	80 HR45TW	Rockwell 45T						
20 HV		to	3,000 HV	Vickers HV0.01 to HV0.5	0.59 %	ČSN EN ISO 6507-3, ASTM E384	813-MP-C301	12		
				HV0.5 to HV1	0.51 %					
				HV1 to HV5	0.44 %					
				HV5 to HV10	0.44 %					
			HV10 to HV30	0.38 %						
			HV30 to HV50	0.36 %						
			HV50 and more	0.34 %						



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
		20 HBW to 650 HBW				Brinell scale with 2.5mm and 1mm balls Scale with a 5mm ball Scale with a 10 mm ball	0.24 % 0.20 % 0.20 %	ČSN EN ISO 6506-3, ASTM E10	813-MP-C301	12
		1 ShA to 110 ShA				Shore	0.26 Sh			
		1 °IRHD to 110 °IRHD				IRHD N, H, L	0.44 °IRHD			
		1 °IRHD to 110 °IRHD				IRHD M	0.70 °IRHD			
10	Rockwell penetrating bodies - cone angle - radius of curvature	118 ° 100 µm	to	122 ° 300 µm			0.04° 0.08 µm	ČSN EN ISO 6508-2	813-MP-C301	12
11	Vickers penetrating bodies - angle of opposite walls	134 °	to	138 °			0.04°	ČSN EN ISO 6507-2	813-MP-C301	12
12*	Hardness – hardness testers	10 HRA 10 HRBW 10 HRC 10 HRD 10 HREW 10 HRFW 10 HRGW 10 HRHW	to	100 HRA 110 HRBW 80 HRC 90 HRD 110 HREW 100 HRFW 100 HRGW 110 HRHW	Rockwell A Rockwell B Rockwell C Rockwell D Rockwell E Rockwell F Rockwell G Rockwell H		0.38 HR	ČSN EN ISO 6508-2, ASTM E18	813-MP-C307	7, 10



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
		6 HRKW	to	110 HRKW		Rockwell K	0.57 HR			
		10 HR15N	to	100 HR15N		Rockwell 15N				
		10 HR30N	to	100 HR30N		Rockwell 30N				
		10 HR45N	to	90 HR45N		Rockwell 45N				
		10 HR15TW	to	100 HR15TW		Rockwell 15T				
		10 HR30TW	to	90 HR30TW		Rockwell 30T				
		6 HR45TW	to	80 HR45TW		Rockwell 45T				
		20 HV	to	225 HV		Vickers	0.32 %	ČSN EN ISO 6507-2, ASTM E384		
		225 HV	to	700 HV						
		700 HV	to	3,000 HV						
		20 HBW		200 HBW		Brinell	0.30 %	ČSN EN ISO 6506-2; ASTM E10		
		200 HBW		500 HBW						
		500 HBW		650 HBW						
		1 ShA		110 ShA		Shore A	0.22 ShA	Combined measurement (force, hardness, penetration of the penetrating body)	813-MP-C308 (chap. 5.1.)	12
1 ShB		110 ShB		Shore B	0.22 ShB					
1 ShC		110 ShC		Shore C	0.22 ShC					
1 ShD		110 ShD		Shore D	0.22 ShD					
1 ShD		110 ShD		Shore DO	0.22 ShDO					
1 ShDO		110 ShDO		IRHD M	0.42 °IRHD M					
1 °IRHD M		110 °IRHD M		IRHD N	0.22 °IRHD N					
1 °IRHD N		110 °IRHD N		IRHD H	0.22 °IRHD H					
1 °IRHD H		110 °IRHD H		IRHD L	0.22 °IRHD L					

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

- <sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.
- <sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies..
- <sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Pressure, mechanical stress

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
1	Deformation pressure gauges; digital pressure gauges; piston pressure gauges	1 Pa	to 20 Pa	Absolute pressure Gas	10 %	Cross-floating method, determination of the effective area of the pressure gauge and the mass of weights	133-MP-C007, 601-MP-C046, 601-MP-C047	1, 6, 10
		20 Pa	to 5,000 Pa		3.5 Pa			
		5 kPa	to 18 kPa	3.8 Pa				
		18 kPa	to 2,000 kPa		$9 \cdot 10^{-5} \cdot p$			
		2 MPa	to 8 MPa		$2.3 \cdot 10^{-5} \cdot p + 56 \text{ Pa}$			
		-100 kPa	to -10 kPa	Positive gauge pressure Gas	$8.5 \cdot 10^{-5} \cdot  p_e $			
		-10 kPa	to -3.45 kPa		$9.3 \cdot 10^{-5} \cdot  p_e $			
		-3.45 kPa	to -2 kPa		32 Pa			
		-2,000 Pa	to -6 Pa		$1.3 \cdot 10^{-4} \cdot  p_e  + 48 \text{ Pa}$			
		-6 Pa	to 6 Pa		1.5 Pa			
		6 Pa	to 2,000 Pa		$1.3 \cdot 10^{-4} \cdot p_e + 48 \text{ Pa}$			
		2 kPa	to 3.45 kPa		32 Pa			
		3.45 kPa	to 10 kPa		$9.3 \cdot 10^{-5} \cdot p_e$			
		10 kPa	to 100 kPa		$8.5 \cdot 10^{-5} \cdot p_e$			
		100 kPa	to 345 kPa		$8.8 \cdot 10^{-5} \cdot p_e$			
		345 kPa	to 2,000 kPa		$9 \cdot 10^{-5} \cdot p_e + 1 \text{ Pa}$			
		2 MPa	to 8 MPa	$2.3 \cdot 10^{-5} \cdot p_e + 55 \text{ Pa}$				
		20 kPa	to 600 kPa	Absolute pressure $p = p_e + p_{\text{amb}}$ Liquid	49 Pa			
		0.6 MPa	to 40 MPa		$8.2 \cdot 10^{-5} \cdot p_e + 10 \text{ Pa}$			

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		40 MPa	to 100 MPa		$8.7 \cdot 10^{-5} \cdot p_e + 10 \text{ Pa}$			
		100 MPa	to 120 MPa		$1.2 \cdot 10^{-4} \cdot p_e + 10 \text{ Pa}$			
		20 kPa	to 600 kPa	Positive gauge pressure Liquid	48 Pa			
		0.6 MPa	to 40 MPa		$8.2 \cdot 10^{-5} \cdot p_e$			
		40 MPa	to 100 MPa		$8.7 \cdot 10^{-5} \cdot p_e$			
		100 MPa	to 120 MPa		$1.2 \cdot 10^{-4} \cdot p_e$			
2*	Pressure sensors and transducers <sup>4</sup>	1 Pa	to 20 Pa	Absolute Gas pressure	10 %	Comparison with a reference pressure gauge	601-MP-C049	1
		20 Pa	to 5,000 Pa		$2 \cdot 10^{-5} \cdot p + 3.5 \text{ Pa}$			
	5 kPa	to 18 kPa	$2 \cdot 10^{-5} \cdot p + 3.8 \text{ Pa}$					
	18 kPa	to 2,000 kPa	$9 \cdot 10^{-5} \cdot p$					
	2 MPa	to 8 MPa	$3 \cdot 10^{-5} \cdot p + 56 \text{ Pa}$					
		-100 kPa	to -10 kPa	Positive gauge pressure Gas	$8.6 \cdot 10^{-5} \cdot  p_e $			
		-10 kPa	to -3.45 kPa		$9.4 \cdot 10^{-5} \cdot  p_e $			
		-3.45 kPa	to -2 kPa		$2 \cdot 10^{-5} \cdot  p_e  + 32 \text{ Pa}$			
		-2,000 Pa	to -6 Pa		$1.3 \cdot 10^{-4} \cdot  p_e  + 48 \text{ Pa}$			
		-6 Pa	to +6 Pa		1.5 Pa			
		6 Pa	to 2,000 Pa		$1.3 \cdot 10^{-4} \cdot p_e + 48 \text{ Pa}$			
		2 kPa	to 3.45 kPa		$2 \cdot 10^{-5} \cdot p_e + 32 \text{ Pa}$			
		3.45 kPa	to 10 kPa		$9.4 \cdot 10^{-5} \cdot p_e$			
		10 kPa	to 100 kPa		$8.6 \cdot 10^{-5} \cdot p_e$			
		100 kPa	to 345 kPa		$8.9 \cdot 10^{-5} \cdot p_e$			
		345 kPa	to 2,000 kPa		$9 \cdot 10^{-5} \cdot p_e + 1 \text{ Pa}$			
		2 MPa	to 8 MPa		$3 \cdot 10^{-5} \cdot p_e + 55 \text{ Pa}$			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		20 kPa	to	600 kPa	Absolute Liquid pressure $p = p_e + p_{amb}$			
		0.6 MPa	to	40 MPa				
		40 MPa	to	100 MPa				
		100 MPa	to	120 MPa				
		20 kPa	to	600 kPa	Positive gauge pressure Liquid			
		0.6 MPa	to	40 MPa				
		40 MPa	to	100 MPa				
		100 MPa	to	120 MPa				

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

<sup>4</sup> The uncertainties stated apply to the measurement of analogue output signals of pressure sensors and transducers. For digital output, the uncertainties for digital pressure gauges apply.

$p$  absolute pressure value

$p_{amb}$  ambient pressure value

$p_e$  gauge pressure value,  $p_e = (p - p_{amb})$





Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Temperature

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location	
		min.	unit	max.	unit						
1	Glass thermometers	-90 °C	to	100 °C	Division < 0.1 °C	0.015 °C	Comparison with a reference resistance temperature sensor in liquid bath.	133-MP-C001	1, 6, 7		
		100 °C	to	150 °C							
		150 °C	to	210 °C	0.1 °C ≤ division < 1 °C	0.020 °C					
		210 °C	to	360 °C							
		360 °C	to	420 °C		0.040 °C					
		420 °C	to	550 °C							
2*	Resistance temperature sensors					0.002 °C	Direct measurement at triple point of water	133-MP-C002	1, 7		
				0.01 °C		0.05 °C				Comparison with a reference resistance temperature sensor at a fixed point	
				660.32 °C		0.03 °C				Comparison with a reference resistance temperature sensor near the boiling point of nitrogen	
				-196 °C		0.2 °C				Comparison with a reference resistance temperature sensor in a vertical furnace	
			-100 °C	to		-90 °C				0.015 °C	Comparison with a reference resistance temperature sensor in liquid bath.
			-90 °C	to		-80 °C				0.01 °C	
			-80 °C	to		160 °C				0.02 °C	
			160 °C	to		300 °C				0.03 °C	
			300 °C	to		420 °C					



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
 CAB number 2202, CMI Calibration Laboratory  
 Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location	
		min.	unit	max.	unit						
		420 °C		to	550 °C		0.05 °C				
		550 °C		to	660 °C		0.09 °C	Comparison with a reference resistance temperature sensor in a vertical furnace			
3	Thermocouple temperature sensors	0 °C		to	220 °C	Noble metals	0.4 °C	Comparison with a reference resistance temperature sensor in liquid bath.	133-MP-C003	1, 7	
		220 °C		to	550 °C		0.5 °C				
		550 °C		to	1,100 °C	Base metals	0.8 °C	Comparison with a reference thermoelectric temperature sensor in a horizontal furnace			
		1,100 °C		to	1,300 °C		1.3 °C				
		1,300 °C		to	1,600 °C		2.1 °C				
						-196 °C		0.3 °C			Comparison with a reference resistance temperature sensor near the boiling point of nitrogen
				-100 °C		to	-90 °C	0.3 °C			Comparison with a reference resistance temperature sensor in a vertical furnace
				-90 °C		to	220 °C	0.2 °C			Comparison with a reference resistance temperature sensor in liquid bath.
		220 °C		to	550 °C	0.4 °C					
		550 °C		to	1,100 °C	1.0 °C	Comparison with a reference thermoelectric temperature sensor in a horizontal furnace				
		1,100 °C		to	1,300 °C	1.4 °C					



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
 CAB number 2202, CMI Calibration Laboratory  
 Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
4*	Indication thermometers including temperature measuring chains, their temperature probes and characterization of thermal chambers			0.01 °C			0.002 °C	Direct measurement at triple point of water	133-MP-C004	1, 6, 7
				660.32 °C			0.05 °C	Comparison with a reference resistance temperature sensor at a fixed point		
				-196 °C			0.03 °C	Comparison with a reference resistance temperature sensor near the boiling point of nitrogen		
		-196 °C	to	-100 °C			0.3 °C	Comparison with a reference resistance temperature sensor on customer equipment		
		-100 °C	to	-90 °C			0.2 °C	Comparison with a reference resistance temperature sensor in a vertical furnace		
		-90 °C	to	-80 °C			0.015 °C 0.01 °C 0.02 °C 0.03 °C 0.05 °C	Comparison with a reference resistance temperature sensor in liquid bath		
		-80 °C	to	160 °C						
		160 °C	to	300 °C						
300 °C	to	420 °C								
		420 °C	to	550 °C						



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
		550 °C	to	660 °C		0.09 °C	Comparison with a reference resistance temperature sensor in a vertical furnace			
		660 °C	to	1,100 °C		0.8 °C	Comparison with a reference thermoelectric temperature sensor in a horizontal furnace			
		1,100 °C	to	1,200 °C		1.3 °C				
		1,200 °C	to	1,600 °C		2.1 °C				
5*	Infrared non-contact thermometers and measuring chains of infrared non-contact thermometers	-30 °C	to	-15 °C	Measuring chains with range limited to (-15 to 500) °C	2.2 °C	Comparison with the standard	133-MP-C005	1, 7	
		-15 °C	to	0 °C		1.6 °C				
		0 °C	to	20 °C		1.1 °C				
		20 °C	to	100 °C		0.8 °C				
		100 °C	to	200 °C		1.1 °C				
		200 °C	to	300 °C		1.4 °C				
		300 °C	to	400 °C		1.7 °C				
		400 °C	to	500 °C		2.2 °C				
		500 °C	to	600 °C		2.6 °C				
		600 °C	to	700 °C		2.9 °C				
6*	Measuring chains	-200 °C	to	0 °C	"K" <sup>4</sup> type Thermoelectric temperature sensor	0.1 % + 0.1 °C	Simulation of sensor electrical input signal	133-MP-C006	1	
		0 °C	to	1,000 °C		0.007 % + 0.1 °C				
		1,000 °C	to	1,372 °C		0.017 %				
		-200 °C	to	0 °C	"J" <sup>4</sup> type Thermoelectric temperature sensor	0.06 % + 0.08 °C				

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
		0 °C	to	1,200 °C		0.006 % + 0.08 °C				
		-200 °C	to	-100 °C	“N” <sup>4</sup> type Thermoelectric temperature sensor	0.2 %				
		-100 °C	to	0 °C		0.05 % + 0.15 °C				
		0 °C	to	800 °C		0.15 °C				
		800 °C	to	1 300 °C		0.01 % + 0.07 °C				
		0 °C	to	100 °C	“S” <sup>4</sup> type Thermoelectric temperature sensor	0.7 °C				
		100 °C	to	300 °C		0.55 °C				
		300 °C	to	1,768 °C		0.45 °C				
		-200 °C	to	0 °C	“T” type Thermoelectric temperature sensor <sup>4</sup>	0.1 % + 0.1 °C				
		0 °C	to	400 °C		0.1 °C				
		200 °C	to	500 °C	“B” type Thermoelectric temperature sensor <sup>4</sup>	2 °C				
		500 °C	to	800 °C		0.8 °C				
		800 °C	to	1,820 °C		0.5 °C				
		0 °C	to	150 °C	“R” type Thermoelectric temperature sensor <sup>4</sup>	0.7 °C			1	
		150 °C	to	400 °C		0.45 °C				
		400 °C	to	1,768 °C		0.4 °C				
		-200 °C	to	0 °C	Pt 100 Resistance temperature sensor	0.05 °C			1	
		0 °C	to	850 °C		0.014 % + 0.05 °C				
		-200 °C	to	-150 °C	Pt 1000 Resistance temperature sensor	0.011 °C			1	
		-150 °C	to	-50 °C		0.03 °C				

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
 CAB number 2202, CMI Calibration Laboratory  
 Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
		-50 °C	to	0 °C			0.043 °C + 0.043 0.019 % °C			
		0 °C	to	850 °C						
		-1 V	to	1 V	Voltage output of transducers	0.007 % + 4 µV 0.007 % + 0.1 mV	1			
		1 V	to	24 V	Current output of transducers	0.01 % + 1 µA 0.01 % + 2 µA				
7	Platinum resistance thermometers			-189.3442 °C	Temperature scale definition points ITS-90 – triple point Ar	0.9 mK	Direct measurement at a fixed point	112-MP-C001	1	
8	Thermocouple temperature sensors			1153 °C 1324 °C	Fe-C Co-C	1.2 °C 0.9 °C	Comparison with a standard at eutectic fixed point	112-MP-C002	1	
9	Contactless thermometers (TC)			156.5985 °C 231.928 °C 660.323 °C 1,084.62 °C	Measuring point diameter less than 5 mm In Sn Al Cu	0.2 °C 0.2 °C 0.15 °C 0.10 °C	Direct measurement at a fixed point	112-MP-C003	1	
		100 °C	to	300 °C			0.5 °C 0.7 °C 0.8 °C 1.0 °C 1.5 °C			Comparison with a reference standard



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
10*	Black bodies	-30 °C	to	45 °C			0.2 °C	Direct comparison of two black bodies using a transfer thermometer	112-MP-C004	1
		45 °C	to	230 °C						
		230 °C	to	600 °C			0.22 °C			
		600 °C	to	1,000 °C						
		1,000 °C	to	1,300 °C			0.21 °C	Comparison with a reference standard		
		1,300 °C	to	1,800 °C						
11*	Thermal cameras	-30 °C	to	500 °C			0.8 °C	Comparison with the standard	112-MP-C005	1, 7
		500 °C	to	1,000 °C						
		1,000 °C	to	1,300 °C			1.0 °C			
		1,300 °C	to	1,800 °C						
12	Temperature calibrators	-50 °C	to	1,760 °C			0.12 °C	Comparison with a calibrator or electrical measurement with a multimeter	611-MP-C130	1, 7
		-50 °C	to	1,760 °C						
		0 °C	to	1,820 °C			0.16 °C			
		-210 °C	to	1,200 °C						
		-270 °C	to	400 °C			0.14 °C			
		-270 °C	to	1,000 °C						
		-270 °C	to	1,370 °C			0.04 °C			
		-270 °C	to	1,300 °C						
		-270 °C	to	1,300 °C			0.04 °C			
		-200 °C	to	100 °C						
		-200 °C	to	800 °C			0.04 °C			
		-200 °C	to	800 °C						
		0 °C	to	2,500 °C			0.05 °C			
		-200 °C	to	900 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			
		0 °C	to	2,500 °C						
		-200 °C	to	900 °C			0.03 °C			

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
		-200 °C	to	850 °C	RTD - Pt100	0.02 °C				
		-200 °C	to	850 °C	RTD - Pt200	0.02 °C				
		-200 °C	to	850 °C	RTD - Pt500	0.03 °C				
		-200 °C	to	850 °C	RTD - Pt1000	0.02 °C				
		-60 °C	to	250 °C	RTD - Ni100	0.01 °C				
		-60 °C	to	250 °C	RTD - Ni1000	0.01 °C				

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

<sup>4</sup> Applies to the CJC temperature = 0 °C.





Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Air humidity

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
1*	Relative humidity / hygrometers and humidity measuring chains including humidity probes, characterization of climatic chambers	5 % RH	to 30 % RH	Air temperature (10 to 90) °C	0.6 % RH	Comparison with a standard hygrometer	636-MP-C119	1, 7
		30 % RH	to 50 % RH		0.7 % RH			
		50 % RH	to 70 % RH		0.8 % RH			
		70 % RH	to 80 % RH		0.9 % RH			
		80 % RH	to 90 % RH		1.0 % RH			
		90 % RH	to 95 % RH		1.5 % RH			
2	Dew point temperature / hygrometers	-75 °C	to -65 °C		0.24 °C	Comparison with a standard thermometer	636-MP-C120	7
		-65 °C	to -50 °C		0.16 °C			
		-50 °C	to -30 °C		0.10 °C			
		-30 °C	to 60 °C		0.08 °C			
		60 °C	to 80 °C		0.10 °C			
		80 °C	to 90 °C		0.15 °C			

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Electrical quantities

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
1*	DC voltage / DC voltage sources and meters	0 mV	to 20 mV		$15 \cdot 10^{-6} \cdot U + 0.05 \mu\text{V}$	Direct comparison with a calibrator or direct measurement with a multimeter	611-MP-C097, 611-MP-C098	1,7
		20 mV	to 200 mV		$5.0 \cdot 10^{-6} \cdot U$			
		200 mV	to 2 V		$2.6 \cdot 10^{-6} \cdot U$			
		2 V	to 20 V		$2.1 \cdot 10^{-6} \cdot U$			
		10 V	to 10 V		1.5 $\mu\text{V}$			
		20 V	to 1,100 V		$2.9 \cdot 10^{-6} \cdot U$			
2	DC voltage / DC voltage sources and meters	0 V	to 2 V		$1.5 \cdot 10^{-6} \cdot U + 0.05 \mu\text{V}$	Comparison with a voltage reference using a resistor divider	611-MP-C005	7
		2 V	to 20 V		$0.8 \cdot 10^{-6} \cdot U$			
		20 V	to 1,100 V		$1.6 \cdot 10^{-6} \cdot U$			
3*	AC voltage / AC voltage sources and meters	0.9 mV	to 2 mV	10 Hz to 75 kHz	0.20 %	Direct comparison with a calibrator or direct measurement with a multimeter	611-MP-C097 611-MP-C098	1,7
				75 kHz to 400 kHz	0.31 %			
				400 kHz to 750 kHz	0.33 %			
				750 kHz to 1 MHz	0.35 %			
		2 mV	to 20 mV	10 Hz to 25 kHz	$360 \cdot 10^{-6} \cdot U$			
				25 kHz to 75 kHz	$330 \cdot 10^{-6} \cdot U$			
				75 kHz to 200 kHz	$530 \cdot 10^{-6} \cdot U$			
				200 kHz to 400 kHz	$710 \cdot 10^{-6} \cdot U$			
				400 kHz to 750 kHz	$790 \cdot 10^{-6} \cdot U$			
				750 kHz to 1 MHz	$1100 \cdot 10^{-6} \cdot U$			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		20 mV	to 200 mV	10 Hz to 25 kHz 25 kHz to 75 kHz 75 kHz to 200 kHz 200 kHz to 400 kHz 400 kHz to 750 kHz 750 kHz to 1 MHz	98·10 <sup>-6</sup> ·U 190·10 <sup>-6</sup> ·U 370·10 <sup>-6</sup> ·U 590·10 <sup>-6</sup> ·U 650·10 <sup>-6</sup> ·U 1,000·10 <sup>-6</sup> ·U			
		200 mV	to 2 V	10 Hz to 35 Hz 35 Hz to 40 kHz 40 kHz to 75 kHz 75 kHz to 200 kHz 200 kHz to 400 kHz 400 kHz to 750 kHz 750 kHz to 1 MHz	37·10 <sup>-6</sup> ·U 26·10 <sup>-6</sup> ·U 37·10 <sup>-6</sup> ·U 48·10 <sup>-6</sup> ·U 120·10 <sup>-6</sup> ·U 230·10 <sup>-6</sup> ·U 590·10 <sup>-6</sup> ·U			
		2 V	to 20 V	10 Hz to 35 Hz 35 Hz to 40 kHz 40 kHz to 75 kHz 75 kHz to 200 kHz 200 kHz to 400 kHz 400 kHz to 750 kHz 750 kHz to 1 MHz	37·10 <sup>-6</sup> ·U 26·10 <sup>-6</sup> ·U 33·10 <sup>-6</sup> ·U 40·10 <sup>-6</sup> ·U 110·10 <sup>-6</sup> ·U 210·10 <sup>-6</sup> ·U 560·10 <sup>-6</sup> ·U			
		20 V	to 200 V	10 Hz to 35 Hz 35 Hz to 175 Hz 175 Hz to 40 kHz 40 kHz to 75 kHz 75 kHz to 150 kHz 150 kHz to 200 kHz	42·10 <sup>-6</sup> ·U 37·10 <sup>-6</sup> ·U 28·10 <sup>-6</sup> ·U 40·10 <sup>-6</sup> ·U 71·10 <sup>-6</sup> ·U 240·10 <sup>-6</sup> ·U			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		200 V	to 1,100 V	10 Hz to 5 kHz 5 kHz to 25 kHz 25 kHz to 40 kHz 40 kHz to 750 kHz Generation only to 750 V	40 · 10 <sup>-6</sup> · U 45 · 10 <sup>-6</sup> · U 76 · 10 <sup>-6</sup> · U 120 · 10 <sup>-6</sup> · U 350 · 10 <sup>-6</sup> · U			
4	Low AC voltage / AC voltage meters	0.1 μV	to 1 μV	50 Hz to 200 Hz 200 Hz to 10 kHz 10 kHz to 100 kHz	0.50 % 0.20 % 0.70 %	Comparison or measurement using an impedance divider	611-MP-C061	7
		1 μV	to 1 mV	50 Hz to 200 Hz 200 Hz to 10 kHz 10 kHz to 100 kHz	0.20 % 0.07 % 0.30 %			
5	DC voltage / Low DC current generators	0 pA	to 1 pA		1 fA	Direct measurement with a picoammeter	611-MP-C034	7
		1 pA	to 20 pA		0.13 %			
		20 pA	to 200 pA		0.11 %			
		0.2 nA	to 2 nA		0.08 %			
		2 nA	to 20 nA		0.06 %			
		20 nA	to 200 nA		0.05 %			
		0.2 μA	to 2 μA		0.04 %			
	DC current / Low DC current meters	0 pA	to 1 pA		1 fA	Indirect generation using DC voltage source and reference resistors	611-MP-C034	
		1 pA	to 20 pA		0.11 %			
		20 pA	to 200 pA		0.06 %			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		0.2 nA	to 2 nA		0.03 %			
		2 nA	to 20 nA		0.025 %			
		20 nA	to 200 nA		0.020 %			
		0.2 μA	to 2 μA		0.008 %			
6*	DC current / DC current generators	0 μA	to 1 μA		0.10 nA	Direct measurement with a multimeter or indirect measurement with a current shunt	611-MP-C097	1, 7
		1 μA	to 100 μA		$21 \cdot 10^{-6} \cdot I$			
		100 μA	to 200 μA		$12 \cdot 10^{-6} \cdot I$			
		200 μA	to 2 A		$6.0 \cdot 10^{-6} \cdot I$			
		2 A	to 20 A		$15 \cdot 10^{-6} \cdot I$			
		20 A	to 100 A		$20 \cdot 10^{-6} \cdot I$			
	DC current / DC current meters	0 μA	to 1 μA		0.10 nA	Direct generation with a calibrator	611-MP-C098	1, 7
		1 μA	to 100 μA		$21 \cdot 10^{-6} \cdot I$			
		100 μA	to 200 μA		$15 \cdot 10^{-6} \cdot I$			
		200 μA	to 20 mA		$6.0 \cdot 10^{-6} \cdot I$			
		20 mA	to 200 mA		$8.0 \cdot 10^{-6} \cdot I$			
		200 mA	to 2 A		$15 \cdot 10^{-6} \cdot I$			
		2 A	to 100 A		$30 \cdot 10^{-6} \cdot I$			
7*	AC current / AC current generators	9 μA	to 2 mA	10 Hz to 20 Hz	$100 \cdot 10^{-6} \cdot I$	Direct measurement with a multimeter or indirect measurement with current shunts	611-MP-C097	1, 7
				20 Hz to 40 Hz	$90 \cdot 10^{-6} \cdot I$			
				40 Hz to 5 kHz	$70 \cdot 10^{-6} \cdot I$			
				5 kHz to 10 kHz	$80 \cdot 10^{-6} \cdot I$			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
 CAB number 2202, CMI Calibration Laboratory  
 Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
				10 kHz to 30 kHz	$300 \cdot 10^{-6} \cdot I$			
		2 mA	to 20 mA	10 Hz to 20 Hz	$90 \cdot 10^{-6} \cdot I$			
				20 Hz to 40 Hz	$75 \cdot 10^{-6} \cdot I$			
				40 Hz to 1 kHz	$65 \cdot 10^{-6} \cdot I$			
				1 kHz to 10 kHz	$70 \cdot 10^{-6} \cdot I$			
				10 kHz to 30 kHz	$300 \cdot 10^{-6} \cdot I$			
		20 mA	to 200 mA	10 Hz to 20 Hz	$80 \cdot 10^{-6} \cdot I$			
				20 Hz to 1 kHz	$65 \cdot 10^{-6} \cdot I$			
				1 kHz to 5 kHz	$70 \cdot 10^{-6} \cdot I$			
				5 kHz to 10 kHz	$80 \cdot 10^{-6} \cdot I$			
				10 kHz to 30 kHz	$300 \cdot 10^{-6} \cdot I$			
		200 mA	to 2 A	10 Hz to 20 Hz	$120 \cdot 10^{-6} \cdot I$			
				20 Hz to 40 Hz	$100 \cdot 10^{-6} \cdot I$			
				40 Hz to 1 kHz	$90 \cdot 10^{-6} \cdot I$			
				1 kHz to 5 kHz	$100 \cdot 10^{-6} \cdot I$			
				5 kHz to 10 kHz	$120 \cdot 10^{-6} \cdot I$			
				10 kHz to 30 kHz	$500 \cdot 10^{-6} \cdot I$			
		2 A	to 20 A	10 Hz to 20 Hz	$180 \cdot 10^{-6} \cdot I$			
				20 Hz to 40 Hz	$160 \cdot 10^{-6} \cdot I$			
				40 Hz to 1 kHz	$110 \cdot 10^{-6} \cdot I$			
				1 kHz to 5 kHz	$140 \cdot 10^{-6} \cdot I$			
				5 kHz to 10 kHz	$160 \cdot 10^{-6} \cdot I$			
		20 A	to 100 A	10 Hz to 20 Hz	$250 \cdot 10^{-6} \cdot I$			
				20 Hz to 40 Hz	$160 \cdot 10^{-6} \cdot I$			
				40 Hz to 1 kHz	$120 \cdot 10^{-6} \cdot I$			
				1 kHz to 5 kHz	$150 \cdot 10^{-6} \cdot I$			
				5 kHz to 10 kHz	$200 \cdot 10^{-6} \cdot I$			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
	AC current / AC current meters	9 $\mu$ A to 200 $\mu$ A		10 Hz to 35 Hz	130 · 10 <sup>-6</sup> · I	Direct generation with a calibrator	611-MP-C098	1, 7
				35 Hz to 1 kHz	100 · 10 <sup>-6</sup> · I			
				1 kHz to 5 kHz	160 · 10 <sup>-6</sup> · I			
				5 kHz to 10 kHz	800 · 10 <sup>-6</sup> · I			
				10 kHz to 30 kHz	2,000 · 10 <sup>-6</sup> · I			
		200 $\mu$ A to 2 mA		10 Hz to 35 Hz	120 · 10 <sup>-6</sup> · I			
		35 Hz to 1 kHz	90 · 10 <sup>-6</sup> · I					
		1 kHz to 10 kHz	140 · 10 <sup>-6</sup> · I					
10 kHz to 30 kHz	700 · 10 <sup>-6</sup> · I							
2 mA to 200 mA		10 Hz to 35 Hz	120 · 10 <sup>-6</sup> · I					
35 Hz to 1 kHz	75 · 10 <sup>-6</sup> · I							
1 kHz to 5 kHz	130 · 10 <sup>-6</sup> · I							
5 kHz to 10 kHz	140 · 10 <sup>-6</sup> · I							
10 kHz to 30 kHz	700 · 10 <sup>-6</sup> · I							
200 mA to 2 A		10 Hz to 35 Hz	170 · 10 <sup>-6</sup> · I					
35 Hz to 1 kHz	120 · 10 <sup>-6</sup> · I							
1 kHz to 10 kHz	220 · 10 <sup>-6</sup> · I							
2 A to 20 A		10 Hz to 35 Hz	310 · 10 <sup>-6</sup> · I					
35 Hz to 1 kHz	200 · 10 <sup>-6</sup> · I							
1 kHz to 5 kHz	300 · 10 <sup>-6</sup> · I							
5 kHz to 10 kHz	690 · 10 <sup>-6</sup> · I							
20 A to 100 A		10 Hz to 35 Hz	350 · 10 <sup>-6</sup> · I					
35 Hz to 1 kHz	200 · 10 <sup>-6</sup> · I							
1 kHz to 5 kHz	300 · 10 <sup>-6</sup> · I							
5 kHz to 10 kHz	950 · 10 <sup>-6</sup> · I							



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
8	DC resistance / DC resistance standards and electrical resistance meters					Comparison by the ratio method – measurement of voltage drops at constant measuring current or direct measurement of reference resistance	131-MP-C003, 131-MP-C005, 611-MP-C097, 611-MP-C098	1, 7
			100 μΩ		0.72 nΩ			
			1 mΩ		3.5 nΩ			
			10 mΩ		26 nΩ			
			20 mΩ		44 nΩ			
			100 mΩ		86 nΩ			
			1 Ω		0.76 μΩ			
			10 Ω		7.1 μΩ			
			25 Ω		16 μΩ			
			100 Ω		35 μΩ			
			1 kΩ		0.35 mΩ			
			10 kΩ		3.8 mΩ			
			100 kΩ		59 mΩ			
			1 MΩ		4.0 Ω			
			10 MΩ		70 Ω			
			100 MΩ		160 Ω			
			1 GΩ		100 kΩ			
			10 GΩ		5.0 MΩ			
			100 GΩ		25 MΩ			
			1 TΩ		200 MΩ			





Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
9*	DC resistance / DC resistance standards and electrical resistance meters					Comparison by the ratio method – measurement of voltage drops at constant measuring current or direct measurement of reference resistance	131-MP-C003, 131-MP-C005, 611-MP-C097, 611-MP-C098	1,,7
		0 μΩ	to 100 μΩ		$3.5 \cdot 10^{-6} \cdot R + 0.5 \text{ n}\Omega$			
		100 μΩ	to 200 μΩ		$7.2 \cdot 10^{-6} \cdot R$			
		200 μΩ	to 1 mΩ		$6.0 \cdot 10^{-6} \cdot R$			
		1 mΩ	to 2 mΩ		$3.5 \cdot 10^{-6} \cdot R$			
		2 mΩ	to 10 mΩ		$5.6 \cdot 10^{-6} \cdot R$			
		10 mΩ	to 20 mΩ		$2.6 \cdot 10^{-6} \cdot R$			
		20 mΩ	to 100 mΩ		$1.6 \cdot 10^{-6} \cdot R$			
		100 mΩ	to 200 mΩ		$0.86 \cdot 10^{-6} \cdot R$			
		200 mΩ	to 1 Ω		$1.6 \cdot 10^{-6} \cdot R$			
		1 Ω	to 2 Ω		$0.73 \cdot 10^{-6} \cdot R$			
		2 Ω	to 10 Ω		$1.6 \cdot 10^{-6} \cdot R$			
		10 Ω	to 20 Ω		$0.71 \cdot 10^{-6} \cdot R$			
		20 Ω	to 100 Ω		$1.2 \cdot 10^{-6} \cdot R$			
		100 Ω	to 200 Ω		$0.35 \cdot 10^{-6} \cdot R$			
		200 Ω	to 1 kΩ		$0.93 \cdot 10^{-6} \cdot R$			
		1 kΩ	to 2 kΩ		$0.35 \cdot 10^{-6} \cdot R$			
		2 kΩ	to 10 kΩ		$1.2 \cdot 10^{-6} \cdot R$			
		10 kΩ	to 20 kΩ		$0.38 \cdot 10^{-6} \cdot R$			
		20 kΩ	to 100 kΩ		$0.86 \cdot 10^{-6} \cdot R$			
		100 kΩ	to 200 kΩ		$0.59 \cdot 10^{-6} \cdot R$			
		200 kΩ	to 1 MΩ		$4.1 \cdot 10^{-6} \cdot R$			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		1 MΩ	to	2 MΩ	$4.0 \cdot 10^{-6} \cdot R$			
		2 MΩ	to	10 MΩ	$7.4 \cdot 10^{-6} \cdot R$			
		10 MΩ	to	20 MΩ	$7.0 \cdot 10^{-6} \cdot R$			
		20 MΩ	to	200 MΩ	$16 \cdot 10^{-6} \cdot R$			
		200 MΩ	to	1 GΩ	$520 \cdot 10^{-6} \cdot R$			
		1 GΩ	to	2 GΩ	$120 \cdot 10^{-6} \cdot R$			
		2 GΩ	to	10 GΩ	0.52 %			
		10 GΩ	to	20 GΩ	0.12 %			
10	Resistance ratio / Thermometer bridges 0 Hz to 400 Hz	0	to	4	$1.6 \cdot 10^{-8}$	Measurement with a set of reference resistors or a simulated resistance ratio generated by an inductive divider	611-MP-C045	1, 7
11	DC Power / DC Power Meters for 1 V to 1,000 V and 1 mA to 120 A	1 mW	to	120 kW	0.0025%	Measurement by a digital sampling wattmeter	611-MP-C042	7



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
12	Single-phase and three-phase AC active power / Active electrical power meters for voltage 1 V to 1,000 V, current 1 mA to 200 A, power factor 0 to 1, frequency 15 Hz to 1,000 Hz	1 mW	to 600 kW		25 μW/VA	Measurement by a digital sampling wattmeter	611-MP-C042	7
13	Single-phase and three-phase AC reactive power / Reactive electrical power meters for voltage 1 V to 1,000 V, current 1 mA to 200 A, power factor 0 to 1, frequency 15 Hz to 1,000 Hz	1 mvar	to 600 kvar		25 μvar/VA	Measurement by a digital sampling wattmeter	611-MP-C042	7
14	Phase angle / Phase angle meters	0 °	to 360 °	0.1 μV to 1 μV	400 Hz to 1.592 kHz	0.10°	Measurement on a phase calibrator and impedance divider	7
				1 μV to 100 μV		0.050°		
				0.1 mV to 1 mV		0.10°		
				1 mV to 10 mV		0.050°		
				10 mV to 560 V	1 Hz to 6 kHz	0.0010°	Digital signal sampling	611-MP-C060
				10 mV to 560 V	6 kHz to 50 kHz	0.0020°		
				10 mV to 100 V	50 kHz to 100 kHz	0.050°		



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

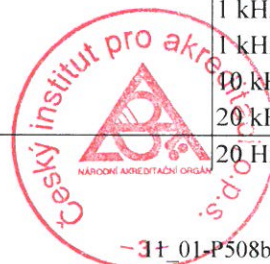
Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location	
		min. unit	max. unit						
				10 mV to 1 V 10 mV to 1 V	100 kHz to 1 MHz 1 MHz to 10 MHz	0.050° 0.10°			
15	Electrical energy single-phase and three-phase / DC and AC power meters for voltage 1 V to 1,000 V, current 1 mA to 120 A, power factor 0 to 1, frequency 0 Hz and 15 Hz to 800 Hz, time 1 s to 3,600 s	1 Ws	to 1296 MWs			0.010 %	Comparison with a reference energy meter Measurement by a digital sampling wattmeter	611-MP-C042	7
16	Flicker / Flicker meters	0.5 Pst	to 10 Pst		50 Hz	0.003·Pst	Using digital sampling of a signal	611-MP-C043	7
17	pH / pH meters	0 pH	to 14 pH			0.001 pH	Comparison with a calibrator (electric method)	611-MP-C129	7
		-1,000 mV	to 1,000 mV			0.010 mV			
18	Capacity / Electrical capacity meters				1 kHz 1 kHz	5 aF 50 aF	Comparison with a standard using impedance bridge	611-MP-C030, 611-MP-C041	7
		1 pF	to 10 pF		50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 10 kHz 10 kHz to 1 MHz	0.015 % 0.0070 % 0.0015 % 0.0050 % 0.010 %			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
				1 MHz to 10 MHz	0.20 %			
		10 pF	to 1 nF	50 Hz to 1 kHz 1 kHz 1 kHz to 10 kHz 10 kHz to 1 MHz 1 MHz to 10 MHz	0.0050 % 0.0007 % 0.0050 % 0.010 % 0.20 %			
		1 nF	to 10 nF	50 Hz to 1 kHz 1 kHz 1 kHz to 10 kHz 10 kHz to 1 MHz 1 MHz to 10 MHz	0.0070 % 0.0010 % 0.0050 % 0.010 % 0.20 %			
		10 nF	to 100 nF	50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz to 10 kHz 10 kHz to 100 kHz 100 kHz to 1 MHz	0.010 % 0.0030 % 0.0070 % 0.010 % 0.030 %			
		100 nF	to 1 μF	50 Hz to 200 Hz 200 Hz to 10 kHz 10 kHz to 100 kHz 100 kHz to 1 MHz	0.0070 % 0.0050 % 0.015 % 0.050 %			
		1 μF	to 10 μF	20 Hz to 50 Hz 50 Hz to 1 kHz 1 kHz 1 kHz to 10 kHz 10 kHz to 20 kHz 20 kHz to 100 kHz	0.010 % 0.0070 % 0.0050 % 0.0060 % 0.015 % 0.050 %			
		10 μF	to 100 μF	20 Hz to 50 Hz	0.010 %			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
				50 Hz to 1 kHz 1 kHz to 10 kHz 10 kHz to 20 kHz	0.0050 % 0.0060 % 0.020 %			
		100 µF	to 1 mF	20 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz to 5 kHz	0.010 % 0.015 % 0.020 %			
		1 mF	to 3 mF	20 Hz to 200 Hz 200 Hz to 1 kHz	0.020 % 0.025 %			
		3 mF	to 10 mF	20 Hz to 200 Hz	0.030 %			
		100 µF	to 1 F	0.1 Hz	0.10 %			
19	Loss factor D / Loss factor meters	-0.001	to 0.001	1 pF to 10 pF 50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz 20 kHz to 100 kHz 100 kHz to 200 kHz 200 kHz to 500 kHz 500 kHz to 1 MHz	57·10 <sup>-6</sup> (abs.) 8·10 <sup>-6</sup> (abs.) 3·10 <sup>-6</sup> (abs.) 17·10 <sup>-6</sup> (abs.) 42·10 <sup>-6</sup> (abs.) 120·10 <sup>-6</sup> (abs.) 150·10 <sup>-6</sup> (abs.) 300·10 <sup>-6</sup> (abs.) 450·10 <sup>-6</sup> (abs.) 900·10 <sup>-6</sup> (abs.)	Comparison with a standard using impedance bridge	611-MP-C030 611-MP-C041	7
			10 pF to 100 pF 50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz	13·10 <sup>-6</sup> (abs.) 4·10 <sup>-6</sup> (abs.) 3·10 <sup>-6</sup> (abs.) 9·10 <sup>-6</sup> (abs.)				



11\_01-P508b K-20240701

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
 CAB number 2202, CMI Calibration Laboratory  
 Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
				5 kHz to 10 kHz 10 kHz to 20 kHz 20 kHz to 100 kHz 100 kHz to 200 kHz 200 kHz to 500 kHz 500 kHz to 1 MHz	18·10 <sup>-6</sup> (abs.) 39·10 <sup>-6</sup> (abs.) 70·10 <sup>-6</sup> (abs.) 150·10 <sup>-6</sup> (abs.) 350·10 <sup>-6</sup> (abs.) 700·10 <sup>-6</sup> (abs.)			
			100 pF to 1,000 pF	50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz 20 kHz to 100 kHz 100 kHz to 200 kHz 200 kHz to 500 kHz 500 kHz to 1 MHz	9·10 <sup>-6</sup> (abs.) 4·10 <sup>-6</sup> (abs.) 3·10 <sup>-6</sup> (abs.) 7·10 <sup>-6</sup> (abs.) 12·10 <sup>-6</sup> (abs.) 23·10 <sup>-6</sup> (abs.) 70·10 <sup>-6</sup> (abs.) 150·10 <sup>-6</sup> (abs.) 350·10 <sup>-6</sup> (abs.) 700·10 <sup>-6</sup> (abs.)			
			1 nF to 10 nF	50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz 20 kHz to 100 kHz 100 kHz to 200 kHz 200 kHz to 500 kHz 500 kHz to 1 MHz	79·10 <sup>-6</sup> (abs.) 7·10 <sup>-6</sup> (abs.) 9·10 <sup>-6</sup> (abs.) 24·10 <sup>-6</sup> (abs.) 41·10 <sup>-6</sup> (abs.) 79·10 <sup>-6</sup> (abs.) 70·10 <sup>-6</sup> (abs.) 150·10 <sup>-6</sup> (abs.) 350·10 <sup>-6</sup> (abs.) 700·10 <sup>-6</sup> (abs.)			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		0.001	to 0.01	1 pF to 10 pF	50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz	61·10 <sup>-6</sup> (abs.) 18·10 <sup>-6</sup> (abs.) 5·10 <sup>-6</sup> (abs.) 26·10 <sup>-6</sup> (abs.) 50·10 <sup>-6</sup> (abs.) 130·10 <sup>-6</sup> (abs.)		
				10 pF to 100 pF	50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz	20·10 <sup>-6</sup> (abs.) 13·10 <sup>-6</sup> (abs.) 5·10 <sup>-6</sup> (abs.) 15·10 <sup>-6</sup> (abs.) 23·10 <sup>-6</sup> (abs.) 43·10 <sup>-6</sup> (abs.)		
				100 pF to 1,000 pF	50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz	12·10 <sup>-6</sup> (abs.) 7·10 <sup>-6</sup> (abs.) 5·10 <sup>-6</sup> (abs.) 9·10 <sup>-6</sup> (abs.) 14·10 <sup>-6</sup> (abs.) 25·10 <sup>-6</sup> (abs.)		
				1 nF to 10 nF	50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz	82·10 <sup>-6</sup> (abs.) 7·10 <sup>-6</sup> (abs.) 9·10 <sup>-6</sup> (abs.) 24·10 <sup>-6</sup> (abs.) 41·10 <sup>-6</sup> (abs.) 79·10 <sup>-6</sup> (abs.)		
		0.01	to 0.1	1 pF to 10 pF	50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz	150·10 <sup>-6</sup> (abs.) 120·10 <sup>-6</sup> (abs.) 30·10 <sup>-6</sup> (abs.)		





Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
				1 kHz to 5 kHz 5 kHz to 10 kHz	110·10 <sup>-6</sup> (abs.) 130·10 <sup>-6</sup> (abs.)			
				10 pF to 100 pF 50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz	61·10 <sup>-6</sup> (abs.) 52·10 <sup>-6</sup> (abs.) 30·10 <sup>-6</sup> (abs.) 48·10 <sup>-6</sup> (abs.) 58·10 <sup>-6</sup> (abs.)			
				100 pF to 1,000 pF 50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz	140·10 <sup>-6</sup> (abs.) 74·10 <sup>-6</sup> (abs.) 30·10 <sup>-6</sup> (abs.) 70·10 <sup>-6</sup> (abs.) 61·10 <sup>-6</sup> (abs.)			
				1 nF to 10 nF 50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz	100·10 <sup>-6</sup> (abs.) 7·10 <sup>-6</sup> (abs.) 9·10 <sup>-6</sup> (abs.) 24·10 <sup>-6</sup> (abs.) 41·10 <sup>-6</sup> (abs.) 79·10 <sup>-6</sup> (abs.)			
		0.1	to 1	1 pF to 1,000 pF 1 nF to 10 nF 1 kHz 50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz	300·10 <sup>-6</sup> (abs.) 100·10 <sup>-6</sup> (abs.) 7·10 <sup>-6</sup> (abs.) 9·10 <sup>-6</sup> (abs.) 24·10 <sup>-6</sup> (abs.) 41·10 <sup>-6</sup> (abs.) 79·10 <sup>-6</sup> (abs.)			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location	
		min. unit	max. unit						
		-1	to 1	10 nF to 100 nF	50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz 20 kHz to 100 kHz 100 kHz to 200 kHz 200 kHz to 500 kHz 500 kHz to 1 MHz	30·10 <sup>-6</sup> (abs.) 15·10 <sup>-6</sup> (abs.) 15·10 <sup>-6</sup> (abs.) 21·10 <sup>-6</sup> (abs.) 30·10 <sup>-6</sup> (abs.) 67·10 <sup>-6</sup> (abs.) 70·10 <sup>-6</sup> (abs.) 150·10 <sup>-6</sup> (abs.) 350·10 <sup>-6</sup> (abs.) 700·10 <sup>-6</sup> (abs.)			
				100 nF to 1,000 nF	20 Hz to 50 Hz 50 Hz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz 20 kHz to 100 kHz 100 kHz to 200 kHz 200 kHz to 500 kHz 500 kHz to 1 MHz	100·10 <sup>-6</sup> (abs.) 30·10 <sup>-6</sup> (abs.) 60·10 <sup>-6</sup> (abs.) 80·10 <sup>-6</sup> (abs.) 90·10 <sup>-6</sup> (abs.) 200·10 <sup>-6</sup> (abs.) 450·10 <sup>-6</sup> (abs.) 900·10 <sup>-6</sup> (abs.)			
				1 μF to 10 μF	20 Hz to 50 Hz 50 Hz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz 20 kHz to 100 kHz	100·10 <sup>-6</sup> (abs.) 30·10 <sup>-6</sup> (abs.) 60·10 <sup>-6</sup> (abs.) 80·10 <sup>-6</sup> (abs.) 120·10 <sup>-6</sup> (abs.)			
				10 μF to 100 μF	20 Hz to 50 Hz 50 Hz to 200 Hz 200 Hz to 5 kHz 5 kHz to 10 kHz	100·10 <sup>-6</sup> (abs.) 30·10 <sup>-6</sup> (abs.) 50·10 <sup>-6</sup> (abs.) 100·10 <sup>-6</sup> (abs.)			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
				10 kHz to 20 kHz 20 kHz to 100 kHz	220·10 <sup>-6</sup> (abs.) 500·10 <sup>-6</sup> (abs.)			
			100 μF to 1,000 μF	20 Hz to 50 Hz 50 Hz to 1 kHz 1 kHz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz	100·10 <sup>-6</sup> (abs.) 50·10 <sup>-6</sup> (abs.) 100·10 <sup>-6</sup> (abs.) 160·10 <sup>-6</sup> (abs.) 350·10 <sup>-6</sup> (abs.)			
			1 mF to 3 mF	20 Hz to 50 Hz 50 Hz to 200 Hz 200 Hz to 5 kHz	100·10 <sup>-6</sup> (abs.) 50·10 <sup>-6</sup> (abs.) 100·10 <sup>-6</sup> (abs.)			
			3 mF to 10 mF	20 Hz to 1 kHz	100·10 <sup>-6</sup> (abs.)			
20	AC resistance / AC resistance meters	1 mΩ to 10 mΩ	1 mΩ to 10 mΩ	20 Hz to 50 Hz 50 Hz to 20 kHz 20 kHz to 100 kHz	0.015 % 0.010 % 0,015 %	Comparison with a standard using impedance bridge	611-MP-C040, 611-MP-C041	7
		10 mΩ to 100 mΩ		20 Hz to 50 Hz 50 Hz to 100 kHz 100 kHz to 1 MHz	0.010 % 0.0070 % 0.10 %			
		100 mΩ to 1 Ω		20 Hz to 50 Hz 50 Hz to 100 kHz 100 kHz to 200 kHz 200 kHz to 500 kHz 500 kHz to 1 MHz	0.0070 % 0.0050 % 0,0070 % 0,015 % 0.025 %			
		1 Ω to 10 kΩ		20 Hz to 20 kHz 20 kHz to 200 kHz	0.0020 % 0,0050 %			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location	
		min. unit	max. unit						
				200 kHz to 500 kHz	0,010 %				
				500 kHz to 1 MHz	0,015 %				
				1 MHz to 10 MHz	0.20 %				
		10 kΩ to 100 kΩ		20 Hz to 50 Hz	0.0070 %				
				50 Hz to 20 kHz	0.0050 %				
				20 kHz to 100 kHz	0,0070 %				
				100 kHz to 200 kHz	0,010 %				
				200 kHz to 500 kHz	0,015 %				
		100 kΩ to 1 MΩ		500 kHz to 1 MHz	0.025 %				
				1 MHz to 10 MHz	5.0 %				
				20 Hz to 50 Hz	0.015 %				
		1 MΩ to 10 MΩ		50 Hz to 20 kHz	0.0080 %				
20 kHz to 100 kHz	0,020 %								
100 kHz to 1 MHz	0.10 %								
1 MHz to 10 MHz	5.0 %								
10 MΩ to 100 MΩ		20 Hz to 50 Hz	0.030 %						
		50 Hz to 20 kHz	0.015 %						
		20 kHz to 1 MHz	0.30 %						
				20 Hz to 50 Hz	0.070 %				
				50 Hz to 5 kHz	0.030 %				
				5 kHz to 10 kHz	0.050 %				
				10 kHz to 100 kHz	0.30 %				
21	Secondary component of impedance Z expressed as phase angle $\varphi$ / AC resistance meters	$-\pi$	to	$+\pi$	1 mΩ to 10 mΩ / 20 Hz to 200 Hz	3.5 $\mu$ rad	Comparison with a standard using impedance bridge	611-MP-C040 611-MP-C041 611-MP-C099	7



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
				200 Hz to 1 kHz 1 kHz to 100 kHz	17·f <sup>1</sup> μrad 17·f μrad			
				10 mΩ to 100 mΩ 20 Hz to 1 kHz 1 kHz to 100 kHz	2,5 μrad 4·f μrad			
				100 mΩ to 500 mΩ 20 Hz to 1 kHz 1 kHz to 1 MHz	1,5 μrad 1,5·f μrad			
				500 mΩ to 1 Ω 20 Hz to 1 kHz 1 kHz to 1 MHz	1,0 μrad 0,9·f μrad			
				1 Ω to 1 kΩ 20 Hz to 1 kHz 1 kHz to 1 MHz	0,7 μrad 0,7·f μrad			
				1 kΩ to 10 kΩ 20 Hz to 1 kHz 1 kHz to 1 MHz	0,9 μrad 0,9·f μrad			
				10 kΩ to 100 kΩ 20 Hz to 1 kHz 1 kHz to 1 MHz	1,2 μrad 1,2·f μrad			
				100 kΩ to 10 MΩ 50 Hz to 200 Hz 200 Hz to 5 kHz 5 kHz to 10 kHz 10 kHz to 20 kHz 20 kHz to 100 kHz	50 μrad 8.0 μrad 20 μrad 30 μrad 1,2·f μrad			
22	Inductance / Inductance meters	1 μH	10 mH 100 mH 10 μH	1 kHz 1 kHz 1 kHz to 10 kHz 10 kHz to 20 kHz 20 kHz to 100 kHz	0.15 μH 1.5 μH 0.10 % 0.050 % 0.020 %	Comparison with a standard using impedance bridge	611-MP-C099 611-MP-C041	7



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

**Český metrologický institut**  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
				100 kHz to 1 MHz	0.050 %			
		10 μH	to 100 μH	50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz to 20 kHz 20 kHz to 100 kHz 100 kHz to 1 MHz	0.10 % 0.015 % 0.020 % 0.015 % 0.050 %			
		100 μH	to 1 mH	20 Hz to 50 Hz 50 Hz to 1 kHz 1 kHz to 100 kHz 100 kHz to 1 MHz	0.30 % 0.015 % 0.010 % 0.050 %			
		1 mH	to 10 mH	20 Hz to 50 Hz 50 Hz to 200 Hz 200 Hz to 1 kHz 1 kHz 1 kHz to 20 kHz 20 kHz to 100 kHz 100 kHz to 1 MHz	0.30 % 0.015 % 0.0080 % 0.0050 % 0.0080 % 0.015 % 0.050 %			
		10 mH	to 100 mH	20 Hz to 50 Hz 50 Hz to 1 kHz 1 kHz 1 kHz to 20 kHz 20 kHz to 100 kHz 100 kHz to 1 MHz	0.30 % 0.0080 % 0.0050 % 0.015 % 0.030 % 0.050 %			
		100 mH	to 1 H	50 Hz to 1 kHz 1 kHz 1 kHz to 10 kHz 10 kHz to 100 kHz	0.0080 % 0.0050 % 0.020 % 0.050 %			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		1 H	to	10 H	20 Hz to 50 Hz 50 Hz to 1 kHz 1 kHz to 1 MHz	0.30 % 0.020 % 0.050 %		
		10 H	to	100 H	20 Hz to 50 Hz 50 Hz to 1 kHz 1 kHz to 100 kHz	0.30 % 0.030 % 0.050 %		
		100 H	to	1 kH	20 Hz to 50 Hz 50 Hz to 10 kHz	0.30 % 0.10 %		
23	Digital electrical inspection equipment and associated standards / insulation resistance	10 kΩ	to	10 MΩ		0.0012 %	131-MP-C006	1.7
		10 MΩ	to	100 MΩ		0.0020 %		
		100 MΩ	to	1 GΩ		0.010 %		
		1 GΩ	to	10 GΩ		0.025 %		
		10 GΩ	to	100 GΩ		0.050 %		
		100 GΩ	to	1 TΩ		$0.002 \cdot R^2 + 0.001 \cdot R$ <sup>Note 5</sup>		
				100 MΩ		0.0017 %		
				1 GΩ		0.0030 %		
				10 GΩ		0.010 %		
		10 kΩ	to	1 GΩ		0.020 %	Direct generation of resistance with a calibrator of inspection	



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
 CAB number 2202, CMI Calibration Laboratory  
 Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		1 GΩ	to 10 GΩ		1.0 %	instruments, resistance decade or resistance reference standards		
		10 GΩ	to 100 GΩ		1.5 %			
		100 GΩ	to 1 TΩ		2.5 %			
		1 TΩ	to 10 TΩ		4.0 %			
			100 MΩ		0.0030 %			
			1 GΩ		0.0050 %			
			10 GΩ		0.020 %			
			100 GΩ		0.10 %			
			1 TΩ		0.50 %			
	Digital electrical inspection equipment and associated standards / protective loop, network impedance and ground loop					Direct generation of resistance with a calibrator of inspection instruments, resistance decade or resistance reference standards		
					5.0 mΩ			
					5.0 mΩ			
					5.0 mΩ			
					7.0 mΩ			
			25 mΩ					
			50 mΩ					
			100 mΩ					
			330 mΩ					





Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
 CAB number 2202, CMI Calibration Laboratory  
 Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
			500 mΩ 1 Ω 1.8 Ω 5 Ω 10 Ω 18 Ω 50 Ω 100 Ω 180 Ω 500 Ω 1 kΩ 1.8 kΩ		8.0 mΩ 10 mΩ 18 mΩ 30 mΩ 60 mΩ 100 mΩ 300 mΩ 500 mΩ 1.0 Ω 2.5 Ω 5.0 Ω 10 Ω			
	Digital electrical inspection equipment and associated standards / RCD tripping current	3 mA	to 3 A	50 Hz	0.20 %	Simulation of a residual current device and direct measurement of tripping current by a calibrator of inspection instruments		
		3 mA	to 3 A	50 Hz	1.0 %			
	Digital electrical inspection equipment and associated standards / RCD tripping time	10 ms	to 5 s	50 Hz	0.05 ms	Simulation of a residual current device and direct measurement of tripping time by a calibrator of inspection instruments		



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		10 ms	to 5 s	50 Hz	0.020 % + 0.25 ms	Direct comparison with a calibrator of inspection instruments		
	Digital electrical inspection equipment and associated standards / passive leak current	0.1 mA	to 30 mA	50 Hz	0.30 % + 2 μA			
	Digital electrical inspection equipment and associated standards / differential leak current	0.1 mA	to 30 mA	50 Hz	0.30 % + 2 μA			
	Digital electrical inspection equipment and associated standards / differential leak current	0.1 mA	to 30 mA	50 Hz	0.30 % + 2 μA			
	Digital electrical inspection equipment and associated standards / active leak current	0.1 mA	to 30 mA	50 Hz	0.30 % + 1 μA			
	Digital electrical inspection equipment and associated standards / active leak current	0.1 mA	to 300 mA	DC + 20 Hz to 400 Hz	0.20 %			
	Digital electrical inspection equipment and associated standards / DC voltage	0 V	to 10 kV		0.30 % + 5 V	Direct measurement of high voltage with a calibrator of inspection instruments or a voltmeter and voltage probe		



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
	Digital electrical inspection equipment and associated standards / AC voltage	0 V	to 10 kV	50 Hz	0.50 % + 5 V			
	Digital electrical inspection equipment and associated standards / DC current	1 A	to 1 kA	Current clamp	0.80 %	Current simulation with a calibrator and current coil		
	Digital electrical inspection equipment and associated standards / AC current	1 A	to 1 kA	Current clamp 50 Hz	0.50 %			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
24	Oscilloscope vertical deflection coefficient	-222 V	to	222 V		0 Hz	0.025 % + 25 μV	Direct voltage generation with an oscilloscope calibrator	113-MP-C008	1
		1 mV	to	21 mV		10 Hz to 10 kHz	0.1 % + 15 μV			
		21 mV	to	556 mV			0.1 % + 1 μV			
		556 mV	to	210 V			0.05 % + 1 μV			
25	Oscilloscope time base	1 ns	to	50 s			0.25 · 10 <sup>-6</sup>	Direct generation by an oscilloscope calibrator	113-MP-C008	1
26	Oscilloscope bandwidth	0.1 Hz	to	300 MHz		drop -3 dB	4 %	Measurement using oscilloscope calibrator	113-MP-C008	1
		300 MHz	to	550 MHz			5 %			
		550 MHz	to	1.1 GHz			7 %			
		1.1 GHz	to	3.2 GHz			8 %			
	Relative decrease of oscilloscope frequency response	-6 dB	to	6 dB		0.1 Hz to 300 MHz	0.18 dB			
						300 MHz to 550 MHz	0.22 dB			
						550 MHz to 1.1 GHz	0.31 dB			
						1.1 GHz to 3.2 GHz	0.35 dB			
27	Oscilloscope rise time	300 ps	to	1 s			12 ps	Calibrator signal measurement with an oscilloscope and correction	113-MP-C008	1



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
28	Input resistance / oscilloscopes, counters, etc.	800 kΩ 40 Ω	to	1.2 MΩ 90 Ω			0.1 % 0.1 %	Measurement using an oscilloscope calibrator	113-MP-C008	1
29	Voltage/oscilloscopic probe split ratio	0.9 : 1	to	1,100 : 1	To 222 V	0 Hz to 10 kHz	0.5 %	Direct voltage generation with an oscilloscope calibrator	113-MP-C008	1
30*	RF power calibration factor / power sensors	0.05	to	1.1		0 GHz to 1 GHz 1 GHz to 18 GHz 18 GHz to 40 GHz 40 GHz to 50 GHz	0.9 % 1.5 % 2.0 % 3.0 %	Direct comparison of reference and calibrated meter reading	113-MP-C014	1
	RF power level <i>L</i> /level meters,	44 dB(mW) 20 dB(mW) 10 dB(mW) -10 dB(mW)	to	55 dB(mW) 44 dB(mW) 20 dB(mW) 10 dB(mW)		9 kHz to 2.5 GHz 9 kHz to 6 GHz 6 GHz to 18 GHz 9 kHz to 1 GHz 1 GHz to 10 GHz 10 GHz to 18 GHz 18 GHz to 40 GHz 40 GHz to 50 GHz 9 kHz to 10 GHz 10 GHz to 18 GHz 18 GHz to 40 GHz 40 GHz to 50 GHz	0.12 dB 0.09 dB 0.14 dB 0.06 dB 0.07 dB 0.1 dB 0.13 dB 0,15 dB 0.05 dB 0.09 dB 0.13 dB 0,15 dB			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		-30 dB(mW)	to -10 dB(mW)	9 kHz to 1 GHz	0.06 dB			
				1 GHz to 10 GHz	0.07 dB			
				10 GHz to 18 GHz	0.1 dB			
				18 GHz to 40 GHz	0.13 dB			
				40 GHz to 50 GHz	0.15 dB			
		-60 dB(mW)	to -30 dB(mW)	9 kHz to 1 GHz	0.07 dB			
				1 GHz to 10 GHz	0.09 dB			
				10 GHz to 18 GHz	0.1 dB			
				18 GHz to 40 GHz	$-0,001 \cdot (L+30) + 0.13$ dB			
				40 GHz to 50 GHz	$-0,001 \cdot (L+30) + 0.15$ dB			
		-100 dB(mW)	to -60 dB(mW)	0.1 MHz to 1 GHz	$-0,001 \cdot (L+60) + 0.07$ dB			
				1 GHz to 10 GHz	$-0,001 \cdot (L+60) + 0.07$ dB			
				10 GHz to 18 GHz	$-0,0015 \cdot (L+60) + 0.11$ dB			
				18 GHz to 26.5 GHz	$-0,002 \cdot (L+60) + 0.15$ dB			
	RF voltage at a defined location on the coaxial line/probes, transducers	1 mV	to 2 V	0 GHz to 2 GHz	1 %	Power measurements and recalculations with vector corrections		
		2 V	to 100 V		1.7 %			
	RF current at a defined location on the coaxial line/probes, transducers	20 μA	to 40 mA	0 GHz to 2 GHz	1 %			
		40 mA	to 2 A		1.7 %			
	ΔL level difference of power, voltage and current/amplifiers, attenuators, level meters, signal sources	0 dB	to 65 dB	9 kHz to 1 MHz	$0,0006 \Delta L + 0.02$ dB	Power ratio measurement		



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
	and other test equipment	65 dB	to	75 dB			0.14 dB			
		75 dB	to	85 dB			0.21 dB			
		0 dB	to	85 dB	1 MHz to 13.2 GHz		0,0006ΔL + 0.02 dB			
		85 dB	to	95 dB			0.14 dB			
		95 dB	to	105 dB			0.21 dB			
		105 dB	to	110 dB			0.56 dB			
		0 dB	to	75 dB	13.2 GHz to 26.5 GHz		0,0006ΔL + 0,02 dB			
		75 dB	to	85 dB			0.14 dB			
		85 dB	to	95 dB			0.21 dB			
		95 dB	to	100 dB			0.56 dB			
		0 dB	to	40 dB	26.5 GHz to 50 GHz		0.1 dB			
31	Voltages / equipment used mainly in testing (EMC)	0.5 mV	to	1,000 V	0 Hz		0.1 %	Measurement by a reference standard multimeter	113-MP-C014	1
		1 mV	to	100 V	10 Hz to 100 kHz		0.15 % +3 μV			
	Voltage/ESD simulators	100 V	to	500 V	10 Hz to 100 kHz		0.32 %	Direct measurement by a standard HV voltmeter	113-MP-C017	
		500 V	to	35 kV	0 Hz		2 % +5 V			
32	Current / equipment for testing (EMC)	0.1 mA	to	1 A	0 Hz		0.1 %	Measurement by a reference standard multimeter	113-MP-C014	1
	Current / excitation of frame antenna	1 A	to	40 A	40 Hz to 60 Hz		1.5 %	Measurement using a shunt	113-MP-C017	
		40 A	to	400 A	40 Hz to 60 Hz		1.8 %			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit		max. unit						
	Current / current probes, shunts	50 mA	to	1.9999 A		10 Hz to 5 kHz	0.5 %			
33	Transfer impedance / current probes	-65 dB (Ω)	to	+35 dB (Ω)		10 Hz to 100 MHz 100 MHz to 300 MHz 300 MHz to 400 MHz	0.2 dB 0.35 dB 0.5 dB	Input current generation and output voltage measurement	113-MP-C017	1
34	Amplitude modulation depth <i>m</i> / signal sources, modulation meters	5 %	to	99 %	fc:	fmod:	0.0075 · <i>m</i>	Measurement by ref. modulation analyzer, direct comparison with a reference standard	113-MP-C014	1
					100 kHz to 10 MHz	50 Hz to 10 kHz				
		5 %	to	20 %	fc:	fmod:	0.025 · <i>m</i>			
		20 %	to	99 %	10 MHz to 3 GHz	50 Hz to 100 kHz	0.005 · <i>m</i>			
35	Impedance/ coupling networks	3 Ω	to	200 Ω		9 kHz to 400 MHz module phase	6 % 4°	Measurement by a vector circuit analyzer and recalculations	113-MP-C017	1
36	Reflection coefficient modulus <i>r</i> / equipment used mainly in testing (EMC)	0	to	1	BNC connector	9 kHz to 1 GHz	0.015 <i>r</i> <sup>2</sup> + 0.01	Measurement by a vector circuit analyzer	113-MP-C017	1
						1 GHz to 2 GHz	0.025 <i>r</i> <sup>2</sup> + 0.02			
						2 GHz to 3 GHz	0.035 <i>r</i> <sup>2</sup> + 0.03			





Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
						N connector	5 kHz to 2 GHz $0.07r^2 + 0.015$ 2 GHz to 8 GHz $0.08r^2 + 0.02$ 8 GHz to 18 GHz $0.12r^2 + 0.03$	Measurements with directional bridges or taps		
37	Current/pulse generators, ESD simulators	1 A	to	130 A			4 %	Measurement using an oscilloscope with an ESD target	113-MP-C017	1
38	Short circuit current, peak value / pulse generators	1 A	to	3 kA		Rise time > 0.2 μs	4 %	Measurement with an oscilloscope with shunt or current transformer	113-MP-C017	1
39	No-load voltage, peak value / pulse generators	20 V	to	8 kV		Rise time > 0.2 μs	3.5 %	Measurement using an oscilloscope with a HV probe	113-MP-C017	1
40	Voltage to the load 2 Ω, 10 Ω, 20 Ω, 50 Ω, peak value / pulse generators	10 V	to	1 kV		Rise time > 0.2 μs	3.8 %	Measurement using an oscilloscope with a HV differential probe	113-MP-C017	1
41	Voltage, peak value/pulse generators EFT/burst, US defectoscopes,	10 V	to	4 kV		To 50 Ω load	3 %	Measurement with an oscilloscope with a HV divider or with attenuation cells	113-MP-C017	1
		200 V	to	6 kV		To 1 kΩ load	4 %			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
 CAB number 2202, CMI Calibration Laboratory  
 Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
42	Pulse area/pulse generators for EMI receiver calibration, ČSN EN 55016-1-1 ed.4							Measurement with an oscilloscope with attenuation cells and subsequent calculations and corrections	113-MP-C017	1
		0.1 μVs	to	30 μVs	9 kHz to 150 kHz	2.8 %				
		0.01 μVs	to	1 μVs	150 kHz to 30 MHz	2.8 %				
		1 nVs	to	100 nVs	30 MHz to 1 GHz	3 %				



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
43	AC current ratio / Measuring current transformers	0.1	to 5,000	05 A to 5,000 A/ 5 A and 1 A	50 Hz	0.002%	817-MP-C701	1, 12
	Current phase shift / Measuring current transformers	-600 ′	to 600 ′	0.5 A to 5,000 A/ 5 A and 1 A	50 Hz	0.07′		
44*	AC voltage ratio / Measuring current transformers			5 kV /100 V	50 Hz	0.006 %	817-MP-C701	1, 12
				10 kV /100 V		0.006 %		
			22 kV/100 V		0.006 %			
	0.4	to 80,000	100 V to 400 kV/5 V to 250 V	50 Hz	0.007 %	Comparison with a HV divider		
Measuring voltage transformers / Voltage phase shift	-600 ′	to	600 ′	5 kV; 10 kV and 22 kV/100 V	50 Hz	0.21′	817-MP-C701	1, 12
				100 V to 400 kV/5 V to 250 V	50 HZ	0.24′		
45*	Rogowski coils / AC current	0 A	to 10 kA	1 thread		0.21 %	817-MP-C705	12



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location		
		min. unit	max. unit							
46	Antenna factor / antennas	-10 dB/m	to	+60 dB/m	3 m distance	30 MHz to 100 MHz	2.8 dB	Three antenna method	851-MP-C004, chap. 5.1 (ANSI C63.5 chap. 5)	13
						100 MHz to 300 MHz	2.8 dB			
						300 MHz to 1 GHz	3.0 dB			
						1 GHz to 18,000 MHz	2.0 dB			
					10 m distance	30 MHz to 100 MHz	2.2 dB			
						100 MHz to 300 MHz	1.5 dB			
						300 MHz to 1 GHz	1.4 dB			
						1 GHz to 18 GHz	2.0 dB			
47	Antenna factor / antennas	-10 dB/m	to	+60 dB/m	3 m distance	30 MHz to 100 MHz	3.3 dB	Substitution method	851-MP-C004, chap. 5.2 (ANSI C63.5 chap. 6)	13
						100 MHz to 300 MHz	3.3 dB			
						300 MHz to 1 GHz	3.5 dB			
						1 GHz to 18 GHz	2.2 dB			
					10 m distance	30 MHz to 100 MHz	2.5 dB			
						100 MHz to 300 MHz	1.7 dB			
						300 MHz to 1 GHz	1.7 dB			
						1 GHz to 18 GHz	2.2 dB			
48	Antenna factor / antennas	-10 dB/m	to	+60 dB/m	1 m distance	30 MHz to 1 GHz	3.5 dB	Measurement of transmission of two identical antennas	851-MP-C004, chap. 5.4 (SAE ARP 958, Rev.D, chap 3 and 4)	13
						1 GHz to 18 GHz	3.1 dB			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location	
		min. unit	max. unit						
49	Antenna factor / frame antennas	-10 dB/m	to +60 dB/m	1 m distance	10 kHz to 30 MHz	2.2 dB	Measurement of the magnetic field intensity of a standard antenna	851-MP-C004, chap. 5.5 (SAE ARP 958, Rev.D, chap. 6 and 7)	13
50	Antenna factor / rod antennas	-10 dB/m	to +60 dB/m		9 kHz to 30 MHz	2.1 dB	Adaptive circuit measurement	851-MP-C004, chap. 5.3 (ČSN EN 55016-1-4)	13

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

<sup>4</sup> f is the frequency value in kHz

<sup>5</sup> R is the resistance value in TΩ



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

**CMC for the field of measured quantity: Magnetic quantities**

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
1	Magnetic induction / Reference magnets	0.3 mT		to	2 T		(0.21 to 1) %	Comparison with a standard teslameter	817-MP-C607	12

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Optical quantities

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
1	Spectral reflection coefficient R Spectrophotometers	0 %	to 100 %	8°/t, 8°/d 380 nm to 460 nm 465 nm to 780 nm 0°/45° 380 nm to 780 nm	(0.1 + 0.010·R)% (abs.) (0.12 + 0.008·R)% (abs.) (0.17 + 0.014·R)% (abs.)	Comparison with a colorimetric standard	818-MP-C802	12
	Colorimetric standard	0 %	to 100 %	8°/t, 8°/d 380 nm to 460 nm 465 nm to 780 nm 0°/45° 380 nm to 780 nm	(0.1 + 0.010·R)% (abs.) (0.12 + 0.008·R)% (abs.) (0.17 + 0.014·R)% (abs.)	Measurement by a reference spectrophotometer		
2	Surface colour, colorimetric coordinates Spectrophotometers, colorimeters	L*	2 to 99	8°/t, 8°/d, 0°/45°	0.35(abs.)	Comparison with a colorimetric standard	818-MP-C802	12
	a*	-110 to 110	0.25(abs.)					
b*	-110 to 110	0.25(abs.)						
	Colorimetric standard	L*	2 to 99	8°/t, 8°/d, 0°/45°	0.40(abs.)	Measurement by a reference spectrophotometer		
		a*	-110 to 110		0.30(abs.)			
		b*	-110 to 110		0.30(abs.)			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range			Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit		max. unit					
3	Surface colour, colorimetric coordinates							818-MP-C802	12
	Spectrophotometers, colorimeters				8°/t, 8°/d, 0°/45	0.25(abs.) 0.0005(abs.) 0.0005(abs.)	Comparison with a colorimetric standard		
	Y	0.3	to	100					
	x	0.002	to	0.7					
	y	0.002	to	0.8					
	Colorimetric standard				8°/t, 8°/d, 0°/45	0.35(abs.) 0.0007(abs.) 0.0007(abs.)	Measurement by a reference spectrophotometer		
Y	0.3	to	100						
x	0.002	to	0.7						
y	0.002	to	0.8						
4	Surface colour, colorimetric coordinates							818-MP-C802	12
	Spectrophotometers, colorimeters				8°/t, 8°/d, 0°/45	0.35(abs.) 0.0005(abs.) 0.0005(abs.)	Comparison with a colorimetric standard		
	L	2	to	99					
	u'	0.002	to	0.6					
	v'	0.002	to	0.6					
	Colorimetric standard				8°/t, 8°/d, 0°/45	0.40(abs.) 0.0008(abs.)	Measurement by a reference spectrophotometer		
L	2	to	99						
u'	0.002	to	0.6						





Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
	v'	0.002	to 0.6		0.0008(abs.)			
5	Gloss / Gloss meters, gloss standards	0.1 GU	to 150 GU	20°, 60°, 85°	1.8 GU	ISO 2813	818-MP-C808	12
6*	Illumination / Light sources	5 lx	to 50,000 lx		2.2 %	Measurement by a reference photometer	818-MP-C801	12
	Illumination / Luxmeters	1 lx	to 50,000 lx		0.8 %	Comparison with a reference photometer	818-MP-C811	12
7*	Irradiance / colorimetric boxes	0.1 $\mu\text{W}\cdot\text{cm}^{-2}$	to 1,000 $\text{mW}\cdot\text{cm}^{-2}$	230 nm to 470 nm	5 %	Comparison with a reference photometer	818-MP-C801	12
8*	Replacement colour temperature / colorimetric (light) boxes	2,000 K	to 10,000 K		30K	Measurement by a reference spectrophotometer	818-MP-C801	12
9*	Perpendicular spectral transmission / Transmission spectrophotometers, standard filters	0.1	to 1	(200 ≤ λ < 380) nm	0.0012(abs.)	Comparison with a reference photometer	818-MP-C810	12
		0.001	to 0.1	(200 ≤ λ < 380) nm	0.0001(abs.)			
		0.6	to 1	(380 ≤ λ < 1,000) nm	0.0008(abs.)			
		0.3	to 0.6	(380 ≤ λ < 400) nm	0.0041(abs.)			
		0.3	to 0.6	(400 ≤ λ < 700) nm	0.00056(abs.)			
		0.3	to 0.6	(700 ≤ λ ≤ 1,000) nm	0.0017(abs.)			
		0.02	to 0.3	(380 ≤ λ < 400) nm	0.0015(abs.)			
		0.02	to 0.3	(400 ≤ λ ≤ 1,000) nm	0.00022(abs.)			
		0.001	to 0.02	(380 ≤ λ < 400) nm	0.0002(abs.)			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
		0.001	to 0.02	(400 ≤ λ ≤ 1,000) nm	0.00008(abs.)			
10*	Perpendicular spectral absorbance / Transmission spectrophotometers, standard filters	0.00	to 1.00 -	(200 ≤ λ < 380) nm	0.0005 to 0.0052(abs.)	Comparison with a reference photometer	818-MP-C810	12
		1.00	to 3.00	(200 ≤ λ < 380) nm	0.0004 to 0.046(abs.)			
		0.00	to 0.22	(380 ≤ λ < 1,000) nm	0.0003 to 0.0006(abs.)			
		0.22	to 0.52	(380 ≤ λ < 400) nm	0.0030 to 0.0060(abs.)			
		0.22	to 0.52	(400 ≤ λ < 700) nm	0.0004 to 0.0008(abs.)			
		0.22	to 0.52	(700 ≤ λ ≤ 1,000) nm	0.0012 to 0.0025(abs.)			
		0.52	to 1.70	(380 ≤ λ < 400) nm	0.0022 to 0.034(abs.)			
		0.52	to 1.70	(400 ≤ λ ≤ 1,000) nm	0.0003 to 0.0048(abs.)			
		1.70	to 3.00	(380 ≤ λ < 400) nm	0.0044 to 0.097(abs.)			
		1.70	to 3.00	(400 ≤ λ ≤ 1,000) nm	0.0017 to 0.036(abs.)			
11*	Wavelength λ / Transmission spectrophotometers	200 nm	to 1,700 nm		0.2 nm	Comparison with a standard filter	818-MP-C810	12
	Wavelength λ / Standard filters	200 nm	to 1,700 nm		0.2 nm	Measurement by a reference spectrophotometer	818-MP-C810	12
12	Transmission optical density / Optical densitometers	0	to 4.5		0.0038(abs.)	Comparison with an optical density standard	818-MP-C812	12
	Transmission optical density D / Optical density standards	0	to 4.5		0.0038(abs.)	Measurement by a reference densitometer	818-MP-C812	12



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
13	Optical power / Optical radiometers, fiber power meters	1 · 10 <sup>-9</sup> W	to 10 W	800 nm to 920 nm 920 nm to 960 nm 960 nm to 1,000 nm 1,000 nm to 1,580 nm 1,580 nm to 1,650 nm	0.40% 0.50% 0.45% 0.47% 0.60%	Comparison with a reference detector <sup>4</sup>	818-MP-C813	12
14	Optical attenuation / Attenuators	0 dB	to 65 dB	800 nm to 1,650 nm	0.052 dB (abs.)	Comparison with a reference attenuators	818-MP-C813	12
15	Linearity / Fiber power meters	0 dB	to 0.5 dB	Power level 0 dBm to -65 dBm 800 nm to 1,650 nm	0.004 dB	Comparison with a reference detector <sup>4</sup>	818-MP-C813	12
16	Wavelength / Fiber spectrum analyzers	800 nm	to 1,650 nm		4 · 10 <sup>-9</sup> nm	Comparison with a reference radiation source, spectrometer / wavemeter	818-MP-C813	12
17	Luminous intensity / Standard light sources	1 cd	to 20,000 cd		0.8 %	Measurement by a reference photometer	818-MP-C811	12
18	Brightness / Brightness meters	1 cd m <sup>-2</sup>	to 30,000 cd m <sup>-2</sup>		0.94 %	Primary realization of brightness / Comparison with a reference brightness meter	818-MP-C805	12
19	Luminous flux / Standard light sources	10 lm	to 20,000 lm		1.0 %	Comparison with a standard light source in the integration sphere or on a reference goniophotometer	818-MP-C807	12



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
20	Spectral irradiance / Spectroradiometers	0.65 mW m <sup>-2</sup> nm <sup>-1</sup>	to 300 mW m <sup>-2</sup> nm <sup>-1</sup>	300 nm to 400 nm 400 nm to 1,700 nm 1,700 nm to 2,500 nm	3.4 % 3.0 % 4.5 %	Comparison with a standard source of optical radiation	818-MP-C806	12
21	Spectral radiance / Spectroradiometers	1.12 mW sr <sup>-1</sup> m <sup>-2</sup> nm <sup>-1</sup> 1.50 mW sr <sup>-1</sup> m <sup>-2</sup> nm <sup>-1</sup>	to 10.00 mW sr <sup>-1</sup> m <sup>-2</sup> nm <sup>-1</sup> to 95.00 mW sr <sup>-1</sup> m <sup>-2</sup> nm <sup>-1</sup>	370 nm to 800 nm 800 nm to 1,000 nm 1,000 nm to 1,700 nm	3.2 % 3.6 % 3.0 %	Comparison with a standard source and standard of spectral reflectance	818-MP-C806	12
22	Wavelength λ / spectroradiometer	365 nm	to 923 nm		0.4 nm	Comparison with a standard source	818-MP-C806	12
23	Spectral integral parameters / Sources of optical radiation Replacement colour temperature T <sub>c</sub> Colour rendering index R <sub>a</sub> Light colour, colorimetric coordinates x y Light colour, colorimetric coordinates u' v'	2,000 K 1	to 10,000 K to 100		20K 1.2(abs.) 0.0025(abs.) 0.0020(abs.) 0.0017(abs.) 0.0015(abs.)	Measurement by a reference spectrophotometer	818-MP-C806	12



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range			Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit		max. unit					
	Spectral integral parameters / Spectrophotometers						Comparison with a standard source of optical radiation or a reference spectroradiometer	818-MP-C806	12
	Replacement colour temperature T <sub>c</sub>	2,000 K		10,000 K		20 K			
	Colour rendering index R <sub>a</sub>	1	to	100		0.7(abs.)			
	Light colour, colorimetric coordinates								
	x	0.002	to	0.7		0.0014(abs.)			
	y	0.002	to	0.8		0.0010(abs.)			
	Light colour, colorimetric coordinates								
	u'	0.002	to	0.6		0.0009(abs.)			
	v'	0.002	to	0.6		0.0006(abs.)			

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

<sup>4</sup> Expressed in dBm: P[dBm]=10.log(P[W]/0,001); uncertainty U[dB]=10.log(1/(1-U[-])).



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Time and frequency quantities

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
1*	Frequency / signal sources, frequency meters							Measurement by ref. counter, direct comparison with a reference standard alternatively using frequency dividers	113-MP-C007	1, 7
		0.01 Hz		to	3 GHz		$1 \cdot 10^{-11}$			
		3 GHz		to	18 GHz		$1 \cdot 10^{-11}$			
		18 GHz		to	46 GHz		3 Hz			1
2*	Period / signal sources, time interval meters							Measurement by ref. counter, direct comparison with a reference standard	113-MP-C007	1, 7
		5 ns		to	$10^5$ s		$1 \cdot 10^{-11}$			
3*	Time interval / signal sources, time interval meters	0 s		to	$10^5$ s		$(1.1 \cdot 10^{-9} + 1 \cdot 10^{-11})$ s	Measurement using a counter Measurement by an oscilloscope	113-MP-C007	1, 7
		0 s		to	10 s		$(10 \cdot 10^{-12} + 2 \cdot 10^{-3})$ s			
4*	Simple pulse counting / pulse sources, pulse counters							Measurement by ref. counter, direct comparison with a reference standard	113-MP-C007	1, 7
		0		to	$1 \cdot 10^7$	$f_{\max} = 50$ MHz	0			



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
5	FM frequency deviation / signal sources, modulation meters	0.2 kHz	to	40 kHz	$f_c=250 \text{ kHz to } 10 \text{ MHz}$ $f_{\text{mod}}=20 \text{ Hz to } 10 \text{ kHz}$ $\Delta f/ f_{\text{mod}}>0.2$	1.5 %	Measurement by ref. modulation meter, direct comparison with a reference standard	113-MP-C007	1	
					$\Delta f/ f_{\text{mod}}>1.2$	1%				
		0.25 kHz	to	400 kHz	$f_c=10 \text{ MHz to } 6.6 \text{ GHz}$ $f_{\text{mod}}=50 \text{ Hz to } 200 \text{ kHz}$ $\Delta f/ f_{\text{mod}}>0.2$	1.5 %				
					$\Delta f/ f_{\text{mod}}>0.45$	1%				
6	Time interval / mechanically operated stopwatch	0.1 s	to	35,999.99 s		16 ms	Direct comparison with a reference standard	113-MP-C013	1, 2, 7	
7	Relative frequency error of time base / stopwatch with LCD	$-1 \cdot 10^{-3}$	to	$1 \cdot 10^{-3}$		$3 \cdot 10^{-7}$	Frequency measurement – capacitive coupling to LCD	113-MP-C013	1, 2, 7	

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

**CMC for the field of measured quantity: Acoustic quantities and mechanical vibration**

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min. unit	max. unit					
1	Sound pressure level / Acoustic calibrators	60 dB	to 134 dB	re $20 \cdot 10^{-6}$ Pa	0.09 dB	Comparison with a standard microphone in relation to frequency and total distortion (ČSN EN 60942)	812-MP-C211	12
2	Microphone sensitivity / Laboratory standard microphones	-40 dB	to -24 dB	re $1 \text{ V} \cdot \text{Pa}^{-1}$	0.05 dB	Reciprocal calibration method according to nominal sensitivity of 1" standard microphone (ČSN EN 61094-1, ČSN EN 61094-2)	812-MP-C216	12

- <sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.
- <sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies
- <sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).





Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

CMC for the field of measured quantity: Physicochemical quantities

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
1*	Moisture of solids / relative moisture meters	4 %	to	50 %	Cereals, and oil seeds	0.25 %	Comparison with reference determination	511-MP-C001	6	
		0.001 %	to	20 %						Plastics
2*	Moisture / Absolute / relative moisture meters	4 %	to	110 %	Solids	0.31 %	Comparison with reference determination	511-MP-C003	6	
3*	Multi-parameter analyzers – relative moisture content of N-substances oil content Zeleny test	4 %	to	50 %		0.27 %	Comparison with reference determination	511-MP-C001	6	
		5 %	to	40 %		0.30 %				
		10 %	to	80 %		0.29 %				
		10 ml	to	75 ml		1.3 ml				
4	Refractive index / refractometers	1.3	to	1.7		9·10 <sup>-5</sup>	Comparison with reference determination	512-MP-C003	6	
5	Kinematic viscosity / efflux time	30 s	to	100 s	Efflux cup with a nozzle		Comparison with a calibration liquid	616-MP-C001	7	
					D4					0.91 s
					C3					0.83 s
					C4					0.72 s
					C5					0.56 s
					C6					0.84 s
A4	0.47 s									



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
6	Kinematic viscosity / capillary viscometer constant			0.001 mm <sup>2</sup> ·s <sup>-2</sup> 0.003 mm <sup>2</sup> ·s <sup>-2</sup> 0.01 mm <sup>2</sup> ·s <sup>-2</sup> 0.03 mm <sup>2</sup> ·s <sup>-2</sup> 0.1 mm <sup>2</sup> ·s <sup>-2</sup> 0.3 mm <sup>2</sup> ·s <sup>-2</sup> 1 mm <sup>2</sup> ·s <sup>-2</sup> 3 mm <sup>2</sup> ·s <sup>-2</sup> 10 mm <sup>2</sup> ·s <sup>-2</sup> 30 mm <sup>2</sup> ·s <sup>-2</sup>			1.8·10 <sup>-6</sup> mm <sup>2</sup> ·s <sup>-1</sup> 7.6·10 <sup>-6</sup> mm <sup>2</sup> ·s <sup>-1</sup> 2.9·10 <sup>-5</sup> mm <sup>2</sup> ·s <sup>-1</sup> 9.7·10 <sup>-5</sup> mm <sup>2</sup> ·s <sup>-1</sup> 3.5·10 <sup>-4</sup> mm <sup>2</sup> ·s <sup>-1</sup> 1.1·10 <sup>-3</sup> mm <sup>2</sup> ·s <sup>-1</sup> 3.9·10 <sup>-3</sup> mm <sup>2</sup> ·s <sup>-1</sup> 1.7·10 <sup>-2</sup> mm <sup>2</sup> ·s <sup>-1</sup> 5.0·10 <sup>-2</sup> mm <sup>2</sup> ·s <sup>-1</sup> 1.6·10 <sup>-1</sup> mm <sup>2</sup> ·s <sup>-1</sup>	Comparison with a standard viscometer	616-MP-C002	7
7	Kinematic viscosity / calibration liquids	0.6 mm <sup>2</sup> ·s <sup>-1</sup>	to	6 mm <sup>2</sup> ·s <sup>-1</sup>		0.21 %	Direct measurement using a standard viscometer	616-MP-C002	7	
		6 mm <sup>2</sup> ·s <sup>-1</sup>	to	60 mm <sup>2</sup> ·s <sup>-1</sup>		0.32 %				
		60 mm <sup>2</sup> ·s <sup>-1</sup>	to	600 mm <sup>2</sup> ·s <sup>-1</sup>		0.35 %				
		600 mm <sup>2</sup> ·s <sup>-1</sup>	to	6,000 mm <sup>2</sup> ·s <sup>-1</sup>		0.42 %				
		6,000 mm <sup>2</sup> ·s <sup>-1</sup>	to	30,000 mm <sup>2</sup> ·s <sup>-1</sup>		0.52 %				
8	Dynamic viscosity / calibration liquids	0.6 mPa·s	to	6 mPa·s		0.21 %	Direct measurement with standard viscometer and standard densimeter	616-MP-C002	7	
		6 mPa·s	to	60 mPa·s		0.32 %				
		60 mPa·s	to	600 mPa·s		0.35 %				
		600 mPa·s	to	6,000 mPa·s		0.42 %				
		6,000 mPa·s	to	30,000 mPa·s		0.52 %				



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Český metrologický institut  
CAB number 2202, CMI Calibration Laboratory  
Okružní 772/31, 638 00 Brno

Ord. number <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal range				Parameter(s) of the measurand	Lowest stated expanded measurement uncertainty <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Location
		min.	unit	max.	unit					
9	Dynamic viscosity / rotary viscometers	10 mPa·s	to	150 mPa·s		0.91 %	Comparison with a calibration liquid	616-MP-C003	7	
		150 mPa·s	to	400 mPa·s		0.92 %				
		400 mPa·s	to	1,300 mPa·s		1.1 %				
		1,300 mPa·s	to	30,000 mPa·s		1.4 %				
10	Liquid density / glass density meters	620 kg·m <sup>-3</sup>	to	1,850 kg·m <sup>-3</sup>		0.022 kg·m <sup>-3</sup>	Comparison with a standard density meter	616-MP-C004	7	
		0 % vol.	to	100 % vol.		0.019 % vol.				
		0 % wt.	to	90 % wt.		0.019 % wt.				
		10 kg·hl <sup>-1</sup>	to	30 kg·hl <sup>-1</sup>		0.019 kg·hl <sup>-1</sup>				
11	Conductometers	0.005 S·m <sup>-1</sup>	to	0.015 S·m <sup>-1</sup>		from 5.6 % to 0.64 %	Comparison with a standard conductometer	616-MP-C005	7	
		0.015 S·m <sup>-1</sup>	to	0.15 S·m <sup>-1</sup>		from 0.64 % to 0.19 %				
		0.15 S·m <sup>-1</sup>	to	1.5 S·m <sup>-1</sup>		from 0.19 % to 1.5 %				
		1.5 S·m <sup>-1</sup>	to	10 S·m <sup>-1</sup>		1.5 %				
12	Ethanol concentration / breath alcohol analyzers	0 mg/l	to	1,400 mg/l	Gas phase	from 0.006 mg/l to 0.028 mg/l	By dry gas	114-MP-C004, chap no. 5.3.1	1, 10	
13	Ethanol concentration / breath alcohol analyzers	0 mg/l	to	0.480 mg/l	Gas phase	from 0.008 mg/l from 0.013 mg/l	Simulation method	114-MP-C004, chap no. 5.3.2	1, 10	

<sup>1</sup> Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

<sup>2</sup> The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M a part of CMC and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %. If not stated otherwise, the uncertainty values stated without a unit are relative to the measured value. The uncertainty value stated herein is based on the best conditions achievable by the laboratory; the uncertainty value of a specific calibration may be higher depending on the conditions of such a calibration. For identical extreme values of adjacent ranges, the lower uncertainty value always applies.

<sup>3</sup> If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

"This document is an appendix to the certificate of accreditation. In case of any discrepancies between the English and Czech versions, the Czech version shall prevail, both for the certificate appendix and the certificate itself."

