# The Appendix is an integral part of Certificate of Accreditation No. 368/2022 of 14/07/2022

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

### EHSQ CONSULTING, s.r.o.

Calibration Laboratory Blatec 48, 783 75 Blatec

### CMC for the field of measured quantity: Length

Ord.	Calibrated quantity / Subject of calibration	Nominal range			Parameter(s) of the	Lowest expanded measurement	Calibration principle	Calibration procedure	Work-
number <sup>1</sup>		min. unit		max. unit	meas. quantity	uncertainty specified <sup>2</sup>	Canoration principle	identification <sup>3</sup>	place
1	Setting and check rings	3 mm	up to	6 mm		(9·L + 3.0) μm	Measurement on a length gauge	KPD01KN	
		6 mm	up to	300 mm		$(10 \cdot L + 0.8) \mu m$			
2	Steel parallels	0.5 mm	up to	100 mm		(5·L + 0.2) μm	Measurement on a parallel gauge block comparator	KPD02MK	
3	Cylindrical and slot gauges, measuring cylinders and setting		, .	600		(0.1	Measurement on a length gauge	KPD03KV	
	gauges	0 mm	up to	600 mm		(9·L + 0.7) μm			ļ
4	Snap gauges	3 mm	up to	6 mm		(10·L + 3.0) μm	Measurement on a length gauge or a profile projector	KPD04KT	
		6 mm	up to	300 mm		(15·L + 0.8) μm			-
5	Feeler gauges	0 mm		10 mm		0.7 μm	Measurement on a length gauge	KPD05SL	
6	Thread gauges	0 mm	up to	300 mm	male gauge	(10·L + 2.6) μm	Measurement on a length gauge	KPD06KZ	
		3 mm	up to	300 mm	ring	(10·L + 3.1) μm			
7	Thread-measuring wires	0.17 mm	up to	6.35 mm		0.5 μm	Measurement on a length gauge	KPD07DZ	
8	Slide gauges	0 mm	up to	2,000 mm		(20·L + 20) μm	Calibration by parallel gauge blocks	KPD11MP	
9	Micrometers	0 mm	up to	1,000 mm		(14·L + 1.3) μm	Calibration by parallel gauge blocks	KPD12MT	
10	Dial indicators	0 mm	up to	100 mm		(16·L + 0.8) μm	Measurement on a length gauge	KPD13UC	
11	Mechanical sliding depth gauges	0 mm	up to	500 mm		(15·L + 12) μm	Calibration by parallel gauge blocks	KPD14HP	
12	Mechanical height gauges	0 mm	up to	1,000 mm		(15·L + 1.4) μm	Calibration by parallel gauge blocks	KPD15VP	
13	Inside micrometer gauges	0 mm	up to	600 mm		$(15 \cdot L + 1.4) \mu m$	Measurement on a length gauge	KPD16OM	
14	Internal gauges	0 mm	up to	600 mm	two-contact	(15·L + 1.4) μm	Measurement on a length gauge	KPD17DT	
		3 mm	up to	200 mm	three-contact of	(17·L + 2.0) μm	Measurement by setting rings		
15	Pasameters	0 mm	up to	300 mm		8·L + 0.8) μm	Calibration by parallel gauge blocks	KPD18PM	

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Ord.	Calibrated quantity / Subject of calibration	Nominal range			Parameter(s) of the	Lowest expanded measurement	Calibration principle	Calibration procedure	Work-
number <sup>1</sup>		min. unit		max. unit	meas. quantity	uncertainty specified <sup>2</sup>	Canoration principle	identification <sup>3</sup>	place
16	Steel gauges – rigid, thin, flexible, tape	0 mm	up to	5,000 mm		0.15 mm	Comparison with a rigid steel gauge	KPD09OM	
17	Surface rules	0 mm	up to	1,000 mm		7 μm	Using parallel gauge blocks on a surface plate	KPD19PP	
18*	Surface plates	0 mm	up to	3,000 mm		$(1.2 \cdot M + 5.2) \mu m$	Measurement with an electronic level	KPD20PD	
19	Film thickness gauges	0 mm	up to	2 mm		9 μm	Measurement using sheets	KPD21SV	
20	Thread gauges, radius gauges, gauges, measuring jigs and templates	0 mm	up to	200 mm		(20·L + 4.0) μm	Measurement on a profile projector	KPU34MP	
21	Flat, trying and knife angles	0 mm	up to	630 mm		(15·M + 6.0) μm	Measurement of deviation from perpendicularity with a height gauge and dial gauge	KPU31UL	
22*	Length gauges, profile projectors, microscopes, devices with a linear measuring system	0 mm	up to	3,000 mm		(2·L + 0.2) μm	Measurement by a laser interferometer	KPD10LI	

- Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.
- The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M, 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 value measured. If the calibration is carried out outside the laboratory premises, the measurement uncertainty may be affected.
- 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 measured length in [m]
- M longest dimension [m]



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Calibration Laboratory Blatec 48, 783 75 Blatec

#### CMC for the field of measured quantity: Plane angle

Ord.	Calibrated quantity / Subject of calibration -	Non	ninal rai	nge	Parameter(s) of the meas.	Lowest expanded measurement uncertainty	Calibration principle	Calibration procedure	Work-
1		min. unit		max. unit	quantity	specified <sup>2</sup>		identification <sup>3</sup>	place
1	Plane angle meters	0 °	up to	360 °		2'	Using angle gauges and sine ruler	KPU32MU	
2	Levels	0 mm/m 0 mm/m	up to up to	2 mm/m 2 mm/m		$(3.5 \cdot \alpha + 5.2)  \mu \text{m/m}$ 0.2 mm/m	Using an electronic level Using a dial indicator	KPU33LV	
3	Thread gauges, radius gauges, gauges, measuring jigs and templates	0 °	up to	360 °		4′	Measurement on a profile projector	KPU34MP	
4*	Rotary angle sensors and torque tools	0 °	up to	360 °		0.2°	Comparison with a standard rotary angle sensor	KPU32MU	

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- The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M, 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 value measured. If the calibration is carried out outside the laboratory premises, the measurement uncertainty may be affected.
- 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).
- α angle in mm/m



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Calibration Laboratory Blatec 48, 783 75 Blatec

### CMC for the field of measured quantity: Mechanical motion

Ord. num- ber <sup>1</sup>	Calibrated quantity / Subject of calibration	N	ominal r	ange	Parameter(s) of the meas. quantity	Lowest expanded	Calibration principle	Calibration procedure identification	
		min. unit		max. unit		measurement uncertainty specified <sup>2</sup>			Work- place
*	Acceleration of linear harmonic mechanical vibrations / vibration calibrators, vibrometers, vibration systems	0.1 m·s <sup>-2</sup>	up to	500 m·s⁻²	3 Hz to 10 kHz	1 %	Measurement or comparison on a standard calibration device	KPV01VZ	
		1 mV	up to	7 V	3 Hz to 10 kHz	1 %	By simulated electrical signal		
2*	Frequency of mechanical linear motion	3 Hz	up to	10 kHz	0.1 to 500 m·s <sup>-2</sup>	1 %	Measurement or comparison on a standard calibration device	KPV01VZ	
3*	Sensitivity of vibration sensors (acceleration, speed, deviation)	0.01 pC / m·s <sup>-2</sup> 0.01 mV / m·s <sup>-2</sup>	up to	1,000 pC / m·s <sup>-2</sup> 10,000 mV / m·s <sup>-2</sup>	3 Hz to 10 kHz 3 Hz to 10 kHz	1 % 1 %	Measurement on a standard calibration device	KPV01VZ	

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

<sup>&</sup>lt;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).



The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02 M, 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 value measured. If the calibration is carried out outside the laboratory premises, the measurement uncertainty may be affected.

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#### CMC for the field of measured quantity: Force - moment of force

Ord. num- ber <sup>1</sup>	Calibrated quantity / Subject of calibration	Nominal	range max. unit	Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified <sup>2</sup>	Calibration principle	Calibration procedure identification <sup>3</sup>	Work- place
					specified			
1	Torque wrenches and screwdrivers	0.2 Nm up to	1,000 Nm		0.7 %	Comparison with a standard torque sensor	KPM41KM (ČSN EN ISO 6789-2)	
2	Torque sensors and calibration devices	0.1 Nm up to	100 Nm		0.2 %	Measurement by torque arms and weights	KPM42SM (ČSN EN ISO 6789-2)	
		20 Nm up to	1,000 Nm		0.2 %	Comparison with reference torque wrenches		
3*	Tighteners and tightening devices	0.2 Nm up to	75 Nm		1.2 %	Comparison with a standard torque sensor	KPM43UM	
4	Load cells, dynamometres	0 N up to	200 N	tension, pressure	0,1 % + 1 mN		KPS01SL (ČSN EN ISO 376)	
5	Testing devices, presses, load cells					J	KPS01SL (ČSN EN ISO 376,	
		0 N up to	10 kN	tension, pressure	0,2 % + 0,01 N		ČSN EN ISO 7500-1)	

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

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The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02M, 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 value measured. If the calibration is carried out outside the laboratory premises, the measurement uncertainty may be affected.