

Federal Department of Economic Affairs, Education and Research EAER

State Secretariat for Economic Affairs SECO

Swiss Accreditation Service SAS

SCS Directory

Accreditation number: SCS 0006

International standard: ISO/IEC 17025:2017

Swiss standard: SN EN ISO/IEC 17025:2018

Kunz precision AG Riedtalstrasse 16 A 4800 Zofingen Head: Aaron Kunz / Markus Giger

Responsible for MS: Aaron Kunz / Markus Giger

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Initial accreditation: 10.07.1987

Current accreditation: 15.12.2023 to 14.12.2028

Scope of accreditation see: www.sas.admin.ch

(Accredited bodies)

Scope of accreditation as of 28.08.2025

Calibration laboratory for length and angles

Calibration and Measurement Capability (CMC)

Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± 1)	Remarks
LENGTH				
Machine tools	up to 40 m		0,5 μm + 3•10 ⁻⁶ • <i>L</i>	Positioning precision with laser interferometer
				On-site calibration
Length measuring instruments				
Horizontal instru- ments	up to 3 m		0,2 μm + 2•10 ⁻⁶ • <i>L</i>	Error of indication, with laser interferometer and gauge blocks
Height gauges	up to 1 m up to 3 m		0,2 μm + 2•10 ⁻⁶ •L	With step gauge With laser interferometer
				Also on-site calibration

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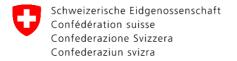
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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± 1)	Remarks
Electronic length indicator	up to 12 mm		0,3 μm + 2,5•10 ⁻⁶ •L	Comparison with reference length indicator
Setting gauge for probe constant	5 mm – 50 mm		0,4 µm	Using coordinate measuring machine; Measurement uncertainty according to ISO 15530-3
			0,5 μm	On-site calibration
Distance gauge sphere to plane Distance Diameter Roundness	0 mm – 100 mm up to 50 mm		0,6 μm 0,6 μm 0,5 μm	Using coordinate measuring machine; Measurement uncertainty according to ISO 15530-3
Hole plate				Using coordinate meas-
Distance	up to 700 mm x 600 mm		1,0 μm + 1,5•10 ⁻⁶ • <i>L</i>	uring machine; Measurement uncertainty according to ISO
Diameter	up to 50 mm		0,8 μm	15530-3
Coordinate measuring machines	up to 1 m		Uncertainty of the standards used:	Acceptance test using calibration artefacts according to ISO 10360-2
			Uncertainty of the standards used:	Also on-site calibration
Length measure- ment error			Gauge blocks: 0,05 µm + 0,5•10 ⁻⁶ • <i>L</i>	
Probing error			Reference sphere: 0,08 µm	
Measuring microscopes and projectors	up to 200 mm x 300 mm			Calibration with photo mask
2-D position deviation	Interval of division 10 mm		1,2 μm + 5•10 ⁻⁶ • <i>L</i>	Also on-site calibration
Gauge blocks	up to 3000 mm		0,3 µm + 1,6•10 ⁻⁶ •L	Length measuring ma-
Step gauges	up to 1200 mm		0,3 µm + 1,6•10 ⁻⁶ •L	chine with laser interfer- ometer and mechanical probing

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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± 1)	Remarks
Ball Bars	100 mm – 3000 mm		0,6 µm + 0,5•10 ⁻⁶ •L	
Line scales	Engineer scale up to 3000 mm		3 μm + 2•10 ⁻⁶ •L	Length measuring ma- chine with laser interfer- ometer and optical prob- ing
	Standard scale up to 3000 mm		5 μm + 0,8•10 ⁻⁶ • <i>L</i>	Calibration rod with cir- cular optical markers
	Glass scale up to 1000 mm		0,5 μm + 0,5•10 ⁻⁶ • <i>L</i>	With graduation marks or circular structures
Guideways				on-site calibration
Straightness	<i>L</i> ≤ 3 m		0,1 µm + 0,4•10 ⁻⁶ •L + 0,025•A	With straightness inter- ferometer
	<i>L</i> ≤ 30 m		0,5 µm + 0,4•10 ⁻⁶ •L + 0,025•A	L= measured length A = indicated value
	<i>L</i> ≤ 15 m		0,2 µm + (0,15+ B/2000) •10 ⁻⁶ •L	With angle interferometer or electronic levels
				B = base length in mm
Straightness standards				
Straight edges	up to 3 m			STRAIGHT-line method
Straightness			0,15 µm + 0,15•10 ⁻⁶ •L+ 0,02• <i>A</i>	L= measured length A = indicated value
Parallelism			0,2 µm + 0,25•10 ⁻⁶ •L+ 0,02• <i>A</i>	
Squareness standards				
Squareness	up to 1400 mm		0,5 µm + 0,5•10 ⁻⁶ •L+ 0,02•A	STRAIGHT-line method (specimen reclining)
	up to 1000 mm		0,2 µm + 0,2•10 ⁻⁶ •L+ 0,02•A	SQUARE-master method (specimen up- right)
	up to 500 mm		0,2 µm + 1,5•10 ⁻⁶ • <i>L</i> + 0,02• <i>A</i>	With rotatory table and STRAIGHT-line

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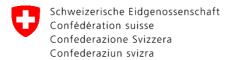
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Measured Quantity / Instrument or Gauge	Measurement Range	Measurement Conditions	Best Measurement Capability ± 1)	Remarks
				L= length A = indicated value
Surface plates				
Flatness	Minimal size 0,2 m x 0,2 m		0,5 μm + 0,5•10 ⁻⁶ • <i>L</i>	Electronic levels
				L= length
				Also on-site calibration
Flatness artefacts				
Flatness and paral- lelism	Surface > 1 cm ² up to 3000 mm		0,4 μm + 0,5•10 ⁻⁶ • <i>L</i>	TOPO-method
				L= measured length
ANGLE				
Angular deviation of guideways	up to 100"		0,2" + 2•10 ⁻³ •A + 0,05"•L	Angle interferometer
				A = value L = measured length in m
				Also on-site calibration
Dividing heads	Full circle			
Rotary tables / Position error of rotary axes	1° or arbitrary interval		1,2"	With rotary axis calibra- tor, or index table with angle interferometer or electronic level
	10° interval		0,5"	Optical polygon and autocollimator
				Also on-site calibration
Inclinometers	360° 1° interval		2,5"	With index table
Electronic levels / Bubble levels	± 1 ° arbitrary interval		0,2" + 2•10 ⁻³ •A	With inclination table and angle interferometer
Angle encoders	360° arbitrary interval		10"	With rotary table
Optical polygons	360° arbitrary interval		0,3"	With rotary table and autocollimator



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In case of contradictions in the language versions of the directories, the German version shall apply.

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