

Date

Reference

2021-04-28

2021/590

Scope of accreditation

Calibration laboratory according to SS-EN ISO/IEC 17025:2018

RISE Research Institutes of Sweden AB

Borås

Accreditation number

1002

Mätteknik

A002626-055

**Acoustics,
ultrasound and
vibration**

<i>Technology area</i>	<i>Parameter</i>	<i>Method</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Flex</i>	<i>Type of flex</i>	<i>Field</i>	<i>Note</i>
Power		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	10 kHz	0,8 dB		No		No	
		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	12,5 kHz	1,0 dB		No		No	
		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	125 - 160 Hz	0,7 dB		No		No	
		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	16 - 20 kHz	1,2 dB		No		No	
		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	200 - 400 Hz	0,6 dB		No		No	
		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	50 Hz	3 dB		No		No	
		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	500 Hz - 5 kHz	0,5 dB		No		No	
		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	6,3 kHz	0,6 dB		No		No	
		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	63 Hz	2 dB		No		No	
		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	8 kHz	0,7 dB		No		No	

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Power		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	80 - 100 Hz	0,9 dB		No		No	
		ISO 6926:2016 / ANSI S12.5:2016	Reference sound source	A-vägt	0,4 dB		No		No	

Electricity and Magnetism

<i>Technology area</i>	<i>Parameter</i>	<i>Method</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Flex</i>	<i>Type of flex</i>	<i>Field</i>	<i>Note</i>
Electric charge		Inhouse method; 4854:2011	Charge amplifier	0,5 pC	0,7 %		No		No	
		Inhouse method; 4854:2011	Charge amplifier	1 pC	0,4 %		No		No	
		Inhouse method; 4854:2011	Charge amplifier	2 pC	0,3 %		No		No	
		Inhouse method; 4854:2011	Charge amplifier	5-5000 pC	0,2 %		No		No	

Length related quantities

<i>Technology area</i>	<i>Parameter</i>	<i>Method</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Flex</i>	<i>Type of flex</i>	<i>Field</i>	<i>Note</i>
Length		Inhouse method; SP-metod 2339	Larger objects such as machines, fixtures, robots etc.	Dimension upp till 200 x 200 x 200 m	Down to 0,01 mm +2,5 ppm	Optical Portable Coordinate Measuring Machine (OPCMM)	Yes	2	Yes	
		ISO 10140-5:2010	Tapping machine	29 - 31 mm	0,03 mm		No		No	Annex E
	Angle	ISO 10140-5:2010	Tapping machine	89 - 91°	0,1°		No		No	Annex E
	Radie	ISO 10140-5:2010	Tapping machine	300 - 700 mm	20 mm		No		No	Annex E
		ISO 16283-2:2015	Tapping machine	29 - 31 mm	0,03 mm		No		No	Annex A
	Angle	ISO 16283-2:2015	Tapping machine	89 - 91°	0,1°		No		No	Annex A
Radie	ISO 16283-2:2015	Tapping machine	300 - 700 mm	20 mm		No		No	Annex A	

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Speed		ISO 10140-5:2010	Tapping machine	0,5 -1 m/s	0,0063 m/s		No		No	Annex E
		ISO 16283-2:2015	Tapping machine	0,5 -1 m/s	0,0063 m/s		No		No	Annex A

Mass related quantities

<i>Technology area</i>	<i>Parameter</i>	<i>Method</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Flex</i>	<i>Type of flex</i>	<i>Field</i>	<i>Note</i>
Density		Inhouse method; SP-metod 2319	Hydrometer	0,6 – 2 kg/dm ³	0,1 kg/m ³		Yes	2	No	
		Inhouse method; SP-metod 2931	Density meter	675 – 1250 kg/dm ³	0,4 kg/m ³		Yes	2	Yes	
Force		Inhouse method; M1301	Force measuring device	1 N - 250 N	0,01% of measured value		Yes	2	Yes	
		Inhouse method; M1301	Force measuring device	1 kN - 100 kN	0,005% of measured value		Yes	2	No	
		Inhouse method; M1301	Force measuring device	1 kN - 100 kN	0,1% of measured value		Yes	2	Yes	
		Inhouse method; M1301	Force measuring device	1 N - 250 N	0,01% of measured value		Yes	2	No	
		Inhouse method; M1301	Force measuring device	100 kN - 1000 kN	0,01% of measured value		Yes	2	No	
		Inhouse method; M1301	Force measuring device	100 kN - 1000 kN	0,1% of measured value		Yes	2	Yes	
		Inhouse method; M1301	Force measuring device	1000 kN - 6000 kN	0,05% of measured value		Yes	2	No	Pressure load only
		Inhouse method; M1301	Force measuring device	1000 kN - 6000 kN	0,1% of measured value		Yes	2	Yes	Pressure load only
	Inhouse method; M1301	Force measuring device	250 N - 1000 N	0,005% of measured value		Yes	2	No		

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Force		Inhouse method; M1301	Force measuring device	250 N - 1000 N	0,01% of measured value		Yes	2	Yes	
		Inhouse method; MTm 2843	Impact sensor	0,1-25 kN	0,1 %		Yes	2	No	
		ISO 376	Force measuring device	1 - 250 N	0,01% of measured value		Yes	2	No	
		ISO 376	Force measuring device	100 kN - 1000 kN	0,01% of measured value		Yes	2	No	
		ISO 376	Force measuring device	1000 kN - 6000 kN	0,05% of measured value		Yes	2	No	Pressure load only
		ISO 376	Force measuring device	250 N -100 kN	0,005% of measured value		Yes	2	No	
Mass		ISO 10140-5:2010	Tapping machine	490 - 510 g	1 g		No		No	Annex E
		ISO 16283-2:2015	Tapping machine	490 - 510 g	1 g		No		No	Annex A
Torque		Inhouse method; M1302	Torque measuring device	0,1 Nm - 1 Nm	0,0012 Nm		Yes	2	No	
		Inhouse method; M1302	Torque measuring device	0,1 Nm - 1 Nm	0,002 Nm		Yes	2	Yes	
		Inhouse method; M1302	Torque measuring device	1 Nm - 2500 Nm	1000 ppm		Yes	2	No	
		Inhouse method; M1302	Torque measuring device	1 Nm - 2500 Nm	2000 ppm		Yes	2	Yes	
Volume		Inhouse method; SP-metod 2048	Vertical cylindrical storage tanks	10 - 200 000 m3	0,05% of area		Yes	2	Yes	
		Inhouse method; SP-metod 2049	Tanks	10 - 200 000 m3	0,1% of total volume		Yes	2	Yes	Non cylindrical tanks

**Photometer
and radiometer**

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Optical Quantities		IEC 62129-2	Wavelength meter	600 – 1550 Nm (i intervall)	0,05 – 0,2 nm	Gas cell containing 13CH2	Yes	2	No	SP-metod 2535
		Inhouse method; SP-metod 1810	OTDR setup	1 ns – 1000 s	0,7 ns	Fixed delay time	Yes	2	No	
		Inhouse method; SP-metod 1811	Loss deviation	0 – 23 dB	2% (850 nm)		Yes	2	No	
		Inhouse method; SP-metod 1811	Loss deviation	0,23 dB	1% (1300 nm SM), 1,5% (1550 nm SM)		Yes	2	No	

Time and Frequency

<i>Technology area</i>	<i>Parameter</i>	<i>Method</i>	<i>Material</i>	<i>Measure</i>	<i>Best measuring ability (CMC) +/-</i>	<i>Technique</i>	<i>Flex</i>	<i>Type of flex</i>	<i>Field</i>	<i>Note</i>
Time		ISO 10140-5:2010	Tapping machine	50 - 1000 ms	0,3 ms		No		No	Annex E
		ISO 16283-2:2015	Tapping machine	50 - 1000 ms	0,3 ms		No		No	Annex A

Calibration and measurement capability, CMC, is the smallest uncertainty the calibration laboratory can provide, expressed as the expanded uncertainty having a coverage probability of approximately 95%.

Type of flexible scope

- 1: - Introduce new version of standard method and make editorial changes to non-standard method
- 2: - Introduce new version of standard method and make editorial changes to non-standard method - Introduce new version and modifications of non-standard method. The procedure must be equivalent