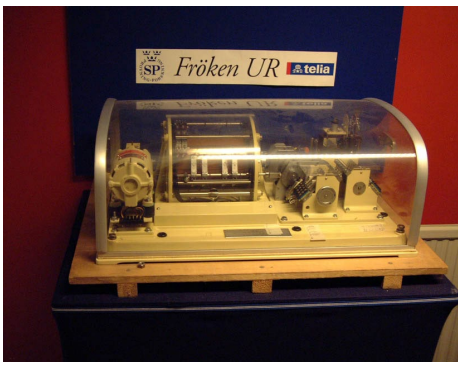
What units can we calibrate?

Unit	Measuring range	Measuring uncertainty	Example of instrument
Length	0,5 mm – 100 mm	± 0,07 µm – 0,15 µm	Gauge blocks, steel
	125 mm – 500 mm	± 0,46 µm – 0,70 µm	Gauge blocks, steel
	1 mm – 100 mm	± 1,5 µm	Cylindrical gauges
	1,5 mm – 250 mm	± 1,1 µm –1,8 µm	Cylindrical rings
	0,15 mm – 20 mm	± 1,5 µm	Measurement threads and measurement sticks
	25 mm – 500 mm	± 1,8 µm – 2,7 µm	Control measure
	0 mm – 150 mm	± 3 µm	Micrometers
	150 mm – 500 mm	± 9,0 µm – 16,0 µm	Micrometers
	6 mm – 100 mm	± 13,6 µm – 4,8 µm	3 point Micrometer
	0 mm – 300 mm	± 10,0 µm – 35,0 µm	Caliper
	300 mm – 1 000 mm	± 35,0 µm – 55,0 µm	Caliper
	0 mm – 100 mm	± 2,0 µm	Dial indicator
	0 mm – 1 000 mm	± 0,3 µm – 0,6 mm	Steel scale
	0 mm – 8 m	± 0,5 mm	Measuring tape
	0 mm – 30 m	± 1,3 mm	Measuring tape
	Up to 100 mm	± 5,0 µm	Thread gauges
	3 mm – 125 mm	± 4,7 µm	Thread rings
	Up to 5 000 mm	± 4,8 µm – 6,1 µm	Flat discs
Mass	1 g – 10 g	± 0,017 mg – ± 0,031 mg	Balances, Scales
	10 g – 100 g	± 0,031 mg – ± 0,08 mg	
	0,1 kg – 1 kg	± 0,08 mg – ± 0,8 mg	
	1 kg – 10 kg	± 0,8 mg – ± 8 mg	
	10 kg – 20 kg	± 8 mg – ± 9 mg	
	20 kg – 80 kg	± 0,6 g – ± 1,3 g	
	80 kg – 150 kg	± 2,4 g – ± 2,4 g	
	150 kg – 5 000 kg	± 0,5 kg – ± 1,0 kg	*
Temperature	-70 °C – -30 °C	± 0,5 °C	
	-30 °C – 0 °C	± 0,1 °C	Controllers, Indicators
	0 °C – 200 °C	± 0,05 °C	Temperature instruments
	200 °C – 300 °C	± 0,2 °C	
	300 °C – 400 °C	± 1,0 °C	
	20 °C – 200 °C	± 0,2 °C *applicable in the field*	
	200 °C – 250 °C	± 0,5 °C *applicable in the field*	
	250 °C – 400 °C	± 1,0 °C *applicable in the field*	
	400 °C – 1 000 °C	± 3,0 °C	*
Hardness			
Shore durometers	10 – 90° Sh	± 0,5 ° Sh	Shore durometers
IRHD hardness meters	10 – 100° IRH	± 0,5 ° IRH	IRHD hardness meters
Reference rubber block	10 – 95°	± 1°	Reference rubber block

**** non accredited method***

Swedens national kilogram no 40 from 1889.



The old retired speaking clock service is found at SP, Technical Research Institute of Sweden located in Borås where you can find the new speaking clock service as well.

Unit	Measuring range		Measuring uncertainty	Example of instrument
Force	0,1 N – 10 N	Tension & Compression	± 0,002 N	Load Cells, Tensile tester
	10 N – 50 N	Tension & Compression	± 0,007 N	
	50 N – 200 N	Tension & Compression	± 0,03 N	
	200 N – 500 N	Tension & Compression	± 0,07 N	
	500 N – 2000 N	Tension & Compression	± 0,8 N	
	2 kN – 10 kN	Tension & Compression	± 8 N	*Load cells larger than 2 kN can only*
	10 kN – 20 kN	Tension & Compression	± 15 N	*be calibrated within their own load frame,*
	20 kN – 30 kN	Tension & Compression	± 43 N	*typically carried out on-site.*
	30 kN – 50 kN	Tension & Compression	± 65 N	
	50 kN – 100 kN	Compression	± 100 N *	
Elongation	5 – 1 200 % på 1_0 25 mm		0,01 %	Extensometer
	5 – 1 200 % på 1_0 20 mm		0,02 %	
	10 – 1 200 % på 1_0 10 mm		0,06 %	
Speed	1 – 10 mm/min		0,06 mm/min	Tensile tester
	10 – 25 mm/min		0,13 mm/min	
	25 – 50 mm/min		0,25 mm/min	
	50 – 100 mm/min		0,50 mm/min	
	100 – 200 mm/min		1,0 mm/min	
	200 – 250 mm/min		1,3 mm/min	
	250 – 500 mm/min		2,5 mm/min	
Pressure	-10 kPa – -80 kPa		± 0,4 kPa	Pressure Gauge, Manometer
	-1kPa – -10 kPa		± 20 Pa	
	-100 Pa – -1 kPa		± 4 Pa	
	-3 Pa – -100 Pa		± 1,0 Pa	
	3 Pa – 100 Pa		± 0,5 Pa	
	100 Pa – 1 kPa		± 2 Pa	
	1 kPa – 10 kPa		± 10 Pa	
	10 kPa – 200 kPa		± 0,2 kPa	
	200 kPa – 8 MPa		± 5 kPa	
	8 MPa – 20 MPa		± 26 kPa	
	20 MPa – 40 MPa		± 28 kPa	
Time	1s – 16 h		± 0,21 s	Timer etc
Humidity	0 – 100 % RF		± 1,0 % RF *	Hygrometer
	(0 – 85 °C)			Climat Chambers

**** non accredited method***