

Certified calibration of force sensors

Calibration and testing of force sensors
according to the European standard

Testing and calibration

Quality and safety

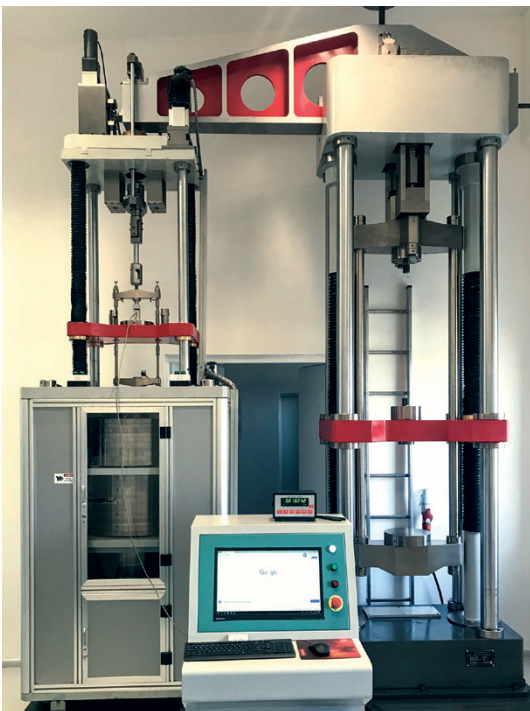


Calibration and testing – guarantors of quality and safety

To guarantee the high measurement accuracy and precision of force sensors, it is necessary to regularly inspect and calibrate them at defined intervals. Calibration safeguards the technical reliability of the sensors. It is the only way to guarantee the quality and safety of machines and devices in which force sensors are installed over the long term. Relevant rules and regulations for the calibration of machines and devices must also be observed. The calibration of the sensors is not subject to any legal regulations but is rather a measure designed to ensure the quality of the measurements. However, calibration is a standard process when it comes to product liability, approval testing or assessment processes.

We can calibrate your force measurement devices – no matter what type or manufacturer.

Deadweight machine with exchange stack

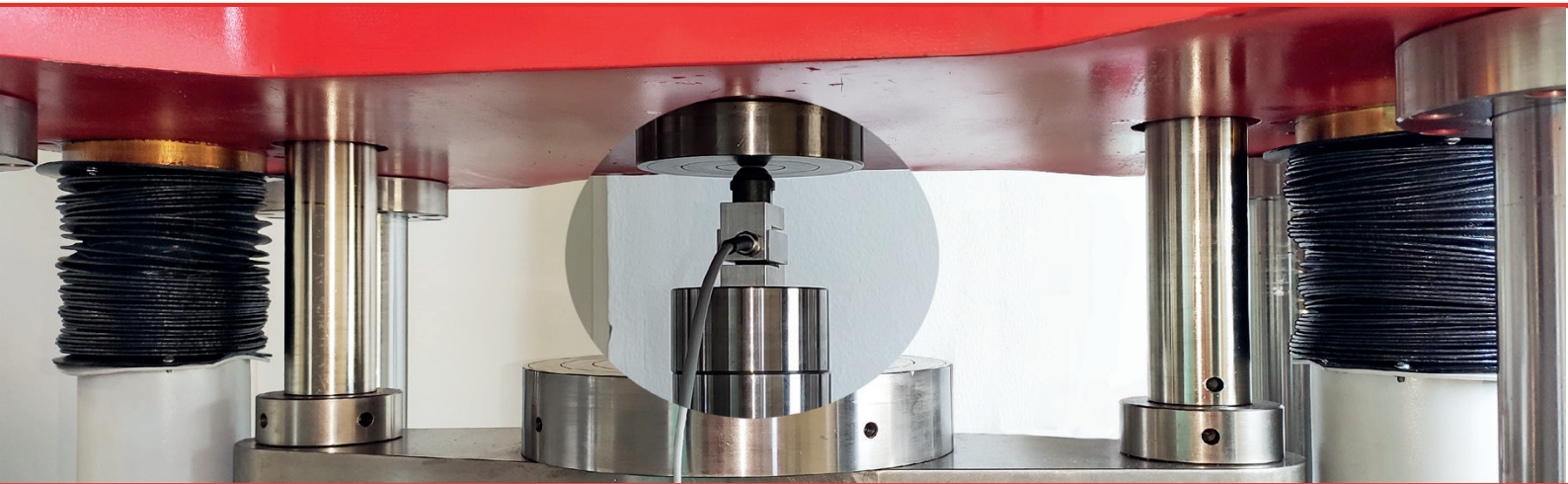


Your benefits

- Quality assurance
- Safeguards the reliability of your products
- Fulfills audit and safety requirements
- Improves customer satisfaction
- Optimizes your processes

Your advantages

- Accreditation according to the European standard ISO/IEC 17025: 2017
- Calibration of force sensors up to 200 kN
- ISO calibration/factory calibration
- Our own internationally renowned calibration certificate



Certified calibration according to ISO/IEC 17025: 2017

At the Inelta Group, we can offer calibration services for force sensors from various different fields of application. The testing laboratory operated by the company VYPRO is accredited for the mechanical variable force in accordance with the European standard ISO/IEC 17025: 2017 by the Slovakian accreditation body SNAS (Slovak National Accreditation Service). VYPRO is a company in the Inelta Group.

Services covered by our calibration certificate

- Testing whether a test object can be calibrated
- Completion of the calibration process
- Documentation using calibration or factory calibration certificates compliant with ISO 17025
- Traceability using the serial number
- Repair service for test objects
- Express service available on request

VYPRO s.r.o. Kábratska 1853 913 01 Trenčín		VYPRO		SNAS	
Calibration certificate No. 10.21- 0014					
Calibration object: Force sensor					
Manufacturer: ENVIPT	Date of receipt: 9.6.2021				
Sensor model: FS 50	Date of calibration: 9.6.2021				
Serial number: 20507	Date of issue: 24.9.2021				
Measurement range: (0 + 20) kN; (0 + 2) mN/V	Temperature in lab. Humidity in lab.: 20°C; 41%/2				
Verification interval: 6,0000 kN; 0,00000 mN/V	Accuracy class: recorded				
Customer: SNAS Bratislava					
Place of calibration: Kalibračské laboratórium VYPRO s.r.o., Kábratska 1853, 913 01 Trenčín					
Traceability: Štátny štandard zariadenia CS 9826-205, v.z. 1806/90					
Reference standard: TSJ 2: K 031.2/018/21					
Calibration method: Direct comparison with standard					
Results					
<small>Calibration results refer to the subject, location, and time of the calibration only.</small>					
Compression					
F_{pr} [kN]	S_{pr} [mN/V]	F_{pr} [kN]	δ [% M]	δ [% M.M.L]	
0,0000	0,000000	0,0000	0,10	0,07	
4,0000	0,000019	4,0000	0,10	0,07	
8,0000	0,000147	8,0000	0,10	0,07	
12,0000	0,000274	12,0000	0,10	0,07	
16,0000	0,000401	16,0000	0,10	0,07	
20,0000	0,000528	20,0000	0,10	0,07	
Tension					
F_{pr} [kN]	S_{pr} [mN/V]	F_{pr} [kN]	δ [% M]	δ [% M.M.L]	
0,0000	0,000000	0,0000	0,10	0,07	
4,0000	0,000095	4,0000	0,10	0,07	
8,0000	0,000191	8,0000	0,10	0,07	
12,0000	0,000287	12,0000	0,10	0,07	
16,0000	0,000383	16,0000	0,10	0,07	
20,0000	0,000479	20,0000	0,10	0,07	
F_{pr} Test point S_{pr} Average value (number of readings with increasing load = 3) F_{pr} Value of the force (calculated from the value S_{pr}) δ Relative error in % of reading value δ Expanded uncertainty in % of reading value <small>Max. expanded uncertainty is based on the combined standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. The standard measurement uncertainty was determined in accordance with EN-45574: 2013.</small>					

Mea- surement device	Measuring range	Uncertainty U(k = 2)	Method		Other speci- fications
			Principle	Identification	
Force sensor	(0.1–2) kN	0.1% RD ¹⁾ compression 0.1% RD ¹⁾ tension	Direct compar- ison with the standard	EN ISO 376 (PP force measur- ing devices)	in the laboratory
	(2–200) kN	0.07% RD ¹⁾ compression 0.07% RD ¹⁾ tension			

Expertise in force measurement technology

Your reliable partner for force sensors and force measurements

Due to our many years of experience in the technical design and production of our own force sensors, we have a broad range of expertise in the implementation of testing and calibration methods. In-depth knowledge of the relevant materials, the application of strain gauges and any temperature and environmental issues ensure that we can offer the expertise expected by industry. Our modern machines, systems and team of qualified engineers ensure that we are well equipped to deliver application-specific services related to force sensors. To verify our quality, we can provide testing and measurement reports carried out on our own products and services. We can test, inspect, and calibrate sensors from any manufacturer – don't hesitate to get in contact with us about your equipment!



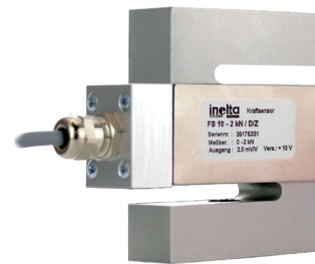
KMM20

Testing of force sensors and measurement devices

- Tension/compression force sensors
- Radial force sensors
- Bending beams / shearing beams
- Tension links
- Special force sensors

Our force sensor package

- Development and production of application-specific force sensors
- Repair and adjustment service
- Certified calibration service



FS10

Inelta Group

The Inelta Group has been developing, producing, and selling customer-specific sensor solutions for industrial applications for over 20 years. Customers from the industrial automation, mechanical engineering, hydraulics, medical technology and aerospace sectors place their trust in our expertise. We use our interdisciplinary expertise and many years of experience in sensor technology to work together with you to develop customized sensor solutions to meet your specific requirements.

Why not take advantage of our interdisciplinary expertise in the field of sensor technology.

We would be glad to advise you!



Contact

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