LABORTECH TESTING SYSTEMS

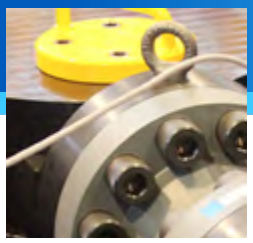
Labor Tech®

Every small detail matters...

reliable and complex services

Catalogue of products and services

made in the Czech Republic



ABOUT LABORTECH

We apply our many years of experience

LABORTECH is a purely Czech company that has been participating in the world market since 1995 with the development and production of testing machines, equipment and automated testing systems. Thanks to our own innovative product development, comprehensive product portfolio, and above all the superior service of our application technicians, we provide our customers with comprehensive services in the field of material testing in many industries such as the automotive, aerospace, metals, plastics, rubber, chemicals, constructions, biomechanics, as well as in research institutes and universities.

In addition to a comprehensive product portfolio, our goal is to provide our customers with exceptional advice, expertise and modern technical and technological solutions in the field of testing.

For decades, our company LABORTECH has been employing a team of qualified technicians and company specialists with experience in the field of mechanical testing of materials, who have successfully developed, supplied and applied hundreds of standard and special testing machines and equipment around the world.

LABORTECH uses the know-how of its experts to create 3D machine models, electrical projects, custom software and, last but not least, its own precise CNC machining to the last detail, because

Every detail matters...
That is our motto.

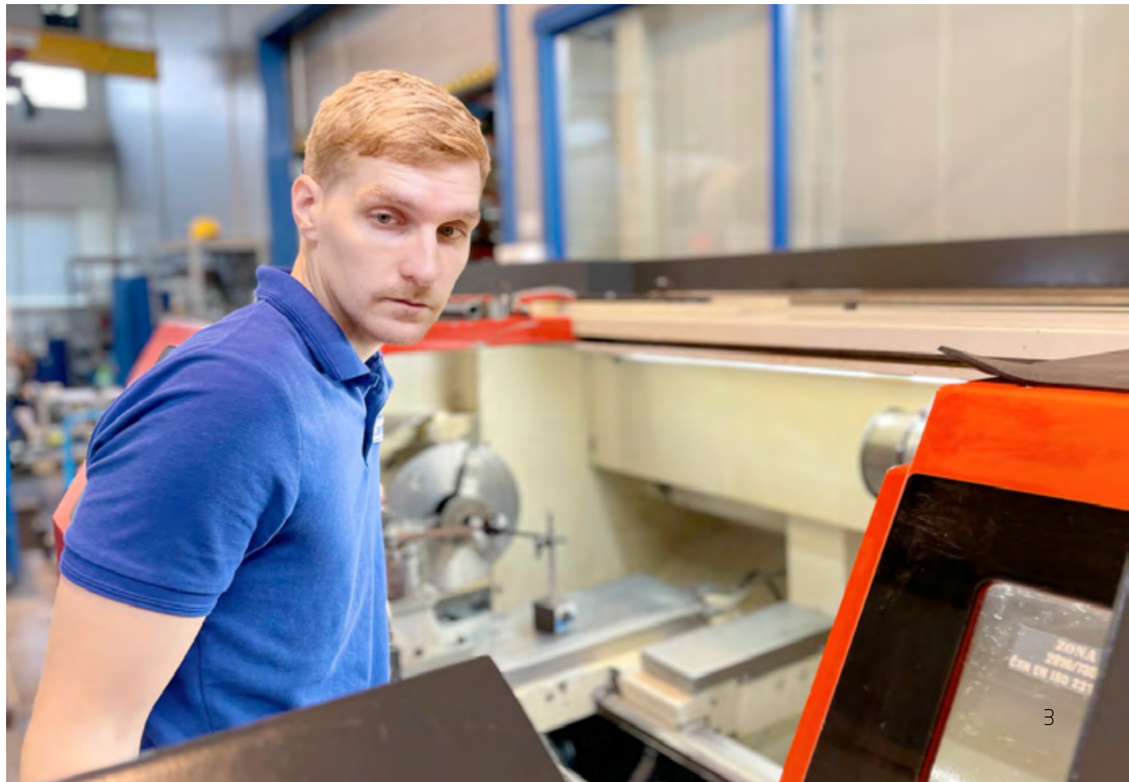
Labor Tech®

Every small detail matters...

Quality creates mutual trust

Our success is based on adherence to the highest quality standards of our products. Our testing machines and systems must unconditionally provide functional reliability and, above all, precision – something that is a matter of course for us. LABORTECH is ISO 9001 and ISO 14001 certified, operating a highly effective management system in accordance with internationally recognized standards to ensure absolute reliability and quality, even in its own processes and procedures.

Immediately following the production process, every single test device manufactured by us is 100% inspected, both in terms of functionality and metrological settings. We are committed to the highest quality standards, which is why our products are characterized by minimal maintenance, high reliability and trouble-free operation.



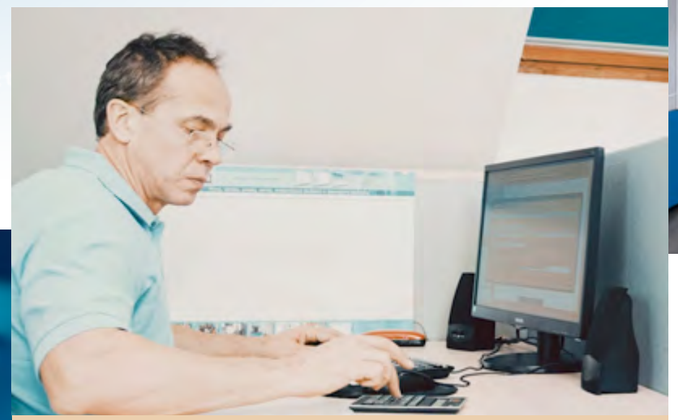
Our services create your efficiency

Whether in consulting, performing calibrations or manufacturing test equipment. All services offered by LABORTECH are focused on quick response. They are backed by a highly committed, customer-oriented team that is able to meet the complete customer requirements quickly and efficiently. Express delivery of complete spare parts, professional service and backup support help optimize the productivity of LABORTECH customers.

Our products and services

Production of machines and systems for mechanical testing of materials:

- Servo-hydraulic or electromechanical, static, and dynamic universal testing machines
- Pendulum impact testers and drop weight testers
- Testing machines for long-term CREEP tests
- Automated testing systems
- Torsion testing systems
- Hardness measurement systems
- Specific customer testing systems
- Test accessories – hydraulic units, temperature chambers, high-temperature furnaces, etc.
- Machines for testing building materials
- Modernization of existing testing machines in a modular way



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Every small detail matters...

Customer solutions and continuous development

The LABORTECH Development Department is an expert in the analysis of technical requirements for the production of individual special testing machines and equipment. Our specialists are able to penetrate into the issues of a particular customer and individually design and manufacture a machine with a high degree of quality and uniqueness. The more unusual the application is, the more it inspires us to find a new solution.

In the case of high-tech products, the development of new products often begins with details. A team of LABORTECH experts, with a high degree of identification with the corporate vision, and their personal dedication, ensures continuous improvement and expansion of the product portfolio. When developing our new products, we place great emphasis not only on quality, design, and affordability, but also on minimal environmental burden and EKODESIGN.

ELECTROMECHANICAL TESTING MACHINES AND SYSTEMS

Electromechanical universal testing machines from LABORTECH in single-column and double-column design are designed for static and low-cycle tensile, compression and bending tests, as well as shear and torsion tests up to a maximum test force of up to 2000 kN. LabTest testing machines and systems are designed for comprehensive testing of materials, components and products in accordance with EN, ISO, ASTM and GOST standards and other industry standards. Our test machines and systems include a wide range of accessories depending on the size of the test machine and the required test standard.

LabTest machines excel in technical processing, robustness, mechanical resistance, and accuracy. Combined with powerful measuring and control electronics with data collection up to 10 kHz and the Test&Motion test software, the machines achieve an excellent price/performance ratio. These characteristics set the direction for maximum flexibility in any type of test.

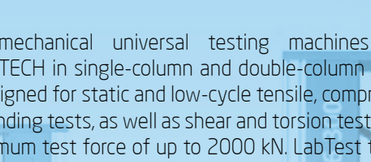
We will meet your requirements efficiently, precisely, and ecologically...

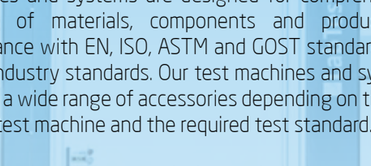
Single-column testing machines up to 5 kN

Vertical benchtop single-column design of LabTest E.1 machines for maximum forces of 5 kN. The integrated precise linear guides in the machine frame enable off--axis loading. The machines are produced in three height variants. Machine control is performed by measuring and control electronics with sampling frequency of 2.5 kHz and higher.

Type of tests – tensile, compression and bending tests of plastics, test for peeling of the test specimen at an angle, tensile and compression tests of springs, etc.

Industry – universal – textile, plastics, rubber, automotive, research institutions etc.





ČSN EN ISO 527-1,
ČSN EN ISO 6892-1,
EN 28510-1,
ISO 8510-1, EN1939,
EN 408 +A1,
EN ISO 17706
and other standards.

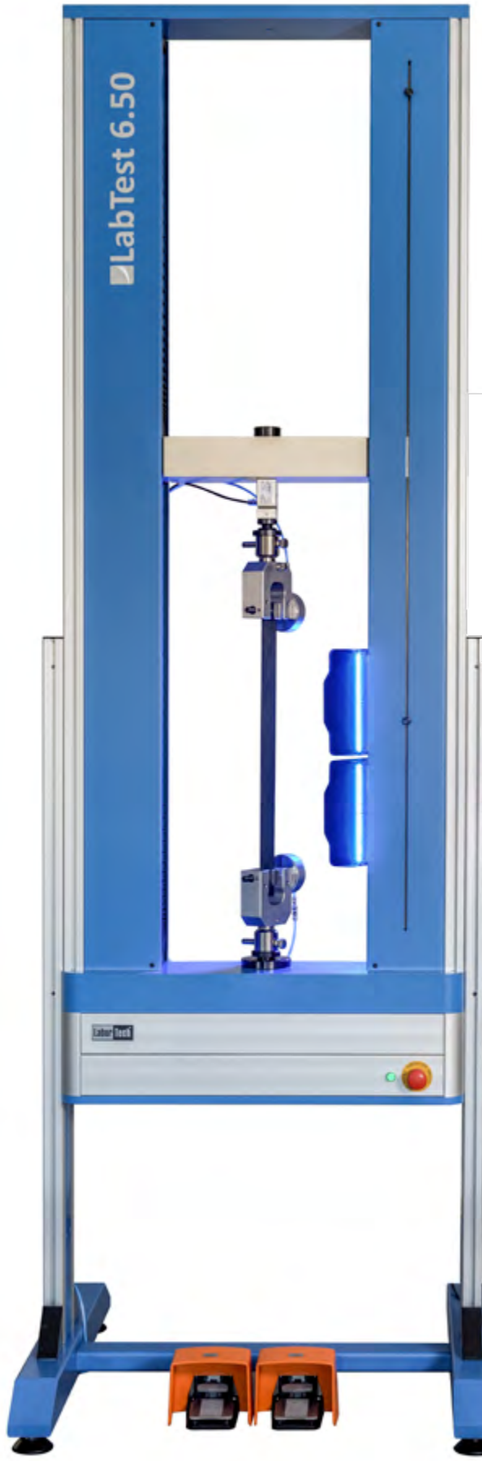
Universal testing machines up to 50 kN

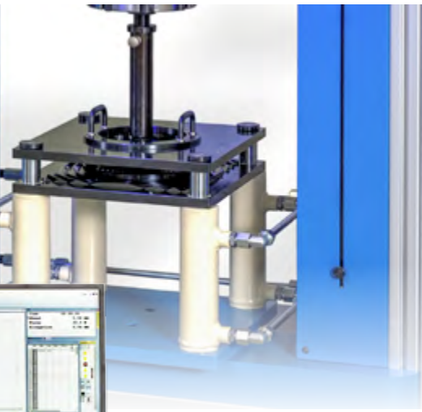
...would you like a table or stand, narrow or wide design...

Universal benchtop or rack design of LabTest E.2 machines in several length and width modifications for test forces of 3, 5, 10, 20, 30 and 50 kN with the possibility of using more working spaces. The integrated precise linear crossbar guide enables off-axis loading. Machine control is performed by measuring and control electronics with sampling frequency from 2.5 kHz and precise dynamic AC servo drive.

Type of tests – tensile, compressive, bending, and torsional tests on test specimens or whole products at room temperature or in the temperature range -196 °C to +2000 °C

Industry – universal – engineering, textile, packaging, food, construction, plastics, rubber, automotive industry, research institutions, etc.





Stand testing machines up to 600 kN

LabTest E.3 series universal testing machines in two-column and four-column stand versions up to 600 kN in several modifications for test forces of 100, 250, 400 and 600 kN with the possibility of using more working areas. The tried and tested machine concept combined with the flexible, rigid and modular design of the load frame guarantees the optimal solution for the most demanding test applications. Machine control is performed by measuring and control electronics with sampling frequency from 2.5 kHz and precise dynamic AC servo drive.

Type of tests – tensile, compressive, bending, and torsional tests on test specimens or whole products at room temperature or in the temperature range -196 °C to +2000 °C

Industry – universal – engineering, railway, aerospace, construction, plastics, rubber, automotive industry, research institutions, etc.

Everything is coordinated to the last detail...

High-capacity testing machines up to 2000 kN

LabTest E. 4 series high-capacity benchtop electromechanical testing machines designed for high force testing up to 2000 kN. The robust four-column support frame ensures excellent crossbar guidance and high rigidity of the machine. The test force is developed by ball screws with conical bevel gearboxes and AC servo drive with low noise and high dynamics. These characteristics are of fundamental importance for operator safety according to ES and, in combination with powerful measurement and control electronics and the Test&Motion+ software, provide highly accurate test data throughout the test.

Type of tests – tensile, compressive, and bending tests of metals and composites on test specimens or whole products at room and elevated temperatures

Industry – universal – engineering, railway, aerospace, construction and automotive industries, research institutions, etc.

Performance and precision are the attributes of the E.4 series...

ČSN EN ISO 6892-1,
ČSN EN ISO 6892-2,
ISO 15630, ISO 898,
EN 2002-002, ASTM E21,
and other standards.

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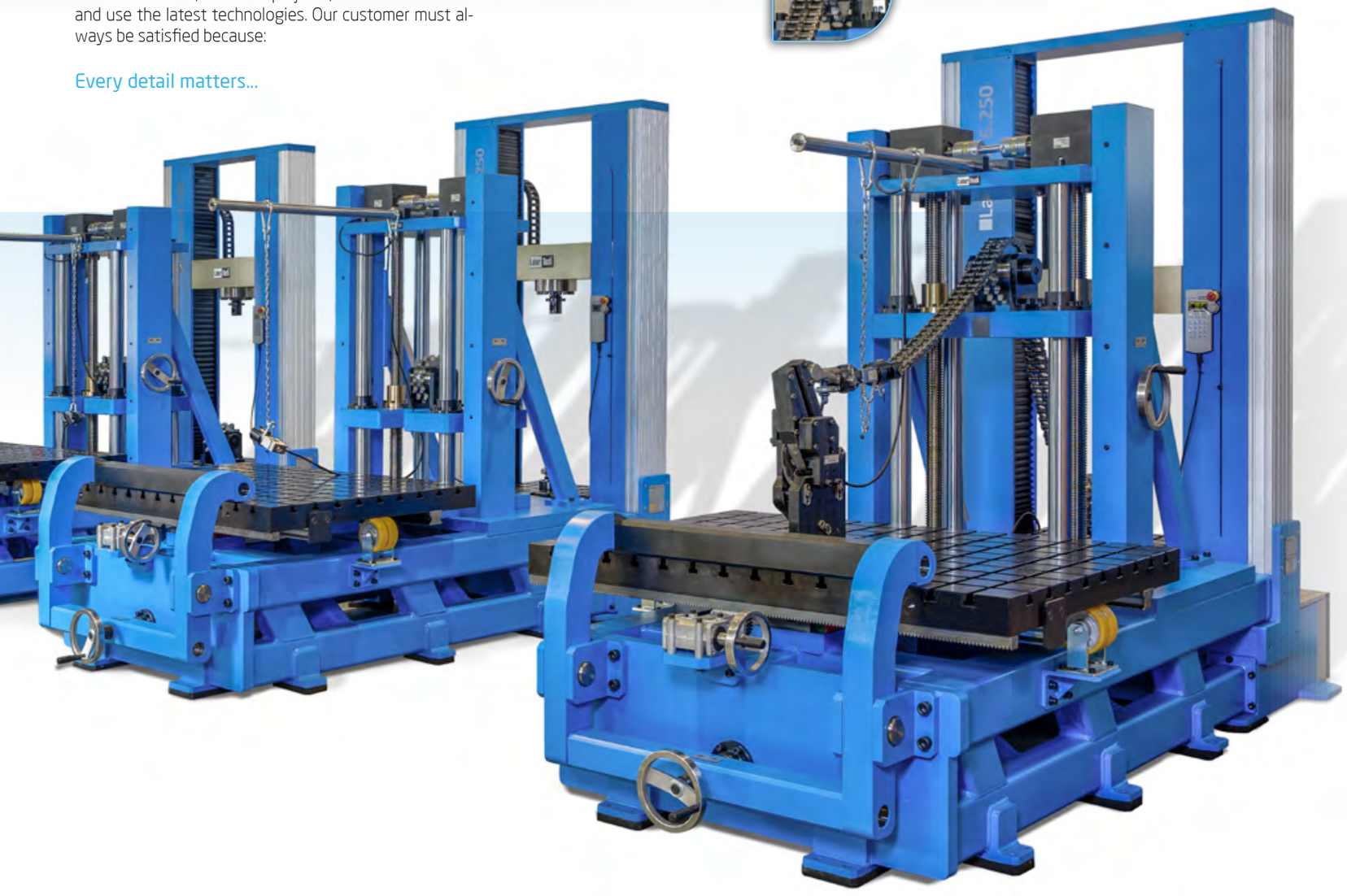
We are able to adapt to any challenge...

All our E-series testing machines allow the test frames to be modified and supplemented with various accessories according to the customer's requirements so that the customer can fully rely on their function even when testing atypical parts and components. LABORTECH uses the know-how of its experts, who have many years of experience, in customizing machines. We create 3D models of machines, electrical projects, customer software and use the latest technologies. Our customer must always be satisfied because:

Every detail matters...



Intuitive tensile, compression and bending test software you'll love...

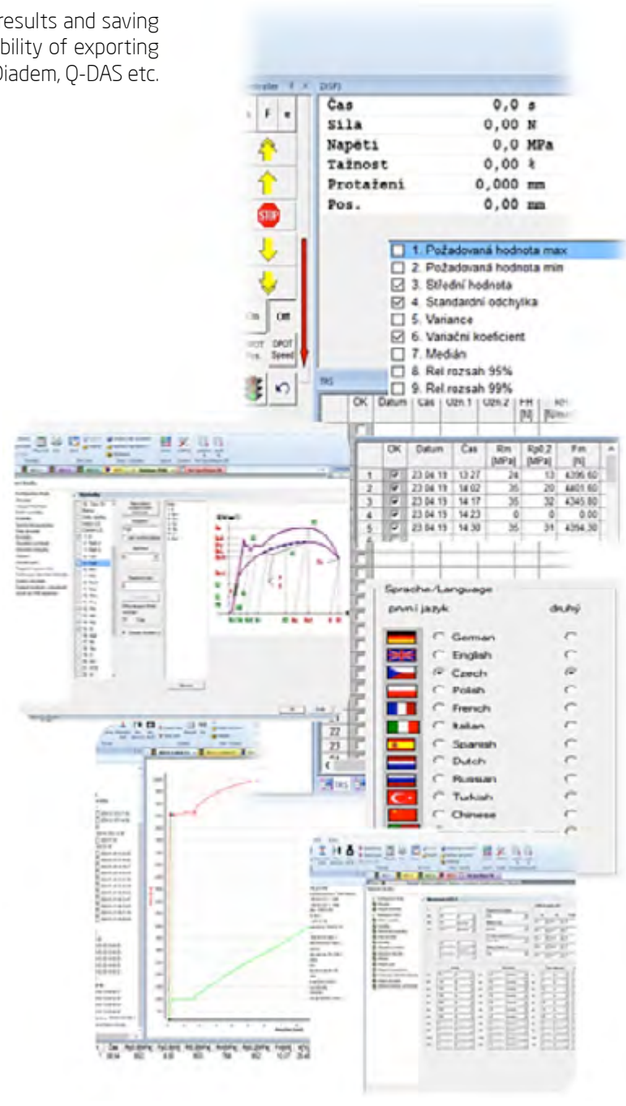
Intelligent, intuitive and powerful software designed to measure the mechanical properties of materials in static uniaxial or multi-axis test mode. Unlimited number of test methods with support for EN, ISO, DIN, ASTM and GOST standards, modular system of libraries designed for standardized tests, easy orientation in pre-selected definitions, etc.

Automatic or custom setting of test results and saving of results to database with the possibility of exporting data to ASCII, EXCEL, WORD, Eclipse, Diadem, Q-DAS etc.

Labor Tech®

Every small detail matters...

Software Test&Motion+



SERVO-HYDRAULIC TESTING MACHINES AND SYSTEMS

Servo-hydraulic high-capacity testing machines and systems from LABORTECH with a central hydraulic drive are designed for applications in tension, compression and bending. They are available in vertical or horizontal versions and in a range of sizes with a maximum test force up to 20 000 kN. Machines are designed for testing high-strength metals and alloys, composites, wood, concrete, steel ropes, textile webbing, as well as insulators or hanging hooks.

LabTest machines excel in technical processing, robust components with high-quality materials and have excellent frame rigidity, durability and mechanical resistance.

These characteristics are essential for operator safety according to ES and, in conjunction with powerful measuring and control electronics, provide highly accurate test data throughout the test.

For every mechanical test of a material or part, we have a solution...





ČSN EN ISO 6892-1, ČSN EN ISO 6892-2, ISO 15630, ISO898, EN 2002-002, ASTM E21, EN 15551, EN 15020 +A1, ČSN EN 380, ČSN EN 310, ČSN EN 818-1 +A1, ČSN EN 10092-2, ČSN EN 13906-1 and other standards.

Vertical servo-hydraulic test systems

The robust vertical design of LabTest H.2 series machines with fixed or freely adjustable crossbar height and freely adjustable clamping length of the working area thanks to a test cylinder stroke of up to 620 mm. The test system includes powerful compact hydraulic units of the HAS series with a low noise level of <62 dB.

Type of tests – tests of metallic materials, steel reinforcement – tensile and bending tests, railway applications, wood – determination of modulus of elasticity in tension and bending, testing of springs, testing of samples and products in temperature chambers and high-temperature furnaces in the range from – 196 °C to +1600 °C, etc.

Industry – engineering, railway, construction, automotive, aerospace and research institutions

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Hydraulic test presses

Test presses series H.4 in design up to 10 MN are designed for mechanical tests in compression and bending of concrete and stoneware samples, cubes, beams and other products. The basic equipment of the machine includes a central silent and economical hydraulic unit of the HAS series. Each machine includes a protective safety cover according to EC standards (EN ISO 14120:2015).

With our range
of test presses you can
try everything...

Type of tests – bending strength tests on cement, mortar and gypsum beams, mortar screeds and screeds, ceramic tiles and slabs, concrete, ceramic and clay roof tiles, refractory materials, concrete beams, concrete slabs, concrete curbs, concrete paving stones, natural stone paving stones, slabs, and elements of natural stone.

Industry – construction and
research institutions

Hydraulic units HAS series

Compact covered hydraulic units with minimal power consumption designed for static tests, with air cooling, low noise level <62 dB, system pressure of 280 or 350 bar and the possibility of self-control of hydraulic grips in any mode.

HALT 18 – Diagnostic SIEMENS – integrated control unit with system monitoring of statuses, pressures and service intervals via touch LCD.

Service with low environmental impact – components are located outside the oil tank, part of the tank is an oil sump.

Horizontal servo-hydraulic tensile test systems

LabTest series H.7 horizontal modular tensile test systems are designed for mechanical tensile testing of high-strength materials with abnormal clamping length up to 30 m and a maximum test force of 20 000 kN. The machines have a fixed or freely adjustable (mechanically or electrically) length of the working space and mechanical or hydraulic clamping of the sample. Each machine includes a protective safety cover according to EC standards (EN ISO 14120:2015) and a powerful compact hydraulic unit of the HAS series with a low noise level.

Type of tests – testing of structural ropes, steel wound loops, textile webbings and slings, threaded steel reinforcements or insulators

Industry – engineering, construction, textile, and energy industries

Clamping length and test forces have no limits...

Labor Tech®

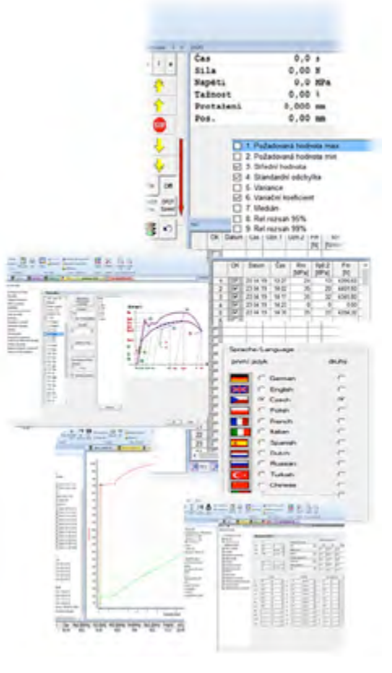
Every small detail matters...

Software Test&Motion+

Intelligent, intuitive, and powerful software designed to measure the mechanical properties of materials in static uniaxial or multi-axis test mode. Unlimited number of test methods with support for EN, ISO, DIN, ASTM and GOST standards, modular system of libraries designed for standardized tests, easy orientation in pre-selected definitions, etc.

Automatic or custom setting of test results and saving of results to database with the possibility of exporting data to ASCII, EXCEL, WORD, Eclipse, Diadem, Q-DAS etc.

Intuitive tensile, compression and bending test software you'll love...



DYNAMIC AND FATIGUE TESTING SYSTEMS

LABORTECH offers an extensive range of fully integrated dynamic and fatigue testing machines and systems up to 2 MN. Servo-hydraulic and electrodynamic machines or linear drives safely cover the entire portfolio of dynamic, static and fatigue tests up to 200 Hz. All modifications of dynamic test systems produced by us are designed so that the customer can fully rely on their function at high cycles, low-cycle fatigue tests, fatigue crack growth, biaxial and axial torsion test or fracture toughness, etc.

Excellent axial stiffness of the frame guaranteed alignment and mechanical resistance combined with powerful measuring and control electronics with high sampling frequency provide highly accurate test data throughout the test.

In short, we have everything under control...

Electrodynamic test systems

Vertical bench or rack design of the EP series for max. test forces up to 20 kN, featuring oil-free and noiseless drive technology with digital cooling feedback control. High dynamic performance at frequencies up to 200 Hz at full load.

Type of tests – fatigue and fracture mechanics testing, axial-torsional stress of test samples or whole products in the temperature range from -196 °C to +450 °C

Industry – engineering, automotive and pharmaceutical industries, healthcare including orthopedics and biomedicine, research institutions or testing of consumer electronics

We test accurately, reliably, and quickly with frequencies up to 200 Hz...

ASTM E466, ASTM E399, ASTM E606,
ASTM E647, ISO 12106, DIN 50100,
ČSN ISO 18489, ASTM F2193, ČSN EN ISO 14801,
ASTM F1798, ASTM F1717 and other standards

We can simulate the rocking of an ocean liner!

Perfect alignment visualization of the BENTROD dynamic system...

At the beginning is the correct selection of the test setup...

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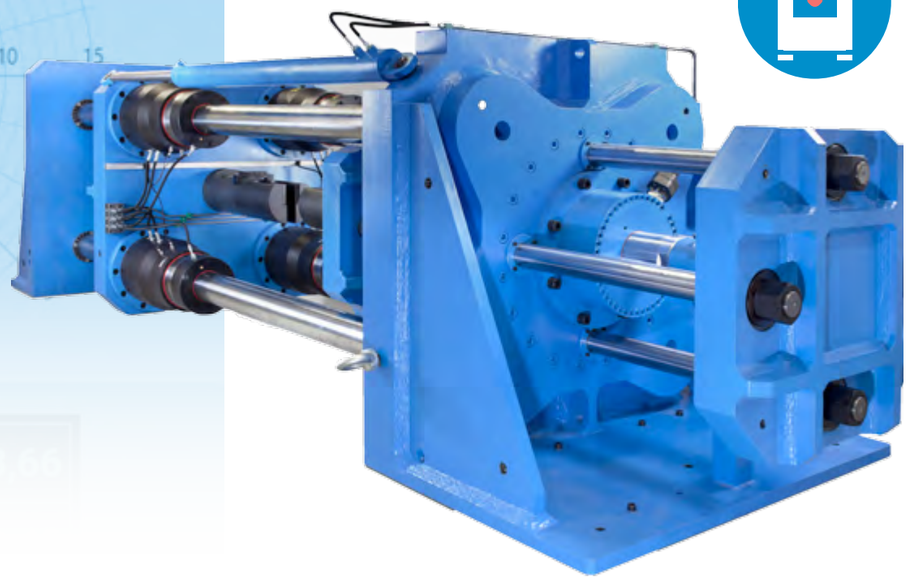
Every small detail matters...



Dynamic fatigue systems

H.5 series servohydraulic testing machines are available in various sizes with test forces from 25 kN to 5000 kN. They are characterized by high frame rigidity, mechanical resistance and coaxiality. The range of the machine depends on the dynamic stroke and frequency. It consists of a test frame, a servo hydraulic cylinder and a HAD series hydraulic hydraulic unit.

Type of tests – low and high cycle fatigue tests, fracture toughness, crack propagation, quasi-static testing at temperatures ranging from -196 °C to +450 °C

Industry – engineering, construction, automotive, nuclear and aerospace, research institutions

Rigidity, accuracy, alignment and durability are the parameters in the standard...

Horizontal dynamic systems

Robust horizontal design of the H.6 series machine with freely adjustable clamping length of the working area, operating in dynamic and static mode with a maximum test force of 4000 kN and a frequency of 5 Hz.

Type of tests and industry
static and dynamic horizontal testing of high--strength chains for ocean-going ships

BENTROD SYSTEM

Measuring and adjustment system designed for evaluation and optimization of concentric and edge correction of alignment (misalignment) of clamping grips for static and dynamic testing machines according to ASTM E1012, GES400 (NADCAP), GE450 and ISOTC 164SC5WG11.
Visualization of three levels using R, G, B points. Choice of static or dynamic adjustment etc.

A solution that can accurately and easily adjust the alignment of a dynamic system...

ČSN ISO 12106, ASTM E606, DIN 50100, ASTM E399, ASTM E647, ASTM E466, ČSN EN ISO 6892-1 and other standards.

MULTI-AXIS TEST SYSTEMS

Axial-torsion test systems

Robust vertical stand design of the H.8 series with extremely high lateral stiffness, resonance and mechanical resistance in dynamic mode for each machine test axis. Servo-hydraulic, electromechanical, or combined design. Just choose.

At the beginning, the correct selection of the test setup...

Type of tests – performing torsional oscillation or tensile/torsion tests of test specimens or whole products in the temperature range from -196 °C to +1600 °C

Industry – engineering, pharmaceuticals, construction and automotive industries, including academic institutions

Biaxial test systems

Robust vertical stand design of the H.11 series with extremely high lateral stiffness, resonant and mechanical resistance in dynamic mode for each machine test axis up to 250 kN and 50 Hz.
Integrated VIDEO extensometer AOX – can accurately measure, precisely control and perfectly analyze...

Type of tests – static and dynamic planar biaxial stress testing of materials by high cycle fatigue, crack growth of materials and environmental simulation on different types of materials

Industry – aerospace, automotive, nuclear and wind turbine blade development

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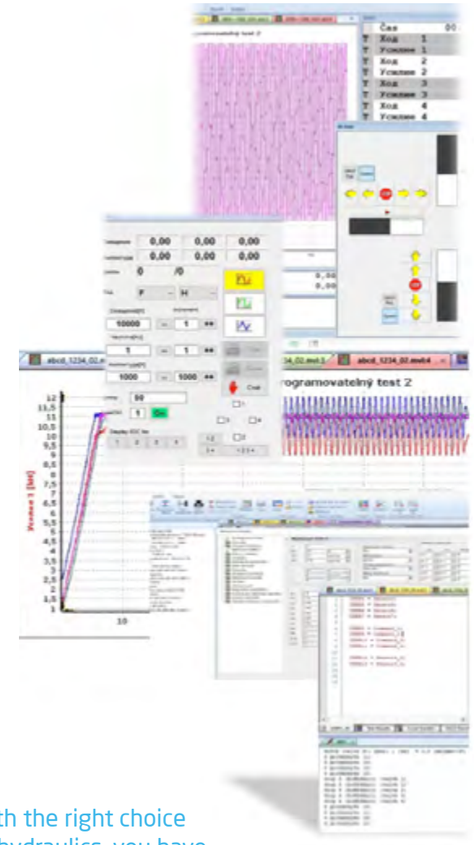
Software Test&Motion+-DYNPACK

Intelligent, intuitive, and powerful software designed to measure the mechanical properties of materials in dynamic uniaxial or multi-axis test mode.
Unlimited number of test methods with support for EN, ISO, DIN, ASTM and GOST standards, modular library system designed for standardized tests, easy orientation through pre-selected definitions, etc.
Automatic or custom setting of test results and saving of results to database with the possibility of exporting data to ASCII, EXCEL, WORD, Eclipse, Diadem, Q-DAS etc.
Dynamic modules – biaxial test, commands from a file, long-term storage of all data, etc.



You will not find a machine with higher rigidity in our portfolio...

With the right choice of hydraulics, you have the whole system under control...

Hydraulic units of the HAD series

Compact modular hydraulic pressure units with minimal power consumption designed for fatigue testing with minimum cooling water consumption, low noise level ⊠ 65 dB and system pressure of 210 or 280 bar.

HALT 18 – Diagnostic SIEMENS – integrated control unit with system monitoring of conditions, pressures, and service intervals via touch screen LCD.

Low environmental impact servicing – components are located outside the oil tank; the tank includes an oil sump.

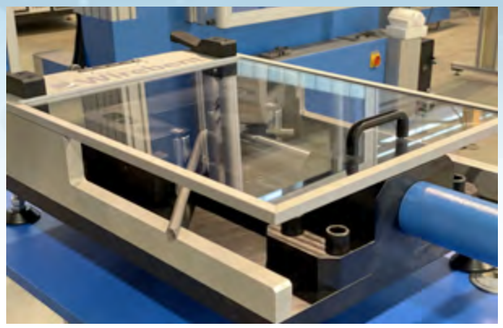
TORSION TEST SYSTEMS

KM - Torsion testing systems-LABORTECH

The specialty of LABORTECH is the development and production of test equipment for torsion tests. KM torsion test systems are available in several basic segments.

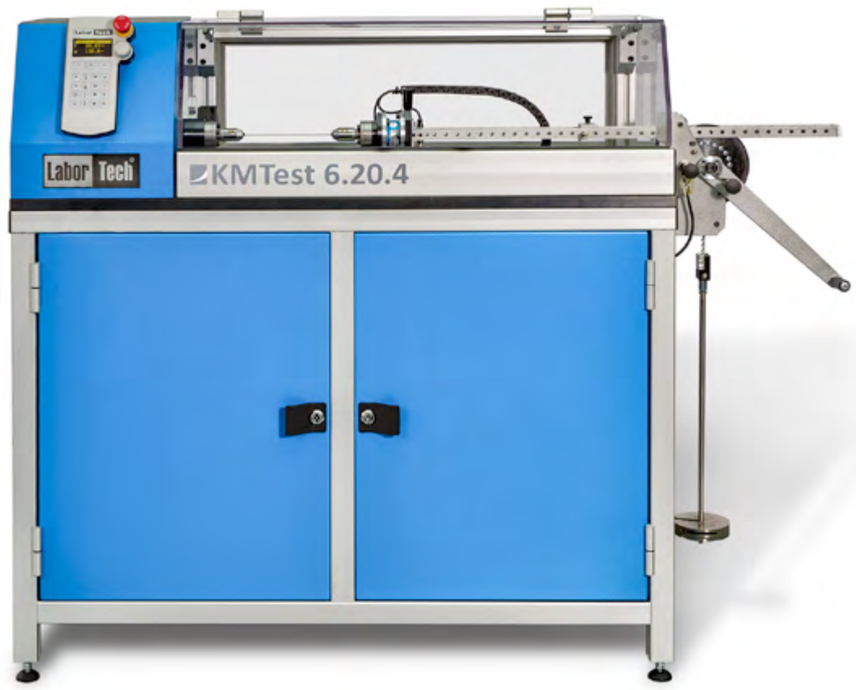
Vertical and horizontal angular or rotational torsion systems

All of these machines are used for torsion – torque testing at a given angle or fatigue rotation tests, for simulating samples, components and whole products in laboratories or industry, up to 10000 Nm. Excellent frame rigidity and mechanical resistance combined with powerful control electronics provides highly accurate test data and control for testing wires, fasteners, blades, couplings, converters, metal components, used in the engineering, automotive, aerospace, military or construction industries.



Rotational torsion sample preparation equipment - WIREBENT

We know how to do it. LABORTECH's patented WIREBENT system allows you to prepare test specimens easily, safely and reliably for rotational torsion tests up to 5000 Nm. This is our know-how.



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Torsion Test Software

FAROTEST – system software designed for formability under simple torsion conditions

System software designed for basic rotational testing on SIMATIC systems. Integration of standards EN ISO 7800, GOST 1545.
Verification of the suitability of samples of specified types shall be plastically deformed by a simple unidirectional torsion about its own axis in one direction. The number of revolutions shall be recorded and compared with the number prescribed for the product quality in question.

KMTest - intuitive software for torque, angle and fatigue torsion tests...

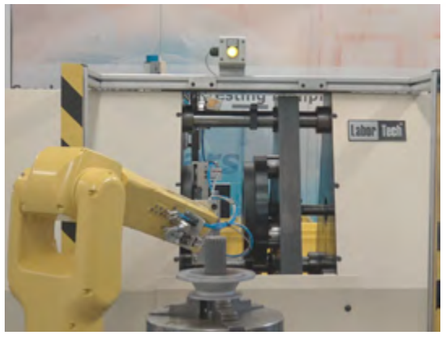
Intuitive software designed for torque and angle measurement or torsional fatigue tests.
Unlimited number of test methods with modular library system for the given tests.
Easy orientation in pre-selected definitions with graphical visualization of products.
Saving measured data into a database with the possibility of filtering.
Statistical evaluation of data and graphs, extensive selection of statistical methods including data export, etc.

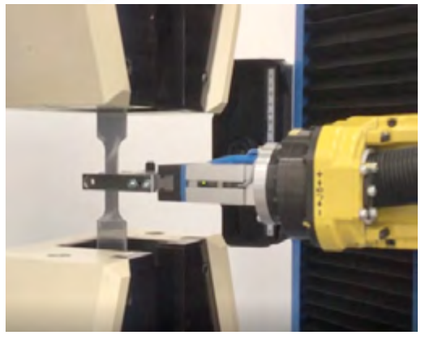
AUTOMATED TEST SYSTEMS

Thanks to our own development and many years of experience, we supply various industries with testing machines and automated lines that are able to provide both assembly and, most importantly, 100% control of mechanical properties of individual samples, parts, as well as entire final products such as test samples for tensile and compressive tests or notch toughness, pressure bottles, diaphragm springs, automotive lamellas, pressure discs, PKW couplings etc.

X-RUNNER robotic systems

LabTest X-RUNNER automated testing systems use robotic arms - robots to test metal, plastic or other specimens in tension, compression or bending as well as whole parts and products in an automated mode. Complying with EN, ISO and ASTM standards for a wide range of materials, these systems are manufactured in a modular design, guaranteeing high accuracy and speed with repeatable results for different types of tests..





Designed for Industry 4.0

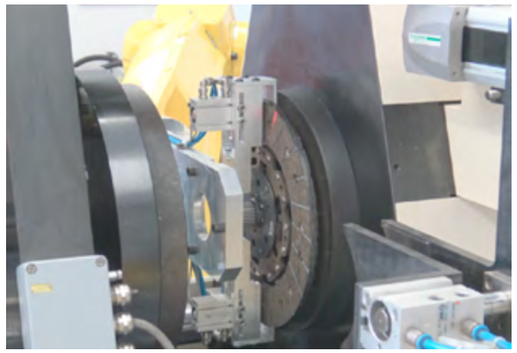
Labor Tech®

Every small detail matters...

X-SPRINTER positioning manipulators

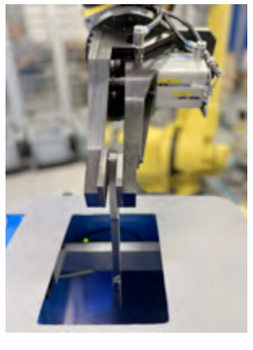
X-SPRINTER positioning manipulators from LABORTECH allow the handling of standardized samples and whole products. The modular system of positioning manipulators offers the possibility to perform the required tests quickly, efficiently and reproducibly. Customized solutions can be individually assembled from standardized components.

Reliability, quality, accuracy, repeatability and 100% service within 24 hours – theseare our commitments to you, our customers.



X-SLOB conveyor systems

We produce several types of X-SLOB conveyor systems in many variants for testing machines and equipment. The modular system allows you to supplement conveyors with various types of bases or prepare them for installation in production and assembly lines. We manufacture all types of conveyor systems „made to measure".



IMPACT TESTERS AND DROP WEIGHT TESTERS

The quality of the impact resistance of a sample or part is a measure of lifetime and durability. The impact resistance of materials or parts is one of the most important features that designers must consider when designing products. In these tests, the loading takes place very quickly, the so-called shock, where the impact value of the materials can change with the temperature. Precisely for the measurement of these parameters, LABORTECH offers testing systems of the CHK and DPFest series with excellent technical processing, robustness, mechanical resistance, accuracy and barrels, which faithfully simulate the actual conditions of impact tests according to EN, ISO, ASTM and GOST standards. Our impact test systems include a wide range of accessories depending on the required conditions, temperatures, or the required test standard. The IMPACTTest or DROPTest test software guarantees the correct evaluation of the impact test, including the calculation and display of all required parameters.

We break everything precisely, controlled, quickly and repeatedly...

Pendulum impact testers up to 50 J

Pendulum impact testers in the LabTest CHK.1 series have maximum rigidity, accuracy, safety, and variability. Changing hammers or supports is simple, as is operating the machine. LabTest pendulums are manufactured in several custom modifications: the simplest with manual hammer returns and control via LCD display, or the most sophisticated, where the test progress, including data or automatic selection of test type and impact speed, is selected on the LCD monitor included in the machine.

Type of tests – impact tests of plastics and composites by Charpy, Izod, impact tensile test, etc.

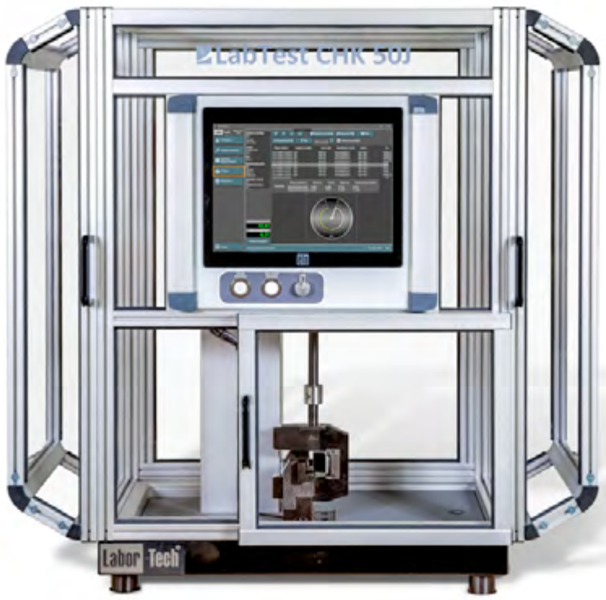
Industry – universal – plastics, rubber, automotive, research institutions, universities, etc.

ČSN EN ISO 179-1,
ASTM D 6110,
ČSN EN ISO 180,
ASTM D 256,
ASTM D 4812,
ČSN EN ISO 8256
metody A, B,
ASTM D 1822
and other standards.

Impact Test Software - IMPACTTest

Intelligent, intuitive, and powerful software designed for fast and rational impact tests. Unlimited number of test methods supported by EN, ISO, DIN, ASTM and GOST standards. Modular library system designed for standard tests, easy orientation in pre-selected definitions with visualization of supports, edges and mallets. Extensive calibration mode according to ČSN EN ISO 148-2 already in the standard.
Automatic or custom setting test result setup and saving of results to a database with the possibility of exporting data to ASCII, EXCEL, CSV – BASIS, MY SQL, MS SQL, etc.

Manual, automatic, or instrumented...



Pendulum impact testers up to 750 J

LabTest impact pendulum testers with nominal energy of 450 J and 750 J have precision, rigidity, safety, reliability, originality, and ergonomic design. With the centrally integrated machine control via the LCD TOUCH monitor, you have everything under control, from the measured data to the test itself. CHK impact testers are manufactured modularly in several modifications – basic, instrumented and with continuous angle adjustment.

Type of tests – impact tests of metals by Charpy, Izod, Brugger, impact tensile test, etc.

Industry – engineering, metallurgical, aerospace and nuclear industries, research institutions, universities, etc.

Cooling of notch toughness samples LABCool 21

Tempering of test specimens with liquid medium in the range of -80 °C to +20 °C in accordance with EN ISO 148-1, GOST 9457-78, ASTM E 23. Use of ecological refrigerant **R449A/R170.**

Optical Inspection of Sample Dimensions OPTOLab 55 II

Automatic, non-contact measurement of samples accurately, quickly and stably with color optical visualization in accordance with EN ISO 148-1, GOST 9457–78, ASTM E 23.

Labor Tech®

Every small detail matters...

VRE notching equipment

Formation of V and U notches in accordance with EN ISO 148-1, ASTM E 23, GOST 9457-78. High speed notch milling with automatic cycle, etc.

ČSN EN ISO 148-1,
ČSN EN ISO 148-2,
ČSN EN ISO 14556,
ČSN EN ISO 11343,
ASTM E23, BS131-1,
GOST 9454-78
and other standards.

Basic, instrumented, with angular adjustment

Low-capacity drop weight testers up to 3000 J

DPFest low-capacity drop weight testers with nominal energy up to 3000 J with a maximum impact speed of up to 20 m/s are designed for impact testing of materials, samples, parts of various shapes in a wide range of low and medium energies. Our DPFest devices are designed to test and simulate the behavior of materials and components at different speeds, energies, impact heights, collisions, accidental drops and repeated impacts. Drop-down devices are manufactured in several modifications and are designed so that in conjunction with an integrated LCD touch monitor with DROPTest-S software or a full-fledged PC with DROPTest-BASIC software, they fully meet customer requirements and testing standards according to EN, ISO, ASTM, GOST, BS or NF.

Type of tests – impact tests of plastics, plastic films, composites by Charpy, Izod, impact tensile test

Industry – development – plastics, rubber, automotive, research institutions, universities, etc.

We break the sample by free fall or accelerator...

ČSN EN ISO 6603, ČSN EN ISO 148-2,
ČSN EN ISO 14556, ČSN ISO 7764-2:2022,
ČSN EN ISO 179-2, EN ISO 180, ASTM D 256,
and other standards.

Instrumented impact tests

Impact tests at temperatures -196 °C to +1200 °C

Impact resistance testing of plastic pipes, etc.

High-capacity drop weight testers up to 120,000 J

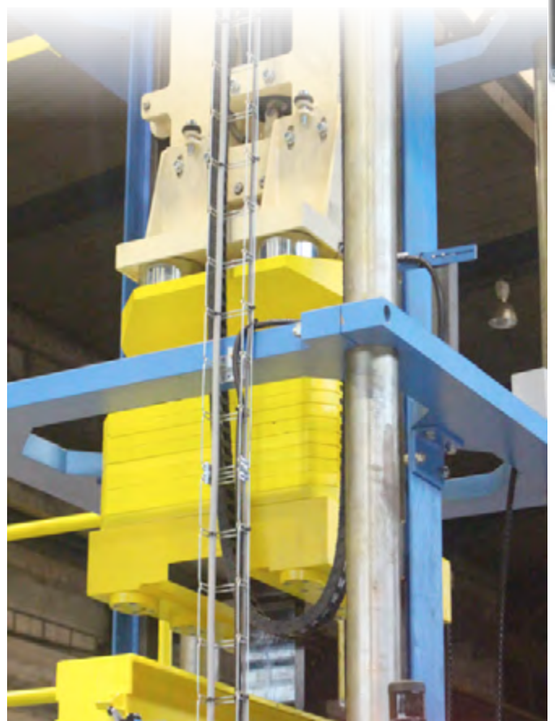
High-capacity drop testers are designed for testing materials in the field of high energies. The machine is controlled by a SIEMENS PLC with an integrated LCD touch display. Automatic loading of the sample into the test zone by the manipulator, breaking the sample within 10 s according to ASTM E436. Six high-performance shock absorbers...

Type of tests – a piece of metal materials by a falling weight

Industry – engineering, Railway and Metallurgical Industry

ČSN EN 10274,
ASTM E436, API RP 5L3
and other standards.

Measurement of bending impact and impact force...



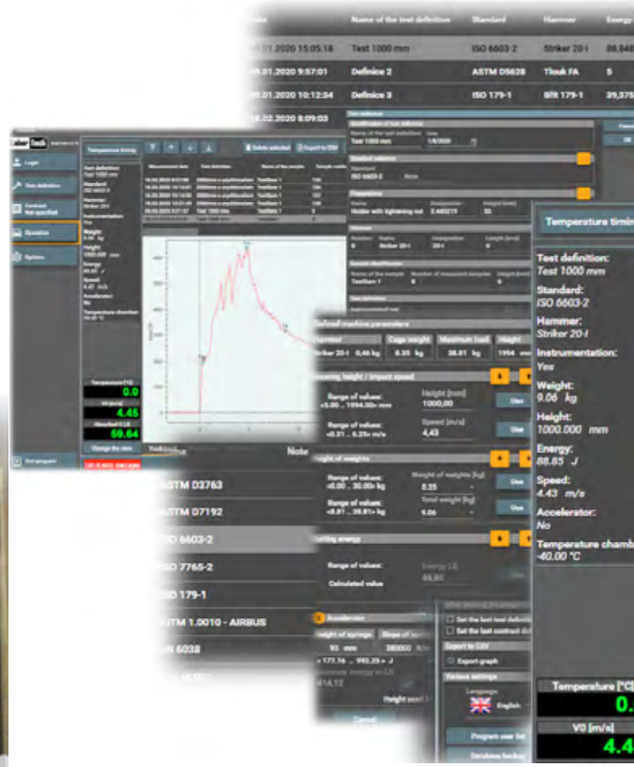
Impact Test Software - DROP Test

Intelligent, intuitive, and powerful software designed for fast and rational vertical and horizontal impact tests on drop weight testers. Unlimited number of test methods, modular library system designed for standardized tests, easy orientation in pre-selected definitions with visualization of jigs - supports and pestles. Digital display of all current values – energy, speed, drop height, temperature, etc. Freely adjustable drop option according to – height, energy, speed, etc.

Automatic or custom setting of test results and saving of results to database with the possibility of exporting data to ASCII, EXCEL, WORD, Eclipse, Diadem, Q-DAS etc.

Intuitive impact strength measurement software...

We also have custom solutions...



HARDNESS MEASUREMENT SYSTEMS – HARDNESS TESTERS

Clients who trust us know that they can rely on us. They know that we can offer them products – systems from the portfolio of LABORTECH or from our partner – AXIOTEK, which we represent. Our products do not compete, but on the contrary, they complement each other, and that is the purpose of mutual cooperation. Our priority is to listen to you, our customers, and design exclusive and unique hardness testers and automated industrial hardness systems...

AXIOTEK hardness testers

Manual or automatic hardness testers AXIOTEK have accuracy, reliability, safety and high productivity.
These hardness testers can be used to measure a wide range of samples and applications – metals, non-metals, plastics, rubber. Leading innovative mechanics, software and hardware technology provide advanced quality assurance solutions in testing rooms, research institutes or accredited laboratories with ISO 17025.

Our versatile hardness testers cover a wide range of test loads and measurement procedures and provide user convenience with a single hardness tester covering all scales.

ASTM E384, E92, ISO 6507, ISO 6508. ASTM E18, ASTM E10, ISO 6506, ISO 4545, ASTM E92, ISO 48-4 e, ASTM D2240, ISO 868, ISO 21509 and other standards.

Italian quality with 65 years of tradition

VICKERS
ROCKWELL,
BRINELL
KNOPP
SHORE

SHORE HARDNESS TESTERS

Shore hardness: A, B, C, D, DO, E, AO, 0, 00, 000 and 000-S.
Designed for measuring the hardness of extremely small samples, hollow samples or samples with a curved surface, such as O-rings, tires, rubber rollers, etc.

UNIVERSAL HARDNESS TESTERS – XM Manual or automatic

Load from 3 kgf to 3000 kgf.
Hardness tests: Vickers, Rockwell, Super Rockwell, Brinell.
Majestic stability for the most extreme productive environments.
The smartest technology for the most demanding lab...

ROCKWELL AXE HARDNESS TESTERS

Hardness tests: Rockwell, Super Rockwell, Brinell.
Vickers impression generation.
For high-volume production environments.
Intelligent test cycle automation.
Measurement of complex geometries.

VICKERS HARDNESS TESTERS - Manual or automatic

Load from 10 kgf to 62.5 kgf.
Multiple tests, single or dual camera system.
X, Y mechanical or motorized table.

LABORTECH automated hardness measurement systems

LABORTECH´s BRFest and ATB hardness testers are used in production quality control, input and output controls of materials and products in testing rooms, laboratories, and industrial environments. It is used to determine the hardness of materials according to ISO and ASTM standards. The equipment is eligible for use in quality systems according to ISO 9001:2016.

ATB SYSTEM – automatic hardness measurement in lines

Automatic ATB hardness measurement system. These systems are manufactured in several modifications depending on the method to be measured (Brinell or Vickers), how many samples and types will be tested within 24 hours, how many indentations will be performed on a given sample, what the clocking time will be, etc.
Control via LCD touch screen in industrial design.
Integrated sophisticated FESTTest testing software.

Labor Tech®

Every small detail matters...

BRFEST SYSTEM – automatic hardness measurement

Rigid construction and high stability of the machine.
Designed for heavy industrial operations.
Load up to 3000 kgf AC servo motor.
Control via LCD touch screen in industrial design.
Integrated sophisticated testing software FESTTest.

It is important for us to reiterate that we are not just suppliers, and we are not interested in selling an anonymous bulk product without guarantees.

ASTM E10,
ISO 6506,
ASTM E384,
E92, ISO 6507
and other standards.

MACHINES FOR LONG-TERM TESTING - CREEP

LABORTECH offers special testing machines for long--term CREEPTest tests designed to determine creep or stress relaxation in material. These machines allow tests to be carried out at a constant temperature up to +1600 °C, where deformation is recorded at specified time intervals. The constant load on these machines is generated by a lever mechanism and weight, a spring mechanism or a special low-speed AC drive with a long service life.
All CREEP test system modifications produced by us are designed so that the customer can fully rely on its function and accuracy under long-term constant loading (creep of material) by force or tension, including elongation and at a constant homogeneous temperature in a high-temperature furnace.

C.5 CREEP machines for quasi-dynamic cyclic testing and long-term testing

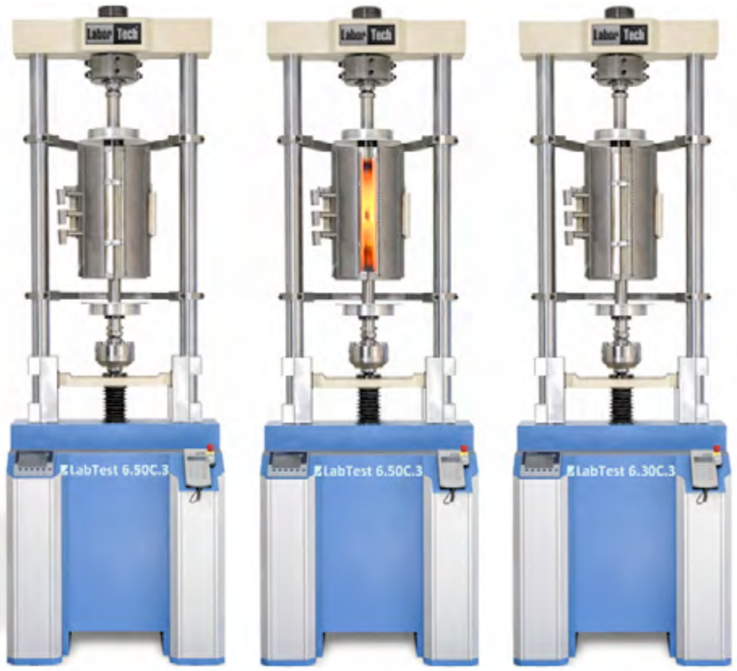
Electromechanical testing machines CREEP series C.5 designed up to 250 kN designed for quasi-dynamic cyclic testing and long-term tests. Constant precise loading with the possibility of cycling up to 2 Hz is ensured by means of a central load system. These machines are suitable for classical and advanced creep tests, stress relaxation in the material at a constant homogeneous temperature in a high-temperature furnace with reliable declaration of results with maximum accuracy of force control and axial alignment.

Type of tests – fatigue tests in the range over zero, Creep test with slow speeds, ductility and relaxation tests, classical creep tests, modelling of strain, tests of growth and crack widening, determination of hydrogen embrittlement, tests with continuous regulation of force and temperature

Industry – engineering, energy and nuclear industries, research institutions, universities, etc.

Guaranteed results for 10 000 hours of continuous loading

ISO 204, EN 202-005,
ASTM E2714, ASTME1457,
ASTM G129, ASTM F519,
ASTM D638, ISO 527
and other standards.



CREEP machines LabTest with lever or spring mechanism

LABORTECH offers testing machines for long-term tests where a constant load is induced by a lever mechanism, weights and gravitational force or by means of a spring and a control force sensor. The machines have automatic alignment of the lever mechanism to the horizontal position. The design of the machines is in accordanc with EN ISO 204, ASTM E 292 and ASTM E139, GOST 10145, and GOST 3248. The integrated intuitive LOTETest test software ensures machine control.

CREEP tests at elevated temperatures are present and future

Heat resistant materials: MAR 247, Allooy, Haynes, Luxal...

Labor Tech®

Every small detail matters...

Long-term test software

Intuitive and trouble-free use of CREEPTest and Test&Motion+ -CREEP test software designed for long-termtesting produced by LABORTECH guarantees reliable declaration of results even after 100,000 hours of continuous loading.

Special CREEP machines up to 500 kN

Vertical four-column design up to 500 kN maintaining a constant load by means of a central load mechanism consisting of a central ball screw and a special loading mechanism. Integrated temperature chamber with a temperature range of -60 °C to +80 °C with ±1 °C temperature control accuracy according to ISO 204 and ASTM E139.

Type of tests – performance of long-term low-cycle fatigue in quadrant I up to 2 Hz, determination of crack propagation, creep

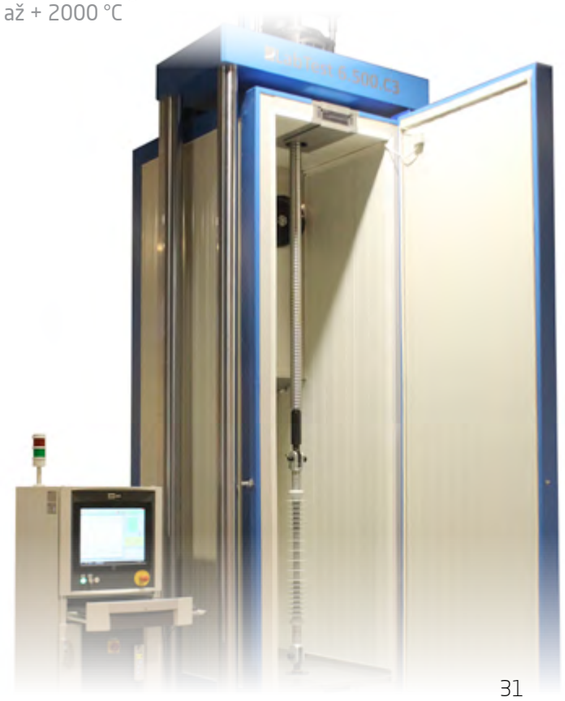
Industry – engineering, energy and nuclear industry

Types of tests

Creep Stress Relax CF, LCF CCCG, CFCG FCGR, TMF SSRT, HE Tensile, Compression Flexure

Temperature ranges

-90 až + 2000 °C



AUTOMOTIVE TESTING SYSTEMS

Thanks to our own development and many years of experience, our company supplies to AUTOMOTIVE INDUSTRY special test machines, which are designed for testing on individual parts as well as on whole finished products. These machines, which operate 7 days a week, 24 hours a day, place the highest demands not only on functionality, but also on fast operative service and the availability of spare parts.

All automotive test machines and test systems developed and manufactured by us are designed so that customers can fully rely on their function, reliability, accuracy, repeatability, environmental friendliness, quick changeover and low maintenance during high production volumes.

Design of automated lines from A to Z...

Line for automatic balancing of clutch pressure discs

Unloading and loading tray system for 80 parts.
Drilling correction with automatic metal chips extraction.
Test time 50 s.
BALANCERTest software with a special algorithm.

Automatic PKW lamella inspection lines

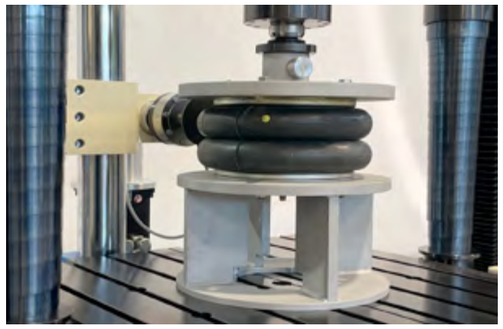
KMTest lamella torque measurement, ABC Control machine for cushioning, delaying and rotating the lamella, marking laser and VSTest balancing machine. Test time 50 s. ABCControl software for testing mechanical properties of lamella.

Automatic continuous line of hardening, sandblasting, optical and mechanical checks of PKW spring

Spring testing with a special algorithm.
Continuous optical inspection of springs with automatic GOOD and BAD resolution.
CDS – central database system of results from multiple lines, etc.

Car window seals
Air conditioning systems
Car seat fabrics
Car seat
Braking systems
Deep-drawing plates
Chassis parts
Head restraints
BOSCH pumps
Suspensions...

Designed for Industry 4.0



Labor Tech®

Every small detail matters...

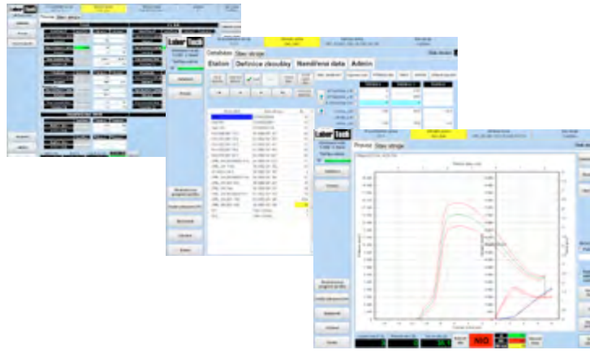
We test, 100% check, adjust, balance:

Torsion converters
Clutches
Lamellas
Pressure discs
Diaphragm springs
Wandlers
Two-state flywheels
Shock absorbers...

Special AUTOMOTIVE software

The intuitive and seamless use of our special AUTOMOTIVE test software guarantees reliable testing under the most demanding conditions with the possibility of further processing of data for statistical analysis.

Precisely, quickly, and clearly.



PKW clutch assembly line, 100% mechanical and optical inspection, coupling balancing and IO and NIO selection

Automatic clutch mounting – spring, pressure disc, etc. Optical inspection of clutch completeness. Measurement of clamping and breaking force, flatness, thumb throwing and adjustment. Balancing with riveting correction. Test time 35 s. Software BALANCERTest, EDHTest, EDHXtend.

SPECIFIC TESTING MACHINES AND SYSTEMS

The development department of LABORTECH is an expert in the analysis of technical requirements for the production of individual specific testing machines and systems. Using many years of company know-how, our specialists are able to penetrate into the issues of a particular customer and individually design and manufacture a machine with a high degree of quality and uniqueness using 3D models, electrical projects and customer software. The more unusual the application, the more it inspires us to find a new solution.

We have our development teams...

Testing multi-axis machine MCS-20

Determination of helix elongation number for copper and copper alloys. The MCS test machine determines the elongation in the wire phase for high-purity Cu-ETP1 grade copper. SIMATIC control and evaluation unit with LCD touch screen and MCSTest software.

ČSN EN 12893, ČSN EN 1977, GOST 28515

Industry – engineering, metallurgical and manufacturing

Other parameters:
Length of vertical axis 1300 mm, testing speed 20 mm/s, winding speed 50 mm/min

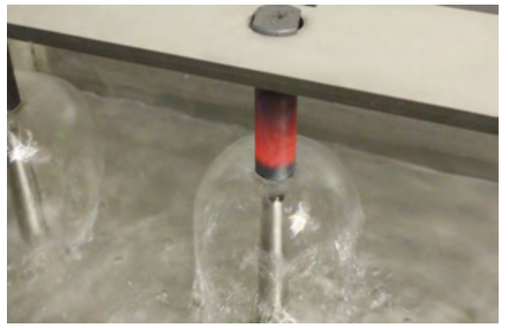
Sheet and strip testing machine SMB 200

Machine for determining the ability of metal sheets and strips of 3 mm thickness and less to deform plastically by alternating bending. The method can be used for aluminum and its alloys. SIMATIC control and evaluation unit with LCD touch screen and MBTest software.

Industry – Engineering and Metallurgical Industry

GOST 13813,
ČSN ISO 7799
ISO 7801

Other parameters:
Prestressing force 20 to 100 N
Sample dimensions 0,15 to 10 mm
Rotation angle 90° ±1°



LabTest MPT 1500-PA semi-automatic drawbar assembly workstation

Carousel-based system with four workstations - rod installation, test press for assembly up to 300 kN, test position with functional test up to 1500 kN, removal assembly position. The machine can be used to completely assemble and measure drawbar units for railcars using a touchscreen LCD monitor in conjunction with the MSVTest v.1 test software. The protection of the working area is monitored by a camera system from SICK.

ČSN EN 15566, AS 7524:2018

Industry -engineering and metallurgical industry

Other parameters:
3 positions, water temperature monitoring 20 ± 5 °C, outlet height of water stream 65 ± 10 mm, distance between inlet and hardened surface 12.5 ± 0.5 mm

Every small detail matters...

Customer solutions – uniqueness down to the last detail

Testing machine for determining hardenability according to Jomini

The test for hardenability according to this standard consists of heating a cylindrical test body, rapid hardening and measuring the hardness at specified points. The dimensions of the test pieces are 25 mm diameter and 100 mm length. SIMATIC control and evaluation unit with LCD touch screen and AQUATest software.

ČSN EN ISO 642, ASTM A255

Industry - engineering and metallurgical industry

Other parameters: 3 positions, water temperature monitoring 20 ± 5 °C, outlet height of water stream 65 ± 10 mm, distance between inlet and hardened surface 12.5 ± 0.5 mm

DYNAMIC BALANCING SYSTEMS

Dynamic balancing machines VSTest manufactured by LABORTECH are designed for dynamic balancing of rotating parts - whether it is a shaft, clutch, brake drum, converter, lamella, fan, etc. In our range you will find both vertical and horizontal, as well as manual, semi-automatic or automatic balancing machines.

All our devices are designed so that the customer can fully rely on their function even in the most demanding dynamic balancing tasks. LABORTECH offers a wide range of options for correcting unbalance with these machines – drilling, milling, welding, riveting, etc. Our machines can work independently but also in automated test lines.

Vertical balancing machines

Robust vertical frames with high rigidity and resistance to dynamic interference, durability, suitable ergonomic layout, and maintenance-free operation.
Modular machine design – machine variants with various imbalance corrections and manipulations. Clamping of parts: mechanical, pneumatic, special clamping. Software BALANCERTest.

Balanced parts – rotors without own shaft, turbines, brake discs, clutches, lamellas, grinding wheels, propellers, drums, instruments, etc.

Manual
Semiautomatic
Automatic
Tray
Robotic
Continuous
Carousels...

We balance precisely, quickly, reliably, and safely...

Horizontal balancing machines

Frames with high rigidity and resistance to dynamic interference, durability, suitable ergonomic layout and maintenance-free operation. Modular machine design – machine variants with various corrections of imbalance and manipulation. Clamping of parts by cardan drive or pneumatic belting. Software BALANCERTest.

Balanced parts – rotors, crankshafts, tool spindles, blowers, cardan shafts, etc.

Software BALANCERTest

Intuitive software for dynamic balancing machines

Balancing in one or two planes. Unlimited database of balanced pieces. Storing results in a database. Filtration of measured results. Drilling, riveting, welding, and milling programs. Automatic check of the performed test. Identification by part number, date, and time of measurement. Automatic evaluation of the balancing process. Adaptation for LCD touch monitors. Monitoring of service intervals. Export to SQL or in CVS, Excel, etc. Print the report.

ČSN ISO 21940-21, ČSN EN ISO 13849-1

Labor Tech®

Every small detail matters...

Balancing automatic machines

Fully automatic vertical or horizontal design. Semi-automatic or automatic mode of loading and unloading of balanced parts. Selection of parts after balancing on IO and NIO pieces. Various types of unbalanced correction according to the requirements of the customer. Machine control via LCD touch monitor and PC with BALANCERTest-BASIS software in the base of the machine.

Balanced parts – turbines, brake discs, clutches, lamellas, grinding wheels, propellers, drums, rotors, crankshafts, tool spindles, blowers, cardan shafts, etc.

Imbalance correction...

Drilling
Milling
Grinding
Riveting
Welding
Sealing
Splicing...

MODERNIZATION OF TEST SYSTEMS

LABORTECH is a suitable, reliable and competent partner for the modernization of your existing test systems. For modernizations, we use proven components that are used in new testing machines and equipment supplied by us, including measuring and control electronics of the EDCi series, hydraulic aggregates of the HAS, HAG and HAD series, SCHEIDER series drives, sensors from renowned companies such as HBM, GTM or AST and, last but not least, testing software. An integral part of the modernized machines is the current technical documentation in 3D and VIDEO format used for new machines.

Electromechanical and hydraulic testing systems

The original test frame or test accessories remain. Amortized electronic or manual measurement is replaced by new electronics of the EDCi series including the RMC controller. New electric drive units or hydraulic units. Intelligent software Test&Motion+ - BASIC or DYNPACK with appropriate modules.

The documentation includes:

operating and
maintenance manuals
software manuals
Declaration of conformity
calibration sheets
inspection reports
VIDEO manuals...

Pendulum impact testers

The original test frame is retained, including the test hammers and strikers. Installation of a new electric drive unit for the hammer stroke including electrical security. Possibility to extend the machine with instrumentation or adjustable angle. Supplementing the machine with safety guards that meet the most stringent safety requirements. Intelligent software IMPACTTest.

CE declaration of conformity for each modernization:

EN ISO 12100:2011,
EN ISO 14120:2017,
EN ISO 60204-1 ed.3,
EN ISO 13850:2017,
EN 61000-6-2 ed. 4,
EN ISO 4413:2011
It all depends
on the type of device.

Hardness testers

Installation of a new optical system – camera + optics including integrated PC and touch LCD monitor for industrial use on the original frame. The hydraulic unit goes through a complete GO and adaptation to the new system. FESTTest intelligent software with Brinell and Vickers modules.

TESTING ACCESSORIES

Labor Tech®

Every small detail matters...

Each test system has its accessories...

In addition to testing machines, LABORTECH also offers a myriad of various accessories that extend the quality of the test itself. Thanks to many years of experience and know-how of LABORTECH, these accessories are developed and manufactured in the highest quality. We offer both standard accessories and „tailor-made" accessories, where we first create a 3D model using a computer simulation and then develop and successfully put the accessories into practice.

Clamping, compression, and centering fixtures
Temperature chambers
High temperature furnaces
Mechanical extensometers and probes
VIDEO extensometers
Force, torsion, and multi-axial sensors
Hydraulic units and components
Measuring and control electronics
Marking and identification equipment, etc.

Quality accessories... ...that's what makes a testing machine a machine...

Our dealers and application engineers will be happy to advise you on how to choose the right accessories to match your requirements and needs.

Labor Tech®

Every small detail matters...

Where you can find us

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www.labortech.eu

Why choose LABORTECH?

Because we offer everything from development to implementation and listen to your needs...

We provide you with on-line service all the time by our qualified application and service technicians.

We offer a suite of professional engineering and consulting services that are in harmony in system design and testing.

We are conscientious environmental manufacturers. We are not indifferent to ecology which is why we hold ISO 14001:2016 certification.

Measurement accuracy and repeatability are our priorities. We provide top-notch, calibration services in accordance with EN, ISO and ASTM standards.

We make sure that our operators are trained and competent and that our machines are easy to operate.

We promote security at the highest level. We leave nothing to chance, and what we produce is the result of many years of experience, research and experiments.

The speed of measurement combined with high dynamics guarantees a more accessible way of tuning and setting up LabTest test machines.

Our testing machines, in conjunction with high-quality accessories, have versatility and intuitive control of the tests themselves.