…from development to implementation

Labor Tech®

Production of materials testing equipment and automation

Static and dynamic test benches

H.10 series up to 10MN

Labor Tech

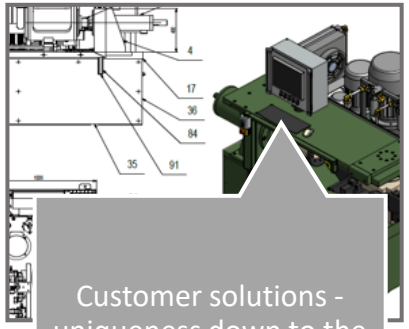
Production of material testing equipment and automation

Every small detail matters

LABORTECH – we are mainly experts …

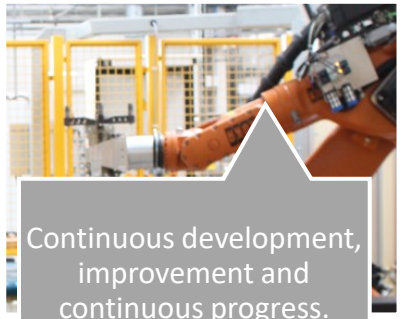
We apply our many years of experience in production…

LABORTECH is a Czech company which has been involved on the European and worldwide market for **26 years** by manufacturing of testing machines, testing equipment and testing automatons. Thanks to our own **innovative development** of products, extensive product portfolio and especially **superior services** of our application engineers, we provide our customers with complete services from A to Z – not only in areas of research and development but also in **100% quality control** in more than fifteen industrial sectors, all in accordance with ISO 9001 standards. e are committed to delivering **modern technical and technological solutions** supported by all necessary customer services in the materials testing industry.



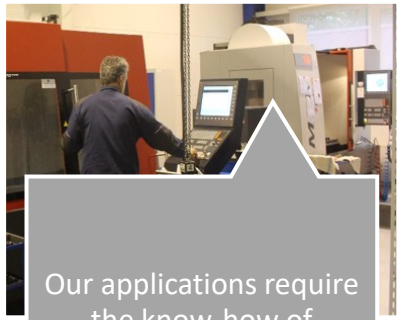
Customer solutions - uniqueness down to the last detail

The development department of LABORTECH are experts in analysis of technical requirements for manufacturing of unique special testing machines and equipmentOur specialists are able to understand the issue of the particular customer and then individually design and manufacture a machine of high degree of quality and uniqueness. The more is the application unusual, the more it also inspires us to find a new solution.



Continuous development, improvement and continuous progress.

In case of technically advanced products, the optimization often begins with details. LABORTECH team of professionals with their high degree of identification with the corporate vision and their personal commitment ensures continuous improvement and expansion of our product portfolio. During the development of our new products, we place great emphasis not only on quality, design and affordability, but also minimal environmental burden and ECODESIGN. Accuracy, reliability, durability and mechanical strength of our machines are then verified in our new testing and calibration centre.



Our applications require the know-how of specialists

Decades of experience of our company specialists, gained in the field of mechanical testing of materials, allow us to solve accurately and quickly even the most demanding tasks in the field of design and manufacture of testing machines and equipment. The LABORTECH company uses the know-how of our experts in creating 3D models of machines, electrical projects, customer software and, last but not least, its own precision CNC machining in our machining center.

Guaranteed reliability and 100% output control

Decades of experience in the field of mechanical materials testing enable our company experts to solve even the most challenging tasks in testing machines design and manufacturing accurately and quickly. The company LABORTECH uses the know-how of our experts in creating 3D models of machines, electrical projects, customer software development and, ultimately, its own precision CNC machining in our machining centre.

Labor Tech

Production of material testing equipment and automation

Test benches – universal testing

Compact and reliable test systems designed for development and practice

LABORTECH's H.10 test benches allow test technicians to simulate real and demanding conditions on samples and entire products. This device can stress the sample in several directions with any coefficient of load asymmetry and at the same time guarantees test technicians to have 100% control over this process.

The LabTest H.10 series servohydraulic test system provides a complete spectrum of static and dynamic testing of material stress, high cycle fatigue, material crack growth and environmental simulation on various types of materials. These are mainly the aerospace, automotive and nuclear industries and the development of wind turbine blades.

Construction industry – CONCRETE inspection of concrete structural elements.

Construction industry – WOOD inspection of wooden structural elements.

Automotive industry – PARTS multi-axis stresses on the body, components, shock absorbers, etc. under extreme conditions

Railway – RAILWAY TOP - testing of mechanical properties and depreciation of tracks

For all modifications of the LABORTECH H.10 test systems produced by us, the mechanical and hydraulic parts can be combined modularly using any additional accessories. Many optional functions allow you to perform both static and dynamic tests in one or more X and Y axes, both positional and force loops, and to meaningfully and efficiently simulate and test special materials and components in various modes.

Intuitive and trouble-free use of test software designed for DYNAMIC and Test & Motion + tests produced by LABORTECH will guarantee you a reliable declaration of results and, above all, continuous data collection from all test axes during testing.

Every small detail matters

Labor Tech

Production of material testing equipment and automation

Key features and parts of H.10 series

Stiffness and strength of machine structures based on calculations and 3D simulations….

LabTest H.10 series hydraulic test benches in various modifications consist of the following parts - components that are interconnected both physically and software and are an integral part of the entire test system, which gives the client information about how the tested material behaves, sample or whole test set.

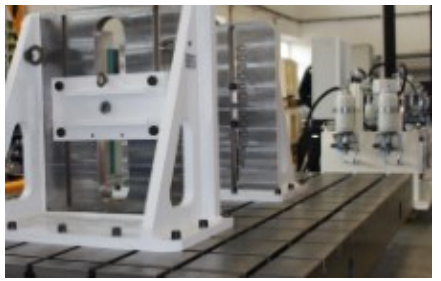
Robust horizontal or vertical stand or table design with integrated hydraulic cylinders or electric actuators. The assemblies consist of T-groove plates of different dimensions and for different loads or directly T-groove profiles built into concrete floors in test rooms or halls. All these elements have mechanical resistance and durability guaranteeing 100% repeatability of results. When developing these products, 3D simulation is a matter of course.

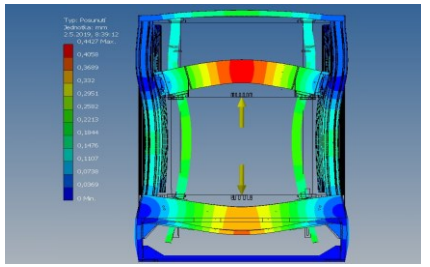
Each servo-hydraulic test set of the H.10 series includes compact hydraulic units of the HAD or HAS series operating with a maximum constant pressure of 210, 280 or 350 bar. Monitoring of all Hydrauli units states is performed by the HALT 18 unit with Simatic PLC and LCD display. The HA includes a drip tray with a level sensor. Hydraulic unit design is always performed according to customer requirements and depends on the type of tests and the number of test axes.

The control of the individual axes is performed by the new measuring and control electronics of the EDCi series with a sampling frequency of 10 kHz. Resolution level of analog signals ± 250,000 points (20 ms). PC connection - Ethernet 10/100 Mbit, USB 2.0. Control of the machine and accessories using the RMCi remote control with LCD display. The individual axes of the test cylinders can operate both individually and synchronously in any mode.

Intelligent, intuitive and powerful DYNPACK software designed for static and dynamic applications. It will help you increase the productivity and quality of testing in your test rooms and testing laboratories by using different modules for each test standard. Information about the software can be found below.

Based on the concept and construction, LABORTECH machines comply with all the above-mentioned EC directives on machinery and equipment. Only state-of-the-art safety techniques and proven industrial components are used that work in accordance with the new safety functions according to ENB ISO 13850-SIL 1 / PL.





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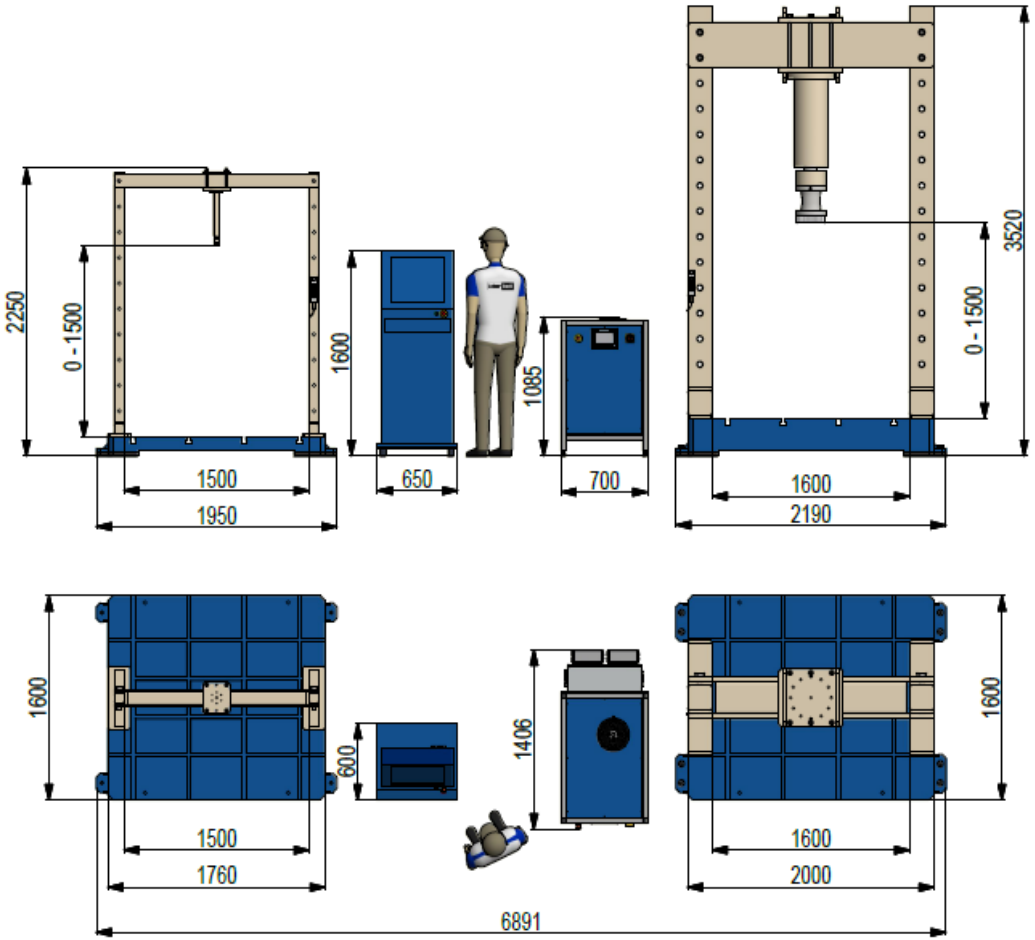
Static test benches of H.10 - 0 series

Testing of building elements according to standards: EN 124-1, ČSN EN 12390-3:2009, EN 12390-4:2001 atd.



Technical data	Units	Min.	Max.
Maximum load[1]	kN	10	10000
Number of column[1]		2 (without limits)	
Move of the crosshead		Mechanically or electrically by a winch	
Clamping of crosshead		Mechanical pins	
Machine dimensions			
Width, height and depth of the machine	mm	The dimensions of the machine set may vary depending on the technical specifications of the customer.	
Width and height of the workspace	mm		
Column dimensions	mm		
Track of the piston	mm	According to the technical specifications	
Weight[2]	kg	According to the dimensions of the machine assembly	
Terminal dimensions	mm	1600x650x600	
Height of hydraulic unit HA (A1)	mm	Depending on the type of hydraulic unit used. The size of the hydraulic unit (flow) is defined by the frequency and size of the amplitude.	
Width of hydraulic unit HA (B1)	mm		
Depth of hydraulic unit HA (C1)	mm		
Environmental conditions			
Working environment temperature	°C	from 10 to 35	
Storage temperature	°C	from -35 to 55	
Humidity of the working environment	%	< 90	
Electrical connection			
Control electronics		EDCi - 2,5 or 10kHz	
Security interface, diagnostics		SIEMENS	
Power voltage	V	3Ph/N/PE/400/50-60Hz	
Machine power consumption (without accessories)	kVA	Depending on the type of hydraulic unit used.	

[1] Loads and construction vary depending on inquiry [2] Depends on machine set. Technical changes reserved during development, machine parameters at room temperature.

…from development to implementation

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Production of material testing equipment and automation

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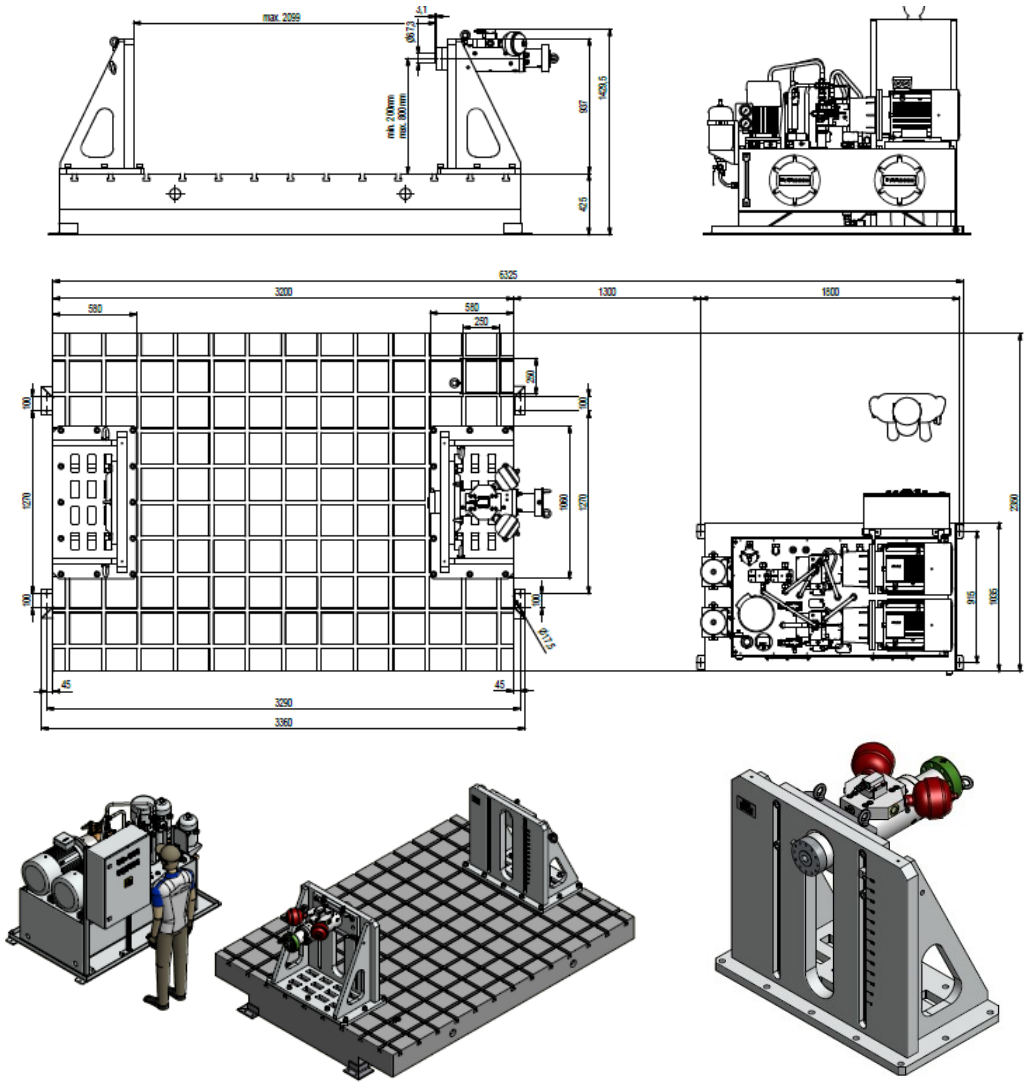
Dynamic test benchces of H.10 - 1 series

Testing of automotive or building elements, samples and parts according to standards:
ASTM E466, ASTM E399 ASTM E606, ASTM E647 ISO12106, DIN 50100 etc.



Technical data	Units	Min.	Max.
Maximum load[1]	kN	10	5000
Number of column[1]		Without limits	
Move of the crosshead		Mechanically or electrically	
Clamping of crosshead		into T- groove	
Machine dimensions			
Width, height and depth of the machine	mm	The dimensions of the machine set may vary depending on the technical specifications of the customer.	
Width and height of the workspace	mm		
Column dimensions	mm		
Track of the piston	mm	According to the technical specifications	
Weight[2]	kg	According to the dimensions of the machine assembly	
Terminal dimensions	mm	1600x650x600	
Height of hydraulic unit HA (A1)	mm	Depending on the type of hydraulic unit used. The size of the hydraulic unit (flow) is defined by the frequency and size of the amplitude.	
Width of hydraulic unit HA (B1)	mm		
Depth of hydraulic unit HA (C1)	mm		
Environmental conditions			
Working environment temperature	°C	from 10 to 35	
Storage temperature	°C	from - 35 to 55	
Humidity of the working environment	%	< 90	
Electrical connection			
Control electronics		EDCi - 2,5 or 10kHz	
Security interface, diagnostics		SIEMENS	
Power voltage	V	3Ph/N/PE/400/50-60Hz	
Machine power consumption (without accessories)	kVA	Depending on the type of hydraulic unit used.	

[1] Loads and construction vary depending on inquiry[2]. Depends on machine set. Technical changes reserved during development, machine parameters at room temperature.

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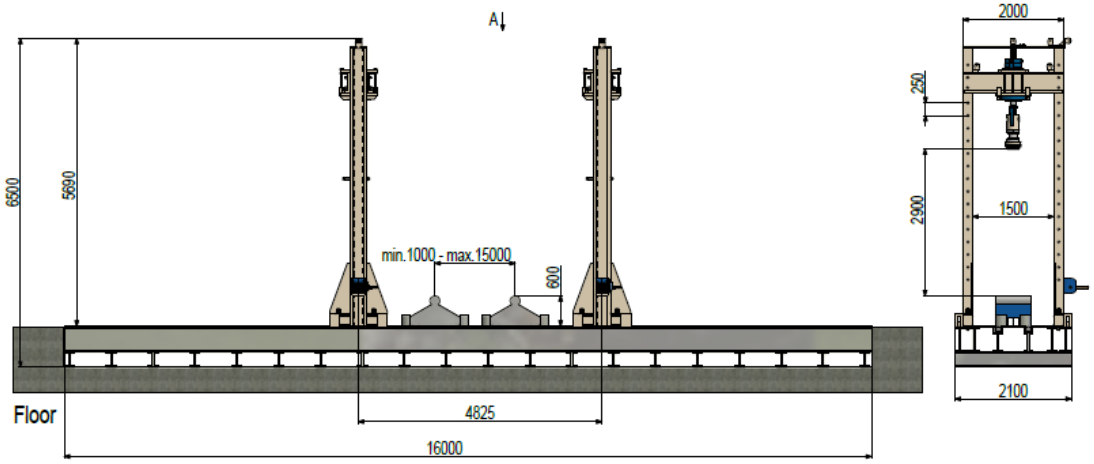
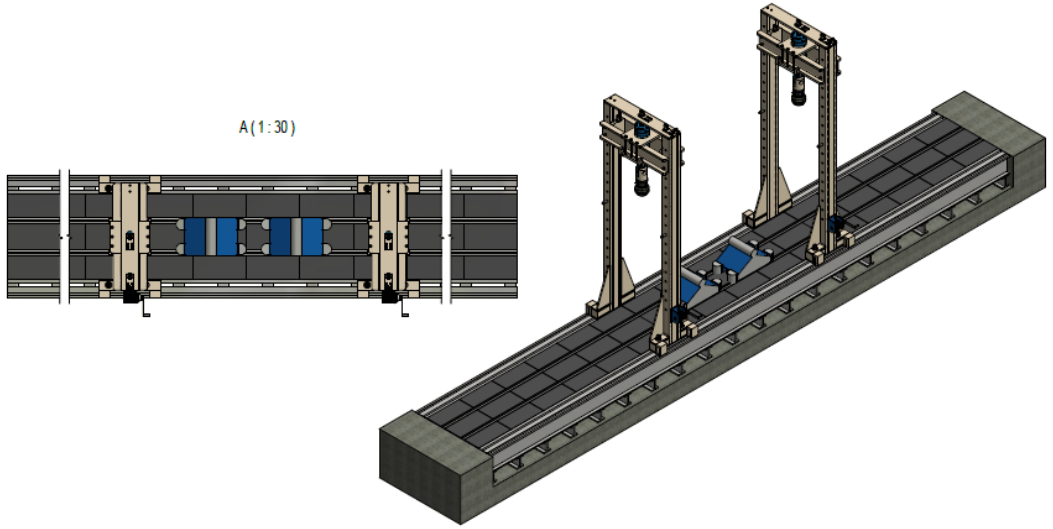
Production of material testing equipment and automation

Combined test benches of H.10 - 2 series

Testing of automotive or building elements, samples and parts according to standards:
EN 408, EN 26891, ASTM E466, ASTM E399 etc.





Technical data	Units	Min.	Max.
Maximum load[1]	kN	10	5000
Number of column[1]		Without limits	
Move of the crosshead		Mechanically or electrically	
Clamping of crosshead		into T- groove	
Machine dimensions			
Width, height and depth of the machine	mm	The dimensions of the machine set may vary depending on the technical specifications of the customer.	
Width and height of the workspace	mm		
Column dimensions	mm		
Track of the piston	mm	According to the technical specifications	
Weight[2]	kg	According to the dimensions of the machine assembly	
Terminal dimensions	mm	1600x650x600	
Height of hydraulic unit HA (A1)	mm	Depending on the type of hydraulic unit used. The size of the hydraulic unit (flow) is defined by the frequency and size of the amplitude.	
Width of hydraulic unit HA (B1)	mm		
Depth of hydraulic unit HA (C1)	mm		
Environmental conditions			
Working environment temperature	°C	from 10 to 35	
Storage temperature	°C	from - 35 to 55	
Humidity of the working environment	%	< 90	
Electrical connection			
Control electronics		EDCi - 2,5 or 10kHz	
Security interface, diagnostics		SIEMENS	
Power voltage	V	3Ph/N/PE/400/50-60Hz	
Machine power consumption (without accessories)	kVA	Depending on the type of hydraulic unit used.	

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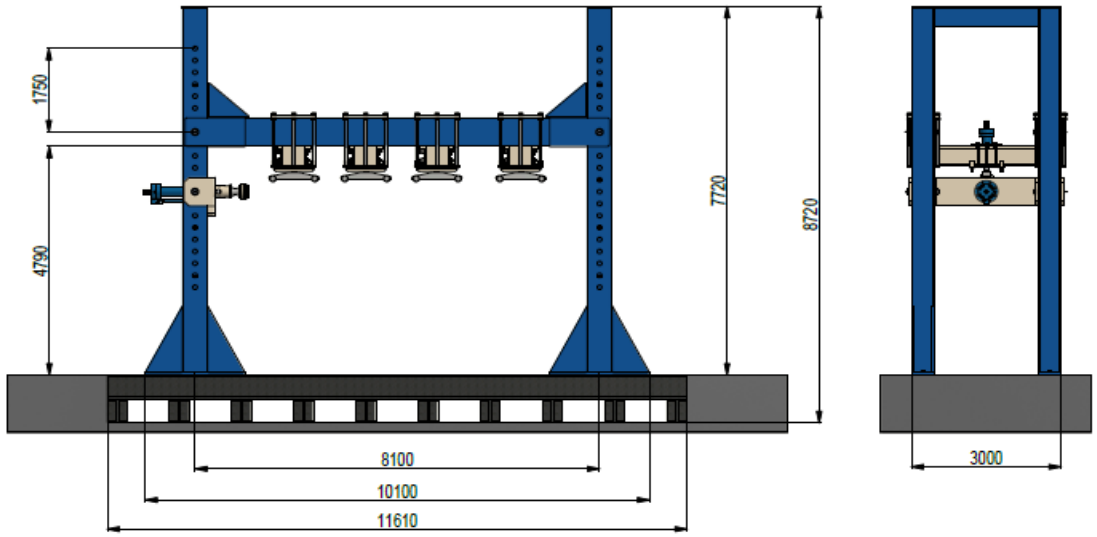
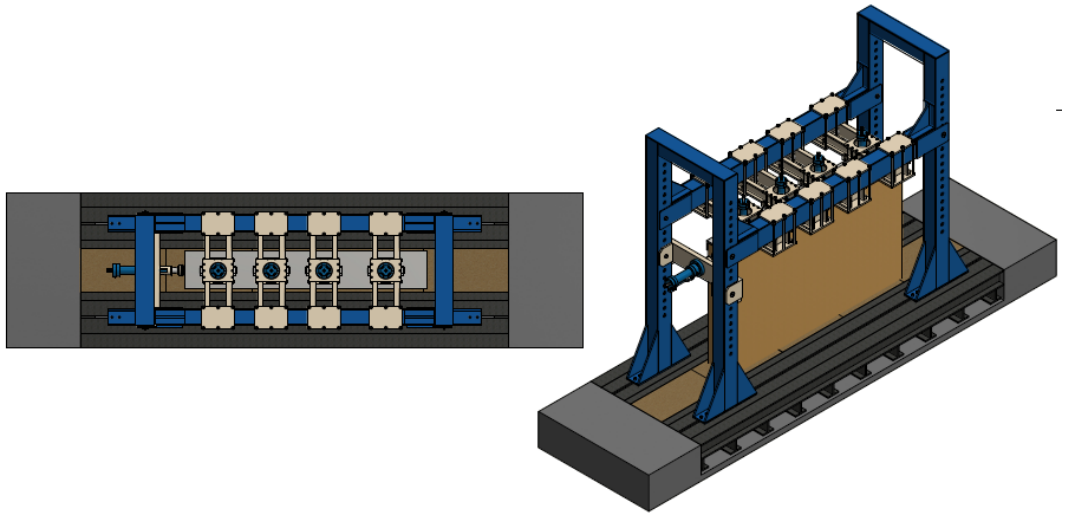
Production of material testing equipment and automation

Combined test benches of H.10 - 2 series

Testing of building elements, samples and parts according to standards:
EN ISO 594, EN ISO 12512, EN ISO 21581, EN 26891, EN 408, ASTM E466, ASTM E399 etc.





Technical data	Units	Min.	Max.
Maximum load[1]	kN	10	1000
Number of column[1]		Without limits	
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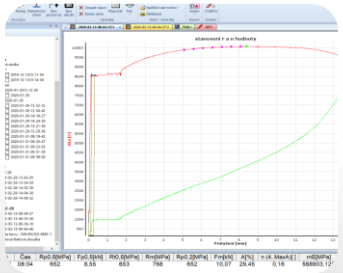
Software Test&Motion+

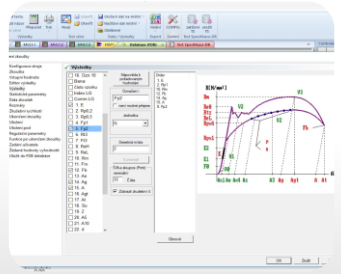
Intuitive long-term exam software you'll love…

Test&Motion+ – BASIC - intelligent, intuitive and powerful software to help you increase productivity and testing quality in your testing laboratories. You can streamline, refine and speed up the execution of your tests and adapt your testing environment to it was easy for the operator to measure the mechanical properties of the materials in tension, bending pressure and torsion with the support of EN, ISO, DIN, ASTM and GOST standards.

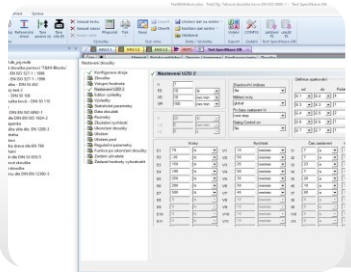


Vlastnosti software Test&Motion+ – BASIC

- Unlimited number of test methods.
- Modular system of libraries designed for standardized tests - to select for activation.
- Evaluation of optional parameters: maximum strength, strength, elongation, elongation, stress, 5 different reference points, etc .
- Graph in real time, possibility of individual processing after the test
- Mass graphs, Zoom, serial testing
- Data export to ASCII, EXCEL, WORD, Eclipse, Diadem, Q-DAS,
- Clamping length setting for each method
- Display of multiple quantities on the x, y axes

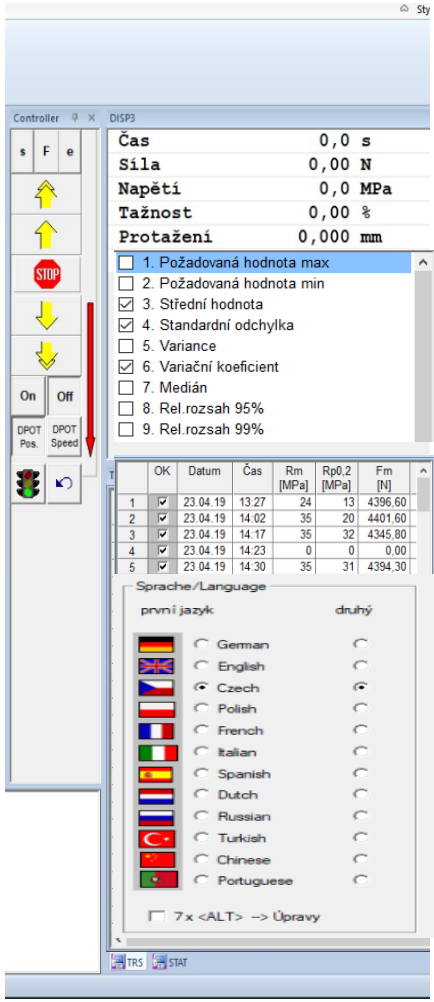


- Online display of up to 6 graphs with arbitrary quantities in the x, y axis
- Control of feed rate depending on elongation, force, stress, elongation, etc ..
- Software control of hydraulic and pneumatic jaws, temperature, automatic extensometer
- Receiving sample dimensions from peripheral devices
- Data collection from analog and digital external meters
- Setting user rights, operator login
- Custom setting of test results
- Automatic saving of results according to the selected tree, database
- Statistical evaluation
- 12 language mutations (Cs, En, De, Fr, Pl, It, Es, Ru, Nl, Tr, Zh, Pt)



Modules to individual test standards

- METALS – EN ISO 6892-1, DIN 50106, DIN 989, DIN 50 110 atd.
- PLASTICS – EN ISO 527-1:1996, EN 20604:1994, EN 20604, EN ISO 178, EN 455-2 atd.
- TEXTILE – Peel test, DIN 53 835/3, DIN 53 868, DIN 53507, EN ISO 10319 atd.
- CONSTRUCTION – 3-/4- bending points, DIN 1996, EN 1344, EN 12390-5, 6, DIN 1339 atd.
- PAPER, CERAMICS, GLASS, – EN ISO 1294, EN 843-1, EN 993-6, EN 1279-4
- WOOD – EN 789, DIN 52 186, EN 310, EN 408 atd.



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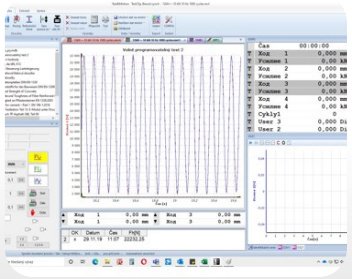
Software DYNPACK

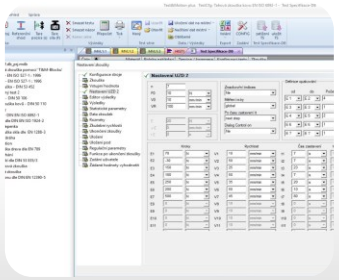
Intuitive long-term test software you'll love…

DYNPACK - intelligent, intuitive and powerful software that will help you increase productivity and quality of testing in your test rooms and testing laboratories. You can streamline, refine, and accelerate the performance of your tests and adapt your testing environment to make it easy for operators to measure the mechanical properties of tensile, flexural, and torsional materials with support for EN, ISO, DIN, ASTM, and GOST standards.

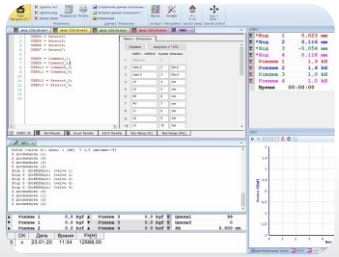


Features of software DYNPACK

- Unlimited number of test methods.
- Modular system of libraries designed for standardized tests - to choose for activation.
- Evaluation of optional parameters: maximum force, strength, elongation, tensile, stress, 5 different reference points, etc ..
- Real-time graph, possibility of individual processing after the test
- Bulk graphs, Zoom, serial testing
- Data export to ASCII, EXCEL, WORD, Eclipse, Diadem, Q- DAS,
- Clamping length setting for each method
- Display of multiple quantities on the x, y axes

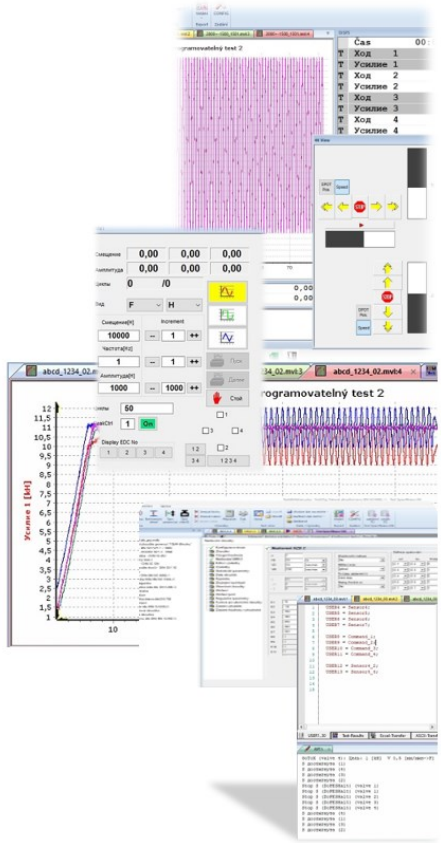


- Online display of up to 6 graphs with arbitrary quantities in the x, y axis
- Control of feed rate depending on elongation, force, stress, elongation, etc ..
- Software control of hydraulic and pneumatic jaws, temperature, automatic extensometer
- Receiving sample dimensions from peripheral devices
- Data collection from analog and digital external meters
- Setting user rights, operator login
- Custom setting of test results - Automatic saving of results according to the selected tree, database
- Statistical evaluation - 12 language mutations (Cs, En, De, Fr, Pl, It, Es, Ru, Nl, Tr, Zh, Pt



Module - Axial torsion test, commands from a file, long-term data storage, etc.

- Module for leading of 2 control electronics of the EDCi series, free programming system
- Commands: position, sinus, triangle, rectangle, stop, remain, offset, amplitude, frequence
- Option to save the N-cycle, any number of steps, calculation, zeroing in different positions
- Inssuing sunisoidal commands wiht half amplitude
- Starting the test in different directions – eg. the Y axis is in tension / pressure
- Creation of parallel storage, including maintenance for storing all data from all channels



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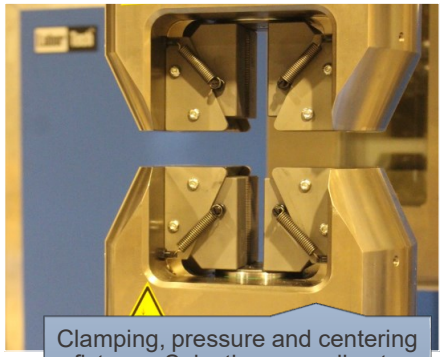
Production of material testing equipment and automation

Choose your own machine accessories!

You cand test everything with our wide range of accessories…

A lwide range of various accessories, including software, will allow you to configure the machine exactly according to your ideas, technical requirements and standards. All you have to do is fill in the simple form HERE and we will send you a price offer immediately. We offer both standard accessories and "tailor-made" accessories.

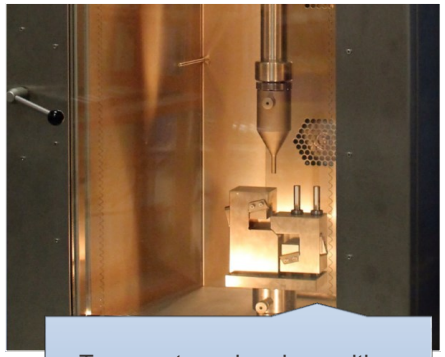


Clamping, pressure and centering fixtures. Selection according to nominal force, surface, test frequency, standard, etc.

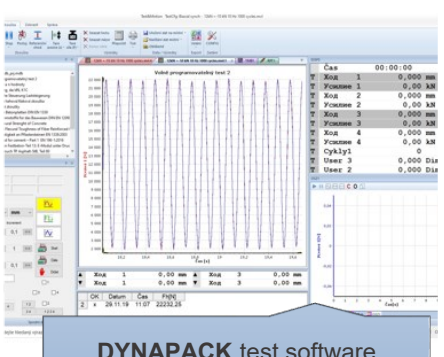
Extensometers - contactless, with limited information or full deformation.

HAD - hydraulic units designed for dynamic tests with integrated diagnostics HALT 18 - Simatic.

High temperature furnaces up to f 1600 ° C.



Temperature chambers with a range from - 196 ° C to + 350 ° C.



DYNAPACK test software supplied by LABORTECH with various test modules.

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Find out your own informative machine configuration!

Find out exactly what you need with our configurator…

	Stroke of the piston rod at a defined frequency * (mm)														
Machine type	10Hz	30Hz	50Hz	10Hz	30Hz	50Hz	10Hz	30Hz	50Hz	10Hz	30Hz	50Hz	10Hz	30Hz	50Hz
6.25H.5	±1,5	±0,6	±0,4	±3,5	±1,2	±0,8	±6,0	±2,0	±1,3	±12,1	±4,5	±2,1			
6.50H.5	±0,8	±0,32	±0,2	±1,5	±0,7	±0,5	±3,2	±1,1	±0,8	±6,3	±2,0	±1,25	±8,2	±2,7	±1,6
6.125H.5				±0,9	±0,3	±0,17	±1,8	±0,5	±0,32	±2,5	±0,8	±0,52	±2,5	±1,1	±0,65
6.250H.5							±0,8	±0,3	±0,15	±1,3	±0,45	±0,25	±1,3	±0,60	±0,33
6.500H.5										±0,9	±0,28	±0,12	±0,9	±0,35	±0,17
Type of HA* parameters	**HAD 12** P=7,5kW, 3x400V/16A			**HAD 25** P=15kW, 3x400V/32A			**HAD 40** P=22kW, 3x400V/45A			**HAD 63** P=37kW, 3x400V/75A			**HAD 80** P=45kW, 3x400V/90A		

	Stroke of the piston rod at a defined frequency * (mm)														
Machine type	10Hz	30Hz	50Hz	10Hz	30Hz	50Hz	10Hz	30Hz	50Hz	10Hz	30Hz	50Hz	10Hz	30Hz	50Hz
6.25H.5															
6.50H.5	±12,2	±4,1	±2,46												
6.125H.5	±4,1	±1,4	±0,96	±5,6	±1,92	±1,12	±8,5	±2,9	±1,75	±15,8	±5,28	±3,13	±21,8	±7,29	±4,3
6.250H.5	±2,6	±0,9	±0,48	±3,3	±1,15	±0,65	±4,8	±1,65	±0,99	±9,0	±3,0	±1,79	±12,4	±4,15	±2,45
6.500H.5	±1,5	±0,52	±0,24	±2,2	±0,70	±0,44	±3,6	±1,21	±0,74	±6,5	±2,18	±1,31	±9,14	±3,02	±1,83
Type of HA* parameters	**HAD 120** P=55kW, 3x400V/100A			**HAD 165** P=75kW, 3x400V/200A			**HAD 250** P=110kW, 3x400V/250A			**HAD 420** P=220kW, 3x400V/2x250A			**HAD 620** P=320kW, 3x400V/2x315A		

* HAD is a designation for dynamic hydraulic aggregates and the number indicates the informative oil flow in l / min, P - maximum power input of the main pump, power supply and protection. Total power consumption may vary depending on accessories used and cooling. The values are defined for a cylinder stroke of 100 mm.

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Version 1.01-2021-04-H.10