

... From development to
implementation



Production of materials testing equipment and automation

Static and dynamic test
benches series H.10



Made in Czech Republic



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Basic description

Servo-hydraulic testing machines of the H.10 series in four-column design up to 2,5 MN are designed for safe and effective testing of materials and whole products in tension, compression, bending and special testing of high-strength materials. This series of machines is characterized by an abnormally high rigidity and mechanical resistance of the frame. The basic equipment of the machine includes **a central silent and economical hydraulic drive** with hybrid control of hydraulic grips with diagnostics HALT 16 - SIEMENS.



Main advantages and functions

- Test frame with four hard chrome plated bars with fixed or adjustable crosshead (mechanically or hydraulically).
- In the version with adjustable crosshead and hydraulic crosshead locking it is possible to adjust the test area up to 15 seconds via the remote control of the RMC series.
- Robustness, stiffness, durability and resistance of the test frame to vibration and mechanical damage.
- High operating comfort of the machine and adaptation of the machine to specific customer requirements, for example by extending the test frame, higher test speeds etc.
- Prepared for LABORTECH side or wedge-type hydraulic grips with integrated grip synchronization.
- Preparation of the test frame for the use of mechanical and non-contact extensometers.
- Possibility of hydraulic machine control via remote control RMCi 7 without PC.
- The test frame includes a servo cylinder with integrated LVDT sensor and a servo valve MOOG for control in the power and position loop.

Measuring and control machine electronics

New fast, accurate and reliable EDCi measuring and control electronics with variable sampling rate up to 10 kHz, 64 bit internal accuracy, 32 bit measurement and 24 bit resolution ADCs. Modular system with possibility to extend measurement up to 16 sensors. SAFETY with new safety functions according to ENB ISO 13850-SIL 1/PL.



Force and track measuring system

- The H.10 series force load sensors belong to the RF series and are characterized by high resistance to transverse forces, bending moments and high overload resistance. Accuracy class according to EN ISO 7500-1, ASTM E4.
- Precise non-contact track measurement system is provided by a linear position sensor working on the magneto-strictive principle integrated directly into the hydraulic servo cylinder. This system has a linearity of $\pm 0,02\%$, a standard resolution of $1 \mu\text{m}$ and a high shock resistance.

Hydraulic units

The HAS and HAS-G hydraulic power units are specially designed to meet the demanding requirements of servo-hydraulic testing machines and test systems. HU supply a regulated oil quantity at a constant pressure of 350 bar depending on consumption. HAS units have low noise levels.



All LABORTECH HU are equipped with HALT-16 monitoring system. This system ensures complete diagnostics of the hydraulic system with the possibility of controlling the pressure in individual branches, monitoring the quality of the oil filling and filters, maintenance planning, etc.

Basic features of Test & Motion[®] software

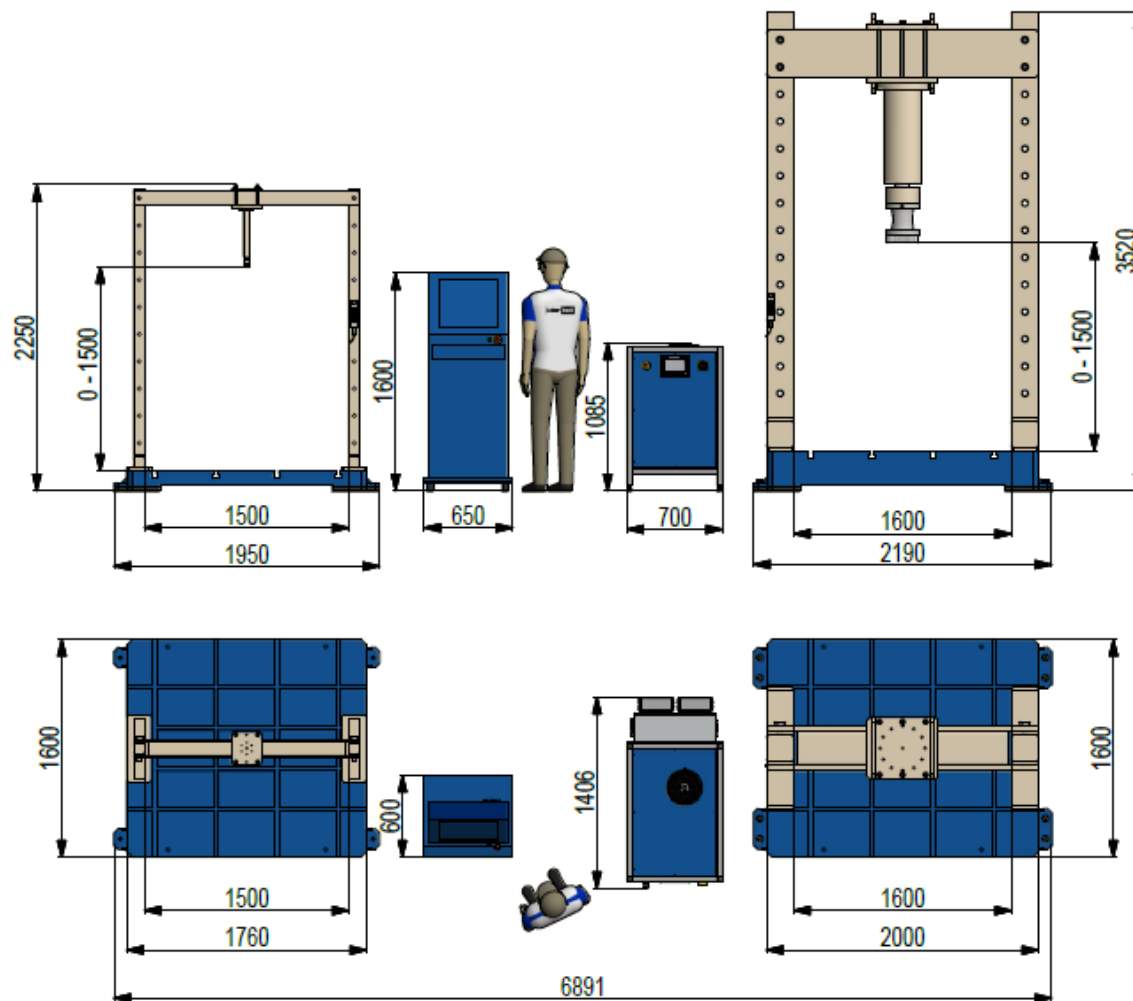
- Intelligent software designed for tensile and compressive tests.
- Unlimited number of test methods depending on EN, ISO, ASTM, GOST standard or customer method.
- A modular system of libraries designed for standardized tests - for selection for activation.
- Evaluation of optional parameters: maximum force, strength, elongation, ductility, stress of 5 different reference points.
- Graph in real time, possibility of individual processing after the test.
- Bulk Charts, Zoom, Serial Testing.
- Adding comments to curves and measured points.
- Setting the clamping length for each method.
- Multiple quantities displayed on the x, y axes.
- Online display of up to 6 graphs with any quantities in the x, y axis.
- Control of feed speed depending on elongation, force, stress, ductility, etc.
- Software control of hydraulic and pneumatic jaws, temperature, automatic extensometer, etc.
- Receiving sample sizes from peripheral devices.
- Data acquisition from analog and digital external meters.
- Setting user rights, operator login.
- Customization of test results.
- Automatic saving of results according to selected tree, database.



- Statistical evaluation.
- Graphical editor of protocol appearance.
- Arbitrary window and appearance settings, docking.
- Data export to ASCII, EXCEL, WORD, Eclipse, Diadem, Q-DAS.
- 9 language mutations (Cs, En, De, Fr, Pl, It, Es, Ru, Nl).
- Unlimited license.
- Installation on any computer without license, FREE DEMO.
- Compatible with any LABORTECH EDC or EDCi system.

Labor Tech

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Technical data	Units	6.10H.10	6.1000H.10
Maximal load	kN	10	1000
Number of columns		2	
Move the crosshead		Mechanical or electric winch	
Crosshead clamping		Mechanical pins	
Machine height	mm	2250	3520
Machine width	mm	1950	2190
Depth of the machine	mm	1600	1600
Working space width	mm	1500	1600
Column dimensions	mm	80 x 80	200 x 200
Workspace height	mm	0-1500	0-1500
Piston displacement path	mm	350	300
Weight	kg	2130	10160
Terminal dimensions	mm	1600 x 650 x 600	
Height HU (A1)	mm	According to the type of hydraulic power unit used. The size of the hydraulic unit (flow rate) is defined by frequency and amplitude.	
Width HA (B1)	mm		
Depth HA (C1)	mm		
Environmental conditions			
Work environment temperature	°C	from 10 to 35	
Storage temperature	°C	from -35 to 55	
Humidity range	%	< 90	
Noise level	dB	< 60	
Electrical connection			
Supply voltage	V	3Ph/N/PE/400/50-60Hz	
Fuse	A	According to the used type of hydraulic unit.	
Machine input (without accessories)	kVA		

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LABORTECH in the world



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