Production of materials testing equipment and automation

Static and dynamic test benches series H.10

Made in Czech Republic
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 RMC 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 ± 0.02%, a standard resolution of 1 µm 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. HYU supply a regulated oil quantity at a constant pressure of 350 bar depending on consumption. HAS units have low noise levels.

All LABORTECH HYU 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.

... From development to implementation
Technical data

<table>
<thead>
<tr>
<th>Feature</th>
<th>Units</th>
<th>6.10H.10</th>
<th>6.1000H.10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximal load</td>
<td>kN</td>
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<td>1000</td>
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<tr>
<td>Number of columns</td>
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<td>Move the crosshead</td>
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<tr>
<td>Crosshead clamping</td>
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<td>Mechanical or electric winch</td>
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<tr>
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<tr>
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<tr>
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<tr>
<td>Working space width</td>
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<tr>
<td>Width HA (B1)</td>
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<tr>
<td>Depth HA (C1)</td>
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</tbody>
</table>

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

Static test benches series H.10

LabTest 6.10.H.10.99
LabTest 6.1000.H.10.99

... From development to implementation
LABORTECH in the world

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