

... from development to  
implementation



Production of materials testing equipment and automation



Axial dynamic servo hydraulic  
testing machines  
**H.5. 01- series up to 500kN**



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Every small detail matters

# Key features and parts of H.5. 01 series

## Stiffness, accuracy, coaxiality and durability are the parameters in the standard

Servo hydraulic machines H.5. 01 series with servo cylinder in a movable crossbar are used for tests according to **ASTM E606, ISO 12106, ASTM E399, ASTM E647, ASTM E466 and DIN 50100**. The test system consists of the following components, which are mutually interconnected both physically and software and are an integral part of the entire test system.



The robust vertical stand design with a servo cylinder in the upper adjustable crosshead has high rigidity, mechanical resistance and durability, guaranteeing 100% repeatability of results. The crosshead with preparation for the force sensor can be moved and fixed mechanically or fully automatically by electro-hydraulics, ensuring the parallelism of the surfaces 0.03 mm to 100 mm. T-slot plate as standard.



Each servo-hydraulic test set of the H.5 series includes compact hydraulic units of the HAD series operating with a maximum constant pressure of 210 or 280 bar. Monitoring of all HA states is performed by the HALT 18 unit with PLC Simatic and LCD display. The HA includes a drip tray with a level sensor.



The machine is controlled by the new measuring and control electronics of the EDCi series with a sampling frequency of 10 kHz. Resolution level of analog signals  $\pm 250,000$  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.



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.



The BENTROD measuring and setting unit designed for evaluation and optimization of concentric and edge correction of coaxiality (misalignment) of clamping fixtures for static and dynamic testing machines according to ASTM E1012, GES400 (NADCAP), GE450 and ISOTC 164SC5WG11 can be part of the test set.

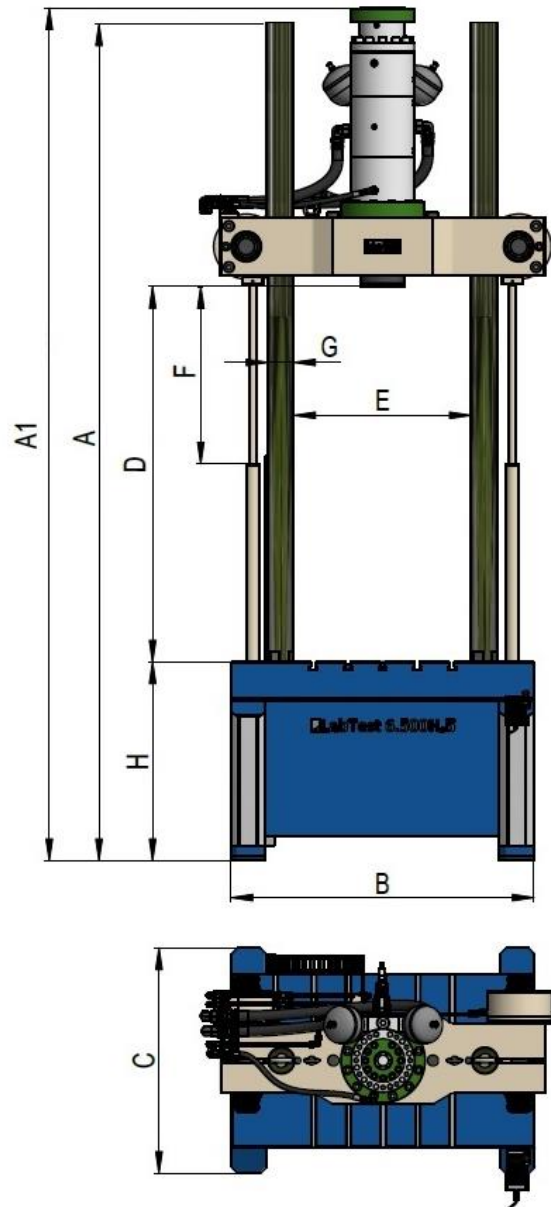


Based on the concept and construction, LABORTECH machines comply with all the above-mentioned EC directives on machinery and equipment. Only state-of-the-art safety techniques and proven industrial components are used that work in accordance with the new safety functions according to ENB ISO 13850-SIL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





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## H.5. 01 series – servo cylinder in the movable cross member

Technical data	Units	6.25H.5	6.50H.5	6.125H.5	6.250H.5	6.500H.5
Product code		1.08050117	1.08050317	1.08050517	1.08050717	1.08050917
Maximal load	kN	25	50	125	250	500
Crosshead adjustment		Electro - hydraulic*				
Crosshead clamping		Electro - hydraulic*				
Stiffness of the machine at a height of 1000 mm	kN/mm	1540	1010	1050	1125	1980
<b>Machine dimensions</b>						
Machine height <sup>1</sup> - A	mm	1998	2420	2670	3000	3900
Machine height <sup>1</sup> - A1	mm	The size depends on the stroke used for the servo cylinder (40 to 400 mm)				
Machine width - B	mm	750	1050	1050	1200	1400
Machine depth - C	mm	680	680	680	790	1040
Height of the working space <sup>2</sup> - D	mm	1300	1760	1760	1780	1660
Width of the workspace - E	mm	480	620	600	670	820
crossbar displacement stroke - F	mm	100-1200 <sup>5</sup>	1205	1100	1250	1250
Average of pull rods- G	mm	70	80	100	120	120
Height of the lower crosshead edge <sup>3</sup> - H	mm	528	870	900	910	920
Cylinder stroke height <sup>4</sup>	mm	Basic series of piston rod stroke: 40, 100, 250, 400				
<b>Others</b>						
Machine weight <sup>6</sup>	kg	680	1350	1610	2160	4489
Color combination	RAL	1015, 5015	1015, 5015	1015, 5015	1015, 5015	1015, 5015

### Additional accessories

1.0891xx17 - Machine prolongation ER - +410 mm or +820 mm (according to the customer's wishes )

1.0891xx17 - Electro - hydraulic crosshead displacement HCD, hydraulic clamping of the crosshead HC

2.00105xx17 - Various types of EDCi electronics, including RMCi series remote control

2.02109xx17 - PAC noise protection covers

2.02104xx17 - Different types and combinations of HAD hydraulic unit packs – [hydraulic unit configurator](#)

<sup>1</sup>Basic height of the machine without rod extension, <sup>2</sup> Height of the working space without jigs and sensors <sup>3</sup> With anti-vibration pads <sup>4</sup> Recommended: The higher the test frequency, the smaller the cylinder stroke is recommended. <sup>5</sup> In manual crossbar adjustment mode

<sup>6</sup> In the basic version with a T-groove plate in standard. \* With standard hydraulic unit.

Technical changes reserved during development, machine parameters at room temperature



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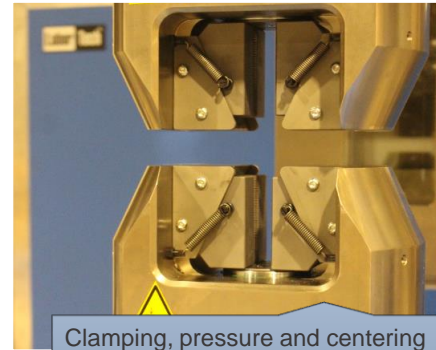
## Choose your own machine accessories!

You can test everything with our wide range of accessories...

A wide 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.



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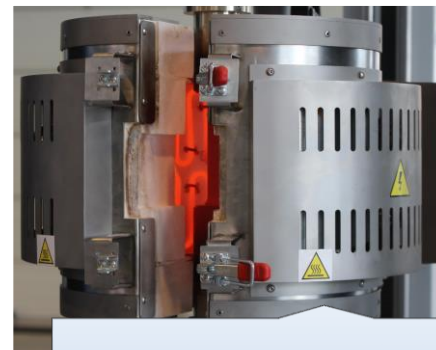
Clamping, pressure and centering fixtures. Selection according to nominal force, surface, test frequency, standard, etc.



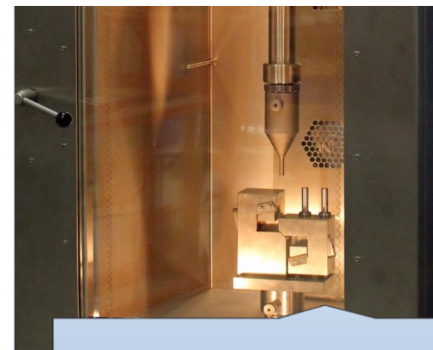
Extensometers - contactless, with limited information or full deformation.



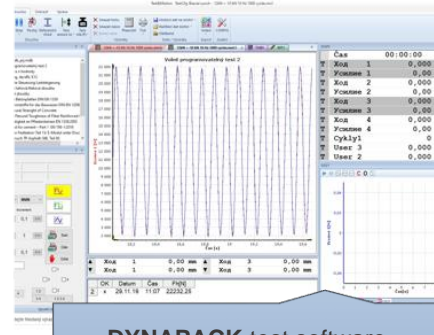
HAD - hydraulic units designed for dynamic tests with integrated diagnostics HALT 18 - Simatic.



High temperature furnaces up to 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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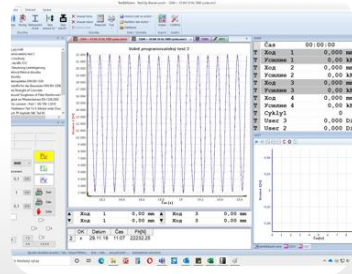
# Software DYNPACK

## Intuitive long-term test software you'll love...

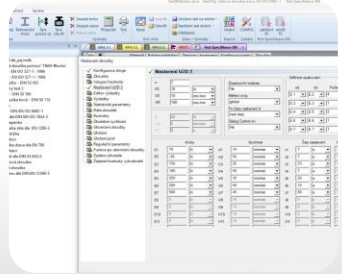
DYNPACK - intelligent, intuitive and powerful software that will help you increase productivity and quality of testing in your test rooms and testing laboratories. You can streamline, refine, and accelerate the performance of your tests and adapt your testing environment to make it easy for operators 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

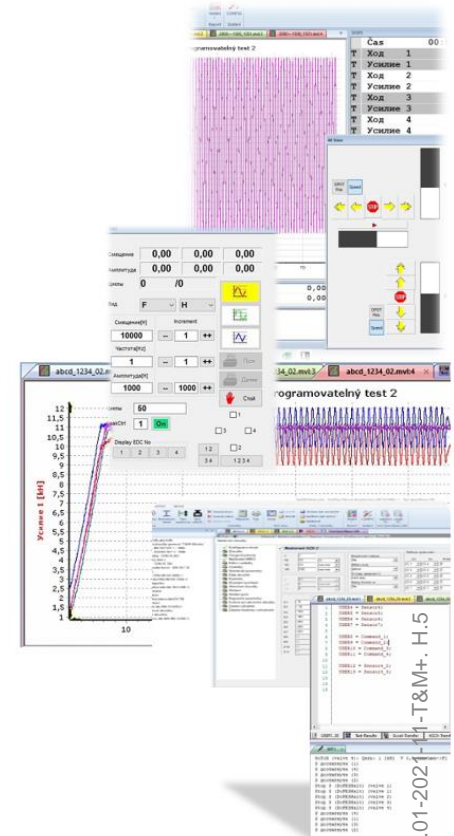
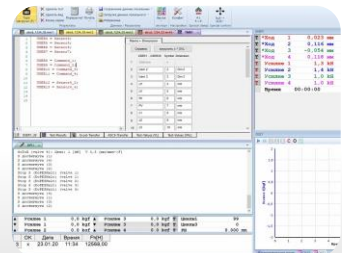


- Online display of up to 6 graphs with arbitrary quantities in the x, y axis
- Control of feed rate depending on elongation, force, stress, elongation, etc ..
- Software control of hydraulic and pneumatic jaws, temperature, automatic extensometer
- Receiving sample dimensions from peripheral devices
- 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, NI, 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, frequency
- Option to save the N-cycle, any number of steps, calculation, zeroing in different positions
- Issuing sinusoidal commands with 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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# Find out your own informative machine configuration!

Find out exactly what you need with our configurator

Machine type	Stroke of the piston rod at a defined frequency * (mm)														
	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		

Machine type	Stroke of the piston rod at a defined frequency * (mm)														
	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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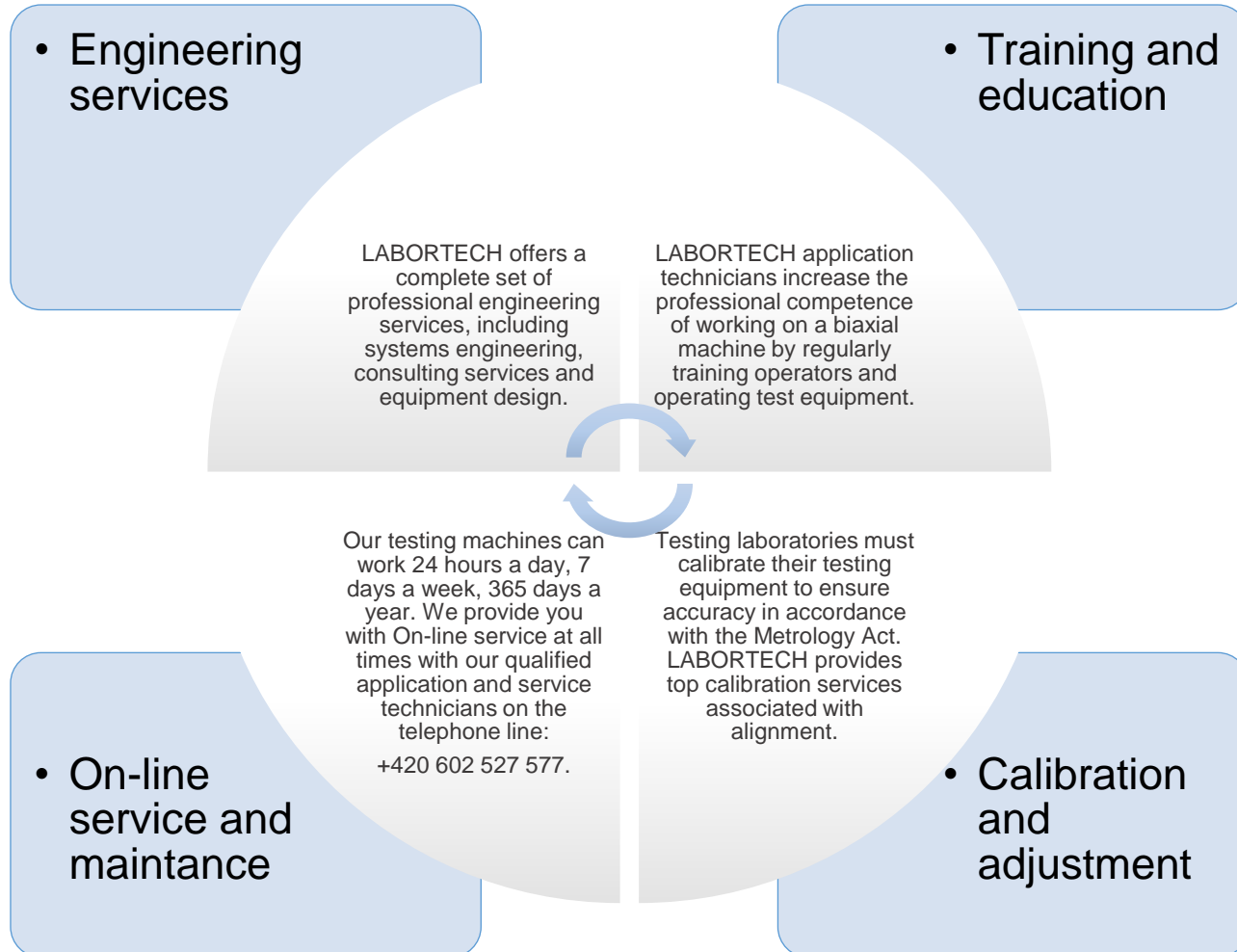
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## Why buy the H.5 machine from LABORTECH?

Because we offer everything from A to Z, ie. from development to implementation...



... from development to implementation

all bases covered



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constant work to provide our  
clients with the best quality  
products and services



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## LABORTECH in the world

Where to find LABORTECH representations...



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