Labor Tech®

Every small detail matters...

Combined compression-bending testing machines

LabTest 6.x000–x00 H.4.02

Combined testing machines of the H.4.02 series from LABORTECH are ideal for performing mechanical tests in compression up to 3MN and bending or tensile bending tests up to 300kN on one platform, i.e. in one testing machine. The correct choice of machine depends on the combination of F max in compression and F max in bending and on the types of samples to be tested. The test results from both workspaces provide summary information on compressive force and bending force, deflection and stress-deformation value of the tested materials.

To achieve reproducible results, it is crucial to comply with the relevant test standards. All our devices meet the requirements of European standards and directives, which is documented by EC and EU declarations of conformity.

All tests in one place and without compromise...

Key features

- Robust vertical open design with integrated two separate work areas for bending and compression testing. For bending and compression tests, double-acting hydraulic cylinders with lateral rotation lock and integrated force sensors are used.
- Measurement accuracy: class 1 in accordance with ČSN EN ISO 7500-1, ASTM E4 and class 1 in accordance with ČSN EN 12390-4 – requirements for test presses.
- Possibility of independent control, control and switching of test areas from the integrated LCD display directly in the electronics.
- The accurate and reliable measuring and control electronics of the EDCi series have 2.5 kHz sampling. The safety functions are in accordance with the new ČSN EN ISO 13850-SIL 1/PL standards, providing a high level of security.
- Quiet and precise hydraulic unit with low noise level and HALT 18 condition monitoring – PLC SIEMENS guarantees a constant increase in force in accordance with standards.
- By connecting the machine to a PC via 10/100 Mbit Ethernet with integrated Test and Motion software, it enables precise setup, execution and evaluation of the test.
- Compliance with standards and European directives for the H.4 series is documented by the EC and EU declarations of conformity.

Industry

- construction, woodworking, engineering, automotive and railway industries, research institutions and schools, etc.

Type of exams

- compressive and bending tests, tensile tests in bending

What can be tested...

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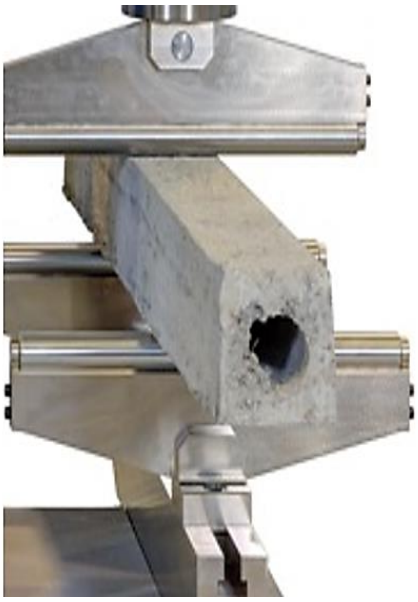
- concrete bars/beams
- concrete slabs, concrete curbs and concrete paving stones
- Testing of hardened concrete
- masonry mortars, grouts and adhesives, floor screeds
- natural stone paving stones
- gypsum and composite binders, gypsum mortars
- natural stone slabs, natural stone curbs
- Testing according to standards: ČSN EN 196, ČSN EN 1015-11, ASTM C348, ČSN EN 12808-3, ČSN EN 13813, ČSN EN 13892-3, ČSN EN 13279-2, ČSN EN 13454-2, ČSN EN 12390-5, ČSN EN 1339, ČSN EN 1343, EN 1344, ČSN EN 1338, EN 1340 etc.

Related products

Standard test fixtures according to



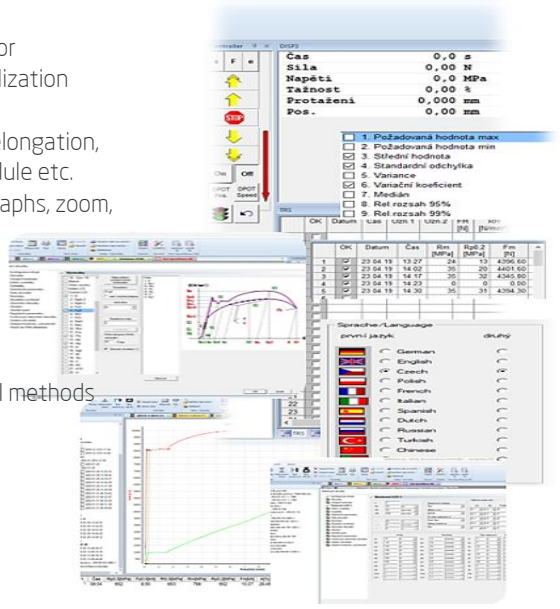
- bending jigs for palisades testing according to ČSN EN 12390
- crimping dies for curbs according to EN 1340
- 3-point load fixture
- 4-point load fixture
- strength splitting device
- tensile according to EN 1338, etc.
- preparations for determining the tensile strength of hardened mortars according to ČSN EN 1015-11
- jigs for testing hardened concrete in tensile bending according to ČSN EN 12390-5, etc.

Accessories on the machine

- single-acting or double-acting cylinders
- distance measurement including position loop control
- measuring probes for measuring the E module
- supplementation of HA with a system for long-term tests

Software Test&Motion+

Intuitive and reliable software



- Unlimited number of test methods, modular system of libraries designed for standardized tests, easy orientation in pre-selected definitions with visualization of fixtures – mandrel, clamps, settling frames, etc.
- Evaluation of optional parameters: maximum force, strength, elongation, elongation, tension, 5 different reference points depending on the approved test module etc.
- Real-time graph, possibility of individual processing after the test, mass graphs, zoom, serial testing...
- Receiving sample dimensions from peripheral devices – slider, micrometer
- Editable sample types and test standards including modification
- Digital display of all current values
- Storage of measured data in a database with the possibility of filtering
- Statistical evaluation of data and graphs, extensive selection of statistical methods
- Accurate information about machine status and error messages
- Multilingual version (CZ, EN, POL, RU, ESP etc.)
- Print the report in PDF format
- Export data to CSV – BASIS, or to MY SQL and MS SQL
- Setting user rights, operator login etc.

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Specification

Ratings	Units	LabTest H.4.02 6.2000-100	LabTest H.4.02 6.2000-300	LabTest H.4.02 6.3000-100	LabTest H.4.02 6.3000-300
Product code		1.08045620	1.08045720	1.08045820	1.08045920
Compressive force	kN	2000	2000	3000	3000
Measuring range	kN	6 to 2000	6 to 2000	9 to 3000	9 to 3000
Cylinder stroke	mm	100 – standard			
Compressive bending force	kN	100	300	100	300
Measuring range	kN	0,3 to 100	0,9 to 300	0,3 to 100	0,9 to 300
Cylinder stroke	mm	100 – standard (possibility of increasing the stroke up to 500 mm) – depending on the type of jig			
Number of columns		4	4	4	4
Working hydraulic pressure	bar	350			
Min. rigidity of the machine	kN/mm	3820≥			
Hardness of fixture supports	HRC	53 to 55			
Machine weight	kg	1050	1160	1490	1680
Dimension – A x B*	mm	1410x1140	11410x1140	1722x1140	1722x1140
Dimension – C x D	mm	550x650	550x650	550x650	550x650
Environmental conditions					
Temperature of the working environment	°C	+10 ... +35			
Storage temperature	°C	-25 ... +55			
Humidity of the working environment	%	<90			
Electrical connection					
Supply voltage/frequency	V/Hz	3x400V/50-60			
Number of phases		3			
Machine power consumption	kVA	1,5			
Other parameters					
Color combination	RAL	1015, 5015			
Interface to PC		USB, Ethernet			
Speed of data communication with PC	kHz	10			
Standard effective tensile/compressive	segments	± 250000			
E-Stop by		EN ISO 13850 - SIL 1 / PL with monitoring