NEW Edition 30

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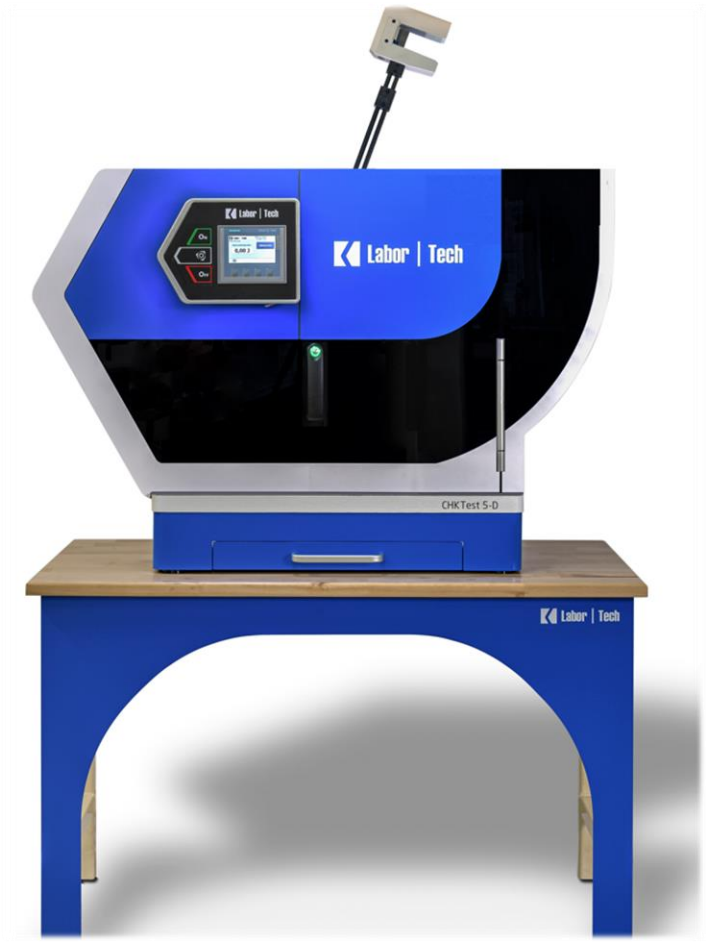
Pendulum impact testers for plastics of the CHKTest series up to 50 J

The CHKTest 50 J series pendulum impact testers from LABORTECH are precise and reliable devices designed for testing the notched toughness of plastic materials according to ISO 179, ISO 180, ASTM D6110, ISO 8256, DIN 50115 or ASTM D 256 standards. These impact tests are an important way to verify the ability of materials to withstand sudden loads – a key parameter for the durability and reliability of products in technical applications. LABORTECH has developed an innovated series of CHKTest 5, 25 or 50 hammers, which offers modern design, technical innovations and ergonomics for efficient and comfortable testing. CHKTest models are equipped with a central control and, in conjunction with IMPACTTest software, enable precise test control, data analysis and real-time evaluation of

Basic up to 5, 25, 50 J, instrumented, with angled adjustment...



Industry

engineering, plastics, aerospace, automotive, research institutions and schools, etc.

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Key Features and Benefits of the CHK.1 Series

We use new technologies and emphasize safety...

Construction and mechanics

The very rigid foundation structure with four levelling holes ensures high stability and effectively eliminates vibrations during tests, thus contributing to maximum measurement accuracy. The unique design of the machine allows for easy and quick handling of the housing – without tools and without the need to intervene in the base part of the machine. Thanks to the well-thought-out design of the test chamber, convenient access to all functional parts is ensured. The quick change of pendulums and cutting edges allows flexible adaptation to different test standards and customer-specific requirements. Samples can be precisely and reproducibly centered using the integrated stop with protection against damage to the structure. The arm lift is solved either manually or automatically by means of a special magnetic gearbox with an integrated DC motor, which is controlled by a frequency converter with an electronic brake for safe and smooth movement.

Machine control

Centrally and ergonomically placed controls ensure simple and safe operation of the machine and the testing itself, including clear indication of the status of individual processes in real time. In the case of the electric drive, the movement and stroke of the mallet is controlled via a membrane keypad, which is located within reach of the operator and guarantees precise and fast system responses. The integrated articulated touch panel with LCD display or monitor forms a user-friendly interface that allows you to conveniently set test parameters and monitor test results. Thanks to the articulated attachment, the display can be easily positioned. The digital display of the impact energy ensures accurate test evaluation, while the high-resolution incremental encoder provides accurate deflection angle measurements for repeatable and valid results.

Safety and ergonomics

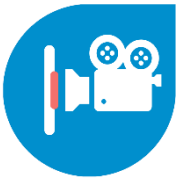
CHKTest impact testers are designed with an emphasis on maximum operator safety. The protective cover made of durable special polycarbonate ensures mechanical resistance and excellent visibility. Electronic door monitoring automatically interrupts the machine's operation when it interferes with the work area. The equipment meets the requirements of the ČSN EN ISO 13849-1, ČSN EN ISO 12100 and ČSN EN ISO 14120 standards, which define safety requirements for the construction and enclosure of machines. The work area is illuminated for better supervision, and automatic start-up within 5 seconds of closing the enclosure speeds up the test process. The 5 J and 25 J models can work without a table, while the 50 J models must be fixed according to ISO 179 for stability and safety. The overall concept of the system ensures comfortable, safe and precise operation even during intensive testing.

Efficiency and maintenance

The CHKTest series of hammers are designed to maximise efficiency in notch toughness tests and minimise downtime. The design of the machine allows for a quick test with an emphasis on simple operation and high repeatability of results. The integrated sampling drawer guarantees efficient collection of broken samples with an efficiency of up to 98%. The automatic opening of the guard immediately after the test is complete significantly reduces the time delay between cycles and saves operator time. To ensure clear and safe operation, the machine is equipped with an optical indication of the current status, which informs about readiness, test progress and possible errors. Robust mechanical design, accessible service points and modular design reduce maintenance and contribute to high operational reliability. CHKTest is speed, accuracy and easy maintenance.

IMPACTTest-S Evaluation Software

IMPACTTest-S is a specialized software for controlling CHK series test equipment, especially the LabTest CHK 50 J-D model. It offers an intuitive touch interface for easy test setup, mallet selection, and test starting. When the system is turned on, the main screen is displayed with access to the main functions, including the pendulum's home and base positions. Access to advanced settings is protected by login, ensuring user security and management. Errors are displayed with a numeric code and description and can be easily confirmed or reset. The test results are displayed directly on the screen. If the customer has purchased the IMPACTTest – BASIS add-on software, the results can be automatically transferred to a connected PC. The connection information is displayed directly on the main screen. Designed for accurate and repeatable measurements in accordance with international standards, IMPACTTest-S is ideal for both laboratory and industrial use. Only trained personnel may operate them.



Testing accessories

CHKTest up to 50 J, designed for plastic testing, can be equipped with extensive accessories and add-on modules for testing according to Charpy, Izod or Tensile Impact methods. Interchangeable rams and blades with different geometries, supports for specific samples, and a centering device are available for quick and accurate alignment without the risk of machine damage. The functionality of the machine can be extended with an instrumentation module for a detailed recording of the force progression according to ISO 179-2 and ISO 8256, or a module for setting the starting angle of the mallet. Efficiency is increased by automatic ejection of samples into the sampling box and the possibility of integration with the X-RUNNER robotic feeder and temperature chamber from -120 °C to + 150 °C. Thanks to these capabilities, CHKTest becomes a highly accurate and flexible system for standardized and automated testing of plastic materials.

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CHKTest 5 J Impact Tester Specifications

Ratings	Units	CHKTest 5-D.0	CHKTest 5-D.1
Product code		1.09011125	1.09011025
Maximum impact energy	J	5,5	5,5
Number of starting positions of the stick		1	3
Stroke the club to the starting angle		manually	manually
Test evaluation		HMI 4" display mono	HMI 4" display mono
CHARPY ISO 179 Test Standard			
Impact speed	m/s	2,9	2,9
Type of standard buds	J	0,5 – 1–2–4–5	0,5 – 1–2–4–5
CHARPY ASTM D 6110 Test Standard			
Impact speed	m/s	3,46	3,46
Type of standard buds	J	0,5 – 1–2,7–5,4	0,5 – 1–2,7–5,4
IZOD ISO 180 Test Standard			
Impact speed	m/s	3,5	3,5
Type of standard buds	J	1–2,75–5,5	1–2,75–5,5
IZOD Test Standard ASTM D 256 / ASTM D 4812			
Impact speed	m/s	3,46	3,46
Type of standard buds	J	1–2,75–5,5	1–2,75–5,5
IMPACT TENSILE ISO 8256-A-B Test Standard			
Impact speed	m/s	2,9	2,9
Type of standard buds	J	2-4	2-4
IMPACT TENSILE ISO 8256-A-B Test Standard			
Impact speed	m/s	3,46	3,46
Type of standard buds	J	1,35–2,7–5,4	1,35–2,7–5,4
Software and modules			
IMPACTTest-S Core Software		YES	YES
Extended software on PC – IMPACTTest*		YES	YES
MODULE I – Instrumentation*		NO	NO
MODULE A – Unlimited default angle setting*		NO	NO
MODULE T – Temperature Monitoring*		YES	YES
MODULE R – For Robot Systems*		NO	NO
Electrical connection			
Supply voltage/frequency	V/Hz	115 or 230/50-60/1 phase	
Machine power consumption	VA	45	
Other parameters			
The basic weight of the machine without electronics...	Kg	148	
Color combination	RAL	1015, 5015, 9005	
PC interface		Ethernet	
Environmental conditions			
Working Environment Temperature	°C	+10 ... +35	
Humidity of the working environment	%	<90	

* Software modules are available at an additional cost

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CHKTest 25 J Impact Tester Specifications

Ratings	Units	CHKTest 25-D.0	CHKTest 25-D.1
Product code		1.09010925	1.09010825
Maximum impact energy	J	25	25
Number of starting positions of the stick		1	3
Stroke the club to the starting angle		manually	manually
Test evaluation		HMI 4" display mono	HMI 4" display mono
CHARPY ISO 179 Test Standard			
Impact speed	m/s	2,9	2,9
Type of standard buds	J	0,5 – 1–2–4–5	0,5 – 1–2–4–5
CHARPY ISO 179 Test Standard			
Impact speed	m/s	3,8	3,8
Type of standard buds	J	7,5 – 15–25	7,5 – 15–25
CHARPY ASTM D 6110 Test Standard			
Impact speed	m/s	3,46	3,46
Type of standard buds	J	0,5 – 1–2,7–5,4-10,8-21,6	0,5 – 1–2,7–5,4-10,8-21,6
IZOD ISO 180 Test Standard			
Impact speed	m/s	3,5	3,5
Type of standard buds	J	1–2,75–5,5-11-22	1–2,75–5,5-11-22
IZOD Test Standard ASTM D 256 / ASTM D 4812			
Impact speed	m/s	3,46	3,46
Type of standard buds	J	1–2,75–5,5-11-22	1–2,75–5,5-11-22
IMPACT TENSILE ISO 8256-A-B Test Standard			
Impact speed	m/s	2,9	2,9
Type of standard buds	J	2-4-7,5-15-25	2-4-7,5-15-25
IMPACT TENSILE ISO 8256-A-B Test Standard			
Impact speed	m/s	3,46	3,46
Type of standard buds	J	1,35–2,7–5,4-10,8-21,6	1,35–2,7–5,4-10,8-21,6
Software and modules			
IMPACTTest-S Core Software		YES	YES
Extended software on PC – IMPACTTest*		YES	YES
MODULE I – Instrumentation*		NO	NO
MODULE A – Unlimited default angle setting*		NO	NO
MODULE T – Temperature Monitoring*		YES	YES
MODULE R – For Robot Systems*		NO	NO
Electrical connection			
Supply voltage/frequency	V/Hz	115 or 230/50-60/1 phase	
Machine power consumption	Kva	45	
Other parameters			
The basic weight of the machine without electronics...	Kg	166	
Color combination	RAL	1015, 5015, 9005	
PC interface		Ethernet	
Environmental conditions			
Working Environment Temperature	°C	+10 ... +35	
Humidity of the working environment	%	<90	

* Software modules are available at an additional cost

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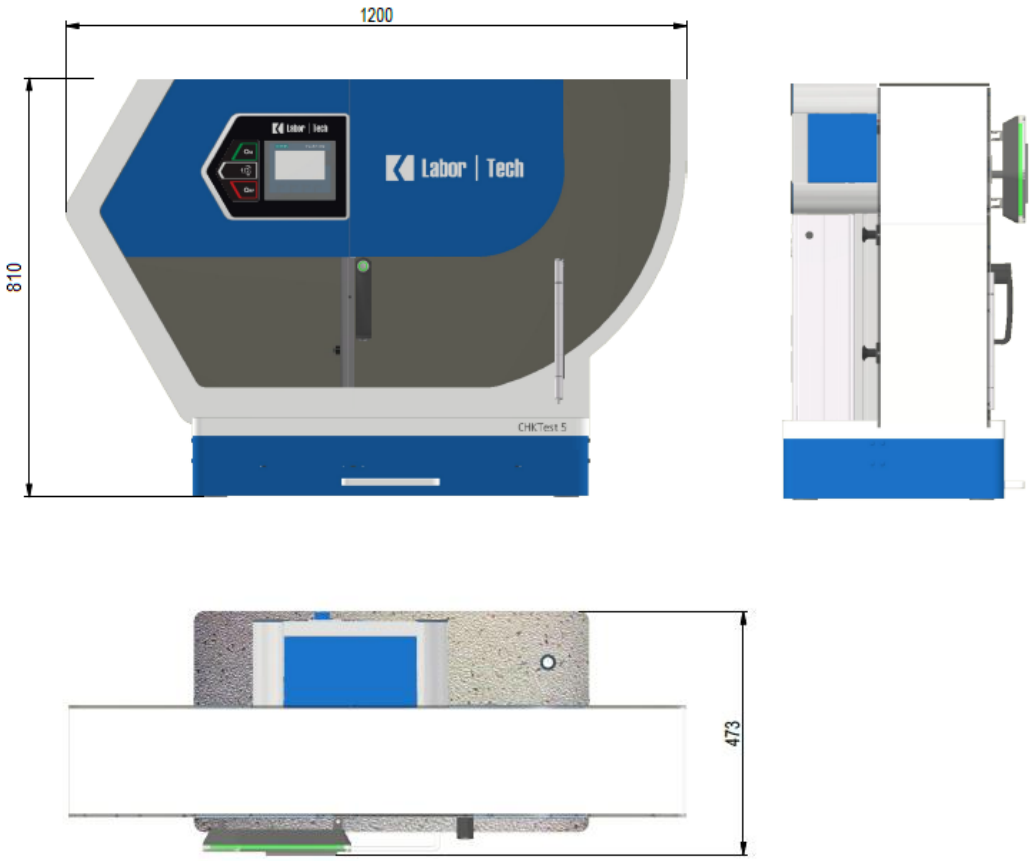
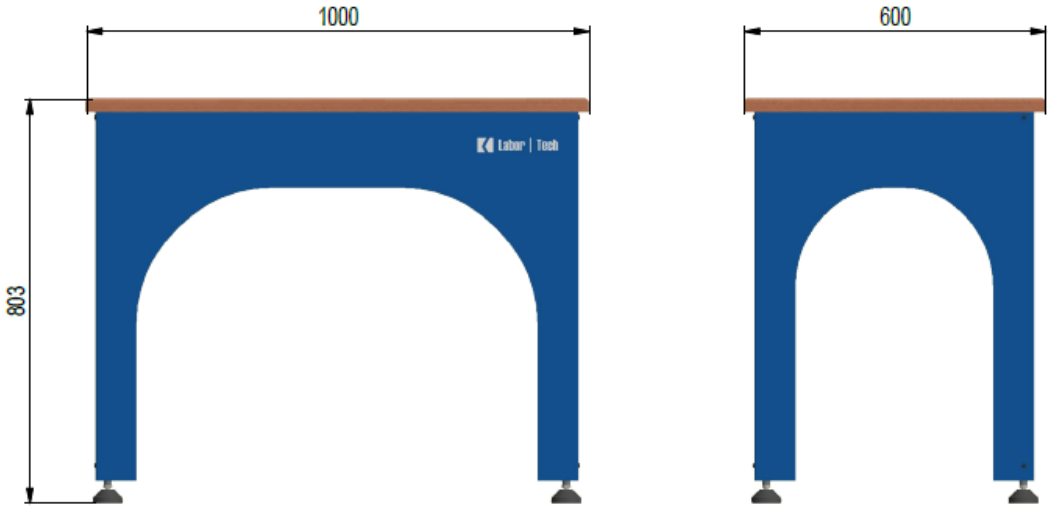
CHKTest 5 and CHKTest 25



Design of a special table with a weight of 125 kg



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CHKTest 50 J Impact Tester Specifications

Ratings	Units	CHKTest 50-D.2	CHKTest 50-D.3
Product code		1.09010725	1.09010625
Maximum impact energy	J	50	50
Number of starting positions of the stick		3	3
Stroke the club to the starting angle		manually	automatically
Test evaluation		HMI 4" display mono	HMI 4" display mono
CHARPY ISO 179 Test Standard			
Impact speed	m/s	2,9	2,9
Type of standard buds**	J	0,5 – 1–2–4–5	0.5 – 1–2–4–5
CHARPY ISO 179 Test Standard			
Impact speed	m/s	3,8	3,8
Type of standard buds**	J	7,5 – 15–25-50	7.5 – 15–25-50
CHARPY ASTM D 6110 Test Standard			
Impact speed	m/s	3,46	3,46
Type of standard buds**	J	0,5 – 1–2,7–5,4-10,8-21,6	0.5 – 1–2.7–5.4-10.8-21.6
IZOD ISO 180 Test Standard			
Impact speed	m/s	3,5	3,5
Type of standard buds	J	1–2,75–5,5-11-22	1–2,75–5,5-11-22
IZOD Test Standard ASTM D 256 / ASTM D 4812			
Impact speed	m/s	3,46	3,46
Type of standard buds	J	1–2,75–5,5-11-22	1–2,75–5,5-11-22
IMPACT TENSILE ISO 8256-A-B Test Standard			
Impact speed	m/s	2,9	2,9
Type of standard buds	J	2-4-7,5-15-25-50	2-4-7,5-15-25-50
IMPACT TENSILE ISO 8256-A-B Test Standard			
Impact speed	m/s	3,46	3,46
Type of standard buds	J	1,35–2,7–5,4-10,8-21,6	1,35–2,7–5,4-10,8-21,6
CHARPY METALS - DIN 50115/ASTM E23 Test Standard			
Impact speed	m/s	3,8	3,8
Type of standard buds	J	7,5-15-25-50	7,5-15-25-50
Software and modules			
IMPACTTest-S Core Software		YES	YES
Extended software on PC – IMPACTTest*		YES	YES
MODULE I – Instrumentation*		NO	YES
MODULE A – Unlimited default angle setting*		NO	YES
MODULE T – Temperature Monitoring*		YES	YES
MODULE R – For Robot Systems*		NO	YES
Electrical connection			
Supply voltage/frequency	V/Hz	115 or 230/50-60/1 phase	
Machine power consumption	Kva	45	
Other parameters			
The basic weight of the machine without electronics...	Kg	221	259
Color combination	RAL	1015, 5015, 9005	
PC interface		Ethernet	
Environmental conditions			
Working Environment Temperature	°C	+10 ... +35	
Humidity of the working environment	%	<90	

* Software modules are available at an additional cost ** Red – possibility of mallet-blade instrumentation

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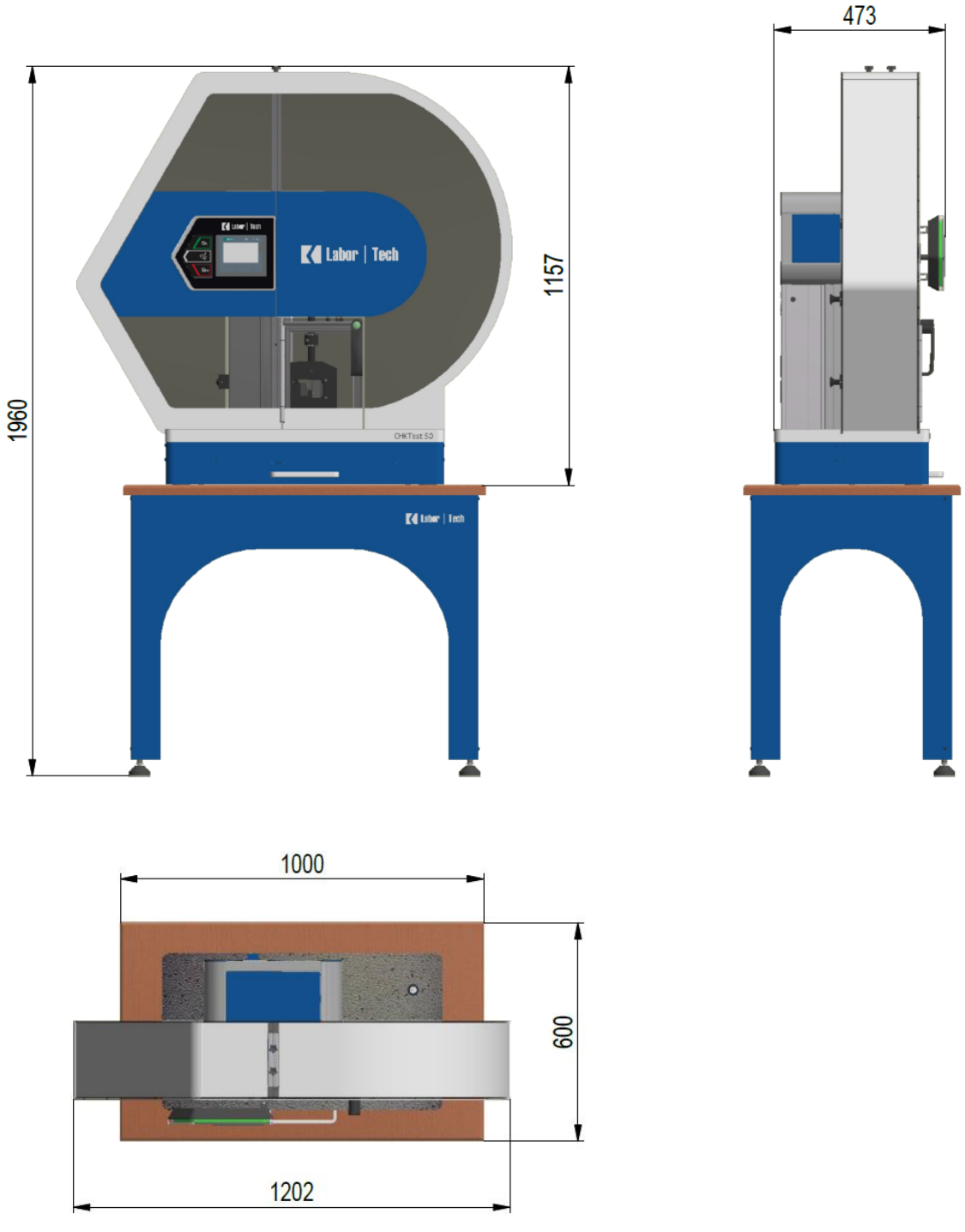
Design CHKTest 50



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Add-on software IMPACTTest – BASIC

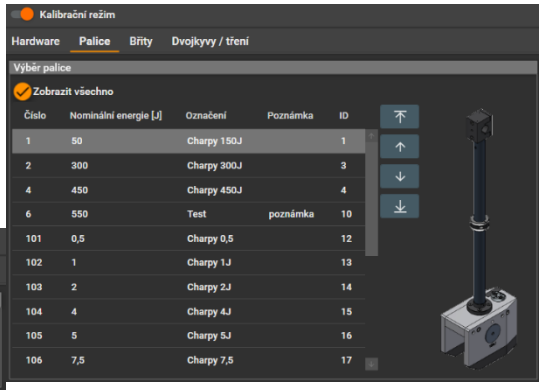
Measurement of impact toughness of materials and the course of impact force, which you will love...

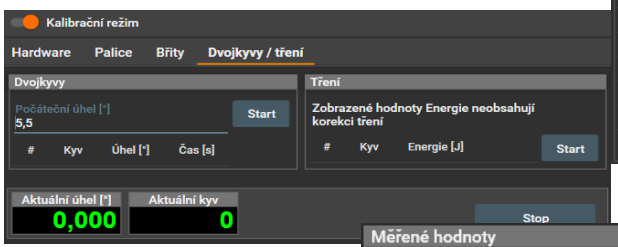
IMPACTTest – intelligent, intuitive and powerful software that is an integral part of all LabTest CHK series pendulum impact hammers from LABORTECH. The software helps you increase the productivity and quality of testing in your test rooms and test labs. You can streamline, refine and speed up the execution of your tests and adapt your testing environment to make it easy for operators to measure the mechanical properties of materials using the notched toughness method according to EN, ISO, DIN, ASTM and GOST standards.

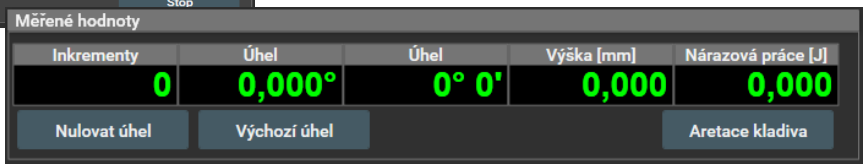
- Intelligent, intuitive and powerful software designed for fast and rational impact tests.
- Software designed for impact bending test according to ČSN EN ISO 148-1, ČSN EN ISO 148-2, ASTM E23, GOST 9454-78, EN ISO 14556:2015, ČSN 42 0382, ČSN 42 0383, EN ISO 179, ISO 9854, ISO 8256, ASTM D1822, ASTM D256.
- Unlimited number of test methods, modular system of libraries designed for standardized tests, easy orientation in pre-selected definitions with visualization of supports, cutting edges and mallets.
- Editable sample types and test standards, including item name modification.
- Digital display of all current values including analog energy display.
- Storing the measured data in a database with the possibility of filtering by definition, order, date, etc.
- Statistical evaluation of data and graphs, extensive selection of statistical methods.
- Extensive calibration mode according to EN ISO 148-2 as standard.
- Automatic cooling timing before testing according to EN ISO 148-1 and ASTM E23.
- Data transmission from temperature chamber, thermometer, optical inspection of OPTOLab 55 II samples, VRE notching device, etc.
- Multilingual version (CZ, EN, DE, FR, POL, RU, ESP, etc.)
- Print the report in PDF format.
- Export data to CSV – BASIS, or to MY SQL and MS SQL.
- Perpetual license.
- Installation on any computer without using a license, etc.

Extensive calibration mode as standard

- Calibration according to ČSN EN ISO, ASTM and GOST standards.
- Sophisticated measurement of the following parameters: ram weight, swing radius, initial angle, actual energy, friction correction,







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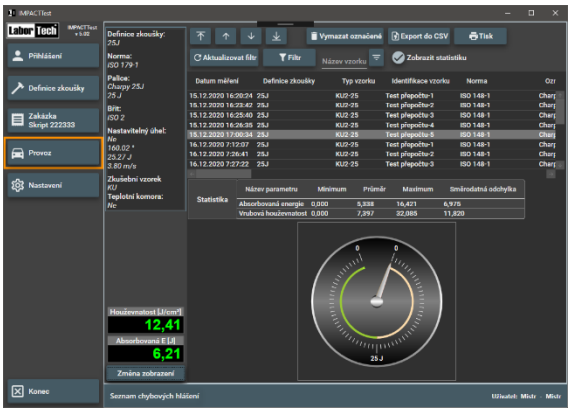
Impact Tester Modification Modules

Module – BASIC

- Basic module integrated in IMPACTTest software.
- Defined basic types of tests in the database – Charpy, Izod, Brugger, tensile impact tests of metal samples, etc.
- Digital and analog display of measured values.
- Storing the measured data in a database with the possibility of filtering by definition, order, date, etc.
- Automatic identification of the slide and blades in the machine base.
- Integrated calibration mode – ram weight, swing radius, initial angle, actual energy, friction correction, oscillation – time – angle, calibration of blades and rests, etc.



Module – I – instrumented exam

- Automatic recording of instrumented test results, including retrospective modification and evaluation according to ČSN EN ISO 14556.
- Recording multiple curves, zooming in with ZOOM – finding x, y coordinates for individual samples, etc.
- Dynamic linearization in ASTM E 2298.
- Linearization of the course of instrumented cutting edges, including calibration according to ČSN EN ISO 148-2, ASTM E 23, ASTM E 2298 and ČSN EN ISO 7500-1.

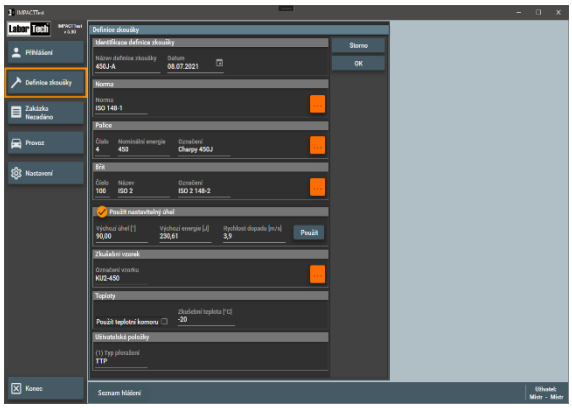
Ratings	Units	Module-I
Sampling rate*	Mhz	4
AD converter	bit	16
Track resolution	mm	< 0.07

*For four measurement channels

Module – A – continuously adjustable starting angle

- Setting and capturing the test ram with a special magnetic coupling, which offers unprecedented possibilities to perform the notched toughness test associated with the development of new materials.
- Freely electronically adjustable starting angle with an accuracy of 0.05° **without any angle limitation.**
- After the test starts, the arm is set to a predefined position, waiting for stabilization and breaking the sample.

Ratings	Units	Module-A
Adjustable impact speed – max 3.8 m/s	%	3 to 100
Adjustable initial energy – max 50 J	%	7 to 100
Continuously adjustable starting angle	%	15 to 100



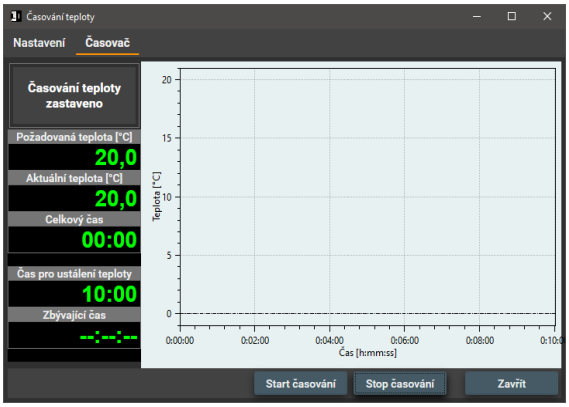
Unlimited combinations

Individual basic modification modules can be combined with each other and thus increase the versatility of the CHK series impact testers from LABORTECH.

Impact Hammer Expansion

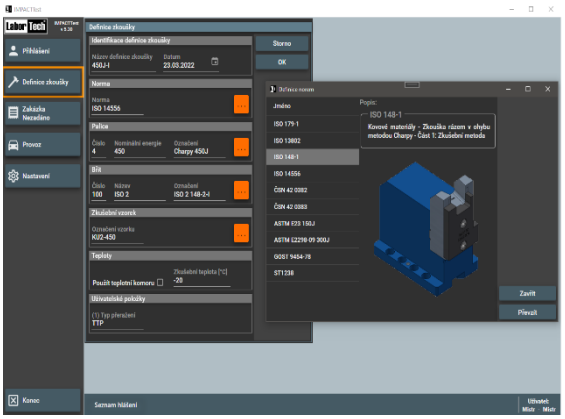
Module – T – automatic temperature monitoring

- Automatic temperature monitoring and mutual communication with the LABCool 21 cooling chamber.
- Setting parameters – temperature tolerance of the cooling medium, setting of the time for temperature stabilization, setting of the time for stabilization of the temperature after a decrease outside the tolerance, setting of units at the X and Y axis in the graph, tolerance zone, etc.
- After the timing is finished, the background color of the information message will be changed to green and the "Test start" button on the machine panel will be unlocked.



Module – BR – robotic workplace X-RUNNER

- The BR software module is designed for the BLUE RUNNER and YELOW RUNNER robotic systems from LABORTECH.
- These systems have been created primarily to minimize the operator's influence on the reproducibility of test results by loading and breaking samples within 5 seconds as required by EN ISO 148-1.
- Automatic selection of samples from a defined container.
- Communication and control with the temperature chamber for temperatures down to -95 °C, including storage system. Communication with optical inspection of OPTOLab 55 II samples, including database exchange of measured data.
- This module can be used for both the BASIS module and for the I, A or



Activating Modules

If you decide to buy a sample cooling chamber or the X-RUNNER robotic workplace from LABORTECH together with the CHK impact tester, **we will automatically activate** the individual impact tester expansion modules.

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