

... from development to
implementation

Labor Tech[®]

Production of materials testing equipment and automation

Drop weight testers series
DP.2 - DPFest up to 3000J

Made in Czech Republic



The logo for Labor Tech, featuring the words "Labor" and "Tech" in a bold, white, sans-serif font on a black rectangular background.

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Basic description

The low-capacity drop weight testers LABORTECH are designed to test and evaluate the fracture surfaces of materials and products by falling weights. The test method is described as a drop weight tear test in the following standards: EN ISO 6603-2, ISO 7765-2, EN ISO 179-1/-2, ISO 18352, EN 6038, ASTM D3763, ASTM D5628, ASTM D7136M, ASTM D7192, ASTM D2444, Airbus AITM 1.0010, Boeing BSS 7260, DIN 65561.

Main advantages, functions, properties

- Robust vertical test frame with high stiffness, durability, good ergonomic design and maintenance-free operation.
- Modular system with various machine modifications.
- The unique combination of magnetic protection system in cooperation with ELHY electro-hydraulic equipment allows optimization of the pendulum bounce.
- Infinitely adjustable fall height with automatic lift by AC motor and inverter.
- Continuous checking of the correct weight of the impact weight.
- 6 high-efficiency shock absorbers for safe and reliable elimination of residual energy.
- Securing the working area with a safety girder with automatic unlocking during the test.
- Protective safety cover with electrical protection. High safety according to EN ISO 13849/2.
- Automatic sample loading system with pneumatic manipulator into the test zone with sample breakage within 10 sec.
- Flexible, quick and easy adjustment of the support to the tested specimen including centering.
- The quick-change blade system ensures simple and convenient operation for the user in harsh industrial environments.
- Detection of operating errors and their display in the program.
- Preparation for use of various test supports and cutting edges.
- Integrated electric transport for collection of broken samples with efficiency up to 95% for further use (metallographic analysis etc.).

Machine control

- Centrally positioned controls for easy control and testing on the test system.
- Electronics and machine control integrated in the Rittal central enclosure, which is part of the machine with the DROTest-S-xxx safety software installed in the Simatic S7 safety PLC with electromechanical interlocking and the possibility of using individual modules.
- Touchscreen control with electronic display of fall height, decreasing energy, weight of fall and impact speed.



Security and Update Requirements

- LABORTECH high-impact machines, based on their design and structure, comply with the safety of the European Machinery Directive (89/392 / EEC and 91/368 / EEC - Machinery Safety).
- Certified TÜV safety circuit system with safety control and monitoring.
- High safety in accordance with EN ISO 13849-1/2
- All safety systems are double fused.
- Continuous inspection of safety guards and doors in accordance with new safety features.

Extension of machines

- The possibility of expanding the drop weight tester with **instrumentation** with force measurement and impact trajectory on Electronics with 4 MHz measurement speed, digital control and measuring unit SPEED and powerful IMPACTTest – BASIS software with appropriate modules.
- Expansion of drop weight testers with **cooling systems** with maximum cooling temperature up to 90 °C.
- Expansion of machines with **robotic systems** with the possibility of autonomous control of the whole system without human intervention.

Features of software DROTest - BASIS

DROTest is an integral part of all vertical impact machines type LabTest DP supplied by LABORTECH. This software will help you increase the productivity and quality of testing in your test rooms and test laboratories. You can streamline, refine and accelerate your testing and customize your testing environment to make it easy for operators to measure the mechanical properties of materials by the free falling weight method, regardless of their skills. Below you will find basic features in several points:



- Software designed for falling weight test.
- Editable sample types and test standards including item's name modification.
- Graphical evidence of preparations for individual standards and work procedures.
- Digital display all of actual values.
- Storage of measured data into database with possibility of filtering according to definition, order, date etc.
- Extensive calibration mode as standard.
- Automatic cooling timing prior to testing EN ISO 148-1 and ASTM E23.
- Data transmission from temperature chamber, thermometer etc.
- Multilanguage versions (English, Polish, Russian etc.).
- Print the report in PDF format.
- Export data to CSV - BASIS, or to MY SQL and MS SQL
- Unlimited license.
- Installation on any computer without license, etc.

Warranty and post warranty service

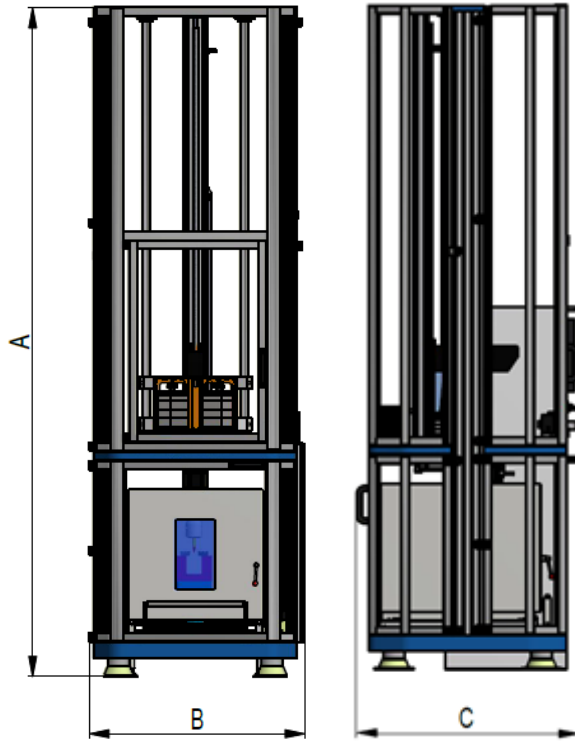
- We guarantee warranty and post-warranty service for each of our drop weight tester supplied by us. **EXPERTISE, ACCURACY and SPEED** are our priorities.
- Each customer can choose: Standard Service, Service 24 or LABWEBservice 24.

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Technical data	Units	DPFest 200	DPFest 400	DPFest 600	DPFest 1000	DPFest 2000	DPFest 3000
Energy range	J	2,5 - 294	2,5 - 440	2,5 - 598	2,5 - 882	2,5 - 1800	2,5 - 2800
Impact speed	m/s	1 - 4,42	1 - 5,42	1 - 6,26	1 - 7,67	1 - 7,67	1 - 8,48
Measuring range with accelerator	J	4 - 500J	4 - 2000J	4 - 2000J	4 - 2000J	N/A	N/A
Impact speed with accelerator	m/s	1 to 10m/s*	1 to 19m/s*	1 to 19m/s*	1 to 19m/s*	N/A	N/A
Fall height range	mm	50 - 1000	50 - 1500	50 - 2000	50 - 3500	50 - 3700	50 - 4700
Position accuracy	mm	0,5	0,5	0,5	0,5	0,5	0,5
Dimensions for weights	kg	0,5 - 30	0,5 - 27,5	0,5 - 35	0,5 - 35	0,5 - 50	0,5 - 60
Accuracy weights classes	%	according OIML					
Weight ¹	kg	630	880	1350	1520	1840	1980
Color finish	RAL	1015, 5015					
Dimensions							
Height of the Machine (A)	mm	2850	3350	3695	5450	5650	6650
Width of the Machine (B)	mm	800	1100	1100	1100	1100	1100
Depth of the Machine (C)	mm	980	1114	1114	1114	1114	1114
Environmental conditions							
Operating temperature	°C	10 to 35					
Storage temperature	°C	-35 to 55					
Working space humidity	%	< 90					
Noise level ²	dB	< 65					
Electrical connection							
Suply voltage	V	230... 240/50-60Hz					
Fuse	A	16					
Power rating (without accessories)	VA	820	820	1000	1000	2000	2200

¹ Without accessories. ² Measured at distance of 1 m from the machine.



LABORTECH in the world



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