

... from development to  
implementation



Czech manufacturer of testing machines and automation



Electromechanical Dynamic Pulsator  
Testing machines  
**EP.2 series up to  $\pm 3000\text{N}$  - 150Hz**



Production of material testing machines and automation

## Key features and parts of EP.2

### Stiffness, precision and high dynamics with fully digital control...

**EP series Electromechanical Dynamic Pulsator Testing Machines and ASD** linear electromechanical or electrodynamic actuators based on linear motor technology are designed to test a wide range of materials and components in dynamic and static mode where oil-free and noiseless drive technology is preferred in the plastics, aerospace or medical industries. What can be tested on machines? Composites, metals, plastics, dental, knee or joint implants, skin, etc., **under loads from 1 to 100 kN.**



The robust vertical table or stand design with an adjustable crosshead has high rigidity, mechanical resistance and durability, guaranteeing 100% repeatability of results with small installations - 0.27 m<sup>2</sup>. The adjustment of the cross member can be ensured mechanically or fully electrically, including process monitoring. The integrated T-slot plate with special suspension at the base absorbs up to 95% of machine vibrations.



Specially designed compact oil-free linear actuator developed by LABORTECH with high dynamics, low moment of inertia at a stroke of 70 mm, low noise level at maximum power and maximum test frequency up to 150Hz at full load. Cooling is provided by controlled air circulation. Power supply for the whole machine - single-phase 230V.



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 and diagnostics of the machine using the RMCi remote control with LCD display. Force sensor with integrated acceleration sensor and digital optical extension sensor with the possibility of expansion by a combined axial / torsion sensor.



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.



Great versatility of the EP.2 series combined with the extension of the machine with various accessories: test grips and special jigs, temperature chambers and high-temperature furnaces, vessels and baths with saline, video extensometers, extension by torsion testing up to  $\pm 25$ Nm, integration of force sensor in the lower or the top of the machine, guide bar extensions and other accessories.



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. Safe setting mode according to EN 60204-1 via speed.



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# Software DYNPACK

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

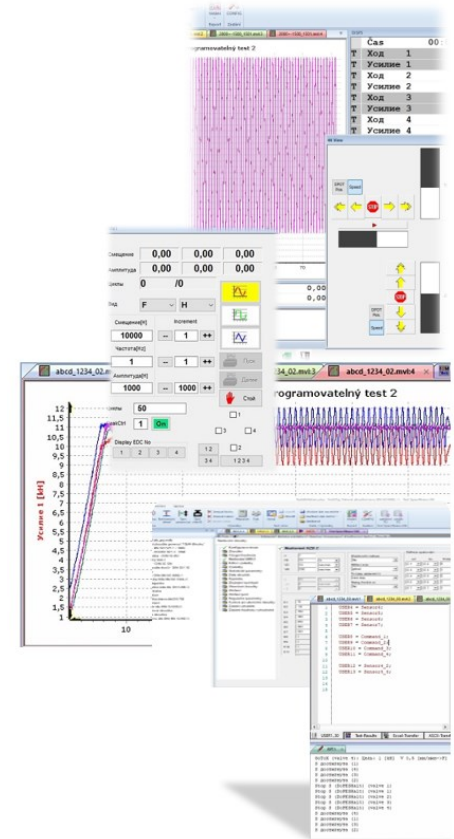
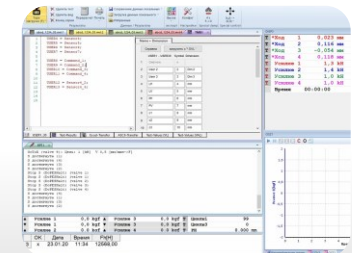
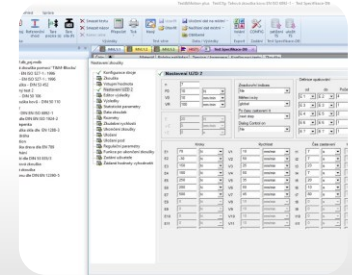
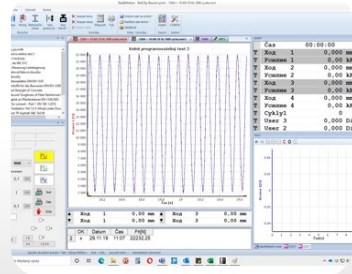
DYNPACK - intelligent, intuitive and powerful software that will help you increase productivity and quality of testing in your test rooms and testing laboratories. You can streamline, refine, and accelerate the performance of your tests and adapt your testing environment to make it easy for operators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



Every small detail matters

# 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.



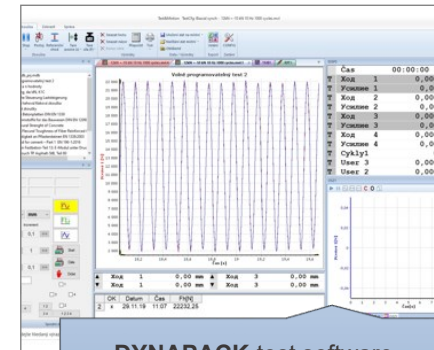
Extensometers - contactless, with limited information or full deformation.



High temperature furnaces up to 1600 ° C.



Temperature chambers with a range from - 196 ° C to + 350 ° C integrated in the EP series 1 machine

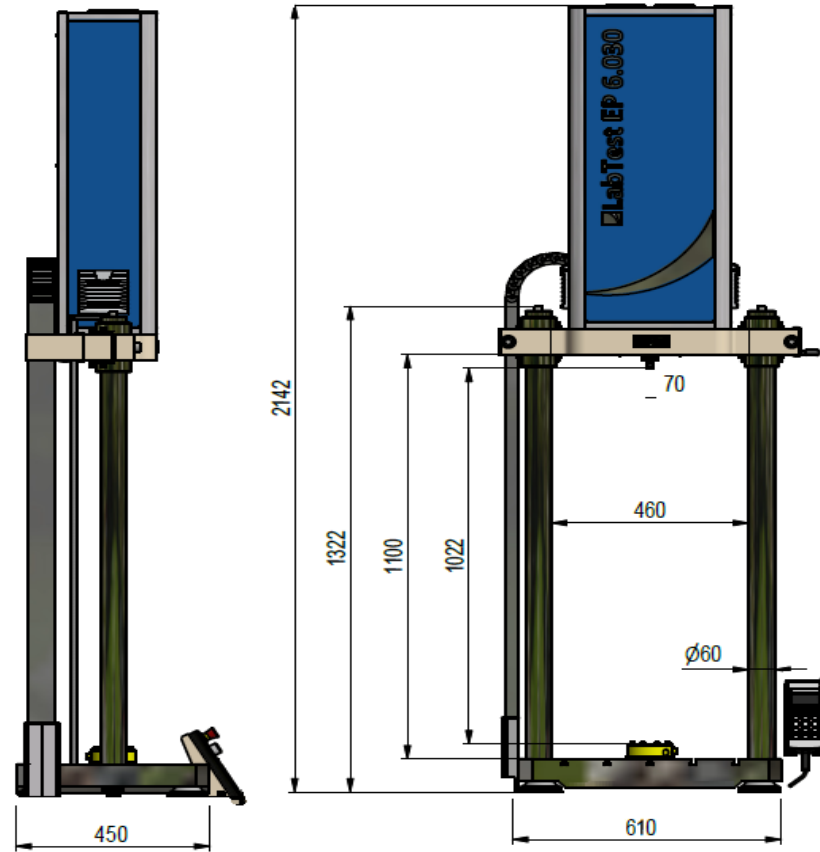


**DYNAPACK** test software supplied by LABORTECH with various test modules.





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**Additional accessories**

- 1.17990121 - EP machine extension - +410 mm or according to the customer's wishes
- 2.0101x17 – Force transducers with a higher accuracy class
- 2.04xxxx21 - Axial, torsional grips, compression plates, 3 and 4 point bends, etc.
- 2.06xxxx17 – Temperature chambers
- 2.02xxxx17 – basic 3 types of connection + connection according to the customer's wishes
- Protective safety covers with electrical protection - ITEM or AXELENT

**LabTest EP.2 series 0 series - table design**

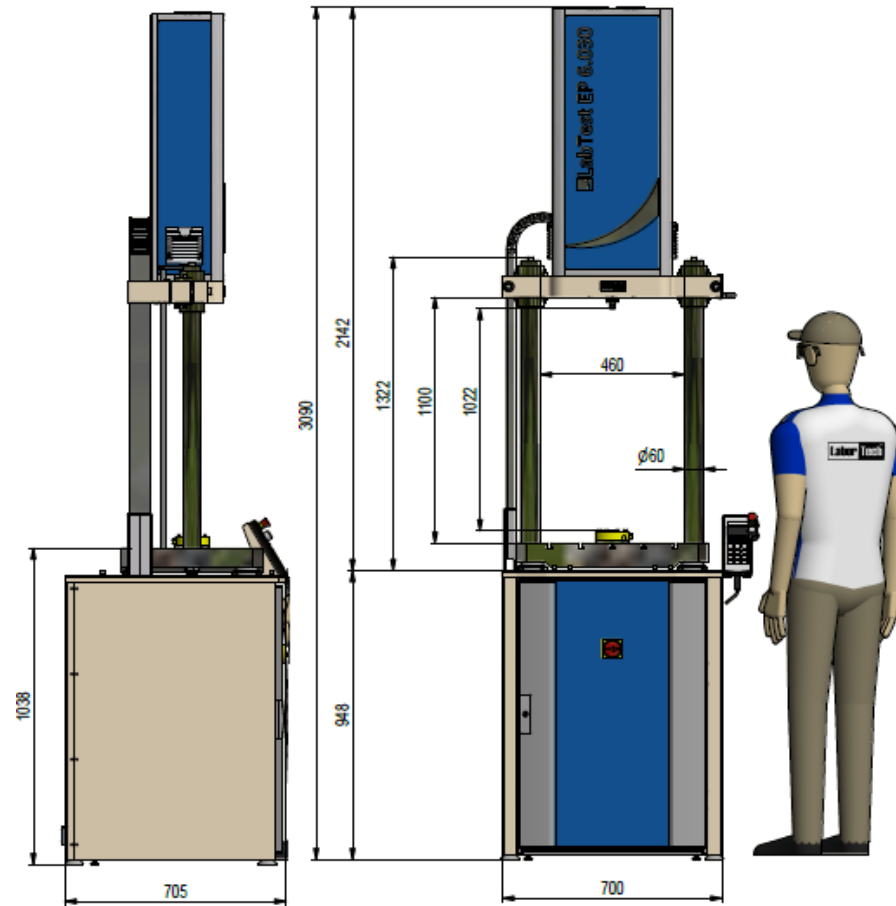
Technical data	Units	EP 6.030.00	EP 6.030.01
Product code		1.1700220	1.1700321
Max. dynamic load	N	± 3000	± 3000
Max. continuous static load	N	± 2300	± 2300
Torsional dynamic moment	Nm	-	25
Torsional static moment	Nm	-	18
Torsion angle <sup>1</sup>	°	-	± 135
Piston stroke	mm	70	70
Positioning accuracy and repeatability	um	± 1.5	± 1.5
Max. test frequency <sup>2</sup>	Hz	150	150
Max. test speed	m/s	1.5	1.5
Number of columns		2	2
Adjustment of the crosshead		Electro or manual	Rlectro or manual
Clamping the crossbar		Manual	Manual
T groove plate - size / spacing of grooves	mm	10 / 100	10 / 100
Stiffness of the machine at a height of 500 mm	kN/mm	55	64
<b>Environmental conditions</b>			
Working environment temperature	°C	+10 ... +35	+10 ... +35
Storage temperature	°C	-25 ... +55	-25 ... +55
Humidity of the working environment	%	<90	<90
<b>Electrical connection</b>			
Supply voltage / frequency	V/Hz	230V/50-60	230V/50-60
Number of phases		1	1
<b>Machine cooling</b>			
Power of remove air	kW	0.726	0.726
Max. amount of exhaust air	m <sup>3</sup> /hod	98	98
Color combination	RAL	1015, 5015	1015, 5015

<sup>1</sup> Variants with angle of rotation ± 16 or 135 ° <sup>2</sup> Axial frequency  
 Technical changes reserved during development, machine parameters at room temperature.





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- Protective safety covers with electrical protection - ITEM or AXELENT

**LabTest EP.2 series 1 series - stand design**

Technical data	Units	EP 6.030.10	EP 6.030.11
Product code		1.1700120	1.1700421
Max. dynamic load	N	± 3000	± 3000
Max. continuous static load	N	± 2300	± 2300
Torsional dynamic moment	Nm	-	25
Torsional static moment	Nm	-	18
Torsion angle <sup>1</sup>	°	-	± 135
Piston stroke	mm	70	70
Positioning accuracy and repeatability	um	± 1.5	± 1.5
Max. test frequency <sup>2</sup>	Hz	150	150
Max. test speed	m/s	1.5	1.5
Number of columns		2	2
Adjustment of the crosshead		Electro or manual	Rlectro or manual
Clamping the crossbar		Manual	Manual
T groove plate - size / spacing of grooves	mm	10 / 100	10 /100
Stiffness of the machine at a height of 500 mm	kN/mm	55	64
<b>Environmental conditions</b>			
Working environment temperature	°C	+10 ... +35	+10 ... +35
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<b>Electrical connection</b>			
Supply voltage / frequency	V/Hz	230V/50-60	230V/50-60
Number of phases		1	1
<b>Machine cooling</b>			
Power of remove air	kW	0.726	0.726
Max. amount of exhaust air	m <sup>3</sup> /hod	98	98
Color combination	RAL	1015, 5015	1015, 5015

<sup>1</sup> Variants with angle of rotation ± 16 or 135 ° <sup>2</sup> Axial frequency  
 Technical changes reserved during development, machine parameters at room temperature.



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## Why buy the machine of EP series from LABORTECH?

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

- Engineering services

LABORTECH offers a complete set of professional engineering services, including systems engineering, consulting services and equipment design.

- Training and education

LABORTECH application technicians increase the professional competence of working on a biaxial machine by regularly training operators and operating test equipment.

- On-line service and maintenance

Our testing machines can work 24 hours a day, 7 days a week, 365 days a year. We provide you with On-line service at all times with our qualified application and service technicians on the telephone line:  
+420 602 527 577.

- Calibration and adjustment

Testing laboratories must calibrate their testing equipment to ensure accuracy in accordance with the Metrology Act. LABORTECH provides top calibration services associated with alignment.

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## LABORTECH in the world

Where to find LABORTECH representations...



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