

... from development to
implementation



Production of materials testing equipment and automation



Testing machines with lever mechanism
and weight
C.1 series – CREEPTest 6.10 – 100

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implementation

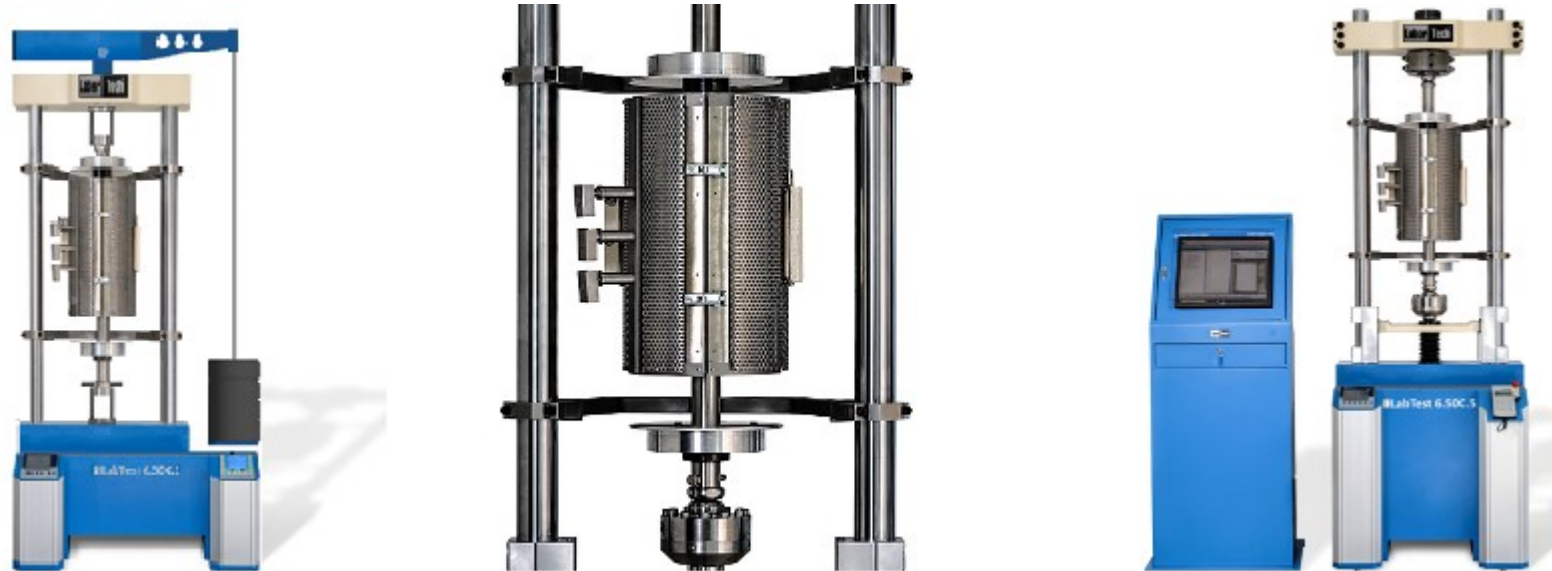


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Testing machines for long-term test - CREEPTest

Reliable, precise with high rigidity and repeatability

The LABORTECH company offers special testing machines for long-term CREEP TEST tests designed to determine creep or stress relaxation in the material. These machines allow tests to be performed at a constant temperature up to 1600 ° C, where the deformation is recorded at specified time intervals. The constant load of these machines is derived from a lever mechanism and weight, a spring mechanism or a special low-speed AC drive with a long service life.



All modifications of CREEP test systems manufactured by us are designed so that the customer can fully rely on its function and accuracy with long-term constant loading (material flow) with force or stress, including elongation and at a constant homogeneous temperature in a high-temperature furnace. Intuitive and trouble-free use of test software designed for long-term tests produced by LABORTECH guarantees you a reliable declaration of results even after 100,000 hours of continuous loading.

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Key features of the C.1 series

Precise, coaxiality and durability are the parameters in the standard



The vertical stand design with high rigidity, guaranteed mechanical coaxiality and service life maintains a constant load by means of a **lever mechanism, weights and gravitational force**. Machine construction in accordance with EN ISO 204, ASTM E 292 and ASTM E139, GOST 10145, GOST 3248. The machine includes durable vibration pads to prevent the **transmission of vibrations**.



The Comfort of machine operation on very high level thanks to the SIEMENS LCD display for test control and management and the JUMO LCD display for independent controlling of up to 3 zone high-temperature furnaces, including external thermocouples. Both displays are sensitively integrated into the machine frame, so that they are clear and easy to touch.



The machine is controlled by measuring and control electronics SIEMENS S7-1200 with a maximum sampling frequency of 1000Hz. Resolution level of analog signals $\pm 32,000$ parts. Internal signal processing frequency 200kHz. PC connection - communication via Modbus TCP. Connection of JUMO temperature controller via Modbus RTU.



Based on their concept and construction, LABORTECH machines comply with all the above-mentioned EC directives on machines 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 EN ISO 13850-SIL 1 / PL.



Each CREEP machine includes a high-temperature furnace controlled by a JUMO LCD PID regulator, which ensures the accuracy of temperature control in accordance with the EN ISO 6892-2 standard. Depending on the tested material and temperature, high-temperature furnaces operating in the temperature range from 200 ° C to 1600 ° C and can be used with the possibility of using axial extensometers.



The integrated intuitive LOTETest test software provides machine control (gradual release of weights) and data collection with display of measured values from the power channel (if a force sensor is included), the elongation channel and the temperature on the sample as a function of time. CREEPTest software serves as a higher form of data collection, database storage, generate of own methods, etc.



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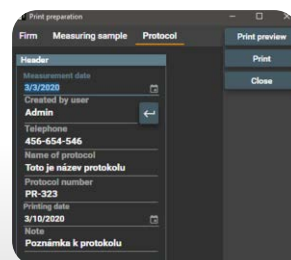
Software CREEPTest

Higher form of software for long-term tests with great endurance...

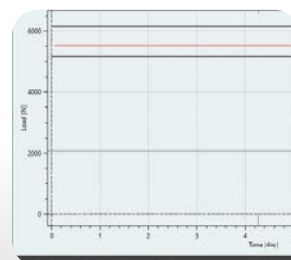


Features of software CREEPTest – BASIC

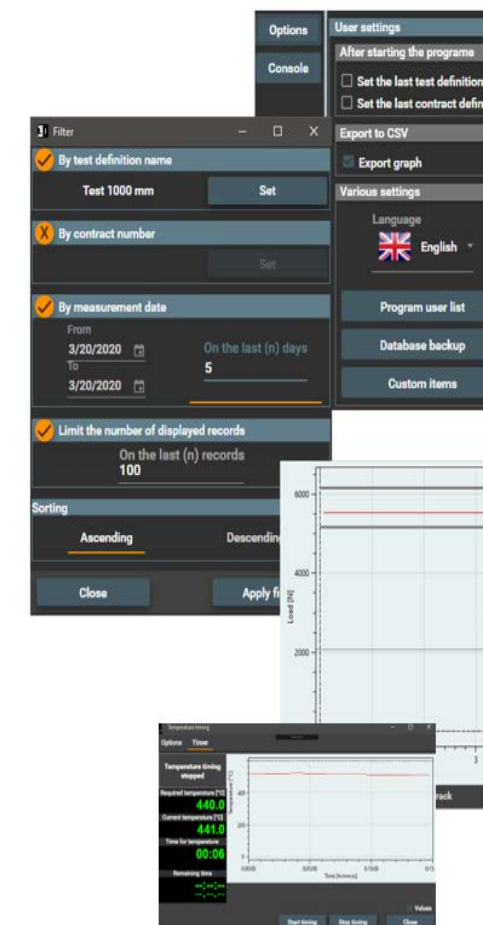
CREEPTest - BASIC will help you increase reliability and quality during long-term testing in your test rooms and testing laboratories. Software designed for long-term CREEP tests with full automation of the test process and elimination of errors during long-term tests according to EN, ISO, ASTM and GOST standards.



- Simple and intuitive operation, continuous data collection from multiple stations of the C.1, C.2 and C.4 series
- Digital display of all current values.
- Remote monitoring of the testing process, statistical processing of results and analysis of tests, database storage of results, data backup
- Saving of measured data in a database with the possibility of filtering



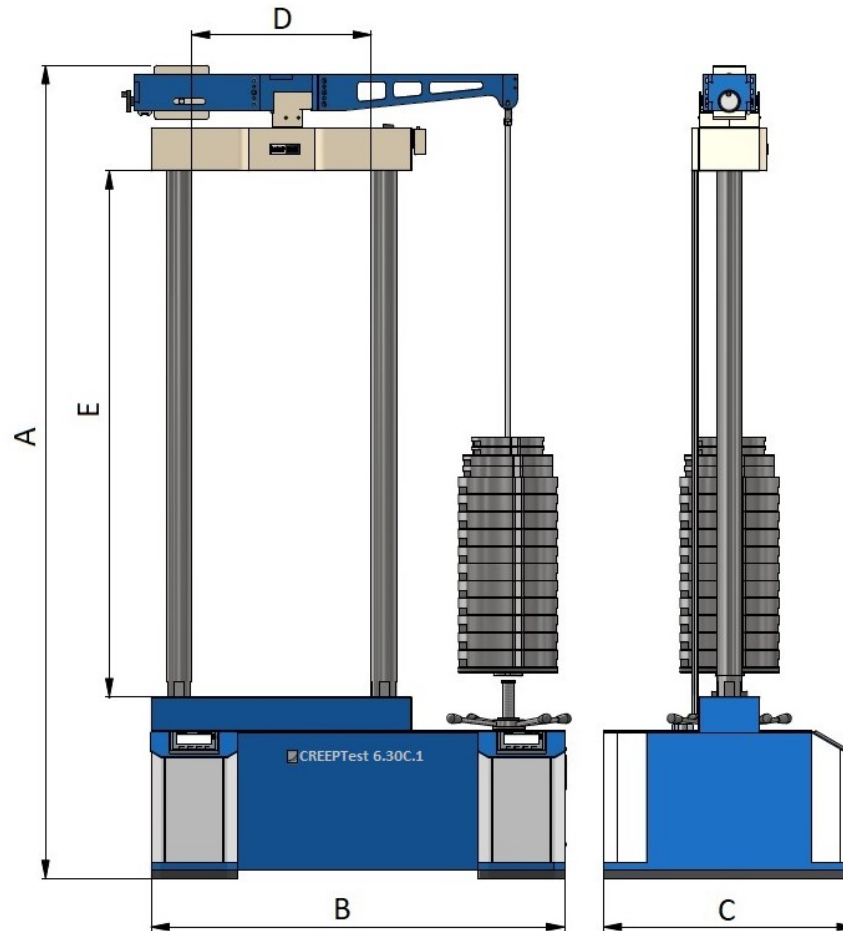
- Modules for long - term tests, determination of creep, stress relaxation in material, Andrade creep test at constant real stress during uniform deformation of test specimen, fracture time depending on deformation and time, Sherby - Dorn parameter, etc.
- Automatic control, including temperature records during long-term tests
- Multilingual version (CZ, EN, POL, RU, ESP atd.)
- Data export to CSV - BASIS, or to MYSQL and MS SQL
- Unlimited license



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C.1 series – with lever mechanism and weight

Technical data	Units	6.10C.1	6.30C.1	6.50C.1	6.100C.1
Product ordering code		1.03010420	1.03010019	1.03010119	1.03010219
Maximum load	kN	10	30	50	100
Lever arm ration		20:1	20:1	20:1	20:1
Machine dimensions					
Machine height - A	mm	2130	2280	2280	2280
Machine width - B	mm	1150	1150	1150	1150
Machine depth - C	mm	700	700	700	700
Height of the working space - E*	mm	1460	1460	1460	1460
Width of the working space - D	mm	500	500	500	500
Machine weight	kg	590	665	665	665
Measurement accuracy					
Accuracy class 1	In range from 4 up to 100% nominal load				
Electrical connection					
Supply voltage / frequency	V/Hz	230 / 50-60	230 / 50-60	230 / 50-60	230 / 50-60
Number of phases		1Ph/N/E	1Ph/N/E	1Ph/N/E	1Ph/N/E
Power consumption	VA	60	60	60	60
Power consumption with high temperature furnace	VA	3500	3500	3500	3500
Environmental conditions					
Working environment temperature	°C	+10 ... +35	+10 ... +35	+10 ... +35	+10 ... +35
Storage temperature	°C	-25 ... +55	-25 ... +55	-25 ... +55	-25 ... +55
Humidity of the working environment	%	<90	<90	<90	<90
Others					
Color combination	RAL	1015, 5015	1015, 5015	1015, 5015	1015, 5015

Technical changes reserved during development, machine parameters at room temperature, * without testing fixtures