



Low-capacity Vertical Drop Weight Testers Up To 2000J NG-FWT1 & NG-FWT2

Standards: [ISO 148](#), [ASTM E23](#), [ISO 179](#), [ISO 180](#), [ASTM D6110](#), [ISO 8256](#), [ASTM D256](#), [ASTM D2444](#), [ASTM D3763](#), [ASTM D7192](#), [ASTM E208](#), [ISO 2507](#), [ISO 75](#), [ISO 306](#), [ASTM D648](#), [ASTM D1525](#), [GB/T 8802](#), [GB/T 1633](#), [GB/T 1634](#)



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Description

NextGen's [FWT Series low-capacity drop weight testers](#), including models NG-FWT1 and NG-FWT2, are engineered for testing materials, samples, and components of various shapes across a broad spectrum of low to medium energy levels, with nominal energy capacities up to 2000J. Our advanced equipment enables precise simulation of material and component behavior under diverse conditions, including varying speeds, energy impacts, drop heights, collisions, accidental falls, and repeated impacts. Our newest drop weight testers are available in multiple configurations and are designed to comply with the stringent testing standards such as EN, ISO, ASTM, GOST, BS, and NF. They feature an integrated touch LCD monitor with DROPTest-S software or can be paired with a full-fledged PC running DROPTest – BASIC software, ensuring comprehensive compliance with customer requirements and industry standards.

NG-FWT1 & NG-FWT2 Drop Weight Testers Features

The NG-FWT1 and NG-FWT2 drop weight testers are engineered for high-precision impact testing, featuring:

- Robust Vertical Frames – Designed with high rigidity and resistance to dynamic interference, ensuring durability, an ergonomic layout, and maintenance-free operation.
- SIEMENS PLC Control – Integrated with an LCD touch screen running DROPTest-S software, enabling seamless operation at the machine base.
- Comprehensive Test Management – The DROPTest-BASIC software provides full evaluation and test data management for impact testing applications.
- Automated Lifting System – Precisely controlled electronic positioning adjusts the support to the required energy level or defined position.
- Advanced Measuring Electronics – Expandable with 4MHz measurement speed, ideal for force and impact instrumentation.



- Instrumented Test Mandrel Identification – Automatic recognition of test mandrels operating within [EN ISO 7500-1](#) and [ASTM E4](#) accuracy classes, with linearization capability.
- Multi-Axis Expansion – Optional horizontal axis control for impact energy measurement at multiple points, along with an anti-reflection system for enhanced accuracy.
- Regulatory Compliance – Fully meets EC machinery directives and incorporates the latest EN ISO 13850-SIL 1 safety features.
- Calibrated Weights & Accreditation – Weights calibrated per the Metrology Act 505/1990 and certified by an EN ISO / [IEC 17025](#) accredited laboratory.
- Custom Test Preparations – Configurable for specialized test setups in accordance with industry standards.
- Extreme Condition Testing – Compatible with temperature chambers or high-temperature furnaces for high-precision testing under varying thermal conditions.

NG-FWT Drop Weight Tester Machine Control

- Centralized Control System – Ergonomically positioned controls for smooth operation and precise test execution.
- Integrated Electronics & Safety Management – The NG-FWT1 and NG-FWT2 feature a Rittal central enclosure, housing all electronics and machine control components. The system runs on DROPTest-S-XXX safety software within a Simatic S7 safety PLC, utilizing electromechanical interlocking and modular expansion options.
- Advanced Touchscreen Interface – Displays real-time test parameters, including fall height, energy dissipation, drop weight, and impact speed, ensuring precise monitoring and repeatability.

Security and Update Requirements

- Compliance with European Safety Standards – The NG-FWT1 and NG-FWT2 meet all requirements of the European Machinery Directive (89/392/EEC and 91/368/EEC – Machinery Safety) for high-impact testing systems.
- Certified TÜV Safety Circuit – Equipped with a certified safety control and monitoring system.
- Advanced Safety Features – Designed in compliance with EN ISO 13849-1/2, guaranteeing high safety performance.
- Dual-Layer Protection – All critical safety systems feature double-fused safeguards for maximum operational security.
- Continuous Safety Monitoring – Real-time inspection of safety guards and access doors, integrating the latest EN ISO 13850-SIL 1 safety functions.



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NG-FWT Drop Weight Tester Extensions

- Advanced Instrumentation Expansion – Optional force measurement and impact trajectory analysis with high-speed 4 MHz electronics, integrated digital control, and the SPEED measurement unit for precise data acquisition. Powered by DROPTest-BASIC software with modular enhancements for expanded functionality.
- Temperature-Controlled Testing – Optional cooling system expansion allows for temperature-controlled impact testing, supporting a maximum cooling capacity of up to 90°C for enhanced material behavior analysis.
- Robotic System Integration – Fully automated robotic systems enable autonomous control, allowing the NG-FWT1 and NG-FWT2 to operate without human intervention for high-efficiency, repeatable testing.

DROPTest Software Features

DROPTest software is a core component of all NG-FWT1 and NG-FWT2 vertical impact testing systems, designed to improve productivity and testing accuracy in laboratories and quality control environments. Below, are the main features of the DROPTest software:

- Purpose-Built for Drop Weight Testing – Engineered for precise and efficient impact analysis.
- Customizable Sample & Test Standards – Edit sample types, modify item names, and adjust test parameters with ease.
- Graphical Test Preparation – Visual guidance for individual standards and step-by-step work procedures.
- Real-Time Digital Display – Live monitoring of impact force, velocity, and other key parameters.



- Comprehensive Data Management – Store measured data in a searchable database with filters for order, date, and custom definitions.
- Built-In Calibration Mode – Includes an extensive calibration suite for enhanced accuracy.
- Automated Cooling Timing – Pre-programmed cooling cycles in accordance with EN ISO 148-1 and ASTM E23.
- Data Integration – Supports data transfer from temperature chambers, thermometers, and other peripherals.
- Multi-Language Support
- Advanced Reporting & Export Options – Generate PDF reports, export data to CSV, MySQL, or MS SQL databases.
- Unlimited Licensing – No restrictions on installations, allowing deployment on any system without licensing limitations.

Technical Specifications

Technical Data	Units	NG-FWT200VP	NG-FWT400VP	NG-FWT600VP	NG-FWT800VP	NG-FWT1000VP	NG-FWT2000VP
Energy Range	J	0.3-294	0.3-405	0.3-588	0.3-757	2.5-882	2.5-1814
Impact Speed	m/s	0.7-4.42	0.7-4.646	0.7-6.26	0.7-4.645	1-7.67	1-8.52
Fall height range	mm	25-1000	25-1100	25-2000	25-1100	25-3000	25-3700
Position accuracy	mm	0.5					
Weights Dimensions	kg	0.5-30	0.5-37.5	0.5-30	0.5-70	0.5-30	0.5-50
Accuracy weights classes	%	According to OIML					
Weight	lbs/kg	798/362	873/396	913/414	1098/498	1098/498	1358/616
Color finish	RAL	1015, 5015					
Dimensions							
Height	in/mm	104"/2620	104"/2620	144"/3650	105"/2650	184"/4680	222"/5650
Width	in/mm	31.5"/800	31.5"/800	31.5"/800	31.5"/800	31.5"/800	35.5"/900



Length	in/mm	22.5"/570	22.5"/570	22.5"/570	22.5"/570	22.5"/570	26.5"/670
Environmental conditions							
Operating temperature	°C	10 to 35					
Storage Temperature	°C	-35 to 500					
Working space humidity	%	<90					
Noise level	dB	<65					
Electrical Connection							
Supply voltage	V	230...240/50-60Hz					
Fuse	A	16					
Power rating (without accessories)	VA	820	820	820	1000	1000	2000

International Standards Compliance

ISO & EN ISO Standards:

- EN ISO 179-1
- EN ISO 148-1
- ISO 179-1
- ISO 179-2
- ISO 180
- ISO 03-2
- ISO 8256
- EN ISO 6603-2
- ISO 7765-2
- EN ISO 179-1/-2
- ISO 18352



ASTM Standards:

- ASTM D2444
- ASTM D256
- ASTM D3763
- ASTM D6110
- ASTM D7136/D7136M-05
- ASTM D7192
- ASTM E208
- ASTM E23
- ASTM A370
- ASTM F1614
- ASTM F2412
- ASTM E436
- ASTM D5628

GOST Standards:

- GOST 9454-78
- GOST 30456-97
- DIN & EN Standards:
- DIN EN ISO 12100
- DIN EN ISO 14120
- DIN EN 60204-1 ed.2
- EN 6038

Aerospace Standards:

- Airbus AITM 1.0010
- Boeing BSS 7260
- DIN 65561

*** Request a [formal quotation](#) or send an e-mail to sales@nextgentest.com for the most up-to-date pricing and applicable discounts and incentives.**