



# AUTOSHOCK-II™

OUR EQUIPMENT. YOUR SUCCESS.

**AutoShock-II™** is a fully automated shock test system used to measure and identify product fragility levels and evaluate protective packaging. These systems perform a wide variety of half sine, square or saw-tooth waveform impacts. With the simulation of real world shock pulses and impact energy levels, manufacturers can systematically test and optimize product design and packaging.

**AutoShock-II™** is a Windows 10 based system. User-friendly controls are designed to interface to a variety of data acquisition and analysis software systems. This unique feature of the **AutoShock-II™**, allows access to best-in-class data acquisition and analysis software.

**AutoShock-II™** employs state-of-the-art braking and balanced lift mechanisms allowing for a low friction, repeatable, and rebound free impact. The nitrogen charged braking system is a safe, reliable and a cost-effective way to arrest a wide variety of payloads. The balanced hydraulic lift system is unique to the industry offering minimal column and bearing wear, while effortlessly providing an effective method to accurately position a wide array of payloads.

**AutoShock-II™** utilizes a low profile impact absorbing base allowing for a lower overall system height, more accessible loading, and better test configuration. The square wave cylinders are recessed into the base for improved performance, optimal ergonomic operation and effortless system accessibility.

**AutoShock-II™** meets or exceeds OEM, ASTM, MIL-STD, IEC, and ISO required test standards.

## Standard Features:

- **Windows 10 based PC control system with intuitive remote control interface** automates procedures and reduces test times. The operator simply enters conditions and **AutoShock-II™** converts them into specific machines instructions and performs the test.
- **A multiple post guidance system** with balanced hydraulic lift cylinders provides automatic, chatter free positioning and alignment of the shock table.
- **An automated shock drop calculator** simplifies the determination of drop heights and pressures to quickly achieve the operator's requested shock pulses. Drop heights and pressures can be stored and easily retrieved.
- **High performance cast or welded aluminum tables** produce optimum table strength and stiffness with minimal table noise and eliminating the need for over filtering of shock test data.
- **A state-of-the-art braking system** eliminates secondary impact rebounds and provides a secure and reliable method of holding table position prior to the drop.

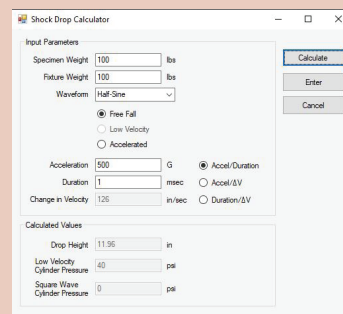
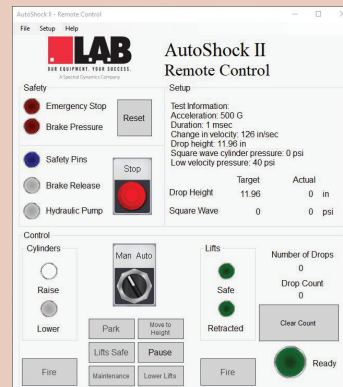


AUTOMATED SHOCK

- **Dual waveform shock pulse programmers** provide automated waveform switching between short duration half sine and square wave shock pulses, with consistent repeatability to streamline damage boundary testing.
- **L.A.B.'s unique balanced square wave programmer system** provides balanced impact across the product and table. Uniform placement of impact cylinders on the low-profile high strength base, provides the greatest possible impact uniformity.
- **A full range of safety features** including brakes that engage if power is lost or communications with the remote control are interrupted; a safety horn that sounds before equipment movement; a 24 volt output for an additional safety device such as a warning light; dual emergency stop buttons for mounting on or near the machine and at the operator's station; an additional emergency stop input such as options below, or an additional stop button
- **Universal integration** with a wide array of data acquisition systems allows the user to select a preferred system or use L.A.B.'s.

## Optional Features:

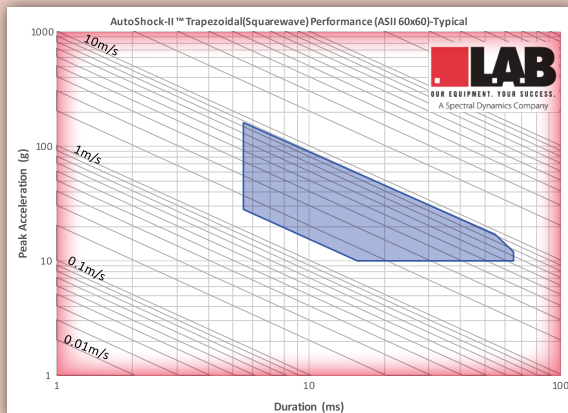
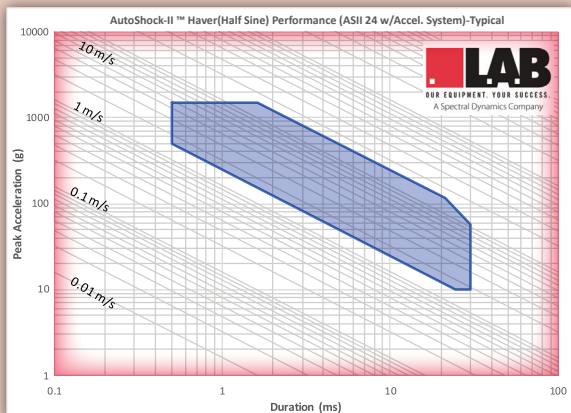
- **Automated, high speed data acquisition and analysis system**  
To meet your precise requirements, to capture all necessary shock test data; and to produce damage boundary curves (DBC), shock response spectrums (SRS), FFT, and many other types of data analysis.
- **High performance magnesium table**  
For low noise and highest possible resolution.
- **Safety interlock system**  
Pressure sensitive emergency stop mat to prevent table drops if the perimeter is intruded upon; 24 volt warning lights.
- **Acceleration kit**  
For performing shock pulses requiring velocities greater than achievable with a free fall test. (see chart on next page)
- **Elastomer half sine kit**  
Performs a wide range of long duration half sine pulses of up to 30 ms with acceleration up to 300 g's; one kit is required for each dual waveform programmer.
- **Low impulse kit,**  
Requirement for performing shock tests with a velocity change less than 1.5 m/s. (5 feet/sec.)
- **Dual mass shock amplifiers**  
Testing relatively small specimens at short duration and high acceleration; the amplifier is a precision auxiliary shock table that is bolted to the top of the primary shock table. Several models are available based upon the size of the **AutoShock-II™ as well as your test requirements.** The Shock Amplifier along with the specific elastomer half sine kit configured with the primary shock table, will give you a wide variety of high G and Low Duration half sine pulses.
- **Lead mold and Electric Furnace**  
Melting Lead and making pellets for saw-tooth pulses are also available.
- **Voltage adaptation to meet local requirements**



AUTOSHOCK-II



## Sample Performance Curves



The above performance curves are representative of specific AutoShock-II™ system performance. The specific model, test payload, as well as the accessory configuration (if present) will impact the desired performance. Please consult your L.A.B sales specialist for more details regarding your intended application.



# AUTOSHOCK-II

## Standard Autoshock-II™ Configurations

	AS-II 24x32	AS-II 36	AS-II 36x42	AS-II 48	AS-II 48x60	AS-II 60
<b>Table Size</b>	61 x 81 cm (24" x 32")	91 x 91 cm (36" x 36")	91 x 107 cm (36" x 42")	122 x 122 cm (48" x 48")	122 x 152 cm (48" x 60")	152 x 152 cm (60" x 60")
<b>Seismic Base Weight</b>	1,700 kg	2,300 kg	4,050 kg	5,800 kg	7,000 kg	8,200 kg
<b>Nominal Specimen Weight</b>	90 kg	140 kg	205 kg	270 kg	335 kg	400 kg
<b>Maximum Specimen Weight</b>	600 kg	600 kg	600 kg	900 kg	900 kg	900 kg
<b>Machine Weight</b>	2,300 kg	3,200 kg	4,500 kg	5,800 kg	7,100 kg	8,400 kg
<b>Machine Dimensions (WxDxH)</b>	1.22 x .86 x 2.75 m	1.63 x 1.07 x 2.75 m	1.63 x 1.22 x 2.75 m	1.93 x 1.63 x 2.80 m	1.93 x 1.63 x 2.85 m	2.30 x 1.63 x 2.85 m

	AS-II 24x32	AS-II 36	AS-II 36x42	AS-II 48	AS-II 48x60	AS-II 60
<b>Pulse Duration*</b>	1.5 – 65 ms	2.0 – 65 ms	2.0 – 60 ms	3.0 – 60 ms	3.0 – 60 ms	3.0 – 60 ms
<b>Max. Free Fall Velocity Change: Half-sine, Trapezoidal, Squarewave</b>	7.3 m/s	7.0 m/s	7.0 m/s	7.0 m/s	7.0 m/s	7.0 m/s
<b>Max. Accelerated Fall Velocity Change: Half-sine, Trapezoidal, Squarewave</b>	12.2 m/s	11.6 m/s	11.6 m/s	11.6 m/s	11.6 m/s	11.3 m/s
<b>Maximum Acceleration*</b>	600g	600g	600g	600g	600g	500g
<b>Utility Requirements</b>	3-phase electric power, 90 psi (620kPa) air utility, and a 2200 psi (15MPa) nitrogen supply					

\*Pulse Duration and Maximum Acceleration are based upon the physical constraints of the system, pulse shape as well as the data acquisition systems and techniques used to acquire the shock pulse. Please consult your L.A.B sales specialist for more detail.