SD-SERIES™ SHOCK MACHINE

In today's world products and packaging is required to go through an extensive amount of testing before reaching the distribution environment. Often, many products are subjected to a specific test standard that requires the shock test. The L.A.B Shock Machine is used to conduct such tests, due to its ability to produce drop impacts that are controlled, reproducible and accurate.

SHOCK WITH CONFIDENCE

The SD-Series™ of mechanical shock machines are used in the design of rugged products and cost effective protective shipping packages. The SD-Series produces half-sine, sawtooth, and square wave pulses meeting military (MIL-SPEC) and industrial (ASTM, ISO, JEDEC) specifications, as well as other specified test requirements.

SD-SERIES™ FEATURES

- High Performance Carriage: every SD-Series™ Shock Test System carriage is a massive, solid aluminum casting machined to precision flatness. This ensures that the carriage has no resonant frequencies within the machine's operating range. Consequently, the resulting shock pulses are clean and do not require over-filtering.

- Specimens are firmly anchored to the mounting surface, which is equipped with numerous tapped holes machined to close tolerances. Each hole is strengthened with stainless steel inserts.
- Fail-safe rebound brakes on every system incorporate a fail-safe design requiring no auxiliary air or electrical services. The brake arrests the carriage after rebound, prevents secondary impacts, and maintains it in a fail-safe position during the hoisting cycle.
- Full safety guards are standard equipment on all SD-Series™ machines with power hoists. These expanded sheet metal safety enclosures surround the hoist mechanism and the carriage falling zone. Opening the electrically interlocked enclosure door will interrupt hoist operation.

- No special foundation is needed. A solid steel reaction mass is isolated from the floor by heavy-duty springs and shock absorbers. This unique feature prevents transmission of shock waves created by the carriage impact, and is standard on all models.
- All SD-Series™ are manufactured in the USA using the finest materials available.
- Complies with ISTA, ASTM, ISO and other internationally recognized test standards.

SD-Series™ Operation

Load sample and accelerometer to carriage. Set your desired drop height by adjusting the release mechanism on the scale. Ensure proper pulse pad is installed and fixed with 2 bolts. Simply turn the switch on to activate motor driven chain and close the safety door. The chain will lift the carriage until the release mechanism is reached and the carriage drops. That's it!

SD-SERIES™ OPTIONS

- Extended drop height as required by customer
- Automatic Cycle Counter allows multiple tests without operator intervention
- Half Sine Shock Programmers are calibrated to produce standard shock pulses
- Trapezoidal(squarewave) Pulse Cylinder pneumatically produces pulses and includes pressure regulation. A 13.8 Mpa (2(N supply is required.
- Elastomer Half Sine Kit includes 9 elastomer modules, two mounting plates, and fasteners. This allows a wide variety of r programmed half sine of Haversine pulses.
- Dual Mass Shock Amplifier produces short duration, high acceleration shock pulses on small items.
- Low Impulse Kit produces shock pulses with a velocity change of 1.5 m/s (5ft/sec) or less with a pneumatic cylinder that the shock table prior to impact.
- Premium Data Analysis and Acquisition Systems are available from L.A.B. to capture and analyze data from multiple test
- TLP (Test Lab Professional) accurately captures, analyzes, and provides quantitative results for your product and package
- Acceleration Kit

SD-SERIES™ MODEL COMPARISON

SD-Series™

	METRIC	ENGLISH	METRIC	ENGLISH	METRIC	ENGLISH
Machine Type	SD-10		SD-16		SD-24	
Size	254 x 254 mm	10 x 10 in	06 x 406 mm	16 x 16 in	610 x 610 mm	24 x 24 in
Test Load Rating	14 kg	30 lbs	91 kg	200 lbs	181 kg	400 lbs
Carriage Weight	20 kg	45 lbs	77kg	170 lbs	245 kg	540 lbs
Mounting Hole Pattern	M6x1-50 mm		M8x1.25-75 mm		M10x1.25-100 mm	
Standard Carriage Fall	1067 mm	42 in	1524 mm	60 in	1524 mm	60 in
Optional Carriage Fall	*** Consult Factory ***					
Maximum Acceleration	3500 G		1500 G		1000 G	
Minimum Pulse Duration	0.3 ms		0.5 ms		1 ms	
Isolated Base Weight	228 kg	500 lbs	952 kg	2100 lbs	1497 kg	3300 lbs
Floor Space Required	305 x 635 mm	12 x 25 in	686 x 838 mm	27 x 33 in	1219 x 1219 mm	48 x 48 in
Machine Overall Height	Carriage Fall Plus 1321 mm	Carriage Fall Plus 52 in	Carriage Fall 1549 mm	Carriage Fall Plus 61 in	Carriage Fall Plus1829 mm	Carriage Fall Plus 72 in
Shipping Weight	431 kg	950 lbs	1588 kg	3500 lbs	2495 kg	5500 lbs
Standard Power Inputs	120-220V/1 PH/50 or 60Hz					

L.A.B

OUR EQUIPMENT. YOUR SUCCESS.

TestLabProfessional™- Now with USB!

TestLabProfessional (TLP)™ is specifically designed to support the needs of packaging and product reliability laboratories in the performance of drop, shock, impact and - vibration testing of their products, packaging materials and packages. Now with a USB interface which enables the user to install and set up the software quickly and easily!

TESTWITH CONFIDENCE

TestLabProfessional (TLP)™ is a PC-Based data acquisition system designed to complement any drop, shock, and vibration package test system. TLP™ provides the ability to accurately capture, analyze, and provide quantitative results of your product and package testing. TLP™ is critical in assessing your packaged systems performance in the distribution environment.

TEST With CONFIDENCE

TestLabProfessional (TLP)™ Features

- Data acquisition and analysis system
- Provides 4-channel simultaneous data capture abilities
- Complete with hardware, accelerometer and cables

- (1) Single user TLP Version 6 (Windows 7 Compatible) software license and distribution
  CD (includes software and User Manual)
- (1) USB dynamic signal acquisition module (4 channels), with USB cable.
- (2) 20ft accelerometer cables (6m)

- (1) 1000 G (DS) or (1) 50G (V) ICP accelerometer
- Software upgrades and technical product support for 12 months

TestLabProfessional (TLP)™ Operation

TLP™ features the use of test profiles, allowing the user to setup and record for current and future use, a number of different test scenarios representing common testing modes. An Accelerometer database stores all relevant information about the user's input devices and allows the user to quickly assign the accelerometers to data acquisition input channels. Up to four channels of data may be captured at one time into a data set (requires appropriate hardware support).

AVAILABLE CONFIGURATION OPTIONS

Drop & Shock • Vibration • Drop, Shock, & Vibration

Test lab Professional (TLP)   is a four channel PC-based data acquisition system designed to compliment our entire range of product reliability testing equipment. In addition to capture and analysis capabilities for shock, drop, and impact test data. TLP -V   also possesses a highly powerful and intuitive vibration acquisition and analysis capability for systems producing vibration within a frequency range of 1 to 500 Hz.

TestLabProfessional > DROP/SHOCK ,VIBRATION, or Combo Drop/Shock/Vibration

- Peak G, Duration, and Change-in-Velocity analysis
- (1) Single-axis, 1000g ICP accelerometer (D/S)
- (1) Single-axis, 50g ICP accelerometer (V)
- Zoom and Pan
- Auto Analyze for standard views
- Delta-V and Pulse duration auto calculate
- English or SI unit selection
- Supports test protocol sequences
- Manual or automatic scaling
- All vibration waveforms: Peak G and Frequency analysis
- Discrete vibration waveforms: Peak G Transmissibility analysis
- Logarithmic or linear scaling

- View raw data and analysis simultaneously
- Save data samples manually or with one-shot stop watch timer
- Random vibration waveforms: Power Spectral Density (PSD), instantaneous or average, and PSD Transmissibility analyses

Drop/Shock Analysis

Vibration Acquisition
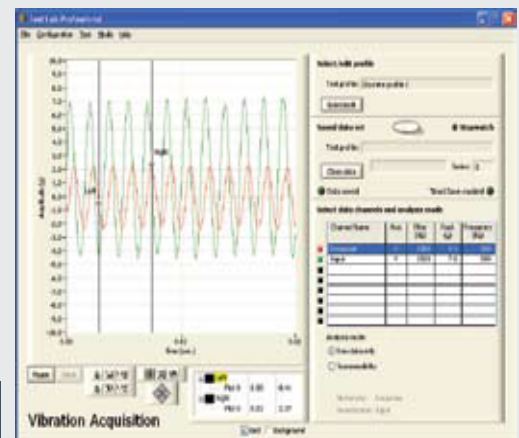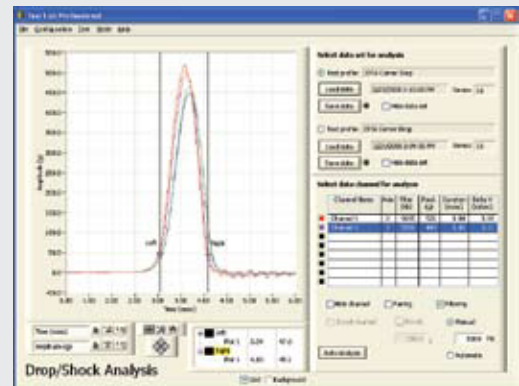
Specifications

-Measure and capture acceleration (g), pulse duration (ms) and velocity change (delta-V)
-Sufficient to acquire 0.1 msec half-sine pulses with 6% theoretical error on 4 channels simultaneously
-Input ranges: ±10V, ±5V (default), ±0.5V, ±0.05V
-Triggering: manual or automatic (per axis or triaxial)
-Data window: manual or automatic duration
-Low pass data filtering: none, automatic, or user-specified cutoff frequencies
-Auto-analyze for standard views
-Auto-calculate change in velocity and pulse duration
-Supports Test Protocol sequences
-Increased sampling rate enhances high frequency vibration resolution
-Use any current laptop or PC tower with no special requirements (4 channel USB version)
-Increase filtering levels from 0-4999 Hz to 0-99,999Hz (1 ch. discrete waveform)

Compatible with Windows® 7

.LAB

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