

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 and packages 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 (2000 psi) N supply is required.
- Elastomer Half Sine Kit includes 9 elastomer modules, two mounting plates, and fasteners. This allows a wide variety of manually 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 decelerates 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 tests.
- TLP (Test Lab Professional) accurately captures, analyzes, and provides quantitative results for your product and package testing.
- 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	406 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	Selected Carriage Fall Plus 1321 mm	Selected Carriage Fall Plus 52 in	Selected Carriage Fall Plus 1549 mm	Selected Carriage Fall Plus 61 in	Selected Carriage Fall Plus 1829 mm	Selected 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					