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## Shock Testing Equipment

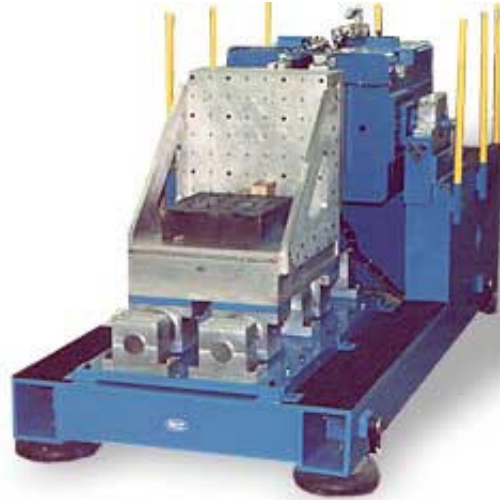
### Horizontal Shock Machine

#### 3030(500)VH-PA-MP

Vertical Surface: 24 in x 24 in  
Horizontal Surface: 30 in x 30 in  
Hole Pattern: As Required  
Pulse Duration: 3 - 30 ms  
Max load: 500 lbs  
Peak Acceleration: 600 g @ 3 ms

#### 4848(1000)VH-PA-MP

Vertical Surface: 24 in x 24 in  
Horizontal Surface: 48 in x 48 in  
Hole Pattern: As Required  
Pulse Duration: 3 - 30 ms  
Max load: 1000 lbs  
Peak Acceleration: 600 g @ 3 ms



- a) Maximum Specimen Height: UNLIMITED
- b) Table Lift Mechanism: PNEUMATIC
- c) Terminal Velocity 500 in/sec with a 100 lb load includes AIR AMPLIFIER
- d) Brake System: HYDRAULIC
- e) Foundation: Seismic supplied with machine
- f) Power requirement: 115V/1 Phase/60 Hz  
Plant air or bottled nitrogen, 80-120 psig
- g) Microprocessor operation to control the following:
  - Drop Height
  - Brakes
  - Cycle Count
- g) Capability to abort prior to test
- h) Main air cylinder is of standard commercial, heavy duty construction.
- i) Brakes are externally mounted.
- j) Shock Absorption Dampers to rapidly decay machine suspension response to shock input.

The M/RAD Pneumatic Shock Machine will produce a pulse in the vertical or horizontal direction using compressed air to force the carriage to impact on the shock machine base. Elastomer pads are used between the carriage and the base to generate half-sine pulses, lead pellets for sawtooth pulses and gas generators for square or trapezoidal pulses. The design of these programmers effect the time duration of the pulse while the air pressure and drop height determine the magnitude (G level) of the shock pulse.

The basic structure of the machine is heavy steel which will not deteriorate under repeated shocks. The Shock Machine is mounted on a seismic base and is supplied with a trunion assembly to permit 90 degree rotation in order to perform both horizontal and vertical shock. The machine is accompanied with a horizontal table, 48 in x 48 in, guided by linear bearings.

The seismic base is a steel structure filled with reinforced concrete, The steel frame shall be constructed to provide all the structural strength and stiffness necessary under full dynamic load conditions. The seismic base includes a pneumatic isolation system under the base (2.2 Hz natural frequency) consisting of pneumatic isolators, viscous dampers and all interconnecting hardware.

The structure contains sufficient mass so that no additional ballast will be required. The structure is supported on four passive air springs to isolate the shock pulses from the floor. All major components are located on the OUTSIDE rear surface of the shock machine base for ease of maintenance and adjustment.

The test item mounts on a solid aluminum carriage provided with steel inserts on the top surface. The carriage is supported and guided by the lifting and driving piston. Dual caliper friction brakes are used as a rebound brake and as a quick release mechanism.