

BISS 3-axes, 6 Degree-of-Freedom shake tables are state-of-the-art solutions for vibration and seismic studies, including earthquake simulation, soil liquefaction, fluid-structure interaction, dynamic structural response and component and damper assessment for vibration and earthquake resistance. Practically any multi-axis acceleration-time history can be faithfully reproduced on the system within the envelope of its technical specifications. This can range from harmonics to 6-axes acceleration records of actual earthquakes.

### Special features

- Unique design that includes reaction frame with access to internal components
- Modular 'Lego® set' assembly for easy reassembly and installation at site
- Additional data acquisition channels to monitor specimen response
- Iterative adaptive control for accurate simulation of given acceleration, velocity or displacement versus time history
- Servo-controlled energy-efficient low-noise hydraulic pump



### Standard features

- Simulator tables, 0.5 x 0.5 m, 1 x 1 m, 2.5 x 2.5 m and 3 x 3 m
- Threaded mounting holes on the table top for specimen
- Fatigue rated actuators
- Low friction and low maintenance swivels
- Displacements up to 500 mm
- Designed with a natural frequency to exceed 2-4 times maximum test frequency
- Contamination insensitive hydraulics
- User friendly control and application software
- Digitally control with servo loop update 2-10kHz and DAQ rate of 0.5-10kHz

### Applications

- Education in civil/mechanical/aerospace engineering for vibration testing
- Characterization of dynamic response, functionality, reliability and durability of the structural test object
- Vibration qualification tests on mechanical components in laboratory
- Seismic qualification tests on components of nuclear power plants.
- Soil liquefaction tests civil structures

## Specifications

Table dimensions	0.5 X 0.5 m	1 x 1 m	2.5 x 2.5 m	3 x 3 m
Actuator stroke	300/400/500 mm			
Maximum specimen weight	500/1000 kg	500/1000 kg	5000 kg	
Maximum table acceleration	+/- 2 g up to +/- 5 g			
Test frequency	50 Hz			
Weight of table	500 kg	700 kg	3500 kg	4500 kg

## Application Software

1. Capable to simulate:
  - A. Single Frequency Harmonic Signals:
    - a) Sine, Ramp
    - b) User-defined
  - B. Multi-frequency Signals:
    - a) Sine sweep
    - b) Actuation Excitation Records,
    - c) Simulated Excitation Records
  - C. Random Signals:
    - a) Ergodic,
    - b) stationary and
    - c) non-stationary random signals
2. Facilitates multi-step, multi-loop programming
3. Facilitates to preview each DOF, Step and loop Waveform
4. Each preview and editing of the steps in a loop
5. Facilitates to generate drive signals for durability testing
6. Online display of max-min, instantaneous, average, cycle count readouts
7. Data export in \*.csv and \*.txt formats

