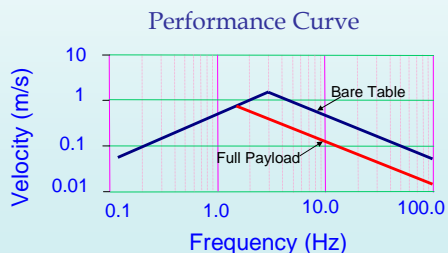
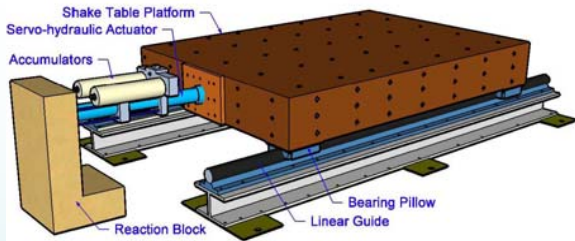


Shake Table for Small Scale Dynamic Model Testing



Department of Civil Engineering, Indian Institute of Technology Kanpur

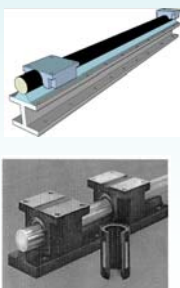
Uni -Axial Shake Table



Characteristics:

Table Size	1.2 m x 1.8 m
Weight of Table	8 kN
Maximum Payload	40 kN
Maximum Displ.	75 mm
Maximum Velocity	1.5 m/s
Maximum Acceleration	5 g
Frequency Range	upto 50 Hz

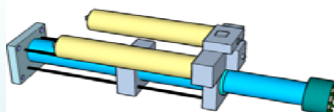
Linear Guides



Characteristics:

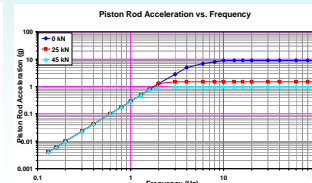
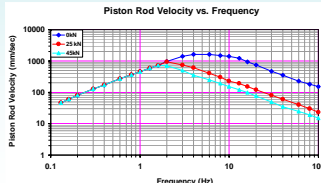
XPBO -48 -OPN	XSR-48
Extra strong	Extra strong 60 linear case
Coeff. Of friction =0.001	Shaft Diameter = 75 mm.
Dynamic load case	Surface finish =Ra u in
Travel Life = 50 km	Hardness = 60 HRC

Servo-hydraulic Actuator

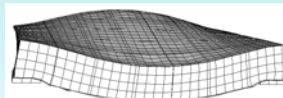
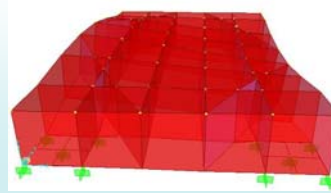
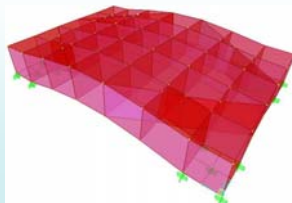


Characteristics:

Model	MTS 244.21 str
Thrust	50 kN
Stroke	150 mm
Controller	Flex Test GT Controller
Pump Flow	235 L/min
Accumulators	1L on actuator t 7.6 L on line
Servo Valve	190 L/min (3 stage)



Modal Analysis



Frequency of vibration in first mode = 372.69 Hz

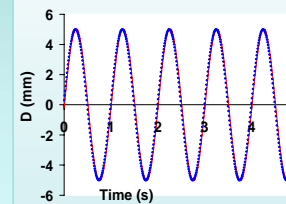
Deflection of the shake table in second mode of vibration

Performance

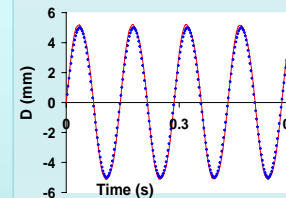
• COMMAND
— RESPONSE

Harmonic Excitation

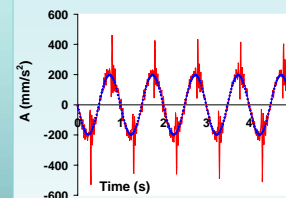
5 mm and 1 Hz



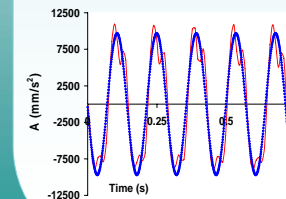
5 mm and 7 Hz



5 mm and 1 Hz

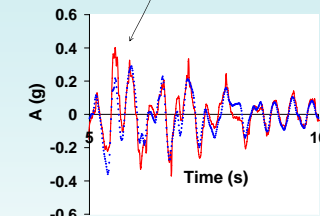
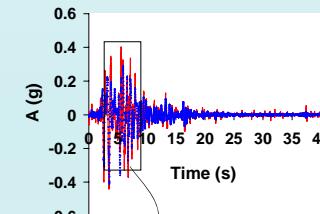
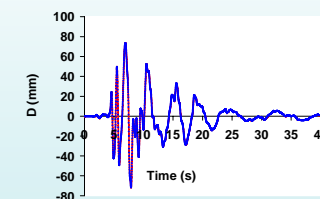


5 mm and 7 Hz



Random Excitation

50% attenuated Kobe signal



Response

