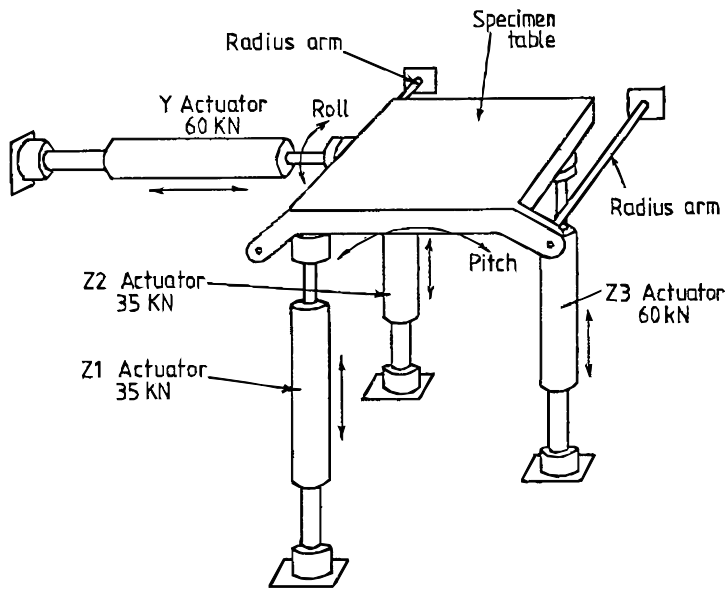
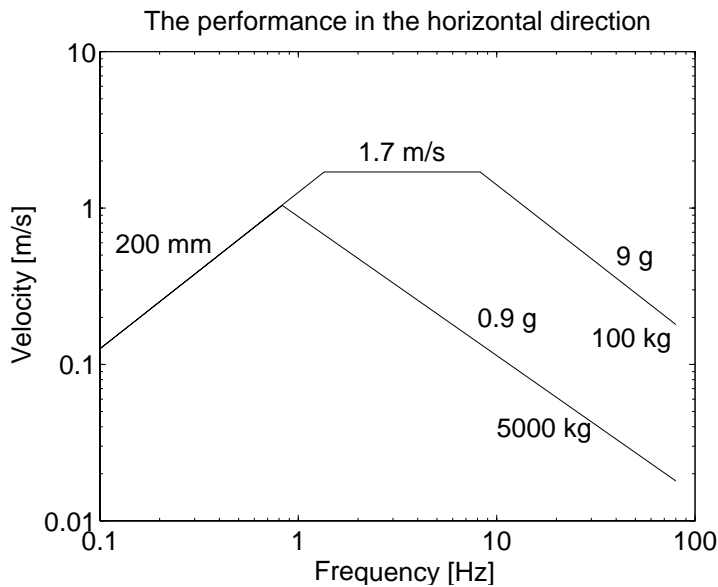


## Test rig

The principle of the two-axis vibration table at the Swedish National Testing and Research Institute is illustrated in *Figure 1*. The table is supported on three vertical actuators and the horizontal thrust is provided by a single horizontal actuator arranged as shown in the figure. The dimension of the table is  $1.2 \cdot 1.2$  m. Due to the three vertical actuators the table can react large bending moments and extending it with beams is possible. The table can be used for tests with simultaneous vertical, horizontal and rotational motion. The dynamic capacity of the table is shown in *Figures 2 and 3*.



*Figure 1:* Schematic sketch of the biaxial test rig.



*Figure 2:* The dynamic capacity of the table in the horizontal direction.

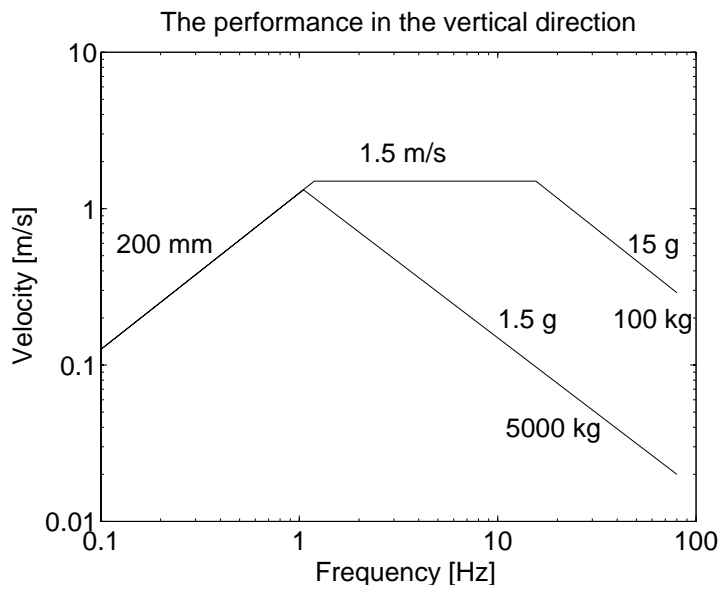


Figure 3: The dynamic capacity of the table in the vertical direction.

Each actuator is servo controlled with acceleration and displacement feedback by a digital control system, INSTRON 8580. Transfer functions of servohydraulic equipment are always non flat, i.e., high frequencies are damped more than low. Before using a wave form as a drive signal it must therefore be adjusted. This is done by a special software package, called PROFILE CORRECTION, supplied by INSTRON. Before the testing the adjustment is done. The transfer function of the rig is determined when the table is run without any test object mounted on it. If a heavy object is to be tested, a dead weight can be placed on the table. This software can also compensate for unwanted geometric displacement caused by angular movement of the actuators.