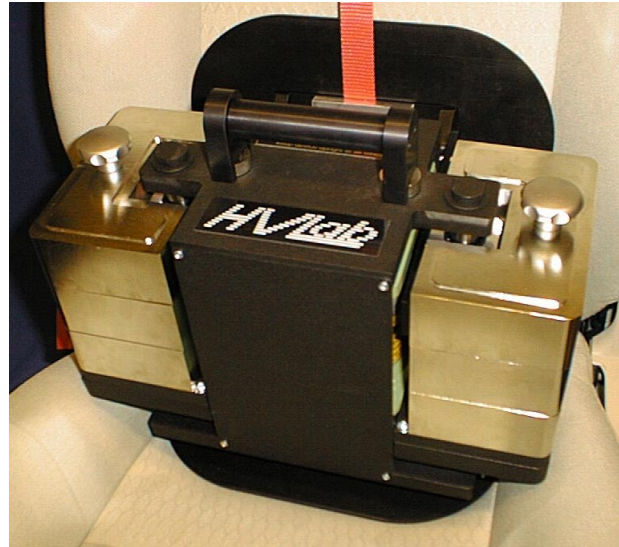




Anthropodynamic Dummy

Introduction

The *HVLab* Anthropodynamic Dummy has been developed through pioneering research at the University of Southampton's Institute of Sound and Vibration Research, a world-class leader in its field. The single degree-of-freedom passive dummy can be used in place of human subjects in a range of seat testing applications. The anthropodynamic dummy has been designed to replicate the apparent mass of a human subject up to 30 Hz and over a range of vibration inputs. The *HVLab* dummy gives more repeatable measures of seat performance than human subjects and therefore can be used as an objective design tool in seat development.



Applications

The *HVLab* anthropodynamic dummy can be used in place of human subjects to evaluate the dynamic performance of seats. Applications include:

- Measuring seat transmissibility
- Measuring SEAT values
- Fundamental research
- Conventional foam-cushion seat testing
- Suspension seat testing
- End-stop impact analysis

Features

The *HVLab* anthropodynamic dummy consists of a single degree-of-freedom passive simulator unit, articulated seat cushion and backrest indenters and removable weights.

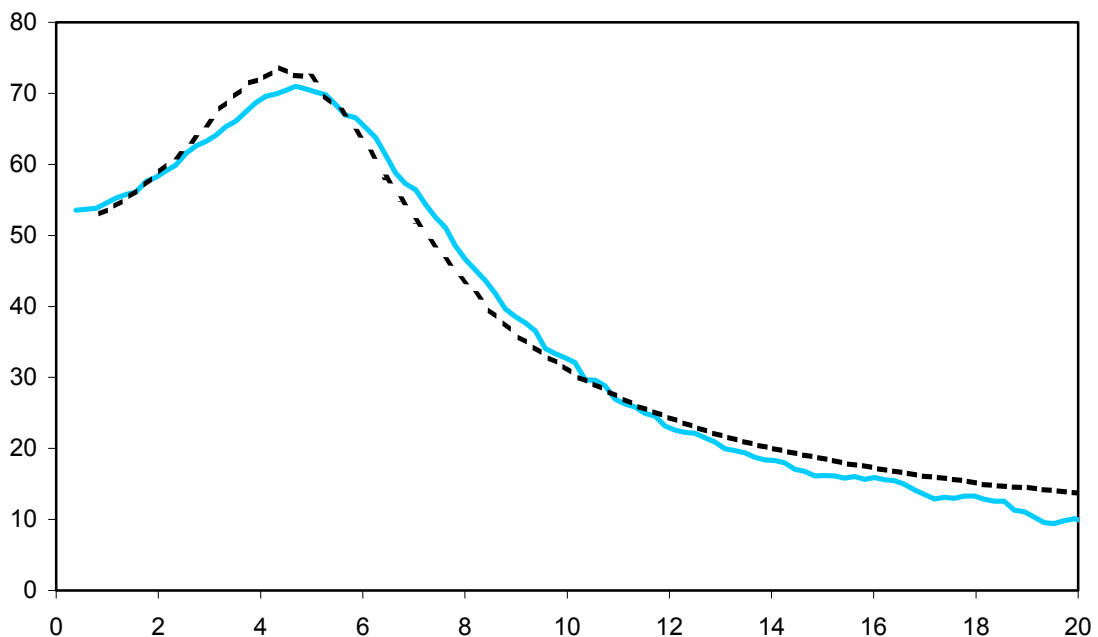
The passive simulator unit consists of a moving mass incorporating 6 removable masses. These 6 interlocking masses can be removed to facilitate transportation and installation. The moving mass is constrained to move vertically on two chrome-plated precision shafts. An adjustable viscous dashpot damper is used to provide the damping in the unit. The low inherent friction of the dummy ensures a linear response over a range of input magnitudes suitable for seat testing.

The dummy interfaces with the seat surface using two SIT-bar shaped indenters at the seat surface and the backrest. The seat indenter is articulated, allowing tool-less adjustment of the angle and position of the dummy, on the seat. The backrest indenter of the dummy is decoupled from the main unit using high-quality linear bearings and can be attached to the seat backrest using the supplied ratchet strap. This configuration minimises the influences of the backrest upon the response at the seat surface and also significantly improves the stability of the dummy.

Technical Details

Specifications

Frequency range:	0 to 30 Hz	Total weight:	53.4 kg
Amplitude range:	0.25 to 2.00 ms ⁻² r.m.s.	Dimensions:	Height 341 mm Width 360 mm Depth 256 mm



Measured apparent mass of anthropodynamic dummy measured using broadband random vibration at 1.0 ms⁻² r.m.s. compared to the Fairley and Griffin model (1989): Measured response, — modelled response, - - - - -

Support Facilities

The *HVLab* SIT-pad is supplied with a user manual and calibration data and the use of free hotline support for the first 6 months.

Further Information ...

The *HVLab* Anthropodynamic Dummy is just one of a range of *HVLab* products. The product range include a 16-Channel Data Acquisition and Analysis System, Single and Three-axis SAE Pads (ISO 10326-1) for measurement of vibration at the seat/person interface, a Triaxial Finger ring mount for the measurement of hand transmitted vibration and *HVLab* Data Acquisition and Analysis software. For further information and copies of published studies using the *HVLab* anthropodynamic dummy please contact:

For more information please contact:

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