



# Axle NVH 250 (AVNH 250)

## Overview

The ANVH 250 is an axle level NVH rig for measuring noise, vibration and harshness transmission from the wheel hubs via suspension components into the suspension mounting points. The data generated allows improved correlation between the modelled and actual characteristics of the axle system, enabling the NVH characteristics of the prototype axle system to be optimised early in the design process. This avoids the need for expensive and compromised NVH fixes in the production vehicle.

The class leading performance of the ANVH 250 is achieved by combining an innovative and exceptionally stiff frame design, with AB Dynamics' high frequency linear actuator, which applies precise electrically controlled motion to the wheel hub at frequencies up to 250Hz.

The ANVH 250 is designed to allow a wide range of vehicle sub frame assemblies to be loaded and fixed to the frame with custom mounts. The 10kN vertical actuators use a pneumatic preload system to hold the axle at ride height, precisely controlled motion is then applied electrically. The 6kN horizontal actuators are used to apply either lateral or longitudinal motion to the wheel hub.

Tri-axial load cells measure forces transmitted to each of the vehicle body attachment points, whilst accelerometers and lasers measure the mode shapes of the system components. As an option, the ANVH 250 may be fitted with the dynamic arm wheel position measurement system from AB Dynamics' SPMM 5000E. This enables the Kinematics and Compliance characteristics of the axle subframe to also be measured.

