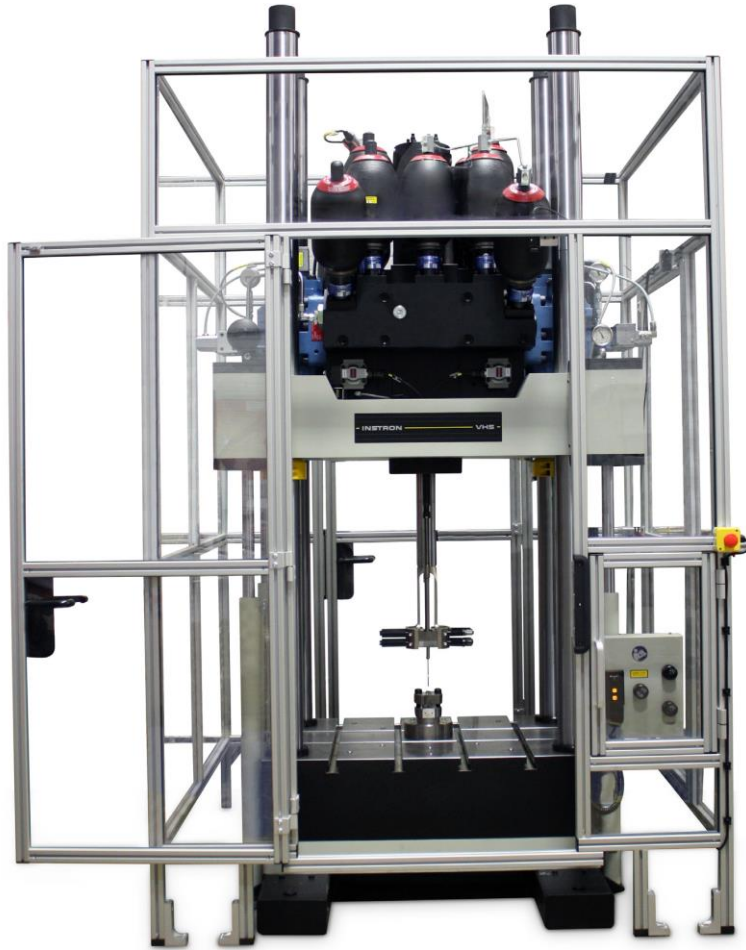


Instron VHS 160/100-20



Overview

- Floor standing, four column Instron Very High Speed (VHS) servo-hydraulic machine; 100 kN load capacity and up to 20 m/s actuator speed
- Characterisation of dynamic properties of strain rate dependent materials across a wide range of velocities, investigating material failure under high strain rate impact and identifying the most optimal design for weight.

Applications

Product/service	Loading modes	Main uses	Materials
<ul style="list-style-type: none">• Determination of rate dependent mechanical properties	<ul style="list-style-type: none">• Compression• Tension	<ul style="list-style-type: none">• Crash impact of automotive materials & components• Materials characterization; quasi-static to strain rates of 1000/s; 20 m/s actuator speed• Cumulative damage of aerospace components under high strain rate impact	<ul style="list-style-type: none">• Composite• Metals• AM• Polymers

Recent use cases

- Crush testing of carbon fibre-reinforced composite materials used for energy absorption structures for automotive applications; data used for input to simulation codes for a design and test consultancy
- Characterisation of rate dependent tensile properties of polymeric material systems used for interior trim of automotive applications