

## High-Speed (HS) Impact Vest

Accurately Measure Seatbelt  
Displacement on Hybrid III 5<sup>th</sup>  
Female ATDs

The High-Speed (HS) Impact Vest is a critical component of the Insurance Institute for Highway Safety's (IIHS) updated crash test protocol: the Moderate Overlap Frontal Crashworthiness Evaluation 2.0.

During crash tests, the vest enables safety engineers to record real-time belt position and movement on Hybrid III 5<sup>th</sup> Female ATDs in rear seats, while also providing detailed visualizations of impact pressures and precise quantitative measurements of applied forces.



### KEY BENEFITS & FEATURES

#### CAPTURE HIGH-SPEED SEATBELT DISPLACEMENT & IMPACT PRESSURE DATA

- The ultra-thin, flexible, and custom-fit sensor is engineered for the Hybrid III 5<sup>th</sup> Female ATD. A compatible version is also available for the THOR-50M ATD.
- With 1,700+ sensing points, the vest delivers consistent measurements, validated repeatability, and unmatched detail for post-crash analysis.

#### EVALUATE VEHICLE DESIGN & IMPROVE OCCUPANT SAFETY

- Obtain dynamic belt displacement and impact pressure measurements to assess vehicle performance and inform safer design decisions. The HS Impact software lets you easily review, analyze, and compare crash data.
- A range of sensors is available for testing across various crash scenarios—including whiplash, side impacts, airbag deployments, and emerging autonomous vehicle testing methods.

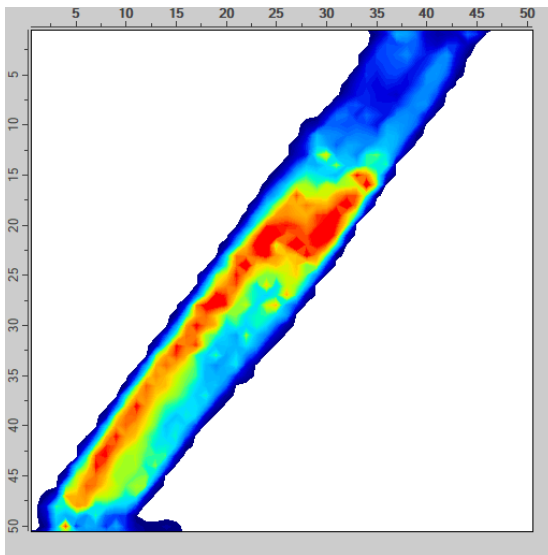
#### IMPROVE INJURY PREDICTION THROUGH RELIABLE, REPEATABLE TESTING

- With proven calibration stability, the system ensures consistent data across dozens of test cycles, reducing the need for frequent recalibration.
- The integrated data logger is optimized for both crash sled and in-vehicle testing. It can be triggered remotely, and its downloadable files allow straightforward viewing and analysis of impact pressures across recorded timeframes.



## SPECIFICATIONS

HX210:36.48.05M	
<b>Overall Dimensions:</b>	40 x 41.5 cm (15.7 x 16.3 in)
<b>Sensing Area Dimensions:</b>	18 x 24 cm (7.1 x 9.4 in)
<b>Sensor Cell Resolution:</b>	0.5 x 0.5 cm (0.2 x 0.2 in)
<b>Sensing Area Thickness:</b>	<0.11 cm (<0.04 in)
<b>Sensor Cover Material:</b>	HyperD 300 - PU Polyester
<b>Cable Dimensions:</b>	200 x 5 x 0.4 cm (78.7 x 2 x 0.2 in)
<b>Pressure Range:</b>	0.7 - 88.3 N/cm <sup>2</sup> (1 - 128 psi)
<b>Calibration Accuracy:</b>	±10% Full-Scale



Pressure applied to an ATD from the seatbelt captured with the HS Impact Vest.

### OUR PLATFORM

## INTELLIGENT DYNAMIC SENSING

The platform behind our product design & safety testing products, Intelligent Dynamic Sensing, enables precise measurements and features highly detailed visualizations and smart data with AI-powered analysis — resulting in optimized performance, comfort, and safety.



Maximum performance sensing



Real-time data measurement and highest-quality visualizations



AI-powered data analysis and optimization

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