



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005  
& ANSI/NCSL Z540-1-1994

HUMANETICS INNOVATIVE SOLUTIONS, INC  
900 Denton Drive  
Huron, OH 44839  
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MECHANICAL

Valid To: September 30, 2020

Certificate Number: 2421.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following Crash Test Dummy tests:

Test Type	Parameter	Range	Test Method
Head Drop	Resultant Acceleration	(0 to 300) g	49 CFR, Part 572: Subpart E, N, O, P, R, T, U, V ECE 94: Regulation 95 (ESID2) SAE J2860 (H3-95) ISO 15830-2 (WorldSID 50 <sup>th</sup> )
	Lateral Acceleration	± 15 g	
	Unimodal Oscillation	(0 to 17) %	
	Temperature	(18 to 26) °C	
	Humidity	(10 to 70) % RH	
Neck Pendulum	Velocity	(2.4 to 7.77) m/s	49 CFR, Part 572: Subpart C, E, I, M, N, O, P, R, T, U, V ECE 94: Regulation 95 (ESID2) SAE J2860 (H-95) ISO 15830-2 (WorldSID 50 <sup>th</sup> )
	Acceleration	(0 to 30) g	
	Rotation	(45 to 114) °	
	Moment	(12 to 130) Nm	
	Displacement	(-20 to 168) mm	
	Temperature	(18 to 26) °C	
	Humidity	(10 to 70) % RH	

Test Type	Parameter	Range	Test Method
Thorax Impact	Velocity	(2.94 to 6.83) m/s	49 CFR, Part 572: Subpart E, M, N, O, P, R, T, U, V ECE 94: Regulation 95 (ESID2) SAE J2860 (H3-95) SAE J2779 (HE-50 L/S) ISO 15830-2 (WorldSID 50 <sup>th</sup> )
	Displacement	(0 to 76) mm	
	Hysteresis	(50 to 85) %	
	Acceleration	14 to 70) g	
	Force	(1 to 11.1) kN	
	Temperature	(18 to 26) °C	
	Humidity	(10 to 70) % RH	
Torso Flexion	Velocity	(0.5 to 1.5) °/s	49 CFR, Part 572: Subpart N, O, P, T SAE J2860 (H3-95)
	Force	(130 to 550) N	
	Angle	(0 to 50) °	
	Temperature	(18.9 to 25.6) °C	
	Humidity	(10 to 70) % RH	
Hip Flexion	Velocity	(5 to 10) °/s	49 CFR, Part 572: Subpart E SAE J2862 (H3-5)
	Angle	(0 to 50) °	
	Torque	(0 to 203) Nm	
	Temperature	(18 to 26) °C	
	Humidity	(10 to 70) % RH	
Rib Module	Velocity	(1 to 10) m/s	49 CFR, Part 572: Subpart U ECE 94: Regulation 95(ESID2)
	Displacement	(10 to 51) mm	
	Temperature	(18 to 26) °C	
	Humidity	(10 to 70) % RH	

Test Type	Parameter	Range	Test Method
Knee Impact	Velocity	(2 to 3 m/s	49 CFR, Part 572: Subpart E, N, O, T
	Force	(2 to 7.3) kN	
	Temperature	(18 to 26) °C	SAE J2862 (HE-5)
	Humidity	(10 to 70) %RH	SAE J2860 (H3-95)
Knee Slider Impact	Velocity	(1.5 to 3) m/s	SAE J2856 (H3-50)
	Displacement	(9.3 to 18.3) mm	SAE J2860 (H3-95)
	Force	(1.26 to 3.10) kN	SAE J2862 (H3-5)
	Temperature	(18 to 26) °C	SAE J2876 (H3-50 Low Speed)
	Humidity	(10 to 70) %RH	
Foot Impact	Velocity	(4.3 to 6.8) m/s	ECE Regulation 94: Addendum 93: Annex 10 (ESID2)
	Force	(2.8 to 3.8) kN	
	Moment	(95 to 145) Nm	
	Acceleration	(245 to 345) g	
	Temperature	(19 to 25) °C	
	Humidity	(10 to 70) %RH	

### CALIBRATION

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1,4</sup>:

#### I. Mechanical

Parameter/Equipment	Range	CMC <sup>2,3</sup> (±)	Comments
Rotary Displacement Transducer	+/- 75	0.2 % F.S.	TL-WI-00003H CL-PR-00025C
Linear Displacement Transducers	(0 to 72) mm	0.2 % F.S.	TL-WI-00034H CL-WI-00001C

Parameter/Equipment	Range	CMC <sup>2,3</sup> ( $\pm$ )	Comments
Chest Potentiometer Assemblies	(0 to 71) mm	0.5 % F.S.	SAE J2517:2006

<sup>1</sup> This laboratory offers commercial calibration service.

<sup>2</sup> Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMC's represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of  $k = 2$ . The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

<sup>3</sup> The "Rounded % Full Scale" is chosen to be conservative and larger than the determined "CMC".

<sup>4</sup> This scope meets A2LA's *P112 Flexible Scope Policy*.



## *Accredited Laboratory*

A2LA has accredited

# **HUMANETICS INNOVATIVE SOLUTIONS, INC**

*Huron, OH*

for technical competence in the field of

## **Mechanical Testing & Calibration**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of R205 – Specific Requirements: Calibration Laboratory Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 20<sup>th</sup> day of December 2018.

A blue ink signature of the Senior Director of Accreditation Services.

Senior Director, Accreditation Services  
For the Accreditation Council  
Certificate Number 2421.01  
Valid to September 30, 2020

*For the tests and calibrations to which this accreditation applies, please refer to the laboratory's Scope of Accreditation.*