



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

**HUMANETICS INNOVATIVE SOLUTIONS JAPAN
NAGOYA TECHNICAL CENTER
93 Terano-Motomachi Kiyosu, Aichi 452-0908**

*(Hereinafter called the Organization) and hereby declares that Organization is accredited
in accordance with the recognized International Standard:*

ISO/IEC 17025:2017

This accreditation demonstrates technical competence for a defined scope and the
operation of a laboratory quality management system
(as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Mechanical Testing
(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate.
This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby
covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President

Initial Accreditation Date:

January 17, 2022

Issue Date:

March 18, 2024

Expiration Date:

March 31, 2026

Accreditation No.:

94011

Certificate No.:

L24-204

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver Rd., Suite 1325
Troy, Michigan 48084

*The validity of this certificate is maintained through ongoing assessments based on a
continuous accreditation cycle. The validity of this certificate should be
confirmed through the PJLA website: www.pjlabs.com*



Certificate of Accreditation: Supplement

HUMANETICS INNOVATIVE SOLUTIONS JAPAN NAGOYA TECHNICAL CENTER

93 Terano-Motomachi Kiyosu, Aichi 452-0908
Contact Name: Takuya Iwamura Phone: 052-401-7501

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Mechanical ^F	H3-50, H3-5F, H3-95, H3-50 PED H3-10YO, H3-6YO H3-3YO, Crabi 6, Crabi 12, Crabi 18, Free Motion Headform, 3.5kg Pedestrian Headform, 4.5kg Pedestrian Headform, ES-2re, ES-2, SID-2s, WSID 50, WSID 5F, Q0, Q1, Q1.5, Q3, Q3S, Q6, Q10	Head Drop Test Stand (TS-1)	“Procedure for Head Drop Test (TS-1) CL-PR-10039N(J)” On the basis of: 49 CFR, Part 572: Subpart E, L,N,O,P,R,T,U,V,W SAE J2860, SAE EA27, SAE J2854, ECE 94:UN-R95, ECE R127, ECE R129, ISO/TS15830, UM 78051-9905-H Accelerometer	Resultant Acceleration (g) 0 to 300 Lateral Acceleration (g) -20 to 20 Unimodal Oscillation (%) 0 to 17 Temperature (°C) 18 to 26 Humidity (%) 10 to 70
	H3-50, H3-5F, H3-95, H3-50 PED H3-10YO, H3-6YO H3-3YO, Crabi 6, Crabi 12, Crabi 18 ES-2re, ES-2, SID-2s, WSID 50, WSID 5F, Q0, Q1, Q1.5, Q3, Q3S, Q5, Q10 THOR-50M, THOR-5F	Neck Pendulum Test Stand (TS-2)	“Procedure for Neck, Lumbar Spine Pendulum Impact Test (TS-2) CL-PR-10040N(J)” On the basis of: 49 CFR, Part 572: Subpart E, N,O,P,R,T,U,V,W SAE J2860, SAE EA27, SAE J2854, ECE 94:UN-R95, ECE R127, ECE R129, ISO/TS15830, UM 78051-9905-H THOR-50M Qualification Procedures Manual 474-9901 THOR-5F Qualification Procedures Manual Phototube Accelerometer Goniometer Load meter Angular rate	Velocity (m/s) 2.40 to 7.77 Acceleration (g) 0 to 30.0 Rotation (deg) 27.0 to 114.0 Force (N) 774.0 to 3210.0 Angular Velocity (deg/s) 1226.0 to 2267.0 Temperature (°C) 18 to 26 Humidity (%) 10 to 70



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Mechanical ^F	H3-50, H3-5F, H3-95, H3-10YO H3-6YO	Knee Impact Test Stand (TS-3)	<p>“Procedure for Knee Impact and Shearing Test (TS-3) CL-PR-10041N(J)”</p> <p>On the basis of: 49 CFR, Part 572: Subpart E,N,O,T SAE J2860, SAE J2862</p> <p>Phototube Accelerometer</p>	<p>Velocity (m/s) 2.0 to 3.0 Force (N) 2.0 to 7.3 Temperature (°C) 18 to 26 Humidity (%) 10 to 70</p>
	H3-50, H3-5F, H3-95, THOR-50M, THOR-5F 18kg Ejection Mitigation Featureless Headform	Knee Slider Test Stand (TS-3)	<p>“Procedure for Knee Impact and Shearing Test (TS-3) CL-PR-10041N(J)”</p> <p>On the basis of: SAE J2856, SAE J2860, SAE J2862 SAE J2875, THOR-50M Qualification Procedures Manual 474-9901 THOR-5F Qualification Procedures Manual</p> <p>Phototube Load meter Displacement gauge</p>	<p>Velocity (m/s) 1.1 to 3.0 Displacement (mm) 9.3 to 22.2 Force (KN) 1.2 to 10.0 Unimodal Oscillation (%) 0 to 10 Temperature (°C) 18 to 26 Humidity (%) 10 to 70</p>



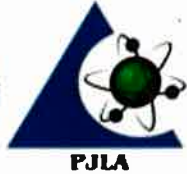
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Mechanical ^F	H3-50, H3-5F, H3-95, H3-50 PED H3-10YO, H3-6YO H3-3YO, Crabi 6, Crabi 12, Crabi 18, ES-2re, ES-2, SID-2s, WSID 50, WSID 5F, Q0, Q1, Q1.5, Q3, Q3S, Q6, Q10 THOR-50M, THOR-5F BioRID-II, FLEX PLI GTR	Thorax Impact Test Stand (TS-4)	<p>"Procedure for Thorax Impact Test (TS-4) CL-PR-10042N(J)"</p> <p>On the basis of: 49 CFR, Part 572: Subpart E,N,O,P,R,T,U,V,W SAE J2856, SAE J2862, SAE J2860, SAE J2706, SAE J2779, SAE J2854, SAE J2857, SAE J2878, SAE EA27, ECE 94:UN-R95, ECE R127, ECE R129, ISO/TS15830 UM 78051-9905-H THOR-50M Qualification Procedures Manual 474-9901 THOR-5F Qualification Procedures Manual ARA-001 BIORID II Certification Manual, BIORID II USERS MANUAL</p> <p>Phototube Accelerometer Displacement gauge Load meter Goniometer Measurement Stand CG Measurement Stand Ruler Tape measure T-square Balance Level</p>	<p>Velocity (m/s) 1.50 to 6.83 Displacement (mm) 0 to 91.3 Hysteresis (%) 0 to 85 Acceleration (g) 7.5 to 152 Force (kN) 0.65 to 11.1 Moment (Nm) -23.5 to 17.8 Rotation (deg) -41.0 to 15.1 Measurement (mm) 17.8 to 1155.7 CG Measurement (mm) 87.0 to 212.0 Weight (kg) 0.0 to 31.0 Temperature (°C) 18 to 26 Humidity (%) 10 to 70</p>



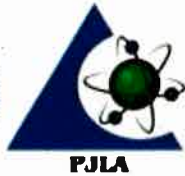
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Mechanical ^F	H3-50, H3-5F, H3-95, H3-10YO, H3-6YO, H3-3YO	Torso Flexion Test Stand (TS-5)	<p>“Procedure for Torso Flexion Test (TS-5) CL-PR-10043N(J)”</p> <p>On the basis of: 49 CFR, Part 572: Subpart N,O,P,T SAE J2860, SAE J3074</p> <p>Load meter Goniometer</p>	<p>Velocity (°/s) 0.5 to 1.5 Force (N) 90 to 550 Angle (°) 0 to 50 Temperature (C°) 18.9 to 25.6 Humidity (%) 10 to 70</p>
	H3-50, H3-5F	Hip Calibration Test Stand (TS-6)	<p>“Procedure for H-ROM Test (TS-6) CL-PR-10044N(J)”</p> <p>On the basis of: 49 CFR, Part 572: Subpart E SAE J2862</p> <p>Load meter Goniometer</p>	<p>Velocity (°/s) 5.0 to 10.0 Angle (°) 0 to 50 Torque (Nm) 0 to 203 Temperature (C°) 18 to 26 Humidity (%) 10 to 70</p>
	ES-2re, ES-2	EuroSID Thorax Certification Test Stand (TS-7)	<p>“Procedure for EuroSID Thorax Test” (TS-7) CL-PR-10045N(J)</p> <p>On the basis of: 49 CFR, Part 572: Subpart U ECE 94:UN-R95</p> <p>Displacement gauge</p>	<p>Displacement (mm) 23.5 to 51.0 Temperature (C°) 18 to 26 Humidity (%) 10 to 70</p>
	Q1, Q1.5, Q3, Q3S, Q6, Q10 P3/4, P1-1/2, P3, P6, P10	Q-Dummy Abdominal Compression Stand (TS-8)	<p>“Procedure for Q-Dummy Abdominal Compression Test (TS-8) CL-PR-10046N(J)”</p> <p>On the basis of: 49 CFR, Part 572: Subpart W ECE R44, ECE R129, Z.AI-9900 User Manual P11/2 (Child Dummy)</p> <p>Dial gauge</p>	<p>Deformation (mm) 6.0 to 17.0 Temperature (C°) 18 to 26 Humidity (%) 10 to 70</p>



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Mechanical ^F	H3-50, THOR-50M, THOR-5F	Foot Impact Test Stand (TS-9)	<p>“Procedure for Foot Impact Test (TS-9) CL-PR-10047N(J)”</p> <p>On the basis of: ECE Regulation 94: Addendum 93, THOR-50M Qualification Procedures Manual, 474-9901 THOR-5F Qualification Procedures Manual</p> <p>Phototube Accelerometer Load meter Goniometer</p>	<p>Velocity (m/s) 1.9 to 6.8 Force (kN) 0.4 to 3.8 Moment (Nm) 35.2 to 145.0 Acceleration (g) 245.0 to 345.0 Rotation (deg) 26.6 to 37.9 Temperature (°C) 18 to 26 Humidity (%) 10 to 70</p>
	FLEX PLI GTR	FLEX ZERT Pendulum Test Stand (TS-10)	<p>“Procedure for FLEX ZERT Pendulum, Inverse Test” (TS-10) (CL-PR-10048N(J))</p> <p>On the basis of: ECE R127</p> <p>Accelerometer Load meter Displacement gauge</p>	<p>Moment (Nm) 90.0 to 272.0 Displacement (mm) 0 to 24.0 Temperature (°C) 18 to 26 Humidity (%) 10 to 70</p>
	FLEX PLI GTR	FLEX ZERT Inverse Test Stand (TS-10)	<p>“Procedure for FLEX ZERT Pendulum, Inverse Test” (TS-10) (CL-PR-10048N(J))</p> <p>On the basis of: ECE R127</p> <p>Phototube Accelerometer Load meter Displacement gauge</p>	<p>Velocity (m/s) 10.9 to 11.3 Moment (Nm) 93.0 to 272.0 Displacement (mm) 0 to 21.0 Temperature (°C) 18 to 26 Humidity (%) 10 to 70</p>



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Mechanical ^F	Femur, Tibia Gauge Femur, Tibia, Knee Assembly	FLEX STATIC Test Stand (TS-11)	<p>“Procedure for FLEX STATIC Calibration Test (TS-11) CL-PR-10056N(J)”</p> <p>On the basis of: ECE R127</p> <p>FLEX Static Bending Tester STRAIN/BRIDGE Input Module Linear Potentiometer Load Cell</p> <p>String Potentiometer Strain Gauge</p>	<p>Peak Output Voltage at Femur and Tibia Gauge from Gauge Calibration Test 10.8 to 12.8 mv/v</p> <p>Output moment and deflection from Femur and Tibia Assembly 3-Point Bending Test</p> <p>Output force, moment and deflection at Knee Assembly 3-Point Bending Test</p> <p>Temperature (°C) 18 to 24</p>

- The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location. Example: Outside Micrometer ^F would mean that the laboratory performs this testing at its fixed location.