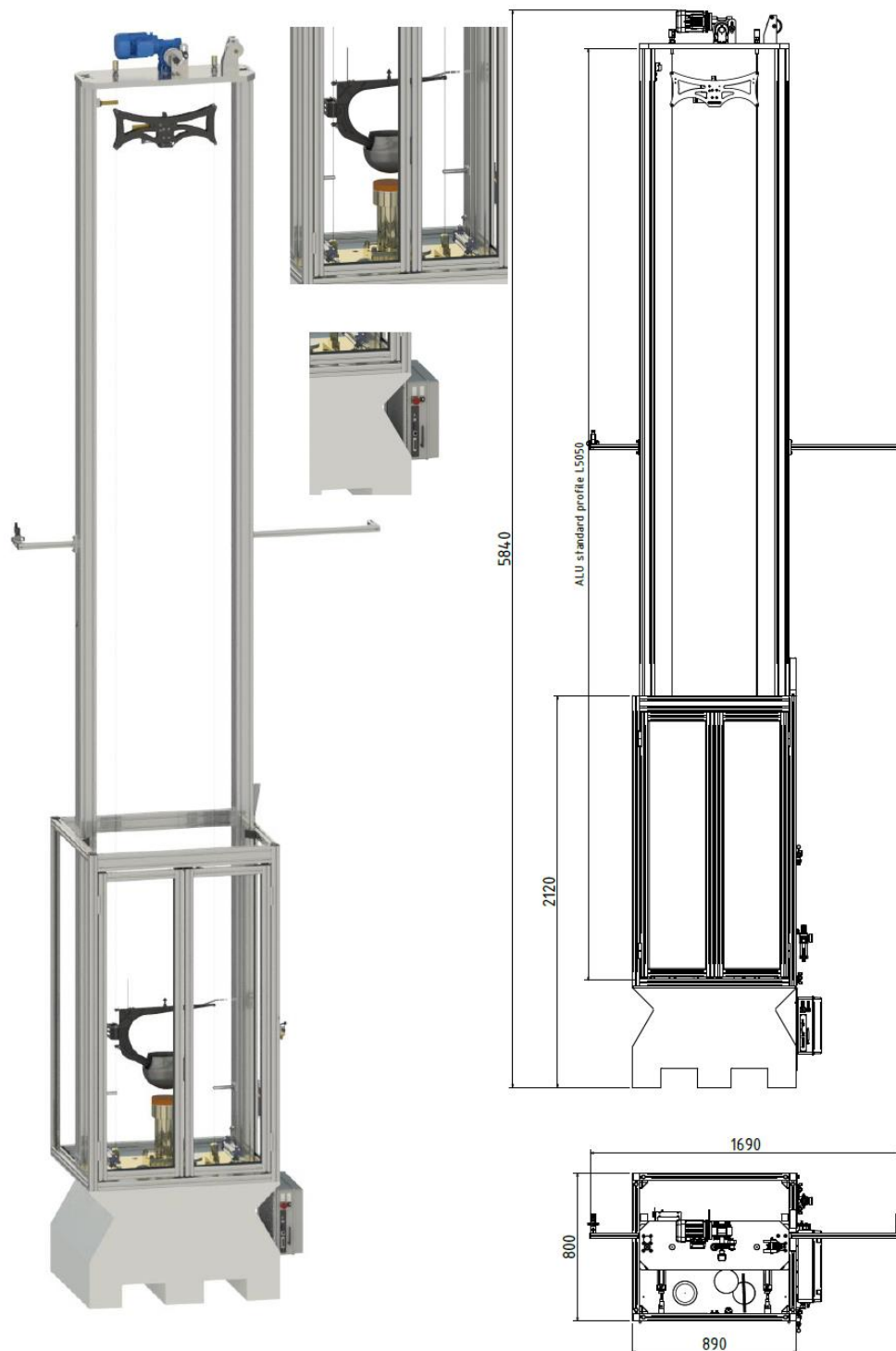


1007/A

MAU 1002 2W ALU
STD

Twin-wire shock absorption testing system utilizing the guided-drop headform method, specifically designed to meet Snell, AS standards. This 4-meter stroke model features a single-frame cantilever drop carriage and a double-sided 120×80 mm aluminium column frame. The system includes the base, electrical system, and 4 anvils, all secured within a safety cage with automatic doors.



Technical Data Sheet :

System Overview

- **Application:** Twin-wire shock absorption testing system utilizing the guided-drop headform method.
- **Compliance:** Specifically designed to meet AS compliance standards.
- **Configuration:** 4.4-meter vertical drop version featuring a single-frame cantilever drop carriage and a double-sided 120×80 mm aluminium column frame. Standard supply includes the structural base, integrated electrical system, 4 impact anvils, and a full-height safety cage equipped with automated protective doors.

Technical Features

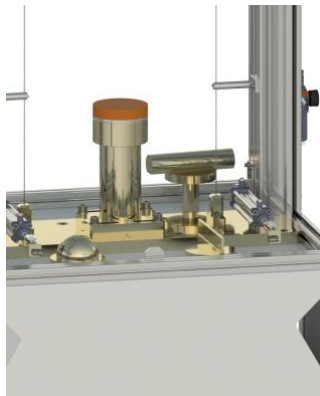
- **Chassis Frame:** Heavy-duty construction from aluminium ITEM profiles (120×80 mm, 80×40 mm, and 40×40 mm).
- **Sub-Base Plate:** 30 mm thickness zinc-plated steel plate, secured to the main frame via high-tensile screws.
- **Main Ballast Base:** Steel enclosure filled with concrete; total ballast mass: approximately 700 kg.
- **Drop Parameters:** Maximum vertical drop height up to 2.7m, yielding an impact velocity of 7 – 7.5 m/s.
- **Guidance System:** Twin-wire guidance system utilizing Ø 3 mm C70 steel cables equipped with an integrated tensioning mechanism.
- **Leveling System:** Adjustable foundation base equipped with 14 grub screws (Ø 16 mm) for absolute vertical axis alignment.
- **Frame Anchoring:** Secured directly to the structural base via 8 high-tensile bolts (Ø 16 mm thread).
- **Enclosure Safety Doors:** Automated protective doors driven by twin pneumatic cylinders; features a transparent polycarbonate front viewing panel and 3 mm polycarbonate lateral shielding. Integrated safety interlock switch prevents drop execution when doors are open.
- **Lift Carriage:** Precision water-jet cut Ergal 75 (aluminium alloy) plates. Equipped with a pneumatic automatic release system, complete with dedicated solenoid valve, limit switches, and photoelectric sensors.
- **Catch Mechanism:** Automatic drop carriage latching and hooking system operational during descent phases.
- **Drop Carriage:** Fully CNC-machined, single-piece Ergal 75 drop carriage engineered for standardized helmet testing. Features a central ball joint with clamp and a dedicated mounting interface for a single-axis accelerometer. Sliding guide components manufactured from low-friction nylon/carbon composite. Wire centerline spacing: 460 mm. Total drop carriage mass: 1.3 kg.
- **Impact Anvils:** Four standard impact anvils supplied: Flat, Hemispherical (R48 or R50), Edge (6.3 mm × 180 mm), and Roll-bar. Custom anvil geometries available upon request.
- **Anvil Alignment:** Anvil holder features an integrated laser alignment module to indicate exact impact point coordinates.
- **Headform Compatibility:** Dedicated impact test headforms are not included and are sold separately.
- **Hoist System:** Electric hoist motor assembly with pulley and encoder for precise positioning of carriages to preselected drop heights.
- **Electrical Integration:** Complete electrical distribution system fully concealed and routed inside the structural aluminium profiles.
- **Pneumatics:** Complete pneumatic control circuit equipped with an integrated analog pressure gauge.
- **Velocity Measurement:** Speed control monitoring device utilizing a high-frequency infrared photoelectric barrier.
- **Calibration:** MEP pad supplied for impact value verification.
- **Surface Treatment:** Mechanical and structural components finished with anodized and triple zinc-plated treatments for enhanced corrosion resistance.

Technical Data & Installation Requirements

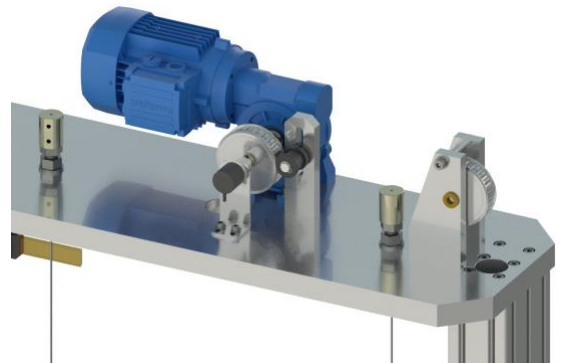
- **System Weight:** 200 kg (net weight, excluding the 700 kg concrete ballast base).
- **Overall Footprint & Dimensions (W × D × H):** 1690 × 800 × 5840 mm.



Cantilever drop carriage



Anvils and support



High part of frame