Ejection Mitigation & Pedestrian Protection Headform Test System

- Best in class accuracy by high speed closed loop control
- No pretest required for speed adjustment
- No hydraulics means low maintenance cost & minimum downtime
- Fast change between different launchers & tests (<30 min)
- Low operating cost ($1/launch)
Ejection Mitigation & Pedestrian Protection Headform Test System

**System Description**
This Microsys Test System is customized for FMVSS 226 and Pedestrian Protection Headform testing and can be refitted for additional load cases.

**Basic System Specification**
- Work and Control Medium: Technical Nitrogen N2
- Supply Pressure N2: up to 16 bar
- Control System: B&R
- Required Power Supply: 3-phase AC 2.5 kW
- Standard Weight: approx. 5000 kg

**System Performance: Productivity**
The following number of tests, based on experiences, can be performed by a team of 1 system operator and 1 supporter within 8 hours:
- Headform tests: 8 - 10 tests/day
- Ejection Mitigation: 8 - 10 tests/day
(These numbers take into account the required time for changing test parts between two tests and the time needed for Light and Camera position changes - technically 1 test per minute is feasible)

**System Performance: Ejection Mitigation**
- Bearing: High Speed Linear Bearing
- Friction force at 100 kg: < 100 N
- Static deflection at 100 kg: < 10 mm
- Mass of moving parts: 18 kg ± 0.1 kg
- Speed at Impact: 14 to 26 km/h
- Accuracy of Speed at Impact: ± 0.2 km/h (legal req. ± 0.5 km/h)
- Accuracy of Impact Location: ± 3 mm
- Rotation of EMI Head: quick release fastener with 5° steps operates without removing the head

**System Performance: Pedestrian Protection Headform**
- Accuracy of impactor location: ± 5 mm
- Accuracy of speed at the impact: < 1 %
  (on customer request down to) ± 0.2 km/h
* according to the latest revision status

**Load Cases & Launcher Type**

**Ejection Mitigation**
- FMVSS 226
- Similar customer specific requirements

**Pedestrian Protection Headform**
- 2009/78/EC (ECE-R127)
- Euro NCAP – Pedestrian Protection Protocol
- GTR 9 – Pedestrian Protection
- TRIAS 63 – Japanese Pedestrian Protection
- GB 24550
- All similar Headform tests

**Calibration devices for Ejection Mitigation:**
- X-direction: 1 600 mm/accuracy < 0.1 mm
- Y-direction: 3 000 mm/accuracy < 0.1 mm
- Z-direction: 1 600 mm/accuracy < 0.1 mm

**Travel of Power System**
- Work and Control Medium: Technical Nitrogen N2
- Supply Pressure N2: up to 16 bar
- Control System: B&R
- Required Power Supply: 3-phase AC 2.5 kW
- Standard Weight: approx. 5 000 kg

**Control System & Data Analysis**
Like all Microsys products, the Ejection Mitigation & Pedestrian Protection Headform Test System is controlled by the Microsys SureFire software. SureFire provides a common test platform for Microsys impactor and airbag testing, which reduces the time and cost for training of technical personnel. Microsys PowerPlay software is implemented into SureFire as a powerful data analysis and data processing tool. It can be used for post processing and automated reporting. DIadem can be optionally included. SureFire can also be upgraded to manage high speed cameras and lighting, as well to provide data acquisition and facility safety management.

**Certified Quality**
The test system is certified by TÜV and will be delivered with the CE mark. The Ejection Mitigation & Pedestrian Protection Headform Test System is used by many customers for conformity of production testing, for vehicle engineering, self-certification and type approval.

Since 2012 Concept & Microsys combined forces inside the “Concept Tech Group” to supply the automotive industry from its global sales & support network. Our family of safety testing products & services includes airbag deployment, cold gas inflation, impactor launch, low speed crash devices and much more.....