

Ejection Mitigation (FMVSS226) & Pedestrian Protection Head

The efficient solution for airbag impactor
& pedestrian head testing:



- ◆ 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)
- ◆ Robust and long life due to fully locked axis design
- ◆ Fully controlled by Microsys SureFire Software

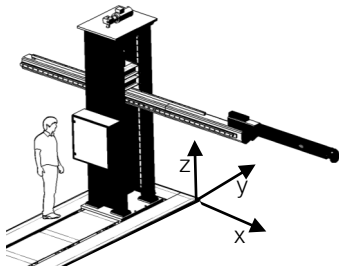
Equipped with ASC
(Closed Loop Control)

Ejection Mitigation (FMVSS226) & Pedestrian Protection Head

Basic System Specifications :

- ⇒ Work and Control Medium: technical Nitrogen N2
- ⇒ Supply Pressure N2: up to 16 bar
- ⇒ Control System: B&R
- ⇒ Required Power Supply: 3-phase AC 2.5kW
- ⇒ Standard Weight: approx. 5.000 kg

Travel of the System :



Fully automated Calibration Device

- ⇒ 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
- (All travel can be modified to customer request)

Load Cases:

Ejection Mitigation

- ⇒ FMVSS 226
- ⇒ Similar customer specific



Pedestrian Protection Head form

- ⇒ 2009/78/EC (EC 2003/102;EEVC WG17)
- ⇒ EuroNCAP – Pedestrian Protection Protocol 5.2
- ⇒ GTR 09 – Pedestrian Protection
- ⇒ TRIAS 63-2004– Japanese PedPro
- ⇒ GB 24550-2009
- ⇒ All similar Headform tests



System Performance: Productivity

Following experienced based numbers of tests can be performed by a team of 1 system operator & 1 supporter within 8 hours:

- ⇒ Head form tests 8-10 tests/ day
 - ⇒ Ejection Mitigation 8-10 tests/ day
- (This numbers take in 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 Linear Impactor:



- ⇒ Bearing: High Speed Linearbearings
- ⇒ Friction force at 100kg: < 100N
- ⇒ Static deflection at 100kg: < 10mm
- ⇒ 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 Head:

- ⇒ Accuracy of impact location ± 5mm
- ⇒ Accuracy of speed at the impact < 1% (on Customer request down to) ± 0.2 km/h

Control System & Data Analysis:

Like all Microsys products, the EMI & Pedestrian 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 personal. 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 EMI & Pedestrian Headform test system is used by many customer 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.....



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