

# Low Speed Crash Test System

**The complete solution for  
bumper & front end impact testing**



- ◆ No blocking of the high speed crash facility for bumper testing
- ◆ High speed accuracy and no pre-test required for speed adjustment
- ◆ No hydraulics means low maintenance cost & minimum downtime
- ◆ Low operating cost (\$5/Launch)
- ◆ Robust design for extended life and high reliability
- ◆ Fully controlled by Microsys SureFire Software

# Low Speed Crash Test System

## System Description:

This N2 powered Low Speed Crash Test facility provides a cost-efficient method to realize tests according to ECE-R42, PART581, CMVSS215, IIHS, RCAR, as well as Allianz tests and sensor tests.

The facility is designed for vehicles with a maximum weight of 2.5 t and a maximum speed of 20 km/h. The vehicles or trolleys are accelerated up to the required velocity with the aid of a Nitrogen driven launching device, subsequently unlocked and free driven crashed.

No hydraulics means low maintenance cost & minimum downtime

Hydraulic systems have the disadvantage of high maintenance costs and of long downtimes due to required service. Over their lifetime many hydraulic systems tend to leak oil and reduce their accuracy.

## Basic System Specifications:

- ⇒ Control System: B&R or Simens
- ⇒ Required Power Supply: 3-phase AC 2.0kW
- ⇒ Test Lab Dimensions: 25 m x 8 m
- ⇒ Nitrogen Pressure: max. 16 bar
- ⇒ A Foundation for the Barrier is required

## System Performance:

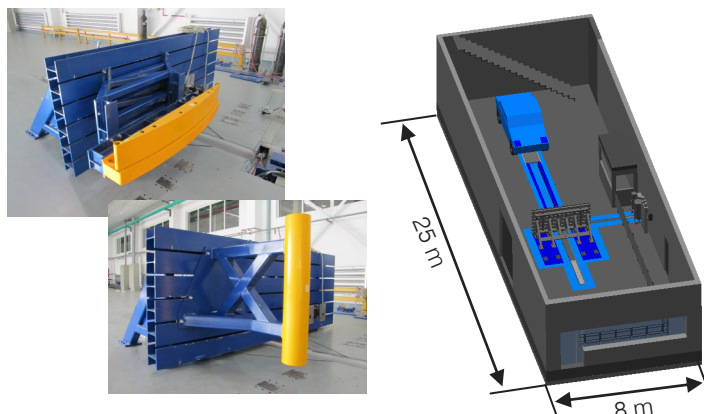
- ⇒ Vehicle/Barrier Mass 890 kg-2500 kg
- ⇒ Max Acceleration: 0.5 g
- ⇒ Maximum Speed: 20 km/h (1500kg)  
15 km/h (2500kg)
- ⇒ Accuracy of Speed at Impact  $\pm 0.2$  km/h
- ⇒ Accuracy of velocity measurement: 0.036 km/h

## Certified Quality:

The test system is certified by TÜV and will be delivered with the CE mark. The Slow Speed Crash Test System is used by many OEM's 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.....

## Dimensions of System:

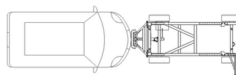


Typical dimensions of a low speed crash test lab:

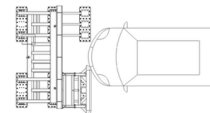
- ⇒ Length 25 m
- ⇒ Width 8 m

## Load Cases:

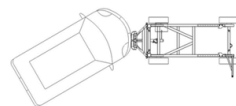
### ECE-R42 Tests



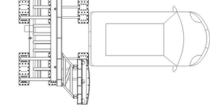
### RCAR Jan99/Mar06 Tests



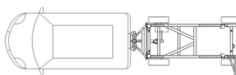
### Part 518 Tests



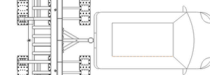
### IIHS Tests



### CMVSS 215 Tests



### User Defined Tests



## Control System & Data Analysis:

Like all Microsys products, the Low Speed Crash 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.



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