



Drop Pendulum Test System

- Reproducible measuring results due to backlash-free roller positioning and pneumatic clamping of all axes (repeat precision $< \pm 0.1$ km/h)
- Multiple variable tests are possible due to the variable hoisting angle
- Simple operation via fully automatic hoisting and trigger possibilities
- Simple adjustment to the test points via a 4-axial movement
- No secondary impact possible (friction cone brake)

Drop Pendulum Test System

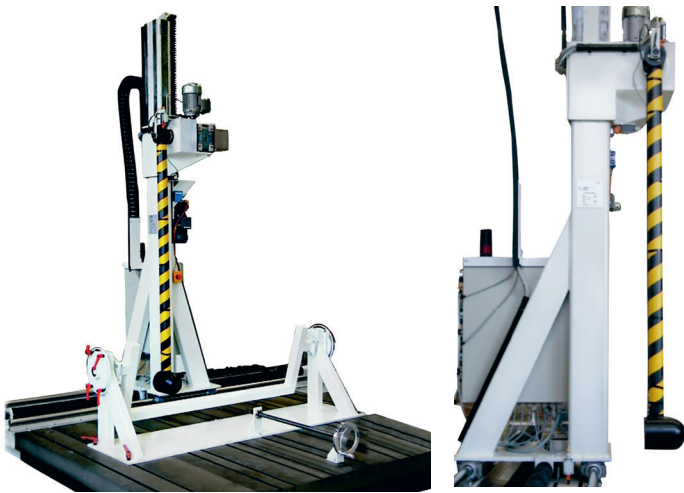
System Description

The Microsys developed Drop Pendulum Test System is mainly used for testing of vehicle components in the instrument panel area.

The measured accelerations on the impactor enable conclusions to be drawn regarding the components and passenger exposure.

Via the hoisting height, the impact speed (energy) is regulated. 2 single-axial acceleration sensors are installed in the pendulum head. A worm gear with a friction cone brake accomplishes the hoisting movement and prevents a secondary impact. The Z-axis adjustment occurs via a spindle lifting gear.

Through this unique solution, a repeat precision of $\pm 0,1$ km/h are achieved!



Test Data Base

The test data base is used for the consolidation and management of the following data:

- Measuring data (speed, position of system)
- Crash data (high-speed video, acceleration curves, DAT-files, sensors used, impact location, pictures)
- Test setup with component management
- Possibility of combining project related analysis data and tests

The test data base can be individually customized.

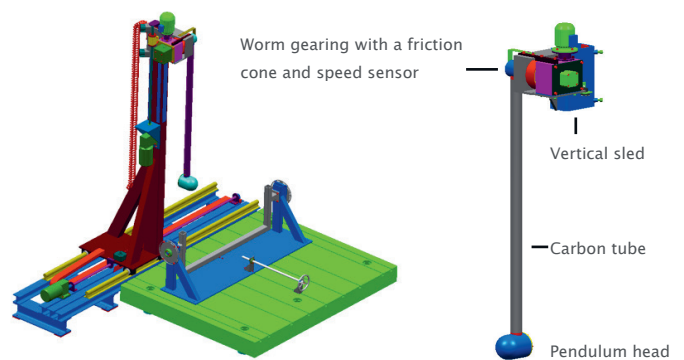
Load Cases

- ECE-R21, -R80, -R25
- ECE-R17
- TRIAS 20
- 74/60/EC
- GB11552
- FMVSS 201
- Similar Test

* according to the latest revision status

Technical Data

- Test Speed: ca. 8 - 27 km/h
- Repeat Precision: $< \pm 0.1$ km/h
- Reduced Test Body Weight: 6.8 ± 0.1 kg
- Air Supply: ca. 8 bar
- Z-Displacement: 100 - 1200 mm
- Total Weight: ca. 2000 kg (without span)
- Control System: SPS Siemens S7
- E-Connection Power: ca. 1.6 kW
- Voltage/Frequency: 400V/50 Hz



System Measurements

- Total Length: ca. 3500 mm
- Total Width: ca. 2500 mm
- Total Height: ca. 3000 mm
- Pendulum Length: 1750 mm
- Clamping Area:
 - Length: ca. 2000 mm
 - Width: ca. 2500 mm

Detailed Description

- 2 Spindle stroke gears (X- and Z-axial)
- 1 Worm gear with friction cone clutch (rotation around Y-axial)
- 1 Tolerance adjustable, heavy loadable liner guide sled bearing in Y-direction
- 1 Adjustable control panel retainer (around Z-axial)
- 2 High-precision Piezo-accelerometer in pendulum head
- 1 Angle rotary encoder for measuring the hoisting angle
- 1 Stable vibration cushioning span with T-grooving