Concept ® - DROP PENDULUM SYSTEM

Functional Description

The Concept Technologie developed Drop Pendulum System is mainly used for testing of vehicle components in the instrument panel area according ECE R21.
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-axes adjustment occurs via a spindle lifting gear.

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

FROM USER TO USER

As a user and system developer, we offer our customers our know-how.

Benefits at a Glance:

- ✓ Reproducible measuring results (repeat precision ± 0,1 km/h) due to backlash-free roller positioning and pneumatic clamping of all axes
- ✓ Multiple variable tests are possible (continuous variable impact energies) 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 and continuous speed regulation of the axial transverse paths
- ✓ No secondary impact possible due to automatic brake device (friction cone brake)

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Technical Data:

- Test Speed: ca. 8 - 27 km/h
- Repeat Precision: < ± 0,1 km/h
- Reduced Test Body Weight: 6,8 ± 0,1 kg
- Air Supply: ca. 8 bar
- Z- Displacement: 100 - 1.200 mm
- Total Weight: ca. 2.000 kg without span
- Control System: SPS Siemens S7
- E- Connection Power: ca. 1,6 kW
- Voltage/Frequency: 400 V / 50 Hz

System 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- accelometer in the pendulum head
1 Angle rotary encoder for measuring the hoisting angle
1 Stable vibration cushioning span with T- grooving from high-quality GG

System Measurements:

Total Length: ca. 3.500 mm
Total Width: ca. 2.500 mm
Total Height: ca. 3.000 mm

Pendulum Length: 1.750 mm

Clamping Area:

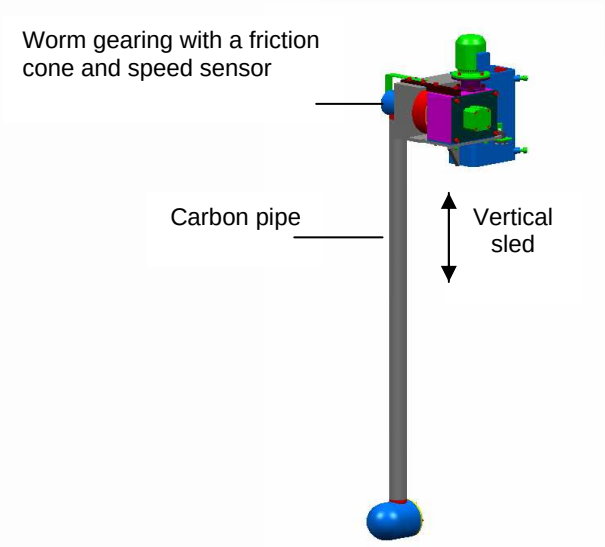
Length: ca. 2.000 mm
Width: ca. 2.500 mm

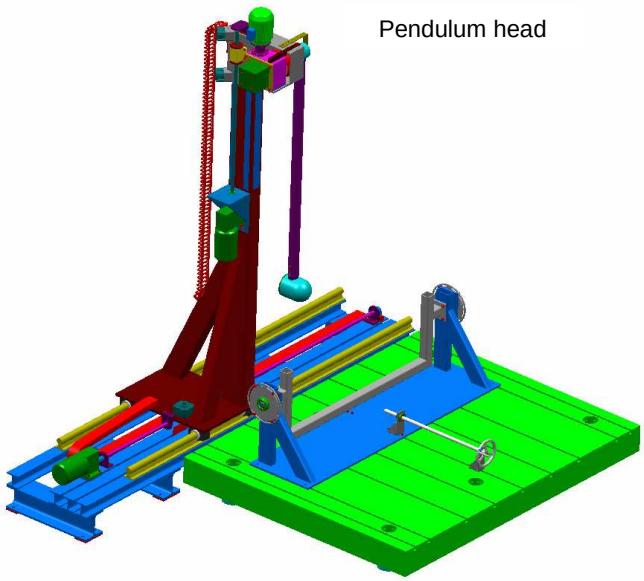
Test Data Bank:

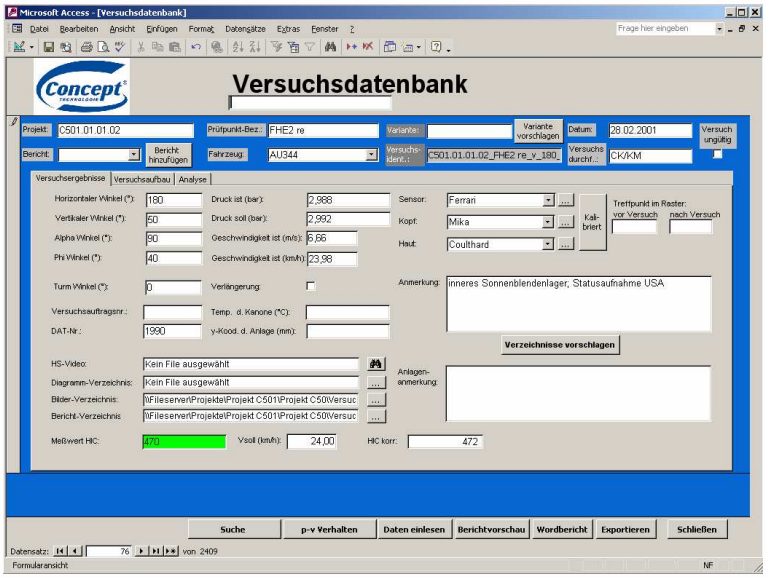
The test data bank is used for the consolidation and management of the following data:

- 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 Concept test data bank can be individually customized.







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