

Pendulum Impact Tester PSd 50



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Pendulum Impact Tester PSd 50

The pendulum impact tester PSd 50 is a testing machine to determine the impact strength and impact energy at standard specimens and rods. You have the choice of implementing a pendulum hammer with a working capacity of 50, 25 or 15 J.

The pendulum impact testers of WPM are characterized by their high-quality anti-vibration design, guaranteeing high measurement accuracy and long service life.

Application

According to the technical conditions of DIN 51222, DIN EN ISO 13802, ASTM E23 and GOST 10708 as well as with corresponding accessories:

- **Charpy impact tests** on plastics according to
 - ASTM D6110
 - ISO 179-1
 - GOST 4647
- Determination of **Izod impact strength** on plastics according to
 - ISO 180
 - ASTM D 256
 - GOST 19109
- Determination of **tensile-impact strength** on plastics according to
 - ISO 8256
 - ASTM D 1822
- **Impact-bending tests** on zinc and zinc alloys according to
 - DIN 50116
 - DIN 53435
 - DIN 51230
- **Instrumented impact tests** on plastics according to
 - ISO 179-2
- Test method for **shear impact strength** according to
 - ISO 9653

Highlights

- **Reliable measurement results**

The pendulum impact tester PSd 50 is made up of a rigid, box-type machine column with optimized vibration absorption. The pendulum impact tester is installed either on a machine table or on a foundation.

- **Flexible test applications**

The **pendulum rod** is prepared to install the U-shape hammer with striker for Charpy, Izod and tensile-impact tests. Thanks to the quick-change system, the striker can be changed easily and rapidly.

The U-shape **pendulum hammer** consists of the hammer plate and side plates. The side plates are screwed and pinned at the hammer plate. The pendulum rod is screwed on the hammer plate and fixed with two pins in its position. The striker is screwed the way that it is impossible to mount it incorrectly.

On the central **anvil block**, exchangeable support plates can be mounted, depending on the specimen dimensions.



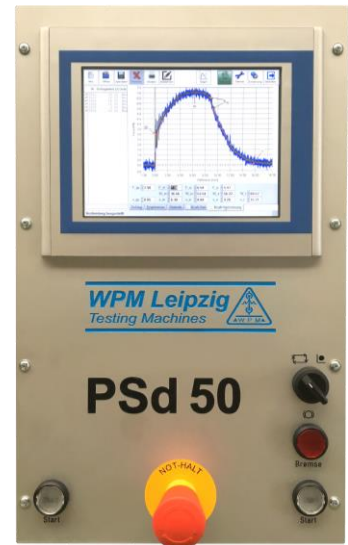
- **Comfortable operation**

The impact energy is adjusted and displayed with a **digital display**. It can either be displayed as angle or as potential energy.

Option **friction compensation** allows determining the lost work due to friction. The displayed value is subtracted from the consumed impact energy depending on the pendulum travel.

With the help of the **adjustable pendulum locking**, the start position of the pendulum can be continuously adjusted.

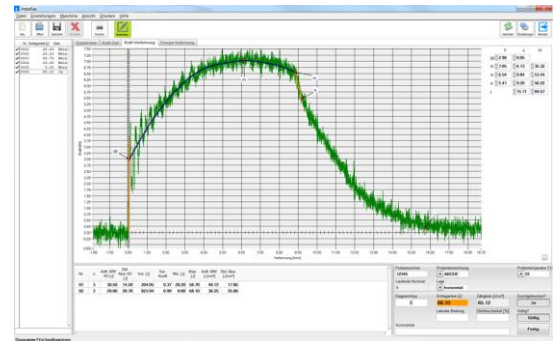
Alternatively to the digital display, a **touch screen** can be used. By means of the computer with touch screen integrated in the machine frame, the pendulum impact tester can be completely operated via the evaluation software ImpaSax. Adding the tool for instrumentation, measurement results are displayed along with force-time and force-deflection characteristics. So, no external computer for instrumented tests is necessary anymore.



- **Intelligent measurement value recording and evaluation**

To carry out **instrumented tests**, a two-channel measurement technology is applied. Its appeal lies in the high sampling frequency of up to 10 MHz and the possibility to include further transducers in the system. The measurement amplifiers are USB-configurable and have a limit frequency of up to 300 kHz. Depending on the configuration, one measurement channel (± 10 V) is freely available.

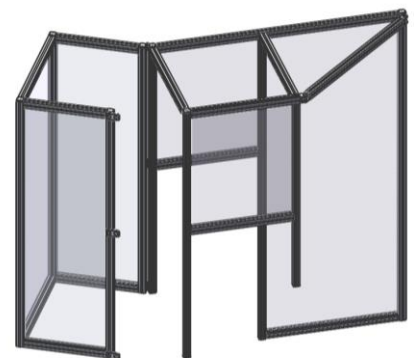
The evaluation software **ImpaSax** is the best tool to acquire measurement values and to generate reports and statistics for instrumented and non-instrumented impact tests. Beside the graphic display of measurement values, automatic algorithms are included to evaluate the measured values according to ISO 14556.



- **Safety**

The **safety enclosure** according to DIN 51233 – consisting of a frame with polycarbonate panels – fulfills all technical safety requirements.

Depending on the type of specimen, you can choose between an open and a closed safety enclosure. The open safety enclosure prevents from reaching into swinging area of the pendulum hammer from the operating side, the left side and the rear side of the pendulum impact tester. Thanks to the movably fixed hood on the left side, the safety enclosure can be opened for cleaning and calibration. The closed safety enclosure prevents from reaching into the swinging area of the pendulum hammer from all sides and protects against flying specimen parts.



Key Facts

Impact velocity	0.27 ... 3.8 m/s	
Drop angle	With adjustable pendulum locking continuously variable 8° ... 160°	
Digit increment	0.1 J	
Distance from rotation axis to center of specimen	380 mm	
Striker Charpy	ISO 13802	Edge angle $30^\circ \pm 1^\circ$ Radius of curvature 2 ± 0.5 mm
	ASTM D6110	Edge angle $45^\circ \pm 2^\circ$ Radius of curvature 3.17 ± 0.12 mm
Striker Izod	ISO 13802	Radius of curvature 0.8 ± 0.2 mm
	ASTM D256	Radius of curvature 0.8 ± 0.2 mm
Support Charpy		10 x 10 x 55 mm
	Edgewise test	3 x 4 x 27 mm
	Flatwise test	6 x 4 x 50 mm
	Edgewise test	2,5 x 10 x 55 mm
	Edgewise test	4 x 10 x 80 mm
	Flatwise test	10 x 4 x 80 mm
	Flatwise test	15 x 10 x 120 mm
Low-vibration machine table	Dimensions	730 mm x 430 mm x 720 mm
	Load capacity up to	600 kg
Power supply	1 N ~ 220 V/50 Hz, 0.2 kVA	
Dimensions	1027 x 576 x 1128 mm	
Weight (net)	200 kg	

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