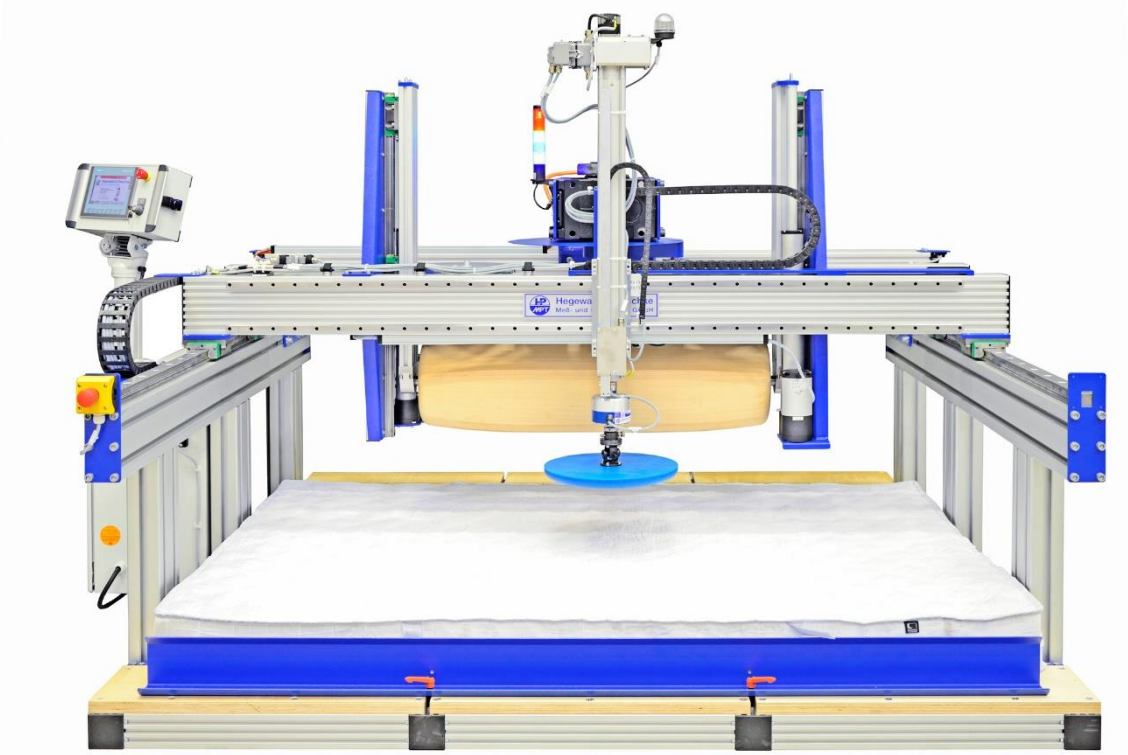
Hegewald & Peschke
Meß- und Prüftechnik GmbH

Product information

Combined test stand for durability and hardness tests

on mattresses, spring cores and (box spring) beds e.g. according to DIN EN 1957



zertifiziert nach DIN EN ISO 9001
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Application and function

The test stand enables both durability and hardness tests according to EN 1957, without the need for a re-arrangement of the specimen, which would falsify the measured values. It combines the loading device (roll) with a hardness measuring device.

Due to its design, the test stand enables the uncomplicated insertion of the test specimen (e.g. the mattress) from the front or back side. The test table has a solid surface. Mattresses can be tested lengthways and crossways.

The specimen is secured against slipping with side support profiles. The support profiles can be turned and, depending on the height of the test piece, used with a support height of 50mm or 70mm.

The **continuous load** is applied by a test roll that is mounted in the middle above the test table. In order to be able to adapt optimally to the specimen during the test, the roll is situated on the table in such a way that it can be moved up and down, it can be rotated around its rotary axis, and it can tilt around its lateral axis. The roll is lifted automatically after the end of the test or in case of interruptions and moves to a park position. Non-standard tests with smaller loads can be carried out as well. For this purpose, necessary weights simply need to be removed. The control is carried out via a PLC with a touch panel, whereby the user guidance is simple and illustrated. The rolling cycles can be set individually, deviating from the standard.

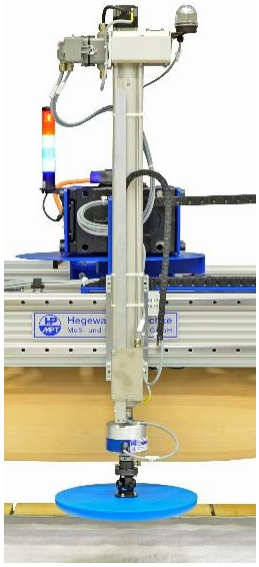
The **hardness measuring unit** consists of a servo electromotive axis. The hardness value H and the hardness H_s are automatically calculated and displayed by the testing software *LabMaster*. The test is parameterized and recorded with the help of the test software. The standard-compliant or customer-specific settings can be defined as templates. Thus, in addition to the specifications according to DIN EN 1957, tests according to ISO 3386 or ISO 2439 can also be carried out. Different recorded diagrams can be combined to one.

The entire system is equipped with an emergency stop button and has the option of integrating additional safety devices, e.g. light curtains or safety mats, which cause a shutdown when approaching the hazardous area. A monitored, separating protective device can also be offered on request.

Special features

- high rigidity of the test table with movable fixing elements
- test specimens up to 300mm height (variable)
- drive for standard-compliant continuous loading with sinusoidal speed curve
- continuous load with 1400N
- variable weight due to weight plates
- flexible storage of the test roll
- automatic lifting of the test roller after test end
- hardness measuring unit freely positionable over length and width
- standard-compliant and individual test procedures through test software *LabMaster*

Loading device with weight plates



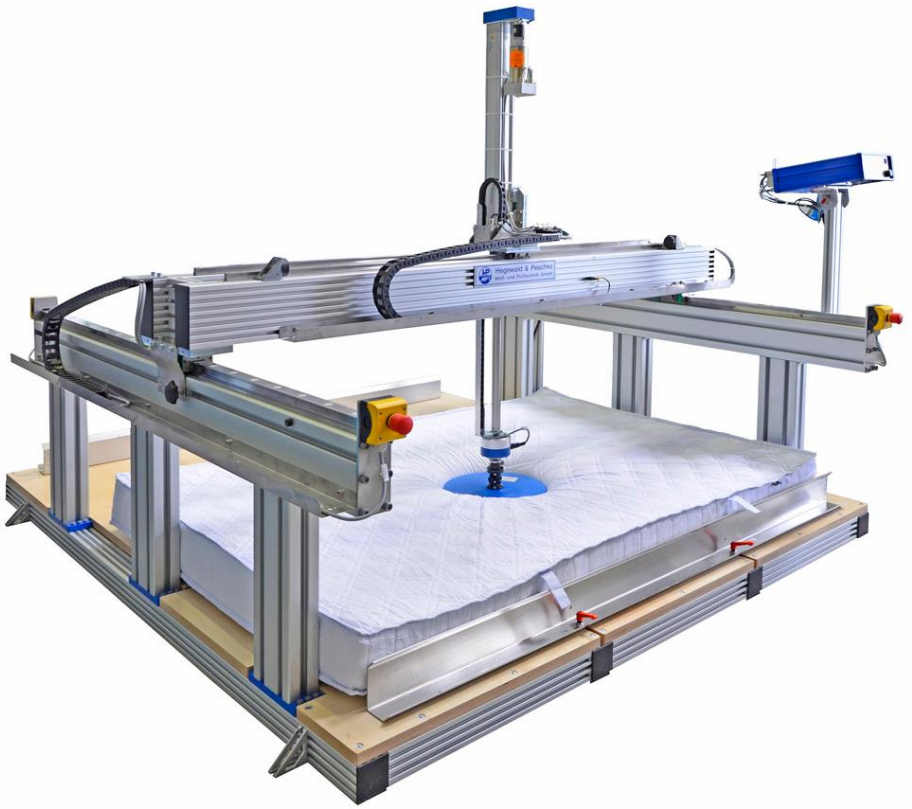
Hardness measuring unit

Technical data:

standard DIN EN 1957	Furniture - Beds and mattresses - Test methods for the determination of functional characteristics and assessment criteria	
specimens	mattresses, spring cores and (box spring) beds maximum dimensions: 2000mm x 2000mm x 300mm	
loading device	roll, static loading: horizontal stroke: test speed: frequency:	1400 N ±7 N ±250 mm symmetric to the park position sinusoidal velocity plot (max. 10% variation) 16±2 cycles per minute
hardness testing	maximum force: vertical stroke: test speed: return speed:	limited to 2500N 600 mm 0,05 - 1200 mm/min 1200 mm/min
force measurement	measuring range: 1 - 100 % of the rated load class 1 (optional class 0,5) according to ISO 7500 force measurement resolution: +/-180.000 digits at 20ms integration time	
position measurement	incremental input with encoder monitoring storage of position resolution of position measurement: <1 µm	
dimensions	test stand: d2530mm x w2630mm x h1700mm required installation space: ca. 3500mm x 4500mm	
connection	400 VAC, 2 kVA, 50/60 Hz, 5- 40°C, 20- 80 % humidity	
Weight	approx. 1200 kg	
enclosed accessories	• base frame in profile construction with wood plate for the specimen, support profiles • traversing carriage with roll and load unit for hardness testing, incl. load cell • machine control, mounted on the base frame	
optional accessories	personal computer, display material testing software *LabMaster* (Art.-No.: 18-014-005) security fence (e.g. 2-sided, Art.-No.: 40-830-159-BG30) loading pad acc. to EN 1957 (Art.-No.: 41-006-132)	

Alternative test stands

Single test stand for durability tests on mattresses, spring cores and (box spring) beds according to EN 1957 (Art.-No.: 40-830-157)



Single test stand for the hardness measurement on mattresses, spring cores and (box spring) beds according to EN 1957 (Art.-No.: 40-830-158)