



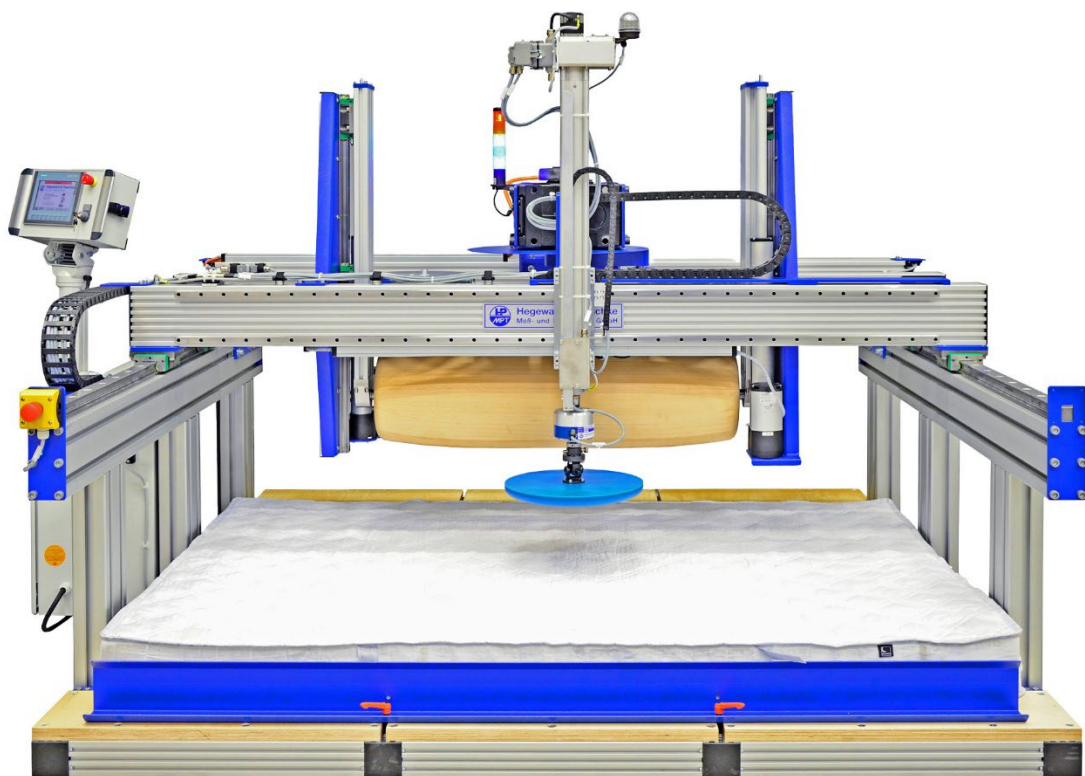
Hegewald & Peschke

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



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Application:

- Tests according to the standard EN 1957: Furniture - Beds and mattresses - Test method for the determination of functional characteristics and performance criteria
- Tests according to the standard EN 1725: Durability of the bed edge

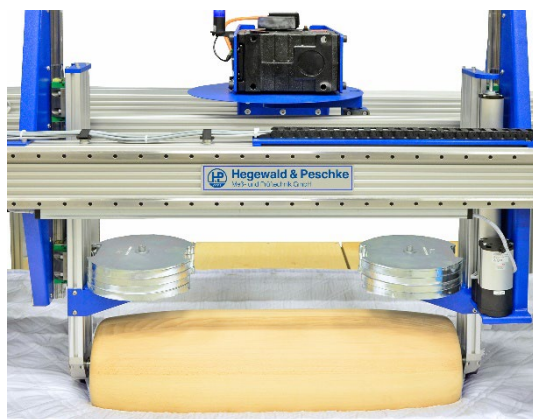
Design and function of the test rig:

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. 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 50 mm or 70 mm.

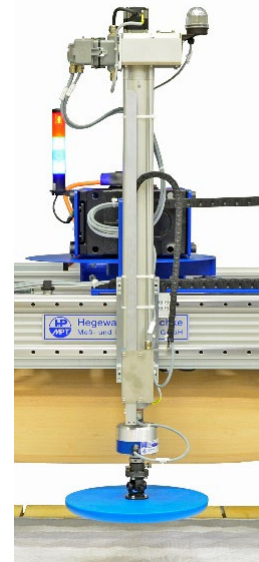
The **continuous load** is applied by a test roll which is mounted central above the test table. In order to be able to adapt optimally to the specimen during the test, the roll is situated on the table in such a way that it can be moved up and down, it can be rotated around its rotary axis, and it can 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.



Loading device with weight plates

The **hardness measuring unit** is based on 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 EN 1725, 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.



Hardness measuring unit

Special features

- high rigidity of the test table with movable fixing elements
- test specimens up to 300 mm height (variable)
- drive for standard-compliant continuous loading with sinusoidal speed curve
- continuous load with 1400 N
- 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 with test software **LabMaster**



Technical data:

| | |
|-----------------------------|--|
| specimens | mattresses, spring cores and (box spring) beds maximum dimensions: 2000 mm x 2000 mm x 300 mm |
| loading device | roll, static loading: 1400 N \pm 7 N horizontal stroke: \pm 250 mm symmetric to the park position test speed: sinusoidal velocity plot (max. 10% variation) frequency: 16 \pm 2 cycles per minute |
| hardness testing | maximum force: limited to 2500 N vertical stroke: 600 mm test speed: 0,05 - 1200 mm/min return speed: 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: \pm 180.000 digits at 20ms integration time |
| position measurement | incremental input with encoder monitoring storage of position resolution of position measurement: $<1 \mu\text{m}$ |
| dimensions | test stand: d2530 mm x w2630 mm x h1700 mm required installation space: ca. 3500 mm x 4500 mm |
| connection | 400 VAC, 2 kVA, 50/60 Hz, 5- 40°C, 20- 80 % humidity |
| Weight | approx. 1200 kg |
| enclosed accessories | <ul style="list-style-type: none">• 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.: 40-830-164)



Single test stand for the hardness measurement on mattresses, spring cores and (box spring) beds according to EN 1957 (Art.-No.: 40-830-162)

