Texensor

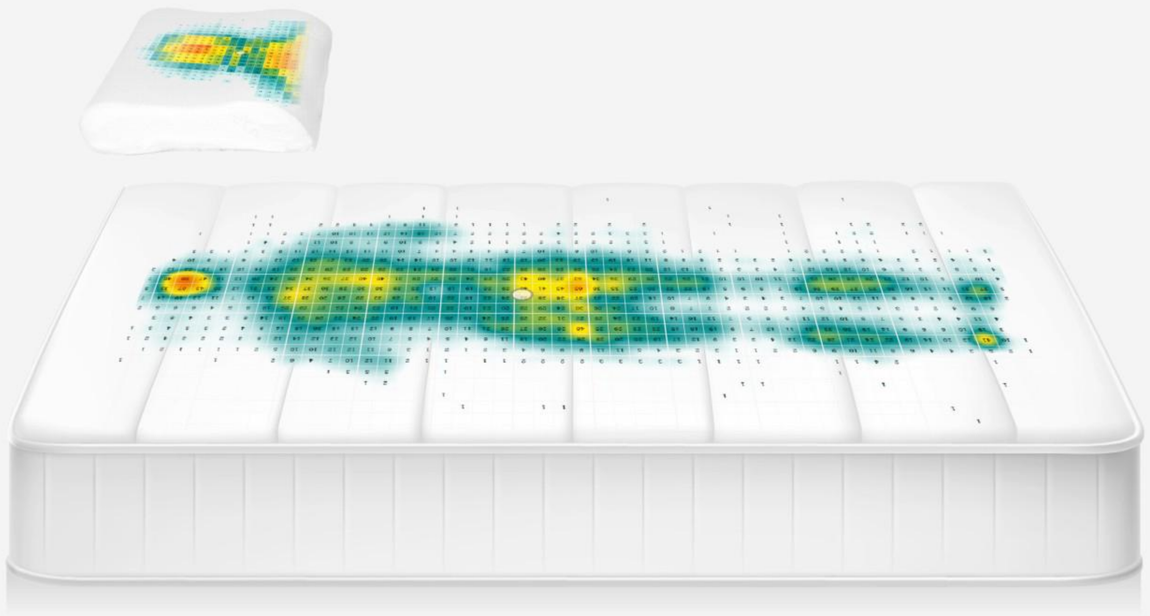
Mattress & Pillow Pressure Testing System

Sense. Adapt. Transform.

Introduction

Texensor Mattress & Pillow Pressure Testing System is designed to allow the manufacturer or retailer to measure pressure distribution and magnitude between the customer and mattress/ pillow surface, enabling the consumer to purchase a truly well fitted mattress/ pillow.

It comprises 3 components: textile pressure sensors, a data acquisition module, and the proprietary software. This system implements continuous real-time monitoring of surface pressure distribution through high-precision sensor grids, with all data streamed directly into the integrated software for processing and analysis. The rigorous scientific data output enables the optimization of mattresses and pillows in terms of comfort, safety, durability, and biomechanical support.



Value Propositions

- Drive incremental revenue through strategic up-selling.
- Reduce post-purchase dissonance to minimize product returns.
- Enhance sensory engagement with dynamic visualizations to accelerate deal closures.
- Add scientific credibility to subjective assessments through robust data-driven validation.
- Elevate sales-performance tracking with real-time analytics and actionable insights.
- Cut down comfort-related support exchanges by aligning customer expectations with objective data.
- Adapt seamlessly to diverse business needs with the highly versatile, configurable hardware & software.
- Streamline employee on-boarding and boost operational efficiency with an intuitive, user-friendly interface.
- Boost market competitiveness and strengthen brand reputation for a sustainable edge.

Customer Success Snapshot

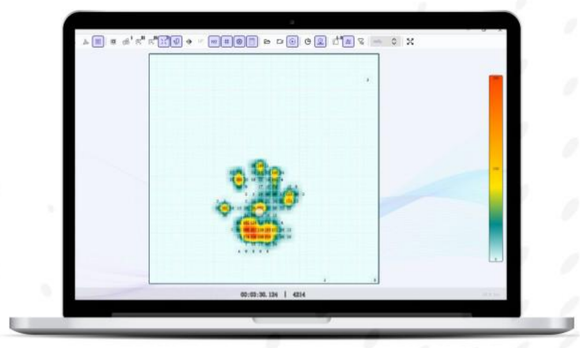
One of our partners reported a 25% increase in sales volume within three months of deploying Texensor Mattress Surface Pressure Testing System. Leveraging sensor-driven demos tapped into the 74% buyer trust in peer recommendations, boosting confidence and reducing objections. Data-backed insights also delivered a 10% uplift in cross-sell and up-sell opportunities, further accelerating revenue growth.

Connected

Textile pressure sensors

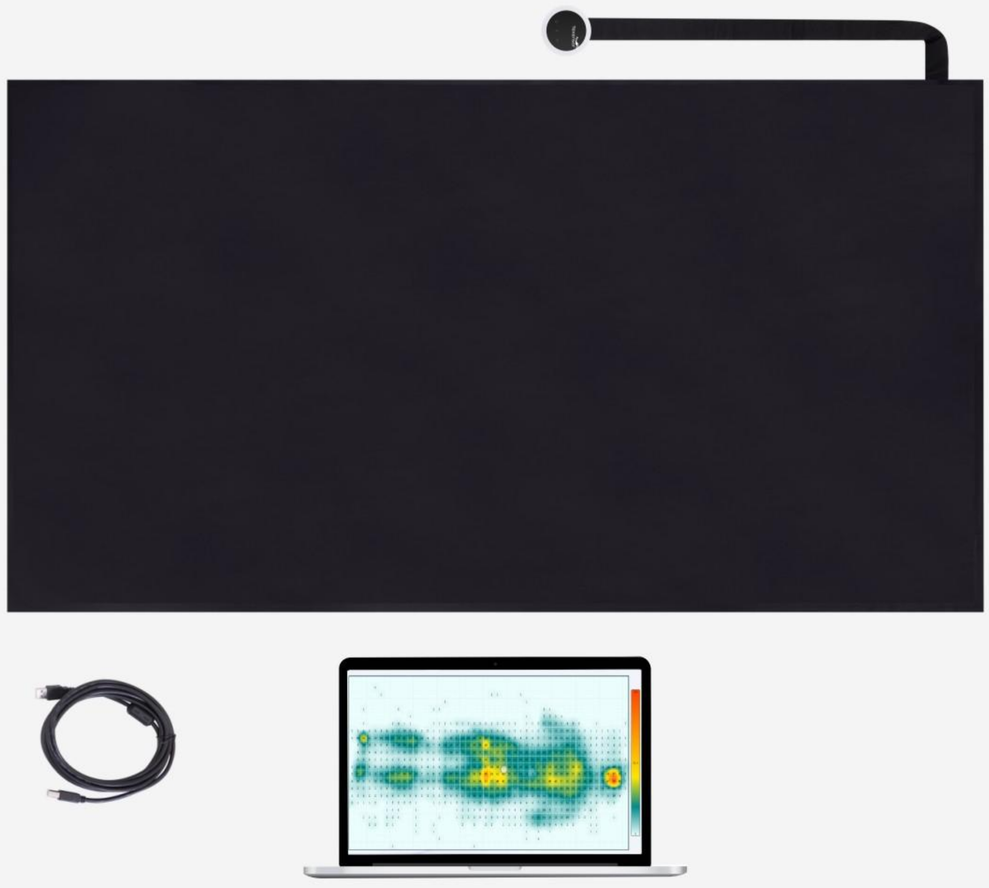
Data acquisition module

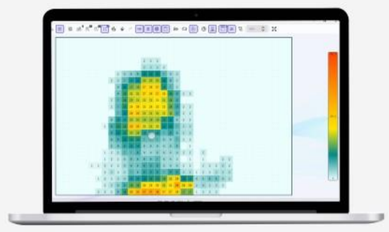
Data streams



Software

Specifications & Performance





Sensors for Mattress Pressure Testing

Technology	Piezoresistive
Overall Size	2030mm x 920mm
Sensing Area Size	1860mm x 765mm
Thickness	2mm
Number of Sensing Points	1612
Controller Dimensions	π (50mm)^{2}x 30mm
Usable Temperature Range	10-40°C
Usable Humidity Range	5-90%RH
Accuracy	±10%FS
Color	Black
Material	PU
Communication Interface	USB/WIFI
USB Communication	PC communication, powered by the PC's power supply
WIFI Communication	Powered by an external 5V/1A power adapter

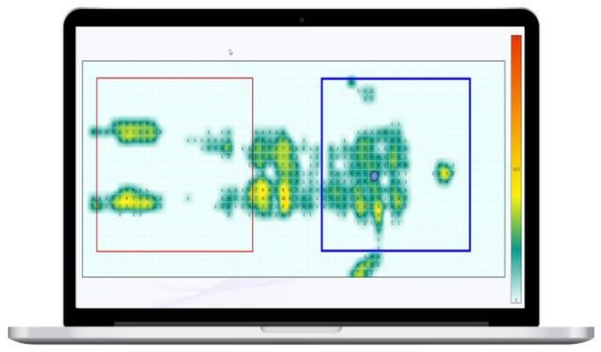
Sensors for Pillow Pressure Testing

Technology	Piezoresistive
Overall Size	454mm x 670mm
Sensing Area Size	384mm x 600mm
Thickness	1.3mm
Number of Sensing Points	1600
Controller Dimensions	126mm x 75mm x 21mm
Usable Temperature Range	10-40°C
Usable Humidity Range	5-90%RH
Accuracy	±10%FS
Color	Black/Dark blue
Material	PU
Communication Interface	USB/WIFI
USB Communication	PC communication, powered by the PC's power supply
WIFI Communication	Powered by an external 5V/1A power adapter

Software

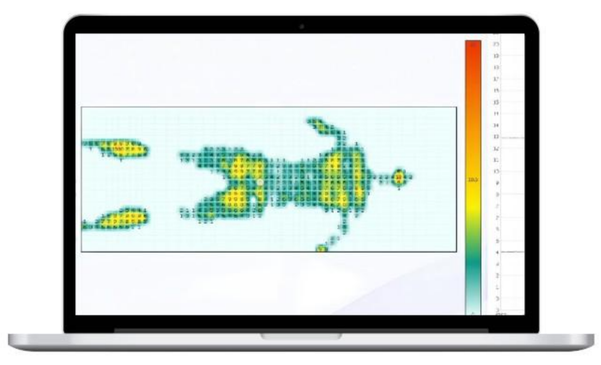
Data Acquisition

- **Pressure Monitoring:** Measures pressure values and distribution areas across sensing units, shown in 2D/3D views.
- **Pressure Coefficient Adjustment:** Adjusts pressure coefficients to change visualization color display.



Data Analysis

- **Selected Area Analysis:** Analyzes pressure data (average, maximum, contact area) within selected regions, supporting multiple area statistics.
- **Center of Gravity Marking:** Highlights the center of gravity in selected areas to help users quickly track shifts in gravity.



Data Retention

- **Video Playback:** Supports recording and playback with controls for pause, fast-forward, slow-motion, and frame-by-frame navigation to help users analyze test details.
- **Data Export:** Exports data in spd format, convertible to csv for analysis and processing.

About Texensor

Texensor transforms everyday fabrics into adaptive, multifunctional sensing platforms—delivering precise pressure measurements, high-fidelity visualization, and intelligent data insights.

We power next-gen, fully customized solutions for leading enterprises across automotive, smart homes, healthcare, robotics, and beyond.

100+ Cross-Industry Projects
Deliver custom-engineered solutions backed by proven, real-world expertise.

2,000+ sqm In-House Factory
Guarantee quality control and agile production through full vertical integration.

10 Years of Focused R&D
Drive sensing innovation with a team where 40% are dedicated engineers.

Accredited In-House Labs
Ensure performance, reliability, and durability with rigorous testing workflows.

Full-Cycle Technical Partnership
Support your product from initial design to seamless integration and long-term deployment.

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