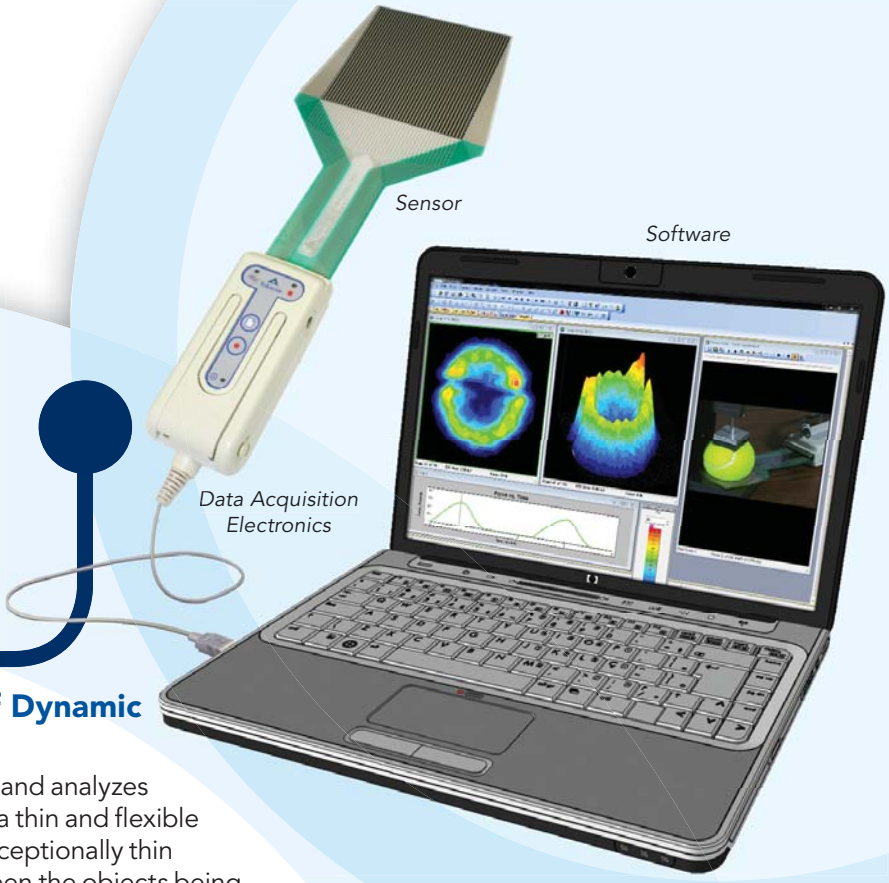
Tekscan®

I-Scan®

Tactile Pressure Measurement System



I-Scan System: Includes software, data acquisition electronics, & sensors (standard Evolution® system shown)

Versatile Tool for In-depth Analysis of Dynamic Measurements

I-Scan® is a powerful tool that accurately measures and analyzes interface pressure between two surfaces, utilizing a thin and flexible sensor. Measuring both force and pressure, this exceptionally thin tactile sensor provides minimal interference between the objects being measured, allowing the true interface pressure data to be obtained. This data offers vital information and insight to enhance product design, manufacturing, quality, and research.

KEY BENEFITS

Product Design:

- In-depth understanding of surface behavior
- Verify forces and peak pressures between two components
- Measure external forces
- Reduce failures & associated costs

Manufacturing:

- Verify calibration of machinery
- Improve repeatability of processes
- Reduce downtime & improve yields

Quality Control:

- Identify potential failure modes
- Quality inspection & control
- Competitive benchmarking

Research:

- Understand the physical properties of the objects being measured
- Understand the pressure distribution between two surfaces

KEY DATA

- Total force
- Pressure distribution
- Peak pressure
- Center of force
- Forces in different areas

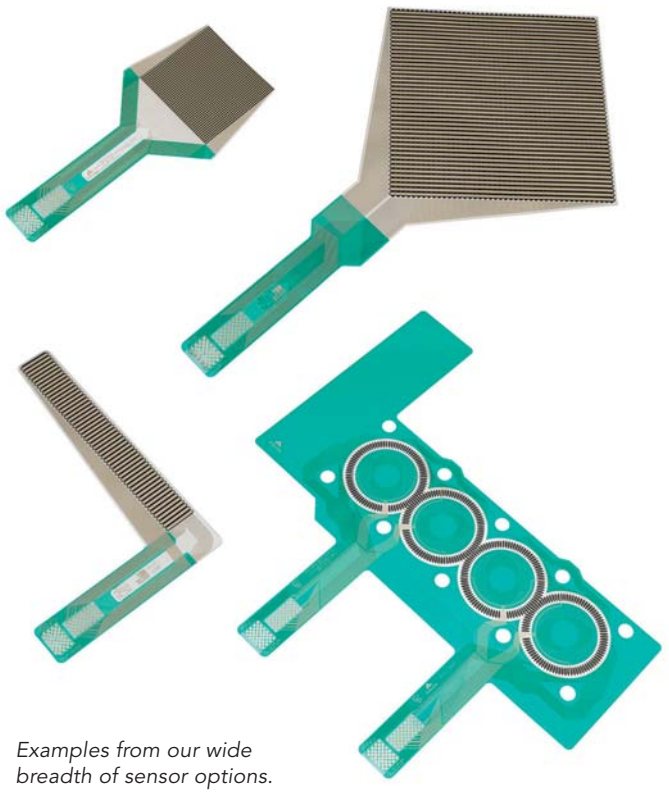
UTILIZATION

- Test & measurement
- Research & development
- Design validation
- Machine set-up
- Quality control

SENSORS

Over 200 flexible, thin film sensors are available in different sizes, shapes, resolutions, temperature ratings, and pressure ranges (up to 25,000 psi or 1,700 bar).

- High spatial resolution:
  - Up to 248 sensing elements/cm^2 (1,600 sensing elements/in^2)
  - Sensing elements with as narrow as 0.1 mm (0.02 in.) spacing
- Sensing area ranging from 3 mm x 3 mm (.12 in. x .12 in.) to up to 1,734 mm x 1,768 mm (68 in. x 69 in.)
- Optional high-temp sensors can withstand up to 200°C (392°F)



Examples from our wide breadth of sensor options.

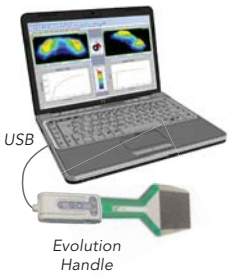
Fully customized sensors can be manufactured to meet any application

DATA ACQUISITION ELECTRONICS

In order to obtain the pressure data, our scanning electronics scan the thousands of sensing points within each sensor. The data is instantly relayed to the software on your PC via a USB cable. Our sensors can be scanned at up to 1,600,000 sensing elements/second.

Evolution®

STANDARD USB
Up to 100 Hz



For use in standard applications.

VersaTek®

HIGH SPEED USB
Up to 20,000 Hz

For use in high-speed applications or for sensors with higher resolution over large areas.

Wireless

VERSATEK® WIRELESS UNIT
Up to 4,600 Hz

Wirelessly transmit data to PC for remote data collection (up to 100m).

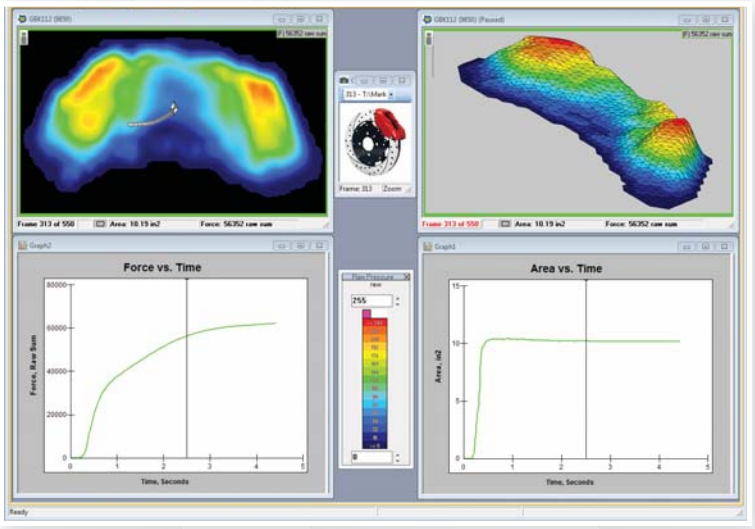
Datalogger

VERSATEK® DATALOGGER UNIT
Up to 20,000 Hz

Collect data onto Datalogger Unit and upload to PC after data collection. For wireless use at higher speeds & noisy environments.

SOFTWARE

I-Scan provides the tools for more comprehensive and higher quality analysis than ordinary pressure sensing technologies. The software displays the pressure distribution data, in multiple formats, for superior analysis. Data and imagery of the pressure distribution are shown in real-time with the ability to record, play back, and save FSX movies. The user has the option to create and customize graphs from the corresponding movie data or export as an ASCII file for use with other programs.



Standard I-Scan software window displaying the pressure distribution between a brake pad and rotor.

Software Features

- Real-time display of pressure sensor data in 2D & 3D
- Graphing & data analysis (pressure, force, & area)
- View data as an integrated Microsoft Excel table
- View and compare multiple test results simultaneously
- Display peak pressures & center of force
- Export data to ASCII or AVI files

RELATED PRODUCTS & OPTIONS

Different software packages are available and with optional add-ons for additional compatibility and support.

External Triggering and Synchronization: The Tekscan system can be configured as a master or slave with this feature.

- Simultaneously start the data recording of multiple devices or trigger to remotely start a recording
- Synchronize the acquisition of Tekscan pressure data with a third-party product, such as a video recording or EMG

Analog Input: Collect data from any -10 to 10 V analog sensor (load cells, thermocouples, encoders, etc.) to compare with Tekscan data.

API (Application Program Interface): Enables a user, with programming knowledge, to write programs that directly access real-time sensor data.

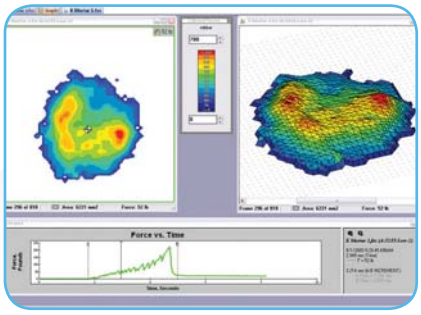
- Pressure Mapping Software Development Kit (SDK): access the functionality of Tekscan's pressure mapping software to program an application that controls and interfaces with Tekscan scanning electronics.
- Data Reader Toolkit (DRT): open and read Tekscan data directly in preferred analysis software.

I-Scan® Handheld: For use when small system size and portability are the most important factors in collecting pressure data.

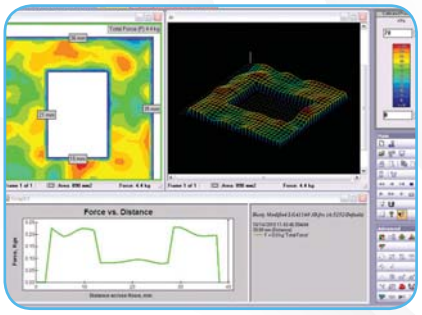
APPLICATIONS

Different options for data acquisition electronics, software add-ons, and standard and custom sensors make the I-Scan system extremely versatile, creating endless possibilities for applications. Here are just a few examples of common and unique applications:

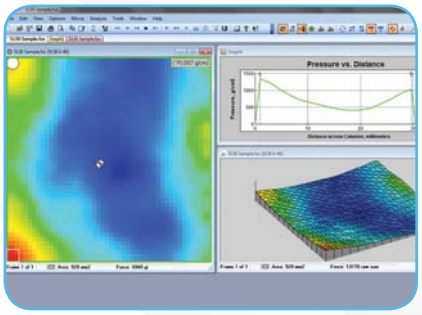
- Brake pad and friction plates
- Catalytic converter
- Hard gaskets and bolted joints
- Door seals
- Hose clamps and crimps
- Grip and ergonomics
- Fuel cell stack assembly
- Fasteners
- Nip and pinch rollers
- Wafer and lens polishing
- Lamination
- LCD processing
- Mold filling
- Robotics
- Nozzle spray patterns
- Packaging and sealing
- Squeegee balancing
- And much more!



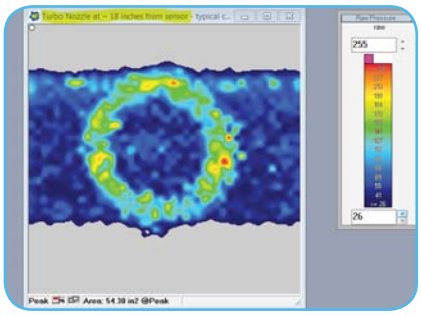
Materials Rheology (Deformation & Flow) Testing & Analysis



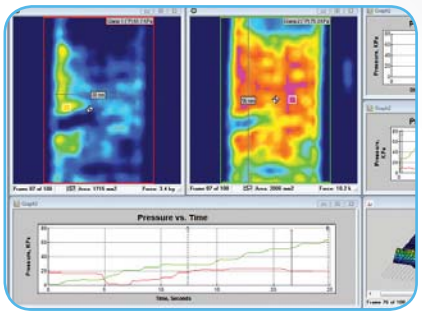
Microprocessor LGA, BGA, Heatsink, Burn-in Test Socket



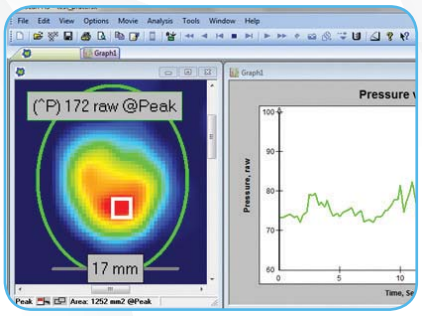
Heat Sink – Clamp Design
Custom Sensor – Standard Temp



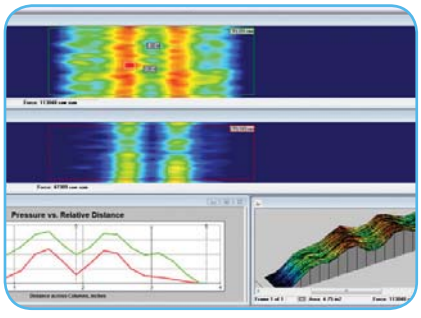
High Pressure Washer



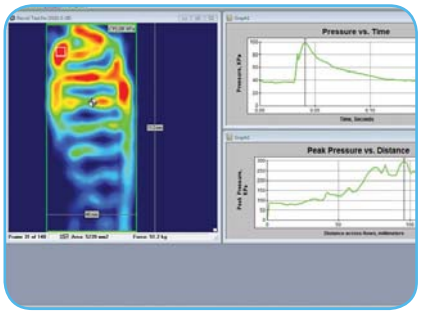
Battery Cell Clamp Design Validation



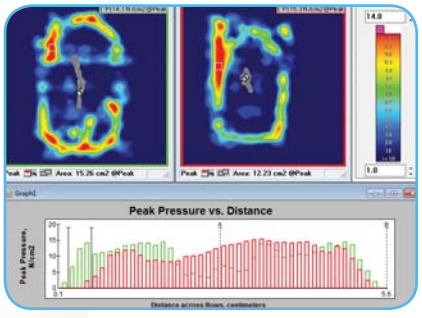
Handheld Sandblaster, Shot-peening



Carbon Fiber Composite Material Layup



Rifle Recoil Testing



Medical Device –
R&D Dermamounted Monitor

Tekscan®

CONTACT US TODAY FOR A DEMONSTRATION!

+49 2166 94599-0 | 02166 94599-0 | info@cmv.de | www.cmv.de