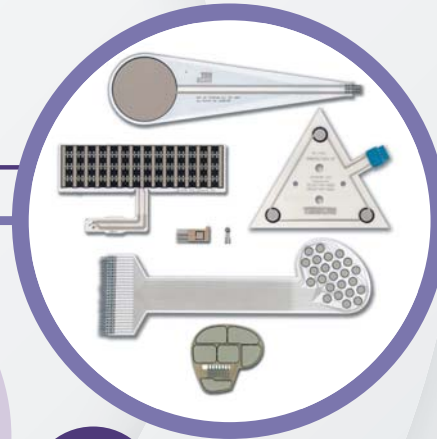




EMBEDDED SENSING

Innovative Products Made Possible Through Minimally Invasive Force & Pressure Measurement



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Tekscan is the world's leading innovator and manufacturer of tactile pressure and force measurement sensors and systems. Our customizable, minimally invasive sensing solutions enable you to integrate our technology into your design to create innovative and differentiated products, by measuring where others cannot. Our passion for sensor technology, investment in research, and application engineering expertise enable us to help turn your vision into reality.

Engineering Expertise

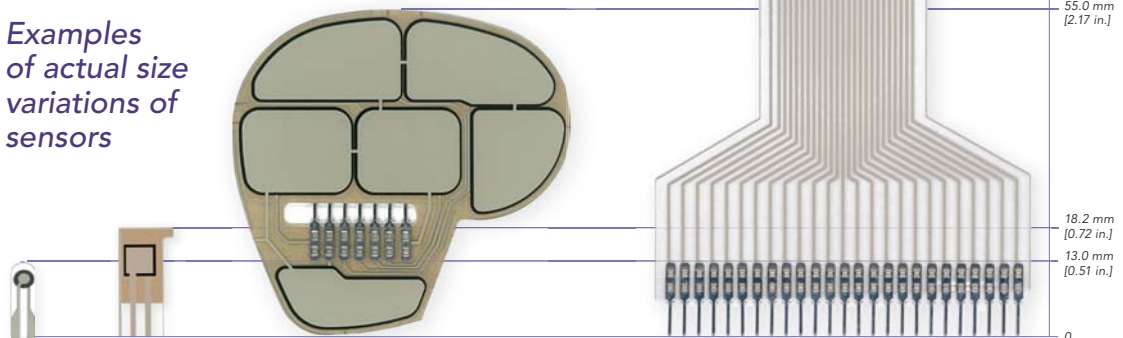
Our team of electrical, mechanical, and application engineers want to help you design a successful product that integrates FlexiForce® sensors. Engaging with our team saves you time, money, and resources. This design collaboration results in a lower cost, shorter design cycle, and ultimately, a successful product.

Custom Force Sensors

With its paper-thin construction, flexibility, and force sensing ability, the FlexiForce force sensing resistor can **measure force between almost any two surfaces**, and is durable enough to stand up to most environments. The unique construction enables Tekscan to create **custom-designed force sensing resistor sensors** to meet the specific needs of many OEM customers.

FlexiForce custom force sensors allow engineers to create innovative and differentiated products by incorporating our technology to measure where other traditional force sensing technologies cannot.

Examples of actual size variations of sensors



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"[Tekscan's] work is spectacular, and more exceptional than I thought it would be. The sensors work great. They can detect the slightest pressure accurately. It is way beyond my expectations."

MARK GOLDSTEIN, PH.D.,
MammaCare®

"Tekscan has provided a terrific product, and service to match, to compliment our product to be at the leading edge of technology for the trailer braking industry. It has been a pleasure dealing with a company that has customized their product to suit our application."

JOHN SHARP
General Manager
Edge International Ltd.
New Zealand

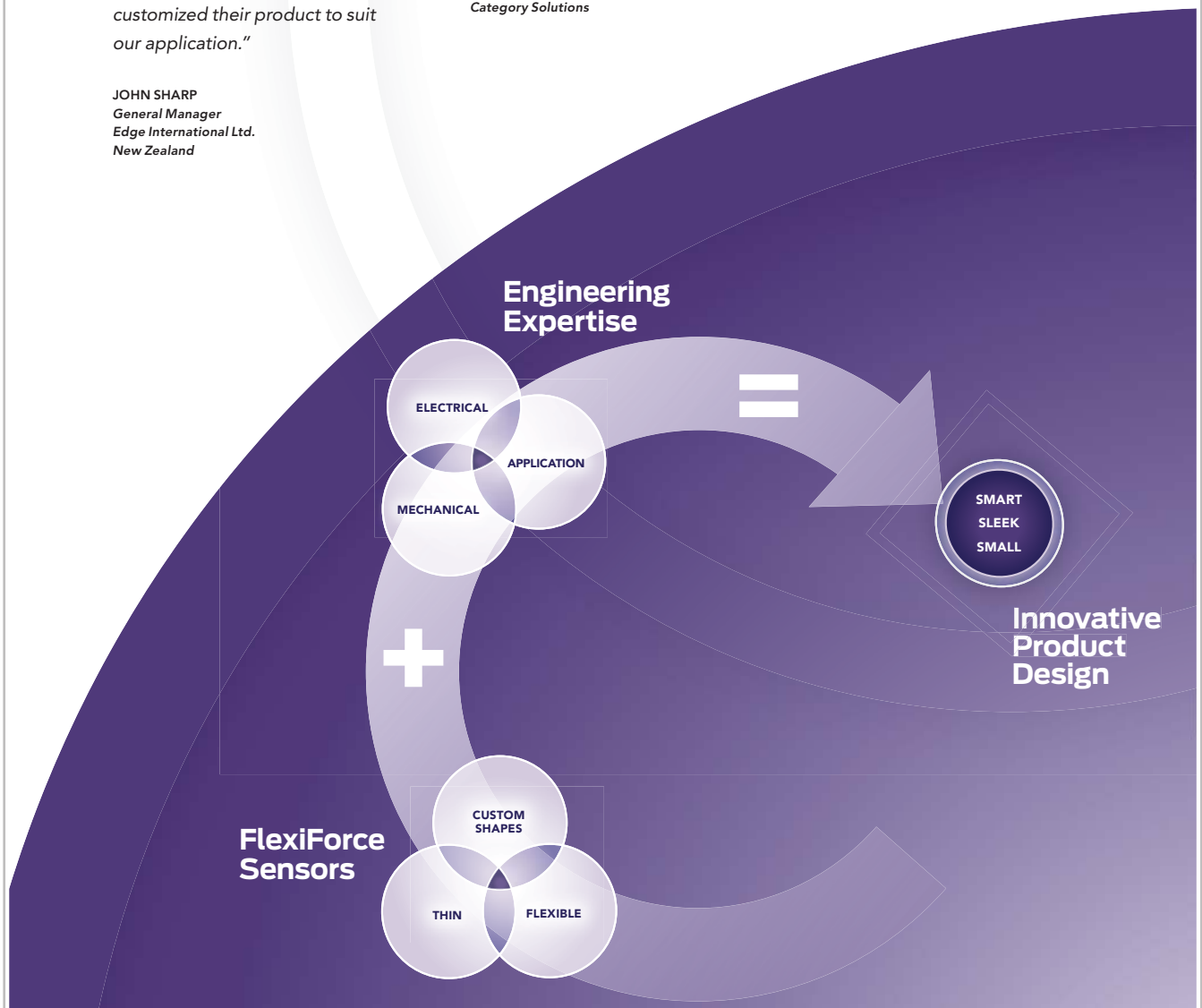
"We are thrilled with our decision to work with Tekscan to create a custom sensor for our product. Tekscan's team has been vital to the development of our product by working closely with our engineers to ensure the best sensor design and most effective electronics. They are responsive, knowledgeable, honest, and willing to go the extra mile to get the job done, and done well. Thank you Tekscan, for the first-rate service and a superior product."

ANDREW AUSTIN
President
Category Solutions

"We [were] thrilled to finally discover Tekscan and their FlexiForce sensors. The reliability of the FlexiForce sensors is superb, and the Tekscan engineers have been a joy to work with. In helping to develop our sensor, the Tekscan engineers were exceptionally professional, accommodating, and friendly. I like these guys!

Two thumbs up for Tekscan."

CARL SMITH
President
Applied Fitness



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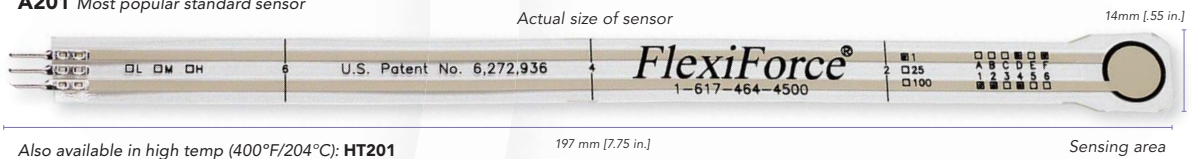
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FlexiForce Standard Sensors

FlexiForce standard sensors are available in off-the-shelf sizes and various force ranges. These standard sensors are trimmable, and can be integrated into product designs, as well as custom force sensors. These sensors can detect and measure:

- Relative change in force or applied load
- Force thresholds and trigger appropriate action
- Rate of change in force
- Contact and/or touch

Standard Force Sensor Line	
<p>A301 Smaller sensor, ideal for product integration 14 mm [.55 in.] x 25.4 mm [1 in.] Also available in high temp (185°F/85°C) and humidity: ESS301</p> 	<p>A401 Larger sensing area 31.8 mm [1.25 in.] x 56.9 mm [2.24 in.]</p> 
<p>A201 Most popular standard sensor</p>  <p>Actual size of sensor: 197 mm [7.75 in.]</p> <p>Also available in high temp (400°F/204°C): HT201</p>	

Position Sensors

FlexiForce's potentiometers, FlexiPot™ Strip and Ring, are customizable membrane position sensors, with a flexible, ultra-thin, lightweight profile. Their low power requirements and linear output make them ideal position sensors for Test and Measurement, or Embedded applications.

Pressure Mapping

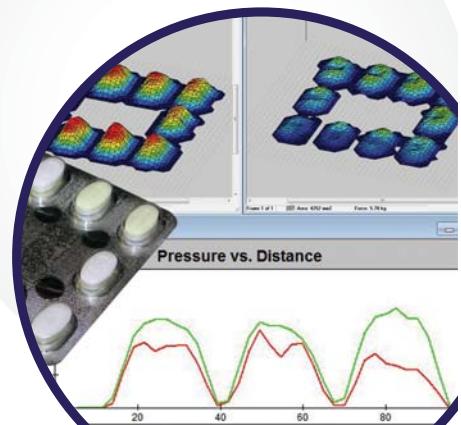
Tekscan's pressure mapping systems provide data you cannot get anywhere else by accurately measuring and analyzing interface pressure between two surfaces.

SDK (Software Development Kit)

The Pressure Mapping Software Development Kit (SDK) is an Application Programming Interface (API), which allows you to access the functionality of Tekscan's pressure mapping system for integration with your equipment and software. The function calls provide direct communication with Tekscan electronics and software.



3D display of the pressure output from a pill blister pack. Image on right shows uneven pressure within the blisters, due to a poor seal.



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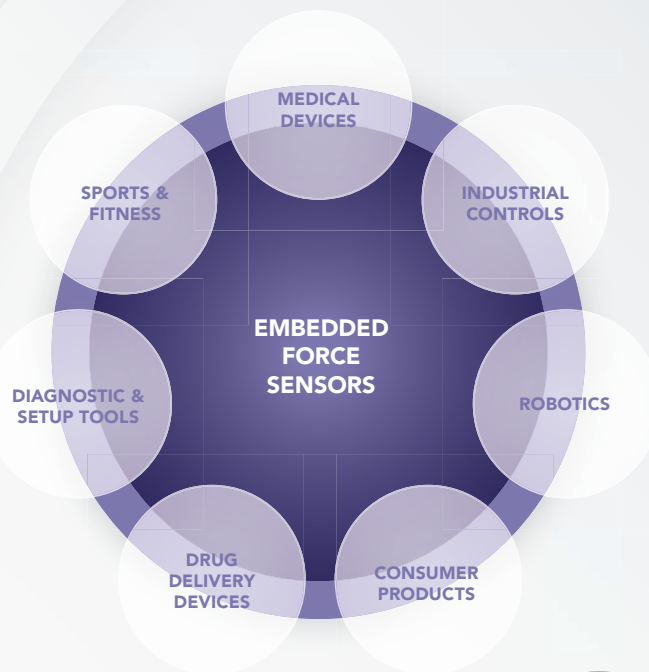
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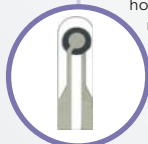
Industries

Custom FlexiForce sensors are integrated into various applications and industries. The applications are only limited by your imagination. Please see below for a few samples.



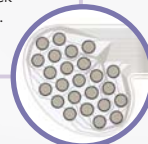
INFUSION PUMP OCCLUSION DETECTION

When a blockage occurs in portable, wearable pumps, like the one pictured, the tubing expands to alert the user there is a blockage. A FlexiForce custom force sensor incorporated where the tubing meets the housing can detect this expansion by monitoring the force applied to the sensor by a section of the tubing.



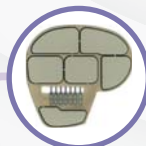
GRIP FORCE MEASUREMENT

Accurate grip measurement has become increasingly important in today's world of continued ergonomic improvement. Historically, there have been limitations with grip measurement. The thinness and flexibility of the FlexiForce sensor's construction enables force feedback without restricting maneuverability.



QUALITY CONTROL MEASUREMENT

This quality control device has a FlexiForce custom sensor that contains three sensing areas to ensure the device is balanced on the surface. This provides accurate, repeatable sample positioning. By measuring the force at three points, the sensor ensures that the beam of the device is at the correct angle.



ROBOTIC BALANCE AND GRIP

Robots in any industry, from consumer devices to manufacturing applications, must be able to sense whether contact has been made, and/or how much force occurs during a given action. FlexiForce sensors are integrated into the feet of the Nao Robot to ensure proper balance and grip.

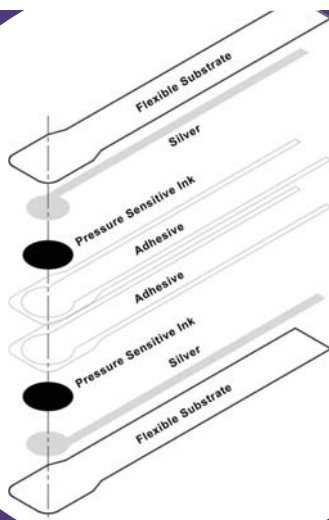


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The FlexiForce force sensor is an ultra-thin, flexible printed circuit. The standard A201 force sensor is constructed of two layers of substrate (polyester film). The high-temp model (HT201) is constructed of two layers of polyimide. On each layer, a conductive material (silver) is applied, followed by a layer of pressure-sensitive ink. Adhesive is then used to laminate the two layers of substrate together to form the force sensor.

The active sensing area is defined by the silver circle on top of the pressure-sensitive ink. Silver extends from the sensing area to the connectors at the other end of the sensor, forming the conductive leads.

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