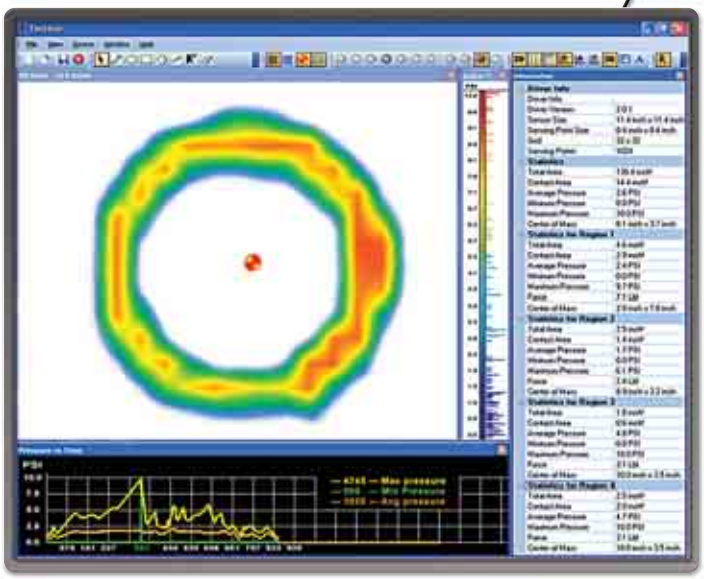
# REAL-TIME TACTILE PRESSURE ANALYSIS

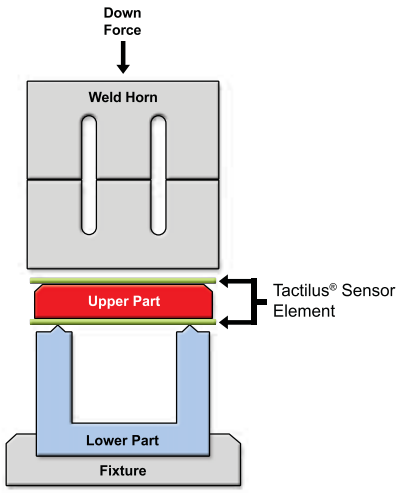
## Application: Ultrasonic Welding


Ultrasonic welding sensor & electronic controller



Characterization of pressure distribution and magnitude across an ultrasonic welding

Tactilus® is a valuable tool for validation, calibration and machine setup of ultrasonic welding equipment. The immediate welding area of the anvil and work surfaces of the sonotrode require consistent and fastidious clamping pressure to ensure high quality welds. Tactilus® reveals low and high pressure spots between the part and fixtures as well as the absolute magnitude of pressure the part sees. Tactilus® is well suited to aid in QC/QA, troubleshooting and yield improvement programs.




Side profile of an ultrasonic welding setup

Tactilus® Technology: Tactilus® is a matrix-based tactile surface sensor. Essentially an "electronic skin" that records and interprets pressure distribution and magnitude between any two contacting or mating surfaces and assimilates that data collected into a powerful Windows-based tool kit. Each Tactilus® sensor is carefully assembled to exacting tolerances and individually calibrated and serialized. The architectural philosophy of Tactilus® is modular allowing for portability, easy expansion, and simultaneous data collection of up to 4 discrete sensor pads. Tactilus® employs sophisticated mathematical algorithms that intelligently separate signal from noise, and advanced electronic shielding techniques to maximize the sensor's immunity to noise, temperature and humidity.

| SENSOR SPECIFICATIONS | |
|---|---|
| Technology | piezoresistive |
| Pressure Range | 0 - 100 PSI (0 - 7 kg/cm²) |
| Grid Size | Up to 32 x 32 |
| Sensing Points | 1,204 |
| Total Sensing Area | Customizable to application |
| Scan Speed | Up to 10 hertz |
| Spatial Resolution | Custom from 0.5 in (1.3 cm) |
| Thickness | 27.6 mils (0.7 mm) |
| Accuracy | ± 10% |
| Repeatability | ± 2% |
| Hysteresis | ± 5% |
| Non-linearity | ± 1.5% |

System includes: sensor element, electronic controller, software and cables.

*"Our primary proposition is to offer the client precisely what they require or need. To that end, everything we design with respect to the physical sensor element as well as our GUI and DLL's can be completely tailored to your unique situation."*

**Jeffrey G. Stark**
**CEO**

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