

# DYNAMIC TACTILE PRESSURE ANALYSIS

## Foot Insole Sensor System

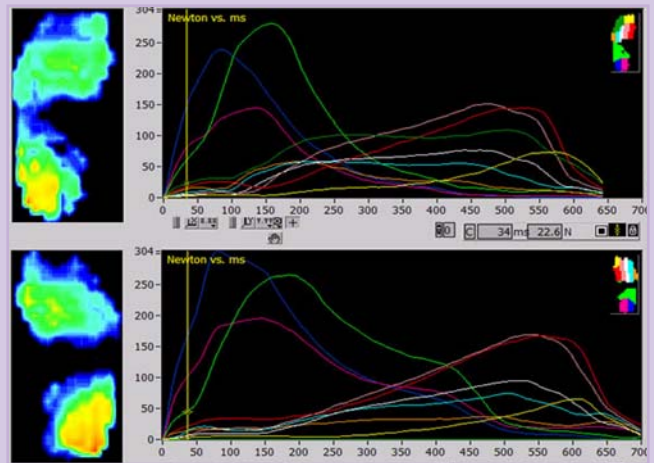
The Tactilus® dynamic foot insole analysis system instantly profiles and evaluates plantar pressure distribution and magnitude. The foot insole sensor collects precise data for gait analysis, quickly determines pedal pressure points, and is easily employed for assessing athletic plantar implants in activities ranging from standing and walking to running, jumping, skiing and skating. The foot insole sensor system is ideal for such medical and ergonomic body mapping needs as: diabetic and neuropathic patient screening, orthotic and prosthetic efficacy profiling, pronation and supination impact evaluation for bi-pedal locomotion activities, pre- and post-surgical comparative analysis, ulceration detection, degenerative foot disorder monitoring, ray hypermobility diagnosis, and early scoliosis detection.

**How Tactilus® Works:** The Tactilus® foot insole sensor collects pressure data and sends it as an analog signal back to an intermediary data "hub", where it is converted to a digital signal. The digital signal containing the collected data is then sent to an interface (software) designed for easy viewing and dynamic analysis capabilities. Tactilus® software provides 2-d and 3-d images, isobar and pinpoint region-of-interest image viewing, impulse contact time, shear forced indication, statistical analysis of average / minimum / maximum pressures, total force over any selected area, pressure vs. time and more. The data can easily be exported for further analysis in many third party softwares.

### How Tactilus® Reveals Pressure Distribution:



The Tactilus® foot insole sensor, to be inserted into shoe



2D view of data from foot insole sensor

**Why use Tactilus®:** Because this dynamic foot insole sensor employs the force sensing design principle of resistance, Tactilus® has great advantages in both adaptability and customization. Its thin and highly flexible substrate material allows easy conformability to curvaceous surfaces. This robust sensor lasts thousands of uses with consistent repeatability and accuracy; and maintains its high resistance to electromagnetic noise, temperature and humidity fluctuations. Conveniently portable, a complete Tactilus® foot insole system weighs less than two pounds.

#### SENSOR SPECIFICATIONS

Technology	Resistive
Pressure Range	0.01 to 200 PSI (0.007 to 14.10 kg/cm <sup>2</sup> )
Sensor Size	Shoe size starting at 6 US (36 EU)
Spatial Resolution	Customizable from 0.2 inches (5 mm)
Scan Speed	500 Hz
Sensor Thickness	0.013 inches (0.33 mm)
Accuracy	±10%
Repeatability	±2%
Hysteresis	±5%
Non-Linearity	±1.5%
Calibration	Pre-calibrated for specified pressure

#### SYSTEM FEATURES

- Pre-calibrated
- Provides real-time analysis
- Resistant to electromagnetic noise, temperature and humidity fluctuations
- Flexible and durable sensor element
- Longitudinal and latitudinal analysis
- Modular architecture with interchangeable sensor elements
- 100% customizable
- Intuitive and user friendly Windows® compatible software

#### MIN. SYSTEM REQUIREMENTS

- Pentium IV
- 256 MB RAM Memory
- Windows XP Professional
- SCSI Card Connection