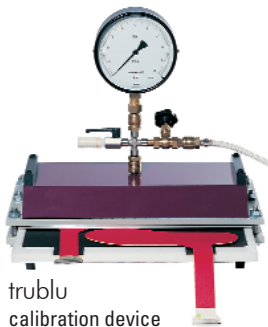


The pedoped® sensor was developed to monitor the local contact pressure between the foot and the shoe with a high local resolution. Small on-risk locations of high pressure can be detected accurately. The local resolution is 4 sensors/mm<sup>2</sup>. The pedoped® conforms nicely with the foot surface.



pedoped® sensor pad

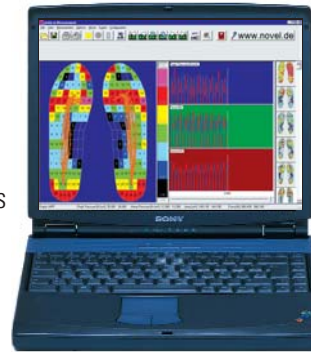
trublu  
calibration device

With the aid of the trublu calibration device, all sensors of the pedar system are individually calibrated. Calibration guarantees accurate and reproducible data and can be checked by the user at any time.

The pedar data acquisition software contains many helpful and user friendly options for fast pressure data collection and presentation.

### Features of pedar-expert software:

- individual sensor selection
- online and off-line modes
- ASCII output
- long term body load analysis
- online 2D or 3D display
- isobar display
- numeric display
- animation of foot contact phases
- step selection
- step timing analysis
- maximum pressure picture (MPP)
- comparison picture
- averaged and individual gait lines
- links to novel databases
- links to novel scientific software
- uses the Windows HotSync software for automatic data exchange between PDA and PC



pedar software

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emed®, pedar®, pedograph®, pliance® and the Logo (colored foot)  
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## neuropathic foot

In the early 1980's, studies were first published looking at the changes in dynamic pressure distribution patterns of persons with diabetes. It is documented that during the roll-over process, the neuropathic forefoot displayed increased and longer loadings than the healthy forefoot. The neuropathic patients also exhibited a "slap" gait. The load on the heel and toes was lower than the unaffected feet.

Many neuropathic feet have substantially higher localised pressures, particularly at the metatarsal area, than the non-neuropathic feet. The frequency of the altered pressure pattern in the patients with diabetes is substantially increased. It has been theorized for some time that the areas of increased pressure on the diabetic foot are the areas of highest risk for tissue breakdown.

Consequently, it was suggested that a relationship between the absolute pressure and the risk for tissue breakdown could be established.

In recent studies it is noted that 20 to 30 N/cm<sup>2</sup>, measured on a calibrated pedoped<sup>®</sup> sensor can suggest a risk threshold.

Naturally, the pressure picture of the neuropathic diabetic patient can be influenced by foot deformities and incorrect foot function. In any case, the specific foot regions with higher pressures indicate greater risk for tissue breakdown.

In addition to the standard therapy for diabetic patients, an altered load on the foot with localized high pressures may require immediate foot treatment with appropriate footwear and pressure relieving orthotics.

## pedar system

The goal for the diabetic patient shoe insert is to create a uniform pressure to prevent localized high pressures. The patient should be instructed to examine their feet. During the patient visit, the color display and printout may be used to educate the patient about the areas of concern. The objective for health professionals is to reduce ulceration and amputation in the diabetic population.

The pedar system is an accurate and reliable pressure distribution measuring system for monitoring local pressures between the foot and the shoe.

It functions both with a cable connection to the PC and wireless with a Bluetooth<sup>®</sup> telemetry system.

Alternatively it can be connected to a small pocket PC via Bluetooth<sup>®</sup> or store the data internally on a flash card that can be read at any time when the pedar is connected to a PC.

This makes the pedar system extremely mobile and allows the user to monitor the subject under all kinds of testing conditions, such as walking, running, climbing stairs, carrying loads, playing soccer, or even riding a bicycle. The results are therefore more relevant to real-life loads on the foot.



pedar-x

## pedar system

The pedar system connects highly compliant, elastic sensor insoles that cover the on-risk plantar surface of the foot or pedoped<sup>®</sup> sensor pads for the dorsal or medial/lateral on-risk locations.

The pedar system allows synchronisation with EMG and video systems for gait analysis and can work in master/slave mode for multiple testing.



### Technical Data for pedar-x

dimensions (mm)	150x100x40
weight (g)	400
number of sensors (max)	256(1024)
measurement frequency	20,000 sensors/second
storage type	8MB internal flash
operating system	Windows
power supply	Li-Ion battery
computer interface	fiber optic/USB and Bluetooth
sync option	fiber optic/TTL, in and out
insole sizes	22 to 49 (european)