

pliance® PMS sensors

Technical data for sensor S2054	
number of sensors	90 (15 x 6)
total sensor area (mm ²)	150 x 60
size of one sensor element (mm ²)	10 x 10
thickness (without coating) (mm)	< 1
elasticity	- 4%
pressure range* (kPa)	10 - 600

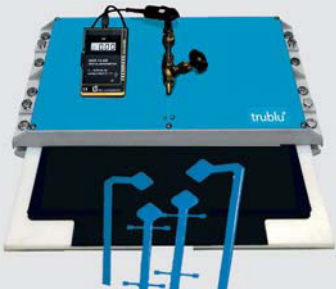
Technical data for sensor S2055	
number of sensors	18 (6 x 3)
total sensor area (mm ²)	60 x 30
size of one sensor element (mm ²)	10 x 10
thickness (without coating) (mm)	< 1
elasticity	- 4%
pressure range* (kPa)	10 - 600

Technical data for sensor S2098	
number of sensors	45 (15 x 3)
total sensor area (mm ²)	150 x 30
size of one sensor element (mm ²)	10 x 10
thickness (without coating) (mm)	< 1
elasticity	- 4%
pressure range* (kPa)	10 - 600

* Different pressure ranges are available

trublu® calibration device

With the aid of the **trublu®** calibration device, all sensors are individually and simultaneously calibrated with homogeneous air pressure.



trublu® calibration device

Calibration guarantees accurate and reproducible data collection. Calibration systems are available in various sizes.

pliance®-PMS system



pliance® analyser

Features of pliance® PMS

- conforms perfectly to anatomical areas
- monitors simultaneously different anatomical areas of the limb
- measures highly accurate calibrated values
- scans up to 20 000 sensors per second
- allows configuration and localisation of sensor matrix via expert software in 2D- and 3D mode
- stores data on SD-card
- sends data online via built-in Bluetooth® telemetry to any PC
- can be synchronised with video and EMG

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All systems from novel operate with high quality, calibrated sensors and provide reliable and reproducible long term measurements. pliance®, trublu® and the novel logo (colored foot) are the registered trademarks of novel gmbh © 1992-2015

pliance®

prosthesis

art
science®



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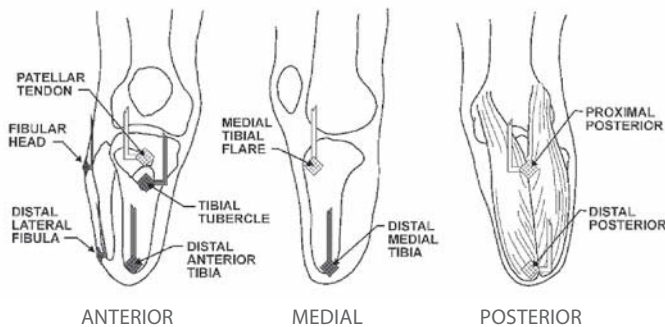
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Introduction

Due to poor socket fit and improper pressure distribution, it is common for amputees to develop residual limb problems such as discomfort, pain, skin irritation, pressure ulceration and associated infection. Up to now the most frequently used method of inspection for these problems is individual inspection and verbal feedback.

Measuring pressure at the interface between an amputees residual limb and prosthetic socket could provide valuable information in the process of prosthetic socket fabrication, modification and optimal fit.

For that application novel offers the **pliance®** prosthesis measuring system PMS.



Elastisens® socket sensor type S2049, S2052, S2056

pliance®-PMS prosthesis system

The **pliance®-PMS** prosthesis system has been developed for socket evaluation and fit. It provides a quantification of the level of pressure at the residual limb/socket interface during static and dynamic measurements.

The **pliance®-PMS** capacitive sensors connect to the **pliance®-PMS** analyser, which scans a maximum number of 1024 sensor elements. The sensor pads can be placed at selected positions and scanned simultaneously.

The possibility to store data on the SD-card or to send data online by the built-in telemetry allows a great degree of flexibility when measuring pressure while walking. The results are therefore more relevant to "real-life" daily loads of the residual limb.

The **pliance®-PMS** software package operates with Windows XP and Windows 7. It is user friendly and contains many useful options for fast pressure data collection, analysis and data presentation.



Data collection, analysis and presentation software

pliance®-PMS prosthesis sensors

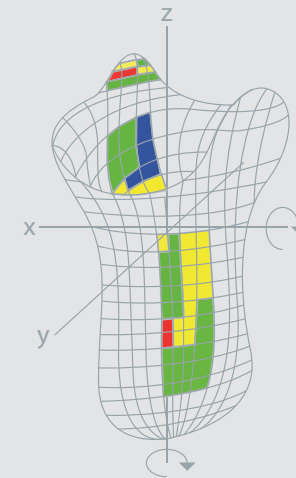
As a result of their design and material selection, the **pliance®-PMS** sensors are flexible and elastic and have the ability to conform very well around highly contoured sites. This is particularly advantageous in prosthetics because of the highly irregular surface and geometry of the residual limb and the shape of the socket.



Sensors mounted on a prosthesis

The **pliance®-PMS** sensors include a dense array of sensors, with a small individual sensor area. This allows the recording of interface pressure at a discrete location of

the socket. The length of the sensor pad is appropriate for use on a short or long transtibial socket. The different standard shapes allow testing of different anatomical areas simultaneously. Custom made sensors are also available.



3D model