PiCUS Sonic Tomograph

High-resolution sound measurement for the graphic representation of wood defects

With Passion and Precision

A picture of the invisible wood defect

With the PiCUS Sonic Tomograph, you can detect damaged areas at an early stage and graphically display the extent of a defect.

Identify damaged areas at an early stage

The PiCUS Sonic Tomograph is a device for detecting damaged areas on trees. To do this, it measures with high precision the transit time of the sound in the wood, which depends on the properties of the wood. In the case of a defect, the transit time is longer than in intact wood.

A 2-dimensional image is calculated from the measured speeds and including geometric information on the measuring plane.

In the graphical representation, the areas with different transit times are shown in different colours. From this, the trained user can interpret where defective and healthy areas might be located or how much decomposition might have progressed.

The optional Expert software also allows the creation of a 3D graphic from the levels of the tomogram. This allows the possible spread of the damage to be displayed and inserted into a photo of the tree.

Estimate the development of a defect

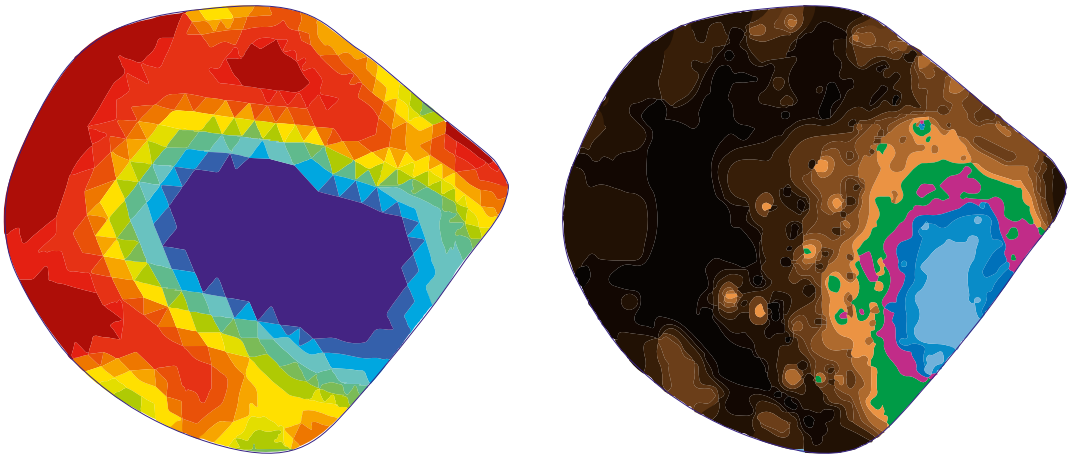
Use the PiCUS Sonic Tomograph to monitor the course of the defect over the time in order to make a prognosis about further development.

Long-term study

With the sonic tomograph you can create sonic tomograms of the same wood damage over several years and compare them over time. This makes it clear which course the defect has taken over what period of time. Since the sonic tomograph also detects different degrees of rot, it is easy to estimate how the defect might develop in the future. The prognosis of the tree condition gives you a decisive advantage in the long-term planning of maintenance measures

The perfect combination

The sonic tomograph can easily be combined with the PiCUS TreeTronic. Both devices use the same measuring points and the same software. The TreeTronic measures electrical resistance in the wood to determine the condition of the interior of the wood. Using both types of measurement provides information about the type of defect and the residual wall thickness.



Electrical resistance tomogram (left) and sonic tomogram (right) of a lime tree with cavity and rot

A closer look into the tree

The imaging method for diagnosing trees.
Detect damaged areas safely and easily.

Accuracy

The acoustic speed timing is measured with an accuracy of 1 µs. The sound signals are generated with an electronic hammer.

Crack detection

The crack detection function detects cracks in the wood that could distort the tomogram.

Vertical gradient

The tomography planes can be merged into a 3D graphic that shows the possible vertical gradient of the damage in the tree.

Compatibility

Compatible with PiCUS Calliper and PiCUS TreeTronic for easy geometry measurement and measuring point transfer.

PiCUS Sonic Tomograph functions range:

Sensors:	6 or 12 sensors depending on version
Measuring points:	Without PC up to 24 measuring points, with PC up to 99 measuring points
Display:	Preview of the tomogram on integrated graphic display
Connection:	Bluetooth for PC connection, GPS for determining the position of the tree

More information
via QR code!

The PiCUS Calliper - Capture geometry quickly

The triangulation method is an accurate and at the same time fast method to determine the geometry of the measuring plane for sonic tomography.

Before the measurement of the sonic tomograph can be carried out, the geometry of the tree in the measurement plane must be determined. The PiCUS Calliper enables easy handling and precise implementation of the triangulation method, even for complicated shapes of the tree cross-section.

The more precisely the geometry was determined, the more accurate the tomogram is. The PiCUS TreeTronic 3 and the PiCUS Sonic Tomograph 3 are both compatible with the PiCUS Calliper. Optionally, the PiCUS Calliper can be integrated directly into the transport case of the tomograph. This way you have everything you need for the measurement compactly at hand.

The features of the PiCUS Calliper:

- Mountable in 2 sizes: the arms can be extended if required
- Large working range: up to 1600 mm or up to 2150 mm
- Automatic, fast and precise detection of all measuring point positions
- High ease of use: good readability of the displays, handy buttons and easy handling
- Light weight: Tubes made of carbon
- Bluetooth for PC connection

Do you have any questions?
We are happy to
assist you personally

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