

Data Sheet- EddyCus® CF rob

P_C_rob_10



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Textural Analysis & Defect Detection in Preforms

The **EddyCus® CF rob** is specifically designed for the testing of shaped carbon fiber preforms.

The testing system utilizes the electrical conductivity of the carbon fibers to gain structural information about the form; for instance, information on fiber orientation and fiber distribution. The high resolution EC- scans also enable defect detection, e.g. **gaps, misalignment, wrinkles, overlaps**, and even **impurities, cracks and delamination**.

The EddyCus® system can be used at any stage in the production process: for carbon fiber textiles, stacks, preforms or composites. Both basic flat but also curved parts or preforms can be checked by the flexible robotic solution. Therefore, the system particularly helps process engineers or R&D focused groups to evaluate the results of individual production steps.

The **software** allows the **filtering** of differently **oriented layers** or highlighting of **anomalies** such as defects. The user can classify the results to deepen the understanding of the material.

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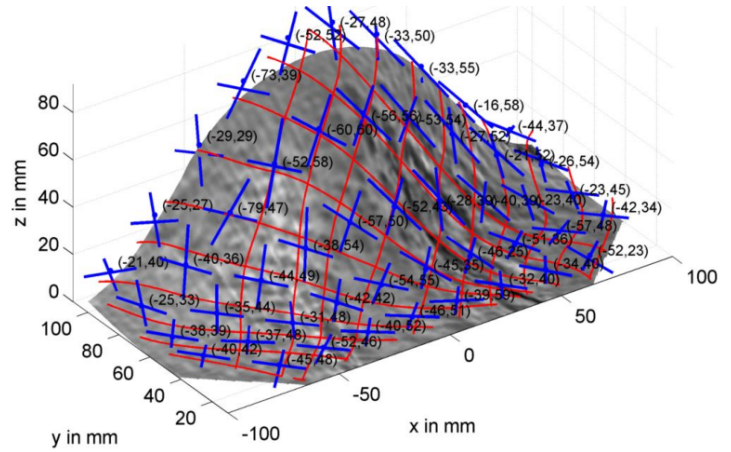
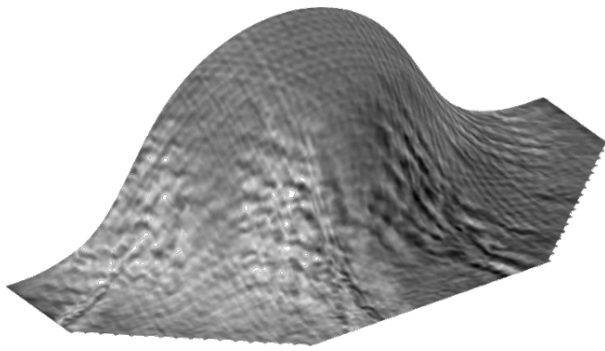
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Made and Engineered in Germany

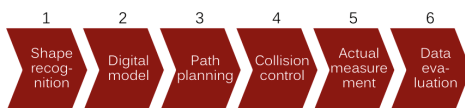
Innovation Award by
Free State of Saxony 2013
1st Place





Parts geometries	Flat, slightly curved or shaped
Scan area	Arm length 1.7 m
Accuracy robot	0.1 mm goal point difference
Speed	500 mm/sec at 0.25 mm resolution
Mode	Contact and non-contact
Feature	Capturing contour, distance sensor
Carbon fiber materials	CF fabrics, textile, stack, prepreg, preform, composite
Device dimensions (w/ d/ h), weight	4.000 mm / 3.000 mm / 2.500 mm, 2,000 kg

Process



Characterization & Application

Structural Analysis with Eddy Current Sensor

- Fiber orientation of individual layers & hidden layers
- Fiber spacing & fiber distribution

Additional Benefits

- Multi-purpose use for scanning, scribing, cutting, drilling, welding, gluing
- Virtual robot cell for collision control and individual path planning

