

evo₀₃ - Computed tomography reduced to the essentials

Materials testing is indispensable in many areas of technology. Apparently insignificant small parts are an economic challenge, as classic CT systems are often oversized. With the evo03 system, diondo closes this gap.



Whether in energy generation, e-mobility or „simple“ mechanical engineering - technologies are becoming increasingly powerful and at the same time more complex, making them more and more vulnerable to defects. The proverbial devil is often in the details: a component costing a few cents in production can cause a complete system to fail due to a malfunction caused by a manufacturing or material defect. Moreover, the triggering of a fatal chain reaction that damages other, significantly more expensive components, is a significant risk.

Intensive material testing with the use of computed tomography for large and expensive components, such as battery cells in e-mobility or complete gearboxes and rotor parts of wind turbines, are already part of everyday life today. The use of common systems for the inspection of small parts, on the other hand, is often uneconomic, since powerful, large CT systems are significantly oversized here. In addition, their acquisition and operation are difficult to justify concerning the unit costs.

„With the evo03 system, we are expanding our range with a CT system that in a sense combines two worlds by reducing it to the essentials while at the same time offering a wide range of possible applications“, explains Martin Munker, Managing Director of diondo GmbH from Hattingen. „As a compact CT system, the evo03 is suitable for reliable analysis and complex measuring & inspection tasks of small- to medium-sized parts, especially made of plastics, ceramics but also light metals. Our focus is on maximum user-friendliness, which makes it possible to use the evo03 without extensive specialist knowledge or time-consuming training.“

Up to now, small parts made of plastics, ceramics and light metals have been inspected and measured mainly using tactile or optical methods in many areas. Particularly in the context of the rise of additive manufacturing, optically non-destructively inaccessible, internal structures are becoming increasingly important for quality control. The evo03 CT system enables manufacturers to analyze these structures alongside the process.

As a plug & play model, the evo03 requires only a short training session before it can be used and is also completely maintenance-free. The compact, space-saving design (1260 x 870 x 1640 mm with a system weight of 1290 kg) allows the inspection of components with dimensions of up to Ø100 x 85 mm at a resolution of 56 µm and measuring accuracy of a few micrometers. Other variants allow a range of object size and resolution requirements to be addressed.

Despite its focus on ease of use, a small system footprint and a high return on investment, the evo03 CT system does not sacrifice important features. A high resolving power, as well as a good efficiency of the detector are of course provided, as are a wide variety of sample mounts for a stream-lined inspection that is reproducible even at higher part quantities. An easy-to-use manual filter wheel with multiple filter positions allows optimum image quality with clear object edges to be achieved for a range of sample materials.

„The evo03 enables companies to expand their inspection options into areas where a reliable, non-destructive quality control has hardly been financially viable in the past, but where such analysis is becoming increasingly indispensable,“ Münker knows. „With the development of the new system, we demonstrate our dedication to meeting the challenges that our customers encounter on a daily basis – whether in XXL or XS format.“

The new evo03 CT system will be presented for the first time at Control 2022 in early May.

About diondo GmbH

diondo is the globally leading manufacturer and service provider for system- and software solutions in non-destructive testing and metrology. The company from Hattingen, in Germany's North Rhine-Westphalia state, develops and manufactures Computed Tomography systems for industrial applications. As a service provider, the company offers its expertise and systems for the non-destructive, true-to-scale, internal and external inspection of any sample, to customers from a range of industries. Leading automotive manufacturers, suppliers in automotive and aerospace industries, companies in growth sectors such as machine tooling, energy, electronics and defence, as well as research organisations and higher education institutions are amongst the company's customers.

The innovative SME distinguishes itself through exceptional flexibility. New systems are created in a modular manner, allowing customised solutions to be provided with limited effort, giving diondo a critical advantage over competitors.

In recent years the sales network has been systematically expanded into China, Korea, Italy, Russia and well as Switzerland, and the founding of diondo Inc. has established a US presence.

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