

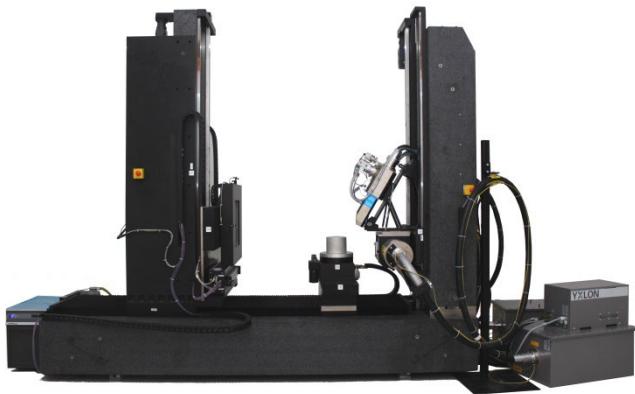
Industrial computed tomography (iCT) in the field of art and cultural assets

Eurofins Qualitech AG is a leading service provider for non-destructive material testing with highly trained and qualified experts. Our decades of experience in all common methods of non-destructive testing offer you a wide range of testing options to check your materials and workpieces for freedom from defects. This guarantees you satisfied customers, because nothing is more damaging to business than unexpected cases of damage..

In spring 2016, the range of services of Eurofins Qualitech AG was expanded to include **industrial computed tomography (CT)**.

CT makes it possible to generate a digital image of the actual condition of an object non-destructively, within a short time. Subsequently, the acquired data set can be specifically analyzed, allowing a direct comparison with the target condition. Compared to conventional measuring methods, CT offers an outstanding advantage. It is possible to visualize and measure internal structures non-destructively. and to measure.

Eurofins Qualitech AG operates one of the **most modern** and also **largest CT facilities in Switzerland**. The high radiation power of up to 600 kV enables the analysis of large and thick-walled components, while the 225 kV microfocus X-ray tube allows high-resolution images in the micrometer range.



Modular CT from YXLON at Eurofins Qualitech AG

CT of art and cultural objects

Are you wondering how your object is constructed or if there might be other artifacts hidden inside the object? Or do you simply want to record the 3D structure with internal geometries? By means of computer tomography this is possible, of course always depending on the material and the geometry of the object.



3D representation of a sculpture scanned with CT.



CT scan of a sculpture; bottom right: sliced open
Solid model: top left and right: cross-sectional images through the sculpture



In addition to the three-dimensional representation of the visible surface, it is also possible to display the inner structure and composition, which is usually hidden to the eye, in sectional images. For example, materials can be differentiated on the basis of their gray values and one gets a completely new impression of the object.



Digital "sliced" model



Details from the interior of the object

Technical data sheet of the computer tomograph

As a service provider, we would like to cover the widest possible application spectrum of different materials, component sizes and wall thicknesses. With our modular system, we can inspect very large components such as cast cylinder heads or housings up to a theoretical height of 2.10 m and a diameter of approx. 880 mm. But also very small components can be imaged with high resolution. Two different X-ray tubes and two detectors were installed for this purpose.

	Cone beam CT		Fan beam CT
	225 kV Mikrofocus	600 kV Minifocus	600 kV Minifocus
Scan field height:	ca. 2100 mm	ca. 1950 mm	ca. 1550 mm
Scan field diameter:	ca. 610 mm	ca. 650 mm	ca. 880 mm
Opt. spatial resolution:	ca. 15 µm	ca. 175 µm	ca. 190 µm
Component weight:	ca. 350 kg	ca. 350 kg	ca. 350 kg

Transmissive wall thicknesses:

	Steel:	Aluminum:	Ni-base:
	ca. 7 mm	ca. 100 mm	ca. 4 mm
	ca. 90 mm	ca. 300 mm	ca. 50 mm
	ca. 90 mm	ca. 300 mm	ca. 50 mm

Technical data of the different measuring modes of the computed tomograph with an approximate indication of the radiolucent wall thickness of different materials

Delivery times

Depending on the type and scope of the tests performed or the required test duration. Usually within a few working days or even hours..

