

Y.CT Compact

Fan-beam computed tomography (CT) inspection system
for high density medium and large-sized parts

Discover the difference in efficiency



Explore the art of detection

As a world leader in non-destructive X-ray testing YXLON has mastered the art of detection. Based on our long experience in designing tailor-made X-ray and CT solutions, we help our customers achieve excellent results during their scientific research and development projects as well as production inspection procedures. Making the invisible visible – that's what we call the art of detection.

No matter what industry you're in, we provide you with reliable 3D components analyses and accurate dimensional measurements. Are you doing research in the field of geology, archeology or material science and engineering? Do you need to inspect cultural artifacts? YXLON's computed tomography

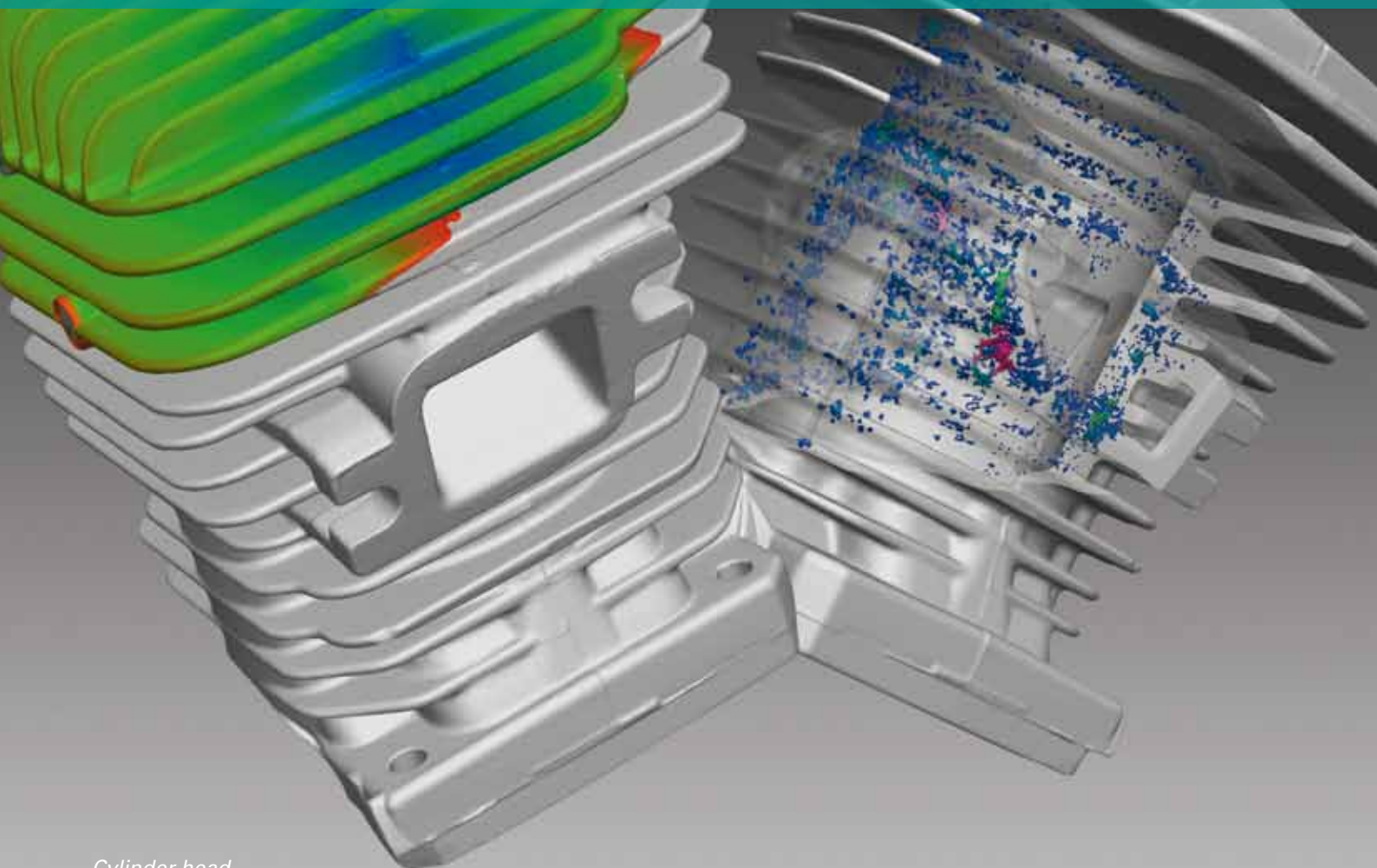
(CT) excellence also supports you in your scientific and art-related testing.

Because YXLON CT solutions are tried and tested premium systems, they blend smoothly into your processes, guaranteeing a fast workflow and high uptime. Our CT product range equips you with relevant information regarding the interior and exterior structures of your items in one data set. This way, you reduce your inspection time, allowing you to concentrate on your core business.

Additionally, the worldwide YXLON service network is an important factor to be taken into account when evaluating the YXLON CT price-performance ratio – one that appeals to quality managers, operations personnel, and purchasers alike.

Where do you use YXLON CT systems?

- Analysis of porosities and inclusions
- Dimensional measurement
- Analysis of composite materials (carbon / glass fiber reinforced plastic)
- Assembly or structural analysis
- Wall thickness measurements
- Nominal / actual comparison
- Examination of historical art and archeological objects
- Investigation of geological samples



Cylinder head



Perform 3D inspections efficiently

Do you need to inspect large parts with a high density? Are you looking for an efficient entry point into the benefits of industrial CT? Experience the easy-to-use Y.CT Compact which saves time thanks to the outstanding function of defining single CT slices.

Benefit from premium 3D quality control and low testing costs per unit item. Automatic image enhancement via dedicated software algorithms significantly contributes to the premium image quality of Y.CT Compact.

In one test run you can create CT slices with different parameters for different areas of the test parts. This way, you speed up the testing process while maintaining image quality. Inspection time is also minimized via our multiple parts testing feature – conveniently covering more than one item per test run.

YXLON has developed a linear detector array (LDA) that further guarantees homogenous image quality and provides an unprecedented signal-to-noise ratio. Our detector calibration process helps ensure consistent image quality.

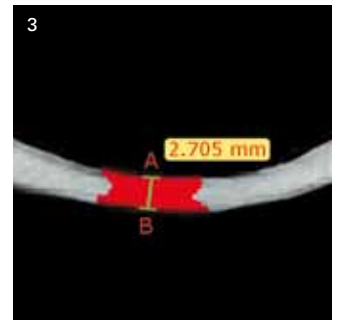
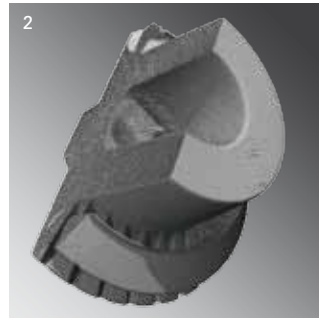
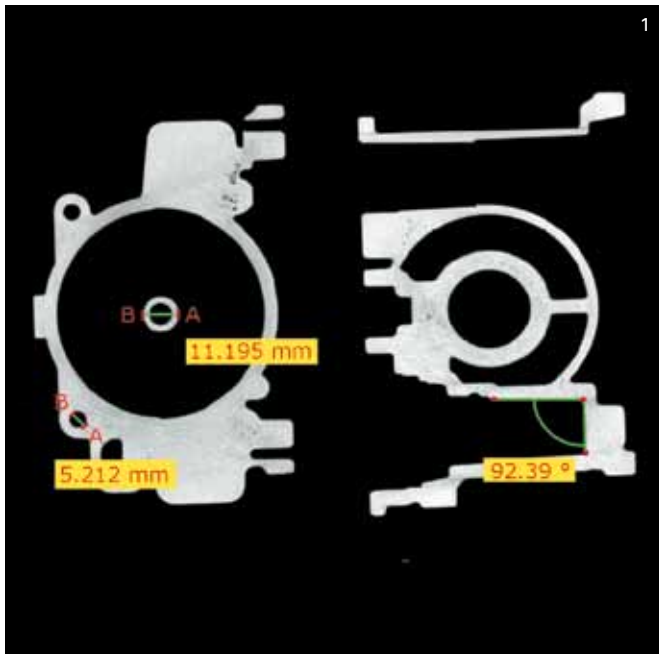
Y.CT Compact key benefits

- Intelligent image enhancement for improved image quality
- Programmable parameters for different inspection areas to speed up processes
- Multiple parts tested in one inspection run to boost workflow
- Special software features like beam hardening correction and horizontal field of view (FOV) extension



Detect what matters

Easy-to-use Y.CT Compact provides you with high-resolution 3D images – the perfect foundation for reliable inspections in your facility.



- 1 Dimensional measurement examples
- 2 FE casting
- 3 Automatic detection of wall thickness w.r.t. tolerance

Use a workhorse with extra power

The system is equipped with a high power X-ray tube and a line detector array developed by YXLON. Y.CT Compact generates high energy to effectively penetrate iron components up to 65 mm (ca. 2.6") thick and aluminum parts up to 250 mm (ca. 9.9"). In only 30 seconds you can analyze the 3D image or the stacked 3D model.

The mechanical capacity and performance is complemented by a number of process-enhancing software tools integrated into every Y.CT Compact

set-up. Automated center determination and beam hardening corrections eliminate the need for time-consuming manual interaction.

With the Y.CT Compact YXLON provides you with reasonably priced access to the advantages of industrial computed tomography. The system is designed for years of peak-performance inspections. You can count on rock-solid hardware and software components that reliably allow you to carry out production monitoring, quality control and prototype construction.

Which items and materials are especially suitable for Y.CT Compact?

- Heavy metal castings
- Aluminum and steel components
- Cylinder heads, engine blocks and transmission housings
- Dense historical art and archeological objects
- Large geological samples



Maximize your uptime

What are your specific service requirements? We offer a wide range of service modules and packages tailored to your needs.

Our highly qualified global service team is committed to providing excellent service to our customers worldwide. With our eight global service centers and the specialized staff of our 50 service partners we always ensure a rapid response time wherever and whenever you need it.

Your benefits include:

- High system availability
- Low inspection costs per part
- Best inspection quality
- Continuous operational safety

We align our organization and all service activities to comply with your requirements. With our innovative and modular service solutions you can count on true added value throughout the entire life cycle of your system.

We support you in limiting your CT inspection costs to a minimum. At the same time, your systems operate safely while obtaining optimum inspection results.

YXLON Life Cycle Service – more than the best image

- **Y.ServicePass** – increase your system availability
- **Y.WarrantyPass** – keep your costs predictable with an extended warranty
- **Y.SpareParts** – operate your system at peak performance with YXLON spares
- **Y.Updates** – keep your system state of the art
- **Y.Academy** – have your operators trained

Check out these facts and figures

System principles	Y.CT Compact	Y.CT Compact XL	Y.CT Compact XL – Mag
Inspection mode	Fan-beam CT		
Manipulation	2 axes		3 axes
X-ray components			
X-ray tube	Y.TU450-D11		
Maximum energy	450 kV		
Maximum power	0.7 kW / 1.5 kW ¹⁾		
Focal spot	0.4 mm / 1.0 mm ¹⁾		
Detector	YXLON Line Detector Array ²⁾		
Active length	598 mm / 724 mm		724 mm
Pixel pitch	254 µm		

1) Selectable by software. Smaller focal spot will result in lower maximum power

2) Temperature stabilized

Inspection item	Y.CT Compact	Y.CT Compact XL	Y.CT Compact XL – Mag
Maximum part size (Ø x h)	450 mm x 500 mm	450 mm x 750 mm	600 mm x 750 mm
Maximum part weight	50 kg		

CT parameters	Y.CT Compact	Y.CT Compact XL	Y.CT Compact XL – Mag
Magnification	1.3		1.3 / 2.0 / 2.5
Voxel size³⁾	185 µm		185 µm / 125 µm / 100 µm
CT field of view - standard⁴⁾ (Ø x h, approx.)	355 mm x 500 mm / 440 mm x 500 mm	355 mm x 750 mm / 440 mm x 750 mm	190 mm x 750 mm @ Mag 2.5 / 245 mm x 750 mm @ Mag 2.0 / 365 mm x 750 mm @ Mag 1.3
CT field of view - extended^{4) 5)} (Ø x h, approx.)	490 mm x 500 mm / 570 mm x 500 mm	490 mm x 750 mm / 570 mm x 750 mm	360 mm x 750 mm @ Mag 2.5 / 465 mm x 750 mm @ Mag 2.0 / 685 mm x 750 mm @ Mag 1.3
CT field of view^{5) 6)} (Ø x h, approx.)	425 mm x 500 mm / 510 mm x 500 mm	425 mm x 750 mm / 510 mm x 750 mm	275 mm x 750 mm @ Mag 2.5 / 350 mm x 750 mm @ Mag 2.0 / 520 mm x 750 mm @ Mag 1.3
Minimum scan time	~ 15 sec. per slice		
Minimum reconstruction time	~ 15 sec. per slice (computed in parallel to scan of next slice)		

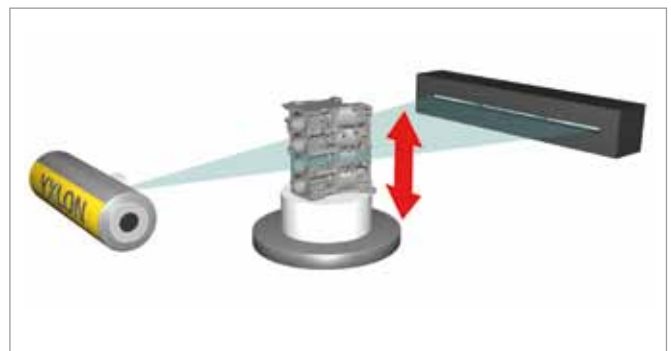
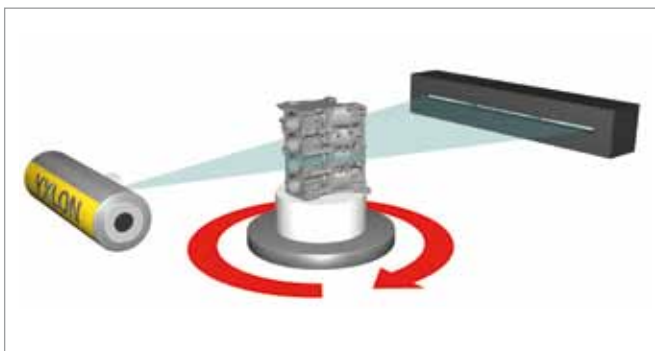
3) Calculated by dividing the detector pixel size by the maximum geometric magnification

4) Asymmetrically mounted detector allowing additional horizontal field of view extension

5) Symmetrically mounted detector not allowing additional horizontal field of view extension




6) CT field of view will be limited by maximum inspection part diameter

Cabinet	Y.CT Compact	Y.CT Compact XL	Y.CT Compact XL – Mag
Cabinet size (W x H x D), approx.	2,340 mm x 2,300 mm x 1,690 mm	2,340 mm x 2,480 mm x 1,690 mm	2,460 mm x 2,620 mm x 1,860 mm
Cabinet weight, approx.	10,000 kg	11,000 kg	13,000 kg



Principle of fan-beam CT: Rotation of part is followed by a vertical movement. This sequence is repeated until the desired area is scanned.

**Find the system
that suits you best**

			
	Y.CT Compact	Y.CT Precision	Y.CT Modular
Part size	+	++	+++
Material density	++	+	+++
Part weight	+	+	++
Detail visibility	++	+++	+++
2D (digital radiography)	N/A	✓	✓
Laminography	N/A	✓	✓
Helical scan	N/A	✓	✓

Would you like to learn more about our systems? Interested in a test inspection? Please contact us by phone or e-mail. We look forward to hearing from you.

YXLON

Technology with Passion

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