YXLON FF85 CT

High-power and high-resolution computed tomography (CT) inspection system for a wide sample spectrum

Discover new dimensions in flexibility

3D printed Inconel component; with the kind permission of RSC Engineering GmbH.

YXLON
Technology with Passion

Explore the art of detection

As a world leader in non-destructive X-ray testing, YXLON has mastered the art of detection. Through our extensive 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.

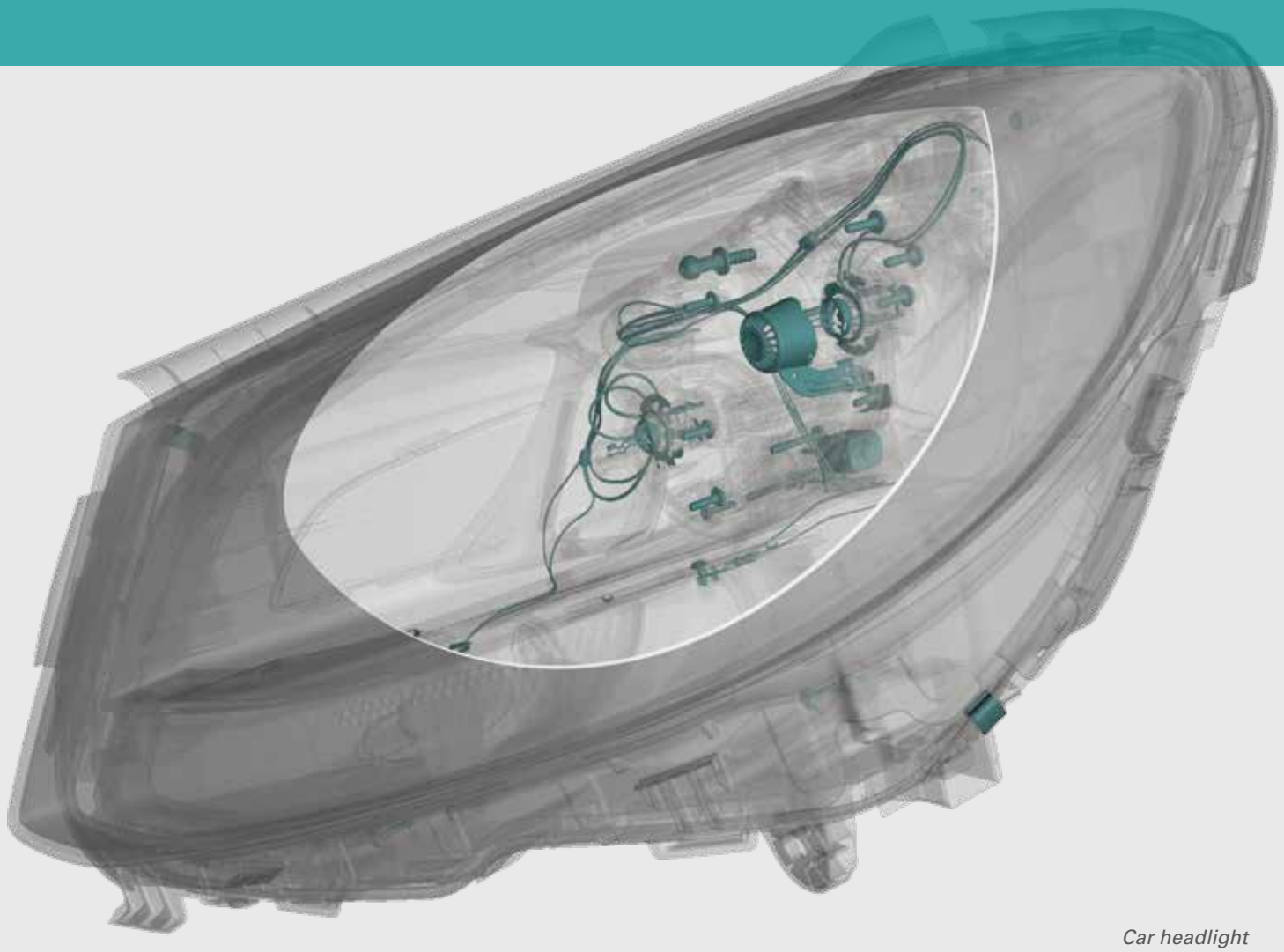
No matter what industry you're in, you'll get precise 3D images thanks to our smart CT systems. The YXLON CT portfolio covers a variety of sizes and materials, with the FF85 CT being the true all-rounder offering the most diverse application spectrum.

YXLON CT solutions are tried and tested premium systems. They blend smoothly into your processes, guaranteeing fast, intuitive workflow and high uptime. Our CT product range equips you with relevant information regarding the interior and exterior structures of your items, enabling you to do all kinds of measurements and analyses.

Additionally, the worldwide YXLON service network is an important factor to take 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 the YXLON FF85 CT?

- Research and development
- First article inspection
- Dimensional measurement
- Small series inspection
- Failure analysis
- Defect and material analysis
- Assembly checks



Car headlight

Experience inspection versatility

Do you need to examine a wide range of part sizes from very small to large? Do you have to inspect very dense and fine items? The FF85 CT provides the most diverse inspection portfolio among YXLON CT systems thanks to its high-powered hardware and innovative software features.

The combination of ***two tubes with a spacious flat panel detector*** caters to the broadest application range and allows you to efficiently test different parts in one run. A high-powered minifocus tube and a high-resolution microfocus tube are at your disposal throughout a single inspection sequence. The minifocus tube, with its high power, reduces the scan times significantly allowing you to get the work done faster. With the microfocus X-ray tube you can count on high-resolution results for smaller samples. Together, they operate in the spacious X-ray detector to accommodate a large scan volume.

Another building block that contributes to the premium performance of FF85 CT is the rock-solid ***granite based manipulator;*** which makes your system extremely precise and durable. You'll benefit from warp-resistance and temperature stability.

With FF85 CT your investment is secure because the ***system is truly future-proof.*** You can rely on continuous updates and upgrades. It runs on YXLON's common software and hardware platforms. This allows developments in other systems to be seamlessly transferred to the FF85 CT.

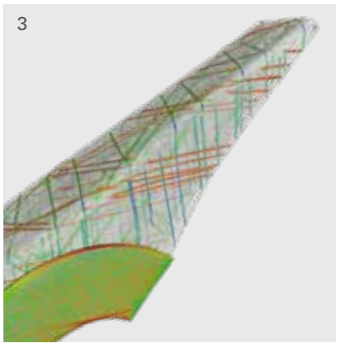
YXLON FF85 CT key benefits

- Intuitive touchscreen operation
- Revolutionary inspection sequence creation using icons
- Flexible ROI selection thanks to virtual rotation axis
- Extensive range of applications using 450 kV minifocus and a 225 kV directional microfocus tube
- Expanded inspection envelope with horizontal field of view extension, Helical and dual Helical CT techniques
- Increased versatility via high precision manipulation with up to 7 axes
- Clear health status indication of the system condition via Health Monitor

Detect what matters

Whether you are a testing service, a central laboratory, or a company carrying out its own inspections, take advantage of the penetration power and maximum application diversity of YXLON FF85 CT. Its Geminy interface simplifies processes and ensures long-term use.

Sumatran Rhino skull rendered with VGSTUDIO MAX by Volume Graphics GmbH



1 High-power minifocus tube and high-resolution microfocus tube
2 Intuitive Geminy graphical user interface with touch screen operation
3 Fiber-reinforced plastic part from a helicopter

CT inspection made simple

Get the most out of your interface

FF85 CT provides smart inspection processes with its intuitive ***Geminy graphical user interface.*** Use the convenient touchscreen to easily combine 2D and 3D inspection tasks into one sequence and graphically create your individual imaging chain via drag and drop icons.

FlexCenter saves you time throughout the entire inspection process. Its virtual rotation axis gives you the freedom to choose any point as the axis of rotation without having to change the physical position of your sample, additionally allowing you to inspect other regions of the same component. Then, by setting the rotation axis, you are not limited to conventional sample positioning techniques which often lead to sub-optimal imaging due to beam-hardening. Finally, the optimal axis placement offers the possibility to crop the field of view and localize your scan to your area of interest, providing a higher resolution image with lower data volume and reduced data processing times.

You can also minimize artifacts with the software tool *HeliExtend* which is especially suited for tall parts. Instead of stitching together different areas of a tested object, you can use HeliExtend to automatically compose a single accurate image, free of Feldkamp artifacts. What's more, you can use it to generate an extremely high resolution image of the item you are inspecting. A horizontal field of view extension is another feature of this package. This way, you can expand the bandwidth of examined parts even further.

To keep track of your testing routine and rapidly react to maintain your workflow, FF85 CT provides a ***system health monitor.*** It indicates the system health status and important value trends. Various parameters are consolidated and displayed with a familiar "traffic light" representation.

Which items and materials are especially suitable for the YXLON FF85 CT?

- Aluminum, steel and super alloy components
- Additive manufacturing samples
- Fiber-reinforced composites
- Plastic injection molded parts
- Historical art and archeological objects
- Geological samples
- Biological samples
- Mechatronic modules

YXLON Life Cycle Service – more than the best image

YXLON Life Cycle Service

- **Y.ServicePass** – the most important services tailored to your system and your needs
- **Y.SmartPass** – for customers who need instantaneous spare parts availabilty
- **Y.LifeCyclePass** – the all-inclusive package covering all costs throughout the entire system lifetime
- **Y.WarrantyPass** – predictable costs by extending the warranty for one or two years
- **Y.SmartSpares** – the best compatibility and added functionality using original YXLON spare parts
- **Y.Exchange** – direct replacement of defective or worn-out components to minimize system downtimes
- **Y.Upgrades** – up-to-date system technology and prolonged lifetime
- **Y.Academy** – professional training teaches your operators how to get the most out of the system

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 eight global service centers and specialized staff at over 50 service partners, we can ensure a rapid response time wherever and whenever you need it.

Your benefits include:

- High system availability
- Low operating costs
- Superior inspection results
- Guaranteed operational safety
- Prolonged system lifetime

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

We support you in keeping your inspection costs to a minimum. At the same time, your systems operate safely at peak performance while providing optimum inspection results throughout their entire lifetime.

Check out these facts and figures

	YXLON FF85 CT
Inspection modes	Cone-beam, Helical CT

X-ray components

Tube 1	Y.FXT 225.48
Maximum energy	225 kV
Maximum power	320 W
Detail visibility	≥ 4 µm[1]
TXI	yes[2]

Detector	Y.Panel 1621 CN14 ES Premium[3]
Scintillator	DRZ+
Active area	400 mm x 400 mm
Pixel pitch	200 µm
Pixel matrix	2,048 x 2,048
Frame rate	15 fps - 30 fps

Tube 2	Y.TU450-D11
Maximum energy	450 kV
Maximum power	0.7 kW / 1.5 kW
Focal spot	0.4 mm / 1.0 mm

Detector (alternative)	Y.Panel 1621 CN3 ES Premium[3]
Scintillator	CSI
Active area	400 mm x 400 mm
Pixel pitch	200 µm
Pixel matrix	2,048 x 2,048
Frame rate	15 fps - 30 fps

1) With JIMA resolution test pattern for 2D at minimum focal spot size
2) TXI = True X-Ray intensity - controls real output dose for constant intensity
3) Selected detectors acc. to specific YXLON pixel specification - ASTM E2597 compliant

Manipulator Data

Configurations	**Y.FXE with Flat Panel Detector**	**Y.TU with Flat Panel Detector**
FDD (Focus Detector Distance)	730 - 1,675 mm	1,045 - 1,995 mm
FOD (Focus Object Distance)	13 - 1,455 mm	330 - 1,770 mm
Beam – hub vertical axis	685 mm	440 mm
Object – transversal axis	+/- 250 mm	+/- 250 mm
Detector - hub vertical axis	685 mm	440 mm
Detector - horizontal axis	+/- 250 mm	+/- 250 mm
Maximum Magnification	128[4]	6
Maximum part size (d x h)	715 x 1,100 mm	715 x 1,100 mm
Maximum loading of sample table	100 kg	100 kg

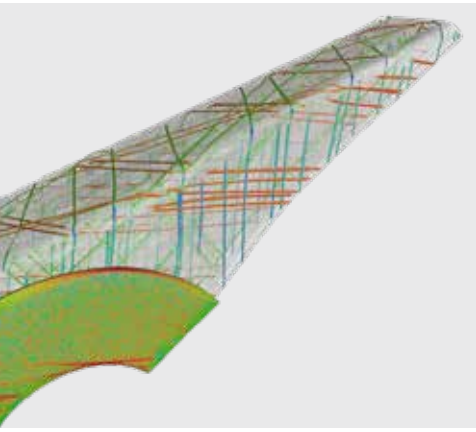
CT parameter

CT field of view, std. circular scan (d x h)	340 mm x 340 mm	350 mm x 350 mm
CT field of view, maximum (d x h)[5]	580 mm x 620 mm	600 mm x 410 mm
Minimum Voxel Size[6]	1 µm	33 µm
Circular scan trajectories	continuous rotation "QuickScan" / start/stop scan "QualityScan"	
Helical scan trajectories	standard "HeliExtend" / dual "HeliExtend Dual"	
Further trajectories	1.8 times horizontal extension / "ScanExtend" / virtual rotation axis "FlexCenter"	

4) Value assuming 4 mm filter holder and center of rotation 2 mm from x-ray tube surface
5) with HeliExtend Dual
6) Theoretical values determined by geometry and reconstruction parameters

Enclosure / System

Enclosure size (W x H x D)	4,220 mm x 2,810 mm x 2,330 mm
CT system weight, approx.	9,000 kg
Enclosure weight, approx.	28,000 kg



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
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