

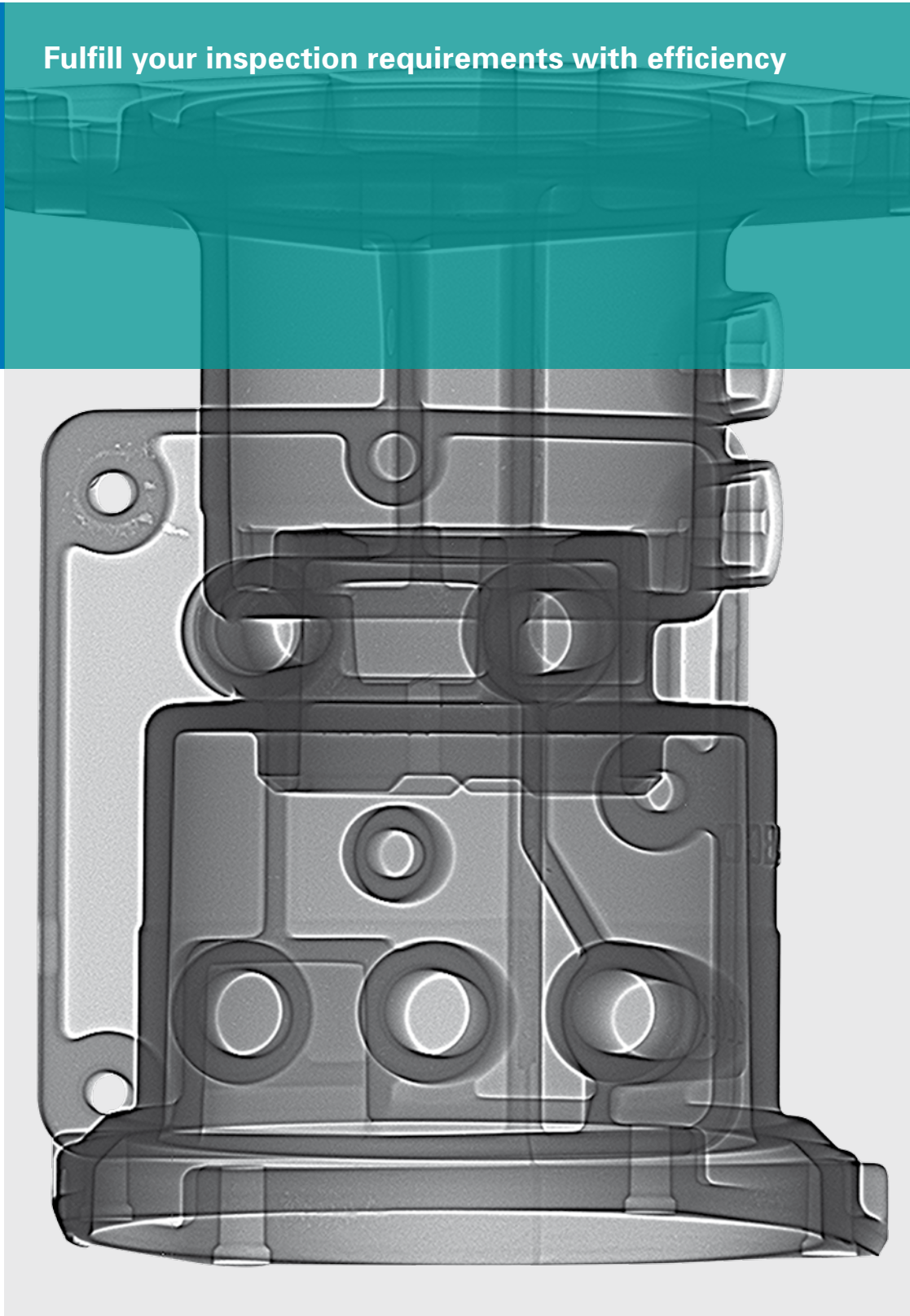
Y.MU2000-D

Versatile X-ray inspection system for casting parts
including CT option

Fulfill your inspection requirements with efficiency



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. Based on our extensive experience in designing tailor-made X-ray and CT solutions, we help our customers achieve excellent results during their production inspection procedures as well as scientific research and development projects. Making the invisible visible – that's what we call the art of detection.

No matter what industry you're in, you'll get precise images thanks to our smart systems. The diversified YXLON portfolio covers the widest variety of sizes and materials. The Y.MU2000-D focuses on the quality inspection of all types of cast parts. Because it can be easily upgraded

to CT it supports you in fulfilling current and future quality requirements efficiently.

YXLON solutions are tried and tested premium systems. They blend smoothly into your processes, guaranteeing fast, intuitive workflow and high uptime. Our 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 be taken into account when evaluating the YXLON price-performance ratio – one that appeals to quality managers, operations personnel, and purchasers alike.

Where do you use Y.MU2000-D?

- In foundries for serial or spot sample inspection of cast parts
- In Research & Development in the automotive and aerospace industries
- In laboratories and universities for material and structure analysis
- In educational institutions for weld inspection

HDR image of an aluminum cast part



Have a reliable X-ray workhorse on your side

Do you want a tried-and-tested X-ray solution also for rough casting locations? Do you want high-contrast brilliant image quality with an easy switch to CT? Discover the broad-range Y.MU2000-D radioscapy inspection system including digital detector and Y.HDR-Inspect for dependable spot-check samples and series inspection.

Whether you are a large multi-national company or a small/medium-sized foundry, all your casting inspection activities are in safe hands with the robust Y.MU2000-D. Also, global car manufacturers place their trust in Y.MU2000-D for large-quantity parts production and R&D.

The Y.MU2000-D image quality excellence is based on the interplay of the digital flat-panel detector array (DDA) with high-range dynamics and Y.HDR-Inspect. The HDR (Highly Dynamic Radioscapy) technology provides excellent detail detection even with different material thicknesses and assists in visually determining the depth of casting flaws.

Good to know: the Y.MU2000-D is future-ready. Its interface generates data to be used in fields such as machine learning, big data, the Internet of Things, and machine-to-machine communication. Plus, Y.MU2000-D complies with different general standards like ASTM and DICONDE, and fulfills specific automobile manufacturers' inspection requirements.

Y.MU2000-D key benefits

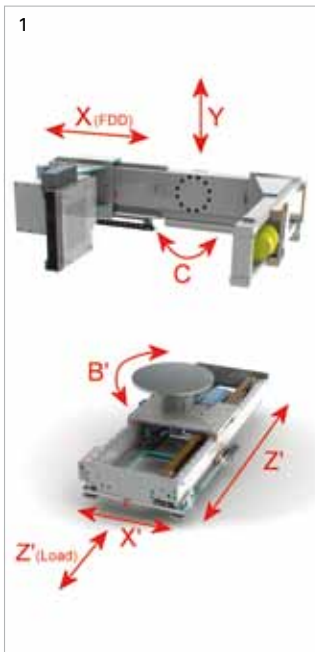
- Renowned, robust, reliable digital X-ray inspection system for rough locations
- Brilliant image quality with high contrast for spot-check samples and series inspection
- Fast computed tomography (CT) at the touch of a button (optional)
- Smart ergonomics for easy operation
- Tailor-made configuration for wheels and tires
- Compliance with ASTM standards and specific car manufacturers' inspection requirements



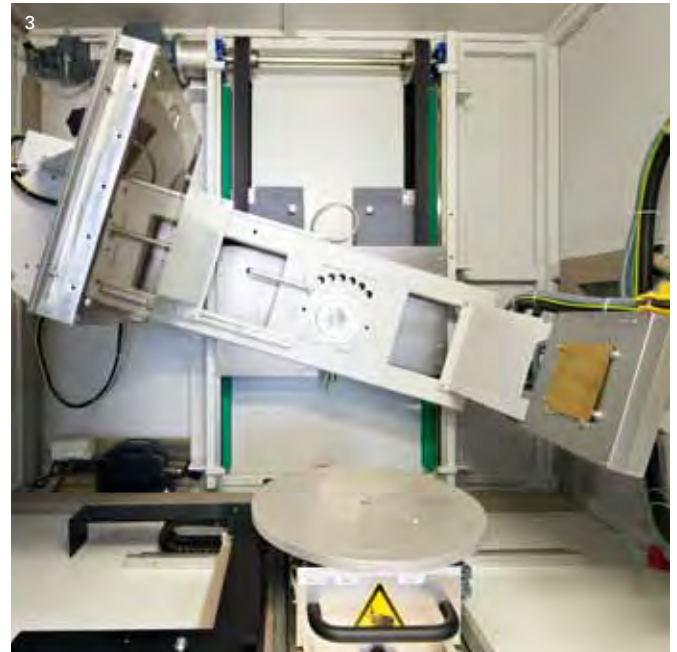
Detect what matters

Y.MU2000-D systems reliably perform X-ray inspections in companies around the world. You could be next in line: experience the system's robustness, brilliant image quality and easy upgrade to CT.

CT volume of a cylinder head with various analyses



- 1 Manipulation axes
- 2 Loading and unloading outside the cabinet
- 3 Interior view, radiation-shielded cabinet



Experience effective performance

Y.MU2000-D provides a continuous workflow along all phases of the inspection process. The large motor-driven loading door ensures a swift exchange of items. You can smoothly inspect large and heavy or light and compact items thanks to flexible traveling possibilities along the axes. Additionally, integrate the system into your network to make results available at all access points.

Thanks to the intuitive user interface Y.MU2000-D is easy to operate even for users without specialized knowledge after a brief introduction. The

same applies to the CT option which provides safe applications with three different quality modes including preset parameters. The CT analysis station is equipped with VGStudio from Volume Graphics, an industrial CT software market leader. Count on detailed casting-flaw information thanks to significant CT 3D reconstruction.

YXLON configures the Y.MU2000-D according to your needs. A striking example is the adaption to the inspection of wheels and tires. This set-up features an additional rotational axis and a quick release skewer designed to inspect wheels with and without tires.

Some items especially suitable for Y.MU2000-D

- All kinds of aluminum castings such as engine blocks, cylinders, cylinder heads, pistons, knuckles
- Turbine blades
- Wheels and tires
- Fiber-reinforced materials
- Ceramics
- 3D printed materials

CT scan times

Mode	Quick	Medium	Highres
Complete process	~ 01:15 min.	~ 4:40 min.	~ 7:50 min.

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 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.Exchange** – minimize your system downtime by direct exchange of original components
- **Y.Updates** – keep your system state of the art
- **Y.Academy** – train your operators



Check out these facts and figures

	Y.MU2000-D Standard				Y.MU2000-D XL			
	160 kV	225 kV	320 kV	450 kV	160 kV	225 kV	320 kV	450 kV
Inspection envelope/insp. item								
Inspection envelope, radioscopy (diameter x height)	600 mm x 900 mm				800 mm x 1,500 mm			
CT measuring cylinder (diameter x height), approx.	170 mm x 150 mm				180 mm x 160 mm			
Inspection item weight	60 kg (optional 200 kg)				60 kg (optional 200 kg)			
Object carrier								
– Rotary plate	400 mm / 600 mm				400 mm / 600 mm			
– Three-jaw chuck	160 mm / 200 mm				160 mm / 200 mm			
Tilt angle beam path*	± 30° (opt. ± 45°)			± 20°	± 30° (opt. ± 45°)			± 20°
Radiation-shielded cabinet								
Width, approx.	2,200 mm	2,250 mm	2,400 mm	2,900 mm	2,650 mm	2,700 mm	3,000 mm	3,500 mm
Height (incl. mainstays), approx.	2,700 mm	2,750 mm	2,750 mm	2,800 mm	3,300 mm	3,350 mm	3,500 mm	3,550 mm
Depth, approx.	1,800 mm	1,850 mm	1,950 mm	2,500 mm	2,050 mm	2,100 mm	2,200 mm	2,750 mm
Weight, approx.	4 t	6.5 t	10 t	19 t	6 t	10 t	15 t	25 t
Cabinet door								
Width x height, approx.	from 760 mm x 1,150 mm				from 1,100 mm x 1,700 mm			
Open, close (motor-driven)	~ 2 s	~ 3 s	~ 4 s	~ 5 s	~ 2 s	~ 3 s	~ 5 s	~ 6 s
Detector								
Active area	200 mm x 200 mm				200 mm x 200 mm			
Pixel size	200 µm / 400 µm				200 µm / 400 µm			
Frame rate (14-bit detector)	15 fps / 30 fps				15 fps / 30 fps			
Distance X-ray tube – detector	695 mm – 995 mm				945 mm – 1,245 mm			
Control console								
Width x height x depth, approx.	1,200 mm x 1,800 mm x 1,300 mm							
Power supply	1 x 230 V, 50 Hz / 60 Hz							
Power input	max. 5 kW							
Weight, approx.	250 kg							

* Larger tilt angles reduce the maximum travel paths.

Additional Y.MU2000-D software options

ASTM E2737 system tests

- Automatic creation of standard-compliant system performance reports
- User-defined system performance tests and process checks

ASTM E2339/E2699 DICONDE

- Image compatibility with other manufacturers' systems using standardized archiving





ASTM reference images

- Currently available for aluminum (ASTM E2422), investment steel (ASTM E2660), titanium (ASTM E2669), and magnesium (ASTM E2869)
- Support for two monitors (recommended)
- Convenient choice of resolution and types of defects



ASTM reference images for aluminum according to ASTM E2422

**Find the system
that suits you best**

				
	Y.MU2000-D	Y.CT Compact	Y.Cougar	YXLON FF35 CT
Part size DR	+++	—*	+	++
Part size CT	+	+++	+	+++
HDR	yes	no	yes	yes
CT scan speed	+++	+	+++	++

* No live image

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

GERMANY – HEADQUARTERS

YXLON International GmbH
Essener Bogen 15
22419 Hamburg
Germany
T: +49 40 527 29-0

www.yxlon.com

CHINA

**YXLON
X-ray Equipment Trading Co., Ltd.**
1C1809 Web Time Center
Room A309, Building 2,
17 Zhongguancun South Ave.
Beijing 100081, P.R. China
T: +86 10 8857 9581
F: +86 10 8857 9580

USA

**YXLON Sales & Service Location
COMET Technologies USA Inc.**
5675 Hudson Industrial Parkway
Hudson, OH 44236
USA
T: +1 234-284-7849

JAPAN

YXLON International KK
New Stage Yokohama Bldg.,
1st Floor
1-1-32 Shinurashima-cho
Kanagawa-ku
Yokohama, 221-0031
Japan
T: +81 45 450 1730