

Y.MU2000-D

High-grade quality in spot-check sample and series inspection



- Robust, “tried-and-true” proven technology
- Deployed worldwide
- Highly dynamic radioscopy (HDR)
- Manual and programmable inspection

When constant product quality assurance is your target, two crucial factors are indispensable: to gain information rapidly about the inner structures of products and materials, and to make sure that quality characteristics are clearly defined. YXLON International, a leading supplier of industrial X-ray inspection systems for testing materials on a non-destructive basis, offers a solution that has proven itself on the market and supports you in achieving this goal: the universal X-ray inspection system MU2000-D. This best-known standard inspection system from YXLON has already been sold more than 350 times since its market launch.

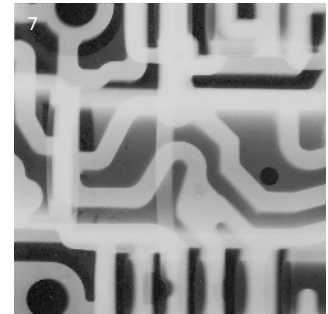
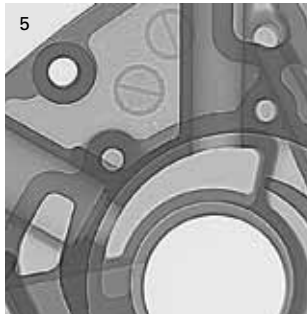
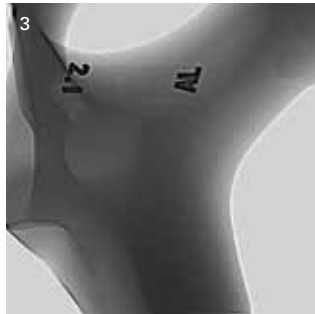
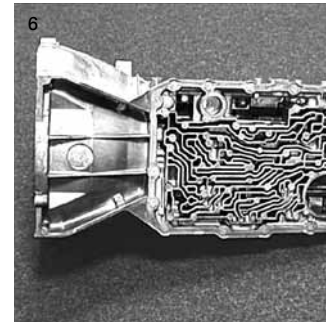
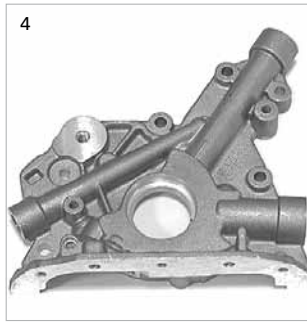
MU2000-D can be deployed equally well for both spot-check sample and series inspection. The system offers high-grade material inspection quality, even when the materials are as different as steel, aluminum, ceramics, plastic or rubber. Due to the concept of decoupled manipulators, meaning that the X-ray source and detector travel independent of the particular inspection item, optimum use is made of the inspection envelope while requiring proportionately little space, even for large inspection items.

Equipped for up-to-date use with modern digital flat-panel detectors and Y.HDR-Inspect technology, MU2000-D supplies brilliant image quality displaying high contrast. Outstanding detail detectability and simple, intuitive operation enable a high throughput, yet without compromising the certainty of inspection decisions made with assurance.

YXLON. X-ray technology at its best.

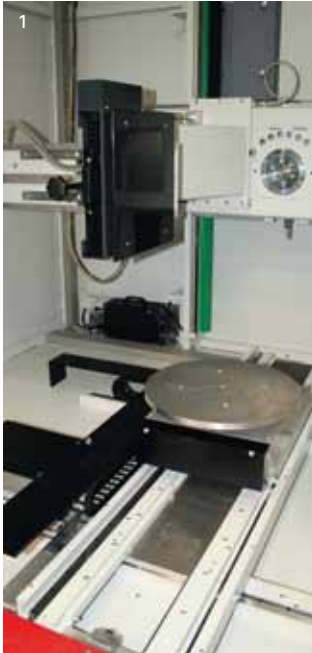


- 1 Castings
- 2 Steering knuckle
- 3 Steering knuckle with Y.HDR-Inspect
- 4 Oil pump
- 5 Oil pump with Y.HDR-Inspect
- 6 Aluminum slide plate
- 7 Aluminum slide plate inverted X-ray image

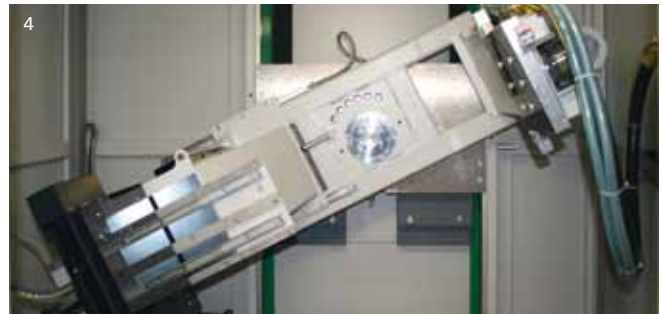


Technical Data

	MU2000-D Standard			MU2000-D XL	
	160 kV	225 kV	320 kV	160 kV	225 kV
Inspection envelope (diameter x height, measured from the center of the beam)	600 mm x 900 mm			800 mm x 1,500 mm	
Part weight	60 kg/200 kg (optional)			60 kg/200 kg (optional)	
Radiation cabinet					
Width x height x depth (incl. legs)	2,200 x 2,700 x 1,800 mm	2,250 x 2,750 x 1,850 mm	2,400 x 2,750 x 1,950 mm	2,650 x 3,300 x 2,050 mm	2,700 x 3,350 x 2,100 mm
Weight	4 t	6.5 t	10 t	6 t	10 t
Operator console					
Width x height x depth	1,200 x 1,800 x 1,300 mm			1,200 x 1,800 x 1,300 mm	
Supply	1 x 230 V, 50/60 Hz			1 x 230 V, 50/60 Hz	
Consumption	max 5 kW			max 5 kW	
Weight	250 kg			250 kg	
Cabinet door					
Width x height	760 x 1,150 mm			1,100 x 1,700 mm	
Open, close (motorized)	~ 2 sec	~ 3 sec	~ 4 sec	~ 2 sec	~ 3 sec
Travel					
Magnification	640 mm			850 mm	
- max speed	15 m/min			15 m/min	
Transverse axis	650 mm			900 mm	
- max speed	15 m/min			15 m/min	
Turntable	n x 360°			n x 360°	
- diameter	400 mm/600 mm (optional)			400 mm/600 mm (optional)	
- max speed	8 U/min			8 U/min	
Scan axis	900 mm			1,450 mm	
- max speed	15 m/min			15 m/min	
Tilt	± 30°/± 45° (optional)			± 30°/± 45° (optional)	
- vertical limits of scan axis	380 mm – 840 mm above turntable			450 mm – 1,400 mm above turntable	
- max speed	7°/sec			7°/sek	
FFD (variable)	650–950 mm			900–1,200 mm	



1 Z axis; detector and turntable
 2 Digital flat panel detector
 3 X-ray tube
 4 Detector and X-ray tube on U-arm, 30° tilt of the X-ray beam



Simple transport, fast start-up

The feet on the radiation-shielded cabinet of the systems 160 kV and 225 kV can be detached for practical transport. Electrical connection lines between the radiation-shielded cabinet and the switch control box are guided using plugs, making a fast commencement of system operations that much easier.

High system availability

The combination of robust mechanics in the well-established and perfected MU2000-D requiring merely low-level maintenance together with the worldwide network of highly qualified technicians at YXLON guarantees maximum system availability.

Simple, intuitive operation

All of the necessary components are controlled and monitored centrally at the ergonomically designed operating console. Following brief introductory training the X-ray inspection operator is already able to work productively.

Optimized manipulator concept allows flexible inspection positions

The system exhibits all the necessary options for traveling in order to test inspection items optimally. Since the X-ray tube and detector are mutually mounted on a U-arm, a vertical travel and tilting of the X-ray beaming procedure is possible without changing the focus-to-detector distance (FDD). The inspection item merely has to be placed on the object carrier, then it can be rotated and moved horizontally along 2 axes. This concept enables a flexible inspection for items both large and heavy or small and light, and without requiring complicated fixation.

The speeds and accelerations for the individual manipulator axes are appropriately adapted to match the traveling routes. Manual travel along a total of 5 axes is possible (or even 6 when the manually enhanceable magnification axis is taken into account), as well as a pre-programmed inspection workflow.



1 Casting on turntable
2 Loading and unloading outside of the cabinet



Short inspection times

The radiation-shielded cabinet's large opening for loading and unloading ensures short times for exchanging inspection items. The double sliding door saves space and can be operated quickly and safely due to monitored two-hand operation. The individual inspection positions can be viewed directly through the integrated lead-glass window.

Ergonomic loading of heavy, unwieldy parts

The parts manipulator is driven manually, or optionally motor-driven, out of the radiation-shielded cabinet and supports the operator when loading and unloading unwieldy and heavy inspection items. This also makes it possible to load heavy items via crane or fork lift.

Excellent detail detectability due to Y.HDR-Inspect

Y.HDR-Inspect is the combination of a digital flat-panel detector suitable for "live image" inspection as a result of its high refresh rate together with Y.IMAGE image processing. Y.IMAGE is able to calibrate the detectors optimally and enables variable filtering within the "live image".

Using Y.HDR-Inspect, flaws in the inspection item can be detected immediately in both thick and thin material sectors without changing the X-ray parameters. This makes it possible to achieve inspection decisions in a shorter time with greater certainty than would be the case using image intensifiers.

System-transcending exchange of information

The system is network-capable and equipped with a PC-NC workflow control or digital image enhancement programs. Once it has been integrated into the company network, inspection results are available quickly, uncomplicatedly and extensively, even on a decentralized basis.

More detailed information about Y.HDR-Inspect and Y.IMAGE software can be obtained by referring to the corresponding product information.

YXLON

Technology with Passion

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