

High-performance X-ray system for upright/tall packages

Thermo Scientific Xpert S400 X-ray Inspection System

The Thermo Scientific™ Xpert™ S400 side shoot X-ray Inspection System is a state-of-the-art single beam system that is compact in size and easy to install and use. An existing conveyor can be routed through the inspection tunnel and the X-ray source/detector can be adjusted to its height in a matter of hours.

The Xpert S400 comes standard with a tall X-ray beam and detector capable of inspecting a broad range of products. X-ray power and detector resolution are chosen to match typical line speeds. A chicane line configuration is available also for tall, light, small diameter products that cannot pass through radiation shielding curtains without tipping over.



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shoot X-ray Inspection System

Features:

- Detects foreign objects in cans, plastic bottles and other upright packages
- Sophisticated inspection software optimized for the bottom, sidewalls, body and cap regions
- Inspection of underfilled and dented cans in some applications
- Up to 900 packages per minute throughput
- Configurations with/without conveyors and shielding curtains
- Custom rejection systems available
- X-ray source and detector can be easily aligned with conveyor height
- Tall X-ray beam and detector handles a wide range of packages
- 0.8 mm or 0.4 mm (optional) detector resolutions
- Suitable for dry wipe down and IP65 washdown environments
- Built-in remote software for troubleshooting and technical assistance

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Application and X-ray Specifications

X-ray Power	80 kV, 6mA (480W)
Detector Scan Rate	Up to 2800 lines/second
Detector Resolution	0.8 mm standard, 0.4 mm optional
Detector Areas	Bottom, sides, body and top
Detection Algorithms Available	Binary thresholds (several types) and 1D/2D contrast
Inspection Algorithms Available	Gross underfill, general cap/bent can detection and other customizations
Aperture Width and Height	See beam coverage drawing. Wide-aperture model available (275 mm/10.8 in) for large products
Belt Speed Range	5 m/min to 80 m/min (16 ft/min to 263 ft/min), built-in VFD optional to control conveyor speed
Conveyor Heights	900 mm +/- 100 mm (35.4 in +/- 3.9 in), customer supplied or optionally supplied by Thermo Fisher
Minimum Product Gap	10 mm (0.4 in), required for X-ray acquisition and accurate rejection
System Length	1.8 m (5.9 ft) straight configuration with curtains, 3.1 m (10.2 ft) chicane configuration to curtains
X-ray Curtain Material	Proprietary no-lead material, not required in chicane configuration
Safety/Security Features	X-ray power key, emergency stops, radiation curtains, LED X-ray imminent/on lights, all doors equipped with magnetic interlocks
Human Machine Interface (HMI)	15-inch diagonal touchscreen with protective cover
Interface Languages Available	English, Spanish, Italian, French, German, Chinese; Others available on request

Environmental, Electrical and Operational Specifications

Operating Temperature	+5°C to +38°C (+41°F to +100°F)
Machine Cooling	Built-in 3750 BTU (1100W) cabinet air conditioner
Relative Humidity	20% to 90% non-condensing
Electrical Input	190 to 240 VAC, 50/60 Hz, 20-amp service
Digital Outputs	4 available (one reserved for a rejection device)
Digital Inputs	6 available (two reserved for photoeyes, one for encoder)
USB Port	2.0, watertight port on outside of machine
Network Port	Ethernet
Compressed Air (for rejection devices)	80 psi to 100 psi (5.5 bar to 6.9 bar)
Machine Weight (standard model with straight shields)	850 kg (1870 lbs)

Conformance Tests and Certifications

Radiation Safety Conformance	FDA CFR 21 part 1020.40, UK IRR 1999, RED act (contact factory for other regional certifications)
Export/Safety	CE, UL508A standard in North America
Intrusion Protection Rating	IP65

