



**Thermo Scientific NextGuard**  
X-Ray Detection System

- Detects a wide variety of foreign objects
- Simple to install and use
- Easy to own and service

## **cost-effective yet sensitive** contaminant detection for packaged products

The Thermo Scientific NextGuard x-ray system is designed to make moving from metal detection to x-ray detection easy, fast and inexpensive. It is ideal for finding dense or sharp objects in a wide variety of products.

# Thermo Scientific NextGuard

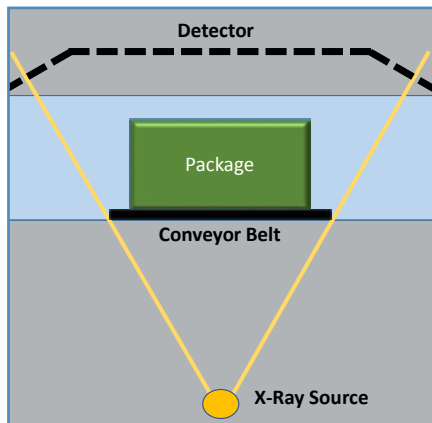
Foreign object detection for a wide variety of food products

The Thermo Scientific™ NextGuard™ detection system enables compliance with worldwide HACCP and retailer food safety requirements. It is an easy to use, cost effective, thoughtfully designed system that eliminates the barriers associated with moving from metal detection to x-ray detection.

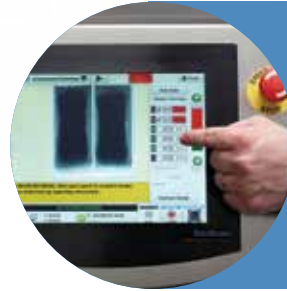


## Innovative X-Ray Design Assures 100% Detection of Any Product

Most x-ray detection systems project the x-ray beam from the top down in a narrow beam to a linear detector. This makes using the x-ray image for product inspections easier, but also means as the product being inspected gets taller it must get narrower to always fit in the beam. With NextGuard we wanted to make it simple for users, so we project a wide x-ray beam from the bottom up to a non-linear detector that assures everything passing through the inspection tunnel is completely inspected. Any differences in x-ray signal across the arch shaped detector are automatically calibrated out when you set-up your product. So no matter where the product passes through the beam you always get the best detection possible! This architecture has the added benefit that it limits the height of the total machine and keeps the heat generated in the bottom of the cabinet where it can be best cooled extending the life of the source.

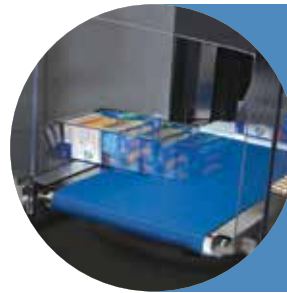


NextGuard X-Ray Source and Detector Arrangement



## Touchscreen

Protected, large touchscreen for washdown and durability, and adjust image function for on-the-fly detection adjustment while the system is inspecting.



## Rejection Systems

Configurable rejection systems based on the VersaWeigh checkweigher. Variable speed controlled by the NextGuard.



## QA Check Function

Unique, configurable software feature allows definition of up to three audit types. Prompts the operator to run the audit and saves statistics/images from the process separately from production data.



Through the Thermo Scientific Product Assurance Services & Solutions (PASS) program, we can thoroughly test every suspected product for contaminants so that you can continue production products that your consumers rely on! Learn more at [www.thermoscientific.com/PASS](http://www.thermoscientific.com/PASS).

## Options to Customize Your System

- Complete rejection systems or rejection mechanisms for use on your downstream conveyor
- Stainless steel air conditioner for washdown environments
- Alarm horn, no lead curtains, casters, guiderails
- Radiation safety meters
- UL or CSA site inspection
- Spare parts kits

# x-ray detection system

## Features & Benefits

- Compact size makes installation and use easy
- Unique non-linear detector eliminates inspection blind spots
- Removable conveyor makes directional change and maintenance simple
- Software based on popular, intuitive VersaWeigh user interface
- Modular design for high reliability and quick diagnosis and repair
- Source and detector lifetime indicators to minimize expensive downtime
- Built-in remote monitoring for quick problem determination



### Certified around the world

Safety is assured with an LED light stack, multiple e-stops, x-ray key switch and safety interlocks on all doors and covers.



### USB and Ethernet ports

Standard watertight connections are available for data input/output and remote connection for help and troubleshooting.



### Radiation shielding curtains (with cover removed)

Lead and no-lead shielding curtains available. Easy to replace and adjust.



### Modular conveyor

Transport system is completely removable in minutes for thorough cleaning, belt change and maintenance/repair. Conveyor direction can be changed in the field by service technicians in less than one hour.



Modular feet, extensions and frames to fit any line height needed.



# Thermo Scientific NextGuard X-Ray Detection System

## Application and X-Ray Specifications

X-Ray Power	160 Watts or 100 Watts, 40-80kV
X-Ray Detector	Unique design with no inspection blind spots, 0.8mm pixel size
Scan Rate	Up to 1667 lines per second
Typical Sensitivity	≥ 1mm diameter for steel, ≥ 3 mm for other dense contaminants (depends on the relative density of the contaminant as compared to the package)
Detection Algorithms Available	Simple threshold, gradient, dot morphology small, dot morphology medium, dot morphology large, contaminant area measure
Aperture/Product Width and Height	340 mm X 185 mm (13.4 in X 7.3 in)
Belt Speed	Variable speed - 10-80m/min (262 ft/min) for 160 Watts, 50m/min (164 ft/min) for 100 Watts
Conveyor Heights	(specify at order time) 800 mm (31.5 in), 900 mm (35.4 in), 1000 mm (39.4 in), 1100 mm (43.3 in)
Conveyor Length	1 m (3.28 ft), optional reject systems extend system length
Belt Material	USDA/FDA approved urethane
Security/Safety Features	X-ray power key, four level password system, emergency X-ray/conveyor stop button, lead/lead-free curtains, failsafe LED x-ray imminent and on indication light
Human Machine Interface (HMI)	Windows® 7, touchscreen, 307 mm (12.1 in) diagonal
Language Interfaces Available	English, Spanish, French, Italian, German, simplified Chinese. Contact the factory for additional languages.
Data File Export	Excel, PDF, or xml format selectable
Remote Access	Teamviewer standard
External Rejecter Options	Integrated variable speed conveyors. Air blast or pusher. Lockable reject bin and reject/bin full photo sensors.

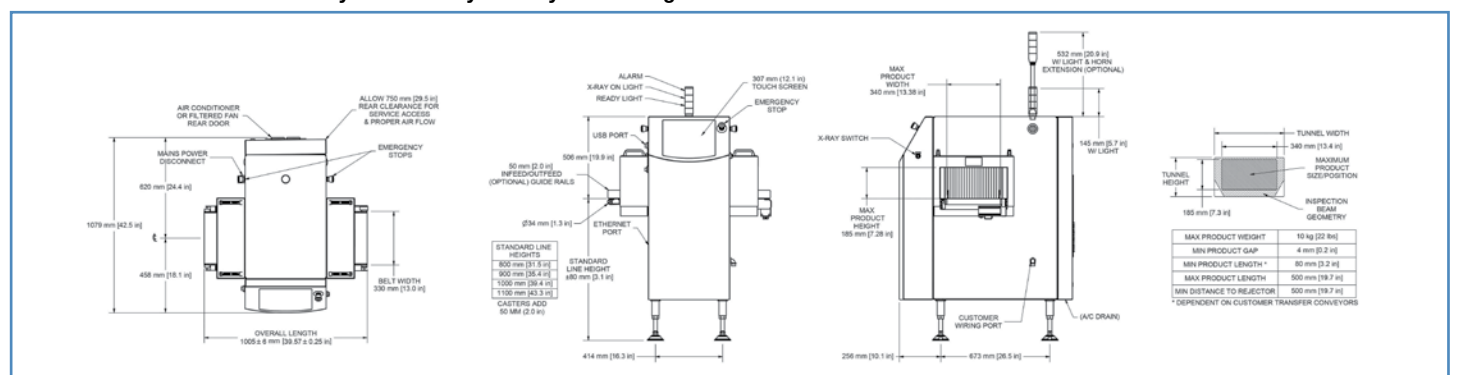
## Environment, Electrical and Operational Specifications

Operating Temperature	5°C to 30°C (41°F to 86°F) with cooling fan or 5°C to 40°C (41°F to 104°F) with air conditioner
Relative Humidity	20% to 90% non-condensing
Electrical Supply	195 VAC to 250 VAC, 50/60 Hz, autosensing, single phase, 10 amps.
Digital Outputs/Allocation	Four outputs, 24 VDC 0.5 A, assignable function
Digital Inputs/Allocation	Four inputs, 24VDC 25 mA, NPN/PNP (jumper selectable), assignable function
USB Port	Watertight USB 2.0 standard
Ethernet Port	Watertight Ethernet port standard
Machine Weight	320 kg (700 lbs)

## Conformance Tests and Certifications

Radiation Safety Conformance	FDA CFR 21 part 1020.40, RED act. Others available, contact the factory.
Export/Safety Certificate	CE, UL or CSA on request
IP Washdown Conformance	IP65 with airconditioner, IP54 with cooling fans. Full stainless steel type 304 construction.
Manufacturing Quality	ISO9001 certified facility

## Thermo Scientific NextGuard X-Ray Detection System layout drawing



[thermoscientific.com/nextguard](http://thermoscientific.com/nextguard)

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