X-ray Inspection

Providing Insight into Integrity

Reliable Product Safety

Maximum Uptime and Ease-of-Use

Reduced Product Waste

Securing Brand Protection

Outstanding Reliability

Packaged X-ray Inspection Range

X33, X34 and X36 X-ray Systems

METTLER TOLEDO

Intelligent X-ray Inspection
Providing Insight into Integrity

Today, the packaged food and pharmaceutical industries rely on innovative technologies to facilitate business critical operations, production processes and meet Key Performance Indicators (KPIs).

Utilizing technology advancements, METTLER TOLEDO's Packaged X-ray Series consists of three specific x-ray solutions. The X33, X34 and X36 provide detailed inspection insight into small, medium and large packaged products on single and multiple lanes. The x-ray systems detect contaminants whilst simultaneously performing product presentation and integrity checks. Consumers are safeguarded from substandard products and brand reputations are protected.

Packaged Products

X33

Easier to Safeguard Businesses

Designed for ease-of-use, the X33 offers high detection capabilities, safeguarding brands and consumers. Its low energy consumption reduces the Total Cost of Ownership.

X34

Intelligent, Optimum Detection

The X34 offers automated product set-up coupled with intelligent software to improve production uptime, reduce manufacturing costs and enhance detection sensitivities. This provides the ultimate in product safety with minimum False Reject Rates (FRR).

X36

Adaptable, Advanced Integrity Inspection

Highly configurable, the X36 offers the highest level of detection sensitivity and integrity checks at high throughput rates. It provides complete brand protection and compliance with national and international standards and regulations.

Packaged Product Sizes	X33	X34	X36
Small, Primary Packaging	✔	✔	✔
Medium, Primary Packaging	✔	✔	✔
Large, Secondary Packaging			✔

Widest Portfolio of X-ray Solutions
For the Food and Pharmaceutical Industries

The three x-ray inspection systems - X33, X34 and X36 - inspect a large range of primary and secondary packaged product types and sizes. Packaging examples include cardboard boxes, plastic trays, foil pouches, sachets, bags, doypacks, and blister packs.

The Packaged X-Series is part of the widest group of specialist x-ray technologies on the market, including dedicated x-ray systems for glass and canned products as well as pumped and bulk applications.

X-ray inspection solutions from METTLER TOLEDO can be installed at different stages of a production line. They can inspect incoming goods for contaminants such as metal, glass, mineral stone, calcified bone and high-density rubber as well as further down the production line, during processing and end-of-line packaging.

Tall Rigid & Flexible Packaging


X3710


X3720


X3725


X3730


X3735


X3750

Bulk Products


X33 Bulk


X36 Bulk

Pumped Products


X38

Loose-flow Products


X39

Combi-Systems


CX35

Reliable Product Safety
Through Outstanding Detection Sensitivity

METTLER TOLEDO's advancements in technology, such as our intelligent x-ray software, automated set-up capabilities and a range of generators and detectors, enable our x-ray systems to offer outstanding levels of detection sensitivity. This means physical contaminants, such as metal, glass, mineral stones, calcified bone, dense plastics and rubber compounds, are easier to detect.

The X33, X34 and X36, all utilize different advanced generators. Each x-ray solution suits specific applications and package sizes to ensure outstanding detection sensitivity levels. By optimizing the x-ray image contrast for each individual application, detection sensitivity levels are increased, enabling the x-ray systems to find a wide range of contaminants, irrespective of size and location within the product.

"By combining intelligent software, automated product set-up and the right generator and detector option, detection sensitivity levels are significantly improved in packaged products."

How significant is increased detection sensitivity?

Manufacturers can have confidence that food and pharmaceutical products containing small, hard-to-find contaminants, plus product and packaging presentation defects, are rejected.

- Increase brand protection
- Ensure product safety
- Comply with retailer Codes of Practice, food and pharmaceutical safety standards
- Avoid product recalls
- Reduce customer complaints

Maximum Uptime and Ease-of-Use
Through Automated Product Set-up Capabilities

The intuitive high performance x-ray software, with either semi- or fully automated product set-up, reduces the need for manual adjustments and the likelihood of human programming errors.

The X33 offers semi-automated product set-up capabilities for small and medium packaged products. The X34 fully automates set-up and changeover rapidly with a minimum number of product passes, whilst the highly configurable X36 provides fully automated set-up with manual intervention for more advanced applications.

Automation allows for quicker product changeovers, ensuring that production uptime is maximized and outstanding detection sensitivity levels are achieved consistently.

"Automation enables manufacturers to avoid inspection errors, increase operational efficiency and save costs."

How does automated product set-up benefit food and pharmaceutical manufacturers?

Enabling the automation of product set-up and changeovers brings record inspection start-up times, increases production uptime and reduces programming errors. Manufacturers benefit from obtaining the best contaminant detection results possible, thereby protecting brand integrity and reputation.

- Safeguard products
- Minimize manual programming errors
- Improve production uptime & costs
- Reduce operator training time & associated costs
- Achieve food and pharmaceutical safety compliance

Reduced Product Waste
Through Minimum False Reject Rates

False Reject Rates (FRR) occur when good products are rejected and can result in increased product waste costs and lost manufacturing time in order to rectify the issue.

Our x-ray inspection software ensures minimum FRR, through automating set-up procedures and establishing outstanding detection sensitivity levels. To achieve this, the x-ray system is set at the optimum inspection level to only reject substandard products, as specified by a brand's requirements. It also minimizes the probability of FRR increasing, whilst maximizing detection sensitivities. Manufacturers of packaged products can have full confidence that their profits are protected from avoiding unnecessary waste and downtime.

"Focusing on detecting and rejecting faulty products will protect consumers and safeguard manufacturing profits."

Why is a low False Reject Rate so important?

Having FRR results in increased product waste, reduced manufacturing profits and productivity downtime. To minimize this impact, manufacturers should select x-ray systems that increase detection sensitivities according to specific individual products without raising FRR.

- Maximize profitability
- Avoid product waste
- Reduce operation time & costs
- Lower total cost of ownership
- Improve manufacturing efficiency

Secure Brand Protection
With Class-leading X-ray Software Capabilities

METTLER TOLEDO's propitiatory inspection software provides the powerful intelligence for the Packaged X-ray Series to achieve outstanding detection sensitivity to complete a wide range of quality assurance checks. Advanced software algorithms further increase contaminant detection and integrity examination capabilities, resulting in improved product safety. Easier to use than traditional software, our x-ray systems are quickly programmable to maximize uptime.

Developed in-house by very experienced engineers who understand manufacturing pressures first-hand. The x-ray images are date- and time-stamped and stored, which can be used to prove due diligence that quality assurance examinations have been completed to the highest standards and for traceability. Analyzing the data further enables manufacturers to enhance operational efficiency.

"Intelligent x-ray software ensures that manufacturers can uphold product safety values and improve operational efficiency ."

Why is x-ray inspection data so important to manufacturers?

Proof that product inspection activities are carried out at the highest levels will give existing clients confidence that brand protection is a top priority for the manufacturer. This will help extend existing contracts, facilitate food and pharmaceutical safety compliance and possibly secure new business. In the event of a product recall, inspection data will provide traceability and help prove due diligence has been exercised.

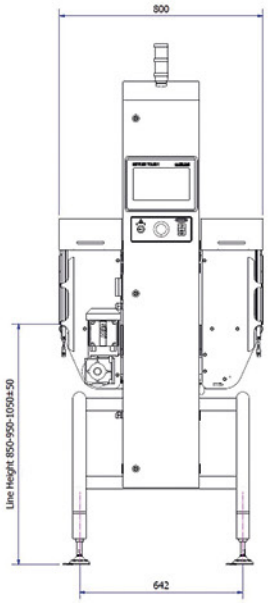
- Uphold product safety
- Win new contracts
- Improve operational efficiency
- Provide traceability
- Maximize uptime

Insight into the X-ray Series for Packaged Products

Key Features

		X-ray Inspection Systems		
Features	**Technical Specifications**	**X33**	**X34**	**X36**
Software	MT X33 X-ray Software	✔		
	Flex (includes ContamPlus)		✔	✔
Casing Material	304 Stainless steel	✔	✔	✔
Finish	180-240 Grit brushed on main components	✔	✔	✔
Connectivity Options	Ethernet (internal) connection available	✔	✔	✔
Conveyor Speed	Typical line speeds 10-60m/min	✔	✔	
	Typical lines speeds 10-100m/min			✔
Lane Configurations	Single-lane applications	✔	✔	✔
	Multi-lane applications			✔
Throughput Rate	Typical throughput rates of up to 300 products per minute	✔	✔	
	Typical throughput rates of up to 1,000 products per minute			✔
Operating Height	850mm, 950mm or 1,050mm (+/- 50mm)	✔	✔	✔
System Length	800mm or 1,800mm options	✔	✔	
	1,200mm or 2,100mm options			✔
Maximum Product Height	X33 long 260mm (240mm with reject) - X33 short 200mm	✔		
	200mm (200mm with reject)		✔	
	300mm (240mm with reject)			✔
Cooling Method	20W = Internal fan	✔		✔
	100W 'Optimum Power' = Air-conditioner		✔	✔
	300W = Radiator pump & air-conditioner			✔
	420W = Radiator pump & air-conditioner			✔
Screen Display	10.1" PCAP (capacitive) Touchscreen display (16:9 aspect ratio)	✔	✔	
	15" PCAP Touchscreen display (16:9 aspect ratio)			✔
Operating Humidity	Up to 90% RH	✔	✔	✔
Operating Temperature	5 – 40°C	✔	✔	✔
Power Supply	208-240 Vac, 1 phase, 50-60Hz, 6A max	✔	✔	✔
	100-120 Vac, 1 phase, 50-60 Hz, 10A max	✔	✔	✔
Pneumatic Supply	6 Bar(g) clean air supply required for air-operated reject system	✔	✔	✔
X-ray Detector	0.4mm		✔	✔
	0.8mm	✔	✔	✔
X-ray Detector Lengths	300mm or 400mm	✔	✔	✔
	500mm, 600mm or 800mm			✔
X-ray Generator	20W, 84kV, 0.25mA Glass or beryllium tube	✔		✔
	100W, up to 84kV, up to 3.3mA Glass or beryllium tube (optimum power)		✔	✔
	300W, 100kV, 3.0mA Glass or beryllium tube			✔
	420W, 84kV, 5.0mA Glass or beryllium tube			✔
X-ray Beams	Single beam	✔	✔	✔
X-ray Emissions	< 1uSv/hr	✔	✔	✔
X-ray Protections	Fully contained emissions within construction; lightweight lead-free blue curtains at tunnel apertures	✔	✔	✔
Reject Type Option	Choice of pusher or air-blast	✔	✔	✔
Reject Receptacle Options	Front mounted lockable reject bin or chute with viewing window as standard	✔	✔	✔
Guide Rail Options	In-feed or full-length guide rails	✔	✔	✔
Hygienic Rating	IP65 as standard	✔	✔	✔
	IP69 option	✔	✔	✔

X33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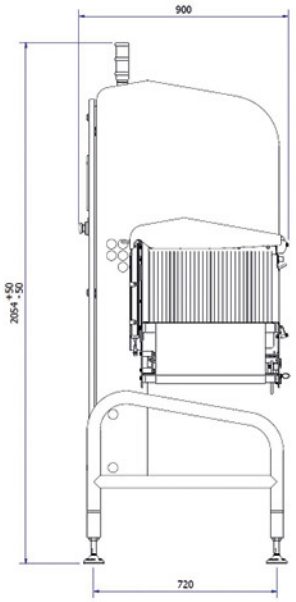
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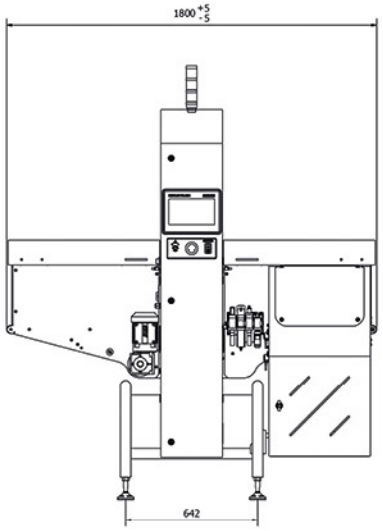
X34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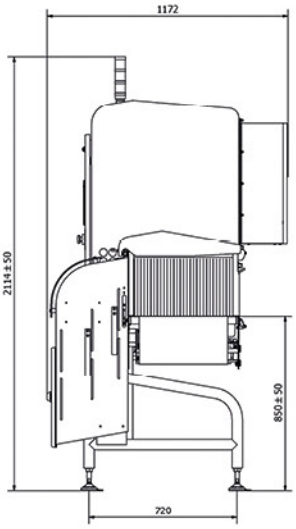
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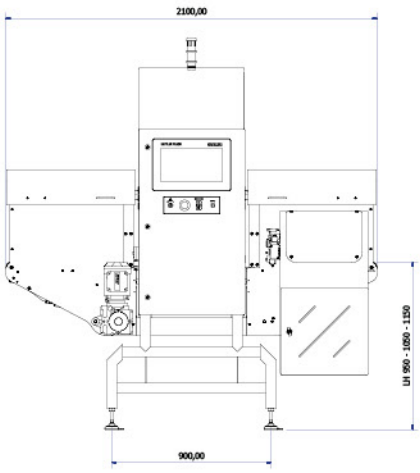
X36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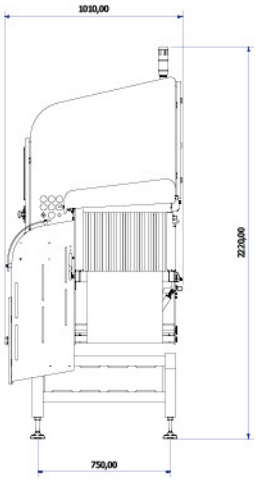
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Outstanding Reliability
With Global Service & Local Support

Uptime is a top KPI for any manufacturer of packaged food or pharmaceutical products. If a production line stops due to unplanned maintenance work or if replacement parts must be ordered, this causes major operational headaches plus loss of time and money. To help avoid this, METTLER TOLEDO x-ray systems are supplied with a five year generator warranty.

5 Year Generator Warranty

All METTLER TOLEDO X3000 x-ray system generators come with a five-year warranty when a standard or comprehensive service contract is purchased.
By protecting the most valuable part of the x-ray machine, manufacturers can have confidence that production uptime is safeguarded.

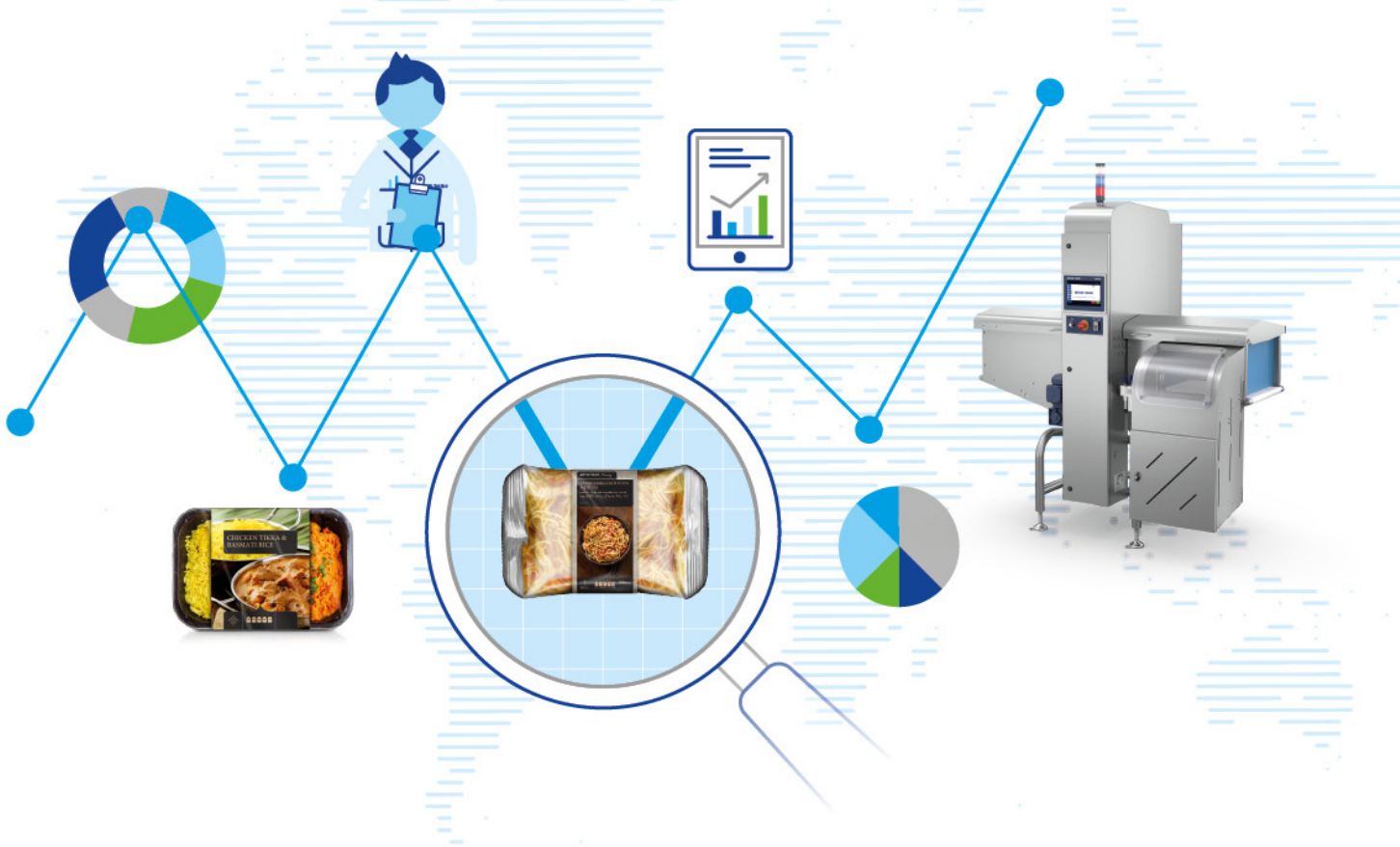
Service Contracts

Service contracts should form part of each x-ray purchase. Regular servicing of an x-ray system, including performance verification, will ensure that the x-ray system is operating continuously at the optimum level of performance, preventing food and pharmaceutical safety incidents. Preventative maintenance enables manufacturers to avoid downtime issues due to unexpected maintenance work.

Why are service contracts important?

X-ray inspection systems are designed to accommodate all production environments, no matter how harsh. To ensure the x-ray system is continuously operating at peak condition throughout its entire lifetime, it is recommended to regularly test and maintain the x-ray system by qualified x-ray inspection experts.

- Improve product safety
- Increase uptime and avoid unexpected downtime
- Reduce operational costs
- Ensure peace of mind
- Safeguard profits



Global Network of Local Experts

A global network of local service engineers who specialize in x-ray inspection are available throughout the world. This localized service reduces manufacturing downtime and improves operational efficiency. Support is available throughout the complete x-ray system's lifecycle, including installation, preventative maintenance, performance verification, equipment repair and customer training.

Digitalization

Food and pharmaceutical manufacturers are increasingly looking to use more intelligent systems to improve automation and traceability within their plants. Connected manufacturing across networked infrastructures can improve production line efficiencies and management control. Contamination checks can be streamlined across operations to achieve standardization of quality control.

A trend towards digitalization is enabled by real time data collection which can prove useful in the event of suspected contamination incidents. METTLER TOLEDO product inspection systems can be connected to ProdX, a PC-based client server solution, which monitors and manages data collected from connected devices to:

- Support and maximize rigorous quality control regimes and drive production optimization
- Simplify production line operation
- Support audit compliance, enabling manufacturers to prove due diligence in their actions, taking all potential precautions to avoid contamination risks

ProdX Measure • Record • Analyse • Improve

About METTLER TOLEDO Product Inspection

The Product Inspection division of METTLER TOLEDO is a global leader in the field of automated inspection technology. Our solutions increase process efficiency for manufacturers while supporting compliance with industry standards and regulations. Our systems also deliver improved product quality, which helps to protect the welfare of consumers and reputation of manufacturers.

www.mt.com/pi

Checkweighing

Metal Detection

X-ray Inspection

Vision Inspection

Track and Trace

Combi-Systems

Download White Paper

To find out how to ensure food safety for your application please download the white paper ‘Ensuring food safety through the prevention of physical contamination’.

www.mt.com/pi-contaminantion

www.mt.com/xray-packagedproducts

For more information

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