Product Brochure
August 2018

Anritsu

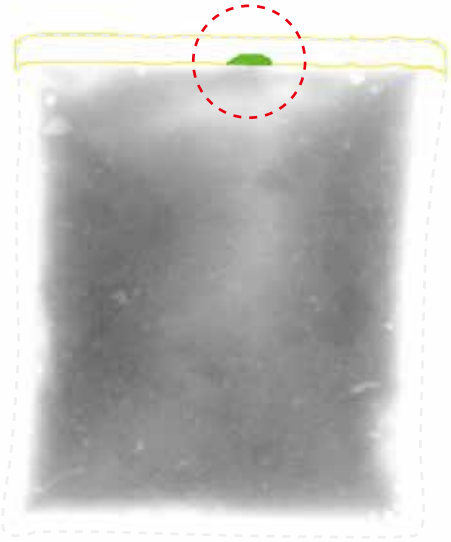
X-ray Inspection System for Package Check

XR75
Packing Check

Introducing the XR75 Packing Check specialized for package integrity checks.

Ensure the integrity of packaged products and minimize the risk of safety issues.

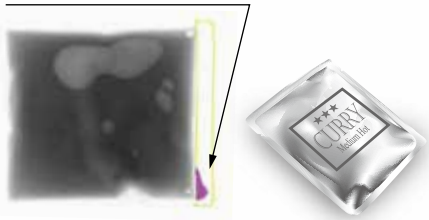
CHECK! **Inspection of potato salad in a pouch.**
The seal area that contains product absorbs more X-rays than the normal seal area.



Anritsu X-ray Inspection Systems provide not only contaminant detection but also product verification simultaneously. Products can be inspected for missing or broken product, virtual weight, count, void check, etc. X-ray inspection systems are now becoming an essential tool on production lines for ensuring the safety and quality of products.

The XR75 Packing Check is specially designed for detecting seal defects in food packages. X-ray absorption rate can vary depending on the thickness of the seal area on the package. The Packing Check generates the alarm when detecting defects in the seal area by measuring the difference in x-ray absorption between the normal and the defective seal areas. Wrinkles on the seal area can be identified on the same principle.

Product caught in the seal area absorbs more X-rays



X-ray transmission image of retort pouch curry

[Major inspection functions]
Contaminant Detection, Shape Detection, Count Detection, Virtual Weight Check, Package Check

Benefits of Performing Package Check

Minimize quality risks due to seal defects

Go beyond contaminant detection

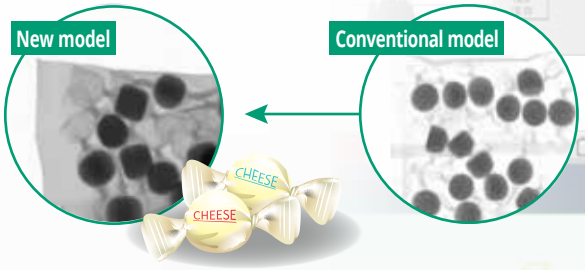
*We do not bear any responsibility with respect to damages due to quality defects in the product produced by the manufacturer.

Today's consumers are paying more attention than ever to food quality and safety risks. Product trapped within the seal during packaging can cause a decrease in the seal strength, which can spoil the air-tightness of a package and give rise to product deterioration during storage. The Anritsu XR75 Packing Check is specialized for identifying product caught in the seal areas. In addition to contaminant detection, the XR75 Packing Check can also perform a variety of product integrity checks simultaneously, enhancing product quality and eliminating safety issues.

Anritsu's unique inspection solutions focused on package check

New sensor unit delivers industry leading detection

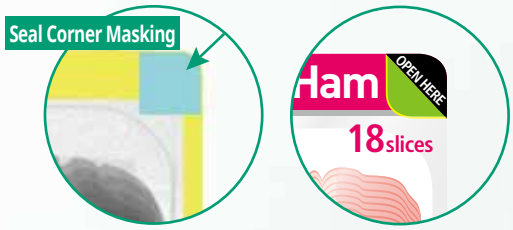
The Packing Check is equipped with the new x-ray sensor developed in-house using our years of experience. This new sensor enables the system to accurately identify the seal area of various types of packaging. The XR75 Packing Check helps achieve the highest product quality by detecting a small amount of the product caught in the seal area, which is hardly identified by visual inspection.



X-ray image of individually wrapped cheese

Advanced masking function minimizes false rejects around the opening point

Deformation such as wrinkles and curl on the seal corner of vacuum packs or trays can trigger false rejects during the inspection of sealing integrity by conventional inspection systems. The Seal Corner Masking enables the system to maintain the optimum inspection performance, reducing the possibility of false rejection on the deformed seal corner.



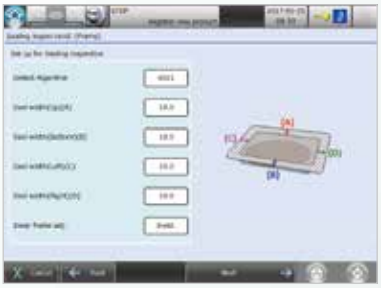
Detect contaminants in colored packages

It is difficult for cameras for vision systems to capture contaminants in colored packages. The XR75 Packing Check is capable of detecting seal defects in semi-transparent package, colored package and even in aluminum-foil package.

Simple and intuitive operator guidance

- Product Registration Navigation simplifies setting procedures with step-by-step illustrated instructions.
- Setting procedures for package check are simplified.

  Packaging material is recognized by simply entering the seal width. The optimal inspection settings are automatically determined without the complicated adjustment.

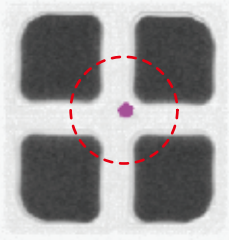


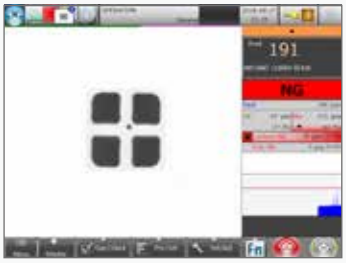
Point

【Easy to adjust sensitivity】
Detection levels are visually shown on the main screen to enhance usability. Quick sensitivity adjustments are possible (based on operator level).

Examples of product caught in the seal area

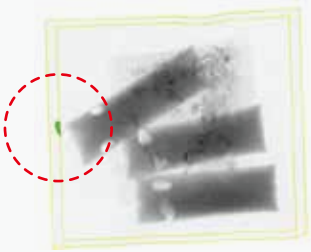
Instant curry roux



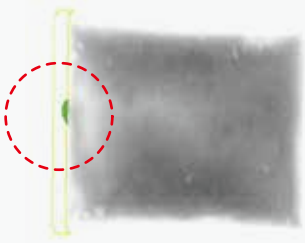


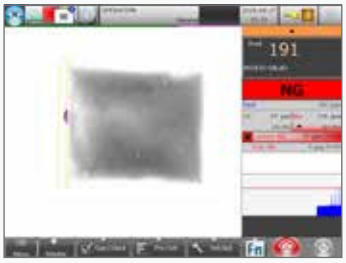
Vacuum-sealed cooked rice

Instant miso soup with clams

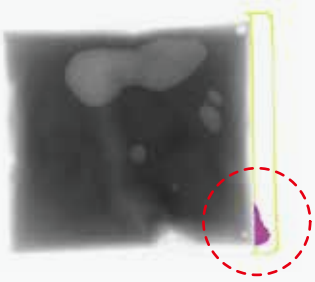


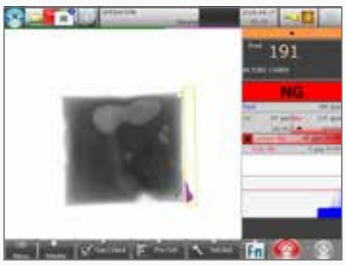
Potato salad





Retort pouch curry

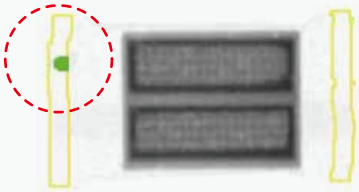




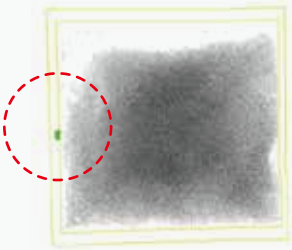
The X-ray system may not be able to detect product caught in the seal area depending on the amount of product trapped within the sealing area, type and thickness of package, and filling amount of contents.

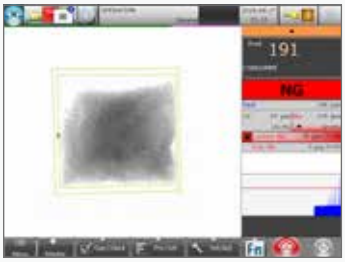
Examples of product caught in the seal area

Individually wrapped chocolate



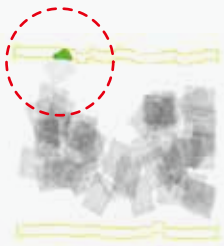
Granular consommé

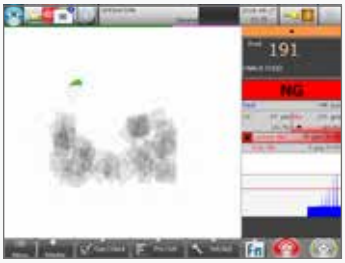




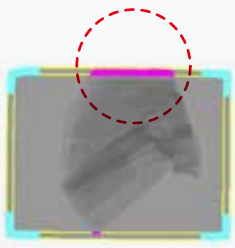
Gummies in aluminum metalized package

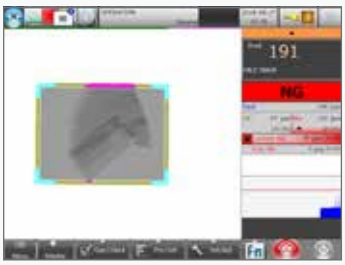
Snack food





Face mask





The X-ray system may not be able to detect product caught in the seal area depending on the amount of product trapped within the sealing area, type and thickness of package, and filling amount of contents.

Safety in design

XR75 Packing Check

Anritsu believes customer safety is of utmost importance.

Anritsu safety mechanism

Emergency stop switch
Cuts power to x-ray and drive circuits, stops the conveyor and x-ray radiation

X-ray ON/OFF key
Turning the key to OFF stops x-ray radiation completely

X-ray shield cover open/close sensor
Opening the cover stops x-ray radiation completely

X-ray shield cover
Opened/Closed using x-ray irradiation ON/OFF key. Opening the cover stops x-ray radiation due to the x-ray shield cover open/close sensor

X-ray irradiation display
The lamp is lit during x-ray radiation

Leakage prevention curtain
Prevents x-ray leakage

Hand insertion sensor
Interrupting the sensor for a certain period of time stops x-ray radiation

Safety management

X-ray inspection system has been designed to fully satisfy the safe operation. However, to ensure even higher safety, use the safety procedures outlined below.

❶ Periodic measurement and recording of x-ray leakage data

❷ Management of operator working hours

❸ Additional safety measures

Covers may need to be mounted on upstream and downstream conveyors instead of the shield curtains, depending on the shape, weight, and package of products.

❹ No disassembly or modification

NEVER modify or disassemble the main unit, covers, x-ray leakage prevention curtains, safety covers, safety interlocks, etc., otherwise the x-ray leak-proof design may no longer be functional.

Safety of inspected products

WHO concluded in 1980 that the “irradiation of any food commodity up to an overall average dose of 10 kGy presents no toxicological hazard and introduces no special nutritional or microbiological problems.”
The maximum dose of x-ray irradiation to the products to be inspected by our x-ray inspection systems is 0.002 Gy, which is much lower than the value described above. Even if a product stops inside, the x-ray dose is always kept to 0.1 Gy or less.

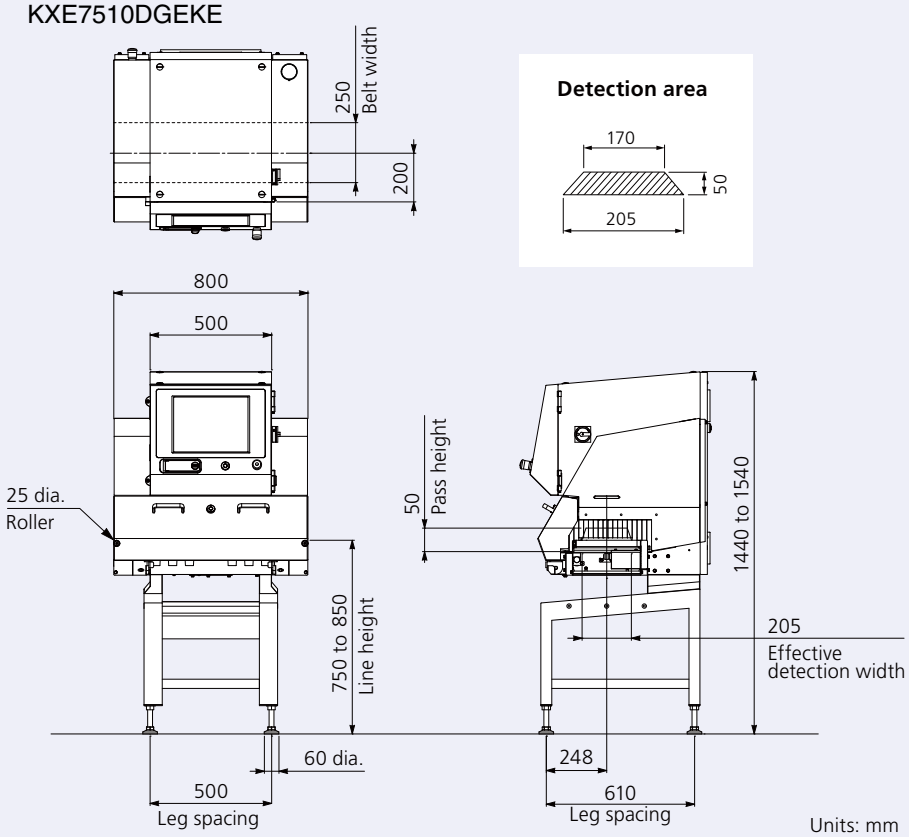
Note: Follow the local laws and regulations regarding the installation and use of the x-ray inspection systems.

Major specifications

XR75 Packing Check

External Dimensions

KXE7510DGEKE



Specifications

Model	KXE7510DGEKE
Safety	X-ray leakage maximum 1.0 µSv/h or less, prevention of x-ray leakage by safety devices, lead-free shield curtains with a 10 mm clearance from the conveyor surface as standard
Display	15-inch color TFT LCD
Operation method	Touch panel (with touch buzzer)
Detection area [1, 2]	Maximum width 205 mm, Maximum height 50 mm
Belt width	250 mm
Preset memory	200
Belt speed [3]/ Maximum product weight [4]	10 to 90 m/min, maximum 2 kg
Power requirements [5]	100 Vac to 240 Vac, single phase, 50/60 Hz, 1.0 kVA or less
Mass [6]	230 kg
Environmental conditions	Temperature: 0°C to 30°C, Relative humidity: 30% to 85%, non-condensing
Protection class	IP40
Exterior	Stainless steel (SUS304)

1 : The product size should fall bellow the detection area. 2 : The entrance and exit may require covers depending on the length of a product. 3 : Variable depending on Product No. 4 : Sum total of product weight on the conveyor. 5 : Allowable power fluctuation range is ±10%. 6 : Mass without option.

Safety of inspected products

It is your responsibility to check and ensure that you comply with all applicable laws and regulations of your country or region regarding the effect of x-ray exposure on pharmaceutical products. Anritsu conducted a research with the Nagoya City University about the effect of x-rays on the pharmaceutical quality of drug tablets and found that exposure to x-rays did not affect pharmaceutical quality of the drug content.

We exposed comercially available non-steroidal anti-inflammatory drugs (acetaminophen, loxoprofen and mefenamic acid) to x-rays of various doses from 0.34 mGy to 300 Gy, and evaluated the quality of the tablets using pharmaceutical tests. We found the samples exposed to x-rays exhibited almost the same profile in the tests as control samples (0 Gy). We also investigated the influences of heat and humidity on drug tablets after x-ray exposure, and confirmed that the combination of x-ray exposure with accelerated temperature and humidity tests (40°C, relative humidity 75%) also did not affect the phermaceutical quality. For more details, refer to the full report at http://informahealthcare.com/ddi

Anritsu Industrial Solutions Co., Ltd. (former company name) and Drug Delivery and Nano Pharmaceutics, Graduate School of Pharmaceutical Sciences, Nagoya City University (Drug Development and Industrial Pharmacy, 2015; 41(6): 953-958).

Anritsu envision : ensure

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- To ensure proper operation, read the Operation Manual before using the machine.
- In addition to daily inspection, a full maintenance inspection should be completed annually.

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