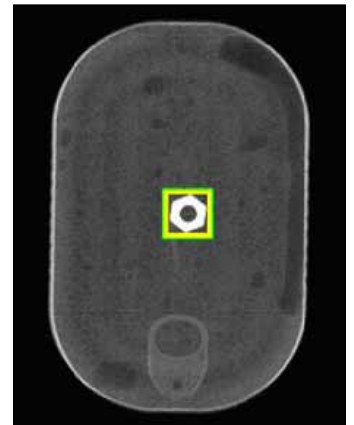




RAYCON

Product Inspection System for individually packed and bulk materials

- High-precision inline detection of metallic and non-metallic contaminants
- No reduction of the inspection width in case of high products
- Simultaneous inspection of product lines running in parallel
- Detection of many other product defects
- Compact, light-weight, modular design, easy to clean and maintain
- Outstanding ease of operation and automatic product change
- Check weighing of the complete product or of individual areas
- Complies with IFS and HACCP
- QNX real-time operating system for up to 600 pieces/min



RAYCON

Performance features



The RAYCON product inspection system detects all the contaminants that due to their density, chemical composition, or mechanical dimensions absorb X-radiation to a higher or lower degree than the surrounding product. For example, this applies to contaminants in food that consist of metal, glass, ceramics, and stone. Some kinds of plastics (e.g. PVC, rubber) and other product defects (e.g. cracks, trapped air) also can be detected. At the same time desired "contaminants" (e.g. alu clips at sausage ends) can be masked out.

The product inspection system is equipped with a high-performance industry-type PC, the QNX real-time operating system, and with sophisticated visualisation software that includes password protection, Auto-Train-function, multi-product memory, etc.

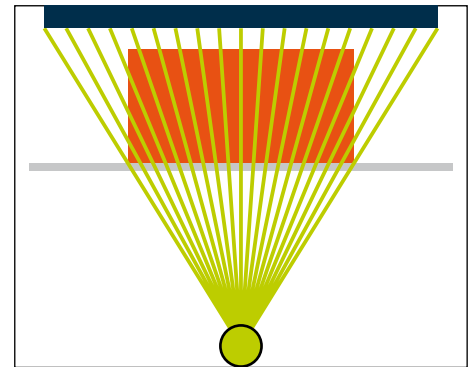
The system is operated by a 12" LCD monitor with touchscreen (IP 66).

An Ethernet interface (10/100 Mbps), various inputs and outputs for the connection of light-barriers, separating systems, etc. allow a flexible integration in the production line.

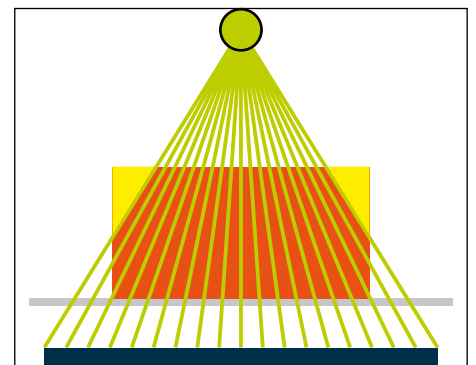
The Remote Portal™ (option) allows data backup on the customer's network and remote maintenance through the internet.

The RAYCON product inspection system is characterised by the following performance features:

- High-performance long-life X-ray tube with integrated high-voltage power supply unit installed under the conveyor belt
- High-resolution detection unit installed above the conveyor belt
- Minimum required space due to compact design and low centre of gravity of the system
- Excellent radiation protection in accordance with the German statutory X-ray regulations ($< 0.5 \mu\text{Sv/h}$)
- Easy to clean and maintain
- Can be flexibly combined with various separating systems

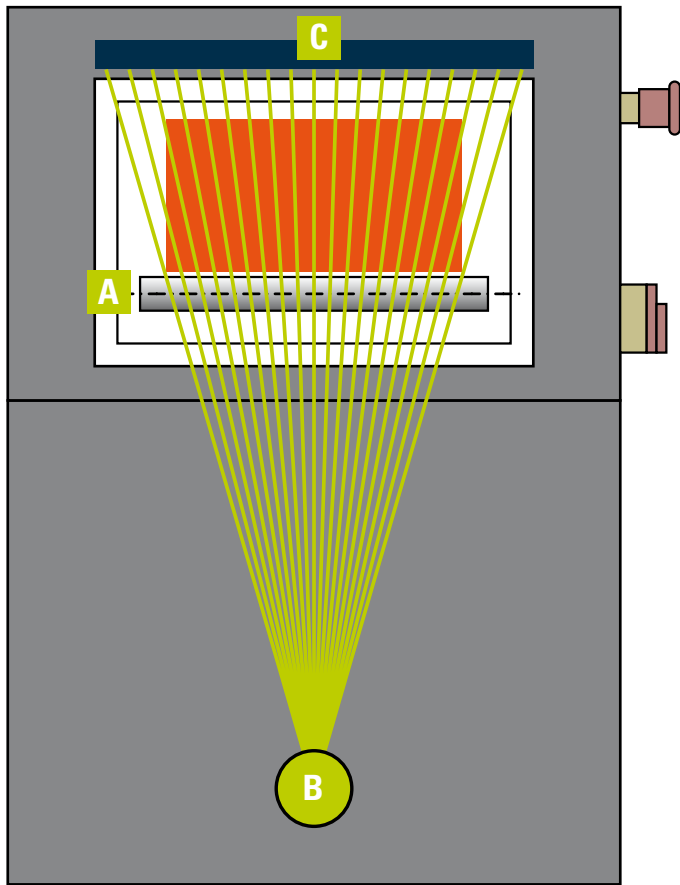


The unique S+S design guarantees that the inspection range can be fully utilised



In conventional X-ray systems the inspection width is limited when high products are examined

Function



The following standard sizes are available:

	Belt width:	Max. product dimensions (W x H):
RAYCON 280/75	300 mm	280 x 75 mm
RAYCON 250/150	300 mm	250 x 150 mm
RAYCON 400/100	480 mm	400 x 100 mm
RAYCON 350/200	480 mm	350 x 200 mm
RAYCON BULK	480 mm	400 x 40 mm

Important info:

X-radiation is classified as ionising radiation. However, X-radiation is no radioactive radiation!
In accordance with EU directive 1999/2/EC, S+S X-ray systems due to the minimum radiation energy can be used for contaminant examination in food even with eco-products.

The system comprises the following main components:

A Transport system

A flat conveyor belt uniformly transports the product to be examined through the X-ray beam, and the product can thus be scanned line by line.

B X-ray tube

This is where the X-radiation is electrically generated. The radiation exits from the tube through a narrow slot and penetrates the product to be examined as a fan-shaped beam from bottom to top. Depending on the product height and density, part of the X-radiation will be absorbed by the product.

C Detector unit

The linear detector row that is installed above the conveyor belt converts the arriving X-radiation into an electric signal, from which a digital X-ray image is then created.

Evaluation software

The X-ray images are evaluated by means of a product-specific visualisation software. Contaminated or defective products are detected and separated.

The Auto-Train-function allows to set up a new product very fast.

Software advantages

The RAYCON product inspection system offers many software advantages:

The use of the QNX real-time operating system with flash card guarantees that

- WINDOWS™ problems such as system errors or driver conflicts are eliminated
- there are no fragile hard-disks or external drives
- the full processor performance is used only for product inspection
- no error-prone UPS system is needed for protecting the system

Other advantages:

- Ethernet connection for data transfer
- Remote Portal™ option for
 - full data backup, incl. all images
 - Remote maintenance through internet access



Misaligned or overlapping products are no problem (no guide rails required).



Two different products can be inspected in parallel.



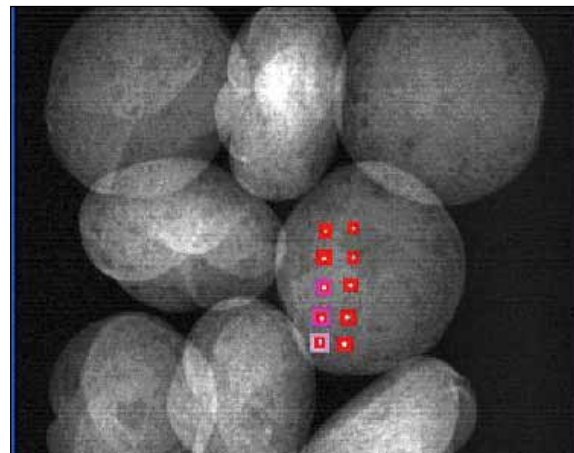
Automatic product change without interruption of the inspection process for up to six products without external signal.

For more specific information please request our detailed technical data sheet.

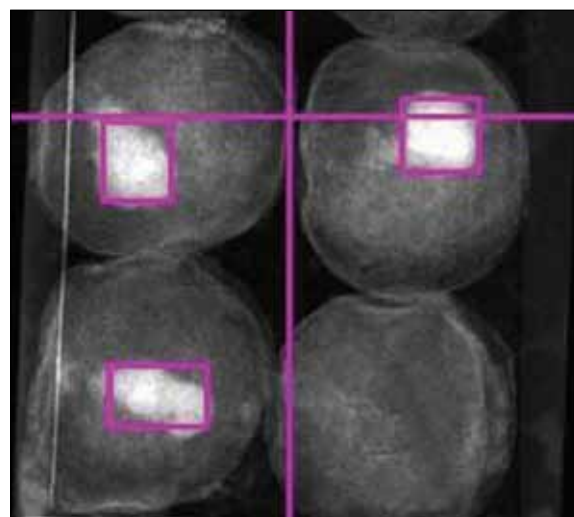
Product inspection with X-ray technology. New possibilities for reliable product examination

The RAYCON X-ray system provides a large variety of product examination possibilities:

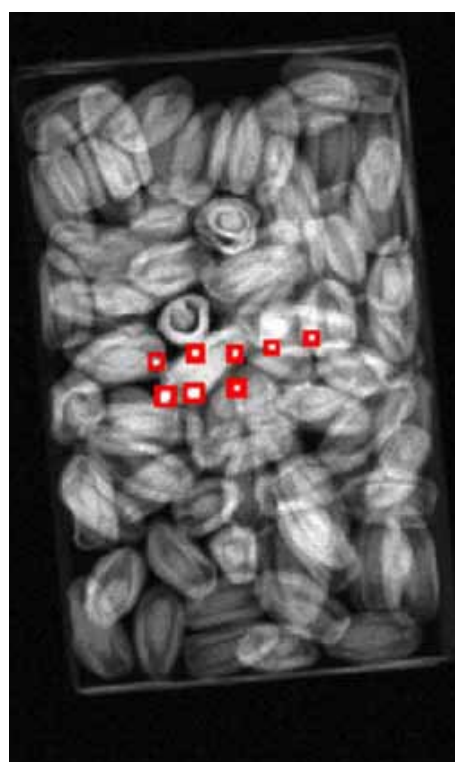
- Detection of contaminants (metals, glass, ceramics, stones, raw bones, PVC, Teflon, rubber, fibreglass-reinforced plastics, ...) in packaged or bulk food.
- Check weighing of the complete product.
- Check weighing of individual product areas such as e.g. meat pieces in ready meals.
- Completeness checking even in closed packagings (e.g. missing chocolate, missing side dish).
- Detection of clumped, deformed or broken products.
- Detection of trapped air in tubes and cans.
- As opposed to ferrous-in-foil sensors, metal contaminants consisting of non-magnetic special steels and non-ferrous metals (brass, copper, ...) also can be reliably detected in aluminium-packed food.



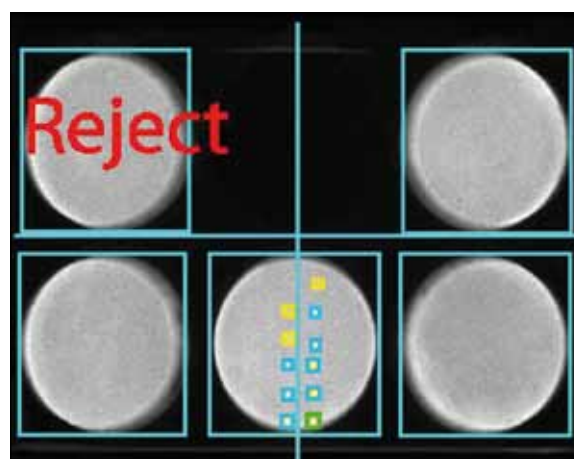
Frozen bread rolls:
Contaminant detection – glass as from \varnothing 2.0 mm,
stainless steel as from \varnothing 0.8 mm



Jelly doughnuts:
Detection of missing jam, and contaminant detection –
glass as from \varnothing 2.0 mm, special steel as from \varnothing 1.0 mm



Dates in an alu bag:
Contaminant detection – glass as from \varnothing 3.0 mm,
special steel as from \varnothing 1.0 mm



Yoghurt cups in a carton tray:
Detection of missing cups, contaminant detection –
glass as from \varnothing 1.5 mm, special steel as from \varnothing 0.8 mm



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Sorting Technology
GmbH

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S+S system world



Detecting and separating contaminants:

- Removing contaminants:
- metals
 - plastics
 - glass
 - ceramics, porcelain, stones
 - and many others
- Removing from (good material):
- bulk materials
 - liquids and pastes
 - individually packaged product
 - packed and loose items
- Product types:
- end-products (food, textiles, plastics etc)
 - industrial raw materials
 - recycled materials

can be integrated into all types of conveyor systems



Detecting and separating sub-standard products:

- Qualitative defects:
- incorrect colour
 - agglomerations
 - breakages
 - air inclusions in packs
 - incorrect positioning / distribution
- Quantitative defects:
- incorrect weight
 - count errors (incorrect number of items in package)
- Product types:
- end-products (food, textiles, plastics etc)
 - industrial raw materials
 - recycling materials

can be integrated into all types of conveyor systems



Sorting mixed materials into single fractions:

- Types of material:
- glass
 - plastics
 - metals
 - and many others
- Delivery flows:
- bulk materials
 - individually packaged product
- can be integrated into:
- conveying systems
 - bulk material flows

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