sesotec

0.8 mm	**300** pcs. / min	**200** Watt
Detector	Performance	X-ray source

RAYCON D+ HX
Dual Energy

- Conformity & Accuracy
- Safety for people & product
- Simple operating concept
- Hygienic design concept
- Efficiency in all areas
- Reliable and fast service

Optimum
X-ray inspection
with the 6P concept

Our X-ray systems have been specially developed for use in the food industry and reliably detect foreign bodies such as metals, glass, ceramics, stones, raw bones, PVC and many other product defects. Through this precise inspection, conformity with all important guidelines of the food industry such as IFS, BRC or FSSC 22000 are fulfilled and reliable protection against complaints and recalls can be ensured. Dual-energy technology enhances the detection of contaminants and low-density plastics, such as polyoxymethylenes, or POM for short.

RAYCON exceeds
international standards:

FSSC 22000

SQF INSTITUTE
An Officially Licensed SQF Training Center

IFS
International
Featured Standards

BRC
FOOD
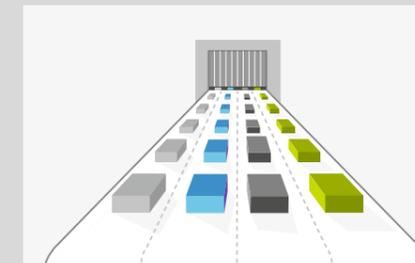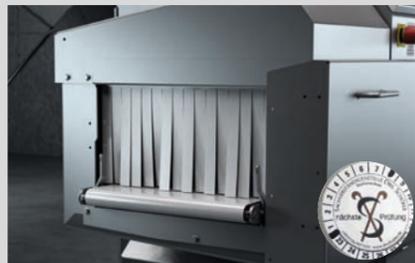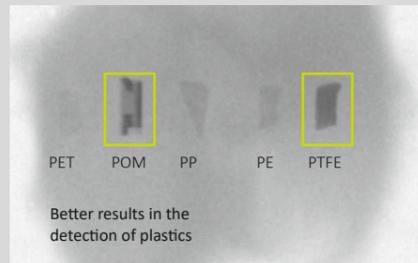CERTIFICATED

Functional principle

Near-parallel imaging of low-energy and high-energy detector lines yields two images that are related to each other.

Dual Energy advantage

The dual detector allows the type of material of the product to be identified. Thus, impurities can be better distinguished from the product.

Auto-learn function

The Auto-Learn function makes operation very simple and intuitive. The setting of various filters is handled by the device itself, which makes the user's work considerably easier for the user.

RECOGNIZED
COMPONENT
ETL
c us
Intertek

PET POM PP PE PTFE

Better results in the
detection of plastics

P1 Conformity & Accuracy

Reliable detection of metallic and non-metallic foreign objects throughout the inspection area enables compliance with all current specifications and standards.

- RAYCON D+ HX Dual Energy X-ray inspection equipment offers detection accuracy from 0.3 mm stainless steel, better than the 0.8 mm required by IFS
- In addition, no blind spot even with tall products (bottom-up X-ray inspection).
- Optimal traceability through complete logbook and optional image archiving (Insight.NET or INTERLINK)
- UL/CSA certified

P2 Safety for people & product

Thanks to highly effective radiation protection and dosed use of X-rays, the RAYCON D+ HX Dual Energy enables all-round safe operation for people and products.

- X-ray radiation for operators is less than 0.1 μSv/h, which eliminates the need for documentation of operating times
- When a cover is opened, the X-ray radiation is switched off and the pneumatic system's air is de-energized
- The X-ray inspection equipment can be used without any concerns even for organic products
- RFID login: maximum access protection

P3 Simple operating concept

Thanks to a large touchscreen, easy-to-understand user guidance and features such as the Auto-Learn function, the RAYCON D+ HX Dual Energy offers particularly easy handling in everyday use.

- An Auto-Learn function makes operation very simple and intuitive
- Multi-product software enables automatic inspection of different products on one line
- Automatic edge detection adapts the filter to the product contours
- RFID login for increased ease of use

P4 Hygienic design concept

Open modular design provides for easy access to the conveying area in the product zone without tool for simplified cleaning and maintenance.

- Radiation protection curtains are suspended on the machine to provide a sanitary work space for cleaning, thus reducing the risk for recontamination after sanitizing
- Complete construction in stainless steel and plastics with suitability for the food industry (according to EC1935/2004)
- The materials are designed so that they can be cleaned repeatedly without abrasion. Water runs off automatically due to beveled surfaces.
- Conveying area: Protection class IP66

P5 Efficiency in all areas

Thanks to high speeds and multi-lane capability, up to 300 products per minute can be inspected in real time – on a maximum of four parallel lines.
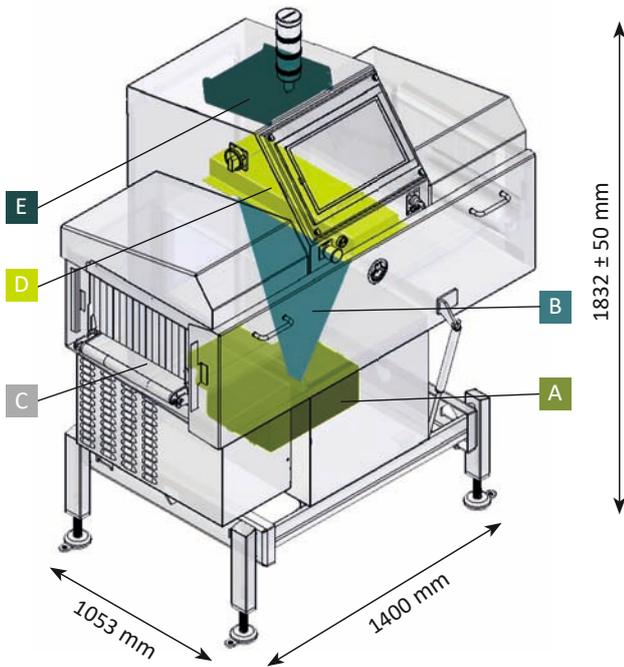
- Durable and sophisticated core components with 200 W X-ray source and 0.8 mm high-resolution detector
- Detection of X-ray source lifetime (early warning system for plannable source replacement)
- Suitable for high belt speeds up to 1.4 m/sec
- Reliable detection of additional product defects such as missing, broken or deformed products

P6 Reliable and fast service

With warranty services, a combined on-site and remote service and targeted training, you have optimal support for smooth operation.

- Spare parts packages including wear parts ensure maximum up-time
- Remote service via Teamviewer / Pilot App
- Customer-specific training for operation, radiation protection and service/maintenance
- High overall system efficiency and stable operation
- Lifetime warranty with the Sesotec Lifetime Warranty package
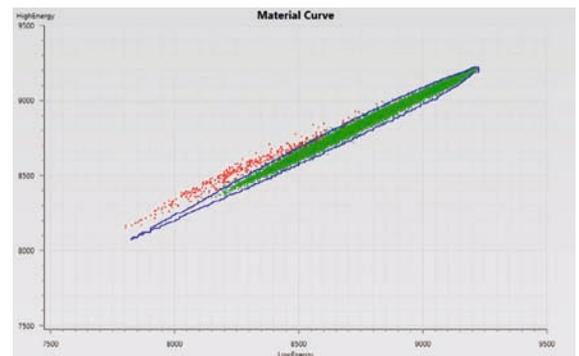
Functional diagram

1832 ± 50 mm
1053 mm
1400 mm

The system consists of the following main components:

A X-ray tube: Here the X-rays are generated electrically. They exit the tube through a narrow slit and penetrate the products to be inspected/examined from the bottom to the top as a fan-shaped beam.

B X-ray beam

C Transport system: A PE flat belt (self-guiding) transports the product to be examined evenly through the X-ray beam. This makes it possible to scan the product line by line.

D Detector unit: The linear detector installed above the inspection aperture converts the incoming X-ray beams into an electrical signal from which a digital X-ray image is generated.

E Industrial PC: This is where image evaluation and precise control of the reject systems take place.
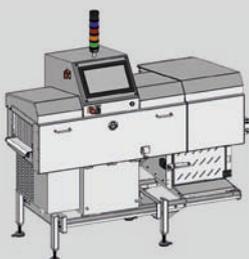
Functional principle Dual Energy

The two parallel detector lines in the Dual Energy detector transfer two X-Ray images per product to the image processing unit. The images are related to each other and they are evaluated with a coordinate system. The Low Energy line represents the x-axis, the High Energy line represents the y-axis. For each product, a Materialcurve (blue) is calculated with this method and stored after the Autolearn process. The learned Materialcurve is then useful for the differentiation of wrong pixels (red) of a contamination and good pixels (green) of a product.

Material Curve

The RAYCON Family

RAYCON D+ HX Dual Energy

RAYCON D+ MX
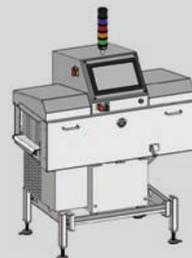
Intelligent X-ray inspection system for packaged products

Belt width: 360 mm	**Belt width:** 660 mm
X-ray source: 100 kV / 2.0 mA (200W)	**X-ray source:** 100 kV / 2.0 mA (200W)
Detector: 0.8 mm	**Detector:** 0.8 mm
Max. Inspection area (W x H): 330 x 200 mm	**Max. Inspection area (W x H):** 450 x 250 mm 600 x 120 mm
Variations: Signal only, integrated or separated reject system only	**Variations:** Signal only, integrated or separated reject system only

RAYCON D+ HX

The top device of the RAYCON family for highest detection precision from 0.3 mm