

X-RAY INSPECTION

RAYCON Product family overview

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RAYCON

Sesotec 6-Priority Concept

HIGH-PRECISION X-RAY INSPECTION SYSTEMS FOR FOOD PRODUCTS

The next generation of RAYCON

Intertek

Made in Germany

BAYCO

Auto-learn function

The Auto-Learn function offers a simple and intuitive operation. The configuration of various filters is performed by the device itself, considerably reducing effort on the part of the user. Even the detection sensitivity is automatically adjusted. Auto-learning takes fewer than two minutes for each new product using five product samples.

New software features

"Bone Detector," "Wirefinder," and "Glass Increaser" are new filters that boost accuracy in the detection of specific contaminants. Also available: Sensitivity prediction (configuring the machine virtually, without test pieces); Integrated Compliance Monitoring for extra safety (automatic controls for standard requirements in 10-minute intervals to minimize errors)

Modular build of D+ devices

RAYCON D+ MX and HX have modular builds which allow the systems to be precisely adapted to your production line. They also offer a variety of upgrade possibilities including detectors, cooling devices, conveyance directions, operator panels, rejection units, software features and more.

UL/CSA certified

All RAYCON devices are certified with UL/CSA.

Made in Germany

All RAYCON devices are developed and manufactured in Germany.

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Bottom-up technology

The funnel-shaped enlargement of the x-ray beam allows detected contaminants to be viewed in greater detail. This means a 0.8 mm detector can also detect contaminants only 0.6 mm in diameter.



Functionality

The system consists of these main components:

A X-ray tubes: Tubes electrically generate the x-ray beams. The beam exits through a small slit and passes through the product, layer by layer from the bottom up.

B X-ray beam

C Transport system: A self-driven flat belt made from PE transports the products evenly through the x-ray beam. This makes it possible to capture every layer of the product.

Detector unit: The linear detector is installed above the inspection opening and converts the incoming x-ray beams into an electric signal from which an x-ray image is generated.

E Industrial PC: Here, the image is analyzed, and the rejection system is triggered as necessary.

In RAYCON devices, the x-ray source is located beneath the conveyor belt. This eliminates dead corners in tall products.

MAKING THE HIDDEN VISIBLE

X-ray inspection comprehensively designed

Product quality is the top priority of the food industry. In a worst-case scenario, distributing defective goods can have fatal consequences. It can also involve incredibly expensive product recalls, recourse claims, and consumer damage claims. We help give you peace of mind with finely tuned x-ray inspection technology. Our RAYCON x-ray inspection systems were developed specifically for the food industry. They quickly and reliably detect a diverse range of physical contaminants in packaged and unpacked food products, regardless of their size, shape, or position. They can be used in the middle of a production line to inspect bulk materials or pre-products, or for end-of-line final product inspection.

> Whether for mid-process inspection of bulk material and pre-products, or end-of-line inspection of packaged foods: our RAYCON systems ensure optimal food safety.

Typical applications in food manufacturing

We support food processors and manufacturers in creating only the best quality products. Our RAYCON systems are designed for use in the following branches:



Meat and sausage





Canned, frozen, and prepared food







Spices

Snacks, cookies, crackers









Cheese and dairy



Nuts, dried fruit, vegetables



THE SESOTEC 6P CONCEPT

YOUR PRIORITIES. **OUR ANSWERS.**

For the development of the new RAYCON generation, we had one major focus: your priorities. In-depth analysis and customer interviews revealed six main requirements for foreign object detection. With this as our basis, we intensively researched possible solutions. Thus, the Sesotec 6 Priority Concept was born as a way to offer practical answers to your challenges.



Conformity & accuracy



Safety for people & products

Simple operating

A large touchscreen, easy-to-understand user instructions, and features such as Auto-Learn, the RAYCON offers intuitive operation for everyday use.



Hygienic design concept

concept

[+]P5 areas

Efficiency in all



Reliable & fast service

Between warranty services, a combination of onsite and remote servicing, and targeted trainings, you have the optimal support to keep your operation running smoothly.



Reliable detection of metallic and non-metallic foreign bodies in the entire inspection area is a requirement for achieving conformity with all of the most common food safety standards and guidelines.

Thanks to highly effective radiation protection and precision x-ray dosing, RAYCON enables all-around safe operation for people and products.

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

High speeds and multi-lane capabilities make it possible to perform a real-time inspection of as many as 300 products per minute on up to four parallel lines.

[+]^{P1} **Conformity &** accuracy

RAYCON supports and facilitates compliance with necessary food safety standards and laws.

RAYCON exceeds international standards

With a RAYCON device, you can rest assured that you are conforming to international food safety standards.

- BRC-, IFS- and HACCP compliance (exceeds the requirements for detection accuracy stipulated in all common food safety standards)
- Higher Level Compliance Package (Quality standards from Marks & Spencer) is included as standard in all devices.





All RAYCON devices are UL/CSA certified and approved for use in the USA and Canada.



Sesotec Compliance Package: Software for complete and efficient documentation

- Audit-Check: Runs through audit routines and documents all steps (quality monitoring).
- Sensitivity Prediction: Enables the automatic configuration of detection sensitivity for steel and glass.
- Compliance Mode: The necessary detection accuracy can be con-figured manually. This ensures consistency and process stability.
- Compliance Monitoring: Ensures that current sensitivity levels are checked at pre-determined time intervals.
- Integrated Validation Process: The device includes an integrated multi-step process for the simplified verification of products.



Detection accuracy

Reliable detection of various foreign bodies throughout the entire inspection area is a requirement for achieving conformity with all of the most common food safety standards and guidelines.

Reliable detection of metallic and non-

metallic foreign bodies

less steel (0.8 mm)



Detection accuracy from 0,3 to 0,6 mm exceeds the IFS requirements for stain-





Insight.NET: Centralized data management for Sesotec x-ray inspection devices

No dead angles

In RAYCON devices, the x-ray source is located beneath the conveyor belt. This eliminates dead angles in the inspection of tall products.





Flashlight effect

The large distance between the product and the detector makes it possible to detect foreign bodies that are smaller than the resolution of the detector.



Safe and compliant: **Data archiving with** RAYCON

Achieve optimal product traceability with a seamless logbook and the option of image archiving

Insight.NET is software that enables the operation and monitoring of all x-ray devices from a centralized control panel. INTERLINK is a communication module for digitally connecting Sesotec devices to the central company network. This enables targeted productivity increases through centralized process analysis, monitoring, and control in keeping with Industry 4.0.

Guaranteed data safety

Contactless user login via RFID chip ensures maximal access safety. An RFID transponder can both read data on the chip and save

Users can log in by holding their chip to the RFID reader, which is programmed to recognize each of the users assigned to each chip

Defining different user groups (e.g. Service, Admin, Operator) makes it possible to define access rights and provides an extra layer of

new data to it.

protection.

in user administration.



Radiation protection: a top priority for you and us

Safety for

people & products

The system ensures safety for your brand,

your products, your employees, and your data

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Our RAYCON systems help you avoid recalls due to foreign bodies, protecting your brand from image damage. Thanks to highly effective radiation protection and precision x-ray dosing, RAYCON devices are safe for both people and products.

- The legal threshold of 1 μSv/a is never surpassed and radiation levels remain significantly beneath this threshold.
- At the operation panel, for instance, the radiation level is a mere 0.1 μSv/h (measured from the operation side in front of the device).
- The radiation exposure for products is
 100 times lower than the thresholds defined in
 EU 1999/2/EG.
- Compatible with organic products





An additional lightbox at the opening is optional for US customers.

Smart solutions for mechanical safety

Opening the cover automatically deactivates the x-ray beam and pneumatic system's air is de-energized, eliminating the air pressure in the pusher for extra safety.

Sesotec Service for RAYCON x-ray devices

Mechanical engineering with x-rays involves many requirements for radiation protection and employee safety. Ongoing service from Sesotec helps you to safely install and operate your x-ray device.

For new Sesotec devices

- Organizing training for on-site specialists (R3) and parties tasked with overseeing radiation protection
- Single-day on-site training by Sesotec
- Instruction for operating personnel by Sesotec
- Expert examination (Assessment for initial installation)
- Registration and permissions
- Recurring regular examinations (every 5 years)
- Notifying relevant authorities of changes

For existing Sesotec devices

- Refresher courses for on-site specialists (R3) tasked with overseeing radiation protection, Instruction for new operators
- Recurring regular examinations for installed devices (every 5 years)
- Notifying relevant authorities of changes

Simple operating concept

Intuitive user operation doesn't just feel good - it also improves processes and minimizes the risk of error

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Auto-learn function

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Configuration and operation made easy:

- The Auto-Learn function offers simple and intuitive operation. Employees need not have specific skills or prior experience with image processing to operate the device.
- The configuration of diverse, specialized filters is performed by the device itself, relieving the user of this work.
- Using five product samples, auto-learning takes fewer than two minutes for each new product.

Smart support with our software

- Increasing the detection sensitivity: "Clip Recognition" is a feature that makes it possible to ignore the gray value of the metal clips used to package a product and proceed with the optimal detection sensitivity for the inside of the product. It's as simple as checking a box in the filter menu.
- Automatic edge recognition: The software automatically registers packaging features that could inhibit detection sensitivity and adjust the filter according to the contours of the product. Operators need no technical knowledge or prior experience to use this feature
- Automatic configuration of the x-ray source: RAYCON generates the optimal beam intensity to maximize detection accuracy using an automatic learning function.







Automatic adjustment of the beam intensity depending on the product



Ignoring metal clips to increase detection sensitivity



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Automatic edge recognition for packaging

Front-end functionality for all operation and servicing

Operation, emptying the rejection compartment, cleaning, band change, etc.

Touch screen

10"/15" color touchscreen with high resolution and a user-friendly layout

USB connection

For simplified data transfer

RFID login

Contactless data transfer via RFID login for maximal access protection

Hygienic design concept

The system is built according to hygienic design principles and offers easy cleaning and maintenance



of your yearly revenue goes to cleaning

Did you know? Cleaning is among the most time- and resource-intensive aspects of food manufacturing and processing. One study revealed that half of food industry companies spend at least 10% of their yearly revenue on cleaning.

(EG1935/2004).

- **Tilted surfaces** discourage the build-up of liquids and condensation



Highest hygiene standards for food production

- Constructed with stainless steel and food-safe plastics, RAYCON is ideal for use in food contact applications
- Built entirely from stainless steel and food contact approved plastics (EG1935/2004)
- Gaps, crevices, and other dead spaces are sealed off to prevent the accumulation of residue
- Reduction of components that can loosen over time, presenting a contamination risk
- Use of materials that can with-stand repeated, intensive cleaning without wear

[+] ^{P5} **Efficiency in** all areas

Increasing output, avoiding food waste

Sophisticated technology for maximum productivity

- High detection accuracy minimizes false rejects, thereby wasting less food (sustainability)
- Expertly engineered and long-lasting core **components** with up to 200W x-ray source and detection accuracy from 0.3 mm of stainless steel
- Automatic notification x-ray source is approaching end-of-life (early warning system for planning source replacement service)
- **Toolless beld and curtain** change in just a few minutes

Added value that you can see

- Reliable detection of product defects: The software recognizes broken and misshapen products from within their packaging.
- Weight checking products and components: The software calculates the weight of the product based on dimensions and density, thereby recognizing weight differences among individual products in a line.
- Completion control: For each object marked for counting in the x-ray image, minimum amounts can be configured. Example: Counting chocolates



Graphic depiction of the calculated detection sensitivities for stainless steel and glass



300 products/minute

thanks to real-time controls (product & machine dependent)

Multi-product software

As many as 20 different products can

recognizes each product as it passes

milliseconds.

be conveyed in any order. The software

through the x-ray beam, and selects the appropriate parameters within

meter/second

Multi-lane inspection

Simultaneously inspect up to four lines of identical products on a single x-ray inspection device. The products to be tested per line must always be the same.



Sensitivity prediction and Sesotec Compliance **Monitoring**

The software package "Sensitivity Prediction"

makes it possible to automatically determine the best detection sensitivity for stainless steel and glass. Data about hundreds of test pieces for glass and stainless steel are stored in the software. This information is calculated along with the product's gray value image as if a product with a test piece were being recorded.

All information about detection sensitivity is calculated based on these images and displayed in a graph. The sensitivity calculations can be started manually from the menu or automatically performed directly following the learning function.

Integrated Compliance Monitoring ensures that specified sensitivities are continuously checked at predefined time intervals. Through regular controls of the detection requirements, deviations are immediately detected, increasing the consistency of the production process.



Suitable for high belt speeds (product & machine dependent)

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Reliable & fast service

Ensure continued performance and improvements, quick assistance in case of unplanned downtime, and problem prevention.

- Customer-specific trainings for proper operation, radiation protection, and service and maintenance
- Yearly maintenance and product validation
- Initial installation on-site by a qualified service technician
- Demo-devices delivered on short notice

The Sesotec communication style: Service. Global. Competent. Responsive.

In addition to first-class technologies for foreign body detection, Sesotec also offers first-class service. Broad knowledge and skills ensure that our service team can assist you no matter what the issue. With our Service, Sesotec can offer you investment and planning security.



Phone support

Many questions and issues can be resolved with a phone call. Our free telephone support is open on weekdays from 6AM to 8PM, and on weekends from 8AM to 5PM. Quick, simple, effective.



Remote support with Augmented Reality

In addition to phone support and remote servicing, Sesotec also offers video support using Augmented Reality. For this, we use the TeamViewer Pilot app.

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Remote access

Many errors can be resolved via

remote access. Sesotec service

technicians can use an ethernet

connection to directly access your

machine and perform troubleshoo-

ting, optimizations, and parameter

configurations.

Sesotec replacement and consumables packages

With a preventative package of replacement and consumable parts, your system is on the guarded in case of unplanned downtime. These mechanical components can be quickly and easily changed.

Lifetime Warranty Package for increased OEE

(Overall Equipment Effectiveness)

Life-long guarantee for x-ray tubes and detector

With the Lifetime Warranty Package

- Complete cost control over the lifetime of the device
- Predictive maintenance

Without Lifetime Warranty Package

- Costs and risks of unplanned downtime
- Unplanned downtime due to tube failure
- Uninspected products must be stored while the problem is resolved (storage costs)
- Costs and resources spent on subsequent investigation



operation-dependent costs



operation-dependent costs
 unplanned downtime costs
 average cost without Lifetime Warranty-Package
 average cost with Lifetime Warranty-Package

*The maintenance cycle depends on the annual operating hours and is calculated specifically for the customer



With global service centers, our support team is available year-round, offering quick response times.



PLEASED TO MEET YOU

RAYCON

The new RAYCON family

RAYCON

RAYCON



RAYCON EX1

An entry-level system for intelligent x-ray inspection of packaged products



Compact and effective

With a compact installation length, RAYCON EX1 fits into any production line. With an integrated exit signal, RAYCON EX1 has a total length of only 800 mm, or 1,200 mm with an integrated rejection unit.

Auto-learn function

With the Auto-Learn function, RAYCON EX1 offers a simple and intuitive operation. The configuration of various filters is performed by the device itself, considerably reducing effort on the part of the user. Using five product samples, autolearning takes fewer than two minutes for each new product.

Detects product defects

The RAYCON EX1 reliably detects product defects such as missing, broken, or misshapen products.





Possible configurations

Belt width	230 mm
X-ray source	40- 50 kV / 1.25- 1.5 mA (60W)
Detector definition	0.8 mm
Detection accuracy	from Ø 0.6 mm
Conveyance speed	up to 1.4 m/s
Throughput	220 pcs./min. (For product sizes: L 220 mm x W 170 mm
Max. inspection area (W x H)	200 x 120 mm
Temperature environment	0 °C to 40 °C
Installation length	800 mm (signal only) 1,200 mm (integrated pusher)
Protection type	IP 65 in conveyance area IP 54 for entire device
Rejection system	Exit signal Integrated rejection system

Software options

Software Package 1	Completion control, weight
	form deviations, clip recog



For packaged products

Free consultation

https://www.sesotec.com/emea/en/contact-form



170 mm x H 20 mm	h
	•
200 mm max	

Accessories

check, nition

Insight.NET Sesotec storage module for data archiving

INTERLINK module For connecting to other networks

Test pieces In various sizes and configurations

RAYCON D+ MX

The standard system for intelligent x-ray inspection of packaged products

0.8 mm Optional 0.4 mm	300 pcs. / min	100 Watt
Detector	Performance	X-ray Source

Multi-lane

The RAYCON D+ MX can simultaneously inspect up to four lines of products, making it possible to inspect identical products from different production lines on a single device.

Zone Analyzer

The Zone Analyzer software allows for the definition of different zones within an x-ray image. This makes it possible to carry out counting and weighing for individual zones using optimal sensitivity settings for each.

Multi-product

As many as 20 different products can be conveyed in any order. The software recognizes each product as it passes through the x-ray beam and selects the appropriate parameters within milliseconds.





Possible configurations

Belt width	360 mm	660 mm
X-ray source	40- 50 kV / 2.0- 2.5 mA (100W)	40- 50 kV / 2.0- 2.5 mA (100W)
Detector definition	0.8 mm (Optional 0.4 mm)	0.8 mm (Optional 0.4 mm)
Detection accuracy	from Ø 0.6 mm (Optional from Ø 0.3 mm)	from Ø 0.6 mm (Optional from Ø 0.3 mm)
Conveyance speed	up to 1.4 m/s	up to 1.4 m/s
Throughput	300 pcs/min (For product sizes: L 220 mm x W 170 mm x H 20 mm)	300 pcs/min (For product sizes: L 220 mm x W 170 mm x H 20 mm)
Max. inspection area (W x H)	330 x 200 mm	450 x 250 mm 600 x 120 mm ^w g g g g g g g g g g g g g g g g g g g
Temperature environment	0 °C to 30 °C (option of cooling device for temperatures up to 40 °C)	0 °C to 30 °C (option of cooling device for temperatures up to 35 °C)
Installation length	1,400 mm (signal only) 1,900 mm (integrated pusher)	1,400 mm (signal only)
Protection type	IP 65 for belt area IP 54 for entire device (IP 55 with optional cooling device)	IP 66 for belt area IP 54 for entire device (IP55 with optional cooling device)
Rejection system	Exit signal Integrated rejection system Separate rejection system	Exit signal Integrated rejection system Separate rejection system

Software options

Software Package 1	Completion control, weight check, form deviations, clip recognition	Insight.NET Sesotec storage module for data archiving
Software Package 2	Multi-lane, Multi-product, Zone analyzer	INTERLINK module
Login Package	Expanded login functionality	Toot sinces
		In various sizes and configurations

For packaged products

Free consultation

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RAYCON D+ HX

The high-end system for intelligent x-ray inspection of packaged products

0.4	300 pcs. / min	200 Watt
Detector	Performance	X-ray Source

New software filters

Newly developed software filters improve the detection accuracy for specific, low-density contaminants. The Glass Increaser, for example, optimizes the detection of glass fragments, while the Bone Detector improves the detectability of fragments of bone and cartilage. In addition, the Wire Finder can reliably detect smaller, elongated pieces of wire.

Sensitivity prediction

Sensitivity prediction makes it possible to automatically configure the best detection sensitivity for stainless steel and glass. Data about hundreds of test pieces for glass and stainless steel are stored in the software. This information is calculated along with the product's gray value image, as if a product with a test piece were being recorded.

Self-monitoring

Integrated Compliance Monitoring ensures that specified sensitivities are continuously checked at predefined time intervals. Through regular controls of the detection requirements, deviations are immediately detected, increasing the consistency of the production process.





Possible configurations

Belt width	360 mm	660 mm
X-ray source	40- 100 kV / 2.0- 5.0 mA (200W)	40- 100 kV / 2.0- 5.0 mA (200W)
Detector definition	0.4 mm	0.4 mm
Detection accuracy	from Ø 0.3 mm	from Ø 0.3 mm
Conveyance speed	up to 1.4 m/s	up to 1.4 m/s
Throughput	300 pcs/min (For product sizes: L 220 mm x W 170 mm x H 20 mm)	300 pcs/min (For product sizes: L 220 mm x W 170 mm x H 20 mm)
Max. inspection area (W x H)	330 x 200 mm	450 x 250 mm 600 x 120 mm g_{g} f
Temperature environment	0 °C to 40 °C	0 °C to 35 °C
Installation length	1,400 mm (signal only) 1,900 mm (integrated pusher)	1,400 mm (signal only)
Protection type	IP 66 for belt area IP 55 for entire device	IP 66 for belt area IP 55 for entire device
Rejection system	Exit signal Integrated rejection system Separate rejection system	Exit signal Integrated rejection system Separate rejection system

Software options

Software Package 1	Completion control, weight check, form deviations, clip recognition	Insight.NET Sesotec storage module for data archiving
Software Package 2	Multi-lane, Multi-product, Zone analyzer	INTERLINK module For connecting to other networks
Software Package 3	Sensitivity prediction and Integrated Compliance Monitoring	Test pieces
Login Package	Expanded login functionality	In various sizes and configurations

For packaged products

Free consultation

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RAYCON D+ MX LW

The standard system for intelligent, curtainless x-ray inspection of lightweight or sharp-edged packaged products.

0.8 mm Optional 0.4 mm	300 pcs. / min	100 Watt
Detector	Performance	X-ray Source

Curtainless machine

Designed free of curtains, the RAYCON D+ MX LW is perfect for inspecting lightweight products.

Multi-lane

The RAYCON D+ MX can simultaneously inspect up to four lines of products, making it possible to inspect identical products from different production lines on a single device.

Detects product defects

The RAYCON D+ MX LW reliably detects product defects such as missing, broken, or misshapen products.





Possible configurations

Belt width	360 mm	660 mm
X-ray source	40- 50 kV / 2.0- 2.5 mA (100W)	40- 50 kV / 2.0- 2.5 mA (100W)
Detector definition	0.8 mm (Optional 0.4 mm)	0.8 mm (Optional 0.4 mm)
Detection accuracy	from Ø 0.6 mm (Optional from Ø 0.3 mm)	from Ø 0.6 mm (Optional from Ø 0.3 mm)
Conveyance speed	up to 1.4 m/s	up to 1.4 m/s
Throughput	300 pcs/min (For product sizes: L 220 mm x W 170 mm x H 20 mm)	300 pcs/min (For product sizes: L 220 mm x W 170 mm x H 20 mm)
Max. inspection area (W x H)	330 x 50 mm	630 x 50 mm
Temperature environment	0 °C to 40 °C (option of cooling device for temperatures up to 40 °C)	0 °C to 35 °C (option of cooling device for temperatures up to 35 °C)
Installation length	1,500 mm (signal only) 1,750 mm (integrated pusher)	1,500 mm (signal only) 1,750 mm (integrated pusher)
Protection type	IP 66 for belt area IP 55 for entire device (IP 55 with optional coo- ling device)	IP 66 for belt area IP 55 for entire device (IP 55 with optional coo- ling device)
Rejection system	Exit signal Integrated rejection system with 1 or 2 flaps Separate rejection system	Exit signal Integrated rejection system with 1 or 2 flaps Separate rejection system

Software options

Completion control, weight check, form deviations, clip recognition	Insight.NET Sesotec storage module for data archiving
Multi-lane, Multi-product, Zone analyzer	INTERLINK module For connecting to other networks
Expanded login functionality	
	lest pieces
	In various sizes and configurations
	Completion control, weight check, form deviations, clip recognition Multi-lane, Multi-product, Zone analyzer Expanded login functionality



For lightweight or sharp-edged packaged products

Free consultation

https://www.sesotec.com/emea/en/contact-form



RAYCON D+ HX LW

The high-end system for intelligent, curtainless x-ray inspection of lightweight or sharp-edged packaged products

0.4	300 pcs. / min	200 Watt
Detector	Performance	X-ray Source

New software filters

Newly developed software filters improve the detection accuracy for specific, low-density contaminants. The Glass Increaser, for example, optimizes the detection of glass fragments, while the Bone Detector improves the detectability of fragments of bone and cartilage. In addition, the Wire Finder can reliably detect smaller, elongated pieces of wire.

Sensitivity prediction

Sensitivity prediction makes it possible to automatically configure the best detection sensitivity for stainless steel and glass. Data about hundreds of test pieces for glass and stainless steel are stored in the software. This information is calculated along with the product's gray value image as if a product with a test piece were being recorded.

Self-monitoring

Integrated Compliance Monitoring ensures that specified sensitivities are continuously checked at predefined time intervals. Through regular controls of the detection requirements, deviations are immediately detected, increasing the consistency of the production process.





Possible configurations

Belt width	360 mm	660 mm
X-ray source	40- 60 kV / 3.3- 5.0 mA (200W)	40- 60 kV / 3.3- 5.0 mA (200W)
Detector definition	0.4 mm	0.4 mm
Detection accuracy	from Ø 0.3 mm	from Ø 0.3 mm
Conveyance speed	up to 1.4 m/s	up to 1.4 m/s
Throughput	300 pcs/min (For product sizes: L 220 mm x W 170 mm x H 20 mm)	300 pcs/min (For product sizes: L 220 mm x W 170 mm x H 20 mm)
Max. inspection area (W x H)	330 x 50 mm	630 x 50 mm
Temperature environment	0 °C to 40 °C	0 °C to 35 °C
Installation length	1,500 mm (signal only) 1,750 mm (integrated pusher)	1,500 mm (signal only) 1,750 mm (integrated pusher)
Protection type	IP 66 for belt area IP 55 for entire device	IP 66 for belt area IP 55 for entire device
Rejection system	Exit signal Integrated rejection system with 1 or 2 flaps	Exit signal Integrated rejection system with 1 or 2 flaps

Software options

Software Package 1	Completion control, weight check, form deviations, clip recognition	Insight.NET Sesotec storage module for data archiving
Software Package 2	Multi-lane, Multi-product, Zone analyzer	INTERLINK module For connecting to other networks
Software Package 3	Sensitivity prediction and Integrated Compliance Monitoring	Test pieces
Login Package	Expanded login functionality	In various sizes and configurations



For lightweight or sharp-edged packaged products

Free consultation

https://www.sesotec.com/emea/en/contact-form



RAYCON D+ MX Bulk

The standard system for intelligent x-ray inspection of unpackaged products

0.8	13.5 t/h	100 Watt
Detector	Performance	X-ray Source

Real-time operating system

Fastest image data processing and an exact rejection rate; very high detection accuracy from 0.6 mm.

Highest flexibility

As standard, the device is equipped with a rejection system integrated with four separate, pneumatically powered flaps. To ensure minimal loss of good material, the rejection system can be expanded to include as many as 20 flaps or segmented blowing nozzles.

Uniform product distribution

The RAYCON D+ MX Bulk includes an integrated feed hopper and an optional vibrating chute to ensure products are distributed evenly along the entire width of the conveyor band.



Possible configurations

Belt width	360 mm
X-ray source	40- 50 kV / 2.0- 2.5 mA (100)
Detector definition	0.8 mm
Detection accuracy	from Ø 0.6 mm
Conveyance speed	up to 1.05 m/s
Throughput	up to 7 t/h
Max. inspection area (W x H)	330 x 50 mm ἔ ∏ 厂
Temperature environment	0 °C to 30 °C (option of contemperatures up to 40 °C)
Installation length	1,800 mm (integrated flap
Protection type	IP 66 for belt area IP 54 for entire device (IP55 cooling device)
Rejection system	Integrated rejection system (option of up to 10 flaps)

Software options

gin Package	Expanded login functionality	Insight.NET
		Sesotec storage module for data archiving
		INTERLINK Modul
		For connecting to other networks
		Test pieces
		In various sizes and configurations

	660 mm
N)	40- 50 kV / 2.0- 2.5 mA (100W)
	0.8 mm
	from Ø 0.6 mm
	up to 1.05 m/s
	up to 13.5 t/h
	630 x 50 mm
I	g f 630 mm max
oling device for	0 °C to 30 °C (option of cooling device for temperatures up to 35 °C)
)	1,800 mm (integrated flap)
5 with optional	IP 66 for belt area IP 54 for entire device (IP55 with optional cooling device)
n with 4 flaps	Integrated rejection system with 4 flaps (option of up to 20 flaps)

RAYCON D+ HX Bulk

The high-end system for intelligent x-ray inspection of unpackaged products

0.4	13.5 t/h	200 Watt
Detector	Performance	X-ray Source

Real-time operating system

Fastest image data processing and an exact rejection rate; very high detection accuracy from 0.3 mm.

High throughput

The RAYCON D+ HX Bulk can detect up to detect up to 13.5 tons per hour at a fill level of 20 mm.

Hygiene concept

With an optional extraction device, the RAYCON D+ HX Bulk succeeds in preventing the accumulation of dust in the area surrounding the product sorting system.



Possible configurations

Belt width	360 mm
X-ray source	40- 60 kV / 3.3- 5.0 mA (200)
Detector definition	0.4 mm
Detection accuracy	from Ø 0.3 mm
Conveyance speed	up to 1.05 m/s
Throughput	up to 7 t/h
Max. inspection area (W x H)	330 x 50 mm
Temperature environment	0 °C to 40 °C
Installation length	1,800 mm (integrated flap)
Protection type	IP 66 for belt area IP 55 for entire device
Rejection system	Integrated rejection system (option of up to 10 flaps)

Software options

Login Package

For unpackaged products

Free consultation

https://www.sesotec.com/emea/en/contact-form



	660 mm
∧/)	40- 60 kV / 3.3- 5.0 mA (200W)
	0.4 mm
	from Ø 0.3 mm
	up to 1.05 m/s
	up to 13.5 t/h
	630 x 50 mm
f	g S 630 mm max
	0 °C to 35 °C
)	1,800 mm (integrated flap)
)	1,800 mm (integrated flap) IP 66 for belt area IP 55 for entire device
) n with 4 flaps	1,800 mm (integrated flap) IP 66 for belt area IP 55 for entire device Integrated rejection system with 4 flaps (option of up to 20 flaps)

Accessories

Expanded login functionality

Insight.NET Sesotec storage module for data archiving

INTERLINK Modul For connecting to other networks

Test pieces In various sizes and configurations

RAYCON D+ HX Dual Energy

The high-end system for intelligent x-ray inspection of packaged products

0.8	300 pcs. / min	200 Watt
Detector	Performance	X-ray Source

Dual Energy functional principle

Two nearly parallel lines in the Dual Energy detector, one low-energy and one high-energy, yield two related images.

Dual Energy advantage

The dual detector can identify the type of material for each product. This helps to better distinguish contaminants from the product itself.

Auto-learn function

The Auto-learn function offers a simple and intuitive operation. The configuration of various filters is performed by the device itself, considerably reducing effort on the part of the user. Using five product samples, auto-learning takes fewer than two minutes for each new product.





Possible configurations

Belt width	360 mm	660 mm
X-ray source	100 kV / 2.0 mA (200W)	100 kV / 2.0 mA (200W)
Detector definition	0.8 mm	0.8 mm
Detection accuracy	from Ø 0.6 mm	from Ø 0.6 mm
Conveyance speed	up to 1.4 m/s	up to 1.4 m/s
Throughput	300 pcs./min. (For product sizes: L 220 mm x W 170 mm x H 20 mm)	300 pcs./min. (For product sizes: L 220 mm x W 170 mm x H 20 mm)
Max. inspection area (W x H)	330 x 200 mm	450 x 250 mm 600 x 120 mm
Temperature environment	0 °C to 40 °C	0 °C to 35 °C
Installation length	1,400 mm (signal only) 1,900 mm (integrated pusher)	1,400 mm (signal only)
Protection type	IP 66 for belt area IP 55 for entire device	IP 66 for belt area IP 55 for entire device
Rejection system	Exit signal Integrated rejection system Separate rejection system	Exit signal Integrated rejection system Separate rejection system

Software options

Software Package 1	Completion control, weight check, form deviations, clip recognition	Insight.NET Sesotec storage module for data archiving
Software Package 2	Multi-lane, Multi-product, Zone analyzer	INTERLINK Modul
Login Package	Expanded login functionality	Test pieces In various sizes and configurations

For packaged products

Free consultation

https://www.sesotec.com/emea/en/contact-form



Additional options

RAYCON is flexible and can be adapted to fit your needs.

Software Package 1

Software Package 2

Completion control

For each object marked for counting in the x-ray image, minimum amounts can be configured. E.g. the number of chocolates in a box.

Misshapen products

The software recognizes broken and misshapen products from within their packaging.

Weight checking

The software calculates the weight of the product based on dimensions and density, thereby recognizing weight differences among individual products in a line.

Clip recognition

This feature makes it possible to ignore the gray value of the metal clips used to package a product and proceed with the optimal detection sensitivity for the inside of the product.

Multi-lane

This software package allows for the simultaneous inspection of up to four lines of products, making it possible to inspect identical products from different product lines on a single device.

Multi-product

Allows for the conveyance of up to 20 different products in any order. The software recognizes each product as it passes through the x-ray beam and selects the appropriate parameters within milliseconds.

Zone Analyzer

Allows for the definition of different zones within an x-ray image. Counting and weighing parameters can be defined for each zone, ensuring the best sensitivity settings are used for each.

Software Package 3

Sensitivity prediction

Makes it possible to automatically configure the best detection sensitivity for stainless steel and glass. Data about hundreds of test pieces for glass and stainless steel are stored in the software. This information is calculated along with the product's gray value image, as if a product with a test piece were being recorded.

Integrated Compliance Monitoring

Ensures that specified sensitivities are continuously checked at predefined time intervals. Through regular controls of the detection requirements, deviations are immediately detected, increasing the consistency of the production process.



Insight.NET

- Our x-ray inspection system logs all operating data in a protocol, from detected foreign bodies to product changes, to audit checks, to error notices. Every data entry is timestamped and includes all relevant x-ray images.
- Insight.NET is a centralized data management software that makes it possible to monitor and service all x-ray devices and metal detectors from a single control panel, such as a smartphone or laptop. This allows you to access all system data (such as the logbook and x-ray images) to read, save, load, delete, or print as you need. You can also access and operate all systems remotely - anytime from wherever you are.

Our intelligent technologies and services help food industry companies profitably manufacture safe products and reduce food waste.

Compliant. Sustainable. Efficient.



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INTERLINK Module / X-ray inspection 4.0

- Communication module for digitally connecting Sesotec devices to the central company network
- Networking via OPC-UA
- Targeted productivity increases through centralized process analysis, monitoring, and control
- Enables centralized control of Sesotec inspection devices, as well as remote and predictive maintenance
- Enables early detection of errors along with wear and tear by cross-device data

As a partner to the food industry, Sesotec provides a variety of solutions for each stage of the process, product type and support type, as well as for all critical control points in the production process.

Want to learn more about our technology for food manufacturing?

Get in touch with us directly! We look forward to advising you.

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