Dual energy sensor technology

DualX X-ray Inspection System
Broiler chickens that are selectively bred for rapid growth tend to have relatively less bone mass to the thickness of the meat. With the advanced Dual energy sensor, Anritsu DualX X-ray Inspection System performs reliable and consistent inspection of poultry products. The DualX analyzes two different X-ray energy signals, allowing the system to distinguish between the product being processed and contaminants for a higher detection rate of low-density bones.

Dual Energy Technology

1. Provide reliable detection of thin, low density bones.
2. Deliver high detection sensitivity for inspecting overlapping products and rough surface products.
3. Minimize false rejects in bulk flow inspection.

The environment-resistant heat control system

Fully sealed heat control system is designed to withstand challenging production line of unpackaged bulk products, such as meat and sausage. Our unique cooling solution seals and protects the system from outside air exchange, reducing failure rates and minimizing production line downtime.
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**Cutting-edge algorithms**

With Anritsu signal-processing technology and image-processing algorithms, the DualX delivers outstanding contaminant detection of the low-density types of poultry bones. The advanced DualX technology reduce false rejects and maximize production yield on your production line.

**Thorough quality control and analysis**

All the information is easily accessible in one central location with QUICCA3. Each X-ray transmission image during inspection is automatically saved for complete product traceability. The automatic extraction function allows a processor to check X-ray images of products before and after the defective product on the screen, which helps find future problems before they occur.
Major specifications

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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.

Safety in design

Anritsu believes customer safety is of utmost importance. The Anritsu x-ray system incorporates seven safety design features to ensure safe operation.

- 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. For unpackaged or bulk products, the standard lead impregnated curtains are replaced with SUS covers - preventing direct food contact with the curtains.
- 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.

1. Periodic measurement and recording of x-ray leakage data
2. 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.
3. Management of operator working hours
4. 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.

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Major specifications

**XR75**
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### External Dimensions

#### KXE7534AWHZE

![Detection area diagram](image)

**Units: mm**

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>KXE7534AWHZE</td>
</tr>
<tr>
<td><strong>X-ray output</strong></td>
<td>Tube voltage 30 to 80 kV, tube current 0.4 to 5.8 mA, output 12 to 350 W</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td>X-ray leakage maximum 1.0 μSv/h or less, prevention of x-ray leakage by safety devices</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>15-inch color TFT LCD</td>
</tr>
<tr>
<td><strong>Operation method</strong></td>
<td>Touch panel (with touch buzzer)</td>
</tr>
<tr>
<td><strong>Detection area</strong></td>
<td>Maximum width 390 mm, maximum height 220 mm</td>
</tr>
<tr>
<td><strong>Preset memory</strong></td>
<td>200</td>
</tr>
<tr>
<td><strong>Belt speed</strong></td>
<td>10 to 60 m/min, maximum 5 kg</td>
</tr>
<tr>
<td><strong>Maximum product weight</strong></td>
<td>10 to 40 m/min, maximum 10 kg (optional)</td>
</tr>
<tr>
<td><strong>Power requirements</strong></td>
<td>200 Vac to 240 Vac, single phase, 50/60 Hz, 2100 VA or less</td>
</tr>
<tr>
<td><strong>Mass</strong></td>
<td>350 kg</td>
</tr>
<tr>
<td><strong>Environmental conditions</strong></td>
<td>Temperature: 0°C to 30°C, relative humidity: 30% to 85%, non-condensing</td>
</tr>
<tr>
<td><strong>Protection class</strong></td>
<td>Conveyor: IP66 Other parts: IP65</td>
</tr>
<tr>
<td><strong>Exterior</strong></td>
<td>Stainless steel (SUS304)</td>
</tr>
</tbody>
</table>

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1. The product size should fall below 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%.
7. The temperature between 0°C and 35°C when an optional cooling system is installed.