

JME ADVANCED INSPECTION SYSTEMS

NDT CASE STUDY FOOD INDUSTRY



PROUDLY SUPPLYING THE **NDT** INDUSTRY FOR OVER **30 YEARS**



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Company Registration No 2056386 - Registered in England & Wales - VAT No GB 443 0172 87

JME
ADVANCED INSPECTION SYSTEMS

X-RAY TUBES ▪ BETATRON PORTABLE X-RAY ▪ X-RAY GENERATORS ▪ TROLLEY SYSTEMS

PORTABLE X-RAY SOLUTIONS



DIGITAL RADIOGRAPHY for the FOOD INDUSTRY

Supplying Fast-Moving Consumer Goods (FMCG) or Consumer Packaged Goods (CPG), such as food products, require a fast turnaround to ensure that highly perishable items reach the consumer as fresh as possible. During this process, food safety should be of the utmost importance, ensuring products reach the customer, free from unwanted objects such as bones, foreign objects, defects and contaminations can often be challenging. Adding a Digital Radiography solution to a production workflow allows for fast, in situ X-Ray imaging of products. This process can be added prior to goods entering the production workflow, such as purchased ingredients, or inline as part of the production process. Both methods are able to reduce the likelihood of unsafe objects or damaged goods reaching the consumer.

JME is a leading, UK based manufacturing company, specialising in the design and production of high quality inspection systems. With a focus on innovation, quality, service, and commitment to the NDT industry, JME's reputation as a market leader has been unsurpassed in the past 30 years. As a company, JME thrives on customer satisfaction, which explains why the majority of our customers continue to use our services year upon year.

We offer on-site service and support for all of our products, coupled with a large spare-component warehouse to minimise down-time, you can be assured of a prompt and efficient service at all times. JME products are recognised around the world, in all serviced industries, as a premium brand. JME remains far ahead of our competition for reliability, innovation and customer care.

PRODUCT CASE STUDY

Quality Control of Goods, Prior to Processing

Birds Eye/Iglo Foods

JME DIGITAL FOOD RADIOGRAPHY SYSTEM (DFr)

The JME Digital Food Radiography System (DFr) was produced for Birds Eye/Iglo Foods, one of the largest food manufacturers in the UK. The focus of the project was to manufacture a unit that could X-Ray batches of inbound goods for quality control purposes, prior to accepting shipments into the factory. In this instance, this process increased the quality of goods before entering the production process. In turn, this also greatly reduced manufacturing costs from early identification of product defects.

The JME DFr system is a bespoke NDT solution that can be engineered to fit in with your company's current work flow. The machine uses Digital Radiography to generate a radiograph that allows an operator to detect foreign objects or defects in foodstuffs, including frozen fish, chicken and beef blocks.

Products loaded into the machine through its 'safe-system', are scanned to log the bar code and then X-rayed to detect any defects or foreign objects. The Radiograph is stored on a remote server alongside the bar code for easy identification. If no bar code is present, the DFr has the ability to manually input batch details through a touch-screen control interface. A simple menu system allows the user to save settings for different product types, reducing labour times when setting up the unit for frequently used product lines.

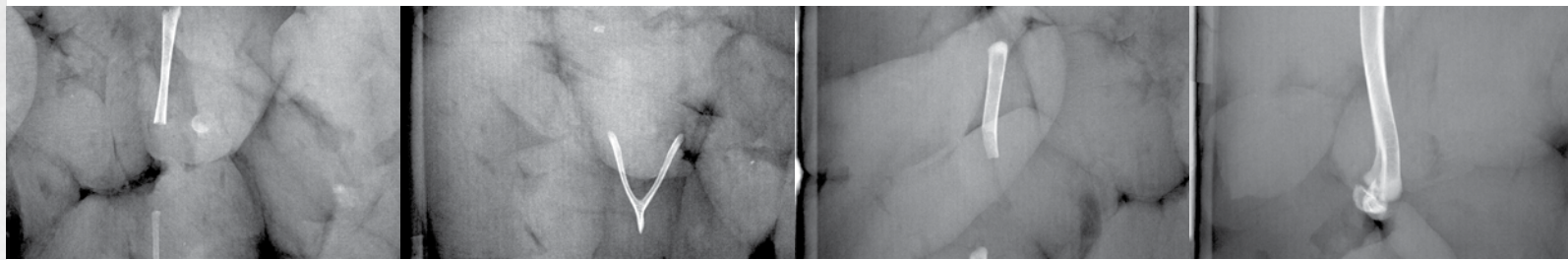
Mechanically the machine is of welded and bolted stainless-steel construction, containing single axis motorised linear positioning units for the digital imaging panel and X-Ray generating tube. A wheeled buggy running

along guide rails transports the product in and out of the cabinet, providing linear positioning during the inspection process. The buggy system can be used with either an onboard drive unit, or a free running trolley with a fixed drive unit and drive belt, with cabling to connect to the trolley. With these options, there should be no maintenance and replacement costs, other than those associated with similar systems.

In a normal food processing environment, the stainless-steel structure requires little maintenance other than regular sanitising and visual inspection for damage or potential safety risks.

The machine incorporates numerous safety features, including interlocks to prevent X-Ray operation in the event of a component failure; this includes any bulb failures on the X-Ray warning beacons.

A regular radiation safety inspection is recommended every 3 months, or following any maintenance and servicing of the machine.



The DFR is manufactured to engineering standards:

- Machine performance standard ES003 Rev E
- Electrical Standard ES001 Rev J
- Electrical Standards ESS001 Rev J
- Hygienic Design ESS BE H Design Rev B
- Components Standard ES005 Rev E
- ESS 005 Rev E

The DFR is capable of detecting each of the following in each type of food product block:

- 3mm Glass Ball
- 2mm Stainless steel ball
- 2mm Steel Ball
- 2mm Aluminium Ball

In blocks ranging from 62mm to 115mm

