





METAL DETECTION FOR THE FOOD & PACKAGING INDUSTRIES







LOCK INSPECTION SYSTEMS is the worlds leading manufacturer of metal detection systems for the Food and Packaging Industries.

Faced with the challenge of developing an all new range of metal detectors for food manufacturing and packaging, Lock's R&D team were handed a simple brief - design a product to set new standards for good manufacturing practice, efficiency, product quality, traceability and compliance with existing and forthcoming legislative and regulatory requirements.

The INSIGHT range excels on all points. Highly resistant to vibration, the INTEGRATED DIGITAL SEARCH HEAD and sophisticated OPTIX detector management software enable the INSIGHT to clearly display the detailed product profile needed to achieve perfect product setups using Lock's unique DDS (Direct Digital Signal) vector diagram. This guarantees detection and rejection of the most minute metal fragments while achieving stable operation and market leading sensitivities to all metals.

Complemented by an array of innovative features, the INSIGHT delivers tangible benefits to the manufacturer at every key stage in their process and is equally effective in both "wet" and "dry" applications.

- Detection and removal of metal contamination from incoming raw materials and formulations prior to processing and manufacture
- Unrivalled product and brand protection
- Choice of multi-frequency search heads available from 30 to 875kHz
- User-friendly operation including auto-setup
- INSIGHT metal detectors are available with a full range of systems and reject options including full fail-safe specifications comprised of reject confirmation, air failure alarm and bin full alarm
- Compact design allows easy integration with all well known brands of inspection and packaging machinery
- Data storage for up to 8000 events
- Data reports can be downloaded to a standard memory stick or PC to enable the secure storage and distribution of quality records in PDF or other formats



#### PRODUCT QUALITY AND HYGIENE

Metal detection equipment needs to be installed at designated critical control points according to HACCP principles. Contamination from broken sieves, blades, bearings and damaged milling equipment will be detected at these stages.

High Sensitivity: Extremely resistant to vibration, the INSIGHTs Integrated Digital Search Head and sophisticated signal processing software is capable of filtering out even the most complex product signals in order to detect and reject minute fragments of metal. Locks unique coil design and signal processing capability offer particularly high sensitivity to stainless steel.

Fail-safe: Product integrity is fully protected by the INSIGHT during power fluctuation or interruption. "Test Prompt" software ensures adherence to quality systems.

Hygiene: The INSIGHT range is sealed to IP69k/PW12 from approved materials which allows full wash down where required to provide necessary levels of cleanliness.



### INSIGHT HD "Horizontal" metal detector

The INSIGHT HD range of metal detectors for the food and packaging industries sets new standards for good manufacturing practice - specifically- traceability, efficiency, product quality, and compliance with existing as well as forthcoming regulatory requirements.

- Integrated Digital Search Head and DDS vector display delivers perfect product setups
- Stable to extreme vibration and product signal
- Best in class sensitivity to magnetic and non magnetic metals
- External USB port
- Available with wired or wireless ethernet datalink port and SCADA capability
- Menu with multi language options
- User friendly operation with autolearn feature
- Comprehensive choice of reject options including drop flap and retract band type
- Failsafe option including reject confirmation, air failure alarm and bin full alarm
- Available in single or multi frequency format ranging from 30-875kHz
- INSIGHT HD detector heads are sealed to IP69k/PW12\*







Product quality & integrity are fundamental requirements within the food manufacturing and packaging industries.

The INSIGHT range of metal detectors delivers unsurpassed protection from all types of metal contaminant.



#### EURO Conveyor Belt System

The Euro conveyor system, which can incorporate all of Lock's Insight metal detectors on its chassis, is a fully compliant conveyor and detector for the food and packaging industries.

- Sealed to IP54 or IP65
- Supplied with food grade polyurethane or modular plastic belt.
- Fully stainless steel or white painted steel construction
- Audible & visual alarm fitted as standard, automatic rejects (see automatic reject options)
- Available with a fail-safe package (reject confirmation, air failure & bin full sensors)
- Retailer/supermarket compliancy
- Inclined conveyors can be installed behind VFFS machines
- Supplied with EC certificate of origin or incorporation

#### MICRO Conveyor Belt System

The Micro conveyor system provides maximum reliability while occupying minimum floor & line-space. This allows the manufacturer to protect both its brand and customers from serious consequences of product contamination.

- Ultra compact system
- System length 500-1000mm (with 50mm increments)
- Full stainless steel construction
- Belt stop alarm only
- Supplied with modular plastic belt
- Standard belt widths: 200 500mm (with 50mm increments)

### **BOTTLE Conveyor Belt System**

Lock's bottle conveyor belt system is supplied with an endmounted single or multi frequency metal detector head that can be specified with a product specific aperture size built to customer requirements. The specially designed conveyor is easily integrated into a production line where side-to-side bottle transfer of the smallest bottles is achieved with 100% accuracy.

- More effective use of the free aperture space
- Rejection without bottle damage or product loss
- Smooth side-to-side tranfer
- Supplied with modular plastic belt
- Available with a Fail-safe package (reject confirmation, air faillure & bin full sensors)
- Retailer/supermarket compliancy

#### Automatic reject options:















#### INSIGHT C5 "Throat" metal detector

The INSIGHT C5 is the most compact metal detector of its type on the market, having been specifically designed to be installed between scales and vertical form fill and seal bagmakers.

- Ideal for limited space installation
- User friendly operation
- 875kHz frequency and high resistance to vibration deliver sensitivity 30% higher than industry standard
- Customised installation kits available to requirement
- Choice of mounting types



#### INSIGHT VF "Vertical Fall" metal detector

The INSIGHT compact vertical fall system can be installed at the beginning of the production line to inspect materials in bulk powder or granule form or at any point where inspection of free falling products is necessary.

- Throughput up to 50 tonnes per hour
- Quick release sealed valve or cowbell reject mechanisms available
- Sealed to IP66 for wash down applications
  - Protects downstream machinery when installed early in process
  - Reduces wasteful processing of contaminated ingredients
  - Test kit included

The external USB port allows all events and product presets to be downloaded onto a standard memory stick or PC to enable secure storage and distribution of quality records in PDF or other formats.



#### **EFFICIENCY**

Materials Screening: The quality of a finished product can only be guaranteed if incoming and in process materials are effectively screened to remove all unwanted metallic particles.

Cost Savings: Early detection of metal contamination affords significant cost savings since lower value materials rather than finished products are rejected. In addition, early removal protects downstream machinery from expensive damage and downtime.

Superior Performance: INSIGHT's compact Integrated Digital Search Head takes care of metal detection and signal processing, continuously updating product compensation settings to deliver extreme sensitivity to magnetic and nonmagnetic metals whilst eliminating false rejects. An extensive range of systems options allow the user to select a reject suitable for their process, thereby minimising product loss when contamination is detected.

Metallised Film: The INSIGHT automatically senses metallised film packaging and creates product setups that filter out its impact, thereby achieving the maximum possible sensitivity to metal contaminants without sacrificing productivity.





#### TRACEABILITY

**Communications:** Every INSIGHT metal detector is available with wired or wireless ethernet connectivity and SCADA capability. The external USB port allows all events and product presets to be downloaded onto a standard memory stick or PC to enable secure storage and distribution of quality records in PDF or other formats.

Each INSIGHT provides full data security (up to four password protected security levels are available), integrity and traceability. Using the advanced comms options the INSIGHT can be operated remotely or networked with other systems. Diagnostics, set-up and interrogation routines are performed by the on board processor and can be reported instantly or downloaded to a memory stick via OPTIX.

Data Management Systems: INSIGHT is designed to be fully compatible with Lock's DataChek software, thereby enabling data monitoring and collection from all networked metal detection equipment. This provides a comprehensive and traceable central record for each product and batch.



### LEADERS IN METAL DETECTION TECHNOLOGY

With over half a century's experience of delivering custom-designed automated quality assurance solutions, Lock Inspection Systems is setting new standards in metal detection technology.

Locks technical team builds on a database of past experiences compiled from around the world to design tailored solutions to its customers individual requirements. Devoting sustained investment in new product development, the company continues to pioneer innovative equipment that sets ever-higher benchmarks in product protection.

Backed by an extensive international network, our technical and customer services in Europe, North America and China provide unparalleled after-sales care and consultancy. Lock has secured a leading position in product protection for the food, pharmaceutical and textile industries and is proud to be allied with many of the worlds foremost manufacturers.

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