

- Detects magnetic and non-magnetic metal contaminants
- Protects machinery: prevents production downtime and damage to equipment
- Reduces costs and increases productivity
- Ensures metal-free products
- Automatically compensates for products with a high product effect (caused by moisture, carbon etc)
- Very simple to operate, even for non-technical staff
- Higher signal/noise ratio with regard to electromagnetic interference and vibration



TMDL tunnel metal detectors, which are separable and equipped with digital technology, are used for inspecting bulk materials or individually packaged product on belt conveyors, material slides or vibratory conveyors. They detect all magnetic and non-magnetic metal contaminants (steel, stainless steel, aluminium etc), even those which may be contained in the product. If metal is detected a signal is sent to the process controller or the reject unit is activated.

The metal detector's robust design offers maximum resistance to interference and ensures the system is highly reliable both mechanically and operationally, particularly in harsh conditions. It can be used in a wide variety of very different operational areas, from rudimentary detection through to highly demanding, precision applications.

A major advantage of the TMDL is the ease with which it can be integrated into existing belt conveyors as there is no requirement to dismantle the belt; top and bottom components of the detector are simply assembled around the belt. Over 200 standard sizes are available for optimal customisation.

Typical applications

- Plastics industry
- Chemical industry
- Textile industry
- Wood industry
- Recycling industry
- Mining, stones, quarrying

TMDL tunnel metal detectors offer the following performance features:

- Highest sensitivity to all metals
- Equipped with digital signal processing, automatic self monitoring and continuous self-calibration as well as filters to suppress electrical and mechanical background noise
- Manual or automatic reset when metal is detected
- Metal impulse and delay times can be fine-tuned to control reject or signal devices, machines or other peripheral equipments
- Compact single board technology optimises operational reliability and means the unit is easy to service
- Maintenance-free electronics, no further adjustments required
- UL/CSA certification (optional)



Additional Performance Features

- Machinery parameters shown on eight LEDs; operated through three control buttons, a reset and a test starter
- Adjustable metal impulse and delay times
- Product memory for eight products, three products pre-installed
- Free choice of operation mode
- Maintenance free electronic, no re-adjustment necessary

Scope of Delivery

- Tunnel detector TMDL
- Control Unit PRIMUS

Options/Accessories

- Optical and acoustic signal system
- Digital incident counter
- Conveyor stop and turning prevention control
- Control unit SENSITY for higher scanning sensitivity
- UL/CSA Certification
- Further options on request

Product Description

The splitable tunnel detector TMDL is used to analyse smalls and bulk materials on a conveyor belt or material chutes. It detects all magnetic and non-magnetic metal contaminations (steel, stainless steel, aluminium) – even if enclosed in the product.

On detection of metal, a signal device and a separation system can be activated or a signal can be send to process controlling.

Typical Application Areas

- Plastics and Rubber industry
- Recycling industry
- Timber industry
- Chemical industry
- Textile industry
- Mining Industry
- Cement Industry

Application

- Machinery protection for granulators, shredders, hocks, crushers, calenders, bandsaws, planing machines, and many more.



TMD Tunnel Metal Detector

Metal detector for integration in conveyor belt systems



- Detects magnetic and non-magnetic metal contaminants
- Inspects packaged goods and bulk materials
- Enclosed coil system with more than 200 different standard sizes
- Complete systems to meet customer's specific requirements (with conveyor and integral reject device)
- For quality assurance and machine protection
- High immunity to electromagnetic interference and mechanical vibration
- Very simple to operate, even for non-technical staff
- Meets all HACCP and IFS requirements

TMD metal detectors with closed rectangular apertures are primarily used for inspecting packaged goods and bulk materials on belt conveyors and material slides.

They will detect all magnetic and non-magnetic metal contaminants (steel, stainless steel, aluminium etc.), even when contained in the product.

When metal is detected either a reject unit is activated or a signal is sent to the process controller.

Typical applications are quality control of incoming material and final end of line inspection of the finished product.

The enclosed type of construction of the TMD ensures that very high sensitivity is achieved throughout the entire aperture area. This makes the TMD particularly suitable for high-precision applications (e.g. in the food industry).

The size of the detector is specifically chosen for the particular application, the product type and dimensions and working width of the mechanical transport system. Even tall products, bulk materials or individually packaged items, can be accurately inspected. Over 200 standard aperture sizes means that detector head selection can be optimised.

TMD metal detectors can be combined with a wide variety of separation systems (e.g. air blast units, pushers, reject flaps, retracting belts etc.).



TMD metal detectors integrated in two production lines inspecting poultry products

TMD metal detectors offer the following performance features:

- Optimal selection to meet specific requirements
- Highest levels of detection accuracy throughout the entire aperture area
- Can be installed in any position
- High mechanical reliability space required after bullet point
- Highly reliable and resistant to interference: maximum immunity to vibration, shocks and temperature variation
- Construction: stainless steel (bead blasted)
- Protection rating IP 65 (higher protection ratings on request)



TMD metal detector inspecting potato chips

TMDR and TMDS complete systems, metal detector, conveyor belt and reject unit, can be easily integrated into existing production lines. The individual components are optimally combined to ensure the highest levels of reliability and sensitivity.

Typical applications:

- Food industry
- Chemical industry
- Pharmaceuticals industry
- Packaging industry



TMD metal detector: final inspection of biscuits

TMDR - End of Line Metal Detection System with Reject

Metal detection system with integrated conveyor and reject system



- Complete integrated system with conveyor (belt width up to 500 mm)
- For the total inspection of individually packaged product (up to 30 kg)
- High integrity metal detection and separation
- Meets all IFS, EMP and BRC requirements
- Options for dry and wet applications
- Available with pusher, air knife, paddle, snap arm and drop in conveyor reject options

TMDR metal detection systems detect all ferrous and non-ferrous metals (steel, stainless steel, aluminium etc.) which may be contained in the product. It is used for inspecting packaged and unpackaged items.

Various reject unit options are available to meet customers' specific requirements (including pusher, air ejection nozzles, sweep arm etc.) and also a lockable container for rejected product.

TMDR is available in standard belt widths up to 500 mm and aperture heights up to 250 mm. The standard version comprises the following main components:

- TMD tunnel metal detector
- Special belt conveyor

Designed specifically to optimise detection sensitivity and with an excellent price/performance ratio and fast delivery times, TMDR offers the best solution for a wide range of applications.

- GF coil technology (very short metal-free zone) enables the length of the conveyor belt to be kept to a minimum
- Open, easily accessible, easily cleaned, hygienic design
- Manufactured in stainless steel and fully welded, guaranteeing years of high performance and reliability
- Bead-blasted finish meets exacting hygiene standards of the food industry
- Flexible, the conveyor belt can be adapted to suit many different product characteristics
- DUAL and QUATTRO multi - frequency technology capability (optional) for products with high product effect or special packaging



TMDR - Eco range version with conveyor belt, metal detector and simple "stop-on-detect" function designed

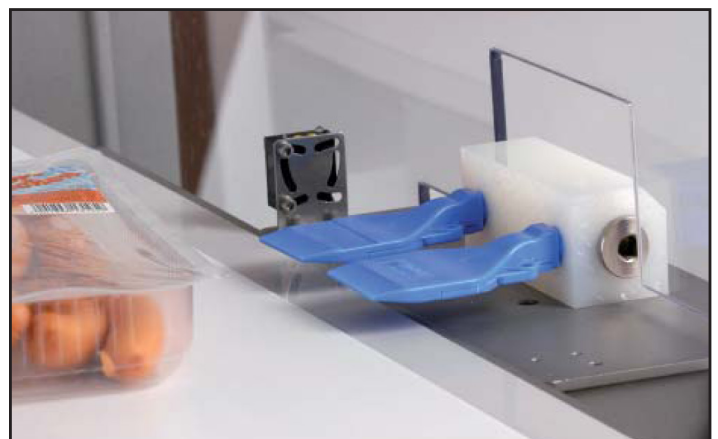


TMDR separation system with conveyor belt, metal detector and reject unit

The TMDR metal detection system is supplied with the Interact+ control unit as standard.

Features of the Interact+ control unit

- Highest sensitivity to all metals (2 channel signal evaluation)
- Digital signal processing and quartz-stable search frequency
- State of the art microprocessor technology with self monitoring and auto balancing
- Product effect compensation with auto-learn function
- Multi-product memory
- Password protection
- New EMC combi filter (resilient against electrical interference)



TMDR standard version with conveyor belt, metal detector and simple "stop-on-detect" function designed

TMDS “Stop on Detect” Metal detection System

Metal Detection system and integrated conveyor



- Highly flexible, complete integrated system (belt widths from 250 mm)
- For the total inspection of individually packaged product up to 130 kg
- High integrity metal detection and separation
- Meets all IFS and HACCP requirements
- Available in versions certified up to ATEX Zone 20
- Options for dry and wet applications
- Various reject options to meet customers' specific requirements



TMDS metal detection systems detect all ferrous and non-ferrous metals (steel, stainless steel, aluminium etc.), even those which may be contained in the product. It is used for inspecting packaged and unpackaged items. The modular design concept provides flexible solutions which can be precisely tailored to the needs of different products and production environments.

The standard version comprises the following main components:

- TMD tunnel metal detector
- Special belt conveyor
- “Stop-on-detect” control unit
- Application specific reject options (declining conveyor, retracting belt etc.) can be supplied.

Designed specifically to optimise detection sensitivity, TMDS offers the best solution for a wide range of applications.

Additional performance features:

- GF coil technology (very short metal-free zone) enables the length of the conveyor belt to be kept to a minimum
- Open, easily accessible, easily cleaned, hygienic design
- Manufactured in stainless steel and fully welded, guaranteeing years of high performance and reliability
- Glass bead-blasted to meet food industry hygiene standards
- Flexible, the conveyor belt can be adapted to suit many different product characteristics
- DUAL and QUATTRO multi-frequency technology capability (optional) for products with high product effect or special packaging



Metal inspection of poultry in E1 containers

Typical applications

- Inspection of butter, cheese and deep-frozen blocks of meat
- Inspection of E1 and E2 containers in meat processing
- TMDS metal detection system are supplied with the Interact+ control unit as standard.



TMDS metal detection system with reject unit (retracting belt)

Features of the Interact+ control unit

- Highest sensitivity to all metals (2 channel signal evaluation)
- Digital signal processing and quartz-stable search frequency
- Latest microprocessor technology with self-monitoring, auto-balancing and temperature adjustment
- Product effect compensation with auto-learn function
- Multi-product memory
- Password protection
- Special EMC combi-filter (resilient against electrical interference)



TMDS metal detection system with reject unit (declining conveyor)