



Inspection systems

for the mining industry

Reliable, precise and user-friendly

Metal detectors and separators from Mesutronic

Why detect foreign bodies?

Despite all safety precautions, the contamination of raw materials with metals is unfortunately a problem in every manufacturing company. The effects are often dramatic if these are not reliably detected and removed from the production chain. Damage to crushing or homogenisation systems, fire hazards, or the loss of supplier contracts are often the result of inadequate control systems.

Why Mesutronic?

For more than 30 years, we have been developing inspection systems with and for companies in the mining industry. These are used for inspecting coal, ores, industrial minerals or mass raw materials. For all those who need foreign body detection for their production facilities and value "Quality – made in Germany", Mesutronic is your experienced, solution-oriented, internationally active specialist and loyal partner.

We achieve this because everything from development to design and installation, up to service and maintenance is consistently geared towards individual industry and customer needs.

**» Machine protection and quality assurance
- reliable and user-friendly.**

**Manufactured in Bavaria, used throughout
the world. «**

**Christian Boxleitner
Managing Director**



Protection of crushers and roller passages

Modern cone crushers, table roller mills or pan mills are particularly susceptible to damage caused by larger metal parts. This applies to both compact, mobile systems and large, stationary grinders. In other crushing techniques, too, hardened parts can be damaged by the development of heat when metal strikes metal.

The most popular system for protection against metal rods, excavator teeth or other harmful metals is the **METRON 05 D** divisible tunnel detector. It is usually installed in trough conveyor belts. Thanks to its low metal-free zone, it allows installation even in confined spaces. The high-quality AMD 05 evaluation electronics protect against unauthorized access and allow the storage of different setups (for example for different ore types), as well as connection to process control systems. If it controls the activation of an electromagnet, the power consumption for such a device can be massively reduced. The relatively uniform sensitivity distribution throughout the entire passage of the system allows a finely tuned balance between the avoidance of false alarms (for example due to metallic labels or small metals) and the reliable protection of the system.

For low burden heights, in combination with unproblematic products such as limestone, it is recommended to use a **METRON 05 S** plate metal detector. The device can easily be installed between the rollers of a trough conveyor. As the detection accuracy decreases with increasing distance to the probe surface, products with a maximum bulk height of about 250 mm should be examined.

For special applications, the inspection of pre-cracked stones in free fall can be useful. Depending on the grain size, metal separators of the **QUICKTRON 05 A** or **QUICKTRON 05 B** type are used for this purpose. Versions for potentially explosive areas or highly abrasive products are available for these devices.



Safety in glass production

Metal detectors and separators provide valuable services in the production of flat glass in particular. When operating a system without inspection systems, discolouration due to iron parts or problems with clogged filters due to aluminium are almost unavoidable.

The **METRON 05 C or CI** is used to examine shards and conglomerates in the feed belt to the melt. With special settings, the often challenging mirror shards are ignored. Thus, depending on the type of metal, optimum detection accuracies are achieved without losing too many shards.



In a special design, the **QUICKTRON 05 A** is used for the investigation of shards or mixtures in free fall. Depending on the type of application, in addition to round diameters of up to 400 mm, angular passages, for example of 1050 × 350 mm, are also available. The system reliably detects and separates even fine metal particles.

The **QUICKTRON 05 B** metal separator can also be used to examine shard glass. The downwardly directed separation flap prevents the jamming of problematic parts and ensures the reliable separation of metals.

Digital products and services

The successful operation of inspection systems is no longer solely dependent on purchasing of the right product, but also on how well the system is connected to the people and machines in its environment. Mesutronic offers a wide range of support services that increase the integration of our products.

Depending on the type of electronics used, our systems can already provide information as standard via analogue signals, various bus systems or Ethernet. Information is received by either controllers, process control systems or other, higher-level machines along the line. In addition to other protocols, with digital networking the OPC UA protocol is used here for the smooth transmission of operating conditions and production-critical values.

If a networking solution is desired purely at the level of foreign body detectors, here **mesuNET** offers optimal performance for the simple creation of reports, evaluation of statistical data, central backup of the event history and as an intermediary to higher-level databases or control systems. This facilitates the easy collection of important OEE data with secure, web-based access without attachment to a single computer.



The **mesuEXPORT** software feature is another easy, automatic and cost-effective way to back up reports. Here, systems with the AMD 07 electronics series are connected to the customer's network drive via Ethernet. The system can then be configured to store event reports for specific events or at specific times. Data is therefore redundantly backed up and cannot be lost - even if the system is completely destroyed.



mesuREMOTE allows our service specialists from Kirchberg im Wald to access any connected system, often avoiding time-consuming on-site deployment. Communication is secured according to current IT standards, encrypted and takes place solely after approval by the customer at all times.

All of this can additionally be secured on the hardware side via a key switch. This means that any uncoordinated manipulation of systems by Mesutronic or third parties is reliably excluded.



The electronic **autoTEST** tester allows significant reduction in manual test cycles in devices of the 07 electronics series.

Signals from physical test bodies are copied via an interference coil that operates independently of the detector. As a result, short test cycles, and thus maximum process reliability, can be implemented without additional effort.



In order to reduce introduction barriers and ensure smooth, long-term operation, we recommend our **training programmes**. We offer a wide range of solutions, from simple operator training included with commissioning to multi-day events on our premises. As with our physical products, we strive to make training as efficient and economical as possible for our customers while still in the coordination phase. The content is recommended by us and then individually adapted to your needs according to the number of participants, their educational background or previous experience.



We are also happy to offer regular training courses at a reduced rate in connection with **maintenance contracts**. These courses are also designed to be customer-oriented. Frequently selected options include, for example, annual on-site maintenance or reduced prices for spare parts. It is also possible to flexibly add or remove devices from the scope of the contract.

Options for maintenance contracts and training in our systems are usually also available for indirect customers of our local partners or OEMs.



The cornerstone of our **after-sales service** is our motivated, trained and customer-oriented service staff. Our promise of “detecting what matters” includes accessibility without compromise and without additional costs, 24 hours a day, 365 days a year. This is supplemented by our cost-effective board exchange programme with reprocessed electronic components as well as the possibility to repair every system ever sold to the market.

Customer-specific projects

Special challenges may arise in particular when retrofitting inspection systems into an existing production environment. The development of solutions for these tasks is one of the core competencies of Mesutronic GmbH. The ways shown range from simple consultation on the deployment of a standard solution in an unusual way, through smaller and larger modifications, to the complete, customised customer system.

We focus on the permanent, reliable and economically optimal fulfilment of your requirements. This is made possible by our company's competent team of employees, who are trained in all relevant areas from sales to application, mechanical and electronic development, up to production and after-sales. They are supported by modern work equipment and a process world embedded in ISO 9001.

We make projects, which we see as a permanent dialogue, transparent for our customers at all times.

The way we see it, our work is not finished when products are delivered, but when production is again functioning smoothly after conversion.





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