



# Inspection systems

for the timber industry

**Reliable, precise and user-friendly**

## **Metal detectors and separators from Mesutronic**

### **Why detect foreign bodies?**

Despite all safety precautions, the contamination of timber 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 sawing systems or planers, 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 timber industry. These are used for inspecting round timber, beams, residual timber or chips. For decades they have provided reliable, low-maintenance protection for timber processing plants. 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**



## Log processing

In round log processing, metal detectors are used to protect sensitive systems such as debarkers, saws or chippers. Metals in a natural product such as timber have different origins. These range from staples and nails to ammunition fragments.

In timber yards, the octagonal **METRON 05 CO** metal detector offers the best way to maintain the cutting performance of the sawing system. In the best case, it is used after the debarker in order to ensure the highest possible detection performance. By this point superficial metals have often already been removed. This avoids unnecessary waste. The system is made of robust stainless steel and, with sun protection, is also fully suitable for outdoor assembly. With the optional shielding extensions, the device is perfectly shielded against interference from heavy frequency converters and motors. Voltage constant holders and colour marking devices are useful additions to the basic system.



The integration of METRON 05 CO is made even easier by purchasing a **TRANSTRON HL** conveyor belt system.

These conveyor belt systems perfectly take into account the requirements of metal detection systems, ensuring stable, long-term operation. Design and engine performance are adapted to the respective requirements. This means that even tree trunks can be reliably examined when using high-speed debarkers.

As a rule, a **METRON 05 C** type metal detector is used for inspecting timber before it reaches the chipper or cutting machine on wide-belt conveyor belts.

This closed, rectangular tunnel detector still offers reliable metal detection, even with large openings. Optional shielding extensions are also available to better shield the system against external interference. This detector can also be used for checking planks and beams around the planer protection.



## Residual wood processing

Shredders for residual wood and bark are generally very robust.

Smaller metal parts are usually no problem for these types of systems. However, under certain circumstances large nuts, sheets, hammer heads and similar can wear down hardened parts in the shredder due to heating and may pose a fire risk. Our systems ensure smooth operation over decades.

The **METRON 05 VT** is the best solution for retrofitting residual timber on the vibratory channel.

The system's unique design allows installation in the existing metal channel. Only a small cutout to hold the device is required. The installation of a metal-free zone made of wood or fiberglass is omitted here. The high-quality AMD 05 evaluation electronics regulate vibrations in the channel, achieving high detection accuracy.



Vibratory channels with an existing metal-free zone are suitable for the installation of a plate metal detector of the **METRON 05 S** type.

This system is very easy to install and reliably detects metal parts up to a distance of about 250 mm from the probe surface.

The **METRON 05 U** is a special form of this detector. Here, the raised sides make it possible to achieve passable detection accuracies, even at pouring heights of up to 400 mm.

The **METRON 05 D** divisible tunnel detector is ideal for higher material heights or higher detection accuracies.

This system reliably detects all types of metal, from steel to brass to stainless steel, even with large pouring heights. The divisible search coil allows easy installation in conveyor systems with a metal-free zone. With a short distance to the shredder and long wooden parts, a stop protection should be installed between the detector and the shredding system.



## Wood chips and shavings

Pre-shredded woods often need to be re-examined before further processing. For example, smaller metals should be detected in order to protect sensitive systems such as presses for plates or pellets. This is usually done in free fall, but examination in a pneumatic conveyor or on a conveyor belt is also possible.

The **QUICKTRON 05 A** is used for the investigation of chips and wood chips 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 maximum grain size of the products should not exceed 10 mm.

The **QUICKTRON 05 B** metal separator can also be used to examine long-fibred or bulky wooden parts.

The downwardly directed separation flap prevents the jamming of problematic parts and ensures the reliable separation of metals.

Chip cakes in panel material production or veneer woods can be investigated using both tunnel and plate metal detectors. As the solution should always be tailored to the application, consultation with our application department is essential.



## 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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