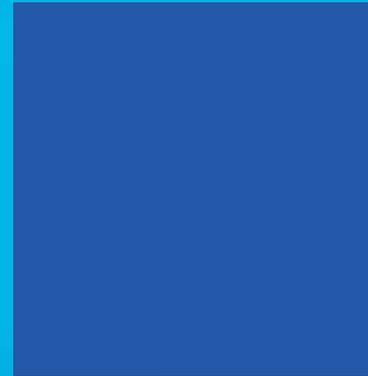


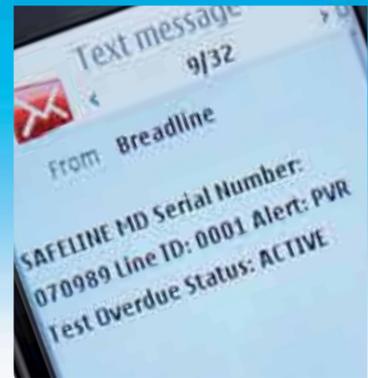
# Metal Detection

**SAFELINE**

Metal Detection & X-ray Inspection



**PowerPhasePRO  
Metal Detection**  
Increasing Productivity  
Reducing Costs  
Improving Competitiveness



**PowerPhasePRO - Total Protection**  
For You and Your Customers

**METTLER TOLEDO**

# Caring for You and Your Customers Maximizing Quality and Performance

**When you really care about the quality of your products and the safety of your customers, there can be only one choice when it comes to selecting a metal detection solution – a METTLER TOLEDO SAFELINE PowerPhasePRO metal detector.**

## Advanced Metal Detection Technology at Your Fingertips

PowerPhasePRO metal detectors utilize sophisticated software technology to provide the most advanced metal detection systems on the market with total inspection flexibility for a wide range of applications and products.

A large, full color touch screen interface with a Windows® style, icon driven menu provides easy, intuitive operator access. The interface simplifies procedures and places a host of valuable process information at the fingertips of your whole manufacturing team.

## A Customizable Solution Now and into the Future

Robust construction in every aspect of the system leads to reliable, consistent, on-line performance regardless of the working environment. Maximum flexibility and tailored configuration ensure PowerPhasePRO systems are designed with the future in mind.

## Supporting your Compliance Needs

PowerPhasePRO metal detectors can be installed at all critical control points (CCP) of your production processes to enable your business to comply with HACCP requirements and the broader needs of external food safety regulations and standards.

All detectors support compliance with the GFSI standards and external codes of practice including:

- IFS (International Food Standard)
- SQF 2000 (Safe Quality Food)
- ISO 22000
- BRC (British Retail Consortium)



## Benefits for You and Your Business

Metal detection systems utilizing advanced PowerPhasePRO software deliver significant benefits for your business. Maximizing product quality, enhancing manufacturing efficiency and delivering ultimate protection for your customers is just the beginning.

Harnessing these benefits builds protection around your business enabling you to increase productivity, reduce overall manufacturing costs and improve competitiveness for maximum profitability.

### ● Increased Productivity

PowerPhasePRO metal detectors optimize productivity for maximum uptime. Costly downtime is all but eliminated.

- Simple set-up and operation
- Reliable, consistent performance
- Low maintenance requirements
- Easy to clean system designs



### ● Reduced Manufacturing Costs

PowerPhasePRO technology enables overall lifetime costs to be managed and kept to an absolute minimum through:

- Eliminating false rejects & product waste
- Reducing performance validation requirements and costs
- Improving the ability to demonstrate due diligence
- Utilizing innovative, future-proof design

### ● Improved Competitiveness

The combination of increased productivity and reduced manufacturing costs enables your business to win more customers by providing:

- Compliance with regulatory, industry and retailer standards
- Improved hygiene standards
- Protection of your brand and your reputation
- Maximized product quality

## IPac – Creating the documentation to Support Compliance Needs

PowerPhasePRO metal detectors are supplied with a METTLER TOLEDO IPac installation and performance verification package to support ongoing compliance with internal and external standards. This comprehensive package provides full documentation for the installation, commissioning and verification process to ensure audit requirements are met every time.



# Detecting More Metal

## For Complete Customer and Brand Protection

**Whether your products are wet, dry, hot, chilled or frozen, PowerPhasePRO technology provides the ultimate in metal contaminant detection capability. All metal contamination – including ferrous, non-ferrous and even the most difficult to detect non-magnetic stainless steels – are readily identified and removed efficiently from the manufacturing process.**

A wide choice of frequency combinations gives even greater flexibility to inspect widely differing products. Even those with differing conductivity or moisture content or those packed in a diverse range of packaging materials including metalized films, can be successfully inspected.

Robust mechanical construction techniques, sealing standards in excess of IP69K and sophisticated environmental noise and vibration immunity systems ensure PowerPhasePRO metal detectors can operate reliably in the most demanding of applications.



### **Ultra-High Frequency to Detect the Most Challenging and Irregularly Shaped Contaminants**

Ultra-high frequency operation pioneered by METTLER TOLEDO SAFELINE greatly improves detection sensitivity, particularly in the case of non-ferrous and non-magnetic stainless steel contamination. This delivers the added benefit improved detection of non-spherical and irregularly shaped contamination such as wire and swarf.

## **Optimized Vector and Noise Control Maximizes Performance on Wet and Conductive Products**

Wet or conductive products or those packed in metalized film materials can produce a large "product signal" making them a challenge for less sophisticated metal detection systems.

The development of METTLER TOLEDO SAFELINE's unique "Optimized Vector and Noise Control" (OVNC) software algorithm enables all unwanted signals – including those generated from the product, plant vibration or from the actual working environment – to be electronically filtered and eliminated. This allows the signals generated by metal contamination to be greatly enhanced making them more readily detectable. This results in significantly improved detection performance levels while eliminating the costs associated with the rejection of good product.



## **Intelligent Multi-Channel Technology Delivers Greater Detection Capability**

The detection capability of PowerPhasePRO metal detectors is optimized by the simultaneous operation of multiple detection channels which combine to reduce the overall size of the detection envelope. Detection sensitivity is further enhanced with intelligent detection envelope profiling software. Even the smallest pieces of metal are detected providing even greater levels of protection for you and your customers.



# Maximizing Efficiency, Minimizing Downtime For Operational Excellence

**Ensuring your manufacturing processes are robust, efficient and streamlined adds value to your business and gives you the edge over your competition. PowerPhasePRO metal detectors provide a vital building block in helping to establish improved processes and manufacturing efficiency.**

## Inspecting Multiple Products at a Single Setting

Consumer demands for greater product innovation and variety can leave manufacturers needing to accommodate frequent product and equipment settings changes. This can lead to increases in downtime and the risk of operational mistakes. With the PowerPhasePRO, these issues become a thing of the past.

The PowerPhasePRO's unique "Change-Free" running mode provides a genuine single-setting function for multiple and diverse product types. The individual parameters for a number of different products are analyzed and combined automatically into a single optimized product "Cluster" setting. This avoids the need for equipment re-setting or adjustment and reduces downtime. Most importantly, this is achieved without sacrificing performance and sensitivity.



## Taking the Guess Work Out of Sensitivity Issues

In many metal detection applications, there is a need to have greater in-depth visibility of product and detection signals so that informed decisions can be made regarding sensitivity.

An innovative vector-diagram display function gives a clear, pictorial representation of the product and its associated metal detector settings delivering a greater understanding of the performance issues. This information can be used to fine tune settings if desired for the ultimate in sensitivity performance.

## High Security Password Access Ensures Settings are Protected

All detector settings can be password protected to ensure that unauthorized personnel do not inadvertently adjust important settings or parameters.

Individual operators can be assigned personal login password details with their own user PowerPhasePRO which can display information in a choice of 18 different languages. This feature can be used to restrict unauthorized access within the operating system.

## Single-Pass Set-up Reduces Downtime

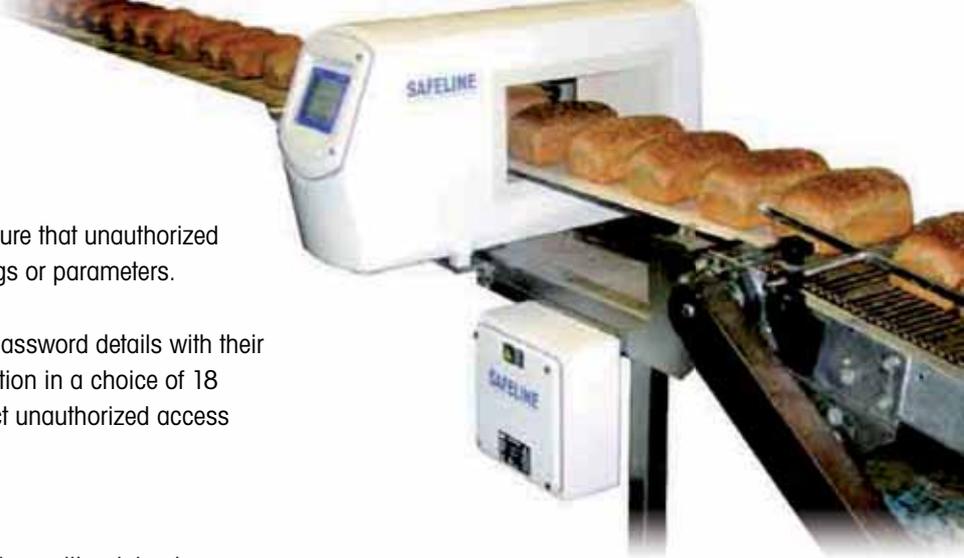
Single pass automatic set-up routines enable rapid set-up with minimal operator training. Typically, only one pass of the product is required during set-up.

Some users prefer to have separate product settings with individual parameters. A product library with a built-in memory enables up to 100 different settings to be defined and stored for future recall.

## Tracking User Access Through the Metal Detector Access Log

Details of all metal detector access activities are automatically logged and can be reviewed to determine when access was made and by whom. This can help in the management of line personnel, ensuring greater compliance and increased due diligence.

QA access is color-coded to differentiate access events



Single-pass product setup reduces downtime dramatically



# Ensuring the Quality of Your Products While Reducing Risks

**Producing high quality products consistently is a pre-requisite for your business. Achieving this with minimized manufacturing costs contributes to the profitability of your organization. PowerPhasePRO metal detectors deliver the support your quality program demands giving you the peace of mind that you are protecting the welfare of your customers and the integrity of your brand.**

## Ensuring Scheduled Performance Verification Tests Are Not Missed

Missed performance validation tests can compromise quality standards and lead to non-compliance in food standards audits. PowerPhasePRO metal detectors advise when test routines need to be performed and advise when testing is overdue through highly visible screen messages. These messages can be distributed to key personnel within your business using a range of communication methods so that corrective action can be taken.



## Saving Time - Making Testing Easier

Built-in performance validation software provides intuitive, step-by-step guidance for quality assurance testing. Test routines can be configured to ensure that system performance is validated and results are captured in order to meet internal procedures and external industry standards or regulations.

## Using Historical Data to Reduce Testing Requirements

A "Discriminated Detection Event Logging" feature ensures all detection event data is captured and logged in a user screen that is easy to interpret. The data gathered, including time and date stamp information, is displayed in a color coded format to clearly differentiate between scheduled performance validation (PVR) tests and actual contamination events. By comparing test data with previously gathered information, trends and repeatability can be assessed and decisions made regarding the timing of the next test.





### Configurable to Meet Future Business Needs

A selection of user configurable inputs and outputs can be used to simplify hardware installation or add extra functionality. This can be used to increase process control, improve efficiency and enhance failsafe system performance.

Possible applications include:

- Reject confirmation
- Reject inhibit
- Remote product changeover
- Bin full alarm
- Programmable, cumulative reject alarm
- Consecutive programmable reject alarm
- Second detection threshold output

### Innovative Enhanced Due Diligence Software Reduces System Testing Requirements

PowerPhasePRO metal detectors deliver unparalleled system integrity offering reduced frequency of the system function tests.

Built-in "enhanced due diligence" software can be used to monitor the synchronization of the transport system and confirm functionality of all operational and failsafe sensors. These can include the pack in-feed sensor, reject confirmation system, reject check sensor, bin full, air failure and reject bin integrity sensor. The use of this software working in conjunction with the PowerPhasePRO's on-board Condition Monitoring system and the performance validation detection event log can reduce the testing frequency required and deliver a major cost savings to your business.

### Addressing Issues Before They Occur

The costs associated with a line stoppage due to inspection system failure can have a serious impact on business performance. Being forewarned of potential line-stopping issues before they happen enables you to make contingency plans to avert costly unscheduled downtime.

Many metal detectors include "fault monitoring" which will provide an alarm should a fault occur. PowerPhasePRO metal detectors go one step further by using advanced Condition Monitoring technology which constantly analyzes the performance of major detector components. Adverse trends are identified and highlighted as an early warning of a potential problem in advance of actual failure.

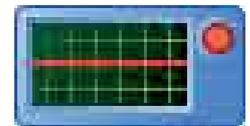
Advanced warnings are communicated through highly visible on-screen messages which can be exported through multiple communication channels. This enables uninterrupted production until there is a convenient break in the manufacturing process when the issue can be addressed.



System Healthy



Early Warning



Fault Condition



# Staying in Control of Your Processes

## Making Informed Decisions

**In a competitive world, having the right information at your fingertips to make key decisions for your business is important. PowerPhasePRO metal detectors deliver mission critical inspection data through multiple communication channels so that you are permanently in control.**

### **Automated Data Collection Solutions to Aid Record Keeping**

Gathering and documenting process data to meet compliance needs is critical for your business and could prove invaluable in the case of a product recall or in the event you need to prove due diligence. However, the function of collecting data can be time consuming and costly.

PowerPhasePRO metal detectors assist in this process by gathering and storing ongoing production data and building an in-depth historical picture of critical process information over extended periods of time. This data is viewed in the form of full color histograms on the operation screen. Unlike conventional detection systems, the PowerPhasePRO allows decisions to be made based on data gathered and stored over hours, shifts and even weeks, making any decisions made far more meaningful.



### **The Detector That Communicates Directly With You**

PowerPhasePRO metal detectors can communicate important messages to key business personnel using unique e-mail and SMS text messaging facilities.

For example, maintenance teams can receive SMS or e-mail messages giving advanced early warning information from the Condition Monitoring function of the metal detector allowing preventative maintenance to be planned in advance. Meanwhile, QA or senior management team members can receive messages advising of overdue performance validation testing which could lead to compromised product quality and potential non-compliance with regulatory or industry standards.

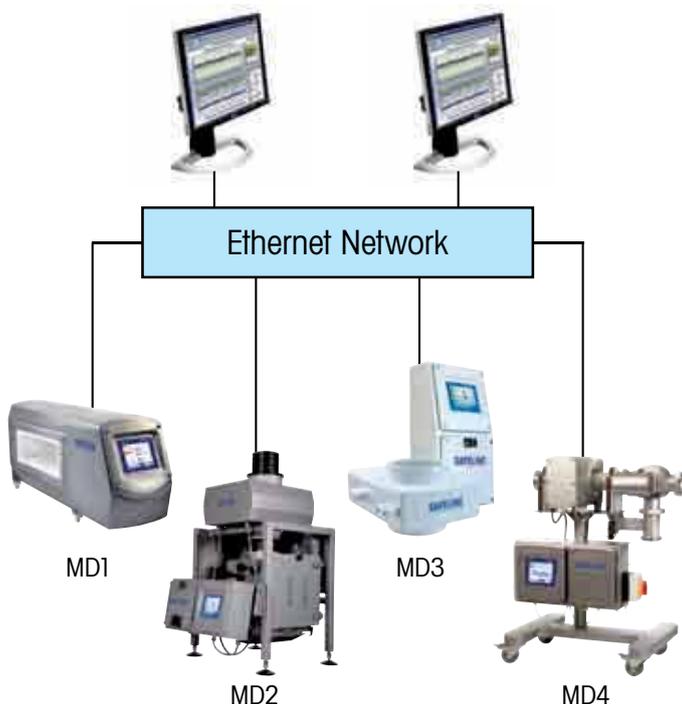
## Improving Methods of Data Collection

As the first stage in improving data collection, PowerPhasePRO metal detectors can be configured to incorporate a data access socket so that external print devices can be plugged into the equipment and data tickets can be generated. These can be stored as hard copy records for future reference.



## Unrivalled Communications Capabilities - Delivering Detailed Information to Your Desktop

When more sophisticated data collection is required, PowerPhasePRO metal detectors can incorporate advanced connectivity technology. This can be achieved by a simple 'one-to-one' serial connection or by utilizing full Ethernet network connectivity which could include wireless functionality.



## Factory Management System Integration

OPC DA is one of the world's fastest growing standards for the exchange of process control data. PowerPhasePRO metal detectors can communicate with a host of SCADA based systems and factory management software solutions.

Traceability, performance validation and proof of regulatory compliance have become essential requirements for modern metal detection equipment. PowerPhasePRO metal detectors are equipped with software routines that assist validation. More importantly PowerPhasePRO metal detectors can be equipped with advanced data collection facilities that record detector usage and provide information on product throughput. Cache storage, histogram displays and Ethernet communications allows the metal detector to be used as a useful data collection device.



## Total Flexibility

### PowerPhasePRO Detectors for All Applications

PowerPhasePRO metal detectors provide the ultimate in flexibility and offer a high degree of customization for easy integration into any manufacturing process regardless of the application.



Conveyorized Systems



Throat Metal Detector Systems



Pipeline Systems



Gravity Fall Systems

[www.mt.com/safelineus](http://www.mt.com/safelineus)

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