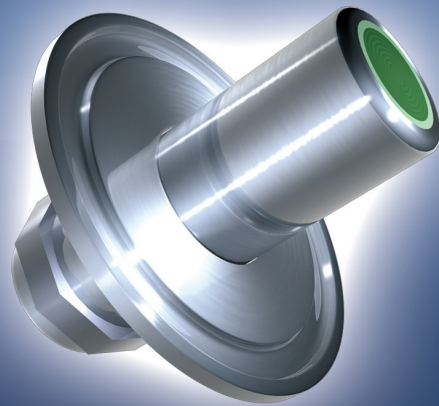


# MANUFACTURING

IMPROVE YOUR PRODUCTIVITY BY  
ELIMINATING DEFECTIVE BATCHES

## EFFUSIVITY SENSOR PACKAGE



### **Real Time Information for Process Improvement**

Mathis ESP™ (Effusivity Sensor Package) can integrate with your existing or new equipment and offers an additional 'window into your processes.' ESP also provides trending data that can help you refine your production in response to changes in batch size, use of different equipment, and variations in environmental and ingredient characteristics.

### **Optimized Lubrication & Improved Tableting**

Mathis ESP can 'see' magnesium stearate in your blender and provide an invaluable measure of its effectiveness in your formulation. It provides real time information so you can prevent over-lubing, and anticipate and prevent problems at your tablet press – reducing the amount of discarded tablets.

### **Replace LOD for Fluid Bed Drying**

Mathis effusivity sensors are extremely sensitive to variations in moisture content. Our ESP can be integrated with your fluid bed dryers to provide on-line measurements to help you determine drying end points – and reduce or eliminate the number of time-consuming LOD tests.

### **Obtain Comprehensive Blend Profiles**

ESP shows you what is going on inside your blender and pinpoints when optimal physical uniformity has been reached – without stopping your blending, thieving samples, and compromising containment. Profile when de-blending, attrition and particle shearing start to impact homogeneity. Mathis ESP supplements your batch records with effusivity profiles, and invaluable reference points for accurately running smaller or larger batches.

Mathis *ESP*

# A Revolutionary Window Into Your Processes.

Mathis ESP is a powerful, new tool for manufacturers that can supplement your release protocols or replace them. It provides critical information at key production stages to improve your productivity and enhance efficiency by eliminating defective batches.

## The ROI of Real Time Knowledge

By providing you with instantaneous information, Mathis ESP gives you batch-specific knowledge that can help you identify subtle variations in your formulations and magnesium stearate lubrication levels, so you can adjust your tablet press accordingly. It offers rapid return on investment through savings from faster validation, streamlined processes, and fewer lost production batches. The system price can be fully recovered by preventing one lost batch – based only on ingredient costs and the time-consuming requirements of tracing, investigating and documenting the cause.

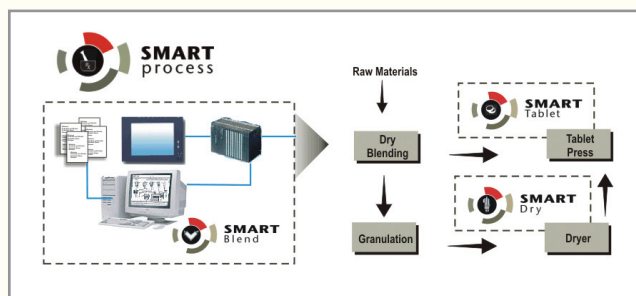
## Robust and Ready for Your Production Environment

Mathis ESP is built for the realities of manufacturing facilities:

- Sensors on your blending and drying equipment provide uninterrupted data
- Open architecture platform can integrate with all brands of controllers, PLCs and plant SCADA systems
- System software allows 21CFRpart 11 compliance
- Operator-friendly HMI screens provide clear, concise status information
- Data tracking and reporting provide supervisory and QA personnel with batch specific information and trending analysis over time
- OEM version available on new equipment
- Durable sensors can tolerate hot water washdown
- Excellent reliability - MTBF 3500 hours for sensors
- Retrofitting, installation, integration, validation and training are provided as a simple, one-stop bundled solution.

## Operator-Friendly Interface with Multiple Access Levels

Mathis ESP provides need-to-know information quickly and clearly through its operator-friendly Human/Machine Interface (HMI). System status and alarm conditions can be determined at a glance. For supervisory and QA personnel, additional, password-protected access levels provide batch-specific historical effusivity data. This can be used for trending analysis as well as correlation to your other processes to improve efficiency and isolate production problems.



Industrial configuration for effusivity in a solid dose manufacturing site © 2005 Brock Solutions Inc.

## Optimize Lubrication & Reduce Losses at Your Tablet Press

When tablets fail dissolution testing, the problem can frequently be traced back to over-lubing with magnesium stearate in the blender. Mathis ESP quantifies the lubrication levels of your blends in process, before they reach your tablet press – allowing you to reduce the time to establish your press settings, and ensure hardness and dissolution specifications are maintained. Mathis ESP also gives you the blend uniformity information to demonstrate functional equivalency for SUPAC when you are running variations to standard batch sizes – or have to use different blending equipment for a formulation.



Courtesy of Tote

Courtesy of Natoli

## Reduce or Eliminate LOD Testing Requirements

An on-line effusivity sensor on your fluid bed dryer provides quantification of moisture content on a minute-by-minute basis – while it's operating – and without compromising containment. No more stopping the dryer repeatedly to do time-consuming Loss On Drying (LOD) tests. With sensitivity down to 0.25% moisture content, Mathis ESP determines the precise endpoint for drying, allowing you to run your equipment until the specific moisture content is reached. SOP requirements can be maintained by performing one LOD test at the conclusion of drying as confirmation of specification compliance.



Invensys integrates Mathis effusivity sensor at ConFab Laboratories on an O'Hara FBD. © Invensys Systems Inc.

## Consultation.

Contact us to find out how the Mathis ESP can improve your manufacturing quality and efficiency.

1-866-425-3637

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