

**PMD500 Series: New Online Process Analyzers from Sartorius**

**Optical Method for 100% In-process Monitoring and Process Control in Real Time**

Goettingen, June 30, 09 – Fast, reliable and, above all, accurate in-process monitoring and control in real time — these are the advantages of the PMD500 series. By unveiling this series, Sartorius is offering its customers new online process analyzers that optically determine the moisture content and concentration of other constituents using near infrared (NIR) technology. These online analyzers give users the capability of having 100% inspection performed within an entire process, eliminating the need for testing random samples. As a result, the PMD500 series helps prevent downtime and saves costs.

**Quantitative and qualitative analysis**

Online analyzers of the PMD500 series feature a flexible array of detectors for the UV|VIS and NIR spectra in compelling combination with a high-resolution digital camera and a comprehensive software package. Concentrations of various ingredients, such as water, moisture, fat, protein, solvent, etc., in solid — i.e., free-flowing or pourable — liquid, and pasty media can be exactly analyzed online in milliseconds. In this way, the PMD500 analyzers enable manufacturers to accurately comply with legally prescribed maximum limits and product-dependent specifications, such as for the water content of their products. This guarantees optimal use of raw materials and energy as well as fully automatic process control in real time.

The PMD500 system works with a redundant light source and, thanks to the use of a diode array spectrometer, is capable of analyzing even fast-moving samples, such as

those on a conveyor belt, and delivering accurate and reproducible values. The modular-design, low-maintenance system offers optimal solutions for customer-specific processes, features a patented automatic calibration function and is also suitable for use in hazardous areas. All PMD500 analyzers meet the ATEX standard. A comprehensive range of accessories enables the analyzers of the new PMD500 series to be easily integrated into existing processes. Thanks to powerful software, all process steps can be documented and optimized. This creates transparency and efficiency in all production areas.

To supplement quantitative analysis, or determination of constituents, every PMD500 can perform qualitative analysis of such properties as the color of rice, the degree of browning of baked goods and other visual characteristics, such as "bad spots" or black specks in flour. In addition to laboratory analysis, the PMD500 analyzers are capable of continuously monitoring every step of an entire production process.

### **Optimal solutions for customer-specific processes**

The major areas of application for the PMD500 series are online and in-process monitoring and control in the food, animal feed, chemical and pharmaceutical industries. Especially in mixing processes, completeness checking of individual components is indispensable. Using a library of spectra that can be stored in a PMD500 process analyzer, the analyzer checks every single component of a batch. As a result, this makes it possible to define categories of materials for which specific measurement parameters can be saved, which is called "calibration by class." Moreover, these spectra are used to additionally check the purity of the components, which is an important criterion, especially for inspection of incoming goods.

Another area of application is end-point determination in a mixing process. This is where the PMD500 unlocks substantial cost-saving potential. As a rule, mixing

processes are carried out in a batching procedure at specifically defined times. Thus, an online PMD500 analyzer that continuously checks the homogeneity of a product during mixing enables considerable time and thus production costs to be saved. Accordingly, online PMD500 analyzers will pay for themselves within a short time — well below six months, depending on the product.

As each PMD500 can be integrated into all electronic data-related processes and therefore transmit measured data to a process controller, it ensures one-hundred percent traceability. By perfectly matching hardware, software and system integration components, Sartorius has enhanced the performance of its new generation of PMD500 analyzers yet again.

**A Profile of Sartorius**

The Sartorius Group is a leading international laboratory and process technology provider covering the segments of biotechnology and mechatronics. In 2008, the technology group earned sales revenue of 611.6 million euros. Founded in 1870, the Goettingen-based company currently employs approximately 4,600 persons. The major areas of activity in its biotechnology segment focus on filtration, fluid management, fermentation, purification and laboratory applications. In the mechatronics segment, the company primarily manufactures equipment and systems featuring weighing, measurement and automation technology for laboratory and industrial applications. Key Sartorius customers are from the pharmaceutical, chemical and food and beverage industries and from numerous research and educational institutes of the public sector. Sartorius has its own production facilities in Europe, Asia and America as well as sales subsidiaries and local commercial agencies in more than 110 countries.

## Image Files for Press Release:



Images | Photos: The new series of Sartorius PMD500 online analyzers

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