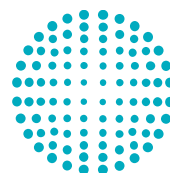


## **Lab Solutions: systematically analyzing and optimizing powders and tablets**

**Schwarzenbek, June 10, 2024. Gaining a precise understanding of powder formulations early on in the tableting process provides a clear knowledge advantage. The Lab Solutions division pursues this approach with the powder compression analysis units (PVA units) of the F Lab series, associated system components, and a wide range of laboratory services. This opens up far-reaching optimization opportunities for the development and production process.**

Manufacturers who understand their formulations and processes in detail at an early stage ensure the quality of their products over the long term and prevent efficiency losses or even failures during production. In the case of oral solid dosage forms (OSD), however, this knowledge can only be obtained by conventional means at an increased material cost – often with considerable additional costs, as the ingredients are expensive. Lab Solutions, on the other hand, opens up the possibility of investigating formulations and tableting processes in a resource-saving and simple way.

*“Our goal in the Lab Solutions area is above all the precise understanding of powders and formulations,” explains Dr. Ina Petry, Group Lead Application Consulting at Fette Compacting. “The two prerequisites for this are the detailed analysis of the data and the intuitive operability of the analysis devices. Only when both aspects – precision and simplicity – come together can quality by design be optimally integrated into everyday production.”*



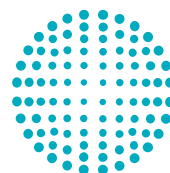
### **Powder compression with the F Lab series**

The modular and easy-to-use PVA units of the F Lab series are the key analysis instruments. Together with other devices, they can characterize the compression properties of powders down to the last detail. The compact devices and associated software form the basis for comprehensive data analysis in accordance with the United States Pharmacopeia (USP). This means that the overall solution can be used in all development and production phases. The main areas of application include analyses as part of feasibility studies, scale-ups, quality controls, and troubleshooting.

The F Lab series also provides decision-relevant information when it comes to testing raw materials under special conditions or comparing different formulations. It is even possible to detect variations in the mixture of substances due to a change in composition. So, the F Lab provides reliable answers when determining the optimum formulation from various potential powders or granulates as part of product development.

### **Analysis system with integrated software**

The analysis unit is available in two versions, depending on the tablet sizes and compression forces to be tested: with the F Lab 5, compression forces of up to five kilonewtons are possible and it is ideal for tablets up to a diameter of ten millimeters. With the F Lab 10, on the other hand, pressing forces of up to ten kilonewtons can be achieved and it can be used for tablets up to 15 millimeters in diameter. To ensure comprehensive data analysis, users can apply the integrated software to combine the PVA unit with other instruments such as scales, micrometers, and breaking strength testers. The measuring instruments can come from the company's own stock or, if required, can be conveniently purchased together with the F Lab from a single source. The devices belonging to the complete line transmit the data directly to the software, eliminating the need for manual input.



The analysis process only requires a few simple steps: for powder compression, the required amount of powder for one tablet must be measured and filled into the die. After tableting and measuring the tablet properties, the evaluation can be started via the computer program. The result is an overview of all relevant powder properties. By carrying out a complete series of measurements, the information is available to users within an hour.

### **Visualization of important parameters**

In combination with the analysis components, the system records the key properties of the tablet: thickness, mass, diameter and hardness. On the other hand, it calculates a large number of parameters that provide crucial information about the tableting properties. This provides users with comprehensive data on output profiles, tableting properties, and compressibility. The measurement and analysis results are presented in a visualization with graphs. This allows even less experienced users to immediately recognize which powder mixtures have the best properties for the tableting process. The simple handling and intuitive interpretation of the results also reduces the amount of training required.

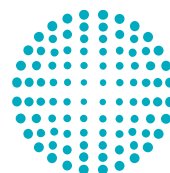
### **About Fette Compacting**

With more than 6,000 installed machines, Fette Compacting is the world technology leader in integrated solutions for industrial tablet production. The company has specialized in high-performance machines for the pharmaceutical, nutrition, and chemical sectors for more than 75 years.

The company has its headquarters in Schwarzenbek near Hamburg. A second technology and production site is located in Nanjing (China) and another development location is in Mechelen (Belgium). Fette Compacting is represented in more than 50 countries around the world and is a member of the LMT Group, a medium-sized, family-owned group of companies. Around

# Press release

## Press release



**FETTE**  
**COMPACTING**

1,800 people are employed at more than 20 locations worldwide. The Group achieved sales of around 380 million euros in fiscal 2023. [www.fette-compacting.de](http://www.fette-compacting.de)

### **Your contacts at Fette Compacting:**

Volker Reinsch

Director Corporate Marketing & Communication

+49 (0)4151 12-498

[vreinsch@fette-compacting.com](mailto:vreinsch@fette-compacting.com)

Nicole Anderson

Corporate Communication Manager

+49 (0)4151 12-559

[nanderson@fette-compacting.com](mailto:nanderson@fette-compacting.com)