

## Glatt-lab unit with increased and improved flexibility *ProCell LabSystem for testing fluid bed and spouted bed processes*

„ProCell LabSystem“ is not only the new name of the largest mobile Glatt lab unit –but, all fluid bed and spouted bed processes can be tested in batch and continuous mode with only one equipment. The continuous operating mode is especially preferred for the liquid-only, spray granulation process. In batch mode this process can be tested only within narrow limitations.



The “**ProCell LabSystem**” has evolved from the lab unit ProCell 5, which has been sold and rented to numerous customers. This customer experience and satisfaction was driven by the excellent operating reliability and process flexibility of the equipment. The “new” lab unit will now offer four different process systems.. Customers can select one, two, three or all four process options, based on the needs of the desired product or project, as necessary. Using the “**ProCell-system**”, spouted bed processes can be tested. The spouted bed technology is extending the possibilities to process challenging products, like fine particles, which are difficult to fluidize in fluid beds. Particles, which are larger than 3 mm can be fluidized with much lower air volumes compared to the fluid bed. An additional advantage of the ProCell is the possibility to work with small amount of bed material. In continuous mode this means short residence time, resulting in a gentle processing of temperature sensitive products. Fluid bed processes can be tested with the ProCell LabSystem by using either the “**AGT system**” or the “**GF system**”. The “AGT 150 System” provides the smallest processing chamber, resulting in high fluidizing velocities. The “GF 3 System” is larger and can be equipped with the Wurster insert to allow for sophisticated coating processes, typical in batch processing, and again, possible in this lab unit

Answering to the needs of our customer, several new features have been developed, which will be displayed during Powtech in Nuremberg.

Using the new “**Rotor System**” particles can be coated with powder. The core particles are moved by the rotating disc and dried by a flow of air through the gap between rotor disc and housing. The coating material is applied as solid powder, which is considerably decreasing the energy demand for water evaporation - in addition, the processing time is shortened. Due to the rotating movement of the particles they are spherulized. By adjusting the process parameter spherical pellets can be formed with the “Rotor-System”.

As an option, **equipment for spraying melt** is available. This can be used to spray products with a melting point of up to 80°C. This process is used for example to coat particles with fat to protect them against moisture or oxygen.

In some special applications, two liquids must be sprayed in parallel. For the development of such processes the ProCell LabSystem can be equipped with a **threefold nozzle**.

Traditionally the process gas can be cleaned by means of an internal or external filter or by a combination of cyclone and external filter. The ProCell LabSystem offers also a **closed loop process** – drying the exhaust gas with a condenser and a desiccant wheel before returning to the process. The desiccant wheel may also used alone in order to **control the inlet air moisture**. The inlet air moisture is measured and maybe stored as process parameter in the protocol.

For the production of large samples, or for specialty products with low volumes, the “**ProCell 10 system**” and the “**GF 7 system**” are offered for spouted bed and fluid bed processes. The large processing chambers allow batch processes with a volume of up to 20 l and throughputs of up to 15 kg/h in continuous processes. Spray granulation, agglomeration or coating processes may be tested at this larger scale.

The standard unit ProCell LabSystem is equipped with a cartridge filter. In order to work with smaller product volumes a **bag filter** is offered. The smaller surface of the filter means that less product is collected in and more product remains in the process. An additional advantage is the cleanability. After the trials the filter bags can be cleaned in a laundry machine.

Almost all of the new process options were developed in response to our customers. If you are looking for new, different and/or additional applications – you are more than welcome to discuss these with us.