RMD - Radial Multizone Dryer

The project RMD focuses on a breakthrough in one of the main drying unit operations of spray drying.

Incentive
- To proof the concept of a radial multizone spray dryer with reduced Capex and Opex, yielding improved product properties, on a pilot scale of 100 kg/h;
- To prove potential energy saving and to estimate economic feasibility by making a preliminary business case;
- To form a consortium for next project phase, including equipment supplier.

Objective
- The applied high G-forces of the created vortex stimulate mass, heat and momentum transport yielding lower energy consumption and smaller equipment size (lower Capex).
- Furthermore, the G-forces create rapid transfer from a high to a low temperature zone and enable integrated particle separation. It is expected that fast drying at high temperature during a very short residence time will yield improved product properties.

Applicability
- Food, feed, pharma, chemicals
- Low, medium and high inlet temperature
- Drying of heat sensitive products
- Coating of particles.

Approach
- Milk powder as model system
- Medium and high temperature drying
- The complete dryer will be taken into account, not only the drying chamber.

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