

# Spray Drying

Spray drying is the new drying range that builds on the proven Umang technology and its benefits. Similar design of process nozzle, drying chamber and cyclone ensures that process and validation wise there is no difference to the mixing process. This unique design of machine makes the not only a perfect spray dryer but also an ideal machine.

The outstanding feature of the Spray dryer range is the integrated and CIP optimized design. Connections, cabling and supplies are completely integrated, covered and sealed so the outside of the machine is smooth and very easy to clean. The innovative discharge valve design and optimized seals inside the bowl allow for CIP. As a result of this the our Spray Drying is highly flexible, quick product changeover increases productivity and cost effectiveness.

The Spray drying ranges from 0.5 to 600 liters/ hr. drying capacity featuring through the wall design and movable head, allowing operation with platform and dust-free discharging via a linked mill directly into an IBC. The Spray drying can be stand-alone or linked to a Blender to form an integrated system.

The features of our Spray drying are the following :

## Standard Features for Spray Drying :

- Identical drying chamber configuration.
- Perfect cGMP-design: smooth covering, no external tubing and piping allowing easy cleaning
- Completely integrated full opening side discharge: perfect discharge of difficult products
- User-friendly operator-machine interaction via graphical operator panel 12" Industrial PC software with PROCESS + range of software which helps interlinking all plant equipments to a single system.
- Flexibility (processes and products) for wet granulation.
- Insulated drying chamber.

## Optional Features for Spray Drying :

- Explosion proof design
- Automatic cleaning (WIP/CIP) of entire system
- 21 CFR part 11 certified controls.
- ADVANCE PROCESS + for easy and automated granulation control
- Jacketed / insulated bowl
- Total containment through up- and downstream split valves and flexible isolation systems.
- Integration with mill and/or fluid bed possible: perfect closed link for dust-free operation
- Video monitoring of the process
- Liquid addition system (peristaltic pump / pressure vessel)
- Product feeding both by gravity or vacuum loading system directly from the containers
- Validation documentation and assistance based on GAMP



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