



HOSOKAWA MICRON B.V.

HOSOKAWA EXTENDS BLENDER RANGE FOR DPI FORMULATIONS

Here, Bert Dekens, Application Manager, Pharma, Hosokawa Micron, announces the extension of the the company's established Cyclomix modular blending technology range, to include small (R&D) scale, mid-range and large-scale systems.

Hosokawa Micron's Cyclomix blending technology (Figure 1) has become well-accepted for high-shear blending of dry powder inhaler (DPI) formulations. Cyclomix has proven to be very effective for tuning mixing energy to the delicate adhesion/cohesion balance. Multiple systems have been sold and delivered for this challenging application.

"Cyclomix has proven to be very effective for tuning mixing energy to the delicate adhesion/cohesion balance."

Blending formulations for DPIs is a delicate matter. In order to disperse active ingredients in their lactose carriers one needs to break up the cohesive forces between the fine particles, which requires a certain mechanical energy. However, if the energy applied to the formulation is too high, the adhesive forces between the carrier and the actives will also be too high, which limits separation during inhalation.

Finding the right balance for the required mixing energy is the critical issue and calls for a very efficient mixer. Delivering a fully homogeneous blend, without deterioration of the particles, is a prerequisite. The Cyclomix high-shear blender has proven to be perfectly suitable for this application.

Figure 1: The Cyclomix blending technology for high-shear blending of DPI formulations.



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In order to optimise support to our customers, the range of Cyclomix systems has been streamlined into three platforms:

- Systems suitable for R&D with product bowls of 100 mL, 1 L and 2 L
- Mid-range systems for 5 and 15 L batches
- Large-scale systems for batches up to 100 L.

Cyclomix systems are modular and – besides offering exchangeable product

bowls – can be tailored to local requirements by combining options. Systems ranging from straightforward but functional to highly sophisticated are possible.

Features are available for:

- Charging and discharging of toxic materials
- Stand-alone or “through the wall” design
- Cooling by tap water or water chiller
- Lift to support bowl changing
- Clean in place (CIP).

Besides the standard options available, Hosokawa Micron can also offer bespoke solutions to meet specific requirements. All systems comply with EU CE and ATEX regulations.

ABOUT THE COMPANY

Hosokawa Micron is a global supplier of process equipment and systems for the mechanical and thermal processing of dry and wet powders. The company specialises in the design and manufacture of mixing, drying and agglomeration technologies.

Hosokawa Micron maintains extensive facilities for R&D, testing, manufacturing, toll processing and after sales services. It has a total of around 170 employees. The company turnover outside Europe is around 30% and the export quota totals around 85%. Hosokawa Micron BV is a wholly owned subsidiary of the Japanese Hosokawa Micron Corporation.

ABOUT THE AUTHOR

Bert Dekens is Application Manager, Pharma, for the Hosokawa Group, focusing on DPI blending markets. Mr Dekens holds a key position in the DPI network within the International Hosokawa Group and is well established in the DPI market.



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