



DETERGENT POWDERS

Agglomeration (wet granulation) technology.



HOSOKAWA MICRON GROUP

Process technologies for tomorrow.

TAKING DETERGENTS MANUFACTURING TO THE NEXT LEVEL

Introducing the Flexomix continuous agglomeration system.

Manufacturing detergent powders involves various process stages. This can vary from preparing powdery ingredients, to agglomerating ingredients or half compounds, to post-blending final formulations or to manufacturing the complete formulation.

The wetted porous agglomerates are almost completely dust-free, and the flexibility (in terms of number of powdery ingredients,

varying bulk densities, flow behaviour, etc) and high liquid-to-powder ratio of the Hosokawa system enables a wide range of formulations to be made.

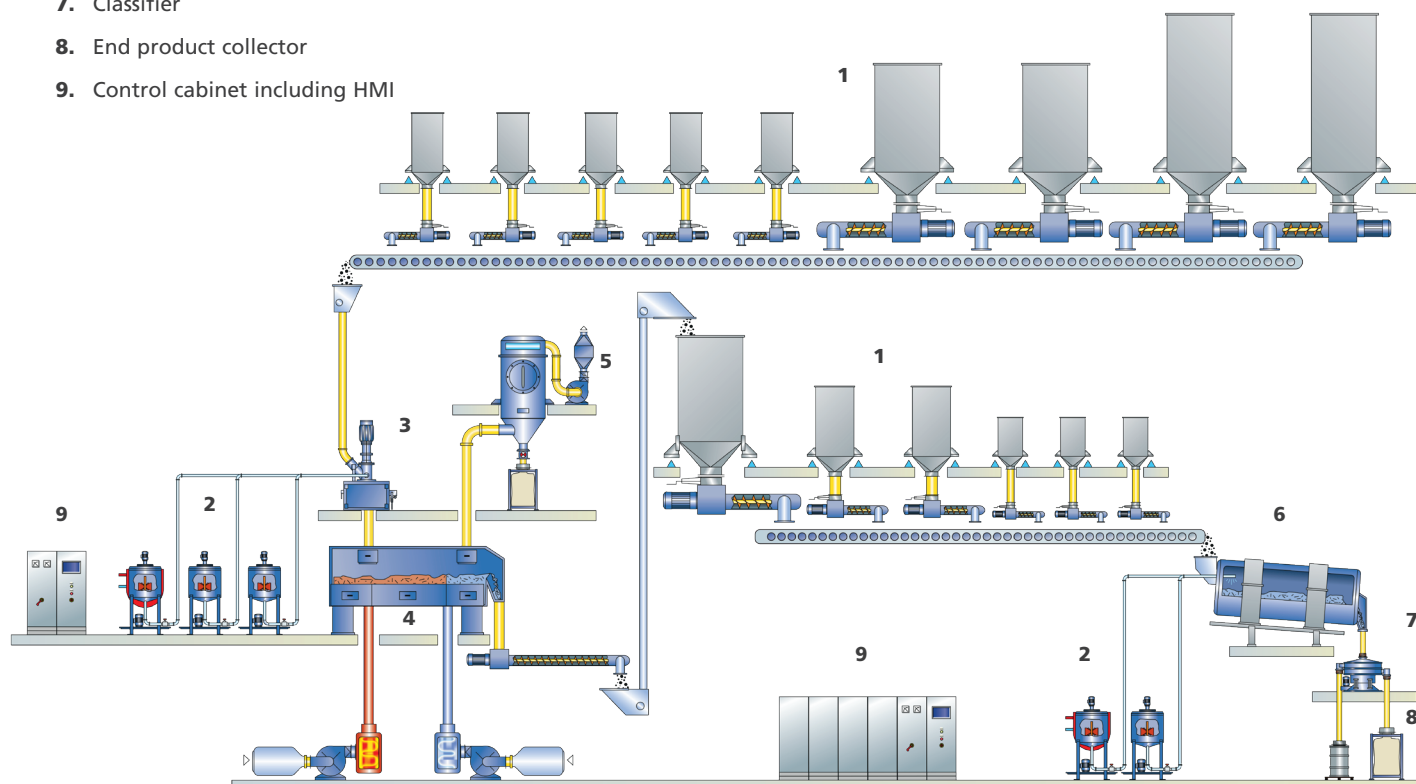
COST-EFFECTIVE SOLUTION

Local requirements in detergent usage such as washing temperatures, water softness, washing frequencies and environmental restrictions have made the detergent market a highly competitive one. As a

result, manufacturers invest in complex formulae for different combinations of water softeners, surfactants, bleaches, enzymes, brighteners, fragrances, etc., and demand in turn, innovative processing solutions.

Hosokawa Micron values these investments and has developed an energy-saving, cost-effective solution to help manufacture these complex detergents: the Flexomix continuous agglomeration system.

1. Powder dosing units
2. Liquid dosing units
3. Flexomix agglomerator
4. Schugi fluid bed dryer and cooler
5. Air exhaust system including cyclone and filter
6. Post-blender
7. Classifier
8. End product collector
9. Control cabinet including HMI



> Hosokawa detergent powder processing system

FLEXOMIX CONTINUOUS AGGLOMERATION SYSTEM

Detergents have to fulfil one main requirement: they have to clean things in water. In order to do this in a powder form, they need to undergo some form of drying. One of the most prevalent methods for manufacturing washing powders and cleaning powders is spray drying. In a spray drying process, the mixtures start off as liquids. With the Flexomix continuous agglomeration process, Hosokawa Micron has designed a process that starts with dry media, saving energy and cost.

With the Flexomix, initial mixing starts off with dry media, to which watery and fatty solutions can be added. A small dose of water/binder solutions is used to form wet agglomerates which are subsequently captured in a fluid bed dryer. This over-wet mixture is dried off, resulting in free-flowing, dust-free agglomerates.

These agglomerates can be compounds needed for the complete detergent formulation or the final product. If it is a compound, the remainder of the detergent formulation is mixed afterwards.

SAVE ENERGY AND COSTS

By mixing in the powdery phase, the Flexomix has to dry off less water, thus requiring considerably less energy. In an independent study by the Ontario Ministry of Energy, a 4 t/hr detergent Flexomix manufacturing line was compared to a spray drying process with the same capacity.

It showed an energy saving by the Flexomix of 42.5%. The purchasing investment for the Flexomix was also approximately 20% less than traditional spray dryers, making it a more cost-effective and environmentally-friendlier solution.

TRY BEFORE YOU BUY

Hosokawa Micron has its own testing and process development centre in Doetinchem, the Netherlands. It offers unique possibilities for testing your product to determine the most efficient process, system or plant prior to final design. We can provide laboratory-level as well as production-sized trials.

FROM PILOT PLANT TO PRODUCTION SCALE

We offer process equipment and technologies from individual units to large scale bespoke system solutions. Our principle is to deliver high performance yet affordable solutions that meet our customers' demands and long term challenges.



PLENTY OF REASONS TO GIVE US A CALL



Combined advantage

The Hosokawa Group has several technology centres, each expert in one or more specific powder processing technologies. Combining this knowledge gives you the benefit of having just one supplier and contact.



Vast experience

Hosokawa has decades of experience in providing process solutions for detergent powder production. We have references all over the world, including the biggest names in the industry.



R&D/test facilities

Hosokawa has extensive research and test facilities in Doetinchem, the Netherlands, perfectly outfitted to assist clients determining what the best system solution is for their specific process.



Worldwide service

Hosokawa has a very responsive and smoothly operating service department. Our Service Team carries out repair and maintenance services onsite or in one of our fully-equipped workshops.

More information

For detailed information and equipment and system specifications, please contact our office or visit us online.



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