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Detergents

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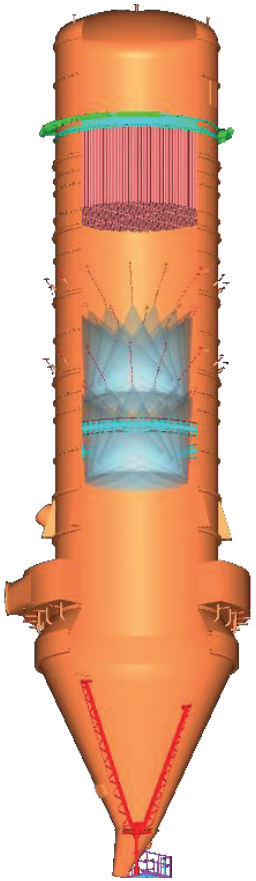
Detergent technologies



Spray Drying Process (SABIZ)

HYDRAULIC SPRAYING NOZZLES (HOLLOW FLOW PATH)

+

OPTIMISED NOZZLE DITRIBUTION

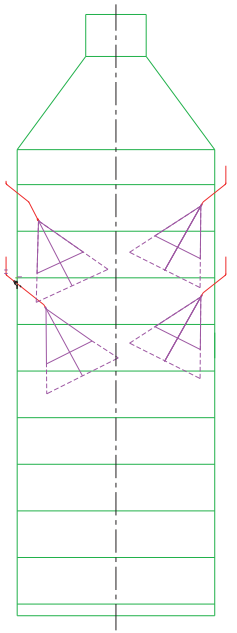
GENERATION OF HOMOGENOUS LIQUID DROPLETS

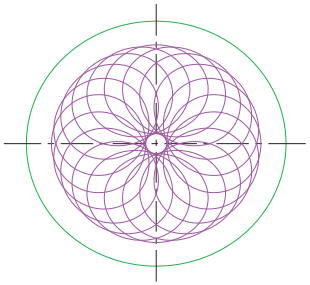
H_2O EVAPORATION CAUSES THE FORMATION OF HOLLOW-DRY PARTICLES (HIGH THERMAL TRANSFER EFFICIENCY)

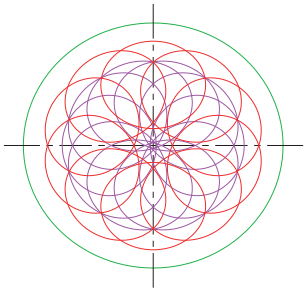
HOLLOW PARTICLES FALL DOWN AT LOWER SPEED THAN WET PARTICLES

BULK DENSITY: 200-500 g/cm³

MOISTURE: 3-5%







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Detergent technologies

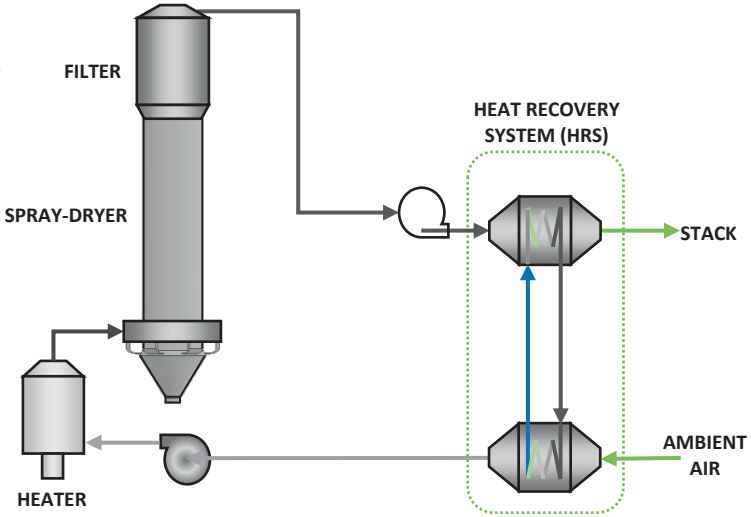
Spray Drying Process (SABIZ)

Process for the production of low/medium density detergent powders by atomization technology

Ballestra designed an innovative **Heat Recovery System** that pre-heats the ambient air fed to the burner by means of the exhaust air coming from dedusting filter

Main advantages

- ✓ *Short pay-back period (reduction offuel consumption of 10-15%)*
- ✓ *Significant reduction of CO_2 emissions*
- ✓ *Simple installation*
- ✓ *Low maintenance cost*
- ✓ *Corrosion resistant materials*
- ✓ *Cleaning in place during production*



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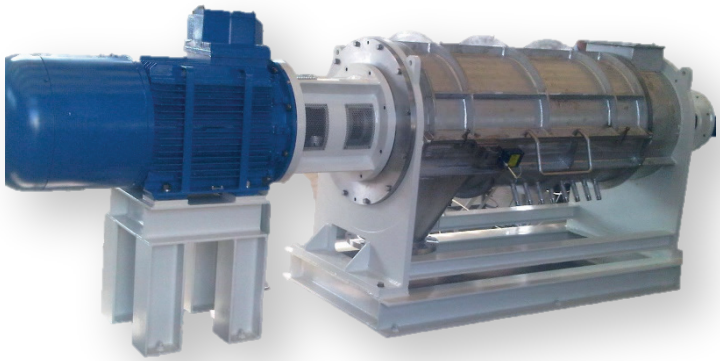
Detergent technologies



Limited Investment costs

High production flexibility in terms of powder formulation and physical characteristics, namely:

- ✓ total active matter content: up to 25%
- ✓ powder bulk density: 600 to 1,000 gr/lt (by using particular components)

Low energy consumption

Ease of operation with limited manpower requirements

Non-Tower Detergent (NTD)

Process for the production of medium/high density detergent powder by means of granulation technology using a **proprietary granulator/mixer (Kettemix reactor)**

Low installation costs

- ✓ reduced transportation cost
- ✓ short erection time
- ✓ limited building requirements, the plant is designed for housing
- ✓ under shed over a concrete floor

Negligible environmental impact

- ✓ No gaseous nor liquid effluents

COMBEX

- ✓ SABIZ combined with NTD

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Detergent technologies

Liquid Detergent (DELIP & LIDET)

Process for the production of a wide range of liquid detergents.
The process is available in batch or continuous configuration.

- ✓ Modular design that can be adapted to Client Production (process section is limited to 12 m x 12 m and most of the equipment can be located into a building 10 m high.

- ✓ Wide range of products for both home and personal care
  - Dish washing
  - Surface cleaners
  - Liquid Soap, Liquid Detergent & Bubble Bath
  - Shampoo and Conditioner

	Single Batch Capacity [tons]	**Daily production [tpd]**
Single 4	4	Up to 32
Single 10	10	Up to 80
Continuous	---	>100

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Our References

A "taste" of what we do

25,000 kg/h powder detergent, SABIZ technology, in Thailand

10,000 kg/h powder detergent, based on non-tower technology proprietary Kettemix, in Pakistan.

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Our Customers

… and many others all over the world

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