

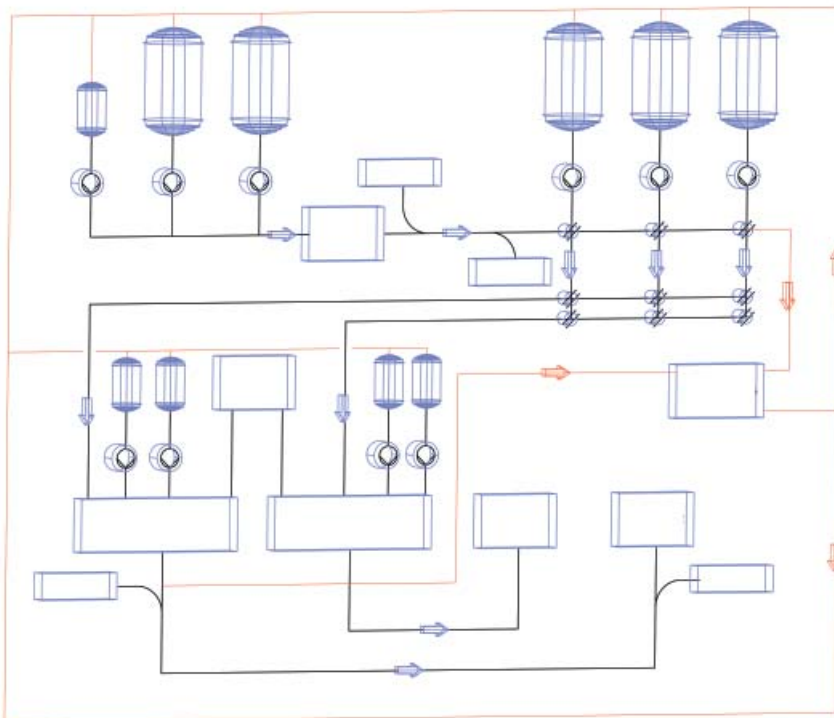


# AutoBlend Systems

## Integration of the Bran+Luebbe concepts “Master Batch and Finishing” into a new production line

A Scandinavian manufacturer of personal care products and household detergents decided on an investment for a new production line. Intensive discussions about the Bran+Luebbe Master Batch and Finishing concept led to an order that was placed in autumn 2005 with a delivery and start-up in the summer of 2006.

### Simplified process diagram



## During the discussions with the customer the following main design criteria were established:

- Continuous flexible production of 4.5 – 9 t/h with a minimum of required space.
- The analysis of the relevant formulations for dish washing liquid, household cleaner, shampoo, bubble bath and shower gels showed that the formulations contain similar raw materials (anionics and non-ionics) so that the concept of master batch can be introduced.
- Fabric softener with a cationic base cannot be combined with these formulations and would require substantial intermediate washing which would make the system ineffective. However, the design should take later installation of this unit into consideration.
- Fast change between the formulations, minimal losses of raw material and small amounts of washing water are major requirements for the design.
- Each raw material flow will be controlled and the production run will be recorded for quality assurance in a process control system.
- As more than one production unit is supplied with identical raw materials intermediate buffer tanks will be installed on the level above the production unit to avoid additional feed pumps.
- In front of each filler a finishing unit is placed to finalize the formulation by adding the relevant components, mix homogeneously, and measure and control pH and viscosity.
- Fabric softener with a cationic base cannot be combined with these formulation.

At this stage 2 finishing units are installed.

- Each system is equipped with an individual PLC. A central process control system based on "WIN-CC" is responsible for visualizing, library of formulations and production run records.
- Fabric softener with a cationic base cannot be combined with these formulation.

## This leads to the process diagram on the first page with the following features:

- Production of dish washing liquid, shampoo, shower gels and bubble baths within the Bran+Luebbe Master Batch Concept.
- Feed of main components directly from the storage tanks in the tank farm.
- Formulations with up to 13 raw materials.
- Three internal buffer tanks with 10 t capacity.
- Integration of existing buffer tanks for dish washing liquid and fabric softener into the process design.
- Pigging of fee lines between internal buffer tanks and tanks in the tank farm.
- Valve node to select between finishing 1 and 2 and CIP cleaning.
- Two filler lines are equipped with finishing units.
- Finishing units handle up to 9 different additives.
- Basic design of a color diluting system to handle three colors (red, yellow, blue) in order to produce every required color by relevant metering and mixing.
- Pigging of the finished product line between finishing unit and filler.
- Design and installation of a centralized CIP system.



**motralec**

4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX  
Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48  
Demande de prix / e-mail : [service-commercial@motralec.com](mailto:service-commercial@motralec.com)

[www.motralec.com](http://www.motralec.com)