



LIQUID DETERGENT & LIQUID SOAP PLANT

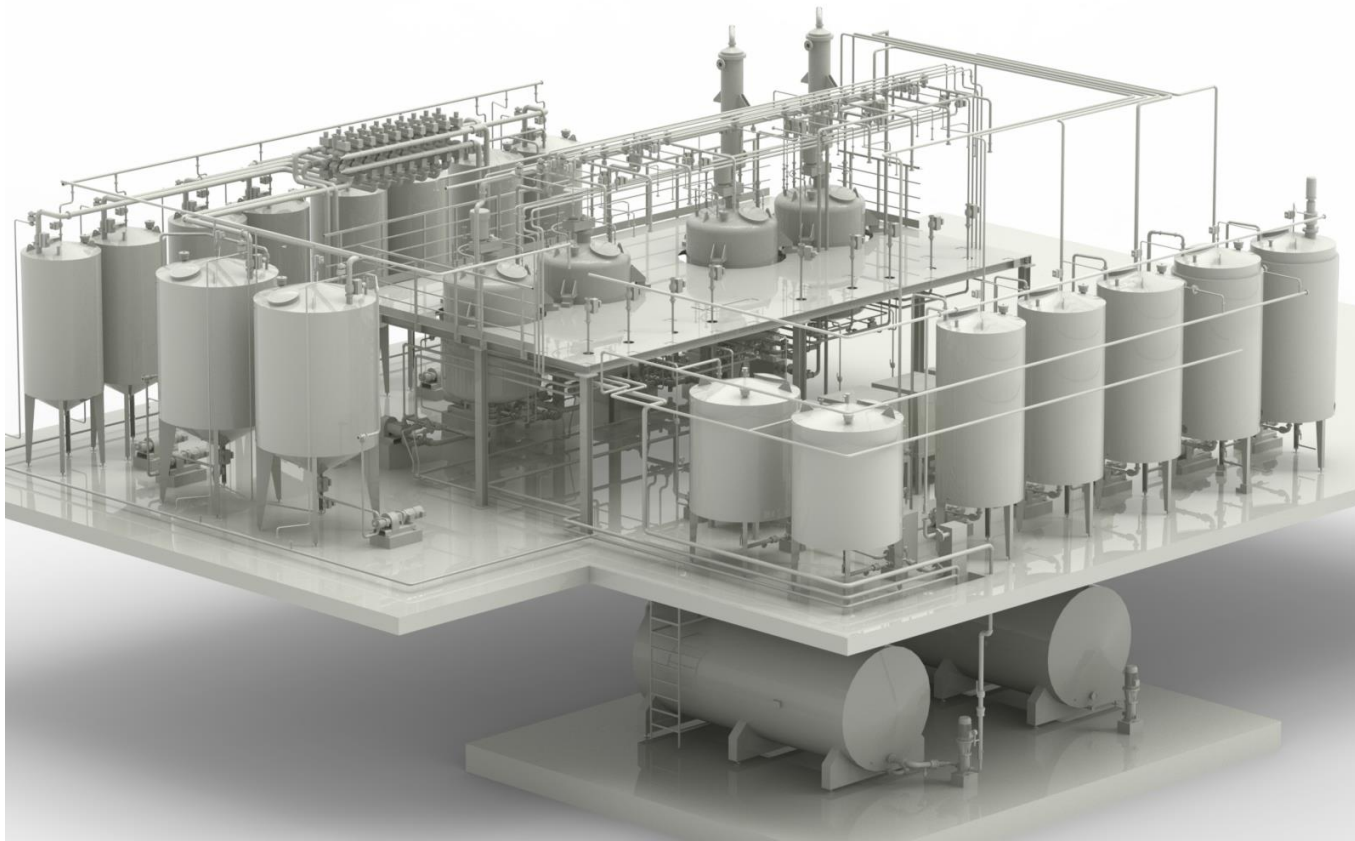
Customer satisfaction is our mission...
experience is our strenght

www.soaptec.biz





HOME AND PERSONAL CARE PROCESS PLANT



Liquid soap can be divided into two major product groups: personal care and household.

The **personal care** category includes all products used for personal care, such as shampoo, shower gel, conditioner, body lotion, and face cream; whereas, the **household** one includes the full range of household care products, such as dishwashers, floor cleaners, liquid detergents, and fabric softeners.

Although similar in nature, the production of these different types of soap requires specific measures. Soaptec's state-of-the-art liquid soap production plants help soap manufacturers to create products that fully comply with safety regulations and market expectations.

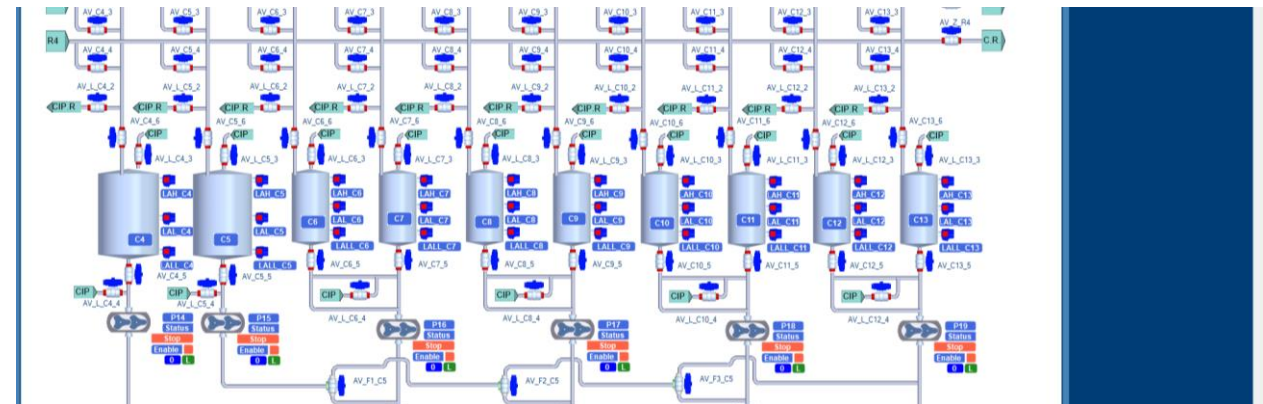
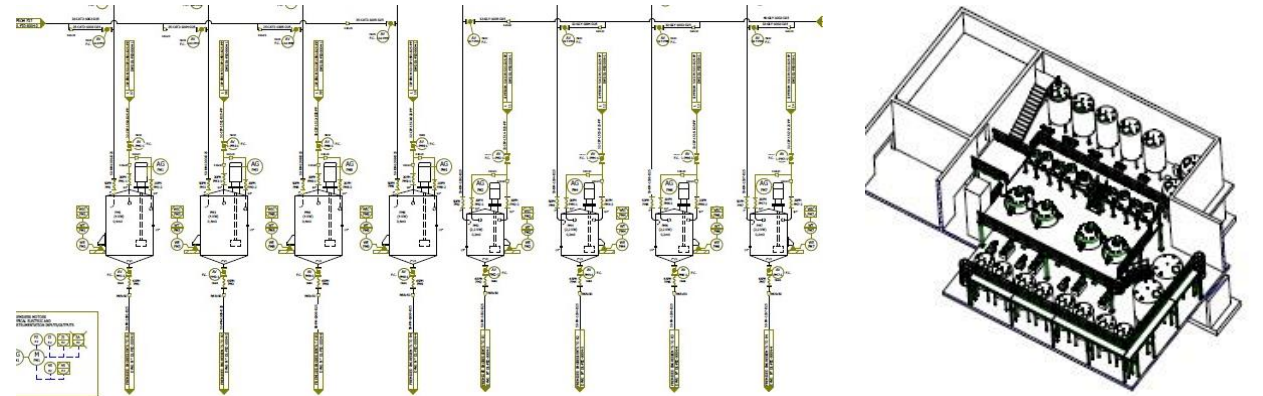
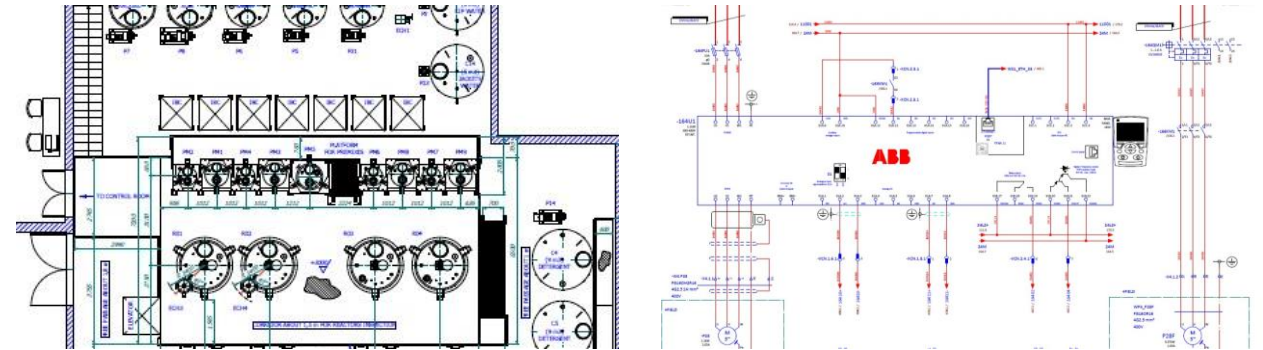


Our company specialises in the manufacture of tailor made plants and machinery dedicated to the production of Personal Care and Household soap. Based on individual requirements, our company designs and builds custom compound plants using different types of basic elements such as reactors and mixers, agitators, homogenizers, recycle pumps, heat exchangers and so on.

DETAILED ENGINEERING

All of Soaptec's equipment is developed in accordance with national and international safety regulations and is manufactured using the best materials available, including stainless steel and carbon steel, to provide customers with maximum reliability, durability, and overall quality.

In addition, the machines can be accessorized at the customer's request with additional elements that increase the degree of usability by the operators, the CIP (Clean In Place) system, for example, allows the quick cleaning of the machines.



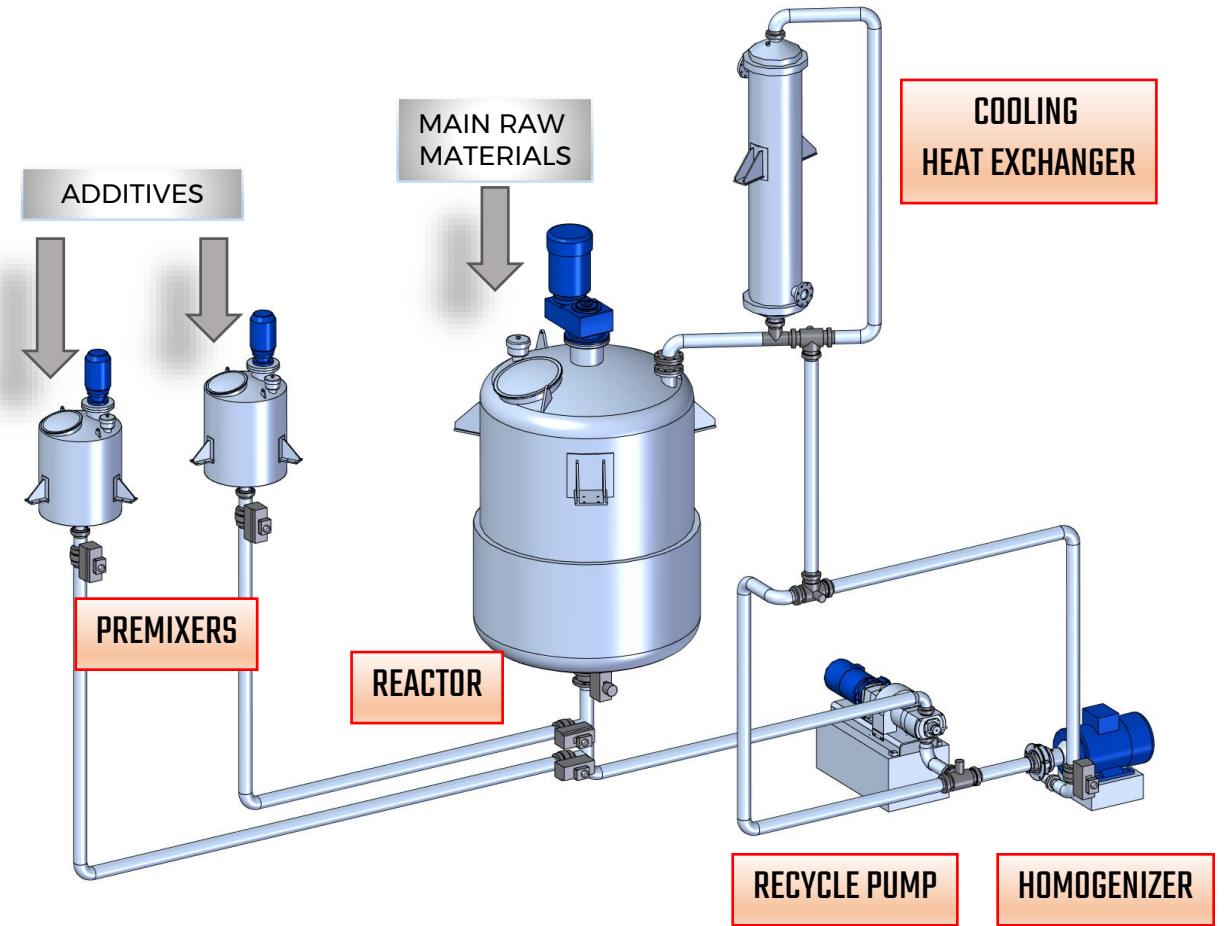


MIXING LOOP

Soaptec proposes a modular mixing loop composed of one or more elements of the system presented here in its integrity.

It has to be understood that the system includes dosing system and can be fitted with auxilliary equipment such as vacuum pump and Clean In Place.

Real life production unit usually comprises of more Mixing Loops integrated in a single system sharing dosing and controls.

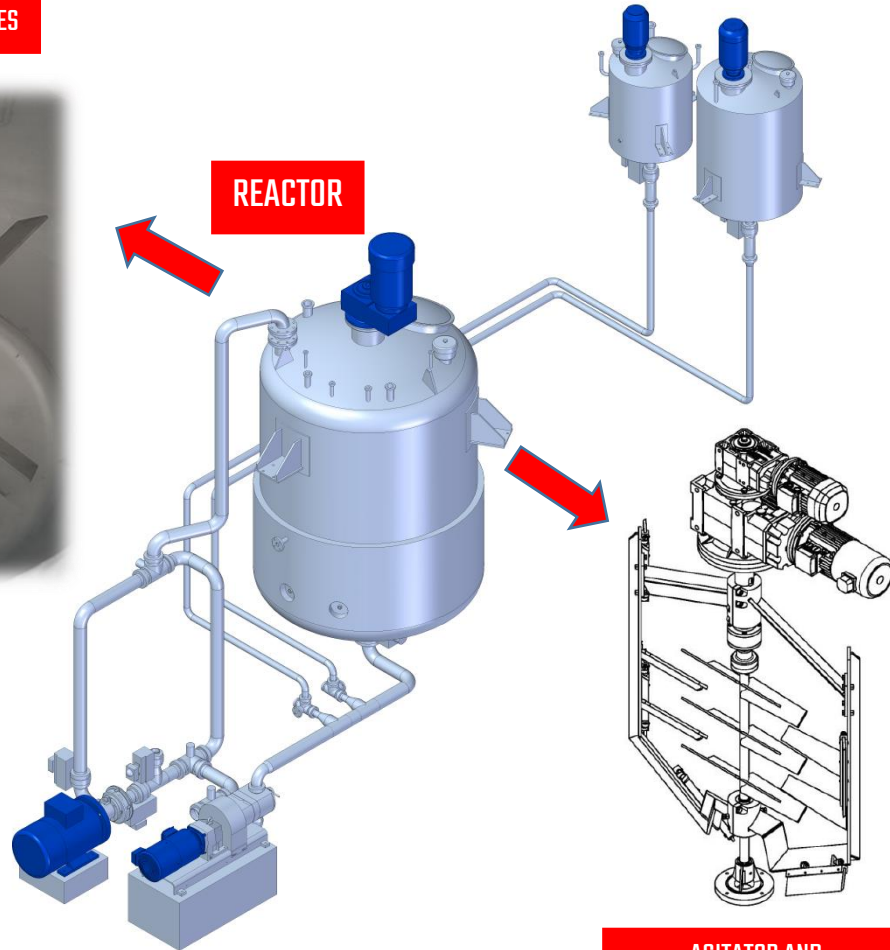




soaptec

REACTOR

AGITATOR AND BUFFLE PLATES



REACTOR

AGITATOR AND
COUNTER-ROTATING SCAPER

Reactor is the heart of the system, a machine where everything happens, be it a simple mixing or mixing and neutralization.

Depending on viscosity of the product and complexity of process mixers can be equipped with simple paddle agitators, baffle plates and/or counter-rotating scrapers.

Reactor is equipped with a jacket for thermoregulation and can be fitted with a vacuum pump when required by process.



PREMIXER

Many times, process will require a separate mixing of different elements of the formula, or just to weigh smaller quantities with better resolution, not possible in main reactor.

For that purpose installation is complete with one or more pre-mixers. They can be heated and fitted with different agitators, such as paddle mixers, high-shear mixers etc.





RECYCLING PUMP



Installation is complete with a lobe pump. Obviously this pump is used to empty the Reactor and transfer the finished product to storage. However, there are moments when this pump is used as a part of the process:

- To recycle the material enhancing mixing
- To recycle material accross High Shear mixer for homogenization
- To recycle material accross Heat Exchanger for temperature regulation

This is why it is called Recycle pump.

HOMOGENIZER

In many formulations there is a necessity for homogenization of very viscous materials or materials that are not easy to disperse in water. For that purpose, installation has to be fitted with an in-line High Shear Mixer that will do a quick job of all those tasks.

COOLING HEAT EXCHANGER



There are many cases where the final product of the process is very hot. This may be because of the heating (common procedure in many formulations) or exothermic nature of neutralization (also common procedure).

In any case, it is not wise to add volatile materials such as perfumes to the hot product and/or to transfer the hot product to the filling machines.

Best way to handle this is to install an external tube and shell type Heat Exchanger positioned above Reactor so that the product can drain by gravity.

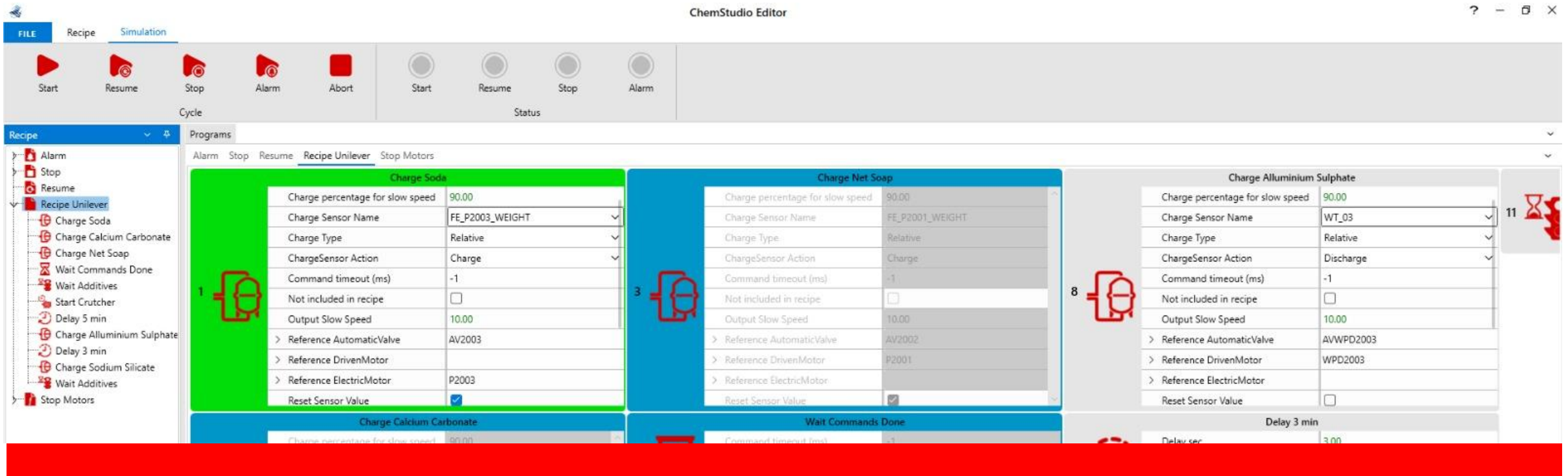
CLEANING IN PLACE

It is highly recommended to equip the installation with a CIP (Clean In Place) system.

CIP is composed of a hot water generator and spray balls installed inside all the vessels to be cleaned.

Water used is a part of the formulation and is of the same quality used for production.

DOSING RECIPE MANAGEMENT



The screenshot displays the ChemStudio Editor interface for recipe management. The main workspace shows three recipe steps, each with a table of parameters:

Step	Charge Soda	Charge Net Soap	Charge Aluminium Sulphate
Charge percentage for slow speed	90.00	90.00	90.00
Charge Sensor Name	FE_P2003_WEIGHT	FE_P2001_WEIGHT	WT_03
Charge Type	Relative	Relative	Relative
ChargeSensor Action	Charge	Charge	Discharge
Command timeout (ms)	-1	-1	-1
Not included in recipe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Output Slow Speed	10.00	10.00	10.00
Reference AutomaticValve	AV2003	AV2002	AVWPD2003
Reference DrivenMotor		P2001	WPD2003
Reference ElectricMotor	P2003		
Reset Sensor Value	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Dosing is of paramount importance and is done in a variety of ways, most common being weighing via load cells or metering via flow meters.

It is also very common to include manual additions into the recipe since same systems can be used to produce a really wide variety of products.

Recipe comprises not only of a list of ingredients with relative quantities but also, temperatures, sequences of additions, procedures and times.

Soaptec developed a dedicated piece of software for this task.





SUSTAINABILITY
OPPORTUNITY
ADVANCEMENT
PASSION
TECHNOLOGY
EXPERIENCE.
CARE



Tel: +39 0331 852312



www.soaptec.biz
info@soaptec.biz



Via San Lucio, 69
21050 - Lonate Ceppino - (VA)

Customer satisfaction is our mission...
experience is our strenght

www.soaptec.biz

