

SupraMix 2000



IN-LINE

- ◆ **DOSING**
- ◆ **MIXING**
- ◆ **DISPERSING**
- ◆ **PUMPING**
- ◆ **FILTERING**

**OF LIQUIDS
AND PASTES**

SupraMix - Dosing and Mixing System

Function and Principle

Conventional Dosing and Mixing Technique

The individual components are submitted manually or over simple proportioning valves into the mixing tank. During the mixing process particles remain hanging unblended on the wall of the tank, or pass the mixing head without being dispersed. It comes to lump formation and to an incomplete explanation of the products.

After the mixing process the blend is either pumped to a holding tank or it is filled directly into barrels.

By the duration of storage it can come to bacteria contamination and to sedimentation.

The mixing and storage vessel, as well as the lines must be cleaned regularly.



SupraMix Technology

Continuous dosing- and mixing technique is combined, and the advantage is a compact and high-efficient system with best mixing capacity. The dosage of the individual components is made continuously by precise eccentric spiral pumps, whose number of revolutions is controlled proportionally to the quantity which should be dosed.

Simultaneously dosing, mixing, dispersing, pumping and filtering.



Recipe input and Control System:

The respective recipe and dosing quantity are entered at the control panel in plain text.



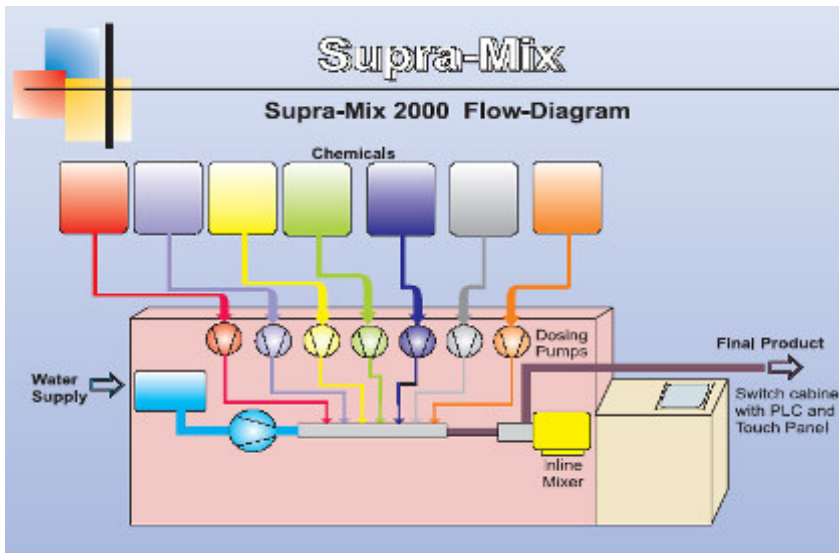
Monitoring

Products are monitored in order to prevent that recipes are mixed falsely due to missing products.

In addition an un-lubricated operation of the pumps to prevented. The minimum level of the components is monitored by sensors or level switches.

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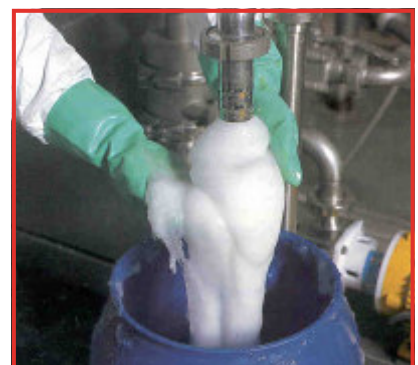
Function and Principle



SupraMix high speed turbine

Mixing and dispersing

The components must pass the homogeniser mixing turbine and by the construction of the rotor and stator it comes to a complete and immediate dispersion of the components. The result is a lump and air-free, homogeneous paste with fully developed viscosity. The number of revolutions of the mixer can be controlled within a range of 1000 -- 6000 rpm and in addition different rotor/stator mechanisms are available.



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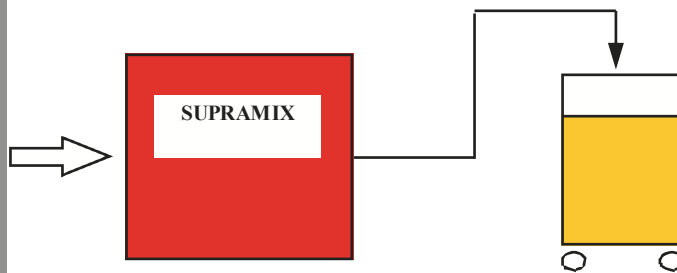
Operating Modes

Batch operation

A certain quantity is pre-selected and afterwards processed by the SupraMix.

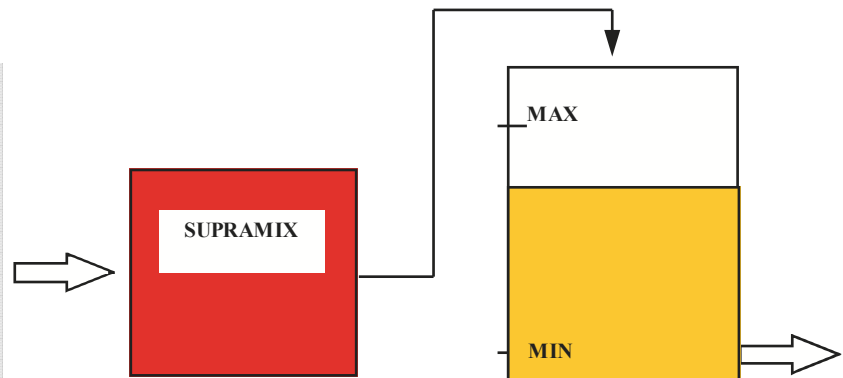
e.g.: 15 kg of the recipe no. 8

The total quantity is dosed and mixed and the blend can be filled up directly into a transportable container.



Level mode

There are two level sensors in the holding tank to be filled. And these sensors are switching on and off the mixing process. This operating mode is used in cases, where consumption is very precipitous, and where at short notice large quantities are used.



Manual operation

SupraMix is switched on and off manually.



Test mode:

To make the basic adjustments but also to test all the functions of the system there is a set of test routines incorporated.

For example the required quantity is given and compared with the actual quantity. Based on the result an adjustment of the volume could be made by software.



SupraMix - Dosing and Mixing System

Characteristics

- automatic dosing - no manual weighing and measuring
- accuracy of $\pm 2\%$ of the quantity (volumetric)
- modular system with different sizes of pumps
- PLC control with " Touch Panel "
- product monitoring
- additional sucking pump for all components used at filling at product change
- adjustable speed of the mixer (1000 - 6000 rpm) to process most diverse products
- wide range of viscosity of the individual components and the final product
- output pumping performance of up to 6 bar
- optional filter at the outlet
- easy cleaning by integrated washing program
- full yield of thickener and better mixing and dispersion – higher yield of raw materials
- immediate change of recipes and quantities
- fully automatic mode of operation
- compact and inexpensive in the comparison with similar systems

SupraMix is built on your demand for individual applications



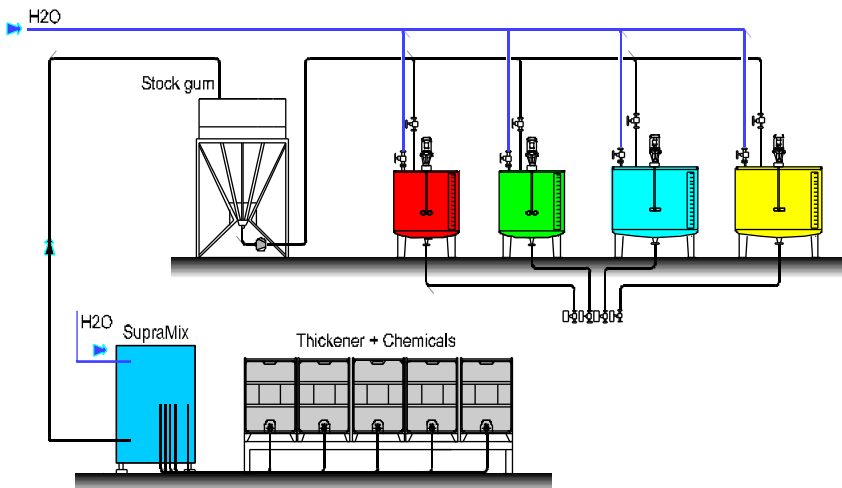
Technical data

components	2 to 20
mixing quantity hour	900 to 9000 kg per
range of viscosity	1 - 500.000 mPas
accuracy	\pm
2 % (<1% on request)	
Recipe control screen	manual or via touch



SupraMix - Dosing and Mixing System

Applications



Typical layout of a thickener preparation system for a ChromoJet print line (6000 kg/hour)



2 thickener transfer pumps pump the stock paste from holding tank to dye mixing tanks.



SupraMix - Dosing and Mixing System

Applications

Thickeners

In the textile printing technique most diverse thickener systems are used, which ensure that during printing process the dyes do not run into one another and to maintain a high yield of the coloration. The actual dyestuff is added to the pre-mixed stock thickener on a second step. Since the thickener plays a major role for the print result a multiplicity of different recipes are used. Until today the thickener was prepared using a conventional mixing system with all its disadvantages.



Textile Screen Printing Machine

Pigment Printing recipe:

Binder A	20 - 200 g/kg
Binder B	20 - 200 g/kg
fixing agent	4 - 40 g/kg
synth. thickener	4 - 40 g/kg
ammonium	

SupraMix

The correct recipe (also in small quantities) can be set by the application of SupraMix. No compromises must be entered because it takes too long to change a recipe.

Result:

An air- and lump-free, homogeneous paste with a 20% higher viscosity, which can be used immediately. The saving is situated not only in the work input, but also in energy and particularly in raw materials.



SupraMix - Dosing and Mixing System

Applications

Chemical industry

- and lacquers
- chemical dilution
- emulsions
- lubricants
- oils and fats



Textile industry

- thickeners for pigment printing
- thickener for carpet printing
- chemicals for pre-and post treatment
- dyeing process



Cosmetics

- lotions
- shampoos
- cleaners
- liquid soaps
- detergents



J. Zimmer Maschinenbau GmbH
Eibergstrasse 2-8
A-6330 Kufstein / A U S T R I A
T: +43 (5372) 6 48 93
F: +43 (5372) 6 14 76
chromojet@zimmer-austria.com
www.zimmer-austria.com