



## Your first choice of partner for the production of cosmetics

Machines, plants and processes that will improve  
product quality and reduce production time.



Beneficial characteristics of  
our products

- Satisfying GMP-requirements
- Satisfying and certified to 3A-Sanitary standards
- Designed to accommodate CIP/SIP
- Consistent, repeatable mixing quality
- Reliable scale-up





for your products

## Inline-process

### for the dilution of ether sulphate (LES)

#### Body care

- Shower gel
- Liquid soap
- Cleansing milk
- Hand washing paste
- Body lotion
- Suntan lotion
- Suntan gel
- Creams
- Ointments
- Bath essences
- Deodorant sprays
- Tooth paste
- Shaving cream

#### Hair care

- Shampoos
- Hair restorers
- Rinses
- Colourings

#### Decorative cosmetics

- Mascara
- Eye shadow
- Eyeliners
- Make-up
- Lipsticks
- Nail varnish



The DPv plant enables a continuous, air free dilution of tensides with a 70% concentration (LES) down to a concentration of approx. 28% or less. There is no requirement for long mixing times or storage vessels. Any required quantity or concentration can be produced within a reduced time scale and the plant can quickly and easily be modified for the inline mixing of many diverse ingredients.



shower gel



shampoo



liquid soap

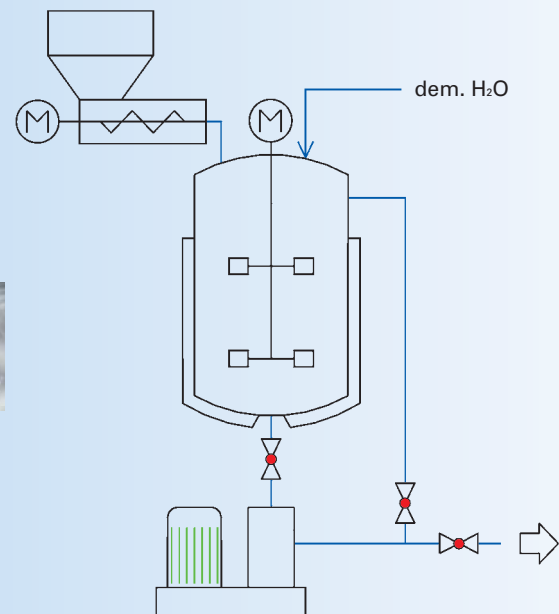
## Mechanical breakdown,

### preparation of extractions

Plant extracts are often used for the production of effective body care and protective products.

In order to achieve the optimum degree of extraction, good preparation is essential. The mechanical breakdown of plants, i.e. the comminution of the respective parts of a plant such as the flesh, leaves, roots, flowers, in a suitable solvent. The enlarged surface area of the plant parts and the thinness of their layers are resulting in an improved extraction yield.

Our ULTRA-TURRAX® and DISPAX-REACTOR® machines are successfully used for such comminution of fibres and the disintegration of cells.



Aloe vera



DISPAX-REACTOR®

IKA®ULTRA-TURRAX®  
IKA®DISPAX-REACTOR®

## Batch production of difficult tenside/water/solid suspensions



Suspensions, such as hand washing pastes and cleansing products with abrasive properties require that not only tensides are used as the fat solvent, but also friction particles like PUR-powder are incorporated. Thus there is a great variety of formulations; also for reasons of environmental protection the inclusion of some solvents is more and more restrained.

With the requirement of such a wide variety of mixing components with different interfacial surface tensions it is difficult to produce a proper and homogeneous dispersion.

The IKA® Master Plant with the integrated mixing and dispersing machine DBI 2000/.. help to overcome all these difficulties. In-homogeneous mixtures are avoided by introducing even smallest quantities of liquid or solid additives directly into the dispersing chamber of the DBI 2000/.., vacuum in the vessel is not necessary.

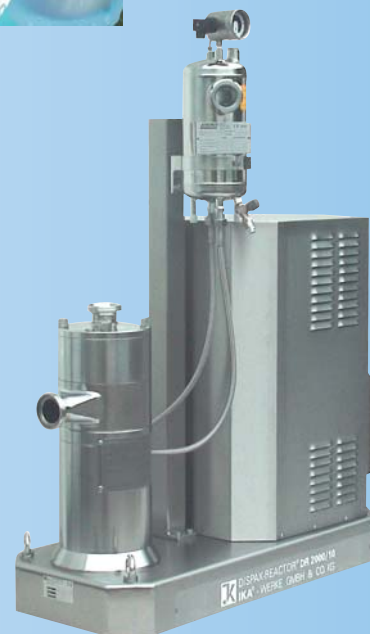
## Production of gels, creams and ointments



All three products consist of extremely fine disperse systems composed of several liquid and solid components. The collochemical composition of many ointments is characterized by a gel structure. Gels have high water content, so that thixotropy may occur due to their intrinsically viscous behaviour, this fact is advantageous for dispersing and homogenizing.

Creams or ointments have a high content of waxes or fat, which initially have to be liquefied. The emulsion or suspension is produced step by step, by adding emulsifiers or stabilizers. To ensure stability it is essential to produce an absolutely homogeneous mixture with particles or droplets as small as possible and of uniform size.

These fine dispersions are achieved using the IKA® colloid mill MK, the IKA® DISPAX-REACTOR® or the IKA® high pressure homogenizer HPH.



Please visit our website, [www.processworld-online.com](http://www.processworld-online.com).

## Hydration and dispersion of carbopolymers, for example Carbopol® \*

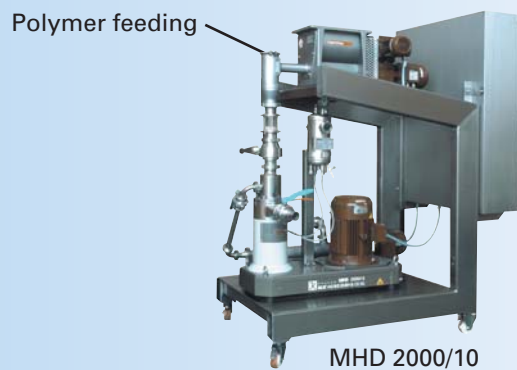
This polymer is available as a light, white powder and is highly hydrophilic, i.e. it has a strong affinity to water. When coming into contact with water it immediately tends to form agglomerates. Carbopol®, or similar products, is used in the production of cosmetics and toiletries for the adjustment of viscosity, as an emulsifier, a stabilizer or gelling agent and often in connection with neutralization, i.e. a change of the pH-value.

There are two ways to achieve the production of the polymer-water-solution and the subsequent neutralization, without incipient agglomeration issues:

**Batch process with the IKA® Master Plant**



**Continuous process with the IKA® MHD 2000/..**



\* Manufacturer B.F.Goodrich

### Trial materials, processes and results

|  |   |
|--|---|
| <b>Trial material</b><br><b>Target of the trial</b><br><b>Machine / Plant</b><br><b>Result</b><br><b>Noted characteristics</b> | <b>Collagen/...</b><br><b>homogeneous emulsion</b><br><b>IKA® DISPAX-REACTOR® DRS</b><br><b>homogeneous paste</b><br><b>increased energy consumption, moderate increase of temperature</b>  |
| <b>Trial material</b><br><b>Target of the trial</b><br><b>Machine / Plant</b><br><b>Result</b><br><b>Noted characteristics</b> | <b>Silicone/...</b><br><b>homogeneous emulsion of even consistency, paste</b><br><b>IKA® DISPAX-REACTOR® DR / IKA® colloid mill MK</b><br><b>pasty micro-emulsions in the nano size range</b><br><b>extreme energy consumption, high temperature increase</b> |
| <b>Trial material</b><br><b>Target of the trial</b><br><b>Machine / Plant</b><br><b>Result</b><br><b>Noted characteristics</b> | <b>oil, water, cetylic alcohol, stearic acid, Carbopol®, etc.</b><br><b>stable emulsion</b><br><b>IKA® DISPAX-REACTOR® DR / IKA® colloid mill MK</b><br><b>pasty moisturizing cream</b><br><b>non</b>   |



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