It's magic.

IKA’S INNOVATION FOR THE COSMETIC INDUSTRY.
Innovative technologies for the cosmetics industry

/// Machines in laboratory, pilot and industrial size scale from IKA

Experience the unique transfer from laboratory to production scale.

The selection of cosmetic products is diverse and can therefore be challenging for you and your company. Our goal is to support you in handling the challenges presented here with our innovative variety of technologies.

As a global company with 100 years of experience, we are a true expert in process technology for the cosmetic industry. The decades of experience from working with our customers is reflected in our products. There are different requirements for the delivery of innovative process solutions: emulsions, suspensions, aerosols and solutions from colloidal substances.

What are you waiting for? Develop new products, optimize your process or your formula: we deliver the solution and guarantee a unique and reliable transfer from the laboratory to production scale due to identical process parameters.

Experience the innovative solutions from IKA online: www.ikaprocess.com.
IKA process technology
/// The solution to the challenging array of products in the cosmetic industry

LIQUID-LIQUID MIXING
Cosmetic creams are emulsions - the mixture of at least two liquids, which either are difficult to mix or cannot be mixed at all.

A stable emulsion can be achieved with the IKA dispersers. They work with a rotor-stator system that provides a very high shear force with low energy input. This system provides a dispersion phase with very fine and uniform distribution into the base medium.

SOLID-LIQUID PROCESSING
The majority of cosmetic products are suspensions. For the manufacturing of a suspension, solids that are not soluble in liquids are distributed very finely into the liquid base. The smaller the solid particles and the more uniform the particle sizes, the more stable the mixture is.

For example, a base cream serves as a liquid base when manufacturing an end product. This is added homogeneously to a finely ground solid resulting in a pasty consistency. IKA inline dispersers create high shear forces and result in a very narrow particle size distribution.

/// Liquid-liquid mixing

/// Solid-liquid processing

magic LAB
› multi-functional
› for mixing, dispersing, wet grinding

magic PLANT basic
› for the batch mixing and emulsifying low viscous to barely flowing masses
› for a large area of mixed goods
SOLIDS PROCESSING

In many cosmetic applications, ingredients are worked into a liquid as a powder or granulate.

Since the quality of the final product depends greatly on the quality of the initial substances, it is recommended that particle sizes be ground before they are used for further processing or to remove any clumps caused by deagglomeration during storage.

Final products in a powder form, like powders or eye shadows, also use IKA products for mixing, deagglomerating or drying.

LIQUIDS DILUTION

If the goal is to continually work in a substance homogeneously into a different substance, a DPV mixing system is recommended. Through dosing pumps, the substances are added to an inline machine and not combined until the mixing chamber. This helps prevent undesired reactions like immediate clumping.

This procedure is also extremely effective if, for example, very small quantities of aroma should be added to the product batch for scented care products or perfumes.
IKA process systems
/// Solid-liquid-mixing with DBI

SOLID-LIQUID MIXING
WITH BATCH SYSTEMS
With the Master Plant MP and Standard Production Plant SPP process systems, IKA offers compact solutions for the production of high-quality emulsions and suspensions in the recirculation process.

The heart of both systems is the dispersing machine DBI, which draws in solids and liquids directly into the dispersing chamber. The product circulates through a recirculation loop and the mixing vessel through the DBI.

DISPERsing MACHINE DBI
Innovative technical details allow for better process data and shortened process times with optimal dispersing quality and an extremely wide range of viscosity.

Master Plant MP
- Homogenizing and emulsifying system
- Counter-rotating agitator, can be heated or cooled
- Compact design
- Perfection in detail

Standard Production Plant SPP

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Application example
/// Emulsion for spray-on sunscreen

The mixing vessel is preheated in the first step for the manufacturing of sun protection spray. Sterates, fats and wax are filled and mixed through the vessel cover of spray-on sunscreen. At the same time, the counter-rotating anchor agitator and the DBI 2000 run slowly in order to keep the material in the lower part of the vessel moving.

In the next step, a polymer and hot water are added to the melt via the side funnel. A water-in-oil emulsion is quickly created by the high peripheral speed of the dispersing machine DBI. While the product circulates through the machine, a premix of cold water and the oil phase is created and slowly fed through a second feed funnel. This results in the emulsion being returned to an oil-in-water emulsion.

After cooling to room temperature, alcohols and scents are added through the funnel and homogenized with the emulsion.

Product portfolio
/// Overview of IKA products

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<thead>
<tr>
<th>PRODUCT TYPE</th>
<th>VOLUME [l/h] / [kg/h]*</th>
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<tbody>
<tr>
<td>DISPAX REACTOR DR</td>
<td>2.500 – 125.000</td>
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<tr>
<td>DISPAX REACTOR DRs</td>
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<tr>
<td>CMX</td>
<td>1.500 – 200.000</td>
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<td>magic LAB 2000/03</td>
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<tr>
<td>LABOR-Pilot 2000/04</td>
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<tr>
<td>PROCESS-Pilot 2000/04</td>
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<td>Series Mill CORVA</td>
<td>500 – 4.000*</td>
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<tr>
<td>Dry Mill PILOTIA</td>
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<table>
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<tr>
<td>ULTRA-TURRAX LTE</td>
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<tr>
<td>Master Plant</td>
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<td>Magic FLAT Plan</td>
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* All numbers based on water and are dependent on product properties.