

Systems & plants

/// Always right for your process

IKA processing plants can be used to produce solutions, emulsions and suspensions in many applications. Owing to the advanced design, they can handle products that range from low to high viscosity.

Our plants are flexible and easily adaptable to any application. They are used, for example, to produce cosmetic creams and lotions in the cosmetics and pharmaceuticals industry, mayonnaise and dressings in the food industry, suspensions and emulsions in the chemical industry, and for paints and lacquers. Based on our long experience with many applications, IKA is your expert partner for process plants.



Scale-up

/// Develop – Optimize – Scale from lab to production

Simplified scale-up using identical dispersing parameters for all sizes makes for reliable scaling up. When new products are developed, the processes are initially tested in pilot plants. Lab-scale trials are also used to confirm changes in recipes or ingredients.

By using identical design and dispersion parameters, IKA systems guarantee reliable scale-up with constant product quality.



Systems & plants

/// Overview



IKA magic LAB

The tiny, yet powerful inline laboratory dispersing machine, designed for mixing, dispersing and wet milling. It can also be converted for batch operation with a 1 to 2 liter capacity.



IKA magic PLANT

The most versatile laboratory reactor with a 2-liter vessel and an agitator for mixing and homogenizing liquids and pastes.



Compact Mixing Plant XPP

The compact mixing and dispersing plant XPP has that something extra for your process technology. It is ideally suited to homogeneously incorporating large quantities of powdered solids and liquid additives into a liquid, efficiently and cost-effectively.

Standard Production Plant

The tried-and-tested and cost-effective Standard Production Plant (SPP) is the IKA solution for many applications. It is available in 8 sizes with capacities ranging from 25 to 4,000 liters.



Master Plant

IKA's homogenizing and emulsifying Master Plant is available for useful volumes from 10 to 4,000 liters. It mixes and disperses efficiently, controls the temperature and feeds additives. The innovative GMP-compliant mixing plant is ideal for processing high viscosity products, especially in the food, cosmetic and pharmaceutical industries.

IKA pilot plants

/// Magic LAB



IKA magic LAB 2000/03

The unique and versatile laboratory machine for new product development and product and process optimization. The seven interchangeable mixing modules make it the ideal machine for continuous, recirculation and batch processes. Standard version with ULTRA-TURRAX UTL module



IKA magic LAB XP

The magic LAB XP is an upgraded version of the magic LAB. It was developed for applications with one or more of the following requirements:

- > High pressure/high vacuum
- > High power requirements
- > Processing of abrasive products
- > Optional explosion-proof design

Technical data	magic LAB 2000/03	magic LAB XP
Power supply [V]	1-phase, 220 – 240	3-phase, 380 – 420
Motor power [kW]	0.9	3
Max. product temperature in continuous/intermittent operation [°C]	80/120	120
Max. process vacuum/pressure [bar]	-0.5/2.5	-1/7
Nominal speed [rpm]	14,600	14,600 (approx. 57 Hz)
Adjustable rotational speed range [rpm]	3,000 – 26,000*	See CONTROLLER
Circumferential speed** [m/s]	23	23
Flow rate** [l/h]	100	100
Dimensions of basic machine (W x D x H) [mm]	170 x 270 x 215	450 x 250 x 930
Weight of basic machine [kg]	7	48
Dimensions of transport box (W x D x H) [mm]	350 x 460 x 560	–
Weight of basic machine in transport box [kg]	20	–

* Including controller** At 14,600 rpm, UTL module, 4 M, water

IKA pilots give you the following options:

- > Choose the process technology to be used
- > Define the required machine and plant size
- > Establish the necessary power requirements
- > Determine the required quality and volume of the raw materials
- > Calculate and define the quality standard of the final product
- > Determine the flow rate and loading times of the production system

Technical data	magic LAB XP CONTROLLER
Max. motor power [kW]	3
Frequency range [Hz]	20 – 95
Speed range [rpm]	5,000 – 23,500
Circumferential speed [m/s]	7.8 – 37

magic PLANT

/// Exceptional - Flexible - Unique

IKA introduces the next generation of laboratory-scale process plants. The perfect simulation of our batch mixing systems with smallest batch volumes. The magic PLANT is the ideal laboratory scale process plant. It is specifically designed to test process and product conditions in an accurate small-scale simulation.

Once a satisfactory product is obtained at pilot scale, the next step is to upscale the manufacturing process to full scale production. The magic PLANT system can be adapted to a wide range of applications and specific requirements, especially in the food, cosmetic, chemical and pharmaceutical industries.

Our magic PLANT is used for batch mixing, homogenizing, emulsifying, suspending, powder mixing and drying. The magic PLANT delivers seamless process upscaling from product development to production at capacities of up to 2 liters.



Advantages

- > Modular design with interchangeable tools
- > Process simulation with the smallest quantities
- > Suitable for wet and dry products

Technical data	magic PLANT
Useful volume [l]	2
Operating pressure [bar]	-1 up to 2.5 (optionally 5 bar)*
Max. temperature [°C]	120/150
Dimensions (W x D x H) [mm]	430 x 520 x 670
Voltage [V]	1 x 230
Viscosity [mPas]**	1 – 100,000

* for magic PLANT basic and powder

** depending on design and product properties.

Technical data	Agitator
Speed [rpm]	0 – 2,000 (propeller) 0 - 350 (anchor and spiral stirrers)
Stirring tools	> anchor
	> propeller
	> spiral agitator for drying
Motor power [W]	> flow breaker 400
Technical data	Disperser T 25 (optional)
Motor power [W]	500
Speed [rpm]	3,400 – 24,000

magic PLANT

/// Exceptional - Flexible - Unique

The IKA magic PLANT is an extremely versatile and multi-functional process plant. Depending on application, it can easily be modified into three different configurations.



magic PLANT basic

- > Adjustable drive for perfect stirring of liquids and suspensions
- > Tilting, double walled and insulated vessel
- > Interchangeable stirring tools
- > Optional ULTRA-TURRAX T 25 batch disperser
- > Operates with pressure and vacuum

magic PLANT in-line

- > In combination with the magic LAB dispersing machine for high quality emulsions and solutions
- > Recirculation loop with 3-way valve for circulation or discharge of the product
- > Modular dispersing chamber to simulate different dispersing methods
- > Adjustable circumferential speed up to 40 m/s for the smallest particle sizes

magic PLANT powder

- > Efficient and product-friendly mixing of free-flowing substances
- > Special powder agitator
- > Better mixing and drying results by tilting the complete mixing system
- > Complete emptying of the vessel by tilting
- > Double walled cover for heating to avoid condensation