



designed to work perfectly



PROCESS PLANTS FOR THE PRODUCTION OF FINE FOOD
SUCH AS MAYONNAISE, KETCHUP, SAUCES ETC.

EFFICIENT FINE FOOD PRODUCTION

The Standard Production Plant SPP is the most efficient production plant for fine food on the market.

Today food is produced in industrial range. Consumers are expecting high quality at affordable prices. On the other hand, commerce needs a functional shelf life. It is the great challenge for modern food producers to fulfill these expectations.

The food producer has to ensure a constantly high product quality at low production costs. Optimizing of recipes and ingredients (hydrocolloids, starch, emulsifiers, etc.) is required. Equally important are efficient, fast and reliable production machines with short batch times.

Emulsions (water plus oil plus emulsifier) and suspensions (water plus solid particles plus thickeners) are the basis of an infinite number of popular fine food like mayonnaise, salad sauces, ketchup, dips, fruit puree, analogue cheese and many others more.

The IKA SPP is outstandingly suited for the production of all these fine food. The patented dispersing machine type DBI 2000 is the most advanced homogenizer on the market with the shortest batch times. **This machine being integrated into the SPP plant, it only needs 5 minutes to produce 500 l of mayonnaise – and this including feeding of the raw material, emulsifying and discharge!**



IKA+

For optimum and **cost-efficient** manufacturing of a **broad spectrum of products** IKA has developed the Standard Production Plant SPP - a highly versatile and **flexible** system.

The SPP includes all components necessary for the preparation of **excellent mayonnaise, ketchup** and many other products.

BASIC RECIPES

	Mayonnaise	Salad mayonnaise	Salad mayonnaise	Salad cream
Ingredients				
Oil	80 %	67 %	50 %	35 %
Egg yolk (liquid)	6 %	–	–	–
Sugar	2.6 %	2.6 %	2.6 %	2.6 %
Salt	1.3 %	1.3 %	1.3 %	1.3 %
Vinegar, 10 %	3.5 %	3.5 %	3.5 %	3.5 %
Water	6.6 %	24.4 %	40.2 %	53.7 %
All-in-one stabilizer compound*	–	1.2 %	2.4 %	3.9 %

* Compound comprising emulsifiers, thickeners and optionally starches

IKA+

REPEATEDLY CONFIRMED

The SPP is an excellent system for the production of mayonnaise, ketchup and many other products!

SPP | COMPONENTS



Cleaning in Place

spray nozzles to ensure thorough cleaning without dead spots or shadow areas

2-bladed anchor stirrer with scrapers and flow braker
for efficient, smooth mixing

Buffer tank
for filling

Mixing vessel
the conical base ensures complete discharge of the final product

Tilting device
allows the vessel cover to be fully opened for easy access to the vessel

Liquid dosing
with flow meter even for heated and cooled liquids



Dispersing machine DBI
the high capacity dispersing machine DBI guarantees high-quality, stable emulsions and suspensions



Funnel
for dosing of liquid and solid additives

OUTSTANDING FUNCTIONALITY

ELECTRONIC CONTROL UNIT

The electronic control unit is designed to meet customer requirements. The range goes from a simple on/off button control to the most advanced PLC solution with full visualization and touch screen, where the operator can choose between manual and fully automatic operation.

Among others, following functions are available:

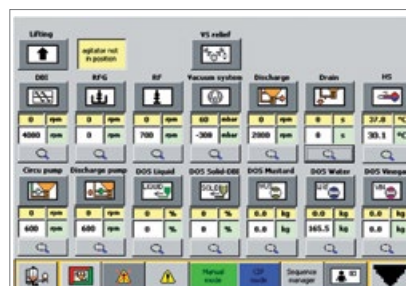
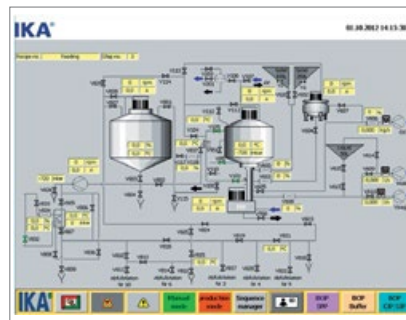
- > Display of all set and actual values
- > Setting and monitoring of limit values
- > Recipe management system
- > Process data storage and display (trend indicator)
- > Safety interlocks
- > Administration of access authorization
- > Administration of CIP-functions

MANAGE AND SAVE YOUR RECIPES

The recipe management system is designed in a user-friendly and efficient way. Recipes are set as a freely programmable sequence of as well freely selectable single functions. The parameters of each step are individually adapted to the respective process step. Recipes once stored can be selected at any time. Thus, the products can be produced in an always constant and invariable high quality.

PATENTED PUMPING AND DISPERSION UNIT DBI

The IKA dispersing system DBI, especially advanced for the production of emulsified sauces, is directly flanged to the vessel bottom. This unique system combines high flow recirculation, uniform drop size and particle size reduction as well as an effective homogenization. Solid and liquid additives are directly fed into the dispersion chamber. Thus, lump formations are avoided and extremely short process times are achieved. During cleaning in place (CIP) the DBI pump stage supplies cleaning fluid in a high flow rate to the self-rotating spray nozzles and other system components.



ADVANTAGES OF THE SPP:

- > Very short batch times
- > Consistently high product quality
- > Excellent homogenization through rapid emulsification
- > User-friendly operation
- > Fully automated operation
- > Quick and easy to clean
- > Direct steam heating
- > Used to manufacture a wide range of products
- > Stirrer and dispersion device with speed control
- > Prevention of lump formation on additive feed via DBI
- > Controlled dosage rate
- > Suitable for highest viscosities

Suction of the mixture from the working vessel

Reflow of the product after dispersing through the circulation loop back into the vessel

Suction of additives

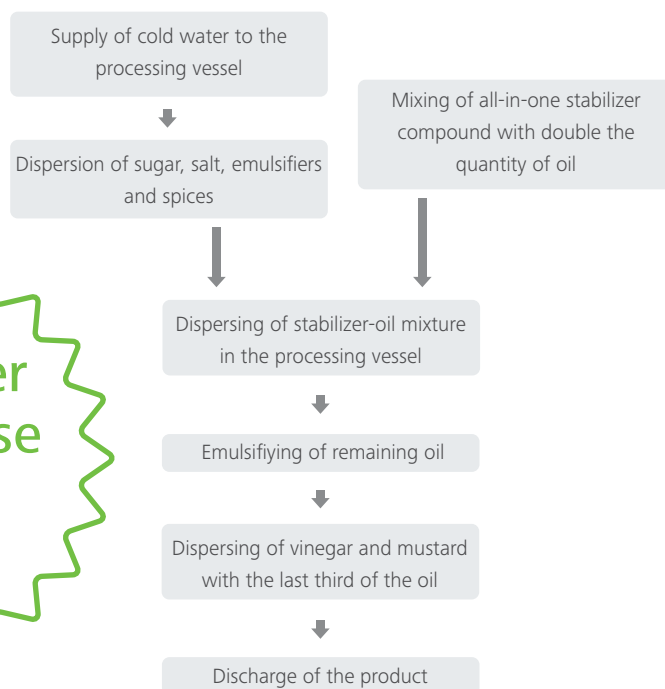


FAST WITH HIGH QUALITY

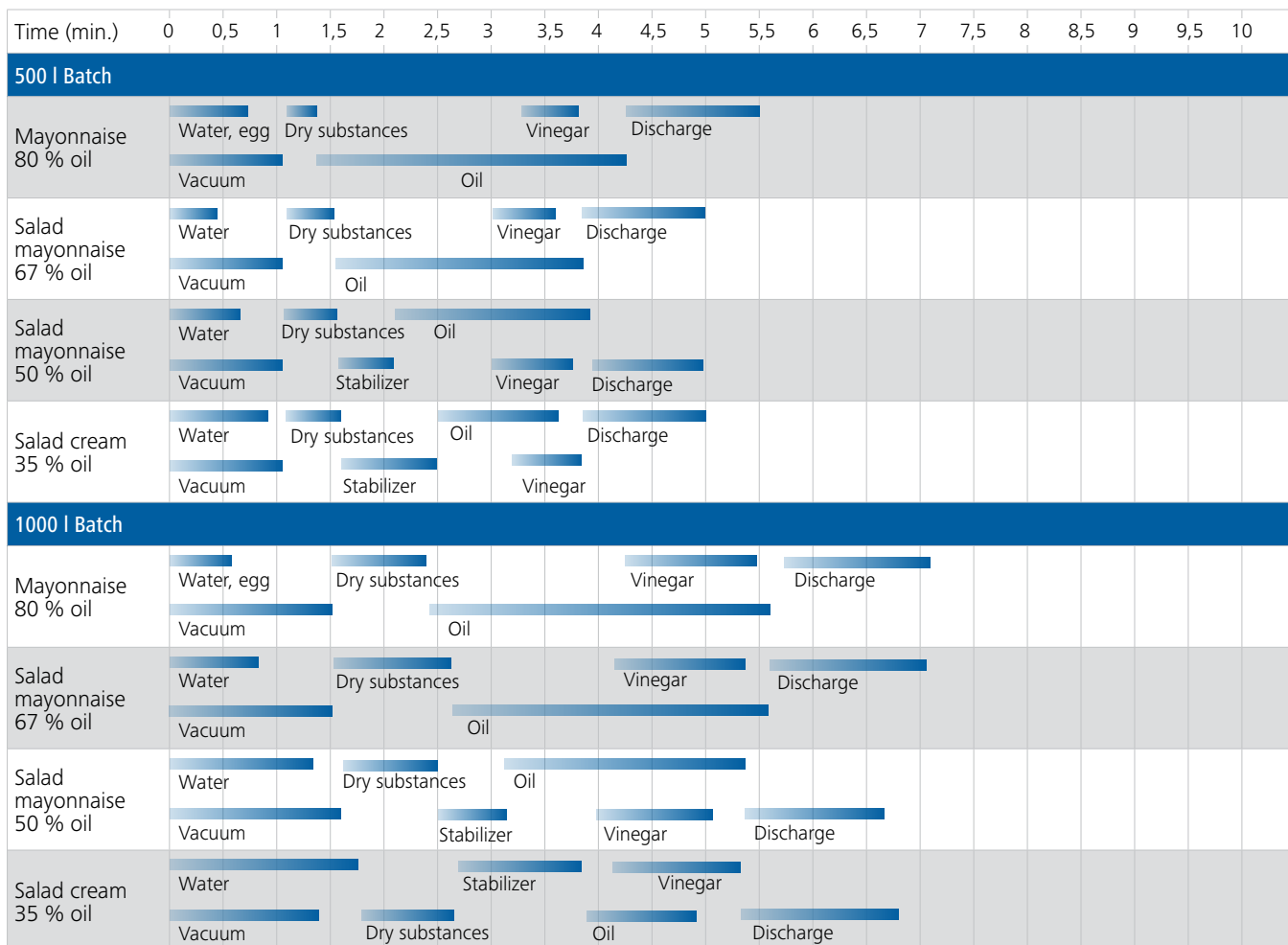
Mayonnaise and other emulsified sauces are generally prepared cold. Some countries, however, use the semi-hot process. Here the water phase (water, salt, sugar, mustard powder) is heated up to 90°C and then cooled down again to 60°C. After adding of the egg yolk it is further cooled down to 30°C. The further procedure is the same as for the cold preparation process.

1,000 Liter
Mayonnaise
in only 7
Minutes!

Cold preparation:



EXAMPLES OF PROCESS WITH TIMES



IKA SCALE-UP

Type	SPP 25	SPP 50	SPP 100	SPP 250	SPP 500	SPP 1000	SPP 2000
Technical data							
Mixing vessel							
Min. volume [l]	8	15	30	75	150	300	600
Max. volume [l]	25	50	100	250	500	1,000	2 000
Anchor stirrer							
Type	RFG-01	RFG-02	RFG-03	RFG-04	RFG-05	RFG-06	RFG-07
Rotational speed [min ⁻¹]	22 to 66	18 to 54	14 to 43	11 to 32	8 to 26	7 to 20	6 to 17
Motor power [kW]	0.37	0.55	0.75	1.1	1.5	3	4
Dispersion unit							
Type	DBI 2000/4	DBI 2000/4	DBI 2000/5	DBI 2000/5	DBI 2000/10	DBI 2000/20	DBI 2000/20
Motor power [kW]	4	4	11	11	22	45	45
Max. flow rate dispersing [kg/h]	8,500	8,500	21,000	21,000	42,000	92,000	92,000
Dimensions							
Height (closed) [mm]	1,350	1,450	1,750	2,000	2,800	3,100	3,750
Height (open) [mm]	1,500	1,650	2,000	2,500	3,200	3,800	4,625
Width (open) [mm]	1,070	1,340	1,370	1,820	2,080	2,935	3,500
Depth [mm]	800	950	1,080	1,150	1,350	1,770	2,200



DEVELOP – OPTIMIZE – SCALE-UP

IKA introduces to you the next generation of laboratory scale process plants. The perfect simulation of the SPP system with smallest sample amounts.

The magic PLANT is specifically designed to test process and product conditions in an accurate small scale simulation. The uniform plant conception enables an easy transfer of the results from the pilot scale to a production plant. The magic PLANT system can be adapted to a wide range of applications.

