



STEPHAN Vacutherm® System

Economic Batch Production

Several Process Steps- one Machine

! The Vacutherm® System is a compact process unit. It has been designed mainly for the production of convenience food. Several process steps are combined in one machine. The processing of liquid and solid ingredients can be done as well as incorporation of particles.

The Vacutherm® System of STEPHAN has been developed and optimized with the collaboration of convenience food manufacturers. Precisely controlled processes result in high product quality and repeatability. The highly flexible system produces a wide range of food products. !

short Batch Times !

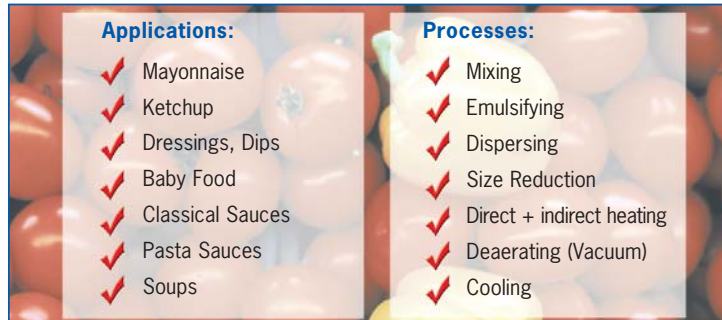
Advantages for your Production

- ✓ Stable emulsions
- ✓ Short batch times
- ✓ Gentle as well as effective heating
- ✓ Constant specific weight
- ✓ Optimal powder dispersing
- ✓ Homogenous mixing
- ✓ Oxidation is avoided
- ✓ Constant product quality
- ✓ Good cleanability
- ✓ Easy to operate
- ✓ Expandable

Stephan
Food Processing Machinery



Applications and Processings Steps



for flexible use

Design of the Vacuotherm® System

! The compact system combines several process steps in one machine. These are mixing, dispersing, size reduction, heating, cooling, pasteurizing, de-aerating and emulsifying. The processing of liquid and solid ingredients can be done as well as the incorporation of particles. Furthermore products can be processed hot as well as cold.

The base components of the process system are a tilted, vacuum tight mixing vessel with integrated mixing arm and an external homogenizer (rotor-stator). The specific geometry of the vessel and the mixing arm allow for effective and gentle mixing of the ingredients at the same time. The external homogenizer is used for emulsification and size reduction. A pump connected at the lowest point of the vessel circulates the product through the homogenizer and back into the vessel.

The homogenizer, a rotor-stator-system, can be used for a wide range of applications.

Beside homogenizing liquids it can be used for dispersing powders into liquids. When emulsification and homogenization is finished particles can be added into the vessel. They are blended gently with the liquid by the mixing arm. The product can be heated up either by direct steam or indirectly through the double jacket of the system. The recirculation pump can be operated as a discharge pump as well. An integrated vacuum system completes the system. It consists of a vacuum pump and a control unit. The ingredients can be fed into the system either by via suction pressure or by special metering systems.

The Vacuotherm® System can be operated manually as well as automatically. Beside machine operation, recipe management and process flow data are included in the automation system. Parameters such as metering, mixing, emulsifying and homogenizing times, temperature curves, vacuum level as well as discharge times are controlled and regulated. !

Extendable by:

- ✓ Oil metering system
- ✓ Vinegar metering system
- ✓ Dry components hopper
- ✓ Liquid components vessel
- ✓ Buffer tank
- ✓ etc.

Components of the STEPHAN Vacuotherm® System



Vessel with mixing arm and steam nozzles



Homogenizer (Rotor-Stator)



Recirculating / discharge pump

Technical Data

Type			V-MC 400/15	V-MC 800/150	V-MC 1200/150
Batch size	[l]	appr.	400	800	1200
Capacity (depending on product)	[l/h]	appr.	1600	3200	4800
Homogenizer type (Rotor-Stator)			MCH15 VM	MCH150 VM	MCH150 VM
Energy requirement	[kW]	appr.	22	38	44
Steam requirement (8 barg)	[kg/h]	appr.	300	750	1200
Cooling water (double jacket, T=15°C)	[l/min]	appr.	120	170	250
Cooling water for vacuum pump	[l/min]	appr.	2	4	4
Recipe water requirement	[l/min]	appr.	120	200	200

Test Facilities

! The test facilities at our headquarters in Hameln (Germany) are available for feasibility studies and demonstration runs of the STEPHAN Vacuotherm® System. !

