

# STEPHAN UHT SYSTEM

Processing for the dairy industry



# STEPHAN CONTINUOUS COOKING AND UHT SYSTEMS FOR THE DAIRY INDUSTRY

Designed for all kinds of processed cheese from low to high viscosity

- THE STEPHAN SYSTEMS FOR CONTINUOUS PROCESSING HAVE BEEN DESIGNED BASED ON THE DEMANDS OF THE DAIRY INDUSTRY.
- TREATMENT OF ALL KINDS OF PROCESSED CHEESE WITH PRECISE AND FULLY CONTROLLED PARAMETERS.
- EXTREMELY SHORT AND EFFICIENT PROCESSING STEPS ASSURE FINAL PRODUCTS WITH BEST QUALITY.
- FULLY FLEXIBLE DESIGN ALLOWS A DESIGN OF PLANTS SPECIFIC FOR CUSTOMERS' NEEDS.

Advantages for your production

- CONSTANT PRODUCT QUALITY
- VISCOSITY CONTROL SYSTEM
- EFFECTIVE HEATING BY DIRECT STEAM INJECTION
- INTEGRATED EMULSIFYING SYSTEM
- EASY TO ADAPT TO NEW MARKET NEEDS
- LONG RUNNING TIMES
- EASY TO OPERATE
- MAINTENANCE FRIENDLY
- CIP-CLEANABLE

## APPLICATIONS AND PROCESSING STEPS

Applications:

- PROCESSED CHEESE:
  - SPREAD
  - BLOCK
  - SLICES (IWS/SOS)
- ANALOGUE CHEESE
- BABY FOOD

Processes:

- MIXING
- EMULSIFICATION
- PASTEURISATION (DIRECT STEAM)
- UHT (DIRECT STEAM)
- DEAERATION
- VACUUM COOLING
- VACUUM CREAMING



# PROCESS DESCRIPTION FOR PROCESSED CHEESE PRODUCTION

## Standardisation

The final product is a blend of raw cheese, various powdered ingredients, butter, fat / oil and water. The main ingredients, natural cheese and butter, require pre-processes such as quality checks, unpacking, weighing, metal detection and grinding.

In the STEPHAN Batch Cooking unit **(1)** all necessary functions of processing such as cutting, blending, heating by direct steam injection, emulsifying and deaeration are achieved within one single module.

In the STEPHAN Continuous Cooker **(2)** the product is heated by direct steam injection combined with a dynamic and highly efficient mixing system. The final emulsifying step is achieved by means of a rotor/stator system which ensures the best product quality.

The processing and heating to the required (70–95 °C) can take place in either a continuous or batch system.

## Processing

The STEPHAN UHT systems **(3)** are state of the art and capable of producing all modern products.

Extension of shelf life is achieved by heating up to 145 °C. For prolonged standing times the UHT can be designed in a double UHT head execution. To reduce setting, product contact parts are PTFE coated.

Prior to filling, the product has to be cooled down and deaerated **(4)** by controlled vacuum, followed by an inclined creaming tank for structure rebuilding and viscosity development under ambient pressure. The Creaming Tank **(5)** is equipped with a high efficiency creaming element and viscosity monitoring.

The product cooling, deaeration and creaming under vacuum can also be achieved in a single combined system – the STEPHAN Flash cooling and Creaming Tank **(6)**.

Additional modules for CIP, steam filtration, product filtration and pigging systems are also available.

# MACHINE RANGE AND COMPONENTS



1 STEPHAN Universal Machine (UM)

Type		UM 70	UM 130	UM 200
Batch size up to	l	55	90	170
Capacity up to	l/h	330	540	1020



1 STEPHAN COMBITHERM (CT)

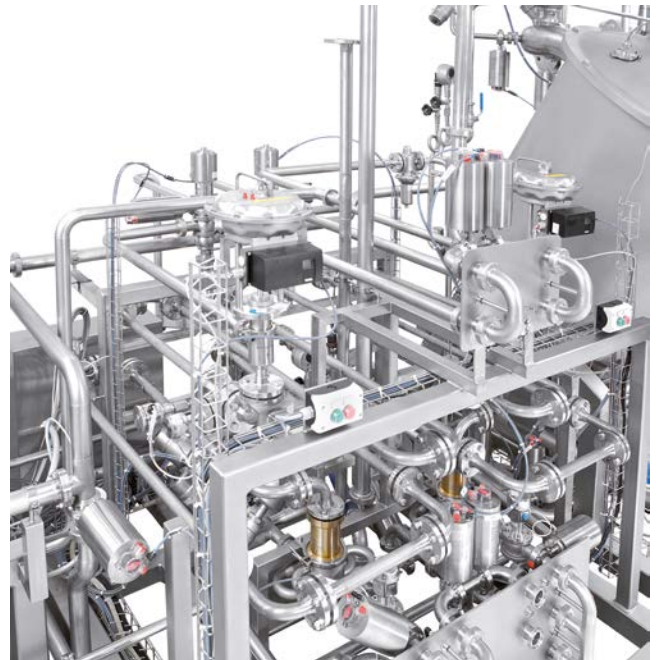
Type		CT 800	CT 1200
Batch size up to	l	800	1200
Capacity up to	l/h	3200	4800





## 2 STEPHAN CONTINUOUS COOKER (CC)

Type		CC 1000	CC 2000	CC 4000	CC 6000
Capacity up to	l/h	300 – 1500	400 – 2000	800 – 4000	1200 – 6000



## 3 STEPHAN UHT (UHT)

Type		UHT 500	UHT 1000	UHT 2000	UHT 4000	UHT 6000
Capacity up to	l/h	100 – 500	200 – 1000	400 – 2000	800 – 4000	1200 – 6000

The machines shown are for illustrative purposes only. Actual machine construction may vary by specification.

#### 4 STEPHAN FLASH COOLING TANK (FK)

Type		FK 500	FK 1000	FK 2000	FK 4000	FK 6000
Max. cooling capacity	l/h	500	1500	2000	4000	6000



#### 5 STEPHAN CREAMING TANK (CR)

Type		CR 180	CR 400	CR 650	CR 1400	CR 2000
Max. creaming content	l	180	400	650	1400	2000

Creaming time approx. 20 min

#### 6 STEPHAN FLASH COOLING AND CREAMING TANK (FC)

Type		CR 180	CR 400	CR 650	CR 1400	CR 2000
Max. creaming content	l	180	400	650	1400	2000

Creaming time approx. 20 min



# STEPHAN DESIGN



## Advantages

- /// UHT HEAD HOUSINGS OUT OF STAINLESS STEEL QUALITY 1.4571, AISI 316 TI
- /// TEFLON INSERT IN THE UHT HEAD MIXING ZONE TO AVOID BURNINGS
- /// STRAIGHT UHT HEAD OUTLET TO AVOID DEAD ZONES
- /// VERY EFFECTIVE HEATING BY INJECTING A THIN FILM OF STEAM INTO A THIN FILM OF PRODUCT
- /// HIGH TURBULENT FLOW IN THE HEAT HOLDING SECTION TO AVOID SETTINGS AND BURNINGS
- /// MINIMISED PRODUCT CONTENT IN THE HOLDING TUBES
- /// EASY INSPECTABLE HEAT HOLDING SECTION WITHOUT ENDOSCOPE
- /// HEAT HOLDING SECTION OUT OF STAINLESS STEEL QUALITY 1.4571, AISI 316 TI
- /// LONG STANDING TIMES WITHOUT CLEANING



# Stephan Machinery

## WORLD WIDE AT YOUR DISPOSAL

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