



GEA ECO-FLASH® Flash Pasteurization System

Technical data

The flash pasteurization system GEA ECO-FLASH® enables efficient heat treatment and stabilization of carbonated liquid products, such as beer, beer mixes, hard seltzer, cider, etc. by thermal inactivation of unwanted microorganisms.

- The products are exposed to the required temperature for a defined time at a controlled, continuous flow rate.
- The priority is on process safety, quality and product integrity.
- Efficient recuperative design with high heat recovery.
- Heat treatment is possible over a wide pasteurization range.
- Fully automatic, modular, pre-assembled system
- Adaptable to flow rates from 2,000 to 90,000 liters per hour

Customer benefits thanks to standardization: sophisticated, modular, sustainable

All functions are implemented in a dedicated, decentralized control system. For the plant operators, this means great advantages: All technological know-how comes from a single source. The risk of malfunctions is minimized due to standardized process software. There are clear responsibilities between the plant operator and the supplier.

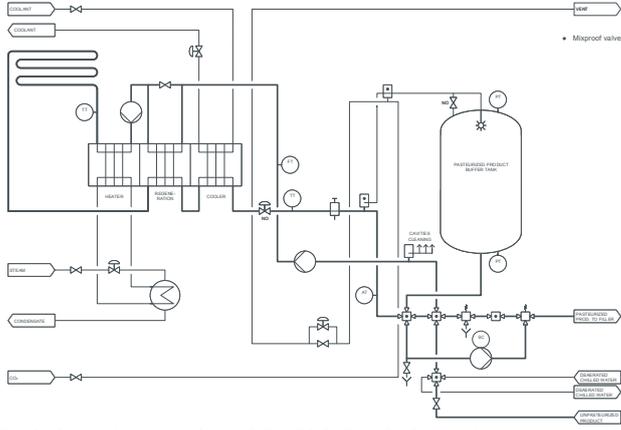
The GEA ECO-FLASH® flash pasteurization system consists of the following components:

- Flash pasteurization module, with
 - Control system for fully automated operation
 - High head feed pump
 - Booster pump
 - Holding tube
 - Hot water secondary circuit with circulation pump and hot water generator
 - Process valves and instrumentation
- Three-stage plate heat exchanger with sections for heat recovery, heating and cooling
- Optional buffer tank module with integrated buffer tank for pasteurized product

Typical key figures (example)

- Bright beer with 5.5 g/l CO₂
- Nominal capacity 30,000 l/h
- Turn down ratio 2:1 (min. 15,000 l/h)
- Operating pressure 16 bar
- Triple stage plate heat exchanger with 95 % heat recuperation
- Pasteurization temperature range 70 - 75 °C
- Adjustable PU range 10 - 100

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Basic flow diagram of the GEA ECO-FLASH® with integrated buffer tank.

Options

Various options are available for more sustainability and minimized lifecycle costs.

Features

- Consistent pressure regime prevents outgassing and ensures a positive pressure gradient.
- Consistent use of mix-proof valves prevents contamination.
- Hygienic design based on EHEDG principles.
- Fully integrated cleaning concept for the highest hygiene standards.
- Integrated standby operation to maintain steady-state control when the system is not in production.
- Carefully considered responses to interruptions and errors.
- Integrated hot water recirculation step at production start and after critical errors or emergency stops.
- Level-dependent flow control increases buffer capacity and reduces product losses.
- Precise control of Pasteurization Units as an essential safety factor.

Dimensions and net (empty) weight

Normal capacity [hl/h]	Design size [DN]	Flash pasteurization module ¹		Buffer tank module ²	
		L x W x H ³ [mm]	[kg]	L x W x H [mm]	[kg]
40	25	2,400 × 2,000 × 2,600	1,100	2,000 × 1,200 × 2,150	500
80	40				
150	50				
250	65	2,800 × 2,200 × 2,800	1,200	2,400 × 1,200 × 2,150	700
400	80				
600	100				
900	125			On inquiry	

Saturated steam	max. 6 bar overpressure
Glycol	min. 3 bar overpressure, -3 - -1 °C
CO₂	6 - 8 bar, purity min. 99.995 %
Control air	6 - 8 bar overpressure, oil-free, water-free, dry, dew point -30 °C

- 1 Excl. plate heat exchanger
- 2 Excl. buffer tank
- 3 Holding tube unit demountable for shipping, to fit a standard container size

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