

**Flash Pasteurizer DP**

- Gentle and uniform treatment
- PU control
- Capacity adjusted to the filler
- Heat regeneration up to 95%
- Sanitary design
- PLC controlled

FLASH PASTEURIZATION

Pasteurization is a heat treatment with the purpose of improving the microbiological stability of the beverage in order to prolong its shelf life. While reducing the number of harmful micro-organisms, uniform and gentle treatment is required to maintain the original taste and appearance of the beverage.

Designed for safe and reliable product treatment, DENWEL provides a fully automated solution ensuring consistent pasteurization quality.

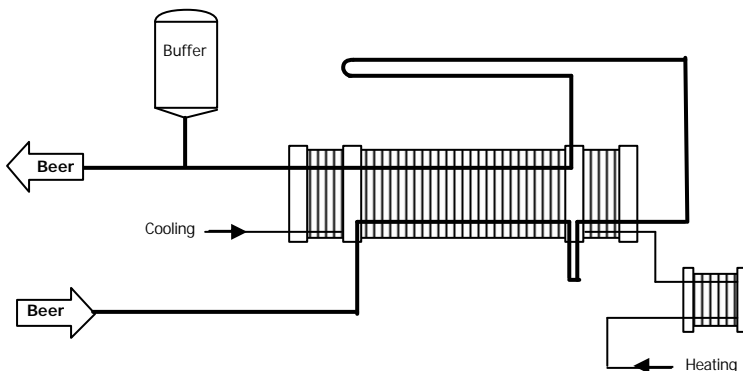
FLASH PASTEURIZATION

Principle

Heart of the DENWEL Flash Pasteurizer is a plate heat exchanger with three zones enabling optimal heat transfer. The cold beer is entering the regenerative zone and is heated by the already pasteurized product. In the heating zone, the beer is then heated up to the requested pasteurization temperature and led to the holding tube where it is held at this temperature during the requested pasteurization time. The pasteurized beer is now pushed back to the regenerative zone, where it is cooled by the incoming cold product. Finally the beer is cooled in the cooling zone to the requested filling temperature. The regenerative zone counts up to 95% of the heating and cooling demand and makes the system run at most economical costs.

A frequency controlled pump at the inlet of the heat exchangers regulates the flow, while a second pump between the regenerative and the heating zone rises the pressure up to 14 bar in order to keep the CO₂ into solution. A backpressure valve at the outlet of the heat exchanger and a pressurized buffer tank make sure that constant pressure is maintained in the system and no CO₂ is lost.

Flash Pasteurization is typically installed in front of the filler and the filler speed often varies considerably. To keep the required pasteurization units PU within tight limits, DENWEL uses intelligent control in combination with a buffer tank, capable to match variations in filler demand. If the filling capacity decreases, the flow has to be reduced, too. Lower flow means longer holding time and therefore the pasteurization temperature has to be decreased to keep the same PU. The system reduces the flow according the heat exchangers temperature characteristics and increases the level in the buffer tank. When the filling capacity increases again, the level in the buffer tank will be lowered and the nominal pasteurization values will be re-established. This way any over- and under-pasteurization can be avoided and gentle and consistent treatment is guaranteed.



Control

The system is PLC controlled and has automatic modes for continuous pasteurization and CIP. Intelligent regulation keeps the Pasteurization Units PU within tight limits. Representative screens, control lamps and clear instruction ensure user-friendly operation. Digital and analogue output or optional field-bus interface allow remote control of the system.

CIP

The unit has an uncompromising sanitary design and is fully CIP cleanable.

Design

The unit comes pre-assembled and tested on a compact frame and can be rapidly put into operation. Proven components guarantee low maintenance and extended lifetime. The modular layout allows easy integration into the plant.

Pasteurization Units PU

t: Holding time [seconds]

T: Temperature [°C]

$$PU = \frac{t}{60} * 1,393^{(T - 60)}$$

Technical specifications

Nominal capacity: 30 to 600 hl/h
PU range: 10 – 150 PU
Control accuracy: ± 1 PU

Auxiliary utilities

Power supply: 400 VAC, 50-60 Hz
CO₂: 6 bar, purity > 99,99%
Air: 6 bar, dried, oil free