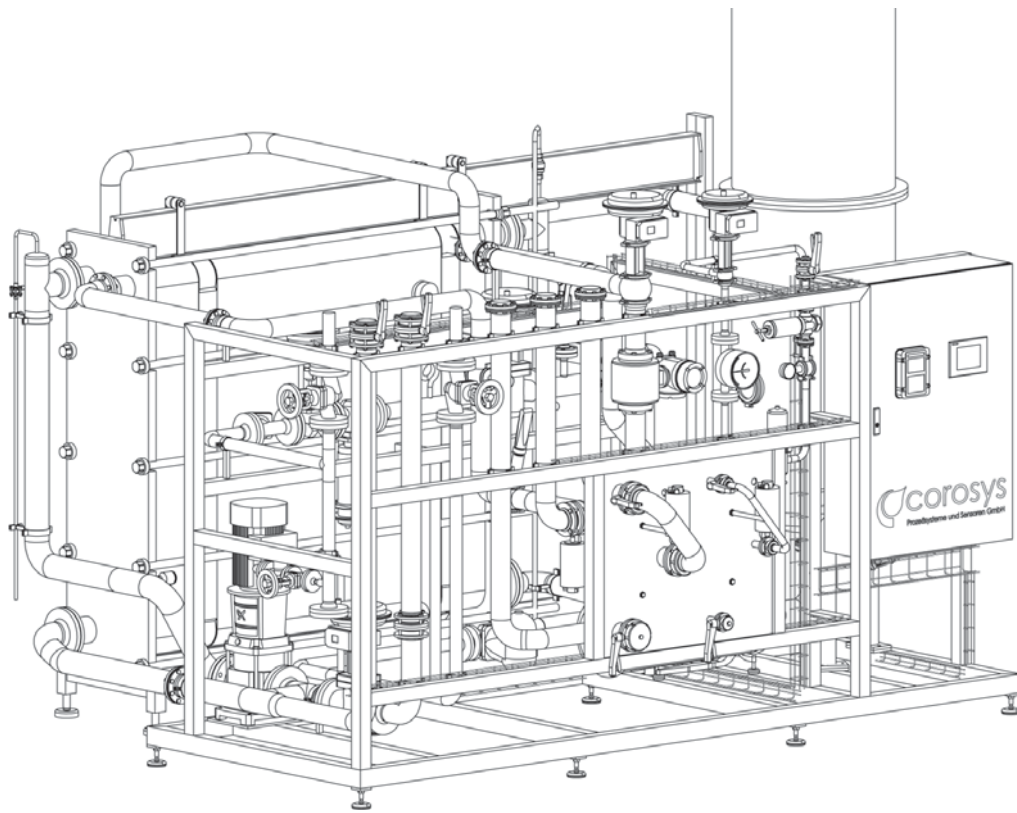


Hot Water Deaeration HWD

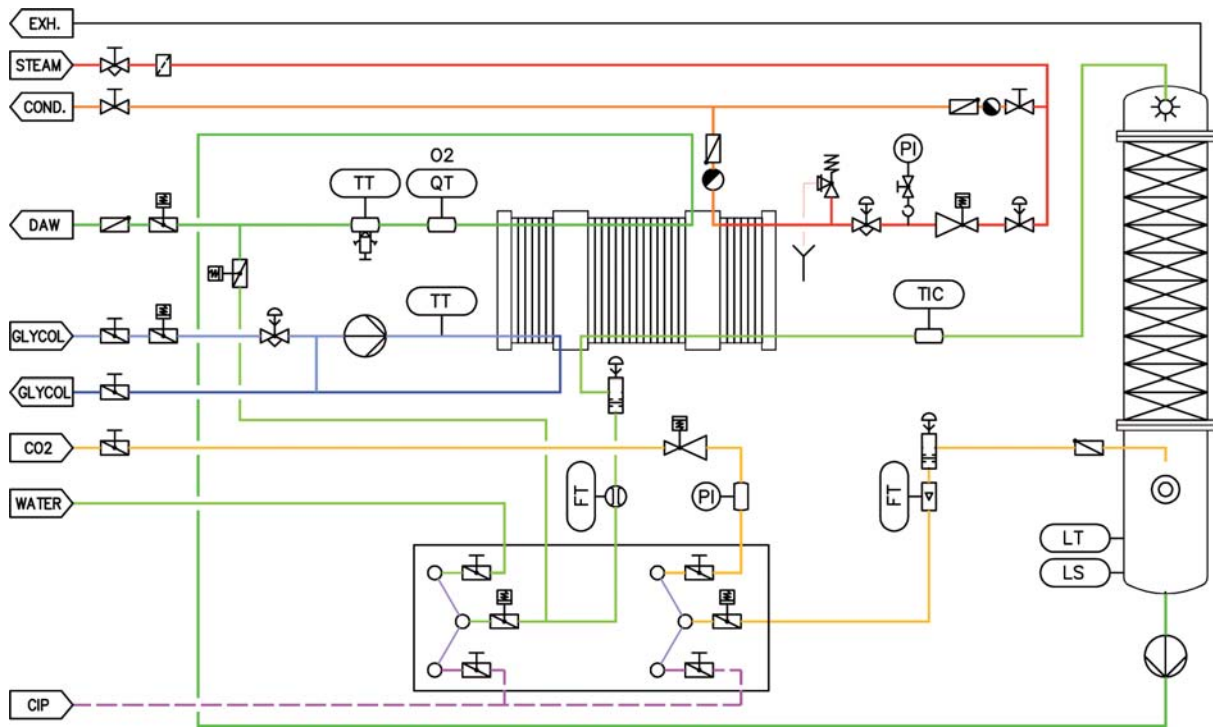


- Hot water deaeration by stripping with CO₂
- Very low residual oxygen values < 10 ppb
- Simultaneous pasteurization / sterilization of the water
- High heat recuperation up to 95%
- Optional In-line oxygen analyzer, filtration or carbonization
- Hygienic design, full CIP capability
- Easy operation, low maintenance effort, long service life
- Fully automatic operation with standard PLC and touch panel
- Optional integration in process control system and remote maintenance
- Individually dimensioned and designed for each specific application
- Equipment and components according to customer specification
- Compact tubular-frame system (skid mounted)

The Hot Water Deaeration (HWD) deaerates water down to a residual oxygen concentration below 10 ppb. At the same time the water is pasteurized. Optionally it can be cooled down, filtered or pre-carbonized. The function of the unit can be monitored and documented by an in-line oxygen analyzer at the outlet of the unit.

The process is employed in the brewing, beverage, food and chemical-pharmaceutical industries, wherever water with lowest oxygen content is required to assure high product quality and stability.

The system is characterized by high operational reliability, high heat recuperation up to 95% and low consumption. Microbiological safety is ensured by the simultaneous pasteurization of the water.



Technical Description

The water is heated up to 74°C in a 3-zone plate heat exchanger by the already deaerated water coming from the stripping column and by low pressure steam. The water is distributed homogeneously to the structured packing at the top of the column. The water slowly flows downwards through the structured packing in counter current flow to the CO₂. The CO₂ is fed in at the bottom of the column. A long and intensive contact between water and stripping gas is ensured by the high-performance structured packing. CO₂ is dissolved in the water up to a level of 0.5 g/l and at the same time suppresses the oxygen. Optionally, nitrogen can be used as stripping gas.

The deaerated water is pumped from the bottom of the column through the plate heat exchanger, where it is cooled by the incoming water. Finally the water is cooled to 2°C in the plate heat exchanger by glycol or ammonia. Sensors for oxygen, level, flow and temperature monitor the proper functioning of the system.

The unit can be controlled by a local PLC with a touch panel or by a process control system. Designed for high hygienic standards, all common cleaning agents in the beverage and chemical-pharmaceutical industry can be used for CIP cleaning.

Technical Specification

Capacity	25 to 1,000 hl/h / 2.5 to 100 m ³ /h
Residual oxygen content	< 10 ppb / 0.01 ppm
Heat recovery	up to 95 %
CO ₂ consumption	0.8 g/l
CO ₂ supply	min. 6 barg / ≥ 99.98 % purity
Heating media	steam or hot water
Cooling media	glycol or ammonia