

Alfa Laval CARBOBLEND™

Blending and carbonation

Introduction

The CARBOBLEND™ process module is designed for blending two or more liquids, with subsequent carbonation.

Application

Blending and carbonation of beer, soft drinks and other beverages.

Benefits

- Compact design
- Outstanding blending accuracy
- Efficient dissolving of CO₂
- Versatile and adaptable to different process requirements
- Low maintenance.

Design

The CARBOBLEND unit is self-contained and factory pre-assembled on a frame. In compliance with food industry regulations, all components in contact with the process liquids are made of stainless steel with heat resistant seals. It is designed for CIP.

Working principles

Blending: Blending is carried out by continuously controlling the ratio of flows of the constituent liquids, e.g. beer and water. The blending ratio is preselected on the control panel. The microprocessor receives continuous data from the flow meters in the beer and water / beer lines and regulates the control valve in the water / beer line, so that the preset blending ratio is accurately maintained. Alternatively, the operator keys in the known and required properties, such as alcohol content or original gravity of the feed and of the end products. The corresponding blending ratio is then automatically calculated and used instead.

Carbonation: CO₂ is injected in the product line directly, without utilising any porous disc or sinter candle. This means that CIP of the CO₂ and product lines can be carried out without reduction of flow.

A specially designed mixer / accelerator makes sure that the CO₂ dissolves rapidly into the product by a combination of turbulent flow and increased pressure.

An analyzer is included after the mixer and carbonated product is analyzed for CO₂ content.



A control valve regulates the CO₂ flow to keep a constant CO₂ content in the product. A PLC controls the plant operation.

Relevant process data displayed:

- Actual and setpoint blending ratios
- Actual and setpoint flow rates
- Actual and setpoint CO₂ content
- Accumulated production volume
- Plant status
- Controller settings
- Alarm status.

A fail-safe system is monitoring the operation.

Options

- In-line analyzer. CARBOBLEND can be equipped with an analyzer for continuous in-line adjustment of the alcohol content and / or original gravity of the beer after blending. A Brix meter can be supplied for control of syrup content in soft drinks and other beverages.
- Remote control
- Communication with other control systems.

Technical data

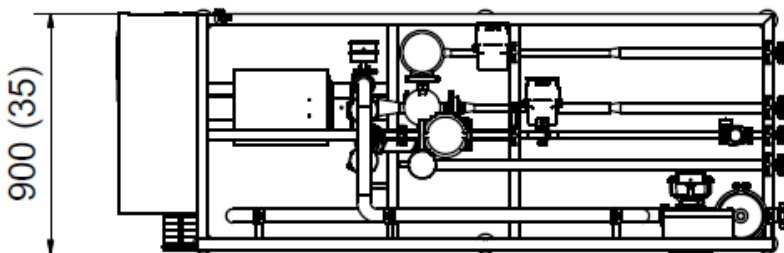
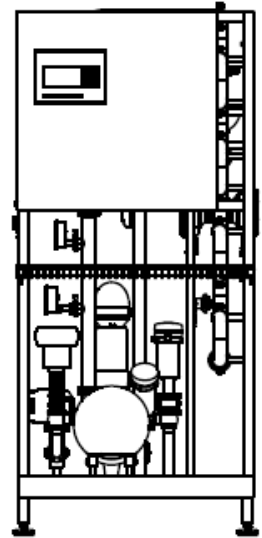
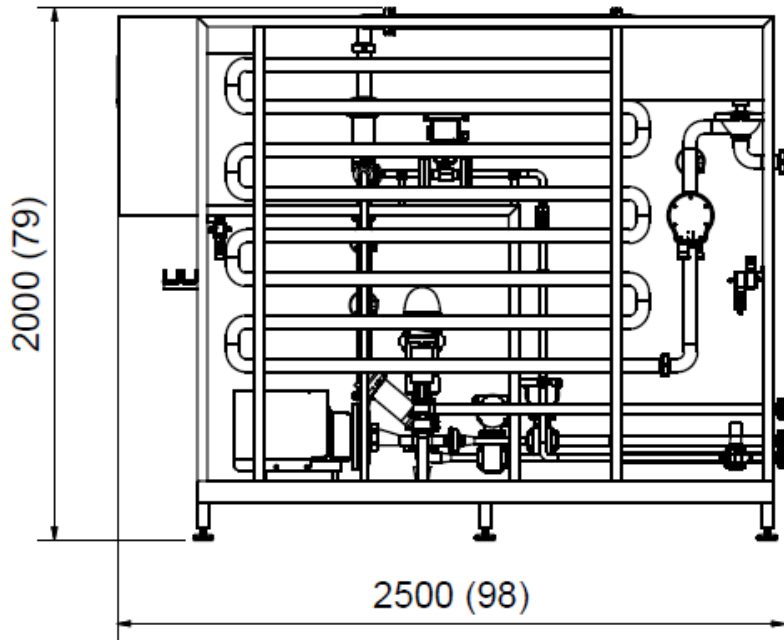
Capacity range, blended beer	45-1,100 hl/h
Blending ratio, water / beer flow	5-50%

Deviation, flow measurement	Less than $\pm 0.3\%$ of max flow
Carbonation level	Up to 7 g/l
CO ₂ analyzer accuracy	± 0.05 g/l
Utility data	Depending on capacity range

Dimensional drawing

Approximate dimensions and weight depending on capacity range, e.g. 120 hl/h

Length x width x height	2.5 x 0.9 x 2.0 m
Weight	350 kg



This document and its contents are subject to copyrights and other intellectual property rights owned by Alfa Laval Corporate AB. No part of this document may be copied, re-produced or transmitted in any form or by any means, or for any purpose, without Alfa Laval Corporate AB's prior express written permission. Information and services provided in this document are made as a benefit and service to the user, and no representations or warranties are made about the accuracy or suitability of this information and these services for any purpose. All rights are reserved.

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com