



# Simultaneous soft drink blender

Blending, deaerating and carbonation in one place



## Application

The simultaneous soft drink blender is a unit that mixes final syrup and deaerated water and then carbonises the final beverage in a continuous process.

A typical application is:

- Production of carbonated final beverages

## Highlights

- The simultaneous soft drink blender is constructed with a recirculation loop which allows dynamic correction of any deviations per each ingredient line, thus increasing the blender's accuracy
- The system automatically corrects deviations in °Brix on a sugar feeding line by adjusting the water supply to ensure product specifications are always met
- Ingredients that require a small amount of dosing have an independent recirculation line which is switched into dosing mode when the exact flow rate is reached
- A unique pressure distribution system equalises pressure in all lines and reduces changeover pipe hammer when switching valves. This makes the process more stable and reduces equipment wear and maintenance need
- The single location of deaeration, blending and carbonisation decreases distance and thus reduces carbonation and energy losses from liquid transfer
- The simultaneous soft drink blender is adaptable to any type of filler

## Working principle

A simultaneous soft drink blender usually contains one or two lines of final syrup and a line of water. Each ingredient line has an individual measuring loop to ensure the flow rate matches exactly recipe time. The water supplied to the ingredients loop is deaerated in a separate part of the unit using two deaeration stages.

A pressure vessel performs final mixing and carbonation. Pre-production pressurisation guarantees a homogeneous pressure connection between CO<sub>2</sub> and beverage. When the system pressure matches required parameters and each line of required ingredients confirms its correct mass rate, the system switches into production mode.

The ingredient lines now feed directly into the main recirculation line, including the mixing tank, to maintain the pre-adjusted mass rate. Meanwhile CO<sub>2</sub> is dosed and agitated inline using a static mixer. Once the monitoring devices confirm the final product specifications, the simultaneous soft drink blender discharge opens for production towards the filler.

The recirculation circuit can be optionally equipped with a cooling section to increase gassing efficiency.

## Main components

- Deaeration stream including deaeration vessel and vacuum pump
- Blending module including ingredient lines and measuring and blending loops
- Main blending and carbonising vessel CO<sub>2</sub> dosing equipment including static mixer
- Manual and pneumatic valves

## Technical data

Available in different sizes depending on capacity. All parts in contact with the product are made of AISI 316L. The frame is made of AISI 304L.

Final beverage, 5 – 20 °C; 6 bar (inside carbonation tank)  
0 – 15 °Brix in beverage; accuracy ± 0.1 °Brix

The simultaneous soft drink blender is available for the following capacities of final beverage:

- 20 000 l/h
- 40 000 l/h
- 60 000 l/h

Other capacities on request.

<b>Electrical power</b>	400 V, 50 Hz
	Other supply voltage or frequency available

<b>Compressed air</b>	600 kPa (6 bar)
-----------------------	-----------------

## Control panel

The simultaneous soft drink blender is controlled by an Allen Bradley ControlLogix or Siemens PLC. This is fitted in a cabinet located on the frame.

