



# Tetra Pak® In-line Blender B with carbonation

Accurate, high-efficiency in-line blending and carbonation



## Application

Tetra Pak® In-line Blender B with carbonation is optimized for accurate, efficient in-line blending and carbonation of soft drinks with low operational and raw material costs. It is fully automated to ensure uniform product quality and uncompromising food safety. Tetra Pak In-line Blender B with carbonation also gives you the flexibility to achieve high throughput and quick product changeovers. The unit is easily and efficiently expanded for carbonated soft drink line solutions.

## Highlights

- Cost-efficient continuous production of final carbonated soft drink
- Efficient deaeration cuts water and energy consumption for lower operational costs
- Cuts product losses and raw material costs with Brix accuracy, exact dosing and product recovery features
- Guaranteed performance on parameters that matter

## Working principle

Deaeration cuts water and energy consumption for low operational costs. The system works under low vacuum to reduce oxygen levels down to 0.5 ppm. Water is fed from the top of a tall column filled with packing material. An eco vacuum pump reuses seal water to cut water consumption.

After deaeration, water and liquid ingredients are blended under pressure, enabling each individual valve to constantly operate at maximum control accuracy. Automatic mass compensation (AMC) technology, using sophisticated software, ensures uniform high product quality, regardless of variations in incoming ingredients. Instruments continuously regulate the flow of ingredients with high precision. This keeps the process right on target and ensures that the outgoing blend is constant.

The final blend is injected with CO<sub>2</sub> directly in the product line. Specially designed nozzles create micro-bubbles ensuring total dissolution of CO<sub>2</sub> in the product. A mass flow meter in the gas line controls CO<sub>2</sub> injection by ratio. An optional quality control analyser continuously measures CO<sub>2</sub> content after the injection point and enables adjustment of the CO<sub>2</sub> level. A pressurized holding tank acts as a buffer and equalizes capacity variations from the filler.

A number of recovery features cut your product losses to an absolute minimum for significant savings:

- Concentrate recovery – recovers concentrate/pre-mix from pre-mix tanks at end of production
- Concentrate recovery IBC – recovers small amounts of valuable concentrates with blow-back function

An intuitive, operator-friendly HMI, now with larger panel, gives a detailed overview of the process and enables easy selection, commissioning and troubleshooting.

## Main components

### Basic unit

#### Software:

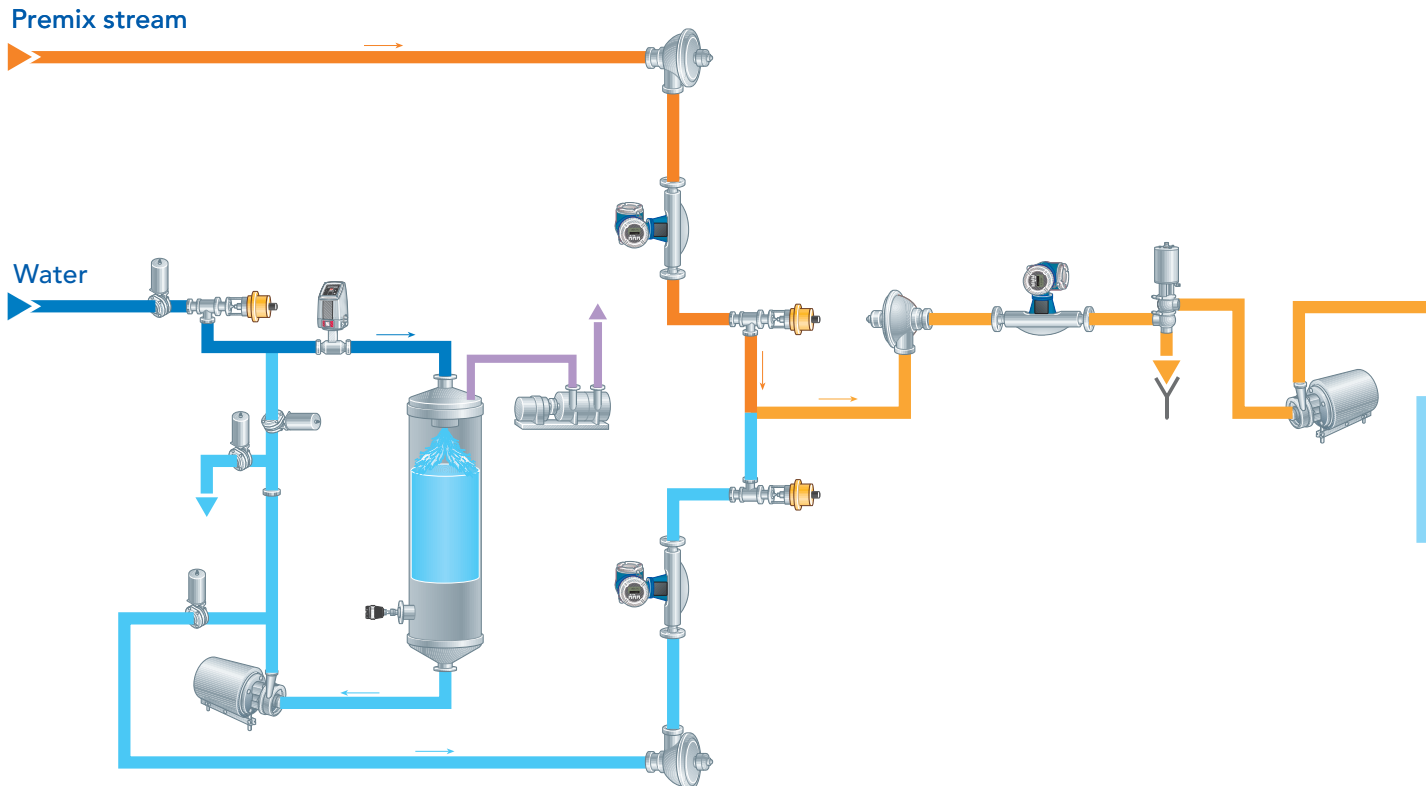
- AMC technology
- Concentrate recovery
- Standard HMI: B&R 5AP830 21.5, 21.5" full HD TFT
- PLC: Siemens
- Ethernet

#### Stream 1:

- Stream for treated water
- Equipped with constant pressure valve, mass flowmeter and regulating valve

#### Stream 2:

- Stream for syrup/pre-mix/quasi syrup
- Consists of constant pressure valve, regulating valve and mass flowmeter, connected to the main header pipe



#### Deaerator:

- Based on vacuum technology over packed bed, can deaerate down to 0.5 ppm, at 15-25°C

#### Carbonation unit:

- Consists of carbonation device, gas injection with mass flow meter, pressurized tank in various volumes and booster pump

#### Optional equipment

##### Special food treatment:

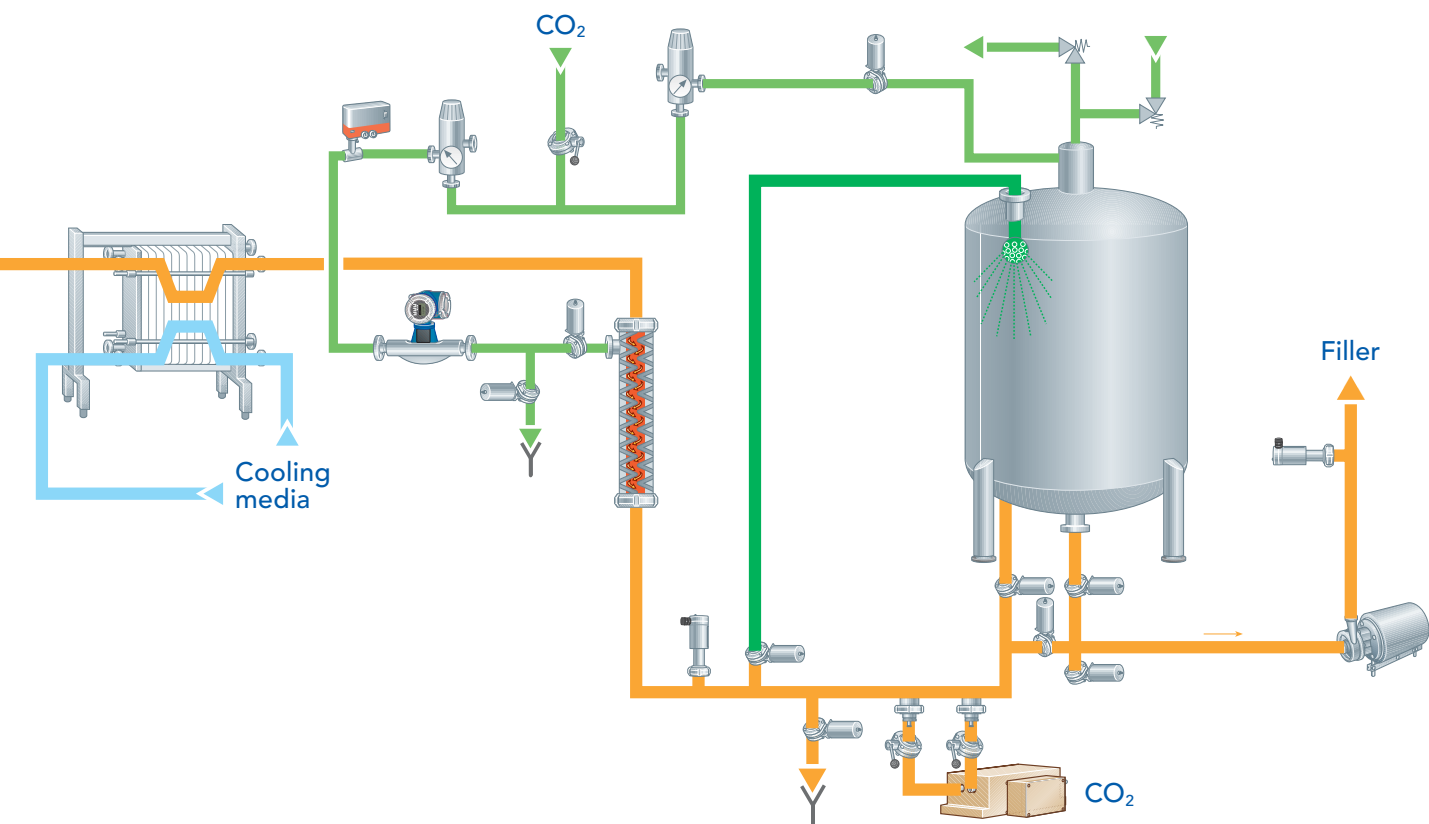
- Stream 3 for syrup/pre-mix/quasi syrup concentrate:  
- <500 cP
- Stream 4 for syrup/pre-mix/quasi syrup concentrate:  
- <500 cP  
- Small concentrate (IBC)
- Stream 5 for syrup/pre-mix/quasi syrup concentrate:  
- <500 cP  
- Small concentrate (IBC)

#### Automation and control:

- Air-cooling for panel
- Relay communication
- Uninterrupted power supply, buffer block 24V DC

#### Operational efficiency:

- Eco vacuum pump
- Quality control in-line measurement of CO<sub>2</sub>
- Quality control in-line measurement of Brix
- Buffer tank – the buffer tank (option 11) enables greater precision
- Cooling function – increases filling performance



## Technical data

### Capacity

- 18,000 l/h
- 35,000 l/h
- 55,000 l/h
- 75,000 l/h

### Performance guarantees

- Carbonation level, g/l 0-10 at max 20°C
- Accuracy, Brix +/- 0,03
- O<sub>2</sub> level, ppm 0,5
- CO<sub>2</sub> accuracy, v/v +/- 0,1

## Consumption data

- Power 32 kW
- Instrumental air 50 NI/h

## Inlet pressure

- Treated water 6 bar
- Syrup/pre-mix/quasi syrup 6 bar
- CIP 6 bar
- Instrumental air 6 bar

## Layout

