Contiflow
Mixing systems
Best-precision mixing and carbonation

Non-alcoholic refreshment drinks are the hit. This is why more and more flavour combinations appear on the market awaking the consumers' curiosity. A flexible line technology which provides a maximum leeway for the beverage manufacturers is required.

At a glance

− Mixers and carbonators for the production of different beverage types
− Up to five different sizes with variable outputs (33 to 100 percent) of 15, 30, 45, 60 and 90 m³/h are available.
− Saving space of up to 15 percent thanks to compact design and integrated filler valve manifold
− Highly accurate dosing of syrup and CO₂ for a reduced syrup consumption of up to 0.4 percent
− Optional: integration into the Modulfill VFS-M enables the elimination of the interface between the filler and the mixer
Stand-alone variant versus integrated mixer

Contiflow mixer
- Depending on your demands:
  - 2-components mixer (water + syrup + CO₂)
  - Multiple-components mixer for up to 8 components
- Modular and compact design
- Also available as carbonation-, deaeration- or dosing module as well as a combined deaeration and carbonation module
- Independent positioning from the filler thanks to its flexible layout

Integrated mixer in the Modulfill VFS-M
- Available as a 2-components mixer (water + syrup + CO₂)
- Reduced footprint and space requirements thanks to savings of:
  - Filler valve manifold
  - Buffer tank (as the product is filled directly from the carbonation tank of the mixer)
- Maintenance-friendly positioning of the pumps and key components on one level
Design features

- Open and easily accessible design of the mixing stations thanks to stainless steel circular tube frame
- Comprehensive recipe memory for a safe production within the defined parameters
- Quick product change-over in less than 10 minutes without operator interference
- Easy-to-maintain design: e.g. pumps are mounted on a moveable slide for replacement of the slide-ring-seal with a minimum effort
Method of operation

The Contiflow consists of the modules:
1. Deaeration
2. Dosing
3. Carbonation
Method of operation

Deaeration
- Water feed to the horizontal deaeration tank via two differently large sets of nozzles
- Deaeration via the single-stage or double-stage vacuum process and optional stripping gas
- Reduction of the sealing water consumption to a minimum thanks to a water savings function in the vacuum pump.

Dosing
- Adding the syrup with a high-precision register control
- Exact Brix value control via flow meter
- Dosing of up to eight liquid components possible
- Top product quality due to multi-stage product homogenisation

Carbonation
- High-precision carbonation thanks to consistent volume flow rate in the carbonising nozzle
- Variable mixer output from 100 to 33 percent
- No gas consumption thanks to output regulation in the carbonation tank
- Dosing of up to two gaseous ingredients possible
- Consistent level of technological values despite of variable output regulation:
  - Highly accurate Brix and CO₂ dosing
  - Consistent deaeration performance
Multi-stage product homogenisation

The Contiflow offers a multi-stage homogenisation of the product during mixing for carbonised refreshment drinks:

During syrup dosing
- Recirculation carbonation: About 25 percent of the product circulate through a short bypass pipe within the CO₂ dosing pipe (loop).
- Efficient register controller: Dosing of the syrup is controlled with pin-point accuracy creating high saving potentials of the raw material.

During the inflow into the carbonation tank
- Approximately 6 percent of the entire product volume permanently recirculate at the carbonation tank discharge.
- At the same time, the Brix value, the CO₂ value and the alcohol value of the mixed product are measured inline on one hundred percent.

Thanks to a one hundred percent inline process control in the carbonation line, an additional pump for sampling is not required.
Quick product change-over within 10 minutes

The product change-over with LineXpress is performed entirely without any operator intervention and offers you utmost flexibility for your production.

**Fully-automatic process between:**
- Syrup room
- Mixer
- Filler

**Mixer with memory function:**
- Entry of the next product and time by the operator
- Reliable product change-over without any manual intervention

**For quick product change-overs, the filler requires:**
- Additional drain valves
- A separate water connection
- An increased inert gas flow rate
Integrated Contiflow mixer

Quicker and more compact than ever: In the Modulfill VFS-M, the Contiflow mixer is connected directly with the filler. This way, the product is transported to the distributor via the raised carbonation tank making the traditional filler bowl no longer necessary.

- Reduced media consumption thanks to short mixing phases (no ring bowl, shorter pipe distances between the mixer and the filler, optimised pipe routing inside the mixer)
- Reduced CO₂ consumption thanks to small head space (no the ring bowl)
- Loss-reduced filling at the end of production thanks to raised position of the buffer tank
- Reduced power consumption by use of gravity (product discharge pump with 11 kW replaced by a recirculation pump with 1.1 kW)
Advantages of the integrated mixer

**Faster filling speeds**
The direct connection between the Modulfill VFS-M and the Contiflow mixer positively affects the filling duration. The combination of mixer and filler together with the raised carbonisation tank enables filling of up to 250 millilitres per second.

**Accelerated change-over**
You will be well equipped for type and handling parts change-over: The optimised interface between filler and mixer and the integration of LineXpress minimise the product change-over to less than ten minutes.

**Ease of operation, reduced space requirement**
As the mixer and the filler are directly connected to each other, they can share a central HMI. In addition, the valve manifold was reduced and integrated in the mixer. The complete process control sensor system is installed in-line.

<table>
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<tr>
<th>Your benefits in figures</th>
<th>Savings* / duration</th>
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<tbody>
<tr>
<td>Less loss during emptying and change-over</td>
<td>Up to 30 percent</td>
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<tr>
<td>Fast change-over times during product change-overs with LineXpress</td>
<td>&lt; 10 minutes</td>
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<td>Saving space thanks to compact design and optimised interfaces</td>
<td>10 to 15 percent</td>
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<td>Smaller dimensioning of filler clean room possible as the product tank is mounted on the mixer</td>
<td>600 mm in height</td>
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<td>Less cleaning agents required for CIP</td>
<td>Up to 15 percent</td>
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<td>Savings at the operating costs</td>
<td>Up to 10 percent</td>
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* Compared to line arrangement with separate filler and mixer
Additional equipment

- Quick product change-over within ten minutes with the LineXpress
- Production reporting
- Use of double-stage vacuum deaeration
- Conductivity measuring device (water connection/product)
- Sterile gas filter
- O₂-/CO₂-/alcohol measurements at the product discharge
- Flavour dosing
- Finished product at the syrup infeed
- PHT cooling unit for the finished product
- Implementation of sensors for digitalisation of the mixer
Benefits to you

**Economical use of syrup**
The syrup consumption can be reduced drastically thanks to the production at the bottom limit of the Brix range. In addition to that, a Brix-value-controlled admission of the syrup prevents the loss of syrup dosing the start and the end of production as well as during a product change-over.

**Flexible output**
The mixer production output can be individually adjusted from 33 to 100 percent of the rated output. The regulated output results in a reduced gas consumption.

**Low operating costs**
The demand of process water is reduced to a minimum by admitting the sealing water at a later point depending on the temperature.

**Automated processes**
The rinsing function via water or syrup supply starts automatically already during the production. The operators are relieved and can focus on other tasks.

**Configurators for new machines**
Configure a non-binding offer now in our KRONES.shop.
Certified ecological efficiency: Machines with enviro certification

At KRONES, the blue enviro label stands for excellent ecological efficiency. Products that bear the enviro label have proven in an objective test procedure that they efficiently use energy and media, and that they produce in an environmentally-friendly way. The requirements are defined by the EME standard that has been developed by the TÜV SÜD (technical inspection authority) for assessing production plants. The enviro test procedure has also been certified by TÜV SÜD as an independent expert. Therefore, you can be sure that an enviro label stands for ecological efficiency.

This is why the Contiflow is enviro-classified

Energy efficiency
- Use of the latest and optimally designed drives and pumps

Media efficiency
- Minimum water consumption of the vacuum pump due to recirculation and cooling of sealing water using product water
- Less CO₂ losses thanks to saving mode
- Syrup loss is prevented by Brix-controlled syrup-push-in (optional)
- High-precision dosing reduces the use of expensive raw material
Everything from a single source

Training sessions at the KRONES Academy – trained personnel increases your line efficiency
The versatile training offer ranges from operation, servicing and maintenance to management training. We will gladly also establish your individual training programme.

KIC KRONES cleaning agents make your machine shine
Only if the production environment is immaculate, can your product be brilliant. KIC KRONES provides you with the optimum cleaning agents and disinfectants for each individual production step.

Lubricants from KIC KRONES for every production step
Whether for gears, chains or central lubrication systems – our greases and oils are true all-round talents. They can reach every lubrication point, protect your line and ensure gentle treatment for your products thanks to their food-grade quality.

KRONES Lifecycle Service – partner for performance
Also after having purchased a new machine, KRONES will take care of your line; the LCS experts are always ready to consult you and translate your goals and wishes into optimal LCS solutions.

EVOGUARD – excellent valve technology all along the line
The valve series of EVOGUARD comprises a modular system with hygienic and aseptic components which contributes to every point of the production line with increased performance and which has the perfect solution for every process step.

EVOGUARD – pumps for absolute process safety
In addition to the separation and locking of a line, one thing is particularly important - and that is the reliable conveyance of your product. This is why EVOGUARD also offers innovative centrifugal pumps in addition to high-quality valves.
We do more.