

SyPro syrup room

Room for creativity and innovation



 **KRONES**

Staying flexible in sugar processing



Sweet, fruity, sour or bitter: the syrup room is the starting point for innovative taste sensations which your product designers repeatedly manage to conjure up. Perfect working conditions for mixing new flavour nuances and developing successful products have many benefits. For they provide the foundations for your products' market success, and this already during the first step in the production process.

At a glance

- Concept for the preparation of beverage ingredients
- Preparation of powder, liquid or frozen raw ingredients to form the most diverse products
- Production of finished products and finished syrups for further processing
- Can be flexibly extended thanks to modularly arranged units
- The output range can be individually adjusted to suit your line output



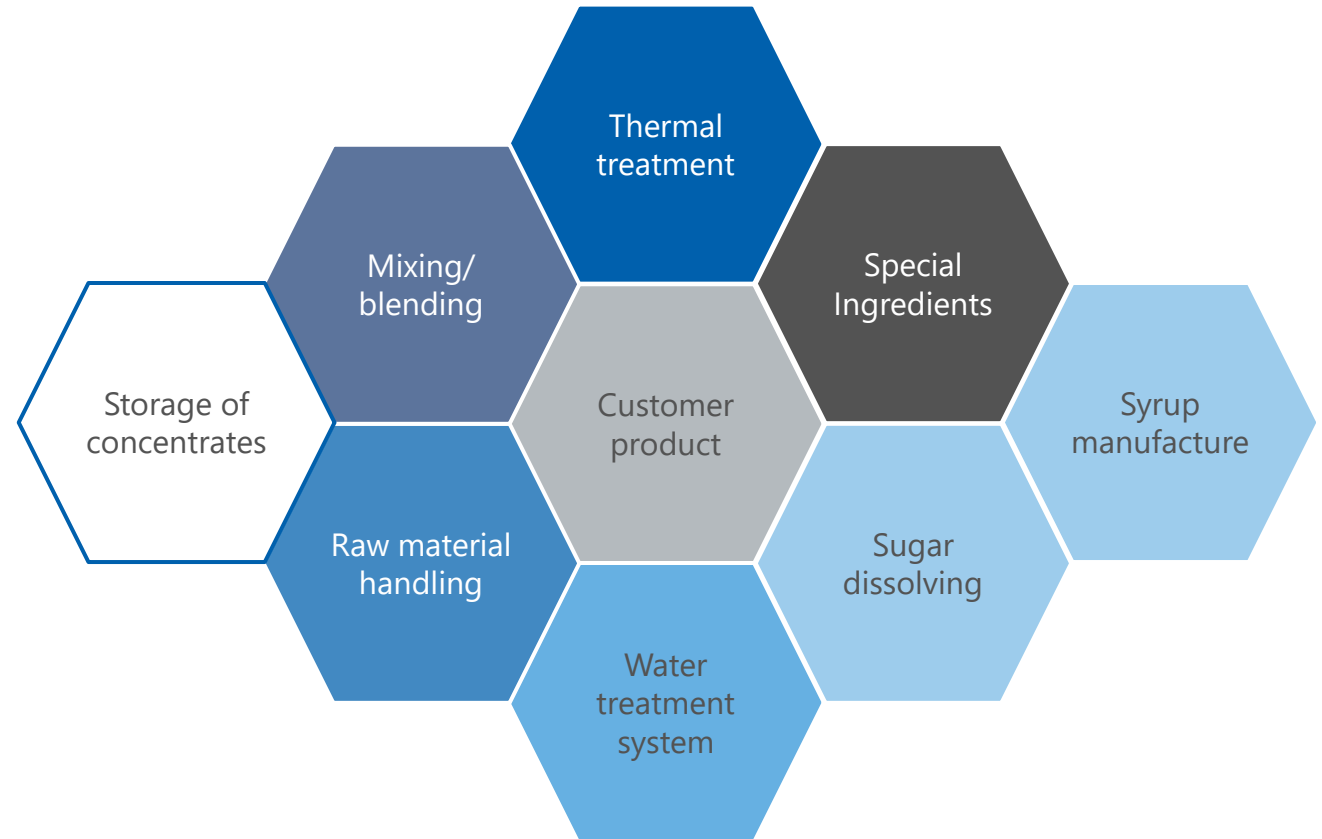
Process technology from a single source



Krones process technology comprises ...

- the raw ingredient intake
 - the most diverse mixing, carbonation and heating processes
 - the direct connection to the filling system
- In all of these production steps, the focus is on achieving the highest possible product quality.
- At the same time, the units provide accuracy, reliability, economic efficiency and flexibility

Individual treatment for each product



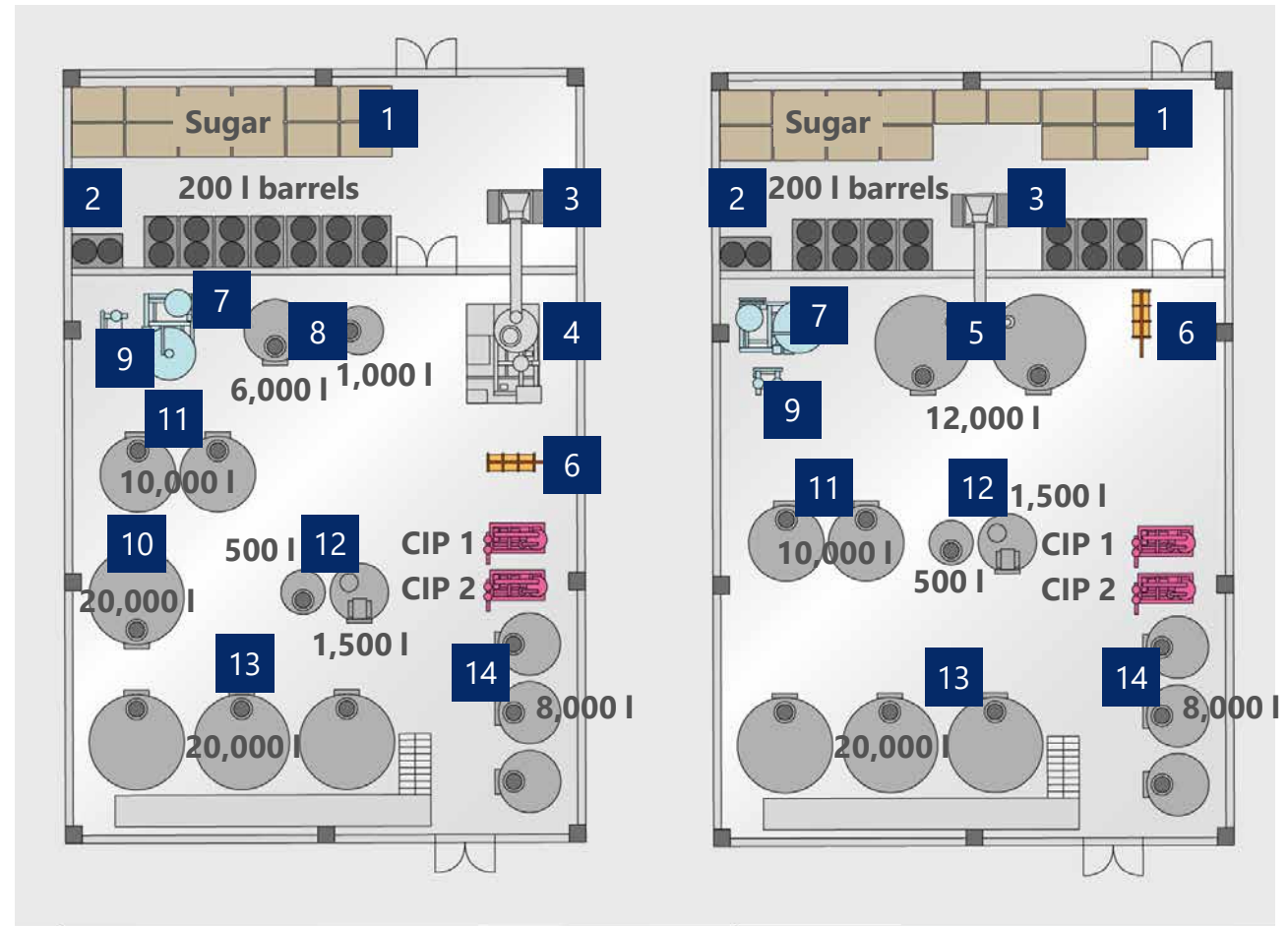
Modular design



All elements of syrup manufacture are coherently combined with one another in the Krones concept. Depending on the manufacturing philosophy applied, production is performed either continuously or in batches.

Layout examples (20,000 l/h)

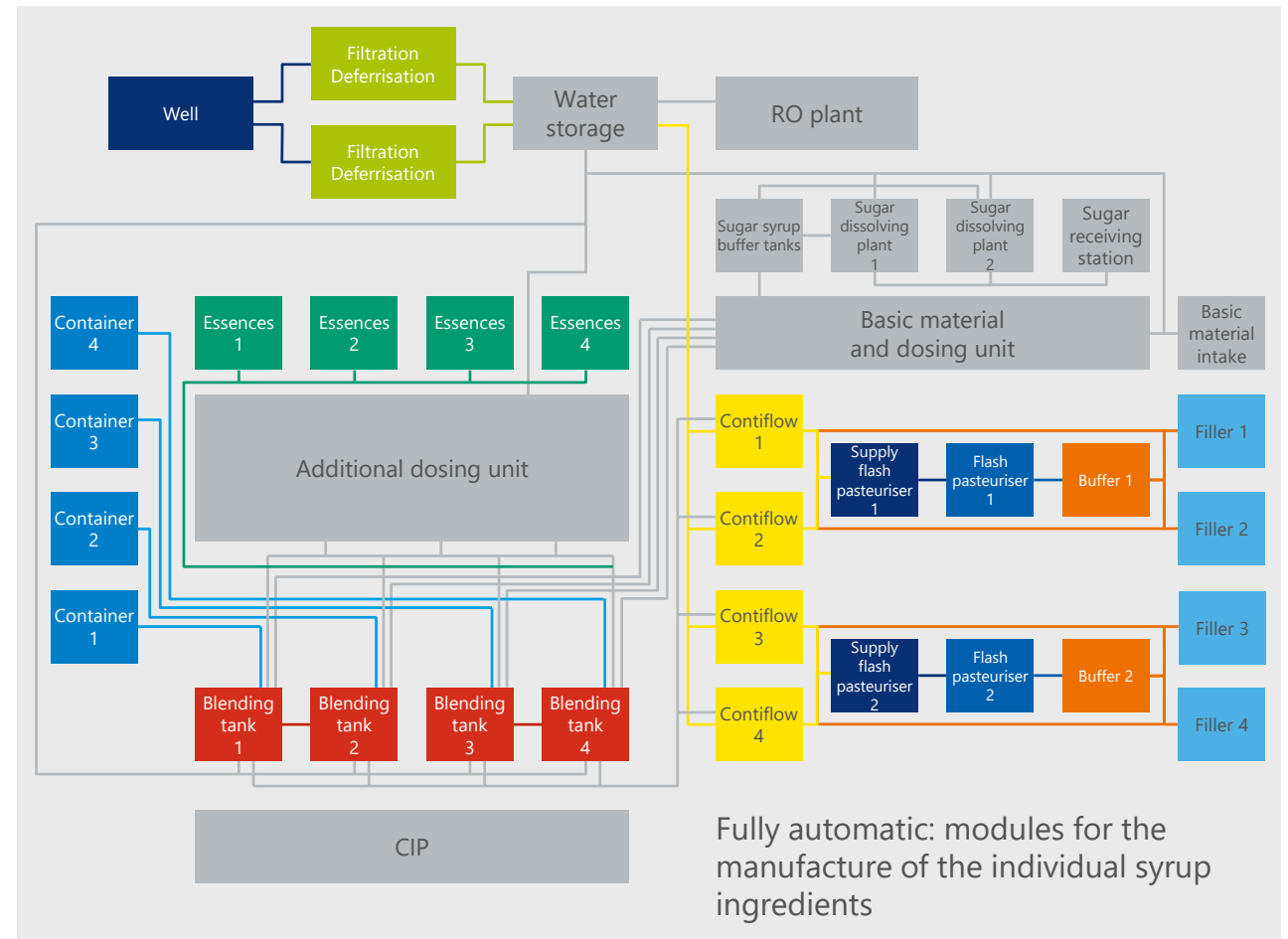
- | | |
|---------------------------------|------------------------------|
| 1 Sugar and concentrate storage | 8 Pre-run tank/buffer tank |
| 2 Suction lance | 9 Bag filter |
| 3 Sugar funnel | 10 Syrup tank |
| 4 Continuous sugar dissolver | 11 Juice concentrate storage |
| 5 Sugar dissolving tanks | 12 Powder dissolvers |
| 6 Sugar syrup pasteuriser | 12 Mixing tank |
| 7 Kieselguhr filter | 13 CIP plant |



Step by step to product success



1. With the **Hydronic water treatment system**, Krones is offering an individually customised system which has the right technology at the ready for many applications.
2. The essential elements of **syrup manufacture** are the sugar dissolver and the sugar syrup pasteuriser. They are designed in accordance with the requirements on efficiency, flexibility, precision and modularity.
3. The **concentrate station** and the **powder dissolving station** process ready-to-use concentrates and essences, as well as food acids in crystalline or powder form.
4. Three mixing concepts are available:
 - **Batch mixing** of the individual components with the downstream Contiflow mixer for finished-product manufacture
 - Fully automatic, recipe-controlled **Multiblend mixing system** combined with a Contiflow mixer
 - **Contiflow** as a multi-ingredient mixer which combines syrup mixing and finished-product manufacture



Design features



The basic idea behind the Krones concept is to design the syrup room as a group of compact modular units which can be expanded in line with the product range and performance spectrum.

- Pre-assembled frame structure with pre-installed connection for linking up to the existing infrastructure
- Krones filtration system
- Ion exchanger or activated carbon filter for refining the sugar syrup as an additional option
- Inline multi-ingredient mixer for semi-finished and finished products
- Inline mixing of finished products with carbonation
- CIP systems and cleaning concepts
- Evoguard valve and pump technology



Water treatment



The Hydronic water treatment system is made up of three modules:

- Media filtration to separate out materials using different filter media such as activated carbon, sand and special granulate
- Ultrafiltration with the membrane process to remove undissolved substances with a particle size of 0.01 μm or higher, and for removal of all bacteria without changing the water composition (dissolved salts, water hardness, chloride/sulphate content, etc.)
- Reverse osmosis for demineralisation using membrane technology, with integrated rinsing through salt-free permeate to prevent scaling and biofouling



Efficiency in figures

- Different sizes:
10 m^3/h , 30 m^3/h , 50 m^3/h , 100 m^3/h
- Can be connected to the SitePilot Line Diagnostics software

Sugar processing system



- Start of sugar processing: the receiving station for liquid sugar or a silo
- Preferably a continuous warm or hot sugar solution
- Solution processes in a batch system or as a continuous procedure, depending on the quantity, profitability assessment and customer requirement
- Filtration process for decolouration or cleaning of the sugar solution to individually meet your specific requirements:
 - Candle filter
 - Sheet filter
 - Ion exchanger
 - Filtration systems with kieselguhr or activated carbon



Continuous sugar dissolver



Sugar syrup pasteuriser



Concentrate and powder ingredients



- Processing of ready-made concentrates and essences
- Dissolving of crystalline or powder edible acids
- Design of stirring and mixing equipment according to the
 - viscosity of the components
 - batch size
 - solubility
- Storage of concentrate and powder individually adjusted to suit the respective product characteristics in order to preserve the quality of the high-grade ingredients
- Integration of barrel draining systems such as suction lances or drum dumpers incl. crushers and melters for deep-frozen concentrates



Modular concept for mixing your beverages



- Mixing of individual additives to create a finished syrup with the aid of the Multiblend mixing system. In conventional processes, the finished syrup is mixed with water in the Contiflow for create a finished product.
- Alternatively, the Contiflow can also directly mix up to 8 ingredients.

Characteristics

- Fully automatic, recipe-controlled mixing system
- Mixing of liquid basic ingredients such as syrup, or flavour dosing in the manufacture of spirits and liqueurs
- No operator involvement required during production thanks to the inline procedure
- The basic ingredients are processed in sequential or parallel dosing steps in the Multiblend
- Dosing channel with serial connections for creating the most diverse taste variations



Benefits to you



Everything from a single source

All the steps involved in the production of soft drinks – from syrup and mixing, right through to filling and packaging – are available from a single source. This is a major advantage which saves time during line planning, execution and maintenance.

Comprehensive connectivity

The top-level design for the control and planning software of the Krones MES means that all stock levels and all production flows can be supplied with all the necessary information from the syrup room.

Shortened sugar dissolving time

The innovative design of the infeed nozzle already ensures that the sugar is optimally mixed and distributed. This benefits you in three ways: a shorter dissolving time and therefore quicker production cycles, a more compact dissolving tank and lower energy costs.

Individual design

The Krones syrup room design is an individual concept based on defined modules and then tailored to meet your requirements.

Utmost precision

All components are characterised by the highest precision in the processing of the various basic ingredients – meaning you can rely on an accurate system with precise processing of the individual syrup and product components.

Quick installation with plug and play

The pre-assembled modules can be assembled and started up within the shortest period of time – and you have access to an immediately available system.

Requesting a new machine

You can easily send a request for a non-binding quotation in our Krones.shop.



Everything from a single source



Training sessions at the Krones Academy – trained personnel for an increased efficiency of your line

The multifaceted offer by the Krones Academy ranges from operation, servicing and maintenance courses through to management training. We will gladly also create your individual training programme.

KIC Krones cleaning agents make your machine shine

An immaculate production environment is essential if your product is to shine. KIC Krones provides you with the optimum cleaning agents and disinfectants for each individual production step.

KIC Krones lubricants for each 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

It goes without saying that also after the purchase of new machines, Krones takes care of your lines: The Krones LCS experts are always there to help you reaching your goals and turn your wishes into optimal LCS solutions.

High-quality components from Evoguard and Ampco

Are you looking for shut-off, separation or control valves? For hygienic or aseptic applications? Would you like to have pump technology that perfectly fits into your machines? You will find exactly what you are looking for at Evoguard and Ampco Pumps. The two Krones subsidiaries cover the entire spectrum of process technology components that you need for high-quality production.

**SOLUTIONS
BEYOND
TOMORROW**

