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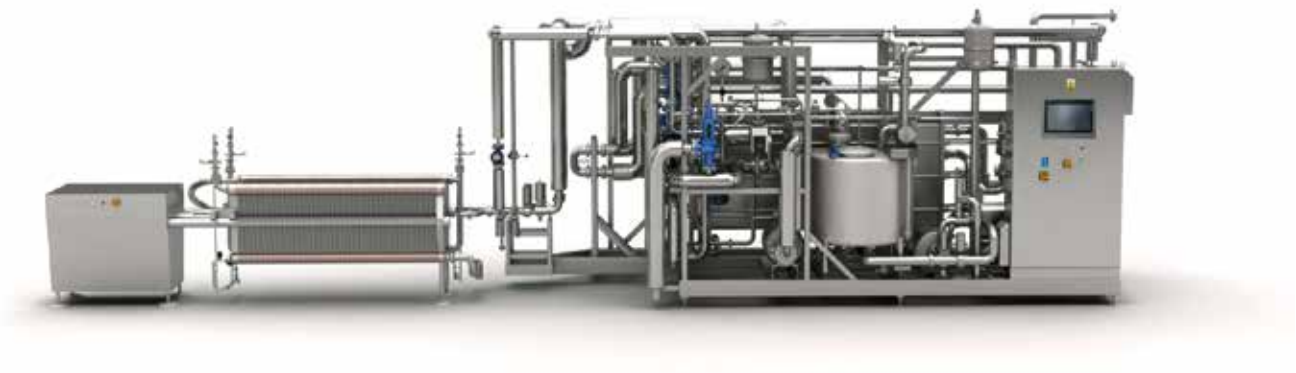
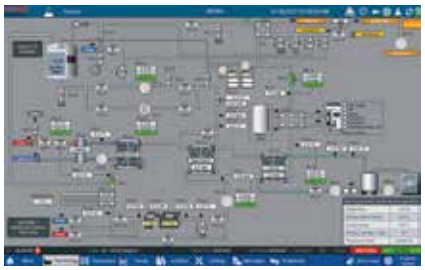
MONA
Aseptic Filtration System



Compact device for the hygienic filtration process improving the microbiological quality and turbidity of juice

- Patented technology
- Dual-function
- Low costs of filtration
- Top quality components
- Process parameters are monitored and archived
- Optimum use of filter
- Automatic separation of mixed phase from water



Application

The MONA System is a patented, compact device for the hygienic filtration process during which Alicyclobacillus (ACB) spores are eliminated from the concentrate. In addition, the system improves the microbiological quality and turbidity. The unit is dual-function: when not filtering concentrate it can also be used as a standard juice pasteurizer, equally for NFC juices. For both concentrate and juice, the unit has the option of connecting to aseptic filling system.

Design and functionality

The concentrate in the storage is of high viscosity, which prevents the filtration from being effective. In order to allow filtration, its viscosity shall be lowered - this is achieved by rising the temperature in the heat exchanger and the regeneration section of the exchanger. Filtration of pre-heated concentrate takes place on a two-section of PHE. In the first section, there is pre-filtration which eliminates larger impurities.
The second sterile filtration provides a product with no micro-organisms, Including a high reduction of ACB spores. The concentrate after this step is an aseptic product. The aseptic concentrate goes to the regeneration section of the heat exchanger, where it partially gives back the heat absorbed and then it is cooled to the set temperature on the cooling section.

Control system and operation

The control system is designed in a manner which ensures the process is carried out with maximum product safety. Operating system has been divided into two stages: cleaning and production. Water in closed circuit is heated up and after specified time is sterile and ready for the product intake. Sterilization filters works in parallel to thermal disinfection.

Technical data

Capacity	8-15 $^{t}/_{h}$*
Weight	6,3t-11,8t**
Dimensions (LxWxH)	10800x2530x2510mm**
Control system	Simatic S-7-1500
Filtration surface	55m^2 / 62m^2 / 76m^2
Steam pressure	5 bar
Steam consumption	300 $^{kg}/_{h}$ / 380 $^{kg}/_{h}$ / 550 $^{kg}/_{h}$
Material	AISI 304 / ASI 316L optional
Filtered concentrate***	250t / 300t / 450t

* MONA ASF 8t/10t/15t
** approximate figures, can vary depending on piping and amount of filter plates
*** filtered concentrate on one set of plates, depending on the quality of an input concentrate

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Products and Services
Process technology for the processing of fruit and vegetables into juices, concentrates and purees production, for brewing solutions, for filtration, for milk powder production, for vacuum drying of liquid and solid products, freeze drying of coffee, tea, fruit, vegetables, etc. Technology for the dewatering of municipal and industrial biosolids and the filtration of drinking water

Products
Fruit reception lines, mills and crushers, mash heaters, hydraulic presses, extractors, membrane filtration equipment, cold block equipment, adsorbers, ion exchangers, evaporators, dealcoholisation and aroma systems, pasteurisers, CIP systems, vacuum and freeze drying cabinets and belt dryers, zeolite adsorbers, complete processing lines, tank farms, storage and processing tanks, mixing and dosing stations

Services
Bucher customer portal and digital services, process development and project engineering, assembly and commissioning, technical support, original spare parts, inspection and maintenance, test centres, Bucher Academy