voran® machinery

Compact pasteurisation systems

Pasteurise

Why pasteurise and what is pasteurisation?

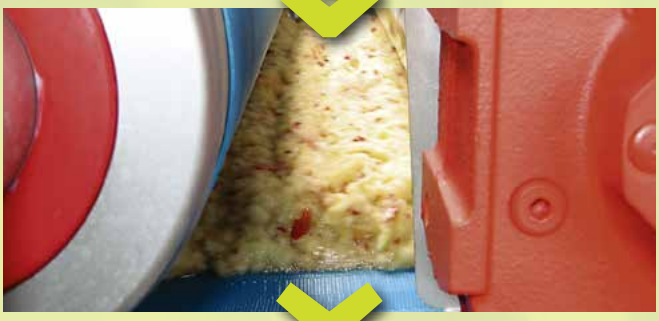
Even perfect, freshly pressed and quickly processed raw juice can be attacked by micro-organisms (fungi, yeast, bacteria) within the shortest possible time. It is therefore necessary to maintain and conserve this raw juice using a safe and gentle treatment.

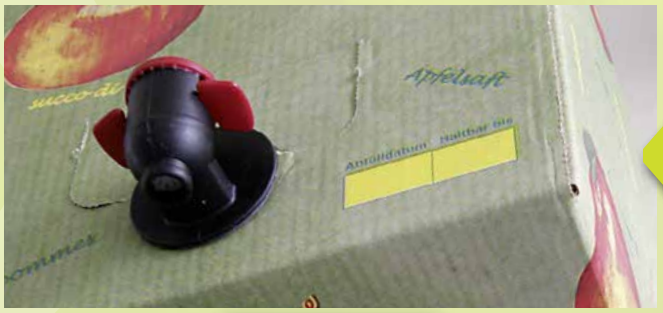
Non-alcoholic drinks may only be made long-life using physical processes according to the Austrian Food Act. The most widespread method is thermal treatment.

Raw juice can have its life extended at temperatures under 100° C as a result of its low pH value. The temperature (usually 75 to 80° C) and duration of the heating determine the deactivation level of micro-organisms/enzymes, whereby at temperatures over 80° C there may increasingly be negative taste changes (cooking/caramel taste).

It is usually filled to the very top when hot, moved to lid pasteurisation and, to stabilise the quality, cooled by irrigation and loose storage before being packaged. Tightly closed bottles and bags are then protected from micro-biological spoiling by their closures. Ageing changes the colour and aroma of the fruit juice during storage. Low storage temperatures and a light-excluding container slow down quality losses.

Correctly pasteurised juice can be stored for months without losing significant quality.





Press	Pasteurisation system	Fill
EBP series 100/180P2	PA series	Line fillers MBF series

Processes of modular juice generation

Structure of the compact pasteurising equipment

- Guided operation, automated programme processes controlled to the second
  Optional: Recording the actual temperature via data logger
- Intelligent juice flow system guarantees maintenance of the set pasteurisation temperature
- Heating source (gas or oil burner system)
- Closed high temperature heating loop system enables filling temperatures to 88° C
- Tube heat exchanger integrated into insulated buffer store (no losses from unnecessary heat radiation)
- Stainless steel juice pump with neoprene impeller
- Stable, mobile profile frame

Delivery variants

Pasteurising system with gas burner for propane or natural gas operation

PA500 • PA750* • PA1500 | with tube heat exchanger

Pasteurising system with oil heater system for heating oil extra light

PA400 • PA600* • PA1000* • PA2000 | with tube heat exchanger

*If required, it can also be delivered with a plate heat exchanger

Pasteurising system without heat source

PA500 • PA1000

If you already have a suitable heating source (gas, oil, chopped wood, wood chips, pellets etc.) and can provide the necessary heat output permanently with a feed temperature over 90°C to the pasteurising system, voran® will provide a lower specification—with the same high functionality.

All systems stated above are fitted with a tube heat exchanger. As an option we offer models PA600 and PA1000 for oil operation and model PA750 for gas operation with a plate heat exchanger.

Tube heat exchangers offer the following advantages:

- Energy efficient
- Compact
- Remaining heat can be re-used
- Less pollution
- Simpler cleaning (cleaning package supplied)

Plate heat exchangers offer the following advantages:

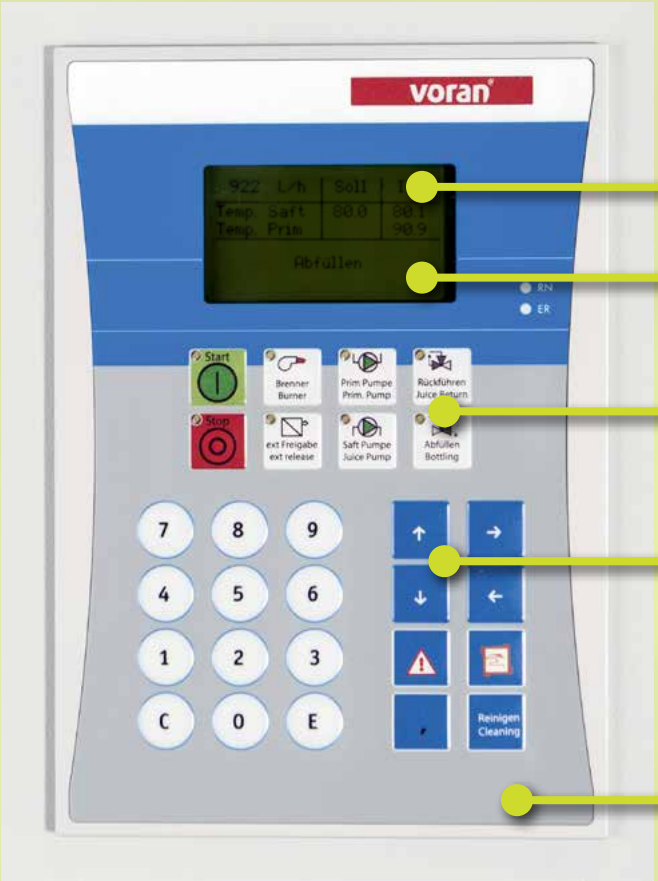
- Low fill quantity
- Low temperature range
- Ideal for small batches

Operation mode

Process and control

After the raw juice has been provided, the usage temperature is ensured and you have set the desired filling temperature, the fully automatic pasteurisation process starts: after warming the heating circuit system, the juice pump switches on automatically. On reaching the set juice temperature, the intelligent juice guidance system switches from reverse operation (to the tank) to filling operation. During the continuous filling operation, the control unit regulates the juice temperature completely automatically to ± 0.3° C. On initiation of the overflow protection in the subsequent buffer tank for the filler, the control unit initially switches the heating source to standby automatically whereby the residual heat in the heating circuit is still used to heat the raw juice. On restarting (after releasing the overflow protection) the pasteurised juice is available again immediately.
A fully automatic cleaning cycle ensures quick and simple cleaning.

In automatic continuous operation, no user-dependent manual controls are required any more.



Illuminated LC display with all relevant status information in real-time

The menu language is freely selectable

Status shown by LEDs

Simple, self-explanatory operating tableau

High-quality, robust film keyboard

*Bei Anlagen mit Doppelbrenner

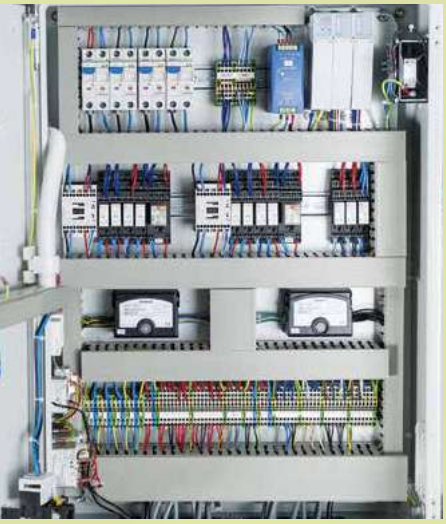
Function and operation

High-tech as the basis for fruit juice quality/ stability, function and user-friendliness

- Gentle, secure pasteurisation to the pre-set filling temperature for fresh, cloudy and transparent fruit and vegetable juices, must, vinegar and wine.
- Very gentle pasteurisation
- Pasteurising system as a module element, matched to all previous and subsequent voran® machines, bag-in-box fillers etc. (refer to Page 3).
- Simple handling, no more imprecise manual control valves to be operated by feel or experience. This results in a user-independent, safe pasteurising result and fruit juice with a constant, high quality level.
- Quick system availability due to short system heating time. During stop-and-go operation, a high-quality heat buffer store ensures machine continuity and therefore ensures pasteurisation with the best fruit juice quality.
- Easy to clean tube heat exchanger or optional counter-current plate heat exchanger.

voran quality

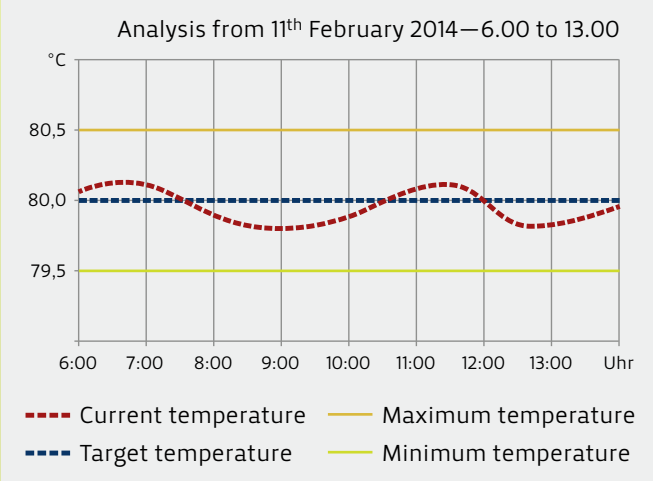
Technology and components



Control cabinet, control voltage 24 V, juice pump, SPS for automatic control and regulation of all functions

All system components used have EU certificates and are CE compliant. Compliant with EC 1935/2004

Gentle, self-drawing impeller pump



Optional data logger including analysis software

Closed high-temperature heating circuit system with high-quality insulation

Juice guidance system with short start-up time

Hygiene

Rich range of accessories with the usual connections (supplied)

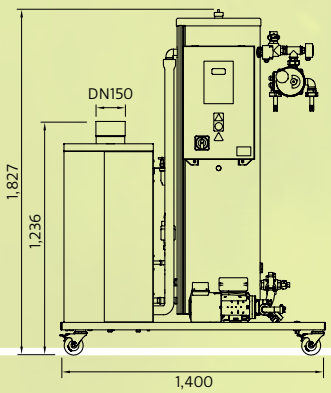
Last but not least

- Several hundred pasteurisers successfully placed on the market
- Series production—this means competent technical support, spare and worn parts from warehouse
- Complete, pre-installed, plug-in ready delivery with pre-setting, testing and logging of all functional parameters on delivery control sheet
- Compact dimensions = low space requirements, low weight, low centre of gravity. Mobile steel profile frame with minimum storage areas. Steering rollers to transport the device—on request also with adjustable feet
- Our pasteurising systems are particularly well suited to mobile system due to their low weight and compact design.

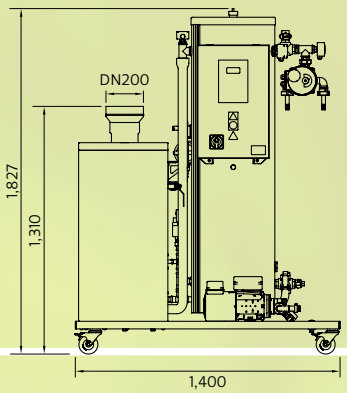
Reference customers primarily in fruit processing, order-based juicers and fruit and gardening associations

Technical data

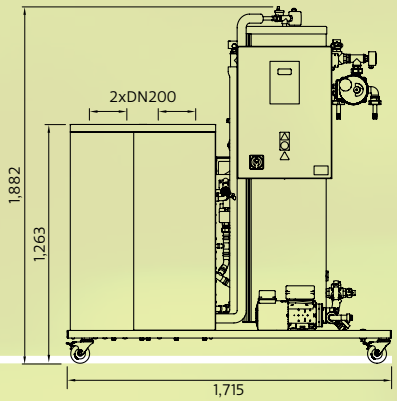
PA600 Oil



PA1000 Oil

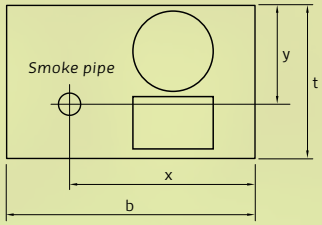


PA2000 Oil

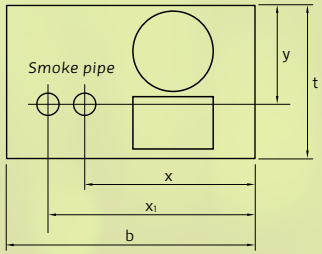


Dimensions
and connection locations

PA500, PA600, PA750, PA1000



PA1500, PA2000



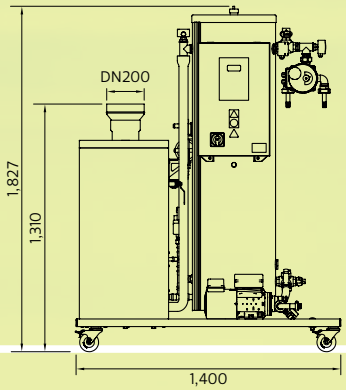
Type	PA600 Oil	PA1000 Oil	PA2000 Oil
Maximum hourly output in l/h at a filling temperature of 80°C	600	1,000	2,000
Maximum heating power in kW	55	90	180
*Electrical connection**	230 V / 50 Hz *(single phase)*	230 V / 50 Hz *(single phase)*	230 V / 50 Hz *(single phase)*
Dimensions width/height/depth in mm	1,400 / 1,827 / 900	1,400 / 1,827 / 900	1,715 / 1,882 / 900
Weight dry/filled in kg	330 / 430	350 / 450	492 / 600
Liquid gas or oil consumption in kg/h	5,5	6–8	12–16
Smoke pipe connection	DN150	DN200	2x DN200
Connection for juice feed		Ø 25 mm	
Connection for juice drain		Ø 19 mm	
Items delivered	10 m tube Ø 19 x 6 mm, hook wrench, cable option MBF … (refer to Page 9)		

Type	**Dimensions** (w/h/d) **Smoke pipe** (dimension/x/y)
PA500 Gas, PA1000 Oil, PA750 Gas	900 / 1,400 / 1,827 DN 200 / 1,139 / – / 363.5
PA600 Oil	900 / 1,400 / 1,827 DN 150 / 1,137 / – / 363.5
	Smoke pipes (dimension/x/x1/y)
PA1500 Gas	900 / 1,715 / 1,886 DN 150 / 1,137 / 1,469 / 369.5
PA2000 Öl	900 / 1,715 / 1,882 DN 150 / 1,147 / 1,479 / 370

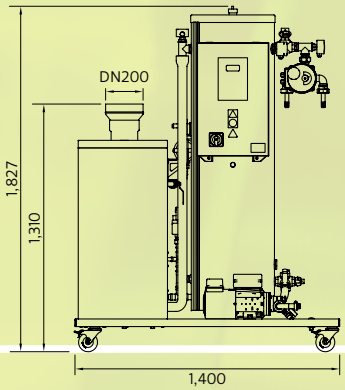
Dimensions for tube heat exchanger and plate heat exchanger are identical.

* Other power voltages and designs on request

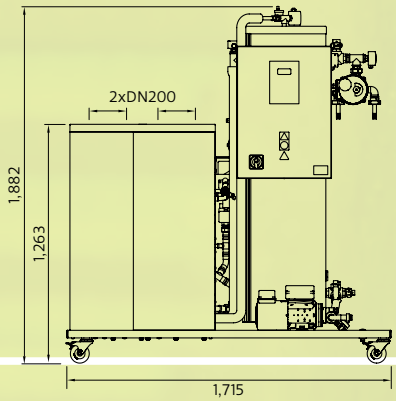
PA500 *Gas*



PA750 *Gas*



PA1500 *Gas*



Type	**PA500 Gas**	**PA750 Gas**	**PA1500 Gas**
Maximum hourly output in l/h at a filling temperature of 80° C	500	750	1,500
Maximum heating output in kW	60	70	140
*Electrical connection**	230 V / 50 Hz *(single phase)*	230 V / 50 Hz *(single phase)*	230 V / 50 Hz *(single phase)*
Dimensions width/height/depth in mm	1,400 / 1,827 / 900	1,400 / 1,827 / 900	1,715 / 1,882 / 900
Weight dry/filled in kg	332 / 432	359 / 459	500 / 600
Liquid gas or oil consumption in kg/h	2–2,7	2–2,7	4–5,4
Smoke pipe connection	DN200	DN200	2x DN200
Connection for juice feed		Ø 25 mm	
Connection for juice drain		Ø 19 mm	
Items delivered	10 m tube Ø 19 x 6 mm, hook wrench, cable option MBF … (refer to Page 9)		

* Other voltages and net specifications on request

Subject explicitly to technical changes and errors.

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voran business lines

- machines
- machine construction
- plant construction
- facades

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