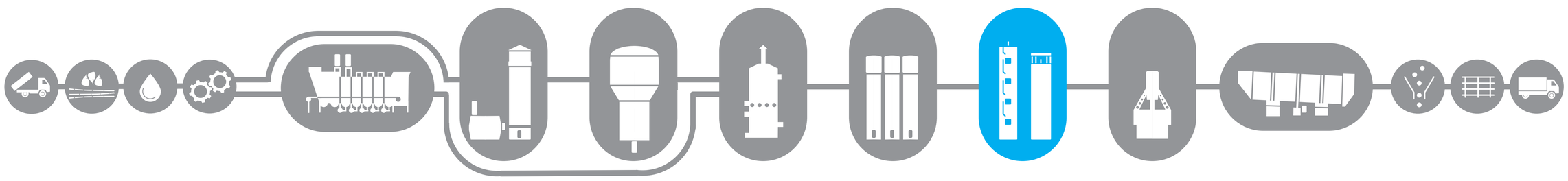
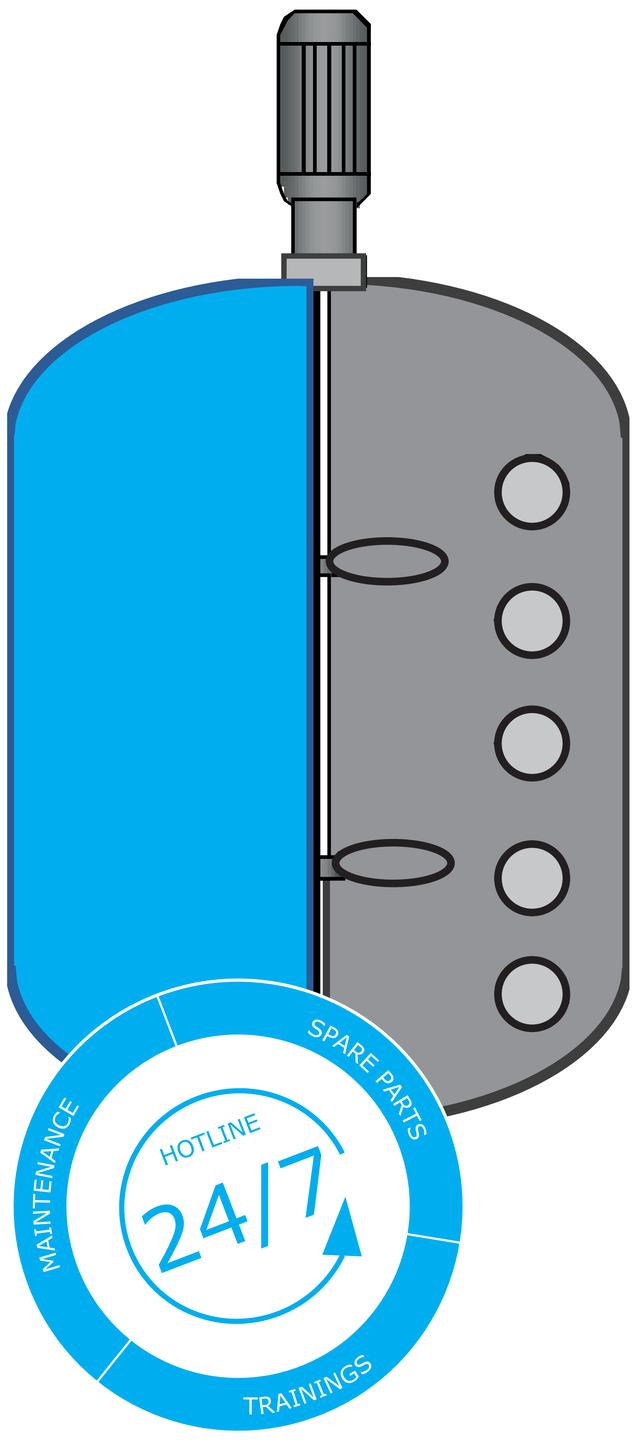
Area of application

BMA

Seed Massecuite Cooling Crystallizer



Intake > storage > cleaning > crushing/slicing | Cane diffusion | Beet extraction | Pulp dewatering | Juice purification | Evaporation | Crystalli-sation | Centrifu-gation | Sugar drying/cooling | Packaging > storage > transportation



Principle of operation

The first step of seeding proceeds in a cooling crystallizer which is equipped with a stirrer specifically designed for a high shear rate. The low temperature and the clearly defined supersaturation ensure uniform growth of the added slurry seed crystals, avoiding the formation of aggregates.

The syrup used (preferably thick juice) is subjected in the cooling crystallizer to evaporation to the required dry substance content, and the concentrated syrup is then cooled. When a supersaturation of 1.1 has been reached, it is seeded with the required quantity of slurry. Thereafter, the suspension is further cooled to approx. 30°C. The massecuite-to-cooling-water temperature difference serves to control the cooling gradient and, consequently, to adapt the supersaturation to be maintained during the cooling crystallization process.

Benefits

Simplicity
Simple process control due to crystallization being limited to the growing and tightening phases.

Safety
Maximum operating and machine safety and process stability.

Operation Costs
Use of high dry substance feed solutions without addition of water and steam reduction by smart process implementation.

Range of variants
The perfect configuration for every application.

0,3-1,0 mm
variation bandwidth of mean crystal size.

Technical data

Net volume [m³]	2.1 - 15.0
Diameter [m]	1.4 - 2.6
Total height [m]	4.4 - 7.2
Cooling surface [m²]	11.3 - 61.0

References

Customer	Year	Country	Cooling Surface [m²]	Raw material
East Asia	2017	China	44	Raw sugar
Haisum	2016	China	35	Raw sugar
Cassa	2016	San Salvador	27	Cane
ICPL	2015	India	27	Cane

More information

https://www.bma-worldwide.com/crystallisation/cooling-crystallisers.html

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After sales after-sales@bma-de.com

Crystallization brochure
Technical questionnaire