Principle of operation

Continuous extraction plants from BMA are used to extract sugar from beet cossettes. The cossettes pass through a countercurrent cossette mixer and extraction tower, producing low-temperature, high-purity raw juice with a high dry substance content. With sterile operation in an airtight environment, infections and the resulting sugar losses are minimised.

A beet extraction plant from BMA has two main components for different process tasks:

- A countercurrent cossette mixer, for thermal cell disruption, heat exchange between the cossettes and the juice, and defoaming.
- An extraction tower, for the solid/liquid extraction of sucrose from beet cossette cells using the countercurrent principle. One major design feature is the discharge of draught juice exclusively via lateral screens.
- Highly accurate temperature control and adjustable cossette packing density in the countercurrent cossette mixer and extraction tower permit optimum cell disruption.

Benefits

- Variable throughput
  The throughput can vary between 70 and 120 % of the nominal capacity.
- Primary energy
  Secondary heat is used to heat the juice during purification.
- Raw juice draught
  Low sugar losses even with small draught volumes up to 100 % o.b. .
- Risk of infection
  Fewer infections thanks to improved design without dead spaces.
- Easy to operate
  Sequential start-up of all subprocesses with an automatic start-up system.
- Wear and tear
  Torque control for synchronised running of the multiple drives.

Technical data

- Beet processing [t/d] 3,000 to 17,000
- Extraction tower ø [m] 6.5 to 13.6
- Extraction length [m] 17.93 to 25.43
- CCC mixer ø [m] 3.5 to 9.0

Reference extract

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<tr>
<th>Customer</th>
<th>Year</th>
<th>Capacity [t/d BP]</th>
<th>Tower ø x length [m]</th>
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