



FIVES CAIL'S TOWERMAX & ECOMIXER

Fives Cail offers a new beet extraction technology which lowers the total energy consumption of the plant. This technology includes the TowerMax Diffuser as well as the EcoMixer, a countercurrent cossette mixer, and peripheral equipment such as heaters, defoamers, pulp strainers and sand removers.

TowerMax and EcoMixer are the result of over 60 years of experience in the design and supply of beet extraction plants and more than 240 references, all with proven reliability, performance and automation. Fives Cail's new beet extraction system produces a high purity, low temperature raw juice and a high dry substance pulp suitable for pressing.

The TowerMax is a countercurrent tower diffuser which comprises:



- a base with shaft support and bearings, vertical and horizontal screens, cossettes inlets and juice outlets;
- an extraction zone with moving and fixed blades to transfer cossettes from the bottom to the top of the tower;
- an upper part with motorization and 2 pulp extraction screws. All parts in contact with products are in stainless steel.

Residence time of the cossettes in the extraction zone is between 90 and 120 minutes. Screens are cleaned permanently by scrapers. An additional cleaning by juice is done when necessary.

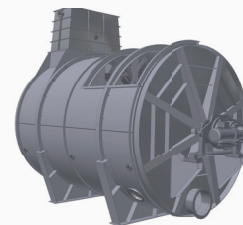
TowerMax is designed with proven process rules. Construction rules emphasize robustness associated with costs analysis through local manufacturing possibilities. Reliability and control including safety alarms ensure low maintenance costs and optimized operation.

The EcoMixer is a countercurrent cossette mixer which includes:

- a body with fixed arms;
- a motorized rotating shaft with moving blades and mixers, screens for defoamed juice and raw juice.

All parts in contact with products are in stainless steel.

The EcoMixer's design and construction standards, as well as its operating rules are as reliable as those of the TowerMax.



Typical operating data for Fives Cail extraction plants are:

- Draft: 95 to 115% on beet
- Sugar loss: 0.2 to 0.25% on beet
- Steam consumption: 1.3 to 1.7% on beet
- ΔT juice-cossettes: 10 to 15 °C

Fives Cail offers a range of plants from 4,000 to 14,000 tonnes of beet par day, rates which cover all market requirements.

Fives Cail Extraction Plants Sizes

| Capacity<br>Tonnes of beet per day | TowerMax              |              | EcoMixer     |            |
|------------------------------------|-----------------------|--------------|--------------|------------|
|                                    | External diameter (m) | Diameter (m) | Diameter (m) | Length (m) |
| 4,000                              | 6.7                   | 4.3          | 7.0          |            |
| 6,000                              | 8.0                   | 5.1          | 8.0          |            |
| 8,000                              | 9.3                   | 5.9          | 8.0          |            |
| 10,000                             | 10.6                  | 6.7          | 8.5          |            |
| 12,000                             | 11.9                  | 7.5          | 9.5          |            |
| 14,000                             | 13.3                  | 8.3          | 10.0         |            |

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For more about Fives Cail,  
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