

You don't always have to have a new tower....



*Extension of an
extraction tower*

Extension of an existing extraction tower as an economically feasible alternative to new construction

There are numerous reasons why the extraction plant at a sugar factory might need to be extended, the most common ones are:

- Increase in capacity – the sugar factory intends to process more beets; the extraction plant is too small and has to be extended
- Reduction in sugar losses – the sugar losses in the wet pulp are reduced while the raw-juice draught is kept constant
- Energy savings – the water volume to be evaporated in the downstream process is reduced by a lowered raw-juice draught and constant sugar losses in the wet pulp

At this point the question arises as to whether a cost-intensive and time-consuming new construction is necessary in all cases. To make a decision, it is important to check whether an extension of the existing extraction tower would be possible and whether this would be sufficient to reach the desired targets of the sugar factory. It is also vital to consider the fact that a tower extension would clearly be more cost-effective than a completely new construction.

An extension is feasible for all BMA extraction towers unless they already have the maximum extraction length of approximately 22.5 m. If the capacity is going to be increased, it is also important to check whether the existing cossette mixer is suitable for a greater cossette volume.

Extending the tower length enlarges the tower volume. For example, if the tower is extended by 5 m, the volume that can be used for the extraction process is increased by about 28%. This means that with a constant slicing capacity, the time that the beet cossettes are inside the tower is longer, which results in a reduction either in the raw-juice draught or, with a constant draught, in the sugar losses.

In the past few years, BMA has carried out a number of tower extensions, which used to be individual solutions adapted to the customer's actual situation. It is therefore recommended that you contact BMA in time for an expert consultation. Afterwards a concept for the intended extension must be prepared to specify the targets and all modifications to be made at the extraction plant.

At the beginning of the 2008 campaign, an extended extraction tower was commissioned at Wahpeton, USA, with a diameter of 11 m and an extraction length extended from 16.69 m to 21.61 m. At the same time, all drives and the bull gear were renewed. The time period between the customer placing the order and commissioning was less than 10 months. The customer is now operating an extraction plant that has less sugar losses than the old plant, with a reduced raw-juice draught. In addition, the investment costs and the construction period were clearly reduced compared to a new construction.

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