America's largest cooling crystalliser (OVC)

The sugar factory at Puga in Mexico will this year commission America's largest OVC to date. With a height of 33.5 m, it will be one of the highest points in the area, thus offering an excellent view across the whole factory.

The OVC is used to evenly cool 33.25 t/h of low-raw massecuite from about 65 °C to 40 °C, by approximately 1 Kelvin per hour. This slow cooling speed ensures a constant supersaturation in the OVC at any time as well as a continuous crystal growth. The formation of new small crystals – which initially increase the crystal content, but are then discharged through the centrifugal screen and thus do not reduce the purity of the molasses – can be excluded with this OVC.

This even temperature reduction of the massecuite can only be achieved if the temperature difference between the massecuite and the cooling medium is constant everywhere in the OVC. With this OVC and its related internals and control features, BMA has created the preconditions for an optimal reduction in purity of the molasses. Many customers have already found that the investment in a new OVC had paid for itself after just one year, owing to the additional sugar produced, provided the campaign was sufficiently long.

By now, news of the quality of the OVC has spread far in Mexico. With installations at the factories of Bella Vista, San Nicolas, Adolpho Lopez Mateos, Tres Valles and an extension at San Nicolas, this OVC will be the fifth of its kind in the country. BMA's scope of supply is completed by the corresponding massecuite pumps and further auxiliary equipment. Another item of equipment that deserves special mention is the molasses/massecuite mingler, which prepares the highly viscous massecuite cooled to 40 °C, for conveying and processing by means of heated molasses, without causing crystal melting by undersaturation. Once again, BMA's control concept guarantees uniform viscosity of the massecuite downstream of the mingler. As a result, the low-raw product centrifugals can be optimally operated over a long period without much adjustment.

BMA will of course take part in commissioning, in order to familiarise the engineers and plant operators with the new equipment and to optimise the plant together with them.

As for the other OVCs in Mexico, our Mexican representation Equipos Para Ingenios will coordinate the complete erection and support the customer in all situations.

Jörg Schmidt