

# Sugar drying and cooling plant for Malaysia

At the end of 2009, BMA successfully commissioned a sugar drying plant for Malayan Sugar in Seberang Prai, Malaysia.

For construction of the plant, BMA worked very closely together with Asiatic, BMA's representative for Malaysia.

The sugar that leaves a new production line is dried and cooled in such a way that it can be graded into different fractions immediately after cooling, and then stored in separate silos. In view of the climatic conditions in Malaysia, with high ambient temperatures and at the same time high air humidity, it is particularly important that the sugar has the right temperature and moisture when entering the silos.

The main elements of the plant are a counter-current drum dryer and cooler, with a downstream fluidised-bed cooler with internal cooling tubes. The plant has been conceived with a particular view to energy efficiency. The used air that leaves the cooler is therefore put to further use as cooling air in the dryer. This helps reduce the required air volume and allows the heat emitted by the sugar to be used again for sugar drying.

The very carefully planned cooperation between the different parties involved was a key to smooth project implementation. The intended throughput rate, and the required residual moisture and outlet temperature of the sugar, were achieved after a commissioning period of only five days.

The following data from the commissioning phase are particularly noteworthy:

Throughput rate	35 t/h
Ambient temperature	30 °C
Dew point of the ambient air	26 °C
Sugar outlet temperature	35 °C
Average sugar outlet moisture	0.023 %

Most of the plant control processes are automated; this makes plant operation more reliable and means that the staffing level can be reduced. With the provided control features, the sugar can be fed into the silos with only minor temperature variations, which is very important for preventing the formation of sugar lumps.



*Sugar dryer*



*...and cooler*

The plant can be operated either from the control centre or from a local operator panel.

Documents for staff training were prepared in parallel with commissioning work. Since these documents reflect the special conditions in this factory, it will in the future be easier to instruct new factory staff.

*Gerald Casper*