

Case study:

Instant Drinks

Application:

The interest to produce instant food products are growing, available time for preparing foods are limited and higher quality standards are required.

The word "instant" indicates that the product can easily be wetted or dissolved in liquids.

The instant characteristics are achieved by agglomeration of fine powder particles into larger agglomerates.

The increased grain size of the fine powder will allow the liquid to quickly and easily penetrate into its mass. Consequently the dissolution time of the powder is considerably shortened.

The agglomerates have a porous structure so the liquid can quickly penetrate into the agglomerates

Requirements

Producing a high quality instant cocoa drink, on water or milk base, with main components such as sugar, cocoapowder, flavourings, binder, emulsifier and vitamins. The instant powder should have the following characteristics:

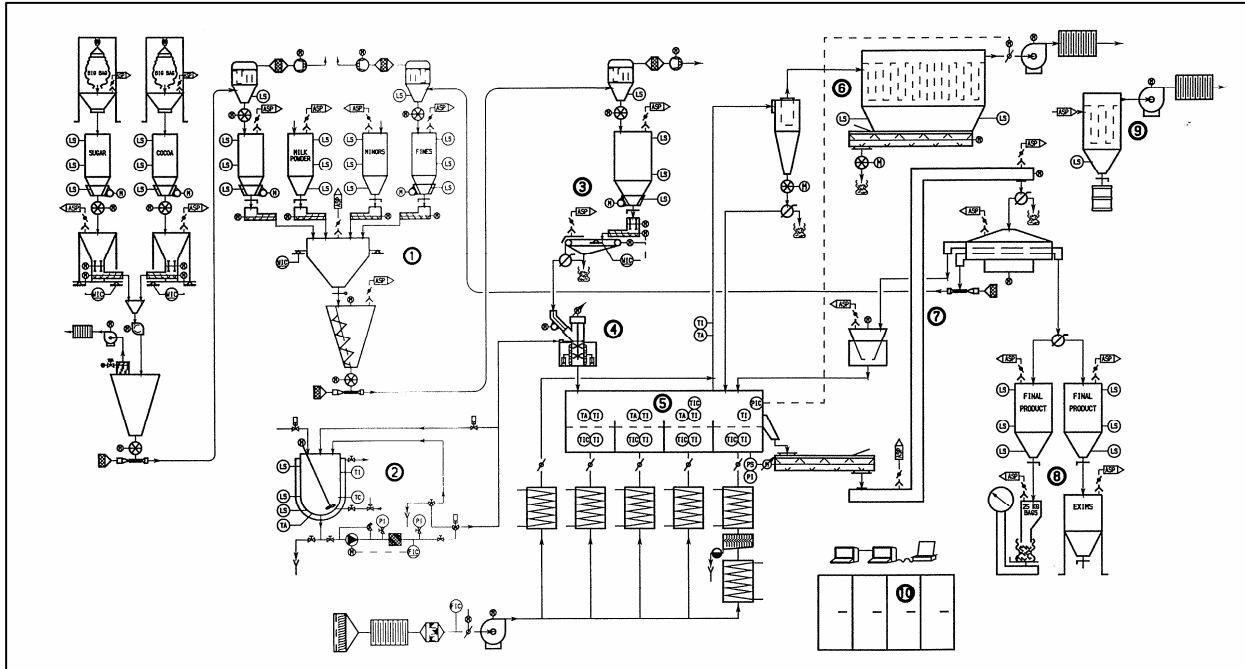
- good dispersability both in cold and hot liquids
- dustfree & freeflowing granules
- Good colour and taste
- defined bulk density and particle size

Solution

For this application complete systems can be designed with capacities from 0,5 to 6 T/h, this systems comprises following sections:

- receipt and storage of the several product-components
- pre-weighing and pre-mixing of the whole formulation in a pre-mixer
- fine-dosing units for the mixture and binder
- Schugi Agglomerator type Flexomix
- Fluidized Bed Dryer/Cooler (FBD), incl. airheaters, cooling system, cyclone, filter and exhaust air fan
- classifying screen and crusher for the oversize
- controls with PLC and PC with a SCADA system

Typical flow diagram of a Hosokawa agglomeration system for Instant Cocoa drink



Conclusion

The Hosokawa agglomeration system is a reliable and flexible system with high throughput rates, producing an instant drink with very good instant characteristics and suitable for multi components formulations.