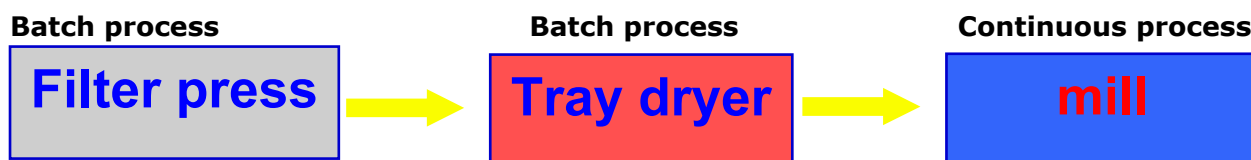


Case study:
Drying natural colorants
Application :

Natural colorants such as **Carmin** are applied as additives in food industries and as additives for life-science products and in cosmetics. applications.
 Often very fine products are required without any traces of agglomerates.
 Further the colour of the product is very important and drying has to be done very gentle due heat sensitivity of the product.

The **present production lines** for producing this type of colorants are usually combined processes with combinations of tray-dryers and separate milling system.
 This implicates handling and transfer of product between the several process steps.
 Unloading and loading of trays is done by manual labour and is costly.


Solution:

Hosokawa Micron combines a conical mixer model Nauta Mixer which is receiving filter cake from the filter press. Material is pumped by special pump to the product inlet of the Micron Dryer model MDV-2.

Requirements product

Moisture content : between 15-20% W.B.
 Particle size distribution : Fine powder with 100% < 30 µm

Heat sensitive product

In this case the product is very heat sensitive and colour can easily change.
 The short residence time in the dryer of only a few seconds is important and has positive influence on the product quality. Working at lower temperatures at inlet and outlet avoids degradation of the product.

Process data for this and other similar applications

Model Dryer	Feed material	Input capacity Kg/hr	Moisture content Raw material	Moisture content Product
MDV-2	Carmin	100	65%	15%
MDH-4	Aspartame	350	30%	3%
MDV-5	Pigment	700	72%	0,5%

Typical set up of Micron Drying System for pigments

Conclusion

The Micron Dryer is a **reliable** machine for drying and simultaneously grinding of heat sensitive colorants. It is a **very stable** process resulting in a uniform and dry product in a one step process.



Typical flow diagram of Micron Dryer System

