

# Dairy Products, Creameries

milk processing: powdery milk products

measurements for fabrication of milk powder products



evaluation unit HK4

## Higher efficiency of the milk powder production



# HK4



**Savings through accurate measuring of organic constituents in spray dried milk powders: i.e. water, fat, protein, lactose.**

The absorption of all molecules in the CH-, NH- and OH-compounds enables the ONLINE-measuring of fat, lactose, protein, water etc.

**full cream milk powder**

26% fat, 25% protein, 38% lactose

**skimmed milk powder**

36% protein, 52% lactose, 4% water

**whey powder**

11% premium protein, 70% lactose

**curd powder**

70% protein, 3,5% water

**jogurt powder**

3% water

**cream powder**

60% fat, <1% water

**buttermilk powder**

3% water,

**hydrolyzate powder**

10% premium protein,

To improve the quality and to increase the efficiency of the spray dried milk powders the measurement of organic constituents is required. To increase the part of premium protein of 1% in a production of 5t/day can improve the profitability to appr. EUR 500.000 per year.

The measurement is effected by a NIR-sensor online in a flow-cell.

The powder is collected under pressure with a bypass system.

The powder in the cell can be scanned i.e. one time in 2 minutes.

Reflection principle. Chemometric calibration software SPECTER.

Basic calibration at delivery. Quick connection. RS232 / RS485.

1700nm - 2500nm, 5 analogue outputs 0/4-20mA.

Additional stainless-steel-housing.



measurement in flowcell



NIR-sensor / halogen lamp



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