sigrist photometer

Application report

Colour of Beer on the Blending Unit

Benefits

It is particularly important in a modern brewery that a high quality is reached and that this high quality is then continuously ensured.

Even if colour does not have the same significance as turbidity, certain processes during the production of beer necessitate the measurement of colour in the process.

Typical application

Two different processes are applied in breweries:

1) Breweries which produce so-called «high gravity» beers. The advantages are a higher output capacity without reconstruction measures and less thermal and in particular cooling energy per hl beer sold.
2) Other breweries not applying this process since they do not have a capacity bottleneck or they are not permitted to do so under the beer tax laws (e.g. in Germany).

Breweries with «high gravity» brewing

This involves so-called blending plants in those breweries, in which deaerated water, CO2 and rye malt beer or caramel colour is added to the beer.

Breweries without «high gravity» brewing

The blending plant is similar but its main purpose is to keep the threshold values of the original wort because of the beer tax laws. In addition, CO2 is added to compensate fluctuations resulting in the storage cellar. Colour dosing is not always necessary but carried out to either have a more uniform colour value by fine tuning or to dose much rye malt beer in order to create beers which were not made like that in the brew house (e.g. dark beer from pils).

ColorPlus, mounted in a Varivent® housing

The LED light source ensures an extremely stable reading. The maintenance costs are remarkable low, as the ColorPlus 2 is maintenance-friendly.

Practical measurement (example):

Example of a blending plant with integrated ColorPlus (circle)

Savings/calculation of return

Strictly speaking, there are no savings. Losses of rye malt beer can be minimized; but it is the constant product quality which can be guaranteed that appeals to the customer.

Products

SIGRIST Product and configuration for this application:

- Beer instrument 430nm: ColorPlus 2 or Beer instrument 430/700nm: ColorPlus 2 (if turbidities > 2 EBC are to be expected)
- Suitable OPL bits (depending on the desired measuring range)
- SICON control unit
- Suitable Varivent® housing

Parameter settings

- Calibration in EBC colour (factory-set)
- Measuring range defined for 4–20 mA signal output at the SICON

Advantages of the SIGRIST ColorPlus

- LED light source, value measured is extremely stable
- Checking is easy using a checking unit
- No purge air necessary
- Inherent monitoring of the instrument's state
- Easy to maintain with extremely low maintenance costs

Sigrist-Photometer AG
Hofurlistrasse 1 · CH-6373 Ennetbürgen
+41 41 624 54 54
info@sigrist.com