

NIVELCO CASE STUDIES

NIVELCO INSTRUMENTS IN BEVERAGE MANUFACTURING

Coca-Cola HBC Hungary Ltd.

The equipments used in the technology of beverage manufacturing (containers for raw materials, grinders, presses, containers of the end product, ingredients, cleaning devices etc.) offer numerous opportunities for the application of instruments developed and produced by NIVELCO. We would like to inform you about these applications citing one of Hungary's largest beverage manufacturers as an example.

We have provided assistance in solving a number of problems concerning measurement and control such as the level measurement of alkali and corn syrup tanks, the recycling of industrial wastewater, quantitative measurement in water-treatment, temperature measurement and control.

Level measurement of alkali tanks

The level measurement of the 6 x 3 m double-wall horizontal alkali tank located outdoors is done by an EchoTREK SBA 380-2 ultrasonic compact level transmitter, the data is received by our PMM-313-1 universal control panel which indicates the quantity measured in litres. The alkali tank is responsible for securing the transition of fresh alkali to the bottle-cleaner.

Level measurement of corn syrup

Corn syrup is the concentrated aqueous solution of a compound of glucose and fructose which is widely used in the food and beverage industry in great quantities as sweeteners. To store corn syrup 5 pieces of 4,5 x 3,5 m (32m³) vertical tanks are used.



The level measurement of the tanks is provided by NIVOPRESS DTE-651-2 two-wire, programmable hydrostatic level transmitters. 3 components are contained in the tank: concentrate, water and sugar. A mass flow meter is in charge of dosage, stirring is done by the method of circulation. The pressure transmitter constantly measures the level in the tanks and according to this undergoes the dosage of syrup onto the production line.

The recycling of industrial wastewater

The purpose of recycling is to use the industrial wastewater from the cleaning of the aseptic production line as technological cooling water.



Flow measurement in the water-treatment system

8 pieces of ISOMAG MS 2500 magnetic induction flow-meters which can be built in pipelines and the adjacent ML 110 programmable signal processor measures the quantity of water running through the ion exchangers in the water handling system.

Thermometers and controls

The regulation of temperature of the water contained in the melting tank melting syrup concentrate is secured by THERMOCONT TSP 221-0 resistance temperature detector and our UNICONT PMM 313-1 universal controller and display.

The wastewater is gathered in a puffer-tank, where NIVOSWITCH RCM 400-3 vibrating fork level switches monitor 3 levels. Upon reaching the lowest emergency level the pumps stop, at mid-level the first pump starts, and at the top level the second pump is activated. The pH and conductivity levels of the water pumped from the puffer-tank is measured by ANACONT LGP-211-2 and ANACONT LCK 232-2 instruments.

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