



Automated Cleaning-in-Place crucial for beverage plant operation

Coca-Cola Beverages, Czech Republic

Case story

Being a clear leader in the Czech soft drink market, Coca-Cola has a long history in the region. The first bottles of Coke arrived to the country in 1945 along with U.S. allied troops liberating the western part of Bohemia from the Nazi rule. More than two decades later, the famous drink has been produced here for the first time in the state-owned enterprise in Brno in 1968.

Today, Coca-Cola Beverages Czech Republic (CCB), member of Coca-Cola HBC Group is a sole Coca-Cola franchise operator for the Czech market. It is a total beverage company, producing, distributing and selling all categories of non-alcohol drinks. The wide range of its products includes Coca-Cola, Coca-Cola Light, Cherry Coke, Fanta flavours, Sprite, Kinley Tonic Water, Lift flavours, various Cappy flavours, including Cappy Ice Fruit nectars, Bonaqua bottled water (including flavoured versions), Powerade sports drink, Burn energy drink, Nestea Ice Tea, Nescafé and Nescafé Xpress. In the Czech Republic, CCB operates one production facility in Kyje and 10 sales and administration centres around the country. The production, distribution and sales of its beverages directly gives an employment to almost 1300 people.

The heart of the Coca-Cola Beverages Czech Republic production is located in Prague's Kyje district, where the company operates its bottling plant. Efficient cleaning of the piping systems, tanks and filling machines is crucial both for the famed product quality and for keeping up with the high production volumes. Coca-Cola chose the cleaning solution provided by Alfa Laval Central Europe, and installed its Cleaning-in-Place (CIP) station here in 2006.

"When preparing the reconstruction of the old CIP unit, Alfa Laval was not the only company we talked to," admits Filip Honsů, Coca-Cola Beverages Production Manager. "We have finally chose them for the perfect technical knowledge and very open approach. When a technical problem arose, Alfa Laval specialists have always came up with 2-3 individual solutions - unlike their competition, that usually offer one universal treatment." One example shows the level of Alfa Laval's flexibility especially well: "At the last moment, we decided to place the unit into different space inside our plant. They changed the original project within just 2 days," says Honsů.



Modularised skid mounted plug-in unit for automated Cleaning-in-Place.

In Coca-Cola Beverages plant the CIP is used to clean different pipelines, syrup tanks and sugar melting units. The cleaning solution is pumped through the specially designed plate heat exchanger, where it is heated to required temperature. It is then routed to the object to be cleaned and back to the circulation tank included in the CIP module. After each cleaning phase the cleaning solution is routed to drain or back to the detergent tank for later re-use. A normal sequence includes initial water rinse, acid cleaning, intermediate water rinse, lye cleaning and final water rinse followed by hot water disinfection with at least 10 ppm NaClO. During the whole cleaning cycle the temperature,



Control of the CIP process is fully automated.



Return pumps and heat exchangers for tank cleaning play the key role in the CIP station.

flow and detergent concentration in the CIP return line are automatically controlled. The installed CIP station uses pressure up to 3 bar, and flow capacity up to 350 hl per hour.

With about thirty cleaning cycles a day, the newly installed CIP operates almost constantly. "Our old CIP had only one pressure line, but this new one contains two," says Honsů. "This means that in our typical high season we can clean more equipment at the same time, and do not have to wait." The whole CIP system operates automatically. It includes automatic make-up of cleaning solutions, and

up to 15 different cleaning programs, that can be also run automatically. A control panel with a PLC monitors the plant operation and displays all relevant process data on the color screen operator interface. The ease of use of the interface is another feature praised by Honsů. Others include low losses, sanitary design, robust construction, compact design and low maintenance.

The successful implementation of the CIP unit opens door for the further co-operation between Coca-Cola Beverages and Alfa Laval, believes both Honsů and Dušan Jahoda, Alfa Laval's Sales Engineer.



Monitor the CIP station is user-friendly.

Main advantages of Alfa Laval CIP station

- Developed in co-operation with the brewing industry
- Low losses
- Automatic control
- Sanitary design
- Robust construction
- Compact design
- Versatile and adaptable to different process requirements
- Low maintenance

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com