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bulletin

NATE – nápojová technika a. s., Chotěboř company bulletin

editorial

Dear business partners,
Some news and information from our branch is prepared in the first issue of NATE's bulletin.

NATE is a very promisingly and turbulently developing company operating as the supplier of products and services. NATE also operates as an advisor in the field of technological assurance of deliveries, service and maintenance of the equipment for bottling drinks and their packing into various covers. In spite of the fact that we have been interested in the packing of water, beer, lemonades, soft drinks and special drinks for tens of years, the innovation revolution since 2000 shows an exponentially increasing tempo. This issue presents the information on the start-up of two volumetric mechanical fillers, each with nominal capacity of 14,000, at the leading producer and supplier of mineral water in the Czech Republic. Furthermore, we have already presented several projects of moving, modification, tuning and putting into operation of a large line for the bottling of beer into glass bottles and cans for the brewery STAROPRAMEN Praha, belonging to the group InBev.

I believe that you or your colleagues may be interested in the information and our engineering solutions. Please contact us for any consultation.]

Many commercial successes,

Ing. Petr Papoušek
General Manager



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news

Movement of Can and Glass Line from Braník to Smíchov

The Staropramen Brewery is one of the most important Czech exporters of beer, and the flagship of the company – the Staropramen brand – is presently exported to more than 30 countries worldwide. The company is a part of the brewer group InBev, the largest brewer company in the world. InBev was established in August 2004 by the merger of the Belgian company Interbrew and the Brazilian company AmBev.

In the year 2006 the Braník brewery achieved its maximum capacity, and in January 2007 the last beer was brewed in Braník. The operation of the brewery ended on February 1, and the assemblers of the company NATE entered the brewery to dismantle the machines and to re-assemble the line in Smíchov.

Dismantling was rather complicated as the equipment of the glass line was located on the first

floor, and the can line was on the second floor of the historical building.

The start of the assembly works in the Staropramen brewery was rather demanding as the completion of the construction of the new hall in Smíchov was running at that moment, as well as the actuating of supporting technologies. Because of space limitations of this recently

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about the company NATE – nápojová technika a. s.

The joint-stock company NATE – nápojová technika a. s. manufactures and delivers equipment for filling a wide assortment of carbonated and non-carbonated beverages and other liquids into glass bottles, PET bottles and cans. Products marked "NATE Chotěboř" are delivered either as turn-key deliveries or as new machines integrated into existing lines. The main machines in our production programme are bottle fillers, washing machines, bottle inspectors, conveyors, carbonators and mixers. According to customers'

requirements we design new bottling lines, manufacture machines, assemble them and make complete sales and after-sale service – spare parts deliveries, preventive machine inspections and customer service, modernisation and refurbishment of existing bottling lines, staff training and consultant services. Our team of 300 employees work in the R&D, production and service departments. Mistake-free procedures are guaranteed by certification ISO 9001. ■



(finish)

built hall, both lines were modified from a design point of view. They were completed with a large quantity of new conveyers, including new control by means of the control system Siemens S7. The individual machines within this system are controlled in a new way by means of four touch displays located in the servicing points. Moreover,

a completely new system of medium distribution was used in the lines. The can line was the only one in Pražské pivovary; therefore, high stress was put on its re-putting into operation.

The empty cans' conveyor was delivered, conveying packaging from the storehouse situated 8 m above the floor of the glass line hall, and is main-

tenance and service free. The can line was put into service on 15 April 2007, when the first beer was brewed in the shop.

The objective of the first stage of the glass line was to put into operation the line for bottles NRW 0.5 l with the capacity 36,000 bottles per hour. On 4 June 2007 the production was restored in the moved line and the capacity was gradually increased and tuned.

The objective of the second stage shall be to put into operation the line for other formats of bottles during November, especially the 0.33 l bottles and bottles of unloaded glass. Further, the line shall be completed with a tunnel pasteurizing plant, which shall increase the capacity – by the extension of the pasteurization zone – from the existing capacity of 24,000 to 36,000 bottles per hour (0.5 l). With respect to this fact, the filling block and the labeling machine were modified in such a way that the labeling machine was separated and the line was completed with an independent labeling machine. A reduction in labor was achieved already in the first stage by a design arrangement. ■



The volumetric method of filling works hand in hand with the design of the filler and the character of the filling valves. This shows – in comparison to level filling – certain differences which define certain advantages and disadvantages of volumetric filling against level one:

Volumetric Filling

NATE – nápojová technika a. s.

Advantages of volumetric filling with measuring cylinders can be seen mainly in:

- A higher speed of filling – this means that for the same capacity a lower number of filling valves is needed. For example, for 20,000 PET bottles with a volume of 1.5 l, 80 volumetric valves are needed, but 96 level valves. Consequently, this means there are lower costs and the maintenance of fewer valves is needed.
- The change of filling volume is completely automatic by the re-setting of the piston in the measuring cylinders; i. e. for the change to another bottle it is not necessary to change air pipes as within level filling. Time is saved and the risk of the contamination with microbiological impurity is reduced as well.
- The filling volume is completely independent upon the quality of PET bottles. If full supervision over the quality of blown-out bottles is not secured, in case of level filling – on the grounds of unequal blowing of PET bottles within the pressurizing – an uneven volume of the drink can be filled.

- The filling volume is completely independent upon set pressure conditions for the filling. In case of certain anomalies within the filling it can be necessary to change pressure conditions of filling (i. e. to achieve higher foaming quality of a drink). In case of level filling this means the risk of uneven blowing of the bottles, which may lead to uneven volumes filled.
- To reduce the amount of drink which is usually lost after the end of filling, there is a smaller area in the central tank into which the residue of the drink is drained. This area is also used in case of changing to another drink. With this design we can eliminate such losses, in comparison to other producers of mechanical volumetric fillers, for up to 80 %.

Limits of volumetric fillings with measuring cylinders in comparison to level filling can mainly be seen in:

- The increased price of the volumetric filler due to a different design of the filler boiler and filling valves.

- The heavier and taller design (3.4 m for the volumetric filler and 2.5 m for the level filler) can be in some cases the limit of the use of volumetric fillers.
- The volumetric valve is more time demanding for disassembly and repairs.
- The range of filled volumes is limited by the range of the volumetric valve, at present we are able to fill the ranges between 0.33 – 2.5 l.

From above-mentioned characteristics of volumetric filling by means of measuring cylinders it is clear that volumetric filling is suitable for situations when the customer expects:

- Higher capacity of filling
- More frequent transfer from drink to drink
- Larger range of filled drinks
- More frequent changes of bottles
- Possible deviations in the drink stability or the quality of PET bottles
- Ranges of filled volumes between 0.33 and 2.5 l



Volumetric Filling for the Customer VESETA spol s r. o.

On the basis of a long-term mutual co-operation with the company Veseta spol. s r. o., in the second half of 2006 our company got the chance to participate in the selection procedure for the delivery of the bottling line for PET bottles with a nominal capacity of 14,000 bottles/hour (2 l).

In recent years NATE – nápojová technika a. s. has supplied air conveyers, plate conveyers, group packing conveyers and filler PETBLOK 40/60/8 to the company Veseta spol. s r. o. The satisfaction of the customer has proved that NATE – nápojová technika a. s. belongs to leading European producers of technological equipment for the beverage industry. In the selection procedure our company scored well in the European competition despite the fact that Veseta spol. s r. o. has mainly used filling lines supplied by leading foreign producers for many years. When selecting the supplier, the customer, as typical of him, placed special emphasis on not only the technical and technological properties of the equipment, but also on the service life and profitability of the delivered equipment. The professionalism of the owner of Veseta spol. s r. o. is demonstrated by the fact that with his many years of experience in this field he is able to optimize the draft of the individual machines and equipment of which the line is made up. He does this in such a way so as to fully correspond with the needs of the company. By co-operating in this project, our company acquired valuable experience so that now we can better understand operational needs of other customers and provide them with services of better quality.

The company NATE – nápojová technika a. s. became the main supplier of the new PET bottling line. The company was in charge of the overall designing of the line and technical advisory activities within the implementation of individual sub-deliveries.



Products of our company used in this project:

- Petblock 48/80/10 using the volumetric filling method, bottle caps – plastic, 28 mm/"sport caps"
- Air conveyers with automatically re-setting handrail for three sizes of bottles
- Plate conveyers of full bottles
- Group packing conveyers
- Central management of the line and conveying routes



The fulfilling of all guaranteed parameters was monitored during approximately a half-year of operation of the filling line, when our equipment was tested at three-shift operation. One of these

parameters was the efficiency of the performance of the filler (98 %). Thanks to the satisfaction of the customer with the results and complying with the contract, NATE won another contract from the company Veseta spol. s r. o. for delivery of a second line with an identical operation.

Layout, location and design of both lines enable the customer to service both lines at once with the same number of people (four), therefore reducing operational costs. The advantages include: the flexibility of reaction to market demands in the variety of assortment, reducing of the risk of total outage in case of line failure, effective use of service personnel within sanitations and switch of the line to another bottle format with concurrent operation of both lines. ■



Czech Beer and the Czech Brewing Industry

There are only a very small number of countries in the world where history, tradition and particularly the present days of beer and brewing are in such symbiosis as in the Czech Republic.

Beer production has a very long tradition in the Czech lands. Several thousand years ago Ancient Celts brewed this beverage, and beer with hops has been produced in the territory of today's Prague since 993. So it is not surprising that the Czech Republic is the "Promised Land of Beer". Beer is such a sacred beverage to Czechs that its patron is none other than the well known patron saint of all Czechs, Saint Wenceslas. The oldest brewery dates back to 1200. Several hundred years later, in 1712, there were almost 1,300 breweries in the territory of today's Czech Republic; and any large town, village or aristocratic house brewed beer. A significant fact is that from the technological aspect and the point of view of the importance of the Czech brewing trade for the development of this industry in the world, the foundation of the Burgher's Brewery in Pilsen (Prazdroj) in 1842 was a historical milestone. Its bottom fermented light-coloured beer very quickly became a world prototype of lager.

At present there are 49 industrial breweries and about 50 mini-breweries in the Czech Republic. Their number is constantly growing and these establishments are returning to places, which not only used to have a beer brewing tradition, but which also from today's point of view represent a great opportunity to offer beer produced in a traditional way, as well as by means of the latest technologies.

An increase in the number of mainly small breweries is matched by another trend, which is the widening range of beers and brands. It is estimated that in the Czech market the domestic consumers, together with the ever growing number of foreign visitors, have a chance to taste up to 400 types of beer from the smallest breweries to those which represent world known brands. Beer of the Pilsner Urquell, Budějovický Budvar – Budweiser, Staropramen brands and many others continue to find an always growing number of fans, practically throughout every continent. Most industrial breweries have been significantly increasing their

beer production in recent years. 2006 was the year when the record quantity of beer was produced here within the existing history of the Czech brewing trade, reaching the figure of 19,787,405 hl. The results of the first six months of this year support the long-term growth trend and 2007 should, as forecast by Czech experts, exceed the mark of 20 million hl of beer from brewery production in the Czech Republic.

Fans of the "Golden Drink", which is how beer is familiarly referred to by Czechs, can find Czech beer abroad more and more. It is mainly beer export which contributed to a significant increase in beer production in the Czech Republic. While in 2000, approx. 1.5 million hl was exported, last year it climbed as high as 3.5 million hl and subsequently the Czech Republic became the ninth largest beer exporter worldwide.

Nevertheless, beer is not just a delicious drink for Czechs. It is a part of Czech culture – covering aspects from literature and poetry to theatre and film. It is an important social phenomenon, because a Czech pub or a first class restaurant with good beer is a place where all topics are discussed, starting with politics and ending with sport.

There are also other areas connected with Czech beer and the Czech brewing industry. These are

scientific disciplines as well as branches, which admittedly do not produce beer, but without their contribution it wouldn't be possible to produce good beer. The first group represents a professional and later also scientific examination of beer and its production. Czechs refer with pride to personalities, such as the chief brewer-reformer František Ondřej Poupě. He founded the first malting and brewing training institute and wrote specialised studies about beer production as early as the late 18th century in Brno. Great progress was also achieved by the publication "Chemistry of Fermentation", which in 1845 was published at the technical university by Karel Balling.

Czech beer and the Czech brewing industry is famous not only because of its quality, but also thanks to the fact that apart from the skills of a number of malt and brewing experts the beer production is significantly contributed to by applying the latest technologies. Today we cannot imagine modern beer without them. Technical and technological equipment for breweries, mini-breweries and other establishments are now manufactured in the Czech Republic. We definitely should not forget this, but on the contrary we should acknowledge their importance and share in the reputation that Czech beer has. And with this article we wish to do so.

With the Czech brewing greeting
"May God Grant You Good Fortune"

Ing. Jan Veselý
Executive Director
Czech Union of Breweries and Malt-Houses



Exhibition Brau Beviale 2007 Nuremberg, Germany 14. – 16. 11. 2007



BRAU Beviale 2007

Our company will participate in one of the biggest European exhibitions for the beverage industry – BRAU Beviale 2007 in November this year. We also participated in this exhibition last year together

with 1,436 exhibitors from 45 countries. Our company displayed, on an area of 42.5 m², a beer filler VERAL 40 PK, which was sold to a Russian brewery – Vizit, Kuzneck. This year our company

will display another beer filler and an empty bottles inspector with CCD cameras system. Visit us in the hall No. 5, stand no. 429. ■