

# “Fall” speed ahead!

Niagara Bottling, USA's largest privately owned water bottler, is growing with Krones lines

Obviously, it is not the water cascading down the Niagara Falls that finds its way into the bottles of the Niagara Bottling Co. but the choice of name was a clever one, symbolising as it does the power and purity of the American epitome for water as such. For Mr Andrew Peykoff Sr., it was also instrumental in making the American dream of “milkman to millionaire” come true for himself and his family.

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Today, his son, Mr Andy Peykoff II, is at the helm of the company, which with its corporate creed of high quality, low price, extraordinary service has boasted average annual growth rates of over 40% during the past 10 years and is nowadays selling around five billion fills a year. Niagara Bottling is operating what is meanwhile its 10<sup>th</sup> complete line from Krones. It has repeatedly implemented a twin-line concept for achieving the highest of outputs, at 72,000 containers per hour and line, and has for years now been leading the market when it comes to container lightweighting, most recently by introducing a 9.9-g 0.5-litre Eco-Air™ Bottle. State-of-the-art options for diversification have been opened up by commissioning two hotfill lines earlier this year.

## Seven facilities spread across the nation

Its Irvine factory in Southern California was built in 1979. This was followed by the facilities Ontario I (in 2001) about 50 miles east of L.A. and Ontario II (since 2004), in Stockton, Northern California (in 2007), Allentown, Pennsylvania (in 2007) supplying the USA's Northeast, middle Atlantic and Northern Middle West, and finally in 2008 by the plants in Dallas, Texas and in Groveland, Florida. With these seven facilities, Niagara Bottling is now represented on an almost nationwide scale, with an installed capacity of 8 billion fills a year.

“An important criterion: You see, we want to offer the same quality as the big national brands but at a more favourable price. The main factors pushing up costs, however, are a) freight charges and b) the prices for PET. So now, with our strategically placed new plants and our focus on environmentally friendly packaging, we can competitively deliver anywhere in the United States and go head to head versus our national brand competitors,” explains Mr Peykoff.

“And for cutting packaging costs, we've come up with our patented lightweight bottle and closure designs which both cost less to produce and are more environmentally friendly,” he continues.

## Going below 12.5

The 9.9-g 0.5-litre Eco-Air Bottle was developed in close cooperation with Krones' bottle design plastics division. It all began in the spring of 2007. In a detailed briefing, Niagara's bottle design team shared their preform design for the world's lightest bottle with Krones and the boundary conditions applying



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were specified by Niagara's design team. What was clear right from the start was that the lightweighting process was to focus on the 0.5-litre bottle, since this container accounts for a major portion of the production volume at Niagara. The company wanted to go well below the previous weight of 12.5g while nonetheless maintaining a top load of no less than 350N and good pallet utilisation. What is more: The client wanted grip stability to be at least as good as with the existing (heavier) bottle.

After Niagara's approval, the various tests involved were run with specifically produced sample bottles, particularly in the context of air conveyors and labelling, plus closing technology, while also checking the pressures obtained during bottle transport and labelling, and handling in general. Within eight short weeks, all of the joint development work for a lightweight PET container had been successfully concluded, making Niagara Bottling the first bottler in the world to offer their customers a 0.5-litre bottle weighing a mere 9.9g. And before that, for almost five years Niagara had been the only vendor on the market with a 12.5-g bottle.

Mr Peykoff enumerates the maths: "For four billion fills, 2.6g of weight less per bottle produce around 10,000 tons of PET saved in a year which significantly reduces the carbon footprint of our products while also allowing us to provide lower prices to our customers."

This corresponds to eight million dollars per annum, given a PET price per ton of eight hundred US dollars.

### Five high-speed PET lines almost simultaneously

With the conclusion of the Eco-Air Bottle-lightweighting project, Niagara in the summer of 2007 almost simultaneously placed orders with Krones for five high-speed PET lines, each with a maximum output of 72,000 containers an hour. For the existing plant in Allentown, Pennsylvania, Niagara ordered two high-speed lines in a twin layout, each rated at 72,000bph; for the newly built facility in Groveland, Florida, a 43,200-bph PET line to start with, and one month later this was followed by an order for the new factory in Dallas, Texas, likewise with two 72,000-bph PET lines in a twin layout. For each of these orders, Krones' scope of supply comprised the route from the blow-moulder up to and including the packer, without the silo.

In Allentown and Dallas, Niagara again implemented the twin-line concept which Krones had first translated into tangible reality in the Ontario 1 plant back in 2003. In this concept, three *Contiform S24* blow-moulders (each rated at 43,200 containers an hour) supply two labeller/filler BLOCs, each in their turn producing between 64,800 and 72,000 bottles per hour.

In addition, another 43,200 containers an hour are fed into the line from an unscrambler silo (installed by the client), so that the two lines can be run at their maximum hourly output of 144,000 containers. Two intelligent air-conveyor servo distribution gates installed one behind the other serve for



The new facility at Dallas in Texas likewise received two 72,000-bph PT lines in a twin configuration.



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line control. The labeller/filler BLOC, comprising a *Controll HS* and a Sensometric VOG-PET, prelabels the empty containers before they are filled. This is directly followed by two *Variopac TFS* packers for creating the packs, each of them able to handle 100,000 containers an hour. They can also be supplied in a crossover configuration by both the filler BLOCs.

All five new lines were acceptance-tested with optimum line efficiencies, sometimes running at far more than 90%. They are operated in four shifts, twice twelve hours a day, round the clock, on seven days a week.

"We try to change over to different container sizes as little as possible, or not at all," explains the director of engineering. The 0.5-litre PET bottle placed on 24- or 35-bottle trays accounts for 80% of all sales. In addition to these, Niagara also fills eight-ounce, 12-ounce, 24-ounce, one-litre, 1.5-litre, three-litre, one-gallon, 2.5-gallon and three-gallon containers.

The main product is Niagara Drinking Water, extracted from wells, micro-filtered, demineralised in a reverse osmosis process and ozonised, and in some cases with extra minerals added. This drinking water is marketed as the company's own brand but mainly as private labels of more than 1,000 customers, including the major retailing chains like Kroger, Costco, Wal-Mart, Safeway, 7/11, but also sold to airlines and casinos. The average price for a 24-bottle tray on the supermarket shelves is US\$2.99 to US\$3.99 dollars. In addition to drinking water, Niagara's portfolio also includes spring water, distilled and remineralised water, and a role as a contract-bottler.



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### Two ultra-modern hotfill lines

Specifically for this task as a contract-bottler, the next two turnkey lines from Krones went into operation early in 2009, this time designed as hotfill lines, at the Ontario II plant, Niagara Bottling's headquarters. These two lines are each rated at 48,000 containers an hour. Here, the hotfill bottles are supplied already blow-moulded, and depalletised by a *Modulpal*, with air conveyors in enclosed *Variojet* rinsers / *Volumetric* filler/closer BLOCs transporting them to the hotfill location at 181°F, after which they are cooled down to ambient temperature in a tunnel cooling unit and dressed by two *Contiroll HS* high-performance wrap-around labellers in each line, loaded on trays with shrink film by a *Variopac Pro*, and palletised by a *Modulpal* in conjunction with a *Robobox*.

One *VarioFlash* pasteuriser per line flash-pasteurises the products, with a *Contiflow* mixer blending water at a ratio of four to one with syrup, which is made in a Krones syrup kitchen featuring four batch tanks, two concentrate/powder tanks and a *Botec F1* control system. A *VarioClean* CIP system is available for cleaning purposes.

### "Highly professional"

These two lines were likewise supplied by Krones in their entirety on a turnkey basis, even including the high-speed steam generators.

"All in all, this means we installed seven Krones lines in

2008," sums up Mr Peykoff. "From board level right through to their last fitter, Krones invariably does a top-class and highly professional job. The twin-line concept has now been implemented in every plant. The Eco-Air lightweight bottle, which we designed in close collaboration with Krones, was launched on the market in April 2008 and has been very well received by our customers. At some point there are diminishing returns with lightweighting the bottles and we may already be at the limit. That being said, there are still quite a few options for becoming more efficient in other areas of our business and packaging."

"In the future, we have to take a long, hard look at other areas such as freight costs, maintenance costs, payroll, vertical integration and on and on. The current recessionary phase we're going through is admittedly less than encouraging, but it has its advantages as well: the lower oil prices result in lower transportation costs as well as lower raw material costs for our bottles. I'm still very confident as far as the water and drinks market is concerned. In the future, we'll intensify the diversification process for our beverage portfolio and offer the entire range of drinks, also including sports drinks, for example," is how Mr Andy Peykoff maps out his firm's corporate future.

### The sky's the limit

And he adds: "The sky's the limit in hot fill, the opportunity is



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The twin-line concept implemented in the plant.

tremendous. It's true that we first have to walk before we run but there are a host of opportunities to be grabbed in the market. Our plans are to build more water plants, more hotfill lines. We wait, wait, wait, and then – make a swift decision. We can, of course, buy the lines just anywhere, we're not actually tied to Krones but we've developed a definite liking for Krones. Our experience thus far has been very, very good." **FBA**

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