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RAISING THEIR GAME

New integrated processing and packaging capabilities a key competitive edge for industrious Toronto beverage manufacturer
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The cover of a magazine special report titled 'connected' for 2022. The cover features a hand holding a smartphone displaying a digital interface. The text on the cover includes: 'connected 2022', 'Connecting you to what's new & innovative in packaging', 'QUICK CONNECT ON THE NEW PAC MART! A curated, secure digital mall for the whole global packaging value chain.', 'PAC MART MVPS', 'CANADA PLASTICS PART CHANGING THE FUTURE LANDSCAPE OF PLASTICS', 'CONSUMER-CENTRIC INNOVATION AND INNOVATIVE SUSTAINABLE PACKAGING SOLUTIONS FROM BUSINESS', and 'PAC GLOBAL AWARDS 2022: LISTS NOW!'. The cover also includes small text about the magazine's content and pricing.

Special Report
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FROM LEFT: BRUNSWICK BIERWORKS CO-OWNERS SEAN FLEMING AND CHRISTIAN VON DER HEIDE



Brunswick Bierworks chief operating officer Christoph Von Der Heide (left) with president and chief executive officer Sean Fleming.

BEHOLD THE LINE!

Toronto beverage processor completes milestone capital investment project with expert turnkey canning line installation and advanced inline processing capabilities

By George Guidoni, Editor
Photos by Naomi Hiltz

While most people will agree with the enduring notion that quality is always preferable to quantity, there is really nothing better than having both. And although chasing the best of both worlds can often be a frustratingly elusive pursuit for many, falling short on either count was never an option for hardworking folks at Toronto-based brewer **Brunswick Bierworks Inc.**

Founded in 2016 and already ranking as one of the country's leading privately owned brewers, the company has enjoyed stellar growth and success by operating as a partner manufacturing business focused on providing turnkey beverage production and packaging services for a diverse range of alcoholic and non-alcoholic beverage brands including beer, cider, pre-mixed

cocktails, coolers, seltzers and many other popular and trendy RTD (ready-to-drink) beverages.

"Our sole focus is on our customers," says company founder and president Sean Fleming, noting that beer production currently accounts for half of its total output.

However, that output is all set to increase significantly the double in coming weeks and months as the company fine-tunes a newly commissioned, state-of-the-art turnkey canning line, along with some processing equipment, supplied to the east-end Toronto brewery earlier this year by leading global beverage processing and packaging systems manufacturer **Krones AG.**

Housed inside a newly refurbished 30,000-square-foot building adjacent to Brunswick's original 47,000-square-foot brewhouse and storefront facility, the new turnkey line has enabled the company to ramp up its throughput speeds up to 1,100 cans per minute, according to

Fleming, boosting its annual capacity to about one million hectoliters per year.

“The state-of-the-art functionality and additional extra capacity will certainly go a long way towards serving our customers’ ambitions and ensuring product integrity,” Fleming told **Canadian Packaging** on a recent visit to the new building, equipped primarily with high-quality, leading-edge Krones equipment throughout all stages of the production process—from blending and depalletizing to end-of-line packaging and labeling.

For Fleming, the \$30-million expansion of the company’s manufacturing capacity represents a milestone leap into the elite ranks of the Canadian beverage processing industry—opening up lucrative new exporting opportunities in the nearby U.S. markets.

“We are looking to expand, not just here in Canada but across North America,” says Fleming, complimenting the company’s dedicated project team, contractors and Krones for enabling a relatively smooth and on-schedule line installation and commissioning despite the logistical and other challenges encountered during the *COVID-19* pandemic.

“It was a great team effort all around to get everything in place on time and running up to the speeds we wanted,” says Fleming, clearly delighted with the new line’s “solid performance” so far.

“We wanted to get the best equipment possible for this line,” Fleming says, “and that’s why we selected to work with Krones, who are renowned for the high quality of their equipment.

“We also wanted to deal with just one partner instead of multiple suppliers, so that any equipment issues can be readily addressed and resolved quickly and directly,” he continues.

“Krones gives us the ‘one-stop’ solution we were looking for with best-in-class equipment and top-notch professional service,” Fleming states. “They were absolutely fantastic to work with from Day One.”

While installing high-speed, high-performance canning lines is nothing new for Krones, one of the world’s elite manufacturers of beverage production machinery and equipment, the Brunswick Bierworks project carries extra significance because it also involved installation of important new processing machinery also made by Krones—namely a state-of-the-art multipurpose blender and a powder dissolving station.

“The integrated powder dissolving station will enable them to produce beverages with almost every possible composition and formulation,” says Mathias Gorlitt, managing director and head of Canadian sales at **Krones Machinery Co. Ltd.** in Mississauga, Ont.

“For its part, the blender is able to de-aerate the product in up to three



(From Top)

A partial view of the new Krones canning line from the plant’s mezzanine level.



Filled can being transported en masse inside the high-volume Krones Linaflex tunnel pasteurizer.



Filled cans exiting the Krones Linaflex pasteurizer to pass through the Linadry 890 can dryer to remove all moisture off the surface prior to labeling.

The new Krones canning line at Brunswick Bierworks has been optimized to run at speeds of up to 1,100 cans per hour.





(From top)

An overhead view of the Krones Variopac Pro TFS 6 packer, which is a fully-automatic system that can produce a broad range of secondary packaging formats.

One of many SEW-Eurodrive motors deployed to power various conveyor lines throughout the new Brunswick Bierwerks facility.

A close-up view of the Krones Modulpal 2A fully-automatic palletizer building layers of boxed beverages on top of a wooden skid.

Close-up of the Krones Robobox TG-S tripod robot inside the Modulpal 2A palletizer swinging into action.

stages for the highest product quality possible, carbonate it, and mix up to four different components into the main product stream inline,” says Gorlitt, citing the line’s flexibility as one of its key attributes.

“It is possibly one of the highest flexible lines in Canada when it comes to the product range which can be produced inline,” says Gorlitt, noting the new processing equipment is perfectly suitable for both batch and inline processing.

According to Brunswick’s chief operating officer Christian Von der Heide, the new processing equipment has enabled the brewery to achieve processing speeds of up to 400 hectoliters per hour—a tenfold increase from a year ago—while significantly expanding its product repertoire and portfolio.

“We can now use all kinds of innovative ingredients—powder formats, sugars, non-nutritive sweeteners, flavorings or dry ingredients, and blend them all into stable liquid components is required to produce the exact beverage recipe that our customer partners want,” says Von der Heide, lauding the benefits of having fully integrated processing and packaging capabilities.

“Inline instrumentation enables us to control and adjust all the product specifications in terms of carbonation, calories, alcohol content, and sugar levels in real time,” he says, “and have the whole process data-logged for later analysis.

“It’s a real leap forward for us in terms of delivering optimal product integrity,” Von der Heide asserts. “We have become the transparent plant for our partner breweries, like their virtual own production facility.”

Adds Gorlitt: “We also integrated our Line Diagnostic System (LDS) technology, which enables Brunswick to monitor and analyze filling line performance in real time and long-term.

“Moreover, our integrated Line Management System (LMS) helps to guide and support the Brunswick equipment operators in parameterization during the operation of the line, especially during changeovers, and makes sure the line efficiency is kept on the highest possible level,” Gorlitt states.

“Brunswick has recognized that digitalization is the way forward and key to securing their success in the market,” says Gorlitt, “and our embedded IT/digitalization solution will undoubtedly play a role in helping them achieve their ambitious goals going into the future.”

Expertly installed and integrated by Krones technicians and Brunswick’s in-house technical team, the new Krones canning line comprises:

- Krones *Pressant Universal 1A* depalletizer. Capable of depalletizing up to 400 layers of cans per minute, the modular seep-off machine is designed to ensure reliable and gentle container



(Clockwise from top)

Overhead view of the fully-automatic Modulpal 2A palletizing workcell; the Krones Checkmat 707 X-Ray inspection system used for inline fill level and cap detection; close-up of the Videojet 1880 continuous inkjet printer mounted on the canning line applying codes.

handling at high speeds.

Incorporating high-precision servo-controlled drive technology, the flexible system can process pallets with inverted trays, pallets with layer pads and inverted trays, or pallets with layer pads and top frames.

Using sensor for determining each top layer, the fully-automatic depalletizer centers the layers from all four sides before safely transporting them to the container discharge table.

- Krones **Cantronic 709** empty can inspection system. Capable of inspecting up to 130,000 cans per hour, the Cantronic 709 features a high-resolution camera to detect and reject damaged, deformed, and dirty cans before they proceed to the filling stages.
- Krones **VODM-C** volumetric can filler and Krones **Modulseam MS8** can seamer for high-speed filling and capping of the different-sized cans with carbonated beverages, assisted with integrated **Mini Multifeeders-2** automatic closures dispenser—manufactured by **CSW Machinery B.V.** in Holland—automatically feeding the seamer horizontally with the aluminum closures from sleeved stacks.
- Krones **Checkmat 707** inspection system for filled cans, used for inline fill level and cap inspection using advanced X-Ray inspection technology.
- Krones **Linaflex** tunnel pasteurizer. Designed to ensure optimal product safety and shelf-life, the high-volume

LinaFlex pasteurizer can process up to 180,000 containers per hour in a double-deck configuration, with its modular design ensuring the most economical use of resources like water and energy.

The tunnel pasteurizer is made up of eight tunnel modules divided into temperature zones, which allow gentle heating and cooling of the containers before and after pasteurization, as specified by their product-specific programs stored in the system's HMI (human-machine interface) control panel.

The machine's patented **CHES** heating system incorporates an energy-efficient method of operation whereby only one heat exchanger is required to supply

the individual zones of the pasteurizer with hot water.

The system's tank collects the overflow and returns it to the pasteurization zones via the heat exchanger to close the water cycle—thereby slashing the heating-up times for the individual zones and saving vast amounts on energy and water consumption, according to Krones.

- Krones **VarioClean** clean-in-place (CIP) system.
- Krones **Linadry 890** can dryers for blowing water droplets off the cans, at speed of up to 72,000 cans per hour, to ensure a dry surface for label application.
- Krones **Variopac Pro TFS 6** packer. Designed for maximum operational flexibility, the fully-automatic **Variopac**

“We have become the transparent plant for our partner breweries, like their virtual own production facility.”