

# GROWING

## with the flow

David Hayes profiles four companies on their washers and dry off ovens equipment and developments

Leading global suppliers of can washers and dry-off ovens are reporting record orders for their equipment, as leading can makers and industry newcomers invest heavily in building new two-piece can plants to meet the rapid global increase in demand for metal packaging, as consumption of canned beverages surges.

Sales of aerosol can washers and dryers are slower for the moment but also are expected to rise with the forecasted growth in production of aerosol beauty and personal care products once the Covid-19 pandemic comes to an end.

Washer and dryer manufacturers say customers are looking for higher efficiency versatile machines.

Reduced water consumption, low energy use and the ability to handle multiple can sizes are among many can makers' standard requirements.

**VMI Group** is reporting growing orders in its two key markets, Europe and Asia, which together account for about 80 per cent of the company's growing two-piece can washer and dry off oven sales.

Netherlands-headquartered VMI completes all engineering, design and R&D work for its washers and ovens in Europe from where all machine parts are locally sourced, while assembly of the washers and dryers is carried out at the group's Yantai manufacturing plant located in China's east coast Shandong Province.

"Most of today's demand is for 3,000cpm to 3,200cpm can washer and dry off lines. These were considered high speed lines before but they have become a very common speed these days," said Johan Jonkman, VMI Group's global can business sales manager.

VMI offers modern, well designed, energy friendly and water efficient washer and a dry off oven equipment, with the opportunity to be customized to customers' specific requirements.

Next to washing and drying equipment for beverage can lines, VMI also offers washer/wash-coat/obo systems for the two-piece food can industry.

To date the company has supplied more than 350 can washers and dryer ovens, with many recent models designed to handle a wider variety of can sizes than previously.

"The 211 can was the basic beverage can diameter in 330ml and 500ml heights, but now sleek and slim cans of higher and lower heights are popular; there are many more can sizes being made," Jonkman said.

"We need to ensure that all can sizes can run through the can washer. This requires a wide flexibility on the height range with innovative solutions to accommodate the varying demand."

Spray nozzles are fitted in different positions to wash slim and sleek cans compared to the nozzle positions that are used to clean 211 cans.

Because slim and sleek can openings are significantly smaller than 211 cans, Jonkman noted that more nozzles are needed to spray ▶



VMI Group  
dry off oven

fully into the can domes. In addition, due to their smaller diameter, slim and sleek cans are loaded more densely in the same linear conveyor space than 211 cans.

“We modify our equipment to local specifications and circumstances as plant location and other variables may affect the equipment design,” Jonkman said.

“It can be the quality of the water or the gas supply, or the availability of water for can washing – in some cases water must be brought in by road tanker.

“Can plant conditions in the tropics are different to the Netherlands because of the temperature and humidity, for example.

“High altitude locations have thin air which may affect the working of the fans and the dry-off oven burners.”

Customer requirements for low environmental impact equipment are growing as more countries strengthen their pollution emission control regulations.

“Probably new and stricter government environmental regulations will be the driver behind new developments in can manufacturing industry which also may affect washer and dry off technology in future,” Jonkman said.

“In anticipation VMI already has introduced innovative energy reduction systems like Adaptive Energy Reduction and SmartStart.

“There is a lot of pressure to reduce waste exhaust emission fumes and to maintain water quality.

“Waste water quantity and quality are becoming more and more important environment issues. Also, here VMI has anticipated customer needs with water cleaning solutions.”

VMI also is making improvements to its dry off ovens. High efficiency burners, for example, have been introduced to reduce energy consumption and cut energy costs.

“There is the same heat output but with less gas use,” Jonkman explained.

“Our ovens use natural gas or LPG depending on the location.

“The calorific value of the different gas types requires different burners to be fitted.”

### **Stolle EMS**

has seen a rapid increase in sales of its two-piece can washers and dry off ovens during the past 18 months as multinational and smaller independent can makers build new bev-

erage can plants to meet fast growing demand for aluminium cans in the United States, South America and other markets.

Export orders for Stolle EMS can washers and ovens have risen recently since the company, formerly known as EMS producing subcontracted washers and ovens, launched its own range of Stolle Optimus can washers and dryers after being acquired by the Stolle Group in 2016.

“At the moment most orders are from North and South America as the markets there have seen major growth. We also supply customers in Europe and some in Asia,” said Andy Raynor, Stolle EMS Group’s technical sales director.

“We build can washers in the UK in Altham in northwest England and ovens in Stolle Poland’s plant; all the engineering is done in the UK.”

Since launching the Stolle Optimus washer and dry off oven brand, Stolle EMS has supplied more than 35 integrated washer and dryer lines of which about 70 per cent have been installed in new beverage can plants, each averaging about 1.5 billion cans per year in production capacity.

“We supply mini-washers rated at 300cpm up to washers running at 6,000cpm, which is equivalent to 3 billion cans per year. One of the large washers typically serves two or three can lines,” Raynor said.

“Our ovens are made in the same sizes as our washers – we have from 300cpm mini-ovens up to 6,000cpm large ovens.”

The current trend for beverage companies to use smaller sleek and slim cans means that more cans are able to be loaded on washer and oven conveyor belts than for standard can sizes.

“Customers decide their machinery layout – balancing their choice between several smaller washers and ovens or one large unit is the customer’s decision,” Raynor said.

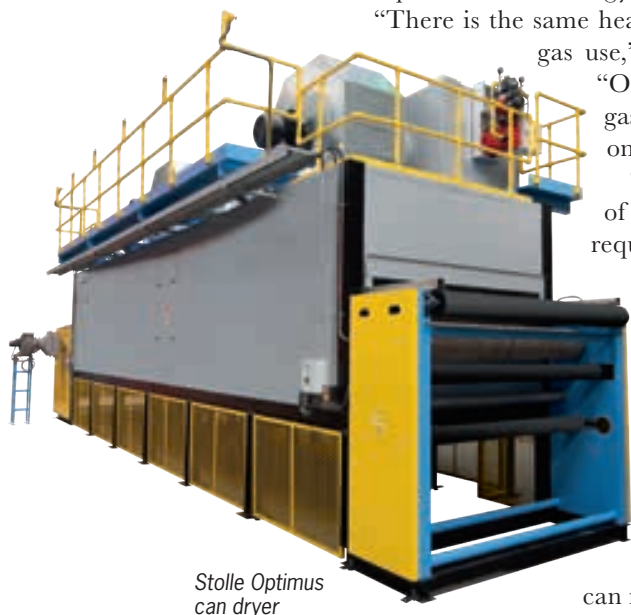
“We discuss these issues all the time with our customers; space requirements are a big concern; also the services needed to feed equipment, for example, waste water treatment, natural gas, compressed air for the conveyors on washers and ovens, and the heat exhaust on ovens.”

Each Stolle EMS machine is designed to customer requirements.

“Washers are customer specific. We push for standardization but want to give customers what they want,” Raynor said.

“A large customer may, for example, have four washers of one design and one of another more recent model in different two-piece factory locations; there’s design evolution in each customer’s machines over time.”

Stolle EMS expects the current increase in two-piece can production investment to continue for



Stolle Optimus can dryer

another two years at least as can makers hurry to make up the global shortfall in beverage can supply.

“A lot of new investors are coming into the can making industry. There is a lot of activity in the United States; it’s because of the war on plastic packaging,” Raynor said.

“Can making is cyclical but this is one big boom, the next few years look bright.”

**Greenbank Technology** has expanded production of two-piece can washers and dry off ovens and boosted its mechanical parts supply chain capacity more than five-fold during the past two years to keep pace with the recent growth in sales to customers worldwide of which a high percentage are delivered into the Americas.

“North and South America are seeing the biggest two-piece can investment boom right now to meet an estimated 8 billion cans per year supply shortfall there,” said Victoria Barrett, Greenbank Technology Ltd’s global sales and marketing manager.

“The speed of the switch from plastic PET bottles to aluminium cans, combined with further growth through people consuming more drinks at home due to national lockdowns everywhere which have closed pubs, bars and restaurants, has been unprecedented.”

Sales of can washers and dry off ovens also are expected to grow in other markets as the switch from plastic to recyclable beverage packaging grows worldwide.

“We are starting to see Europe pickup in activity now, though more slowly than the Americas,” Barrett said. “We hope that Asia, with one of the biggest market growth potentials, will follow the sustainable packaging trend, and that this industry will continue to boom for well over a decade.”

Newcomers as well as existing market leaders are investing in new beverage can plants.

“It’s independent can makers expanding with an additional factory site or two, and big international customers with aggressive expansion plans,” Barrett said.

“We are even receiving requests for budget washer and dryer equipment quotes from non-can makers looking to capitalize on the rapid growth of the two-piece can market.”

Located in the former textile manufacturing centre of Blackburn in Northwest England, Greenbank has booked export orders for more than 20 washers and dry off ovens since the start of 2020.

According to Barrett, the company’s new innovative solutions are attracting customers.

Among recent developments, Greenbank has begun fitting washers with its internationally patented compact washer spray bars that enable



Greenbank Tornado

the overall washer size to be reduced, taking up less factory space.

Greenbank has also recently introduced advanced counterflow technology to minimize water use during washing.

Customer requests to reduce oven energy consumption also are being addressed.

“We now only supply ratiomatic modulating gas and air burners on all ovens as standard to reduce excessive gas consumption,” Barrett explained.

The growing number of can diameters and heights requested by beverage companies has resulted in more can makers placing orders for quick changeover machines during the last four years.

“Can size change overs are becoming easier on our washers and dryers. We fitted our first auto-highjack can height adjustment system on one of our can washers in 2020,” Barrett said.

“The can height setting can be changed in our washers and dryers with the press of a button.

“If a customer wants to change the can size they can go from a 150ml can typically used to serve drinks on planes all the way up to a 500ml beer can size.

“Greater automation allows customers to have fewer can lines but higher capacity machines. Before most orders were for 2,000cpm washers and dryers, but now most lines are 3,000cpm to 4,000cpm.

“We are improving preventative maintenance with aids such as condition monitoring using Artificial Intelligence which can be supplied fitted on most moving parts.”

**IMF Engineering** sales of washers and dry off ovens for aluminium monobloc aerosol cans are expected to begin picking up again once the global Covid-19 pandemic comes to an end and consumer demand begins to grow in emerging markets for personal care products ►



including aerosol cosmetics, deodorants and hair sprays.

“We expect new capacity to be built after the pandemic ends, probably in South America and Asia, maybe also in Europe,” said Marco Leva, general manager at IMF Engineering of Pero, Italy.

“In Asia, China was our biggest market before the Covid-19 pandemic; also Vietnam where various aerosol products are filled for export and the domestic market,” Leva said.

“Europe has overcapacity now, but many of these are old lines so maybe companies will upgrade their equipment with new machines to improve production efficiency and maintain capacity.

“At the moment the aluminium monobloc aerosol can market is quiet, we expect nothing will happen until 2022 in terms of new investment.”

Since starting to manufacture aluminium monobloc aerosol can washers and dry off ovens in 1977, IMF Engineering has supplied over 80 washers and dryers to customers worldwide.

“Our aluminium aerosol can washers and dry off ovens are standard models that depend on the length of the customer’s factory as the layout of the line may have to be adjusted to fit the factory building,” Leva explained.

“Our controller units usually are supplied by Siemens unless the customer asks for a different supplier.”

IMF Engineering completed its latest washer installation in December 2020, when the firm commissioned a 200cpm medium-high speed aerosol can washer for Technocap of Italy.

“For monobloc aerosol can production lines, 250cpm is the nominal maximum speed while the continuous running speed in production for these lines is 220cpm,” Leva said.

“We are able to further increase our washer and dryer running speed but the speed limit depends on other machinery present in the line where the technology present may not be ready for a speed up.”

Meanwhile, IMF Engineering recently has begun to supply two-piece beverage can washers and dry-off ovens as investment in two-piece beverage can production grows worldwide.

IMF has supplied a 2,400cpm integrated washer and dryer oven line to Zam Zam of Iran that started up in 2018 as part of a turnkey soft drinks can plant project managed by Schuler Press of Germany.

Also in Iran, IMF has supplied Kaveh Aluminium, part of the Dubai-based Aujan Group, with a 3,200cpm two-piece can washer and dryer oven line that started up in 2019 in the customer’s Saveh City soft drinks can plant.

IMF Technology is discussing two-piece beverage can washer and dryer projects with other potential customers, Leva said, after recently supplying a 1,700cpm pre-washer to Crown Brownstone’s two-piece food can plant in Leicester, England.

Meanwhile, reducing energy and water consumption during the washing and drying process are two key areas of IMF Engineering’s current R&D programme.

“Water is important for beverage can washing as a lot is used. We work carefully in cooperation with chemical product manufacturers and companies producing waste water treatment plants to reduce water consumption,” Leva said.

“The idea is to develop a closed loop system so not to discharge waste water, just re-use it, but this has to be solved by working together with the partners involved in the cleaning process.” ♦



IMF beverage can washer