New printing tech on a roll

Komori Chambon, the French-Japanese maker of printing and converting machinery, showcased **a hat-trick of new developments for the tobacco industry** at the recent WT Middle East expo. All three are designed to reduce waste, cut costs, and meet the need for faster changeovers.

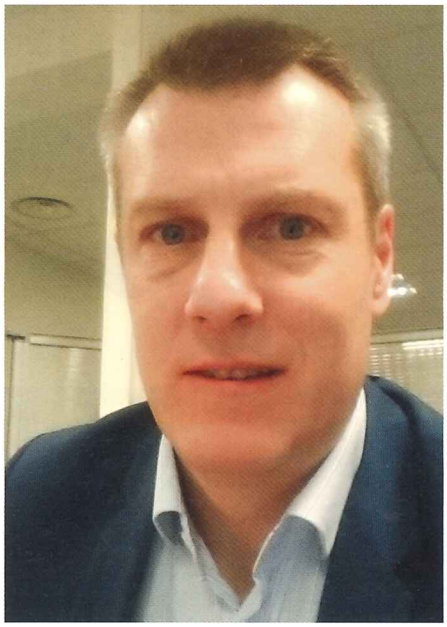
Komori-Chambon's new stacker delivery showing 10 streams

The company has a long history of introducing innovative machinery at trade fairs. According to Sales and Marketing Director, Firmino Da Costa, the founder of Machines Chambon (as it was called before it merged with Japanese Komori Group in 1989), Louis Chambon, unveiled one of the earliest ever printing presses for tobacco products at the Exposition Universelle in Paris in 1900.

Today, the company specialises in web-fed machines for printing packaging in both the tobacco and other packaging sectors. It also manufacturers web offset presses, rotary die-cutters and rotary die-tools, label cutters, and delivery stackers. In recent decades, Komori Chambon has made its name in the tobacco industry with its Mark series of individually-customisable, modular ▶

rotogravure presses. "Each (Mark Series) machine is manufactured depending on the customer's request," explained Area Sales Manager, Jason Elvery, "it's configured and manufactured according to their order so no two machines are the same. They are all tailored for the type of blanks and the volume the customer wants to produce. Each unit is individually motorised so it's easy to add units to have flexographic, gravure, offset, or any mix, or other processes such as hot or cold foiling, cast and cure or ink-jet printing."

The tobacco industry continues to demand increased automation, higher levels of efficiency, faster machine speeds and production lead times from machinery. It makes a lot of sense then that Komori Chambon's first new product launch at the end of 2017 is a more streamlined version of this well-known rotogravure machine.



Jason Elvery of Komori Chambon

TIME FOR A MARK UP

The revamped Mark press, which the company calls the Mark I Elite, is quicker and more efficient than its predecessor, Elvery told TJI. "The main advantage with the new machine is that it's a much shorter make-ready, so it's very quick to change jobs and has very low waste," he explained. This reduction in waste, the company says, is down to the many new automated processes on the machine. "We can start the machine at the right colour and the right register – and in this way prevent important waste. For example, when the operator stops the machine, he won't lose any register so there's little or no waste when you stop and start the machine again – as there was in the past," he said.

According to Elvery, the new Mark I also requires very few operators. "The machine is very reliable so you only need a limited number of people on the machine," he said. "It can be followed by managers in their office, they have the ability to view output and all statistics about the machine while it is running."

The company has also made improvements to the dryer system in the machine. "It's more efficient so the machine can go faster," Elvery explained. "The new system uses a number of parameters to determine the optimum settings, with maximum recycling of hot air, meaning there is much less waste hot-air escaping from the machine. Even thick layers of water-based varnishes can be dried at high speeds."

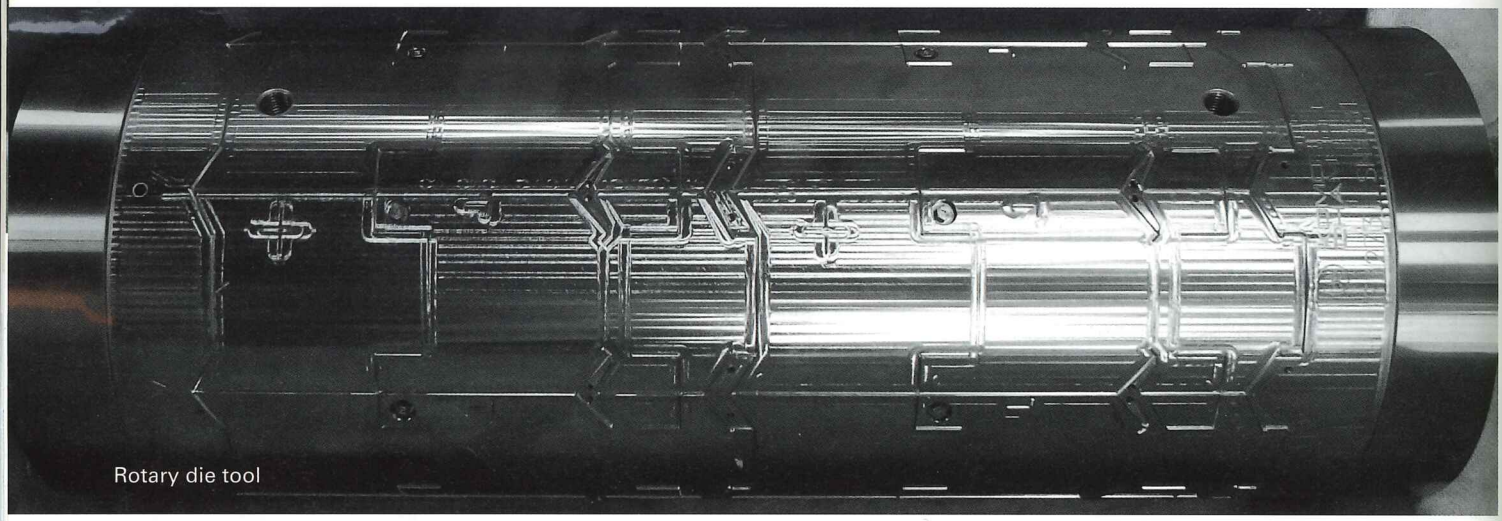
SOLID DIE-CUTTING TOOLS

Aside from revamping its rotogravure press, Komori Chambon has also optimised its manufacturing procedure for rotary die-cutting tools (used in the presses to crease and cut the blanks for post-press processes) to help save customers money. "Die-cutting tools are traditionally very expensive," said Elvery. "It's a big investment to have rotary die tools that are segmented. We have developed a new technology to make solid tools. The idea behind solid tools is that they are a lot more economical than segmented tools.

"We now have the technology to make highly efficient creasing and cutting tools," he said. "For the customer, this means low cost tools as well as good performance, good durability and very high quality. It also means they do not have to play around with the tools – like with segmented tools. With the solid tools, customers can just put it in and run production."

So why has it taken so long for this solid tool breakthrough to come about? "To have the quality and the performance – it's not easy to do, particularly for tobacco packaging," Elvery explained. "We have made a lot of R&D and we've developed this solution after many years."

"Anyone can make a cylinder to cut," Da Costa added. "The problem is to have the ▶



Rotary die tool

right cylinder, with the right strength to die cut and to last many, many years. That's the most difficult. We have developed a process to straighten the cylinders, using new technology and chemistry – I can't say more – so we can create very strong cylinders that can last many years at a low cost."

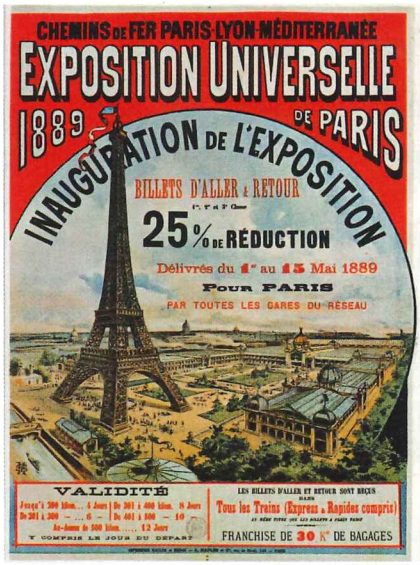
Although it only started selling these to the tobacco packaging market in the latter months of 2017, Komori Chambon has already seen a lot of interest in its solid die cutting tools. One customer, Da Costa revealed, has already bought fourteen of the company's rotary die tools for tobacco packaging. The tools can be used not only in Komori Chambon machinery but also in rotary die benches made by other manufacturers.

As well as initially sending a specialist engineer to assist customers with the settings and show them how to use the tool for the first week, the company offers local repairs of its die-cutting equipment. "If there is some damage to the cylinders, we can send a die specialist who can make a specialised welding operation on site," Elvery said.

131 YEARS OF CHAMBON

Komori Chambon was founded in 1989 when French manufacturer of printing machinery, Machines Chambon, merged with multinational Japanese manufacturer of offset printing presses, Komori Corporation.

Machines Chambon has a history stretching back to 1887 in Paris— the year the Eiffel Tower was built. Louis Chambon, a 26-year old engineering graduate from La Voulte-sur-Rhône moved to the capital and set up a factory to manufacture rotary presses for printing on paper. His company went on to assist in the development of the Braunstein brothers' machine for folding cigarette rolling papers, patented in 1894. In 1900, Machines Chambon ventured further into the tobacco industry, showcasing one of the earliest tobacco printing machines at the Exposition Universelle in Paris. The family-owned company remained in Paris until 1974 when it moved to Orléans on the banks of the river Loire.



The name Chambon was seen at the Paris Exposition Universelle in 1889

Although no longer family-owned, Komori Chambon's headquarters can still be found in Orléans. Aptly, its current production facility for the R&D manufacture of its printing and packaging tools and systems is located in Louis Chambon's home town, La Voulte-sur-Rhône: a small commune with around 5000 inhabitants, near Lyons.

The Komori Corporation is, similarly, no spring chicken. Founded in 1923 as "Komori Machine Works" in Kitashinmachi, Honjo-ku, Tokyo (present day Higashikomagata,Sumida-ku, Tokyo), the company developed its first lithographic roll printing press in 1925; and its first manual sheetfed offset press in 1928. In 1946, the company was established as "Komori Printing Machinery Manufacturing" in Azumabashi, Sumida-ku in Tokyo, which remains the location of its head office to the present day. In 1961, the company delivered a dry offset banknote press to the Japanese Ministry of Finance, still an important company client.

After setting up a printing school – the first of its kind – in 1968 and changing its name to "Komori Printing Machinery" in 1976, Komori went global. It founded a US subsidiary "Komori America Corporation" in Chicago in 1982 and set up a European branch in Leeds, UK, in 1984. Today, the Komori Group exports printing machinery to 54 countries and has offices across the globe. As of 2017, its annual sales reached USD 769 million, with around 2200 Komori employees worldwide.

A SPEEDIER DELIVERY

Komori Chambon's third and final development is an improvement on its stacker delivery system for the tobacco industry. The company has long produced dedicated stacker delivery systems for both short grain and long grain packs. Up to 10 lanes of printed, creased and cut blanks come out of the rotary die tool and are delivered in stacks which are counted and then palletised or moved to the next packaging stage.

Recent improvements on its standard tobacco industry stacker allow for higher delivery speeds and accurate counting, the company told TJI. They say the end product is an entirely new machine for the industry. "Stacking is often the limiting factor for speed," Elvery explained. "The new delivery stacker allows much higher production speeds. And one option is to have inline quality control whereby, during print inspection, if there is a printing fault discovered, the system rejects that particular blank. This means that that stack will not be filled up as quickly as other stacks, so we now have a special delivery solution for independent flow, where the stacks don't all come out together, they are delivered in separate piles, all accurately counted, 100 per cent controlled for quality.

"This individual lane rejection allows for blanks to come through both accurately counted and checked for quality control. The customer knows he has the exact number of blanks and good blanks for palletisation and doesn't need to check," Elvery said.

Komori Chambon's new delivery system is already being used in the production of next generation tobacco product combustibles, the company told TJI. "We have customers today producing packaging for IQOS and Ploom using our stacker delivery," Da Costa said.

S. Jean

Photos: Komori Chambon