

Over-cappers Two freshness-saving technologies

From an idea of Paolo Goldoni, designer and industrial expert, Goldoni's over-cappers were born. The family-business based in Sala Baganza, near Parma, designs and produces plants mainly directed to the ready-meals and catering sector.

Dispenser for flavour-saving covers mod. 642



Goldoni s.a.s. was born in 1978 with the name of Studio Tecnico Goldoni. For more than 15 years, the company dealt with the design of parts for the mechanical, chemical, cosmetic and food industry as well as with the design of conveying and packaging systems. In the 90's, considerable investments in new technologies available on the market were necessary, which, after long years of activity, urged the Studio Tecnico to develop an alternative strategy and to start with their own production. "Eight years ago", states Paolo Goldoni, "we started with the production and now build made-to-measure plants trying to exploit the experience acquired in this field in so many years". Goldoni s.a.s. is a small family business. At the top of the firm, working side by side with Paolo Goldoni, there are his wife Marina and their two children: Paola, in charge of the purchase & sales department and of the administration, and Alessandro, electronic engineer and a partner already, who will soon enter the company with operational assignments. Goldoni s.a.s. builds automatic pasteurisers, blowers, modular conveying systems, depalletisers, filling and closing systems. "We are mainly active in the sector of preserved

food", explains Goldoni, "as well as in the fish and confectionery sectors. Our reference market is Italy. Actually, we are a counter-trend company: 60-70% of our turnover, in fact, comes from the domestic market. Recently, we started working in Greece, Spain and France, although we have not implemented any promotional strategy for conquering foreign markets, this also due to our small size".

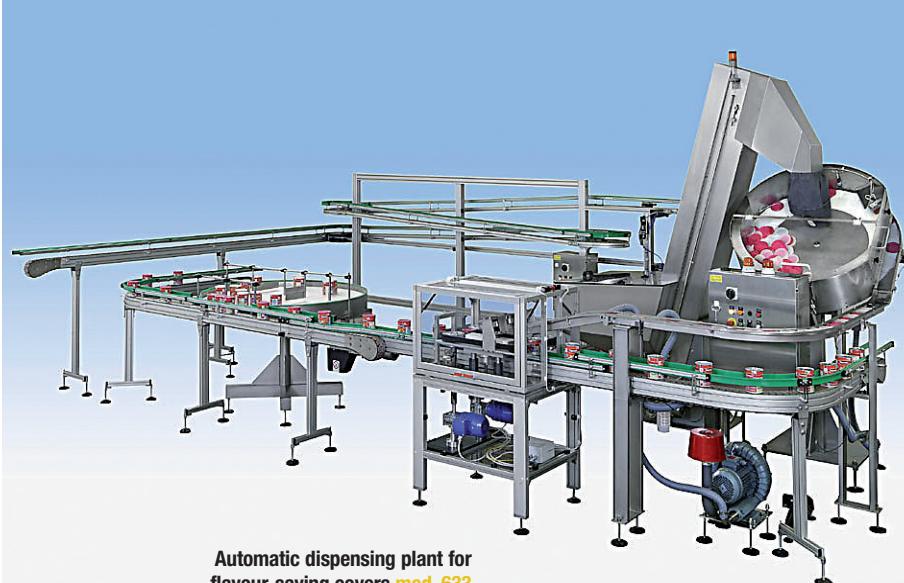
Two ideas for preserving freshness

These aroma-saving or freshness-saving covers are mainly used for ready meals and catering products: once opened, the package contents must not be used for a single serve but can be safely stored inside the package thanks to the cover-lid. The purpose of this packaging system consists in reducing wastes while

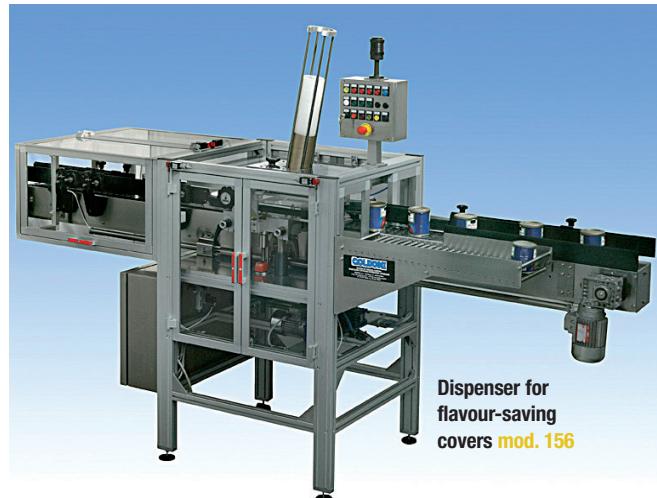
improving the quality of food leftovers. Goldoni s.a.s. developed two special automatic systems to be implemented on freshness-saving packaging machines.

"The British call it over-capper", explains the designer who developed these systems, "and for simplicity reasons we, too, are using this name for our distributors of aroma-saving lids". The two systems are quite different as for the period they've been designed and for their target users.

"The first system", continues Paolo Goldoni, "is installed on Model 156. The covers are stacked in pile. The container, passing under the stack, picks up the first available cover thanks to a special device, which is then pushed in place by a metal plate. It is the simplest machine one can think of, with no special mechanisms. In order to be stacked, the covers' profile must be perfect; otherwise the covers may jam and prevent correct picking. The only two companies capable of producing this kind of covers are Italian. It is a relatively inexpensive machine compared to others, and extremely flexible: in order to change the format of the covers, the supporting columns are to be replaced. The loading system is usually by hand, and requires the presence of an operator. The machine has an output of 125 pieces per minute, and can handle cov-



Automatic dispensing plant for flavour-saving covers mod. 633



Dispenser for flavour-saving covers mod. 156

ers with diameters ranging between 73 mm and 210 mm. This has been our first machine. It is particularly suitable for companies with low productive capacity". In the machines developed later on, in which the lids are loaded in bulk, no continuous machine manning is required even if higher outputs are achieved. "The operator", explains the designer of this system, "can empty a whole carton containing 3000-4000 covers into the hopper. The elevator moves the covers upwards, from where they fall into the orienting system featuring a disk that provides for their correct orienting. A sensor enables the passage of the correctly-oriented cover and rejects unsuitably-oriented covers inside the unit.

With this system, the covers must not be arranged in a specific position. All kinds of covers can be oriented, as: square, oval, and triangular.

This system is certainly more flexible, although each type of cover needs its own feeding system. The machines of the new generation feature the same technology; only control systems and production speeds change. Model 251 has been the first high-speed feeder, produced with a vibrating system or with mechanical disk, mainly used for round covers.

Among the high-speed machines, it is the slowest (10,000 p.p.h.) and most cost-effective one, whereby Model 641 is the quickest, with 24,000 p.p.h. Model 642 is the last-born, and can reach processing speeds of more than 12,000 p.p.h. "It has

a peculiarity", explains Goldoni, "it has been designed for covers fitted with a fork inside: we've been the first to produce it."

Just one dispensing system

All machines of the new generation feature the same dispensing and control system. If air is trapped between cover and container, creating a pressure that prevents the cover from correctly fitting onto the container, a roller will correct its closure.

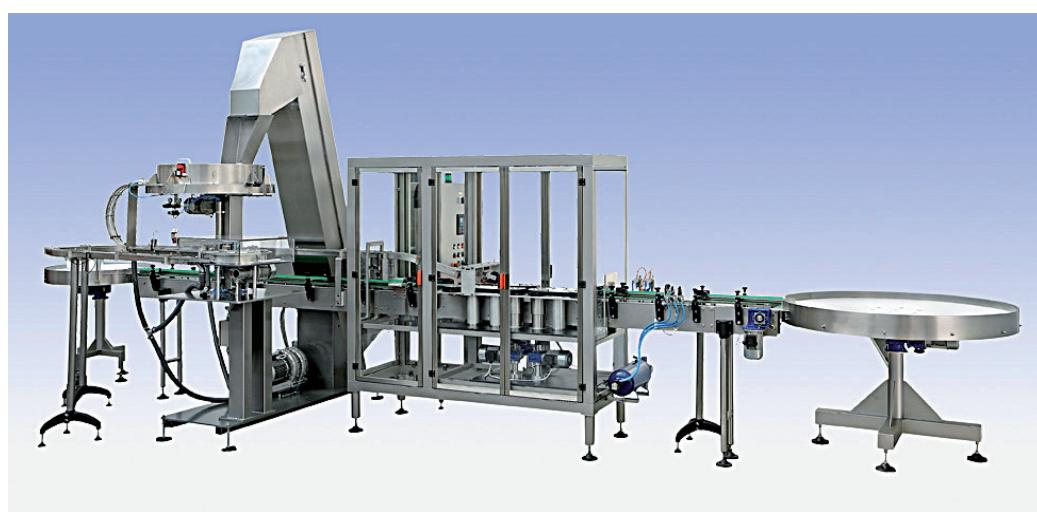
Two belts have the task of supporting the jar, accompanying it and keeping it steadily until the impact with the cover.

"We've been the first and sole to produce this system", states the designer. "The technology used on a competitor's machine", points out Goldoni, "used one belt only which, by rolling the container along the wall, obtained a similar although less reliable result" and at lower speeds.

The belts, with independent motor from the conveyor, provide for a constant jar speed, as well as for their adequate spacing in order to allow a smooth closing of the covers.

Another peculiarity of this system is the pneumatic conveying system of the covers. Thanks to an airbed, the covers are fed to the machine by means of a pneumatic levitation conveyor. The machines designed and constructed by Goldoni s.a.s. are very simple from the mechanical point of view, but feature important electronic devices for controlling the operation and the package: if a cover is improperly placed or missing, the container is rejected from the packaging line.

The machines are user-friendly, and in any case, next to the set-up of the machine, Goldoni s.a.s. offers also personnel training. "Within a few days", points out Paolo Goldoni, "we deliver the machine together with a simple and clear instruction and maintenance handbook".



Dispenser for flavour-saving covers mod. 641