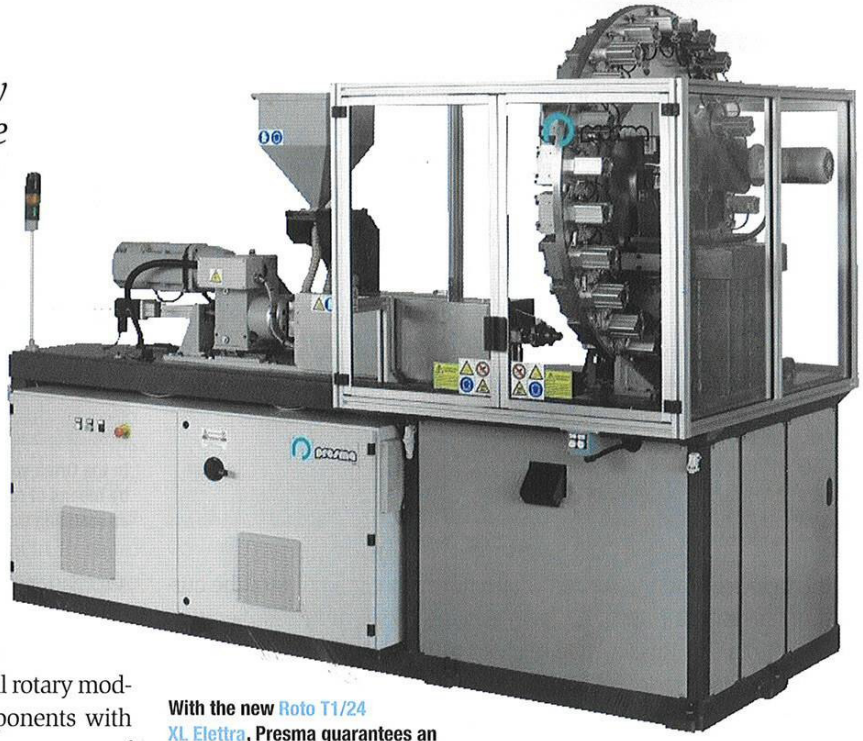
by **Francesca Danieli**

The new performances
In the production of injection-moulded corks

Born from the need to realize every single moulding machine for the production of a single item, the new model manufactured by Presma proved to be the ideal solution as to productivity, low consumption, and compactness



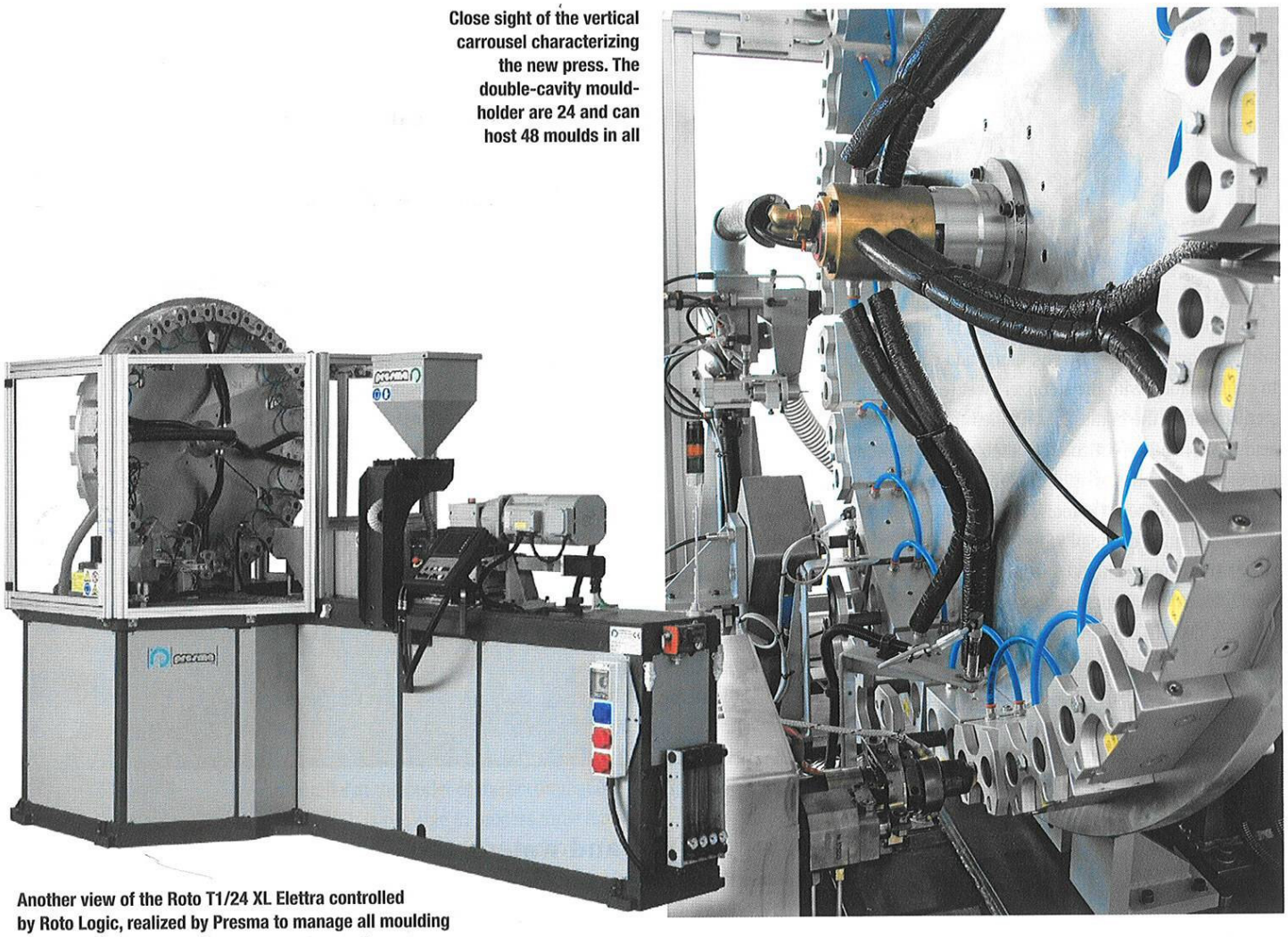
With the new Roto T1/24 XL Elettra, Presma guarantees an output of 1800 pieces/hour thanks to a minimum cycle time of 2 seconds

Over seventy years ago *Presma* constructed their first moulding machine and still today they are operating in the specific field of injection moulding. Now they have thousands of moulding machine working all over the world, and the production includes twenty special rotary models for the realization of technical pieces in bicomponents with closure force from 30 to 600 tons. In this field, Presma was one of the first Italian companies that realized standard injection moulding machines for the manufacture of products with an external compact skin and a core of expanded or semi-expanded thermoplastic material. To complete the range of injection moulding machines for the production of corks of thermoplastic resin foam, after the models *Roto T2/48* and *T4/24*, Presma has recently introduced on the market the new model *Roto T1/24 XL Elettra*, equipped with the most advanced technological solutions. Thanks to its compactness, low consumption, and productivity, this model, conceived to meet the need to use a single moulding machine for the production of a single article, proved to be the ideal solution. The three models are equipped with dedicated software developed by the company with the predisposal for the remote assistance modem connection via.

The "older sisters"

Roto T2/48 and T4/48, injection moulding machines with rotating table with 48 and 96 double-cavity mould-holders, distinguish themselves among the most recent models: the main features of these models are the injection units with accumulation system electrical operation, two or four respectively, and positioned in line with the axis of the mould and a carrousel that can host one or two sets of 48 double-cavity mould holders. At every injection phase, the T2/48 produces two corks while the T4/48 produces four and they can manufacture at the same time cylindrical and/or t-stoppers, of two and four colours respectively or different mixes. In both cases, the time of cycle ranges from 1.8 to 2.2 seconds, guaranteeing an output of 3000-4000 pieces/h (T2) and 6000-8000 pieces (T4). The optimization of the injection is guaranteed by an accumulator in the chassis. The mould-holders are equipped with a cooling circuit by coolant liquid and the opening of the stations of in-line and rotary combined type is pneumatically operated. Thanks to the particular opening of the mould, the moulding machine can be implemented with a manipulator for the loading of the insert or the production or bicolour stoppers realized automatically through the transfer of the first colour from one cavity to the adjacent one. The extraction of the moulded pieces is made pneumatically. To eliminate the condensation effect, the mould-holding table has been positioned inside insulated safety guards to be maintained in a conditioned environment. The stoppers are realized with a tolerance in weight of about 0.1 gr.; while the weight of the sprue (one each cork) is reduced to 0.12/0.14 gr.

Close sight of the vertical carrousel characterizing the new press. The double-cavity mould-holder are 24 and can host 48 moulds in all



Another view of the Roto T1/24 XL Elettra controlled by Roto Logic, realized by Presma to manage all moulding parameters and to allow the automated operation

The interface between machine and operator is realized thanks to a touch-screen, with which it is possible to display and control all moulding parameters, the alarms and the memorizations.

The "younger sister"

Like its "older sisters", Roto T2/48 and T4/48, Roto T1/24 XL Elettra use the same mould-holders equipped with liquid cooling circuit. The only difference is that here they are mounted on a vertical carrousel; it supports only 24 double-cavity mould-holders, therefore they can host forty-eight moulds in total; the moulds are completely interchangeable with the preceding models. For the new plastifying screw, the "transfer" injection unit is activated through an electrical motor controlled by an inverter and with a brushless motor for the punch. Thanks to the totally electrical activation, the average consumption for an output of 1640 corks/hour is around 3.88 kW/h. Besides, in comparison with the preceding models the quality of the moulded product is higher and constant in the time. At every injection phase the moulding machine produces a cork, but in the discharge phase the corks extracted contemporarily are two, therefore it is possible to equip the machine with two different series of twenty-four mould and separate the products at the discharge. This possibility is given by the particular software implemented that allows setting different dosages for the single stations. This interesting function can be used also to test one or more moulds for stoppers of different shape and weight during the production cycle. The minimum cycle time is two seconds, which guarantees a production of 1800 pieces/hour. The proven Roto Logic control also realized by Presma, allows managing all moulding parameters. Through a series of sensors, it guarantees the automatic operation, manages the alarms and resets the cycle in case of jamming. The switchboard is integrated in the chassis, while the interface with the moulding machine is obtained through an orientable touch-screen monitor positioned in the zone of the operator. In the discharge zone, the chassis of the machine has been designed to allow the positioning of the conveyor belt collecting the products on one of the four sides of the moulding machine by choice. The possibie application of the automatisms for the loading of the insert in the mould can be made in a specific sector to allow an optimal integration. On demand, the moulding machines are available with temperature insulated safety guards equipped with a conditioner.