

The Autoconer – From sensation to bestseller

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Machines for weaving preparation formed the product range of Oerlikon Schlafhorst from the beginning. There were/are numerous patents for dobbies, warping machines, warping creels, weft winders, sectional warpers or winding machines. Its focus on weaving preparation machines and winding machines turned Schlafhorst into the global market leader in this field in the decades up to the middle of last century, and this know-how is an important basis for its sustained success as a technology leader, even with its current product lines.

The birth of Autoconer

A dream becomes reality: Dr Walter Reiners (proprietor of Schlafhorst) and Stefan Fürst (technical director of Schlafhorst) unveil the first Autoconer at ITMA 1959 in Milan. The “fathers” of Schlafhorst’s automatic package winder sparked huge excitement among textile manufacturers from all over the world with their product. They were in the right place at the right time with the right concept, and the Autoconer embarked on an unrivaled triumphant advance into textile mills throughout the world.

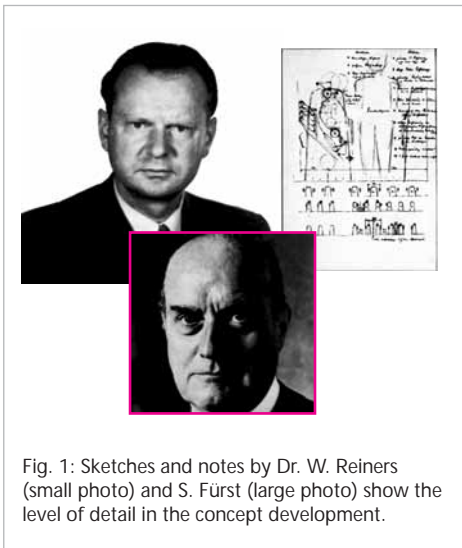


Fig. 1: Sketches and notes by Dr. W. Reiners (small photo) and S. Fürst (large photo) show the level of detail in the concept development.

Armed with the decades of experience accumulated by Schlafhorst in the production of manual winding machines, coupled with their unique inventive talents, the two men worked with their staff on developing a wide variety of automatic package winder concepts in meticulous detail. Finally they took the decision

to construct the Autoconer as a single-sided longitudinal machine, a design which has endured up to the present day. The Autoconer became a synonym worldwide for successful automatic package winding. The number of winding units sold, which is in excess of 2 million, offers proof of this. Each Autoconer generation has won customers over with its new, groundbreaking engineering and innovative winding technology. It was and still is the benchmark for peak performance, unique package quality and future-oriented machine concepts.

In the 1950s

A number of ideas, preliminary tests and conceptual designs already existed; the Second World War and its consequences prevented their immediate realization. However, in 1957 Dr. Walter Reiners officially commissioned the construction of a winder. Concepts for machines of single spindle type and groups, in longitudinal or circular construction, but also a number of features, such as the Fisherman’s knotter, suction nozzle, the first shaft magazine, bobbin creels, and ideas for further automation were submitted for patent applications already at that time. In addition to work on the drawing board, numerous answers were provided by calculations of procedural efficiency as well as concept tests with prototypes and functional models. Thus it was possible to reach a decision on the construction of the first Autoconer.



Fig. 2: Autoconer 107.

1959 – Autoconer 107

It all began with the Autoconer 107 as a small assembly machine, with shaft magazine and travelling knotter. At that time the decision was based on profitability and cost aspects; the travelling knotter featured a sufficiently robust design for reliable operation at maximum efficiency.

After just a short time the shaft magazine was replaced by the circular magazine to realize additional savings in manual labour. The introduction of the waxing device added sales to spinning mills to the clientele, providing them also with automatic winding of knitting yarns and hosiery yarns. An important factor for quality assurance was the introduction of the electronic knot tester. This created the basis for monitoring the knotting process and thus yarn quality even in case of large winding stations. The electronic yarn clearer and monitoring system, package doffer and the automated bobbin supply helped to convert the Autoconer 107 from a manually fed automatic package winder to a fully automated machine.

1977 – Autoconer 138

The increasing integration of electronic parts, as well as new production methods, required a fundamental revision of the Autoconer, resulting in a model change to Autoconer 138. Pneumatic and electronic control functions became a feature of the 3-chamber system in the winding mechanism. The development of the splicing technology and thus of knot-free yarn joining was revolutionary.



Fig. 3: Autoconer 138.

Initially, they were applied in the processing of carpet yarn. Due to optimization and further development, the splicer was soon used for a variety of other applications. New degrees of automation, such as the DX system or the B and C stages, were a requirement for material flow optimization, as well as certain automation for small lots.



Fig. 4: Autoconer 238.

1987 – Autoconer 238

The single-spindle design was realized for the first time, i.e. a drive unit, control unit and splicer/automatic knoter for each winding unit.

A new tension system was integrated. Advanced electronics permitted more and more detailed settings of winding parameters.

The AUTO-spin-CONER as link to the ring spinning machine completed the automation

concept. The bobbin transfer from spinning to winding machine takes place via a magazine plate with rotating mandrels; the transport of the bobbins and empty tubes within the winding machine is performed by conveyor belt.

1991 – Autoconer System 238

The system design and new material flow inside the machine by means of the caddy transport system are typical. The elevator was replaced by the caddy station for transfer of bobbins and empty tubes; the central bobbin preparation was divided into decentralized readying stations. Due to the integration of data carriers in the caddies, the processing of several lots for type D and the spindle identification for type V provided new possibilities of process engineering.



Fig. 5: Autoconer System 238.



Fig. 6: Autoconer 338.

1997 – Autoconer 338

Electronics, the latest sensor systems, touch screen technology and clearer integration in the Informator formed the basis for individual process optimization and resource-saving process cycles.

The revolutionary systems Autotense FX, Propack FX, Variopack FX and Ecopack FX underlined Oerlikon Schlafhorst's technological supremacy, resulting in top package quality. The Autoconer 338 also met the requirements of new yarn constructions, such as compact yarns or elastic core yarns by means of the elastosplicer or compact splicer, as well as individually adjusted process sequences.

2007 – Autoconer 5

This machine continues the tradition of future-oriented machine concepts. The modularity of the machine is increased by a completely new open design, integration of a new CAN bus and electronics concept and utilization of single drive technology. The "Plug & Wind" feature makes integration



Fig. 7: Autoconer 5.

of new components extremely simple. With PreciFX, Oerlikon Schlafhorst opens bobbin processing up to the world of drumless yarn traversing, thus continuing the tradition of its revolutionary innovations.

Summary

The global textile industry puts its trust in Oerlikon Schlafhorst winding technology, and thus in Autoconer. A company often is home to several Autoconer generations. This is positive proof of a long-lasting, reliable partnership. ♦