

VariFit – a new member of the Voith winder family

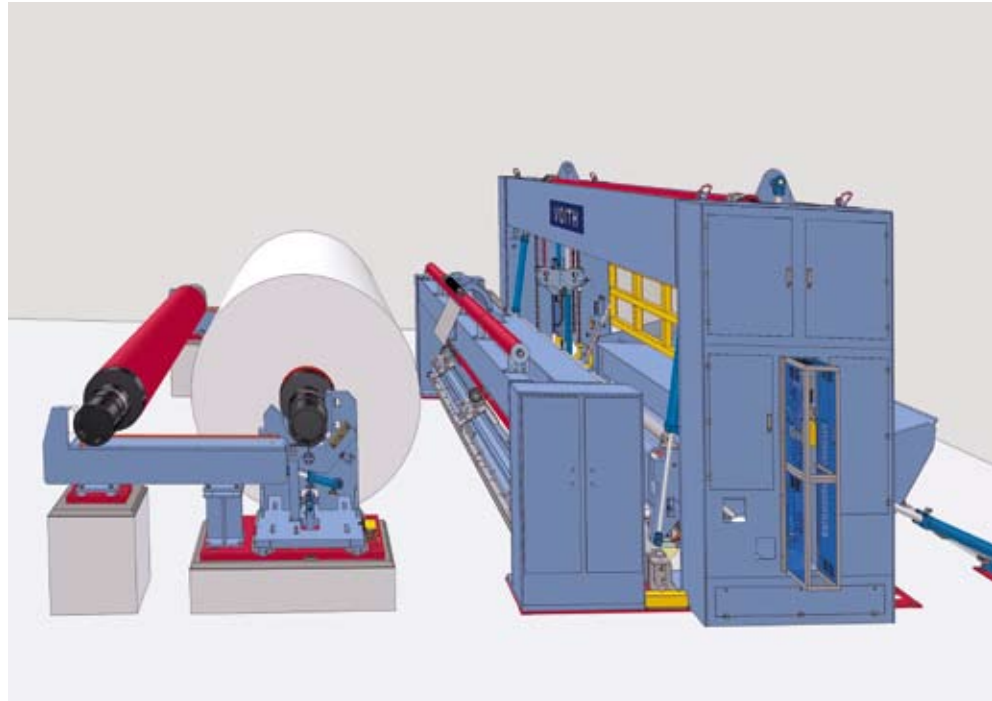
The highest roll quality for all paper grades

The new VariFit winder ideally meets customer requirements: Both technically and economically, it's the perfect solution for every application. Designed for a maximum width of 6.6 m at a design speed of 2,800 m/min, it ensures the highest roll quality for all paper grades.

Winders are the last link in paper manufacturing. They have the important task of slitting the paper web produced in a PM that is often several hundred meters long into individual webs while maintaining the quality and winding them up into finished rolls. The finished roll must in turn meet the requirements for downstream processes such as those of printing plants, sheet cutters or other machines for further processing.

With the VariTop and VariPlus single-drum winders in the high-end range, Voith has a leading position in the market, especially for very wide and fast production lines. This is evidenced by a market share of over 60% in the last five years. But also in the case of wide and fast two drum winders, Voith has an outstanding position in the market with the VariFlex, as evidenced by twelve reference machines over 7 m in width delivered in the last five years.

Such impressive numbers were and are, of course, not possible without constant further development. In the most recent period, they are particularly concentrated in the area of narrow and medium-wide two drum winders up to ca. 7 m in width. By overall volume, it is by far the



3-D model of VariFit.

largest sales market in which there are many suppliers. In addition, the requirements of this market segment in particular are extremely varied: both simple and high-end applications are in demand, and of course all at reasonable investment costs. The aim of the development work mentioned was also a 'Perfect Fit' solution for every imaginable application.

The result is the VariFit, the latest member of the Voith Paper winder family, designed for a

maximum width of 6.6 m at a design speed of 2.800 m/min. Conceived on the basis of the successful VariFlex, the VariFit ensures the best roll quality for all paper grades that can be wound according to the two-drum principle.

The modular nature of the VariFit

Liner, corrugating medium, board and wood-free uncoated paper are conventionally wound with steel winder drums. However, grades such as newsprint, SC, MWC, LWC, coated board,

wood-free coated paper and special applications are processed using soft winder drum coverings.

Here the VariFit makes use of over ten years of field experience with more than 200 soft covered winder drums installed, as well as in-house cover production and development. Of course, the modular structure of the VariFit is not limited solely to the winder drum covers, but instead is continued with the machine and functional concept. This ensures that a winder concept tailored to the most varied customer requirements can be offered.

On the basis of the compact design, with a small footprint, the VariFit is suitable for both new production lines and rebuilds.

Fast functions for the highest productivity

The VariFit is distinguished by the highest productivity. Downtimes in

which the winder is unproductive are shortened, while performance during the productive phase is increased.

The VariFit achieves this by means of extremely fast and reliable functions during, e.g., change of finished rolls and knife positioning in combination with optimized acceleration and deceleration rates and a high production speed, thanks to the robust machine design.

Automatic finished roll change – fast and reliable

With the development of the VariFit, all functions and components were carefully examined in respect of design, manufacturing, assembly and start-up. In many places it was possible to simplify functions or components, but without having to make trade-offs with regard to quality and reliability. But also many functions and components that have been proven over the years were fully

incorporated, such as the Truset automatic knife positioning system used in all winder types. It guarantees short positioning times with high positioning accuracy. However, the highlight is an innovation in what is probably the most important automatic function of an efficient two drum winder – the automatic finished roll change. This, the heart of a winder, should be as fast and reliable as possible. In the VariFit, during operation, glue will be applied in cross direction onto a specially coated roll for start gluing and, alternatively, also for end gluing using only one nozzle. In addition, the roll is equipped with a perforating knife.

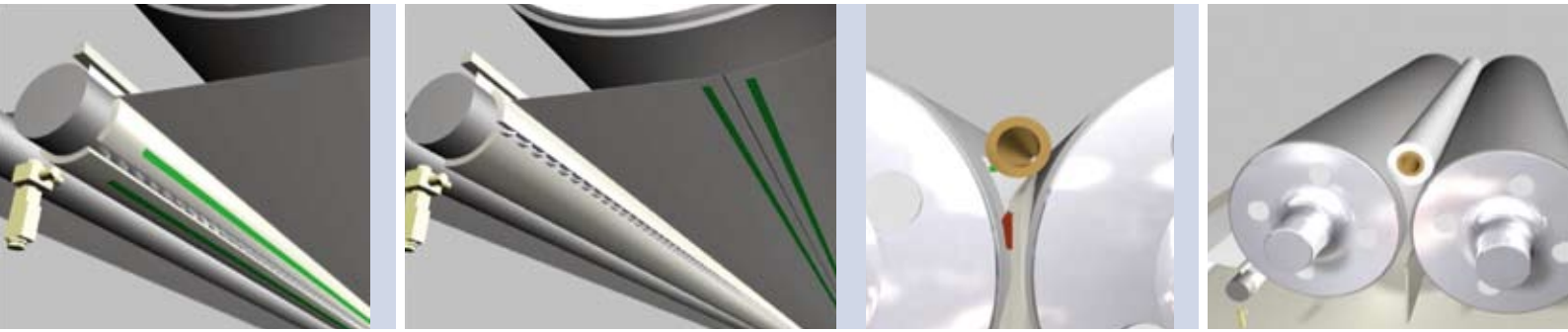
In the deceleration phase, before a finished roll change, the glue will be transferred without residue from the roll onto the paper. At the same time, the paper web is weakened with a degree of perforation that is specific to each paper grade. By ejecting the finished rolls the web breaks at the perforation.



The VariFit team during assembly and preliminary start-up in São Paulo, Brazil.



Development of the automatic set change at the pilot winder in Krefeld. From left to right: Christian Pringal, Technology; Marco Peters and Michael Schmitz, Technology Center and Hubert Brand, Development.



Sequences of the automatic set change by means of combined gluing and perforation.

The gluing and perforating functions don't cause any downtimes, since they take place within the deceleration phase. This development relies partly on already proven technologies, which were combined in a new way. Web perforation had already been successfully used previously in several Voith winder types. Also the hot glue, specifically developed by Voith Paper for winders, meets all requirements for this application. Thus, an ingeniously simple and fast automatic set change came into being, that consists of only a few components and will set standards in this segment.

Machine and drive control

The control system of the VariFit is, according to the construction of the machine, modularly designed and part of the Voith Paper Automation concept for machine controls. For the control and operating system, maintenance- and user-friendliness are the main concerns. For this reason, all functions, calculations and positioning procedures are calculated and carried out by the programmable logic controller (PLC). This means for the customer an

open system in which the number of interfaces is minimized, and maintenance and fault diagnosis are simplified. The control system of the VariFit is scalable so that different degrees of the machine's automation, interfaces to external systems and customer requirements can easily be displayed.

The control of the main drives is likewise part of the VariFit concept, whereby Voith Paper has the responsibility for machine and drive control.

Assembly and start-up

In order to ensure quick and easy assembly and start-up for the customer, the VariFit is already completely assembled in the Voith Paper workshops and started up in advance. Complete machine sections such as the slitter station and winding station are delivered in one piece and can be assembled as quickly as possible.

The first references or current orders in Brazil, Spain, India and China show that the VariFit is finding admirers all over the world. This

success has to do with the fact that decades of winder experience at Voith locations in different markets were incorporated in the development of the VariFit.

On Focus: VariFit

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ProQuality	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
ProSpeed	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
ProSpace	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Section: winder
Width: max. 6,6 m
Paper grade: all

Contact



Frank Schorzmann
frank.schorzmann@voith.com