



TT NEXTPRESS:
THE EVOLUTION
OF PRESS
TECHNOLOGY
IN TISSUE PAPER
PRODUCTION.



Toscotec has introduced a new shoe press that goes beyond the standards of extended nip traditional presses. This new technology allows perfect adaptability to the Yankee dryer profile, thanks to the precise control of two rows of hydraulic pistons, which are finely divided into six independently adjustable pressure areas. This is how the system ensures a perfectly controllable pressure load in the two directions, longitudinal and cross direction, and a prime control of the press profile across its entire width, especially at the edges. As a result, it increases production efficiency of high quality tissue products.

Toscotec's R&D department has worked comprehensively to eliminate the problem of an imperfect press uniformity at the edges, which is a classic issue connected with this technology. We strived to implement a solution that would make the contact element, i.e. the shoe, as flexible and adaptable to the Yankee's deflection profile as possible. Following the extraordinary performance and energy saving results measured on Toscotec's P&B shoe press installations, TT NextPress marks the new target for the drying section of tissue machines.

Flexibility and uniformity of profile control.

The shoe module consists of an aluminum shoe and two rows of hydraulic cylinders, whose number and distance are such that the linear pressure control on the Yankee surface is extremely precise. This allows the shoe pressure to be completely controllable and continuous on the edges of the Yankee. This result has been validated through experiments and operation data, proving that TT NextPress, as opposed to other systems, ensures perfect adaptability to the crown profile of the Yankee.

Load and pressure profile.

Given the same nip load, which is adjustable from 90 to 150 kN/m during TM operations, based on final product requirements, the operator can modify the pressure curve by changing the press tilt during normal machine operations. Tilt is defined as the ratio between the forces exerted by the two rows of pistons in cross direction at the passage of the tissue sheet. The higher the tilt, the higher the dryness rate due to the reduction of the rewetting effect. Hence, compared with a conventional press, the dryness level increases, with operating values ranging from 45 and 48%, according to the process parameters.

Fiber consumption reduction and product quality increase.

Through tilt control, you can optimize the curve profile and therefore the balance between the nip load and the peak point, by maximizing dewatering and maintaining the bulk, for higher tissue quality. According to real measurements, the increase of bulk ranges from 5 to 15% according to TM operating conditions, basis weight and other process parameters. This increase represents the opportunity to reduce the basis weight, and therefore the quantity of fibers used, considering the same characteristics of the final product.

Excellent cross pressure and edge management.

The uniformity of the pressure profile allows for obtaining significantly homogeneous humidity profiles with 2-sigma deviations averaging between 0.3 and 0.5% over the entire width of the format.

Savings on energy consumption.

The application of TT NextPress allows you to achieve high dryness grades with respect to a conventional press, which results in a thermal energy saving up to 25-30% reduction.

Belt life span.

Operational stability, uniform and finely controlled workload, and the ability to move crosswise the belt with hydraulic activation from DCS, make a significant contribution to the useful life of the stocking. The data recorded on operating systems confirm average life spans of more than one year, with operating speeds ranging from 1800 to 2000 m/min.

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