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Rieter Combing – Technologically at the Forefront

by Yvan Schwartz, Head Product Management Combing.

The new combing set achieves the greatest productivity worldwide. The technology advantage of Rieter combing is based on the optimal interaction between machine and technology components.

Confirmation of this strength, not only in the laboratory but especially under real production conditions with different cotton types, is Rieter's guarantee for the customers success. The technological, qualitative and economical benefits are illustrated as follows.

E 36 OMEGAlap – the most economical combing preparation

Thanks to continuous advancements, the OMEGAlap concept could be improved. An increase in production of 20% to over 600 kg/h at a constant speed of up to 230 m/min is the result.

With this production rate, the OMEGAlap is far superior to conventional machines. The influence of the OMEGAlap on the economic performance of a combing section is enormous. The high production allows a reduction in the number of preparatory

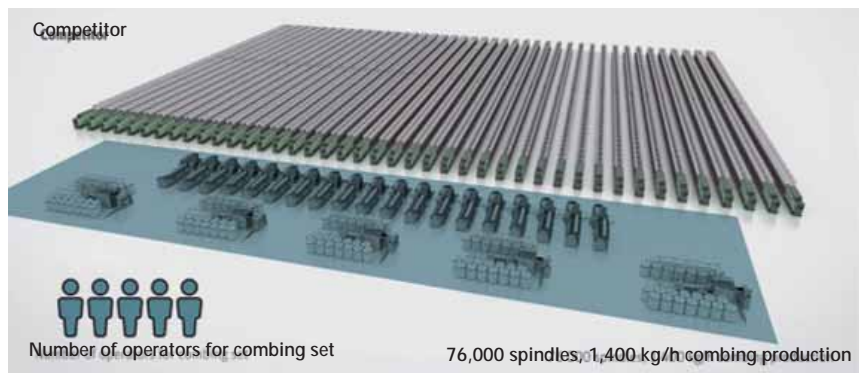


Fig. 1: Combing section with conventional preparation, without automation.

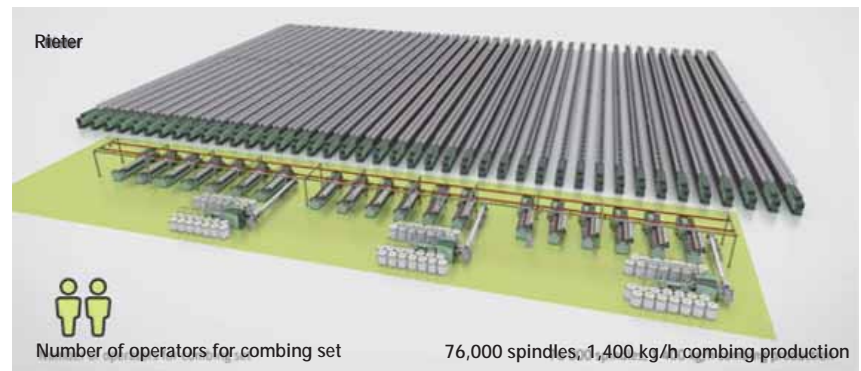


Fig. 2: Combing section with new E 36 OMEGAlap and E 86 ROBOlap combing including lap transport system E 26 SERVOlap.

machines. This noticeably reduces the number of can changes and sliver piecings. Fewer personnel are needed in this context.

As an example, the personnel requirement of a combing set in a compact spinning facility with 76,000 spindles was calculated. Compared to other machine manufacturers, the personnel requirement can be reduced by

3 persons. This is realised by the efficient combing preparation, the SERVOLap fully automated lap transport system and the combor including the ROBOLap automated lap changing and piecing system (Figs. 1 and 2). The personnel saving for the combing preparation machine can be up to 20%. That reduces the manufacturing costs by approx. USD 190,000 per year (basis Turkey).

E 86 Comber – for better combing

The new E 86 comber features a speed increase of 10% compared to the previous model. In the short and medium staple ranges, combing can be made with 550 nips per minute, and that without compromises in the combing quality. In practice, a Rieter combing set (1 + 6) supplies a plant with approx. 25,000 compact spindles.

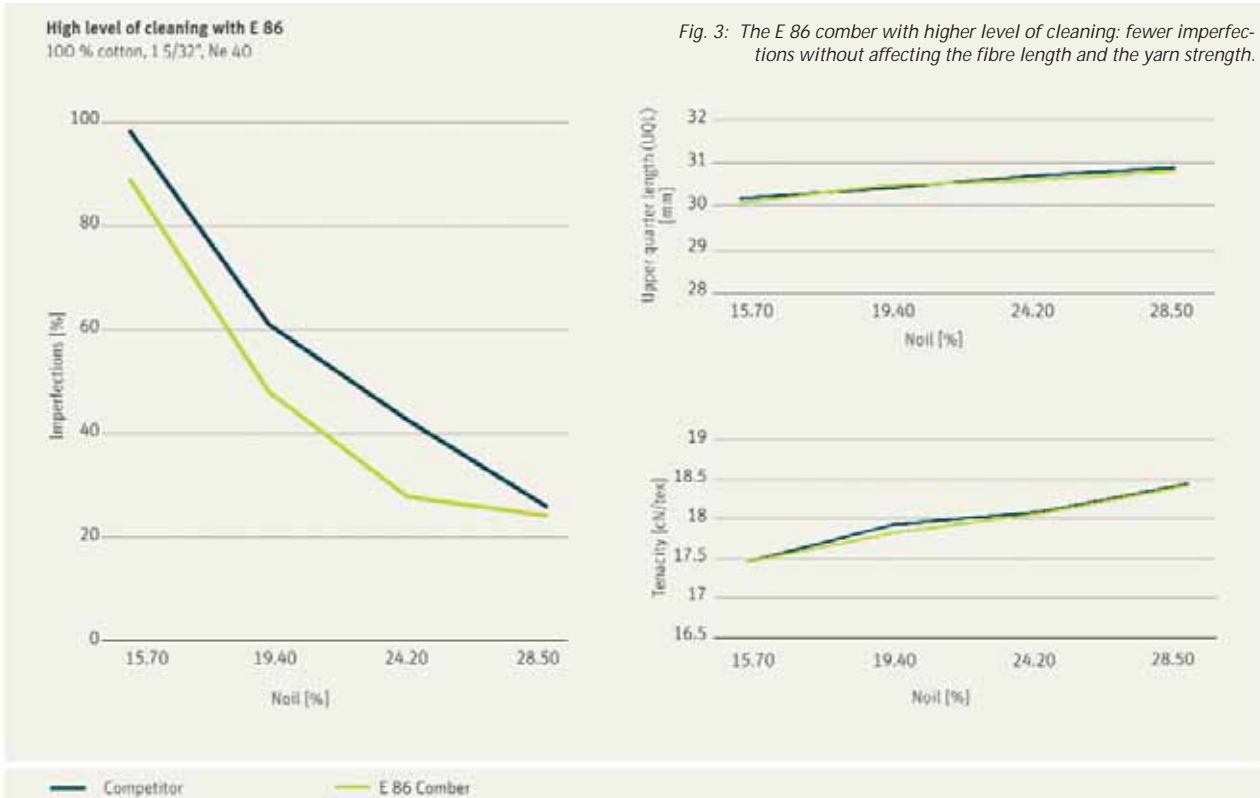


Fig. 3: The E 86 comber with higher level of cleaning: fewer imperfections without affecting the fibre length and the yarn strength.

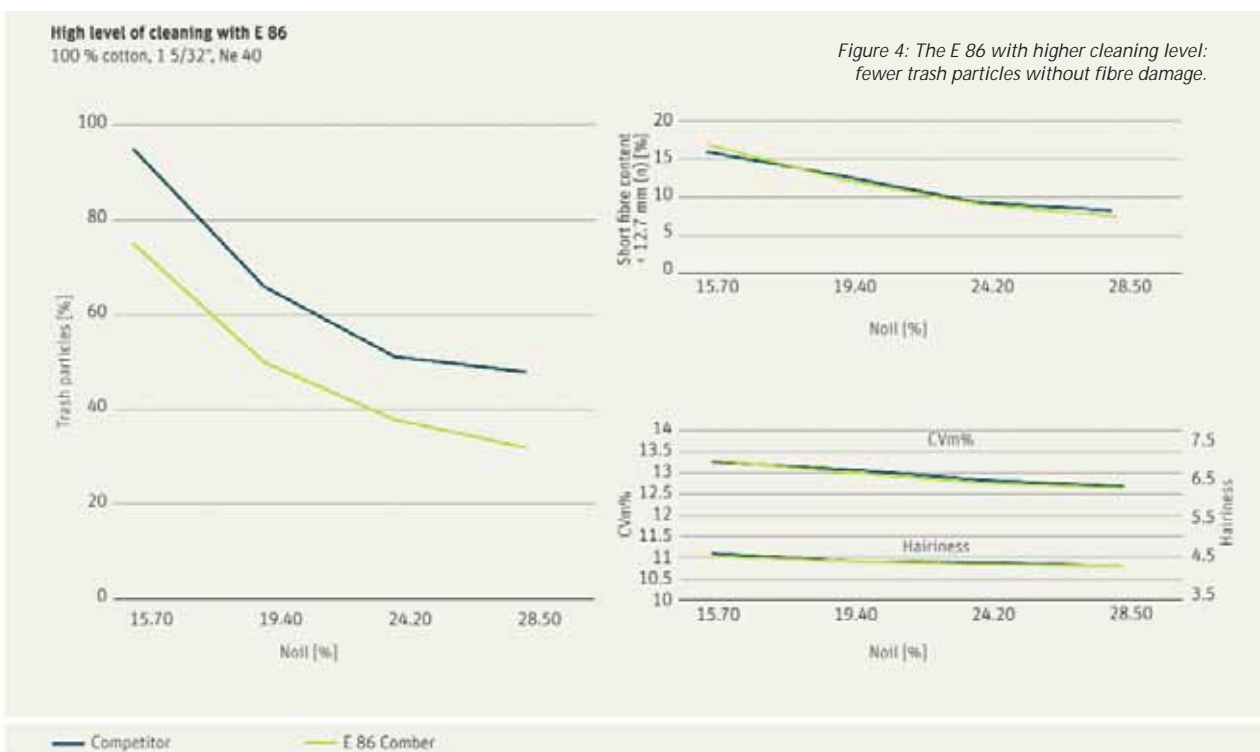


Figure 4: The E 86 with higher cleaning level: fewer trash particles without fibre damage.



Higher level of cleaning for better quality

The strength of the E 86 comber lies in a high level of cleaning as well as excellent running performance with high nip rates.

The E 86 achieves fewer imperfections in the yarn (thin places, thick places, neps) at the same noil removal level compared to combers from other manufacturers. The high degree of cleaning has no effects on the fibre quality. That means, the fibre length remains unchanged and thus the yarn tenacity at a high level (Fig. 3).

Furthermore, the E 86 attains an improved dust and trash elimination of up to 20%. The short fibre content, the hairiness as well as the evenness in the yarn remain unchanged (Fig. 4).

That means, that in both examples, a higher cleaning effect is achieved by means of stronger combing intensity without compromises in the combing quality.

A further example from Southeast Asia shows better yarn quality with the E 86 compared to another manufacturer. At the same production performance and the same noil removal, the imperfections are lower by 40% (Fig.5).

The raw material is a considerable cost factor in the spinning mill. With the E 86 noil removal can be reduced by up to 1% at equally good yarn quality (Fig. 6). That generates cost savings of up to USD 55,000 annually (example Central Asia).

The production performance also positively affects the costs of the spinning mill. The E 86 has the potential to achieve a 10% higher production in comparison to the previous model, at the same noil removal and yarn quality (Fig. 7). That corresponds to a saving in manufacturing costs of about USD 20,000 per year and combing set (basis Turkey).

The right technologies for an efficient combing set

The E 86 comber with its high production at simultaneously high quality leads the way in combing. Individual quality demands can be realised thanks to high-value technology components. The established, fully-automated ROBOlap lap changing and piecing system is the standard for a modern combing facility. Together with the unique OMEGAlap preparation, the highest production per set on the market is achieved. ♦

Quality compared to the competitor
100 % cotton, 1 5/32", Ne 30



Fig. 5: E 86: 40 % better imperfection rate.

Raw material yield compared to the competitor
100 % cotton, 1 3/16", Ne 32

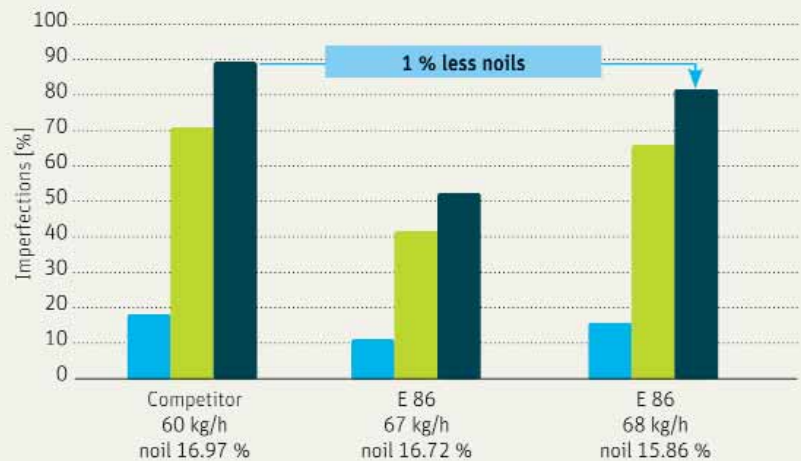


Fig. 6: E 86: up to 1 % noil saving at the same yarn quality.

Productivity compared to the previous model
100 % cotton, 1 3/16", Ne 40

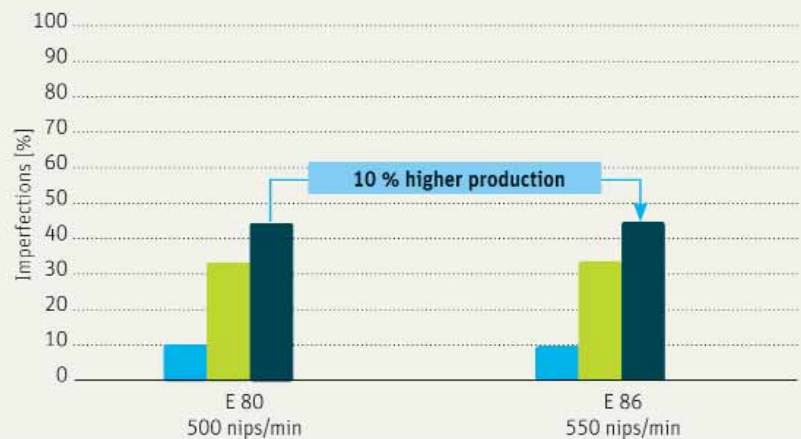


Fig. 7: E 86: 10 % higher production at the same good yarn quality.

Thin places -50 % Thick places +50 % Neps +200 % IPI