

New and revolutionary Körber Warm-up Contactless redefines hot embossing and its benefits for tissue manufacturers

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INTRODUCTION:

Tissue manufacturers are under unprecedented pressure. Pulp price volatility and the skilled labor shortage remain primary concerns. However, the increased emphasis on sustainability, product differentiation, and global competition cannot be ignored. Increased pulp prices are likely the norm for the foreseeable future. Tissue manufacturers and converters are placed squarely in the middle of the supply-and-demand struggle. Questions about costs and profitability are inevitable.

In response, source rolls of less expensive fiber are being used to help control costs. Hot embossing is heavily relied upon to deliver toilet paper and paper towel rolls of increased firmness and volume while simultaneously preserving tissue quality.

Doing so helps tissue manufacturers deliver to customer quality expectations and remain competitive in the global marketplace. Customers are particular about the tissue products they use, and a shift in quality could cause dissatisfaction. Loyal brand advocates may leave and take their dollars — and tissue manufacturers' margins — with them.

There are also the issues of product differentiation and sustainability. Tissue tensile strength, softness, and absorbency

While oil and pressurized water hot embossing systems work, they also limit the ability to efficiently respond to shifts in market demand for certain product differentiators. As a result, tissue manufacturers could miss opportunities and lose competitive advantage.

Tissue manufacturers have been left to make do with liquid hot embossing systems. However, compromise is no longer an adequate strategy during turbulent times in the industry.

It's an unenviable position for tissue manufacturers. It's also the impetus behind the embossing breakthrough developed by Körber engineers.

are at the heart of successful outcomes in these increasingly important and competitive areas.

The challenges are many, as are the opportunities for innovation. Finding a broad-based solution that addresses these pain points requires advanced tissue technologies and the expertise it takes to apply them.

The disadvantages of hot liquid embossing systems

Conventional hot embossing methods rely on hot oil or pressurized water to heat each embossing roll in its entirety. The piping networks needed to circulate the heating liquids are expensive and complex, require roll modifications and excessive downtime for installation, and can be dangerous in the event of failure. Long heating and cooldown times and high thermal dissipation also contribute to low overall equipment effectiveness (OEE).

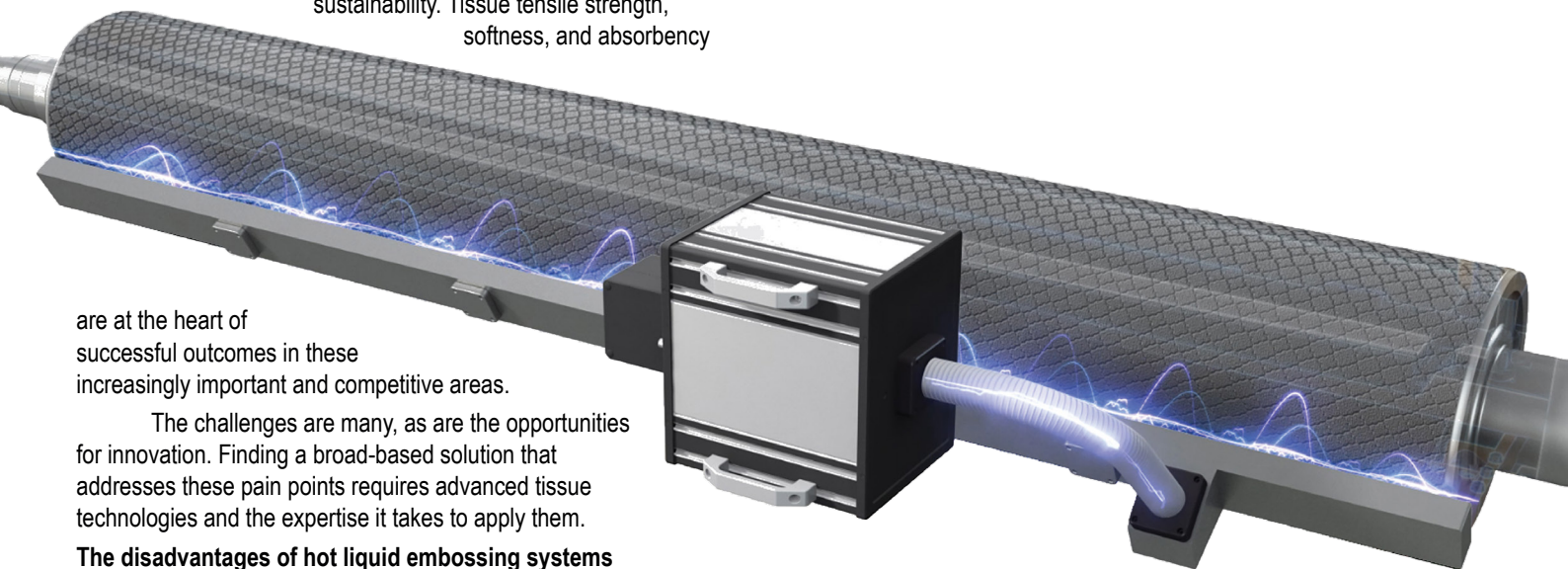


Figure 1: Körber Warm-Up Contactless.

Warm-up Contactless: A real market revolution by Körber

New Körber Warm-up Contactless is the first patent-pending hot embossing system to use induction heating — a proven method in other sectors such as automotive, but barely used in the tissue industry.

Unlike liquid hot embossing systems, induction heating heats the embossing rolls from the outside with no need for physical contact with the rolls themselves. It's what makes Warm-up Contactless effective in offering tissue manufacturers:

- **CAPEX Control: Easy retrofitting on existing embossing units without having to replace or modify the existing rolls**
- **Efficiency: Shortens roll heating time through concentrating heat at roll tips instead of the entire roll, resulting in 60% less energy consumption**
- **Flexibility: Freedom from piping, modified embossing rolls, and internal heating elements mean faster roll changeovers and greater opportunities for expanding product mix**
- **Simplicity: Easy, quick installation, more efficient than traditional liquid hot embossing systems — no complicated piping and power heater systems to house and maintain**
- **Safety: Strong reduction of safety risk due to the elimination of high-temperature liquids.**



Figure 2: Körber Perini Constellation..

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