

A state of the art in winding

Advantage™ SoftReel B



For your finest products

Advantage SoftReel B Winding system

The Metso Advantage SoftReel B is an innovative winding system that provides producers and converters of premium tissue and towel grades a competitive edge.

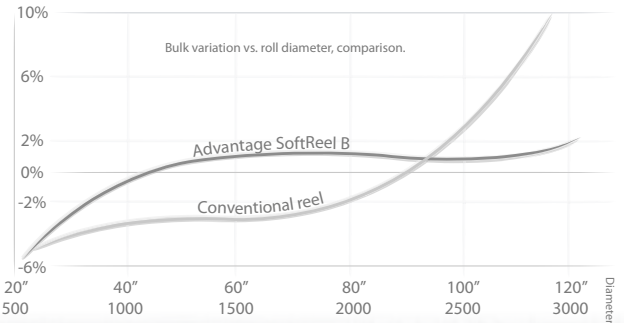


Figure 1.



The B in Advantage SoftReel B makes the difference

B stands for Belt and it is the belt in this tissue winding technology that replaces the reel drum in conventional winding systems. And it's the belt arrangement that gives producers and converters the control over the winding process that allows producing large diameter parent rolls while keeping exceptionally uniform caliper throughout a whole roll. See Figure 1.

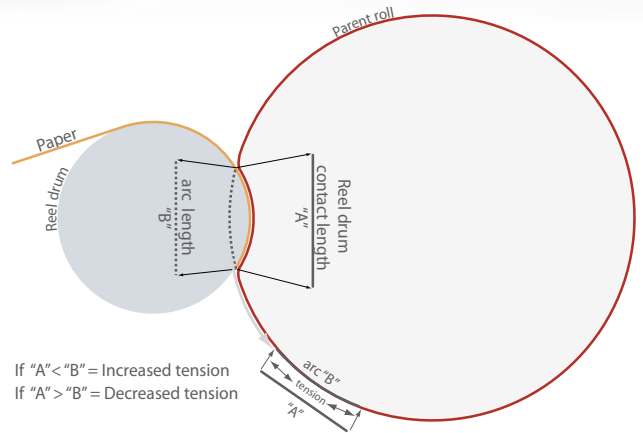


Figure 2.

Replacing an old winding principle...

Using conventional technology for winding low-density paper such as premium tissue and towel grades does not produce the same good results as when winding high-density paper.

When low-density paper is fed into a nip consisting of a reel drum and the parent roll, the length of contact, "A" of the parent roll being wound becomes longer as the diameter of the roll increases, making the wound-in tension in the roll continuously lower. Consequently, these parent rolls are not of uniform caliper throughout, which limits the diameter and the speed at which they can be wound, but also unwound in converting lines. See Figure 2.

...with a new winding principle

Replacing the reel drum with a belt changes the physical nature of the nip. Instead of a round, hard-surfaced reel drum and parent roll, Advantage SoftReel B technology enables the tissue and towel grades to meet a flat, soft-surfaced belt in the nip. In other words, the length of contact "A" is always shorter than the arc "B" even as the diameter of the roll increases. When the tissue exits the nip the sheet is elongated and thus tension is generated inside the roll. The result is consistent control of the wound-in tension. And this is why Advantage SoftReel B is able to produce uniform large parent rolls. See Figure 3.

Low nip pressure preserves caliper

The nip pressure against the belt in Advantage SoftReel B is significantly lower than the nip pressure in a conventional reel. This reduction preserves the caliper of the sheet during winding. Figure 4 compares the nip pressure for a conventional reel and the Advantage SoftReel B with a typical indentation setting.

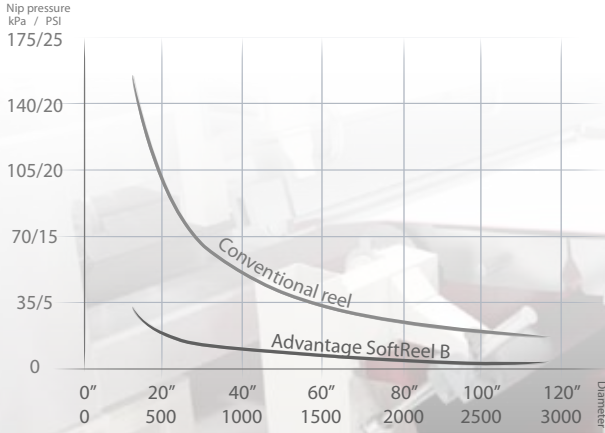
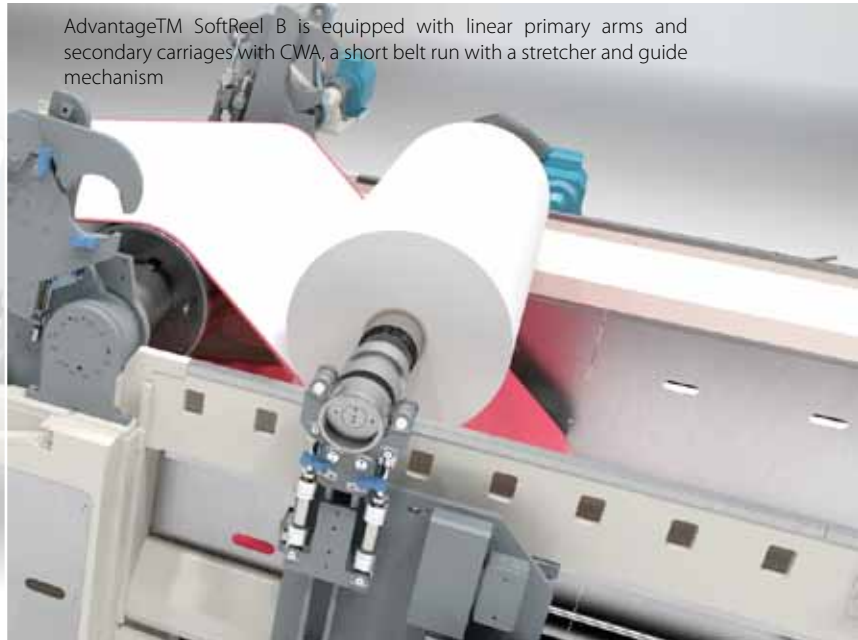


Figure 4.



Advantage™ SoftReel B is equipped with linear primary arms and secondary carriages with CWA, a short belt run with a stretcher and guide mechanism



Figure 3.

New way of measuring indentation

The control strategy of an Advantage SoftReel B is completely different from that of a conventional reel. As the parent roll is wound against the belt, the control algorithm calculates the required indentation of the parent roll surface into the belt. This patented control strategy relies on an absolute distance measurement to measure indentation, as well as measuring the winding speed and the RPM of the parent roll. This provides the output for positioning the secondary carriages. Measuring the indentation provides direct feedback of the variables required for

control.

New yet mature technology

Advantage SoftReel B is an alternative to the problems of conventional winding that tissue makers have traditionally accepted as part of the process. During the past decade numerous reels based on belt winding technology have been delivered. Thus while being a relatively new technology, Advantage SoftReel B is also a mature technology available as an option for all new and existing Metso tissue machines as well as for installation on tissue lines from other suppliers as an upgrade or rebuild.

Tissue winding system

Metso offers a wide range of different reel types for producing various types of tissue at different machine speeds. The Advantage SoftReel B employs a completely new tissue winding technology and is the new member of the Metso reel family.

Advantage SoftReel B

OptiReel TIS

Advantage SoftReel L

Advantage SoftReel P

Advantage SoftReel A

Top-of-the-line technology offers tissue makers...

- Greater tissue machine runnability
- Large rolls of uniform caliper
- Minimal broke
- Increased winding speed
- Fewer threading problems
- An enhanced control strategy
- Greater productivity.

...while offering converters

The competitive advantages of large parent rolls of uniform caliper resulting from:

- Fewer rolls to handle
- Minimal broke
- Overall greater production efficiency.

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