Advantage™ DCT® Technology
One tissue making concept for many possibilities
Produce most types of conventional tissues with the highest quality in a cost-effective way

The Advantage DCT technology concept combines tissue makers’ needs with our extensive technical expertise and application know-how into one state-of-the-art tissue making line. It enables you to produce many types of conventional tissues in cost- and energy-efficient ways through Best Available Technology (BAT).

**High quality with less energy**
The Advantage DCT forming section is equipped with an OptiFlo II TIS headbox designed to give superior base paper properties as well as energy savings, as the flow to the headbox and the pumping energy can be decreased. OptiFlo II TIS can achieve capabilities such as improved paper formation and improved structural design for less slice deflection at high speed.

**An effective modular approach**
The gradual accumulation of knowledge and continuous improvement steps we made during the development of our business led to the modular design and standardization of our tissue making lines that have now become benchmark in the industry. Important advantages gained here include quicker building, testing, delivery and installation of lines, as well as facilitating machine rebuilding at a later stage.

Our modular approach now covers our three leading-edge tissue lines: Advantage™ DCT® Technology, Advantage™ NTT® Technology and Advantage™ Thru-Air® TAD Technology.

**Optimal lifecycle economy**
Three crucial features of Metso tissue making lines provide optimal life cycle economy: very short lead times between system installation and specified production speed promoted by modularity; uncomplicated rebuilding of installed equipment to suit new production demands; and service support teams committed to keeping your lines in peak condition to maximize uptime.

Our materials, component precision and machine design are second to none, and our system reliability is confirmed by a number of examples where Metso tissue making lines have a mean uptime of 96%.

**New demands on quality**
Higher purchasing power inevitably leads to shoppers buying more and better products. From a tissue maker’s viewpoint, satisfying the needs of new consumers while at the same time cutting production costs is a prime goal.

With Metso’s innovative tissue making process, one can vary the parameters of bulk, softness, absorbency and strength in the same machine to provide the desired quality of tissue. More importantly, high tissue quality can be maintained at lower fiber content by making correct adjustments to the headbox. This is a key benefit as fiber accounts for more than 60% of production costs.
Greater production optimization
Metso can make further contributions to production optimization because we take the complete mill design into account, from raw material intake to reeled product. We have made processing a closed loop where water derived from tissue sheets is returned to stock preparation; where all components are dimensioned to minimize the use of energy and water. Such optimization results from our long experience with the tissue making process, our knowledge on the performance of independent units that make up the production line, and our desire to recycle materials and reduce operational costs.

Our application expertise is complemented with personnel with a high degree of proficiency in their respective fields who are strongly committed to driving success. They make a difference by being totally engaged in improving all aspects of tissue making and striving to satisfy the individual needs of tissue manufacturers worldwide.

Achieving higher uptime together
Always supporting the customer and flexibility in finding working solutions together are key ingredients in approaching 100% uptime with a Metso line. As we are a big company and the leading supplier, we are here to stay and have the resources to take care of all types of tissue makers. And we’re always within easy reach.

A service that we can offer that is becoming increasingly important is remote support. This involves gaining access to your process parameters via the internet and telemetry in order to check the running conditions of your tissue making equipment and helping to resolve any problems you have.

A full-scale Technology Center to help you
Metso constantly strives to advance tissue making for the success of our customers. An important aspect of this is our Tissue Technology Center in Karlstad, Sweden, which gives you access to two full-sized, flexible pilot machines, a well-equipped and organized laboratory and a unique spectrum of expertise on tissue machines and manufacturing processes. That’s why there’s no better environment in which to test your products and processes under strict confidentiality.

Become Best in Tissue with Advantage DCT technology and benefit from:
• Best available conventional sheet quality
• Highly reproducible tissue properties
• Modern and compact designs and solutions
• Low investment cost
• Competitive total cost per tonne of product
• High efficiency and reliability
Several family members provide extensive production capacity

The Advantage DCT technology concept combines customer needs with our extensive technical experience and expertise into one world-class product. This concept together with several versions of this production line enables Metso to offer cost- and energy-efficient solutions covering a wide range of tissue types and production capacities.

**Medium capacity 42-118 tonnes/day**

- **Advantage DCT 40**
  - Paper sheet width: 2850 mm (112 inch)
  - Design speed: 1000 m/min
  - Yankee size: 12 feet
  - Headbox: OptiFlo II TIS 1000
  - Capacity: 42 tonnes/day*

- **Advantage DCT 60**
  - Paper sheet width: 2850 mm (112 inch)
  - Design speed: 1300 m/min
  - Yankee size: 12/15 feet
  - Headbox: OptiFlo II TIS 1600
  - Capacity: 71 tonnes/day*

- **Advantage DCT 100**
  - Paper sheet width: 2850 mm (112 inch)
  - Design speed: 1600 m/min
  - Yankee size: 15 feet
  - Headbox: OptiFlo II TIS 1600
  - Capacity: 95 tonnes/day*

- **Advantage DCT 100+**
  - Paper sheet width: 2850 mm (112 inch)
  - Design speed: 1800 m/min
  - Yankee size: 15 feet
  - Headbox: OptiFlo II TIS 1830
  - Capacity: 106 tonnes/day*

- **Advantage DCT 100 HS**
  - Paper sheet width: 2850 mm (112 inch)
  - Design speed: 2000 m/min
  - Yankee size: 16 feet
  - Headbox: OptiFlo II TIS 2200
  - Capacity: 112 tonnes/day*

- **Advantage DCT 100 TS**
  - Paper sheet width: 2850 mm (112 inch)
  - Design speed: 2200 m/min
  - Yankee size: 18 feet
  - Headbox: OptiFlo II TIS 2200
  - Capacity: 118 tonnes/day*
**Advantage DCT 135+**
- Paper sheet width: 3800 mm (149.5 inch)
- Design speed: 1800 m/min
- Yankee size: 15 feet
- Headbox: OptiFlo II TIS 1830
- Capacity: 142 tonnes/day*

**Advantage DCT 135 HS**
- Paper sheet width: 3800 mm (149.5 inch)
- Design speed: 2000 m/min
- Yankee size: 16 feet
- Headbox: OptiFlo II TIS 2200
- Capacity: 150 tonnes/day*

**Advantage DCT 135 TS**
- Paper sheet width: 3800 mm (149.5 inch)
- Design speed: 2200 m/min
- Yankee size: 16/18 feet
- Headbox: OptiFlo II TIS 2200
- Capacity: 158 tonnes/day*

**Advantage DCT 200+**
- Paper sheet width: 5640 mm (222 inch)
- Design speed: 1800 m/min
- Yankee size: 16/18 feet
- Headbox: OptiFlo II TIS 1830
- Capacity: 210 tonnes/day*

**Advantage DCT 200 HS**
- Paper sheet width: 5640 mm (222 inch)
- Design speed: 2000 m/min
- Yankee size: 16 feet
- Headbox: OptiFlo II TIS 2200
- Capacity: 222 tonnes/day*

**Advantage DCT 200 TS**
- Paper sheet width: 5640 mm (222 inch)
- Design speed: 2200 m/min
- Yankee size: 18 feet
- Headbox: OptiFlo II TIS 2200
- Capacity: 234 tonnes/day*

**Advantage DCT 300**
- Paper sheet width: 8020 mm (316 inch)
- Design speed: 2200 m/min
- Yankee size: 18 feet
- Headbox: OptiFlo II TIS 2200
- Capacity: 333 tonnes/day*

* Nominal at 18 g/m² and 20% crepe ratio
Superior base paper properties

Metso’s new headbox family, OptiFlo II TIS, is based on an optimized turbulence generator and improved nozzle geometry. Its design gives superior base paper properties. Improved paper formation can be used to reduce headbox flow by up to 20%. This gives an energy savings potential of 40-60 kWh/ton paper depending on machine speed for certain grades. Although OptiFlo II TIS is BAT, it is one of many standard components in the Advantage DCT concept. It is available in four versions designed for operating speeds from 1000 m/min to 2200 m/min.

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Higher press dryness means less energy

The Advantage ViscoNip press delivers a uniform cross-direction and high peak pressure to increase tissue sheet dryness significantly and reduce energy consumption. Operators can vary the pressure and customize the pressure curve that best fulfills product quality or higher dryness specifications. By increasing dryness 7% the drying energy consumption can be cut by more than 25%.

The bulk achieved with the Advantage ViscoNip press is higher compared with a suction press roll – fiber savings of up to 10% are possible if you choose to operate for higher bulk. The extremely flat CD dryness profile across the sheet not only improves the runability through the press but also through the rest of the machine. The final product quality is also enhanced by the flatter dryness profile.

Yankee high performance

Our Yankee Dryer works as a press roll, dries the tissue sheets and provides the surface for the creping process. With Yankee head insulation, you gain a steam saving equivalent of up to 80 kWh/ton. In addition, all three versions of the Advantage AirCap Yankee hood offer you 10-20% more drying capacity.

As you would expect from Metso, our Yankee Dryer meets the extremely high demands of casting quality, performance and safety. Such accuracy and precision are found with all Metso components. This, combined with factory assembly and testing, minimizes machine vibration to prevent running noise and prolong the lifetime of machine parts.

Creping has a great impact on end product quality. Advantage Creping allows quick angle adjustments during production, faster paper grade changes, and safe and easy blade handling.

Advance reeling technology

The Advantage SoftReel is fully automated and highly reliable even at really high speeds. It assures uniform paper quality throughout the roll and provides greater efficiency as it allows larger rolls and less reject at roll changes. The automated process does not normally require any manual roll handling. Web breaks are rare and maintenance costs minimal.

Excellent dust control

Metso’s dust control concept for all Advantage technologies captures dust where it is created to minimize the risk of fire, provide a healthy work environment and reduce manual cleaning.

The latest technology for the best production conditions

Metso’s production modules are designed to achieve the best conditions for tissue making right along the production line. You’ll find that our state-of-the-art technology increases your machine speed and production capacity, as well as improves product quality, energy efficiency and personal safety.
Protecting your investment
Over the years, several surveys have confirmed the correlation between proactive maintenance and profitability. The results are unmistakable: proactive maintenance is profitable. If maintenance is reactive, mill personnel have low or limited control over production output and maintenance and production costs. Machine uptime will also decrease over time.

Tailored automation systems
Our automation, information management and flow-control products and solutions ensure your processes make the right quality product at high efficiency and lowest possible cost. A system tailored exactly to your particular requirements is supplied.

The offering now includes metsoDNA CR, a new-generation automation and information platform that covers all controls for process, machine, quality and drives, as well as mechanical condition monitoring in a single platform.

Project management
Metso’s standard offering includes coordination of engineering and procurement, manufacturing and pre-assembly, shipping and installation supervision as well as commissioning and start-up. In the extended scope, we also take care of the total project coordination for the complete tissue mill.

Training enhances skills
Keeping machines and equipment in good shape is crucial, but it’s impossible to achieve this without competent and committed people. With training programs from Metso, the skill level of your machine operators is maximized so that they are better able to manage your investment.

Metso provides training courses, involving specialists and experts in many fields, at our learning center in Karlstad, Sweden. These cover essential areas in tissue making production like stock preparation, the tissue machine, runnability, maintenance and environmental issues. The courses are open to all customers, which allows you to share experiences with other participants.

Optimizing lifecycle performance and economy
To ensure you get the best out of your Metso tissue making solution throughout its life cycle, Metso provides a range of services to help keep machinery in peak condition. In addition, process and control automation maintains smooth and uniform production, and a number of training courses enhance the skills of mill personnel to achieve a higher standard of operation.
The global leader in tissue making

Over 150 years of experience within the pulp and paper industry has resulted in Metso becoming the global leader in tissue making. We deliver the most production capacity with the largest installed base of tissue making machines worldwide.

Our growth is based on knowledge and applying it in a working environment that encourages innovation. We contribute to a more sustainable world by helping tissue makers process natural resources and recycle materials into valuable products while reducing their environmental impact.

We strive to ensure that tissue quality, knowledge and process technology, as well as our wide scope of service, continue to drive mutual success. This is why forming a partnership with Metso is so rewarding.

Join us to become Best in Tissue!

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