

Voith LSC TecoScan  
and Voith LSC TecoSens  
Nonradioactive QCS for tissue



- 1 The Voith quality control system allows tissue to be produced in a cost-efficient and environmentally compatible manner.
- 2 Voith LSC TecoScan
- 3 Voith LSC TecoSens
- 4 Special nozzles and the garage considerably simplify cleaning and maintenance and therefore reduce unnecessary wear.
- 5 Extremely safe for maintenance and operating crews

### Cost-effectiveness and environmental compatibility

In today's highly competitive paper industry, manufacturers of tissue papers have to find ways of reducing costs without compromising on paper quality or the overall productivity of their machines.

In addition, all paper mills are of course going to great lengths to improve the ecological compatibility of their production processes.

### Pioneering quality control system for tissue papers

Voith LSC TecoScan and Voith LSC TecoSens constitute a new quality control system especially for tissue papers that offers a manageable investment and also minimal servicing costs over the entire service life.

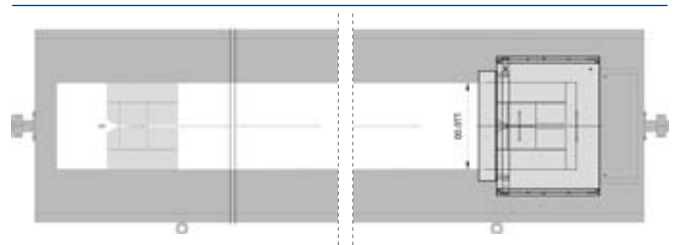
As part of the Voith LSC product family it can be fully integrated into the Voith quality and process control systems. Both scanner and sensors can therefore be easily combined with other quality measuring components.

### Low costs over the entire service life

Thanks to its rugged design, Voith LSC TecoScan offers high availability and extremely low maintenance costs. The stable design of the scanner guarantees incomparable dimensional stability and accurate measuring results over the entire life cycle. The measuring system was specially developed to meet the requirements of tissue manufacturers and enables stable measurements with minimal maintenance.

If necessary, the Voith LSC TecoScan can be equipped with a garage and cleaning nozzles.

### Voith LSC TecoScan Schematic diagram





### Safe and inexpensive

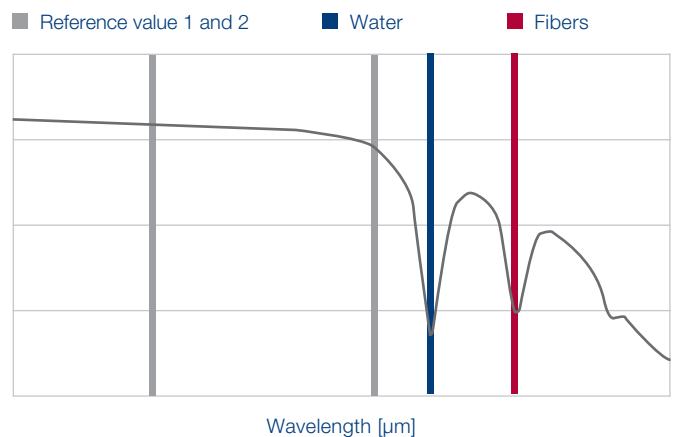
The fiber weight and moisture content of tissue paper can now be measured using just one sensor and without any radioactive source: The newly developed Voith LSC TecoSens allows simultaneous on-line measurement of both values, without the need for an additional radiometric basis weight sensor.

The sensor is based on the proven Voith LSC infrared moisture sensor and measures the absorption of infrared light over four characteristic wavelengths. In combination with the improved optics and sophisticated algorithms the sensor provides fast measurements with a superior signal to noise ratio and excellent sensitivity.

This type of measurement has significant advantages over radiometric methods. Whereas the radioactive sources used in previous sensor models had to be replaced regularly and serviced by specially trained personnel, maintenance of the Voith LSC TecoSens is no more elaborate than that of other sensors. This saves costs and improves safety for the operating personnel.

### Moisture measurement kWh/t

Signal in percent





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### Specifications Voith LSC TecoScan

- Scanner height: 1,700 mm (70 inches)
- Scanner width: 430 mm (17 inches)
- Scanner length: 3,700 mm – 12,500 mm (146 – 492 inches), other lengths on request
- Web width: 950 mm – 9,650 mm (37 – 380 inches)
- Web angle:  $\pm 30^\circ$  – pivoting carriage
- Weight: 2,080 kg – 4,650 kg, (4,585 – 10,785 lbs), depending on length of scanner
- Guide rails: polished and hard chrome-plated steel runners, permanently factory aligned
- Garage and cleaning nozzles: optional
- Control electronics for scanner: external
- Air/water distribution: internal / optional: external
- Drive: 0.37 kW, 3-phase AC motor, brushless, with variable frequency inverter
- Toothed drive belt: 25 mm (1 inch) wide, steel reinforced
- Traversing speed: up to 600 mm/s (23.6 inches/sec)
- Positioning accuracy:  $\pm 1$  mm (0.04 inches)
- Cooling: external cooler and fan

### Specifications Voith LSC TecoSens

- Measuring range:  
Moisture: 0.1% – 20%  
Fiber weight: 10 g/m<sup>2</sup> – 100 g/m<sup>2</sup>
- Measuring resolution:  
Moisture: 0.01%  
Fiber weight: 0.05 %
- Repeatability:  
Moisture: 0.1% (2-sigma value)  
Fiber weight: 0.2 g/m<sup>2</sup> (2-sigma value) in standard samples
- Accuracy:  
Moisture: 0.15% (2-sigma value)  
Fiber weight: 0.35 g/m<sup>2</sup> (2-sigma value) in standard samples
- Profile resolution: 10 mm effective
- Reaction time: 3 ms
- Ambient conditions: Max. ambient temperature: 70°C, or 100°C with optional high-temperature package
- Maximum relative humidity: 98% non-condensing



### Benefits Voith LSC TecoScan

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- + particularly low costs over entire life cycle (total cost of ownership) due to high availability and low maintenance requirements
- + exceptionally stable scanner and pivotable measuring head carriage allow operation even in very challenging environments and supply reliable data
- + optional garage and special nozzles reduce cleaning and maintenance work and allow stable measurement even in dusty environments
- + measuring head carriage with practical plug'n play inserts allows sensors to be installed or replaced in seconds and therefore prevents unnecessary downtimes
- + can be deployed flexibly thanks to simple upgrading with other Voith LSC sensors

### Benefits Voith LSC TecoSens

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- + no need to train service and maintenance crews in handling radioactive sources
- + no health risk for people working with radioactive sources
- + no need for regular sensor replacement because of limited life span of radioactive source
- + measurement of fiber weight and percentage moisture content without additional radiometric basis weight sensor
- + small measuring spot sizes and fast reaction times offer excellent spatial resolution for accurate, fast profiles and tighter profile control
- + extremely high sensitivity and accuracy thanks to proprietary optics and sophisticated software models
- + the four wavelength model with baseline correction minimizes the impact of environmental factors or sheet color
- + not sensitive to temperature variations
- + factory calibrated for accurate measuring results directly after installation
- + modular design and extended diagnostic functions simplify operation and maintenance



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