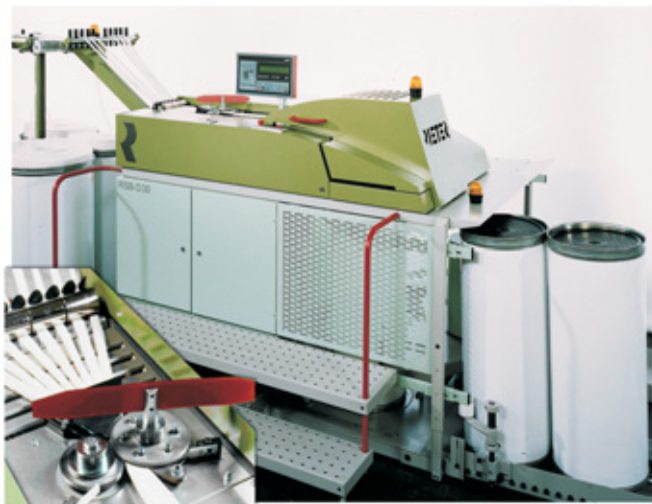


Thickness measurement of yarn

The quality of textiles depends decisively on the uniform thickness of the yarn used, because thickness variations are directly visible in the material (e.g. shirts). The thickness variations of the yarn ("sliver") are measured in draw frame machines and compensated by closed-loop controlled stretching equipment. At the input of the draw frame, the thickness variations are transferred via probe rollers to an eddy current displacement sensor. The sensor measurement signal is used as the basis for the control circuit in the following stretching equipment. A second displacement sensor, which measures the thickness of the sliver at the draw frame output, is employed for quality monitoring and documentation.



The deciding features for the selection of eddy current displacement sensors from Micro-Epsilon are the high dynamic response and resolution. These ensure high productivity on the line together with excellent quality of the final products. Another important aspect is the non-contact measurement principle which supplies reliable measurements even with accumulated dirt due to textile fibers. The advantage for the customer is a clear improvement in the productivity and quality with a very good price/performance ratio.

Reasons for choosing the system

- Customer- and applicationsspecific system
- High dynamic, high resolution
- excellent performance/price ration

Measurement system requirements

- Robust sensor design
- Economic sensor in high quantities (2000/year)
- Measuring range 2 / 6 mm
- High dynamic 5 kHz
- High Resolution 0.005 % FSO

