Systems for smooth operation
Tensioning devices and guides
SensoTension LC
The measuring device SensoTension LC ensures constant tension for your fabrics, felts and belts and is used in the wire, press and dryer sections of tissue, board and paper machines.

SensoTension P
SensoTension P ensures exact and constant felt tensioning in the press section. For best results, felt tension should be measured with the separate SensoTension LC sensor, which can also be integrated into the tensioning device if required.

SensoTension DE
SensoTension DE achieves consistently accurate and reliable dryer fabric tension when used in combination with the externally placed sensor SensoTension LC. The separation of tensioning and tension measurement leads to excellent measurement results.

HDU Guide
The HDU Guide ensures exact directional stability of your clothing and provides optimal wire, felt and fabric run control. The HDU Guide thus guarantees smooth operation of your paper machine.

HDU control upgrade
The HDU control system upgrade is an optimization of the pneumatic scanning and control systems for numerous makes of felt and fabric guides in the wire, press and dryer sections.

Run-out alarm
As the final control element, the run-out alarm prevents fabric damage by monitoring the position of the fabric edge on the front and drive side and initiating an alarm if necessary. It can be used in the forming, press and dryer sections of tissue, board and paper machines.
Do you want to ensure constant tensioning for your fabrics, felts and belts? SensoTension LC sensors are the answer for this and therefore make an important contribution to increasing the availability of your paper, board and tissue machine.

**Reliable tensioning system**
SensoTension LC exactly measures the actual pull of clothing in the forming, press and dryer sections. The SensoTension LC incorporates the latest technologies so that the use of temperatures up to 120°C is made possible. With SensoTension LC, safety for the operating personnel can be further improved, as manual measurements are only required for comparative measurements.

**Functional principle**
The SensoTension LC measuring point is embedded between the guide roll bearing and the machine frame. The integrated electronics facilitate comprehensive signal processing in the sensor. Tensile forces which are induced by the respective belt stress or relieve the measuring point and thus act as a force on the sensor. Unlike conventional belt force sensors, SensoTension LC is dual-channel in its design and thus ensures a constant tension for your paper machine. Due to continuous comparison of both signals, reliable and stable functioning can be ensured and a disproportionate deviation can be detected at an early stage. The system is thus redundant, which makes operation of your machine even more reliable. In addition, the amplifier and filter, which are integrated in the high-tech pressure cell, allow a compact design.
Exact measurement values
With its solid design, SensoTension LC offers a high level of stability in machine direction and a lack of sensitivity to vibrations.

Area of application
SensoTension LC is suitable for horizontal as well as inclined installation situations in the forming, press and dryer sections.

Your benefits
+ Reduction of erroneous measurements, since it is not sensitive to contamination
+ More measurement accuracy for exact belt tensioning
+ Heat resistance for temperatures up to 120°C
+ Rugged sensor for an exact and redundant signal
+ Longer service life through rugged design
Do you want to ensure reliable and constant press felt tensioning through accurate measurement? SensoTension P meets all your requirements for constant felt tensioning in every respect and can also counteract felt barring.

Reliable felt tensioning system
The constant rise of demands for productivity and paper quality is leading to higher requirements for felt and web guidance. Thus reliable felt tensioning systems with exactly adjustable and constant press felt tensioning are acquiring ever more significance. For this reason, Voith developed SensoTension P. SensoTension P fully meets all these requirements and is attractive due to its exact measurement of felt tensioning.

Unique tensioning carriage
With conventional felt tensioning systems in press sections, vibrations of the tensioning car due to worn tensioning car rollers can appear. This problem is a thing of the past thanks to SensoTension P. The unique tensioning carriage, which replaces the tensioning car, facilitates perfect traveling or sliding in the guide device and thus prevents instances of wear and vibrations.

Exact measurements
The separate sensor SensoTension LC works with a load cell specially developed by Voith. It guarantees maximum performance and measuring accuracy for reliable and redundant measurement, resulting in constant felt tension. If it is not possible to install an external sensor, the felt tension can be measured using a load cell that is integrated into the tensioning device.
In order to prevent corrosion, all the main components of the SensoTension P are made of stainless steel. The highest level of performance and measurement accuracy is achieved with an externally placed measurement point.

**Improved paper quality**
With older felt tensioning systems, reduced paper quality can be the case due to an uneven felt surface, so-called felt barring. SensoTension P is characterized by an optional automatic retensioning device that prevents felt barring and a much better paper quality can thus be achieved.

**Flexible usage options**
The SensoTension P felt tensioning system is available in different sizes for every wire width and can be adapted to your specific installation situation. Offering the best characteristics, SensoTension P brings about a longer service life of the felt and leads to optimal machine efficiency.

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**Your benefits**

+ No vibrations
+ Constant felt tensioning
+ No measurement inaccuracies or measurement failures
+ Low wear
+ Reliable felt tension measurement
+ No corrosion
+ Compact design
+ Longer felt service life
Do you want to ensure consistently exact and reliable dryer fabric tensioning? SensoTension DE ensures exact and reliable dryer fabric tensioning through separation of the tensioning and tension measurement functions.

Constantly increasing productivity and quality requirements are leading to higher requirements for fabric and web guidance and thus also for dryer fabric tensioning. Reliable fabric tensioning systems are thus acquiring more and more significance. With conventional fabric tensioning systems, it is common to integrate the measurement point directly in the tensioning device. However, this integration of the measuring function always leads to compromises in the design of the tensioning device and is thus susceptible to external influences such as vibrations and contamination.

In order to prevent such influences in tension measurement, Voith developed Voith SensoTension DE. It is an innovative system in which the fundamental advantage is the external measurement point for fabric tension measurement. In contrast to other products available on the market, the functions of tensioning and tension measurement are separated in the case of SensoTension DE. Excellent measurement results can be obtained through the use of this technology.

With SensoTension DE, the tensioning function is managed by means of a system driven by chains. The tension roll is attached to a carriage that is automatically moved forward or backward until the exact preset fabric tensioning is reached.
In order to ensure that the roll is not crooked, the two chain drives on the operator side and drive side are coupled by means of a transverse shaft. In contrast to conventional partially spindle-driven systems in the dryer section, SensoTension DE is considerably less sensitive to contamination.

Another impressive feature of SensoTension DE is its rugged and rigid design. The external sensor SensoTension LC is the ideal complement to the tensioning device. The special roll base with integrated center of shear force load cell does not have any moving parts, which means it is much less susceptible to vibrations, resulting in a reliable and more accurate measurement result. The compact design of the high-tech load cell with integrated amplifier and filter is also hugely advantageous to the function of the fabric tensioner.

Your benefits

+ Reliable and exact fabric tensioning
+ Compact load cell design
+ Redundant signal for fabric tension measurement
+ No vibrations
Do you want to ensure exact directional stability of your clothing and at the same time minimize its wear? The HDU Guide provides for optimal felt and fabric run control and guarantees smooth operation of your paper machine.

Due to various influences, clothing tends to leave its ideal running path, resulting in increased wear. The guiding roll with the low-maintenance HDU Guide ensures precise directional stability of the felts and fabrics in the wet and dryer sections and reduces fabric wear.

**Sophisticated system for malfunction-free operation**

The directional stability is continuously monitored by a sensing device. A pivoted adjusting lever and a spring-compensated adjusting cylinder in the HDU Guide govern the control roll in case of deviations. They thus force the clothing back into the proper running direction. After even the smallest deviations are detected by the sensing device, only very small compensatory motions are necessary. No compressed air is required in the center position of the sensing device. In addition, pressure springs in the actuating cylinder hold the roll in position even with a loss of pressure.

**Flexible use for various requirements**

To minimize the effects of rolls that are not optimally aligned and uneven expansion of clothing, the HDU Guide can be fitted with base adjustment as an option. This allows the guide to be moved quickly and easily in machine direction. Due to the special operating conditions, Voith has developed another option for use of the HDU Guide in the dryer section: the motorized base alignment with additional remote display, which allows to monitor the actuating position of the guide from a screen in the control room.

**Area of application**

The HDU Guide can be used in the forming, press and dryer sections and can be attached in the most varied positions in the paper machine. Even a vertical or over-head installation is possible.
Fabric edge scanning in the wet and the dryer section

- In the wet section or with low speeds in the dryer section
  - Uno tracer on the side of the controller
  - Paddle arranged perpendicularly to the fabric, with freedom of inward and outward motion

- At high speeds in the dryer section
  - Duo tracer on operator side and drive side
  - Paddles arranged perpendicularly to the dryer fabric, with freedom only of outward motion
  - Dryer fabric mostly runs without contact between the paddles

Your benefits

- Reliable directional stability of the clothing provides for malfunction-free operation
- Low-maintenance due to a very rugged design and low-wear motion elements
- Low operating costs thanks to low air consumption
- Pressure springs in the actuating cylinder also allow functioning in case of compressed air failure
- Wear of web edges extremely low, thus longer fabric service life
- Base alignment can compensate negative running characteristics of the fabric caused by rolls that are not optimally aligned
Are you tired of unreliable controller functioning and the resulting wear on the clothing of your paper machine? With the HDU control system upgrade, you save resources, minimize clothing wear and increase machine reliability.

The HDU control system upgrade is an optimization of the pneumatic scanning system in the area of the felt and fabric run controllers in the forming, press and dryer sections. Due to the inexpensive replacement of the pendulum sensor and the associated pneumatic control, wear on the clothing can be reduced, downtimes and operating costs can be minimized.

Rising operating costs due to old scanning systems
Older pneumatic scanning systems are often worn and no longer able to deal with today’s greatly increased machine speeds. The consequences are higher consumption of compressed air and unreliable operation of the controller, which can lead to a high degree of fabric wear. In order to counteract this, more frequent maintenance is necessary, which leads to higher operating costs.

The simple and inexpensive solution
With the HDU control system upgrade, the entire control system is not replaced, but instead only the pendulum sensor with the associated pneumatic control. A simpler rebuild is the result, which at the same time is an inexpensive alternative.

Area of application
The HDU pendulum sensor with control can be mounted on many of the pneumatic controller makes used in paper machines. However, a prior technical check is required.
Low-wear functional principle
The pendulum sensor continuously monitors the path of the clothing. In the wet section the paddle is constantly pressed to the edge of the fabric or felt with little contact force, so that the contact is never lost. In contrast to this, contactless double scanning takes place in the dryer section starting at a machine speed of 1,200 m/min. The pendulum sensor is used here both on the operator side as well as on the drive side.

In both cases the paddle follows the clothing if it runs out of the web and opens one of two valves. The controller system is activated and carries out a corrective motion of the control roll by means of compressed air, so that the clothing is brought back into the correct running position. Reliable directional stability of the clothing is thus ensured and clothing wear is reduced.

Your benefits
+ Reliable directional stability of clothing
+ Low investment costs
+ Saving of resources
+ Minimal consumption of compressed air
+ Low operating costs
+ Low-maintenance due to low-wear motion element characteristics of the fabric caused by rolls that are not optimally aligned
Run-out alarm
Reliable protection against damage

Do you want to be certain that your fabrics or press felts, in case of a failure of the controls, cause no damage? Our run-out alarm ensures this.

Reliable alert system
The run-out alarm can be used in the forming, press and drying sections of tissue, board and paper machines. It is a contactless management of the fabric position across the machine.

One unit will be placed on the tender side and one will be placed on the drive side. For maximum safety there is a switch for the alert and a separate switch for the shutdown in each unit.

Functional principle
The run-out alarm controls, with a mechanical lever on the tender and on the drive side, the position of the fabric edge. If the fabric starts to leave the machine, the fabric edge touches the lever and activates an electronic contact. Due to this contact, an alert is triggered. If the fabric goes even further in cross direction, another contact will be touched and the drive will be turned off in this section.

Your benefits
+ Increased safety
+ Decrease in accidents
+ Prevention of bigger damages
+ Usable in wet and dry areas
Over 7,900 installations worldwide speak for themselves

HDU Guide
6,508 installations

SensoTension P
263 installations

SensoTension LC
305 installations

SensoTension DE
862 installations