



SmartLX

Optical Consistency Measurement for Mechanical Pulp

Reliable measuring principle brings mechanical pulp flows under control



SmartLX transmitter with its simple and reliable design provides consistency measurement in mechanical pulp processes without routine maintenance.

Thanks to its measuring principle, the transmitter gives a quick, sensitive response to small consistency changes.

It is not affected by flow rate variations and can therefore be installed both in laminary and turbulent flow.

Built-in compensation ensures that changes in the temperature of pulp or measuring electronics does not cause disturbances in the measurement. SmartLX is suited for all pulps consisting

of a single grade or containing a fixed filler ratio, in consistency range 0.5...5 %Cs. SmartLX is also a good choice for a variety of low consistency (0.5...2% Cs) measurements in SWG, TMP, PGW and CTMP plants – including measurements to screens, outlet from latency removal chest, or screen rejects.



Specific curves for different pulps are stored in the memory of SmartLX. This ensures easy calibration: in most cases one-point calibration is enough as the transmitter electronics handles the linear calculations.

Experience and focused product development guarantee reliability

We have been a trusted consistency measurement supplier to the paper industry for nearly 50 years. Close cooperation with our customers and research institutes combined with strong research and development input have enabled us to launch the world's leading consistency transmitters and samplers.

For some consistency measurement needs, transmitters based on optical measurement principles are an effective solution. Optical consistency measurements have been in our product range since 1982.

Now Metso Automation introduces a new optical consistency transmitter designed primarily for mechanical pulp processes.

The SmartLX operates in the electromagnetic near-infra-red area, using the ability of fibers to scatter and absorb light. The measurement has been designed

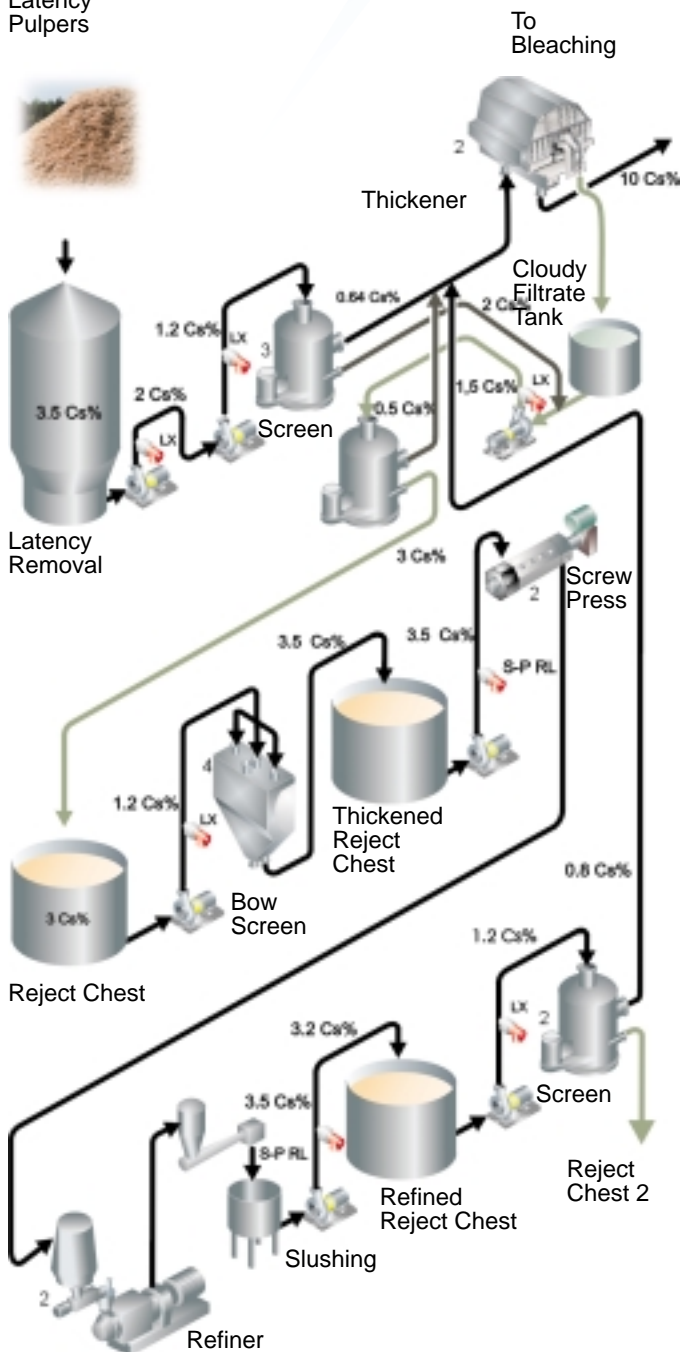
specifically for mechanical pulp processes where the shear forces caused by the fiber flow are too small for shear force based transmitters.

According to today's standards, SmartLX is provided with HART communication, and it is also AMS compatible (Asset Management Solutions field control system).



Production rate of TMP is controlled in this position using consistency and flow readings. Often the production rate varies a lot, up to 1:3, depending on the production demand.

Refiner Chip Pulp from Latency Pulpers



PM runnability is the first priority

Applications in GW and TMP lines

Stabilizing the dewatering capacity of the forming section is a vital prerequisite for good PM runnability. One key factor contributing to this is to make sure that the properties of the slurry entering the former are under control and in keeping with the expected end product quality. In practice success is dependent on drainage on the forming section, in other words the refining degree or freeness of the pulp. Freeness is controlled in the refiners and grinders, ultimately in screening. Effective freeness control requires that the consistency and flow rate of the pulp entering the screens must be measured and controlled reliably.

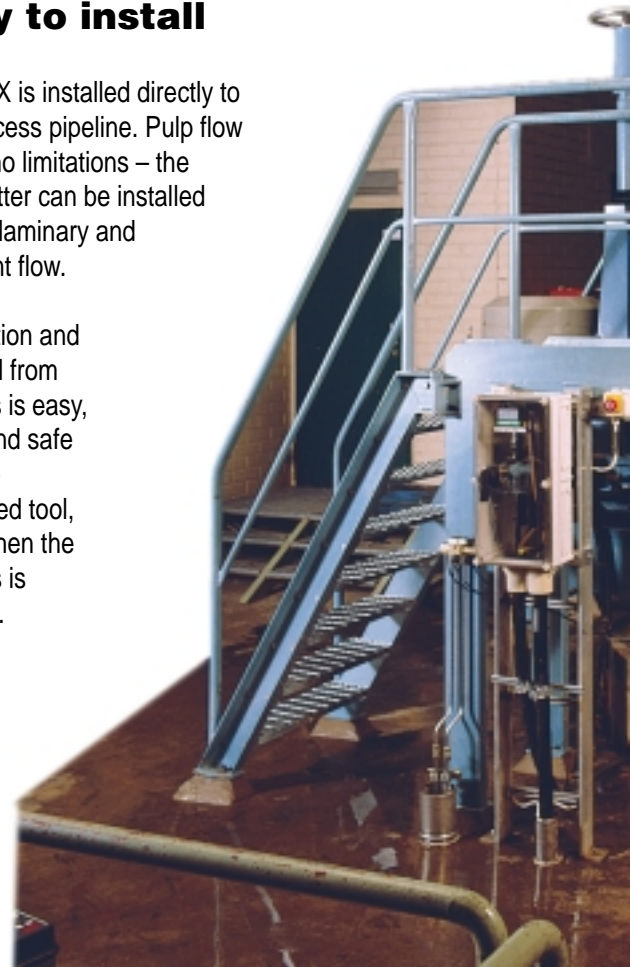
Consistency control is one of the key factors throughout the process, from SEC control to screen feed where it ensures that the screens are always operating at optimum level. SmartLX has been developed to meet the specific measurement needs of these applications.

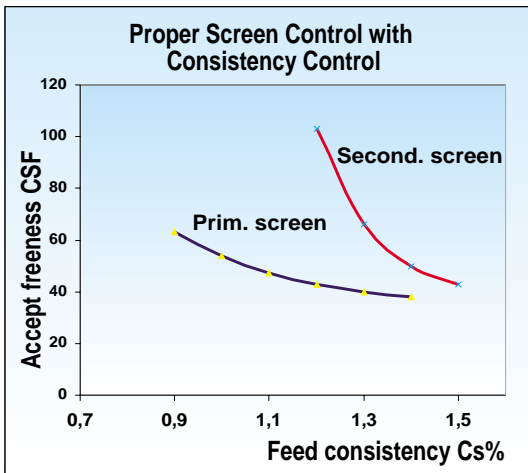


Robust construction, easy to install

SmartLX is installed directly to the process pipeline. Pulp flow poses no limitations – the transmitter can be installed both to laminary and turbulent flow.

Installation and removal from process is easy, quick and safe with the dedicated tool, even when the process is running.



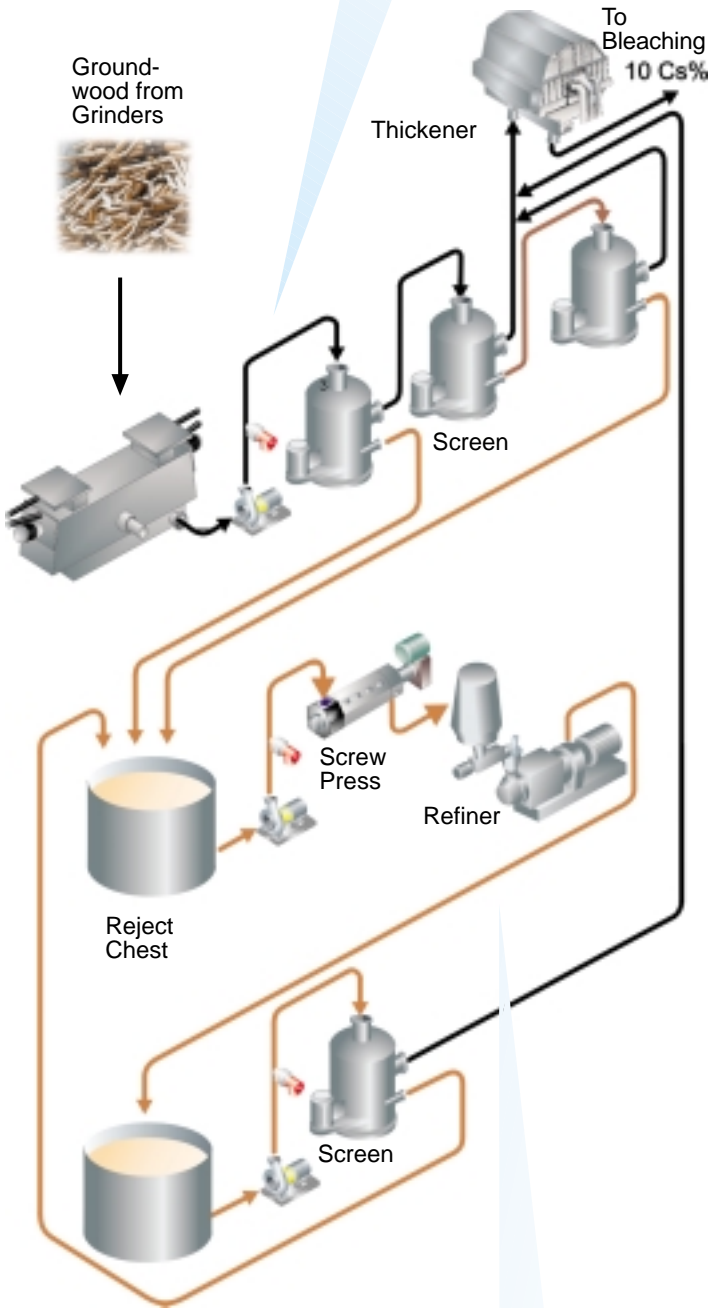


Consistency control of screens is essential when it comes to fiber properties such as freeness, fractions and shives. Variations of these properties cause runnability problems on the paper machine. Typical consistency range is 1.0...1.7% Cs, which is too low for mechanical consistency transmitters.

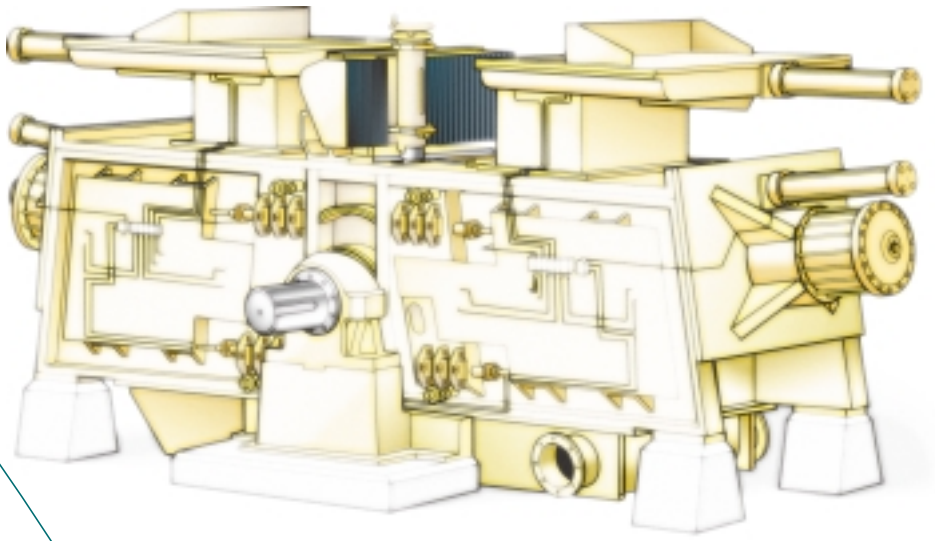


Feeding of primary screen requires accurate consistency control. Typically the consistency setpoint is 0.9...1.3% Cs.

This is very important for machine runnability. Screening has an effect on pulp freeness, fractions and shive content.



Reject pulp contains the strongest fibers in GW pulping. Reject refining has to be controlled properly, otherwise adequate strength properties of mechanical pulp cannot be reached. The setpoint is typically 3...5% Cs.



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