Application

Making Paper

ioSelect
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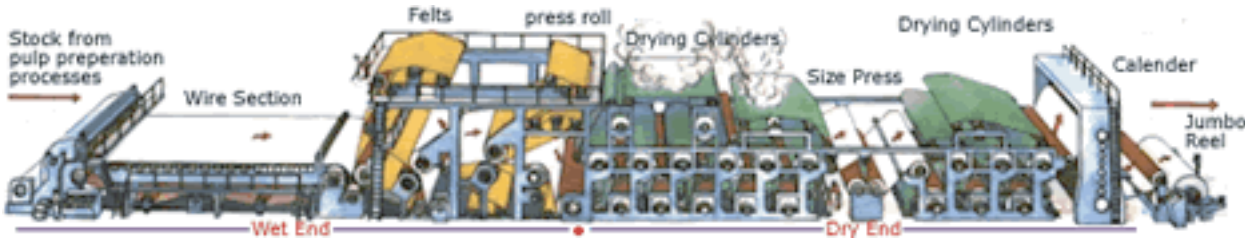
Ancient Egyptians invented the first substance like the paper we know today called Papyrus. Papyrus scrolls were made by taking slices of the inner part of the papyrus stem, flattening and then pounding them into a hard, thin sheet. The word "paper" comes from the word "papyrus". The paper that we know today was invented in 105 A.D., It is believed that it was first made by mixing hemp, mulberry bark, and rags with water. The mixture was mashed it into a pulp then the liquid pressed out and hung it to dry in the sun. Paper was born and this humble mixture would set off one of mankind's greatest communication revolutions.

Paper manufacturing has changed only slightly since 105 AD. Paper is mass-produced by massive machines. The massive machines produce massive rolls of paper. The paper making process must be controlled in order that rolls of paper can be produced with out a crinkle, a tear or a large piece of wood ending up in your toilet paper.

Once the pulp is put on the paper machines a process of drying begins. Temperature, speed and tension are the variables available to control the process. Neither speed nor temperature will change rapidly due to the inertia of the rollers. The tension can change rapidly and must be finely controlled.

Tension is measured with a strain gauge. Strain gauges are installed at both ends of each roller and the tension is controlled from roller to roller and end to end on the roller. Some rollers are fixed in place, others are able to move to increase or decrease the tension on the paper as it moves through the machine. ioSelect offers strain gauge signal conditioners with adjustable response times which allow the paper manufacturing engineers to get the desired response at each point in the process.




AP4051


SP448


UP448


A6-2CF

The AccuPak AP4051 provides filtering with its <100 millisecond (ms) response time and offers accuracy of 0.15%. The SelectPak SP448 response time is selectable from 167 to 40 ms and offers an accuracy specification of 0.02%. The UniPak UP448 repsonse is adjustable from 80 to 6.6 ms with an accuracy of 0.02%. The e.bloxx A6-2CF offers an adjustable response down to 1 ms with an accuracy of 0.05%. Each unit provides the flexibility to work with any strain gauge and any control system. The paper making machine engineer is able to balance price with performance to optimize the cost and ensure the quality of the final product.

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