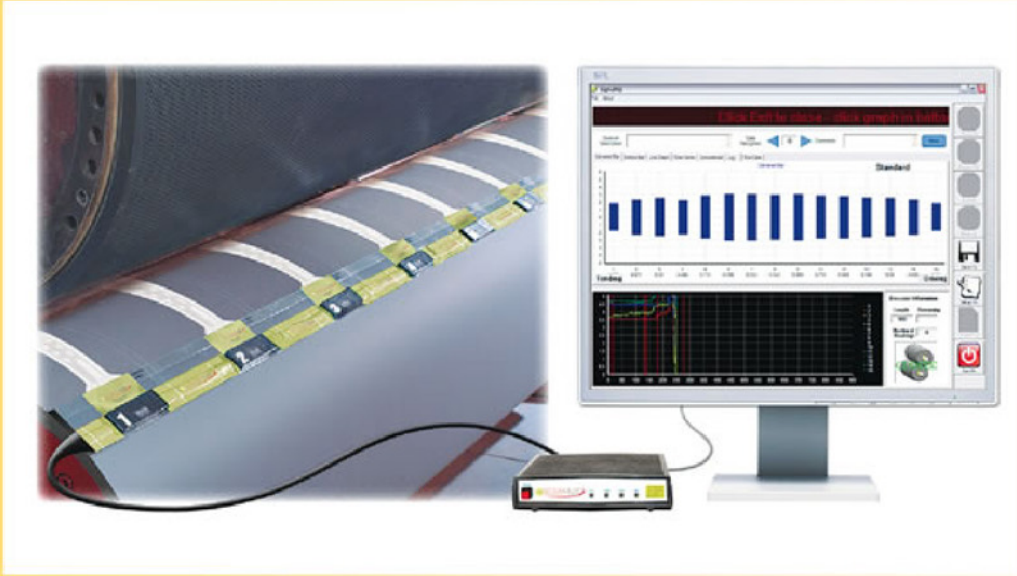
Analyse nip condition electronically in real time

An advanced electronic nip analysis system that measures roller profiles and diagnoses roll alignment with what is described as unprecedented speed and cost-effectiveness has been launched by Sensor products.

Sigma-Nip records nip width and is said to render obsolete time-consuming and inexact tools such as carbon paper and embossed foils. With its use, loading problems, skewing, and crown deficiencies can be identified with more precision and durability using a more powerful software user interface than before.

The system consists of a chain of sensor elements based on Windows software. The sensors can withstand repeated high pressures and temperatures as well as routine exposure to grease and solvents.



When placed between two contacting rollers, the sensors capture data and ultimately record and assimilate nip width readings on a laptop in real time. Adjustments to rollers are made in real time while the sensors are in the closed (non-rotating) nip.

Easy-to-interpret statistical data and graphical displays, which are being transmitted via wireless or through a USB port, update continuously as technicians perform their tests and adjustments.

Taking only minutes to deploy across the roller face by one person, Sigma-Nip is also useful for ongoing maintenance, as well as during equipment setups and shutdowns. As a quality control tool, Sigma-Nip facilitates evenly-loaded roller sets that are much less likely to cause web breaks and costly down time. It improves web control and print quality by reducing uneven paper pulling, which can lead to sheet walking, wrinkles, jams and misregistration. By virtue of routine tests, Sigma-Nip allows the user to greatly extend blanket life.

"Sigma-Nip has come a long way from concept to being a reliable, easy-to-use nip profile measuring tool," according to Mike Stoltz, senior product manager at Metso Paper (USA). "Being able to save and review the entire real-time data from nip closing to nip opening is extremely useful, however, the ability to correlate accurate nip width data to roll deflection is an exceptional benefit." Metso Paper partnered with Sensor Products Inc in the development of Sigma-Nip.

Another user, Mike Estelle, electrical engineer at Agfa Graphics, which makes newspaper printing plates, said: "We are using Sigma-Nip on all our production lines and have made adjustments which allow us to properly align our rolls for the even transport of our web.

"In the past, we adjusted air pressure for nip but didn't have the feedback mechanism to ensure we were doing this precisely. Through Sigma-Nip, we have established a baseline for our rollers and we will use Sigma-Nip frequently throughout our plant."

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