

## Honeywell Laser Caliper Improves Paper Quality and Production Visibility



“The Honeywell team took a new technology that had potential for Kanzaki and made sure it would work for us. They worked through the trials, and we worked out how to use this new technology. After we all learned how to interpret the laser vs lab information, we are happy with the results.”

Representative, Kanzaki Specialty Papers

Kanzaki Specialty Papers (KSP), based in Ware, MA, USA, has been a user of Honeywell QCS systems for the past 20 years. In 2005, KSP replaced their 15 year-old Measurex Vision QCS system with a new Da Vinci QCS system.

One key feature of the new Da Vinci QCS System is the inclusion of the Laser Caliper for use on their OMC20 coating line.

- Laser Caliper can measure caliper without contact to sheet; for KSP’s product, it means they can control quality of the thermally sensitive paper without heat generated from contact friction.
- With the Laser Caliper, the QCS can deliver scan-by-scan, edge-to-edge caliper information on every roll.
- Process upsets are easily managed, and production procedures are easier to coordinate with this high resolution, high availability information of caliper to the operations department.
- Thermal image is easy to develop at production speeds on line. With consistent use over a year, no contact results in comfort knowing there is no chance of spoiling the product.
- No production spoilage is proven for 1- and 2-side coated products at KSP with the Laser Caliper; enabling new product development opportunities.
- KSP has awareness of their process on every scan, instead of once a few reels of production.

### Background

Kanzaki Specialty Papers (KSP) produces surface coated papers for use in the digital imaging arena. They are commonly found in applications such as point-of-sale receipts; parking and lottery tickets; airline boarding passes and baggage tags; even medical applications such as electro-cardiogram papers.

### Challenge

One of the final quality parameters is caliper. When someone opens a 200-ft long roll, they expect at least that much usage from the roll. Run-length is an important value measurement for direct thermal printer users. In practice, when producing paper, typical output measurement is based on weight, or tons. When jumbo rolls are cut into widths of 1-2” rolls, used in cash registers, consistent caliper is absolutely critical to meeting end-user satisfaction.



Direct thermal printing papers used as cash register receipts.  
[Stock.XCHNG]

Traditional caliper measurement has been lab-based with a contacting device. While the lab method is well accepted, it is a labor intensive measurement done off the production line. The process of the measurement itself adds some error, is limited in width resolution, and slow in response time. It has been a Quality Control method, rather than a process optimization method.

Another method of measurement, done on the production line, replicates the lab process, requiring specially designed, low pressure contacting devices to measure caliper, with good results. For Kanzaki, this is not an acceptable method. Heat generated from contact friction on a moving line will develop the thermal coating products, and spoil products.

### Solution

In 2005, when the aging Vision system is replaced by a Da Vinci QCS system, Kanzaki accepted the opportunity to try Honeywell's new Laser Caliper. Looking for a simple proof that the Laser Caliper will not contact the sheet, Honeywell and Kanzaki entered into a trial.

"We have an excellent on-site Process Engineer / Service Technician," says a Kanzaki representative. "We received excellent process development and direct hands-on maintenance of the new Laser Caliper. Being a Honeywell service representative, we will also yield the best value from our process and equipment for years to come."

Upon acceptance of the sensor, "we have learned more about our process that was not intuitive to us when we did not have online caliper measurement", says a Kanzaki representative. That trust was built with a series of trials. A

### For More Information

To learn more about how Laser Caliper Measurement can improve your production and quality management and control, visit [www.honeywell.com/ps](http://www.honeywell.com/ps) or contact your Honeywell account manager.

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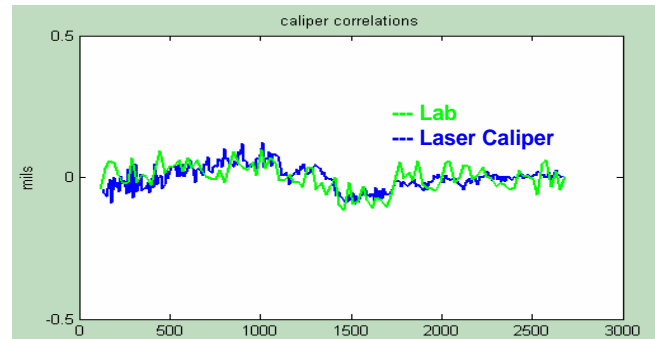
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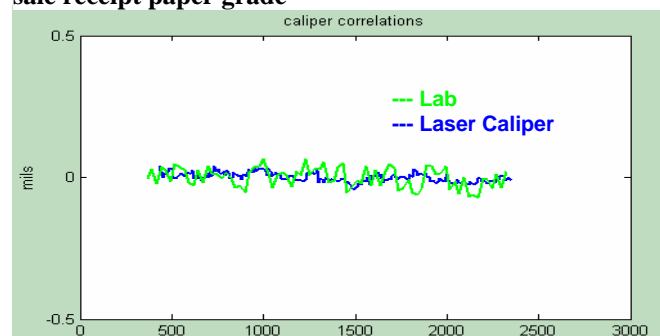
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lot of work went into collecting the lab measurement, and comparing with the online non-contacting Laser Caliper sensor measurement. Once all the details were sorted out it became evident that the new way of measuring the process was worthy of that trust.

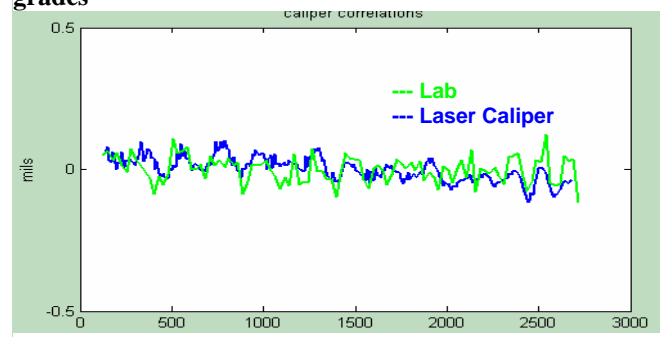
With acceptance of the Laser Caliper, and fully adopting it into their day-to-day operations, Kanzaki has gained additional insights into their process from the uncoated parent roll unwind, through the coater, and to the winder.



**Figure 1 - Agreement comparison on a typical Point-of-sale receipt paper grade**



**Figure 2 - See edge agreements for normal and narrow grades**



**Figure 3 - Agreement comparison with different grade and different base sheet parameters**

**Honeywell**