

INN@SEN

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QUALITY ASSURANCE FOR METAL PACKAGING

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EDITOR'S NOTE

Hello everyone, this is Nina, Innosen's Editor-in-Chief and the marketing geek behind all our fun posts on LinkedIn, newsletters and website. I hope you don't tire from reading our articles and blogs as I write my best to provide you with my personal insights and thoughts of my journey in the metal packaging industry. Please stay tuned and be informed.

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INNOSEN

in a nutshell

Our company's mission is to help the metal packaging industry produce the best quality products with the least amount of effort, money and resources.

We make this happen by providing them innovative sensors that would minimize their production downtime and maximize efficiency.

Our history involves working closely with our partners to make sure we understand their needs before developing solutions for each specific problem. In fact, our sensors are products of our close and meaningful partnership with our clients. We always introduce our products with THEM and for THEM.

Innosen has been there to deliver solutions to production issues like the formation of double sheets, skewed sheets and missing tabs to name a few. With Innosen, no matter how big or small the problem is, it's always a CAN do.

What better way to help the metal packaging industry become more efficient than providing Innovative Sensors for their production needs?

Avoid downtime. Choose Innosen.
Your Partner in Quality.

Innosen Revolutionizes the Film Weight Measurement Yet Again

by Releasing the Enhanced Version of the Industry Standard — IS9651 Hoverprobe II



IS9651 Hoverprobe II with stronger and more durable cables with polyurethane jacket.

Innosen, the global leader and pioneer in developing the industry's best film weight measurement tool, has released the newest version of the Hoverprobe — the IS9651 Hoverprobe II.

This tool was designed with precision to minimize operator variance experienced by a lot of can makers when measuring the lacquer thickness applied on metal sheets.

The enhanced Hoverprobe II has a new scratch-resistant metal base plate that serves as an alternative metal sheet contact instead of a crocodile clip — an industry-FIRST and ONLY innovation.

Innosen's newest sensors are the only ones to offer protection against lacquer and label defects

We are excited to announce that Innosen have launched new, innovative solutions and upgrades of products that you've depended on for decades at the Metpack 2023! Our R&D team has been hard at work to bring our customers the latest technology, designed to make your operations faster, more efficient, and more profitable.

NEW

FIRST IN THE MARKET

Missing Side Seam Lacquer Detector IS670

A self-calibrating sensor that is used to detect missing external lacquer on the side seam. This sensor protects against rusting of side seams that can lead to leakage.



NEW

FIRST IN THE MARKET

Inverted Can Label Detector IS625

Another new product and an industry-first-and-only technology for detecting cans with label and color defects, saving you time and money.



NEW

Aluminium Capsule Stand for Enamel Rater IS9018

A highly flexible and multi-featured enamel rater for aluminium capsules which is a cost-effective solution for the metal packaging QA lab.



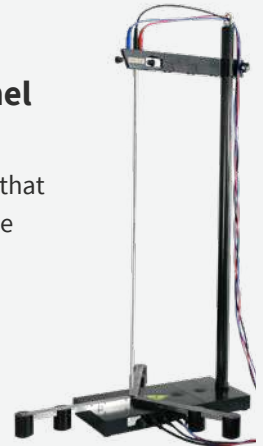
NEW

Large Can Stand for Enamel Rater IS9015XXL

An ultra-robust enamel rater stand that can support large cans which can be used with semi-automatic filling system that manages adding and removing electrolytes.



© : Rebice S.A.



IS9651 Hoverprobe II **UPGRADE**

This is the pioneer in coating thickness measurement and offers unparalleled accuracy and precision.

New features of this leading product include:

- ✓ New metal-base plate
- ✓ Durable cables
- ✓ Easily replaceable probe tips
- ✓ Faster probe tip settling time



First and only in the market:

Innosen's newest sensor offers protection against lacquer defects on side seams

Innosen, which stands for Innovative Sensors, continues to bring more innovations in the metal packaging industry as it launches the IS670 Missing Side Seam Lacquer Detector – THE FIRST OF ITS KIND IN THE MARKET.

**THIS SENSOR
TAKES YOUR
WORRIES
AWAY ABOUT
UNDETECTED
UNLACQUERED
EXTERNAL
SIDE SEAMS!**

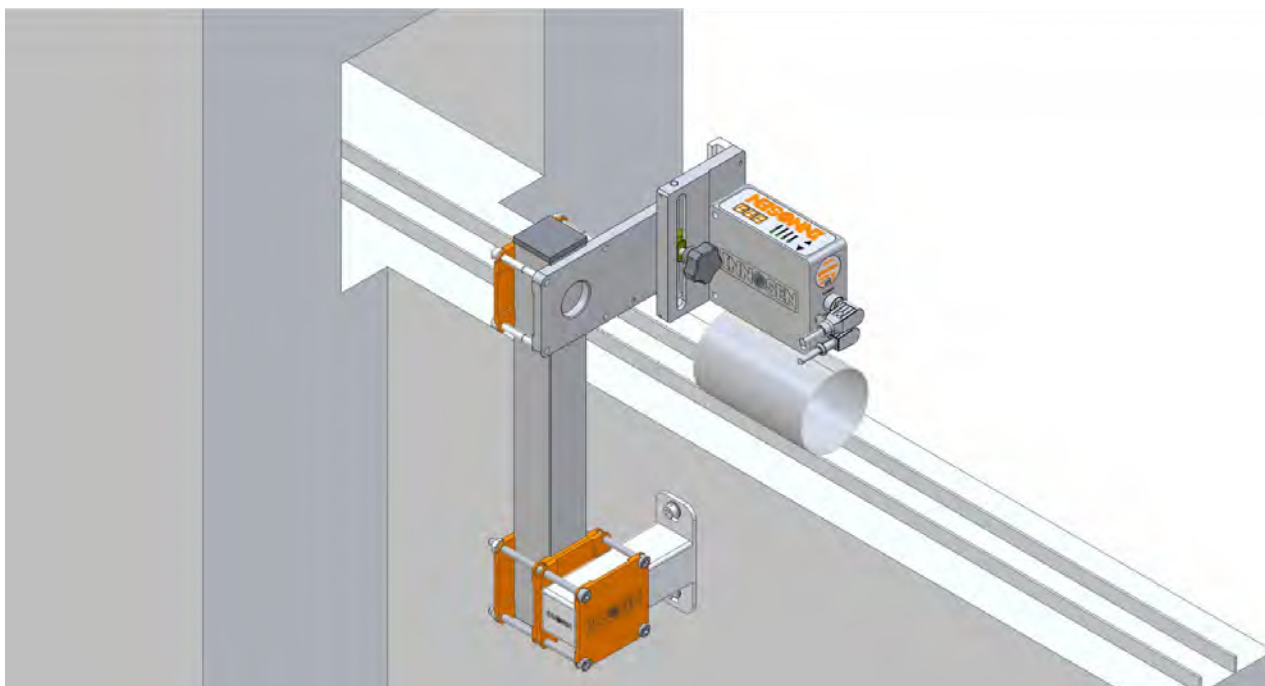


Innosen always takes up challenges and has pledged to dedicate its team to come up with the most innovative solutions for its clients. That is why over the years, the company has striven to produce sensors that offer full protection to 3pc-cans such as the IS231 Double Sheet Detector, IS651 Missing Lacquer Detector and IS631 Inverted Blank Detector.

The IS670 Missing Side Seam Lacquer Detector is yet another sensor that protects can makers from getting the worst customer complaints they could ever get --- leaking cans!

The IS670 Missing Side Seam Lacquer Detector is designed to detect a completely missing external lacquer and an incomplete or non-lacquered gap on the side seam of the can.

A **side stripe** is a transparent lacquer applied on the external side seam of the can to protect it from corrosion. Any damage on the side seam is considered a major defect in cans --- unprotected side seam causes extreme damage like can leakage and worse, product recall due to customer complaints.



The IS670 is best installed after the lacquering station or before the curing station. Once installed, can makers are guaranteed that the side seam of the cans are fully protected all the time. It works on all kinds of lacquers including transparent and colored ones.

The sensor also detects twin welded can bodies with configurable output pulse width and delay for PLC settings.

Contact us at info@innosen.com for more details.

ASK US HOW TODAY. For more information about Innosen and its products, visit www.innosen.com or contact us at info@innosen.com

The IS670 Missing Side Seam Lacquer Detector is available to canmakers worldwide since February 2023.

Competitive features include:

- ✓ Self-calibrating
- ✓ No controller needed
- ✓ Stainless steel housing
- ✓ Circuit resistant to shock, vibration, and humidity
- ✓ Compact and narrow for convenient installation
- ✓ Provides reject signal if no lacquer is detected
- ✓ Gives heartbeat signal to ensure equipment is fully operational
- ✓ Configurable output pulse width for PLC settings
- ✓ Configurable High and Low Frequency Reject warnings for quality assurance metrics

UNDERSTANDING *UV Curing* BETTER

The use of UV technology has advanced the metal decoration industry in several ways. It has elevated product quality and increased process efficiency and productivity compared to the traditional curing method. The most notable improvement that UV inks have shown is product aesthetics. Colors are more vibrant, details are more emphasized and the product aesthetics is very well protected from print damage.

All these benefits come with the technological breakthrough of the use of UV light. However, these benefits and advantages can only be fully enjoyed if the UV curing process is at its optimal performance. The challenge lies in being able to provide for the unique requirements of UV curing technology. To make sure the UV curing process is running efficiently, one needs to monitor 2 parameters of the process: **The energy and the power.**

The **Energy (Joules)** is a measurement of the total number of photons that hit a certain surface of the substrate in the UV oven.

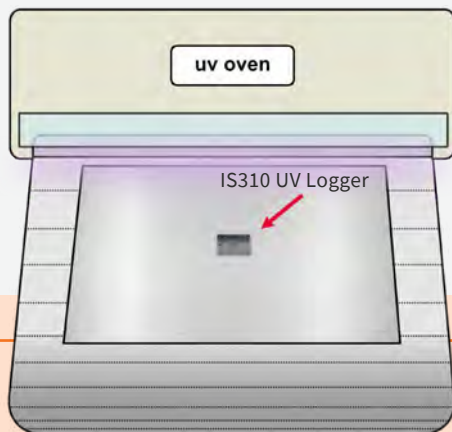
The **Power (Watts)** is how many photons hit that certain surface per second. Quite often, it is the power that gets the UV lacquer cured.

Maintenance requirements, therefore, include monitoring both UV energy and UV power levels to ensure they are high enough to cure the lacquer on the metal sheets properly. This means that when UV levels decrease, it should immediately be noticed and corrective action should be taken. It might be possible to increase the lamp current and the oven might still be able to fulfill its function without sacrificing product quality. Only when the lamps can no longer be adjusted should they be replaced as UV lamps are expensive. Early and unnecessary replacement is not desirable from either a financial or environmental point of view (only non-LED lamps contain mercury).

Not replacing the lamps when they should be is not an option either as uncured sheets can cause problems in the downstream processes or worse, product rejects and even customer complaints.

Tool for preventive maintenance

The solution is to use a device that measures the UV levels to make sure that all curing parameters are correct, avoiding unnecessary problems and costs. A radiometer may be used to measure these UV levels. But to measure the UV levels in a curing oven without disrupting the production process, the device must be small enough to fit into the opening of most UV ovens and compact enough to be at the level closest to the substrate. While there are several kinds of radiometers presently available in the market, they usually fail in terms of size — too bulky to fit into small clearances and too expensive.



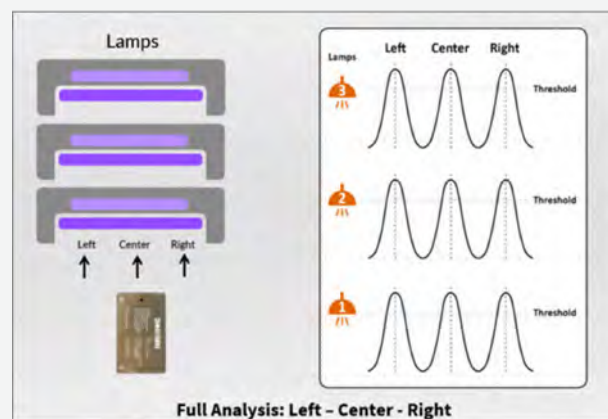
Innosen provides 3pc can makers worldwide with the perfect product that addresses these problems in the curing process.

The IS310 UV Logger is a low-cost radiometer that is the size of a credit card, and small enough to fit even the smallest clearances.

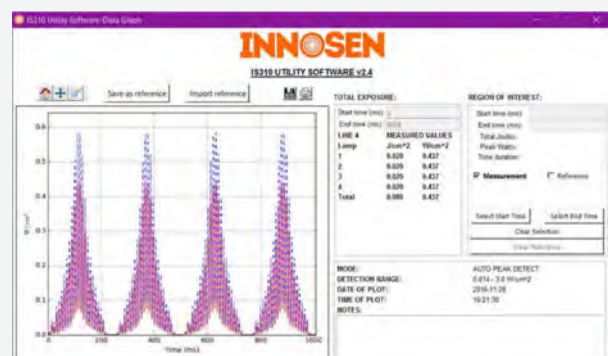
The IS310 UV Logger measures the UV Energy (J/cm^2) and the UV power (W/cm^2) received by a metal sheet when passed through a UV curing oven. It then shows the measured values on an LED Display. It is thin enough to fit clearances as small as 6mm. The IS310 has a compact design that can withstand radiation as normally found in a curing oven.



In addition, the IS310 UV Logger can determine if UV levels have decreased (or deteriorated) by comparing the present reading to a user-stored reference value and displaying a percentage difference. The UV Logger can monitor and display data of individual lamps. It can also store these values for multiple lines.



This enables the user to determine the trend towards low UV levels and can be used to improve overall process quality and efficiency. The IS310 is capable of saving the last oven reading, for data downloading on a computer.



For more information about the IS310 UV Logger, check out the Innosen website at www.innosen.com or contact info@innosen.com.



Innosen continues to bring more innovations in the metal packaging industry after the launch of its 2 newest sensors that are a FIRST OF ITS KIND IN THE MARKET.

INNOSEN AT METPACK 2023

Metpack, the largest event dedicated to the metal packaging industry held in Essen from May 2-6, provided the perfect platform for Innosen to showcase their latest advances in the quality assurance category of the metal packaging industry. Among the highlights were the remarkable IS670 Missing Side Seam Lacquer Detector and the IS625 Inverted Can Label Detector, which are set to boost the industry's quality standards.



BIGGEST CROWD IN HISTORY

Innosen is a Dutch-owned company founded by Luc Nelen with offices in Spain, the US, Hong Kong and the Philippines. The company has been developing quality assurance sensors for more than 25 years now and has helped can makers worldwide achieve a more efficient production. The company's presence at the event was made known to industry giants, innovators, and decision-makers from around the world as their booth stood out with its eye-catching product demonstrations.



IS670 MISSING SIDE SEAM LACQUER DETECTOR: REVOLUTIONIZING QUALITY CONTROL

One of Innosen's most anticipated product innovations is the IS670 Missing Side Seam Lacquer Detector. This is yet another sensor that protects can makers from getting the worst customer complaints they could ever get — leaking cans! The IS670 is a self-calibrating sensor used to detect missing external side stripe on 3pc cans. This sensor is best installed after the lacquering station or before the curing station and works on all kinds of lacquers including transparent ones. By promptly detecting cans with missing lacquer on its side seams, can makers can prevent quality issues, improve efficiency, and uphold their reputation for delivering quality products to consumers.

IS625 INVERTED CAN LABEL DETECTOR: AN INDUSTRY FIRST AND ONLY TECHNOLOGY

Another sensor that Innosen unveiled during the event is the IS625 Inverted Can Label Detector. This sensor opens an entirely new approach to label inspection, enabling can makers to detect cans with inverted labels and wrong decorations. The IS625 detects errors in label orientation, ensuring that every can produced meets the highest standards. This newest innovation saves can makers from costly recalls, eliminates spoilage, and reinforces consumer trust.



COMMITMENT TO INNOVATION

By introducing these innovative sensors and equipment, Innosen empowers can makers to enhance their production processes, alleviate risks, and deliver products of the highest quality to customers.

The company's unwavering commitment to innovation sets them apart as a trusted partner for metal packaging professionals seeking to elevate their quality control processes.

With a strong focus on research and development, the company consistently pushes the boundaries of what is possible because with Innosen, it's always a CAN do.

INNOSEN'S LATEST PRODUCTS

In addition to the IS670 Missing Side Seam Lacquer Detector and IS625 Inverted Can Label Detector, Innosen introduced several other products at Metpack, showcasing their impressive line-up of quality assurance equipment and sensors that cater to the evolving needs of the metal packaging industry.

One of the standout products from Innosen was the IS9651 Hoverprobe II, which offers enhanced accuracy and efficiency in coating thickness measurement. This is an upgraded version of an industry standard, brought to the market 25 years ago!

Recognizing the growing demand for efficient enamel rating, Innosen presented the IS9015XXL Large Can Stand for Enamel Rater at the event. This newest addition to Innosen's family of enamel raters supports large cans, ensuring consistent and reliable measurements during enamel rating.

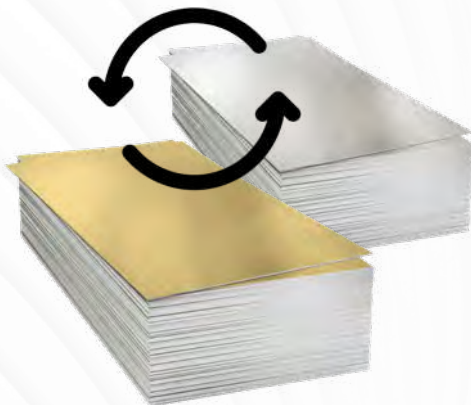
Lastly, Innosen introduced the IS9018 Aluminium Capsule Enamel Rater — a highly flexible and multi-featured enamel rater for aluminium capsules which is a cost-effective solution for the metal packaging QA lab.

Two sources of unnecessary quality cost

If left undetected, these cans could result in rusty pallets of cans, contaminated products and badly corroded or blown cans after filling!

All of which represent higher production cost!

Don't let this problem erode your profits and damage your reputation as a CAN MAKER!



UNDETECTED SHEETS / BLANKS WITH LACQUER ON THE WRONG SIDE

These will end up as inverted cans, resulting in corroded cans.

Let Innosen's **IS631 Inverted Blank Detector** detect this flipped sheet in your line.



SHEETS WITH BIG BANDS OF MISSING LACQUER

These cause corrosion after the filling process.

Let Innosen's **IS651 Missing Lacquer Detector** detect these problematic sheets in your line.



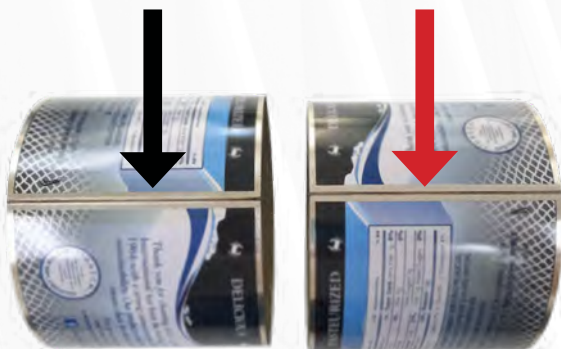
Newest Innovation



Missing Side Seam Lacquer Detector IS670

Detects missing lacquer on the external side seams of 3pc cans.

With Lacquer **Without Lacquer**



Inverted Can Label Detector IS625

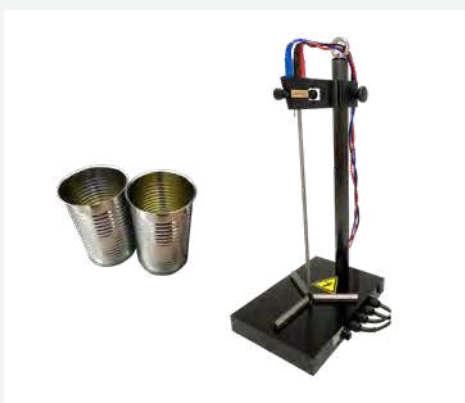
Detects wrongly oriented printed decoration in can bodies, such as upside-down or inside-out.



EXPERIENCE MAXIMUM FLEXIBILITY IN ENAMEL RATING

Have you met our flexible family of enamel raters?

Whatever size you want to rate, Innosen's Enamel Rating family will be able to measure it! Our enamel raters are capable of measuring the coating porosity of whatever can, end and tube size, shape, or material.



Can Stand IS9015

Specifically for a wide variety of can shapes and sizes.



Tube Stand IS9017

Specifically for a wide variety of aluminium collapsible tubes.



Large Can Stand IS9015XXL

Specifically for drums, pails and extra-large cans.



Aluminium Capsule Stand IS9018

Specially designed for measuring the coating porosity of aluminium capsules.



End Adapter IS9020TMR

For ends, caps, cones, domes, and flat sheets of different types, materials, and sizes.



Foil Adapter IS9030

Specifically for thin & thick aluminium foils.



EOE Rivet Adapter IS9025

Specifically for the rivet area of easy open ends (EOE) of different sizes and shapes.

Used together with the SI9100 Semi-Automatic Enamel Rater that boasts of multiple self-test features, you can ensure consistent and accurate measurements at all times.

EXCEPTIONAL FEATURES

- ✓ Reliable semi-automatic operation
- ✓ Self-checking of electrical contacts before and during every test
- ✓ Automatic voltage compensation for better accuracy and repeatability
- ✓ Automatic vacuum control for ease of use and prevention of RSI (repetitive strain injury)
- ✓ Durable and corrosion-proof design for long product life
- ✓ Easily replaceable probe tips
- ✓ Faster probe tip settling time



ADD ON:

IS228B Enamel Rater Switchbox is a switchbox for enamel raters, that allows the users to connect two different enamel rater adapters to the same electronics unit.

Why Double Sheets Should Scare You More Than You Think

When more than one metal sheet enters the production line at the same time, double sheets occur.

Double sheets can be annoying. They disrupt production schedule, affect the quality of your products, resulting in excessive metal spoilage. Double sheets are not just minor quality problems to be overlooked.

Double sheets can badly hurt your business.

1

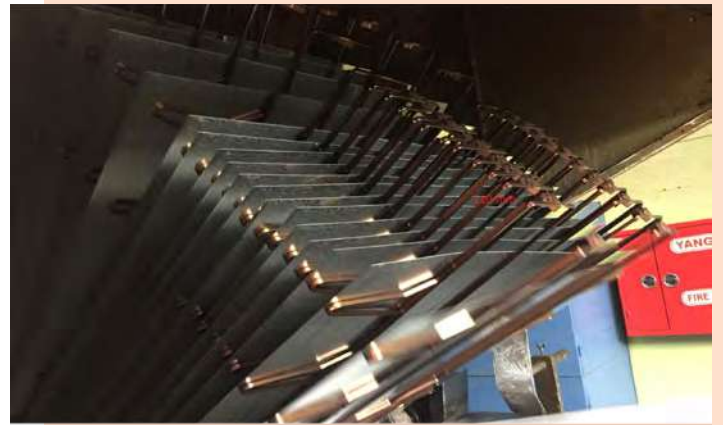
Result in rusting of cans and contamination of contents

With double sheets entering the lacquering or coating line, there will be unlacquered sheets. The lacquer protects the metal surface from corrosion and rusting. When the content of the can comes into direct contact with bare metal, the can corrodes. Corrosion leads to **a)** spoilage of the can content (botulism); **b)** stale can content; **c)** ugly cans that nobody wants to buy and; **d)** contamination of the can's content.

2

You ruin your reputation with your customers

Imagine your customers receiving products in poor condition, or worse, getting your customers into trouble due to contaminated products. This will result in costly complaints and a ruined reputation with your customers. You wouldn't want your brand name to be associated with poor quality.



3

Damage to your machinery

Double sheets can damage the presses. This compromises the performance of your equipment and shortens a machine's life expectancy.

4

Expensive machine repairs and production time delays

When double sheets damage machinery, repairs are very costly and replacing these machines with new ones is even more expensive. Machine damage will also cause downtime and the longer the downtime, the more losses incurred. Imagine how much potential profit you lose.

Several products in the market offer protection against double sheets. But which one is best for you?

Unlike other devices, the IS231 Double Sheet Detector from Innosen protects from overlapping sheets without intruding in the production process. Production goes on uninterrupted while the sensor does its job reliably.



With fully automatic calibration and self-adjusting features, IS231 Double Sheet Detector fully eliminates the need for operator adjustment and time-consuming changeovers.

Benefits of having SUPERIOR SHEET ALIGNMENT SYSTEM

1

Quicker and reliable changeovers essential to plant efficiency

The IS416 Sheet Skew Measurement System gives the operator immediate information about the correctness of position of the roll.

2

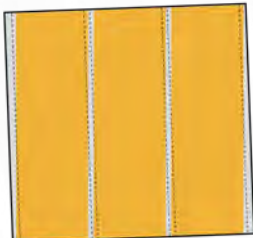
Improved process and increased plant productivity

The IS416's statistical data is available to be used as a basis for implementing performance improvement or planned maintenance downtime and focused training programs.

3

Faster production rates

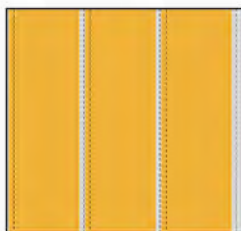
Increase in line speed exposes you to risk of increased variations in sheet alignment. The IS416 can be used to overcome this problem by measuring increments in speed to attain faster production rates.



Skewed or Rotated

IS416 Sheet Skew Measurement System

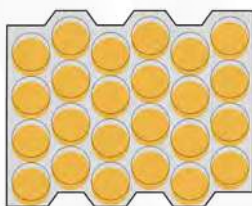
Protects against poorly placed coating by detecting skewed (rotated) sheets at the coater.



Moved Sideways

IS430 Sheet Translation Measurement System

Adds protection against laterally displaced coating (sideways).



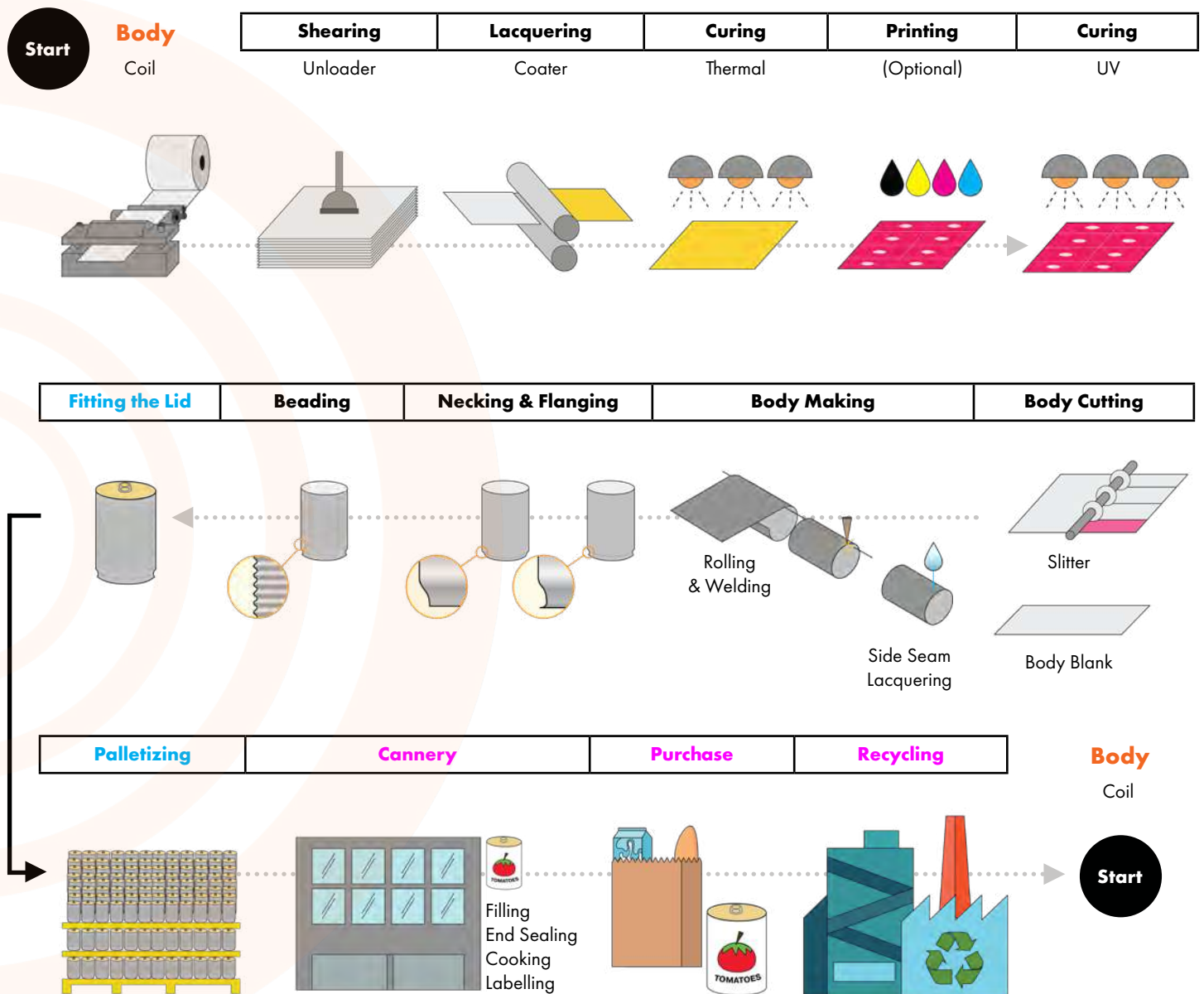
Wrongly timed
Early/Late Registered Sheet

IS450 Sheet Registration Measurement System

Adds protection against poor sheet registration.



THE TOUR



3PC WELDED CANMAKING

PROCESS PROBLEMS & SOLUTIONS

Problems per line:

1. **Coil and Shearing Lines:** Translated coil, sheet length variations (shorter/longer sheets)
2. **Depalletizer/Destacker/Unloader:** Double sheets
3. **Coater:** Double sheets, misaligned margins, contaminated margins, sheets with missing lacquer, increase cost due to lacquer overconsumption, unlacquered side-seam



4. **Curing (Wicket Oven):** Double sheets, margin contamination
5. **Printing:** Double sheets, misaligned prints
6. **Curing (UV Oven):** Uncured printed sheets
7. **Slitter:** Blunting of slitter blades because of double sheets, skewed sheets
8. **Welding:** Weld wire breakage, lacquer presence, downtime, inside-out cans, poor weld quality, inverted can labels



Recommended sensors for each line:

1. Coil & Shearing Lines

- Coil Translation Measurement IS1270
- On-line Sheet Length Measurement IS1260

2. Depalletizer/Destacker/Unloader

- Double Sheet Detector IS231

3. Coater

- Double Sheet Detector IS231
- Sheet Skew Measurement System IS416
- Sheet Translation Measurement System IS430 MK II
- Sheet Registration Measurement System IS450
- Missing Lacquer Detector IS651
- Missing Side Seam Lacquer Detector IS670

4. Curing (Wicket Oven)

- Double Sheet Detector IS231
- Oven Logger for Welded Can Lines SL2000

5. Printing

- Double Sheet Detector IS231

6. Curing (UV Oven)

- Double Sheet Detector IS231
- UV Logger IS310

7. Slitter

- Double Sheet Detector IS231
- Sheet Skew Measurement System IS416
- Sheet Translation Measurement System IS430 MK II
- Sheet Registration Measurement System IS450
- Plain Margin Inspector IS610

8. Welding

- Inverted Blank Detector IS631
- Inverted Can Label Detector IS625

QUALITY MAKES QUALITY

The quality of the product you make is greatly dependent on the quality of the tools/sensors you use. Producing a can is easy but producing one with quality your customers will accept needs quality sensors.

Innovative sensors not only make quality sensors but help create an efficient process and positive production yield.

The core characteristic of Innosen sensors is quality. This is reflected in the ingenious versatility of each system that makes sure you get the value you deserve and paid for.

These sensors were designed from partnerships with can makers. You can now say that these sensors know exactly how to solve production issues whilst ensuring an uninterrupted process.