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ISHIDA'S POINT OF VIEW

October 2018

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WINNING KYOTO INVENTORS AWARD

Toshiharu Kageyama, mechanical engineer of ISHIDA R&D team, was awarded the 62th Kyoto Inventors Award. He invented the oval-shaped 18-head multihead weigher for the first time in the world, and its unique and epoch-making invention has led to receive this award.

HIGH SPEED PRODUCTION

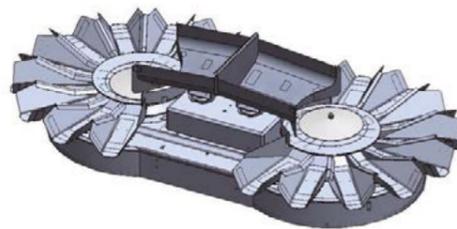
Ten years ago, high-speed VFFS packaging machines began to appear in the industry in response to users' needs to improve customer's productivity, and development of new multihead weigher capable of high-speed weighing while maintaining high accuracy which ISHIDA's strength was imperative. The important thing in high speed accurate weighing is that products are evenly and consistently fed to all weigh hoppers. If product feeding to each hoppers are insufficient, high speed is impossible because the number of combination heads is not enough.

OVAL SHAPE WEIGHER

To solve this issue, Toshiharu devised a method to rotate the approach route of products to hoppers by using vibration. As a result, product feeding to areas that were difficult to feed became possible. In addition to this, ISHIDA's special "Back to Back" feeder that distributes products equally to two weighing Inlet chutes from single supply conveyor, and the oval-shaped multihead weigher that allows an optimum discharge route to twin VFFS packaging machines were developed, which



enable high speed weighing up to 280 weigh per minute. With this technology, one oval shape weigher does the job of two weighers, which is big space and cost savings for customers. These technologies are patented in Japan, and now more than 350 units are installed in packaging lines for snacks, biscuits and vegetables factories around the world.



Back to Back feeder and oval feeding area

Toshiharu was also involved in the development of ATLAS VFFS bagmaker, so is a packaging machines expert and now involved in developing next generation multihead weigher. Especially, the new technology of automatic feeder control by utilizing AI (artificial intelligence) leads to accurate feeding control, and further improvement of product give-away and improvement of production efficiency are expected.

Toshiharu Kageyama said

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“I am honored to awarded this historical award, it is a great pleasure that the product created from my ideas are satisfying customer's needs throughout the world.”



NEW PRODUCT 01

Management system **i-FORT**

A new ISHIDA's data gathering and traceability system which is added a critical control point (CCP) management function has been released.



Let's take a look at i-FORT that contributes to improvement of work efficiency and maintaining product quality, while labor shortages at production sites are getting worse.

CRITICAL CONTROL POINT (CCP) MANAGEMENT

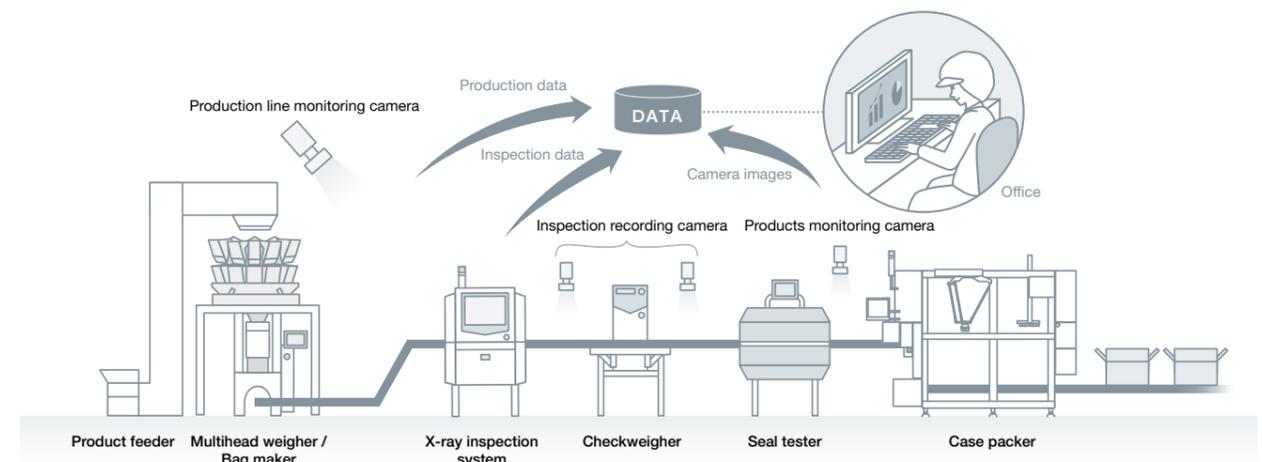
i-FORT equips functions to manage, record and report in CCP foreign bodies inspection process based on Hazard Analysis & Critical Control Point (HACCP) requirements, which is one of hygiene management methods to ensure product safety at food manufacturing factories. Supporting the accuracy check of inspection machines in daily

operation, it enables paperless storage of inspection records and corrective actions records of NG items. These records are saved in the system and can be automatically generated reports when necessary. With comparing conventional paper-based method, it avoids human error and improves operator's work efficiency.

i-FORT also includes the following functions.

- The operating status of production lines and machines can be monitored from the office apart from production area.
- i-FORT automatically collects data and unifies production and inspection history records.
- Password management of user who operates the system and machines and recording of PC operation log is available.
- Machines with few remaining consumable materials, such as packaging films and labels are displayed.
- Individual X-ray inspection image and inspection result data can be used for traceability. (Labeler or printer required)
- Video monitoring of production line is used to certify a safe production.
- Production data of devices other than ISHIDA can also be captured.

Only ISHIDA can provide status and production data information of all packaging line machines such as, weighers, bagmakers, inspection machines, and case packers. Get more information on this latest system expecting improvement of production efficiency from your local sales representative.





TURN-KEY SOLUTION FOR COOKED CHICKEN PACKAGING

ISHIDA introduced a packaging system line, including Heat and Control's FastBack conveyor to CP's new frozen food processing plant in Korat located in Northeast Thailand in May, 2015, which have been from packaging to product inspection as a single source supplier with dedicated knowledge and experience



CPF (Charoen Pokphand Foods)

Charoen Pokphand group is one of Asia's largest conglomerate and invests in 16 countries spreading mainly in Southeast Asia, China, Europe and the United States, selling products to more than 100 countries. Group sales exceed \$ 45 billion. CPF (Charoen Pokphand Foods), the core company of the CP group, is the first chicken integrator in Thailand and handles food ingredients and processed foods from feed. In recent years, they are also focusing on secondary processed products of chicken meat and provide high value added products both in Thailand and overseas countries.

FULLY INTEGRATED OPERATIONS

Korat plan is a huge poultry processing facility with a throughput of 20,000 birds / hour. CPF are building an integrated production system from slaughtering chickens to secondary processing. ISHIDA provides the system for the product transfer, weighing, packing and inspection after freezer exit. The lines consist of bulk product inspection by metal detector at the freezer exit, distribution line by FastBack conveyor and packaging system including multihead weigher, metal detector and checkweigher after packaging.



FastBack conveyor and CCW multihead weigher



Inspection area after packaging

Metal detection at the freezer exit

The metal detector performs highly sensitive foreign matter inspection at bulk stage before packaging after frozen freezing. When metal is detected after packaging, it will reject entire bag, but bulk goods inspection minimizes rejection amount of inspected matter, which also minimize giveaway.

Since the machine automatically selects the optimum inspection mode according to the product, high sensitivity inspection can be reliably performed even with untrained operators.



Metal detector cosmo-one

Distribution system

Distribution system consists of 12 large and small FastBack conveyors. In the frozen chicken line in Thailand, it has been common to use conveyor belts made of urethane or metal wire mesh with low initial cost. By using the stainless SUS made FastBack conveyor, it improved conveying efficiency per space, shortened cleaning time, and reduced damage to products. Also, in order to meet the strict sanitation guidelines of CP, SUS cover to the motor drive was attached for the first time.

FastBack conveys products gently by horizontal movement. There is little damage to the product and the seasoning of the product is not shaken off. The counterweight installed in drive unit minimizes vibration.



Distribution system FastBack



Weighing CCW-RV

Weighing

After the distribution system, four ISHIDA multihead weighers, CCW-RV-214, are installed and weighing 200 bags per minute. The weighers and the distribution system are integrated, and the system automatically adjusts supply amount from change of packing speed due to film change etc. of packaging machine.

Thanks to advanced technology that minimizes giveaway while high-speed weighing, this industry-leading weigher reduces product loss and improves productivity.

Inspection after packaging

Products after packaging proceed to inspection area, foreign matter inspection by the X-ray inspection system IX-GN-4043, metal inspection and weight checking by the weight checker DACS-GN, to provide reliable products to the market. All inspection equipment are connected with i-Station Link 2, which centrally manages the inspection results and operation history log, ensuring product traceability.

Small footprint check weigher with metal detector combination unit equips stainless steel body with hygienic design which resists in wash-down environment, and runs with up to 400 checks per minute with providing minimum graduation with 0.05g.



Checkweigher DACS-GN metal detector combination unit

Next Generation X-ray inspection system equipped with ISHIDA's original seven-step image analysis technology. For a wide range of products, it detects foreign matter such as metal, glass, bone, stone, and rubber with high sensitivity.



X-ray inspection system IX-GN-4043

FOR NEW INDUSTRY STANDARD

ISHIDA has built a strong partnership with Heat & Control for over 35 years. Over thousands systems consisting of H&C FastBack conveyors and ISHIDA multihead weighers have been installed worldwide. In particular, it is regarded as an industry standard in snack lines such as corn chips and potato chips, and we have secured an overwhelming share. However, although there have been numerous number of systems in the frozen food line in North America, Europe and Japan, it was limited by the high initial cost and customs in Southeast Asia. In cooperation with ISHIDA Thailand, ISHIDA Japan and Heat and Control, the efficient and significant line meeting the needs of the customer in Thailand were constructed. We are convinced that this success will be a new standard for chicken meat secondary processing line in Asia.



Application

X-ray
Inspection Systems

IX series

MAXIMIZING OUTPUT ON QUALITY CONTROL SECTION

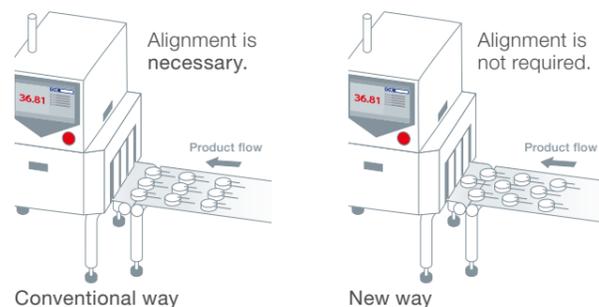
ISHIDA maintains its position as industry leader with X-ray inspection systems that can detect foreign bodies. Now, we introduce latest unique application among many solutions we experienced with sharing various needs with customers in fields.

HIGHEST INSPECTION SPEED

The ISHIDA's versatile X-ray inspection system, IX-GN-4043 has achieved the highest product inspection speed with up to 1,050 products per min. in triple lane, 350 products per min. in single lane. In the conventional machine, it was not possible to exceed speed of 1000 products per min. due to the processing time of X-ray image. However, in response to requests from customers who aim to increase production, we succeeded in shortening image processing time and developing machine exceeding 1000 products per min. as a result of improving software.

LEAN PRODUCTION

The major change from conventional model is that product start position alignment in a row of each lane is not required. Even if products in three-lanes are not aligned, inspection has become possible by applying the dedicated mode for inspecting bulk goods not individually wrapped, which enables to shorten the line length by eliminating the area for product position alignment. In case where one X-ray inspection system is installed per line, by installing one system after merging multiple lines, it contributes to reduce the number of inspection system installed.



VERSATILE AND RELIABLE MODEL

This multi-purpose system is inspecting not only foreign bodies but also crack defect of products. By removing the conveyor guide, it also works as single lane inspection machine. The up-flap rejector's quick movement minimizes product loss of OK products before and after NG item are rejected along with NG item as well under high-speed inspection, which helps improve productivity.

Actual running speed depends on product nature, size, shape and packaging material. Please ask ISHIDA for details.



IX-GN-4043-N



Up-flap rejector

Get more information through the video.

<https://youtu.be/Zlc7swEh1H0>



4TH ASIAN SERVICE MEETING

Asian Service Meeting (ASM) was held at ISHIDA Japan from August 28 to 30, 2018, and 23 participants from 12 distributors in 10 countries joined the meeting.

FOR IMPROVING CUSTOMER SATISFACTION

ASM has been held once every two years from 2012 and it is the only meeting that service engineers in Asia gather together to discuss about enhancement to after-sales service. This time, they talked what they should do to improve the customer satisfaction under the slogan "One World, One Quality". On the final day of the meeting, each company made presentations on the actions to be taken in the next two years in order to lead to improvement of services in their own country. One engineer said holding weekly meeting and share sight reports and customer information to improve engineer's skill. Other attendee will regularly visit monitoring on customer's site and conducting a survey to improve customer satisfaction.



AWARDING CEREMONY

An awarding ceremony was held for top scorer of global technical qualifying examination which is carried out every year to maintain and improve the service engineers' skills. The exam has three types of CCW multihead weigher, DACS checkweigher, and IX X-ray inspection system, and a trophy was presented to the top scorer of each exam.



Tae-kyo, Choi - Top scorer of CCW exam

“”

Tae-kyo from ISHIDA Korea has worked as a service engineer since 2011, and is an engineer that has maintained very high skill by winning top scorer twice in the past. When installing new machines or special machines, he carefully reads the technical documents before visiting the site. Even in the face of tough issues, with his tenacity to getting the job done, he gets to the solution. Tae-kyo said "I feel happy and relieved when users are satisfied with our service after overcoming a challenging situation. I continue providing high-quality after-sales service that will support customer's business."



BUSINESS IN MALAYSIA

ISHIDA Malaysia was established in 1997 as the first subsidiary in Southeast Asia. Shingo Itano who has taken up the director for four years and pushes on toward increasing sales talked about the business in Malaysia.

ISHIDA MALAYSIA

Malaysia has developed as an industrialized country and continued stable economic growth so far, however in recent years growth has been brought from personal consumption and personnel expenses are soaring. Our mission is to promote automation of production lines in food industry where labor shortage becomes a problem, which contributes to solving labor shortage and improvement of productivity. In Malaysia there is a high level of Halal certification system by government agencies and export of frozen foods to the Middle East is favorable in the food industry as it can be exported almost anywhere in the Islamic area if Halal certification in Malaysia is applicable. Thankfully, the number of customers who adopt our products has increased, and our business scale has doubled in recent five years. Retail scales business is also performing well, selling more than 1000 platform scales a year. We always have inventory units to meet short delivery requests from customers.



Engku Amri Engku Mohd. Ariffin, Service engineer (left) and Itano Shingo, Director (right)

NEW BUILDING

ISHIDA Malaysia in its 22nd year of establishment moved to a new office in April, 2018 in order to aging facilities. The office space spreads 1.5 times, and CCW multihead weigher, Bagmaker, X-ray inspection system, Checkweigher, Metal detector, and Retail scales are set up in the showroom of the colonnade so that running test can be performed with customers. Currently there are a total of 17 employees, including 8 service staff. In the future, we aim to raise the skill level of each employee, improve performance of the whole company, and maintain a stable and robust organization.



NEXT BIG EXHIBITIONS

- **Chinashop** 1-3 Nov. Kunming, China
- **Gulfood Manufacturing** 6-8 Nov. 2018 Dubai, UAE
- **China Fisheries & Seafood Expo** 7-9 Nov. Qingdao, China
- **P-Mec** 12-14 Dec. 2018 Greater Noida, India
- **SMTS** 13-15 Feb. Tokyo, Japan



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