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ISHIDA'S POINT OF VIEW

February 2019

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IX-GN K series

Exhibition

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**CHANGES IN RETAILING AND
PACKAGING**

125th

ISHIDA

TOKYO PACK 2018

Tokyo Pack 2018 was held at Tokyo Big sight from October 2 to 5, 2018. ISHIDA introduced a total packaging line including multihead weigher, bag maker, check wegihier, X-ray inspection system, and case packers to offer seamless packaging automation technology.



ACP-641 direct packing caser line

NEW PRODUCT 01 X-ray Inspection Systems IX-GN K series



New X-ray inspection system IX-GN series with IP69K compliance superb water-proofness and excellent hygiene structure has been released, which is capable of withstanding daily high temperature and high pressure washing

FOR FURTHER FOOD SAFETY

Introducing X-ray inspection systems to detect metal, glass, rubber, stone and bone into production lines is increasing because of the growing awareness of food safety by consumers and the strong demand from retailers. Additionally, there are growing needs to thoroughly wash out machines in order to prevent occurrence of health hazard such as food poisoning due to bacteria cultivated in food residues of manufacturing equipment. It already has become quite common that cleaning company cleans whole equipment in production line with high temperature and high pressure water at night at meat packing, salad and cheese facilities in North America.

DURABLE BUT EASE OF CLEANING

In response to these demands, ISHIDA developed IX-GN K series with an airtight structure that shuts out all possible infiltrates. Durable stainless chamber applied to HACCP regulations withstands the most intense cleaning processes, and solid plastic covers protects the RCU touch panel and signal tower from damage by washing. A tool-free detachable conveyor and a protective curtain enables to reduce cleaning time, and round pipe support legs that water flows downwards simplify cleaning process.



RELIABLE INSPECTON

IX-GN K installs ISHIDA's patented image processing technology, Genetic Algorithm program and it automatically generates optimal sensitivity achieving high sensitivity inspection even for an inexperienced operator. Compared with the conventional water-resistant model, the operability is greatly improved. Currently there are small models for products up to 240 mm wide and medium models with products up to 400 mm wide, but large models that can handle up to 550 mm wide products will be released soon.



TWO TYPES OF CASE PACKER

Special feature of this exhibition is two types of case packer, which were located end of twin packaging line - one 16 heads multihued weigher with twin INSPIRA bagmaker. In first line, ISHIDA presented ACP-621 high speed picking and packing case packer which packs bags into two cases simultaneously for the first time. Since this case packer can handles up to 120 bags per minute and 30 cases per minute with two rows (20 cases per minute in case of 3 rows), it works efficiently in high speed packaging line.



ACP-621 packs bags into two cartons.

Another is ACP-641, direct packing model which uses pararrrel link robotic arm, and has small foot print. This case packer does not have bag accumulation unit and product guide for bag alignment. However the 20 vision sensors at the entrance check the posture of bags and the robot arm packs into carton with adjusting bag posture.



Paper film packaging in VFFS bagmaker (Right)

SEAL TESTER

For stable automated case packing, it is important to equalize the thickness of bag. If the bag thickness is too thick, required number will not fit in the case. If it is too thin, there will be gap inside case, so products may be damaged during shipping. Therefore, ISHIDA recommends installing TSC seal tester, which checks the thickness of the bag, before the case packer process for efficient line system. In case that integrated with the INSPIRA bagmaker, TSC feed forwards bag thickness information to INSPIRA, and INSPIRA can automatically adjust bag thickness while making bags. This function is called Feedforward function, which brings further quality stabilization. In addition to thickness check, TSC can check air leakage caused by seal defect and pinhole at the same time.

PAPER FILM

While reducing plastic waste becomes a matter of public concern, ISHIDA packed pillow bags using paper film in the vertical bagmaker INSPIRA in Tokyo Pack, an international packaging exhibition. The paper film "Shield Plus" developed by Nippon Paper Industries has barrier coating on paper and is excellent in water vapor barrier, aroma retaining, and gas barrier, so it can be used as food packaging material. Although this technology is still in the development stage, it was an exhibition attracting attention from many visitors and we will accelerate the construction of sustainable packaging technology using renewable resources.

QL FOODS



QL Foods Sdn Bhd, the largest surimi-based products manufacturer in Southeast Asia based in Malaysia established two more facilities in Hutan Melintang, Malaysia in 2018 to double compared to the current production volume.

QL FOODS's BUSINESS

QL Resources Group, Malaysian leading food processing company runs marine products manufacturing, integrated livestock farming, and palm oil activities. They stepped into convenience store chain business two years ago to promote their business diversification, and have increased sales 132% in last 5 years. QL Foods was founded in Hutan Melintang, Perak, Malaysia in 1997 and has grown into one of the largest food processing companies in Malaysia in 20 years.



Mr. Eric Cheah (Managing Director): Second from the left
Mr. Edward Chin (Maintenance Manager): Left

NEW FACILITY

QL also operates in Indonesia, Vietnam and China and exports to the USA, Australia, Japan and other Asian countries. Recently, they manufacture halal certified fish-based products. In order to respond to the increasing demand for exports of Surimi-based products abroad, they decided to expand production, and opened new facilities at Hutan Melintang plant in 2018. As the production capacity doubles from the previous 25,000 tons/year, high performance packaging systems are required, and they

chose ISHIDA's 10-heads multihead weigher which is capable of running the speed of up to 50 packs per minute for from 200g to 1,000g packs. The waterproof design of the CCW-RV weighers is certified to IP-69K specification and offers maximum hygiene while minimizing downtime for cleaning. "We needed a solution that combined accuracy and speed and the ISHIDA weighers are consistently delivering minimal giveaway at an impressive consistency," commented by QL.



Packaging system lines

TOTAL COST OF OWNERSHIP

QL purchased ISHIDA's CCW multihead weigher that he acknowledged at the exhibition for the first time in 2001, considering automation of the packaging line to increase the production amount. Although it was an expensive initial investment in the performance scale at the time, he succeeded in reducing 15 operators and improving give-away rate. Moreover, thanks to the less errors on machine, production stabilized, and as a result it was able to suppress total cost of ownership. Thereafter, QL Foods tried other companies' weighers, but they realized that ISHIDA is superior not only in product quality but also in service system. Today, X-ray inspection systems, checkweighers and metal detectors in addition to 25 multihead weighers are installed including group companies.

TOWARD FURTHER GROWTH

QL Foods plans to further expand production volume and introduce new products to the target of growth rate of 15% /year. It can be said that the new production line has achieved labor savings almost as a result of promoting automation from upstream to downstream. QL said, "In the future, we will promote further production efficiency improvement to make even more sophisticated facilities, such as accumulation of production data and confirmation of the real-time production status on smartphones or tablets. We understand that ISHIDA owns excellent technological capabilities and high expertise from past experiences, and proposal, project management, and dedicated service engineer's response are very reliable. We expect for ISHIDA's support for technological innovation, machine training program for operators, and keeping a good business relationship. "



X-ray inspection machine and Checkweigher





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 a latest unique application among many solutions we experienced with sharing various needs of customers in fields.

X-RAY BONE INSPECTION

X-ray inspection system is now an essential machine at meat processing facility because it can detect bones that can not be detected by a metal detector. Previously it was difficult to detect chicken bones in particular, but in ISHIDA's IX-G2-E series, which was developed for bone detection, can detect small bones by using dual energy sensors. However, the machine detects even fine bones which are not considered as NG on market with high detection sensitivity mode, so number of NG products increased by false positive judging result. As a result, the time and cost of the reinspection work increases, causing a problem of lowering the production efficiency.

NG goods after the reinspection are rejected to bins of either a foreign object or a defect item depending on the reasons of NG with using the reverse conveyor. The false positive rate has been reduced by 30% by re-inspecting NG products, which leads to higher sensitivity for detecting foreign objects. The amount of NG emissions has drastically decreased, and the current production capacity is 10 tons per hour.

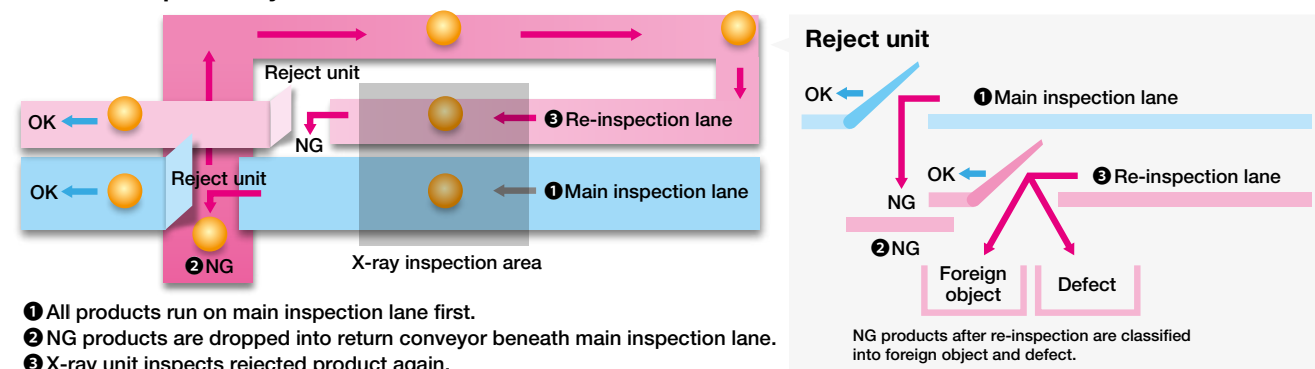
IMPROVING QUALITY AND PRODUCTIVITY

Conventionally, samples of various size bones were prepared, tests were conducted, and a method of setting threshold value for effective inspection without occurrence of erroneous detection was taken as not for lower production efficiency. However, this system successfully achieved both improvement of productivity and quality improvement. Re-inspection of NG items in the quality control section is a labor intensive task requiring experience for operators, but by automating part of re-inspection process, the system enables to save time for reinspection and also leads to reducing the physical burden.

FALSE POSITIVE RATE REDUCTION

Therefore, ISHIDA has developed an application that automatically reinspects false positive products. Products that were judged as NG by the first main inspection system are put into the reinspection lane by the take-up conveyor. By providing two lanes for the main inspection and the reinspection on one X-ray inspection system, it is possible to perform a re-inspection without disturbing the production.

IX-G2 Re-inspection system



REPORT

CHANGES IN RETAILING AND PACKAGING



A lecture meeting about evolving of retail industry and the impact on packaging by Mr. Ron Sasine who led packaging design, development and executive of Walmart's private brand businesses was held at ISHIDA Shiga facility in November, 2018. Here is a brief summary of this interesting meeting.

E-COMMERCE

The environment surrounding the retail and packaging industry has been rapidly changing in recent years. There are many issues that manufacturers are required to take some reaction, such as increasing raw packaging material cost, growing e-commerce business, and a social trend of demanding sustainable packaging.

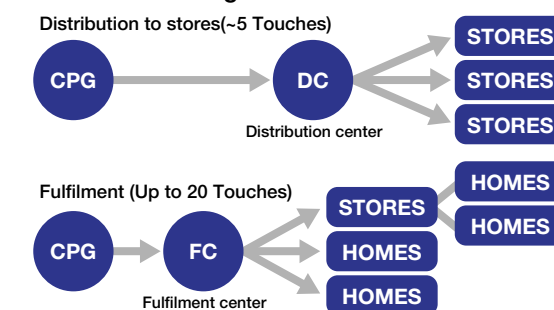
Particularly, e-commerce business will focus on increasing sales of food, beverages and personal care products in addition to traditional high value, small products like electronics and clothing. Many of food, beverages and personal care products are big package items which packaging innovation to meet e-commerce business is required. More durable packages can survive long-distance, more transit shipping. Smaller packages contributes material reduction and cost savings. Direct print to box eliminates required labeling. Shift from conventional brick and mortar retailing to e-commerce will create opportunities for brand owners to innovate in packaging and new package format will show the product more attractive and will lead to differentiation from competition.

SUSTAINABLE PACKAGING

For product transportation and storing, packages are necessary to maintain its value and condition, and products are packed according to nature. However, due to the recent increase of social concerns of plastic packages, some group in UK began to send back their empty snack bags using the manufacturer's Freepost address in an effort to pressure a company to introduce environmentally friendly packaging last year. Package advocacy is getting socially unacceptable, and collaboration with consumers and local communities will be necessary to realize sustainable packages and promote recycling, though it may say this was driven by a general lack of understanding of the consumer products supply chain. In this case in UK, that company announced to launch bag recycling program to accept any brand of snack bag.



Distribution Realignment



In near future, instead of plastic packages, new easy to recycle alternative materials such as mono-material film, paper film and bioplastics will become more popular, while many issues still remain that development for longer shelf life and more durability, and building of new recycling scheme for alternatives.

MESSAGE FROM PRESIDENT

ACCELERATING AUTOMATION

While flexibly responding to rapidly changing societies and markets become indispensable in business, we are concentrating on creating innovation in new fields by making full use of our accumulated technological capabilities. In 2018, we established a special team for automated production apart from existing major segments such as weighers, bagmakers and inspection machines, and have received many inquiries from customers in various business categories. The need for Automation and Labor Saving and Food Safety is increasing day by day. We recognize that automation is an important step to solving the problems faced by production sites, especially human labor shortage, and the need of automation is increasing. We will continue to provide solutions that meet the needs for automation, labor saving, and food safety.

ISHIDA celebrated its 125th anniversary in 2018. Started overseas deployment 52 years ago, and now has sales and service bases and agents in more than 100 countries. In the next 125 years, we will continue to provide market-leading products and reliable support.

125
1893-2018



Takahide ISHIDA

GROWTH IN ASIA

In order to meet customer's demand for automation and systemization, we reinforced our engineering function based in Thailand to cover the Southeast Asian area last year. In 2019, we are planning to expand production capacity by expanding our factory in China and start production of budget-friendly machines in India. Growth strategy of growing markets in Asia will become a key factor of our future business growth. With innovative design and engineering, we will continue to focus on integrated solutions that connect weighers, bagmakers, inspection machines, and peripheral equipment, improve productivity of the entire line, and lead the benefits of single-source supplier during project management, installation, operation and support.



NEXT BIG EXHIBITIONS

- Propak Vietnam 19-21 Mar. Ho Chi Minh, Vietnam
- Auspack 26-29 Mar. Melbourne, Australia
- Snaxpo 31 Mar. - 2 Apr. Orlando, USA
- Interphex 2-4 Apr. New York, USA
- Thaifex 28 May - 1 Jun. Bangkok, Thailand
- Propak Asia 12-15 Jun. Bangkok, Thailand



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