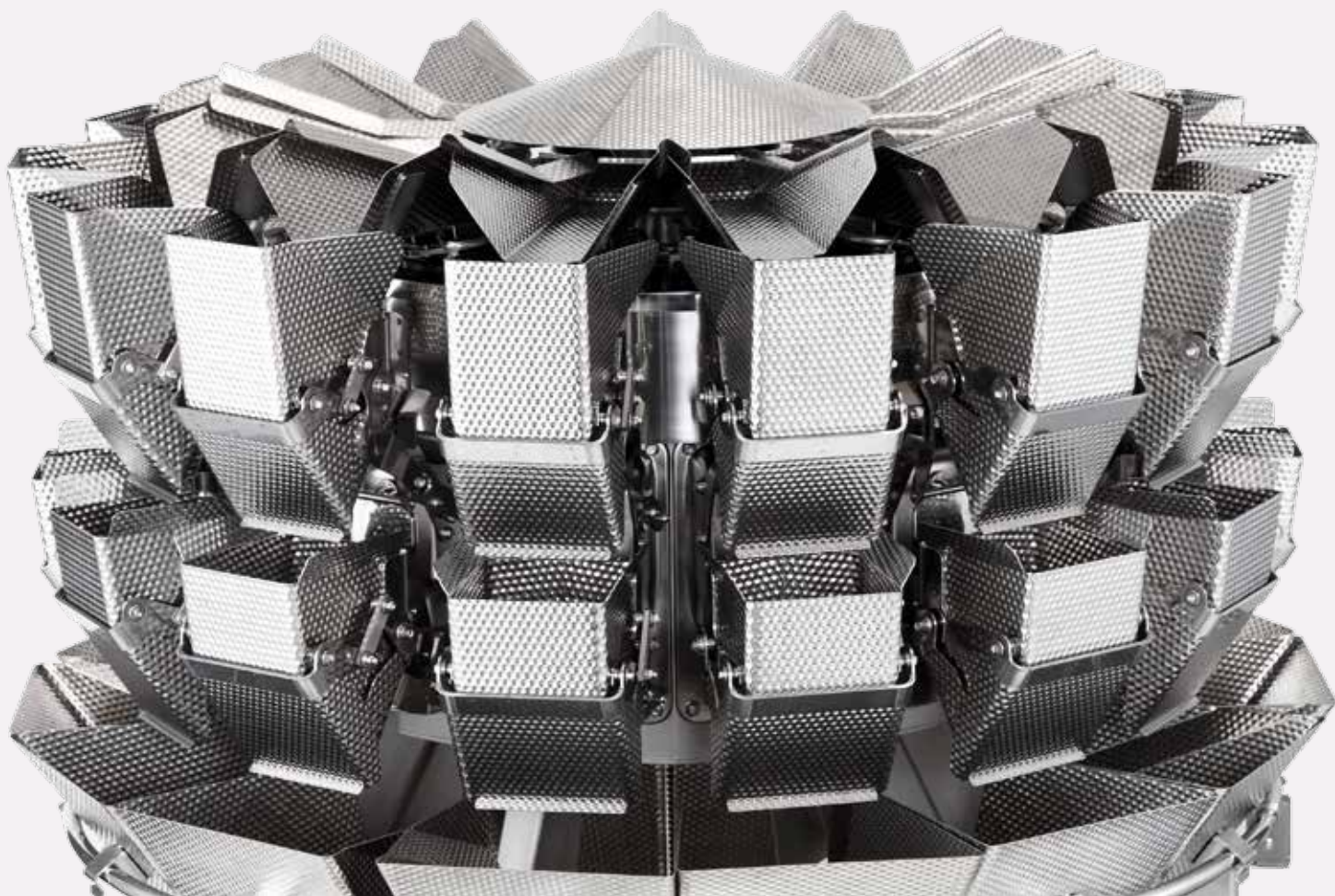


# Multihead Weigher

Range Brochure





Multihead Weighers



# Our company

Ishida is a privately owned family run business, with our worldwide headquarters in Kyoto, Japan. Our President, Takahide Ishida, is the 5th generation of the Ishida family, having succeeded his father Ryuichi Ishida in 2010.

As a world leader in the design, manufacture and installation of weighing, packaging and quality control solutions, Ishida has vast experience and knowledge of many diverse food industries, ranging from snacks and dry food to fresh and frozen food applications.

Ishida opened its first overseas subsidiary, Ishida Europe, in 1985. The Ishida Europe headquarters is in Birmingham, UK, and serves Europe, Middle East and Africa (EMEA). We have wholly-owned Ishida sales and service operations in 9 countries, and have committed, experienced agents and distributors in a further 30 countries.

Innovative weighing and packaging machines, ancillary equipment and complete line solutions for these territories are designed and manufactured in our manufacturing and R&D facilities in both the UK and Japan.

## Our people

The wealth of knowledge and experience of Ishida personnel ensures that our customers receive best in class solutions to improve their weighing, packing and quality control operations. This means our customers can focus on their core business, while we focus on solving their challenges.

## Our innovations

Research and development are central to the philosophy of Ishida's business. Ishida Europe uses experience, creativity and state-of-the art technology to develop solutions to enable our customers to push new competitive boundaries.

To support the requirements of evolving food markets and in addition to our product development centre in Kyoto, Japan, we have UK product development facilities in Birmingham and Poole. This enables us to deliver locally designed and tailored solutions to suit our customers needs.

Aiming for continuous technical improvement, our latest innovations include tray sealers, x-ray inspection systems and end of line packing solutions.

## Our customers

In 1972, we developed the first ever multihead weigher for whole peppers. Since then we have provided weighing equipment for thousands of food and non-food applications with more than 50,000 machines installed.

**Takahide Ishida**  
(President)



# Offering a complete line solution

Ishida is capable of offering complete line solutions of our own or outsourced products.

## 1. Weighing & filling

Everything you need to interface with modern weighing/filling system to get your product into a tray and on its way to the tray sealer.

- ▲ Multihead weighers
- ▲ Distribution systems
- ▲ Tray denesters

## 2. Sealing

Advanced tray sealer technology from Ishida's world-leading QX range delivers the look, the seal type, the modified atmosphere your pack concept or your customer demands.

- ▲ Snack food bagmakers
- ▲ Ishida iTPS® (Integrated Total Packaging System)  
High speed weighing and packing systems for snacks
- ▲ Tray sealers

## 3. Quality control

Ensuring everything about the pack is right, from contamination to label orientation and from data to weight.

- ▲ Seal testers for pillow packs
- ▲ Seal testers with vision systems for trays
- ▲ X-ray inspection systems
- ▲ Metal detectors
- ▲ Checkweighers

## 4. End of line packaging

Choose the exact fill and layer geometry you want in your boxes and create and vary it at will. Options include single and twin robots.

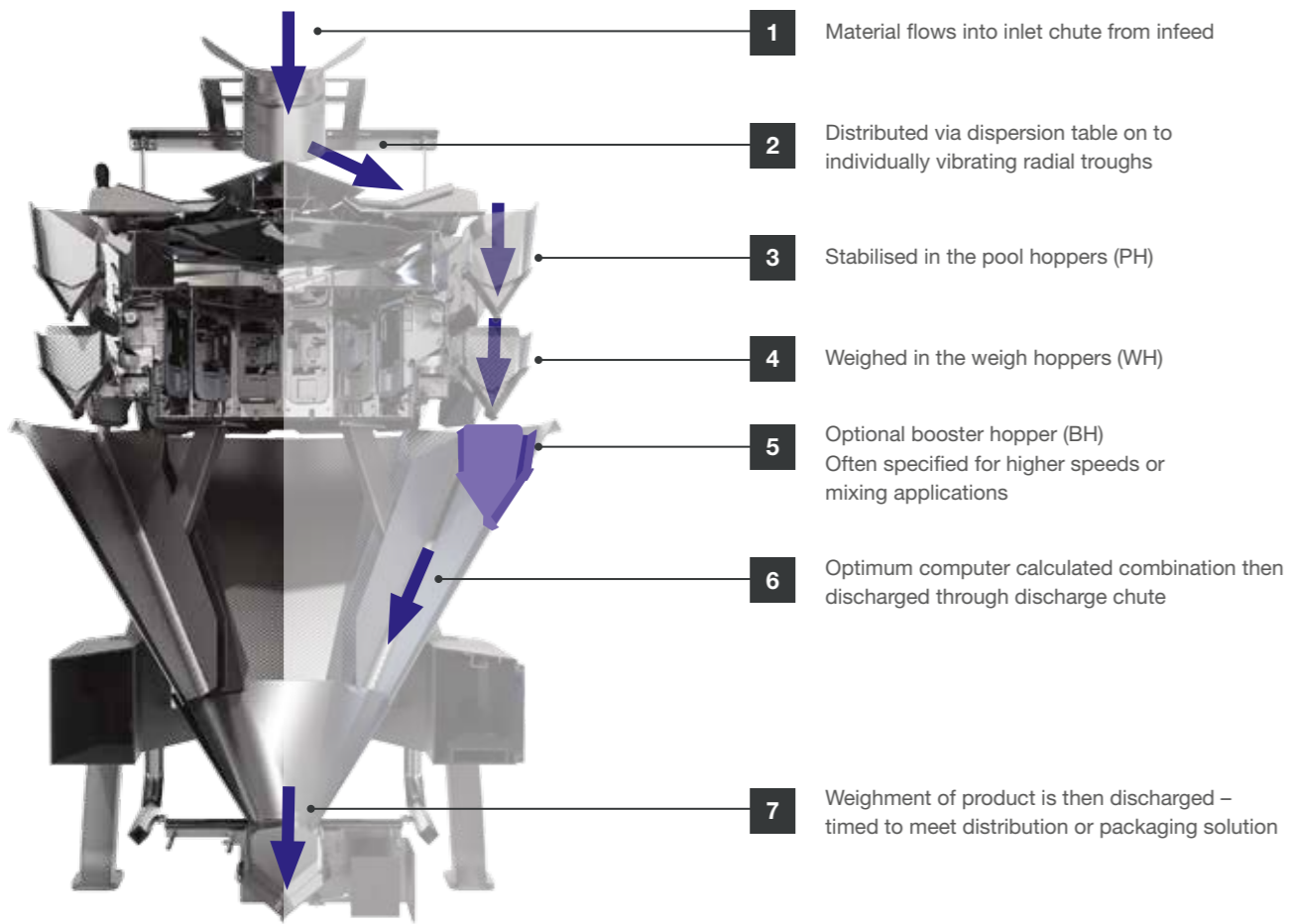
- ▲ Pick-and-place systems



# CCW concept

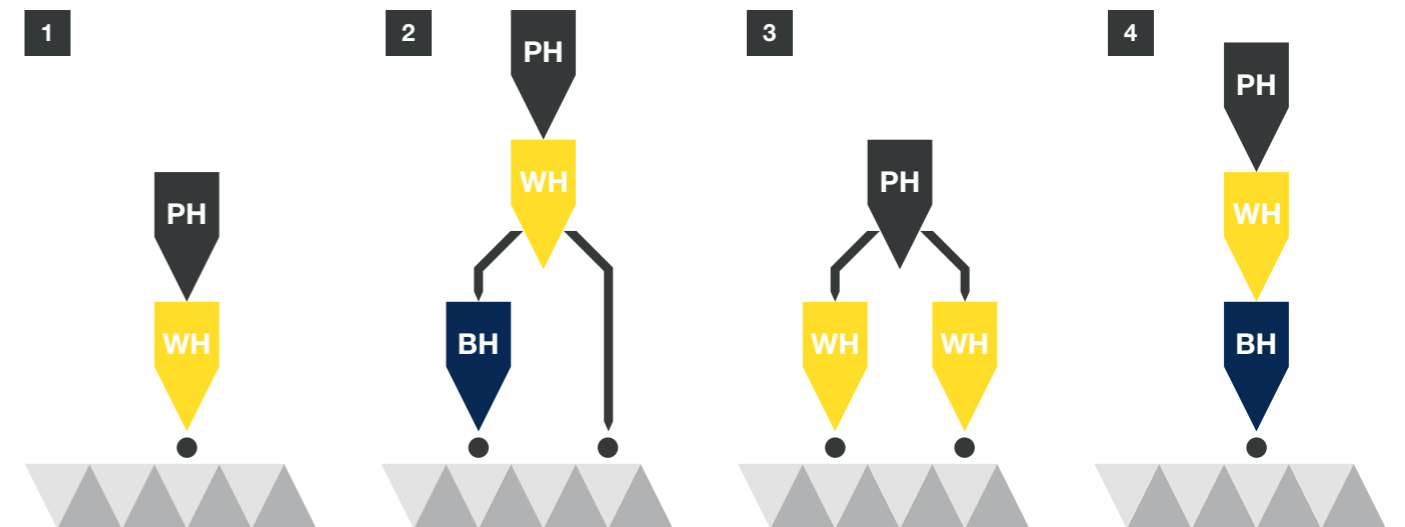
Product flow in circular  
weigher format

A multihead weigher or computer combination weigher (CCW) is an industrial weighing machine which delivers highly accurate, reliable and high speed weighing of food and non-food products.



## Hopper configuration

1. PH to WH relationship
2. PH to WH to BH relationship
3. PH to double WH relationship (R2-212P and PL series)
4. PH to WH to BH relationship (no direct discharge option from WH)





# Wide variations

In CCW applications

Multihead weigher solutions vary widely based on customers' diverse application needs

Examples:



Snack foods



Salad



Cereals



Processed fruit & veg



Ready meals



Fresh meat & poultry



Frozen foods



Bakery products including biscuits



Dry foods, including pasta, rice & cereal



Granular products



Pet food



Confectionery



Non-food applications



Diary



Fresh produce



Fish & seafood

PRODUCT MIXES  
STICKY

DISTRIBUTION REQUIREMENTS  
**MIXED ON MACHINE**  
DIFFERENT TARGET SPEEDS

# CHALLENGES

PACKAGING REQUIREMENTS MULTIPLE-OUTLETS  
**VARIED PRODUCT PIECE SIZE**  
BULK DENSITIES FREE FLOWING  
DIFFERENT TARGET WEIGHTS  
UPPER AND LOWER WEIGHT LIMITS

PRE-MIXED

## Breadth, depth and timescales of application experience

- ▲ More than 50,000 CCW machines installed
- ▲ Ishida has offered virtually every known CCW application solution
- ▲ If not yet supplied, the Ishida range and global engineering capacity means we have the resource and capability to do this

### Product challenges:

- ▲ Free flowing to sticky
- ▲ Different bulk densities
- ▲ Varied product piece size

### Application challenges:

- ▲ Different target weights
- ▲ Acceptable upper and lower weight limits
- ▲ Variations in product characteristics within same application
- ▲ Product mixes (pre-mixed or mixed on machine)
- ▲ Multiple-outlets
- ▲ Different target speeds
- ▲ Feeding system design
- ▲ Available manufacturing space
- ▲ Packaging and distribution requirements

# CCW circular range

## Positioning and key features

### SE3 Series – Entry level excellence

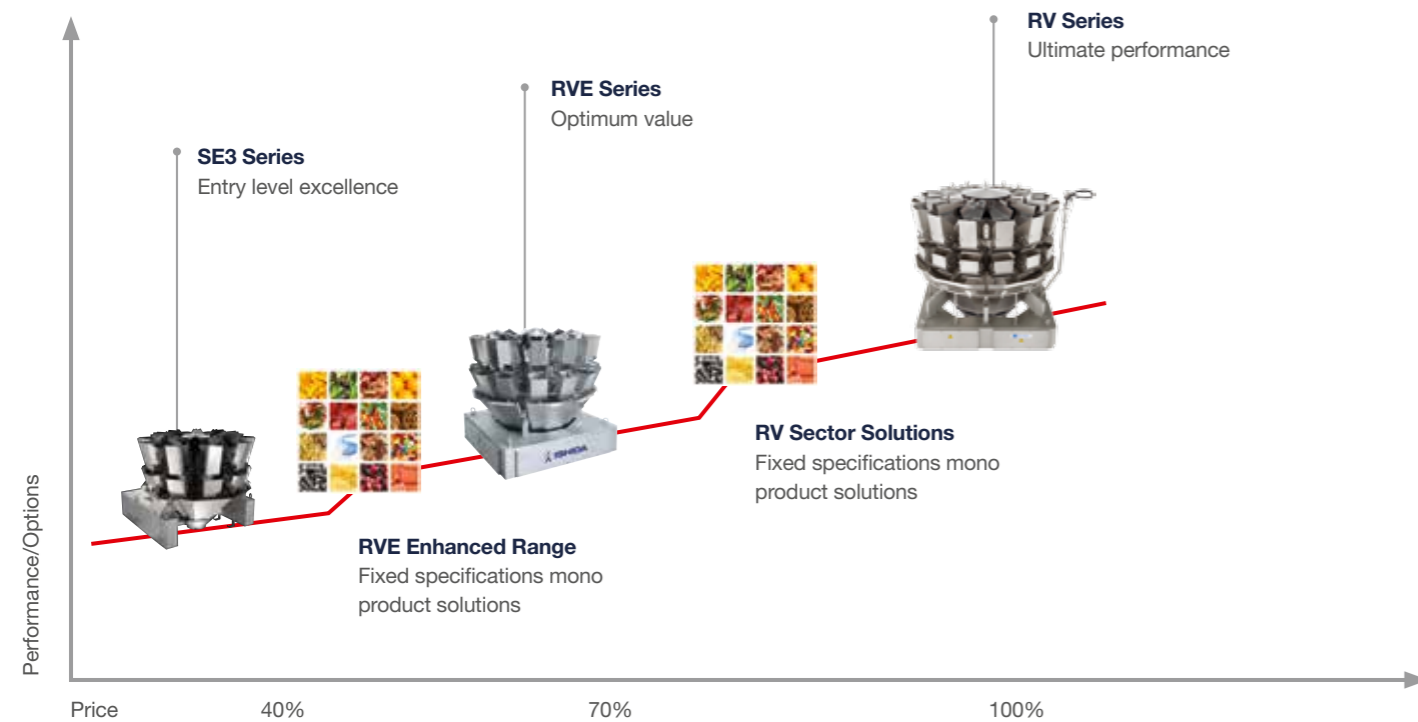
- ▲ Ishida designed and manufactured multihead weigher but with narrower range of options
- ▲ Free flowing dry products, small target weights
- ▲ Entry level price position with competitive performance

### RVE Series – Optimum value

- ▲ Offering features and performance to cover a broad range of applications at mid to high speeds
- ▲ Free flowing and semi-sticky products – for dry, fresh or frozen applications (small to large target weights)
- ▲ Competitive and balanced price/performance position

### RV Series – Ultimate performance

- ▲ High technology as standard – for very high speeds, precision and accuracy
- ▲ Broadest range of solutions from 10-32 heads, 0.05 to 7.0l hopper size, single to 8 mix
- ▲ Offers bespoke solution to satisfy customers' individual high performance needs
- ▲ Premium price and market leading performance
- ▲ Sector-specific fixed solutions are also available at an attractive price point



## CCW range differentiation

	SE3	RVE	RV
<b>Application type operation</b>			
Head number variation configurations available	10, 14, 20	10, 14, 16 + booster, 20	10-32 + booster
Hopper size variations available	2ltr	1.5, 3, 5, 7ltr	0.5, 0.8, 1.5, 2, 3, 5, 7ltr
Discharge outlet options	Single, double	Single, twin, double	Single, twin, double, 3, 4, 6, 8
Anti-floor vibration (AFV)			●
Maximum hopper numbers for combinations	10	14	14
Single combination calculation (with double check)	●	●	
Triple combination calculation (with double check)			●
Max. weighing speed (per single discharge)	100wpm*	120wpm*	180wpm*
	*14 head, 2ltr combination sample		
<b>Construction</b>			
IP rating options: SS models (PB SE3 only)	IP54	IP54	IP54
IP rating options: WP models	IP65	IP66	IP69K
<b>Interface</b>			
10.4" remote control unit (RCU)	●	●	
12.1" remote control unit (RCU)			●
Number of product pre-sets	100	200	200
Colour touchscreen	●	●	●
<b>Feeder control</b>			
Pulse width modulation (programmable feeder drive)			●
Automatic feeder drive setting (AFD)		●	●
<b>Camera monitoring options</b>			
Dispersion feeder camera		●	●
With wide-angle lens			●
<b>Contact part material options</b>			
Stainless steel (SS)	●	●	●
High embossed (HX)	●	●	●
C4 embossed (C4)		●	●
<b>Connection options</b>			
Serial cable	●	●	●
Ethernet	●	●	●
Wireless access		●	●
<b>Hopper type options available</b>			
Pool hopper - single opening	●		●
Pool hopper - double opening		●	●
Weigh hopper - single opening	●	●	●
Weigh hopper - double opening		●	●
Diverting weigh hopper		●	●
Booster hopper		●	●
<b>Software</b>			
Enhanced average weight control software			●
Windows Embedded Standard 2009		●	●
Bespoke software options			●

Ishida Europe Ltd reserves the right to change specifications at any time. Technical information is based upon information available at the time of Print - 03/2018. Confirmation is provided via Sales enquiry.

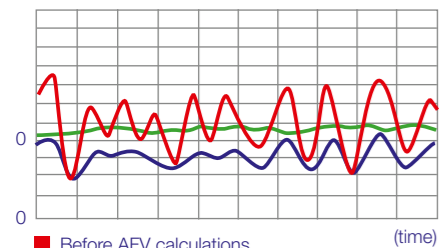
“Whatever your needs, Ishida has a solution to match”

# Unrivalled broad range of weighing solutions from Ishida

- ▲ Construction type (dustproof or waterproof)
- ▲ Control interface options (touch screen, tablet control, remote interface)
- ▲ Line integration options (bagmaker, distribution system, tray sealer)
- ▲ Special high performance features on premium range:
  1. AFD (automatic feeder drive)
  2. AFV (anti-floor vibration)
  3. PWM (pulse width modulation)
  4. Triple combination calculations
  5. Camera monitoring
  6. Unrivalled water and dust proof protection – accredited to IP67 and IP69K
  7. Screw feeder option

### AFV (Anti-Floor Vibration)

Removes background noise improving efficiency and productivity



■ Before AFV calculations  
 ■ After AFV calculations  
 ■ AFV sensor output

Weight (W)      Measurements of Floor Vibration (V)

Digital Filter      AFV Calculations  
 Digital Signal Processor

Accurate Weight Data



Dust test for IP6X



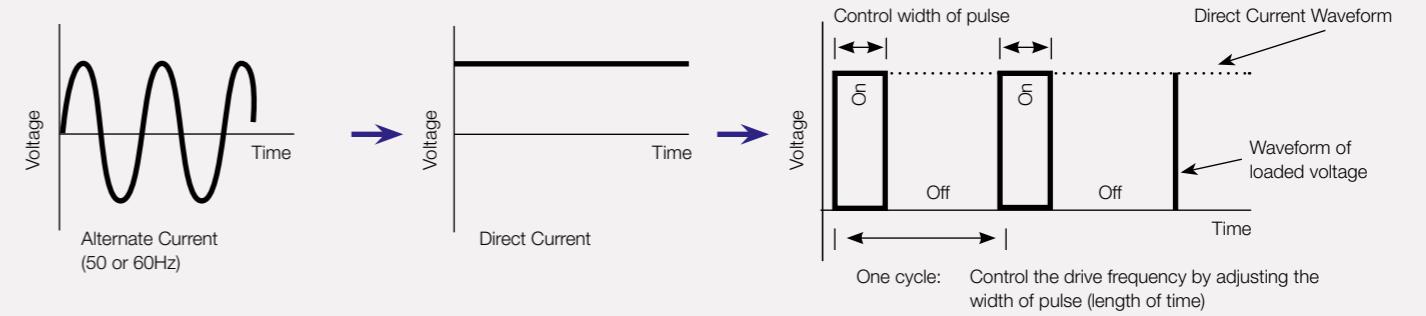
Under-going powerful water jet test for IPX6



Under-going high pressure jetting test for IPX9k

### PWM (Pulse Width Modulation)

This high performance feature allows frequency to be adapted to optimum vibration to drive product on top of machine.



### Seamless control and interface for operators

Across the Ishida range, a touch screen RCU is supplied as standard. Operators are guided through the functionality of the machine with a clear menu-driven interface. Due to the critical nature of the application, different levels of security settings are in place to limit the changes to the parameter settings – based on level of training and understanding of equipment performance.

A range of security protection options are available from password verification, up to Dallas Key, finger print, tablet access and remote dial in access. Self-diagnosis is built in to the RCU interface for immediate and clear trouble shooting.

### Remote control offers greater flexibility

The ability to control the weigher from practically any desktop, portable or hand-held device (including laptops, net books and tablets) allows greater freedom for operator or engineer, who are no longer limited to a fixed location.





# CCW specialist solutions

High speed, mixed and multiple outlet solutions

Ishida offers a range of high performance multihead weighers, which can be configured for either multi-mix or multi-outlet applications.

The critical factor is to dedicate sufficient heads per mix or outlet section to ensure a sufficiently high combination of stable hoppers can weigh and combine up to a maximum of eight different products.

Mix weighing is used when several different products will be in a final pack. A single weigher from Ishida can mix-weigh up to a maximum of eight different products.

Multiple outlet weighing is used, for example, with a single product feeding into multiple distribution lanes (saving space and in-feed complexity when compared to using multiple weighers).

**Mix weighing benefits for customers:**

- ▲ Increase value of the end product (by controlling the percentage of product in the pack)
- ▲ Meet legal requirements (to be able to state the percentage of product on the pack/bag)
- ▲ Maximise profits by minimising giveaway particularly on the most expensive products
- ▲ Increase speed and efficiency
- ▲ Reduce factory production space

**Ishida specialised mix weigher products**



**16 Heads:**  
 CCW-RVE-216B-\*\*-15,30-SS,WP  
 CCW-RV-216B-\*\*-15,20,30-SS,WP  
 CCW-RV-216WB-\*\*-15,20-SS,WP

**Number of mixes/outlets:**  
 Up to 4 mix with up to 4 outlets



**20 Heads:**  
 CCW-RVE-220W-\*D-30,50,70-SS,WP  
 CCW-RV-220B-\*\*-20,30-SS,WP  
 CCW-RV-220WB-\*\*-20-SS,WP

**Number of mixes/outlets:**  
 Up to 6 mix with up to 5 outlets



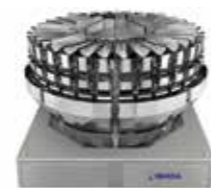
**24 Heads:**  
 CCW-RV-224B-\*\*-15,20,30-SS,WP

**Number of mixes/outlets:**  
 Up to 8 mix with up to 6 outlets



**28 Heads:**  
 CCW-RV-228WB-\*\*-05-SS,WP

**Number of mixes/outlets:**  
 Up to 7 mix with up to 8 outlets



**32 Heads:**  
 CCW-RV-232B-\*\*-05,15,SS,WP

**Number of mixes/outlets:**  
 Up to 8 mix with up to 8 outlets

## PL series linear weighers (PL)



Manufactured only by Ishida, these multihead weighers are configured in a linear format and are ideal for low target weight applications such as confectionery, nuts, dried soup ingredients and dehydrated vegetables. They offer a unique level of gentle product handling at high speeds and are an excellent solution for mix weighing of low target weights.

**Key benefits:**

- ▲ Superior product handling of free-flowing products and ultra-low target weights (typically 5g to 50g)
- ▲ Compact design with small footprint for factory space saving
- ▲ Gentle product handling with minimal drop heights to maximise quality
- ▲ High speed precision weighing with reduced product giveaway
- ▲ Enclosed unit to contain dust, reduce the effect of external air flow and machine noise
- ▲ Simpler in-feed designs for multi-mix configurations

## Cut-Gate solutions (CG)



Delivering optimum productivity, the Cut-Gate has been developed specifically to handle free-flowing granulated products of less than a millimetre diameter such as granulated sugar, washing powder, tea and freeze-dried instant coffee. Offering increased accuracy versus conventional auger or volumetric cup filling machines, the Cut-Gate also ensures product integrity and eliminates long changeover times.

**Key benefits:**

- ▲ Major reductions in giveaway with standard deviation as low as 0.2g
- ▲ High speed production achieving up to 30wpm per head
- ▲ Optimum product functionality and appearance is maintained
- ▲ Easy-to-clean, tool-free components
- ▲ Significant reduction in dust generation with dust-proof casing and dust extraction
- ▲ Optional nitrogen gas flushing available



## Screw feeder solutions (SF)



Designed for difficult-to-handle fresh foods that resist movement, the Ishida Screw feeder weigher is ideal for weighing sticky, oily and marinated products. The stainless steel coreless screw moves the product on the multihead weigher gently but firmly towards the robust hopper system, designed to prevent product from sticking and ensure excellent performance.

### Key benefits:

- ▲ The perfect solution to weighing fresh protein
- ▲ Full automation, thanks to powerful but gentle coreless screws
- ▲ Minimises giveaway (typically <1%) and maximises yield of packed product
- ▲ Corrugated style gates prevent product from sticking during hopper emptying
- ▲ Trapping points are eliminated with simple to remove and clean contact parts
- ▲ Easy wash down design with wash proof IP69K rating

## Fresh food weighers (FFW)



A semi-automatic weigher that has the versatility to handle a wide variety of products and customer requirements. Ideal for difficult-to-handle, sticky products and short production runs, where fast product changeovers are essential. This is particularly relevant for fresh food, where the short product shelf life often demands high levels of flexibility from the production process.

### Key benefits:

- ▲ Improved flow of sticky products through the weigher
- ▲ Reduction in labour costs and rapid return on investment
- ▲ Accurate weighing and reduced giveaway – achieving typically less than 1% giveaway
- ▲ Space saving compared to typical manual weighing stations and automatic grading machines
- ▲ Easy cleaning and conformity to hygiene regulations
- ▲ Can be used as an entry level weighing solution on almost any product

## The Micro



This tiny but strong multihead weigher delivers the most flexible production solution within the smallest footprint. The Micro can handle ultra-low target weight applications from 0.5 to 50g at speeds of up to 120 weighments per minute, making this model ideal for handling applications such as tablets and capsules, herbs, soup ingredients, dehydrated vegetables and tea leaves.

### Key benefits:

- ▲ Superior handling of low target weight product
- ▲ High speeds and operating efficiency
- ▲ Precise weighing accuracy with 0.01g increment loadcells to minimise giveaway
- ▲ Gentle product handling minimises breakages
- ▲ Compact body and small factory footprint
- ▲ Sanitary and easy-to-clean design, with stainless steel hoppers and feeders

## SENTINEL™



Advanced remote customer care services from Ishida provide additional assurance for your food manufacturing operations. Through real-time data capture, live reporting and pro-active support, Sentinel provides the essential information for machine optimisation and reduced downtime. Certified to IEC62443, the standard for Industrial Automation Security, Sentinel ensures the safety of customer data at all times.

### Reporting Pack

- ▲ Live, web-based dashboard providing instant access to performance reports from any mobile or desktop device.
- ▲ Pre-configured performance reports emailed direct to the customer.

### Intervention Pack

- ▲ Pre-paid, remote technical support from Ishida engineers.
- ▲ Rapid response and diagnosis to reduce machine downtime and increase performance.

### Service Pack

- ▲ Pre-paid, remote technical support from Ishida engineers.
- ▲ Pro-active monitoring of machine performance to identify potential issues that may impact production.
- ▲ Rapid response and diagnosis to reduce machine downtime and increase performance.

## Distribution systems



A distribution system (DS) is an array of hoppers and chutes mounted on an integral frame, beneath a linear or circular weigher. They are an essential complement to the multihead weigher and can be a critical element to optimise production throughput. Ishida can recommend and manufacture the best solution based on product, speed, drop height and tray format configuration.

### Key benefits:

- ▲ Maximise throughput of production system
- ▲ Ensure accurate product placement without loss, damage or splashing that could compromise the product, pack or seal
- ▲ Meet any factory, product and packaging needs, thanks to Ishida's broad product range and bespoke engineering capabilities
- ▲ Suitable for complex ready meals and colour-banded salads, to single-piece meat or vegetable products
- ▲ Deliver an integrated design between Ishida weigher and DS
- ▲ Simplify cleaning and save time with high IP-rated systems

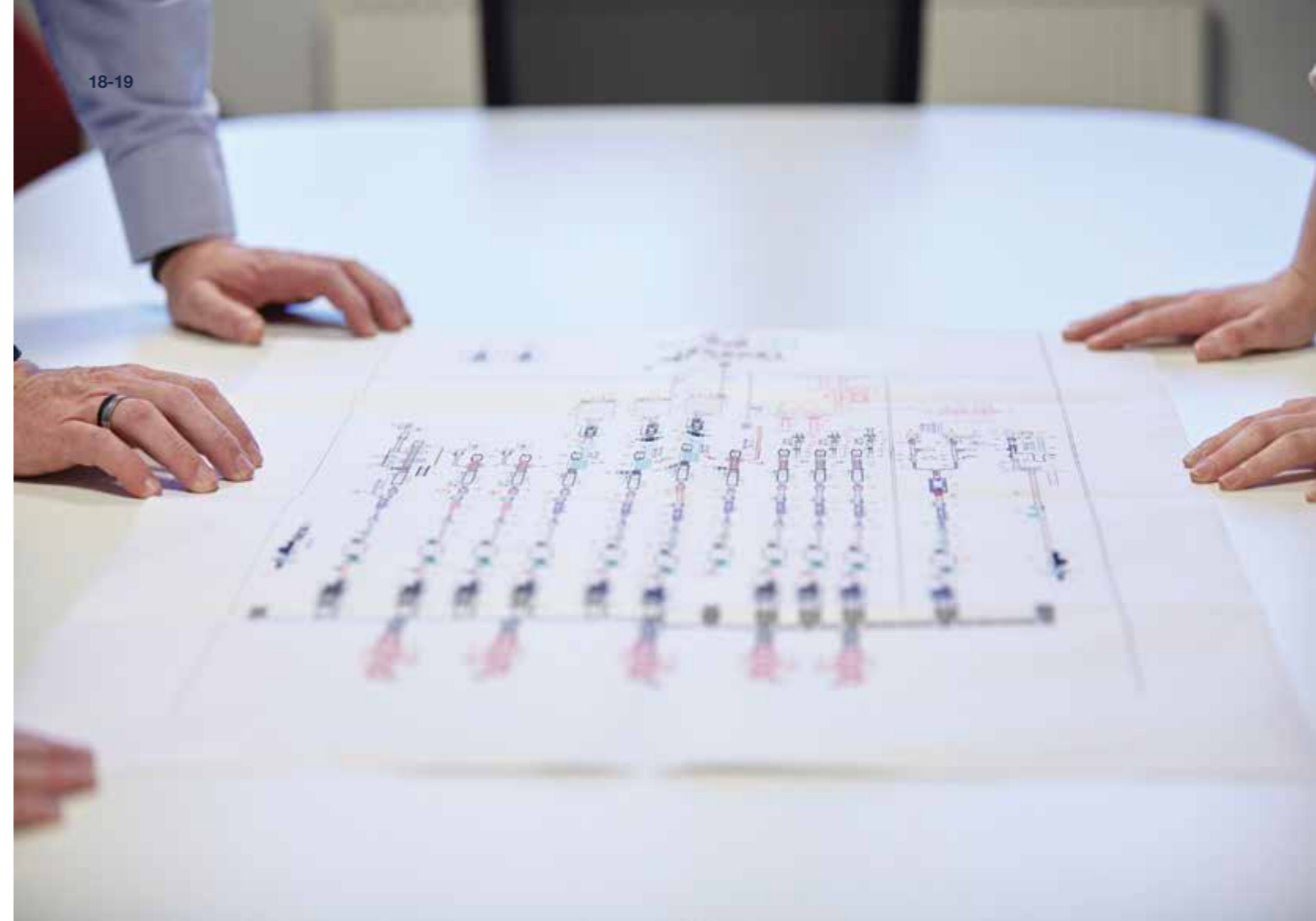
## Snacks and stick product weighers



Ishida can supply equipment for weighing and packing a wide range of snacks food products and packaging styles. We can supply an integrated Ishida weigher and Ishida bagmaker solution (together with specialised complementary equipment), or our Ishida multihead weigher as part of a complementary solution with our bagmaker OEM partners.

### Key benefits:

- ▲ Broad range of weigher solutions for either single or twin tube bag makers
- ▲ Ishida's high-performance RV weigher technology increases weighing speeds up to 300wpm
- ▲ Average weight control software achieves a resolution of mean weight of two decimal places (0.01g), reducing product giveaway by up to 80%
- ▲ Charge Transfer Control (CTC) increases the production rate of potato chips
- ▲ Enhanced radial feeder vibration control improves efficiency and accuracy
- ▲ Dedicated bread sticks machine reduces breakages by 30% compared to linear weighers



## Complete project management

Expert project management can reduce both cost and risk associated with the design and implementation of new packing lines, halls and plants.

Ishida offers you the only internationally resourced and capable project management service specialising in the area of food packing technology.

Successful project customers include most of the world's top 10 food manufacturers as well as many small and medium-sized enterprises.

Ishida project management offers you:

- ▲ A wide choice of models of working together, from fixed-price turnkey projects to managing agent agreements
- ▲ Single source of best-in-class solutions
- ▲ Excellent project analysis and planning
- ▲ An unrivalled concentration of food industry, packing technology and project management expertise
- ▲ An excellent knowledge of the legislative and regulatory pitfalls involved
- ▲ The committed support of a major international company in seeing your project through to sustained, productive operation
- ▲ Resources throughout Europe, Middle East and Africa
- ▲ A 20-year track record of successful projects



# Service coverage and channels to market

Ishida believes in working closely with customers, from start to finish, and has a strong commitment to providing its customers with exceptional levels of support. As a result, we ensure that service, maintenance and repairs are carried out quickly and efficiently by using an internationally-mobile team of engineers. A service contract tailored to your needs can ensure you have the right combination of support elements at a relatively small annual cost.



The seven areas in which this support is available are listed below:



## 1. Calibrations

- ▲ Our engineers carry out a range of comprehensive calibration checks using static and dynamic tests



## 2. Inspection equipment checks and audits

- ▲ Advice on worn component parts that may be affecting performance



## 3. Preventive maintenance (PM)

- ▲ We offer help ranging from basic inspection services through to full machine overhauls
- ▲ We take account of the type of machine, the application and the operating conditions
- ▲ Timing of maintenance can be specified to take place overnight, at weekends or during normal working hours



## 4. Efficiency engineering advice

- ▲ Our equipment routinely delivers over 98% efficiency
- ▲ We provide training of operating staff and an Ishida engineer attends during normal production and assists with machine set up
- ▲ Production staff are trained or refreshed in best practices
- ▲ Attention of on-site engineers is drawn to areas of potential improvement



## 5. 24-hour telephone support available with contract

- ▲ 24-hour technical helpdesk provides an unrivalled benefit, available 362 days a year
- ▲ A telephone call will often resolve the issue without the unnecessary expenditure of sending out an engineer
- ▲ Option of remote connectivity to Central Help Desk offers immediate response times



## 6. 24-hour spares support option available with contract

- ▲ Our engineers manning the telephone support desk have access to the Ishida 24-hour spares warehouse system and can arrange to have parts dispatched to you at any time of the day or night
- ▲ Spares warehouses are located close to our customers, which often reduces downtime
- ▲ We have a state of the art central UK store as well as regional stores for immediate responses



## 7. Guaranteed breakdown response

- ▲ The time period and the types of emergency requirements that trigger engineer attendance can all be negotiated up front
- ▲ An engineer will arrive on site within a guaranteed time period

## Service and operator training packages



### Flexible training approach, meeting your exact needs:

- ▲ Training can be covered at a variety of levels to suit your precise requirements through our dedicated training team
- ▲ Training can be on or off-site
- ▲ Training documentation and presentation materials can be purpose-designed
- ▲ A comprehensive interactive learning suite is also available (for self-paced learning)

### Operator and customer engineering training

One and two day courses covering:

- ▲ Operator level set up and fault finding
- ▲ Advanced set up, electronic and mechanical fault finding



### Spare parts support and response rates (with option of i-Care program)

- ▲ Ishida holds large equipment stocks both centrally in the UK and within regional offices
- ▲ We offer the option of dealing directly with our local subsidiary, local Agent or provide the option of i-Care (Ishida Online Spares and Parts Management Service).



### i-Care - Ishida online spares and parts management service

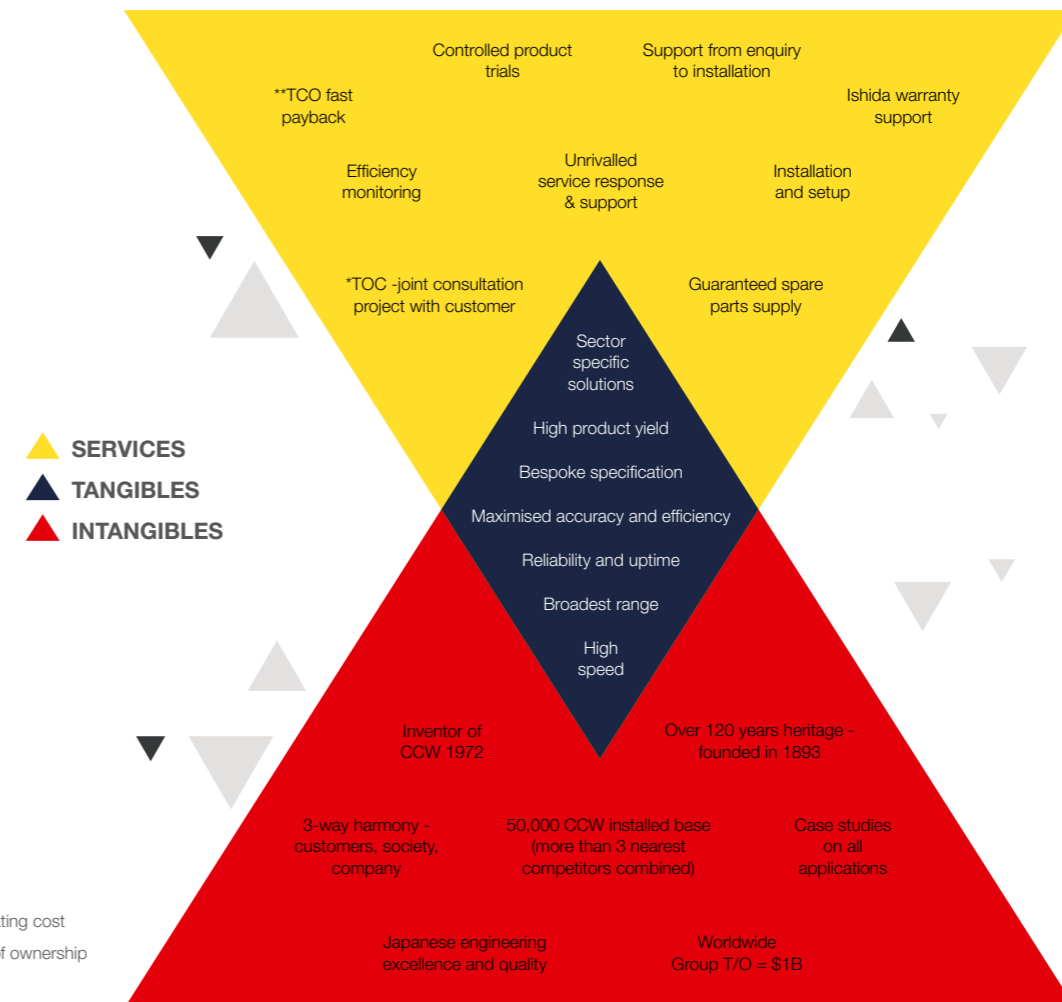
- ▲ Avoid unnecessary down-time
- ▲ Accessibility of parts manuals
- ▲ Access to your secure account 24/7

## Overall Ishida bundled value proposition

Based on the largest CCW installed base in the industry and comprehensive applications experience, Ishida can offer:

- ▲ Thorough product flow analysis upstream and downstream from CCW
- ▲ Product trials
- ▲ Supply of best fit CCW solution for application and budget
- ▲ Project design including in-feed and distribution systems
- ▲ Full line solution with productivity estimates
- ▲ Installation and compliance
- ▲ Operator and customer engineering training

With Ishida you get so much more than the market leading weigher - you also receive an unrivalled range of services focused on delivering agreed equipment performance levels (all backed up by the multihead inventor with broadest experience and global installed base).



\* Total operating cost

\*\* Total cost of ownership



# Working with you every step of the way

Our extensive R&D investment is directed at meeting the challenges of the fast-changing food industry around the globe.

We aim to support our partners fully, from the very start of the buying process, and you will find many equipment brochures, visual animations and case studies available on our website. When you are ready to make contact, a well-resourced network of Ishida companies, distributors and agents, extending across Europe, the Middle East and Africa, can provide advice and organise demonstrations and trials.

Installation is rapid and efficient. For integrated packing lines, we use proven project management techniques and methodologies, tuned to your key objectives and specifications.

A dedicated pan-European service engineering team helps to maximise the performance, functionality and reliability of our installed base. In addition, spares facilities are strategically placed throughout the territory, offering 24-hour delivery in most cases.



helpline • spares • service • training

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