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CAIRNHILL METROLOGY 2022



**CAIRNHILL
METROLOGY**



Cairnhill Metrology is an industrial metrology solutions provider established on 16 August 1983. Working long-term, we partner with principals who are global leaders in their fields, whose strengths in technology and innovation, we complement with up-to-date uniform high standards of service delivery through our network of offices in Singapore, Malaysia, Indonesia, the Philippines and Thailand.

Our **Vision** is to be the trusted industrial metrology solutions provider of choice to our customers.

Our **Mission** is to support our customers' quests for production efficiencies and quality via appropriate and reliable metrology solutions, supported throughout the solution's useful life.

Our **Values** are summed up in the Golden rule, "What you wish that others do to you, do so to them".

Our Solutions are focussed by groups: -

- **Food, Pharmaceutical Industrial Solutions (FPIS)**
- **Portable Metrology (PMT)**
- **Industrial Metrology (IMT)**
- **Industrial X-Ray Computed Tomography (XCT)**
- **Software for Visualization, Analysis, Metrology, Process Control and Reverse Engineering**

Food, Pharma and Industry Safety and Validation

These automated solutions are mainly provided through our distribution relationship since 1983 with Anritsu Industrial Solutions Co., Ltd (www.anritsu-industry.com) and supplemented with customised metal detectors from Cassel Messtechnik GmbH (www.cassel-inspection.com).

Safety is achieved via detection of contaminants via high sensitivity in-line X-Ray and Metal Detectors and via In-Line Checkweighers for weight verification in pharmaceutical and food products. These solutions help ensure consumer safety and compliance with standards such as HACCP.

Validation includes weight verification for OIML legal metrology, GMP validation for pharmaceuticals, net weight control for waste reduction, missing products detection and shape verification. These can be achieved by suitable In-Line Checkweighers, X-Ray Inspection Systems and Metal Detectors.

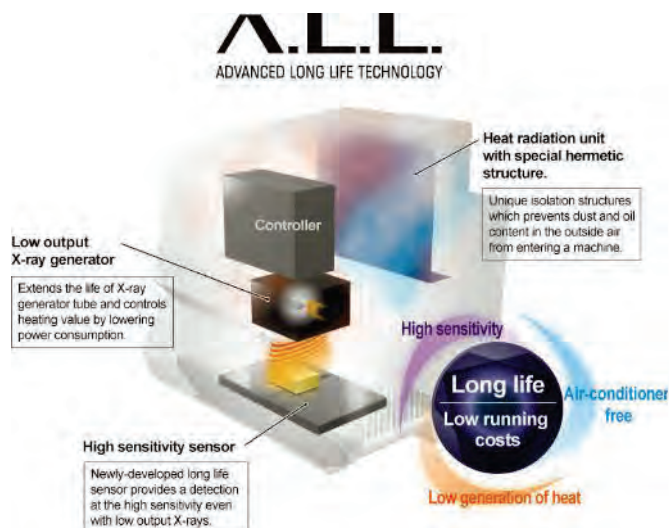
Food and Pharmaceuticals Quality Solutions

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XR75 Series Advanced Long-Life X-Ray Inspection Systems



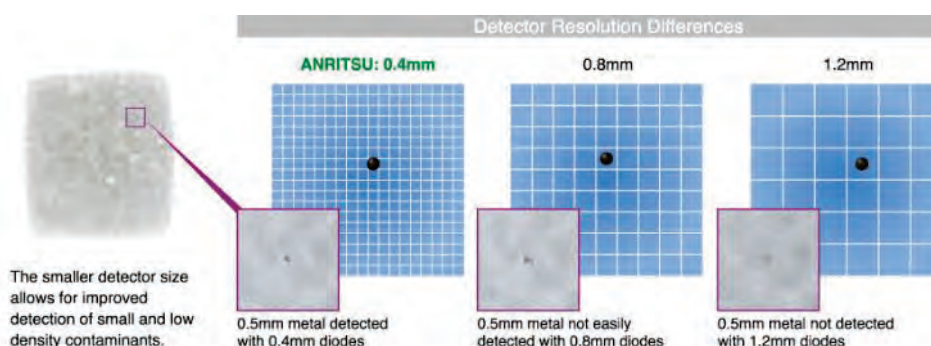
XR75



New X-Ray detector and generator enables high detection sensitivity at low output, significantly extending lifespan and reduces replacement costs. A **proprietary hermetic** controlling heating valve provides internal cooling without air con, reducing power consumption by 30%, resulting in 20% lower lifetime costs.



“Discover What You’ve Been Missing!”



Key Features

- Up to **0.2mmØ sensitivity** via advanced sensor and image signal processing technology!
- Compact, fast, accurate and user friendly
- **15” LCD** on-screen graphics and operations
- FDA 21 CFR1020.40 radiation cabinet compliance
- Tool-free conveyor dis-assembly for cleaning

HD and Ultra HD Imaging

Anritsu HD and Ultra HD core imaging technology enable highest resolution X-Ray for better digital analysis and significantly improved performance detection.



Received the 18th Nisshoku Excellent Food Machine and Material Prize from Japan Food Journal Co., Ltd. in 2015.

Wide Range and Applications



XR75 Series for Packaged Products – Advance Long Life Technology



KXS7554 XR – For large products



For pumped products



XR74 Series for Packaged Products – Proven Standard Economy Model



For lightweight products



Package Check X-Ray Inspection System – For simultaneous contaminants & seal integrity inspection



XR75 Dual Energy – For Best Detection of Bones & Low Density Contaminants



For unpackaged & bulk products



Side Beam X-Ray Inspection System – For tall products

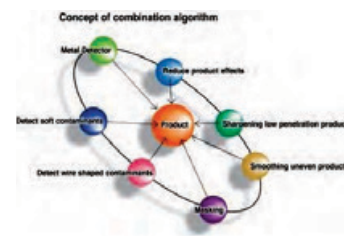
	Model	Detection Area	
	KXS7522AWCLE KXS7522AVCLE		Effective detection width = $240 - \frac{(80 \times H_p)}{120}$ Effective detection height = $\frac{120 \times (240 - W_p)}{80}$
	KXS7522CWCLE KXS7522CVCLE		Effective detection width = $240 - \frac{(40 \times H_p)}{50}$ Effective detection height = $\frac{50 \times (240 - W_p)}{40}$
	KXS7534AWCLE KXS7534AVCLE		Effective detection width = $390 - \frac{(160 \times H_p)}{220}$ Effective detection height = $\frac{220 \times (390 - W_p)}{160}$
	KXS7534CWCLE KXS7534CVCLE		Effective detection width = $390 - \frac{(35 \times H_p)}{50}$ Effective detection height = $\frac{50 \times (390 - W_p)}{35}$

“Contaminants made Visible via Optimised Algorithms”

- Anritsu full featured X-Ray inspection software includes many versatile unique algorithms optimised for simultaneous inspection of various types and sizes of contaminants including wire, glass, stone and bone
- Sharpens low penetration, uneven products and wire shaped and soft contaminants
- Dynamic filters enhance detection with reduction of possible false rejects
- Full auto-learn process of all X-Ray settings at the touch of a button.
- Password protection to prevent unintended changes of system settings
- Multiple reject criteria for contaminant, virtual weight, count, missing items...
- Full production counters with full time/day log and image capture for all rejected products sorted by types
- Built-in multi-lane system capability – 1 to 6 lanes
- Stable, repeatable performance. Full HACCP auditing capability through Anritsu’s Operation Check



Multi-View Software



Assuring Product Quality and Brand Loyalty

Various Product Safety and Conformity Checks

Count Detection

Number of vertically packed biscuits/cookies per pack



Boxed cookies of four packs of 3 pieces

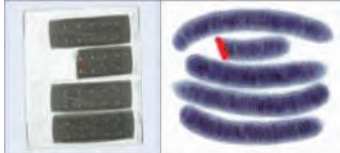
Missing Product Area Detection

Inspects complete product presence by checking the density of product in specific area within a pack



Shape Detection

The shape, area and mass can be analysed from X-Ray images to find breaks and chips. Missing fillings can also be spotted.



Chipped biscuit Chipped sausage

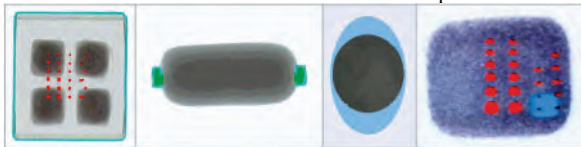
Virtual Weighing

A virtual weight is calculated based on known density criteria established via the Auto-Set function



Mask Functions

Detection sensitivity is improved by masking according to product characteristics such as forms and shapes



L-R: Edge Mask, Clip Mask, Can Edge Mask and Deoxidizer Mask

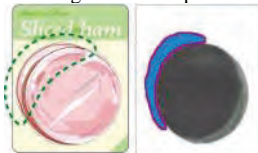
Multi-Lane Inspection

Allows a single machine to inspect a multi-flow line, maximizing overall line efficiency



Package Check

Packages of sliced ham, checked to ensure none of the contents is caught in sealed parts



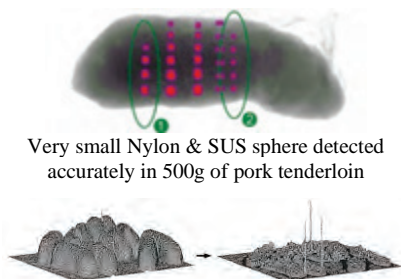
Example of ham caught in seal

Void Check

Inspects voids and air bubbles entrapped in retort food, cheese or butter for maintaining freshness

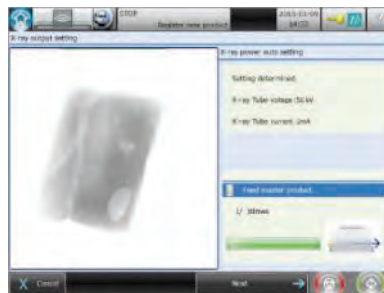


10cc air bubbles in retort foods and 2mm dia. voids in solid products are detectable

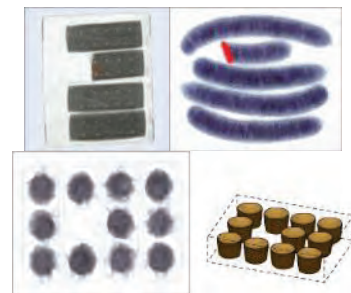


Very small Nylon & SUS sphere detected accurately in 500g of pork tenderloin

Signal processing detects only contaminants



Intuitive Product registration navigation



Shape & Virtual Weight Detection

Easy Control & Maintenance / Optimal Up-Time Features

(All Models)

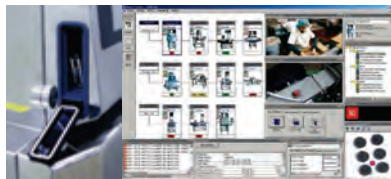


Safety Features:

- ON/OFF key turns off X-Ray completely and opens/closes shield cover. Irradiation stops when cover is open. Lamp lit when irradiating.
- Emergency Stop Switch cuts power supply, rotating parts and radiation
- Hand Monitor for Safety: interrupting sensor for period of time stops irradiation
- Lead curtain prevents X-Ray leakage.
- Lead-Free Options: SUS curtain/cover for unpackaged products or Polymeric curtain for lightweight products to prevent lead contamination



Lead-free polymeric curtain (option) for transfer of light weight products



USB interface & QUICCA information management software through Ethernet



Simple maintenance with tool-free **easy parts removal** and **easy-to-clean design**

X-Ray Regulatory/Safety Guidelines

- **Safety of Inspected Products:** World Health Organisation 1980 guideline: "Irradiation of food commodity up to an average dose of 10kGy presents no toxicological hazard and introduces no special nutritional or microbiological problems." Anritsu X-Ray system irradiation to products is 0.002Gy. For products stuck inside machine, irradiation is still 0.1Gy or less.
- **Safety for Humans:** The Earth's natural environment radiation exposure is 1100 μ Sv (micro Sievert) per year on average. A typical medical chest X-Ray exposure is 300 μ Sv. The X-Ray leakage of Anritsu X-Ray systems is less than 1 μ Sv per hour /or about 0.65mSv (millisievert) per 3 months (1 μ Sv x 13 weeks x 5 days x 10 hours = 0.65mSv.)

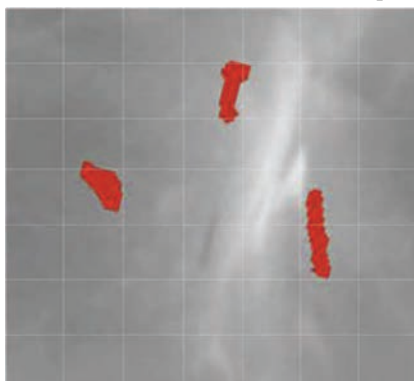
DualX HR ^{NEW!} for Dual Energy High Resolution X-Ray Inspection



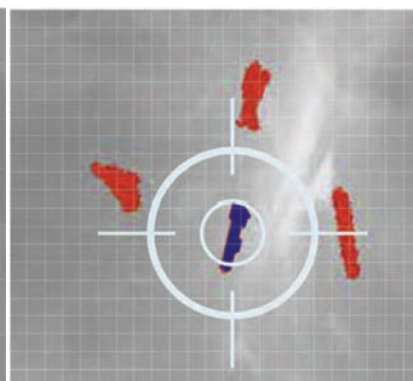
XR75-h Dual Energy Model

Key Features:

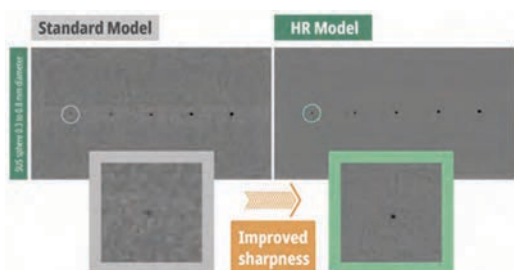
- **Dual Energy Sensory Technology** detects even thin bones and low-density bones, better highlighting contaminants
- Dedicated **Detection Algorithm** tuned and optimized for high-resolution images obtained from the new sensor, improving detection sensitivity and reducing false rejections
- **NEW Dual Energy Sensor** enables high-resolution images to be obtained and improves the detection performance of fine metals and small bones, significantly reduces the effects of products with rough surfaces, detecting even low-density contaminants such as 0.2mm metal sphere contaminants



Standard Model



HR Model



New dual energy sensor



Dedicated detection algorithm

Model	KXH7534ASGCD
X-Ray Output	Tube voltage 30 to 80kV, Tube current 0.4 to 10.0mA, Max output 300W
Safety	X-Ray leakage: $\leq 1\mu\text{Sv/h}$, Prevention of leakage by safety devices
Display and Operation	15" Colour TFT LCD; Touch panel (with touch buzzer)
Product Size ^{1,2}	Max width: 370mm, Max height: 220mm
Belt Width	420mm
Standard Functions	Masking, Missing Product Detection and Clip Check functions
Preset Memory	Max 200
Belt Speed ³ / Max Product Weight ⁴	10-45m/min; Max 5kg
Power Requirements ⁵	200 to 240Vac, single phase 47 to 63Hz, 1800VA or less
Mass	350kg
Environment	Temperature 0° to 35°C, relative humidity 30% to 85%, non-condensing
Protection Class	IP66 (air conditioner: IP54)
Exterior	Stainless steel (SUS304)

¹ Product size should fall below the detection area. ² Entrance and exit may require covers depending on product length. ³ Variable depending on product quantity. ⁴ Sum total of product weight on the conveyor. ⁵ Allowable power fluctuation range is $\pm 10\%$. ⁶ Mass without option. ⁷ Temperature between 0°C and 35°C when an optional cooling system is installed.

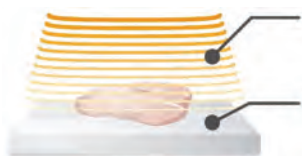
DualX Dual Energy Sensor Technology

For Reliable Contamination Detection of Poultry and Meat



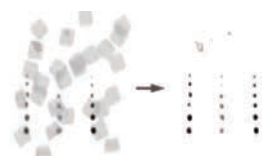
Benefits:

- Provide reliable detection of thin, low density bones
- Deliver high detection sensitivity for inspecting overlapping products and rough surface products
- Minimize false rejects in bulk flow inspection



X-Rays have multiple level energies.

Two different images are obtained at high energy level and low energy level.



Dual Energy subtraction better highlights contaminants.



Environmental-resistant heat control system



Cutting-edge algorithms

	KXE7522AWHZE	KXE7534AWHZE	KXE7522CWHZE	KXE7534CWHZE
X-Ray Output	Tube voltage 30 to 60kV, Tube current 0.4 to 10.0mA, Output 12 to 350W	Tube voltage 30 to 80kV, Tube current 0.4 to 10.0mA, Output 12 to 350W	Tube voltage 30 to 60kV, Tube current 0.4 to 10.0mA, Output 12 to 350W	Tube voltage 30 to 60kV, Tube current 0.4 to 10.0mA, Output 12 to 350W
Safety	X-Ray leakage: ≤1μSv/h, Prevention of leakage by safety devices			
Display and Operation	15" Colour TFT LCD; Touch panel (with touch buzzer)			
Product Size ^{1,2}	Max width: 240mm, Max height: 120mm	Max width: 390mm, Max height: 220mm	Max width: 240mm, Max height: 50mm	Max width: 390mm, Max height: 50mm
Standard Functions	Masking, Missing Product Detection and Clip Check functions			
Preset Memory	Max 200			
Belt Speed ³ / Max Product Weight ⁴	10-60m/min; Max 5kg 10-40m/min; Max 10kg (Option)		10-50m/min; Max 5kg	
Power Requirements ⁵	200 to 240Vac, single phase 50/60Hz, 2100VA or less			
Mass ⁶	300kg	350kg	335kg	390kg
Environment ⁷	Temperature 0° to 30°C, relative humidity 30% to 85%, non-condensing			
Protection Class	IP66 for conveyor; IP65 for other parts			
Exterior	Stainless steel (SUS304)			

¹ Product size should fall below the detection area. ² Entrance and exit may require covers depending on product length. ³ Variable depending on product quantity. ⁴ Sum total of product weight on the conveyor. ⁵ Allowable power fluctuation range is $\pm 10\%$. ⁶ Mass without option. ⁷ Temperature between 0°C and 35°C when an optional cooling system is installed.

KXS7522/7534AWCLE/AVCLE For Packaged Products**KXS7522/7534CWCLE/CVCLE Lightweight Products / Small Bags****KXS7522AVCLE****KXS7522CVCLE**

Model	KXS7522AWCLE	KXS7522AVCLE	KXS7534AWCLE	KXS7534AVCLE
Product Size ¹	Max width 240mm, Max height 120mm		Max width 390mm, Max height 220mm	
Belt Width	270mm		420mm	
Belt Speed ² /Max Product Weight ³	10 to 60m/min, Max 5kg		10 to 60m/min, Max 5kg	
	60 to 90m/min, Max 2kg		-	
Mass ⁵	10 to 40m/min, Max 10kg (optional)		10 to 40m/min, Max 10kg (optional)	
	245kg	250kg	305kg	310kg
Protection Class	Conveyor: IP66 Other parts: IP40	Entire surface conforms to IP66	Conveyor: IP66 Other parts: IP40	Entire surface conforms to IP66

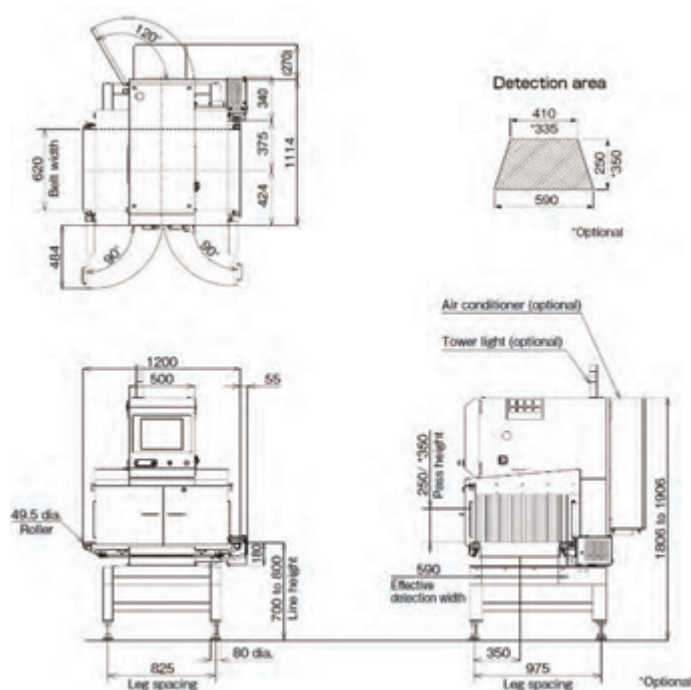
Model	KXS7522CWCLE	KXS7522CVCLE	KXS7534CWCLE	KXS7534CVCLE
Product Size ¹	Max width 240mm, Max height 50mm		Max width 390mm, Max height 50mm	
Belt Width	270mm		420mm	
Belt Speed ² /Max Product Weight ³	10 to 50m/min, Max 5kg			
Mass ⁴	270kg	275kg	340kg	345kg
Protection Class	Conveyor: IP66 Other parts: IP40	Entire surface conforms to IP66	Conveyor: IP66 Other parts: IP40	Entire surface conforms to IP66

For all models above

X-Ray Output	Tube voltage 30 to 80kV, tube current 0.4 to 3.3mA, output 12 to 100W
Safety	Max 1μSv/h or less, Prevention of X-Ray leakage by safety devices
Display and Operation	15-inch Colour TFT LCD; Touch panel (with touch buzzer)
Preset Memory	200
Power Requirements ⁴	100 to 240AC, single phase, 50/60Hz, 700VA or less (standard)
Environment Conditions ⁶	Temperature 0° to 35°C, relative humidity 30% to 85%, non-condensing
Exterior	Stainless steel (SUS304)

¹ The entrance and exit may require covers depending on product length. ² Variable depending on product no. ³ Sum total product weight on conveyor. ⁴ Mass without option. ⁵ Allowable fluctuation range is ±10%. ⁶ For KXS7522AWCLE and KXS7522AVCLE, belt speed and product weight apply at between 30°C and 35°C. For KXS7522/7534AWCLE, these apply at between 0°C and 40°C with optional air conditioner installed.

KXS7554A WHSE/AWHSG For Large Products



Model		KXS7554A WHSE	KXS7554A WHSG
X-Ray Output		Tube voltage 30 to 80kV, tube current 0.4 to 10.0mA, output 350W	
Safety		Max 1μSv/h or less, Prevention of X-Ray leakage by safety devices	
Display and Operation		15-inch Colour TFT LCD; Touch panel (with touch buzzer)	
Product Size ^{1, 2}		Max width 590mm, Max height 250mm (350mm Optional)	
Belt Width		620mm	
Preset Memory		200	
Belt Speed Max Product Weight ³	Dry Condition	10 to 30m/min, Max 50kg	
		31 to 40m/min, Max 40kg	
		20 to 70m/min, Max 20kg (optional)	
	Wet Condition	10 to 30m/min, Max 40kg	
		31 to 35m/min, Max 30kg	
		36 to 40m/min, Max 20kg	
		20 to 60m/min, Max 20kg (Optional)	
		61 to 70m/min, Max 10kg (Optional)	
Power Requirements		100 to 120VAC ±10%, or 200 to 240VAC ±10%, single phase, 50/60Hz, 1.2kVA, (1.9 kVA with optional air-con)	
Mass ⁴		480kg (525kg with optional air-con)	
Environment Conditions ^{5, 6}		Temperature 0° to 35°C (0°C to 40°C with air-con), relative humidity 30% to 85% non-condensing	
Protection Class		Conveyor: IP66, Other parts: IP40	
Exterior		Stainless steel (SUS304)	

¹ Product size should fall below the detection area. ² Entrance and exit may require covers depending on product length. ³ Sum total of product weight on the conveyor. ⁴ Mass without option. ⁵ Air-con option may be required depending on the operating environment. ⁶ Air-con can be used without a filter (standard); however the filter option is recommended for use in dusty environment. When using the filter option, the temperature range in the operating environment of the X-Ray system is limited.

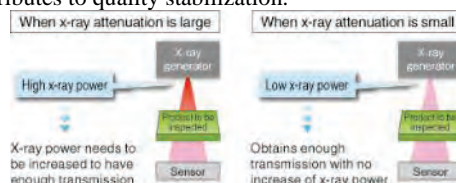
KXE7510DGEKE Pharmaceutical X-Ray Inspection System



KXE7510DGEKE

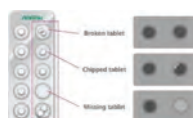
Features:

- New X-Ray unit with significantly improved X-Ray images & reduced variation in quality contributes to quality stabilization.



Newly developed **X-Ray generator** and **sensor** for low density items

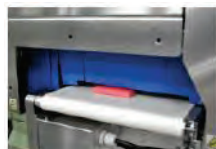
- Simultaneous inspection for contaminant, shape, count & package check.
- Unique X-Ray technology detects transdermal patches caught in sealed areas previously undetectable.



Shape /Missing Product Detection



Package Check



- Unique technology minimizes X-Ray leakage allowing short products with height less than 10mm to be conveyed without touching leakage prevention curtain, reducing false rejects due to product jam or the disturbance of product orientation during conveyance, ensuring proper rejection.
- No blind spot design prevents statistical discrepancies and contamination due to improper conveyance and products falling off the line.
- Supports FDA 21 CFR Part 11 regulation with Eligibility Authentication, Audit Trail, Data Encryption and Decryption.
- Product Registration Navigation simplifies parameter setting via step-by-step illustrations for easy setting of the system to achieve high sensitivity.

	KXE7510DGEKE	KXE7530DGEKE
X-Ray Output	Tube voltage 30 to 50kV, Tube current 0.5 to 6.6mA, Output 15 to 200W	
Safety	X-Ray leakage: Max 1μSv/h or less, Prevention of X-Ray leakage by safety devices, lead-free shield curtains with a 10mm clearance from the conveyor surface as standard	
Display & Operation	15" Colour TFT LCD; Touch panel (with touch buzzer)	
Detection Area ^{1, 2}	Max width 205mm, Max height 50mm	Max width 350mm, Max height 50mm
Belt Width	250mm	350mm
Preset Memory	200	
Belt Speed ³	10 to 90m/min	
Max Product Weight ⁴	2kg	
Power Requirements ⁵	100 to 240Vac, single phase, 50/60Hz, 1.0kVA or less	
Mass ⁶	230kg	300kg
Environment	Temp 0-30°C, Rel. Humidity 30-85%, non-condensing	
Protection Class	IP40	
Exterior	Stainless steel (SUS304)	

¹ Product size should fall below the detection area. ² Entrance and exit may require covers depending on product length. ³ Variable depending on product quantity. ⁴ Sum total of product weight on the conveyor. ⁵ Allowable power fluctuation range is ±10%. ⁶ Mass without option.

KXE7514BWELE Side View X-Ray Inspection System

For Tall Packaged Product Inspection



“World Class Detection for Rigid and Tall Products”

- Side-view mounted over line: Avoids transfer jams and product handling issues
- High definition X-Ray imaging of products in upright containers like cartons, foil-lined pouches, aseptic boxes, and PET bottles
- Outstanding detection of high- and low-density contaminants as small as 0.5mm
- Anritsu intuitive interface reduces downtime, errors and operator training. Configure products easily in minutes with Setup Wizard and Auto-Learn.
- Optional QUICCA software for real-time monitoring, traceability, reporting, QA and HACCP compliance.



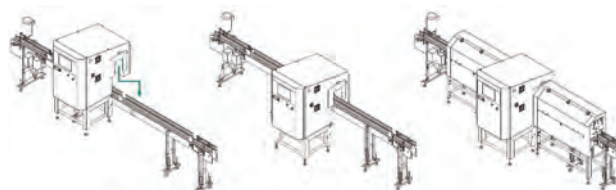
Juice in PET bottles



Potato chips in composite can



Ketchup in PET bottles



The side view X-Ray system leakage prevention covers on right and left sides are customised according to shape of existing conveyors and mounted over the existing conveyor



Accurate repeatable detection of problematic foreign materials

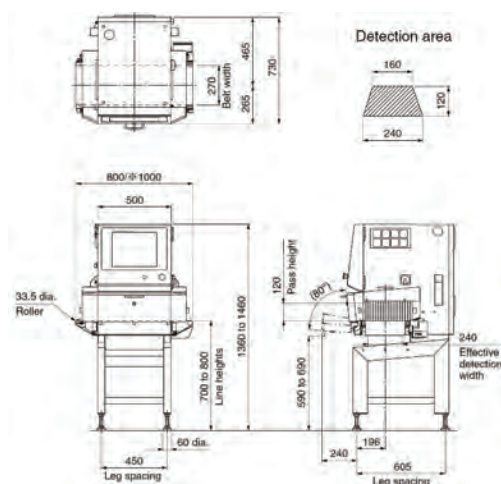
Model	KXE7514BWELE
X-Ray Output	Tube voltage 30 to 80kV, Tube current 0.4 to 5.0mA, Output 12 to 150W
Safety	X-Ray leakage: < 1μSv/h, Prevention of leakage by safety devices
Display and Operation	15" Colour TFT LCD; Touch panel (with touch buzzer)
Product Size ¹	Max width: 150mm, Max height: 250mm (290mm Option)
Standard Functions	Masking, Missing Product Detection and Clip Check functions
Preset Memory	Max 200
Corresponding Belt Speed ²	10-120m/min
Power Requirements ³	100 to 240Vac, single phase 50/60Hz, 700VA or less
Mass ⁴	540kg
Environment	Temperature 0° to 35°C, relative humidity 30% to 85%, non-condensing
Protection Class	IP66 for Inspection area; IP40 for other parts
Exterior	Stainless steel (SUS304)

¹ Product size should fall below the detection area. ² Model with no conveyor unit, can be used with existing conveyor at the above belt speed. ³ Allowable power fluctuation range is ±10%. ⁴ Mass with straight extension cover (above reference external view) without option.

XR74 Standard Series for Individually Packed Products



KD7405AWH



	KD7405A/B		KD7416A/B		KD7417
	WH	DWH	WH	WH	DWH
A		270		420	420
B		265		340	340
C		465		540	540
D		730		880	880
E		1360 - 1460		1530 - 1630	1530 - 1630
F		640		650	650
G		240		280	280
H		196		271	271
I		605		755	755
J	800	1000	800	1000	800
K		240		390	390
L		160		280	230
M		120		150	220

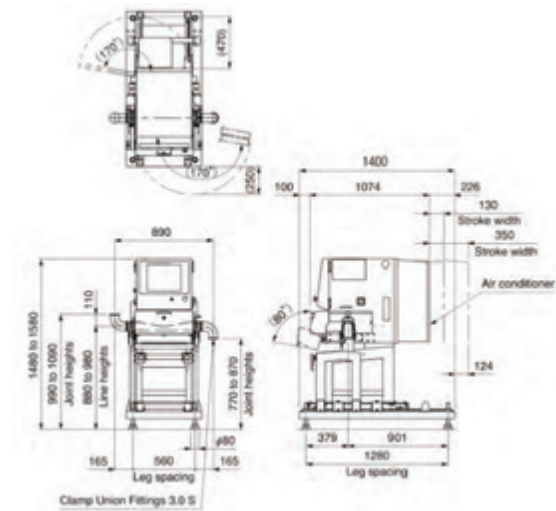
Model	KD7405AWH	KD7405ADWH	KD7405BWH	KD7405BDWH
X-Ray Tube Voltage	25 to 60kV		25 to 80kV	
Max Product Size ¹	240mm width by 120mm height			
Belt Width	270mm			
Mass	210kg	215kg	220kg	225kg
Belt Speed	5 to 90m/min for up to 2kg / 5 to 60m/min for up to 5kg / 5 to 40m/min for up to 10kg (Option)			

Model	KD7416AWH	KD7416ADWH	KD7416BWH	KD7416BDWH	KD7417BWH
X-Ray Tube Voltage	25 to 60kV		25 to 80kV		
Max Product Width ¹	390mm				
Max Product Height ¹	150mm				220mm
Belt Width	420mm				
Belt Speed	5-60m/min for up to 5kg / 5-40m/min for up to 10kg (Option)				4-40m/min for up to 10kg
Mass	255kg	260kg	265kg	270kg	265kg

For all models above

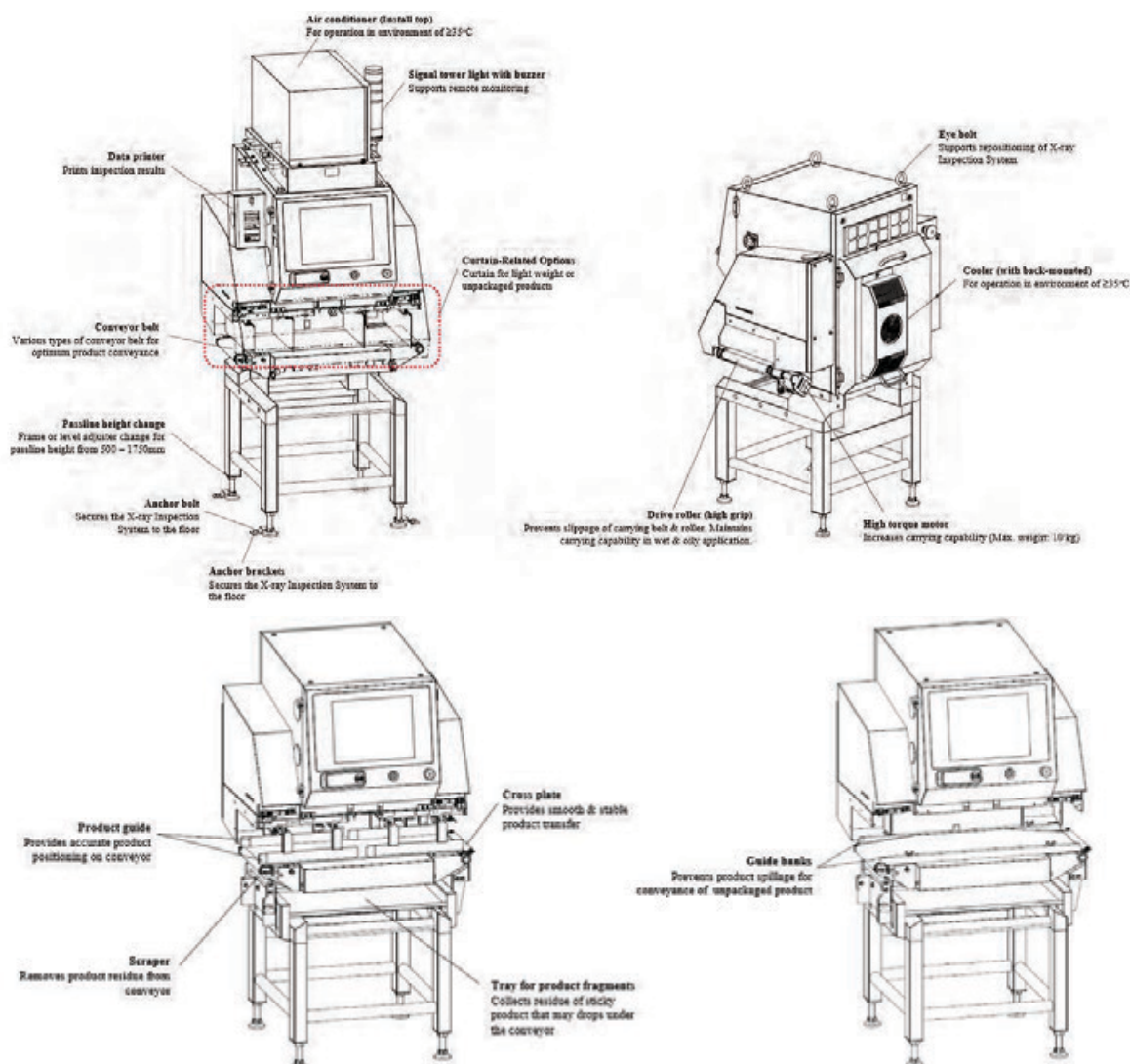
X-Ray Tube Current	0.3 to 7.0mA
X-Ray Output	7.5 to 210W
Safety	X-Ray leakage: Max 1μSv/h or less, Prevention of X-Ray leakage by safety devices
Display and Operation	15-inch Colour TFT LCD; Touch panel (with touch buzzer)
Standard Functions	Masking function, Missing product detection function, Clip check function
Preset Memory	Max 100
Power Requirements	100 to 120Vac or 200 to 240Vac ±10%, single phase, 50/60 Hz, 1 kVA, rush current 80A (typ.)
Environment	Temperature 0° to 35°C (0° to 40°C with optional air con), relative humidity 30% to 85%
Protection Class	IP66 Compliance (for conveyor), IP40 Compliance (for other parts), Tool free belt removal
Exterior	Stainless steel (SUS304)

¹ Refer to table for effective detection area

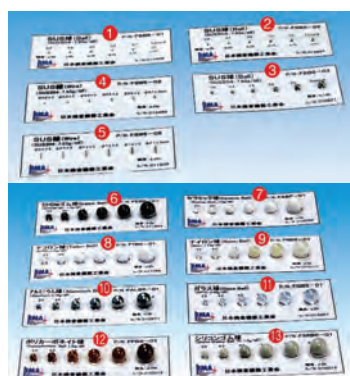
KD7483AFWH For Inspecting Fluid Flowing in Pipes**KD7483AFWH**

Model	KD7483AFWH
X-Ray Tube Voltage	25 to 60kV
X-Ray Tube Current	0.3 to 7.0mA
X-Ray Output	7.5 to 210W
Safety	X-Ray leakage: Max 1 μ Sv/h or less, Prevention of X-Ray leakage by safety devices
Display and Operation	15-inch Colour TFT LCD; Touch panel
Product Size (solid in fluid)	12mm or smaller (< 1/3 min height of inspection section)
Transfer Pipe Dimension	\varnothing 76.2mm
Inspection Sect Pass Height	35mm (fixed)
Position Change at Sensitivity Adjustment	Main unit position change (pipe position fixed)
Preset Memory	Max 100
Processing Capacity (Flow)	11.0kl/h
Power Requirements	100 to 120Vac or 200 to 240Vac, single phase, 50/60Hz, 1.6kVA, rush current 80A (typ.)
Mass	340kg
Environment	Temperature 0° to 40°C, relative humidity 30% to 85%
Protection Class	IP66 Compliance (product transfer type), IP40 (other parts)
Exterior	Stainless steel (SUS304)
Cooling System	Air Con (Standard Equipment)

X-Ray Inspection System Options



X-Ray Test Specimens



Material		Ref	Diameter mm
SUS Sphere	1	FSB6-01	0.3 to 0.8
	2	FSB6-02	0.6 to 1.5
	3	FSB6-03	1.0 to 3.0
SUS Wire	4	FSW6-02	0.2x2 to 0.7x2
	5	FSW6-05	0.2x5 to 0.7x5
Rubber sphere (EPDM)	6	FEB6-01	3.0 to 8.0
Ceramics sphere (Alumina)	7	FEB6-02	1.0 to 5.0
PTFE sphere	8	FTB6-02	1.6 to 5.0
Nylon sphere	9	FNB6-01	3.2 to 8.0
Aluminum sphere	10	FALB6-02	1.0 to 5.0
Quartz sphere	11	FGB6-02	1.0 to 5.0
Polycarbonate sphere	12	FPB6-01	3.2 to 8.0
Silicon Rubber sphere	13	FSRB6-01	3.0 to 8.0

Document No. JMA-01-001 (8/15/04)
Revised Date: Dec 09, 2019

Certification
Test piece for X-ray inspection system

Name: FSB6-01
S/N: 00027
Date: Dec 09, 2019
Temperature: 23±5°C
Measurement: Dimension made by microscope, 0.1mm
Standard: JMA Standard, JMA-000-01 (200)

Inspector: [Signature]
Reviewed by: [Signature]

(1) Visual Check (No abnormality by inspection) ☒ Yes ☐ No
(2) Dimension (Dimension is within tolerance shown in the following tolerance specification)

Item	Unit	Value
Dimension	mm	0.100±0.005
Measurement 1	mm	0.100
Measurement 2	mm	0.100
Measurement 3	mm	0.100
Measurement 4	mm	0.100

I, [Signature], do hereby certify that this test piece is approved by JMA.
All specifications meet with JMA standard code JMA-000-01 (200)

Note:
- Depending upon the measurement method, the dimension may be changed.
- Please do not use this under high temperature environment.
- The certification will expire after 1 year and test piece may be degraded.

JMA Japan Inspection Instruments Manufacturers' Association
JMA-01-001 (8/15/04) Revised Date: Dec 09, 2019

Sample of test piece certificate



Anritsu is a member of the Japan Inspection Instruments Manufacturers' Association (JIMA). Single test pieces are also available in addition to the sets of 6-series test pieces.

M6-h Series Dual Wave Metal Detectors

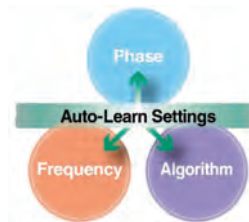
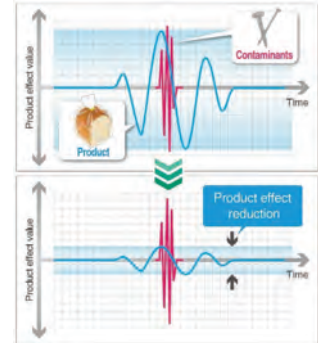
Enhanced Performance, Simultaneous 2-Frequency Magnetic



KDS3008ABW

Advanced Digital Signal Processing

Built-in digital signal processing (patent pending) better isolates product effect and minimized its impact on detection. Outstanding detection made easy.



Improved Auto-Learn provides reliable, repeatable performance

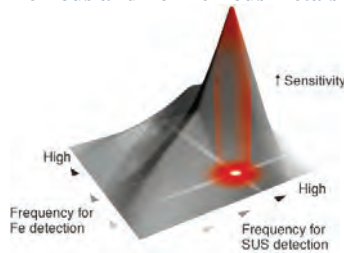
Improvements in detection and performance developed in-house based on 50+ years of industry experience. The auto-learn process optimizes the best phase, frequency and detection algorithms for the dual simultaneous frequencies.

Vibration and electrical noise resistant



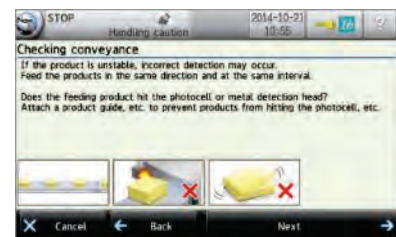
Provide high sensitivity without sacrificing repeatability and reliability

High sensitivity detection of both ferrous and non-ferrous metals



Analyses over 10,000 combinations of frequencies and algorithms to provide the best detection possible

Minimize false rejects



Intuitive troubleshooting display shows possible causes of false rejects with suggestions to improve performance

FOCUS function



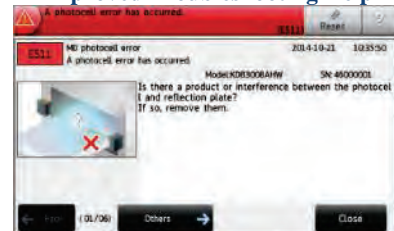
Contaminants are random in shapes and sizes such as wires, shavings and flakes. FOCUS delivers enhanced detection of hard-to-detect real world contaminants.

No tension adjustment necessary



Belt adjustment eliminated by auto belt tensioner. Meander-less belt in wash-down models eliminate tracking issues.

Improved Troubleshooting Help



Unique Error and Alarm codes minimize downtime by offering guidance and reducing the need for service support.

M6-h Series Dual Wave Metal Detectors

Enhanced Performance, Simultaneous 2-Frequency Magnetic

Anritsu's unique detection algorithms (that separate product and metal contaminant effect values) combines with the industry's first simultaneous 2-frequency magnetic field detection method delivering high performance sensitivity of ferrous and non-ferrous metals

M6-h Series



Popular model

M6-h Series Vertical Type



Suitable for beverages and seasonings in tall glass containers and plastic bottles.

M6-h Large Product Series



Large aperture infeed suitable for bulk flow products, large bags and cartons.

M6-h Metal Detectors (High Sensitivity Series)

KDS21□□ Specifications

Model	Waterproof			Non-Waterproof		
	KDS2105ABW	KDS2108ABW	KDS2110ABW	KDS2105ABF	KDS2108ABF	KDS2110ABF
Pass Height	45mm	75mm	95mm	50mm	80mm	100mm
Max Pass Width	210mm					
Belt Width	140mm			160mm		
Max Product Weight ¹	5kg (Can support up to 15kg as an option. However, the belt speed will be 5 to 49m/min.)			5kg (Can support up to 10kg as an option. However, the belt speed will be 5 to 49m/min.)		
Mass	92kg	92kg	93kg	90kg	90kg	91kg
Protection Class	IP66 compliance			IP30 compliance		
Exterior	Stainless steel (SUS304)			Conveyor Frame and Stand: Painted; Indicator & detector head: stainless steel (SUS304)		

KDS30□□ Specifications

Model	Waterproof			Non-Waterproof		
	KDS3005ABW	KDS3008ABW	KDS3010ABW	KDS3005ABF	KDS3008ABF	KDS3010ABF
Pass Height	45mm	75mm	95mm	50mm	80mm	100mm
Max Pass Width	300mm					
Belt Width	230mm			250mm		
Max Product Weight ¹	5kg (Can support up to 15kg as an option. However, the belt speed will be 5 to 49m/min.)			5kg (Can support up to 10kg as an option. However, the belt speed will be 5 to 49m/min.)		
Mass	97kg	97kg	99kg	94kg	94kg	96kg
Protection class	IP66 compliance			IP30 compliance		
Exterior	Stainless steel (SUS304)			Conveyor Frame and Stand: Painted; Indicator & detector head: stainless steel (SUS304)		

KDS301□ Specifications

Model	Waterproof			Non-Waterproof		
	KDS3012ABW	KDS3015ABW	KDS3018ABW	KDS3012ABF	KDS3015ABF	KDS3018ABF
Pass Height	115mm	145mm	175mm	120mm	150mm	180mm
Max Pass Width	300mm					
Belt Width	230mm			250mm		
Max Product Weight ¹	5kg (Can support up to 15kg as an option. However, the belt speed will be 5 to 49m/min.)			5kg (Can support up to 10kg as an option. However, the belt speed will be 5 to 49m/min.)		
Mass	100kg	101kg	103kg	97kg	98kg	100kg
Protection Class	IP66 compliance			IP30 compliance		
Exterior	Stainless steel (SUS304)			Conveyor Frame and Stand: Painted; Indicator & detector head: stainless steel (SUS304)		

KDS450□ Specifications

Model	Waterproof		Non-Waterproof	
	KDS4505ABW	KDS4510ABW	KDS4505ABF	KDS4510ABF
Pass Height	45mm	95mm	50mm	100mm
Max Pass Width	450mm			
Belt Width	350mm			
Max Product Weight ¹	5kg (Can support up to 15kg as an option. However, the belt speed will be 5 to 49m/min.)		5kg (Can support up to 10kg as an option. However, the belt speed will be 5 to 49m/min.)	
Mass	108kg	110kg	103kg	105kg
Protection Class	IP66 compliance		IP30 compliance	
Exterior	Stainless steel (SUS304)		Conveyor Frame and Stand: Painted; Indicator & detector head: stainless steel (SUS304)	

KDS451□ Specifications

Model	Waterproof			Non-Waterproof		
	KDS4513ABW	KDS4515ABW	KDS4518ABW	KDS4513ABF	KDS4515ABF	KDS4518ABF
Pass Height	125mm	145mm	175mm	130mm	150mm	180mm
Max Pass Width	450mm					
Belt Width	350mm					
Max Product Weight ¹	5kg (Can support up to 15kg as an option. However, the belt speed will be 5 to 49m/min.)			5kg (Can support up to 10kg as an option. However, the belt speed will be 5 to 49m/min.)		
Mass	113kg	114kg	119kg	108kg	109kg	114kg
Protection class	IP66 compliance			IP30 compliance		
Exterior	Stainless steel (SUS304)			Conveyor Frame and Stand: Painted; Indicator & detector head: stainless steel (SUS304)		

For all models above

Display and Operation	7-inch colour TFT LCD; Touch panel (Start, Stop, and Home are direct push buttons)
Preset Memory	Max 200
Product Packaging	Both general and aluminium-evaporated film packaged products
Detection Method	Simultaneous 2-frequency magnetization detection method
Belt Speed	5 to 90m/min (variable speed depending on Product No.) for KDS21□□, KDS300□ and KDS301□ 5 to 73m/min (variable speed depending on Product No.) for KDS450□ and KDS451□
Metal Detection	Rejection signal output and beep, or belt stop and beep
Power Requirements	100 to 240Vac + 10% - 15%, single phase, 50/60Hz, 200VA, rush current 50A (typ.) (20ms or less)
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing
Standard Interfaces	USB2.0, 10BASE-T/100BASE-TX Ethernet

¹ Sum total of product weight on the conveyor ^{Note} The shape (length, width, and height) of products to be inspected varies with the rejecter type
^{Note} The noise level of the Metal Detectors does not exceed 70dB (A).

M6-h Vertical Type Metal Detectors (High Sensitivity Series)



KDS21□□ Specifications

Model	Waterproof			Non-Waterproof		
	KDS2105ABWT	KDS2108ABWT	KDS2110ABWT	KDS2105ABFT	KDS2108ABFT	KDS2110ABFT
Pass Height	185mm			190mm		
Max Pass Width	70mm	100mm	120mm	70mm	100mm	120mm
Belt Width	50mm	80mm	100mm	50mm	80mm	100mm
Max Product Weight ¹	5kg (Can support up to 15kg as an option. However, the belt speed will be 5 to 49m/min.)			5kg (Can support up to 10kg as an option. However, the belt speed will be 5 to 49m/min.)		
Mass	99kg	99kg	100kg	97kg	97kg	98kg
Protection Class	IP66 compliance			IP30 compliance		
Exterior	Stainless steel (SUS304)			Conveyor Frame and Stand: Painted; Indicator & detector head: stainless steel (SUS304)		

KDS30□□ Specifications

Model	Waterproof			Non-Waterproof		
	KDS3005ABWT	KDS3008ABWT	KDS3010ABWT	KDS3005ABFT	KDS3008ABFT	KDS3010ABFT
Pass Height	275mm			280mm		
Max Pass Width	70mm	100mm	120mm	70mm	100mm	120mm
Belt Width	50mm	80mm	100mm	50mm	80mm	100mm
Max Product Weight ¹	5kg (Can support up to 15kg as an option. However, the belt speed will be 5 to 49m/min.)			5kg (Can support up to 10kg as an option. However, the belt speed will be 5 to 49m/min.)		
Mass	104kg	104kg	106kg	101kg	101kg	103kg
Protection class	IP66 compliance			IP30 compliance		
Exterior	Stainless steel (SUS304)			Conveyor Frame and Stand: Painted; Indicator & detector head: stainless steel (SUS304)		

KDS301□ Specifications

Model	Waterproof			Non-Waterproof		
	KDS3012ABWT	KDS3015ABWT	KDS3018ABWT	KDS3012ABFT	KDS3015ABFT	KDS3018ABFT
Pass Height	275mm			280mm		
Max Pass Width	140mm	170mm	200mm	140mm	170mm	200mm
Belt Width	120mm	150mm	180mm	120mm	150mm	180mm
Max Product Weight ¹	5kg (Can support up to 15kg as an option. However, the belt speed will be 5 to 49m/min.)			5kg (Can support up to 10kg as an option. However, the belt speed will be 5 to 49m/min.)		
Mass	107kg	108kg	110kg	104kg	105kg	107kg
Protection Class	IP66 compliance			IP30 compliance		
Exterior	Stainless steel (SUS304)			Conveyor Frame and Stand: Painted; Indicator & detector head: stainless steel (SUS304)		

KDS450□ Specifications

Model	Waterproof		Non-Waterproof	
	KDS4505ABWT	KDS4510ABWT	KDS4505ABFT	KDS4510ABFT
Pass Height	425mm		430mm	
Max Pass Width	70mm	120mm	70mm	120mm
Belt Width	50mm	100mm	50mm	100mm
Max Product Weight ¹	5kg (Can support up to 15kg as an option. However, the belt speed will be 5 to 49m/min.)		5kg (Can support up to 10kg as an option. However, the belt speed will be 5 to 49m/min.)	
Mass	115kg	117kg	110kg	112kg
Protection Class	IP66 compliance		IP30 compliance	
Exterior	Stainless steel (SUS304)		Conveyor Frame and Stand: Painted; Indicator & detector head: stainless steel (SUS304)	

KDS451□ Specifications

Model	Waterproof			Non-Waterproof		
	KDS4513ABWT	KDS4515ABWT	KDS4518ABWT	KDS4513ABFT	KDS4515ABFT	KDS4518ABFT
Pass Height	425mm			430mm		
Max Pass Width	150mm	170mm	200mm	150mm	170mm	200mm
Belt Width	130mm	150mm	180mm	130mm	150mm	180mm
Max Product Weight ¹	5kg (Can support up to 15kg as an option. However, the belt speed will be 5 to 49m/min.)			5kg (Can support up to 10kg as an option. However, the belt speed will be 5 to 49m/min.)		
Mass	120kg	121kg	126kg	115kg	116kg	121kg
Protection class	IP66 compliance			IP30 compliance		
Exterior	Stainless steel (SUS304)			Conveyor Frame and Stand: Painted; Indicator & detector head: stainless steel (SUS304)		

For all models above

Display and Operation	7-inch colour TFT LCD; Touch panel (Start, Stop, and Home are direct push buttons)
Preset Memory	Max 200
Product Packaging	Both general and aluminium-evaporated film packaged products
Detection Method	Simultaneous 2-frequency magnetization detection method
Belt Speed	5 to 73m/min (variable speed depending on Product No.)
Metal Detection	Rejection signal output and beep, or belt stop and beep
Power Requirements	100 to 240Vac + 10% - 15%, single phase, 50/60Hz, 200VA, rush current 50A (typ.) (20ms or less)
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing
Standard Interfaces	USB2.0, 10BASE-T/100BASE-TX Ethernet

¹ Sum total of product weight on the conveyor ^{Note} The shape (length, width, and height) of products to be inspected varies with the rejecter type

^{Note} The noise level of the Metal Detectors does not exceed 70dB (A).

M6-h Free-Fall Products Metal Detector **NEW!**

Eliminates foreign contaminants in raw material process



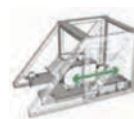
KDS00XX Free-Fall Series



Attaching/detaching adapters



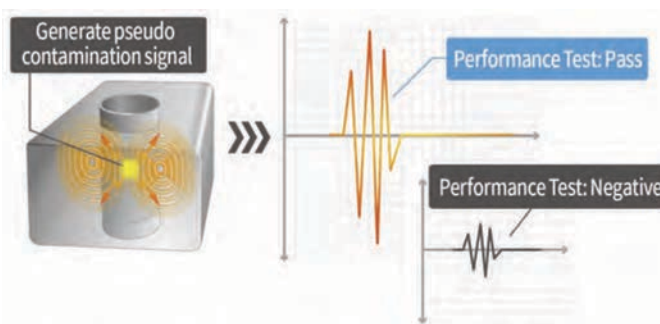
Swing mechanism



Slide-rail mechanism

Key Features:

- Ideal for pre-packaging of dry products
- Increasing demand for contaminant inspection in raw material process avoids risk of foreign body spreading and outflowing, reduce product waste loss, achieve high detection performance and protect downstream production equipment
- Equipped with M6-h high sensitivity detection head with Industry-Leading Detection
- Automatic monitoring of internal conditions of equipment during production with Detection Performance self-diagnosis
- Optional rejection unit for powder/granule products, preventing outflow of foreign bodies
- Flexible integration into existing production line



Model	KDS0010VFW	KDS0015VFW	KDS0020VFW
Opening Inner Diameter	100mm	150mm	200mm
Display / Operation	7-inch colour TFT LCD; Touch panel (Start, Stop, and Home are direct push buttons)		
Preset Memory	Max 200		
Product	Dry Products		
Max Throughput Capacity ¹	21,000ℓ/hr	47,000ℓ/hr	84,000ℓ/hr
Detection Method	Rejection signal output and beep (Reject when the optional rejection unit is attached)		
Air Requirements for Rejection unit (Optional) ²	KRA9610CW 0.5MPa to 0.9MPa, 0.4ℓ/cycle (A.N.R.)	KRA9615CW 0.5MPa to 0.9MPa, 0.6ℓ/cycle (A.N.R.)	-
Air inlet for the rejection unit (Optional) ²	Tube having outer diameter of 6mm		
Power Requirements	100 to 120Vac ±10 to 15% or 200 to 240Vac ±10 to 15%, single phase, 50/60Hz, 60VA, rush current 50A (typ.) (20ms or less)		
Mass	Detector head	26kg	33kg
	Indicator	13kg	39kg
Mass	Rejection unit (optional)	20kg	26kg
			-
Environmental Conditions	Standard mode: 0° to 40°C (temperature range during use within ±15°C); High sensitivity mode: 0° to 30°C (temperature range during use within ±5°C); relative humidity 30% to 85%, non-condensing		
Protection Class	IP66 compliance		
Exterior	Stainless steel (SUS304)		
Data output	USB port (USB2.0), Ethernet interface (10BASE-T, 100BASE-TX)		

¹ Reference values – depend on particle size, physical properties, environmental conditions, and so forth. ² Rejection unit optional – requires air supply.

M6-h Pharmaceutical Metal Detector **NEW!** For Tablets and Capsules



KDS1004PSW Pharmaceutical Series

Key Features:

- High stability for efficient detection of contaminants
- Industry leading High Sensitivity detection with detection head and signal processing specialized for the inspection of pharmaceutical products i.e. hard-to-inspect ingredients such as iron content
- Instantly analyze magnetic and non-magnetic materials in metal contaminants without breaking tablets and capsules
- Validation for advanced quality control with built-in monitoring function and support functions for Validation Process such as IQ/OQ
- Supports FDA 21 CFR Part 11 including eligibility user authentication, audit trails, and data encryption/decryption.
- Tool free part removal



Efficient contaminant detection



Self-diagnosis of detection performance



Duplex monitoring system

Model	KDS1004PSW	KDS0902PSW
Opening Inner Diameter	100 x 40mm	90 x 25mm
Chute Inner Diameter	86 x 31mm	76 x 6mm
Display / Operation	7-inch colour TFT LCD; Touch panel	
Preset Memory	Max 200	
Product ¹	Tablets, soft capsules: thickness of 3mm or more Hard capsules: capsule No. 000 to 5	
Max Processing Capacity ²	1,800,000 capsules/hour (30,000 capsules/min)	580,000 capsules/hour (9,700 capsules/min)
Detection Method	Rejection	
Power Requirements	100 to 240Vac \pm 10 to 15%, single phase, 50/60Hz, 120VA, rush current 50A (typ.) (20ms or less)	
Mass	55kg	
Environmental Conditions	0° to 40°C (temperature range during use within \pm 5°C); relative humidity 30% to 85%, non-condensing	
Protection Class	IP65 compliance	
Exterior	Indicator, stand, detection head, and rejection unit: Stainless steel (SUS304) Contact part: SUS316L (buff#400 and electro-polishing), FDA-enabled resin	
Data output	USB port as standard, Ethernet interface (100BASE-TX as optional)	

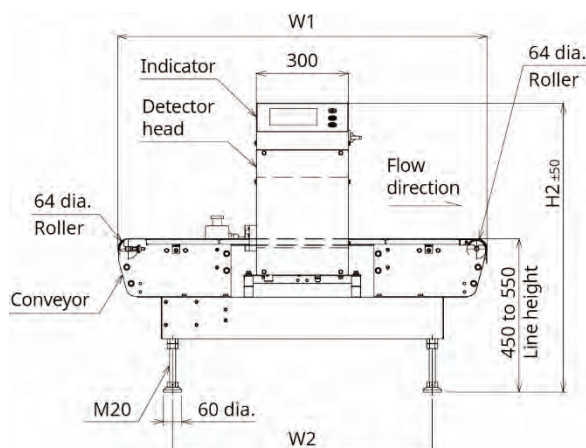
¹ Inspection may not be carried out depending on the size of a product and the conveyance amount. ² Depends on the product size. ^{Note} The noise level of the Metal Detectors does not exceed 70dB (A).

M6-h Large Products Metal Detectors

Improved Performance Detection Sensitivity

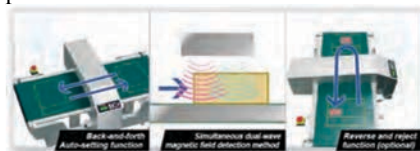


KDS70XX series using modular components for increased reliability



Features:

- **Advanced digital signal processing circuit** and **algorithms** minimize product effect/noise, delivering high sensitivity and stability
- **Back-and-forth Auto-setting** for testing product effect detection conditions



- **Reverse and Reject function** – segregates OK/NG products without rejecter, for single operator handling

Model	KDS7005□		KDS7010□		KDS7015□		KDS7020□		KDS7025□		KDS7030□		KDS7035□		KDS7040□	
	F	W	F	W	F	W	F	W	F	W	F	W	F	W	F	W
Pass Height	50mm		100mm		150mm		200mm		250mm		300mm		350mm		400mm	
Max Pass Width	700mm															
□ Conveyor Length	C: 1200mm / D: 1500mm / E: 1800mm															
Belt Width	600mm															
Display / Operation	7-inch colour TFT LCD; Touch panel (Start, Stop, and Home are direct push buttons)															
Preset Memory	Max 200															
Product Packaging	Both general and aluminium-evaporated film packaged products															
Detection Method	Simultaneous 2-frequency magnetization detection method															
Belt Speed	26m/min (50Hz), 31m/min (60Hz)															
Max Product Weight ¹	50kg															
Power Requirements	100Vac ±10%, single phase, 50/60Hz, 110 to 120Vac ±10%, single phase, 60Hz, or 200 to 230Vac ±10%, single phase, 50/60Hz, 240Vac ±10%, single phase 50Hz, 400VA, rush current 50A (typ.) (20ms or less)															
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing															
Mass	173kg		172kg		177kg		182kg		187kg		192kg		197kg		202kg	
Protection Class	IP66 compliance (W) / IP30 compliance (F)															
Exterior	Stainless steel (SUS304) (W models) / Conveyor Frame and Stand: Painted; Indicator & detector head: stainless steel (SUS304) (F models)															

¹ Sum total of product weight on the conveyor.

M5 Metal Detectors Simplified High Sensitivity!



KDB30 Specifications (Basic Model)

Model	Non-waterproof Waterproof	KDB3005AHF KDB3005AHW	KDB3008AHF KDB3008AHW	KDB3012AHF KDB3012AHW	KDB3015AHF KDB3015AHW	KDB3018AHF KDB3018AHW
Pass Height		50mm	80mm	120mm	150mm	180mm
Max Pass Width				300mm		
Belt Width				230mm		
Mass		77kg	76kg	79kg	81kg	82kg

KDB45 Specifications (Basic Model)

Model	Non-waterproof Waterproof	KDB4505AHF KDB4505AHW	KDB4510AHF KDB4510AHW	KDB4513AHF KDB4513AHW	KDB4515AHF KDB4515AHW	KDB4518AHF KDB4518AHW
Pass Height		50mm	100mm	130mm	150mm	180mm
Max Pass Width				450mm		
Belt Width				380mm		
Mass		85kg	86kg	87kg	89kg	90kg

For all models above

Display and Operation	7-inch colour TFT LCD; Touch panel (Start, Stop, and Home are direct push buttons)
Preset Memory	Max 200
Product Packaging	Both general and aluminium-evaporated-packaging products
Detection Method	Simultaneous 2-frequency magnetization detection method
Belt Speed ¹	25m/min (50Hz), 30m/min (60Hz)
Max Product Weight ²	15kg
Metal Detection	Rejection signal output and beep, or belt stop and beep
Power Supply ^{3, 4}	100Vac, single phase 50/60Hz, or 110/115/120Vac, single phase 60Hz, or 200Vac, single phase 50/60Hz, or 220/230Vac, single phase 50/60Hz, or 240Vac, single phase 50Hz
Power Consumption	160VA, rush current 50A (typ.) (20ms or less)
Environmental	0° to 40°C, relative humidity 30% to 85%, non-condensing
Protection class	AHF type: IP30 compliance / AHW type: IP66 compliance
Exterior	Indicator and detector head; stainless steel (SUS304) Conveyor frame and stand AHFT type: Painted / AHWT type: stainless steel (SUS304)
Data Output	USB port (USB2.0), Ethernet interface (10BASE-T, 100BASE-TX)

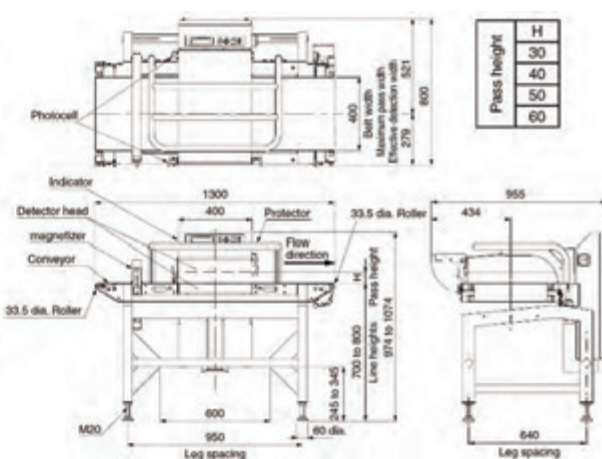
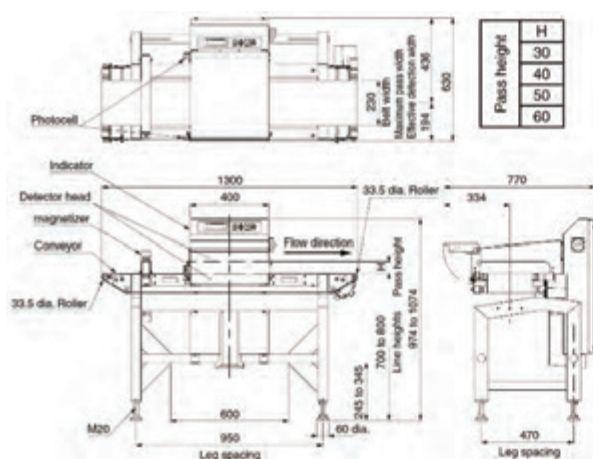
¹ Belt speeds other than those listed above are available as option. ² Sum total product weight on the conveyor. ³ Specify power supply when ordering. ⁴ Please use the rated power supply voltage. High variations may cause motor heating; low voltage may cause conveyor torque deterioration. ^{Note} The shapes (length, width, and height) of products to be inspected varies with the rejecter type. ^{Note} The noise levels of the metal detector does not exceed 70dB (A).

M Series Metal Detectors For Aluminium Foil Pack



Features:


- High detection sensitivity for iron, SUS430, SUS304, SUS316 contaminants regardless shape/orientation in aluminium foil packs.
- Not for non-magnetisable elements - aluminium, brass, copper, silver, gold, lead, titanium.
- Not for pacemaker wearers due to strong magnets.
- KD8200 and KD8220AW with 230mm max pass width, 400mm belt width and max product weight of 3 and 5kg respectively




Model	KD8200AW	KD8220AW
Pass Height	30, 40, 50, 60mm	
Max Pass Width	230mm	400mm
Belt Width	230mm	400mm
Max Product Weight ¹	70m/min or less: 4kg, 71m/min or more: 3kg	5kg
Display	STN LCD	
Operation Method	Flat panel key	
Preset Memory	Max 100	
Product Packaging	General, aluminium-evaporated-packaging and aluminium-foil-packaging products	
Belt Speed	10-90m/min variable speed depending on product nos	10-40m/min variable speed depending on product nos
Metal Detection	Rejection signal output and beep, or belt stop and beep	
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 200VA	
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing	
Mass	130kg	160kg
Protection Class	IP66 compliance	
Exterior	Stainless steel (SUS304)	

¹ Sum total of product weight on the conveyor


Metal Detector Options




Tower light (with buzzer alarm)
Supports remote monitoring




Emergency stop switch
Stops equipment in emergencies




Line height change
Screw legs allow for easy height adjustment



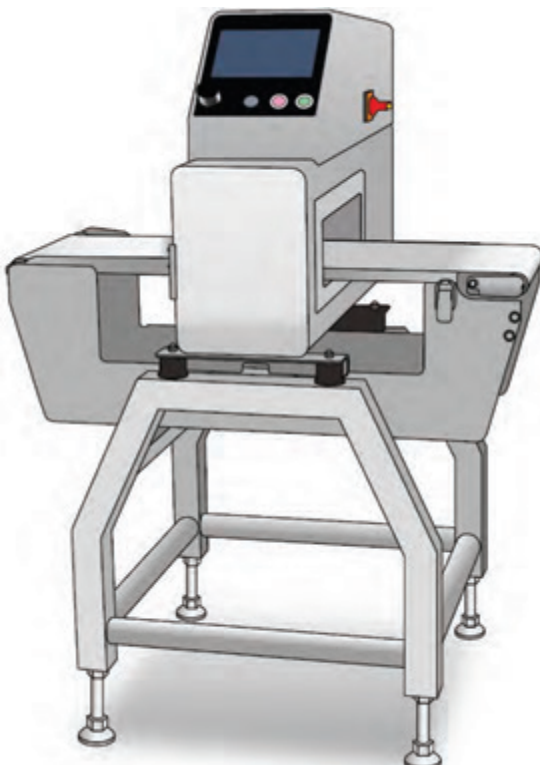
Anchor plate
Secures units firmly in position




Casters
Allows safe system movement




CE & FCC marking







Cross plate
Provides smooth product transitions and prevents product accumulation




Cross roller
Provides smooth product transitions and prevents product accumulation




Scraper
Removes adherent objects from the conveyor belt's surface




Guide bank
Keeps bulk products contained on the belt



Product guide
Provides accurate product positioning on conveyors




Buzzer
Provides an audible alarm for rejects/alerts



Data printer
Prints inspection results


Metal Detector Test Specimens

Fe sphere




Size (Dia. mm)	0.5	0.6	0.7	0.8	1.0	1.2	1.5	2.0	2.5	2.8
	3.0	4.0	4.8	5.6	6.0	6.4	7.2	8.0	8.8	9.6

SUS sphere



Size (Dia. mm)	0.8	1.0	1.2	1.5	2.0	2.4	2.5	2.8	3.0	3.5
	4.0	4.8	6.0	7.2	8.0	9.6				



Test Specimens



Hi Viz Test Wand



Hi Viz Test Fobs



FDA Test Range



Test Balls



Test Torpedo



Flexi Rod



X-Ray Test Cards

Internationally recognised certified color-coded test specimens for every kind of application are available.

Types of contaminants material available (non-exhaustive):

- Ferrous
- Non-Ferrous (Brass)
- SUS316
- SUS304
- Aluminium
- Ceramic
- Glass (Soda Lime)
- Glass (Quartz)
- PTFE
- Nylon
- Rubber

Possible sizes available (mm):

0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 1.0, 1.2, 1.5, 1.8, 2.0, 2.2, 2.5, 2.8, 3.0, 3.2, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0 & etc.

Cairnhill Metrology Sample Test Pieces
(Contact us for the available materials & sizes.)

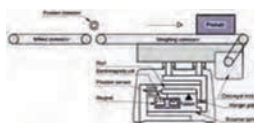


SSV Series Checkweighers

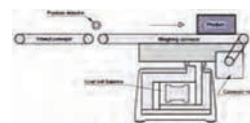


Series	SSV-i Waterproof	SSV-h High Accuracy/Speed	SSV-f Versatile
Display	Colour LCD with customizable functions		
Control Panel	Stainless Steel	Stainless Steel / Painted	
Conveyor	Waterproof	Non-waterproof	
Balance	Force Balance / Strain Gauge	Force Balance	Strain Gauge
Frame	Stainless Steel	Stainless Steel / Painted	

Exceptional safety and productivity plus compliance with HACCP programs. The SSV series can weigh up to 310 products/min with a scale value of 0.001g and a maximum accuracy of $\pm 0.01g$, covering economy to high accuracy requirements for both dry and wash-down environments. Offers the best combination of price and performance with the smallest footprint in the industry. OIML R-51 compliance & world's first checkweigher to obtain MID Class XII certification.



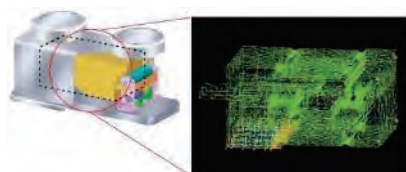
Electronic force balancing



Strain Gauge Load Cell

Safety and Environment

- Highly rigid structure, Electromagnetic Balance Dynamic Responsiveness Optimisation Process Filter: $\pm 0.01g$ accuracy (3σ) at up to 600ppm. Minimum Scale Value 0.001g. Automatic multi-range scale intervals per product weight improves accuracy. Good temperature resistance.
- Long products can be weighed in high-speed line.
- ISO, HACCP and GMP SUS304 stainless steel structure and tool-free easy conveyor removal and attachment.



Electromagnetic Force Balance with High Rigidity Simulation and DROP Filter

Validation

- Supports OIML legal metrology and GMP validation for medicines and food.
- SMART (Self-Monitoring Analysis & Reporting Technology) automatically checks and alerts for abnormal machine, hardware or software state.
- Auto-sensitivity auto-calibration function using built-in weight (optional).
- Results validation (operation, alarm and calibration histories) with statistics. Optional printer and rejecter check function for NG products acceptance.



HACCP and GMP: Conveyor unit easily detachable from motor for cleaning

Comprehensive

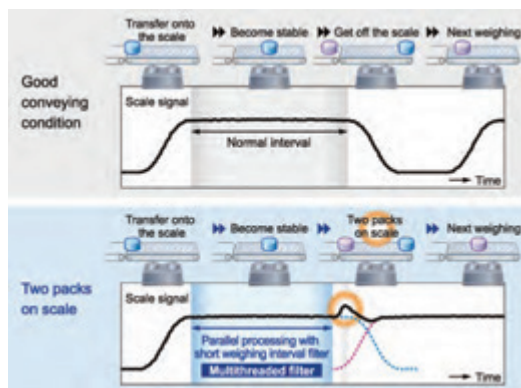
- Product range from 0.6g to 60kg.
- Excellent water resistance for full wash-down (for SSV-i Series): -
- IP66 construction with SUS304 frame, IP67 conveyor, load cell protection, one-touch conveyor belt removal for cleaning or sterilization.
- Simplified Maintenance: Open frame design prevents dust accumulation. Easy belt adjustment by auto-tension mechanism and use of profiled belt.

Customizable Functions & Display



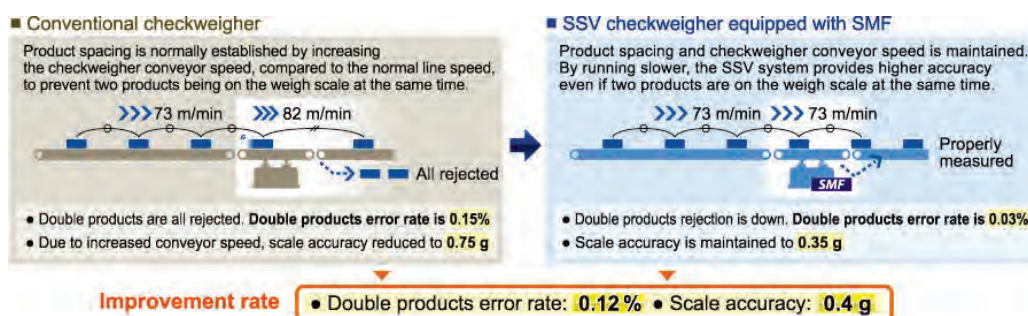
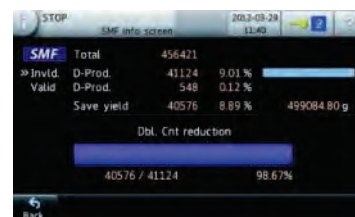
SSV Series Checkweighers

Cutting edge, equipped with Smart Measurement Function (SMF)



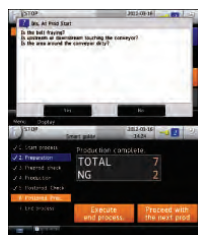
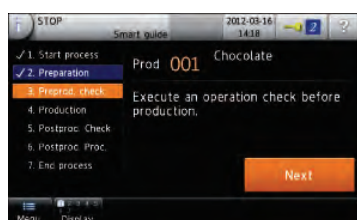
Rejections Down / Yields Up with SMF

Checkweighers use processed weigh cell signal to determine the weight of each product passing over the weigh table. If two packs are on at the same time, a “double product error” will occur causing the system to reject both products. SMF Technology – Anritsu’s innovative signal processing and multithreaded filtering with improved scale resolution minimize “double product errors”; and unnecessary rejects while maximizing line productivity.



Data obtained with difficult positions with unstable, long settling times. Actual improvements depend on packaging, product and SSV model.

Smart Guide Easy Operations / Reduced Operator Error



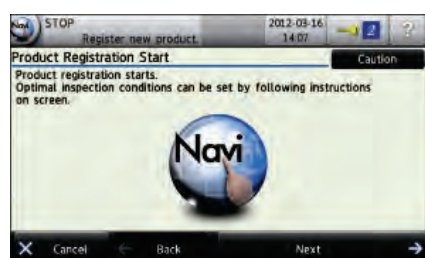
For proper checkweigher function, checks must be performed correctly at each operation stage: at start-up, during production and at the end of production. These necessary procedures however require effort and time.

Smart Guide navigates operation check and maintenance procedures in an easy-to-understand format, and stops processes if procedures are not performed correctly, ensuring correct operation management.



E-Daily Report

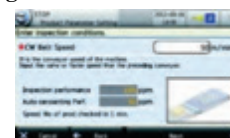
All checkweigher weight data and operation check (audit) records are saved the SSV checkweigher. At the end of operation, these can be exported via e-reports or output in csv format for management efficiency and simplicity.



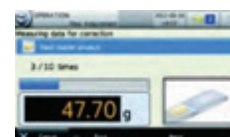
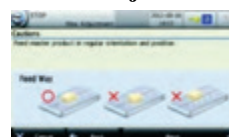
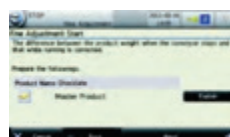
Product Registration Navigation simplifies parameter setting with step-by-step illustrated instructions.























Product parameter setting



Fine adjustment



SSV Checkweighers Range of Models

Prod Weight		Product Shape							
Very Light	0.5 to 600g								
Light	12 to 3000g								
Heavy	0.06 to 25kg								
Very Heavy	1 to 60kg								



KWS5888/ KW5989 handles 35g-35kg / 60g-60kg with Max Accuracy (3σ): ±5g at 40ppm speed

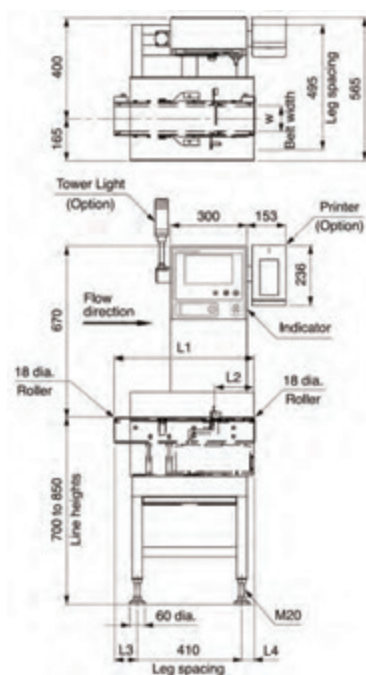
Series	Item Model	Weighing Range (g)	Max Accuracy (3σ)(g)	Max Speed (products/min)	Belt speed (m/min)	Product size (all mm)		
						Width	Length	Height
High Accuracy SSV-h series	KWS6001BΔ04	0.4 to 100	±0.01	600	15 to 99	20 to 100	46 to 120	5 to 120
	KWS6003BΔ03	0.4 to 100	±0.01	310	15 to 92	20 to 100	46 to 230	5 to 230
	KWS6005BΔ05	0.4 to 100	±0.01	310	15 to 92	20 to 160	46 to 230	5 to 230
	KWS6006BΔ06	0.4 to 100	±0.01	320	15 to 120	20 to 160	46 to 320	5 to 320
	KWS6201BΔ04	1.2 to 600	±0.015	600	15 to 99	20 to 100	46 to 120	5 to 120
	KWS6203BΔ03	1.2 to 600	±0.015	400	15 to 120	20 to 100	46 to 230	5 to 230
	KWS6205BΔ05	1.2 to 600	±0.015	400	15 to 120	20 to 160	46 to 230	5 to 230
	KWS6206BΔ06	1.2 to 600	±0.015	320	15 to 120	20 to 160	46 to 320	5 to 320
	KWS6411BΔ11	6 to 3000	±0.1	400	15 to 120	20 to 250	60 to 230	5 to 230
	KWS6412BΔ12	6 to 3000	±0.1	320	15 to 120	20 to 250	60 to 320	5 to 320
	KWS6414BΔ12	6 to 3000	±0.1	220	15 to 120	20 to 250	60 to 450	5 to 450
Waterproof SSV-i series	KWS6416BΔ16	6 to 3000	±0.1	270	15 to 120	20 to 350	60 to 350	5 to 350
	KWS6417BΔ17	6 to 3000	±0.1	220	15 to 120	20 to 350	60 to 450	5 to 450
	KWS6265BW65	6 to 600	±0.1	330	9 to 97	20 to 160	60 to 200	5 to 200
	KWS6366BW66	12 to 1200 [12 to 600]	±0.1	220 [270]	9 to 82 [9 to 97]	20 to 230	60 to 320	5 to 320
	KWS6472BW72	30 to 3000 [30 to 1200]	±0.1	160 [220]	7 to 60 [9 to 82]	20 to 230	76 to 320	5 to 320
	KWS5265BW65	6 to 600	±0.2	330	9 to 97	20 to 160	60 to 200	5 to 200
	KWS5366BW66	12 to 1200 [12 to 600]	±0.2	220 [270]	9 to 82 [9 to 97]	20 to 230	60 to 320	5 to 320
	KWS5472BW72	30 to 3000 [30 to 1200]	±0.5	160 [220]	7 to 60 [9 to 82]	20 to 230	76 to 320	5 to 320
	KWS5476BW76	30 to 3000 [30 to 1200]	±0.5	120 [155]	7 to 65 [9 to 83]	20 to 350	76 to 450	5 to 450
Versatile SSV-f series	KWS5677BW77	60 to 15000	±2	70	5 to 38	20 to 350	76 to 450	5 to 450
	KWS5678BW77	60 to 15000 [60 to 3000]	±2	50 [90]	5 to 36 [7 to 64]	20 to 350	76 to 600	5 to 600
	KWS5201BΔ04	6 to 600	±0.2	400	15 to 65	20 to 100	46 to 120	5 to 120
	KWS5203BΔ03	6 to 600	±0.2	350	15 to 103	20 to 100	46 to 230	5 to 230
	KWS5205BΔ05	6 to 600	±0.2	350	15 to 103	20 to 160	46 to 230	5 to 230
	KWS5206BΔ06	6 to 600	±0.2	320	15 to 120	20 to 160	46 to 310	5 to 310
	KWS5411BΔ11	12 to 3000	±0.2	320	15 to 94	20 to 250	60 to 230	5 to 230
	KWS5412BΔ12	12 to 3000	±0.2	320	15 to 120	20 to 250	60 to 310	5 to 310
	KWS5414BΔ12	12 to 3000	±0.2	220	15 to 120	20 to 250	60 to 450	5 to 450
	KWS5416BΔ16	12 to 3000	±0.5	270	15 to 120	20 to 350	60 to 350	5 to 350
	KWS5417BΔ17	12 to 3000	±0.5	220	15 to 120	20 to 350	60 to 450	5 to 450
	KWS5522BΔ22	60 to 6000	±1.5	180	5 to 78	20 to 450	88 to 350	5 to 350
	KWS5524BΔ24	60 to 6000	±1.5	145	5 to 78	20 to 450	88 to 450	5 to 450
	KWS5526BΔ24	60 to 6000	±1.5	110	5 to 78	20 to 450	88 to 600	5 to 600
	KWS5623BΔ23	60 to 15000	±2	100	5 to 46	20 to 450	88 to 350	5 to 350
	KWS5625BΔ25	60 to 15000	±2	85	5 to 46	20 to 450	88 to 450	5 to 450
	KWS5627BΔ25	60 to 15000	±2	65	5 to 46	20 to 450	88 to 600	5 to 600
	KWS5728BΔNN	60 to 25000	±2	40	5 to 29	20 to 450	88 to 600	5 to 600
	KWS5888BΔNN	35 to 35000	±5	40	10 to 42	200 to 500	300 to 700	5 to 1500
	KWS5989BΔNN	60 to 60000	±5	35	10 to 42	200 to 650	300 to 900	5 to 1500

[] Option. Δ Alphabetical letter indicates exterior type. Accuracy/speed depends on products to be weighed and the rejecter.

SSV-h High Accuracy KWS600□ Series



KWS6003BP03



Anritsu KWS60XX series
Checkweigher achieves world
class level European MID Class
XII certification

Model	W	L1	L2	L3	L4
KWS6001	100	550	150	90	50
KWS6003	100	545	270	30	105
KWS6005	160	545	270	30	105
KWS6006	160	695	345	180	105

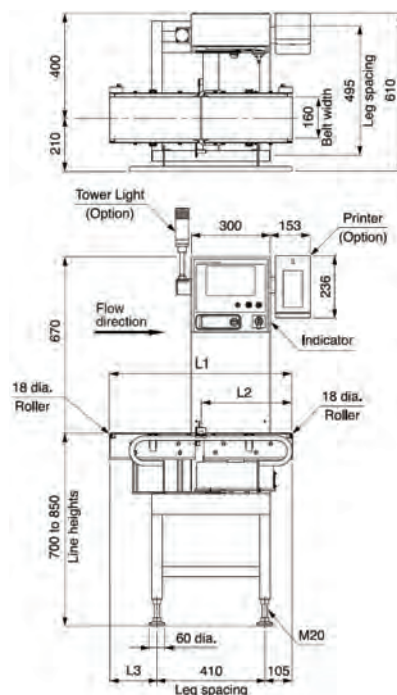
Model	KWS6001BF04/BP04	KWS6003BF03/BP03	KWS6005BF05/BP05	KWS6006BF06/BP06
Weighing Range	0.4 to 100g			
Scale Interval	0.001g			
Max Speed ¹	600 products/min	310 products/min		320 products/min
Max Accuracy (3σ) ¹	±0.01g			
Display	8.5-inch colour TFT LCD			
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)			
Indication Range	100.45g			
Preset Memory	Max 200			
Classification	2 or 3			
Product Width ²	20 to 100mm		20 to 160mm	
Product Length ²	46 to 120mm	46 to 230mm		46 to 320mm
Product Height ²	5 to 120mm	5 to 230mm		5 to 320mm
Belt Speed	15 to 99m/min	15 to 92m/min		15 to 120m/min
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 130VA, rush current 20A (typ.) (20ms or less)			
Mass	60kg			
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing			
Protection Class	IP30 compliance			
Exterior	F type: painted, P type: stainless steel (SUS304) (excluding some parts)			

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent products, consult us. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

SSV-h High Accuracy KWS620□ Series



KWS6205BP05



Model	W	L1	L2	L3	L4
KWS6201	100	550	150	90	50
KWS6203	100	545	270	30	105
KWS6205	160	545	270	30	105
KWS6206	160	695	345	180	105

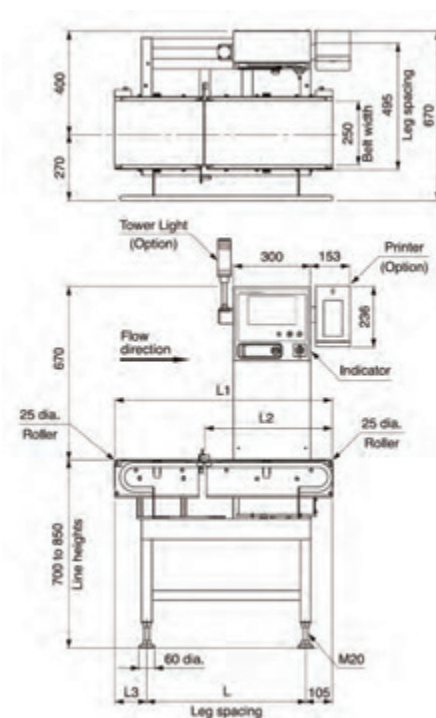
Model	KWS6201BF04 KWS6201BP04	KWS6203BF03 KWS6203BP03	KWS6205BF05 KWS6205BP05	KWS6206BF06 KWS6206BP06
Weighing Range	1.2 to 600g			
Scale Interval	0.01g			
Max Speed ¹	600 products/min	400 products/min		320 products/min
Max Accuracy (3σ) ¹	±0.015g			
Display	8.5-inch colour TFT LCD			
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)			
Indication Range	600.9g			
Preset Memory	Max 200			
Classification	2 or 3			
Product Width ²	20 to 100mm		20 to 160mm	
Product Length ²	46 to 120mm	46 to 230mm		46 to 320mm
Product Height ²	5 to 120mm	5 to 230mm		5 to 320mm
Belt Speed	15 to 99m/min	15 to 120m/min		
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 130VA, rush current 20A (typ.) (20ms or less)			
Mass	60kg			
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing			
Protection Class	IP30 compliance			
Exterior	F type: painted, P type: stainless steel (SUS304) (excluding some parts)			

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent products, consult us. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

SSV-h High Accuracy KWS6411/6412/6414 Series



KWS6412BF12



Model	L1	L2	L3	L4
KWS6411	545	270	30	410
KWS6412	695	345	180	410
KWS6414	845	495	125	615

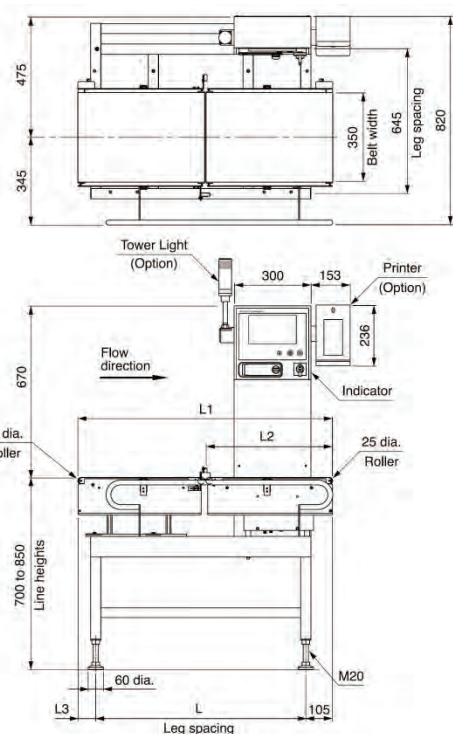
Model	KWS6411BF11 KWS6411BP11	KWS6412BF12 KWS6412BP12	KWS6414BF12 KWS6414BP12
Weighing Range	6 to 3000g		
Scale Interval	0.05g		
Max Speed ¹	400 products/min	320 products/min	220 products/min
Max Accuracy (3σ) ¹	±0.1g		
Display	8.5-inch colour TFT LCD		
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)		
Indication Range	3004.5g		
Preset Memory	Max 200		
Classification	2 or 3		
Product Width ²	20 to 250mm		
Product Length ²	60 to 230mm	60 to 320mm	60 to 450mm
Product Height ²	5 to 230mm	5 to 320mm	5 to 450mm
Belt Speed	15 to 120m/min		
Power Requirements	100 to 120 Vac + 10% - 15% or 200 to 240 Vac + 10% - 15%, single phase, 50/60Hz, 250 VA, rush current 20 A (typ.) (20ms or less)		
Mass	64kg	65kg	
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing		
Protection Class	IP30 compliance		
Exterior	F type: painted, P type: stainless steel (SUS304) (excluding some parts)		

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent products, consult us. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

SSV-h High Accuracy KWS6416/6417 Series



KWS6417BF17



Model	L1	L2	L3	L
KWS6416	805	400	85	615
KWS6417	995	495	70	820

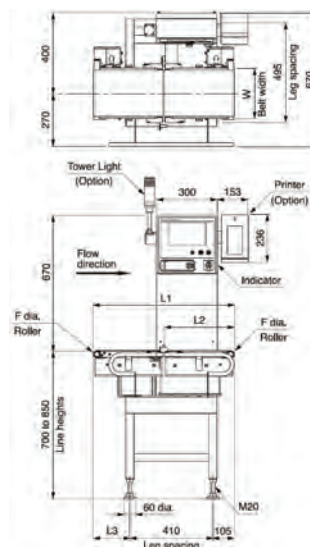
Model	KWS6416BF16 KWS6416BP16	KWS6417BF17 KWS6417BP17
Weighing Range	6 to 3000g	
Scale Interval	0.05g	
Max Speed ¹	270 products/min	220 products/min
Max Accuracy (3 σ) ¹	± 0.1 g	
Display	8.5-inch colour TFT LCD	
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)	
Indication Range	3004.5g	
Preset Memory	Max 200	
Classification	2 or 3	
Product Width ²	20 to 350mm	
Product Length ²	60 to 350mm	60 to 450mm
Product Height ²	5 to 350mm	5 to 450mm
Belt Speed	15 to 120m/min	
Power Requirements	100 to 120 Vac + 10% - 15% or 200 to 240 Vac + 10% - 15%, single phase, 50/60Hz, 250 VA, rush current 20 A (typ.) (20ms or less)	
Mass	74kg	77kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing	
Protection Class	IP30 compliance	
Exterior	F type: painted, P type: stainless steel (SUS304) (excluding some parts)	

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent products, consult us. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

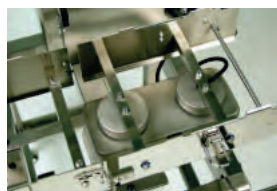
SSV-i Waterproof KWS6265/6366/6472 Series



KWS6265BW65



Model	W	L1	L2	L3	F
KWS6265	160	545	270	30	25
KWS6366	230	695	345	180	25
KWS6472	230	695	345	180	33



IP66 rated waterproof models are suitable for wet environment. The open frame structure allows for easy cleaning.



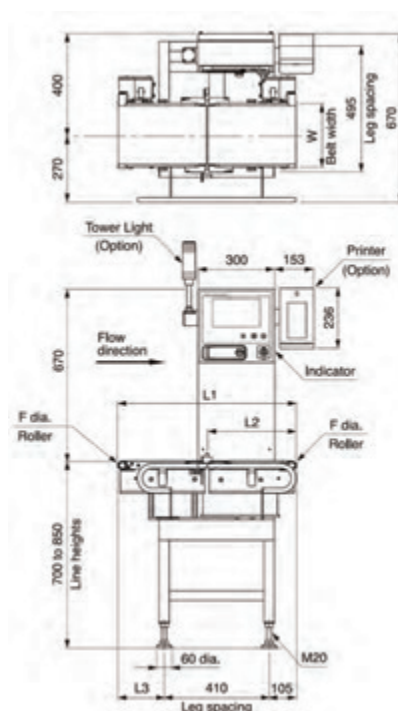
Model	KWS6265BW65	KWS6366BW66	KWS6472BW72
Weighing Range	6 to 600g	12 to 1200g [12 to 600g] ³	30 to 3000g [30 to 1200g] ³
Scale Interval	0.01g	0.02g [0.01g] ³	0.05g [0.02g] ³
Max Speed ¹	330 products/min	220 [270] products/min ³	160 [220] products/min ³
Max Accuracy (3 σ) ¹	± 0.1 g		
Display	8.5-inch colour TFT LCD		
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)		
Indication Range	601.8g	1201.8g [601.8g] ³	3004.5g [1201.8g] ³
Preset Memory	Max 200		
Classification	2 or 3		
Product Width ²	20 to 160mm	20 to 230mm	
Product Length ²	60 to 200mm	60 to 320mm	76 to 320mm
Product Height ²	5 to 200mm	5 to 320mm	
Belt Speed	9 to 97m/min	9 to 82 [9 to 97] m/min ³	7 to 60 [9 to 82] m/min ³
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 250VA, rush current 20A (typ.) (20ms or less)		
Mass	65kg	68kg	69kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing		
Protection Class	IP66 compliance		
Exterior	Stainless steel (SUS304)		

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent and transparent products, consult us. ³ [] are optional. The max weighing range varies according to the operating environment. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

SSV-i Waterproof KWS5265/5366/5472 Series



KWS5366BW66



Model	W	L1	L2	L3	F
KWS5265	160	545	270	30	25
KWS5366	230	695	345	180	25
KWS5472	230	695	345	180	33

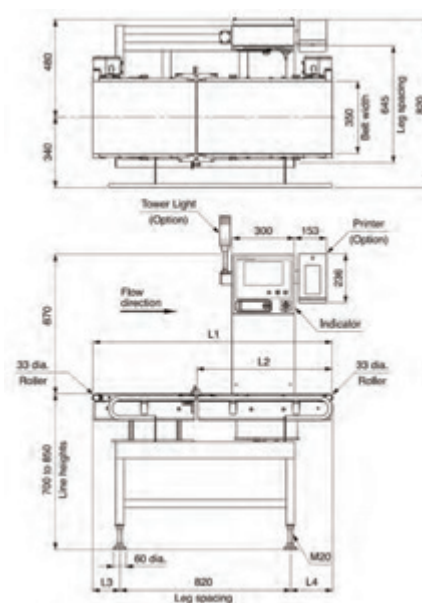
Model	KWS5265BW65	KWS5366BW66	KWS5472BW72
Weighing Range	6 to 600g	12 to 1200g [12 to 600g] ³	30 to 3000g [30 to 1200g] ³
Scale Interval	0.05g		0.1g [0.05g] ³
Max Speed ¹	330 products/min	220 [270] products/min ³	160 [220] products/min ³
Max Accuracy (3 σ) ¹	± 0.2 g		± 0.5 g
Display	8.5-inch colour TFT LCD		
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)		
Indication Range	604.5g	1204.5g [604.5g] ³	3009g [1204.5g] ³
Preset Memory	Max 200		
Classification	2 or 3		
Product Width ²	20 to 160mm	20 to 230mm	
Product Length ²	60 to 200mm	60 to 320mm	76 to 320mm
Product Height ²	5 to 200mm	5 to 320mm	
Belt Speed	9 to 97m/min	9 to 82 [9 to 97] m/min ³	7 to 60 [9 to 82] m/min ³
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 250VA, rush current 20A (typ.) (20ms or less)		
Mass	64kg	67kg	68kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing		
Protection Class	IP66 compliance		
Exterior	Stainless steel (SUS304)		

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent and transparent products, consult us. ³ [] are optional. The max weighing range varies according to the operating environment. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

SSV-i Waterproof KWS5476/5677/5678 Series



KWS5476BW76



Model	L1	L2	L3	L4
KWS5476	995	495	70	105
KWS5677	995	495	70	105
KWS5678	1150	650	130	200

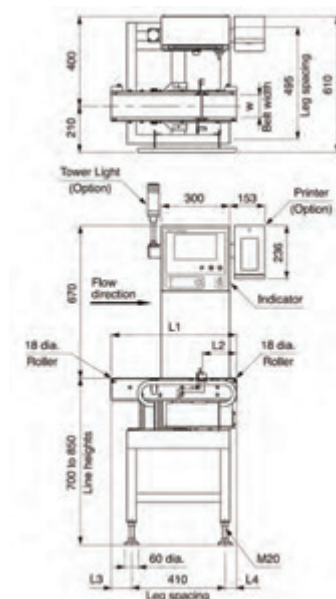
Model	KWS5476BW76	KWS5677BW77	KWS5678BW77
Weighing Range	30 to 3000g [30 to 1200g] ³	60 to 15000g	60 to 15000g [60 to 3000g] ³
Scale Interval	0.1g [0.05g] ³	1g	1g [0.2g] ³
Max Speed ¹	120 [155] products/min ³	70 products/min	50 [90] products/min ³
Max Accuracy (3σ) ¹	±0.5g	±2g	
Display	8.5-inch colour TFT LCD		
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)		
Indication Range	3009g [1204.5g] ³	15045g	15045g [3009g] ³
Preset Memory	Max 200		
Classification	2 or 3		
Product Width ²	20 to 350mm		
Product Length ²	76 to 450mm		76 to 600mm
Product Height ²	5 to 450mm		5 to 600mm
Belt Speed	7 to 65 [9 to 83] m/min ³	5 to 38m/min	5 to 36 [7 to 64] m/min ³
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 250VA, rush current 20A (typ.) (20ms or less)		
Mass	84kg		87kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing		
Protection Class	IP66 compliance		
Exterior	Stainless steel (SUS304)		

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent and transparent products, consult us. ³ [] are optional. The max weighing range varies according to the operating environment. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

SSV-f Versatile KWS520□ Series



KWS5201BP04 with Air Jet Rejector



Model	W	L1	L2	L3	L4
KWS5201	100	550	150	90	50
KWS5203	100	545	270	30	105
KWS5205	160	545	270	30	105
KWS5206	160	695	345	180	105

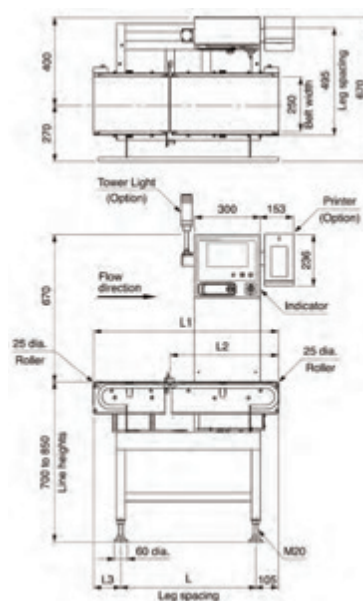
Model	KWS5201BF04 KWS5201BP04	KWS5203BF03 KWS5203BP03	KWS5205BF05 KWS5205BP05	KWS5206BF06 KWS5206BP06
Weighing Range	6 to 600g			
Scale Interval	0.05g			
Max Speed ¹	400 products/min	350 products/min		320 products/min
Max Accuracy (3σ) ¹	±0.2g			
Display	8.5-inch colour TFT LCD			
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)			
Indication Range	604.5g			
Preset Memory	Max 200			
Classification	2 or 3			
Product Width ²	20 to 100mm		20 to 160mm	
Product Length ²	46 to 120mm	46 to 230mm		46 to 310mm
Product Height ²	5 to 120mm	5 to 230mm		5 to 310mm
Belt Speed	15 to 65m/min	15 to 103m/min		15 to 120m/min
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 130VA, rush current 20A (typ.) (20ms or less)			
Mass	60kg			
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing			
Protection Class	IP30 compliance			
Exterior	F type: painted, P type: stainless steel (SUS304) (excluding some parts)			

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent and transparent products, consult us. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

SSV-f Versatile KWS5411/5412/5414 Series



KWS5411BP11 with Pusher Rejector



Model	L1	L2	L3	L
KWS5411	545	270	30	410
KWS5412	695	345	180	410
KWS5414	845	495	125	615

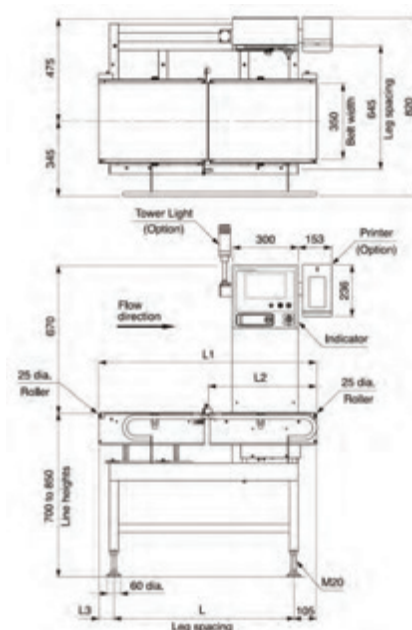
Model	KWS5411BF11 KWS5411BP11	KWS5412BF12 KWS5412BP12	KWS5414BF12 KWS5414BP12
Weighing Range	12 to 3000g		
Scale Interval	0.1g		
Max Speed ¹	320 products/min	320 products/min	220 products/min
Max Accuracy (3σ) ¹	±0.2g		
Display	8.5-inch colour TFT LCD		
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)		
Indication Range	3004.5g		
Preset Memory	Max 200		
Classification	2 or 3		
Product Width ²	20 to 250mm		
Product Length ²	60 to 230mm	60 to 310mm	60 to 450mm
Product Height ²	5 to 230mm	5 to 310mm	5 to 450mm
Belt Speed	15 to 94m/min	15 to 120m/min	
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 250VA, rush current 20A (typ.) (20ms or less)		
Mass	63kg	64kg	67kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing		
Protection Class	IP30 compliance		
Exterior	F type: painted, P type: stainless steel (SUS304) (excluding some parts)		

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent and transparent products, consult us. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

SSV-f Versatile KWS5416/5417 Series



KWS5416BF16



Model	L1	L2	L3	L
KWS5416	805	400	85	615
KWS5417	995	495	70	820

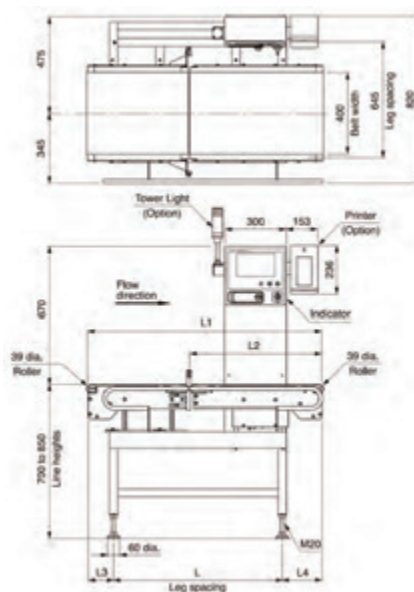
Model	KWS5416BF16 KWS5416BP16	KWS5417BF17 KWS5417BP17
Weighing Range	12 to 3000g	
Scale Interval	0.1g	
Max Speed ¹	270 products/min	220 products/min
Max Accuracy (3 σ) ¹	± 0.5 g	
Display	8.5-inch colour TFT LCD	
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)	
Indication Range	3009g	
Preset Memory	Max 200	
Classification	2 or 3	
Product Width ²	20 to 350mm	
Product Length ²	60 to 350mm	60 to 450mm
Product Height ²	5 to 350mm	5 to 450mm
Belt Speed	15 to 120m/min	
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 250VA, rush current 20A (typ.) (20ms or less)	
Mass	73kg	76kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing	
Protection Class	IP30 compliance	
Exterior	F type: painted, P type: stainless steel (SUS304) (excluding some parts)	

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent and transparent products, consult us. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

SSV-f Versatile KWS552□ Series



KWS5522BF22



Model	L1	L2	L3	L4	L
KWS5522	805	400	85	105	615
KWS5524	995	495	70	105	820
KWS5526	1150	650	130	200	820

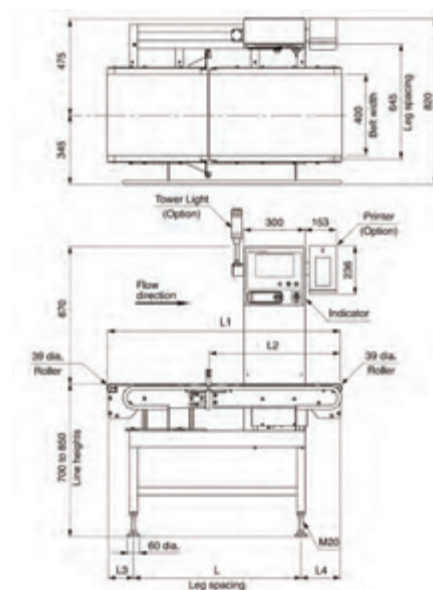
Model	KWS5522BF22 KWS5522BP22	KWS5524BF24 KWS5524BP24	KWS5526BF24 KWS5526BP24
Weighing Range	60 to 6000g		
Scale Interval	0.5g		
Max Speed ¹	180 products/min	145 products/min	110 products/min
Max Accuracy (3 σ) ¹	$\pm 1.5g$		
Display	8.5-inch colour TFT LCD		
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)		
Indication Range	6018g		
Preset Memory	Max 200		
Classification	2 or 3		
Product Width ²	20 to 450mm		
Product Length ²	88 to 350mm	88 to 450mm	88 to 600mm
Product Height ²	5 to 350mm	5 to 450mm	5 to 600mm
Belt Speed	5 to 78m/min		
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 250VA, rush current 20A (typ.) (20ms or less)		
Mass	79kg	83kg	85kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing		
Protection Class	IP30 compliance		
Exterior	F type: painted, P type: stainless steel (SUS304) (excluding some parts)		

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent and transparent products, consult us. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

SSV-f Versatile KWS562□ Series



KWS5623BF23



Model	L1	L2	L3	L4	L
KWS5623	805	400	85	105	615
KWS5625	995	495	70	105	820
KWS5627	1150	650	130	200	820

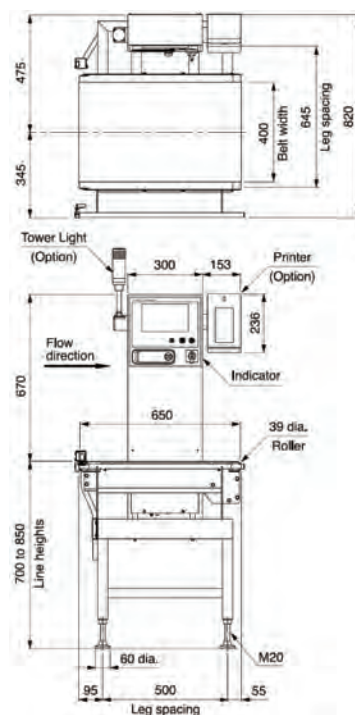
Model	KWS5623BF23 KWS5623BP23	KWS5625BF25 KWS5625BP25	KWS5627BF25 KWS5627BP25
Weighing Range	60 to 15000g		
Scale Interval	1g		
Max Speed ¹	100 products/min	85 products/min	65 products/min
Max Accuracy (3 σ) ¹	± 2 g		
Display	8.5-inch colour TFT LCD		
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)		
Indication Range	15045g		
Preset Memory	Max 200		
Classification	2 or 3		
Product Width ²	20 to 450mm		
Product Length ²	88 to 350mm	88 to 450mm	88 to 600mm
Product Height ²	5 to 350mm	5 to 450mm	5 to 600mm
Belt Speed	5 to 46m/min		
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60 Hz, 250VA, rush current 20A (typ.) (20ms or less)		
Mass	79kg	83kg	85kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing		
Protection Class	IP30 compliance		
Exterior	F type: painted, P type: stainless steel (SUS304) (excluding some parts)		

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent and transparent products, consult us. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

SSV-f Versatile KWS5728 Series



KWS5728BFNN



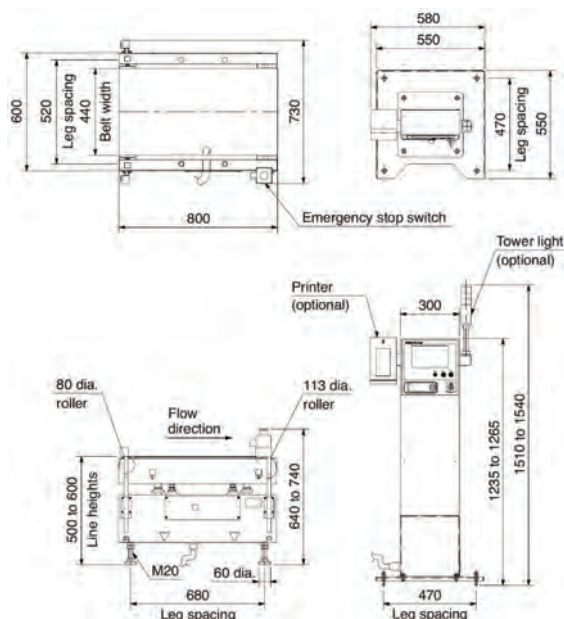
Model	KWS5728BFNN/KWS5728BPNN
Weighing Range	60 to 25000g
Scale Interval	2g
Max Speed ¹	40 products/min
Max Accuracy (3 σ) ¹	± 2 g
Display	8.5-inch colour TFT LCD
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)
Indication Range	25090g
Preset Memory	Max 200
Classification	2 or 3
Product Width ²	20 to 450mm
Product Length ²	88 to 600mm
Product Height ²	5 to 600mm
Belt Speed	5 to 29m/min
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 250VA, rush current 20A (typ.) (20ms or less)
Mass	66kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing
Protection Class	IP30 compliance
Exterior	F type: painted, P type: stainless steel (SUS304) (excluding some parts)

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent and transparent products, consult us. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

KWS5888/5989 High-Load Series



KWS5888BPNN



Model	KWS5888BFNN/KWS5888BPNN	KWS5989BFNN/KWS5989BPNN
Weighing Range	35g to 35kg	60g to 60kg
Scale Interval	2g	
Max Speed ¹	40 products/min	35 products/min
Max Accuracy (3 σ) ¹	$\pm 5g$	
Display	8.5-inch colour TFT LCD	
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)	
Indication Range	35180g	60450g
Preset Memory	Max 200	
Classification	2 or 3	
Product Width ²	200 to 500mm	200 to 650mm
Product Length ²	300 to 700mm	300 to 900mm
Product Height ²	5 to 1500mm	
Belt Speed	15 to 42m/min	
Power Requirements ³	200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 300VA, rush current 40A (typ.) (25ms or less)	
Mass	130kg	150kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing	
Protection Class	IP30 compliance	
Exterior	F type: painted, P type: stainless steel (SUS304)	

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent and transparent products, consult us. ³ 100 to 115Vac available as option. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

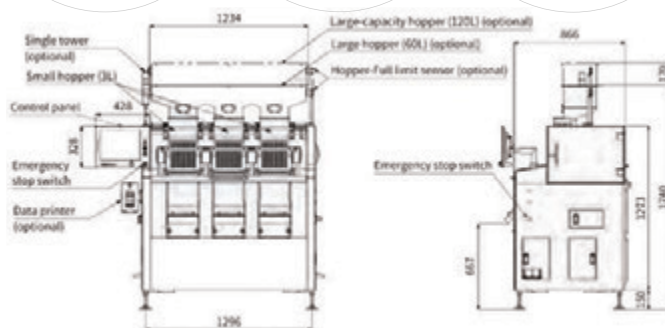
Capsule Checkweigher **Pharmaceutical Checkweigher Series**

KWS9002AP30

Industry's highest
weighing accuracy
+/- 0.5mg

Maximum
processing speed
230,000 capsules/hr

Comply with
**FDA 21 CFR
Part 11** standard
for electronic data
compliance

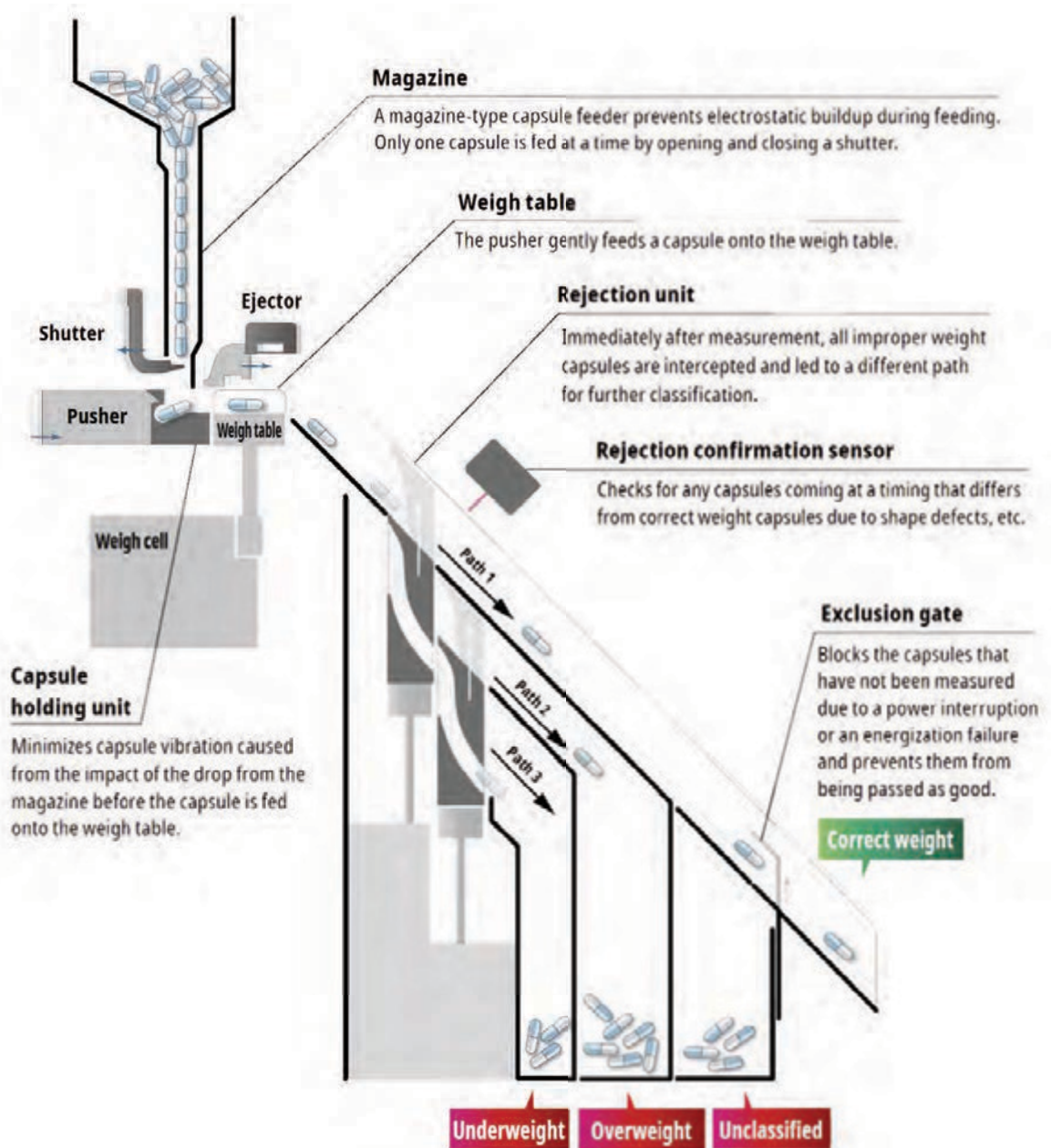


Model	KWS9002AP10	KWS9002AP20	KWS9002AP30
Weighing Range	2 to 2000mg		
Scale Interval	0.1mg		
Max Throughput ¹	75,000 capsules/h	150,000 capsules/h	230,000 capsules/h
Lane	10 lanes	20 lanes	30 lanes
Max Accuracy (3 σ) ¹	± 0.5 mg		
Display	15-inch colour TFT LCD		
Operation Method	Touch panel + Key (Start, Stop, and Home are direct push buttons)		
Indication Range	2045mg		
Preset Memory	Max 50		
Classification ²	4 ways (overweight / correct weight / underweight / unclassified)		
Product Size	Capsule No. 000 to 5		
Power Requirements ³	100 to 115Vac + 10% - 15%, single phase, 50/60Hz, rush current 74A (typ.) (90ms or less)		
Power Consumption	500VA	700VA	1000VA
Air Requirements	0.5 to 0.9 MPa, 200 ℓ /min (A.N.R.), Air Supply Port: Nylon Tube of 8mm dia.		
Mass	350kg	500kg	700kg
Environmental Conditions	15° to 30°C (variation not to exceed 1°C/h to maintain accuracy), relative humidity 30% to 70%, non-condensing		
Protection Class	IP30 (IP50 for weighcell)		
Exterior	Stainless steel (SUS304)		
Data Output	USB Port (USB 2.0), Ethernet interface (10BASE-T, 100BASE-TX)		

¹ Max throughput and accuracy vary according to capsule size, filling content and quantity. ² Rejection gate installed per 10 lanes. ³ 120 Vac, 200 to 240 Vac available as option. ^{Note} Noise levels of the Checkweighers do not exceed 79dB(A).

Capsule Checkweigher **Pharmaceutical Checkweigher Series**

Newly developed handling mechanism has significantly improved reliability and environmental flexibility in capsule handling, including filled and empty capsules. Feeding mechanism reduces static electricity, ensures precise inspections and reliably rejects defective products.



* After an alarm or system stop, capsules remaining in the weigh table and conveyor are forcibly discharged when resuming system operation.



Large intuitive touch screen GUI



Fail-safe design with rejection confirmation sensor

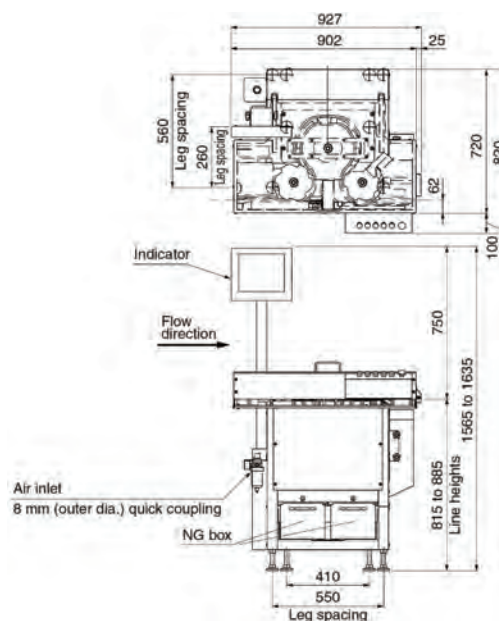


Quick, tool-free part exchange

KW9627AP00 Aerosol Inhaler Checkweigher Series



KW9627AP00



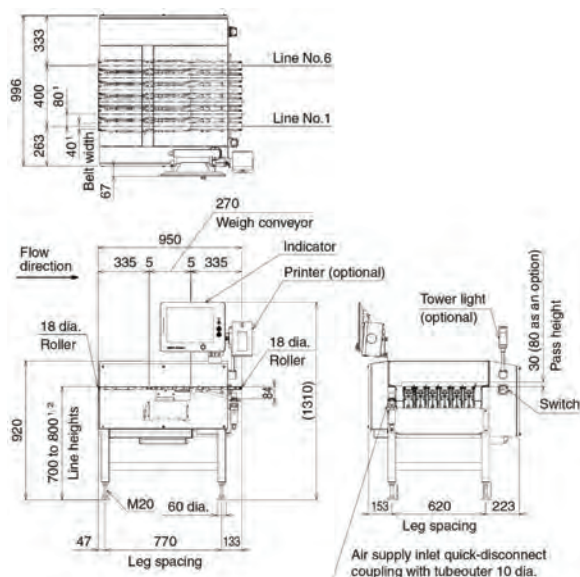
Model	KW9627AP00
Weighing Range	0.5 to 60g
Scale Interval	0.002g
Throughput	Max 150 products/min
Max Accuracy (3 σ) ¹	± 0.01 g
Display	10.4-inch colour TFT LCD
Operation Method	Touch panel
Indication Range	60.45g
Preset Memory	Max 100
Classification	3
Product Can Size	21.5 / 22.0 / 23.5 / 25.0mm diameter ²
Product Height	40 to 80mm
Belt Speed	14m/min
Power Requirements ³	100 to 115Vac + 10% - 15%, single phase, 50/60Hz, 400VA
Air Requirements	0.4MPa, 20 ℓ /min [A.N.R.] (use dry air)
Mass	150kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing
Protection Class	IP30 compliance
Exterior	Stainless steel (SUS304) (excluding some parts)

¹ Accuracy depends on the application. ² Fixed by size, and cannot be shared. ³ 200 to 240Vac also available. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

Multi-Lane Sachet & Stick Checkweigher (up to 12 Lanes)



KWS6233FP06



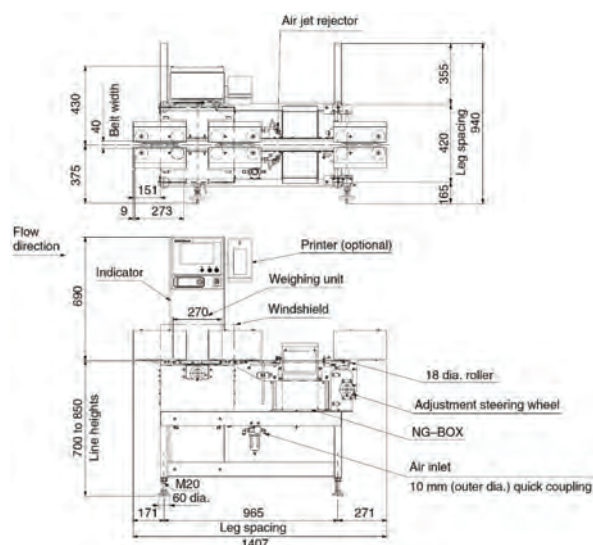
		Narrow-pitch Series		General-pitch Series	
Model		KWS6031FP□□	KWS6032FP□□	KWS623□FP□□	KWS623□FP□□
Weighing Range		0.4 to 100g		1.2 to 600g	
Scale Interval		0.002g		0.01g	
Max Capacity ¹		100 products/min per lane (2 to 12 lines) (overall processing capacity: 1200 pcs/min)		200 products/min per lane (2 to 12 lines) (overall processing capacity: 1200 pcs/min)	
Max Accuracy (3σ) ¹		±0.01g		±0.02g	
Display		15-inch colour TFT LCD			
Operation Method		Touch panel (Start, Stop, and Home are direct push buttons)			
Max Display Value		100.9g		600.9g	
Preset Memory		Max 50			
Classification		2 (3 as option)			
Product Width ²		10 to 40mm		10 to 40/70/100mm	
Product Length ²		46 to 230mm	46 to 310mm	46 to 230mm	46 to 310mm
Product Height ²		5 to 25mm		5 to 60mm	
Belt Speed		15 to 30m/min	15 to 38m/min	15 to 60m/min	15 to 75m/min
Power Requirements	6 lines	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 550VA, rush current 30A (typ.) (130ms or less)			
	12 lines	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 980VA, rush current 30A (typ.) (130ms or less)			
Air Requirements (with exclusive-use rejector)		0.4 to 0.9MPa, 0.2ℓ [A.N.R.] (Max capacity per rejection operation per lane)			
Weight	6 lines	190kg	200kg	200kg	210kg
	12 lines	240kg + 50kg (indicator)	250kg + 50kg (indicator)	290kg + 50kg (indicator)	300kg + 50kg (indicator)
Environmental		0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing			
Protection Class		IP30			
Exterior		Stainless steel (SUS304)			

¹ 2, 3, 4, 5, 8, 10 & 12 lanes models are available. ² The accuracy and speed vary according to the products to be weighed and the rejecter. ³ Consult us about semi-transparent and transparent products. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

KWS9223 Small Bottle Checkweigher Series



KWS9233



Model	KWS9233BPHB	KWS9233BPHC
Weighing Range ¹	1.2 to 600g	
Scale Interval	0.01g	
Throughput ²	Max 200 products/min	
Max Accuracy (3 σ) ²	± 0.02 g	
Display	8.5-inch colour TFT LCD	
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)	
Indication Range	600.9g	
Preset Memory	Max 200	
Classification	2 or 3	
Product Width ³	20 to 40mm	
Product Length ³	20 to 40mm	
Product Height ³	50 to 150mm	
Belt Speed	15 to 60m/min	
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, rush current 40A (typ.) (40ms or less)	
Power Consumption	700VA	550VA
Air Requirements	0.5 to 0.9MPa, 16 ℓ /min [A.N.R.] for air jet rejector	Air supply not required (Air jet rejector not mounted)
Mass	135kg	90kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing	
Protection Class	IP30 compliance	
Exterior	Stainless steel (SUS304)	

¹ Max weight capacity for KWS9233BPHB air jet rejector is 200g. ² Accuracy and throughput depends on the application and the rejector. ³ Varies according to the rejector. Consult us for transparent or semi-transparent products. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

^{Note} Optional compliance with FCC Part 15 available.

KWS5265GW02 Dual-Lane Checkweigher Series

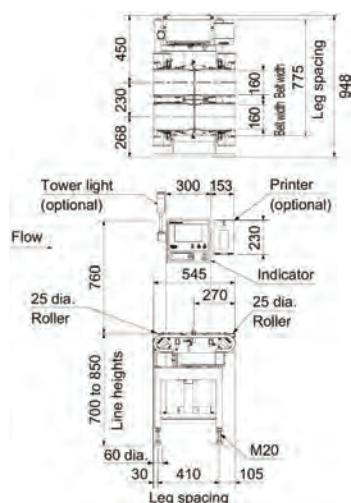
Optimize Production Line Efficiency



KWS5265GW02

Dual-Lane Checkweigher Features:

- Ideal for dual-lane filling and packaging lines for tubes, pouches, and pillow bags
- Various weighing ranges, and conveyor lengths, widths and pitches available
- Operates each lane independently with just one indicator to meet daily production requirements
- Statistical display of average weight and weight variations help the operator understand production trends for optimizing filling processes
- Smart Measurement Function prevents double product error, minimizing unnecessary rejects and thereby maximizing line productivity
- Advanced load cell ensures accuracy and repeatability as high as those of single lane checkweighers



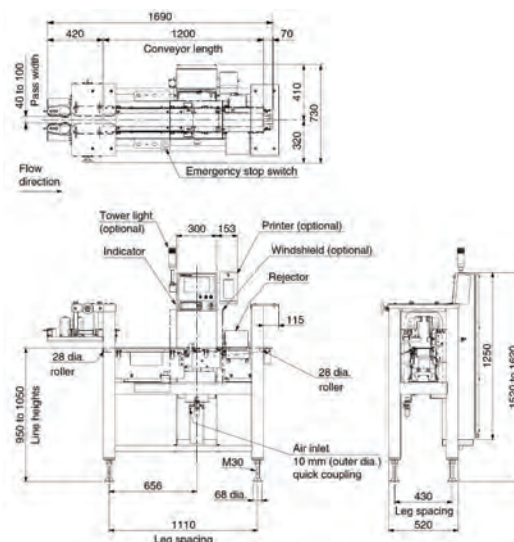
Model	KWS5265GW02
Weighing Range	6g to 600g
Scale Interval	0.05g
Max Speed ¹	330 products/min (per lane)
Max Accuracy (3 σ) ¹	± 0.2 g
Display	8.5-inch colour TFT LCD
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)
Indication Range	604.5g
Preset Memory	Max 200
Classification	2 or 3
Product Width ²	20 to 160mm
Product Length ²	60 to 200mm
Product Height ²	5 to 200mm
Belt Speed	9 to 97m/min
Power Requirements	100 to 120Vac + 10% - 15% or 200 to 240Vac + 10% - 15%, single phase, 50/60Hz, 460VA, rush current 20A (typ.) (20ms or less)
Mass	100kg
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing
Protection Class	IP66 compliance
Exterior	Stainless steel (SUS304)
Data Output	USB2.0, 10BASE-T/100BASE-TX Ethernet

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² The product size depends on the rejecter, selected with the checkweigher. For semi-transparent and transparent products, consult us. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A). ^{Note} Weighing range, accuracy, and throughput other than above are available.

Side-Belt Checkweighers For General Purpose



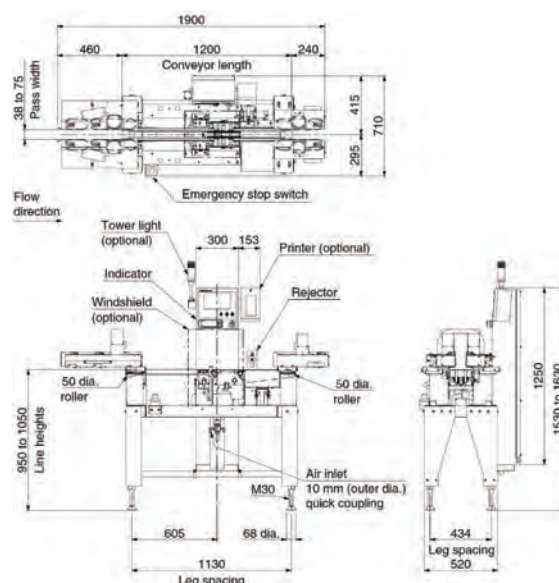
KWS9314BH3B

KWS9314BHNA
KWS9324BHNA

Model	KWS9314BHNA KWS9314BHNB KWS9314BWNA KWS9314BWNB	KWS9324BHNA KWS9324BHNB KWS9324BWNA KWS9324BWNB	KWS9314BH3A KWS9314BH3B KWS9314BW3A KWS9314BW3B	KWS9324BH3A KWS9324BH3B KWS9324BW3A KWS9324BW3B
Weighing Range	6 to 600g			
Scale Interval	0.05g	0.01g	0.05g	0.01g
Max Speed ¹	250 products/min			
Max Accuracy (3σ) ¹	±0.3g			
Display	8.5-inch colour TFT LCD			
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)			
Indication Range	604.5g	601.8g	604.5g	601.8g
Preset Memory	Max 200			
Classification	2			
Product Width	40 to 100mm		40 to 80mm	
Product Length	40 to 100mm			
Product Height	45 to 230mm			
Belt Speed	20 to 50m/min (first side belt conveyor at the entrance: 4 to 25m/min)			
Power Requirements ²	100 to 115Vac + 10% - 15%, single phase, 50/60Hz, rush current 70A (typ.) (100ms or less)			
Power consumption	550VA		600VA	
Air Requirements	0.5MPa, 15ℓ/min [A.N.R.]			
Mass	215kg		250kg	
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing			
Protection Class	IP65 compliance			
◇ Exterior	BH◆▼: Stainless steel (SUS304) (Stand: Round pipe structure) BW◆▼: Stainless steel (SUS304) (Stand: Square pipe structure)			
◆ Integration with Metal detector	B◇N▼: Without Metal detector B◇3▼: With integrated Metal detector			
▼ Angle adjustable mechanism	B◇◆A: Infeed conveyor only B◇◆B: Infeed & Outfeed conveyor			

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² 200 to 240Vac available as option. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

Side-Belt Checkweighers For Beverage Cartons

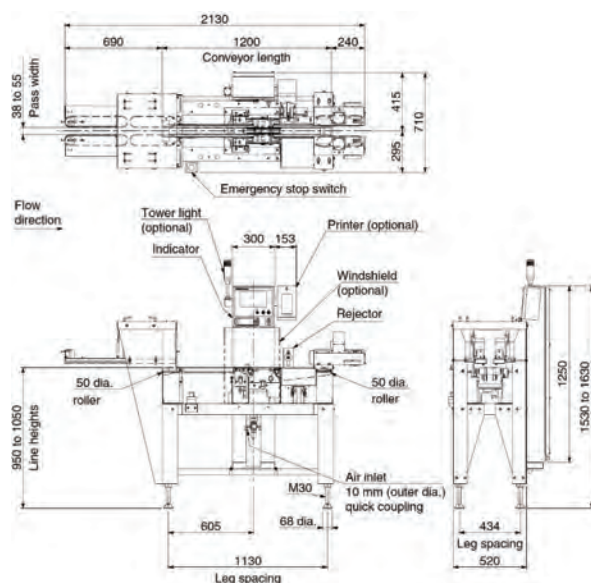


KWS9312BWNC
KWS9322BWNC

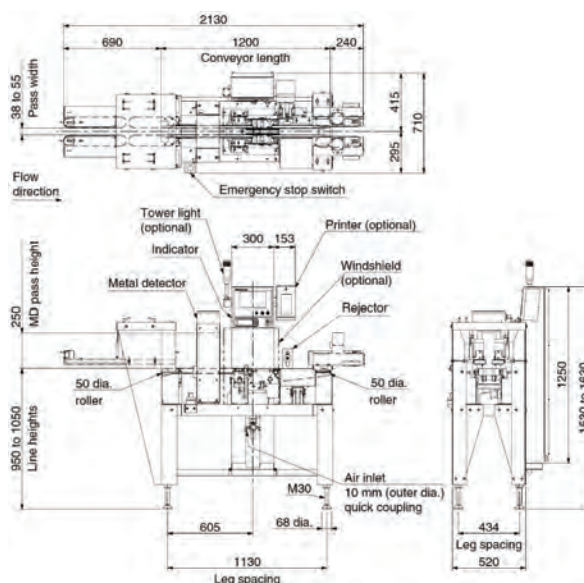
Model	KWS9312BWNC KWS9312BWND	KWS9322BWNC KWS9322BWND	KWS9312BW3C KWS9312BW3D	KWS9322BW3C KWS9322BW3D
Weighing Range	12 to 1200g			
Scale Interval	0.05g	0.02g	0.05g	0.02g
Max Speed ¹	160 products/min			
Max Accuracy (3σ) ¹	±1.5g	±1.0g	±1.5g	±1.0g
Display	8.5-inch colour TFT LCD			
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)			
Indication Range	1204.5g	1201.8g	1204.5g	1201.8g
Preset Memory	Max 200			
Classification	2			
Product Width	38 to 75mm			
Product Length	40 to 75mm			
Product Height	45 to 240mm			
Belt Speed	12 to 35m/min (first side belt conveyor at the entrance: 4.5 to 13.2m/min)			
Power Requirements ²	100 to 115Vac + 10% - 15%, single phase, 50/60Hz, rush current 70A (typ.) (100ms or less)			
Power consumption	550VA		600VA	
Air Requirements	0.5MPa, 15ℓ/min [A.N.R]			
Mass	215kg		250kg	
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing			
Protection Class	IP65 compliance			
Exterior	Stainless steel (SUS304)			
◆ Integration with Metal detector	BWN▼: Without Metal detector BW3▼: With integrated Metal detector			
▼ Infeed Conveyor Type	C: For standard applications D: For inject printer			

¹ The accuracy and speed vary according to the products to be weighed and the rejecter. ² 200 to 240Vac available as option. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).

Side-Belt Checkweighers For Small Size Beverage Cartons



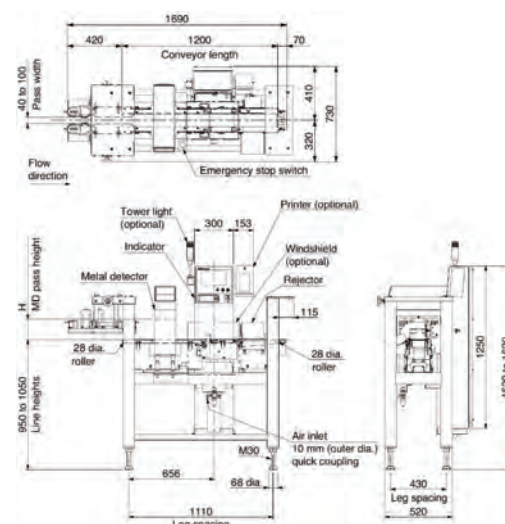
KWS9312BWNE
KWS9322BWNE



KWS9312BW3E
KWS9322BW3E

Model	KWS9312BWNE	KWS9322BWNE	KWS9312BW3E	KWS9322BW3E
Weighing Range	12 to 1200g			
Scale Interval	0.05g	0.02g	0.05g	0.02g
Max Speed ¹	210 products/min			
Max Accuracy (3σ) ¹	±1.5g	±1.0g	±1.5g	±1.0g
Display	8.5-inch colour TFT LCD			
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)			
Indication Range	1204.5g	1201.8g	1204.5g	1201.8g
Preset Memory	Max 200			
Classification	2			
Product Width	38 to 55mm			
Product Length	40 to 55mm			
Product Height	45 to 150mm			
Belt Speed	12 to 46m/min (first side belt conveyor at the entrance: 4.5 to 11.6m/min)			
Power Requirements ²	100 to 115Vac + 10% - 15%, single phase, 50/60Hz, rush current 70A (typ.) (100ms or less)			
Power consumption	550VA		600VA	
Air Requirements	0.5MPa, 15ℓ/min [A.N.R]			
Mass	215kg		250kg	
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing			
Protection Class	IP65 compliance			
Exterior	Stainless steel (SUS304)			
◆ Integration with Metal detector	BW N ▼: Without Metal detector BW 3 ▼: With integrated Metal detector			
▼ Infeed Conveyor Type	E: For small size carton application with inkjet printer			

¹ The accuracy and speed vary according to the products to be weighed and the rejector. ² 200 to 240Vac available as option. ^{Note} Noise levels of the Checkweighers do not exceed 70dB(A).



Model	KWS9313BHAA KWS9313BWAA KWS9313BHAB KWS9313BWAB	KWS9313BHBA KWS9313BWBA KWS9313BHBB KWS9313BWBB	KWS9323BHAA KWS9323BWAA KWS9323BHAB KWS9323BWAB	KWS9323BHBA KWS9323BWBA KWS9323BHBB KWS9323BWBB		
Weighing Range	6 to 600g					
Scale Interval	0.05g		0.01g			
Max Speed ¹	250 products/min					
Max Accuracy (3σ) ¹	±0.3g					
Display	8.5-inch colour TFT LCD					
Operation Method	Touch panel (Start, Stop, and Home are direct push buttons)					
Indication Range	604.5g		601.8g			
Preset Memory	Max 200 (max of 50 for metal detector)					
Classification	2					
Product Width	40 to 100mm					
Product Length	40 to 100mm					
Product Height	45 to 75mm	76 to 155mm	45 to 75mm	76 to 155mm		
Belt Speed	20 to 50m/min (first side belt conveyor at the entrance: 4 to 25m/min)					
Power Requirements ²	100Vac + 10%, single phase, 50/60Hz, rush current 70A (typ.) (100ms or less)					
Power consumption	600VA					
Air Requirements	0.5MPa, 15ℓ/min [A.N.R.]					
Mass	250kg					
Environmental	0° to 40°C (variation not to exceed 5°C/h to maintain accuracy), relative humidity 30% to 85%, non-condensing					
Protection Class	IP65 compliance					
◇Exterior	BH◆▼: Stainless steel (SUS304) (Stand: Round pipe structure) BW◆▼: Stainless steel (SUS304) (Stand: Square pipe structure)					
◆Metal Detector Pass Height	B◇A▼: 85mm B◇B▼: 165mm					
▼ Angle adjustable mechanism	B◇◆A: Infeed conveyor only B◇◆B: Infeed & Outfeed conveyor					

Cairnhill Metrology

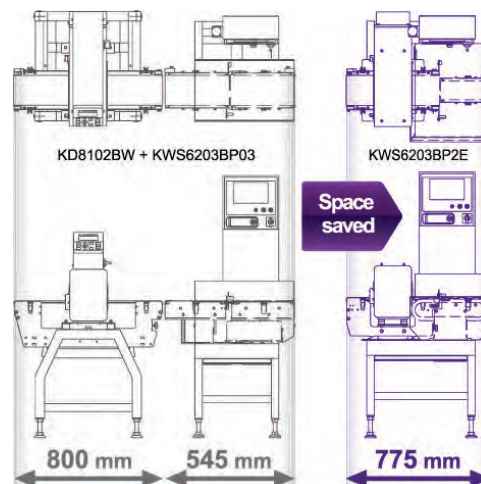
Combi SSV Checkweigher with Metal Detector



Simplified Support - single source technology for greater reliability and consistency over a longer life

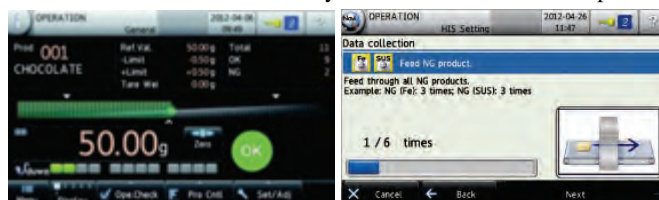
Reduced Space Required: Min. System Length 775mm

Extremely small footprint substantially reducing minimizing line space requirements and simplifying integration



Simplified Operation: User-friendly single touch screen

Both MD and CW controlled by one standard touch screen panel



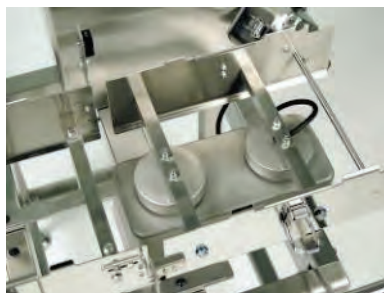
High Accuracy



Combi SSV-h Series & MD

Highest speed & accuracy force balance load cell for pharmaceuticals/industries

Waterproof



Combi SSV-i Series & MD

Waterproof & dustproof cabinet and components for unpackaged fresh foods

Versatile



Combi SSV-f Series & MD

Strain gauge load cell for various applications including heavy products

	High Accuracy	Waterproof	Versatile
Control panel exterior	Stainless steel or painted	Stainless steel	Stainless steel or painted
Conveyor	Non-Waterproof	Waterproof	Non-Waterproof
Balance	Force Balance	Force Balance or Strain Gauge	Strain Gauge
Frame	Stainless steel or painted	Stainless steel	Stainless steel or painted
Metal Detector Selection	M5 or M6-h or Metal Detector for Aluminum Foil Packaged Products		

Combi SSV Checkweigher with Metal Detector

	Item Model	Weighing Range (g)	Max Accuracy (3σ)(g)	Max Speed (products/min)	Belt speed (m/min)	Product size (all mm)		Metal Detector															
						Width	Length	M5 Series					M6-h Series										
								2 R	3 R	4 R	5 R	6 R	2 G	3 G	4 G	5 G	6 G	7 G	8 G				
High Accuracy SSV-h series	KWS6003B△□□	0.4 to 100	±0.01	310	15 to 92	20 to 100	58 to 230	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-				
	KWS6005B△□□	0.4 to 100	±0.01	310	15 to 92	20 to 160	58 to 230	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-				
	KWS6006B△□□	0.4 to 100	±0.01	320	15 to 120	20 to 160	58 to 320	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-				
	KWS6203B△□□	1.2 to 600	±0.015	400	15 to 120	20 to 100	58 to 230	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-				
	KWS6205B△□□	1.2 to 600	±0.015	400	15 to 120	20 to 160	58 to 230	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-				
	KWS6206B△□□	1.2 to 600	±0.015	320	15 to 120	20 to 160	58 to 320	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-				
	KWS6411B△□□	6 to 3000	±0.1	400	15 to 120	20 to 250	65 to 230	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓				
	KWS6412B△□□	6 to 3000	±0.1	320	15 to 120	20 to 250	65 to 320	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓				
	KWS6414B△□□	6 to 3000	±0.1	220	15 to 120	20 to 250	65 to 450	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓				
	KWS6416B△□□	6 to 3000	±0.1	210	15 to 91	20 to 350	65 to 350	✓	✓	✓	✓	✓	✓	-	✓	-	✓	✓	✓				
	KWS6417B△□□	6 to 3000	±0.1	170	15 to 91	20 to 350	65 to 450	✓	✓	✓	✓	✓	✓	-	✓	-	✓	✓	✓				
Waterproof SSV-i series	KWS6265BW□□	6 to 600	±0.1	280	9 to 82	20 to 160	68 to 200	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-				
	KWS6366BW□□	12 to 1200	±0.1	220	9 to 82	20 to 230	68 to 320	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓				
	KWS6472BW□□	30 to 3000 [30 to 1200]	±0.1	160 [220]	7 to 60 [9 to 82]	20 to 230	76 to 320	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓				
	KWS5265BW□□	6 to 600	±0.2	280	9 to 82	20 to 160	68 to 200	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-				
	KWS5366BW□□	12 to 1200	±0.2	220	9 to 82	20 to 230	68 to 320	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓				
	KWS5472BW□□	30 to 3000 [30 to 1200]	±0.5	160 [220]	7 to 60 [9 to 82]	20 to 230	76 to 320	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓				
	KWS5476BW□□	30 to 3000 [30 to 1200]	±0.5	120 [155]	7 to 65 [9 to 83]	20 to 350	76 to 450	✓	✓	✓	✓	✓	✓	-	✓	-	✓	✓	✓				
	KWS5577BW□□	60 to 6000	±1.5	70	5 to 38	20 to 350	76 to 450	✓	✓	✓	✓	✓	✓	-	✓	-	✓	✓	✓				
Versatile SSV-f series	KWS5203B△□□	6 to 600	±0.2	350	15 to 103	20 to 100	58 to 230	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-				
	KWS5205B△□□	6 to 600	±0.2	350	15 to 103	20 to 160	58 to 230	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-				
	KWS5206B△□□	6 to 600	±0.2	320	15 to 120	20 to 160	58 to 310	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-				
	KWS5411B△□□	12 to 3000	±0.2	320	15 to 94	20 to 250	65 to 230	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓				
	KWS5412B△□□	12 to 3000	±0.2	320	15 to 120	20 to 250	65 to 310	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓				
	KWS5414B△□□	12 to 3000	±0.2	220	15 to 120	20 to 250	65 to 450	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓	✓				
	KWS5416B△□□	12 to 3000	±0.5	210	15 to 91	20 to 350	65 to 350	✓	✓	✓	✓	✓	✓	-	✓	-	✓	✓	✓				
	KWS5417B△□□	12 to 3000	±0.5	170	15 to 91	20 to 350	65 to 450	✓	✓	✓	✓	✓	✓	-	✓	-	✓	✓	✓				
	KWS5522B△□□	60 to 6000	±1.5	130	5 to 56	20 to 350	79 to 350	✓	✓	✓	✓	✓	✓	-	✓	-	✓	✓	✓				
	KWS5524B△□□	60 to 6000	±1.5	110	5 to 60	20 to 350	79 to 450	✓	✓	✓	✓	✓	✓	-	✓	-	✓	✓	✓				

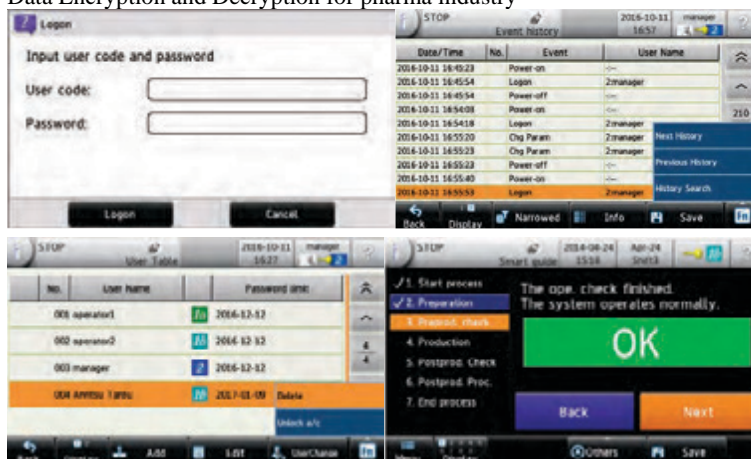
[] Option. △ Alphabetical letter indicates exterior type. □ Number indicates metal detection unit type. Accuracy/speed depends on products to be weighed and the rejecter.

SSV Series Checkweigher Supporting FDA 21CFR Part11

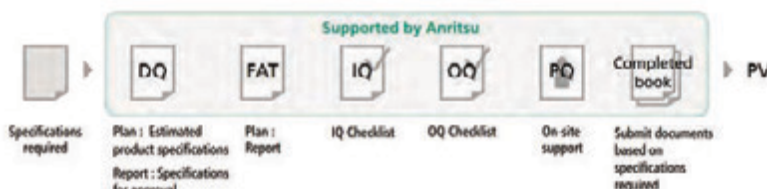
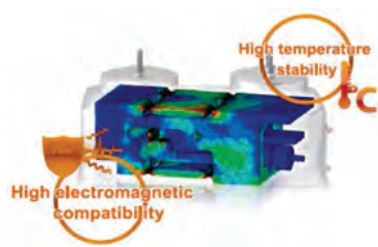


Features

- 8.5" large screen for easy control of complex weight inspection
- Corresponds to FDA21 CFR Part 11 with Eligibility Authentication, Audit Trail, Data Encryption and Decryption for pharma industry

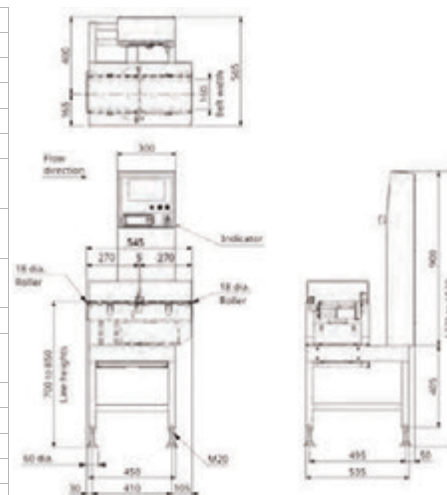


- Anritsu's proprietary weigh cell with unique signal processing and dynamic weighing technology for world class accuracy & stability



Anritsu with full validation functions satisfy GMP requirements while supporting accurate and efficient operations. Anritsu also provides IQ/OQ checklists and on-site support during PQ process.

Function	Specifications	
User Management	User Registration Number	Max 999 users
	Access Restriction	3 Levels (1a, 1b, 2) of user management
	Authentication at Log-on	User code and password entries
	Auto Log-off	Setting time: from 0 to 60mins
	User Password Expiration	Setting limit: from 1 to 180 days
	Illegal Log-on Detection ⁴	Account lock to 3 consecutive logon failure, history registration
	User name registration rule	No. of characters: from 1 to 28 characters (single-byte alphanumeric and symbol)
	Password Registration Rule ⁴	No. of characters: from 6 to 20 (include at least one alphabet, number, symbol)
Electronic data records ³	Password resetting limit ⁴	1 to 12 resetting
	History data: Operation / parameter change / error and alarm (for audit trail)	
	Save Data Amount	1,800,000 records, about 10-year data ¹
	Operation check history: Accuracy check / RJ check	
	Save Data Amount	150,000 records ²
Electronic Data Security ³	Operation check history: Total statistics ⁵	
	Save data amount	150,000 records
Electronic Data Security ³	Prohibition of history data clear	
Electronic Signatures ³	User name has been added to the record of parameter change and operation check	
Electronic Data Display ³	Display Format	List view format
	Search Display	History: Date Specified History type (Operation / Alarm / Parameter / Operation check)
Electronic Data Output ³	Output Media	USB memory



¹ Number of years for recording varies depending on the use status. ² Included in 1.8M items of history data. ³ Not available if only the Part11 User Management option is selected. ⁴ Depends on software version. ⁵ Available in Software version V11.11 or later of M6-h Series Pharmaceutical Metal Detector.

SSV Series Checkweigher With Grading Options



SSV Series Checkweigher with Grading Options

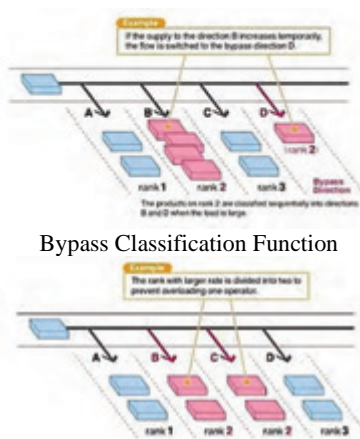


Up to 16 ranks



Features:

- 8.5-inch colour TFT LCD
- 1 or 2 lanes
- Up to 16 Grading Ranks
- 100 Product Types
- MD – Separate / Integrated type (Only available for 1 lane model)
- Maximum Processing Capacity
 - 600 products/min (1 lane)
 - 900 products/min (2 lanes)
- In-Rank Classification
- Bypass Classification
- Constant Cycle Buzzer Output
- I/O Rank Output
- Combined Rank Rejection
- Rear-Edge Detection
- Centralized control with one control unit for 2 lanes model



Bypass Classification Function

In-Rank Classification Function



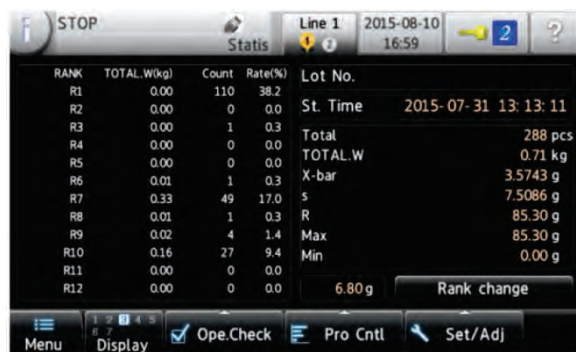
SSV Series Checkweigher With Grading Options



Single Lane Grading CW Display



Two-Lane Grading CW Display

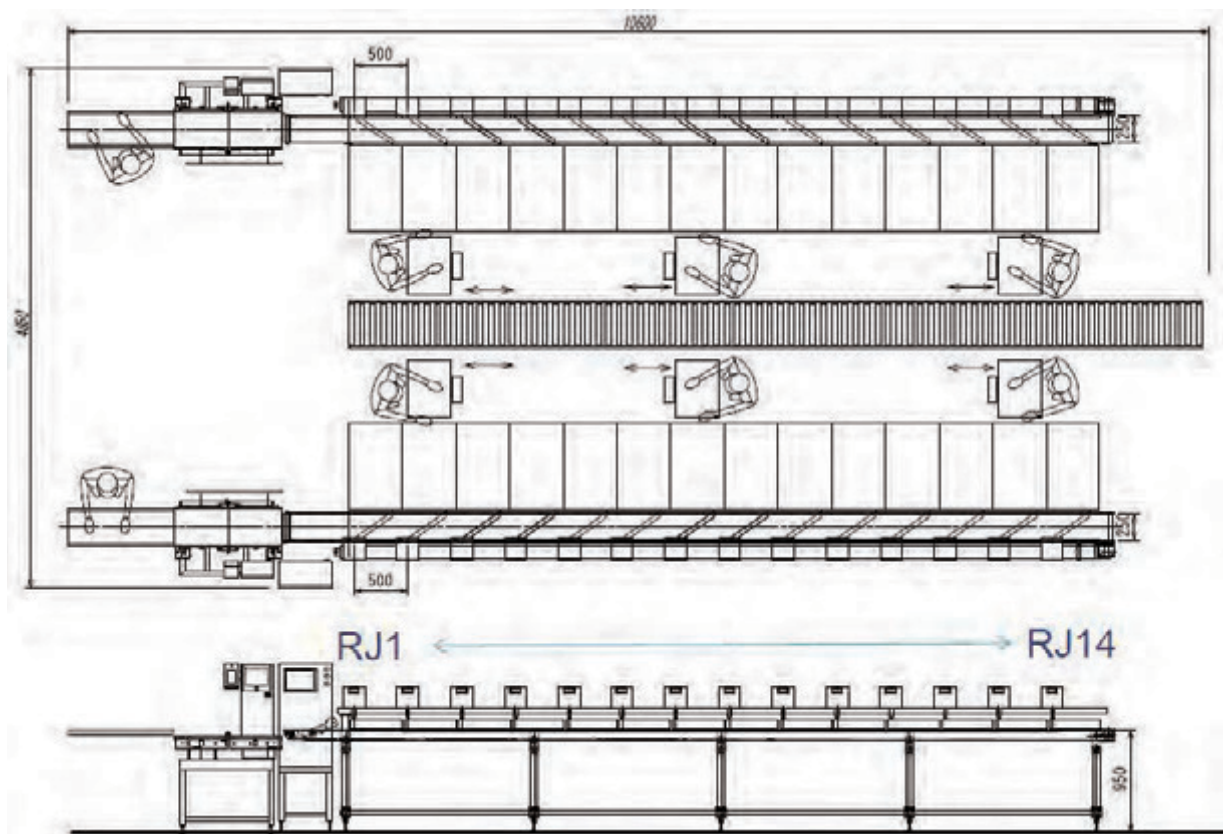


Statistic Display

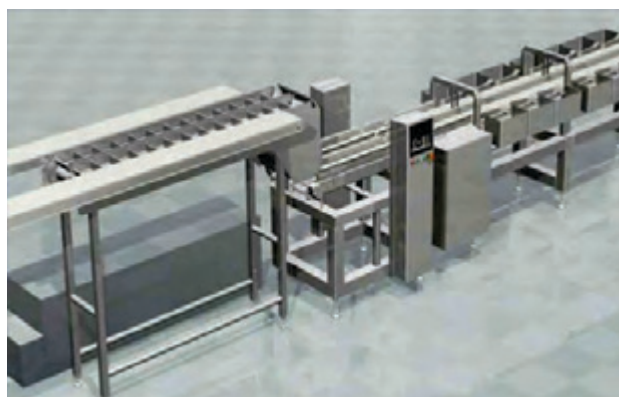


Histogram Display

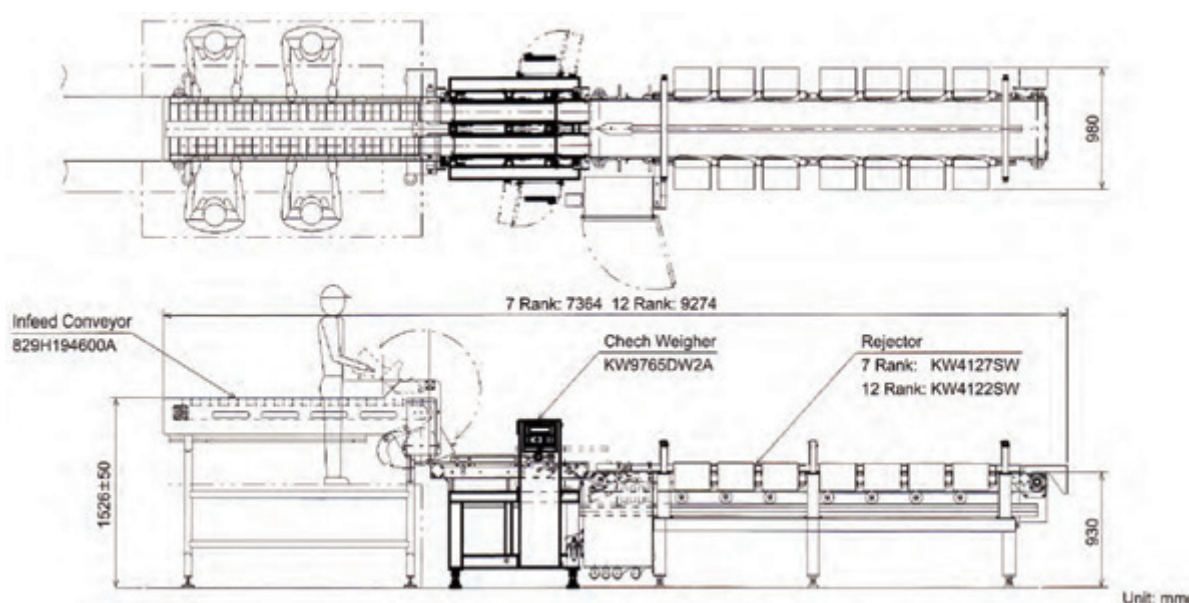
Example of Grading System Setup



SV Series Checkweigher With Grading Options

**Features:**

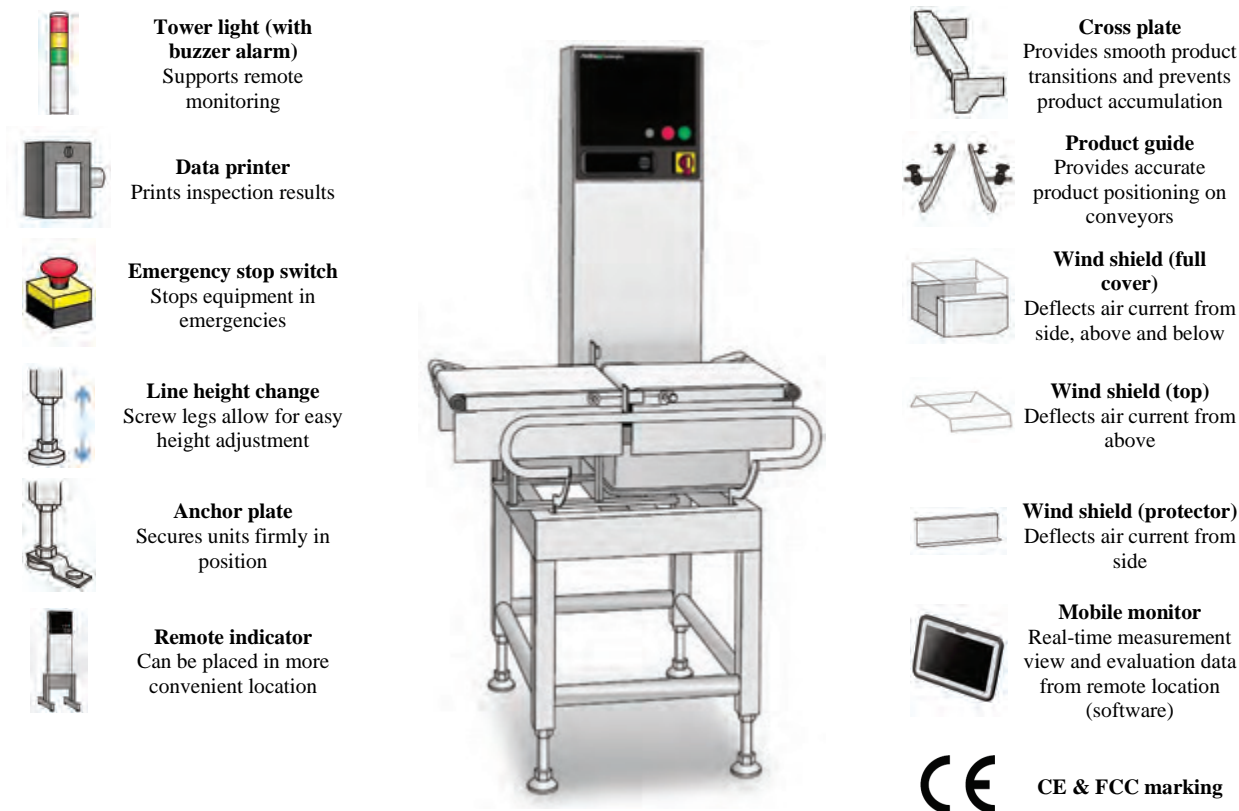
- Classification into 4 to 12 ranks facilitates the selection of primary products
- Weight range: 6 – 600g
- Accuracy of $\pm 0.1g$ at 3σ
- Maximum speed of 600 products/min (300 product/min per line)
- IP67 compliant conveyor and balance for weighing unit
- Synchronous rotary feeding system (patent pending)
- Gentle to products
- Batching function (optional)



Model	KW9765DW2A	KW9766DW2A
No. of Lines	2	
Classification	7 (KW4127SW) / 12 (KW4122SW)	
Weighing Range	3 to 600g	
Scale Interval	0.02g	0.1g
Max Accuracy (3σ) ¹	$\pm 0.2g$	$\pm 0.5g$
Throughput	300 ppm (per line)	180 ppm (per line)
Preset Memory	Max 100	
Product Dimension ²	Min 15 x 15 x 10mm Max 140 x 140 x 50mm	Min 15 x 15 x 10mm Max 200 x 140 x 50mm
Belt Speed	10 to 97m/min	
Power Requirements	200 to 240Vac + 10% - 15%, single phase, 50/60Hz	
Power Consumption	1800VA	
Air Requirements	0.6 to 0.9 MPa, 300ℓ/min [A.N.R.]	
Protection Class	IP66 compliance	
Exterior	Stainless steel (SUS304)	

¹ The accuracy and speed vary according to the products to be weighed and the rejector. ² Size of products to be weighed depends on the rejector select a checkweigher together with a rejector.

Checkweigher Options



Remote Android Mobile Monitor for Anritsu Checkweighers



- Android 10" tablet monitors up to 6 Checkweighers (English/Japanese) simultaneously
- Max Products: 100 x 6 CW or 600 / Max Display Data: 1000
- Setting: Equipment name, batch cycle (time and number)
- Displays trend graphs of average value of each batch, total OK/NG, standard deviation and other statistical control charts
- Functions: Adjustment point mark (average value, failure rate, metal NG, mass NG) alarm display, sound and signal tower light notifications



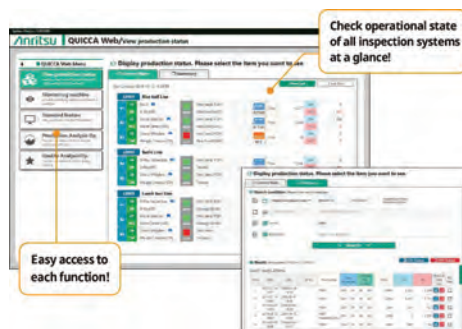
Applications of Checkweigher with Remote Monitor

- Safeguard for automatic filling machines against errors caused by viscous deposits on the built-in scales
- Automation process control of variations in the first phase of automation until variable parameters (daily temperature and humidity, differences in operator skills or techniques) are ironed out.
- Histograms to improve production reproducibility by isolating variations due to human operators and applying guided adjustment instructions such as "reduce 2g" or "increase 1g".
- Real-time supervisory checks of mass in the packaging process for decisions on adjustments if required.

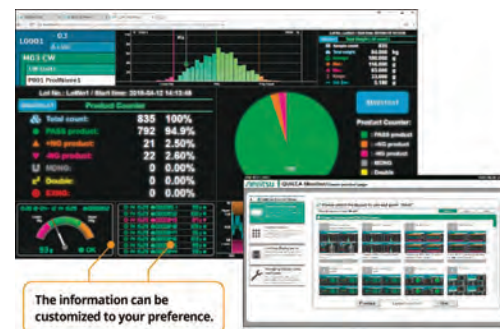
QUICCA 3 Quality Management and Control Software



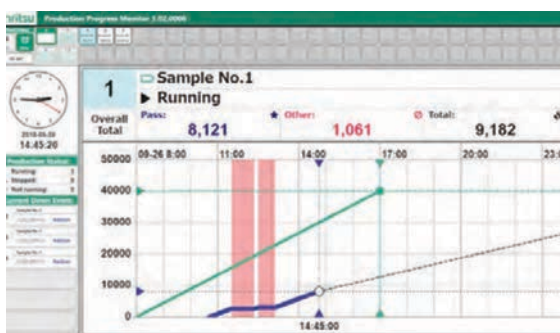
Production Line in the Palm of your hand.



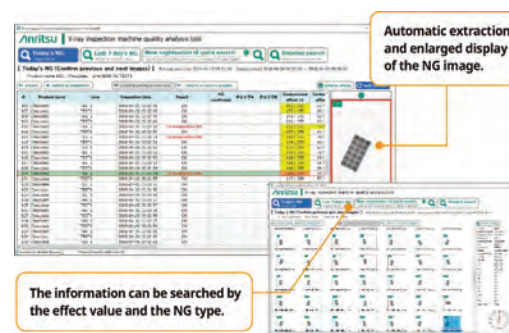
QUICCA Web
Displays the status of production from the past to the present



QUICCA Monitor
Displays optimal detailed information for each processor

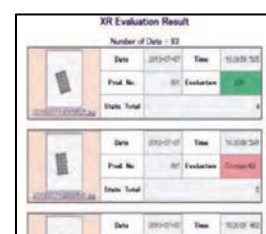
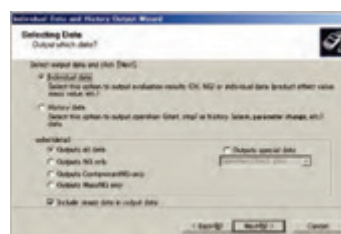


Production progress graphs facilitates understanding of momentary stoppages and production delays, enabling fast response.



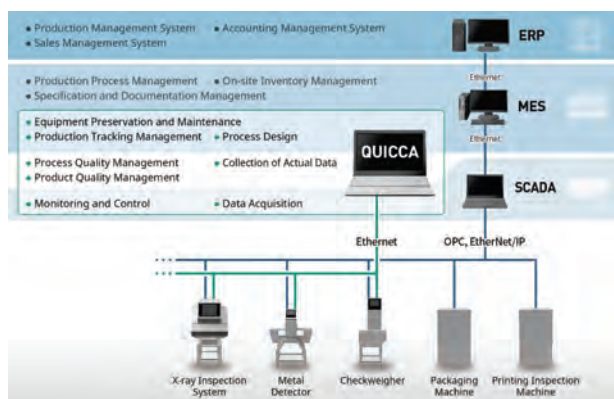
Quality check can be performed before shipment, preventing contaminants from slipping into the finished product.

Quality Analysis Options include: **X-ray Inspection System Quality Analysis Tool** to reject rate alarms and image analysis to best prevent defects from reaching consumers, **CCP Management** to automatically record operation checks and the associated product, time/date and the operator ID who performed the check, **Product Traceability** to ensure fast and reliable response to product quality complaints and **Video Recording** function.

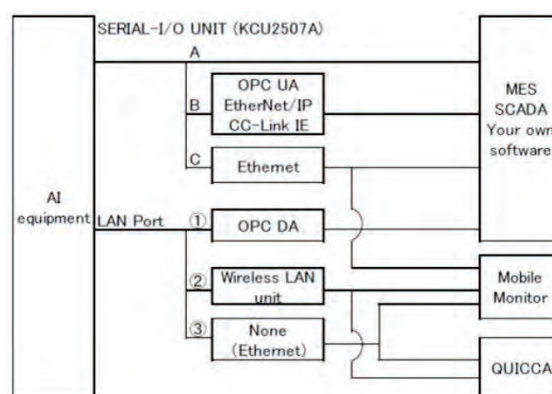


Traceability & Reliability in Claim Handling – Easy archived data extraction for traceability and claim handling

QUICCA 3 Quality Management and Control Software



Construction of plant network



Communication Protocol available for Anritsu

QUICCA3 further improves on QUICCA and QUICCA 2 as a comprehensive database network solution for all Anritsu inspection equipment, enabling live data views for production management and quality analyses, as well as sales and accounting management, equipment maintenance and process design.

Installation and deployment is simple.

QUICCA is configurable to gather information specific to the company in real time for powerful detailed quality analysis, which are typically not provided by enterprise resource planning (ERP) and manufacturing execution systems (MES) to the same extent for quality assurance.

Specifications of QUICCA 3	
Max connectable machines *	99
Max recording capacity *	3000 products/min (all lines). 1500 items/min with X-Ray recording of transmitted images.
Max number of recordable data	Depends on PC disk space. 1 GB / day or Max 4 million individual, statistics or history data; or 10,000 to 30,000 image data. Data can also be saved on multiple hard drives such as NAS.

* Connectable machines and video camera. Max recording capacity depends on PC specifications and network configuration.

Computer Operating Environment	
OS	Windows 10 (Pro/Enterprise). Windows Server 2016 (Standard/Datacenter/Essentials)
CPU	Intel® Core i3 Processor 2.80GHz or higher
Memory	8GB or higher
HDD	1GB or more free disk space for installation in addition to that required for data saving
Display	1024x768 or higher
LAN	Ethernet (100BASE-TX, 1000BASE-T)
Required Browser	Google Chrome, Microsoft Internet Explorer

Client	
OS	Windows 10 (Pro/Enterprise)
CPU	Intel® Core i3 Processor 2.80GHz or higher
Memory	4GB or higher
HDD	Depends on functions used. 100MB or more available capacity for installation
Display	1024x768 or higher
LAN	Ethernet (100BASE-TX, 1000BASE-T) or wireless LAN connection
Required Browser	Google Chrome

System Requirements	
PC (PC, Server)	PC for QUICCA installation
LAN cable	Category 5e or higher. Gigabyte and Ethernet compatible products recommended.
LAN switch (switching hub)	Required when connecting multiple equipment. Gigabyte and Ethernet products recommended.
Cable installation and wiring	To be done by customer for connecting PC, LAN switch, etc.
Back-up (NAS, USB-HDD)	For performing data back-up. Additional external USB HDD can be added if required.
KSA9003A QUICCA	Includes QUICCA license. Separate connection licenses for each machine connected.
Ethernet unit	Required depending on equipment to be connected.
Equipment	X-Ray Inspection System, Metal Detector, Checkweigher, Automatic Combination Weigher

Rejectors For Metal Detectors, Checkweighers & X-Ray Systems

KW4132AFBA Flipper Type



Rejecter arms push NG boxes and thick bags aside

KW4612APBC Dropout Type



Conveyor drops NG products in thin bags

KW4805BP Air Jet Type



Air jet blows NG small light packages at high speed, sideways off

KW4603MFAA Up and Out Type



Conveyor flips NG products in thin bags under equipment; saves space

KW4503BP Pusher Type



Gate at air cylinder pushes NG packages and thick bags sideways off

Swing Pusher Pusher Type



NG products rejected along the arm and plates; shortens operating time for high speed production lines such as desserts

NGS290 Chute Type



Chute reverses for NG (relatively light bulk products) to fall

RS3 Shuttle Type



Belt expands/contracts letting NG (unpacked/sticky bulk products) fall

KRA4426W Carrier Type



Rejector sorts fragile products horizontally with little shock/damage

KRA4103AW Waterproof Flipper Type



Rejecter arms push NG boxes and thick bags aside; IP66

KRA4671AW Waterproof Dropout Type



Conveyor drops NG products in thin bags; IP66

KW4501LWAC Waterproof Large Pusher Type

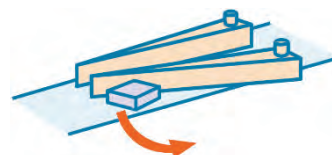
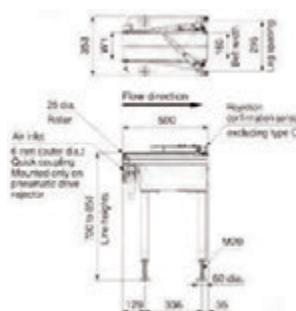


Air cylinder pushes NG products (large products) sideways off; IP66

Rejectors Flipper Type



KW4132□◇◆▼



The flipper rejector is the most common rejector, and ideal for products in boxes and thick bags. NG products are pushed aside by the rejector gates (arms).

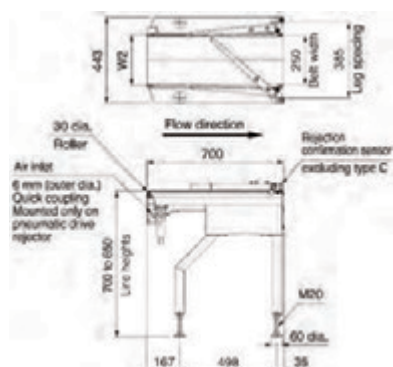
Max. Pass Width (W1)	KW4132A◇B▼	180
	KW4132B◇B▼	155
	KW4132C◇B▼	120

Model	KW4132A◇◆▼ KW4132G◇◆▼	KW4132B◇◆▼ KW4132H◇◆▼	KW4132C◇◆▼ KW4132J◇◆▼
Gate Drive System	A, B, C: Pneumatic drive / G, H, J: Electric drive		
Classification	3		
Max Product Size W x L x H	160x300x200mm	130x300x200mm	100x120x60mm
Max Product Weight	1.2kg		0.6kg
Max Speed (products/min)	130 (180) ¹	160 (210) ¹	250
Belt Speed	15 to 120m/min		
Air Requirements	0.5 to 0.9MPa, 0.2ℓ/min [A.N.R.] (For pneumatic drive type only)		
Air Inlet	Tube having outer diameter of 6mm		
Power Requirements	100 to 120 Vac + 10% - 15% or 200 to 240 Vac + 10% - 15%, single phase, 50/60Hz (Supplied from SSV series), 90VA		
Mass	30kg (36kg)		
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing		
Protection Class / Exterior	IP30 compliance		
◇ Exterior	F: Painted / P: Stainless steel (SUS304)		
◆ Connectable model	A: X-Ray System, Metal detector, Non-SSV Checkweigher B: SSV Checkweigher		
▼ Type of SV functions	A: Rejection Confirmation (pass side), Rejection Operation Check, Chute Attachment B: Rejection Confirmation (pass side); C: -		

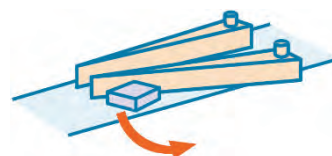
Model	KW4232A◆◆▼KW4232D◆◆▼		KW4232B◆◆▼		KW4232E◆◆▼KW4232C◆◆▼		KW4232F◆◆▼	
	KW4232G◆◆▼KW4232K◆◆▼		KW4232H◆◆▼		KW4232L◆◆▼		KW4232J◆◆▼KW4232M◆◆▼	
Gate Drive System	A, B, C, D, E, F: Pneumatic drive / G, H, J, K, L, M: Electric drive							
Classification	2							
Rejection Direction	Right		Left		Right		Left	
Max Product Size W x L x H	160x300x200mm			130x300x200mm			100x120x60mm	
Max Product Weight	1.2kg						0.6kg	
Max Speed (products/min)	130 (180) ¹			160 (210) ¹			250	
Belt Speed	15 to 120m/min							
Air Requirements	0.5 to 0.9MPa, 0.1ℓ/min [A.N.R.] (For pneumatic drive type only)							
Air Inlet	Tube having outer diameter of 6mm							
Power Requirements	100 to 120 Vac + 10% - 15% or 200 to 240 Vac + 10% - 15%, single phase, 50/60Hz (Supplied from SSV series), 90VA							
Mass	30kg (36kg)							
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing							
Protection Class / Exterior	IP30 compliance							
◇ Exterior	F: Painted / P: Stainless steel (SUS304)							
◆ Connectable model	A: X-Ray System, Metal detector, Non-SSV Checkweigher B: SSV Checkweigher							
▼ Type of SV functions	A: Rejection Confirmation (pass side), Rejection Operation Check, Chute Attachment B: Rejection Confirmation (pass side): C: -							

¹ Figures in () are for electric drive type.

Rejectors Flipper Type



Max. Pass	KW4133A◇B▼	280
Width (W2)	KW4133B◇B▼	265



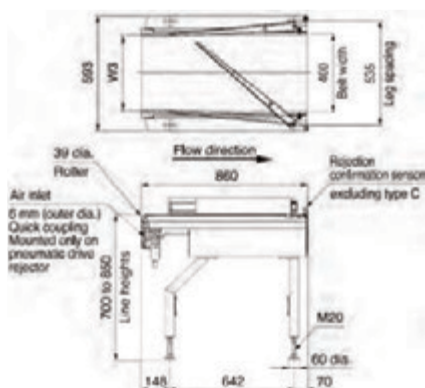
The flipper rejector is the most common rejector, and ideal for products in boxes and thick bags. NG products are pushed aside by the rejector gates (arms).

Model	KW4133A◇◆▼ KW4133G◇◆▼	KW4133B◇◆▼ KW4133H◇◆▼
Gate Drive System	A, B: Pneumatic drive / G, H: Electric drive	
Classification	3	
Max. Pass Width (mm)	280	265
Max Product Size W x L x H	250x300x200mm	
Max Product Weight	3kg	
Max Speed (products/min)	120 (160)	140 (170)
Belt Speed	15 to 120m/min	
Air Requirements	0.5 to 0.9MPa, 0.2ℓ/min [A.N.R.] (For pneumatic drive type only)	
Air Inlet	Tube having outer diameter of 6mm	
Power Requirements	100 to 120 Vac + 10% - 15% or 200 to 240 Vac + 10% - 15%, single phase, 50/60Hz (Supplied from SSV series), 90VA	
Mass	34kg (40kg)	
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing	
Protection Class / Exterior	IP30 compliance	
◇ Exterior	F: Painted / P: Stainless steel (SUS304)	
◆ Connectable model	A: X-Ray System, Metal detector, Non-SSV Checkweigher B: SSV Checkweigher	
▼ Type of SV functions	A: Rejection Confirmation (pass side), Rejection Operation Check, Chute Attachment B: Rejection Confirmation (pass side); C: -	

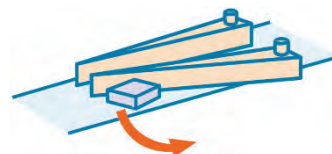
Model	KW4233A◇◆▼ KW4233G◇◆▼	KW4233D◇◆▼ KW4233K◇◆▼	KW4233B◇◆▼ KW4233H◇◆▼	KW4233E◇◆▼ KW4233L◇◆▼
Gate Drive System	A, B, D, E: Pneumatic drive / G, H, K, L: Electric drive			
Classification	2			
Rejection Direction	Right	Left	Right	Left
Max. Pass Width (mm)	280		265	
Max Product Size W x L x H	250x300x200mm			
Max Product Weight	3kg			
Max Speed (products/min)	120 (160)		140 (170)	
Belt Speed	15 to 120m/min			
Air Requirements	0.5 to 0.9MPa, 0.1ℓ/min [A.N.R.] (For pneumatic drive type only)			
Air Inlet	Tube having outer diameter of 6mm			
Power Requirements	100 to 120 Vac + 10% - 15% or 200 to 240 Vac + 10% - 15%, single phase, 50/60Hz (Supplied from SSV series), 90VA			
Mass	34kg (40kg)			
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing			
Protection Class / Exterior	IP30 compliance			
◇ Exterior	F: Painted / P: Stainless steel (SUS304)			
◆ Connectable model	A: X-Ray System, Metal detector, Non-SSV Checkweigher B: SSV Checkweigher			
▼ Type of SV functions	A: Rejection Confirmation (pass side), Rejection Operation Check, Chute Attachment B: Rejection Confirmation (pass side); C: -			

Figures in () are for electric drive type

Rejectors Flipper Type



Max. Pass	KW4134A◇B▼	420
Width	KW4134B◇B▼	380
(W3)	KW4134C◇B▼	350



The flipper rejector is the most common rejector, and ideal for products in boxes and thick bags. NG products are pushed aside by the rejector gates (arms).

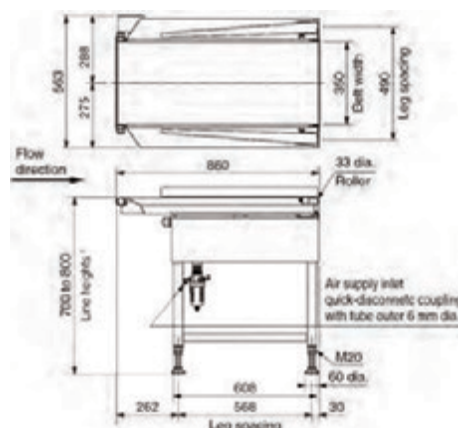
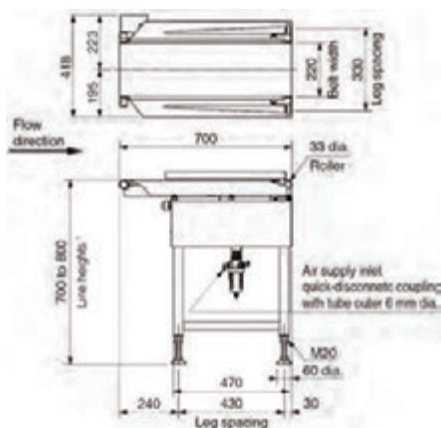
Model	KW4134A◇◆▼	KW4134B◇◆▼	KW4134C◇◆▼
Gate Drive System	A, B, C: Pneumatic drive		
Classification	3		
Max Product Size W x L x H	400x600x500mm	350x600x500mm	320x600x500mm
Max Product Weight	10kg [6kg]		
Max Speed (products/min)	40	55 [60]	60 [90]
Belt Speed	5 to 49m/min [5 to 83m/min]		
Air Requirements	0.5 to 0.9MPa, 0.6ℓ/min [A.N.R.] (For pneumatic drive type only)		
Air Inlet	Tube having outer diameter of 6mm		
Power Requirements	100 to 120 Vac + 10% - 15% or 200 to 240 Vac + 10% - 15%, single phase, 50/60Hz (Supplied from SSV series), 150VA		
Mass	56kg		
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing		
Protection Class / Exterior	IP30 compliance		
◇ Exterior	F: Painted / P: Stainless steel (SUS304)		
◆ Connectable model	A: X-Ray Inspection System, Metal detector, Non-SSV Checkweigher B: SSV Checkweigher		
▼ Type of SV functions	A: Rejection Confirmation (pass side), Rejection Operation Check, Chute Attachment B: Rejection Confirmation (pass side); C: -		

Model	KW4234◆◆▼ KW4234D◆◆▼KW4234B◆◆▼KW4234E◆◆▼KW4234C◆◆▼KW4234F◆◆▼					
Gate Drive System	A, B, C, D, E, F: Pneumatic drive					
Classification	2					
Rejection Direction	Right	Left	Right	Left	Right	Left
Max Product Size W x L x H	400x600x500mm		350x600x500mm		320x600x500mm	
Max Product Weight	10kg [6kg]					
Max Speed (products/min)	40		55 [60]		60 [90]	
Belt Speed	5 to 49m/min [5 to 83m/min]					
Air Requirements	0.5 to 0.9MPa, 0.3ℓ/min [A.N.R.] (For pneumatic drive type only)					
Air Inlet	Tube having outer diameter of 6mm					
Power Requirements	100 to 120 Vac + 10% - 15% or 200 to 240 Vac + 10% - 15%, single phase, 50/60Hz (Supplied from SSV series), 150VA					
Mass	56kg					
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing					
Protection Class / Exterior	IP30 compliance					
◇ Exterior	F: Painted / P: Stainless steel (SUS304)					
◆ Connectable model	A: X-Ray Inspection System, Metal detector, Non-SSV Checkweigher B: SSV Checkweigher					
▼ Type of SV functions	A: Rejection Confirmation (pass side), Rejection Operation Check, Chute Attachment B: Rejection Confirmation (pass side); C: -					

Figures in [] are optional.

Rejectors **Flipper Type (Waterproof model)**

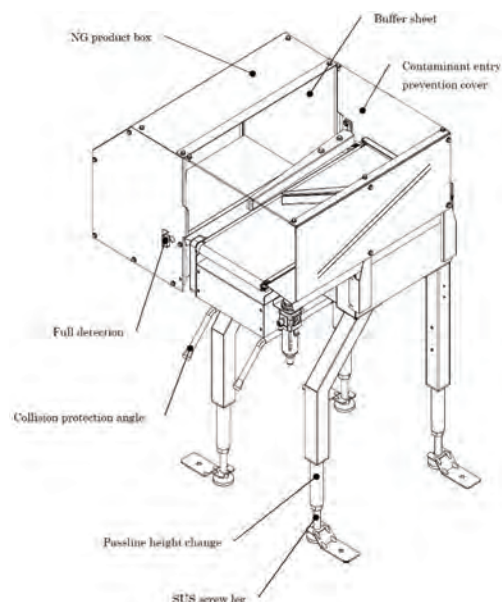
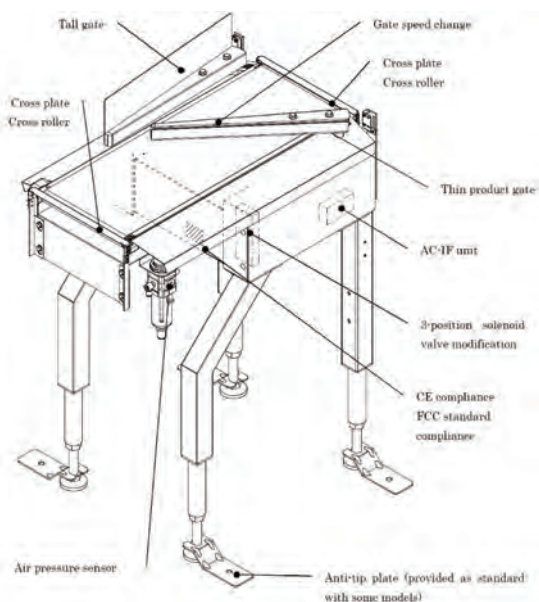
KRA4103AW



Model	KRA4103AW	KRA4104AW
Gate Drive System / Classification	Pneumatic drive / Class 3	
Max Product Size W x L x H	220 x 300 x 200mm	350 x 600 x 500mm
Max Product Weight	2 [3] ¹ kg	10[5] ¹ kg
Max Speed (products/min)	150 [120] ¹	45 [70] ¹
Belt Speed	10 to 102 [5 to 77] ¹	10 to 49 [10 to 77] ¹
Air Requirements	0.4 to 0.9MPa, 4ℓ/min [A.N.R.]	
Air Inlet	Tube having outer diameter of 6mm	
Power Requirements	100 to 120 Vac + 10% - 15% or 200 to 240 Vac + 10% - 15%, single phase, 50/60Hz (Supplied from SSV series Checkweigher)	
Power Consumption	Stationary 70VA, max 150VA (inrush current 10A)	
Mass	45kg	70kg
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing	
Protection Class / Exterior	IP66 compliance / Stainless steel (SUS304) (excluding some parts)	
Connectable model	Checkweigher, X-Ray inspection system, Metal detector	

¹ Figures in [] are optional

Optional Accessories for Flipper Type Rejectors



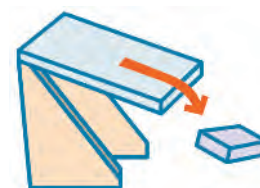
Rejectors Dropout Type



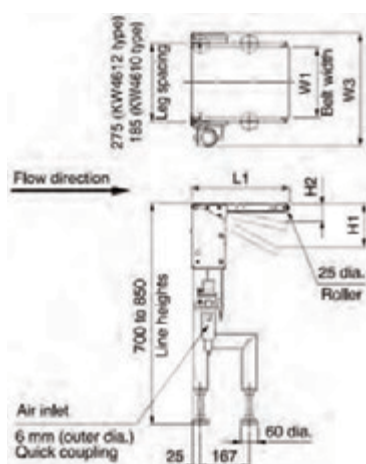
KW4612APBC



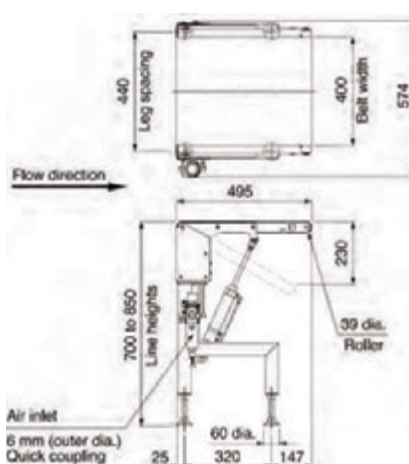
KW4624APBA



The drop out rejection conveyor drops down to drop the NG product. It is ideal for products in thin bags.



KW4612□◆◆C



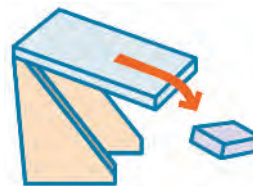
KW4624A◆◆A

Model	KW4610A◆◆▼	KW4610B◆◆▼	KW4612A◆◆▼	KW4612B◆◆▼	KW4624A◆◆▼
Gate stroke	Standard	Stroke ½	Standard	Stroke ½	Standard
Classification	2				
Max Product Size W x L x H ¹ (mm)	160 x 240 x 95	160 x 240 x 30	250 x 300 x 130	250 x 300 x 45	400 x 450 x 200
Max Product Weight	3kg				5kg
Max Speed (products/min)	100	250	100	250	50
Belt Speed (m/min)	15 to 120				5 to 82
Air Requirements	0.5 to 0.9MPa / 0.2ℓ [A.N.R.]	0.5 to 0.9MPa / 0.1ℓ [A.N.R.]	0.5 to 0.9MPa / 0.2ℓ [A.N.R.]	0.5 to 0.9MPa / 0.1ℓ [A.N.R.]	0.5 to 0.9MPa / 1.3ℓ [A.N.R.]
Air Inlet	Tube having outer diameter of 6mm				
Power Requirements	100 to 120 Vac + 10% - 15% or 200 to 240 Vac + 10% - 15%, single phase, 50/60Hz (Supplied from SSV series Checkweigher), 90VA				
Mass ²	20 [16]kg		23 [18]kg		38 [32]kg
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing				
Protection Class	IP30 compliance				
◆ Exterior	F: Painted / P: Stainless steel (SUS304)				
◆ Connectable model	A: X-Ray Inspection System, Metal detector, Non-SSV Checkweigher B: SSV Checkweigher				
▼ Type of SV functions	A: Rejection Confirmation (pass side), Rejection Operation Check, Chute Attachment B: Rejection Confirmation (pass side): C: -				

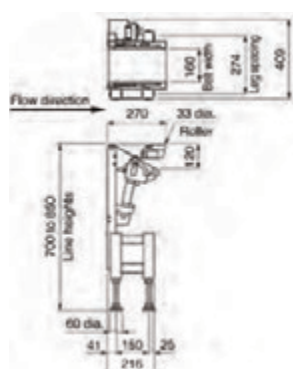
¹ Varies with downstream device type. ² The value [] is for models without the SV function (model ends in C).

Rejectors **Dropout Type** (Waterproof model)

KRA4671AW



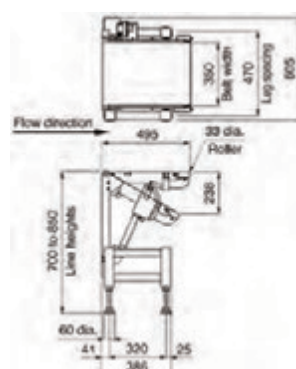
The drop out rejection conveyor drops down to drop the NG product. It is ideal for products in thin bags.



KW4671CW



KW4672CW



KW4676CW



KRA4676AW

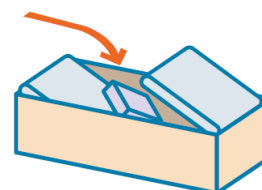
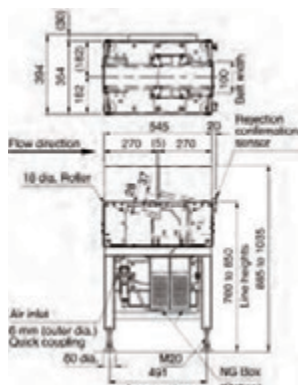
Model	KW4671CW KRA4671AW	KW4672CW KRA4672AW	KW4676CW KRA4676AW
Classification	2		
Max Product Size W x L x H ¹	160 x 240 x 100mm	230 x 300 x 130mm	350 x 450 x 210mm
Max Product Weight	1.2kg	3kg	
Max Speed (products/min)	80	70	30
Belt Speed	7 to 36m/min		10 to 26m/min
Air Requirements	0.4 to 0.9MPa / 30ℓ [A.N.R.]		
Air Inlet	Tube having outer diameter of 6mm		
Power Requirements	100 to 120 Vac + 10% - 15% or 200 to 240 Vac + 10% - 15%, single phase, 50/60Hz (Supplied from SSV series Checkweigher), 200VA		
Mass ²	23kg [27kg]	25kg [29kg]	32kg [37kg]
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing		
Protection Class / Exterior	IP66 compliance		
Exterior	Stainless steel (SUS304) (excluding some parts)		
Connectable model	AW: X-Ray Inspection System, Metal detector, Non-SSV Checkweigher CW: SSV Checkweigher		

¹ Varies with downstream device type. ² The value [] is for AW models.

Rejectors Up and Out Type



KW4603MFAA



The rejection conveyor flips up so that the NG product drops out of the line. It is suitable for products in thin bags.

Model	KW4603M◇A▼	KW4610M◇A▼	KW4612M◇A▼
Classification	3		
Max Product Size W x L x H	100 x 80 x 15mm	160 x 80 x 15mm	250 x 130 x 30mm
Max Product Weight	0.1kg	3kg	
Max Speed (products/min)	400	250	
Belt Speed	15 to 120m/min		
Air Requirements ¹	0.5 to 0.9MPa, 0.2ℓ [A.N.R.]		
Air Inlet	Tube having outer diameter of 6mm		
Power Requirements	100 to 120Vac + 10%-15% or 200 to 240Vac + 10%-15%, single phase, 50/60Hz		
Power Consumption	110VA	160VA	
Mass	44kg	48kg	58kg
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing		
◇ Exterior	F: Painted / P: Stainless steel (SUS304), IP30 compliance		
▼ Type of SSV Functions Included	A: Rejection Confirmation (pass side), Reject Operation Check, Chute Attachment Check B: Rejection Confirmation (pass side); C: None		

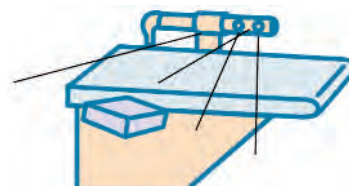
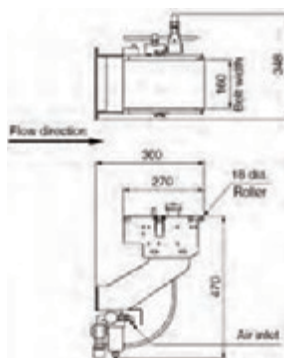
Model	KW4610J◇A▼	KW4610K◇A▼	KW4612J◇A▼	KW4612JK◇A▼
Classification	2			
Max Product Size W x L x H	160 x 150 x 140mm	160 x 120 x 60mm	250 x 220 x 180	250 x 300 x 100
Max Product Weight	3kg			
Max Speed (products/min)	100	250	100	250
Belt Speed	15 to 120m/min			
Air Requirements ¹	0.5 to 0.9MPa, 0.4ℓ [A.N.R.]	0.5 to 0.9MPa, 0.2ℓ [A.N.R.]	0.5 to 0.9MPa, 0.4ℓ [A.N.R.]	0.5 to 0.9MPa, 0.2ℓ [A.N.R.]
Air Inlet	Tube having outer diameter of 6mm			
Power Requirements	100 to 120Vac + 10%-15% or 200 to 240Vac + 10%-15%, single phase, 50/60Hz			
Power Consumption	160VA			
Mass	44kg		52kg	
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing			
◇ Exterior	F: Painted / P: Stainless steel (SUS304), IP30 compliance			
▼ Type of SV functions	A: Rejection Confirmation (pass side), Rejection Operation Check, Chute Attachment B: Rejection Confirmation (pass side); C: -			

¹ Max capacity per rejection operation

Rejectors Air Jet Type



KW4805BP



NG products are blown sideways off the line by a powerful air jet. It is ideal for small, lightweight packaged products at high speed.

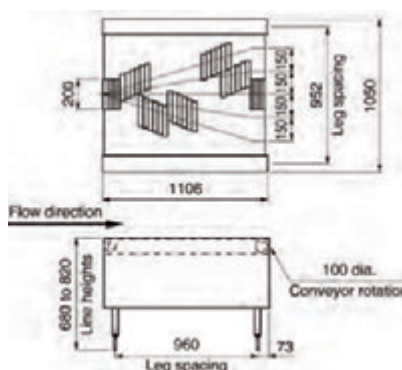
Model	KW4803C◇	KW4803B◇	KW4805B◇	KW4806B◇	KW4812B◇
Classification	2		2 [3] ¹		
Max Product Size W x L x H (mm)	50 x 65 x 30	100 x 230 x 160	160 x 230 x 160	160 x 320 x 160	250 x 320 x 160
Max Product Weight ²	30g	300g			
Max Speed (products/min)	600	400			
Belt Speed	15 to 120m/min				
Air Requirements	0.5 to 0.9MPa, 16ℓ/min [A.N.R.]				
Air Inlet	Tube having outer diameter of 10mm				
Power Requirements	Supplied from SSV series Checkweigher, 130VA				
Mass ²	8kg	9kg			12kg
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing				
Protection Class	IP30 compliance				
◇ Exterior	(F) Painted IP30 compliant. (P): Stainless steel (SUS304)				

¹ Available as option. ² The max product weight at a belt speed of 75 to 120m/min is 100g.

Rejectors Carrier Type



KRA4426W



NG products are sorted horizontally without any shock due to rejection. Since the rejection process doesn't cause any damage, it is ideal for fragile products.

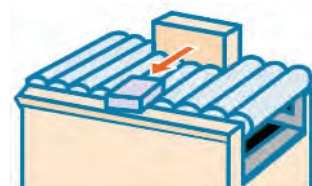
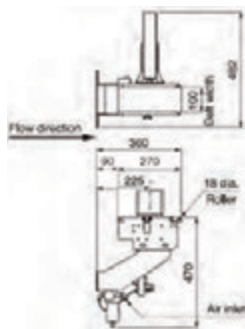
Model	KRA4416W	KRA4416WB	KRA4426W
Classification	3		5
Max Product Size W x L x H	140 x 330 x 300mm		190 x 330 x 300mm
Max Product Weight	70g/cm		100g/cm
Max Speed (products/min)	300		200
Belt Speed	24 to 58m/min		
Power Requirements	100 to 120Vac + 10% - 15% [200 to 240Vac + 10% - 15%], single phase, 50/60Hz		
Power Consumption	220VA		270VA
Mass	100kg		150kg
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing		
Protection class	IP53 compliance		
Exterior	Stainless steel (SUS304)		

Note Figures in [] are optional

Rejectors Pusher Type



KW4503BP



NG products are pushed off the line sideways by the action of a gate attached to an air cylinder. It is suitable for rejecting products in packages and thick bags.

Model	KW4503B◇	KW4505B◇	KW4506B◇	KW4512B◇
Classification	2			
Max Product Size W x L x H ¹ (mm)	100 x 230 x 160	160 x 230 x 160	160 x 320 x 160	250 ² x 320 x 160
Max Product Weight	0.6kg			1.2kg
Max Speed (products/min)	150			80
Belt Speed	15 to 120m/min			
Air Requirements	0.5 to 0.9MPa, 10ℓ/min [A.N.R.]			
Air Inlet	Tube having outer diameter of 6mm			
Power Requirements	Supplied from SSV series, 120VA			
Mass	10kg	11kg	11kg	14kg
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing			
Protection Class	IP30 compliance			
◇ Exterior	(F) Painted IP30 compliant. (P): Stainless steel (SUS304)			

¹ Products 10mm high or less cannot be rejected. ² Products 80mm width or less cannot be rejected. ^{Note} Self-standing type is available.



KRA4504AF



KW4501LWAC (Waterproof)

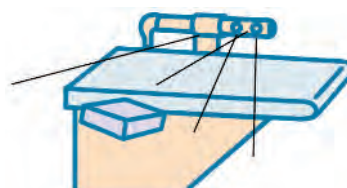
Model	KW451A	KRA4504AF	KW4501LWAC	KW4501MWAC
Classification	2			
Max Product Size W x L x H (mm)	400 ¹ x 600 ¹ x 600	600 ² x 900 ² x 600	540 ³ x 600 x 600 ³	540 ³ x 800 x 600 ³
Max Product Weight	50kg	60kg	35kg	
Max Speed (products/min)	40	30		
Belt Speed	33m/min (50 Hz) ⁴	15 to 40m/min	10 to 40m/min, Max. 50kg	
Air Requirements ⁵	0.5 to 0.9MPa, 9ℓ/min [A.N.R.]	0.5 to 0.9MPa, 12ℓ/min [A.N.R.]		
Air Inlet	Tube having outer diameter of 10mm			
Power Requirements	100Vac ± 10%, single phase, 50/60 Hz, 550VA	200 to 240Vac ± 10%, single phase, 50/60 Hz, 200VA	200 to 240Vac ± 10%, single phase, 50/60 Hz, 400VA	
Mass	100kg			115kg
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing			
Protection Class	IP30 compliance		IP66 compliance	
Exterior	Painted		Stainless steel (SUS304)	

¹ Products 150mm wide or less / 150mm long or less cannot be rejected. Bagged products are not supported. ² Products 200mm wide or less / 300mm long or less cannot be rejected. Bagged products are not supported. ³ Products 150mm wide or less / 50mm high cannot be rejected. ⁴ 16.5, 20, 25m/min (50Hz) are available as option. ⁵ Maximum capacity per rejection operation.

Rejectors for Metal Detector **Air Jet Type**



KW483BW



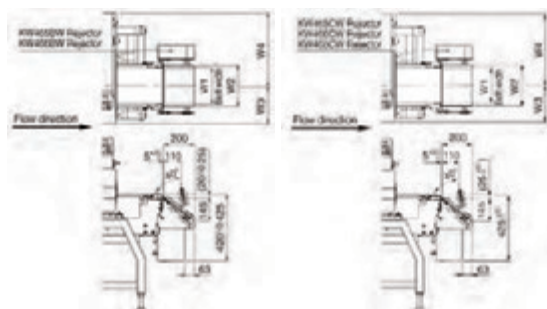
NG products are blown sideways off the line by a powerful air jet. It is ideal for small, lightweight packaged products at high speed.

Model	KW483BW	KW483CW	KW483DW
Classification	2		
Max Product Size W x L x H	220 x 300 x 180mm		
Max Product Weight	300g		
Max Speed (products/min)	220		
Air Requirements	0.49MPa, 16ℓ/min [A.N.R.]		
Air Inlet	Tube having outer diameter of 10mm		
Power Requirements	Supplied from Metal detector, 50VA		
Mass ²	3kg		
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing		
Protection Class	IP66 compliance		
Connectable Model	Duw, Duw-h, M6-h Series Metal detector	M Series Metal detector	M5 Series Metal detector

Rejectors for Metal Detector **Dropout Type**



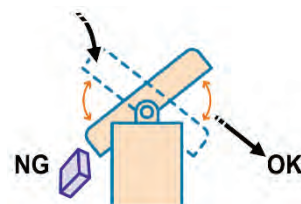
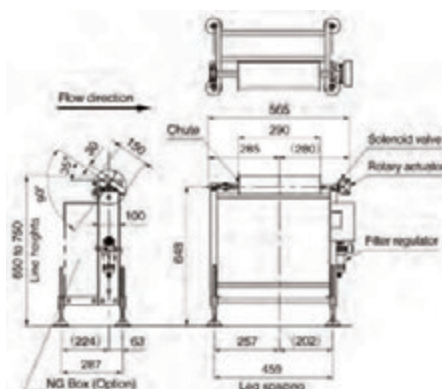
KW465BW



Model	KW465CW	KW466CW	KW468CW	KW465DW	KW466DW
Max Product Size for Bulk Products W x L x H (mm)	250 x 200 x 30	350 x 200 x 30	160 x 200 x 30	250 x 200 x 30	350 x 200 x 30
Max Product Size for Products with Regular Interval W x L x H (mm)	250 x 200 x 100	350 x 200 x 100	160 x 200 x 100	250 x 200 x 100	350 x 200 x 100
Max Product Weight	500g				
Max Speed for Products with Regular Interval (products/min)	80				
Air Requirements	0.39 to 0.9MPa, 2ℓ/min [A.N.R.]				
Air Inlet	Tube having outer diameter of 10mm				
Power Requirements	Supplied from Metal detector				
Power Consumption	50VA				
Mass	8kg	10kg	7.5kg	8kg	10kg
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing				
Protection class	IP66 compliance				
Exterior	Stainless steel (SUS304)				
Connectable Model	Duw-h, M6-h Series Metal detector			M5 Series Metal detector	

Rejectors for X-Ray Inspection **Chute Type**

NGS290

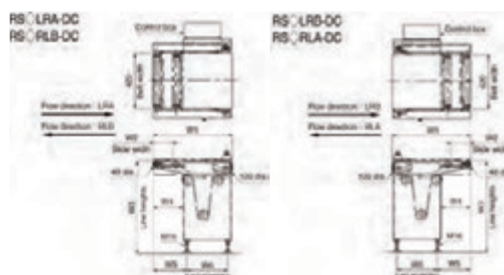


Rejected products fall when the chute is reversed. It is ideal for rejecting relatively light bulk products.

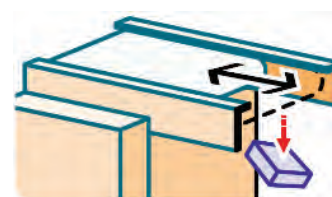
Model	NGS290
Classification	2
Max Product Size W x H	290 x 50mm
Max Product Weight	500g
Max Speed (products/min)	Bulk
Chute Reverse Speed	0.2 to 1s/90°
Air Requirements	0.5 to 0.8MPa, 4ℓ/min [A.N.R.]
Air Inlet	Tube having outer diameter of 6mm
Power Requirements / Consumption	Supplied from X-Ray Inspection System / 24Vdc
Mass	13kg
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing
Protection Class / Exterior	IP65 compliance / Stainless steel (SUS304)

Rejectors for X-Ray Inspection **Shuttle Type**

RS3



Model	RS3▼▼□-DC	RS4▼▼□-DC	RS5▼▼□-DC
W1	600	800	900
W2	150	250	150
W3	650 to 750	900 to 1000	650 to 750
W4	228	328	228
W5	255	355	255
W6	310	410	310



The belt on the rejector is expanded/contracted during the rejection to let the rejected products fall. It is ideal for unpackaged animal products and sticky bulk products.

Model	RS3▼▼□-DC	RS4▼▼□-DC	RS5▼▼□-DC
Classification	2		
▼▼ Flow Direction	LR: Left to Right		Right to Left
□ Expandable / Contractible part	(A): Downstream side of flow direction / (B): Upstream side of flow direction		
Max Product Size W x L x H	400 x 280 x 150mm		
Max Product Weight	3kg		
Max Speed (products/min)	40		
Air Requirements	0.5 to 0.8MPa, 25ℓ/min [A.N.R.]		
Air Inlet	Tube having outer diameter of 8mm		
Power Requirements / Consumption	200 to 240Vac ± 10% [100 to 200Vac ± 10%], single phase, 50/60Hz / 200Va		
Mass	85kg		
Environmental Conditions	0° to 40°C, relative humidity 30% to 85%, non-condensing		
Protection Class / Exterior	IP65 compliance / Stainless steel (SUS304)		

SSV Series Checkweigher Model Code

KX **S** **75** **2** **2** **A** **W** **C** **LE**

- S: Special E: Standard**
- Series**
- Detection area (Wide)**
 - 1: 100~200mm
 - 2: 200~300mm
 - 3: 300~400mm
- Detection area (Narrow)**
 - 2: 100~150mm
 - 4: 200~250mm
- Conveying Method**
 - A: Belt**
- Protection class**
 - G: IP40
 - V: IP66 (Entire machine)
 - W: IP66 (Conveyor)
- Output**
 - C: Less than 100kV**
- Detector**
 - KE: High sensitivity detector (High resolution)
 - LE: High sensitivity detector

<u>KWS</u>	<u>6</u>	<u>0</u>	<u>03</u>	<u>X</u>	<u>X</u>	<u>YD</u>
						KWS: SSV Series
						Type of weigh cell 5: Strain gauge load cell 6, 7: Electromagnetic force balance
						Weighing range
						Type of conveyor
						Indicator method B: Touch panel
						Exterior F: Painted P: Stainless steel (SUS304) W: Waterproof
						Infeed conveyor size and with/without MD combined

M6/M5 Metal Detector Series Model Code

```

graph LR
    K --> D[D: Metal Detector]
    K --> S[S: Model Series  
A: Mepoli 4 B: M5  
S: M6-h]
    K --> 30[30: Aperture width  
21: 210mm 30: 300mm  
45: 450mm]
    K --> 08[08: Aperture height  
05: 50mm 08: 80mm  
10: 100mm 12: 120mm  
13: 130mm 15: 150mm  
18: 180mm]
    K --> A[A: Type of Sensor  
A: Coaxial rectangle type]
    K --> B[B: Conveying method  
B: DC brushless motor]
    K --> F[F: Exterior/Protection class  
F: Fe/IP30  
W: SUS/IP66]
  
```

K

D: Metal Detector

S: Model Series
A: Mepoli 4 B: M5
S: M6-h

30: Aperture width
21: 210mm 30: 300mm
45: 450mm

08: Aperture height
05: 50mm 08: 80mm
10: 100mm 12: 120mm
13: 130mm 15: 150mm
18: 180mm

A: Type of Sensor
A: Coaxial rectangle type

B: Conveying method
B: DC brushless motor

F: Exterior/Protection class
F: Fe/IP30
W: SUS/IP66

M6-h-L Metal Detector Series Model Code

K

D **S** **70** **20** **A** **D** **F**

D: Metal Detector

Model Series
A: Mepoli 4 B: M5
S: M6-h U: Unit; in the case of indicator

Aperture width
00: Other
70: 700mm

Aperture height
00: Other 05: 50mm
10: 100mm 15: 150mm
20: 200mm 25: 250mm
30: 300mm 35: 350mm
40: 400mm

Type of Sensor
A: Coaxial rectangle type
Z: Other

Conveying method
B: DC brushless motor
C~E: AC induction motor
Z: Other

Exterior/Protection class
F: Fe/IP30 + IP54
W: SUS/IP66 + IP65
Z: Other

METAL SHARK® 2 High-Performance MD Controller



Metal Shark® 2 Controller

Controller for All Cassel MDs

- **4-Quadrant technology** optimally adjusts to find metal even in “difficult” products - 360° freestyle product effect teach area for significantly increased sensitivity and performance
- **Digital Balance Control** monitors coil balance more than 200 times/sec for temperature and humidity fluctuations
- **Digital Dynamic Noise Filters** minimizes electronic and vibration signals in the environment for a more reliable signal
- **5.4” Color Screen** with intuitive set-up and operational guidance
- **4-Level password** for enhanced security and reliability
- Parameter and Event Log documents Metal contaminant detections, changes in parameter settings, with date and time for view on a PC
- **One SMD Motherboard** for reliability

Control Electronics	DSP digital noise filter, digital balance control, digital frequency control with synthesizer, Power-Drive-Transmitter-Circuit, suitable with multi-frequency sensors, powerful graphics processing unit
Input Signals	8 free configurable, 24 V DC, e.g.: reject confirmation, air pressure monitor, conveyor belt control
Output Signals	Metal and Error. 8 free configurable, e.g.: pusher magnetic valve, optic/acoustic alarm. 24V DC
Measuring Method	Inductive; multi-channel operation, balanced receiver coils
Metal Detection	Ferrous, non-ferrous (e.g. aluminium or copper) and stainless steel
Product Compensation	120 storage spaces, compensation performed automatically, with Teach-Assistant
Protection Type	IP65; with Option LPW: IP66; with Option HPW: IP67
Ambience	Standard: temp. -10°C to +40°C, rel. humidity 30 to 85% not condensing; Options: -40°C or +55°C
Product Temperature	-30°C to +60°C, Option: -40°C to +120°C
Power Supply	Single-Phase 110-240VAC, 50/60Hz, fuse 10A (slow), typ. power consumption 20W, max 60W
Interfaces	RS232, USB, optional Ethernet and WLAN for HACCP- and IFS-documentation
Maintenance	Maintenance-free, sensor calibrates itself automatically and continuously
Diagnosis	Integrated diagnostic software, automatic self-test



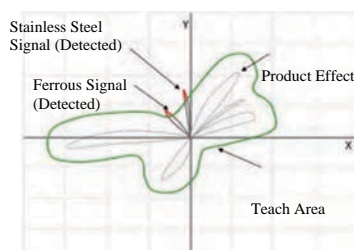
Help Texts menu intuitive set up



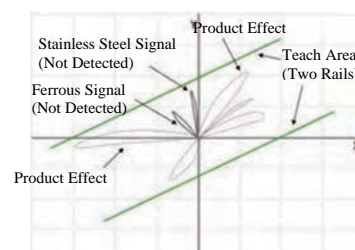
Histograms of alerts in the last hours



4-Quadrant 360° product effect teach area



Product effect with **free style** 4-quadrant technology, minimising the teach area and facilitating metal signal detection.



Common metal detectors pre-determine the teach area with simple two rails, missing signals falling inside the two rails

BD (Belt Driven) Metal Detectors



Metal Shark® BD

- Reliably detects metals in packaged and unpackaged goods on conveyor belts
- Very high sensitivity in dry, moist, salty, or frozen goods
- Easy setup and intuitive operation due to auto-calibration and wizard guidance
- Maintenance-free design with automatic and continuous calibration of detector coils
- Can be used in free-standing mode or combined with conveyors or chutes

Applications:

- Monitoring of packaged or unpackaged goods –fed via conveyor belts or chutes
- Machine protection, e.g. in meat processing facilities



METAL SHARK® BD, Twinhead model with HQ conveyor



Flat Top Modular Belt for Bottle



Metal Shark® BD UltraSens provides a powerful boost to sensitivity



Auto Product Change with Light Curtain



Cooling System for High Temp Area



High Pressure Wash-down

GF (Gravity Feed) Metal Detectors



Metal Shark® GF

- Reliably detects metals in free-falling goods i.e., continuously flowing granulates or powders such as sugar, flour or grain with fast-switching separation flaps remove even the smallest metal contaminants and remove them directly from the product stream during production

Applications:

- Monitoring of loose, free-falling or compressed air conveyed products in pipelines
- Machine protection, e.g., for mills or extruders



Ø d	(in mm)				Approx. sensitivity Ø			Typical Material Flow t/h
	A	B	C	D	Fe	NFe	SUS	
100	600	400	450	318	0.5	0.7	0.8	20000
120	720	490	450	338	0.7	0.9	1.0	28000
150	850	550	502	400	0.8	1.1	1.3	43000
200	1200	790	615	508	1.2	1.6	1.8	74000
250	1395	935	800	685	1.5	2.0	2.3	115000
300	1605	1100	940	800	1.9	2.4	3.0	165000
350	1935	1265	1020	880	2.2	2.7	3.3	225000
400	2100	1350	1090	950	2.4	2.9	3.6	290000
500		1500	1240	1100	2.8	3.5	4.2	460000
600		1600	1385	1286	4.6	5.8	6.9	656000



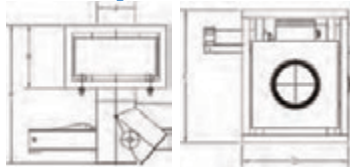
Metal Shark® GF compact

GF compact metal detectors have low assembly height and are used in gravity pipes in areas with limited height installation location



Metal Shark® GF TD-R

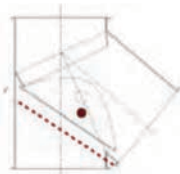
METAL SHARK® GF TD-R are specially designed for use with vertical form-fill-seal packaging machines



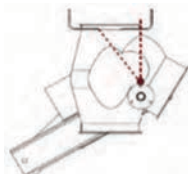
Ø d	(in mm)				Approx. sensitivity Ø			Typical Material Flow t/h
	A	B	C	D	Fe	NFe	SUS	
100	450	200	450	318	0.7	1.0	1.1	20000
120	530	250	450	338	1.0	1.2	1.4	28000
150	600	250	502	400	1.1	1.5	1.8	43000
200	910	300	615	508	1.6	2.2	2.4	74000
250	1050	390	800	685	2.0	2.7	3.1	115000
300	1095	390	940	800	2.6	3.2	4.1	165000

(in mm)				Typical Material Flow t/h
Ø d	Approx. sensitivity Ø			
100	Fe	NFe	SUS	20000
120	0.8	1.1	1.3	
150	0.9	1.2	1.4	43000
180	1.0	1.3	1.5	
200	1.2	1.5	1.7	74000
220	1.3	1.6	1.9	
275	1.4	1.8	2.0	
325	1.6	2.0	2.4	
	1.8	2.3	2.7	165000

Reject Units for GF Pipelines Metal Detectors



EX-S switches very quickly, suitable for large drop height/product speed



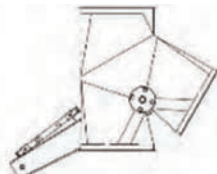
EX-P is suitable for powders and granulates with additional sealing lip on the separating flap



EX-CB is used for granulates and powders, separating without residue by an internal tube switch



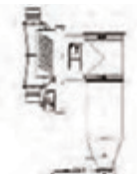
EX-K is used for abrasive products, with additional sealing lip on the separating flap



EX-R is suitable for heavy duty products e.g., stones with an especially robust design



EX-D is for use in line systems with compressed air



EX-A is for pipeline systems with compressed air with no air pressure drop behind separating unit during product ejection

IN (In Liquid) Metal Detectors



Metal Shark® IN Liquid

IN Liquid is designed for fluid and paste products like sauce and ice-cream. Available in pipe diameters of 40, 50, 65, 80 and 100mm.

Reliable high pressure throughput via a sturdy pipe for high pressures up to 16 bars. Standard pipe is of POM plastic. Optional PTFE pipe is available for high-temperature and CIP/SIP cleaning. Stainless pipe flanges can be tri-clamp, milk-thread and special aseptic links

IN (In Meat) Metal Detectors



Metal Shark® IN Meat

IN Meat is a compact metal detector for sausage filling machine; equipped with mobile base frame, stand with integrated gas spring for easy height adjustment 850-1200mm, for installation between filling and clipping machine. Inner pipe diameter: 60.5mm

Made for daily cleaning – IP 68 protection level for daily water/steam hose rinsing in wet environment. Max filling pressure – 80 bar.

Pipe connections and plugs provided compatible with filling machine (Handtmann, Rex, Vemag, Risco, Frey – others available upon request)



PH (Pharmaceutical) Metal Detectors

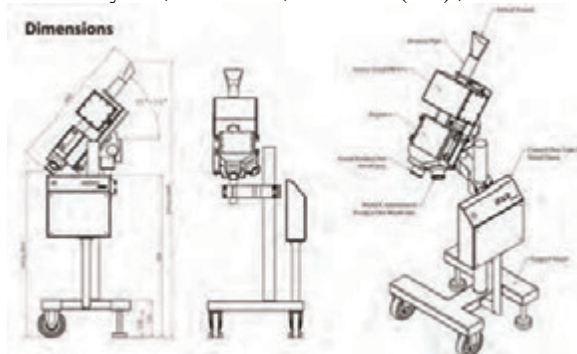


Metal Shark® PH

Pharmaceutical metal detector with PH sensor head, in-feed and reject system, mobile frame with castors, stainless steel mirror polished.

PVDF pipe, inner diameter 44mm. System Chutes, moulded for in-feed and reject, throughput max 5000 tablets per minute. Solenoid driven stainless steel reject diverter mechanism, mirror polished, variable in-feed / out-feed height. Quick demount design for easy cleaning. IQ/OQ/PQ qualification templates.

Best metal sensitivity: Fe Ø 0.3 / NFe Ø 0.4 / SUS(316) Ø 0.5mm



BIG (Large Aperture) Metal Shark® Systems



Metal Shark® BIG

BIG is designed for MDF, particleboard, OSB and other wood board production plants as an OEM product to leading equipment manufacturers.



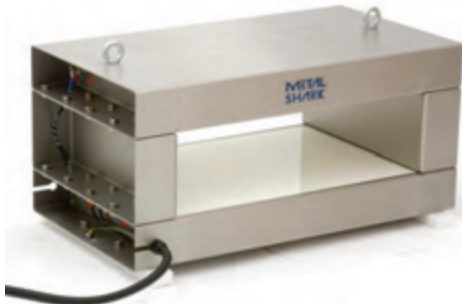
DIEFFENBACHER



Applications from thin and thick board production lines to whole log inspections. Aperture width 800 – 4,500mm and height up to 2,000mm.

Short metal free zone required (Fix metal = 200mm. Moving/vibrating metal = 1.5 x aperture height). Rugged and sturdy design, vibration proof. Total shielding against transient influences that cause false/nuisance tripping. Corrosion proof stainless steel/aluminum alloy housing.

TU (Plastic Recycling) Metal Shark® Systems



Metal Shark® TU

TU is used in plastic recycling, rubber production, wood and paper processing and food related industries. It has a dividable sensor head. Installation into an existing conveyor is easy and no belt cut is required.

Sensing Width 200 – 4000mm

Metal Free Zone (Fix metal = 100mm. Moving/vibrating metal = 1.5 x aperture height).

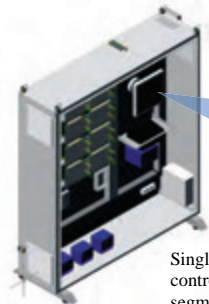
COMBI (Very Wide Products) Metal Shark® Systems

Shark® COMBI



COMBI is based on latest technologies, designed for very wide products (1000 – 5000mm) or high flow bulk materials that require ultra-high sensitivity (e.g. transformer board, textile & etc). It is constructed as a multi-segment-sensor, with the total detection zone divided into several small zones to makes the system extremely sensitive for detecting minute metal particles over the entire width. The detected metal particles are identifiable to a definite area.

COMBI is operated from the controller cabinet, which includes a Windows PC, which runs the SharkNet®-2 software, which networks all sensor segments under a single operator surface.



Single controller cabinet controlling multiple segments of sensors



Special Configurations



IN Liquid



BD in Ham Production Line



BD with High Pressure Wash down in Meat Production Line



TWIN GF



GF in Bulk Packing Line



GF compact in Bulk Packing Line



IN Meat for Sausage Filling Machine

XRAY SHARK® GIG (Glass-in-Glass) Series



XRAY SHARK® XS-GIG series

Most standard x-ray systems cannot detect glass in food, pharmaceuticals or other non-food products. The XRAY SHARK® XS25 GIG is specially designed for this application and detects glass particles even in hard-to-reach areas of glass or plastic containers like jars or bottles. Undesirable contaminants such as metal, stone, ceramic, glass or plastic with high density can be detected in the product.

- Specially designed for the complicated detection of glass particles in glass or plastic containers
- Detects high density materials like metal, ceramic, stone, plastic and even glass particles in glass containers
- Hygienic design with IP66 protection rating for the product tunnel makes the XS GIG products particularly suitable for all companies and industries ensuring high hygiene standards
- High speed transversal pusher for glass jars included

Applications:

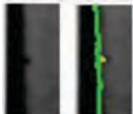
- Inspection of packaged food and non-food products in bottles or jars.



Masking feature excludes certain areas of the image from foreign object detection, improving the detection performance in the remaining product.



The adaptive software learns the structures of thousands of jars. The software recognizes in milliseconds which taught structure fits best to the current image, and subtracts that structure. As a result, glass pieces are detected even in the lid area



Cassel's unique AutoEdge function finds the edge between jar wall and product, even though the wall thickness varies due to production tolerances. As a result, glass pieces are detected even at the wall edge or bot-tom bulge.



The SuperContrast function enhances small dense (dark) structures in the image. This improves detection of small foreign bodies, which then be-come visible.



Our other solutions groups: -

1. Industrial Metrology

Coordinate Measuring Machines (tactile, optical, multi-sensor), form, surface finish and roundness, profile projectors, microscopes, length metrology, gear testers, coherence scanning interferometry and 3D optical focus variation microscopy.

2. Portable Metrology

Portable Arm CMMs, Laser and Optical Trackers with touch probes, laser scanners and reflectors, Fringe Projection 3D Digitisers plus Photo-Grammetry.

3. X-Ray Computer Tomography

Industry, R&D and metrology down to nano-and micro-detail detectability enabling next-generation disruptive technology manufacturing.

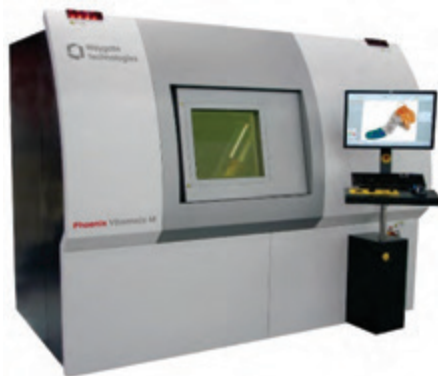
4. Software Solutions and Upgrades

Dimensional Metrology, Analysis, Control and Reverse Design.

5. Technical Services

Evaluation, measurement services, training, commissioning, periodic calibrations, preventive maintenance, troubleshooting and repair, upgrades and retrofits.

Advanced and Precision Metrology



Waygate Technologies V|tome|x M 3D X-Ray CT for Analysis and Metrology



Accretech AXCEL CMM



**Accretech Surfcom NEX
2-in-1 Roughness/Contour Tester**



**Alicona InfiniteFocusG6
Optical 3D Micro-CMM**



**Starrett HDV300
Telecentric Projector**

Portable Metrology



Hexagon Absolute Arm Portable CMM



Origin Tech Laser Gauge System

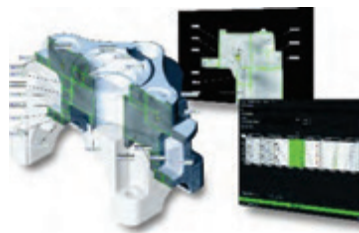


Leica Absolute Tracker Laser Tracker

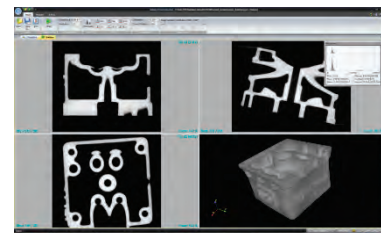
Software Solutions



Polyworks® 2022



Volume Graphics VG Studio



Waygate Technologies Phoenix datos|x

PRE- AND POST-SALE SUPPORT

The range of our pre- and post-sale technical support includes the following: -

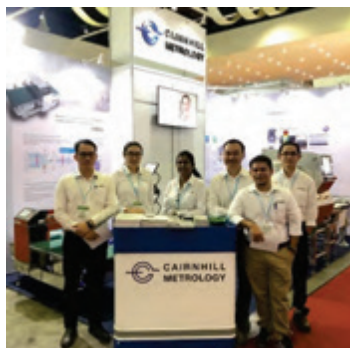
- Software Applications & Measuring Related Services
- Preventive Maintenance and Repairs
- Retrofits and Upgrades of Pre-Owned Machines
- Performance Verification and Calibration

ISO/IEC 17025 LABORATORY ACCREDITATION

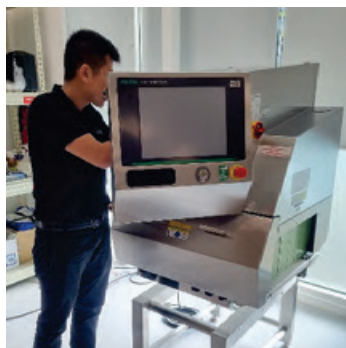
We are certified to ISO/IEC 17025:2005 Laboratory Accreditation in Singapore, Malaysia, Indonesia, Thailand and Philippines and accredited for the calibration of Checkweighing systems in Singapore, Malaysia and Indonesia. In Malaysia, we are also Pattern Approval Compliance certified since 2020.



EXHIBITIONS, SEMINARS, TRAINING, COMMISSIONING



Malaysia Pack 2019



X-Ray Servicing, Singapore



Anritsu Seminar, KL, Malaysia

OUR MANAGEMENT COMMITMENT

Our **Vision** is to be your trusted metrology solutions partner of choice via our **Mission** to support your quality quests with appropriate metrology solutions and competent pre- and post-sales technical support throughout the solutions' useful lives.



Our Group Managers, Malaysia, November 2019

The International System of Units (SI)

Length – metre (m): the path length travelled by light in vacuum during a time interval of $1/299792458$ of a second. This is commonly realised through the wavelength of the 633nm radiation from a helium-neon laser stabilised against a spectral line of iodine molecules, based on the formula $\lambda o = c/v$ where c is the speed of light in vacuum defined at 299792458 m/s and v is the measured frequency of the radiation used.

Mass – kilogram (kg): the unit of mass, equal to the mass of the international prototype of the kilogram, made of platinum-iridium and kept at the International Bureau of Weights and Measures (BIPM) in Paris. International standardisation is carried out using precision comparators, combinations and sub-multiples of the 1 kg masses of similar materials.

Time – seconds (s): the duration of 9192631770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the caesium-133 atom. The second is realised using caesium atomic clocks, where quantised caesium energy levels provide a source of resonance frequency, which is then phase-locked to a quartz oscillator to produce a very precise frequency (with a good long-term stability) to define the second.

Thermodynamic temperature - Kelvin (K): the unit of thermodynamic temperature (symbol T), is the fraction of $1/273.16$ of the thermodynamic temperature of the triple point of water. T at 273.16 K, also defined as 0.01°C in Celsius temperature (symbol t), is realised by the use of the water triple point cells, from which other temperatures are related through the International Temperature Scale of 1990 (ITS-90).

Electric current – ampere (A): that constant current which, if maintained in two straight parallel conductors of infinite length, of negligible circular cross-section, and placed 1 metre apart in vacuum, would produce between these conductors a force equal to 2×10^{-7} Newton per metre of length. The ampere is realised through the *volt* and the *ohm* representations determined using the Josephson effects of super-conductivity and the quantised Hall resistance (von Klitzing constant) respectively.

Amount of substance – mole (mol): the amount of substance which contains as many elementary entities as there are atoms in 0.012kg of carbon 12. The elementary entities must be specified and may be atoms, molecules, ions, electrons, other particles, or specified groups of such particles. The mole is most accurately realised through the determination of the Avogadro Constant by primary methods such as isotope dilution mass spectrometry.

Luminous intensity – candela (cd): the luminous intensity in a given direction of a source that emits monochromatic radiation of frequency 540×10^{12} hertz and has a radiant intensity in that direction of $1/683$ watt per steradian. The candela is realised using a cryogenic radiometer that measures optical radiant power based on the thermo-equivalence of the heating effect of optical radiant power with that of electrical power. A solid-state photometer with a relative spectral responsivity simulating the spectral efficiency function $V(\lambda)$ of the human eye, calibrated directly against the cryogenic radiometer, is used to evaluate light of other frequencies in the visible spectral region.

20 May 2019 Redefinition of the SI Units

From 20 May 2019, the SI units will be revised in terms of 7 defining constants that describe the natural world: -

Constants Description	Symbol/Unit	Constant Values
Unperturbed ground state hyperfine transition frequency of Cs133 atoms $\Delta\nu_{\text{Cs}}$	Hz (s^{-1})	9 919 631 770
Speed of Light in Vacuum	c (m/s)	299 792 458
Planck Constant	h (J s)	$6.62607015 \times 10^{-34}$
Elementary Charge	e (C)	$1.602176634 \times 10^{-19}$
Boltzmann Constant	k (J/K)	1.380649×10^{-23}
Avogadro Constant	N_{A} (mol^{-1})	$6.02214076 \times 10^{23}$
Luminous Efficacy of monochromatic radiation of frequency 540×10^{12} Hz	K_{cd} (lm/W)	683

The SI base units will then be derived from the defining constants or from 22 important derived units derived from the constants and maintained for consistency per the ISO/IEC 80000 International System of Quantities (ISQ).

The highest-level experimental methods used for the realization of units by the equations of physics are now known as primary methods. The new definitions with freedom to choose any convenient equations of physics to link the defining constants to the quantity to be measured, will allow higher accuracy of units to be realized in future.