

CKD

Solder Paste Inspection Machine

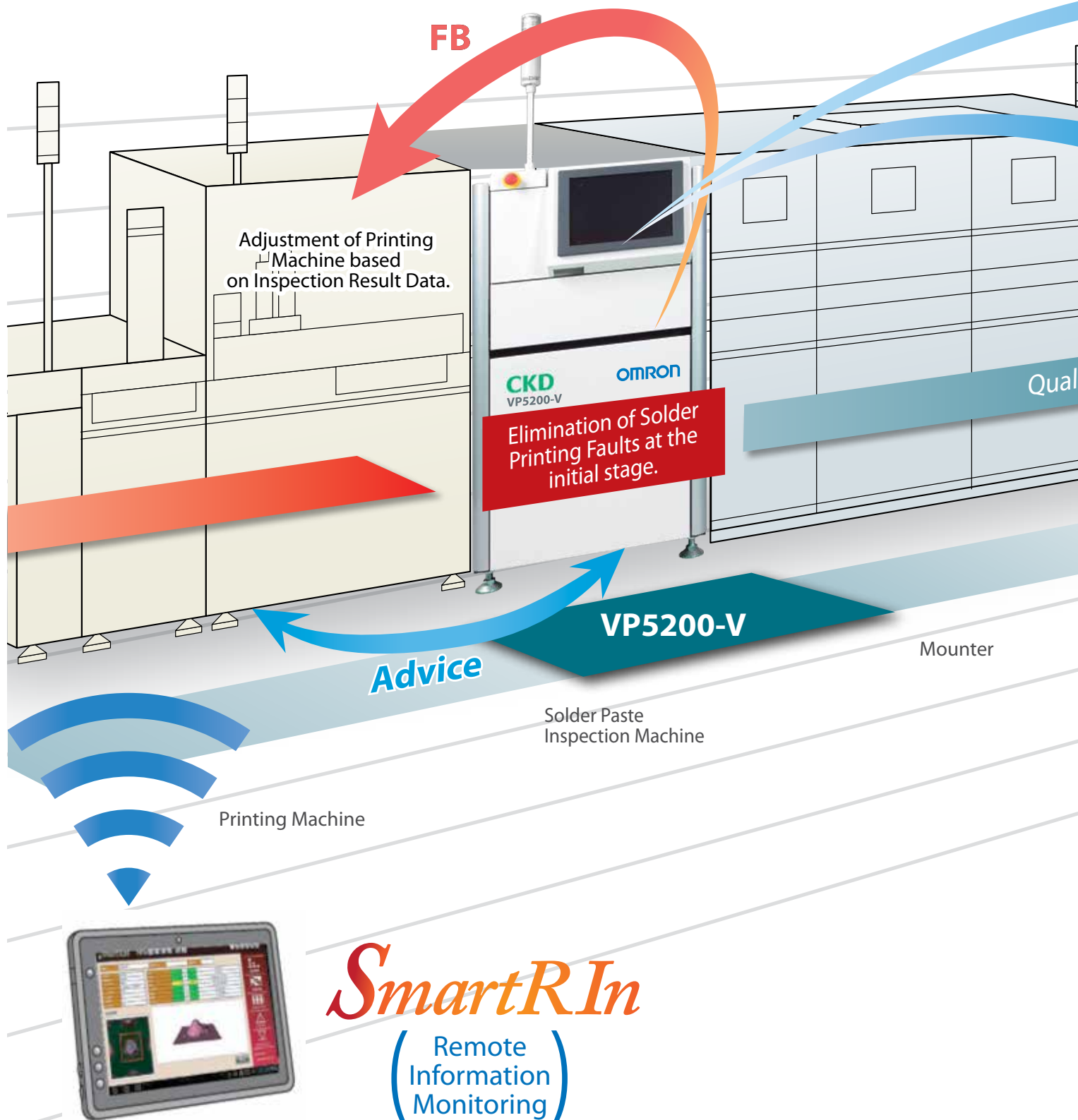
VP5200-V



Taking SPI speed and accuracy to the next level

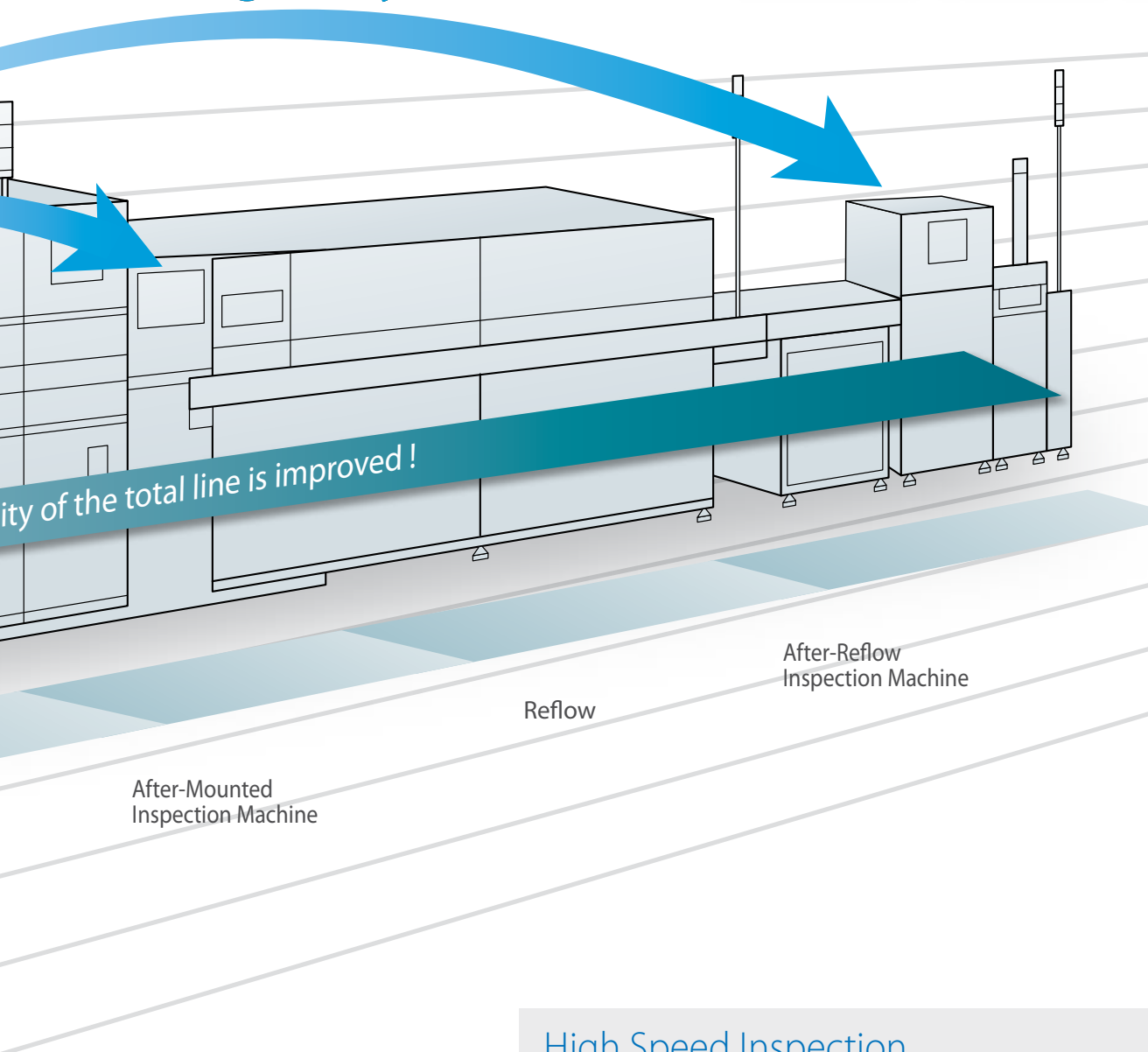
Inline Detection

Inline detection of printing faults at the initial stage, where 70% of defects are developed.
Printing quality improvement by utilizing SPC Function



Intelligent Eye

Smart SMT Style



High Speed Inspection

With an industry leading speed of: 9,400mm²/sec., the VP-V series is designed to achieve a higher speed of inspection to meet the needs of your high speed production line.

VP5200-V
(25μm)

9,400mm²/sec

High Accuracy

High Accuracy and Repeatability support Inspection of Fine Pads

Repeatability of height inspection: within 1 μm at 3 σ .

Repeatability of volume inspection: within 3% at 3 σ .



CSP Solder Shape
(microscope)



CSP Solder Shape
(Shape Display VP6000M-V)



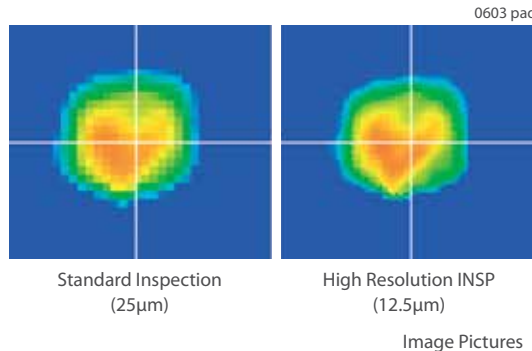
QFP Solder Shape
(microscope)



QFP Solder Shape
(Shape Display VP6000M-V)

Inspection Resolution Switch Function

Inspection Resolution can be switched by parts number to maximize accuracy or speed.



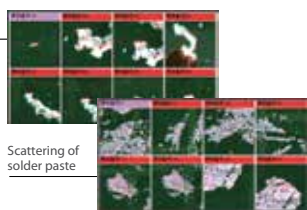
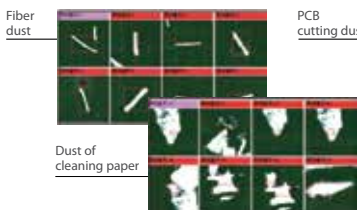
Foreign Material Inspection(Optional)

Foreign material can be detected at the same time as solder paste inspection. Exclusive NG check screen comes up with alarm.

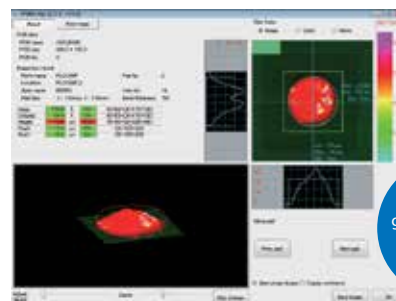


[Detected Sample]

Size of detectable foreign material (X*Y): 100 μm or more height: Upper level of printed silk

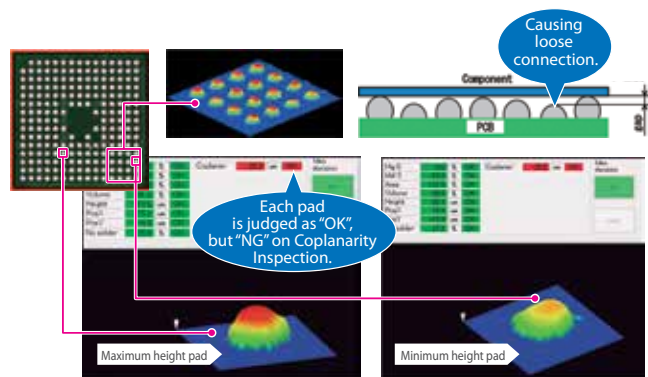


Glue Inspection(Optional)



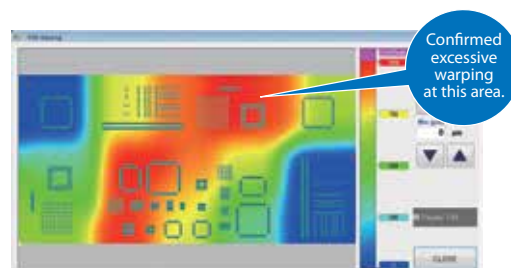
Solder paste inspection is also available at the time of glue inspection.

Coplanarity Inspection (Standard)



Difference between maximum and minimum height of IC pad (BGA, CSP) can be detected.

PCB Warping Distribution Display (Standard)



Trend of PCB warping is displayed in colored distribution.

- Confirming PCB quality.
- Possible to examine the relation between warping trend of PCB bottom side and reflow condition.
- Possible to examine the relation between warping trend of PCB and inspection result.

Simple Operation

Creating Inspection Program : Only 3 minutes



- It takes only 3 minutes to complete Inspection Program from loading Gerber Data.
- Inspection Program without Gerber Data can be created with scanning printed PCB.
- Optional mount data conversion function can make parts registration easily.

Simple Operation – Full Touch Panel Method



- Pursuing Simple Operation, full touch panel is adopted. Complete one touch operation can be achieved from setting specifications to checking inspection results.
- Each menu is tag selecting type with simple menu, which anyone can operate easily.
- Setting log-in ID to administer operator functions.

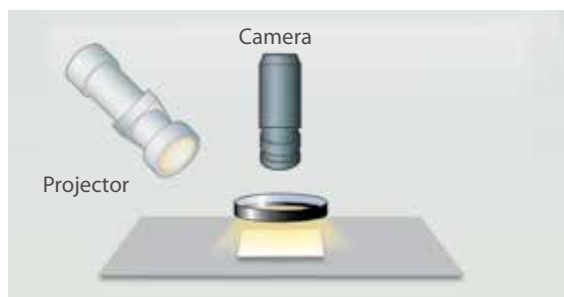
One Touch Operation

Besides displaying 3D shape image, 2D actual image (color display) is also checked on the screen at the same time, and solder paste shapes can be recognized efficiently.

Inspection Principles of VP Series

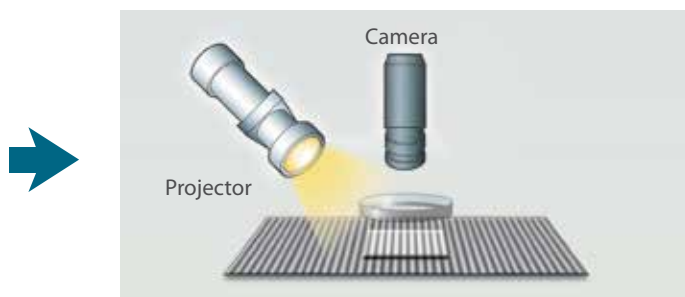
Ring Light

Outline of only solder paste is extracted with a ring shape (360° circle) light source projecting against inspection object (solder). This method inspect by 3D in the solder paste area, only achieves more reliable inspection.



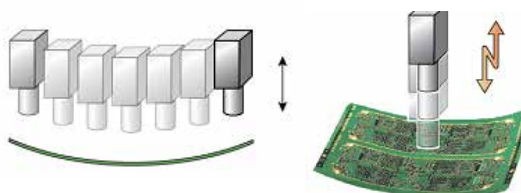
Projectors

A camera positioned in the vertical direction, captures inspection object (solder) images with stripe pattern light by a projector from the cross angle. With the height of the objects, the stripe pattern is shifted against the base face and captured, so the shift amount is converted with the triangulation principle.



Z axis Auto-Focus Function

PCB Warping is recognized per inspection area by correcting the distance between inspection camera and PCB in real time.



Advanced SPC Function

Various statistical work functions achieve process improvement by complete simple operation. (With Color Image Saving Function for All Pads in Real Time)

■ Displaying Print Trend



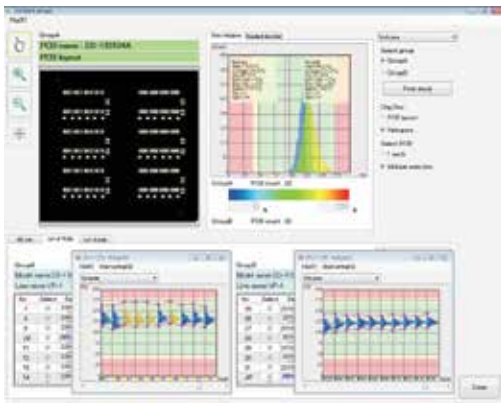
Solder paste's volume or displacement trend can be confirmed on the PCB layout. It helps to easily recognize issues leaving solder paste displacement areas.

■ Flexible Statistic Display



Statistic Data can be displayed flexibly per time periods, parts and areas. For instance, it can make a graph of only the same BGA inspection results, produced in the same month.

■ Printing Condition Improvement



By grouping Statistic Data in each category, Printing Trend can be compared. For example, it is easy to compare, before / after cleaning to optimize each printing condition.

■ Report Function

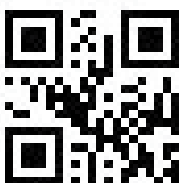


A report of solder paste issues can be created automatically on the basis of inspection result data. A report with images also is available.

Environmental Support

Barcode Reading Function, Option

Inspection camera reads barcode on PCB. The read information is input to inspection results.



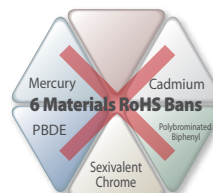
Support Experience : 1D, 2D
(Data Matrix ECC200, QR
Code Model 2)

Support for RoHS Directive

RoHS directive is supported. Pneumatic Supply Not required. This machine is friendly to global environment.

RoHS

Support for
RoHS Directive.



The machine which cares for
global environment and does
not require pneumatic supply.



Long term maintenance free
guide is adopted to control
accuracy degradation and
maintenance.

Standard Specification

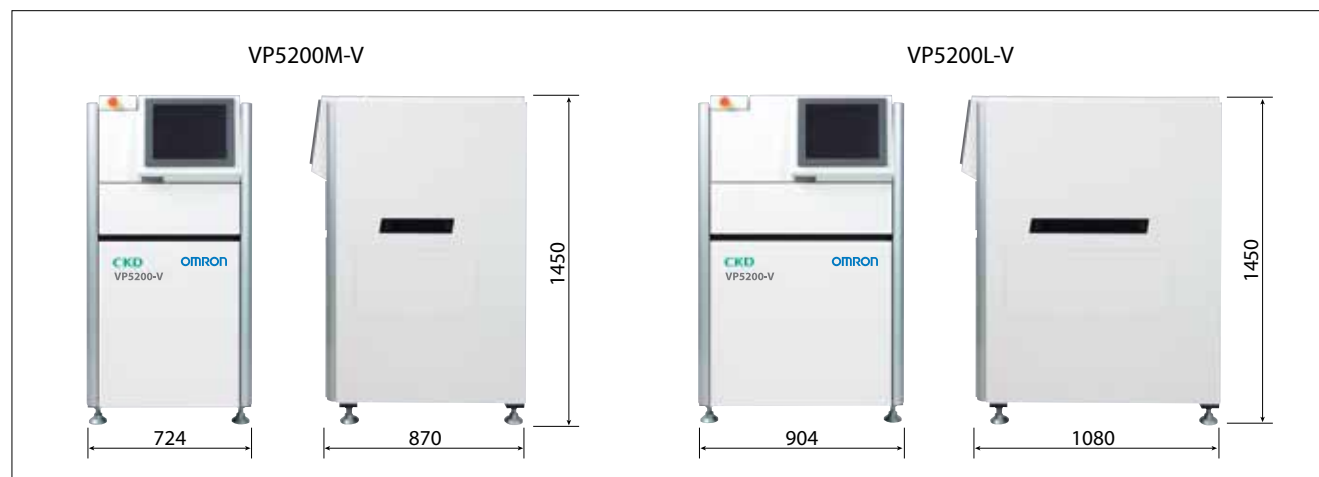
Model		VP5200-V		
Inspection Method		Phase Shift Method		
PCB Size		(M) 50x50mm~330x250mm (L) 50x50mm~510x460mm		
PCB Thickness		0.3~5.0mm		
Projection		Single Projector		
Inspection Resolution		Digital Switching Method		
		25/12.5μm	20/10μm	15/7.5μm
Speed (mm ² /sec)	Standard	9400	6000	3300
	High Resolution	6000	3700	2000
Accuracy (Volume 3) *1		Within 3%		
PCB Warping		±5mm		
Outline Dimension		(M) 724x870x1450mm (L) 904x1080x1450mm		
Power Supply		Single Phase AC200~230V 50~60Hz MAX 1KVA		
Pneumatic Supply		Not Required		
Weight		(M) 500kg (L) 560kg		
UPS		Standard Equipped, for PC only		
Environmental Support		RoHS		

*1 Use CKD sample board

Options

- Data Station, VPDS
- Up to 6 units can be connected
- Loading Conveyor
- Unloading Conveyor
- Transformer
- Barcode Reading Function
- Mount Data Conversion Software
- Glue Inspection
- Foreign Material Inspection
- Advice Function
- SmartRIn (Remote Monitoring)

Outline View





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