NEW

OMRON

High-speed automated X-ray CT inspection system

VT-X750

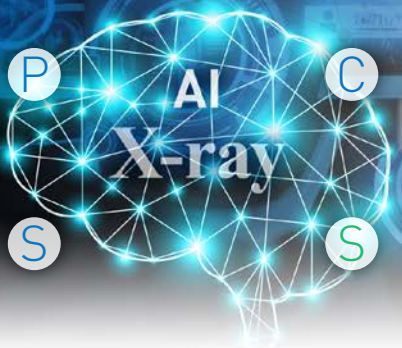
VT-X750

In-line Full Inspection System

Best quality @min.Q-cost

VT-X750

Best Quality at the Minimum Q-cost.



Productivity
Capability
Safety
Security

Innovation to maximize ROI.

P Productivity

In-line full inspection coverage

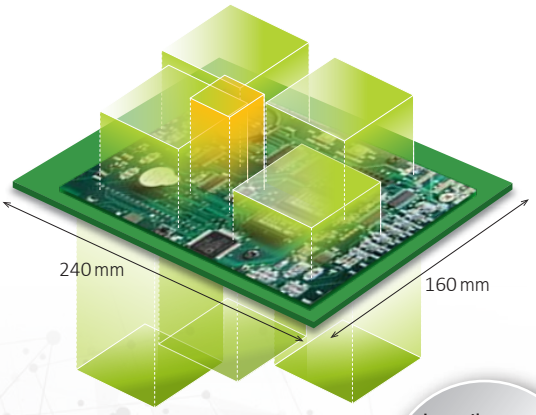
The VT-X750 improves upon previous Omron 3D-CT technology making it the fastest X-Ray inspection system to date *1.
The automated inspection logic has been improved for many parts such as IC heal fillets, stacked devices (PoP), through hole components, press-fit connectors, and other bottom terminated parts.
Increasing automated inspection speed and expanding inspection logic enables full, in-line inspection coverage by 3D-CT method.

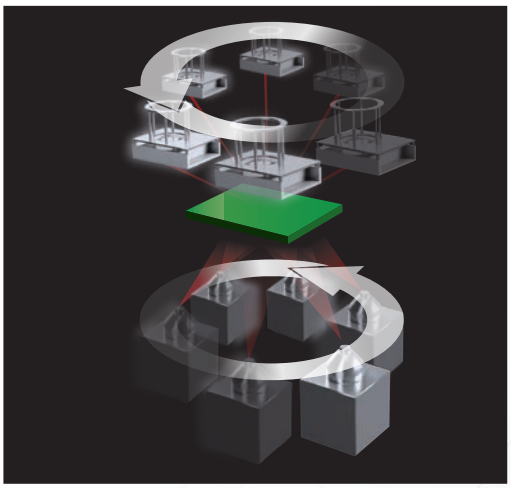
*1. By an internal investigation in October, 2020.

8 FOV's

Components

BGA × **2**
LGA ×**2**
QFP × **4**
Connector × **2**
Chip, etc. × **1,500**





Inspection speed
VT-X700 70.9 seconds ▶ VT-X750 **34.8** seconds *

Inspection speed **2** times or more

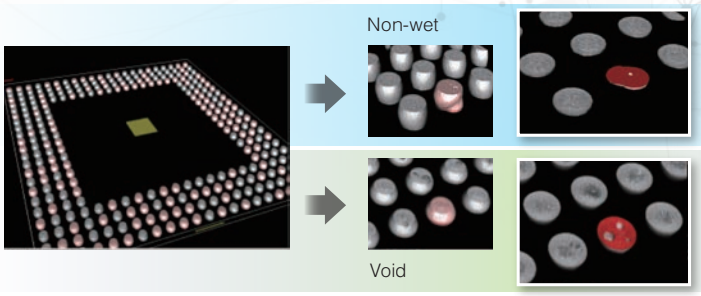
* Exclude load and unload

C Capability

Visualize solder joint strength

OMRON's unique 3D-CT reconstruction algorithms provide excellent solder shape recognition and defect detection.
Quantitative analysis allows for an automated inspection process which minimizes the risk of escapes while providing fast and repeatable operation.

Visualize solder joint strength



BGA, 3D rendering image

Design constraint free

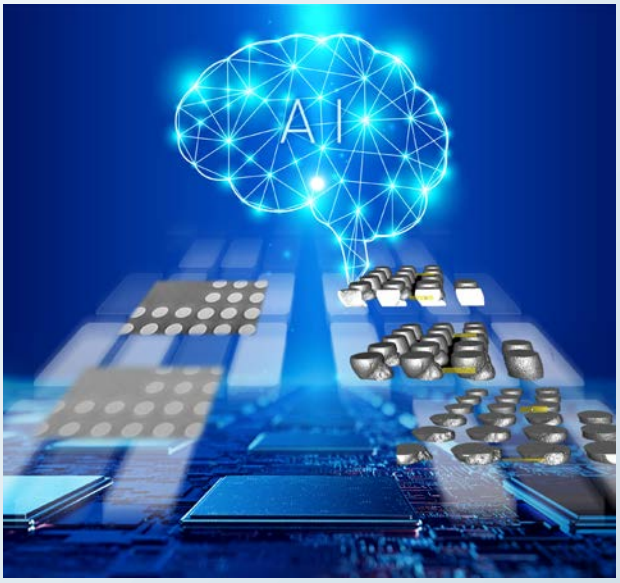
Dense and dual sided board design can provide challenges for X-Ray inspection.
However, Omron's 3D-CT technology can overcome such design restraints.

AI Dynamic Approach using **Omron AI**

Criteria setting by Auto-Judge reduces the dependency on a dedicated programmer

Patent Pending

This dynamic approach enables a comprehensive analysis using **Omron AI** with quantitative decision making based on conventional inspection standards for OK / NG judgment.
(3D cross-sectional display functionality has been integrated into the screen, making the inspection criteria settings easier to understand.)



Faster creation of new programs

Omron Patent

Omron AI assists in the quick creation of new programs. Along with automated program generation using CAD data, **Omron AI** automatically tunes the parts library using inspection result data.

Accelerated simulation for production preparation

Patent Pending

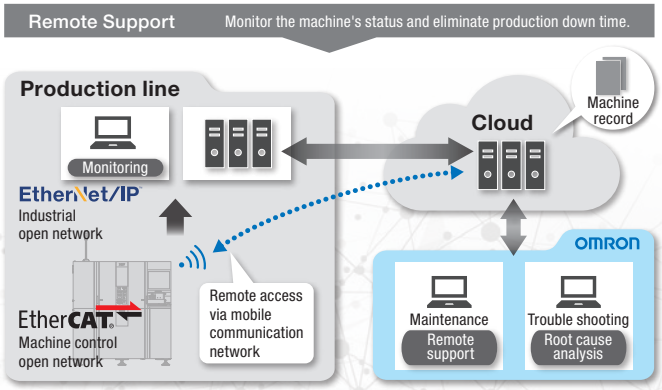
Omron AI simulates the optimum tact and exposure dosage for each part and automatically determines the corresponding conditions for the X-ray inspection process.

* Simulation pertains to specific parts.

Security

Zero down time

To achieve “Zero down time” during the SMT production process, OMRON supports machine operation globally by preventative maintenance, emergency support and machine monitor with remote access.



Safety

Reduce radiation exposure

• High speed imaging technology

The VT-X750 provides the shortest X-ray exposure time without sacrificing inspection image quality.

• X-ray source at the bottom

By locating the X-ray source under the board, both exposure and dosage is physically reduced to the more important devices mounted on the top.

• Low energy-cut filter

Standard equipped filter reduces X-ray exposure further minimizing damage concerns to memory products.

Operation safety

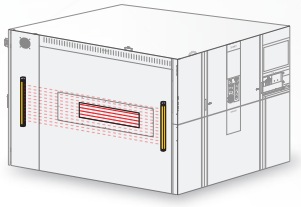
• Ultratrace leakage dose

Exposure dosage to operator is less than 0.18 mSv *2 per a year. This is less than one-tenth compared with that from natural environment.

*2. Teaching operation for one hour per day.0.5μSv/h x 1h/day x 365days = 0.183mSv

• OMRON’s safety components

The VT-X750 complies with CE, SEMI S2/S8 and other safety standards by utilizing OMRON’s latest generation of safety controller and light curtain products.



• X-ray shielding box, made in Japan

The machine shielding quality is ensured through three surveys (twice at the factory in Japan and once on site).

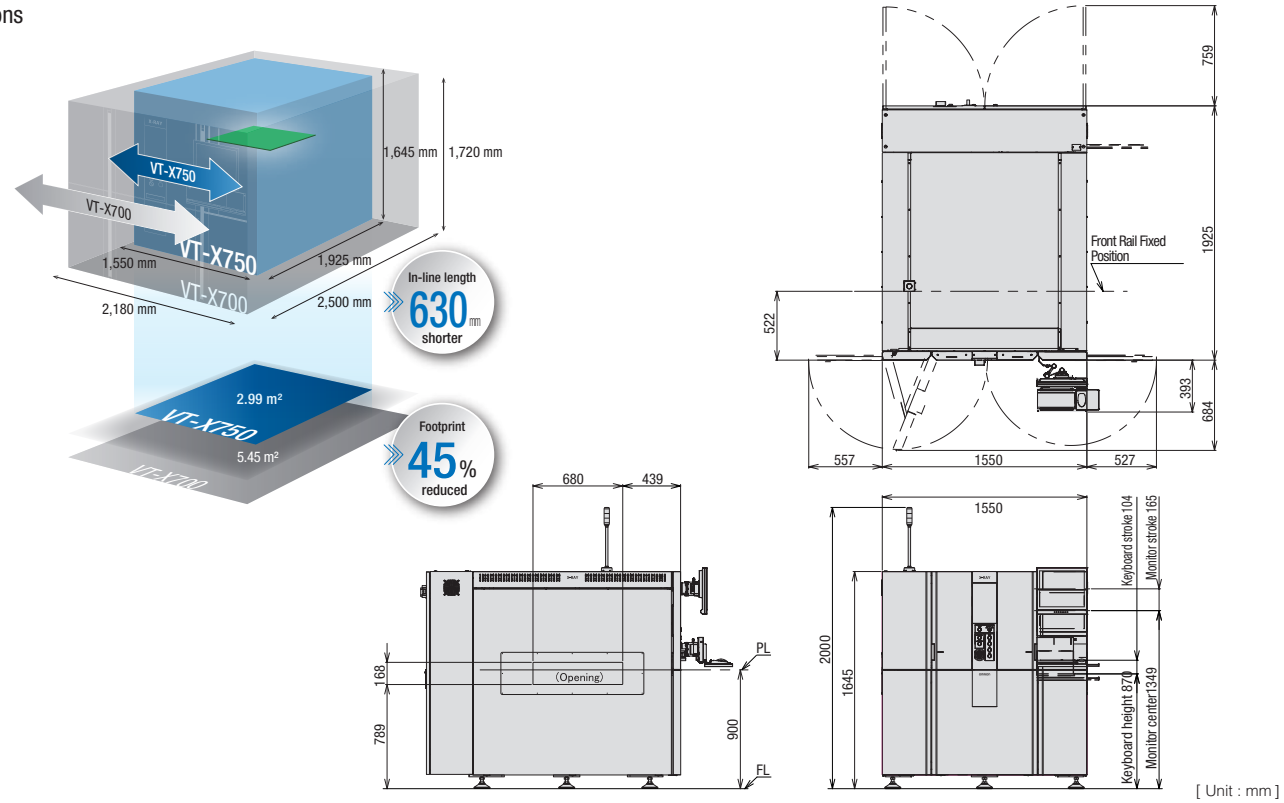
Specifications

■ Hardware configuration / Function

Item		Description		
Model		VT-X750		VT-X750-XL
Type		H-FR	FR	H-FR
Inspection object		BGA/CSP, inserted components, SOP, QFP, transistors, R/C chips, bottom-side terminal components, QFN, Power devices, POP, Press-fit CN, etc.		
Inspection items		Void, open, non-wet, Solder Volume, shifting, foreign object, bridging, Solder fillet, TH Solder filling, Solder ball, etc. (selectable to applications)		
Imaging system	Method	3D-slice imaging by using parallel CT		
	Resolution	6,8,10,15,20,25,30μm/pixel (selectable in the inspection program)	3, 6,8,10,15,20,25,30μm/pixel (selectable in the inspection program)	10,15,20,25,30μm/pixel (selectable in the inspection program)
	X-ray source	Micro-fucus closed tube		
	X-ray detector	Flat panel detector		
PCBA	Size	50x50～610x515mm (2x2 to 24x20 inch), Thickness：0.4～5.0mm (0.4～3.0mm in 3μm resolution)		100x50～1200x610mm, Thickness：0.4～15.0mm
	Weight	Less than 4.0 kg (with component mounted)		Less than 15kg
	Component clearance	Top:Less than 40 mm, Bottom:less than 39 mm		Top: Less than 40 mm, Bottom: Less than 40 mm
	Warpage	Less than 2.0 mm (Less than 1.0mm in 3μm resolution)		Less than 3.0 mm
Main body	Footprint	1,550(W) x 1,925(D) x 1,645(H) mm		2,180(W)×2,510(D)×1,735(H)mm
	Weight	Approx. 3,100kg		Approx. 5,350kg
	Conveyor height	900 ±20 mm		
	Power supply	Single phase, 200 to 240 VAC, 50/60 Hz		
	Rated power	2.4kVA		2.58kVA
	X-ray leakage	Less than 0.5 μSv/h		
	Air supply	0.4 to 0.6 Mpa		
	Safety standard	CE, SEMI, NFPA, FDA		CE, SEMI, NFPA, FDA *Under Acquiring

Dimensions

■ VT-X750



[Unit : mm]

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- **This document provides information mainly for selecting suitable models. Please read the Instruction Sheet carefully for information that the user must understand and accept before purchase, including information on warranty, limitations of liability, and precautions.**
- **This product may cause interference if used in residential areas.**

OMRON Corporation

INDUSTRIAL AUTOMATION COMPANY
INSPECTION SYSTEMS BUSINESS DIVISION
SALES DEPARTMENT
Shinagawa Front Bldg. Conference 7F
2-3-13 Kounan Minato-ku Tokyo
108-0075 JAPAN
TEL +81-3-6718-3550 FAX:+81-3-6718-3553

OMRON INDUSTRIAL AUTOMATION (CHINA) CO., LTD.
F20,TowerA,NEO Building,6011ShennanAvenue,
Futian District, Shenzhen, Guangdong
518048, China
TEL: +86-755-8359-9028 FAX: +86-755-8359-9628

Omron AOI Business Europe, Omron Europe B.V.
Zilverenberg 2, 5234 GM 's-Hertogenbosch, The Netherlands
TEL:+31 (0)736-481811 FAX: +31 (0)736-481879

OMRON ELECTRONICS LLC
2895 Greenspoint Parkway, Suite 200
Hoffman Estates, IL 60169 U.S.A
TEL:+1-847-843-7900 FAX:+1-847-843-7787

OMRON ELECTRONICS KOREA CO.,LTD.
21F, KyoboTower B Wing, 465, Gangnam-daero,
Seocho-gu, Seoul, Korea 137-920
TEL: +82-2-3483-7789 FAX: +82-2-3483-7788

OMRON ASIA PACIFIC PTE LTD
438A Alexandra Road #05-05/08 (Lobby 2)
Alexandra Technopark Singapore 119967
TEL:+65-6835-3011 FAX:+65-6835-2711

Authorized Distributor: