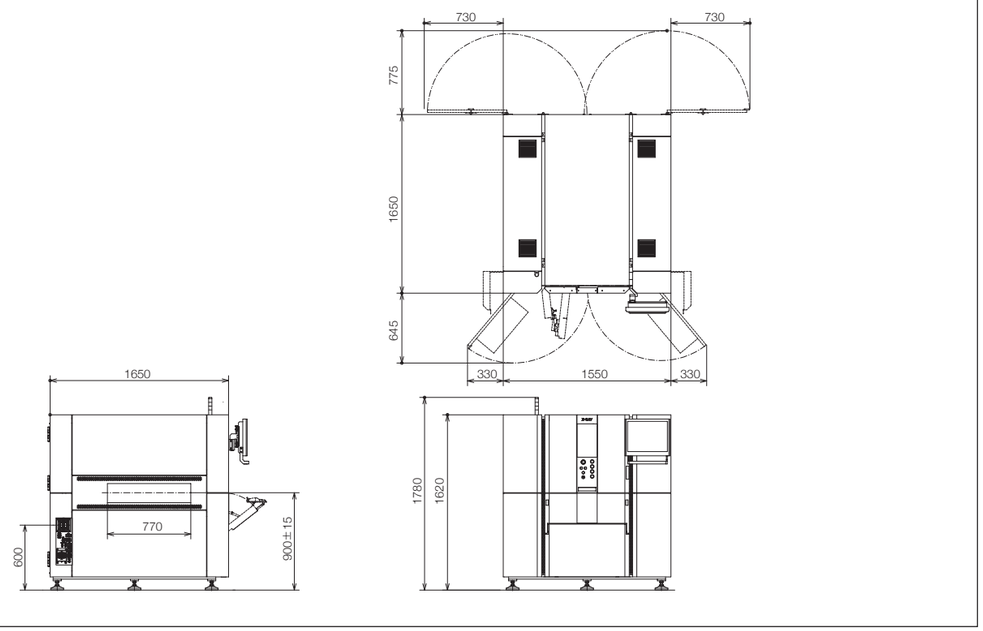
Specifications

■ Hardware configuration/function specifications

Item	Description
Model	VT-X700-M
X-ray source	Sealed microfocus
Detector	Flat panel type
Device dimensions	1,550□1,650□1,620 mm
PCB entry slot height	Approx. 900 mm
Device weight	Approx. 2,850 kg
Supported PCB sizes	50□50 to 330□255 mm
Supported PCB weights	Max. 2.0 kg
PCB thickness	0.4 to 3.0 mm
PCB warpage	±2.0 mm
Component height (clearance)	Top side: 50 mm Bottom side: 20 mm
Resolution (X/Y)	10, 15, 20, 25 µm (selectable to suit detected item)
Exposure angle (θR)	45□
Power supply voltage	200, 220, 230, 240 V
Power consumption	8 kVA
Components to be detected	BGA/CSP

Inspection-compatible components are added as needed. Please contact Omron sales representatives for further details.

Dimensions



http://www.e-jisso.com/ (Please note that this site is in Japanese only.)

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.

OMRON Corporation

INDUSTRIAL AUTOMATION COMPANY
INSPECTION SYSTEMS BUSINESS DIVISION
AOI SALES DEPARTMENT
Gate City Osaki West Tower 15F
1-11-1, Ohsaki, Shinagawa-ku, Tokyo,
141-0032 Japan
TEL: +81-3-3779-9046

OMRON INDUSTRIAL AUTOMATION (CHINA) CO., LTD.
Room A902,Innovation Science& Technology Plaza I, Tian an Cyber Park, Futian District, Shenzhen, Guangdong 518040, China
TEL: +86-755-8359-9028 FAX: +86-755-8359-9628

Omron Europe B.V.
Wegalaan 67-69, 2132 JD, Hoofddorp
TEL: +31 (0)23 568 13 00 FAX: +31(0)23 568 13 88

OMRON ELECTRONICS LLC
1 Commerce Drive Schaumburg Illinois 60173, U.S.A
TEL: +1-847-843-7900 FAX: +1-847-843-7787

Omron Electronics Korea Co.,Ltd.
21F, Kyobo Tower B Wing,1303-22,Seocho-Dong, Seocho-Gu, Seoul, Korea 137-920
TEL: +82-2-3483-7789

OMRON ASIA Pacific Pte Ltd
438A Alexandra Road#05-05/08 (Lobby 2)
Alexandra Technopark Singapore 119967
TEL: +65-6547 6789 FAX: +65-6547 6769

Authorized Distributor:

Cat. No. Q319 -E1-01

Note: Specifications subject to change without notice

Printed in Japan
1110-1M (1110) (TA)

NEW

High-speed Automated X-Ray Inspection System
VT-X700

OMRON

The Power of Fluoroscopy in Advanced Production Systems

VT-X700

realizing

CE

CE certification acquired

Inspects the soldering for BGA and other bottom-side terminal components. Uses x-ray CT, making it ideal for solder joints.

Needs

Reliability. Productivity. Ease of Use. The qualities demanded in production lines of the future.

The speed of production systems increases daily. But with conventional x-ray transmission inspection methods, the inspection of solder joints on BGA and other bottom-side terminal components frequently suffers from problems such as false fails (good products deemed to be defective) and overlooked defects, making automation of the process problematical. In an era of growing demand for improvements in quality assurance and production efficiency, there is a clear need for a fully automated system capable of responding to market needs.

VT-RNS

Uses AOI to inspect products in each process and isolate defect causes.

VT-X700

Uses angled 3D CT scanning and a eucentric function to provide minutely detailed inspections of the BGA backside status.

Critical issues for quality inspections of surface-mounted components

Reliability

Consistent pass/fail criteria

Product reliability is attained through inspections based on clear pass/fail criteria. This demands the capacity to definitively identify defects.

Productivity

High-speed inspections that do not impair productivity

There is a need for fast and efficient inspections that eliminate issues likely to adversely affect production efficiency and quality and that do not impact productivity.

Ease of Use

Simple enough for anyone to operate

There is an urgent and increasing need for straightforward automated systems that will inspect components that conventional inspection systems cannot handle, such as the solder joints of bottom-side terminal components.

Innovation

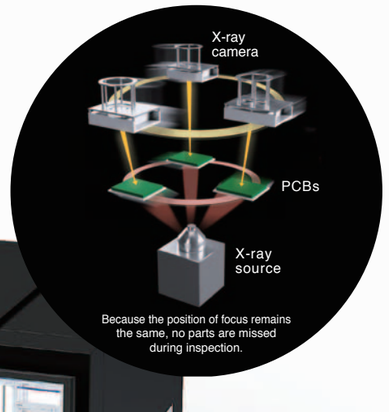
Omron's three breakthrough innovations

The VT-X700 addresses the three issues of reliability, productivity and ease of use by using CT imaging to locate defects in three dimensions. Omron's three innovations—automated inspection using specially designed algorithms, high-speed performance that supports inline inspection, and a user-friendly GUI—all combine to significantly boost inspection efficiency for components that are normally difficult to screen for defects.

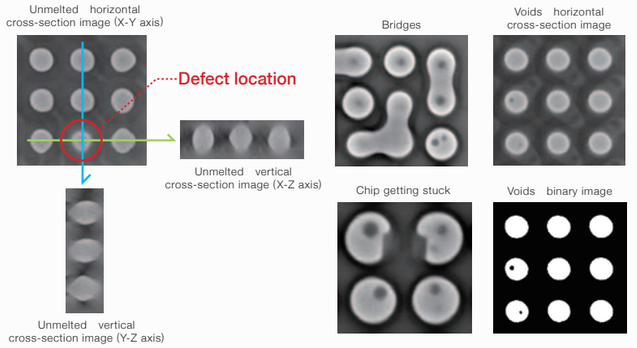
1 High-precision X-Ray CT imaging

Angled 3D CT imaging and specially designed inspection algorithms allow automated inspection that is both fast and accurate.

The combination of CT imaging and Omron's inspection algorithms allows the creation of detailed inspection standards with specificity in terms of separation in inspected cross-sections. In production environments with clear pass/fail criteria, this eliminates false fails and overlooked defects.



Because the position of focus remains the same, no parts are missed during inspection.

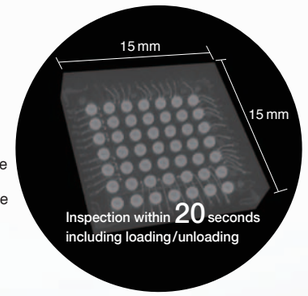


Possible to perform highly precise CT imaging inspections that aren t affected by the inspection surface s reverse side.

2 Among the fastest in the SMT industry

High-speed inspection based on efficient x-ray inspection techniques

To make inline inspection viable, we placed the emphasis on speed. With rates as fast as 20 seconds for a 15 x 15 mm BGA component, we were able to achieve fully automated inline inspections with no impact on throughput.

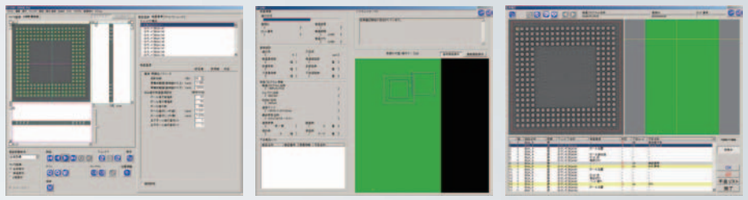


* Where visual inspection is conducted by an ordinary technician. Components inspected: unsoldered, unfused, etc.

3 User-friendly GUI allows visual inspection of all items

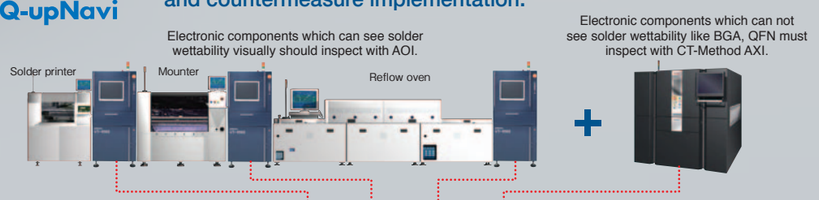
Simplifies pass/fail decision -making for non-visible areas of components, too.

Our highly rated GUI makes it easy to check, set up and use the inspection system, even when establishing pass/fail criteria or checking inspection results for non-visible areas such as solder joint points on BGA components. It's ready to use from day one.

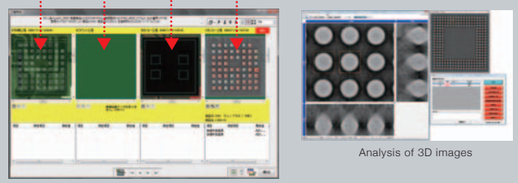


Teaching screen | Inspection screen | Inspection results checking screen

Q-upNavi provides fully integrated support for process review, from inspection through to cause identification and countermeasure implementation.



Q-upNavi is quality control software that analyzes inspection results and provides feedback to the production line. This software allows operators to identify the causes of problems and adjust the line settings accordingly, regardless of their level of experience or expertise.



Q-upNavi process comparison and analysis

Analysis of 3D images

The Q-upNavi x-ray inspection operations and part of the inspection logic were developed jointly with Aisin AW Co., Ltd.