Multi Line AXI

3D CT AXI system
for inline inspection and manual analysis

· high-resolution 3D CT X-ray inspection system for maximum inspection depth
· ASPECT™ technology for crystal-clear and detailed image display
· suitable for large and heavy PCBA: up to 810 mm × 535 mm & 25 kg
· low-maintenance system design – completely compressed air-free for greater reliability
· integrated color assistance camera for fiducials, code reading, and navigation
· uniform PILOT software platform – identical for all GÖPEL inspection systems

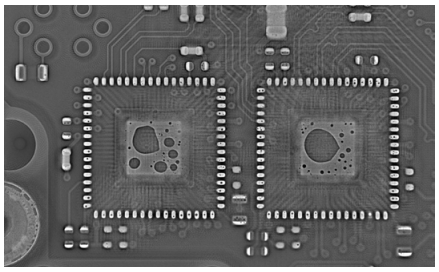


GOPEL electronic

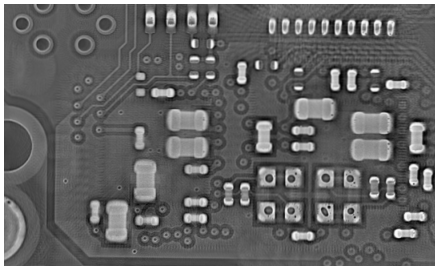
Technical specifications

ASPECT™ Technology

- X-ray source with focal spot control for particularly detailed and clear X-ray images
- large 55° oblique radiation angle for optimal layer separation in CT images
- precise, low-maintenance axis system for fast on-the-fly CT images
- intelligent software algorithms for automatic image correction and quality optimization
- large-area X-ray detector for large image fields with high resolution
- ASPECT™ technology enables clear separation of the assembly sides



Top assembly side



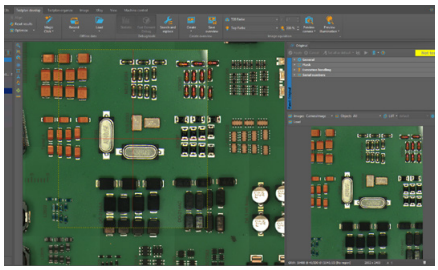
Bottom assembly side

Inline inspection

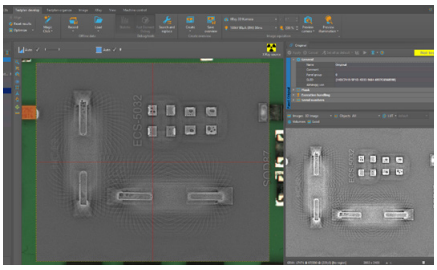
- flexible use – directly in the production line or as a stand-alone inspection island
- fast on-the-fly CT images for extremely short cycle times
- comprehensive inspection functions for BGA, QFN, LGA, LED, voids, and THT barrel fill
- uniform and efficient test program generation – same to all other GÖPEL inspection systems



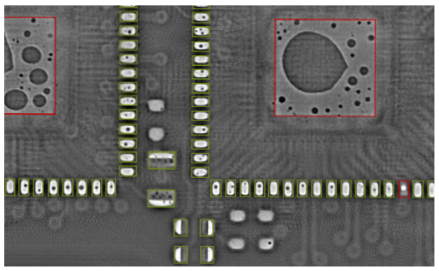
Void calculation in heat sinks



PILOT software with color navigation image from the assistance camera

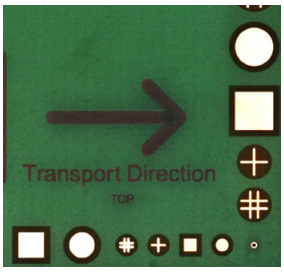


PILOT software with automatic void calculation

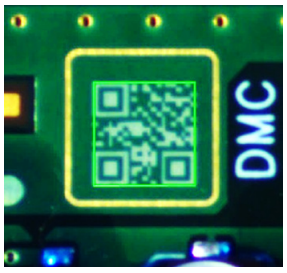


Automated inspection of QFN

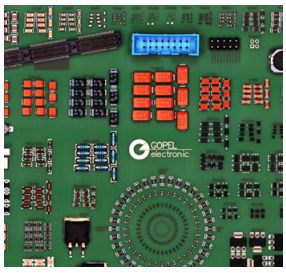
- Assistance camera for fiducials, codes, overview images, and verification if required



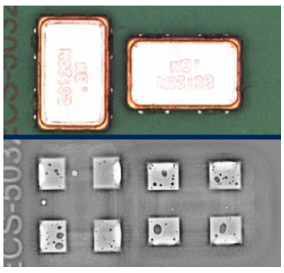
Fiducials



Code reading



Navigation image

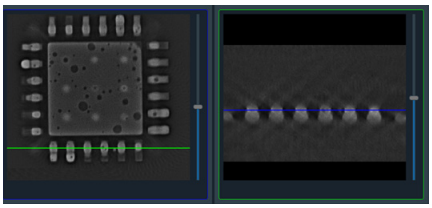


AOI image for verification if required

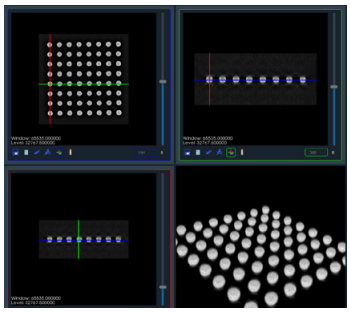
Technical specifications

Manual X-ray analysis

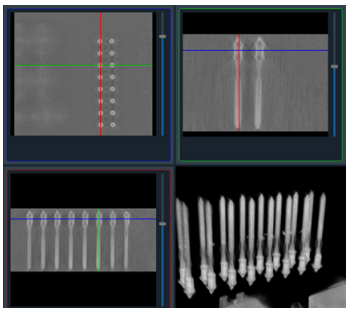
- ideal for random sampling, new product launches, and the examination of field returns
- convenient recording of color navigation images thanks to integrated assistance camera
- simple and fast CT inspection as well as precise 2D and 2.5D image analysis



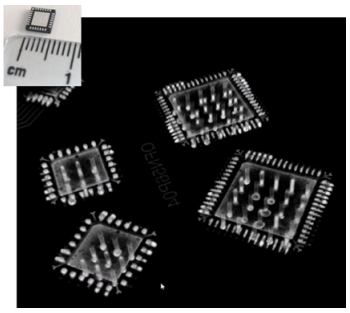
CT analysis of QFN pin solder joints



CT analysis of a BGA



CT analysis of a THT barrel fill

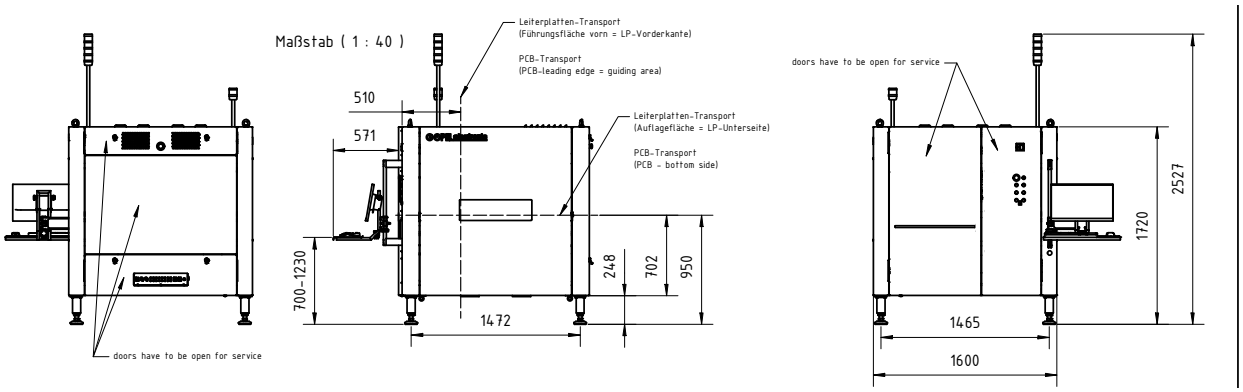


3D volume analysis of a QFN

MES connection/Industry 4.0

- flexible data interfaces for seamless connection to MES and traceability systems
- convenient data management and detailed fault analysis via PILOT Connect

Assembly drawing



Technical specifications

Parameters					
X-ray technology					
X-ray tube	closed microfocus X-ray tube, maintenance-free				
tube parameters	130 kV, 500 µA, 65 W				
tube spot	spot control technology; <8 µm @8 W				
detector type	flat panel detector				
detector gray scale depth	14 bit (16.384 gray levels)				
oblique radiation angle	up to 55°				
resolution	8 µm/pixel	10 µm/pixel	15 µm/pixel	20 µm/pixel	25 µm/pixel
field of view (FOV)	22 mm x 19 mm	28 mm x 24 mm	42 mm x 36 mm	56 mm x 48 mm	70 mm x 60 mm
Handling					
inspection area in 3D	810 mm x 535 mm (larger sizes available on request with 2nd stopper)				
transport weight	up to 25 kg				
component clearance at top	85 mm				
component clearance at bottom	up to 40 mm				
edge support	3 mm (adjustable for carrier transport)				
Inspection					
image capturing	2D, 2.5D, 3D planar CT				
image acquisition time 3D FOV	uo to 4 s @ 120 projections				
test functions	BGA, QFN, LGA, LED, THT, voiding, solder balls, and much more.				
System parameters					
in-line interface	SMEMA, Siemens, Hermes				
transport direction	left-right, right-left, left-left, right-right				
max. PCB dimensions (L x W)	810 mm x 535 mm (larger sizes available on request with 2nd stopper)				
min. PCB width	80 mm				
power consumption	230 V AC/2 kVA				
compressed air	none				
dimensions (W x D x H)	1600 mm x 1660 mm x 1720 mm				
weight	2.7 t				
leakage radiation	<0.5 µSV/h				

IPC-HERMES-9852
The global standard for "M2M" in SMT assembly

IPC CFX

GÖPEL electronic

ISO 9001 certified

GÖPEL electronic GmbH
Goeschwitzer Str. 58/60
07745 Jena · Germany

+49 3641 · 6896 0 Phone
+49 3641 · 6896 944 Fax

inspection.sales@goepel.com
www.goepel.com

USA inspection.sales@goepelusa.com **India** inspection.sales@goepel.in