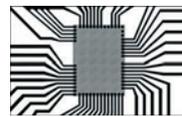


BGA.Inspector

Endoscopic inspection system



TechnoLab
qualifying and testing solutions

Easy inspection of BGAs, CSPs, flip-chips with a magnification of up to 450x

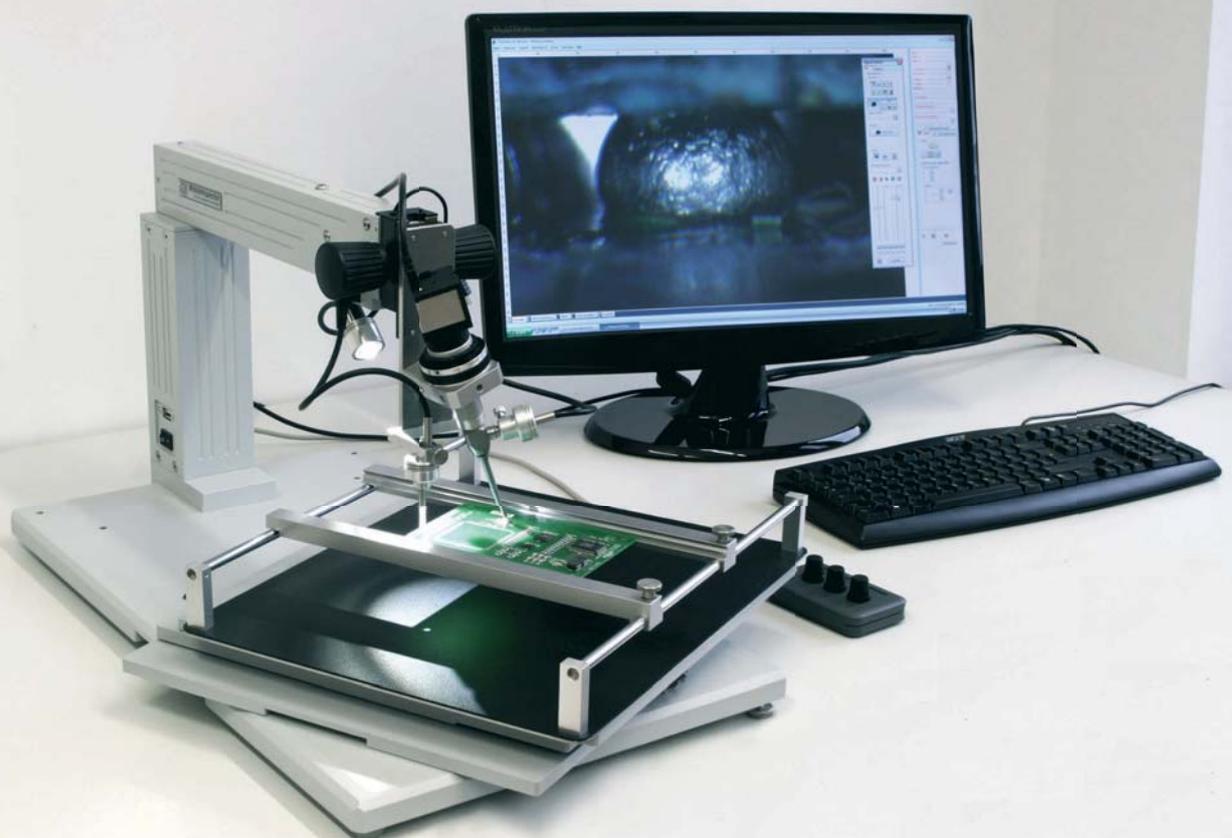
Patent pending



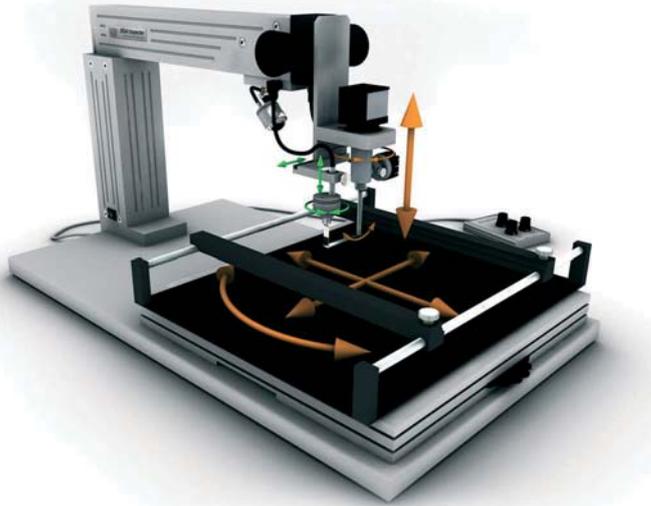
The endoscopic inspection system BGA.Inspector permits a comfortable control of electronic components, from BGAs to flip-chips.

The BGA.Inspector is a comfortable, easy-to-assemble system with XY-table and specimen holder which permits a fast and efficient positioning and inspection. The different camera types available allow customizing image resolution. The widely adjustable high-power LEDs provide exact illumination of the inspection field. Front and back light can be adjusted individually and separately. Locking brakes reduce the movement of the XY-table to one direction, if desired.

- BGA-inspection (view under components with 90° lens)
- solder joint control (control of solder meniscus)
- control of mechanical parts for burrs or scratches
- drill hole inspection for surface abnormalities



BGA.Inspector



BGA.Inspector with endoscope



BGA.Inspector with macro-zoom (optional)



separate front and back light control

Characteristics

- system can be upgraded
- 6 degrees of freedom
- for inspections of electronic parts, from BGAs to flip-chips with stand-off <math><80\mu\text{m}</math>
- EBP for ESD protection
- for cameras with various resolutions
- magnification up to 450x
- endoscope may be pivoted independent of additional light source
- encapsulated prism systems
- prism protection system (reduces risk of damage)
- easy change of optical attachments
- USB port



rotary XY table with fine adjustment

- modular high-power LEDs
- light source with 30.000h working life
- separate front and back light control
- rotary back light adjustable with 2 degrees of freedom
- remote control of front light, back light and specimen illumination
- XY-table with fine adjustment and locking brake for either direction
- rotary magnet-supported top plate with specimen mounting device

can be upgraded with:

- special lenses

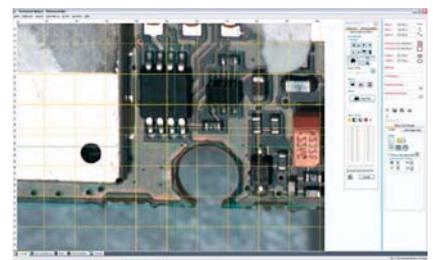
Software IMXpro software for image recording, storage and editing

BASIC (included in delivery)

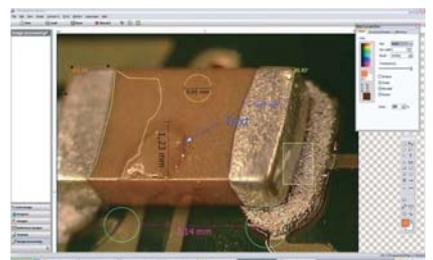
- image storing in various formats
- function for measuring in still and live images

additional modules (optional)

- module: image merging
- module: 3D-image generated from several images
- module: video recording
- module: streaming of live images via internet
- module: professional + database version: project and image administration, defect image database, statistics functions, individual report generator, back-up function, user rights administration



software (screen shot)



software (screen shot)

Technical specifications

dimensions (W x L x H)	see drawing (below)
weight	19700g
protection class 3	DIN EN 61140, VDE 0140-1
ESD protection	bonding-point
ambient temperature	max.45°C
supply voltage	12V = (power supply included)
power input	2500mA max.
pivoting range of camera head	0° + 15°
traverse path of XY table	X: 230mm, Y: 230mm
traverse path Z-axis	60mm
moving mechanism	XY-cross table with fine adjustment
camera	1-chip CCD with digital signal processor for image optimization
depth of shade	24 bit RGB
port	USB 2.0
magnification	450x (for 19" display)
illumination	
front and back light	high-power LED each, white, separately controllable
object illumination	high-power LED, white
minimum system requirements	
screen resolution	at least camera resolution
processor	2.5 GHz Intel or equivalent
RAM	1 GB
graphic card	DX9-compatible (NVIDIA GeForce 8 or better)
operating system	Windows XP or Windows 7
port	USB 2.0

The BGA.Inspector is supplied with:

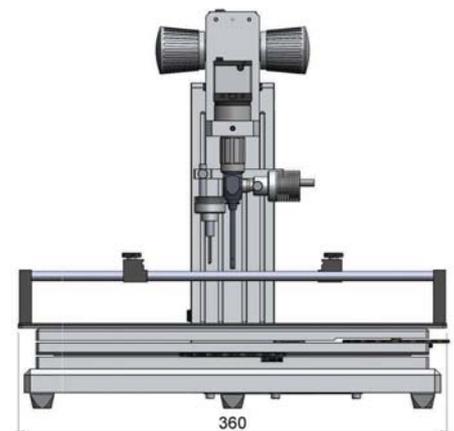
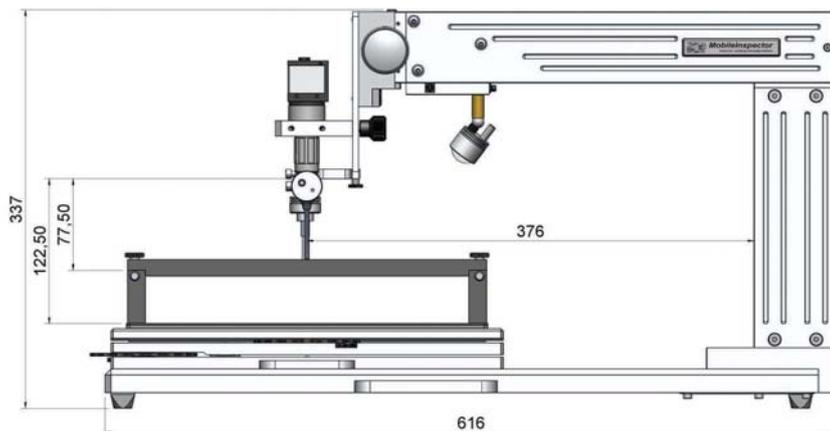
stand	with 6 degrees of freedom
XY-table	rotary, with magnet-supported top plate and specimen mounting device
remote control	for 3 separately controlled high-power LEDs
power supply	12V=/ 110-230V~
camera	1.3 MP
software	IMXpro BASIC
optical attachment	endoscope 90°

optional:

camera	2.0 MP
optical attachment	macro-zoom lens
software modules	video recording
	database
	image-merging
	3D-functions

available on request

monitor 19-42"
PC



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