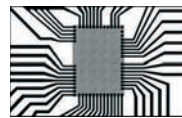


EasyInspector

Autofocus video microscope



TechnoLab
qualifying and testing solutions

Easy optical inspection with a magnification of up to 450x

Patent pending



The EasyInspector is a fully self-sustaining system for the visual inspection and consists of a high-resolution CCD-autofocus camera and a TFT screen. One of its assets is that the user carries out the inspections in ergonomic working conditions: He looks straight at the inspection objects on the screen and can thus always keep his upright posture; and it is also possible for several persons to look at the inspected object at the same time, e.g. to discuss abnormalities.

Another advantage is the autofocus sensor which makes focusing superfluous: the user simply zooms in or out; the viewing area always keeps in focus. The top plate rotates exactly around the optical axis and facilitates viewing the objects from various directions. The camera can steplessly tilt between 0° and 45°. The LED ring light fitted at the camera provides the optimal illumination of the objects.

On a respective screen the HD system shows the images in full HD resolution, i.e. with 30fps and 2 million pixels. When used with a suitable framegrabber supporting this format, the images can also be saved with the IMXpro software.

The IMXpro software developed by TechnoLab permits saving, editing and measuring images on a PC or notebook. As an option, images can also be stored directly on a USB stick without using a PC.

The semi-automatic XY-table (optionally available) enables the user to repeatedly go to positions which have before been approached manually or motor-driven. The IMXpro software stores the positions and feeds them back to the table. This is a fast and efficient way of comparing many objects with the same general appearance (e.g. PCBs of one production batch).



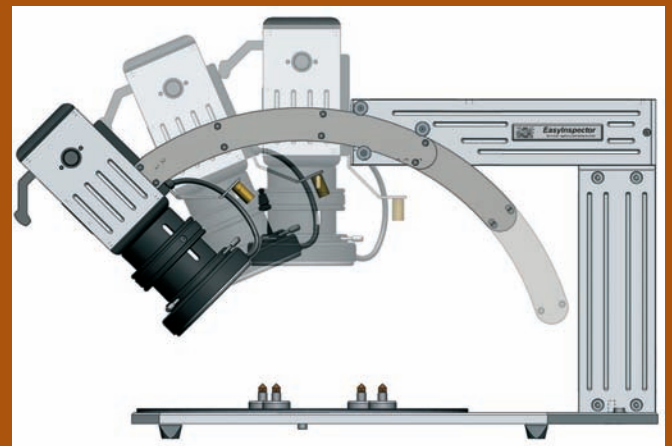
EasyInspector



Characteristics

- compact design, small dimensions, lightweight
- easy handling
- ergonomic working position
- patent pending for positioning system
- inspection objects always in rotational center
- HD resolution with 1920x1080 pixels
- large working distance
- tiltable camera 0° - 45°
- illumination included

- up to 450x magnification
- up to 25x zoom
- autofocus
- remote control
- self-sustaining system
- for use with high-resolution TFT displays
- can be upgraded with:
 - laser pointer
 - PC-independent image memory box
 - traceability-software and framegrabber
 - XY-table



Application

- prototyping, manual rework, micro-assembly and inspection in: automotive industry, aviation and medical engineering, mechanical workshops, etc.
- quality assurance, production, defect analysis, etc.
- for universal use in: electronics industry, mechanical engineering, textile and paper industry, forensic pathology, etc.

Ergonomic advantages

- Relaxed working position thanks to upright posture
- unlimited freedom of head movements
- straight view prevents strain on eyes
- images with strong depth of field help take strain from eyes
- hygienic through contact-free use
- no handling disadvantages for spectacle wearers
- remote control relieves strain on hands
- easy handling thanks to remote-control



Technical specifications

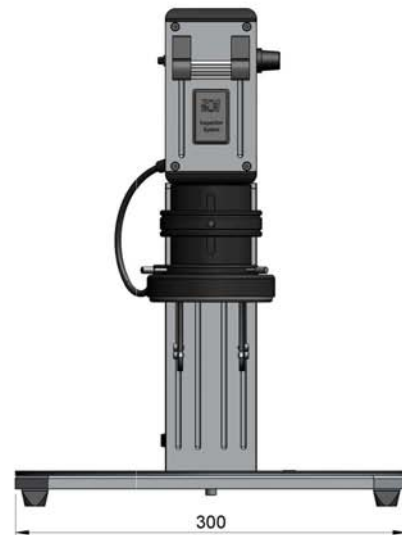
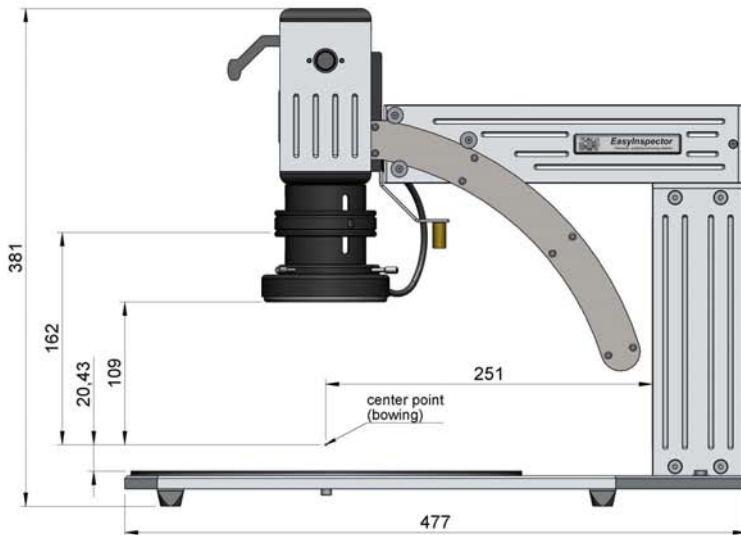
degree of protection	IP40
dimensions (W x L x H)	see drawing
weight	9000g
protection class 3	DIN EN 61140, VDE 0140-1
ESD protection	bonding point
ambient temperature	max.45°C
supply voltage	12V = (power supply included in delivery)
power input	1500mA max.
connection	YPbPr (HD), Y/C (PAL)
camera	RS 232
	1-chip CCD with digital signal processor for image optimization
	controllable via RS 232
horizontal resolution (TV lines)	HD1080, PAL>470
camera resolution (pixels)	HD 1920 x 1080, PAL 768 x 576
depth of shade	24 bit RGB
video signal	component YPbPr (1080i) composite 1,0 Vpp, (PAL)
magnification	up to 450x (for 24" screen, HD) 50x (for 8.4" screen, PAL)
zoom factor	12x optical and 12x digital
focal distance (standard)	min. focus range focal distance
	40 mm 160 + 20mm

The EasyInspector is supplied with:

basic device	stand with tiltable camera head
top plate	magnet-supported, rotates around optical axis
power supply	12V=/ 110-230V~
adjustable lens	focal distance 160 mm
remote control	for: zoom, focus, white balance, laser pointer
illumination	LED ring light
types available	HD, 2M pixels, 1080i PAL, 500k pixels, 576i
optional	screen 8-47"
	framegrabber with PCIe connection for PC installation (HD)
	framegrabber with USB 2.0 port to PC (PAL)
	PC-independent image memory box for USB sticks
	XXL version for large-sized PCBs
	XY-table, mechanical control
	XY-table, motor-driven (PC-controlled)
	XY-measuring table
	double polarization filter
	laser pointer class 2
	hand support (set of 2)
	software IMXpro for image storing, measuring and control of focus and zoom
	for generating images with indefinite depth of field (image merging)

Comparison:

HD (1920x1080)
PAL (768x576)



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