Mach3 Lab s.r.l.

X-CHECK 310 MF

PRE/POST DRILLING INSPECTION BENCH

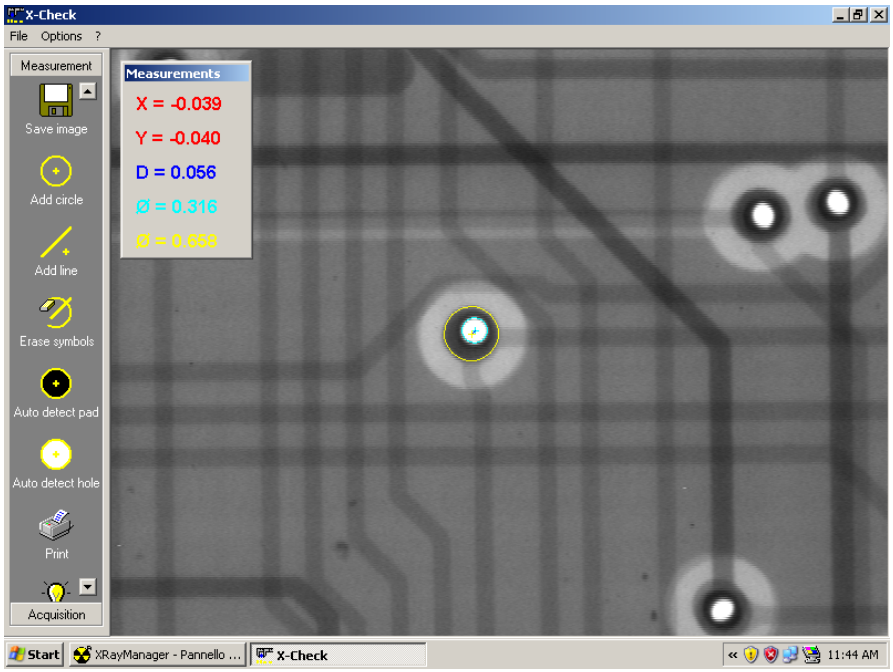
Description

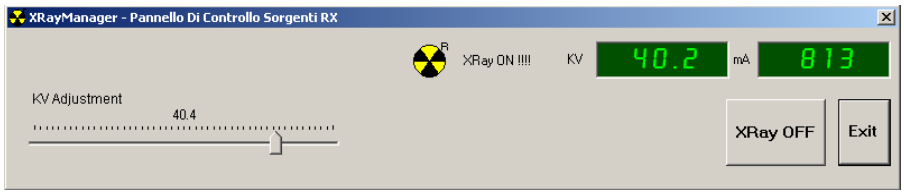
X-Check 310 MF is designed to check the centring error of holes respect to targets on multiplayer panels after the drilling step.

Normally, by checking the error between hole and pad at the four panel corners, it is possible to calculate the minimum annular ring, a parameter that determine if the drilling can be accepted or not.

By checking the centring error on four holes obtained in a preliminary drilling step at the four corners, X-Check allows to calculate the X,Y corrections to give to the drilling machine, to have an optimised panel drilling (2nd step).

The X-check inspection bench allows introduction of pinned panels in order to carry out the first step of measurements without de-pinning.





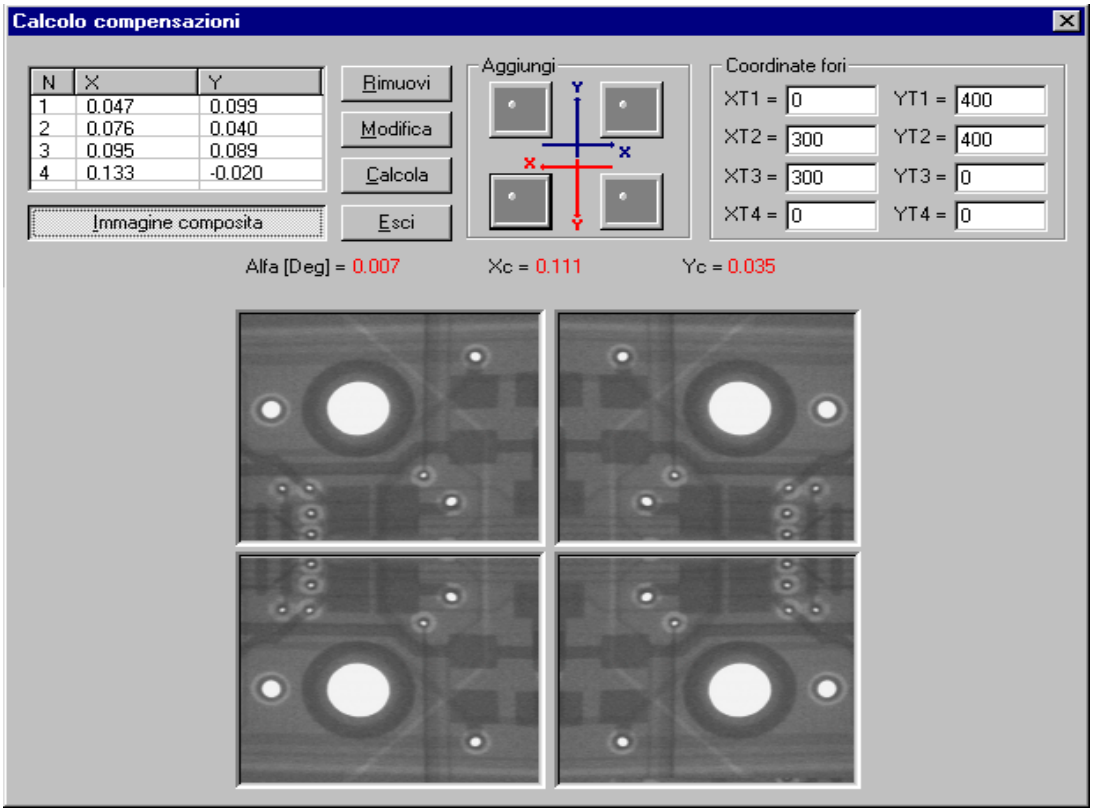
Measurements and reports

A friendly user interface allows:

- Measuring errors between centres by placing a circle on the pad and a second circle on the hole.
- Measuring distances or width of strips and insulation spaces by placing lines.
- Getting four corner combined images and calculating the optimisation parameters.
- Printing a report with single or quad images.
- Creating reports in PDF format that can be stored into the H.D. and shared in LAN (Ethernet).

X-Ray Control

- The X-Rays are switched ON/OFF by foot switch.
- The functioning parameters of the X-Ray tube are set by a on-screen control panel, for the best image quality.



SPECIFICATIONS

General		***NOTES***
Supply voltage	220-240 V 50-60 Hz Single Ph.	
Consumption	600 W	
Overall dimensions	1400 (L) x 520 (W) x 1400 (H) mm	
Height of work surf.	1000 mm	

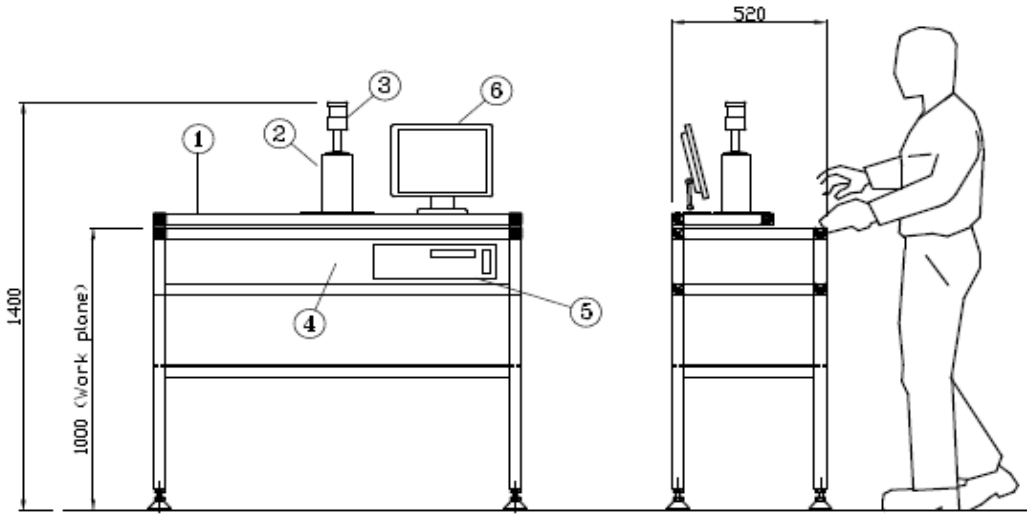
X-Ray equipment		***NOTES***
X-Ray tube	0÷65 KV - 0÷1 mA - Focal spot 50 μm - Output beam angle 20°	Used up to 50 KV (Margin of 23% for a long life)
Tube Life	6000 hours	Equivalent to 6 years of normal usage for panel inspection.
Cooling	Forced Air (Fan)	
Warm-Up	Automatic	Warm-up time depending on the OFF time of tube (1 ÷ 8 min).
X-Ray ON/OFF	By foot-switch (momentary) or manual by Soft-Key	
X-Ray camera type	Scintillator 15 LPmm + Fiber optics coupling	
Field of view	Zoom x 1: 18 x 12 mm Zoom x 2: 9 x 6 mm	Zoom x 2 is made by software (Electronic zoom)
Functioning mode	Time integration 40 ÷ 240 ms (CCD Integ.)	

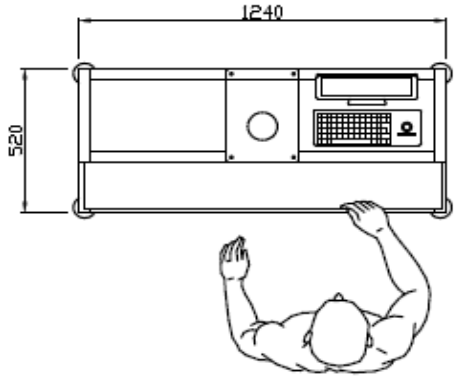
Software		***NOTES***
Languages	Italian, French, English, German	
Main functions:		
	Image acquisition	
	Measurements of diameters and pad to hole error by using manual placement of circles	
	Measurements of distances of edges by using manual placement of straight lines	
	Automatic measurement of diameters on single pads or holes	
	Automatic measurement of pad-to-hole errors (annular rings).	Some limitations in case of presence of traks to the target
	Quad image representation (images at four corner represented in a single report)	
	Compensation data calculation	
	Output of measurement reports with images and data on paper printer (option) or PDF files	*.PDF reports for archiving purposes
	Saving of single images in *JPG format	*.JPG images for archiving purposes
	Pin-Up function to inspect panels with pins. The panel must be flipped with the pins turned up .	The images are automatically flipped.
Resolution of meas.	± 25 μm	Zoom x 1

X-Ray Control	***On screen control panel***	
	KV adjustment	
	KV and mA readouts	
	X-R Tube over temperature check (alarm)	
	X-R lamp integrity check (alarm)	
	Tube warm-up countdown	

Panel specification		**NOTES**
Max panel dimension	Unlimited for inspection of areas up to 150 mm inside the edges.	To inspect areas toward the panel centre it must be considered that the panel can exit from a rear opening 1160 mm width .
Max panel width:	10 mm (mechanical limit)	The panel characteristics (outer/inner copper, type of insulating material) can limit the panel thickness to lower values.
Height of frontal/rear opening	25 mm	To inspect panels without de-pinning (Pin-Up function)

Safety		
Radiation leakage	Less than 1 µSV/Hour (no need of wearing exposure-meters)	Stated by the machine “Radio Protection Certificate”
X-Ray signal lamp	X-Ray emission inhibited when the lamp circuit is open (lamp burned)	
X-Ray timer	2 minutes.	After X-Ray ON by soft key





1 Frame
2 X-Ray Camera housing
3 X-Ray ON lamp
4 X-Ray source housing
5 Controller (P.C.)
6 15” LCD screen

Mach3Lab s.r.l.
Head Office: Via Dal Pozzo, 14 – 13900 Biella
Operative plant: Strada Prov. 593 – 13040 Alice Castello (VC)
Ph. +39 0161909127 – Fax :+39 01611890277
info@mach3lab.com - www.mach3lab.com