

GALAXY 700XB X-RAY PINS HOLES DRILLING, EDGE CUTTING- BEVELING AND CORNERS ROUNDING.



A line able to process Multilayer boards after the press cycle and before the drilling process.

INCLUDED STATIONS:

1. X-Ray drilling module (left)
2. Flash cutting and beveling module (middle-right)
3. Board unloading station on trolley (middle)

OPTIONS AVAILABLE:

- a. Automatic loading system
- b. Bar code reader
- c. Board thickness measurement system
- d. Marking device (serialization, codes, etc.)
- e. Multiline slots deburring device
- f. Automatic tool change

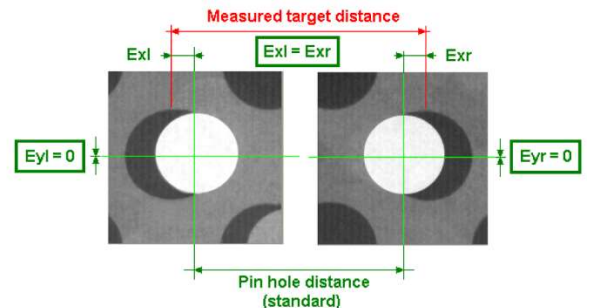
PROCESS DESCRIPTION:

- The panels to be worked are manually stacked on the cart loading station.
- A vacuum system picks up a panel from the load cart and places it down on the table of the X-Ray module. After picking up, the panel is measured in thickness, if the option is present.
- The X-Ray module detects the programmed targets and drills the reference holes. If the serialization device is present, at the end of the X-Ray process the panel is marked with the configured string of data.
- The panel is then picked up from the X-Ray module and transferred to the cutting-beveling module, where two heads (one per side), equipped with diamond cutting disks and routers, first cut the flash and then bevel the edges. The panel is then rotated 90° to cut the flash and bevel the other two sides.
- The board is rotated on the rounding station to round up the four corners. If the slot deburring option is present, two routers tangent to the panel surfaces, remove the burr from the surface around the multiline slots.
- The panel is laid down on the stack of worked panels (output cart)
- The machine can process previously squared panels, by bypassing all cutting and beveling stages.

X-RAY DRILLING STATION PROCESS:

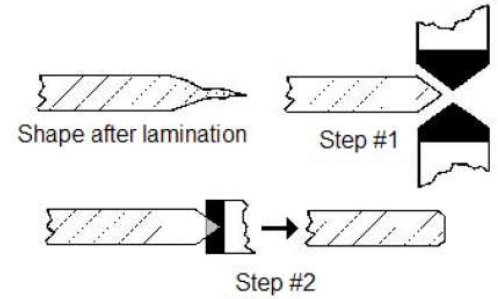
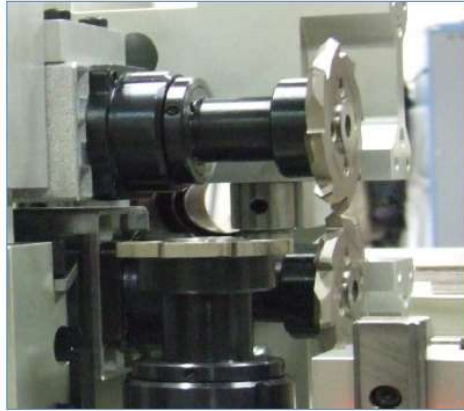
The picture below is a simple example of the optimized position of two pinning holes with respect to the position of two targets.

In the following example, the left and right targets are measured at a higher distance than the nominal, which matches tool patterns. Typically, the axis of targets and holes are the main panel axis, which in the Antares machine is the X axis. The optimization process is such that the two pinning holes are drilled at the nominal distance, thus no longer at the target centers, but in a position, which allows the errors (annual rings) to be minimized on all the panel surface.



EDGE FLASH CUTTING AND BEVELING STATION:

On this station two vertical cutters thanks to the shape of diamond teeth, cuts the board while beveling. A third horizontal cutter cuts the arris forming the "edge shoulder" as shown in the picture.



CORNERS ROUNDING:

The board is secured between the two opposing vacuum pressure feet. The vacuum and axis perform a circular interpolation which can round the corners in 4 steps.



**TECHNICAL SPECIFICATIONS:**

X-RAY Station		
Panel clamp	Venturi	Vacuum Area: 208 x 118 mm
Max target detection area	720 x 580mm	
Max drilling area	740 x 580mm	
Forbidden area	240 x 150mm	Central vacuum plate
Maximum panel dimension	760 x 600mm	
Minimum panel dimension	300 x 200mm	
Panel thickness	0.3 – 5 mm	
Maximum panel weight	N/A	
Maximum flash width	25 mm	
Recommended target diam.	0.5 – 2.5mm	
Process time	30 seconds	4 targets + 3 holes – Including the panel load by operator
Electrical power	2 KVA	Voltages: 400 and 480 V – 3 Ph – No Neutral
Air consumption	500 NL/min (avg)	Peak con. 1500 NL/min – Min. Pressure: 6-10 Bar

Cutting and Beveling Stations		
Tool Specifications		
Cutters for edges	Diam. 80mm	V profile disks – refer to drawings
Cutters life time	8-10 Km	
Router for edges	Diam. 60mm	Refer to drawings
Router for chamfering	Diam. 25mm	V profile router – refer to drawings
Dust evacuation	Vacuum cleaner	
Process scraps deposit	Dedicated Cart	
Working Capabilities		
Max panel size	700 x 700mm	After beveling
Min panel size	305 x 305mm	After beveling
Chamfering diameter	5-10mm	
Panel thickness	0.5 – 4.8mm	
Max flash thickness	≤ panel thickness	
Beveling tolerance	± 0.5 mm	
Max stack on output trolley	200mm	Height of stack
Process time	60 seconds	Beveling + Chamfering + automatic panel lay down



Electrical power	10 KVA (Max)	400 and 480 V – 3 Ph – No neutral – included vacuum unit
Air consumption	100 NL/min	Average – min. pressure: 6 -10 bar

** Drawings and specifications are subjected to change without notice.

ADD ON OPTIONS:

Automatic Loading	Automatic board pick up from trolley
Thickness measurement	Thickness measurement in more points after board pick up.
Marking	Micro punch marking device applied to the X-Ray module
Slot Cleaning	Multiline slot deburring system on both faces
Spare trolley	Extra trolley for loading station.

THE PICK-UP AND PANEL TRANSFER DEVICE:



THE CUTTING AND CORNER ROUNDING TOOLS:



THE MACHINE CONTROLLER AND OUTPUT TROLLEY:



GALAXY OVERVIEW:

