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ANTARES 700 XA

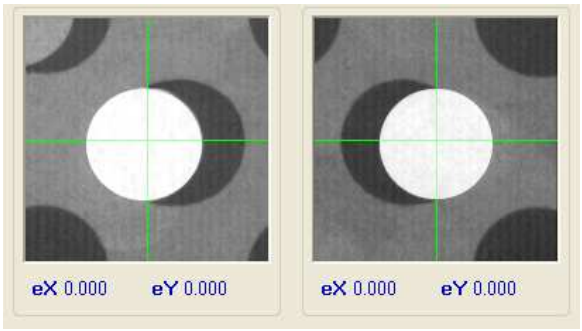
X-RAY REFERENCE DRILLING MACHINE

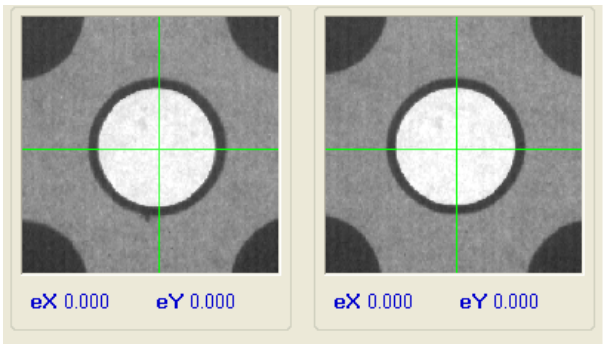
WITH AUTOMATED LOAD/UNLOAD SYSTEM

PURPOSES:

Antares 700 X is designed to drill reference holes (pinning) on multi-layer panels.

- Free programmable targets and holes (posit., diam., shape)
- Optimised drilling (best fit)
- On-target drilling
- The XA version includes automatic panel load/unload.



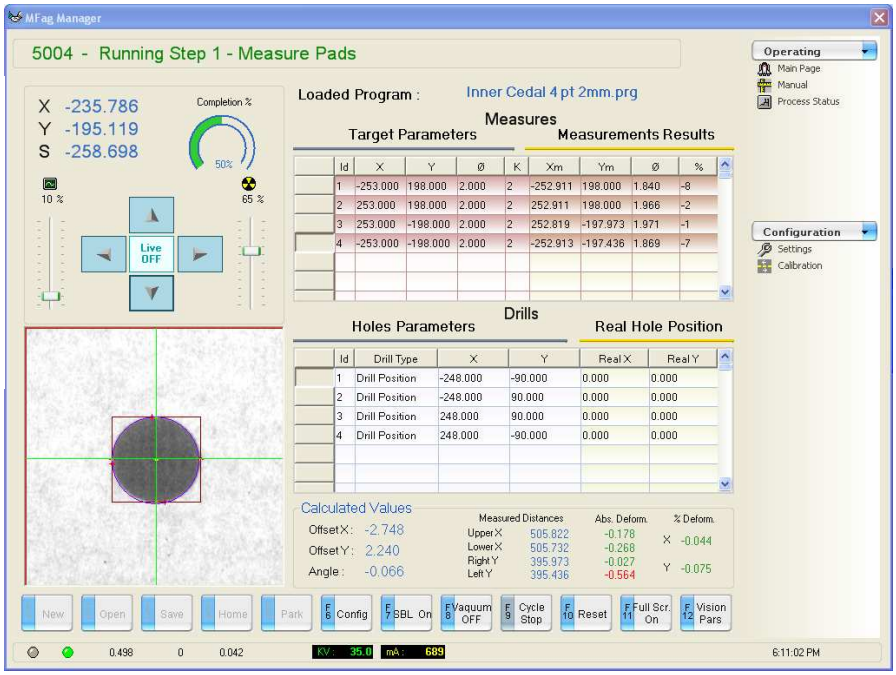


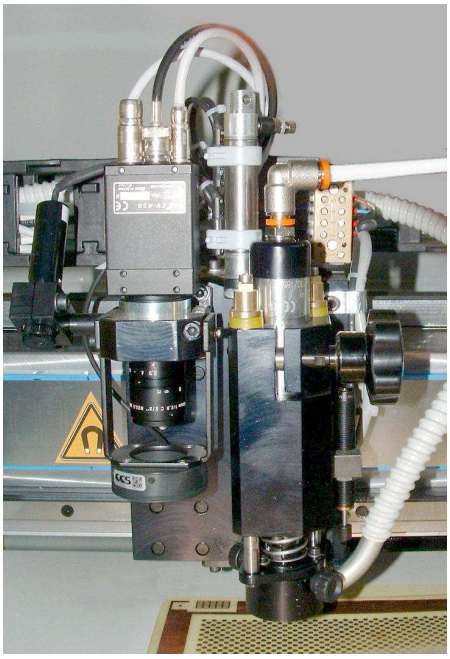
HARDWARE:

- High performance CNC integrating Motion controller, Vision system and I/O management
- Position transducers with 1µ resolution
- Linear motors
- High reliability X-Ray source
- High sensitivity X-Ray camera
- Compact solution (see overall dimensions)

SOFTWARE:

- Friendly user interface
- Part-program based process
- All data of measured panels stored into a *.mdb file (network access)
- Measuring functions available





PROCESS:

- Panel pick-up from input trolley (at left)
- Process cycle: X-Ray measurement of target and drilling
- Worked panel is laid down into output trolley (at right)
- Panels out of tolerance are rejected into rear trolley
- Operations involving panel manipulation are in masked time respect to machine process

SAFETY:

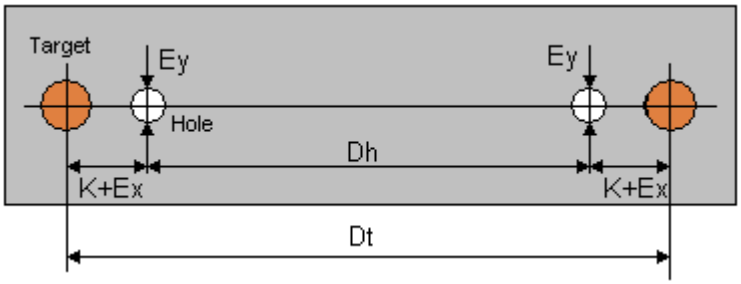
- No special anti X-Ray protection required for operators.
- Radiation leakage < 1 µSv / hour
- Radioprotection certificate according to Euratom directives.

Machine Specifications	Value	Notes
Electrical supply voltage	400 V – 50/60 Hz	3 Ph + Ground
Electrical power consumption	4 KVA (Max)	
Air pressure supply	6 ÷ 10 Bar	
Air consumption	500 L/min (Avg)	1400 L/min (Peak)
N. of position controlled axes	X, Y, S , LU	Etel
Max axes speed	60 m/min	120 m/min (Max) for LU axis
Position accuracy	± 0.003 mm	X, Y, S,
Position transducer resolution	± 0.001 mm	Heidenhain
X / Y strokes	800 / 900 mm	
Z-axis motion system	Pneumatic	
Z axis stroke	40 mm	
Z drilling feed	0,2 ÷ 2 m/min	Adjustable
Spindle speed	30.000 rpm	Fixed
Tool change	Manual	Easy and quick Spindle removal
Tool diameters	1 ÷ 6 mm	
Chips evacuation system	Built-in Venturi system	Opt: connection to factory vacuum sys.
Panel clamp system	Venturi Vacuum sys.	Opt: combined vac. table for thin layers
Panel load mode	Automated/Manual	
Panel unload mode	Automated/Manual	Bad panels rejected into rear trolley
Input/Output trolleys capacity	200 mm	Max- height of stack
Rear Trolley capacity	100 mm	Max. height of stack
Panel reference system	Laser cross lines	For manual mode
X-Ray source	50 KV – 1mA	Focal spot = 50 µ
X-Ray sensor type	CCD + Scintillator	
Sensor field of view	12,5 x 9,6 mm	
Vision system accuracy	± 5 µ	
Max. Scanned area for target search	24 x 30 mm	Software function

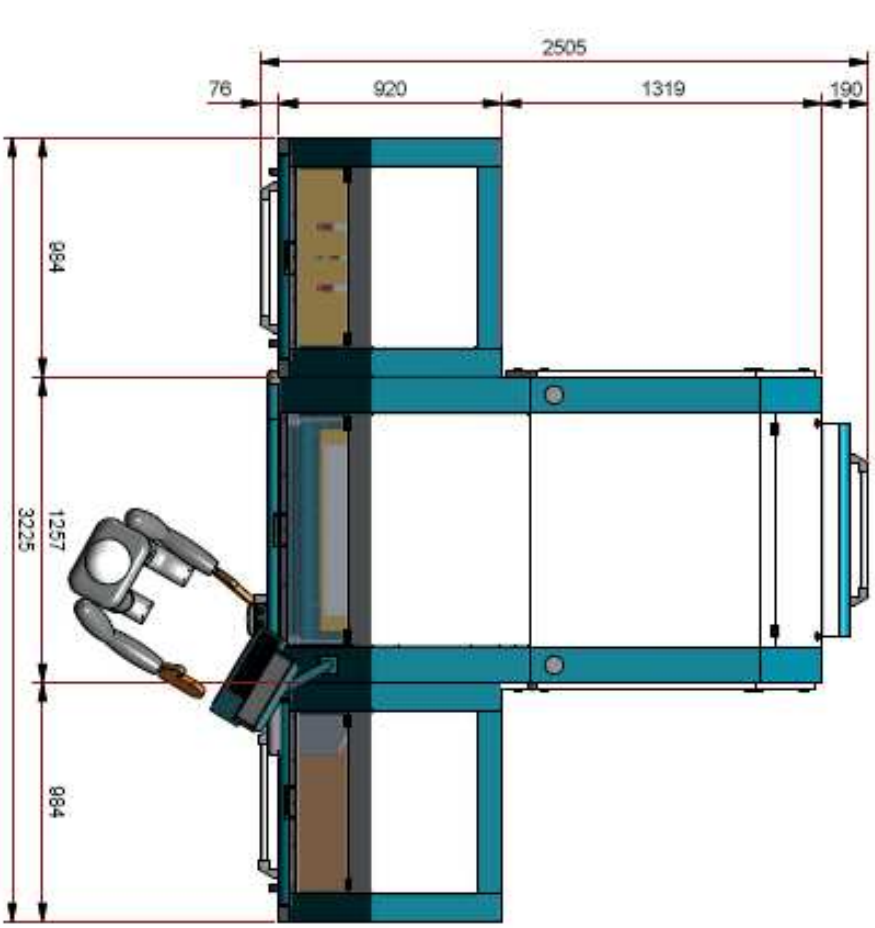
Panel specifications in Manual Load Mode	Value	Notes
Max. dimensions	740(X) x 650(Y) mm	
Min. dimensions	300(X) x 200(Y) mm	
Max. thickness	6 mm	Indicative
Min. thickness	0.100 mm	With special vacuum table

Panel specifications using automated load/unload system	Value	Notes
Max. dimensions	700(X) x 600(Y) mm	
Min. dimensions	320(X) x 320(Y) mm	
Max. Weight	2 Kg	
Min. Thickness	0.3 mm	

Process specifications	Value	Notes
Drill-on-target accuracy	± 20 µ Max	Round target
Optimised drilling accuracy (Ex, Ey)	± 25 µ Max (See definition)	Round targets @ Dt = 600 mm and Dh=Dt - 5 mm
Cycle time	15 s	2 targets + 3 holes
Productivity	3 panels / minute	



Definition of optimised drilling accuracy :
Dt = Measured distance between targets
Dh =Distance between holes
2K = Eventual difference between theor. distances
Ex = Errors along X axis (scale error)
Ey = Errors along Y axis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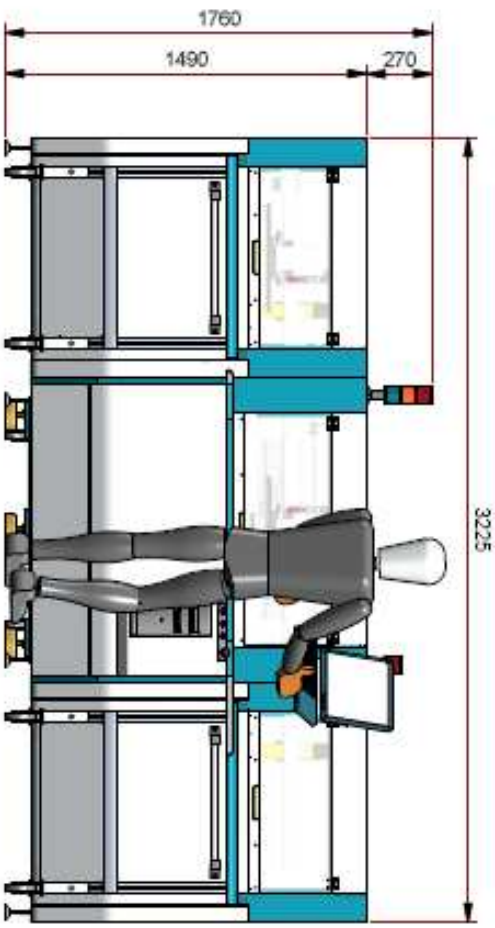
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