ANTARES 700XA

X-RAY REFERENCE DRILLING MACHINE WITH AUTOMATED LOAD/UNLOAD SYSTEM

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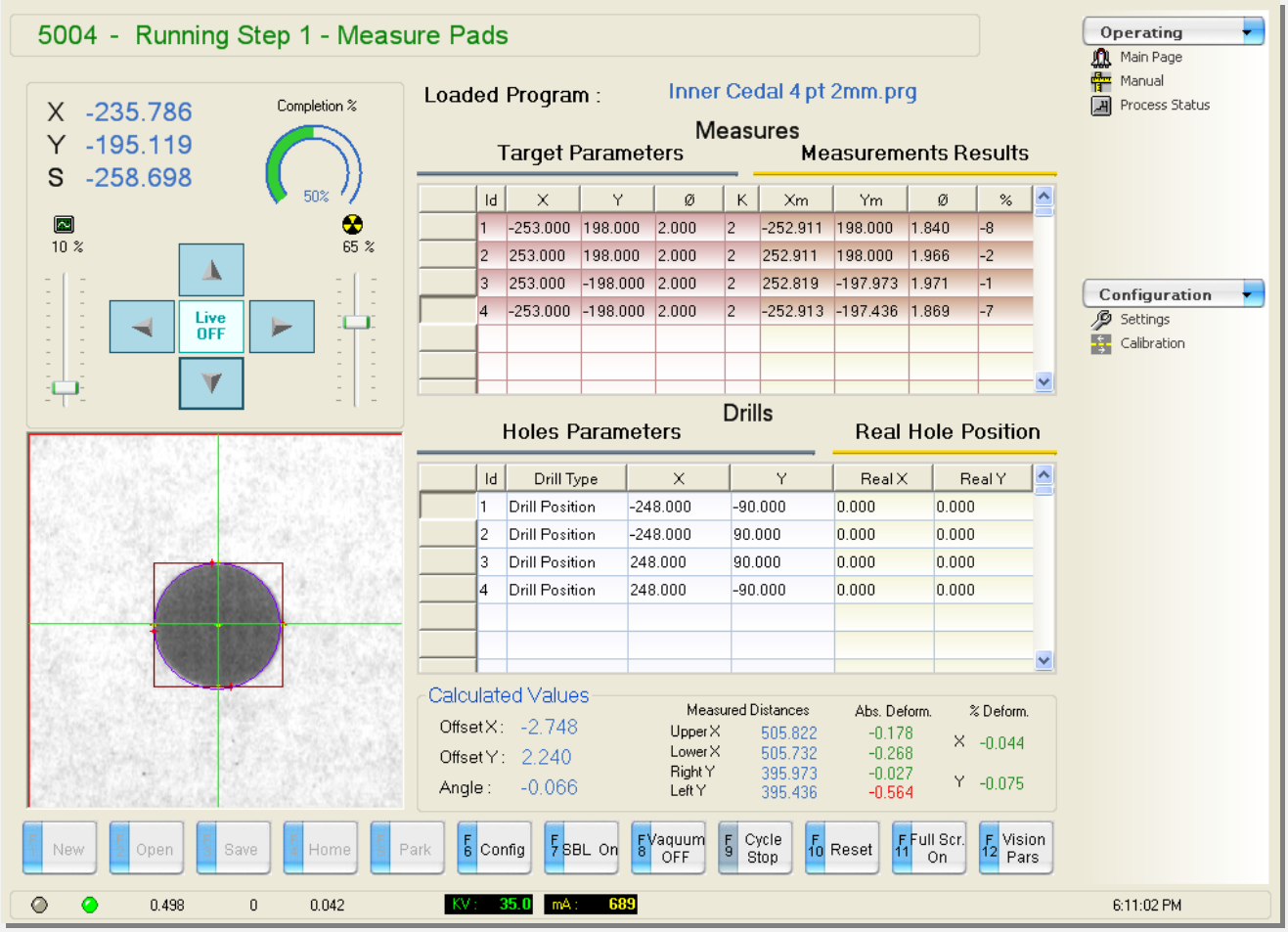
“Antares 700 XA is designed to drill optimized reference holes on multi-layer panels. The automatic loader/unloader allows the machine to operate in full autonomy after the batch of panels is initialized”

HARDWARE

- Latest generation CNC
- Position transducers with **1µ resolution**
- Linear motors
- High reliability X-Ray system
- High sensitivity X-Ray camera
- Compact solution (see overall dimensions)

SOFTWARE

- User friendly interface
- All data of measured panels stored into a *.mdb file (network access)
- Measuring functions available

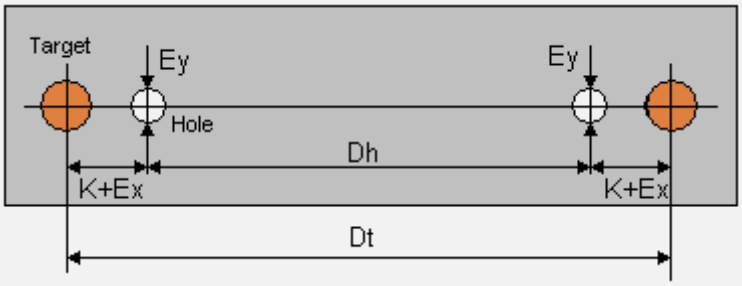


TARGET

- Fully programmable target recognition
- Blob analysis and pattern matching technologies
- Easy management of layers

HOLES

- Optimised drilling (best fit)
- On-target drilling
- Scaled drilling



Definition of optimised drilling accuracy:

Dt = Measured distance between targets
Dh =Distance between holes
2K = Dt - Dh
Ex = Errors along X axis (scale error)
Ey = Errors along Y axis

TWO SPINDLE VERSIONS

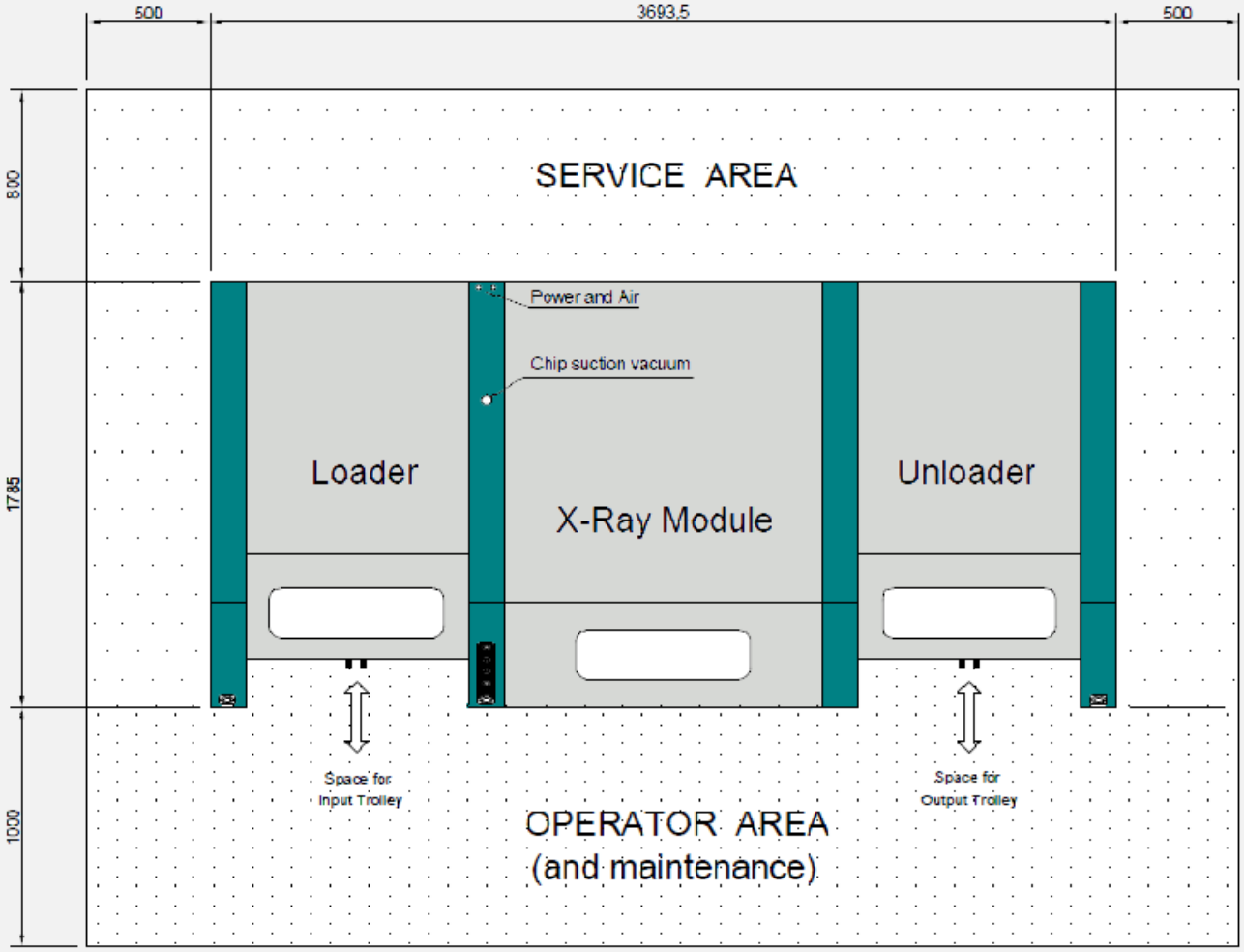
PNEUMATIC

- 30.000 rpm fixed speed
- Adjustable descending speed
- Single tool
- 16 µm run-out
- Easy and fast tool change

ELECTRIC

- Max 60.000 rpm
- Position and speed controlled Z axis
- ATC (automatic tool change)
- 4 station tool magazine
- TLD (tool length device)
- Within 2 µm run-out

INSTALLATION REQUIREMENTS



VACUUM CHIP SUCTION

- De-pressure: 150 mbar
- Flow: 14 L/min (0,84 m³/h)
- Connection size: 40 mm

ENVIRONMENT

- Room temp: 20 – 23 °C
- Relative humidity: < 55%
- Floor: Absence of vibrations
- Machine weight: 4000 Kg

MACHINE HEIGHT

- Top: 1500 mm from the floor
- With front door open ad totem lights: approx. 2100 mm

SPECIFICATIONS

Process Specifications			
	Measuring Accuracy	±15 µm	Within a vision area of 640x480 mm (25"x 19")
	Drill-on-target accuracy	±15 µm	Round target
	Optimised drilling accuracy	±18 µm (See description)	Round targets @ Dt = 600 mm and Dh=Dt - 5 mm
	Cycle time	20 s	4 targets + 3 holes
	Productivity	3 panels / minute	4 targets + 3 holes

Machine Specifications			
	Electrical supply	3 Ph + Ground – 50/60 Hz	Voltage on request
	Electrical power consumption	2 KVA (Max)	
	Air pressure supply	6 ÷ 10 Bar	
	Air consumption	400 L/min (Avg)	1400 L/min (Peak)
	N. of position controlled axes	3	4 with electro-spindle
	Max axes speed	60 m/min	
	Position accuracy	± 3 µm	
	Position transducer resolution	± 1 µm	Heidenhain
	X / Y strokes	800 / 900 mm	
	Vision Area	700 x 580 mm	Blind area 150 x 250 mm at the centre
	Z-axis motion system	Pneumatic	
	Z axis stroke	40 mm	
	Z drilling feed	0,2 ÷ 2 m/min	Adjustable
	Spindle type	Turbine	
	Spindle speed	30.000 rpm	Fixed
	Tool change	Manual	
	Tool diameters	1 ÷ 5 mm	
	Z-axis motion system	Position Controlled	
	Z axis stroke	50 mm	
	Z drilling feed	0,2 ÷ 2 m/min	Adjustable
	Spindle type	Turbine	
	Spindle speed	Up to 60.000 rpm	Programmable for each tools
	Tool change	Automatic	4 tools
	Tool diameters	1 ÷ 5 mm	
	Chips evacuation system	Centralized	(on board as option)
	Panel clamp system	Vacuum - Venturi	Table centre (Blind area 150x250 mm)
	Panel load mode	Automatic	From left cart
	Panel unload mode	Automatic	To right cart
	Rejection of bad panels	Automatic	To right cart with an offset
	Panel reference system	n. 2 Cross laser lines	For manual load mode
	X-Ray source	50 KV – 1mA	Focal spot = 50 µm
	Radiation leakage	< 1 µSv / hour	Euratom certificate
	X-Ray sensor type	CCD + Scintillator	
	Sensor field of view	20 x 15 mm	
	Vision system accuracy	± 4 µ	

Panel Specs Automated Load/Unload			
	Max. dimensions	580(X) x 660(Y) mm	20" x 26"
	Min. dimensions	320(X) x 320(Y) mm	12" x 18"
	Max. Weight	3,0 Kg	6.6 Lb per panel
	Thickness	0,3 to 4 mm	Indicative
	Min. Thickness	Down to 0,1 mm	With special vacuum table

Panel Specifications Manual Mode			
	Max. dimensions	700(X) x 700(Y) mm	27.5" x 27.5"
	Min. dimensions	300(X) x 200(Y) mm	12" x 8"
	Thickness	0,3 to 10 mm	0.012" to 0.40" (Indicative)
	Min. thickness	Down to 0,100 mm	0.004" (With special vacuum seal)