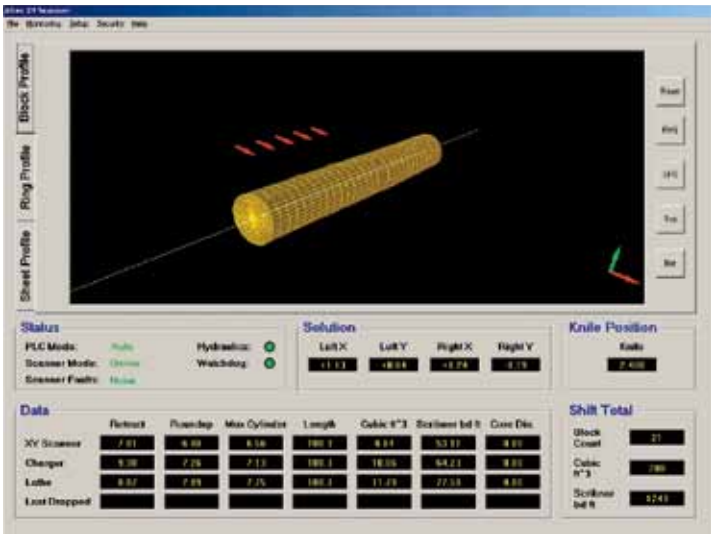
VENEER LATHE XY SCANNER 3D

HIGH PERFORMANCE 3D XY BLOCK OPTIMIZATION FOR VENEER LATHES



INTRODUCTION

The ALTEC Veneer Lathe XY Scanner is a high performance on-line non-contact measurement system that provides real-time solutions for the optimization of wood recovery on Veneer Lathes. The System provides a superior round up complete decision and more accurate maximum diameter measurement, yielding more recovery and increased production that those of other XY systems. Our Scanner has the ability to scan and rotate during the lift period and so reduce cycle time dramatically.

The ALTEC Veneer Lathe XY Scanner can be retrofitted into existing lathe charger systems and the system is fully configurable to handle a wide range of block lengths and diameters. The System is a drop in replacement solution for upgrading existing scanners.

Built-in system features provide for ease-of-use, a high degree of user configurability, security, and recovery options to meet specific plant requirements.

FEATURES

— Up to 64 lasers of data collection.
— Real time operator display for original and optimized block orientation, solutions and system status.
— Accurate carriage retract and round up complete positions.
— Configurable recovery parameters for both strip and sheets of less than full width.
— System communication interfaces to PLCs include Ethernet, Allen-Bradley DH+, Modbus Plus, Profibus-DP.
— Optional integrated Delta RMC100™ Motion Controller.
— Integrated MIS and system diagnostic reporting.
— Integrated historical data analysis.
— Full laser and system diagnostics.
— User security password protection.

SYSTEM DESCRIPTION

The ALTEC Veneer Lathe XY Scanner uses lasers to map the profile of the incoming block as it is rotated under the laser scanner array. The lasers communicate with a high-speed data acquisition computer. The computer uses a high performance mathematical algorithm to determine the block orientation that produces optimal recovery. The ALTEC XY Algorithm allows for user configurable recovery parameters based on strip length and sheets of less than full width, resulting in recovery that meets specific plant requirements. The ALTEC XY Algorithm also provides for a higher number of successfully calculated solutions than other XY systems.

The XY Computer user interface provides for system status and control, configuration, laser calibration, historical data collection and analysis, and alarm configuration. The System comes complete with lasers, laser cables, XY Computer, PLC interface card, optional Delta RMC100™ Motion Controller, XY Computer and laser enclosures.

SPECIFICATIONS

SYSTEM MEASUREMENT

Measurement [1]

Segment Angle	10°
Number of Channels	Up to 32 lasers
Calculation Time	100 msec (typical)
Block Diameter	Up to 68 in [Up to 1727 mm] [1]

NOTES:
1. All measurement parameters are factory configurable based on end user requirements.

SYSTEM FUNCTIONAL

Setup

XY Position Limits	+/- 6 in [152 mm] [1]
Laser Positions	+/- 55 in [1.40 m] [1][2]

Recovery [1]

Sheet	Length:	0 to 120 in [0 to 3.05 m]
	Width:	0 to 60 in [0 to 1.52 m]
Strip	Width:	0 to 60 in [0 to 1.52 m]

Other

PLC Communication Interfaces	Ethernet, DH+, Modbus Plus, Profibus-DP [3]
Historical Data	Configurable collection, offline analysis
Alarming	DAQ, Encoder, Laser Status and Servo Axes [4]

NOTES:
1. User configurable parameters.
2. Measured from the machine centerline.
3. Contact ALTEC for other PLC communication requirements.
4. Optional integrated motion controls are available.

LASER ENCLOSURE

Dimensions	(H x L x W) 10.0 x 115.5 x 31.0 in [254 x 2934 x 787 mm]
Laser Spacing	3.25 in [82.5 mm]
Shutter	Pneumatic

LASER GENERAL

Source	InGaAIP, 690 nm
Power	Up to 50 mW
Class	IIIB
Dimensions Laser	(H x L x W) 4.62 x 16.15 x 1.51 in [117 x 410 x 38 mm]
Output Signal	4 to 20 mA
Sample Rate	1663 /sec
Standoff	19.69 in [500 mm] [1]
Range	118.11 in [3000 mm]
Resolution	0.030 in [0.762 mm]

NOTES:
1. Distance from laser face to start of measurement range.

ENVIRONMENTAL

Temperature

Lasers	32 to 122°F [0 to 50°C]
Computer	32 to 131°F [0 to 45°C]

Humidity

Lasers	< 90% RH non-condensing
Computer	35-85% RH non-condensing

Housing

Lasers	NEMA 4
Computer	NEMA 12

Information contained in this document is subject to change. For current product information contact ALTEC.

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