

LASER TITLER

Infinity HT 4000™ Series

HT 4200FSV-01 TFT Gantry Dual Laser Titler



Leader In Laser Solutions

Features:

- Compact Design with moving marker heads
- Multiple laser markers mounted on XXY gantry stages
- Inline vision through laser scanning system for one stop processing of fiducial finding, marking and mark verification
- End pumped solid state laser design - This latest technology laser has the advantages of small foot print and cost saving as the diodes can last > 8000 hours without needing replacement
- Advance laser design with small marking spot size below 25 microns
- Proven interface to robotic arm loader/unloader
- Single, dual or more marking heads on XXY gantry stage
- Single, dual or more marking heads on XXY gantry stage
- High Marking positional accuracy of below +/-10 microns
- Interface to manual and AGV cassettes loading system
- Flexible communication compliance with: SECS, HSMS, Serial, TCP/IP etc...
- Highly Intuitive process setup using Windows GUI program with point and click features
- Flexible and diverse marking capabilities: Text, 1-D, 2-D data matrix, Vericode, TFT circuit trace cutting, bmp etc...



AVI PRECISION ENGINEERING PTE LTD

1, KALLANG SECTOR #04-03, SINGAPORE 349276.

TEL: +65 67483866. FAX: +65 67484810. Email: avipre@avipre.com.sg

Website: <http://www.avipre.com> Company Reg No: 199300584M, Skype: avipre

Infinity HT 4000 Series

HT 4200FSV-01 TFT Gantry Dual Laser Titrler

Technical Specifications

Diode Pump Laser Unit	
Wavelength	1064
Input Power	230VAC, Single phase
Q-Switch Pulse Repetition	Up to 60 kHz
Over Temperature protection for diodes	
Integrated air cooled system	
HyScan200: Scanhead	
Laser Beam Delivery	Galvanometer deflection Scanhead System
Expander for wavelength 1064nm	
F-These lens for scanning field of 110mm x 110mm (other ranges avail.)	
Mechanical housing - to hold the above components and mounting to the laser	

Vision System	
Inspection Time	0.2 sec per frame
Scanning Area	110mm x 110mm
F.O.V	10mm to 2mm (Customizable)
Resolution	15um to 6um per pixel (other CCD options available)

Gantry System	
Travel Length (X)	550mm
Travel Length (Y)	660mm
Drive System	Linear Ballistics Servomotor
Feedback	Encoder
Maximum Travel Speed	400mm/sec.
Maximum Linear Acceleration	1000mm/sec. ²

Note: Machine and Gantry can be customized to Customer's product size

Power Supply	
208VAC, 3 Phase, 4 Wires, 3S Amp	
Working Environment	
Enclosed in Cleanroom Class 100 Standard	

PC Controller

Type of Controller: Windows based PC Controller
 Marking Software: Hypermark CAD Based, GUI marking software for creation and editing of marking layout.
 Text, Barcode, Data Matrix polygon creation within few mouse clicks

Optional features includes:

- Windows True Font
- Font Editor
- PLT, AutoCAD format import
- RS - 232 Serial Comm.
- TCP/ IP comm. Via Win Socket
- BMP / TIF marking

Options:

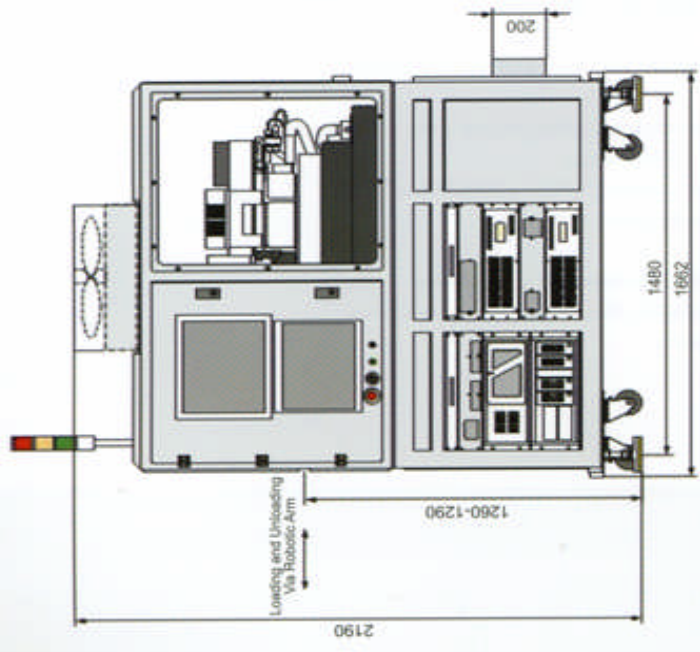
- Automatic & Semi-Auto Handlers
- Data Matrix and Linear Barcode Verifier
- Dust Collector / Fume Extractor
- Red Targeting Laser
- Auto Power Calibration System
- Marking Software Customization



Vericode on TFT Panel



ECC 120 Data Matrix on TFT Panel



TFT Panel Dual Laser Titrler

This TFT Glass Panel Coding Machine consists of 1, 2 or more end pump laser markers mounted on an XXY gantry stages driven by precision linear server motors. A patented scan vision feature is integrated into the laser and scanner system for finding the fiducials and compensating for panel or sub-panel drift to ensure marking precision. After marking, the image from the scan vision CCD camera system is sent to the data matrix verifier to ensure a valid mark. Using the vision system through the scanner allows image capture of many locations at high speed.

The laser is our new generation fiber coupled diode end pumped Nd:Yag (Nd:YVO4 / Gd:YVO4) IR laser with very good mode and high peak power. This ensures that the marking is done at high throughput and with less heat affected zone to prevent layer peeling and other unwanted effects on the TFT panel.

The laser marker does not require water cooling but TE (Peltier) and forced air cooling; this eliminates water maintenance issues and simplifies conformance to cleanroom standard.

The TFT panel is placed onto a bed of antistatic supporting pins to prevent damage to the glass panel and then lowered down and held on a metal chuck for stability and flatness.

The laser marker is custom designed and manufactured in-house for lightness and ruggedness to ensure reliable operation when carried by the high speed XXY gantry stages. The marker submodules are arranged to reduce weight on the moving head and minimized wiring in the XY stages. The machine is fully enclosed with venting to external environment to attain class 100 cleanroom standard. It is controlled by one Master and two slave industrial PCs to achieve high throughput with minimum waiting time.