

# AP 530 M

## Automatic Tube Processing System for Medical Industry

The AP 530 M Automatic Tube Processing System is a fully automated production solution for surface texturing, marking, and ablative processes of needles, cannulas and other tubular medical devices. It integrates robotic part handling, ultrashort pulse (USP) laser processing, and post-processing machine vision inspection into a single, enclosed, standalone workstation. Job setup and execution are performed through simple menu choices in a graphical interface. This maximizes productivity by limiting the need for operator intervention to a few times per shift. Once processing is initiated, the operator simply loads in parts, and removes finished pieces.



### FEATURES

- High throughput batch processing with minimal operator intervention
- Automatically collects process data to meet compliance requirements
- Compatible with a wide range of tube sizes, lengths, and materials
- Several laser options available to support a range of processes

### APPLICATIONS

- Echogenic Biopsy Needle and Cannula Texturing
- Micro Ablation/Cutting
- Marking/Black Marking
- 2D Texturing and 2.5D Texturing
- Surface Modification/Functionalization

| Workstation Requirements              |  |
|---------------------------------------|--|
| Input Power                           | AP 530 M<br>1-phase, L1 + L2 with safety ground  |
| Voltage (VAC)                         | 230, 50/60 Hz, ±5%   |
| Current (A)                           | 30   |
| Motion and Beam Delivery<br>Purge Air | Class 5.5.4 according to DIN/ISO 8573-1, but max 3 mg/m cubed residual oil, at 7 bar.<br>Max 25°C (supply: compressed air).                                |
| Compressed Air Quality                | 80 to 100 PSI, 35 to 150°F, ISO 8573.1 Class 5.5.5 or better, (particles <40 µm,<br>max 450°F, pressure dew point and <25 mb/m <sup>3</sup> oil/oil vapor) |
| Weight (Kg)                           | 1700   |
| System Storage (°C)                   | 5 to 40 ±5   |
| Ambient Temperature (°C)              | 28 to 32, air conditioned, oil free, debris free   |
| Relative Humidity (%)                 | 10 to 65 non-condensing  |
| Vibration                             | VC-C   |
| Workstation Specifications            |  |
| Classification                        | Class I Laser System, CE Compliant   |
| Automation                            | Fully Automatic Processing   |
| Mechanics                             | Machine base, robotics, rotary motion, galvo scanner and other   |
| HMI                                   | Monitors, Coherent Automation FrameWork processing software  |
| Machine Vision                        | Megapixel camera, sub-pixel processing capability  |
| Motion Control                        | CNC control driven by Coherent Automation FrameWork processing software  |
| Axis Travel                           | 6-axis robotic motion with rotary positioning and galvo scanner  |
| Axis Speed                            | up to 500 mm/sec   |
| Product Size                          | 50 to 300 mm L x 2.5 to 6 mm diameter (smaller parts delivered via tray)   |
| Dimensions (w x d x h)                | 1862 x 1518 x 2400 mm  |
| Laser Source                          | Femtosecond, Picosecond, or Nanosecond   |
| Processing Head                       | 2 axis galvometer  |
| Evacuation                            | 200 CFM  |

Mechanical Specifications

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