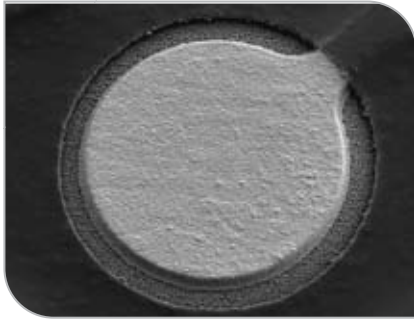


# *Paragon™ - SM 20* *Laser Direct Imaging Solution*

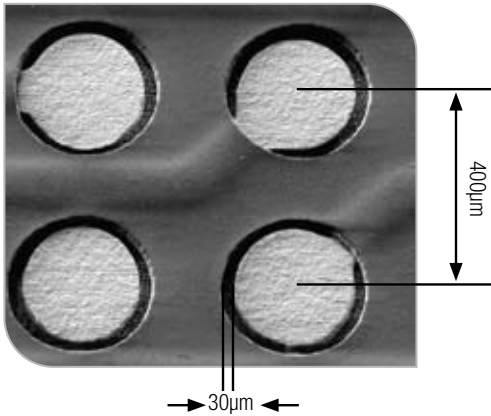


# Paragon™ - SM 20

Paragon-SM 20 Laser Direct Imaging (LDI) is a high accuracy and high throughput solution for imaging Solder Mask layers. Based on Orbotech's field-proven Large Scan Optics (LSO) technology, Paragon-SM 20 ensures high yields and lower cost per panel while satisfying tight registration accuracy requirements with dynamic imaging modes.



High registration accuracy to meet annular ring of 30µm with Paragon-SM 20



## Benefits

- Tight registration accuracy of  $\pm 12\mu\text{m}$  with dynamic imaging (scaling) modes
- High throughput solution - 80prints/hour at  $100\text{mJ}/\text{cm}^2$
- Automated solution: stand-alone and in-line
- Special vacuum control eliminates solder mask damage
- Highly flexible, maskless digital imaging increases image quality and production yield
- Smooth target recognition under the solder resist
- High depth-of-focus of  $\pm 300\mu\text{m}$  for single scan on any distorted PCB topography
- Intuitive and user-friendly interface for fast and easy set-up

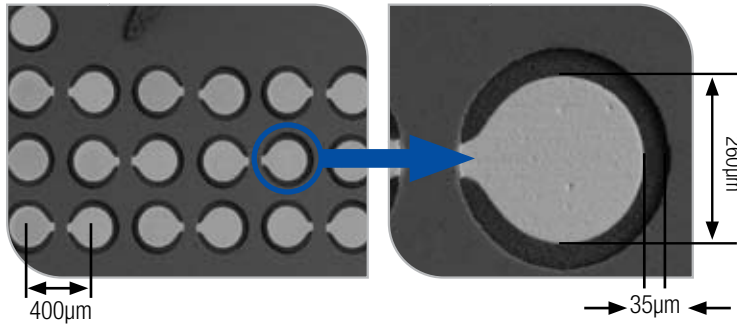


## Paragon-SM 20

# High Accuracy Digital Imaging for Solder Mask

### High Registration Accuracy

- Positioning accuracy of  $\pm 12\mu\text{m}$  (metric model) or  $\pm 0.5\text{mil}$  (inch model) enables imaging tighter annular rings and improves yields
- Proven solution for high accuracy and tight registration requirements on solder mask



### No Mask

- Minimizes time-to-market - the shortest imaging process
- Reduces complexity and improves yields by removing the phototool and film preparation processes
- Improves image quality: eliminating contamination or damage caused by the phototool
- Saves on phototool costs such as: labor, material, electricity, etc.

### Dynamic Imaging Modes

- Auto-scale (per panel): each individual panel can be scaled according to its distortion
- Fixed scaling (per batch): all panels in the batch use the same scaling
- Different scale factors in one panel: a panel can be subdivided for scaling purposes

### Panel Handling

- Specially-designed vacuum control eliminates solder mask damage
- Automated solution: stand-alone and in-line configurations suited to imaging solder mask panels ensure no handling damage

### Depth-of-Focus

- D.O.F of  $\pm 300\mu\text{m}$  for overcoming the most challenging surface topography changes and/or any distorted PCB topography for high image quality on the solder mask

### Ease-of-Use

- Recognizes a wide range of different target types to meet any production requirement
- User friendly and intuitive graphical user interface
- Seamless connectivity to CAM ensures fast and easy set-up