

## Insight Series Multi-Axis X-Ray Inspection System

The Insight Series feature outstanding configuration flexibility, six-axes of motion control, unparalleled ergonomic design and a unique no-clamp sample tray for fast load and unload. The x-ray source and detector tilt off-axis in relation to the sample providing oblique >40° object viewing of PCBs up to 20-inches by 24-inches. The high-resolution high-magnification imaging train provides crystal clear images for inspection and failure analysis of assemblies, solder joints and near microscopic component interlayer electrical connections.

| Configuration Options   | Insight-75           | Insight-90           | Insight-130          |
|-------------------------|----------------------|----------------------|----------------------|
| Tube Voltage            | 75kV                 | 90 kV                | 130 kV               |
| Spot Size / Resolution  | 33 μm / >30 lp/mm    | 5 μm / >40 lp/mm     | 5 μm / >40 lp/mm     |
| Optional Motion Axis    | Tilt, Rotate, Z1, Z2 | Tilt, Rotate, Z1, Z2 | Tilt, Rotate, Z1, Z2 |
| Rotation Fixture        | Motorized 360°       | Motorized 360°       | Motorized 360°       |
| Image Processor Options | VIP / VIPplus / VIPx | VIP / VIPplus / VIPx | VIP / VIPplus / VIPx |

Designed to address a wide range of electronics and material analysis applications:

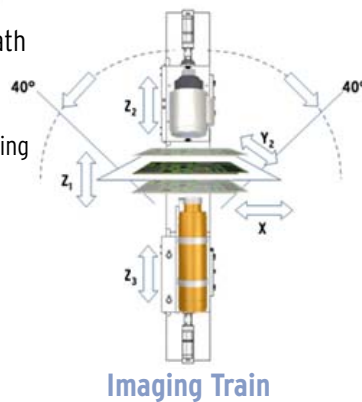
- Unique no-clamp sample tray (fast load/unload)
- Unparalleled operator-friendly ergonomic design
- Compact 52"W x 48"D x 72"H system footprint
- Large board handling up to 20"x24"
- Flexible configurations, clear upgrade path

### No-Clamp Sample Tray

X-ray tube & detector tilt >±40° for off-axis viewing



Sample Tray



Imaging Train

**No-Clamp  
Quick Load/Unload  
Sample Tray**

Call  
858-536-5050  
for Quote

\*Patent Pending



### Specifications

#### Hardware:

- **System Footprint:** 52"W x 48"D x 72"H
- **Manipulator:** 6-Axis (X/Y, tilt, rotate, Z1 & Z2)
- **Tilt:** -40° / +40° (C-arm: tube & detector)
- **X-Ray Source:** 75kV, 90kV or 130kV
- **Board Handling:** 20" x 24" | 500mm x 600mm
- **Magnification:** >600X (based on configuration)
- **PC:** Intel/ATX mini tower w/ printer & CDRW
- **Flat Panel Display:** 19" (483mm) LCD Monitor
- **Network Ready:** Ethernet 10/100 base-T
- **Operating Voltage:** Standard 120VAC
- **Certifications:** Complies with all FDA, 21CFR Subchapter J Radiation Safety Standards. Systems have been CSA Certified.

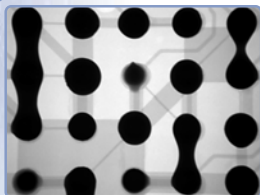
#### System/Image Processor Software:

- **Operating System:** Windows™ XP
- **Image Processor:** VIP Standard

#### Options:

- X-Ray Sources / Tube and II Z motion
- Motorized Rotation Fixture
- VIP Standard, VIP Plus Enhanced, VIPx Advanced

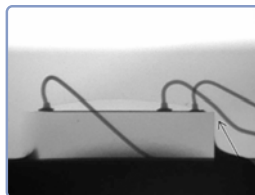
Examples



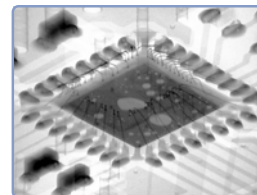
Shorts & Insufficient



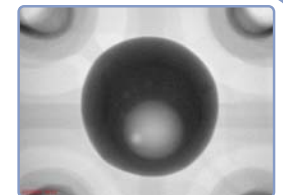
Gullwing Voiding



Bent Wire



Delamination



Inner Ball Voiding

### About FocalSpot

FocalSpot, Inc. is recognized worldwide as a leader in the design and manufacture of affordable high-quality x-ray inspection systems; providing Inspection and Rework solutions for Electronic Manufacturers worldwide. FocalSpot is also a regional distributor and value-added reseller for DEN-ON BGA/SMT rework solutions; Optilia BGA/SMT video microscopes; and First Article AOI Inspection Systems; providing sales, service and support in North/South America, Canada and Mexico.

### Insight Series - Features Comparison Table

| Insight Series X-Ray System Features Comparison Table |                       |                       |                         |
|-------------------------------------------------------|-----------------------|-----------------------|-------------------------|
| System Features                                       | Insight 75<br>FSX-675 | Insight 90<br>FSX-690 | Insight 130<br>FSX-6130 |
| <b>System Hardware</b>                                |                       |                       |                         |
| X-Ray Source                                          | 75kV                  | 90kV                  | 130kV                   |
| Magnification                                         | >200X                 | >600X                 | >575X                   |
| Spot Size                                             | 33 micron             | 5 micron              | 5 micron                |
| Resolution                                            | >30 lp/mm             | >40 lp/mm             | >45 lp/mm               |
| Field-of-View                                         | >70mm                 | >40mm                 | >45mm                   |
| Standard 120VAC Power                                 | Standard              | Standard              | Standard                |
| Standard 240VAC Power                                 | Optional              | Optional              | Optional                |
| <b>IP Computer Hardware</b>                           |                       |                       |                         |
| Flat Panel Display (Monitor)                          | 19"                   | 19"                   | 19"                     |
| Windows© XP, Operating System                         | Windows© XP Pro       | Windows© XP Pro       | Windows© XP Pro         |
| <b>Image Processor Options</b>                        |                       |                       |                         |
| VIP                                                   | Standard              | Standard              | Standard                |
| VIP Plus                                              | Optional              | Optional              | Optional                |
| VIPx                                                  | Optional              | Optional              | Optional                |
| <b>Board Handling</b>                                 |                       |                       |                         |
| Maximum Board Size                                    | 20 x 24"              | 20 x 24"              | 20 x 24"                |
| X/Y Board Manipulation                                | Motorized             | Motorized             | Motorized               |
| Tilt                                                  | Motorized             | Motorized             | Motorized               |
| Rotate                                                | Optional              | Optional              | Optional                |
| Tube-Z1                                               | Optional              | Optional              | Optional                |
| Detector-Z2                                           | Optional              | Optional              | Optional                |
| <b>Inspection Capabilities</b>                        |                       |                       |                         |
| Solder Joint Quality (BGA, Leaded)                    | ●                     | ●                     | ●                       |
| Bridging                                              | ●                     | ●                     | ●                       |
| Voiding                                               | ●                     | ●                     | ●                       |
| Opens                                                 | ●                     | ●                     | ●                       |
| Package Inspection (wire bonds)                       | ◐                     | ●                     | ●                       |
| Bare boards (Inner layers, traces, vias)              | ◐                     | ●                     | ●                       |
| Subtle Defect Inspection                              | ◐                     | ●                     | ●                       |
| Flip Chip Capable                                     | ◐                     | ●                     | ●                       |

Insight Series

