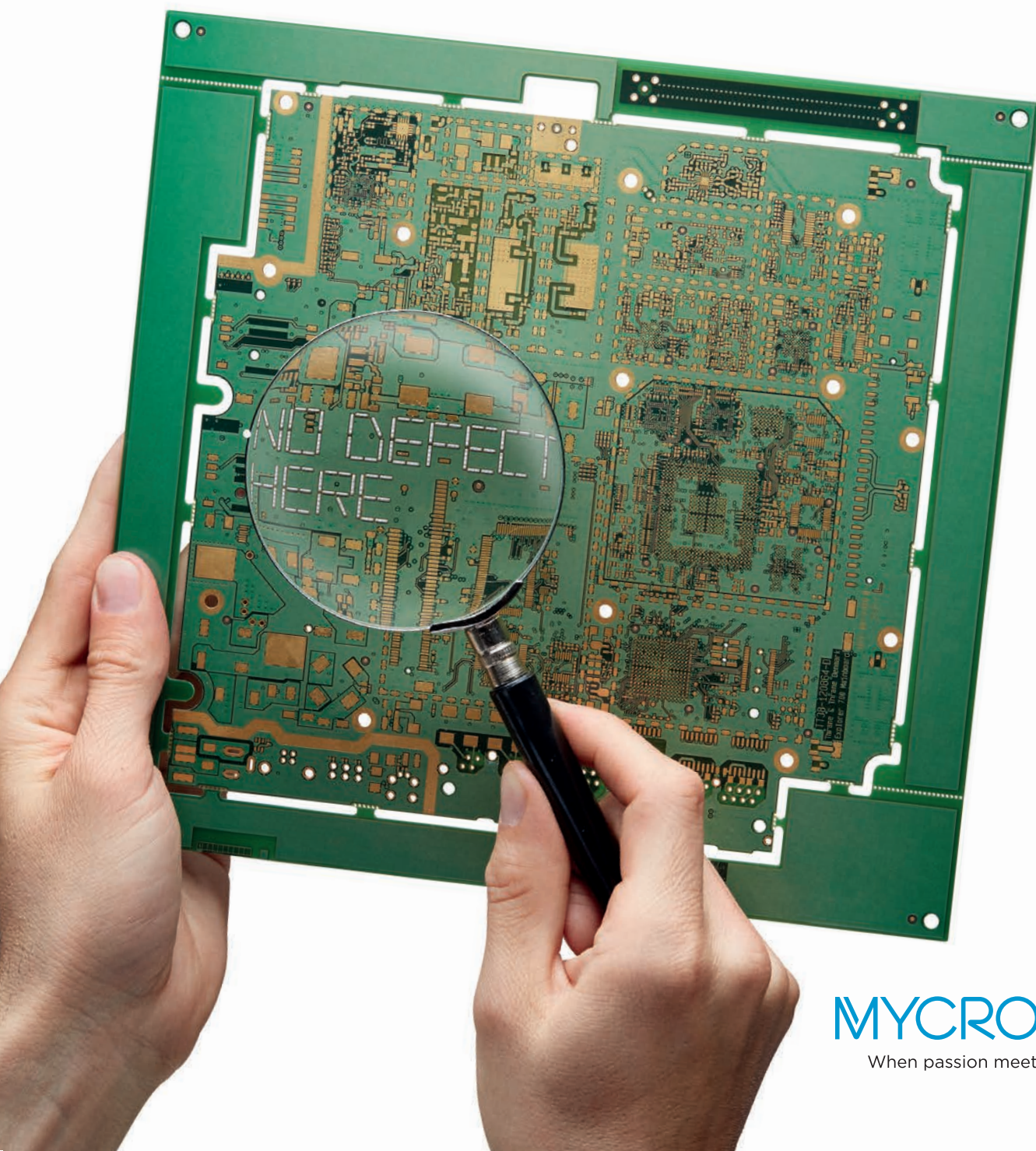
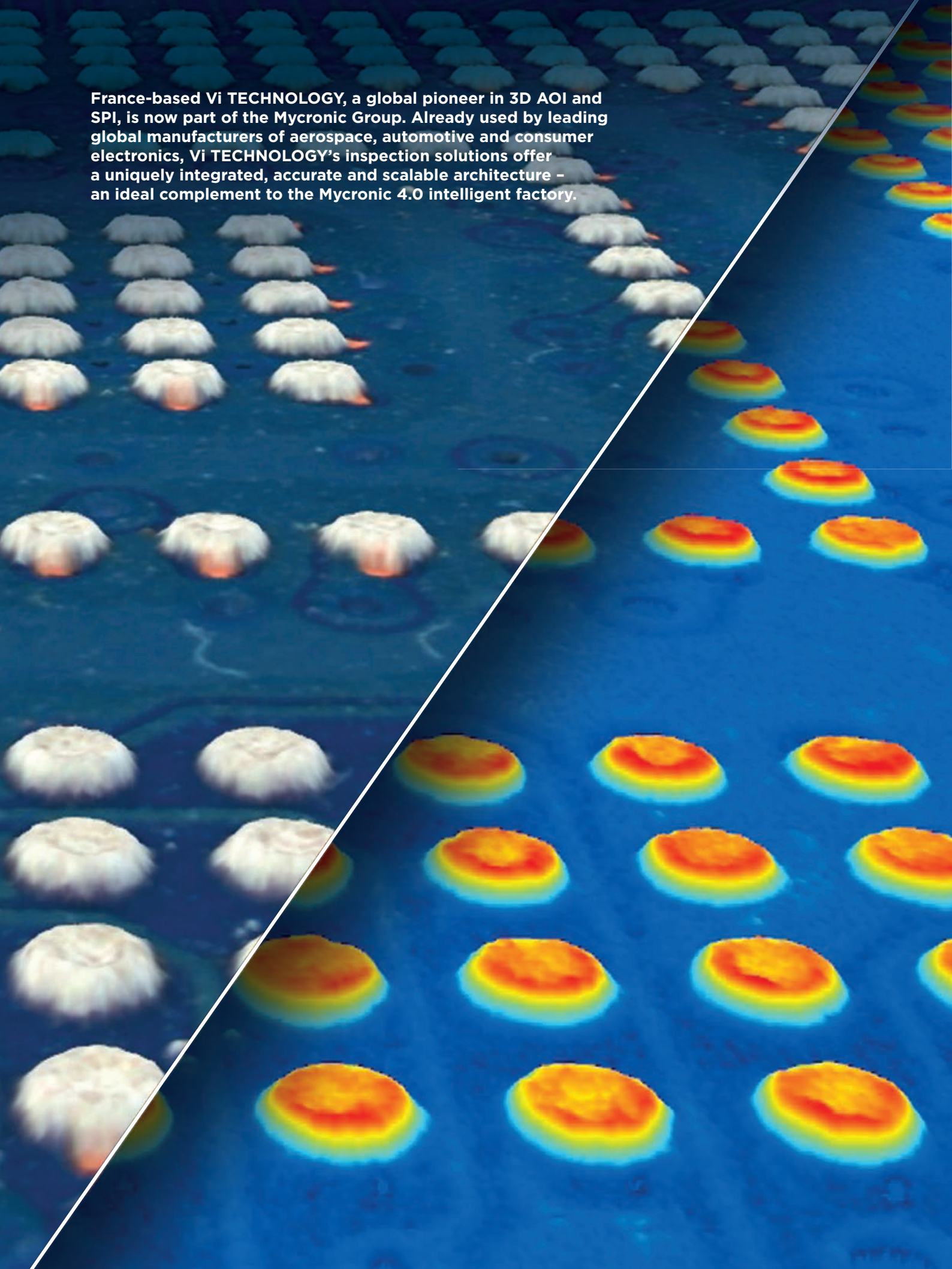


PI series 3D SPI

Accurate solder paste inspection with unprecedented simplicity





France-based Vi TECHNOLOGY, a global pioneer in 3D AOI and SPI, is now part of the Mycronic Group. Already used by leading global manufacturers of aerospace, automotive and consumer electronics, Vi TECHNOLOGY's inspection solutions offer a uniquely integrated, accurate and scalable architecture – an ideal complement to the Mycronic 4.0 intelligent factory.

Goodbye defects. **Hello solder paste perfection.**

What are the most common defects in your SMT line? And what would you save if you could catch them earlier in your process – or even eliminate them from your design altogether?

If you're like most manufacturers, the answers to these questions will likely bring you back to the solder paste printing process. Because this is where more than 61% of all SMT defects originate, according to our latest industry survey. Whether the problem is solder shorts or insufficient solder paste deposits, accurate solder paste inspection is often the most economical way to detect, predict and prevent defects before they occur.

As solder paste deposits continue to decrease in size, the value of advanced SPI analysis will only grow over time. This is precisely what makes the innovative PI Series 3D SPI system an increasingly critical part of a complete metrology solution. It allows you to measure paste volume with unmatched accuracy and unprecedented simplicity. So that you can continually improve your process and tolerance settings – and take advantage of the unambiguous real-time information you need to take your yield to new heights.

It's one more part of the Mycronic 4.0 intelligent factory, and one step closer to perfection.



PI series 3D SPI

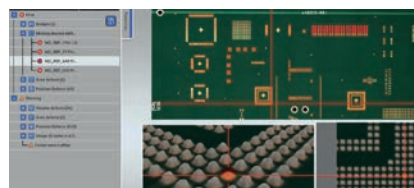
Perfect solder joints made simple

Measure paste volume with extreme precision. Improve your process and tolerance settings with automatic pad grouping. And monitor your process in real time, both online and offline. The PI series gives you highly accurate SPI data, combined with a range of smart auto-programming functions that ensure high-quality inspection regardless of operator experience.



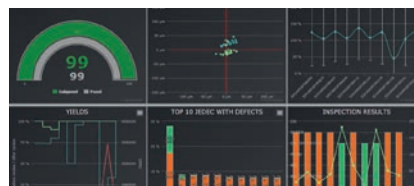
ACCURATE Z-REFERENCING TECHNOLOGY

Captures hundreds of references across an ultra-large 55 x 350 mm 3D field of view.



SIMPLE AUTO-PROGRAMMING

Ensure high-quality inspection regardless of operator experience with the industry's only auto-programming SPI.



REPEATABLE PROCESS RESULTS

Unique warp compensation delivers accurate measurements in real production environments, with no false calls.



Clear and simple inspection control

Thanks to a natural touchscreen interface, the PI Series can easily be set up and run by anyone with just an hour's training. This intuitive design allows any operator to quickly access the system's full capabilities with no additional calibration or fine-tuning.

- **Intuitive touchscreen interface** makes all system capabilities easy to access and navigate, with no need for keyboard or mouse inputs.
- **Automatic calibration** is carried out with the touch of a button.
- **Consistent performance over time** is ensured by embedded geometric and radiometric calibration tools, which also guarantee machine-to-machine portability.



Effortless auto-programming

The industry's only auto-programming SPI system, the PI Series requires only a single bare board scan to accurately program itself. No fine tuning. No manual calibration. And no unnecessary training times needed to bring programmers or operators up to speed.

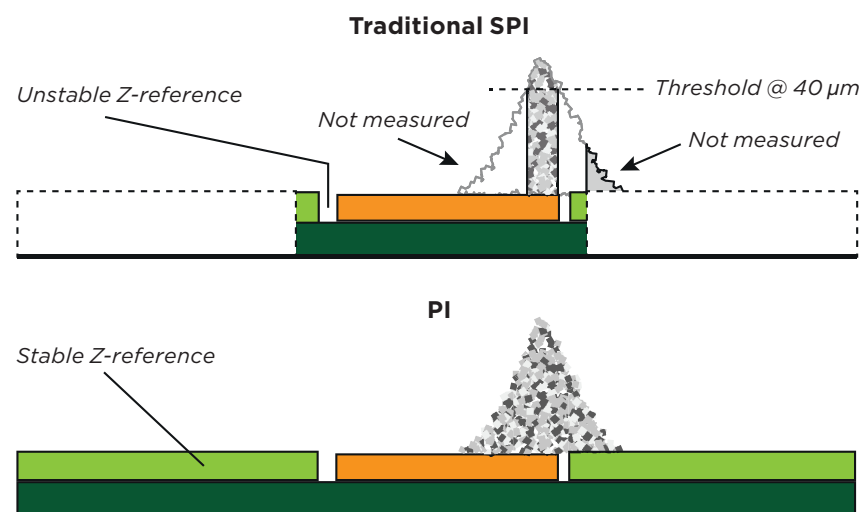
- **Let the system program itself** with just one bare board scan.
- **No fine tuning required** due to smart auto-programming functions. Performance remains consistent regardless of color or finish variations, making the PI Series ideal for new product introductions.
- **Simultaneous glue dot inspection** capabilities, in addition to paste inspection.



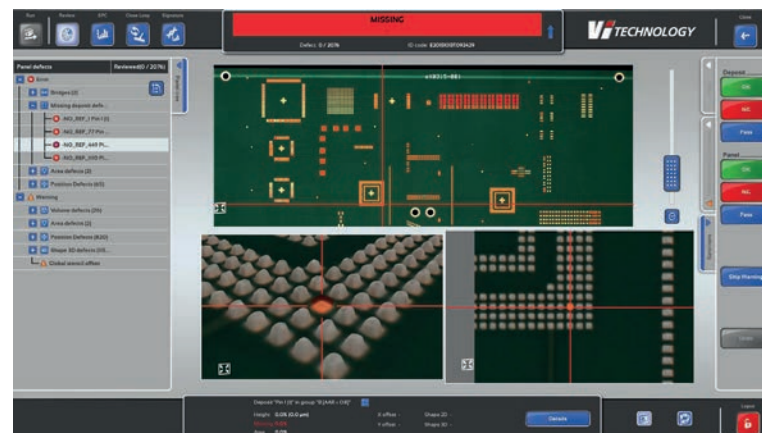
Measure paste volume with unmatched accuracy

The PI Series' patented Z-referencing technology captures hundreds of references across an ultra-large 3D field of view, giving you unprecedented accuracy for even the smallest paste volume measurements.

- **Highly accurate paste volume measurement** using a patented Z-referencing technology that overcomes the limitations of traditional SPI systems.
- **Superior accuracy in real production environments, with no false calls** due to a unique warp compensation enabled by multi-frequency, multi-pattern moiré, combined with patented dual Z-axis motion.
- **Unambiguous information for defect classification** with high-resolution textured 3D images.



Traditional SPI: The typical threshold for a traditional SPI is usually 40 micrometers (μm), meaning height and volume under this limit goes unmeasured. As a result, volume is underestimated on small pads, precisely when you need to know how much paste is truly deposited.

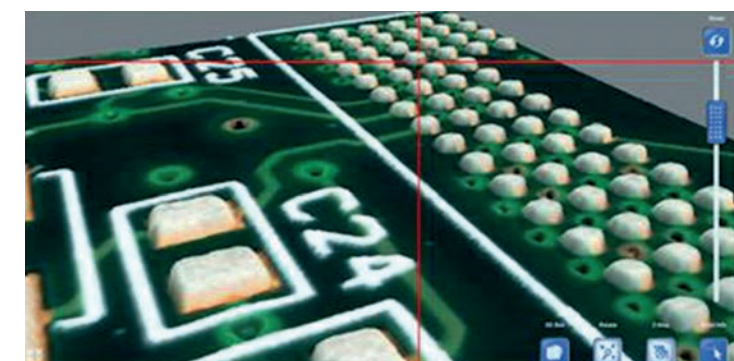


PI Series: PI's patented Z-referencing method leverages the entire textured 3D board information, rather than just cropped images around the pads, to define a stable and accurate Z-reference.

Take control over your print process

PI's automatic pad grouping by AAR (Area Aperture Ratio) allows you to continuously improve your process and set tolerances independently of products. Together with the SIGMA Link software suite, this means you can transform your inspection data into actionable process information.

- **Improve your process** and set tolerances independently of products with meaningful automatic pad grouping by AAR.
- **Gain new insights into your process** with extra-large review images in textured 3D for easy diagnostics.
- **Monitor your process in real time** with SIGMA Analysis, which helps you report and monitor your progress with useful trend analyses.



Robust design,
embedded guide,
easy maintenance



SPECIFICATIONS		
	PICO	PRIMO
Field of view (FOV)	160 mm x 55 mm	350 mm x 55 mm
Maximum PCB dimension	533 mm x 533 mm	762 mm x 533 mm
Inspection speed	3 s per FOV	
Measurements	Height, Area, Volume, Offset, Bridging, Shape 2D/3D, Coplanarity	
Defect types	Insufficient / Excessive / Missing paste, Bridge, Shape 2D/3D	
Minimum paste size	150 µm x 150 µm	
Minimum paste distance	100 µm	
Height accuracy	< 2 µm on Certification target	
Height repeatability	< 1 µm @ 3σ on Certification target	
Volume repeatability	< 3% @ 3σ on PCB	
Gage R&R	< 10% (Tolerance : +/- 50% at 6σ on 01005)	

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