ASMPT enabling the digital world

Process Lens

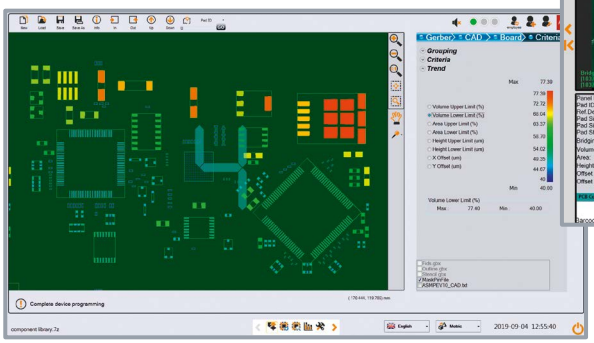
Measure what matters – with exceptional precision, speed and stability

Process Lens
MORE PRECISION, SPEED, AND INVESTMENT PROTECTION

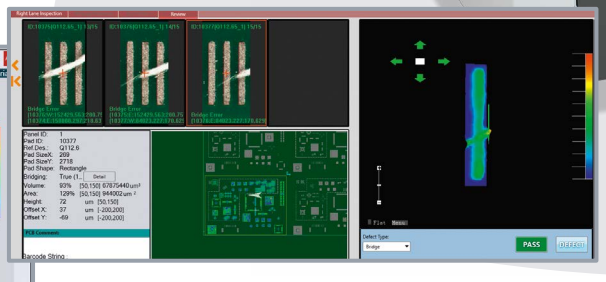
Process Lens is a highly precise, flexible, state-of-the-art 5D inline SPI system with on-the-fly 3D compensation of PCB warping. It is fast enough even for inline measurements with dual conveyors. Thanks to its smart algorithms, the Process Lens understands what it measures and knows how to interpret the results accordingly. It measures what matters: solder paste deposits, glue, contaminations, dust, and more – all while suppressing any measurement noise generated by the circuit board.

The choice is yours: the Process Lens has a DLP chip with 8 million individually controllable micromirrors and a scanning field of 30 x 30 millimeters, while the Process Lens HD features 20 million micromirrors and a scanning field of 50 x 50 millimeters. The Process Lens HD is up to 70 percent faster than traditional systems while maintaining a very high measurement accuracy, but with 80 percent fewer false calls. It also offers full flexibility, where users can switch between high-speed and high-resolution modes through software.

The bottom line: more stable printing processes, higher throughput rates, and significantly better yields. Unmatched and unbeatable by the competition – compare for yourself.



Fast programming: Component library recommends inspection criteria



2D and 3D images of solder paste deposits

The future awaits
Smart process optimization that's easy to retrofit

Absolutely unique: With the optional WORKS Process Expert software you can upgrade your 5D SPI to the world's first self-learning inline expert system for optimizing your printing process.

The **WORKS Process Expert** printing solution optimizes your printing process proactively with virtual prints, trend analyses and direct DEK printer control – optionally fully autonomously with no operator assists whatsoever. The expert software learns from each print cycle 24/7, 365 days a year, and never forgets a detail.

NEW: The new version of the WORKS application Process Expert in combination with end-of-line AOI systems now also supports operators in optimizing the placement process.

TOTALLY UNIQUE
Process Lens

OPEN AUTOMATION

With its many interface standards, the Process Lens fits seamlessly into ASMPT's modular and vendor-independent concept Open Automation for the Intelligent Factory.

The most innovative measurement system

Moiré phase shifting with 8 or 20 million digitally controllable micromirrors

Maximum accuracy

Precise X/Y positioning, combined 2D/3D measurements and on-the-fly compensation of board warpage

Shadow-free

Multiple light sources

Comprehensive

Visualization of position, area, height, volume and shape of all solder deposits; checks for coplanarity and bridging

Maximum throughput

Inline measurement in dual conveyor mode

Easy operation

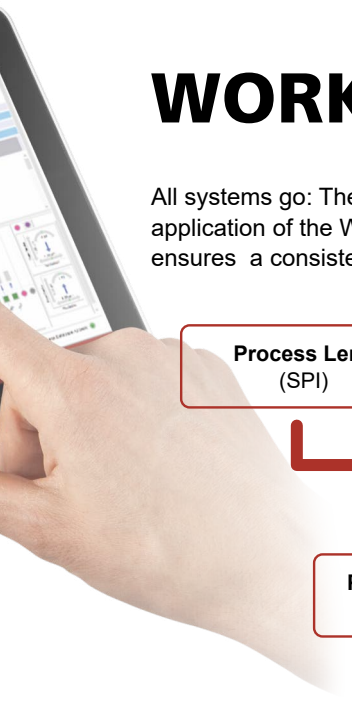
Quick programming with component library and recommendations of inspection criteria

Investment protection

Software-upgradeable to WORKS Process Expert inline expert system for autonomous process optimization

WORKS

All systems go: The WORKS Process Expert application of the WORKS Software Suite ensures a consistently stable printing process.



Process Lens (SPI) + **WORKS Process Expert** (Software) + **DEK** (Printer)

Printing module for automated process optimization (Expert system)

More about Process Lens

Process Lens / Process Lens HD

Machine type	Process Lens	Process Lens HD
System	**Description**	
DLP chip	8 million micromirrors	20 million micromirrors
Camera system	4 MP / Field of view 30 × 30 mm	25 MP / Field of view 50 × 50 mm
Pixel size	15 µm × 15 µm	10 µm × 10 µm (high-resolution mode) 20 µm × 20 µm (high-speed mode)
Vertical resolution	0.37 µm	
Height accuracy with calibration target	≤ 1 µm	
Paste height (max.)	1,000 µm	
Paste deposit size	90 µm × 130 µm	70 µm × 125 µm (high-resolution mode) 130 µm × 200 µm (high-speed mode)
X/Y gantry accuracy	± 12.5 µm (at ± 3σ)	
Inspection speed	Up to 30 cm²/s	90 cm²/s (high-speed mode)
Measurement	Shadow-free	
Solder paste measurements	Volume, area, height, X- and Y-offset, shape, bridging, coplanarity	
PCBs		
Dimensions – single lane	50 × 50 mm to 610 × 560 mm (L × W)	50 × 50 mm to 540 × 560 mm (L × W)
Dimensions – dual lane (standard)	50 × 45 mm to 375 × 260 mm (L × W)	
Dimensions – dual lane (in single-lane mode)	50 × 45 mm to 375 × 460 mm (L × W)	
Thickness	0.5 mm to 4.5 mm	
Minimum edge clearance	3 mm	
Maximum weight	3 kg	
Maximum PCB warpage compensation range	-6.5 mm to +6.5 mm	
Conveyors		
Loading/unloading time – single lane	< 2.5 s	
Loading/unloading time – dual lane	0 s	
Machine-to-Machine communication	IPC-SMEMA-9851, IPC-HERMES-9852	
Machine dimensions		
Length × Width	1,130 × 1,300 mm	
Height (conveyor height: 950 mm)	1,600 mm	
Weight	780 kg	

ASMPT

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