ASC International

Available in 3 Models:

SP3D
VM150
VM450

BGA Package

VisionPro

VisionPro Series
3D SOLDER PASTE INSPECTION

VisionPro is the latest in ASC International's line of class leading 3D solder paste inspection systems. *VisionPro* incorporates the most advanced, rapid 3D inspection technology into a new vibration free platform engineered for performance. Designed with feature rich software including one click measurements, real-time SPC run charts, customized data reports and onboard work instructions… *VisionPro* is the most cost effective, user friendly and production oriented SPI system available in the industry today. Building on more than 20 years of business and more offline installations worldwide than all other current manufacturers combined, you can count on ASC International as your long term SPI solution provider.

System Features:
Best in Class Gage R&R - (ANOVA Study) • Best in Class Accuracy
Real-Time Data Collection with SPC • Customized Data Reports • Online Work Instructions
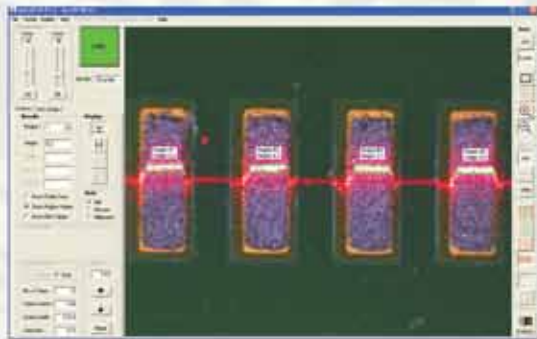**One Click Automated Measurement of Height, Width, Area and Volume Rapid High Resolution 3D Sensor Technology**
Wide Range of Measurement Applications Such as Solder Paste, Adhesives, Thick Film, Grease, and More…

VisionPro - Light Years Ahead

LaserVision SP3D

The **LaserVision SP3D** combines laser measurement accuracy with Automatic Data Collection (ADC) for real-time control of SMT stencil printing process. With its Windows® XP/7 OS and service free USB interface, the **SP3D** is easy to learn and operate, making it the most cost effective SPI solution for the SMT manufacturer concerned with improving printing quality and production yields.

System Features:
- Intuitive - Easy to Learn User Interface
- Accurate and Repeatable Measurements of Height, Width, Area and Volume
- Excellent 3D Graphics for Qualitative Analysis
- Fully Integrated Real Time SPC Run Charts and Histograms
- Customized Data Reports with Data Tag Traceability
- 4 Unique and Flexible Operating Modes
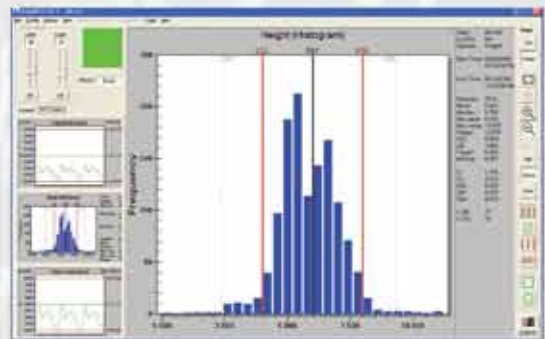- Simple USB Interface for Service Free Maintenance

System Includes:
- Windows® XP Pro / Windows® 7 OS
- Dell 2.5+ GHz CPU with 20"+ LCD Monitor
- High Resolution Color CMOS Camera and Class II Laser
- Large Anti-Static Work Surface
- Hardware / Software Reference Manuals
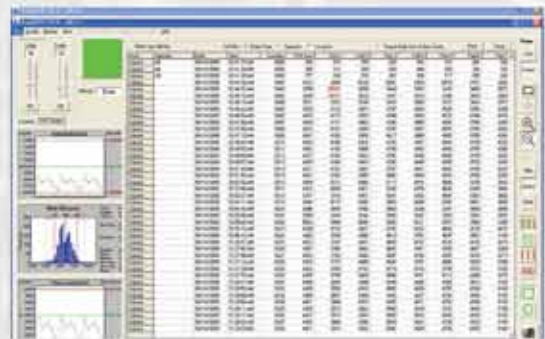- 12 Month Warranty with Free Online Technical / Training Sessions

Options:
- Siemens® Criterion SPC Software for Advanced Data Collection and Analysis
- Manual X-Y Stage with Board Fixture
- NIST Calibration Tool
- Laser Scanning Module - 3D Profiles
- Large FOV Sensor
- Extended Warranty

Automated Measurements

To obtain automated measurements on the **SP3D**, position the circuit board under the system's laser-based vision sensor to the desired location. Simply click the green run button to automatically calculate the solder paste height, width, area and volume. Automated measurements reduce the errors associated with operator to operator variations.
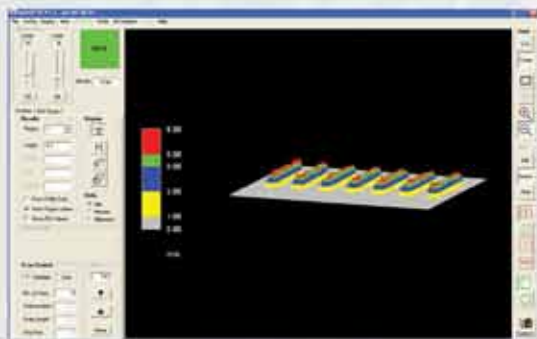
3D Scanning Laser

The **SP3D's** optional laser scanning feature provides 3D profiling capabilities along with added accuracy and repeatability due to increased data acquisition. This feature also provides a second layer of analysis to establish proper corrective actions based upon qualitative defect attributes.

Onboard SPC Features

Real Time SPC Charts


Customized Data Reports

The onboard SPC software is a powerful tool that helps operators control the critical stencil printing process. Data collected by the **SP3D** is instantly charted by the integrated SPC software. Calculations crucial to the printing performance are managed by the following information:
- User Defined LSL, Target and USL
- X-bar / R and Histogram Charting
- Min / Max / Median Values
- Cp / Cpk / Cr and Lower Z Values

VisionMaster 150/450

The **VisionMaster 150/450** system is sophisticated, 3-dimensional technology coupled with an intuitive Windows® XP/7 interface and packaged in a rugged, bench-top system designed for the electronics production floor. With only a few minutes of training, an operator can perform accurate 3D measurements of solder paste pads, BGA's and many other PCB features. The completely automatic measurement process eliminates operator errors and offers excellent measurement repeatability. This makes the **VisionMaster 150/450** an exceptional value for the electronics manufacturer concerned with improving production yields.
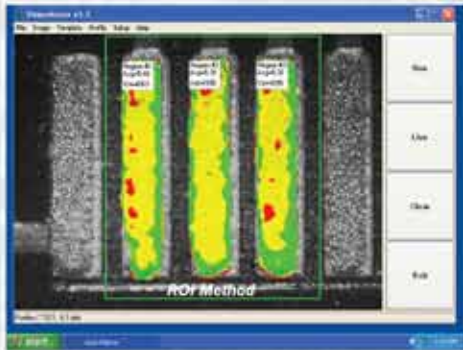
Automated Measurements

To obtain measurements on the **VM150/450**, position the circuit board under the system's sensor to the desired location. Use manual, semi-automatic or full automatic mode to measure any of seven solder paste characteristics.
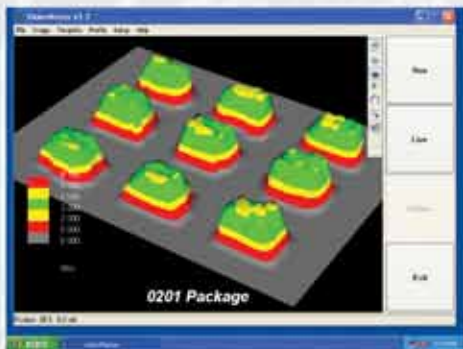
3D Color Profile Analysis

The **VM150/450** allows operators to obtain 3D color profiles for fast and accurate paste analysis. Operators may use these profiles to help them determine what corrections are needed in their solder paste printing process, thereby reducing down time and the high cost of rework.

System Features:
- Intuitive - Easy to Learn User Interface
- The Most Advanced True 3D Sensor Technology
- Best in Class Gage R&R (ANOVA Study)
- Measures 7 Distinct Charactersics Including Height, and Volume
- Excellent 3D Graphics for Qualitative Analysis
- Fully Integrated Real Time SPC Run Charts and Histograms
- Customized Data Reports with Data Tag Traceability
- 4 Unique and Flexible Operating Modes
- Simple USB Interface for Service Free Maintenance

System Includes:
- Windows® XP Pro / Windows® 7 OS
- Dell 2.5+ GHz CPU with 20"+ LCD Monitor
- High Resolution Color CMOS Camera
- Large Anti-Static Work Surface
- Hardware / Software Reference Manuals
- 24 Month Warranty with Free Online Technical / Training Sessions

Options:
- Siemens® Criterion SPC Software for Advanced Data Collection and Analysis
- Manual X-Y Stage with Board Fixture
- NIST Calibration Tool
- Large FOV Sensor
- Extended Warranty

Advanced Defect Analysis

The optional Siemens® Criterion SPC software provides advanced data collection and defect analysis. Data collected is instantly charted by the integrated SPC software. Calculations crucial to the printing performance are managed by the following information:

- User Defined LSL, Target and USL
- X and Moving Range
- X-Bar and Sigma
- X-Bar and Range
- Histograms
- P Chart, np chart, c chart and u chart
- Pareto, Weighted Pareto for Defects and Corrective Actions
- Variance and standard deviation
- Skewness, Kurtosis and Chi-squared for Goodness of Fit
- Min., Max. and Median values
- Cr, Cp, Cpk and lower Z values

System Specifications
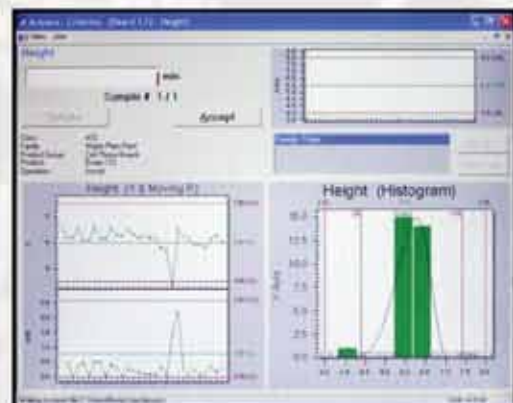
	SP3D	VisionMaster 150	VisionMaster 450
Maximum Object Thickness	5.1 cm (2.0 inches)	5.1 cm (2.0 inches)	5.1 cm (2.0 inches)
Standard Work Surface (W x L)	41 x 53 cm (16 x 21 in.)(Custom Size Avbl.)	41 x 53 cm (16 x 21 in.)(Custom Size Avbl.)	41 x 53 cm (16 x 21 in.)(Custom Size Avbl.)
Throat Depth (Sensor to Rear support)	38 cm (15 Inches)	38 cm (15 Inches)	38 cm (15 Inches)
System Computer	2.5 ghz, 1.0 gb ram, Windows XP / 7	2.5 ghz, 1.0 gb ram, Windows XP / 7	2.5 ghz, 1.0 gb ram, Windows XP / 7
Electrical Requitements	100 - 240 VAC, 50 - 60 Hz, 2 Amps	100 - 240 VAC, 50 - 60 Hz, 2 Amps	100 - 240 VAC, 50 - 60 Hz, 2 Amps
Ambient Operating Tempurature	5 to 38 C (40 to 100 F)	5 to 28 C (40 to 82 F)	5 to 28 C (40 to 82 F)
Ambient Operating Humidity	<90 % Non Condensing	<90 % Non Condensing	<90 % Non Condensing
System Weight	36 Kg (80 Lbs)	36 Kg (80 Lbs)	36 Kg (80 Lbs)
System Weight (CRATED)	59 Kg (130 Lbs)(Not Including PC and Monitor)	59 Kg (130 Lbs)(Not Including PC and Monitor)	59 Kg (130 Lbs)(Not Including PC and Monitor)
Measurement Capability	Height,Volume,Area,Width, Length, 3D Defect Analysis	Height, Volume, Area, Width, Length, 3D Defect Analysis	Height, Volume, Area, Width, Length, 3D Defect Analysis
SPC Charting/ Data Reports	Integrated	Integrated	Integrated
Work Instructions	Built In	Built In	Built In

Sensor Specifications

|	SP3D	VisionMaster 150	VisionMaster 450
Measurement Principal	Laser Triangulation	3D Phase Shift Moiré	3D Phase Shift Moiré
Camera(Pixel)	1280 x 1024	640 x 480	1280 x 1024
Lateral Resolution	3.5um (.14 mils)	4.3um (.1 mils)	6.8um (.27 mils)
FOV Size	4.8mm x 3.6mm (186 mils x 142 mils)	2.8mm x 2.1mm (110 mils x 83 mils)	8.7mm x 6.2mm (343 mils x 242 mils)
Z Resolution	.25um (.01 mils)	.36um (.014 Mils)	.48um (.019 Mils)
Measurement Range	2.5mm (100 mils)	366um (14.4 mils)	488um (19.2 mils)
Illumination	Led White Light with Laser	Halogen Based White Light	LED Based White Light

Inspection Performance

	SP3D	VisionMaster 150	VisionMaster 450
Inspection Speed	60 frames/sec.	1 Second FOV 3D	.3 Seconds FOV 3D
Static Repeatability	2.5um (.1 mil)	1um (.04 mils)	1um (.04 mils)
Gage R & R (+/- 50% tolerance on PCB)	<10%	<<10%	<<10%
Height Accuracy on cal target	2um (.8 mils)	1um (.04 mils)	1um (.04 mils)
Minimum Paste Deposit Size (X,Y)	127um (5 mils)	51um (2 mils)	51um (2 mils)

Optional Large FOV SP3D System

FOV	25mm x 17.9mm (1.0 x .7 inches)
Resolution	4um (.17 mil)
Camera	CMOS Color Camera 10Mp
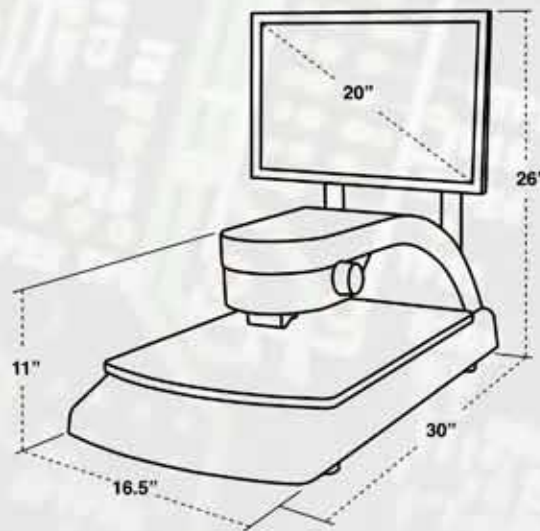
VisionPro - Light Years Ahead

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