

# ClearVu™ Vision

## Programmable Zoom & Focus Vision System

### DESCRIPTION

The Programmable Zoom and Focus camera allows the vision system to accurately align substrates with multiple levels and very small fiducials. The highest accuracy is achieved with ClearVu™ Vision due to the high magnification that can be used during alignment.



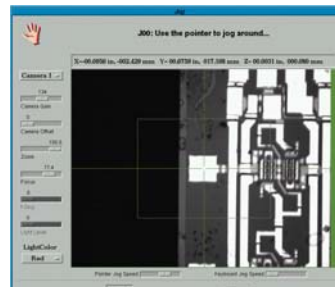
Multi-Axis Illumination

### EQUIPMENT

ClearVu™ Vision can be mounted to the GPD Global® MAX Series and DS Series™ dispense platforms. ClearVu™ Vision is recommended for applications where high precision is a must.

Using the fiducial library within GPD Global®'s FLOWare® software, parameters for each fiducial type are stored for later program recall. During program operation with ClearVu™ Vision, many parameters can be adjusted on the fly: Zoom, Focus, Illuminator Color and Intensity, as well as camera gain and offset.

FLOWare® software also allows the operator to define separate parameters for visual inspection once a process has been completed. Inspection parameters can be set so an operator may view a larger area of the board at a lower magnification and adjust display parameters so they are appealing to visual inspection. Additionally, the standard FLOWare® software material library can set camera parameters for a specific material, which makes programming varieties of processes a snap.



0.005 inch Pad

GPD Global® offers additional features that are compatible with ClearVu™ Vision making it even more versatile across a wide array of substrates and applications. Some of those features are Illuminator Color Control, Illuminator Intensity Control, Multi-Axis illuminator, Dark Field Illumination, Backlit Auto Calibration Station, and the Impression Pad Calibration Station.



ClearVu™ Vision on a MAX Series Dispenser

Field of View at Zoom Levels				
Zoom Level	Field of View Area at 2.25" (57 mm)		Pixel Resolution	
	inches	mm	inches	mm
0%	0.480 x 0.450	12.2 x 11.4	0.0008	0.024
25%	0.350 x 0.260	8.9 x 6.6	0.0005	0.014
50%	0.180 x 0.135	4.6 x 3.4	0.0003	0.007
75%	0.090 x 0.065	2.3 x 1.7	0.0001	0.003
100%	0.055 x 0.040	1.4 x 1	0.0001	0.002

Depth of Field at Zoom Levels		
Zoom Level	Depth of Field	
	inches	mm
0%	0.74803	19 mm
100%	0.55118	14 mm