Specification

System	V510i XXL and V510i XLW	
System Performances	**V510i XXL**	**V510i XLW**
Inspection Functions	Missing, Offset, Skewed, Polarity, Billboard, Tombstone, Lifted/Bent Leads, Excess/Insufficient Solder, Overturn, Bridging, Wrong Part (OCV Marking), Pin Through Hole (Solderability & Pin Detection), Package Coplanarity, Lifted Lead (Height Measurement), Foreign Material Detection, Polarity Dimple Measurement	
Board & Component Level Tracebility	Camera-Read Barcodes; External Barcode Reader Configured; OCR Capability with Batch Code Logging	
System Hardware		
Operating System	Windows 10 Pro 64 bit	
Camera & FOV Size	12MP Coaxpress Camera 60x45 mm @ 15µm resolution	
Optical Resolution	Default: 15µm telecentric lens* Option: 13µm telecentric lens* Option: 8µm telecentric lens*	
3D Technologies	Phase Shift Profilometry's (PSP) Methodology with 4-way projectors	
Lighting Module	Concurrent Lighting Module	
X-Y Gantry System	Gantry Robot Systems with Linear Motor and Optical Linear Encoders	
Conveyor Width Adjustment	Auto Width Adjustment; Bottom-Up Clamping; In-line SMEMA	

PCB Dimension	**SL**	**FDL**	**Standard**
Minimum PCB Size (L x W)	50x50mm (2"x2")	50x50mm (2"x2")	50x50mm (2"x2")
Maximum PCB Size (L x W)	620x690mm (24.4"x27.2") Option: 1200x690mm (47.2"x27.2")	DL Equal: 620x325mm (24.4"x12.8") Single Lane: 620x600mm(24.4"x23.6") Option: DL Equal: 960x325mm (37.8"x12.8") Single Lane: 960x600mm (37.8"x23.6")	1321x1321mm (52"x52")
PCB Thickness	0.5mm-15mm (0.02" - 0.6")	0.5mm-8mm (0.02" - 0.3")	1.5mm-10mm (0.06" - 0.39")
Maximum PCB Weight	7kg (15.4lb) Upgradeable option: 15kg (33lb)	7kg (15.4lb)	15kg (33lb) or 25kg (55.1lb)
Top Clearance of PCB	50mm (2")	50mm (2")	50mm (2")
Bottom Clearance of PCB	70mm (2.76")	70mm (2.76")	70mm (2.76")
Panel Edge Clearance	3.5mm (0.14")	3.5mm (0.14")	5mm (0.2"), Option 10mm (0.4")
PCB Transport Height	856mm - 965mm (33.7" - 38")	856mm - 965mm (33.7" - 38")	856mm - 965mm (33.7" - 38")
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.		

Installation Specification		
Footprint		
Width	1410mm (4.6ft)	1800mm (5.9ft)
Depth	1500mm (4.9 ft)	2800mm (9.2ft)
Height	2128mm (7.0ft)	2015mm (6.6ft)
Weight	~1350 kgs	~2000kg
Electrical Supplies	100-120 V, 16A/200-240V, 8A Single Phase	100-120 V, 16A/200-240V, 8A Single Phase
Air Requirement	0.6 Mpa/85 psi	0.6 Mpa/85 psi
Software Options		
Network Offline Programming (NOLP), ViTrox Verification Tool Solution (VVTS), ViTrox Database Statistical Process (VDSPC), V-Tune, V-ONE		

** Based on system configuration.*

Specifications are subject to change.

Front View | Side View | Back View | Top View

Specification

System	V510i 4.0 and V510i DUO	
System Performances	**V510i 4.0**	**V510i DUO**
Inspection Functions	Missing, Offset, Skewed, Polarity, Billboard, Tombstone, Lifted/Bent Leads, Excess/Insufficient Solder, Overturn, Bridging, Wrong Part (OCV Marking), Pin Through Hole (Solderability & Pin Detection), Package Coplanarity, Lifted Lead (Height Measurement), Foreign Material Detection, Polarity Dimple Measurement	
Board & Component Level Tracebility	Camera-Read Barcodes; External Barcode Reader Configured; OCR Capability with Batch Code Logging	
System Hardware		
Operating System	Windows 10 Pro 64 bit	
Camera & FOV Size	Top: 12MP Coaxpress Camera Angle: 12MP Angle Camera 60x45 mm @ 15µm resolution	12MP Coaxpress Camera 60x45 mm @ 15µm resolution
Optical Resolution	Default: 15µm telecentric lens* Option: 13µm telecentric lens*	Default: 15µm telecentric lens* Option: 13µm telecentric lens*
3D Technologies	Phase Shift Profilometry's (PSP) Methodology with 4-way projectors	
Lighting Module	Concurrent Lighting Module	
X-Y Gantry System	Gantry Robot Systems with Linear Motor and Optical Linear Encoders	
Conveyor Width Adjustment	Auto Width Adjustment; Bottom-Up Clamping; In-line SMEMA	

PCB Dimension	**Standard**	**SL**	**FDL**
Minimum PCB Size (L x W)	50x50mm (2"x2")	30x30mm (1.2"x1.2")	50x50mm (2"x2")
Maximum PCB Size (L x W)	620x620mm (24.4"x24.4") Option: 810x620mm (31.9"x24.4")	DL Equal: 330x235mm (13"x9.2") Single Lane: 330x420mm (13"x16.5")	DL Equal: 330x235mm (13"x9.2") Single Lane: 330x420mm (13"x16.5")
PCB Thickness	0.5mm - 7mm (0.02" - 0.28")	0.5mm - 4mm (0.02" - 0.16")	0.5mm - 4mm (0.02" - 0.16")
Maximum PCB Weight	3kg (6.6lb)	3kg (6.6lb)	3kg (6.6lb)
Top Clearance of PCB	50mm (2")	50mm (2")	50mm (2")
Bottom Cearance of PCB	70mm (2.76")	70mm (2.76")	70mm (2.76")
Panel Edge Clearance	3.5mm (0.14")	3.5mm (0.14")	3.5mm (0.14")
PCB Transport Height	856mm - 965mm (33.7" - 38")		856mm - 965mm (33.7" - 38")
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.		

Installation Specification		
Footprint		
Width	1410mm (4.6ft)	1340mm (4.4ft)
Depth	1500mm (4.9 ft)	1500mm (4.9ft)
Height	2128mm (7.0ft)	2060mm (6.8ft)
Weight	~1350 kgs	~1100 kgs
Electrical Supplies	100-120 V, 16A/200-240V, 8A Single Phase	100-120 V, 16A/200-240V, 8A Single Phase
Air Requirement	0.6 Mpa/85 psi	NA
Software Options		
Network Offline Programming (NOLP), ViTrox Verification Tool Solution (VVTS), ViTrox Database Statistical Process (VDSPC), V-Tune, V-ONE		

** Based on system configuration.*

Specifications are subject to change.

Front View | Side View | Back View | Top View

ViTrox Technologies Sdn. Bhd. [507043-P]
746, Persiaran Cassia Selatan 3, Batu Kawan Industrial Park, 14110 Bandar Cassia, Penang, Malaysia. Tel: [+60] 4 545 9988 Fax: [+60] 4 545 9987 Email: enquiry@vitrox.com

ViTrox Worldwide Sales & Service
North America South America Europe Asia Pacific

China Division
Tel: [+86] 512 6251 9891

ViTrox USA (San Jose)
Tel: [+1] 970 481 3663

ViTrox Technologies GmbH
Tel: [+49] 1525 3666666

www.vitrox.com

[V510i 3D Series] REV04/ 08-2020

ViTrox ...innovating vision

V510i 3D Series

Advanced 3D Optical Inspection (AOI)

WHAT IS V510i 3D Series?

The next generation solutions that provide true 3D Advanced Optical Inspection (AOI) for the semiconductor line.

BENEFITS

- One click 2D+3D algorithms auto conversion.
- Expeditious programming time.
- High speed inspection and efficiency.
- High production yield, throughput and quality.
- Low ownership cost.
- Smart Factory M2M communication through V-ONE.

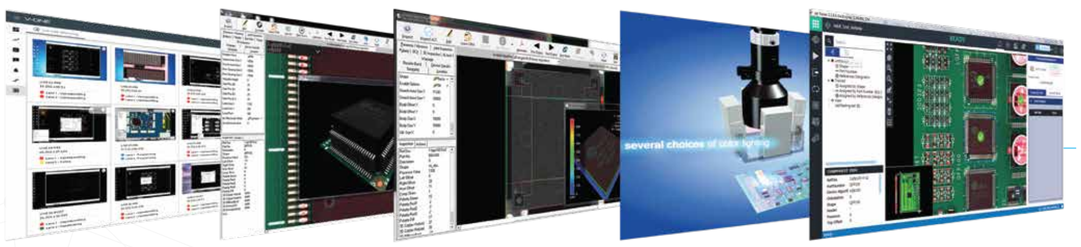
V510i 3D Series WITH V-ONE

V-ONE enabled customizable data analytics feature to help users monitor process performance and improve production quality.

Windows 10 Pro 64 bit

COVERAGE

Eligible to various M2M connectivity initiatives such as IPC-CFX, IPC-HERMES-9852, SECS/GEM, CAMX, REST and SMEMA.



Control Tower - software | 3D component - Coverage | V-tune - software | Programming

Programming

PROGRAMMING FEATURES

- Support up to 26 types of extensive industry CAD format.
- Automated Algorithm Assignment for rapid programming time and optimal parameters from predefined golden library compliance to IPC A-610 standard.
- Automated 2D to 3D Algorithm Conversion enables easy programming.

SOFTWARE FEATURES

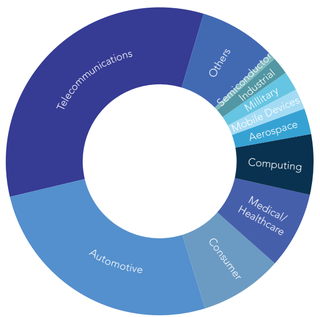
- V-library as the Centralized Library and Database management tool to ensure easy management and standardization of libraries across machines.
- Live Inspection image saving during the inspection process for easy traceability without additional inspection time.
- The Control Tower Concept to manage multiple AOI systems from remote station which aligns with the trend of Industry 4.0.

HARDWARE FEATURES

- Multi-layer and multi-angle lighting system with an additional layer of tri-color to capture a true colour image. (old image)
- Multiple high speed and high-resolution projectors in the 3D module to illuminate the fringe pattern lighting from different directions to minimize occlusion. (old image)
- The methodology of high speed multi frequency Phase Shift Profilometry (PSP) enables high productivity and high detectability.
- A wide range of vision resolution for different industries.

INDUSTRIES INCLUDE

Certified with ISO 9001: 2015, CE, and TUV, ViTrox's products are well designed and manufactured to deliver reliable and high-quality performance to fulfill the stringent requirements in various industries such as Telecommunications, Semiconductor, Automotive, Medical/ Healthcare, and more.

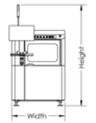


Specification

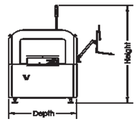
System	V510i Optimus 3D and V510i XL			
System Performances	**V510i Optimus 3D**		**V510i XL**	
Inspection Functions	Missing, Offset, Skewed, Polarity, Billboard, Tombstone, Lifted/Bent Leads, Excess/Insufficient Solder, Overturn, Bridging, Wrong Part (OCV Marking), Pin Through Hole (Solderability & Pin Detection), Package Coplanarity, Lifted Lead (Height Measurement), Foreign Material Detection, Polarity Dimple Measurement			
Board & Component Level Tracebility	Camera-Read Barcodes; External Barcode Reader Configured; OCR Capability with Batch Code Logging			
System Hardware				
Operating System	Windows 10 Pro 64 bit			
Camera & FOV Size	12MP Coaxpress Camera 60x45 mm @ 15µm resolution			
Optical Resolution	Default: 15µm telecentric lens* Option: 13µm telecentric lens* Option: 8µm telecentric lens*			
3D Technologies	Phase Shift Profilometry's (PSP) Methodology with 4-way projectors			
Lighting Module	Concurrent Lighting Module			
X-Y Gantry System	Gantry Robot Systems with Linear Motor and Optical Linear Encoders			
Conveyor Width Adjustment	Auto Width Adjustment; Bottom-Up Clamping; In-line SMEMA			
PCB Dimension	**Standard**	**FDL**	**Standard**	**FDL**
Minimum PCB Size (L x W)	50x50mm (2"x2")	50x50mm (2"x2")	50x50mm (2"x2")	50x50mm (2"x2")
Maximum PCB Size (L x W)	510x510mm (20"x20")	DL Equal: 510x250mm (20"x9.84") Single Lane: 510x420mm (20"x16.5")	460x690mm (18.1"x27.2")	DL Equal: 460x325mm (18.1"x12.8") Single Lane: 460x600mm (18.1"x23.6")
PCB Thickness	0.5mm - 4mm (0.02" - 0.16")	0.5mm - 4mm (0.02" - 0.16")	0.5mm - 7mm (0.02" - 0.28")	0.5mm - 7mm (0.02" - 0.28")
Maximum PCB Weight	3kg (6.6lb)	3kg (6.6lb)	3kg (6.6lb)	3kg (6.6lb)
Top clearance of PCB	50mm (2")	50mm (2")	50mm (2")	50mm (2")
Bottom clearance of PCB	70mm (2.76")	70mm (2.76")	100mm (3.93")	100mm (3.93")
Panel Edge Clearance	3.5mm (0.14")	3.5mm (0.14")	3.5mm (0.14")	3.5mm (0.14")
PCB Transport Height	856mm - 965mm (33.7"- 38")	856mm - 965mm (33.7"- 38")	856mm - 965mm (33.7"- 38")	856mm - 965mm (33.7"- 38")
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.			
Installation Specification				
Footprint				
Width	1060mm (3.5ft)		1060mm (3.5ft)	
Depth	1352mm (4.4 ft)		1440mm (4.7ft)	
Height	2028mm (6.7ft)		2000mm (6.6ft)	
Weight	~830 kgs		~1000 kgs	
Electrical Supplies	100-120 V, 16A/200-240V, 8A Single Phase		100-120 V, 16A/200-240V, 8A Single Phase	
Air Requirement	NA		0.6 Mpa/85 psi	
Software Options				
Network Offline Programming (NOLP), ViTrox Verification Tool Solution (VVTS), ViTrox Database Statistical Process (VDSPC), V-Tune, V-ONE				

** Based on system configuration.*

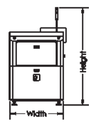
Specifications are subject to change.



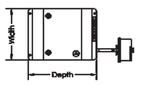
Front View



Side View



Back View



Top View