



VITROX®

compmaq
SOLUÇÕES INDUSTRIAIS



Advanced 3D Solder Paste Inspection (SPI)



Advanced Optical Inspection (AOI)



Advanced 3D X-Ray Inspection (AXI)

WWW.COMPMAQ.COM.BR



V510i 3D Series

Advanced 3D Optical Inspection (AOI)



V510i 3D Series

Advanced 3D Optical Inspection (AOI)

Designed for various size of PCB assemblies to increase production efficiency and cost savings for electronic manufacturing services, communication industry, and etc.

Key Benefits

-  High Speed Inspection with Real 3D Measurement
-  AI Powered technology for smart, easy & quality programming
-  4.0 Smart Manufacturing Ready
-  Preferred choice by world's top Contract Manufacturers
-  95% Shareable wear & tear spare parts between 3D AOI and 3D API under one similar machine
-  Competitive Cost of Ownership



Breakthrough Technologies

1 AI-Based Smart Technologies

AI Smart Programming

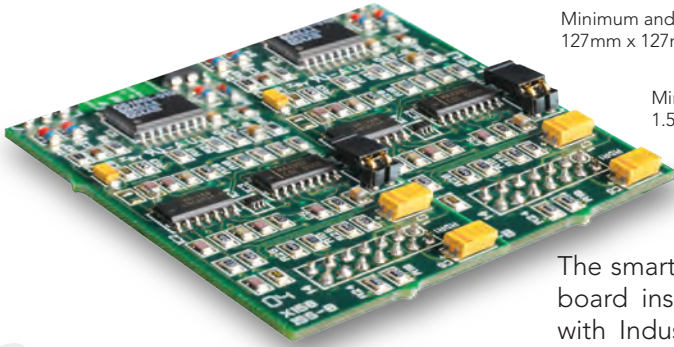
- i. Intelligent & automated programming which eliminates human skills dependency & rapidly improve the programming speed
- ii. IPC Class Compliance on Algorithm & Parameter
- iii. AI Smart programming assures algorithm quality, accuracy & consistency



AI Assist Buy Off in Repair Station

- i. With the AI Smart Assist feature, the inspection results buy off process can be done at faster speed and higher accuracy.
- ii. With AI Smart Assist, it helps to eliminate human judgment mistake.
- iii. This new innovation AI feature is fitting the Smart Manufacturing needs as Centralized WTS buy-off station.

2 Largest Board Size Platform



Minimum and Maximum Panel Size
127mm x 127mm - 1320.8mm x 1320.8mm

Minimum and Maximum Panel Thickness
1.5mm to 10mm

Maximum Panel Weight
25Kg

The smart V510i XLW AOI solution offers the world-class board inspection capabilities and software compatible with Industry 4.0 for quality-assured inspection results. With its latest capability, the largest and heaviest PCB board weighing up to 25kg and up to 1.3m x 1.3m (length x width) in size can be accommodated and inspected.

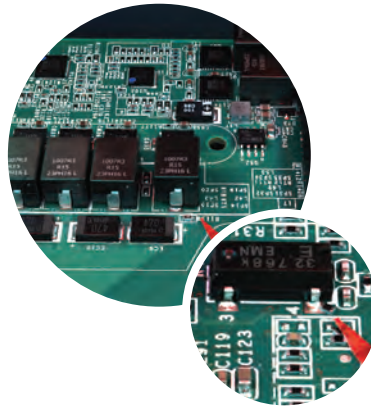


3 New Added Side Camera

i. SPECKLE Auto Mapping Technology (SAM)

Processes auto mapping on component's lead for side angle inspection.

ii. Ready for Industry 4.0
Equipped with essential communication protocol for Industry 4.0.



iii. Algorithm-Driven Inspection

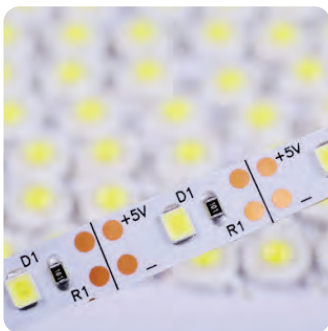
Algorithm-driven inspection in side view cameras.

iv. Adaptive Lighting

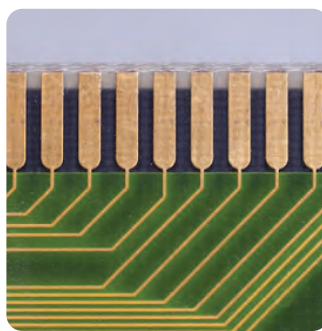
Smart lighting on required inspection direction.

4 Unique and Universal Algorithms for Unconventional Applications

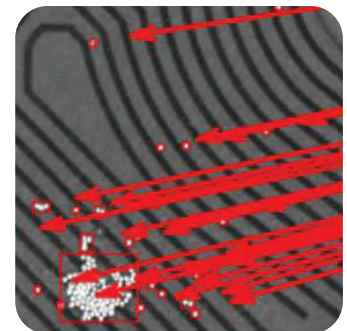
ViTrox AOI system is designed for general SMT and also capable of covering other unique inspection requirements such as Gold finger, Coordinate Measurement & Surface Defects Detection.



LED distance & skew measurement



Golden Finger Dimension measurement

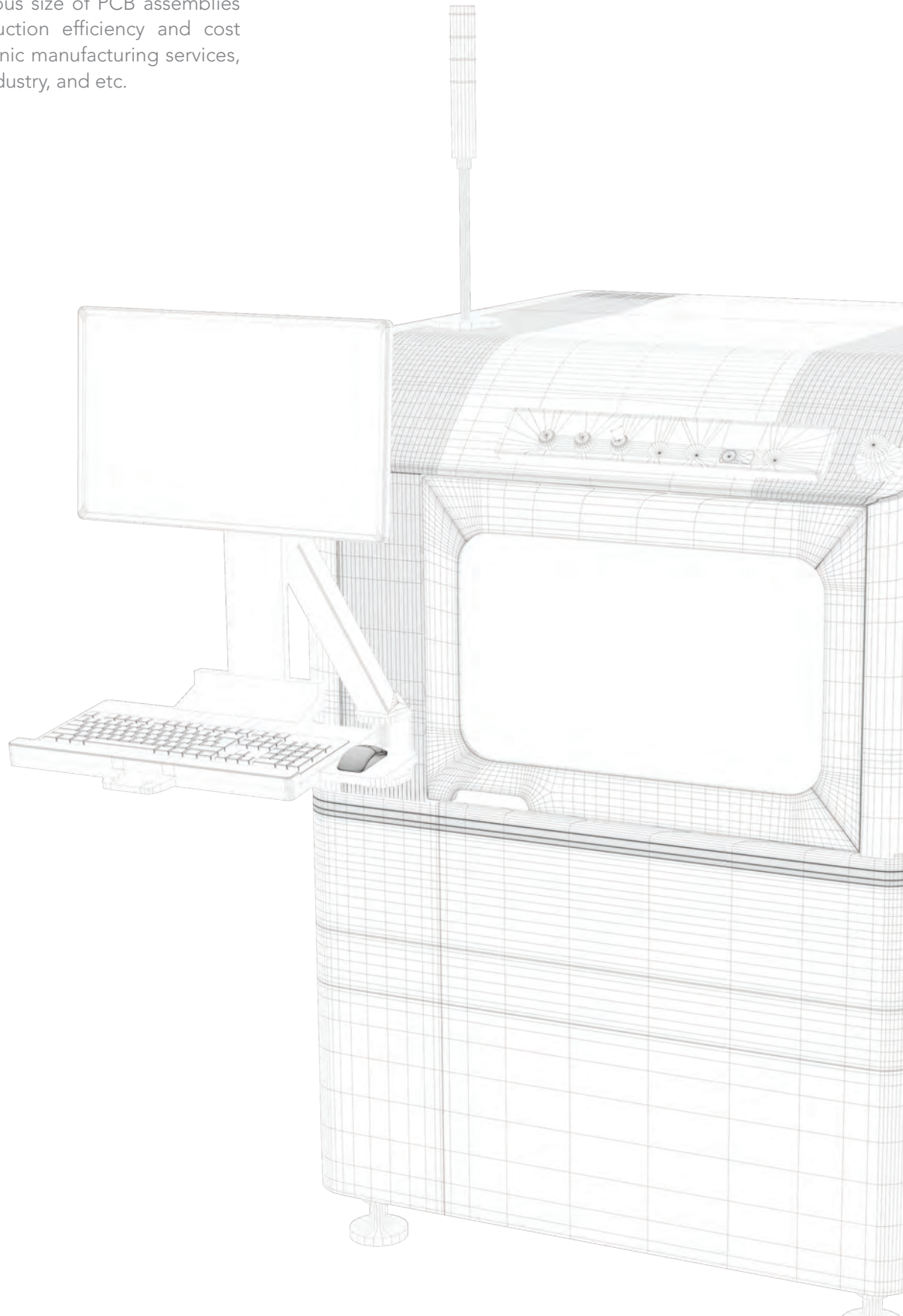


Micro contamination detection and count

V510i 3D Series

Advanced Optimus 3D Optical Inspection (AOI)

Designed for various size of PCB assemblies to increase production efficiency and cost savings for electronic manufacturing services, communication industry, and etc.



V510i Optimus 3D

System Performances

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 Traceability	Camera-Read Barcodes; External Barcode Reader Configured; OCR Capability with Batch Code Logging

System Hardware

Operating System	Windows 10 Pro (64 bit)
Optical Resolution & FOV Size	12MP Coaxpress Camera Default: 60 x 45 mm @ 15 µm telecentric lens* Option: 53 x 39 mm @ 13 µm telecentric lens* Option: 32 x 24 mm @ 8 µm telecentric lens*
Inspection Speed	12MP @ 15um resolution: 45-60cm ² /sec
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

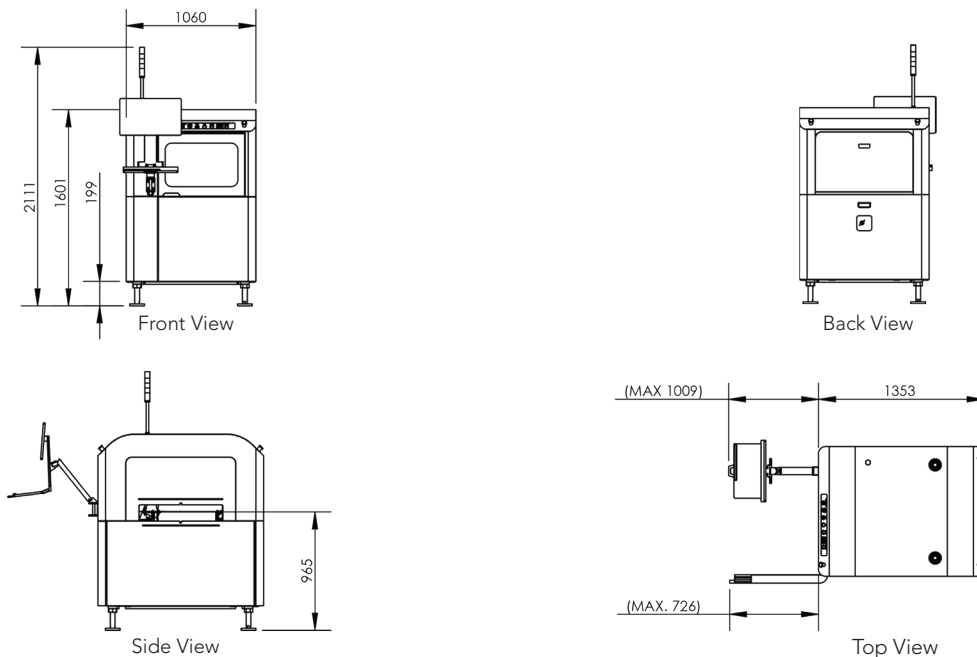
PCB Dimension	Standard	FDL
Maximum PCB Size (L x W)	510mm x 510mm (20"x20")	DL Equal: 510x250mm (20"x9.8") Single Lane: 510x420mm (20"x16.5")
Minimum PCB Size (L x W)	50x50mm (2"x2")	50x50mm (2"x2")
Maximum PCB Inspectable Area (L x W)	510mmx503mm (20"x19.8")	DL Equal: 510mmx243mm (20"x9.5") Single Lane: 510mmx413mm (20"x16.2")
Maximum PCB Thickness	4mm (0.15")	
Minimum PCB Thickness	0.5mm (0.02")	
Maximum PCB Weight	3kg	
Top clearance of PCB	50mm	
Bottom clearance of PCB	70mm	
Panel Edge Clearance	3.5mm	
PCB Transport Height	875mm - 965mm	
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.	

* Based on system configuration.

Specifications are subject to change.

Installation Specification

System footprint (Width X Depth X Height)	1060mm x 1353mm x 2111mm
Weight	~900kgs
Electrical Supplies	100-120 V, 16A/200-240V, 8A Single Phase
Air Requirement	NA



V510i XL

System Performances

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 Traceability	Camera-Read Barcodes; External Barcode Reader Configured; OCR Capability with Batch Code Logging

System Hardware

Operating System	Windows 10 Pro (64 bit)
Optical Resolution & FOV Size	12MP Coaxpress Camera Default: 60 x 45 mm @ 15 µm telecentric lens* Option: 53 x 39 mm @ 13 µm telecentric lens* Option: 32 x 24 mm @ 8 µm telecentric lens*
Inspection Speed	12MP @ 15um resolution: 45-60cm ² /sec
3D Technologies	Phase Shift Profilometry's (PSP) Methodology with 4-way projectors
Lighting Module	Concurrent Lighting Module
X-Y Gantry System	Gantry Robot System with Ball Screw, Servo Motor and Magnetic Linear Encoder
Conveyor Width Adjustment	Auto Width Adjustment; Bottom-Up Clamping; In-line SMEMA

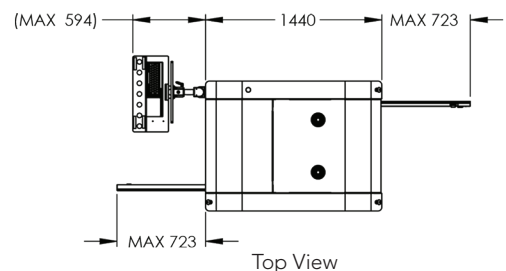
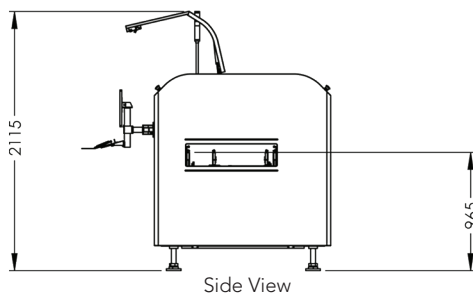
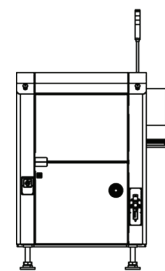
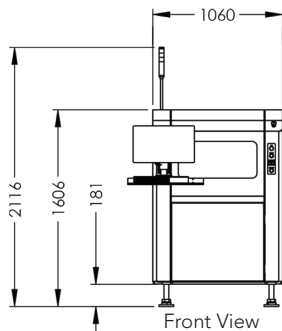
PCB Dimension	Standard	FDL
Maximum PCB Size (L x W)	460mm x 690mm (18.1"x27.2")	DL Equal: 460mm x 325mm (18.1"x12.8") Single Lane: 460mmx600mm (18.1"x23.6")
Minimum PCB Size (L x W)	50x50mm (2"x2")	50x50mm (2"x2")
Maximum PCB Inspectable Area (L x W)	460mmx683mm (18.1"x26.8")	DL Equal: 460mmx318mm (18.1"x12.5") Single Lane: 460mmx593mm (18.1"x23.3")
Maximum PCB Thickness	7mm (0.27")	
Minimum PCB Thickness	0.5mm(0.02")	
Maximum PCB Weight	3kg	
Top clearance of PCB	50mm	
Bottom clearance of PCB	100mm	
Panel Edge Clearance	3.5mm	
PCB Transport Height	875mm - 965mm	
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.	

* Based on system configuration.

Specifications are subject to change.

Installation Specification

System footprint (Width X Depth X Height)	1060mm x 1440mm x 2116mm
Weight	~960kgs
Electrical Supplies	100-120 V, 16A/200-240V, 8A Single Phase
Air Requirement	0.6 Mpa/85 psi



System Performances

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 Traceability	Camera-Read Barcodes; External Barcode Reader Configured; OCR Capability with Batch Code Logging

System Hardware

Operating System	Windows 10 Pro (64 bit)
Optical Resolution & FOV Size	12MP Coaxpress Camera Default: 60 x 45 mm @ 15 µm telecentric lens* Option: 53 x 39 mm @ 13 µm telecentric lens* Option: 32 x 24 mm @ 8 µm telecentric lens*
Inspection Speed	12MP @ 15um resolution: 45-60cm ² /sec
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 SMEMAA

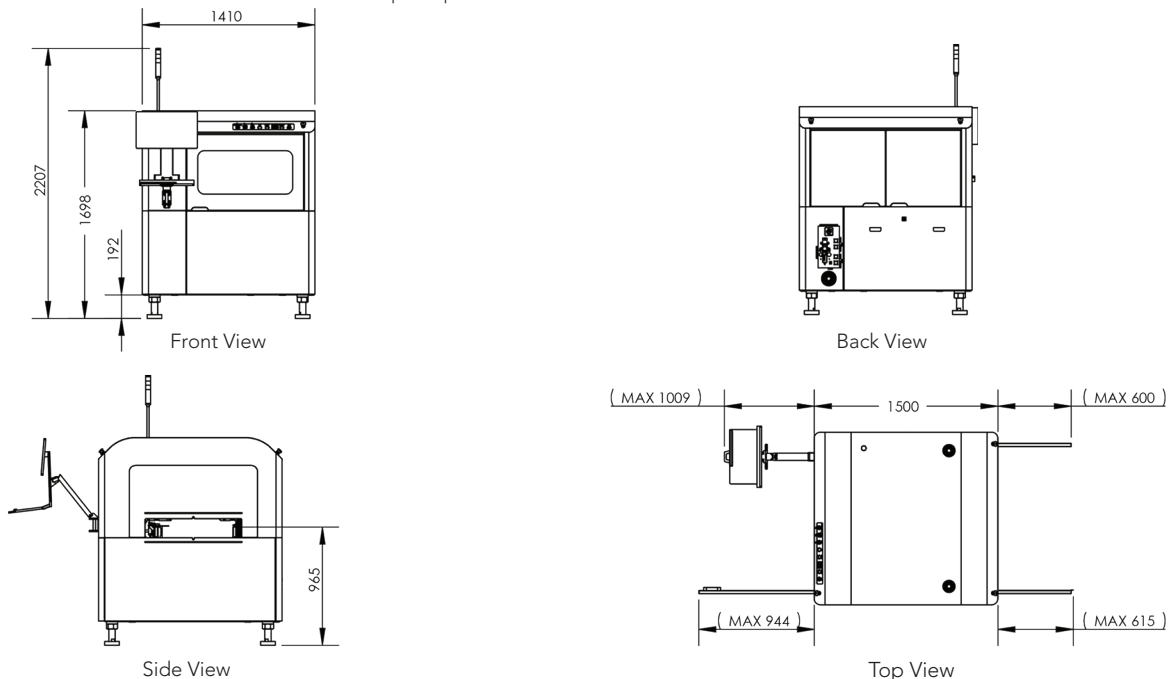
PCB Dimension	Standard	FDL
Maximum PCB Size (L x W)	620mm x 690mm (24.4"x27.2") Option: 1200mmx690mm (47.2"x27.2")	DL Equal: 620x325mm (24.4"x12.8") Single Lane: 620x600mm(24.4"x23.6") Option: DL Equal: 960x325mm (37.8"x12.8") Single Lane: 960x600mm (37.8"x23.6")
Minimum PCB Size (L x W)	50x50mm (2"x2")	50x50mm (2"x2")
Maximum PCB Inspectable Area (L x W)	620mmx683mm (24.4"x27.1") Option: 1200x683mm (47.2"x27.2")	DL Equal: 620mmx318mm (24.4"x12.5") Single Lane: 620mmx593mm (24.4"x23.3") Option:DL Equal: 960mmx318mm (37.8"x12.5") Single Lane: 960mmx593mm (37.7"x23.3")
Maximum PCB Thickness	15mm (0.59")	8mm (0.31")
Minimum PCB Thickness	0.5mm (0.02")	0.5mm (0.02")
Maximum PCB Weight	7kg (Upgradeable option: 15kg)	7kg
Top clearance of PCB	50mm	
Bottom clearance of PCB	70mm	
Panel Edge Clearance	3.5mm	
PCB Transport Height	890mm - 965mm	
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.	

* Based on system configuration.

Specifications are subject to change.

Installation Specification

System footprint (Width X Depth X Height)	1410mm x 1500mm x 2207mm
Weight	~1180kgs
Electrical Supplies	100-120 V, 16A/200-240V, 8A Single Phase
Air Requirement	0.6 Mpa/85 psi



V510i XLW

System Performances

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 Traceability	Camera-Read Barcodes; External Barcode Reader Configured; OCR Capability with Batch Code Logging

System Hardware

Operating System	Windows 10 Pro (64 bit)
Optical Resolution & FOV Size	12MP Coaxpress Camera Default: 60 x 45 mm @ 15 μ m telecentric lens* Option: 53 x 39 mm @ 13 μ m telecentric lens* Option: 32 x 24 mm @ 8 μ m telecentric lens*
Inspection Speed	12MP @ 15um resolution: 45-60cm ² /sec
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

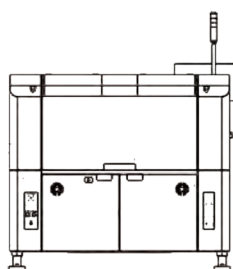
PCB Dimension	Standard
Maximum PCB Size (L x W)	1320.8mm x 1320.8mm (52" x 52")
Minimum PCB Size (L x W)	127mm x 127mm (5" x 5")
Maximum PCB Inspectable Area (L x W)	1310.8mm x 1310.8mm (51.6" x 51.6")
Maximum PCB Thickness	10mm (0.39")
Minimum PCB Thickness	1.5mm (0.06")
Maximum PCB Weight	15kg Option: 25kg
Top clearance of PCB	50mm
Bottom clearance of PCB	70mm
Panel Edge Clearance	5mm Option: 10mm for 25kg
PCB Transport Height	900mm - 965mm
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.

* Based on system configuration.

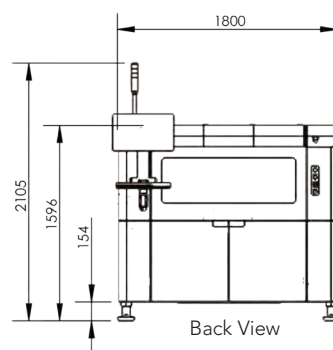
Specifications are subject to change.

Installation Specification

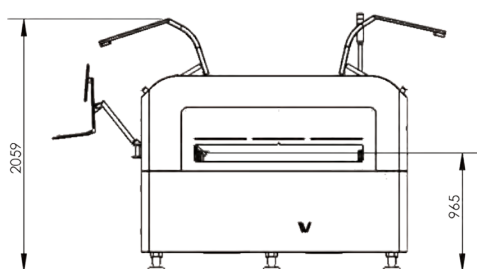
System footprint (Width X Depth X Height)	1800mm x 2174mm x 2105mm
Weight	~2000 kgs
Electrical Supplies	100-120 V, 16A/200-240V, 8A Single Phase
Air Requirement	0.6 Mpa/85 psi



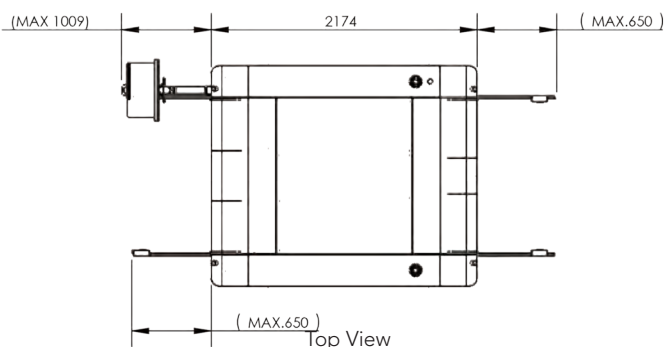
Front View



Back View



Side View



Top View

System Performances

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 Traceability	Camera-Read Barcodes; External Barcode Reader Configured; OCR Capability with Batch Code Logging

System Hardware

Operating System	Windows 10 Pro (64 bit)
Optical Resolution & FOV Size	Top: 12MP Coaxpress Camera Angle: 12MP Angle Camera Default: 60 x 45 mm @ 15 μm telecentric len* Option: 53 x 39 mm @ 13 μm telecentric lens*
Inspection Speed	12MP @ 15um resolution: 45-60cm ² /sec
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

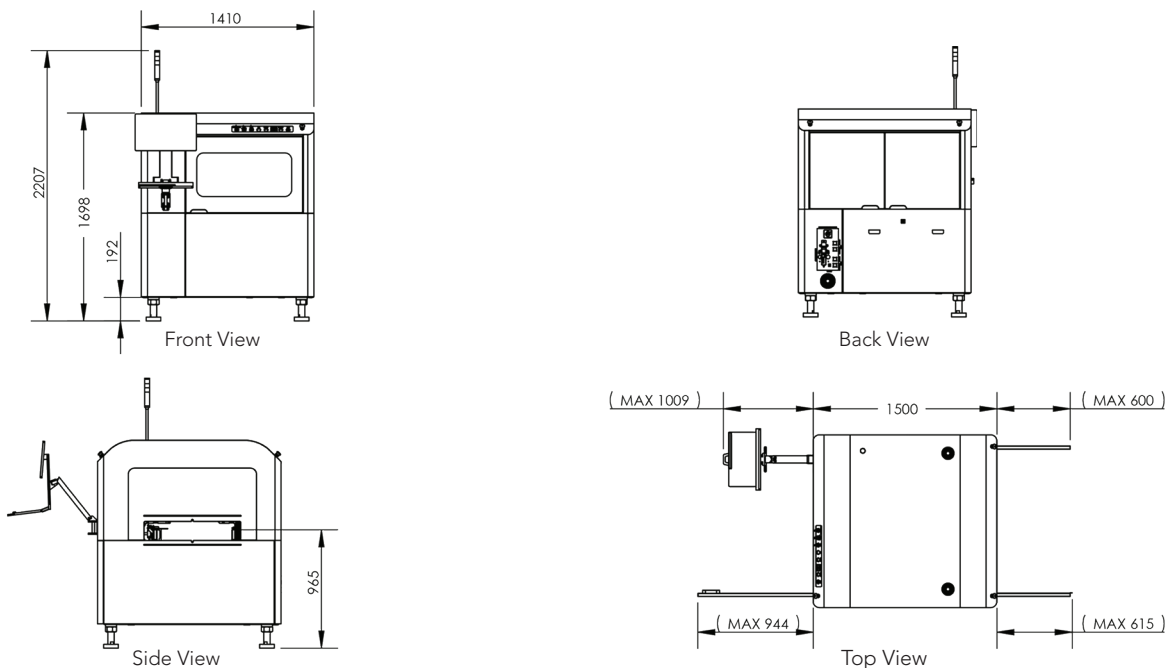
	Standard
Maximum PCB Size (L x W)	620mmx620mm (24.4"x24.4") Option: 810mmx620mm (31.8"x24.4")
Minimum PCB Size (L x W)	50x50mm (2"x2")
Maximum PCB Inspectable Area (LxW)	620mmx613mm (24.4"x24.1") Option: 810mmx613mm (31.8"x24.1")
Maximum PCB Thickness	7mm (0.27")
Minimum PCB Thickness	0.5mm (0.02")
Maximum PCB Weight	3kg
Top clearance of PCB	50mm
Bottom clearance of PCB	70mm
Panel Edge Clearance	3.5mm
PCB Transport Height	890mm - 965mm
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.

* Based on system configuration.

Specifications are subject to change.

Installation Specification

System footprint (Width X Depth X Height)	1410mm x 1500mm x 2207mm
Weight	~1350 kgs
Electrical Supplies	100-120 V, 16A/200-240V, 8A Single Phase
Air Requirement	0.6 Mpa/85 psi



V510i DUO

System Performances

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 Traceability	Camera-Read Barcodes; External Barcode Reader Configured; OCR Capability with Batch Code Logging

System Hardware

Operating System	Windows 10 Pro (64 bit)
Optical Resolution & FOV Size	12MP Coaxpress Camera Default: 60 x 45 mm @ 15 μ m telecentric lens* Option: 53 x 39 mm @ 13 μ m telecentric lens*
Inspection Speed	12MP @ 15 μ m resolution: 45-60cm ² /sec
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

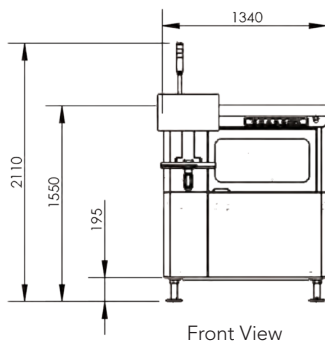
PCB Dimension	Standard	Transversal
Maximum PCB Size (L x W)	DL Equal: 330mmx235mm (13"x9.2") Single Lane: 330mmx420mm (13"x16.5")	DL Equal: 330mmx235mm (13"x9.2") Single Lane: 330mmx420mm (13"x16.5")
Minimum PCB Size (L x W)	30mmx30mm (1.2"x1.2")	50mmx50mm (2"x2")
Maximum PCB Inspectable Area (L x W)	DL Equal: 330mmx228mm (13"x8.9") Single Lane: 330mmx413mm (13"x16.2")	DL Equal: 330mmx228mm (13"x8.9") Single Lane: 330mmx413mm (13"x16.2")
Maximum PCB Thickness	4mm (0.15")	
Minimum PCB Thickness	0.5mm (0.02")	
Maximum PCB Weight	3kg	
Top clearance of PCB	50mm	
Bottom clearance of PCB	70mm	
Panel Edge Clearance	3.5mm	
PCB Transport Height	875mm - 965mm	
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.	

* Based on system configuration.

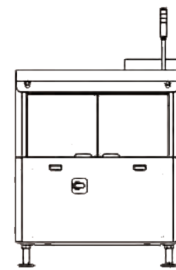
Specifications are subject to change.

Installation Specification

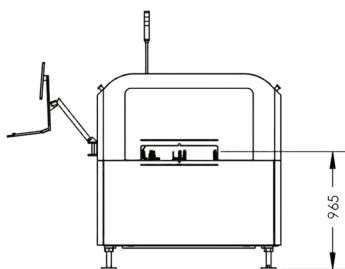
System footprint (Width X Depth X Height)	1340mm x 1500mm x 2110mm
Weight	~1200 kgs
Electrical Supplies	100-120 V, 16A/200-240V, 8A Single Phase
Air Requirement	NA



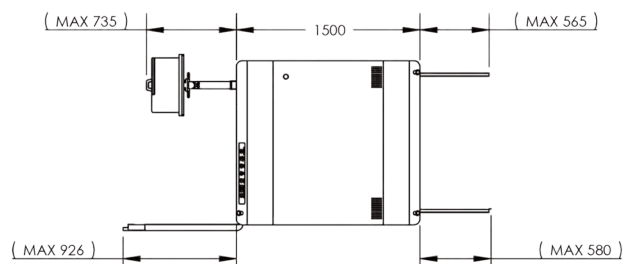
Front View



Back View



Side View



Top View

System Performances

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 Traceability	Camera-Read Barcodes; External Barcode Reader Configured; OCR Capability with Batch Code Logging

System Hardware

Operating System	Windows 10 Pro (64 bit)
Optical Resolution & FOV Size	12MP Coaxpress Camera Default: 60 x 45 mm @ 15 µm telecentric lens* Option: 53 x 39 mm @ 13 µm telecentric lens* Option: 32 x 24 mm @ 8 µm telecentric lens*
Inspection Speed	12MP @ 15µm resolution: 45-60cm ² /sec
3D Technologies	Phase Shift Profilometry's (PSP) Methodology with 4-way projectors
Lighting Module	Concurrent Lighting Module
X-Y Gantry System	Gantry Robot System with Ball Screw, Servo Motor and Magnetic Linear Encoder
Conveyor Width Adjustment	Auto Width Adjustment; Bottom-Up Clamping; In-line SMEMA

PCB Dimension

Standard

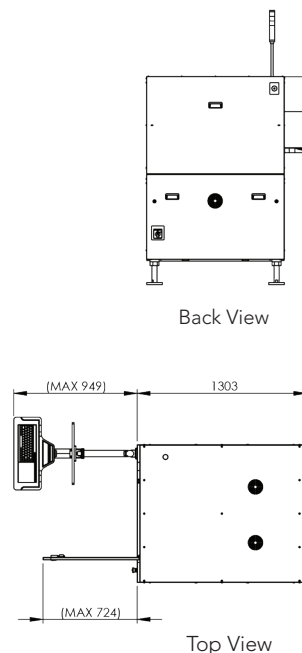
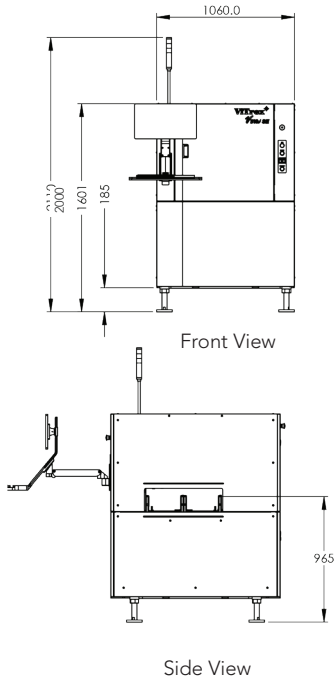
Maximum PCB Size (L x W)	FDL: 510mmx250mm (20"x9.8") Single Lane: 510mmx540mm (20"x21.2")
Minimum PCB Size (L x W)	50x50mm (2"x2")
Maximum PCB Inspectable Area (L x W)	FDL: 510mmx243mm (20"x9.5") Single Lane: 510mmx533mm (20"x20.9")
Maximum PCB Thickness	4mm (0.16")
Minimum PCB Thickness	0.5mm(0.02")
Maximum PCB Weight	3kg
Top clearance of PCB	50mm
Bottom clearance of PCB	100mm
Panel Edge Clearance	3.5mm
PCB Transport Height	875mm - 965mm
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.

* Based on system configuration.

Specifications are subject to change.

Installation Specification

System footprint (Width X Depth X Height)	1060mm x 1303mm x2000mm
Weight	~830 kgs
Electrical Supplies	100-120 V, 16A/200-240V, 8A Single Phase
Air Requirement	NA





V310i API

Advanced 3D Solder Paste Inspection (API)



V310i Series

Advanced 3D Solder Paste Inspection (API)

Designed for paste inspection to increase high throughput productivity in SMT production line.

Key Benefits



High Speed performance API system in market



Powerful reporting for data analysis and performance monitoring



Smart Manufacturing Ready



Preferred choice by consumer, automotive, and telecommunication sectors



Shareable wear & tear spare parts between 3D AOI and 3D API under one similar machine



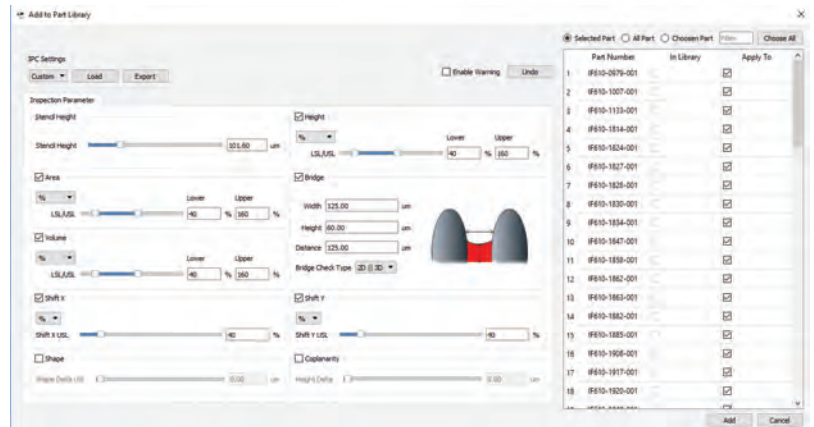
Competitive Cost of Ownership



Breakthrough Technologies

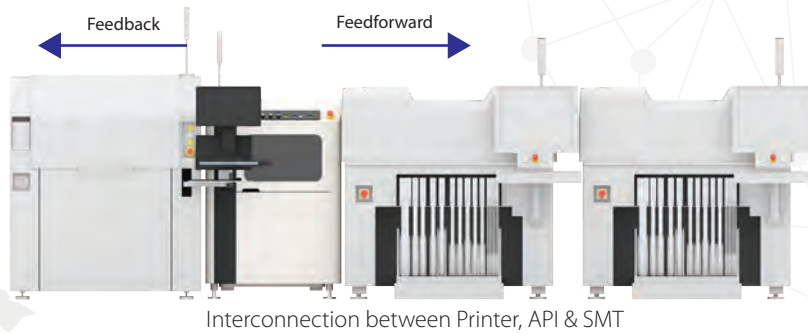
1 Ultra Smart AI Programming

Access the Gerber file of the stencil and start inspection immediately without the need for parameter setting and learning.



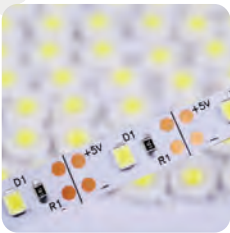
2 Advanced Process Optimization

Collaborate with market known printer and pick & place partners. ViTrox AI profiles out the best printer settings for each production model. This is achieved through continuous data collection on printer optimization activities.

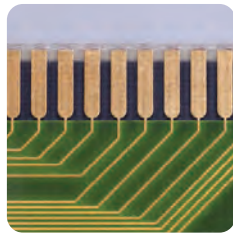


3 Unique Inspection Coverage

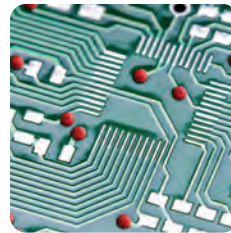
Cater to various inspection coverages within a modified machine platform including gold finger, distance measurement, gold pads, red glue by using ViTrox generic programming platform.



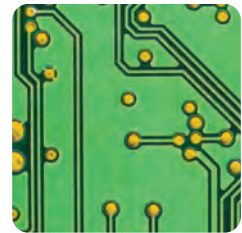
LED



Gold Finger



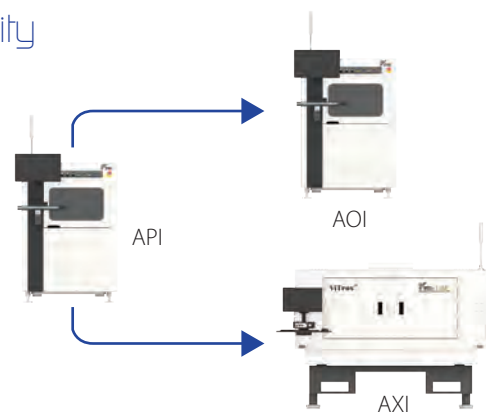
Red Glue



Gold Pads

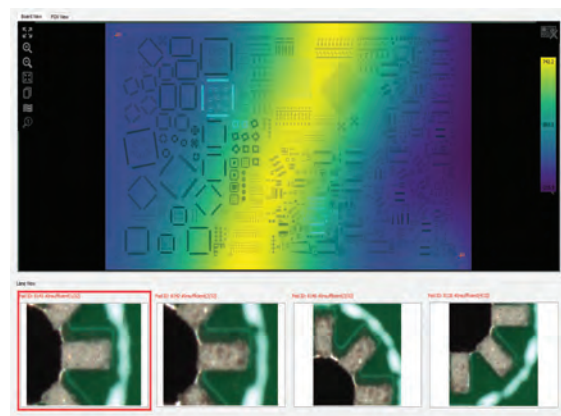
4 Real-Time Closed Loop System Connectivity

Integrate with all ViTrox family inspection systems to create a closed-loop communicated ecosystem to maintain and improve production process efficiency, yield, and quality. Achieved through model parameter sharing and single-learning-multiple-machine linkages to minimize programming time.



5 Powerful PCB Analysis

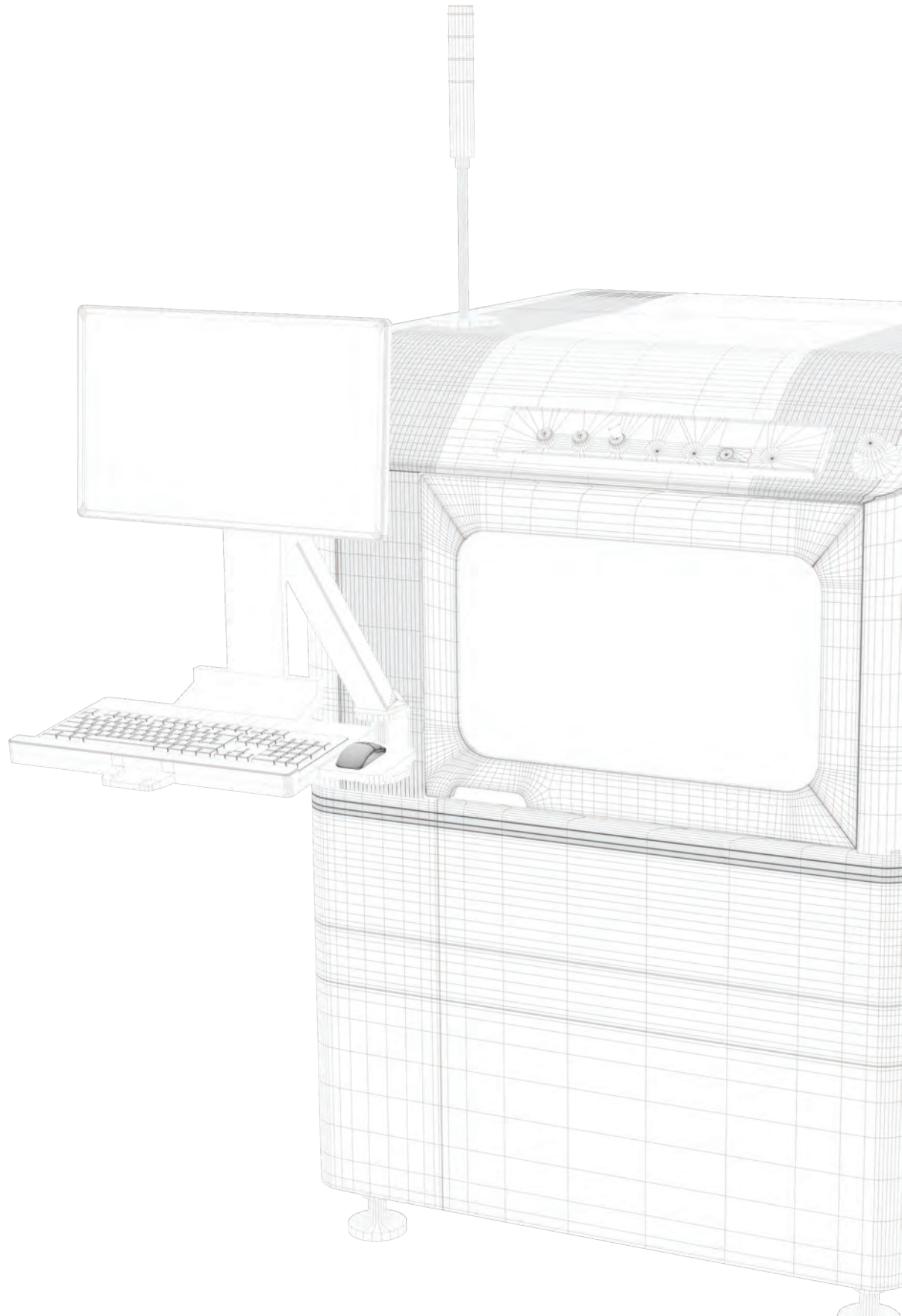
Analyze board warpages and prevent it from flowing through to the next process to achieve optimum quality with no rework cost.



V310i Series

Advanced 3D Solder Paste Inspection (API)

Designed for solder paste inspection to increase high throughput productivity in SMT production line.



V310i Optimus 3D

System Performances

Inspection Functions	Missing, XY Offset, Solder Height, Solder Area, Solder Volume and Bridge.	
Board & Component Level Traceability	Camera-Read Barcodes; External Barcode Reader Configured	
System Hardware	12MP	4MP
Operating System	Windows 10 Pro (64 bit)	
Optical Resolution & FOV Size	Default: 60 x 45 mm @ 15 µm telecentric lens* Option: 53 x 39 mm @ 13 µm telecentric lens* Option: 32 x 24 mm @ 8 µm telecentric lens*	Default: 40 x 40 mm @ 20 µm telecentric lens
Inspection Speed	12MP CoaXPress:19~90cm ² /sec 12MP CameraLink:12~60cm ² /sec	4MP CameraLink: 40~53cm ² /sec
3D Technologies	Phase Shift Profilometry's (PSP) Methodology	
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
Maximum PCB Size (L x W)	510mm x 510mm (20"x20") <i>(2 projectors or 4 projectors with extended casing)</i> 450mm x 510mm (17.7"x20") <i>(4 projectors without extended casing)</i>	DL Equal: 510mmx235.0mm (20"x9.2") Single Lane: 510mmx420.0mm (20"x16.5") <i>(2 projectors or 4 projectors with extended casing)</i> DL Equal: 450.0mmx235.0mm (17.7"x9.2") Single Lane: 450.0mmx420.0mm (17.7"x16.5") <i>(4 projectors without extended casing)</i>
Minimum PCB Size (L x W)	50x50mm (2"x2")	50x50mm (2"x2")
Maximum PCB Inspectable Area (L x W)	510mmx503mm (20"x19.8") <i>(2 projectors or 4 projectors with extended casing)</i> 450mmx503mm (17.7"x19.8") <i>(4 projectors without extended casing)</i>	DL Equal: 510mmx228mm (20"x8.9") Single Lane: 510mmx413mm (20"x16.2") <i>(2 projectors or 4 projectors with extended casing)</i> DL Equal: 450mmx228mm (17.7"x8.9") Single Lane: 450mmx413mm (17.7"x16.2") <i>(4 projectors without extended casing)</i>
Maximum PCB Thickness	4mm (0.15")	
Minimum PCB Thickness	0.5mm (0.02")	
Maximum PCB Weight	3kg	
Top clearance of PCB	50mm	
Bottom clearance of PCB	70mm	
Panel Edge Clearance	3.5mm	
PCB Transport Height	875mm - 965mm	
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.	

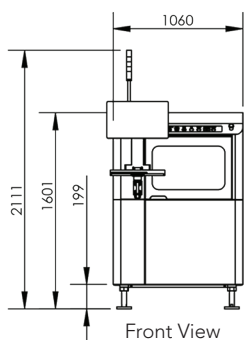
* Based on system configuration.

Specifications are subject to change.

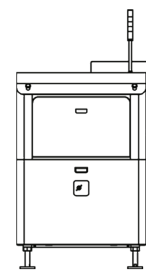
Installation Specification

System footprint (Width X Depth X Height)

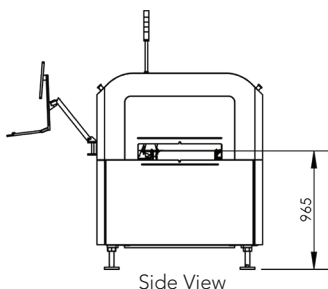
Weight 1060mm x 1353mm x 2111mm
 Electrical Supplies ~900kgs
 Air Requirement 100-120 V, 16A/200-240V, 8A Single Phase
 NA



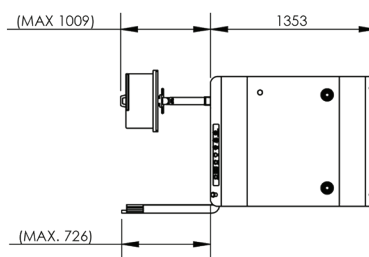
Front View



Back View



Side View



Top View

V310i XL

System Performances

Inspection Functions	Missing, XY Offset, Solder Height, Solder Area, Solder Volume and Bridge.
Board & Component Level Traceability	Camera-Read Barcodes; External Barcode Reader Configured

System Hardware	12MP	4MP
Operating System	Windows 10 Pro (64 bit)	
Optical Resolution & FOV Size	Default: 60 x 45 mm @ 15 µm telecentric lens* Option: 53 x 39 mm @ 13 µm telecentric lens* Option: 32 x 24 mm @ 8 µm telecentric lens*	Default: 40 x 40 mm @ 20 µm telecentric lens
Inspection Speed	12MP CoaXPress:19~90cm ² /sec 12MP CameraLink:12~60cm ² /sec	4MP CameraLink: 40~53cm ² /sec
3D Technologies	Phase Shift Profilometry's (PSP) Methodology	
Lighting Module	Concurrent Lighting Module	
X-Y Gantry System	Gantry Robot System with Ball Screw, Servo Motor and Magnetic Linear Encoder	
Conveyor Width Adjustment	Auto Width Adjustment; Bottom-Up Clamping; In-line SMEMA	

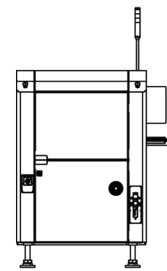
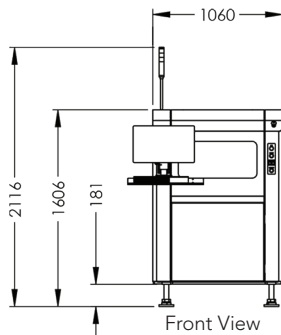
PCB Dimension	Standard	FDL
Maximum PCB Size (L x W)	460mm x 690mm (18.1"x27.2")	DL Equal: 460mm x 325mm (18.1"x12.8") Single Lane: 460mmx600mm (18.1"x23.6")
Minimum PCB Size (L x W)	50x50mm (2"x2")	50x50mm (2"x2")
Maximum PCB Inspectable Area (L x W)	460mmx683mm (18.1"x26.8")	DL Equal: 460mmx318mm (18.1"x12.5") Single Lane: 460mmx593mm (18.1"x23.3")
Maximum PCB Thickness	7mm (0.27")	
Minimum PCB Thickness	0.5mm (0.02")	
Maximum PCB Weight	3kg	
Top clearance of PCB	50mm	
Bottom clearance of PCB	100mm	
Panel Edge Clearance	3.5mm	
PCB Transport Height	875mm - 965mm	
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.	

* Based on system configuration.

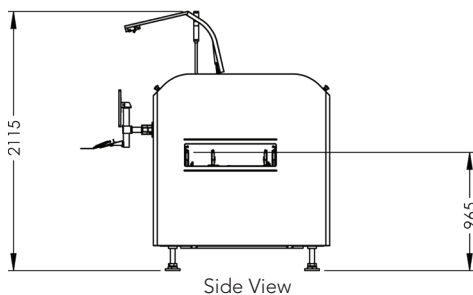
Specifications are subject to change.

Installation Specification

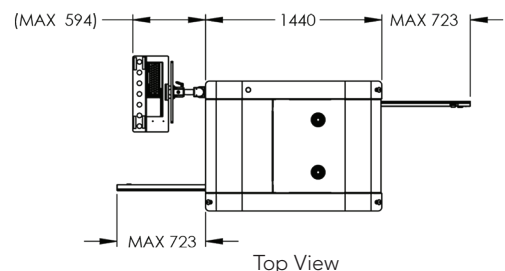
System footprint (Width X Depth X Height)	1060mm x 1440mm x 2116mm
Weight	~960kgs
Electrical Supplies	100-120 V, 16A/200-240V, 8A Single Phase
Air Requirement	0.6 Mpa/85 psi



Back View



Side View



Top View

V310i XXL

System Performances

Inspection Functions	Missing, XY Offset, Solder Height, Solder Area, Solder Volume and Bridge.
Board & Component Level Traceability	Camera-Read Barcodes; External Barcode Reader Configured

System Hardware

12MP

4MP

Operating System	Windows 10 Pro (64 bit)
Optical Resolution & FOV Size	Default: 60 x 45 mm @ 15 µm telecentric lens* Option: 53 x 39 mm @ 13 µm telecentric lens* Option: 32 x 24 mm @ 8 µm telecentric lens*
Inspection Speed	12MP CoaXPress:19~90cm ² /sec 12MP CameraLink:12~60cm ² /sec
3D Technologies	Phase Shift Profilometry's (PSP) Methodology
Lighting Module	Concurrent Lighting Module
X-Y Gantry System	Gantry Robot System with Linear Motor and Optical Linear Encoder
Conveyor Width Adjustment	Auto Width Adjustment; Bottom-Up Clamping; In-line SMEMA

PCB Dimension

Standard

FDL

Maximum PCB Size (L x W)	620mm x 690mm (24.4"x27.2") Option: 960mm x 690mm (37.8"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")
Minimum PCB Size (L x W)	50x50mm (2"x2")	50x50mm (2"x2")
Maximum PCB Inspectable Area (L x W)	620mmx683mm (24.4"x27.1") Option: 1200x683mm (47.2"x27.2")	DL Equal: 620mmx318mm (24.4"x12.5") Single Lane: 620mmx593mm (24.4"x23.3") Option: DL Equal: 960mmx318mm (37.8"x12.5") Single Lane: 960mmx593mm (37.7"x23.3")
Maximum PCB Thickness	15mm (0.59")	8mm (0.31")
Minimum PCB Thickness	0.5mm (0.02")	
Maximum PCB Weight	7kg	
Top clearance of PCB	50mm	
Bottom clearance of PCB	70mm	
Panel Edge Clearance	3.5mm	
PCB Transport Height	890mm - 965mm	
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.	

* Based on system configuration.

Specifications are subject to change.

Installation Specification

System footprint (Width X Depth X Height)

Weight

1410mm x 1500mm x 2207mm

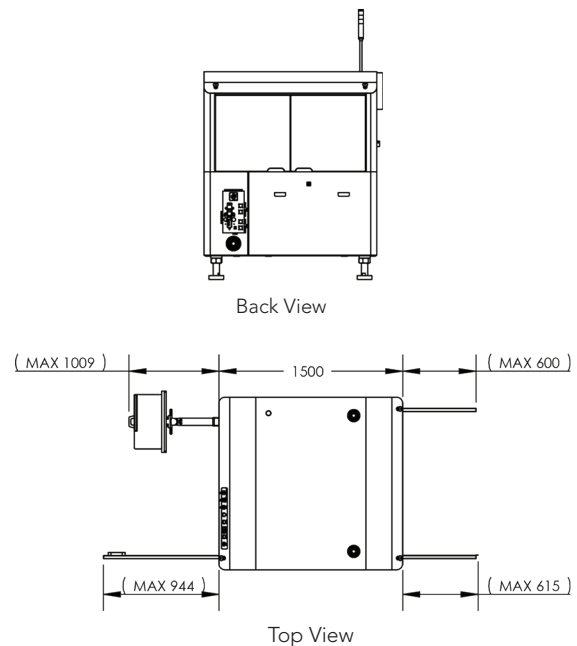
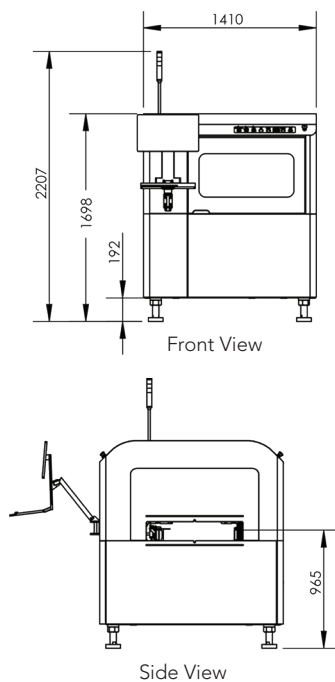
Electrical Supplies

~1180kgs

Air Requirement

100-120 V, 16A/200-240V, 8A Single Phase

0.6 Mpa/85 psi



V310i SE

System Performances

Inspection Functions	Missing, XY Offset, Solder Height, Solder Area, Solder Volume and Bridge.
Board & Component Level Traceability	Camera-Read Barcodes; External Barcode Reader Configured

System Hardware

	12MP	4MP
Operating System	Windows 10 Pro (64 bit)	
Optical Resolution & FOV Size	Default: 60 x 45 mm @ 15 µm telecentric lens* Option: 53 x 39 mm @ 13 µm telecentric lens* Option: 32 x 24 mm @ 8 µm telecentric lens*	Default: 40 x 40 mm @ 20 µm telecentric lens
Inspection Speed	12MP CoaXPress:19~90cm ² /sec 12MP CameraLink:12~60cm ² /sec	4MP CameraLink: 40~53cm ² /sec
3D Technologies	Phase Shift Profilometry's (PSP) Methodology	
Lighting Module	Concurrent Lighting Module	
X-Y Gantry System	Gantry Robot System with Ball Screw, Servo Motor and Magnetic Linear Encoder	
Conveyor Width Adjustment	Auto Width Adjustment; Bottom-Up Clamping; In-line SMEMA	

PCB Dimension

	SE	FDL
Maximum PCB Size (L x W)	510mmx540mm (20"x21.2")	Single Lane: 510mmx450mm (20"x17.7") DL Equal: 510mmx250mm (20"x9.8")
Minimum PCB Size (L x W)	50x50mm (2"x2")	50x50mm (2"x2")
Maximum PCB Inspectable Area (L x W)	510mmx533mm (20"x20.9")	Single Lane: 510mmx443mm (20"x17.4") DL Equal: 510mmx243mm (20"x9.5")
Maximum PCB Thickness	4mm (0.16")	
Minimum PCB Thickness	0.5mm (0.02")	
Maximum PCB Weight	3kg	
Top clearance of PCB	50mm	
Bottom clearance of PCB	100mm	
Panel Edge Clearance	3.5mm	
PCB Transport Height	875mm - 965mm	
PCB Temperature	Ambient operating temperature is ~5°C to 40°C, maximum PCB temperature 80°C.	

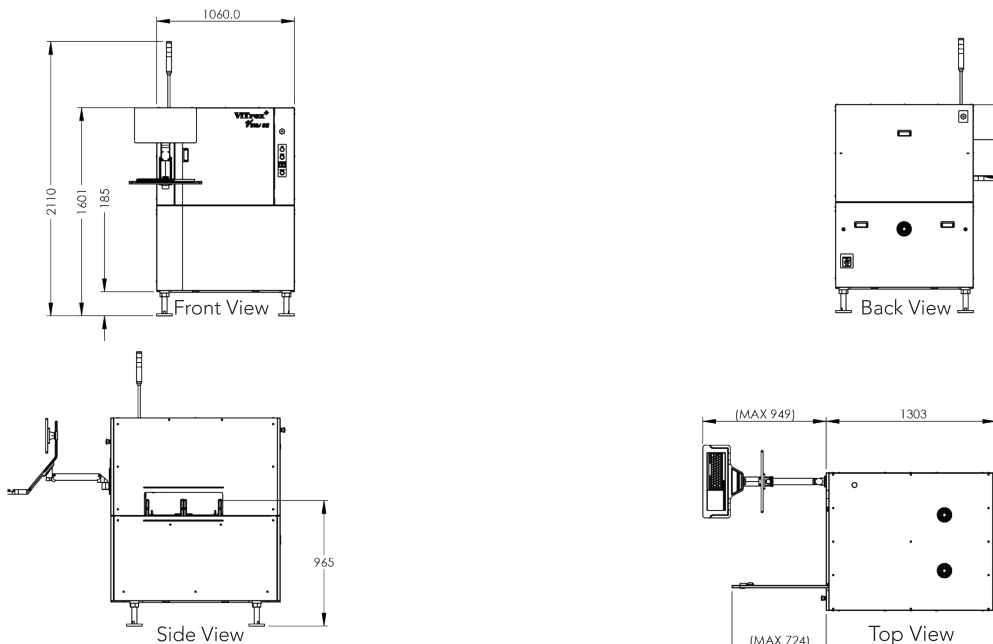
* Based on system configuration.

Specifications are subject to change.

Installation Specification

System footprint (Width X Depth X Height)

Weight	1060mm x 1303mm x2000mm
Electrical Supplies	~830kgs
Air Requirement	100-120 V, 16A/200-240V, 8A Single Phase 0.6 Mpa/85 psi





V810 i S2 Series
Advanced 3D X-Ray Inspection (AXI)



V810i S2 Series

Advanced 3D X-ray Inspection (AXI)

Designed for various size of PCB assemblies to increase production efficiency and cost savings for Electronic Manufacturing Services (EMS), Original Equipment Manufacturers (OEMs), Original Design Manufacturers (ODMs), and etc.

Key Benefits



High Speed Inspection



Powerful and robust test algorithm that cover overall market test component



Lightning programming for smart and easy programming



Various Platform to cater different board sizes



World top leading AXI solution



Worldwide support coverage



Breakthrough Technologies

1

Lightning Programming

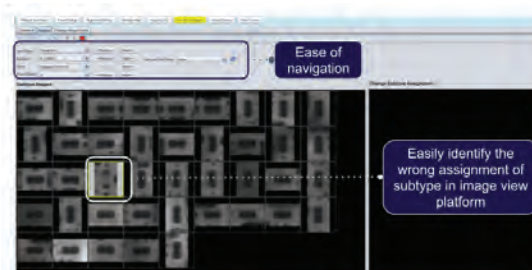
No. 1

Inline OLP Software in the Advanced X-ray Inspection

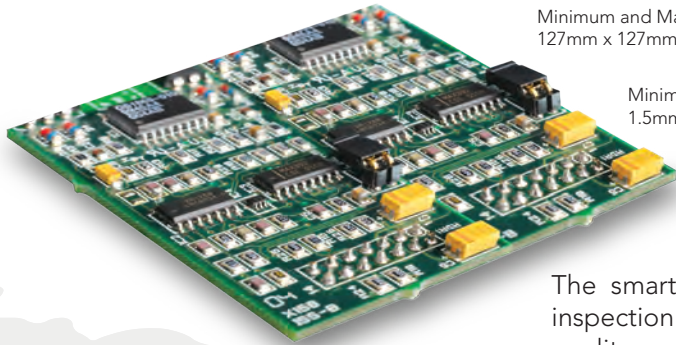
The drag and drop concept eases programming and the inline OLP concept minimizes system downtime and increases product throughput.

What is OLP?

OLP means for Offline Programming. It is a software to allow user to develop program on his/her own PC without connecting to machine.



2 Largest Board Size Platform



Minimum and Maximum Panel Size
127mm x 127mm - 1320.8mm x 1320.8mm

Minimum and Maximum Panel Thickness
1.5mm to 10mm

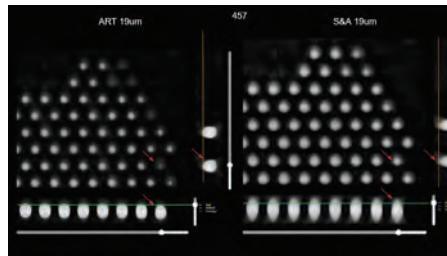
Maximum Panel Weight
25Kg



The smart V810i S2XLW AXI solution offers the world-class board inspection capabilities and software compatible with Industry 4.0 for quality-assured inspection results. With its latest capability, the largest and heaviest PCB board weighing up to 25kg and up to 1.3m x 1.3m (length x width) in size can be accommodated and inspected.

3 New Reconstruction Method for CT Technologies - Algebraic Reconstruction Technique (ART)

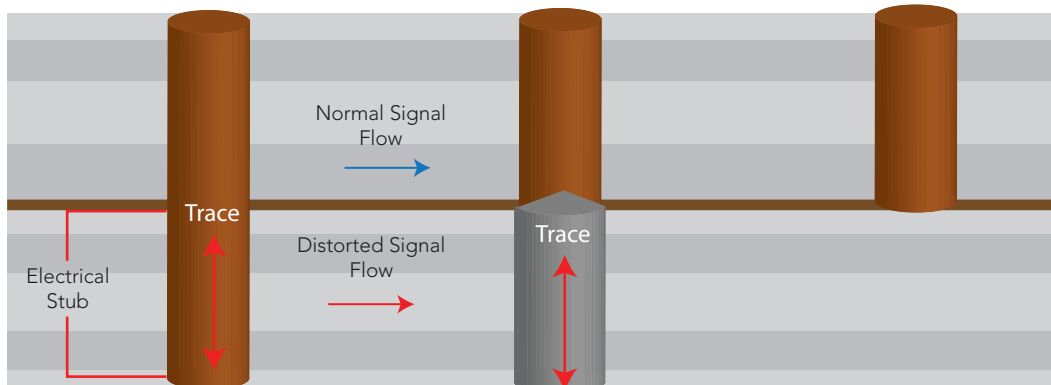
Provide alternative view (3D model) for defects buy off and increase user confidence to buy off defect. At the same time, it will generate defect failure analysis for further improvement.



- Alternative view (3D model) for defects buyoff
- Increase users confident to buyoff defects
- Defect failure analysis

4 Backdrill Inspection

Back drilling, is a technique used at high speed multi-layered boards to remove the unused portion, or stub, or copper barrel from a thru-hole in a printed circuit board in order to minimize signal integrity degradation and reduce via-to-via crosstalk.



A typical through hole VIA without backdrill results in reflections, capacitance, & inductance discontinuities which will degrade the signal integrity

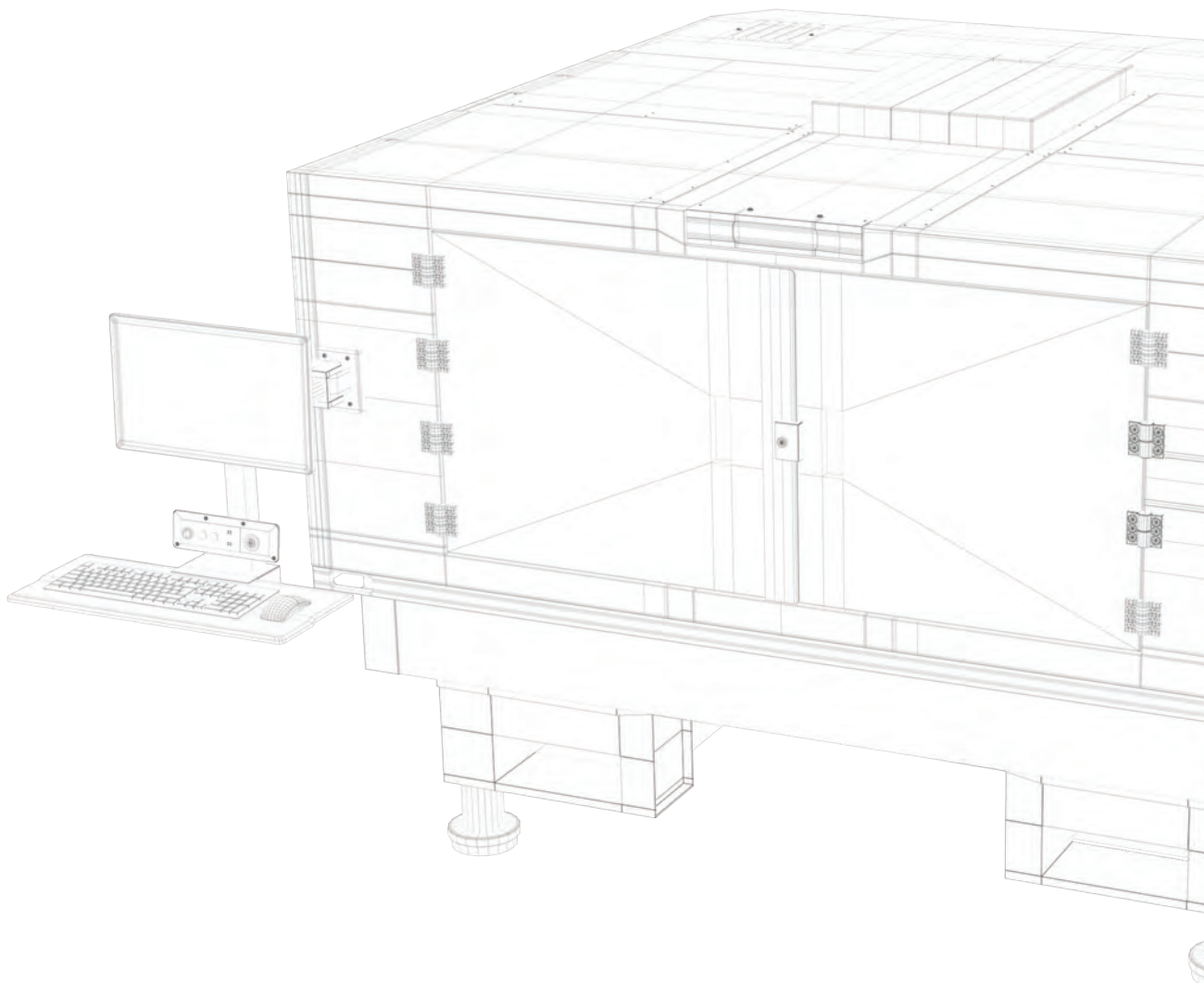
Backdrill the unused stub with a controlled depth

After backdrill, the signal will not flow to unwanted stub and minimize signal integrity degradation

V810i S2 Series

Advanced 3D X-ray Inspection (AXI)

Designed for various sizes of PCB assemblies to increase production efficiency and cost savings for Electronic Manufacturing Services (EMS), Original Equipment Manufacturers (OEMs), Original Design Manufacturers (ODMs), and etc.



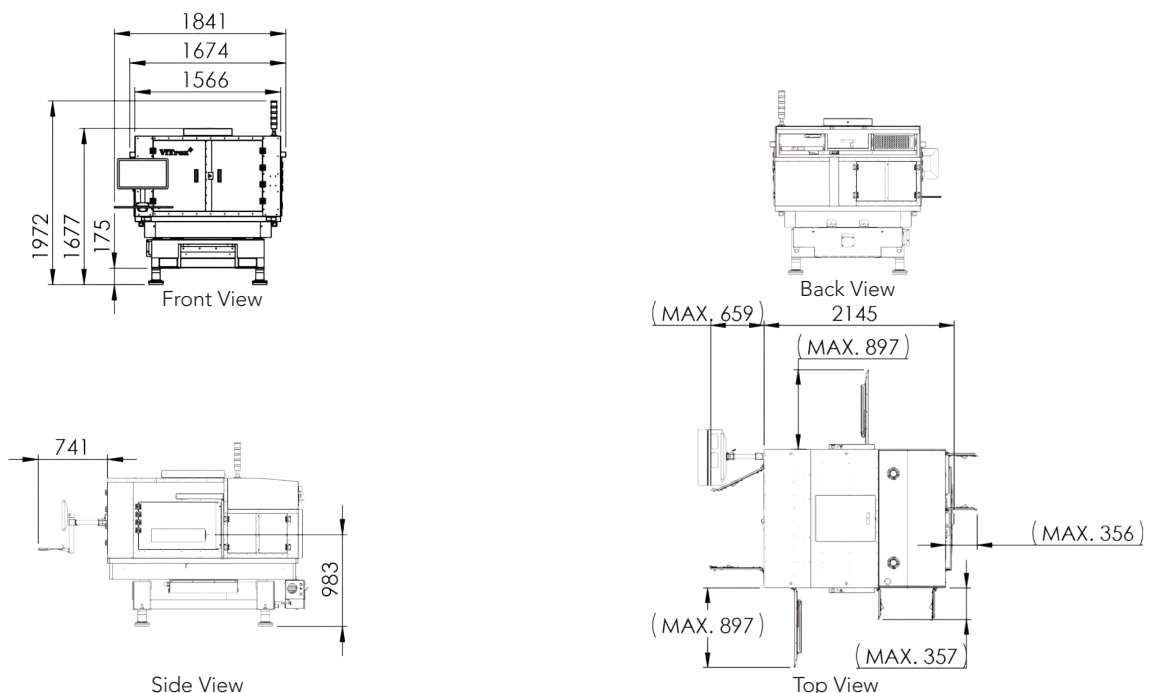
V810i S2 EX

System controller	Integrated controller with 8 Core Intel Xeon processors		
Operating system	Windows 10 (64 bits)		
Test Development Environment			
User interface	Microsoft Windows based software solution with easy-to-use GUI and password-protected user levels		
Off-line test development software	Optional for off-line PC		
CAD conversion tool	Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format		
Typical test development time	4 hours to 1.5 days to convert raw CAD file and develop application		
Line Integration			
Transport heights	865 mm - 1025 mm		
Line communication standard	SMEMA, HERMES		
Barcode readers	Compatible with most industry standard barcode readers		
Performance Parameters *			
Typical image acquisition rate	51.68 cm ² /sec (8 in ² /sec) at 19um		
False Call rate	500 - 1000 ppm		
Minimum features detection capability	Joint pitch ¹	Short pitch ²	Solder thickness
	0.3 mm and above	0.045 mm	0.0127 mm
Allowable Panel Characteristics **			
Maximum PCB Size (L x W)	609.6 mm x 482.6 mm (24" x 19")		
Minimum PCB Size (L x W)	76.2 mm x 76.2 mm (3" x 3")		
Maximum PCB inspectable area	609.6 mm x 474.9 mm (24" x 18.7")		
Maximum PCB thickness	7 mm (275 mils)		
Minimum PCB thickness	0.5 mm (20 mils)		
PCB warp	Downside < 3.3 mm; Upside < 1.5 mm		
Maximum PCB weight	4.5kg		
Top Clearance of PCB with System resolution	50 mm @ 23 µm resolution; 38 mm @ 19 µm resolution; 38 mm @ 10.5 µm resolution [#] ; 11 mm @ 11 µm resolution; 11 mm @ 6 µm resolution [#] (Calculated from Board Top surface)		
Bottom Clearance of PCB	70 mm		
PCB edge clearance	3 mm		
100% Press-fit testability	Yes (With PSP2 / PSP2.1 feature)		
PCB Temperature	40 Deg C		

Specifications are subject to change.

Installation Specification

System footprint (Width X Depth X Height)	1566 mm x 2145 mm x 1972 mm
Weight	3800 kgs
Electrical Supplies	200 – 240 VAC three phase; 380 – 415 VAC three phase wye (+/- 5) (50Hz or 60Hz)
Air Requirement	552kPA (80psi)



*Note:

1. Assuming pad width is 50% of pitch.
2. The reported values for minimum feature detection assume that the feature is in a single plane of focus and that there are no X-ray absorbers in the X-ray path or in the immediate area of the feature other than those found in a typical multi-layer printed circuit board.

**Note:

1. Panels are handled on width edges. Panels with edge cut outs may require the use of a carrier.
2. Maximum panel size dimensions and weight must include carrier if applicable.
3. Smaller panels are possible with the use of panel carriers.
4. With panels of this thickness, imaging results can be affected by PCBA layout.
5. Measured from the bottom of the panel including a maximum warp.

#2x2 binning camera configuration, Hardware upgrade is required.

V810i S2 XXL

System controller	Integrated controller with 8 Core Intel Xeon processors
Operating system	Windows 10 (64 bits)

Test Development Environment

User interface	Microsoft Windows based software solution with easy-to-use GUI and password-protected user levels
Off-line test development software	Optional for off-line PC
CAD conversion tool	Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format
Typical test development time	4 hours to 1.5 days to convert raw CAD file and develop application

Line Integration

Transport heights	865 mm - 1025 mm
Line communication standard	SMEMA, HERMES
Barcode readers	Compatible with most industry standard barcode readers

Performance Parameters *

Typical image acquisition rate	51.68 cm ² /sec (8 in ² /sec) at 19um		
False Call rate	500 - 1000 ppm		
Minimum features detection capability	Joint pitch ¹	Short pitch ²	Solder thickness
	0.3 mm and above	0.045 mm	0.0127 mm

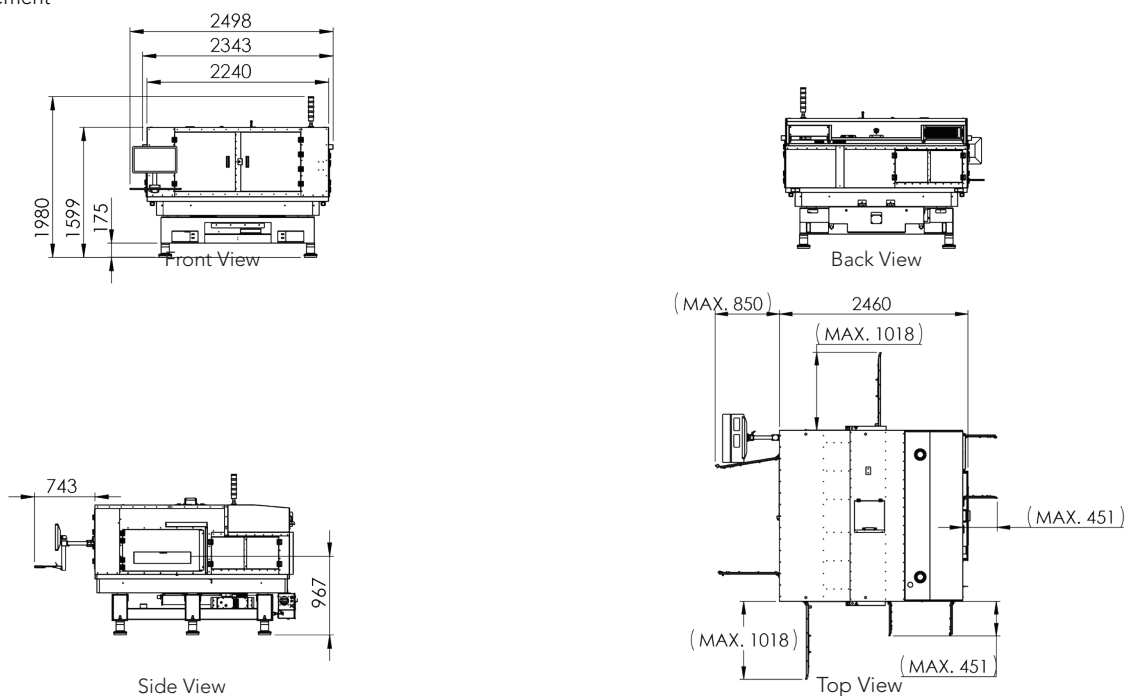
Allowable Panel Characteristics **

Maximum PCB Size (L x W)	965.2 mm x 660.4 mm (38"x26")
Minimum PCB Size (L x W)	76.2 mm x 76.2 mm (3" x 3")
Maximum PCB inspectable area	965.2 mm x 654.4 mm (38"x25.7")
Maximum PCB thickness	12.7 mm (500 mils)
Minimum PCB thickness	0.5 mm (20 mils)
PCB warp	Downside < 3.3 mm; Upside < 3.3 mm
Maximum PCB weight	15kg
Top Clearance of PCB with System resolution	25 mm @ 19 μm resolution; 15 mm @ 13 μm resolution (Calculated from Board Top surface)
Bottom Clearance of PCB	80 mm
PCB edge clearance	3 mm
100% Press-fit testability	Yes (With PSP2 / PSP2.1 feature)
PCB Temperature	40 Deg C

Specifications are subject to change.

Installation Specification

System footprint (Width X Depth X Height)	2240 mm x 2460 mm x 1980 mm
Weight	6500 kgs
Electrical Supplies	200 – 240 VAC three phase; 380 – 415 VAC three phase wye (+/- 5) (50Hz or 60Hz)
Air Requirement	552kPa (80psi)



*Note:

1. Assuming pad width is 50% of pitch.
2. The reported values for minimum feature detection assume that the feature is in a single plane of focus and that there are no X-ray absorbers in the X-ray path or in the immediate area of the feature other than those found in a typical multi-layer printed circuit board.

**Note:

1. Panels are handled on width edges. Panels with edge cut outs may require the use of a carrier.
2. Maximum panel size dimensions and weight must include carrier if applicable.
3. Smaller panels are possible with the use of panel carriers.
4. With panels of this thickness, imaging results can be affected by PCBA layout.
5. Measured from the bottom of the panel including a maximum warp.

V810i S2 XLT

System controller	Integrated controller with 8 Core Intel Xeon processors
Operating system	Windows 10 (64 bits)

Test Development Environment

User interface	Microsoft Windows based software solution with easy-to-use GUI and password-protected user levels
Off-line test development software	Optional for off-line PC
CAD conversion tool	Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format
Typical test development time	4 hours to 1.5 days to convert raw CAD file and develop application

Line Integration

Transport heights	865 mm - 1025 mm
Line communication standard	SMEMA, HERMES
Barcode readers	Compatible with most industry standard barcode readers

Performance Parameters *

Typical image acquisition rate	51.68 cm ² /sec (8 in ² /sec) at 19um		
False Call rate	500 - 1000 ppm		
Minimum features detection capability	Joint pitch ¹	Short pitch ²	Solder thickness
	0.3 mm and above	0.045 mm	0.0127 mm

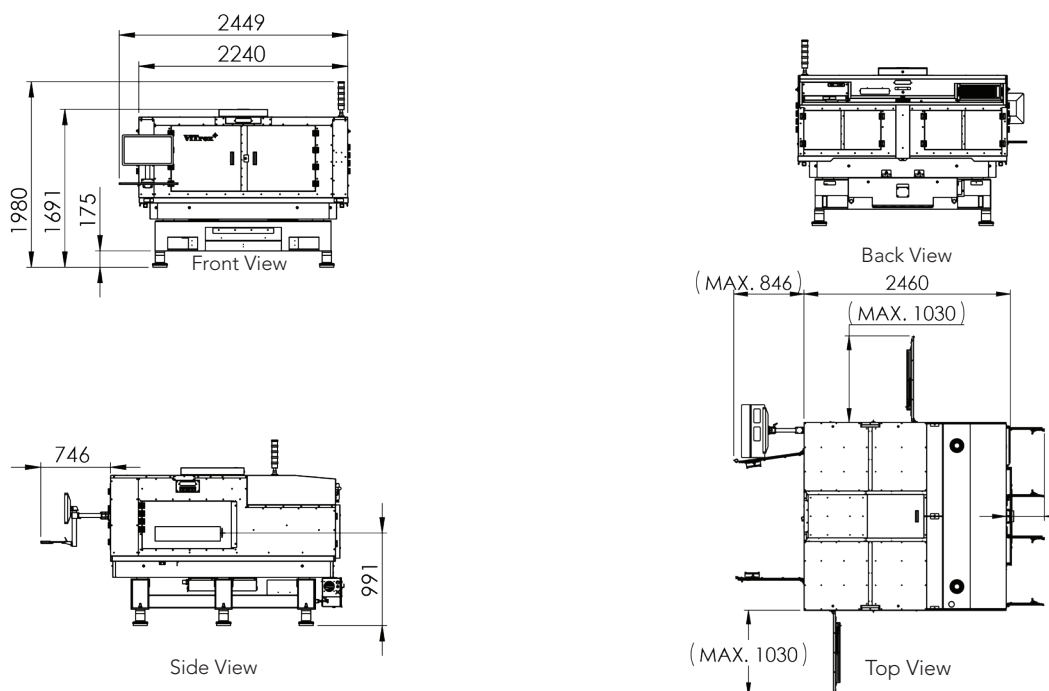
Allowable Panel Characteristics **

Maximum PCB Size (L x W)	965.2 mm x 660.4 mm (38"x26")
Minimum PCB Size (L x W)	76.2 mm x 76.2 mm (3" x 3")
Maximum PCB inspectable area	965.2 mm x 654.4 mm (38"x25.7")
Maximum PCB thickness	12.7 mm (500 mils)
Minimum PCB thickness	0.5 mm (20 mils)
PCB warp	Downside < 3.3 mm; Upside < 3.3 mm
Maximum PCB weight	15kg
Top Clearance of PCB with System resolution	50 mm @ 19 μm resolution; 31 mm @ 15 μm resolution; 13 mm @ 11 μm resolution; 31 mm @ 10 μm resolution# 13 mm @ 7.5 μm resolution# (Calculated from Board Top surface)
Bottom Clearance of PCB	80 mm
PCB edge clearance	3 mm
100% Press-fit testability	Yes (With PSP2 / PSP2.1 feature)
PCB Temperature	40 Deg C

Specifications are subject to change.

Installation Specification

System footprint (Width X Depth X Height)	2240 mm x 2460 mm x 1980 mm
Weight	6500 kgs
Electrical Supplies	200 – 240 VAC three phase; 380 – 415 VAC three phase wye (+/- 5) (50Hz or 60Hz)
Air Requirement	552kPA (80psi)



*Note:

1. Assuming pad width is 50% of pitch.
2. The reported values for minimum feature detection assume that the feature is in a single plane of focus and that there are no X-ray absorbers in the X-ray path or in the immediate area of the feature other than those found in a typical multi-layer printed circuit board.

**Note:

1. Panels are handled on width edges. Panels with edge cut outs may require the use of a carrier.
2. Maximum panel size dimensions and weight must include carrier if applicable.
3. Smaller panels are possible with the use of panel carriers.
4. With panels of this thickness, imaging results can be affected by PCBA layout.
5. Measured from the bottom of the panel including a maximum warp.

#2x2 binning camera configuration, Hardware upgrade is required.

V810i S2 XLW

System controller	Integrated controller with 8 Core Intel Xeon processors		
Operating system	Windows 10 (64 bits)		
Test Development Environment			
User interface	Microsoft Windows based software solution with easy-to-use GUI and password-protected user levels		
Off-line test development software	Optional for off-line PC		
CAD conversion tool	Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTroX's format		
Typical test development time	4 hours to 1.5 days to convert raw CAD file and develop application		
Line Integration			
Transport heights	865 mm - 1025 mm		
Line communication standard	SMEMA, HERMES		
Barcode readers	Compatible with most industry standard barcode readers		
Performance Parameters *			
Typical image acquisition rate	51.68 cm ² /sec (8 in ² /sec) at 19um		
False Call rate	500 - 1000 ppm		
Minimum features detection capability	Joint pitch¹	Short pitch²	Solder thickness
	0.3 mm and above	0.045 mm	0.0127 mm

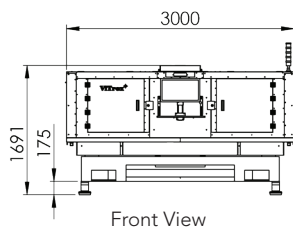
Allowable Panel Characteristics **

Maximum PCB Size (L x W)	1320.8mm x 1320.8mm (52" x 52")		
Minimum PCB Size (L x W)	127mm x 127mm (5" x 5")		
Maximum PCB inspectable area	1320.8mm x 1300.48mm (52" x 51.2") (Dual Stage Inspection with External Rotator)		
Maximum PCB thickness	10mm (393 mils)		
Minimum PCB thickness	1.5mm (60 mils)		
PCB warp	<2mm downward, 1mm upwards (without PSP); <3mm downward, <1.5mm upwards (with PSP)		
Maximum PCB weight	25kg		
Top Clearance of PCB with System resolution	50 mm @ 19 µm resolution; 31 mm @ 15 µm resolution; 14 mm @ 11 µm resolution (Calculated from Board Top surface)		
Bottom Clearance of PCB	80 mm		
PCB edge clearance	10 mm		
100% Press-fit testability	Yes (With PSP2 / PSP2.1 feature)		
PCB Temperature	40 Deg C		

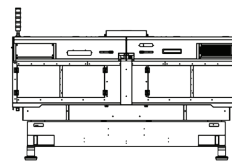
Specifications are subject to change.

Installation Specification

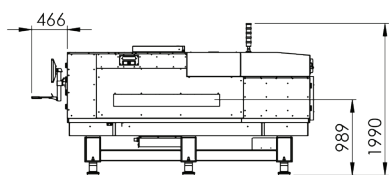
System footprint (Width X Depth X Height)	3300mm x 3300mm x 1990mm
Weight	11000 kgs
Electrical Supplies	200 – 240 VAC three phase; 380 – 415 VAC three phase wye (+/- 5) (50Hz or 60Hz)
Air Requirement	828kPa (120psi)



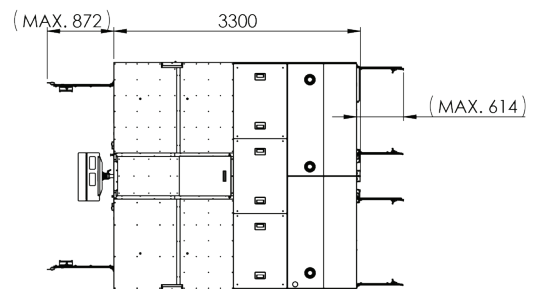
Front View



Back View



Side View



Top View

*Note:

1. Assuming pad width is 50% of pitch.
2. The reported values for minimum feature detection assume that the feature is in a single plane of focus and that there are no X-ray absorbers in the X-ray path or in the immediate area of the feature other than those found in a typical multi-layer printed circuit board.

**Note:

1. Panels are handled on width edges. Panels with edge cut outs may require the use of a carrier.
2. Maximum panel size dimensions and weight must include carrier if applicable.
3. Smaller panels are possible with the use of panel carriers.
4. With panels of this thickness, imaging results can be affected by PCBA layout.
5. Measured from the bottom of the panel including a maximum warp.

V810i S2 XLL

System controller	Integrated controller with 8 Core Intel Xeon processors		
Operating system	Windows 10 (64 bits)		
Test Development Environment			
User interface	Microsoft Windows based software solution with easy-to-use GUI and password-protected user levels		
Off-line test development software	Optional for off-line PC		
CAD conversion tool	Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format		
Typical test development time	4 hours to 1.5 days to convert raw CAD file and develop application		
Line Integration			
Transport heights	865 mm - 1025 mm		
Line communication standard	SMEMA, HERMES		
Barcode readers	Compatible with most industry standard barcode readers		
Performance Parameters *			
Typical image acquisition rate	51.68 cm ² /sec (8 in ² /sec) at 19um		
False Call rate	500 - 1000 ppm		
Minimum features detection capability	Joint pitch¹	Short pitch²	Solder thickness
	0.3 mm and above	0.045 mm	0.0127 mm

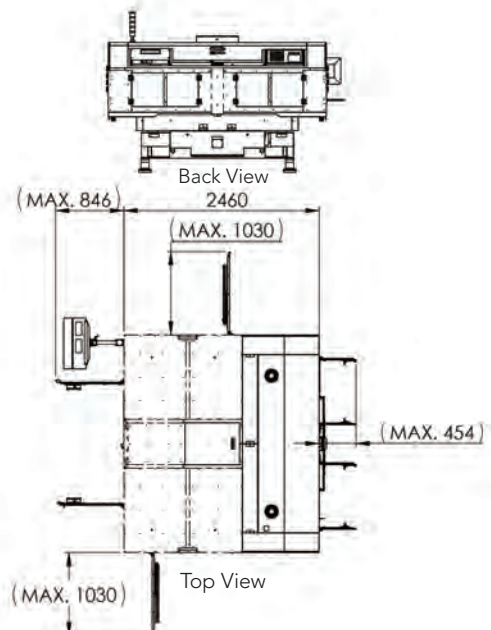
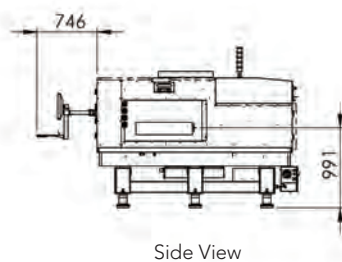
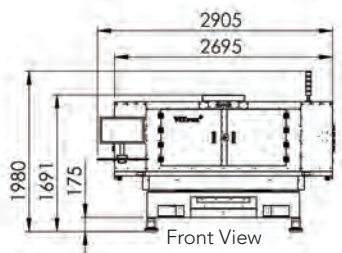
Allowable Panel Characteristics **

Maximum PCB Size (L x W)	1200.0 mm x 660.4 mm (47.24"x26")		
Minimum PCB Size (L x W)	76.2 mm x 76.2 mm (3" x 3")		
Maximum PCB inspectable area	1200.0 mm x 654.4 mm (47.24"x25.7")		
Maximum PCB thickness	10mm (393 mils)		
Minimum PCB thickness	1.5mm (60 mils)		
PCB warp	<2mm downward, 1mm upwards (without PSP); <3mm downward, <1.5mm upwards (with PSP)		
Maximum PCB weight	15kg		
Top Clearance of PCB with System resolution	50 mm @ 19 µm resolution; 31 mm @ 15 µm resolution; 13 mm @ 11 µm resolution; 31 mm @ 10 µm resolution# 13 mm @ 7.5 µm resolution# (Calculated from Board Top surface)		
Bottom Clearance of PCB	80 mm		
PCB edge clearance	3 mm		
100% Press-fit testability	Yes (With PSP2 / PSP2.1 feature)		
PCB Temperature	40 Deg C		

Specifications are subject to change.

Installation Specification

System footprint (Width X Depth X Height)	2695 mm x 2460 mm x 1980 mm
Weight	6700 kgs
Electrical Supplies	200 – 240 VAC three phase; 380 – 415 VAC three phase wye (+/- 5) (50Hz or 60Hz)
Air Requirement	552kPa (80psi)



*Note:

1. Assuming pad width is 50% of pitch.
2. The reported values for minimum feature detection assume that the feature is in a single plane of focus and that there are no X-ray absorbers in the X-ray path or in the immediate area of the feature other than those found in a typical multi-layer printed circuit board.

#2x2 binning camera configuration, Hardware upgrade is required.

**Note:

1. Panels are handled on width edges. Panels with edge cut outs may require the use of a carrier.
2. Maximum panel size dimensions and weight must include carrier if applicable.
3. Smaller panels are possible with the use of panel carriers.
4. With panels of this thickness, imaging results can be affected by PCBA layout.
5. Measured from the bottom of the panel including a maximum warp.

V810i S3

System controller	Integrated controller with 8 Core Intel Xeon processors
Operating system	Windows 10 (64 bits)

Test Development Environment

User interface	Microsoft Windows based software solution with easy-to-use GUI and password-protected user levels
Off-line test development software	Optional for off-line PC
CAD conversion tool	Support 4 different types of CAD in V810i software and optional software available to translate other CAD data to ViTrox's format
Typical test development time	4 hours to 1.5 days to convert raw CAD file and develop application

Line Integration

Transport heights	865 mm - 1025 mm
Line communication standard	SMEMA, HERMES
Barcode readers	Compatible with most industry standard barcode readers

Performance Parameters *

Typical image acquisition rate	51.68 cm ² /sec (8 in ² /sec) at 19um		
False Call rate	500 - 1000 ppm		
Minimum features detection capability	Joint pitch ¹	Short pitch ²	Solder thickness
	0.3 mm and above	0.045 mm	0.0127 mm

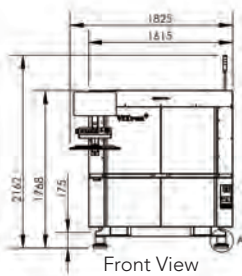
Allowable Panel Characteristics **

Maximum PCB Size (L x W)	725mm x482.6 mm (28.5"x19")
Minimum PCB Size (L x W)	63.5mm X 63.5mm (2.5" x 2.5")
Maximum PCB inspectable area	725mm x 474.9 mm (28.5"x18.7")
Maximum PCB thickness	7mm (276 mils)
Minimum PCB thickness	0.5mm (20 mils)
PCB warp	Downside < 3.3 mm; Upside < 3.3 mm
Maximum PCB weight	4.5kg
Top Clearance of PCB with System resolution	50mm @ 22um resolution; 44mm @ 19um resolution; 28mm @ 15um resolution;13mm @ 12um resolution; 28mm @ 10um resolution;13mm @ 7um resolution (Calculated from Board Top surface)
Bottom Clearance of PCB	80 mm
PCB edge clearance	3 mm
100% Press-fit testability	Yes (With PSP2 / PSP2.1 feature)
PCB Temperature	40 Deg C

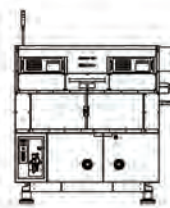
Specifications are subject to change.

Installation Specification

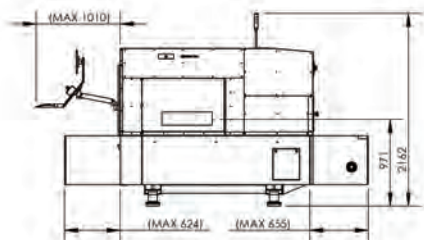
System footprint (Width X Depth X Height)	1835mm x 2185mm x 2162mm
Weight	4000 kgs
Electrical Supplies	200 – 240 VAC three phase; 380 – 415 VAC three phase wye (+/- 5) (50Hz or 60Hz)
Air Requirement	552kPA (80psi)



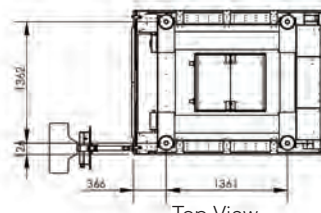
Front View



Back View



Side View



Top View

*Note:

1. Assuming pad width is 50% of pitch.
2. The reported values for minimum feature detection assume that the feature is in a single plane of focus and that there are no X-ray absorbers in the X-ray path or in the immediate area of the feature other than those found in a typical multi-layer printed circuit board.

**Note:

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2. Maximum panel size dimensions and weight must include carrier if applicable.
3. Smaller panels are possible with the use of panel carriers.
4. With panels of this thickness, imaging results can be affected by PCBA layout.
5. Measured from the bottom of the panel including a maximum warp.