VISCOM
vision technology

S6056

High-End Inspection:
Maximum Speed, Ease of Use,
Reliability and Precision…
Configured to your Needs…

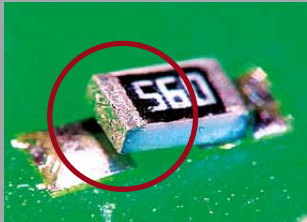VISCOM
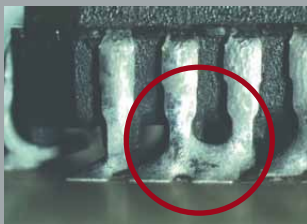vision technology   S6056

AOI

The Future Proof Inspection Solution

Configuration from Single Track up to Dual Track with Parallel Inspection to Double the Throughput
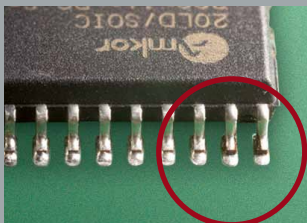
Scalable, modular camera technology, specific to the depth of inspection and throughput

Maximum throughput, down to '01005, 0.3 mm pitch

**Inspection options:
single inspection on single track
single inspection on dual track
parallel inspection on dual track**

High performance OCR software

Rapid programming with EasyPro

**Auxiliary modules:
verification, off-line programming
and SPC evaluation**

**Worldwide competent service:
on site, hotline and remote support**

Viscom Support Website

In the manufacturing of electronic assemblies, optimization of the production processes is a major factor in the success of producing to the high demands of quality and delivery. It is here that the flexibility and performance of an automatic optical inspection (AOI) plays a crucial role. Simplicity of programming for quick product change-over, maximum inspection depth, camera technology capable of dealing with unique components, and high throughput rates that keeps pace with demanding cycle times.

Precision and Reliability…
Superior Inspection Results
with Proven High Performance
8M Camera Technology

As essential core of an automatic optical inspection system, the camera module determines throughput and resolution. The S6056 employs high performance **8M camera technology** to guarantee the highest inspection depth, even at extreme cycle times. Shorter exposure times significantly increase image upload speed, from 16 to 20 fps (frames per second) in standard mode; faster image upload translates into increased throughput. **Angled cameras** secure the reliable detection of critical defects such as lifted leads in the fine-pitch range. Further, this system has been designed for unrestricted compatibility with future generations of camera technology.

With the **OnDemandHR function**, the AOI resolution can be flexibly switched over from 23.5 to 11.75 µm/pixel with the full image field size. In the angled view, a range of 16.1 µm/pixel to 8.05 µm/pixel is possible. Thus, reliable inspection of 01005 components is guaranteed.

The 8M camera module is assembled with white LEDs, so the standard AOI system also provides the possibility of **color evaluation**. This brings the advantage: additional defects such as copper exposure – incompletely wetted copper pads – can be detected with reliability.
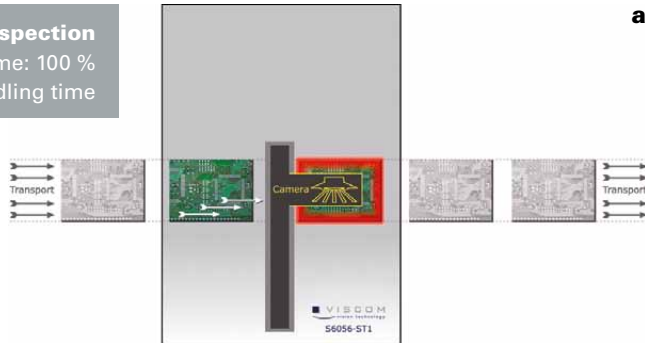
Maximum Speed ...
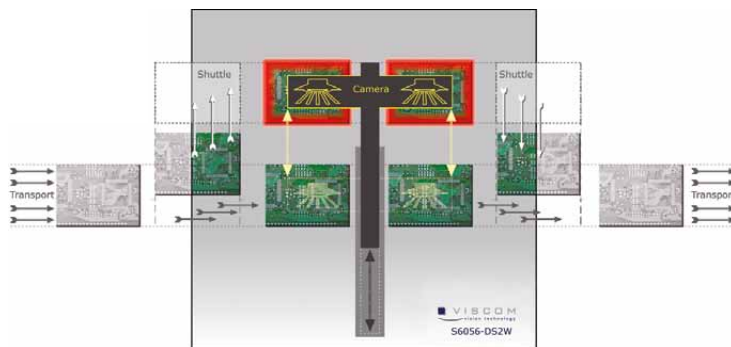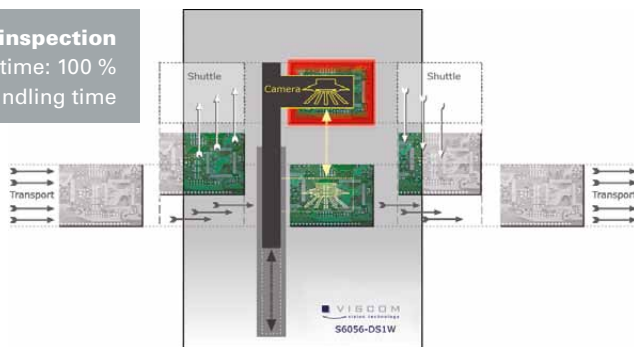## High-Speed Inspection for Solder Paste, Solder Joints, and Assemblies

S6056-ST1

S6056-DS1W

S6056-DS2W

The flexibility integrated into the S6056 **provides a configuration according to the needs of the customer**. The basis for this area is the proven single track, or dual track option, which integrates an internal shuttle system both on the entry and exit sides so that it is not necessary to mount external conveyor units when the dual track is used on a single-line manufacturing process.

In addition to the individual inspection using a single or dual track system, this system also offers the possibility of **parallel inspection** to meet high volume throughput demands. This system is configured with a dual track and dual camera modules that **provide the simultaneous inspection of two printed circuit boards per track**. Handling time is reduced to zero seconds, and analysis time is split in half.

The S6056 processing systems are housed in an integrated switch gear cabinet with hinged frame, making the upgradability performance and maintenance work **much more accessible**.

Ease of Use …
## Comfortable User Interface – ViscomVisionPilot with Integrated EasyPro
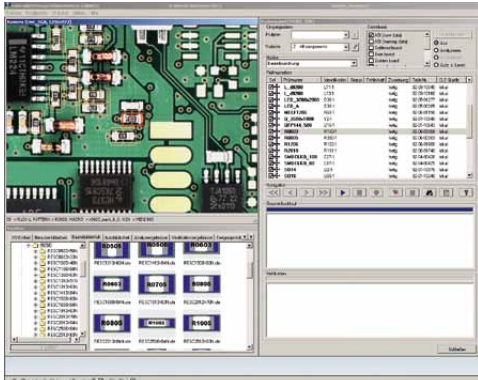
Viscom's user interface EasyPro is based on a model-oriented component library and intuitive programming. The operator views a virtual image of the PCB, helping to make programming easy and convenient. The essential functions of EasyPro are a user-friendly user interface, **intelligent data import** and the **IPC-compliant Viscom inspection library**, which allows the **inspection plan to be created in only three steps**.

As a central feature, **TrustedChange, Viscom's integrated defect verification** greatly simplifies the reduction of false alarms while ensuring virtually zero defect escapes. The integrated defect verification tool uses stored image data of classified defects and golden boards to simulate a test run with all validated production results. Inspection program quality can be confirmed at any time, whether for in-house production needs or for documentation during customer audits.
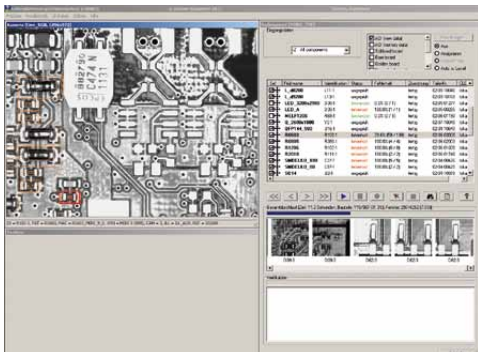
The **standard software interface** for all Viscom systems, **ViscomVisionPilot**, with its intuitive menu system, offers the customer a comprehensive graphic representation of the system and inspection status. From the display of the current transport status, up to and including monitoring real time data flows, the user has quick and easy access to relevant production information. Further features include password protected support of different user levels and the integration of system diagnostic tools.
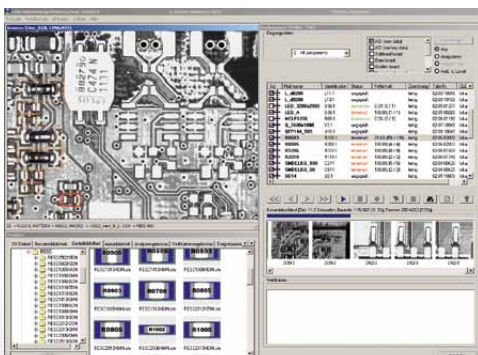
Subsequent data evaluation is a powerful tool for **real-time process optimization. State-of-the-art OCR software** is also available for inspecting alpha-numeric-text tasks and is a great second-source for component verification. All Viscom systems are **100 % lead-free capability** – this is ensured by means of an algorithm based software analysis which provides optimal results even under the most variable conditions.

Technical Specifications

VISCOM vision technology

	S6056 ST1	S6056 DS1W	S6056 DS2W
Transport system	Single track	Dual track	Dual track
Inspection concept	Single inspection	Single inspection	Parallel inspection

Application

Solder joint, assembly, solder paste

Camera technology

Orthogonal camera module 8M (white LEDs)

Field of view	57.6 x 43.5 mm (2.27" x 1.71")
Resolution	23.5 μm (standard), 11.75 μm (high) switchable with OnDemandHR
Number of mega pixel cameras	4

Angled view camera module 8M (white LEDs)

Resolution	16.1 μm (standard), 8.05 μm (high) switchable with OnDemandHR
Number of mega pixel cameras	4, 8 (optional)

Software

User interface	Viscom EasyPro/vVision ready
Verification station	Viscom HARAN/vVerify ready
SPC	Viscom SPC (statistical process control), open interface (optional)
Remote diagnosis	Viscom SRC (optional)
Off-line programming	Viscom PST34 (external Programming Station) (optional)

System computer

Operating system	Windows®
Processor	Intel® Core™ i7

PCB handling

	ST1	DS1W	DS2W
PCB dimensions (L x W)	457 x 356 mm (17.9" x 14.0")	457 x 356 mm (17.9" x 14.0")	457 x 356 mm (17.9" x 14.0") (as ST2XW 900 x 625 mm (35.4" x 24.6"))
PCB carrier	1.0 - 5.0 mm (0.04" - 0.20")		
Transport height	850 to 960 mm ± 20 mm (33.46" to 37.79" ± 0.79")		
Width adjustment	Automatically with set-up		
Handling unit	Linear motors		
PCB clamping	Pneumatic during inspection		
PCB contact area	3 mm (0.12")		
Upper transport clearance	35 mm (1.39") (50 mm (1.97") optional)		
Lower transport clearance	60 mm (2.36") (other heights upon request)		

Inspection speed

	ST1	DS1W	DS2W
	$20 - 40\ cm^2/s$	$20 - 40\ cm^2/s$ no handling time	$40 - 80\ cm^2/s$ no handling time

Other system data

	ST1	DS1W	DS2W
Interfaces	SMEMA, SV70, customer specific		
Power requirements	400 VAC, 3 phases, PE & N, 50/60 Hz, < 3 kW, compressed air 6 bar (90 psi)		
Line gap requirements	System width approx. +30 mm (1.18")		
System dimensions (W x D x H)	1100 x 1672 x 1700 mm (43.3" x 62.7" x 63.8")	1530 x 1672 x 1700 mm (60.2" x 62.7" x 63.8")	2030 x 1672 x 1700 mm (79.9" x 62.7" x 63.8")
Weight (max.)	Approx. 1350 kg (2976 lbs)	Approx. 1450 kg (3197 lbs)	Approx. 1700 kg (3748 lbs)
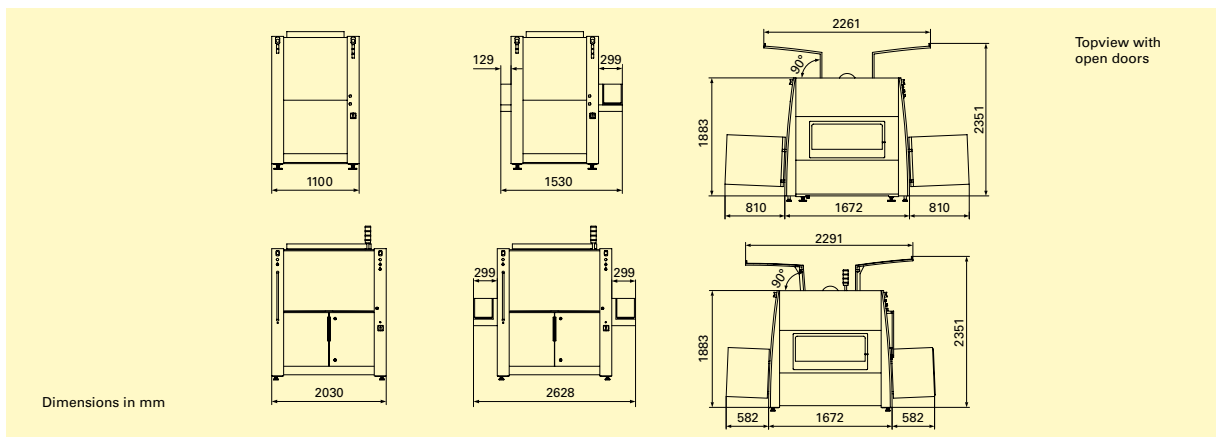
Dimensions in mm

Topview with open doors

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