

# VIEW Summit™ 450/600

A large travel, high accuracy dimensional metrology system



## Featuring:

- Measuring range: 450 x 450 x 150 mm (18 x 18 x 6 in.) or 450 x 600 x 150 mm (18 x 24 x 6 in.)
- Accuracy to:  $E_2$  (XY plane) =  $(1.5 + 5L/1000) \mu\text{m}$
- Optional 400 mm/sec stage velocity with frictionless linear motor drives
- Sub-micron scale resolution
- High-precision dual magnification optical system
- Optional Programmable Multi-Color Ring Light (PRL)
- Optional through-the-lens (TTL) laser with autofocus and scanning capabilities
- Advanced image processing for high speed, accuracy and robustness
- Subpixel accuracy of 1/10 to 1/50 pixel
- Choice of powerful metrology software and data analysis tools
- MTBF  $\geq$  8,000 hours
- Optional ESD and Class 1000 clean room compatible



*Photo Description: VIEW Summit 600  
The product photo above displays the Summit 600 model with VMS software, and optional Integrated workstation. Additional options are listed in the technical specifications and are not included in this photo.*

The VIEW Summit™ delivers high accuracy and high measuring speeds for near-line process monitoring and quality assurance applications. XY Stage velocities of 200 mm/sec (standard model) and 400 mm/sec (with optional linear motor drive system) ensure very high productivity on the factory floor.

Available in two large travel sizes, Summit is ideally suited for measuring large footprint parts such as PCBs, stencils, flat panel displays, etching sheets, and mask patterns, as well as nested groups of smaller parts.

Available optional software packages increase system versatility:

- CAD import (DXF/IGES) Software
- Form fitting and analysis Software
- Off-line Programming Software
- QC-Calc™ Statistical Process Control (SPC) — Real-time analysis and reporting software
- VIP™ (VIEW Interface Program) — Optional VMS operator interface with direct links to data analysis

## Advanced metrology for leading technologies

Applications for Summit include:

### Semiconductor/Electronics

- PCBs and stencils
- Photo masks
- Lead frames, wire bonds, flex circuits, connectors
- SMT component placement
- Solder paste/Epoxy glue dot
- Chip carriers and trays
- Inkjet printer cartridges

### Data Storage

- Disk media substrates
- Slider and Head Gimble Assemblies (HGA)
- Wafer carriers and row bar pallets

### Precision plastic molded and machined parts

- Dies and tooling
- Medical devices
- Fuel injection components
- Watch components

## Technical Specifications - VIEW Summit™ 450/600

● Standard ● Optional

Measuring Range	Model 450: 450 x 450 x 150 mm (18 x 18 x 6 in.) Model 600: 450 x 600 x 150 mm (18 x 24 x 6 in.)					
Resolution	● 0.1 μm (0.000004") ● 0.04 μm (0.000016")					
Stage Drive System	● DC servo motor control ● High-speed linear motor drive system					
Stage Drive Velocity	● XY: 200 mm/sec; Z: 100 mm/sec ● XY: 400 mm/sec					
Stage Drive Acceleration	● XY: 750 mm/sec <sup>2</sup> ; Z: 200 mm/sec <sup>2</sup> ● XY: 1,000 mm/sec <sup>2</sup>					
Stage Error Mapping	Non-linear 2D error corrections in XY plane					
Load Capacity	50 kg (110 lbs) maximum load					
Objective Magnification	0.8x/3.2x	1x/4x	2.5x/10x	5x/20x	10x/40x	25x/100x
Working Distance	110 mm	34 mm	34 mm	33.5 mm	20 mm	13 mm
Field of View (mm)						
Low	● 7.4 x 5.7	● 6.1 x 4.8	● 2.4 x 1.9	● 1.2 x 0.9	● 0.6 x 0.5	● 0.25 x 0.19
High	● 1.84 x 1.43	● 1.53 x 1.2	● 0.61 x 0.48	● 0.31 x 0.24	● 0.15 x 0.12	● 0.06 x 0.05
Low	● 10.1 x 7.9	● 8.4 x 6.6	● 3.4 x 2.6	● 1.7 x 1.3	● 0.8 x 0.7	● 0.34 x 0.26
Optics	● Ronchi Grid Projection ● AccuCentric® Magnification Calibration <sup>1</sup>					
Illumination	● Programmable LED Illumination system for stage backlight and coaxial surface light ● Multi-color (red, blue, green, and composed white) LED Illumination Programmable Ring Light (PRL) ● VectorLight™ programmable ringlight with white LEDs					
Image Sensor	● Dual digitally processed B&W CCD 765 x 576 pixel cameras; 4:1 ratio ● Dual digitally processed B&W CCD 765 x 576 pixel cameras; 6:1 ratio					
Image Processing	● Frame integration, 10:1 to 50:1 subpixeling					
Sensor Options	● Through-the-lens (TTL) laser autofocus and scanning sensor ● Triangulation and confocal laser displacement sensors ● Chromatic spectral analysis sensor for ultra-precise Z-axis measurements					
Computer	● Intel® Pentium™ processor and Windows® XP operating system with 20" LCD flat panel monitor, joystick, keyboard, and mouse					
Workstation	● Stand-alone workstation; 90 x 90 x 128 cm (35 x 35 x 50 in.), 40 kg (88 lbs) ● Integrated workstation an adjustable, mounted platform that provides support for the flat panel display and peripherals					
Metrology Software	● VIEW Metrology Software (VMS) ● Elements™ self-programming SMT metrology software					
ESD Control Option	● ESD and Class 1000 clean room compatible					
Mechanical Options	● Certified calibration standards and accessories ● Fixture kits ● Rotary Indexers					
MTBF	≥ 8,000 hours					
Power Supply	115/230 VAC, 50/60 Hz, 1000 W					
Rated Environment	18-22°C, (65-71°F) 30-80% humidity (non-condensing) vibration <0.0015g below 15Hz					
System Dimensions	(W x D x H) - 1016 x 1460 x 1930 mm; (40 x 57.5 x 76 in.)					
Weight	Crated: 1136 kg (2500 lbs) Uncrated: 1000 kg (2200 lbs)					
Measuring Accuracy at 20°C (68°F)	● E <sub>z</sub> (XY plane) = (2.0 + 6L/1000) μm ● E <sub>z</sub> (XY plane) = (1.5 + 5L/1000) μm (with optional linear motor drives) ● E <sub>x</sub> (Z-axis) = (1.5 + 5L/1000) μm ● E <sub>y</sub> (Z-axis) = (1.0 + 5L/1000) μm (with optional laser and 5x lens or higher)					
	Where L = measuring length in mm. All specifications apply to a thermally stable machine and a certified artifact at 20°C, with evenly distributed load, at standard measuring plane.					

<sup>1</sup> Patent number 5,389,774.



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