VIEW Summit™ 450/600

A large travel, high accuracy dimensional metrology system

VIEW MICRO-METROLOGY
A Division of Quality Vision International

VIEW Summit™

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) µm

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 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 and 20-ich LCD monitor. Additional options are listed in the technical specifications and are not included in this photo.

QVI®

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.)
Scale Resolution	○ 0.1 µm (0.000004") ● 0.05 µm (0.000002") Zero expansion material
Stage Drive System	○ DC servo, rod drive on X & Y axes; DC servo, rotary motor drive on Z axis ● Frictionless, high-speed linear motor drives on X and Y axes
Stage Drive Velocity	○ XY: 200 mm/sec; Z: 100 mm/sec.; ● XY: 400mm/sec
Stage Error Mapping	○ Non-linear 2D error corrections in X-Y plane
Stage Load Capacity	○ 50 kg (110 lbs) maximum load
Optical System	○ Dual magnification, fixed lens optical system with 1X and 4X internal magnifications.

	0.8x/3.2x	1x/4x	2.5x/10x	5x/20x	10x/40x	25x/100x
Objective Magnification	●	●	○	●	●	●
Working Distance	84 mm	34 mm	32 mm	33 mm	30 mm	13 mm
Field of View (mm)						
Low ○	8.3 x 6.2	6.8 x 5.1	2.7 x 2.0	1.3 x 1.03	0.6 x 0.5	0.27 x 0.20
High ○	1.9 x 1.4	1.5 x 1.2	0.64 x 0.48	0.32 x 0.24	0.15 x 0.11	0.06 x 0.05

Optical Accessories	● Ronchi Grid Projection
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™ high-intensity programmable ringlight with white LEDs
Cameras	○ Dual digital 1.4 megapixel monochrome cameras; 4:1 ratio
Image Processing	○ Frame integration, 10:1 to 50:1 subpixeling ● CiC - Continuous Image Capture integrated with stage motion for on-the-fly high speed measurement
Sensor Options	● Through-the-lens (TTL) laser autofocus and scanning sensor ● Triangluation and confocal laser displacement sensors ● SpectraProbe™ high resolution chromatic sensor
Controller	○ Dedicated system controller with embedded Intel® 2.66 Ghz Quad CPU Processor and Windows® operating system
Operator Workstation	○ Stand-alone Anthro Cart Operator workstation; 90 x 90 x 128 cm; 40 kg ● Integrated adjustable sit / stand workstation arm, with independent height adjustment for monitor and keyboard that provides support for the flat panel display and peripherals
Display Monitors	● Single 20" LCD flat panel monitor, joystick, keyboard, and mouse ● Dual 20" LCD flat panel monitors, joystick, keyboard, and mouse
Metrology Software	○ VIEW Metrology Software (VMS) ● Elements™ CAD to Measure metrology software ● VMS Off-Line Workstation Software
Mechanical Options	● Certified calibration standards and accessories ● Fixture kits ● Rotary Indexers
MTBF	○ ≥ 8,000 hours
Power Supply	○ 115/230 VAC, 50/60 Hz, 700 W
Rated Environment	○ 18-22°C, (65-71°F) stable to +/- 1° C; 30-80% humidity (non-condensing); vibration <0.001g below 15Hz
System Dimensions	(W x D x H) - 1016 x 1650 x 1930 mm (40 x 65 x 76 in.)
Weight	**Crated:** 1136 kg (2,500 lbs) **Uncrated:** 1000 kg (2,200 lbs)
Measuring Accuracy at 20°C (68°F)	○ E_2 (XY plane) = (1.5 + 5L/1000) µm[1,2,3,4] ○ E_1 (Z-axis) = (1.4 + 5L/1000) µm[1,2,5]

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.

1. Maximum rate of temperature change: 1° C / Hour.
2. Maximum vertical temperature gradient: 1° C / Meter
3. At rated velocity with an evenly distributed load of 5KG for standard drive and 50KG for linear motor drives.
4. X,Y area accuracy artifact: QVI grid reticle or QVI linescale in the standard measuring plane.
5. Z axis accuracy artifact: QVI step gage, interferometer or master gage blocks.

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