

## SmartScope® Flash 302

- **Designed-in precision** – Elevating bridge design eliminates errors common to other designs
- **Precision optics** – High quality AccuCentric® zoom lens automatically compensates magnification for each zoom position
- **Superb illumination for the best video measurements** – Standard profile light, coaxial surface light, and SmartRing™ light illuminate parts from all angles
- **Multisensor versatility** – Optional touch probe, scanning probe, laser, and micro-probe sensors

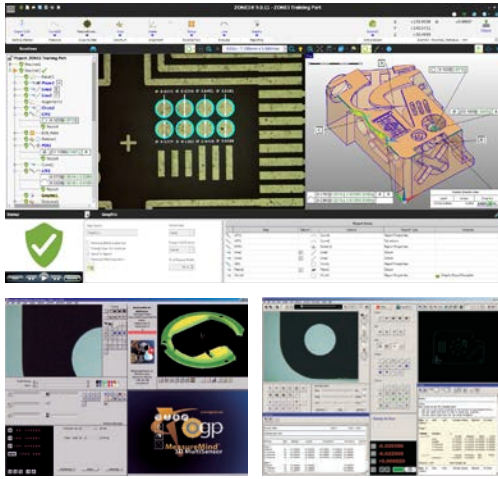
Axis	Travel (mm)
X axis	300
Y axis	300
Z axis	250

### High Capacity Multisensor Dimensional Measuring System that Fits on a Benchtop

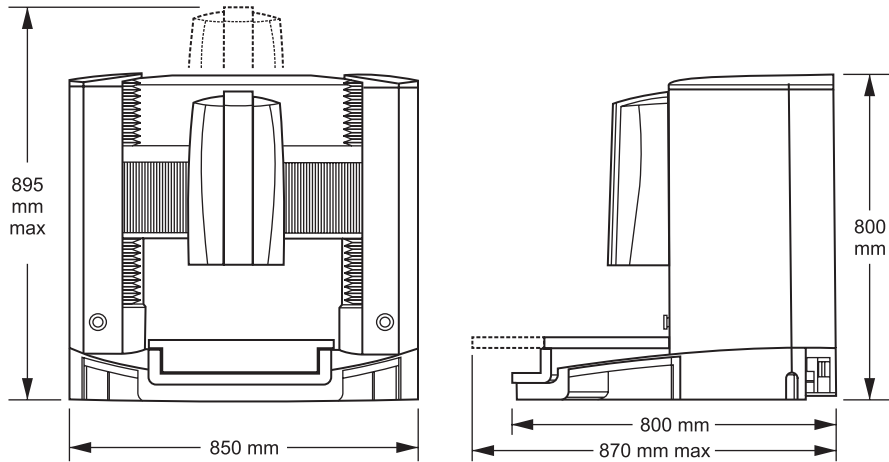


Shown with optional touch probe, MicroTheta™ Rotary Indexer & QVI TTL laser

# SmartScope® Flash 302



Choose the metrology software best suited to your manufacturing setting — ZONE3®, MeasureMind® 3D or Measure-X®.



System Weight: 160 kg  
Shipping Weight: 340 kg

	Standard	Optional
<b>XYZ travel</b>	300 x 300 x 250 mm	
<b>XYZ scale resolution</b>	0.1 µm, with dual Z-axis scales standard	
<b>Drive system</b>	DC servo with 4-axis control (X,Y,Z,zoom); with multifunction handheld controller and dual Z-axis drives	
<b>Worktable</b>	Hardcoat anodized, with fixture holes, removable stage glass, 30 kg recommended max payload	
<b>Rotary axis</b>		Miniature Servo Rotary (MSR), MicroTheta Rotary (MTR)
<b>Optics*</b>	AccuCentric® auto-compensating zoom with up to 25 calibrated positions, 1.0x lens	<b>Focus Grid Projector:</b> LED Source <b>Laser Adapter:</b> Allows for field retrofit of TTL Laser. Includes Laser Pointer <b>Replacement Lenses:</b> 2.5x, 5.0x <b>Laser Lenses:</b> 2.0x (Included with TTL Laser), 5.0x <b>Lens Attachments for 1.0x Lens:</b> 0.5x, 0.75x, 1.5x, 2.0x
<b>FOV Range</b>	8.0 mm x 6.0 mm (low zoom) to 0.90 mm x 0.68 mm (high zoom)	14.6 mm x 10.9 mm (1.0x lens, 0.5x attachment) to 0.19mm x 0.14 mm (5.0x lens)
<b>Working Distance</b>	64 mm	Up to 97 mm (1.0x lens, 0.5x attachment)
<b>Illumination</b>	LED numerical aperture matching substage, LED coaxial TTL surface, 8 sector/8 ring SmartRing™ LED (white)	<ul style="list-style-type: none"> <li>Flexible SmartRing light for long working distance optical configurations</li> <li>Red or green SmartRing light</li> </ul>
<b>Camera</b>	Color digital metrology camera	
<b>Image Processing</b>	256 level grayscale processing with 10:1 subpixel resolution	
<b>Sensor Options**</b>		<b>Tactile:</b> TP20 or TP200 Touch Probe, SP25 Scanning Probe, Feather Probe™ <b>Non-Contact:</b> Through-the-Lens (TTL) Laser
<b>Controller</b>	Windows® based, with up-to-date processor and on board networking/communication ports	
<b>Controller Accessory Package</b>		24" flat panel, or dual 24" flat panel LCD monitors; keyboard, 3-button mouse (or user supplied)
<b>Software</b>	<ul style="list-style-type: none"> <li>Choice of ZONE3 Express or Measure-X or MeasureMind 3D metrology software</li> <li>QVI Portal</li> </ul>	<b>Metrology software:</b> ZONE3 Prime, ZONE3 Pro <b>Productivity software:</b> MeasureFit® Plus, SmartFit® 3D, SmartProfile®, E-SPC <b>Offline software:</b> ZONE3, MeasureMind 3D, Measure-X
<b>Power Requirements</b>	100-120 VAC or 200-240 VAC, 50/60 Hz, 1 phase, 800 W	
<b>Operating Environment, Safe Operation</b>	15-30 °C	
<b>Rated Environment</b>	Temperature 18-22 °C, stable to ±1 °C, max rate of change 1 °C / hour, max vertical gradient of 1 °C / meter; 30-80% humidity; vibration <0.001g below 15 Hz	
<b>XYZ volumetric accuracy</b>		$E_3 = (3.8 + 5L/1000) \mu\text{m}$ (requires QVI 3D metrology software)
<b>XY area accuracy</b>	$E_2 = (1.8 + 5L/1000) \mu\text{m}$	
<b>Z linear accuracy</b>	$E_1 = (3.4 + 5L/1000) \mu\text{m}$	$E_1 = (2.4 + 5L/1000) \mu\text{m}$ (requires optional TTL Laser, or touch probe)

Accuracy is evaluated with a QVI verification procedure where "L" is measured length in millimeters. Specifications apply within the rated environment. Standard optical specifications apply at the maximum optical magnification of the standard configuration. XY Accuracy applies with an evenly distributed load up to 5 kg in the standard measuring plane. The standard measuring plane is defined as a plane that is within 25 mm of the worktable surface. Depending on load distribution, accuracy at maximum payload may be less than standard. Volumetric accuracy performance requires MeasureMind 3D or ZONE3, and on-site verification is optional.  
\*Lenses and lens attachments can be manually interchanged to change magnification and working distance. \*\*SP25 only supported in ZONE3. Feather Probe only supported in ZONE3 and MeasureMind 3D.



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