



Fusion 400

LFOV performance –

Dual optical paths — low mag with 100 mm viewing area and high mag for small feature measurement and autofocus

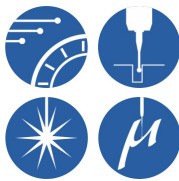
Multisensor versatility –

Optional touch probe, TeleStar® TTL laser, micro-probe, continuous contact scanning probe, and 4th and 5th axis rotary indexers

ZONE3® productivity –

3D CAD-based metrology software, with integral AutoID and AutoMeasure functions, ideal for LFOV optics

Innovative Large Field-of-View (LFOV) Multisensor Measuring System



Axis	Travel (mm)
X axis	350
Y axis	250
Z axis	250

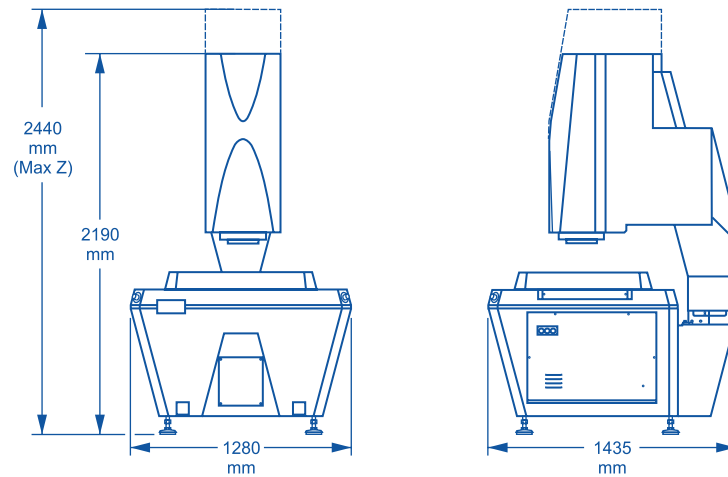
Shown with optional dual monitor swing-arm operator workstation





Available Optional Software:

- ZONE3 Pro
- ZONE3 Offline



Machine Weight: 2100 Kg

Optics	Low Mag	High Mag
Optical magnification	0.16x	0.50x
Camera	4-megapixel, digital monochrome	5-megapixel CMOS, digital monochrome
Field of view	100 mm, diagonal	20 mm, diagonal
Depth of field	75 mm	2 mm
Working distance	185 mm	185 mm
Accessories		LED Grid Illuminator for focus contrast (optional, for high mag only)
Transport	Standard	Optional
XYZ motion range	350 x 250 x 250 mm	
XYZ scale resolution	0.1 µm	0.05 µm zero expansion
Drive system	XY: High helix ball-screw DC servo; Z: DC servo with pneumatic counterbalance	
Worktable	Electroless nickel-plated steel, with fixture holes, removable stage glass	
Max recommended payload	30 kg	
Max XY velocity	400 mm/sec	
Max XY acceleration	1000 mm/sec ²	
Illumination	Standard	Optional
Profile (transmitted)	Collimated, full field, LED	
Surface (reflected)	Square-on internal	
Oblique surface (reflected)	Dual mode oblique ring light with 8 programmable segments	Deployable low angle of incidence ring illuminator
Sensors	Standard	Optional
Deployment mechanism	On-axis, air-deployed mechanical support (ADMS)	
Optical		Deployable RPS 1500 Rainbow Probe™ Deployable TeleStar Probe laser 2.0x magnification lens (for high mag only) 45° mirror (for high mag only)
Tactile		Touch probe, TP20, TP200 Scanning probe, SP25 Feather Probe™
Laser	Laser Range Finder system for optimal Z-focus positioning	TeleStar® interferometric TTL laser
Controller	Windows® based, with up-to-date processor and networking/communication ports	
Controller accessory package	24" flat panel LCD monitor, keyboard, 3-button mouse, ergonomic sit/stand operator workstation	Dual 24" flat panel LCD monitors, attached dual monitor swing-arm operator workstation
Software	QVI Portal, including: • ZONE3® Metrology Software • Portal Navigator • Independent Calibration Engine (ICE) • Multimedia Content Viewer • SmartLink™	Metrology software: ZONE3 Pro, ZONE3 Offline
Power requirements	115/230 vac, 50/60 Hz, 1 phase, 700 W	
Compressed air requirements	Air supply rate: minimum 7.5 liters/min @ 0.55 Mpa (0.27 ft ³ /min @ 80 psi)	
Rated environment	Temperature 18-22° C, stable to ±1° C; 30-80% humidity; vibration <0.001g below 15 Hz	
Operating environment, safe operation	15-30° C	
XYZ volumetric accuracy ¹	$E_3 = (1.8 + 4L/1000) \mu\text{m}^{2,4,5}$	
XY area accuracy ¹	$E_2 = (1.0 + 4L/1000) \mu\text{m}^{2,3,4}$	
Z linear accuracy ¹	$E_1 = (2.5 + 4L/1000) \mu\text{m}^4$	$E_1 = (1.0 + 5L/1000) \mu\text{m}^4$ (with optional touch probe or TeleStar TTL laser)

¹Where L = measuring length in mm. Applies to thermally stable system in rated environment. Maximum rate of temperature change: 1° C/hour. Maximum vertical temperature gradient: 1° C/meter. All optical accuracy specifications at maximum magnification. ²With evenly distributed load up to 10 kg. Depending on load distribution, accuracy at maximum rated load may be less than standard accuracy. ³Measured in the standard measuring plane. The standard measuring plane is defined as a plane that is within 25 mm of the worktable surface. ⁴E, Z axis linear, E₂ XY area, and E₃ XYZ volumetric accuracy standards are described in QVI Publication Number 790762. ⁵On-site verification optional.



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