DATA SHEET

SMARTSCOPE® M130

SmartScope M130 is a large travel floor model 3D multisensor measurement system for large or heavy parts.

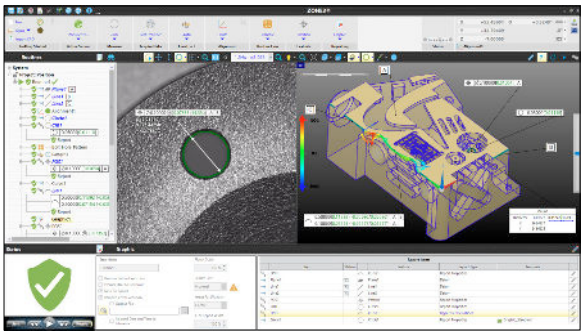
SmartScope M130 is powered by ZONE3® metrology software and is fully 3D and multisensor capable. SmartScope M130 also offers:

IntelliCentric-M Optical System: Fully telecentric optics with instantaneous magnification change and VIRTUAL ZOOM™.

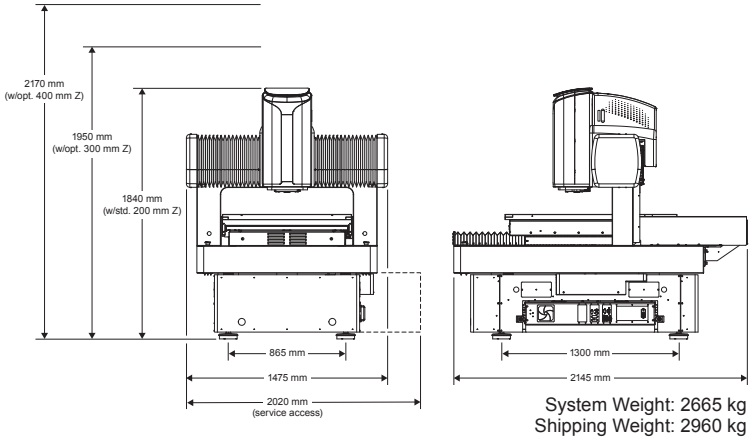
Fixed granite bridge and base rest on a sturdy steel support structure to provide a rigid, orthogonal structure for measurement stability.

Optional tactile probes, non-contact sensors, and rotary indexers.

Shown with optional scanning probe.



ZONE3® Metrology Software represents a totally new way of working with multisensor measurement systems, providing faster, easier, and more productive measurements.



System Weight: 2665 kg
Shipping Weight: 2960 kg

	Standard	Optional
XYZ Travel	790 x 815 x 200 mm	Extended Z-axis: 300 or 400 mm
XYZ Scale Resolution	0.1 µm	0.05 µm
Drive System	DC servo with 3-axis control (X, Y, Z) and multifunction handheld controller	
Worktable	Hardcoat anodized with fixture holes and removable stage glass; 75 kg recommended max payload	
Rotary Axis		Miniature Servo Rotary (MSR™), MicroTheta Rotary (MTR™), Heavy Duty Rotary (HDR)
Optics[1]	Fixed optical magnification with VIRTUAL ZOOM, M 11.5 standard lens	**Focus Grid Projector:** LED source **Laser Adapter:** Allows for field retrofit of TTL Laser (includes laser pointer) **Replacement Lens:** M 20.10 Wide Field-of-View/Long Working Distance **Replacement / Laser Lens:** M 6.3 High Magnification (included with TTL laser), M 2.1 Ultra-High Magnification
Illumination	Substage LED profile, coaxial LED surface, SmartRing™ LED ring light (green)	White SmartRing, Conical SmartRing (included with M 2.1 lens)
Metrology Camera	20 megapixel monochrome digital metrology camera	
Field of View	8 x 8 mm	**M 20.10:** 14 x 14 mm **M 6.3:** 4 x 4 mm **M 2.1:** 1.4 x 1.4 mm
Minimum Feature Size[2]	5 µm	**M 20.10:** 10 µm **M 6.3:** 3 µm **M 2.1:** 1 µm
Working Distance	68 mm	**M 20.10:** 98 mm **M 6.3:** 36 mm **M 2.1:** 16 mm
Sensor Options[3]		**Tactile:** TP20 or TP200 Touch Probe, SP25 Scanning Probe, Feather Probe **Non-Contact:** Through-The-Lens (TTL) Laser, TeleStar Probe, Rainbow Probe™, DRS™ Laser
Software	ZONE3 Express metrology software, QVI® Portal	**Metrology Software:** ZONE3 Prime or Pro **Productivity Software:** EVOLVE® Suite (Design, Manufacturing, SmartProfile®, SPC) **Offline Software:** ZONE3
System Controller	Windows® based with up-to-date processor and onboard networking/communication ports	High-Performance Controller
Controller Options	Ergonomic sit / stand operator workstation	24" flat panel LCD monitor or dual 24" flat panel LCD monitors, keyboard, 3-button mouse (or user supplied)
Accessories		Digital I/O Automation Interface
Power Requirements	100-120 VAC or 200-240 VAC, 50/60 Hz, 1 phase, 750 W	
Safe Operating Environment	15-30 °C, non-condensing	
Rated Environment	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 <0.001 g below 15 Hz	
XYZ Volumetric Accuracy		E_3 = (3.2 + 5L/1000) µm
XY Area Accuracy	E_2 = (2.0 + 5L/1000) µm	
Z Linear Accuracy	E_1 = (2.5 + 5L/1000) µm	E_1 = (2.0 + 5L/1000) µm (requires Touch Probe or TTL Laser) E_1 = (1.5 + 5L/1000) µm (requires TeleStar Probe)

Accuracy is evaluated with a QVI compensation and verification procedure where "L" is measured length in millimeters. Specifications apply within the rated environment. Standard optical specifications apply at the highest magnification of the standard configuration. XY Accuracy applies with an evenly distributed load up to 10 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. Factory and on-site verification of volumetric and enhanced Z accuracy specifications are quoted on request.

[1]US Patent No. 12 052 501. Lenses can be manually interchanged to change magnification and working distance.

[2]Based on width measurement of USAF resolution test chart in best focus at the highest magnification with profile illumination. For reference only.

[3]Touch Probe can be fixed mounted or on motorized deployment mechanism. TeleStar and Rainbow Probes can be fixed mounted or on mechanical deployment mechanism. TTL Laser and TeleStar Probe not available together.

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