RAM Optical Instrumentation

Sprint CNC
400 | 600 | 700

Precision RAM Optical performance in a large capacity video measurement system. Quality design. Quality construction. Quality performance.

Sprint CNC 400 system with optional workstation stand and LCD monitor.

FEATURES

Complete large travel, small footprint measurement system

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Rock-solid granite base and cantilever design, with precision motorized stages

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Large capacity XYZ travel: from 18 x 18 x 6 to 24 x 24 x 6 inches

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High resolution color camera and motorized zoom optics

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Basic-X metrology software makes it easy to run automatic routines for any part

AUTOMATIC MEASUREMENT SYSTEM

Sprint CNC 400, 600 & 700
Three-Axis Measurement for Large Parts & Assemblies

Sprint™ CNC 400-700 are high capacity, fully automatic dimensional measurement systems with a sturdy cantilever design for accuracy and large travel in a small amount of space. Three-axis measurement, rack & pinion Z slide and compound XY stage with precision mechanical bearing stages, DC motor drives, zoom optics and all-LED illumination make Sprint CNC 400-700 the ideal measurement tool for large parts and assemblies.

Intuitive Metrology Software

Sprint CNC with Basic-X™ Metrology Software which provides an extensive set of functions for operation and analysis through an easy-to-use graphical interface. Create and run measurement routines for all the parts you make to maintain the quality you demand and your customers expect.

Precision Zoom Optics

The sharp imaging 6.5 to 1 motorized programmable zoom lens is parcentric and parfocal, magnifying images as much as 135 times, in full color. And, 270 times with optional 2.0X lens.

Structural Integrity for Precision

The rock-solid granite base and metal structure ensures maximum stability for repeatable, accurate measurements. Joystick-controlled precision mechanical bearing XYZ stages have high resolution 0.000020 inch linear scales for accurate dimensional measurements throughout the entire travel range.

Versatile Illumination

Sprint CNC has illuminators for any measurement application. All LED surface and back light illumination and optional patented multi-ring, multi-segment VectorLight™ for Basic-X control of intensity, angle and direction of its pure white light.

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ROI
A Quality Vision International Company

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The Vision is Simplicity

TECHNICAL SPECIFICATIONS

Metrology Platform	**400**	**600**	**700**
XYZ Travel, in.	18 x 18 x 6	24 x 18 x 6	24 x 24 x 6
XYZ Travel, mm	450 x 450 x 150	600 x 450 x 150	600 x 600 x 150
Weight, approximate	1300 lbs/590 kg		

Camera	High resolution color CCD with 768 x 494 pixel array
Illumination	White LED on-axis | White LED back light
	White LED VectorLight (six concentric LED rings split into eight 45° sectors)
Zoom Lens	6.5:1 motorized
Working Distance (with f/o ring light)	3.30"
Working Distance (with f/o on-axis light)	2.10"
Working Distance (with VectorLight)	2.75"
Magnification on 15" LCD monitor	25X to 135X
Field of View (FOV), in. (mm)	0.07" to 0.35" (1.8 to 8.9 mm)
Optional Auxiliary Lenses	0.5X | 1.5X | 2.0X
Scale Resolution (XYZ)	0.00002"/0.5 μm
Load Capacity	65 lbs/30 kg
Computer (minimum configuration)	Intel® Processor, 512 MB RAM, 40 GB hard drive, 1.44 MB floppy drive, CD-ROM, parallel, serial and USB ports on board 10/100 LAN
Optional Accessories	15 in. flat panel LCD monitor, keyboard, mouse
	20 in. flat panel LCD monitor, keyboard, mouse
Operating System	Microsoft® Windows™ XP
Metrology Software	Basic-X™ Metrology Software by QVI
Optional Software Packages	SmartReport™ Plus | MeasureFit™ Plus | QC-Calc™ | SmartCAD™
Hardware Options	Computer Workstation Stand | Motorized Rotary
	Footswitch | Calibration Grid
Contact Sensor Option	TP20 Touch Probe
	Touch Probe Change Rack
Temperature	
Safe Operating	58°F - 85°F/14°C - 29°C
Meet Specifications	68°F ± 4°F/20°C ± 2°C
Power Requirements	100-240 VAC±5%, 50/60 Hz, 1Φ, 700 W
Performance	
XY Accuracy (CNC 400)	E_2= (120 + 8L) μinch
XY Accuracy (CNC 600)	E_2= (140 + 8L) μinch
XY Accuracy (CNC 700)	E_2= (160 + 8L) μinch
Z Measuring Accuracy	E_1= (140 + 8L) μinch
Z Measuring Accuracy	E_1= (100 + 8L) μinch (with optional Touch Probe)

Where 'L' is travel in inches. 1 μinch=0.000001 inches. Applies to thermally stable system in rated environment, maximum zoom lens setting, and evenly distributed 10 lb load. Depending on load distribution, accuracy at maximum rated load may be less than standard accuracy. XY axis artifact: QVI 25 intersection grid reticle at standard measuring plane. The standard measuring plane is defined as a plane that is 1" (25 mm) above the work table. Z axis artifact: QVI step gage.

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