RAM Optical Instrumentation

Sprint CNC
200 250 300

Sprint CNC Benchtop Measurement Systems

Productivity to suit your needs—There is a clear need for high performance yet affordable dimensional measurement systems. With the Sprint™ CNC benchtop measurement systems, RAM Optical offers three models that make automatic dimensional measuring easy and affordable with solid granite for stability, a choice of XYZ travels, and choice of optional sensors to perform your measurement requirements. On top of all that, you get the simple-to-use Measure-X® metrology software. The result is a complete metrology system for your dimensional measurement needs.

Production Performance—Choose the Sprint CNC 200 for the XY accuracy of $E_2=(100 + 4L)$ μinch. To accommodate larger parts or fixtures, there are the Sprint CNC 250 and 300. They deliver an XY accuracy of $E_2=(100 + 6L)$ μinch. These measurement systems are built to handle your most demanding applications by delivering the production capabilities you need.

Software that makes measurements simpler—With RAM Measure-X software, the easy-to-use interface offers a highly productive metrology work environment. Measure-X makes it simple to measure parts and create part routines. Get more of your jobs done with very little effort. Load your DXF file and let Measure-X create a program for you.





Features and Benefits

- Granite base and column
- Precision mechanical stage X, Y, and Z axes
- Motorized joystick control
- 0.000020" linear scales X, Y, and Z axis (Standard)
- Measuring ranges from 6 x 6 x 6 to 12 x 12 x 6 inches
- High resolution color camera
- Optional Renishaw probe and change rack
- Optional DRS laser
- Optional rotary indexer
- High intensity white LED VectorLight ring light and white LED back light
- LED coaxial illumination (optional)
- RAM Measure-X® full-featured metrology software
- Advanced image processing capability
- Automatic Z-axis measurement
- Automatic edge detection and multiple field-of-view tools
- Powerful editing tools for quick program changes
- Y14.5 compliant measurement software for manual or automatic measurement

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Features and Specifications

Metrology Platform	200	250	300
XYZ Travel, in.	8 x 6 x 6	12 x 6 x 6	12 x 12 x 6
XYZ Travel, mm	200 x 150 x 150	300 x 150 x 150	300 x 300 x 150
Weight, approximate	243 lbs/110 kg	250 lbs/113 kg	309 lbs/140 kg
Platform Dimensions, in. (XYZ)	22.25 x 21.75 x 31.5	28 x 21.75 x 31.5	28 x 32.25 x 31.5
Platform Dimensions, mm (XYZ)	560 x 550 x 800	710 x 550 x 800	710 x 815 x 800

Camera
High resolution color CCD

Illumination
White LED VectorLight (six concentric rings split into eight 45° sectors)
LED back light
White LED coaxial illumination

Motorized zoom lens
6.5:1

Working distance (with VectorLight)
2.75"

Magnification of 20" LCD monitor
35X to 175X and up to 600 with auxiliary lens and tubes*

Field of View (FOV), in. (mm)
0.070" to 0.35" (1.8 to 8.9 mm)

Scale resolution (XYZ)
0.00002"/0.5 μm

Optional scale resolution (XYZ)
0.000004"/0.1 μm

Load capacity
50 lbs/23kg

Controller
Minimum: Intel® processor
1 GB RAM
80 GB hard drive
1.44 MB floppy drive
CD-ROM
Parallel, serial and USB ports
On board 10/100 LAN

Operating system
Microsoft® Windows™ XP Professional

Metrology software
Measure-X® Metrology Software

Software options
MeasureFit®
SmartReport®
CAD interface
FDA compliant SmartFeature®

Hardware options
DC servo motor drives
Manual or motorized rotary
Footswitch
Dust cover
Calibration grid

Sensor Options
TP20 or TP200 touch probe
Touch probe change rack
DRS laser

Temperature, safe operating
41° F - 103° F/5° C - 40° C

Temperature, meet specifications
68° F ± 2° F/20° C ± 1° C

Power requirements
100-240 VAC ± 5%
50/60 Hz
1Φ
300 W

XY accuracy**
E_2 = (100 + 4L) μinch (200)
E_2 = (100 + 6L) μinch (250, 300)

Z measuring accuracy**
E1 = (160 + 4L) μinch

* Dependant on monitor size
** 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. 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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