Automatic Vision Metrology Systems

AVR

Optimax
Imaging Inspection Measurement

AVR200 AND AVR300

The AVR CNC Automatic Vision Metrology Systems are ideal for repetitive measurements and automatic comparison to CAD files. They are available with dedicated zoom optics or a quick-change bayonet lens mount which accepts a choice of zoom or telecentric lenses for micron-level resolution and accurate field-of-view (FOV) measurements. These can encompass an entire small part up to 2.00" x 1.50" or a feature of a larger part and be seamlessly integrated with stage motion to measure parts with a length up to 8" (AVR200) or 12" (AVR300). Systems are also touch probe compatible.

AVR hardware features a granite base for maximum stability, recirculating ball linear guides for smooth and precise stage motion, and full CNC control for high throughput. The AVR line is built around a 21" all-in-one touch screen PC which runs MetLogix™ M3-CNC software under Windows® 7. M3 software capabilities include 3-axis measurements and 2D geometric constructs (points, lines, angles, rectangles).
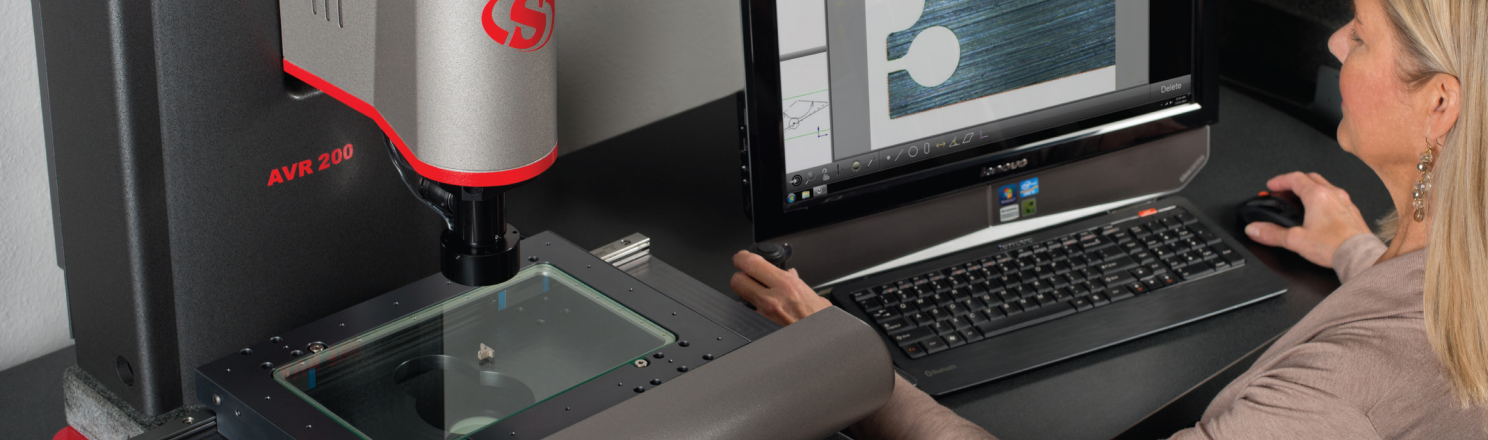
AVR OPTICS

Optical Parameters	Telecentric Optics						Dedicated Zoom Optics 6.5:1*	12:1
Optical magnification on CCD	0.30x	0.50x	0.80x	1.0x	2.0x	4.0x	0.47x to 3.0x	1.4x to 4.7x
Total magnification on monitor	13x	22x	36x	45x	89x	178x	31x to 198x	26x to 310x
Field of view width	.94" (24mm)	.55" (14mm)	.35" (9mm)	.27" (7mm)	.14" (3.5mm)	.07" (1.8mm)	.39" to .06" (10 to 1.6mm)	.44" to .047" (11 to 1.2mm)
Working distance	4.3" (110mm)	4.3" (110mm)	4.3" (110mm)	4.3" (110mm)	4.3" (110mm)	4.3" (110mm)	3.47" (88mm)	3.47" (86mm)
Camera CCD	1/1.8"	1/1.8"	1/1.8"	1/1.8"	1/1.8"	1/1.8"	1/3"	1/3"

* 6.5:1 available as interchangeable zoom optics

OPERATOR INTERFACE

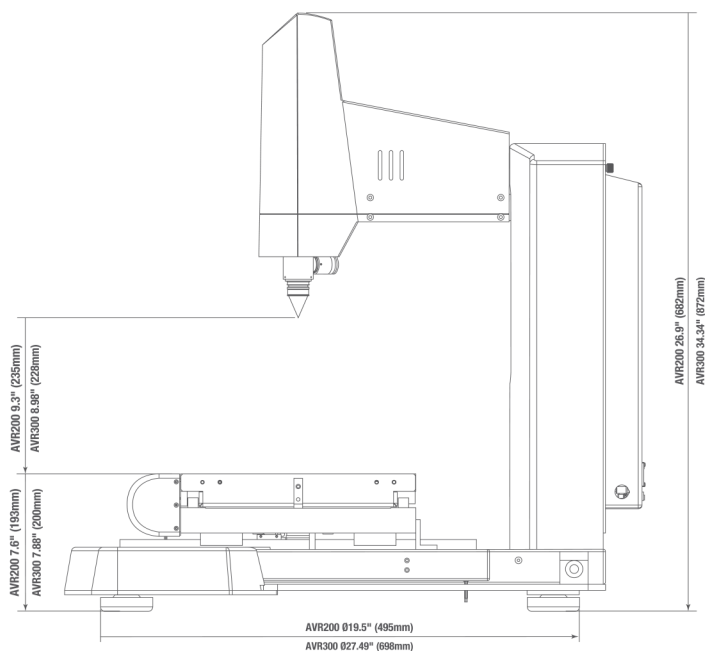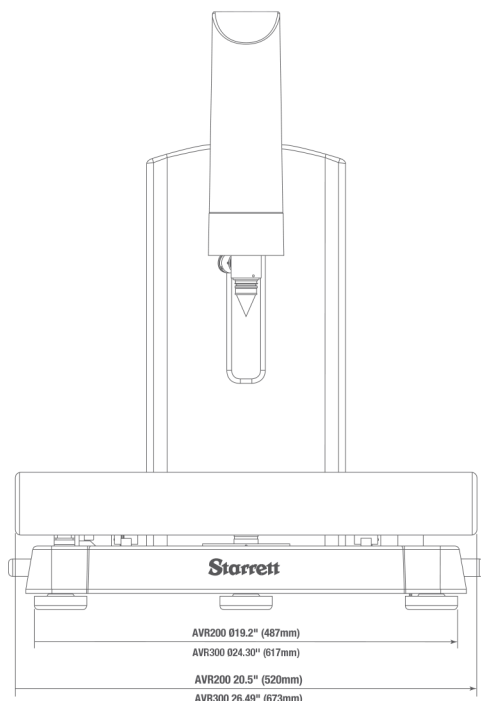| Feature	All-in-One PC with M3 DXF/FOV Software
All-in-one touch screen PC	X
M3 controller housed in Z column	X
21.5" (55cm) color graphic touch-screen	X
Windows® 7 Professional operating system	X
Wi-Fi network connectivity	X
Video edge detection	X
X-Y-Z measurements	X
2D geometric constructs plus height	X
FOV measurements integrated with X-Y stage motion	X
CAD file import and export	X
Automatic comparison of measurements to CAD files	X
Software developer	MetLogix™

AVR200

Starrett®

FEATURES

- Z travel: 8" (200 mm) with 2.0x auxiliary lens
- Full CNC X-Y-Z positioning or motorized manual positioning using a pendant with joystick and trackball
- Windows® 7 Professional operating system
- MetLogix™ M3 CNC metrology software
- Video edge detection (VED)
- Field-of-view (FOV) measurements integrated with stage motion
- Renishaw scales for .00002" (0.1µm) of X,Y and Z axis
- Color digital video camera
- Collimated LED sub-stage illumination
- Ring Light LED surface illumination
- Granite base

OPTIONS

- Dedicated 6.5:1 or 12:1 CNC zoom optics
- Quick-change bayonet lens mount for telecentric optics
- Bayonet mountable 0.30x, 0.50x, 0.80x, 1.0x, 2.0x, 4.0x telecentric optics and 6.5-1 manual zoom lens
- 0.5x, 1.5x and 2.0x auxiliary lenses for zoom optics
- Reinshaw touch probe kit
- Quadrant LED surface illumination for zoom optics
- DXF/FOV option pack for automatic comparison to CAD designs
- Modular system workstation
- Calibration standards
- Part fixtures and work holding devices

AVR DIMENSIONS

AVR200 Ø19.2" (487mm)
AVR300 Ø24.30" (617mm)
AVR200 20.5" (520mm)
AVR300 26.49" (673mm)

AVR200 9.3" (235mm)
AVR300 8.98" (228mm)
AVR200 7.6" (193mm)
AVR300 7.88" (200mm)
AVR200 26.9" (682mm)
AVR300 34.34" (872mm)
AVR200 Ø19.5" (495mm)
AVR300 Ø27.49" (698mm)

SPECIFICATIONS

	AVR200	AVR300
Net Weight	145lbs 66kg	225lbs 102kg
Shipping Weight	250lbs 115kg	300lbs 135kg
X-Y-Z Travel	8" x 4" x 8" 200 x 100 x 200mm	12" x 8" x 8" 300 x 200 x 200mm
Dimensions (H x W x D)	34" x 20.5" x 27" 863 x 520 x 685mm	34" x 29.2" x 35" 865 x 740 x 890mm
X-Y Accuracy	1.9µm + 5L/1000	1.9µm + 5L/1000
Z Accuracy	2.5µm + 5L/1000	2.5µm + 5L/1000

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