

AUTOMATIC VISION METROLOGY SYSTEMS

AVR

AVR200 AND AVR300

The AVR CNC Automatic Vision Metrology Systems are ideal for repetitive measurements and automatic comparison to CAD files. Systems are available with interchangeable telecentric or dedicated zoom lenses for micron-level resolution and accurate field-of-view (FOV) measurements. With a maximum FOV of 0.93" (24mm), the AVR series is capable of measuring parts with a length up to 8" (200mm) or 12" (300mm) for the AVR 200 and 300, respectively. A large 2.36" (60mm) FOV-dedicated 0.14X lens is now available. An FOV-dedicated option is now available, expanding the potential FOV to 2.36" (60mm). The operator interface is the MetLogix™ M3 software that displays a live video image of the part plus geometry tools and digital readings. The image of the part can be resized using zoom and measurements can be taken by simply touching a feature on the touch-screen monitor. M3 software capabilities also include 3-axis measurements and 2D geometric constructs (points, lines, angles, rectangles, slots, blobs). Systems are also touch probe compatible.

FEATURES AND SPECIFICATIONS

- Z travel: 8" (200 mm)
- Full CNC X-Y-Z positioning or motorized manual positioning using a pendant with joystick and trackball
- Metlogix™ M3 metrology software
- Video edge detection (VED)
- Field-of-view (FOV) measurements integrated with stage motion
- Renishaw scales for 4µin (0.1µm) of X,Y and Z axis (available on select models)
- Color digital video camera
- Collimated LED sub-stage illumination
- Ring light LED surface illumination (dome light on FOV 0.14)
- Granite base

OPTIONS

- Dedicated 6.5:1 or 12:1 CNC zoom optics
- Quick-change bayonet or fixed lens mount for telecentric optics (AVR-FOV 0.14 Model shown at right)
- Interchangeable bayonet mount lenses - 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
- Renishaw touch probe kit
- 2 or 4 Bay touch probe change rack
- Programmable darkfield quadrant LED surface illumination for zoom optics
- DXF/FOV option for automatic comparison to CAD files
- Modular system workstation
- Calibration standards
- Part fixtures and work holding devices
- Thread measurement software module
- CNC rotary axis fixture (see page 25)

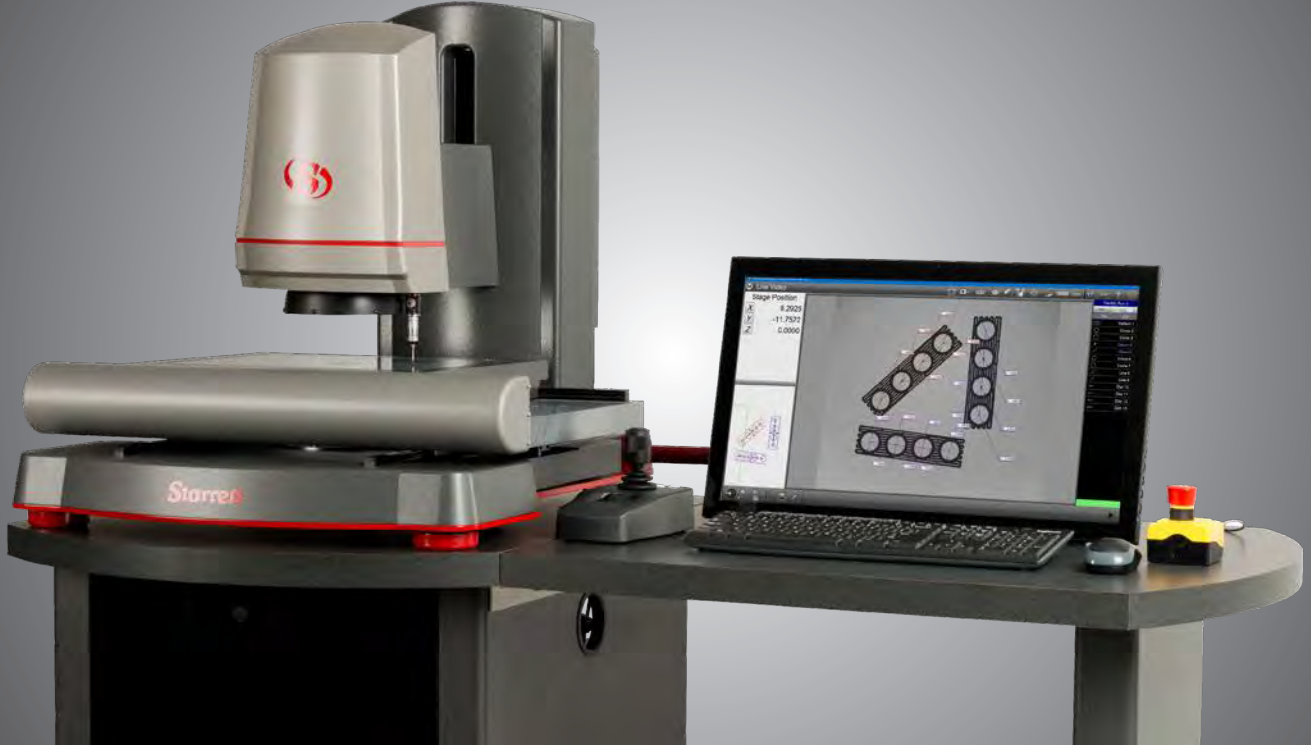


Renishaw touch probe option with calibration ring gauge



AVR200

AVR-FOV 0.14



AVR OPTICS

Optical Parameters	Telecentric Optics						AVR-FOV Models	Standard AVR Models	AVR-FOV 0.14
							Interchangeable 6.5:1 Zoom Optics	Dedicated 12:1 Zoom Optics	Telecentric Optics
Optical magnification on CCD	0.30x	0.50x	0.80x	1.0x	2.0x	4.0x	0.47x to 3.0x	0.4x to 4.7x	0.14x
Total magnification on monitor	13x	22x	36x	45x	89x	178x	31x to 198x	26x to 310x	4.7x
Field of view width	0.93" (24mm)	0.55" (14mm)	0.35" (8.9mm)	0.27" (7mm)	0.14" (3.5mm)	0.07" (1.8mm)	0.39" to 0.06" (10 to 1.6mm)	0.47" to 0.04" (12 to 1mm)	2.36" (60mm)
Field of view height	0.76" (19mm)	0.45" (11mm)	0.29" (7.4mm)	0.22" (5.6mm)	0.12" (3mm)	0.06" (1.5mm)	0.32" to 0.05" (8.1mm to 1.3mm)	0.39" to 0.03" (10mm to 0.76mm)	1.9" (48mm)
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" (88mm)	4.3" (110mm)
Camera CCD	1/1.8"	1/1.8"	1/1.8"	1/1.8"	1/1.8"	1/1.8"	1/1.8" (2MP)	1/3" (1.3MP)	2/3" (6MP)

OPERATOR INTERFACE

Feature	All-in-One PC with M3 DXF/FOV Software
24" (60cm) color graphic touch-screen monitor and PC	x
Integrated motion control unit	x
Windows®-based 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™

*X-Y-Z measurements only available when configured with 3-axis option.

**Only available when equipped with M3 Digital Comparator module in FOV models.

SPECIFICATIONS

	AVR200	AVR300
Net Weight	145lbs 66kg	225lbs 102kg
Shipping Weight	250lbs 115kg	300lbs 135kg
Dimensions (H x W x D)	34" x 20.5" x 27" 863mm x 520mm x 685mm	34" x 29.2" x 35" 865mm x 740mm x 890mm
X-Y-Z Travel*	8" x 4" x 8" 200mm x 100mm x 200mm	12" x 8" x 8" 300mm x 200mm x 200mm
X-Y Accuracy**	E2= 1.9µm + 5L/1000	E2= 1.9µm + 5L/1000
Z Accuracy**	E1= 2.5µm + 5L/1000	E1= 2.5µm + 5L/1000

*Z value only applicable when configured with 3-axis option.

**X-Y-Z specific accuracies are dependent on lens configuration setup.

AVR DIMENSIONS

