Starrett®

Vision Systems

KMIC

EZ series

MVR series

AV series

AVR series

AV300+

AV350+

AV300+ Micro

LF series

METROLOGY SOLUTIONS

Starrett Manual Vision Systems
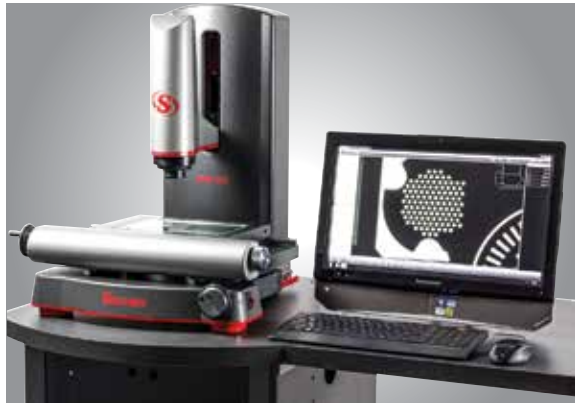## ACCURATE, FLEXIBLE & EASY TO USE

The Starrett MVR Series manual vision metrology systems are ideal for individual measurements or short runs. They are available with dedicated 6.5:1 zoom optics or a quick-change bayonet lens mount which accepts zoom optics or telecentric lenses for micron-level resolution and optical distortion down to 0.001% for 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" (MVR200) or 12" (MVR300).

MVR Series hardware features include a granite base for maximum stability, recirculating ball linear guides for smooth and precise stage motion, and a motorized Z-axis with variable speed control. All electronics other than the PC are housed in the Z-column, ensuring an integrated system with minimal external wiring.

Manual Vision Metrology Systems

The MVR Series consists of the MVR200 with 8" x 4" x 8" (200 x 100 x 200 mm) of travel, and the MVR300 with 12" x 8" x 8" (300 x 200 x 200 mm) of travel. Both models support a choice of telecentric optics for high-speed field-of-view measurements, plus 6.5:1 zoom optics. Using MetLogix M3 software, they can import DXF CAD files over a network and make automatic go-no-go comparisons to an engineering design using video edge detection within the field of view, or seamlessly combine FOV measurements with stage motion.

Features

- X-Y travel for MVR200: 8" x 4" (200 x 100 mm)
- X-Y travel for MVR300: 12" x 8" (300 x 200 mm)
- Z travel: 8" (200 mm) with 2.0X auxiliary lens
- Manual X-Y positioning via hand wheels
- Motorized Z-axis positioning with variable speed control
- Windows® 7 Professional operating system for network connectivity
- MetLogix M3 metrology software
- Video edge detection (VED)
- Field-of-view (FOV) measurements integrated with stage motion
- Renishaw scales for 0.00002" (0.5 µm) of X and Y resolution
- Accuracy: 3.5µm + 5L/1000 for X and Y, 2.5µm + 5L/1000 for Z
- Color digital video camera
- Collimated LED sub-stage illumination
- Ring light LED surface illumination
- Granite base

Options

- Dedicated 6.5:1 zoom optics
- Quick-change bayonet lens mount
- Quadrant LED Ring Light
- Bayonet-mountable 6.5:1 zoom optics
- Bayonet mountable 0.30X, 0.50X, 0.80X, 1.0X, 2.0X, 4.0X telecentric optics
- 0.5X, 1.5X and 2.0X auxiliary lenses for zoom optics
- Coaxial LED surface illumination for zoom optics
- DXF/FOV option pack for automatic comparison to CAD designs
- Modular system workstation

Operator Interface

The MVR Series is built around a 21.5" all-in-one touch screen PC which runs MetLogix M3 software under Windows® 7. This software supports 3-axis measurements and 2D geometrical constructs (such as points, lines, angles and rectangles). The screen displays a live video image of the part plus geometry tools and digital readings. The part image can be resized using pan and zoom, and measurements can be taken by simply tapping a feature on the screen. With the M3 DXF/FOV option pack, DXF CAD files can be imported over a network and be automatically compared to the actual part.

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" (55 cm) 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 & export	x
Automatic comparison of measurements to CAD files	x
Software developer	MetLogix

MVR Optics

The MVR Series is available with dedicated 6.5:1 zoom optics or with a quick-change bayonet lens mount which accepts 6.5:1 zoom optics and a choice of 6 telecentric lenses for accurate field-of-view measurements. The 6.5:1 zoom lens is available with coaxial surface illumination and with auxiliary lenses to multiply magnification by 0.5X, 1.5X or 2.0X.

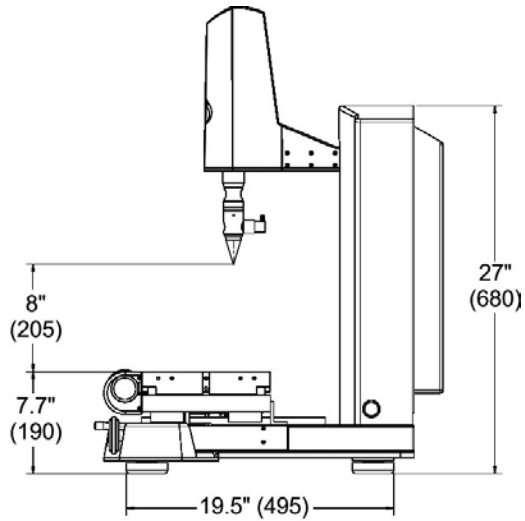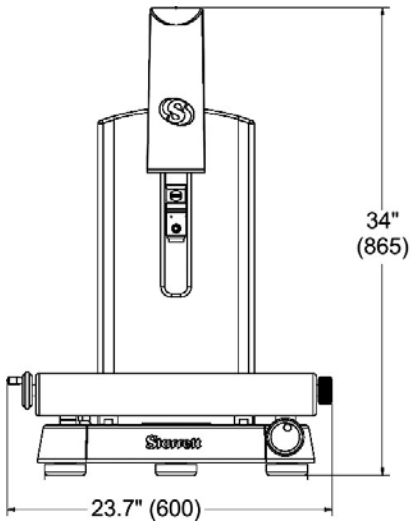| OPTICAL PARAMETER	TELECENTRIC OPTICS						6.5:1 ZOOM OPTICS	
							INTERCHANGEABLE	DEDICATED
Optical Magnification on CCD	0.30X	0.50X	0.80X	1.0X	2.0X	4.0X	0.7X to 4.5X	0.47X to 3.0X
Total Magnification on Monitor	13X	22X	36X	45X	89X	178X	31X to 200X	31X to 200X
Field of View Width, mm	24	14	9	7	3.5	1.8	10 to 1.6	10 to 1.6
Working Distance, mm	110	110	110	110	110	110	88	88
Camera CCD	1/1.8"	1/1.8"	1/1.8"	1/1.8"	1/1.8"	1/1.8"	1/1.8" CCD Array	1/3" CCD Array

Interchangeable Lenses

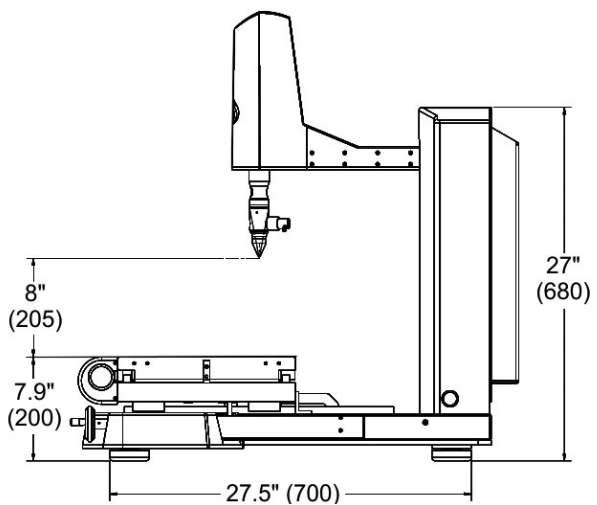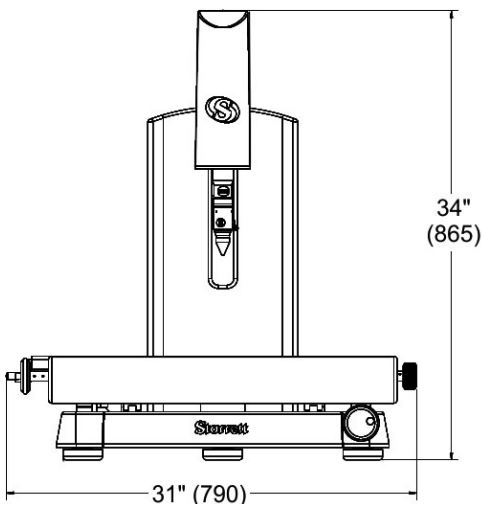## MVR200/300 Weight & Dimensions

Net weight: 200 lbs (90 kg) for MVR200; 250 lbs (113 kg) for MVR300

Shipping weight: 250 lbs (115 kg) for MVR200; 300 lbs (135 kg) for MVR300

MVR200 34" x 23.7" x 27" (865 x 600 x 680 mm)

34" (865)

8" (205)

7.7" (190)

27" (680)

23.7" (600)

19.5" (495)

MVR300 34" x 31" x 35" (865 x 790 x 890 mm)

34" (865)

8" (205)

7.9" (200)

27" (680)

31" (790)

27.5" (700)

Starrett Metrology Division

Starrett Kinemetric Engineering, Inc.
26052-103 Merit Circle
Laguna Hills, CA USA 92653
Tel: 949-348-1213

http://www.starrett.com/u?MVR200-300