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

Software developer: MetLogix

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.

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.

FEATURE

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

MVR200
MVR300

Optical Parameter

<table>
<thead>
<tr>
<th>TELECENTRIC OPTICS</th>
<th>6.5:1 ZOOM OPTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical Magnification on CCD</td>
<td>0.30X</td>
</tr>
<tr>
<td>Total Magnification on Monitor</td>
<td>13X</td>
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<tr>
<td>Field of View Width, mm</td>
<td>24</td>
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<tr>
<td>Working Distance, mm</td>
<td>110</td>
</tr>
<tr>
<td>Camera CCD</td>
<td>1/1.8”</td>
</tr>
</tbody>
</table>

Interchangeable Lenses

- 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
**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)

**MVR300**  
34” x 31” x 35” (865 x 790 x 890 mm)