

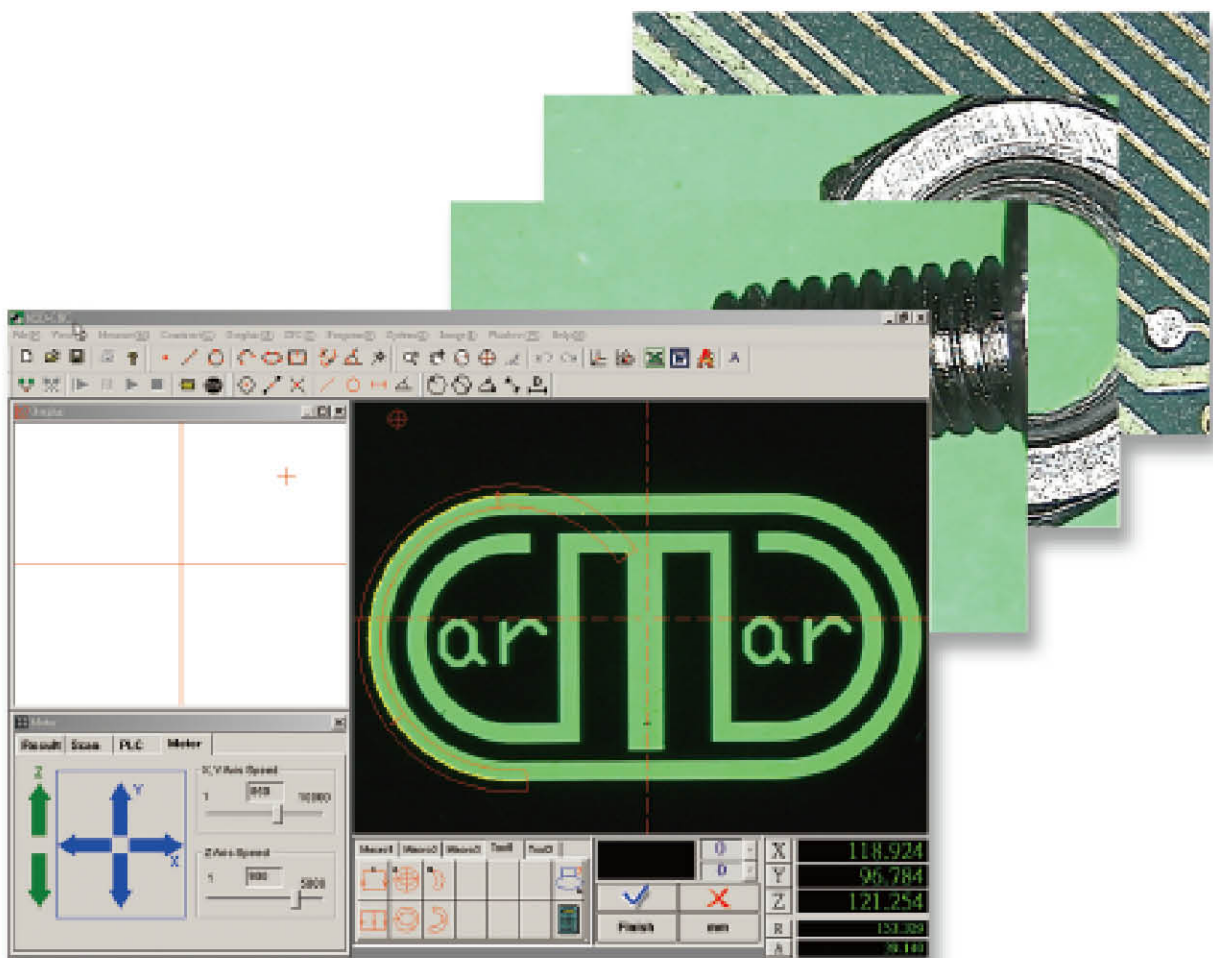


Video Measuring Machine

Non-contact Vision Measuring System performs the art of accuracy and the experiences of metrology of Carmar. We offer measuring instruments with high accuracy and excellent affordability. Functioning as traditional microscopes and projectors, VMM series can satisfy all kinds of 2D and 3D measurements with powerful software and additional tools.

■ All series designed with granite structure.

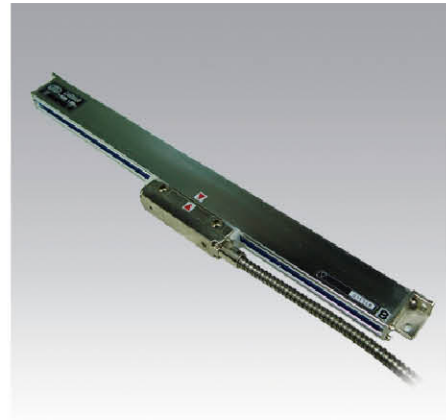
- Cantilever CNC Type **VMM-E/C series**
- Cantilever Manual Type **VMM-S/D series**
- Bridge Type **VMM-AM/C series**



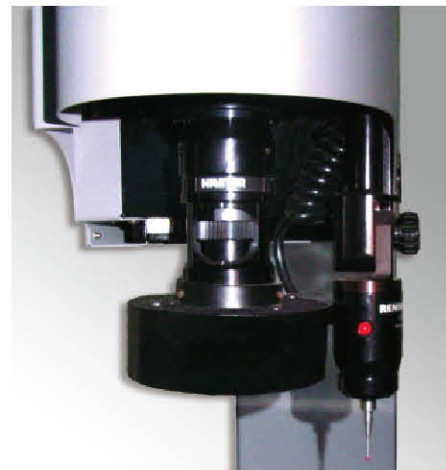
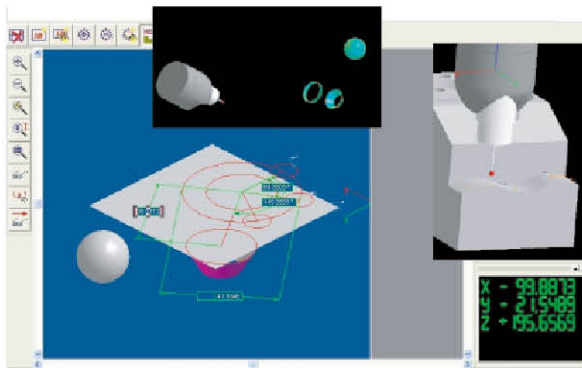
■ All New Features

- Leading technology of applying linear encoder with 0.5μm resolution to enhance accuracy of the positioning and graphic gathering.

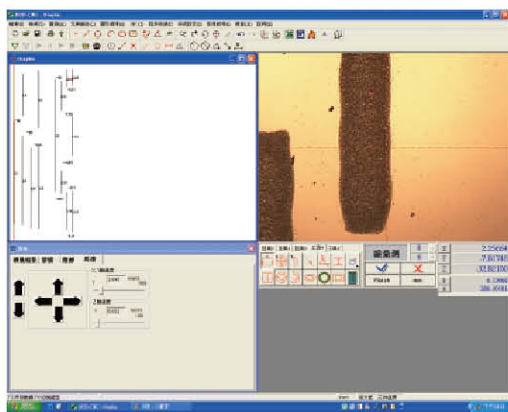
| | |
|---|---------|
| X | 3.8720 |
| Y | 12.2995 |
| Z | 61.3630 |
| R | 12.8946 |
| A | 72.5255 |



- Powerful touch probe supporting 2D and 3D measurements and offering total solution for customers.



- Powerful zoom lens with high resolution linear encoder providing accurate micro image inspection for precision parts.



■ CNC Type Video Measuring Machine

● Features:

1. All Systems are Probe-Ready , Auto focus function, joystick control.
2. High accuracy with fixed working table and granite pedestal.
3. Fast servo motor controlling.
4. High resolution 1/2" color CCD camera and NAVITAR Zoom lens with sharp images.
5. USB interface linear exchanger can connect with professional measuring software.
6. Surface cold-light source is used to enhance the performance of illumination.
7. Applying MS Windows XP with CNC software with analysis abilities ensures the best performance.



VMM-3020C

■ VMM-C Series Specifications :

| Model | | VMM-2515C | VMM-3020C | VMM-4030C |
|--------------------------|---|--|-----------|-----------|
| Stage Size (mm) | | 450 x 280 | 500 x 300 | 606 x 466 |
| Glass Size (mm) | | 306 x 196 | 350 x 250 | 450 x 350 |
| Travel (mm) | X | 220 | 270 | 370 |
| | Y | 120 | 170 | 270 |
| | Z | 150 (for focusing) | | |
| Driving System | | Servo Motor Control | | |
| Resolution of X/Y/Z-axis | | 0.5 μ m | | |
| Positioning Accuracy | | 0.001 mm (1 μ m) | | |
| Accuracy | | $\leq 3.0 + L/75$ (μ m), L: measuring length (mm) | | |
| Software | | QIM-5008 | | |
| Video System | | <ul style="list-style-type: none"> ● CCD Camera: Color 1/2" CCD Camera ● Lightening System : Cold-light source Surface and Transmission illumination ● Zoom Lens : NAVITAR Zoom Lens, Magnification of field lens : 0.7X - 4.5X Total Magnifications : 23.5X - 148X Object View : 11.1mm - 1.7mm | | |
| Weight (kg) | | 146 | 168 | 266 |
| Power Supply | | AC220V/110V 50/60 Hz | | |

Function-enhanced options as below , please refer to accessories of video measuring machine.

- Standard Zoom Lens Option
- Precision Zoom Lens Option

Manual Type Video Measuring Machine

Standard VMM-D Series

Enhanced VMM-S series

VMM-S/D series are one of the best developed products in Carmar's product lines. Providing customers with precise, cost effective equipments and good service are our business philosophy. VMM series satisfy all kinds of two dimensional measurements with M2D software.

Features:

1. High accuracy with fixed working table and granite pedestal;
2. RS-232 interface can do communication between measuring software and computer.
3. High resolution Sony 1/2" color CCD camera and NAVITAR zoom lens with sharp images;
4. The user can manage and output the graphs as bmp or DXF (AutoCad) format by connecting with PC and running the M2D program.
5. One-click edge detection.



VMM-S/D Series Specifications :

| Model | VMM-1510S/D | VMM-2010S/D | VMM-2515S/D | VMM-3020S/D | VMM-4030S/D |
|----------------------|---|-------------|----------------------|-------------|-----------------|
| Stage Size (mm) | 354 × 228 | 404 × 228 | 450 × 280 | 500 × 330 | 606 × 466 |
| Glass Size (mm) | 210 × 160 | 260 × 160 | 306 × 196 | 350 × 250 | 450 × 350 |
| X/Y Travel (mm) | 150 × 100 | 200 × 100 | 250 × 150 | 300 × 200 | 400 × 300 |
| Weight (kg) | 100 | 110 | 120 | 140 | 240 |
| Dimensions (mm) | 540 × 560 × 860 | | 760 × 600 × 900 | | 970 × 670 × 940 |
| Z axis travel (mm) | 200 mm | | | | |
| Z working range (mm) | VMM-S series: 92 mm | | VMM-D series: 105 mm | | |
| Accuracy | (3 + L/75) μm ; L: measuring length (mm) | | | | |
| Digital Display | Digital Display : DC3000 (Optional) | | | | |
| Measuring Software | M2D series | | | | |
| Video System | VMM-S series | | | | |
| | ● CCD Camera: Colour 1/2" CCD Camera ● Zoom Lens: NAVITAR Zoom Lens, Magnification of field lens 0.7X-4.5X Total Magnifications 23.5X-148X Object View 11.1mm-1.7mm | | | | |
| | VMM-D series | | | | |
| | ● CCD Camera: Colour 1/3" CCD Camera ● Zoom Lens: Magnification of field lens 0.7X-4.5X Total Magnifications 33X-195X Object View 8.1mm-1.3mm | | | | |
| Lightening System | Adjustable LED Surface and Transmission illumination | | | | |
| Power Supply | AC220V/110V 50/60 Hz | | | | |

Function-enhanced options as below , please refer to accessories of video measuring machine.

- Standard Zoom Lens Option
- Precision Zoom Lens Option
- Touch Probe Option

■ Bridge Type CNC Video Measuring Machine VMM-C Series

Bridge type VMM-6060C designs with granite structure and guidance of air bearing that provides rapid movement and accurate position for high traverse. VMM-6060C is the ideal model for larger LCD and PCB inspection. Working with professional CNC software: QIM5008 satisfies various sizes measurements.

● Features:

1. All Systems are probe-ready , auto focus& auto zoom function, joystick control;
2. Powerful controller used for Auto-focus to perform high repeatability;
3. Fast servo motor controlling;
4. High resolution Sony 1/2" color CCD camera and NAVITAR zoom lens;
5. Air bearing design for X and Y-axis and table structure of granite ensures geometric accuracy and vibration resistance.
6. Surface cold-light source is used to enhance the performance of illumination.
7. Special treatment glass table to avoid deformation. Max glass size can go up to 3,000mm.



VMM-6060C

■ VMM-C Series Specifications :

| | | |
|--------------------------------|--|-----|
| Model | VMM-6060C | |
| Stage size | 640 x 770 | |
| Travel (mm) | X | 600 |
| | Y | 600 |
| | Z | 150 |
| Speed | 400 m/s | |
| Resolution of X/Y/Z-axis | 0.5 μ m) | |
| Positioning Accuracy | 0.001 mm (1 μ m) | |
| Accuracy | $\leq (3 + L/200) \mu$ m L (measuring length) :mm | |
| Video System | <ul style="list-style-type: none"> • CCD Camera:Color 1/2" CCD Camera • Lighting System Adjustable LED Surface and Transmission illumination • Zoom Lens : NAVITAR Zoom Lens Magnification of field lens : 0.7X - 4.5X Total Magnifications : 23.5X - 148X Object View : 11.1mm – 1.7mm | |
| Measuring software | QIM-5008 | |
| Weight (kg)/ Dimension (LxWxH) | 1281 kgs / 1500x1300x1510 cm | |
| Power Supply | AC220V/110V 50/60 Hz | |
| Air Supply | Pressure: 0.4 Mpa \pm 2 ; Consumption: 120L/min at 0.4Mpa | |
| Environment | (20 \pm 2) $^{\circ}$ C 55% ~ 65% | |

Function-enhanced options as below , please refer to accessories of video measuring machine.

- Standard Zoom Lens Option
- Precision Zoom Lens Option
- Touch Probe Option

Standard Zoom Lens Option

| Accessories | 1X tube (Standard) | | 0.5X tube (Option) | | Working Distance (mm) |
|----------------|---------------------|------------------|---------------------|------------------|-----------------------|
| Zoom Lens | 0.7X~4.5X | | 0.7X~4.5X | | |
| Appending Lens | Total Magnification | Object View (mm) | Total Magnification | Object View (mm) | |
| 0.5X (Option) | 11.8X~74X | 22~3.4 | 5.9X~37X | 44~6.8 | 175 |
| Standard | 23.5X~148X | 11.1~1.7 | 11.8X~74X | 22~3.4 | 92 |
| 2X (Option) | 47X~296X | 5.5~0.9 | 23.5X~148X | 11.1~1.7 | 36 |

Precision Zoom Lens Option

| Accessories | 1X tube (Option) | | 2X tube (Option) | | Working Distance (mm) |
|---|----------------------------|------------------|----------------------------|------------------|-----------------------|
| Zoom Lens | Coaxial 0.7X~4.5X (Option) | | Coaxial 0.7X~4.5X (Option) | | |
| Objectives Lens | Optical Mag. | Object View (mm) | Optical Mag. | Object View (mm) | |
| 5X (Option) | 1.74X~11.43X | 4.05 ~ 0.70 | 3.48X~22.86X | 2.30 ~ 0.35 | |
| 10X (Option) | 3.48X~22.86X | 2.10 ~ 0.35 | 6.96X~45.72X | 1.15 ~ 0.17 | |
| 20X (Option) | 6.96X~45.72X | 0.91 ~ 0.17 | 17.40X ~ 114.30X | 0.57 ~ 0.09 | 20 |
| 50X (Option) | 17.40X ~ 114.30X | 0.31 ~ 0.07 | 34.80X ~ 228.60X | 0.23 ~ 0.04 | 13 |
| 150 W Halogen Lamp and Optical Fiber (Option) | | | | | |

Touch Probe Option

| Probe Model | RENISHAW MCP Touch Probe | | |
|-----------------------|--------------------------|-------------------------------|-----------------------|
| Sensing Directions | 5 way, +/-X, +/-Y, +Z | Uni-directional Repeatability | 0.75mm (2 σ) |
| Trigger Force (Fixed) | 12g Nominal | Stylus Mounting | M3 |
| Probe Status Display | LED Display | Probe Signal Connector | 5 Pin DIN |
| Over Travel (Z axis) | 5mm | Over Travel (X/Y axis) | +/- 20° |