

# VMQ Quick Video Measuring Machine

VMQ Quick Video Measuring Machine combines multiple technological achievements in the field of image detection, integrating advanced quick measuring concepts, and integrating wide field of view, large depth of field, and high accuracy.



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# Features

- High precision and high efficiency with one-button quick measuring
  - Wide field of view, large depth of view and high resolution
  - Accurate and quick measuring, capable of identifying multiple work pieces in one FOV, suitable for batch measuring
  - Automatically load program without the need of manual search
- Automatic image registration, quick positioning of work pieces without assistance of fixture
  - External ports are provided to communicate with other equipment, like integrating into production lines to realize online measurement
  - Optional chromatic confocal sensor, coaxial light, ring auxiliary light etc

# Specification

| Model                           |                             | VMQ222                                                                                        | VMQ322                    | VMQ432        | VMQ-D432                                                                             |
|---------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------|---------------------------|---------------|--------------------------------------------------------------------------------------|
| Travel(mm)                      |                             | 150×120×75                                                                                    | 300×200×200               | 400×300×200   | 400×300×200                                                                          |
| External Dimensions (mm)        |                             | 345×534×605                                                                                   | 740×1040×1792             | 900×1280×1792 | 900×1240×1739                                                                        |
| Mass (kg)                       |                             | 45                                                                                            | 400                       | 450           | 475                                                                                  |
| Max. Stage Loading (kg)         |                             | 5                                                                                             | 25                        |               | 25                                                                                   |
| Optics <sup>[1]</sup>           |                             | Dual telecentric lens with double FOVs                                                        |                           |               | Lens1: high resolution automatic zoom lens<br>Lens2: dual telecentric lens           |
| Measuring range (mm)            |                             | 200×200/125×125                                                                               | 300×200                   | 400×300       | 400×300                                                                              |
| Accuracy <sup>[2]</sup><br>(μm) | FOV (mm)                    | φ100                                                                                          | 82×55                     |               | Lens1: E2=(1.9+L/200)<br>Ez=(2.8+L/200)<br><br>Lens2: E2=(4.0+L/200)                 |
|                                 | Stage unmoving              | 2.8                                                                                           |                           |               |                                                                                      |
|                                 | Stage moving <sup>[2]</sup> | E2=(4.0+L/200)                                                                                |                           |               |                                                                                      |
|                                 | FOV (mm)                    | 25×25                                                                                         | 20×14                     |               |                                                                                      |
|                                 | Stage unmoving              | 1.5                                                                                           |                           |               |                                                                                      |
|                                 | Stage moving <sup>[2]</sup> | E2=(2.5+L/200)                                                                                |                           |               |                                                                                      |
|                                 | FOV (mm) <sup>[1]</sup>     | 8×5                                                                                           |                           |               |                                                                                      |
|                                 | Stage unmoving              | 0.7                                                                                           |                           |               |                                                                                      |
|                                 | Stage moving                | E2=(2.0+L/200)                                                                                |                           |               |                                                                                      |
| Illumination                    | Profile                     | Green LED telecentric                                                                         |                           |               | Green LED telecentric+ white LED cold brightness                                     |
|                                 | Surface                     | Programmable 2 rings 4 segments LED cold light, each segment independently controlled         |                           |               | Programmable 6 rings 8 segmentsLED cold light, each segment independently controlled |
|                                 | Coaxial                     | Optional, LED cold light, 256 level adjustable brightness                                     |                           |               | LED cold light, 256 level adjustable brightness                                      |
| Camera                          |                             | High definition black & white industrial digital camera                                       |                           |               | High definition industrial digital camera                                            |
| Drive system                    |                             | 4-axis CNC servo control system                                                               |                           |               | 5-axis CNC servo control system                                                      |
| Speed (mm/s)                    | XY                          | 200                                                                                           | 500                       |               |                                                                                      |
|                                 | Z                           | 100                                                                                           | 100                       |               |                                                                                      |
| Guide                           |                             | High precise cross roller guide                                                               | High precise linear guide |               |                                                                                      |
| Scale                           |                             | 0.1 μm                                                                                        | 0.5 μm                    |               |                                                                                      |
| The Min Unit (μm)               |                             | 0.1                                                                                           |                           |               |                                                                                      |
| Image Processing                |                             | Advanced TZTEK image processing method: 256 gray level, 20:1 sub- pixel processing technology |                           |               |                                                                                      |
| Software                        |                             | Vispec (VMQ Version)                                                                          |                           |               |                                                                                      |
| Environment                     |                             | Temperature20°C±2°C,Humidity 30-80%                                                           |                           |               |                                                                                      |
|                                 |                             | Vibration<0.002 g, below 15 Hz                                                                |                           |               |                                                                                      |
| Power                           |                             | 200-240 vac, 50/60 Hz, 1 phase, 700 W                                                         |                           |               |                                                                                      |

[1] Optional duel telecentric lens with triple FOVs, duel telecentric magnification 16-66x, triple FOVs magnification16-165x.  
[2] L is the measured length in mm, determined by TZTEK's inspection method.