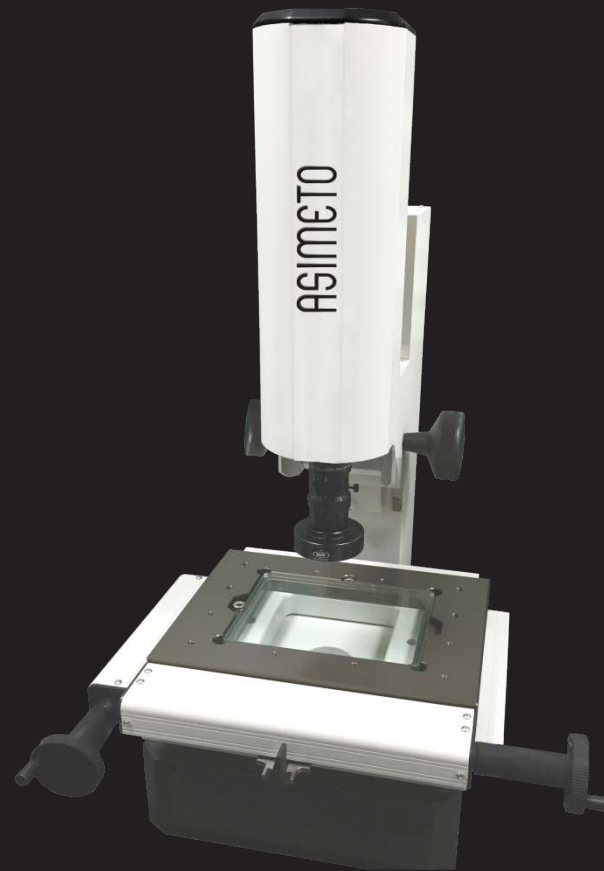


VMS-1510
OPERATION
MANUAL



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1. Introduction

Thank you for choosing Asimeto measuring products. All the products manufactured by us are ultra precise. Please kindly refer to this user's guide carefully before using this instrument and keep it as future reference.

VMS-1510 is easy to operate the movement of Z-axis by using the turning wheels. High precise scales locating in 2 axes could read the exact position. It indicates parts' related coordinates, dimensions and sharp by collective data.

VMS-1510 is also specially designed for measuring on small parts. The wide application is in the following fields:

- A. PCB, Semi-conductor, and Electronics
- B. Casting, Pressing, Injection, and Molding
- C. Tooling and Components (pre-process or processed)
- D. Mechanical Parts from Milling, Wire-Cut and EDM

1-1 Features

Comparing to the traditional coordinate measuring machines, this CMM has the following advantages:

- a) Any coordinate on the work piece can be measured simply.
- b) Except the bottom, all sides of the work piece can be measured accurately after the work piece has been fixed correctly.
- c) It doesn't require very professional skills to complete the measurement. Besides, you can spend less time setting up the work piece and measuring.
- d) Be able to designate the reference record in order to prevent the mistake from the operators who use different references.
- e) Measurement results can display the dimension, coordinate, appearance of the work piece. And it can inspect the results according to the pointed tolerance limit to reduce the time of analyzing all the measurement results one by one.
- h) It adopts highly precise linear glides as the transmission in X, Y axes to maintain the good linearity and smooth movement.

2. Environment Requirements

2-1 Temperature

The temperature should be maintained within $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$, including the gradient temperature $2^{\circ}\text{C} / 8\text{hrs}$. Please don't calibrate the accuracy of CMM while the temperature is not as the above-mentioned standard.

2-2 Humidity

Humidity does not cause any direct effect on accuracy. However, high humidity may cause oxidization on the surface of machine, which will influence moving of axes. An environment that is too dry aids the formation of dust. The relative humidity in the place of installation should be kept under control.

The environmental humidity should be better maintained between 55% and 65%.

2-3 Vibration

Machine's accuracy is very easy affected by surrounding vibration. When the frequency which is under 10Hz, the environmental vibration should not exceed $2\mu\text{m}$ (peak to peak). If the frequency is between 10Hz and 50Hz, the acceleration should not exceed 0.4Gal. It is recommended to use proper anti-vibration facility to prevent possible influences.

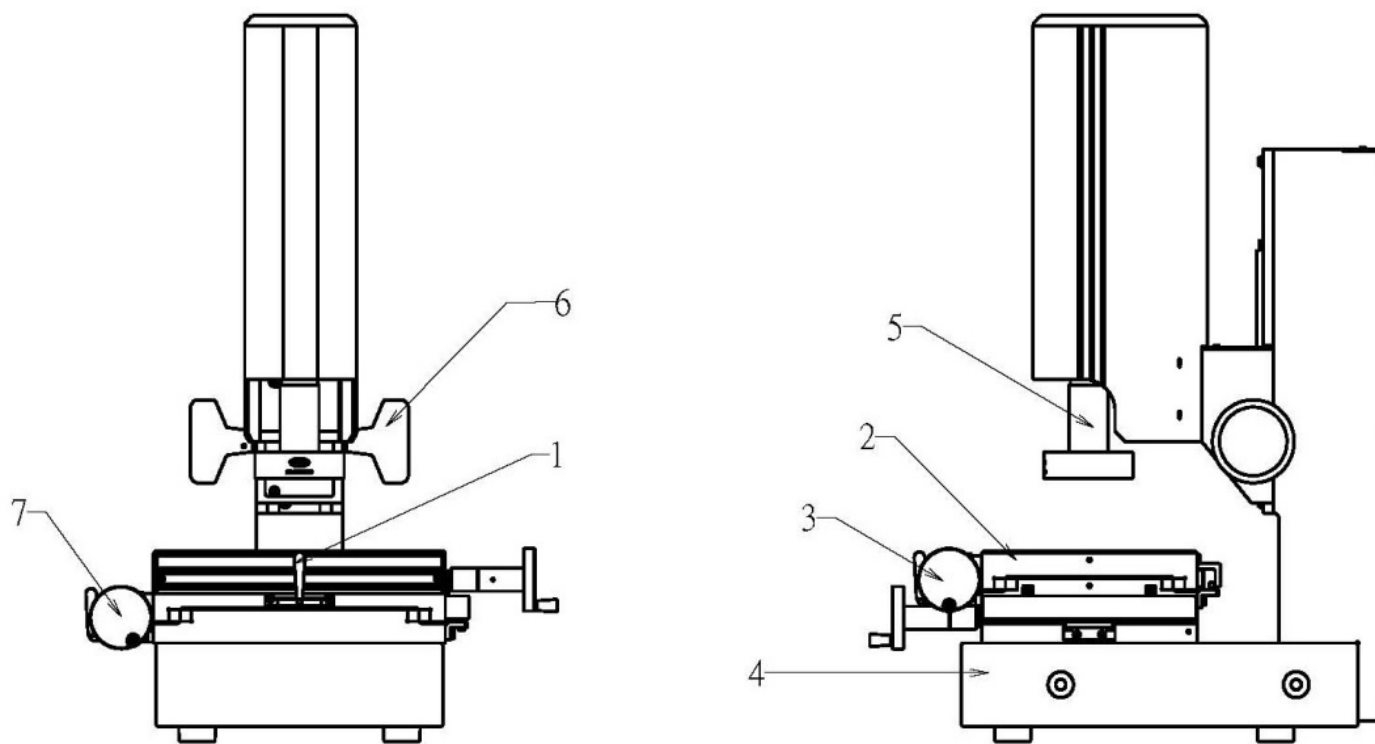
2-4 Dust

The precise components (i.e. Scales) inside should be kept away from dust. Although the dust cover can avoid dust, the measuring machine still needs to be regularly cleaned. About the clear procedure, please refer to Maintenance Part.

2-5 Sun-Radiation

The CMM should not be under the sun-radiation directly.

3. Functions



Sketch 3-1

3-1 Titles and Descriptions

1. X-axis Fast Moving Handle

It's used to make the movement quickly and shorten the measuring time.

2. Table

It's used to place the measuring work pieces.

3. X-axis Turning Wheel

It's used to control the moving direction of X-axis. The X-axis will move left (right) while rotating X-axis turning wheel clockwise (counter-clockwise).

4. Base Stand

It's designed to support the main body of machine.

5. CCD Camera System

It's designed for image grabbing.

6. Z-axis Turning Wheel

It's used to control the moving direction of Z-axis. The Z-axis will move up (down) while rotating turning wheel clockwise (counter-clockwise).

7. Y-axis Turning Wheel

It's used to control the moving direction of Y-axis. The Y-axis will move back (forward) while rotating turning wheel clockwise (counter-clockwise).

4. OPERATION

4-1 Setting

The power supply for machine is AC110V/60Hz or AC220V/50Hz. It is important to make sure before operation. Please also check every cable is well connected. If you use CCD vision system, please make sure that the surface light works properly.

4-2 Operation

The movement of axes is controlled by turning wheels. These turning wheels make CMM move smoothly.

4-3 Cautions

- Parameters have been set up before delivery. Therefore, if you need to adjust or change it, please contact with our distributor in your local area. For preventing any breakdown or inaccuracy from happening, users are prohibited to change any setting of machine.

- It is unnecessary for user to open the cover of machine or to install another interface card into the PC. It is also dangerous to perform it without supervision. If something falls into the machine, please immediately unplug the power supply and contact with our service staffs.
- Do not joke about CMM by fingers.
- If an operator is not familiar with fast motion movement, it's not recommended to use it. Fast motion movement should be securely locked before moving. To avoid any inaccuracy on measurement, the operator should concentrate his / her attention while the fast motion movement closes to the end of each travel.
- When Free-movement Handle is securely locked, the fine-adjust turning wheel can't be used at the same time.
- Please kindly don't disassemble the above-mentioned machine parts. If the CMM doesn't operate properly, or if you have any problem toward this machine, please kindly contact with your local distributor.
- This CMM has a year's warranty. However, any improper operation, damage from human being, and natural disaster are not included in 1 Year Warranty.

5. Maintenance

5-1 Basic maintenance

- a) Regular maintenance keeps measuring machine to possess precise accuracy and longer life. Therefore, please follow the steps of maintenance that written on the user's guide.
- b) Do not locate your measuring instrument in following environment: Dusty, too much vibration, high temperature difference.
- c) Please use cotton paper to dust your monitor screen. Please do not touch it by your hands or dust it by cotton paper that with oil or water.
- d) Please put on dust cover after using it.

5-1-1 Cover

It would not take effect on accuracy if the cover of machine is contaminated. Nevertheless, the pollution may spread to liner glide, measuring plate, and other parts that might influence on accuracy. Therefore, once the cover of CMM is polluted, please use cotton paper to clean it. (Clean when necessary)

5-1-2 Linear Glide

Please kindly apply the grease on linear glide because it is the movement of each axis.

5-1-3 Scale

Each scale from each axis is covered with dust free cover or the position which the dust is not easily attached. If any error occurs, please kindly contact with your local distributor about this problem.

5-2 Accuracy Report

The following accuracy on different item is inspected under restricted standards.

- A. Straightness
- B. Perpendicularity
- C. X-Y Parallelism
- D. Location Accuracy
- E. Repeatability

For the guarantee of accuracy in each above-mentioned item, we will inspect them one by one while doing installation. Please keep in touch with us per year for accuracy maintenance and testing.

6. Specifications

Item		
Travel	X Axis	150 mm
	Y Axis	100 mm
	Z Axis	160 mm
Achievable	X Axis	155 mm
	Y Axis	105 mm
	Z Axis	160 mm
Resolution		0.001 mm
Linear Accuracy	U1	$3 + L/200\mu\text{m}$
Glide		Linear Glide
Demo-part	High	100 mm
	Weight	5 kg
Dimension	Length	360 mm
	Width	650 mm
	Highness	780 mm
Machine Gross Weight		60 kg

Remark: The above accuracy is tested at a certain travel range and at temperature 20°C.

Products Warranty

The machine warranty is 12 months and excludes any consumption parts. The valid machine warranty period, please refer to the following:

- Domestic: The guarantee becomes effective since the date of delivery.
- Overseas: The guarantee becomes effective since the date of exporting.
- Optional accessory: The 12 months guarantee becomes effective since the date of ordering expect for PC, LCD monitor and Windows operating system prepared by Asimeto itself.

The ordering description will be based on signed contract accordingly and will update if any amendments. Any product damages caused by malfunction and customer cost loses, Asimeto Inc. will not bear the liability.

Asimeto Inc. will not subsume as warranty under following conditions:

1. Expire one-year warranty.
2. Damages caused by natural disaster, such as typhoon, flood, earthquake and etc.
3. Damages caused by environmental factor, such as insect pest, rat damage and etc.
4. Damages caused due to not operate according to specified environmental requirement.
5. Damages caused due to without following the user's manual.
6. Don't adopt the correct switch-on and switch-off.
7. A malfunction or damage caused by repair, overhaul and re-equip which not made by our engineers.
8. A malfunction caused doesn't under propose using.
9. A malfunction caused by abnormal power source or voltage.
10. An inaccuracy caused by overhaul voluntarily.
11. Damages caused by unexecuted machine maintenance in expecting time.