

ZDM-1-LED

The Z Axis Vertical Measuring Displacement Microscope was designed to measure minute variations in height that do not lend themselves to mechanical means. It is proven to be ideally suited to many applications in the electronics industry. In the semiconductor field measurement of height of the bonded portion of lead wire, measurement of Wafer bump height, measurement of height of lead frames, solder height on many applications. In electronics components measurement of steps of hybrid I.C. It was also found to be ideal for measurement of height of terminal steps on Multi-Layer P.C.Boards. Other applications include measurement of depth of minute cracks, engraving depth of printing rolls and plastic molds, depth grooves of phonograph records and computer disks, measurement of the depth of the score on beverage cans, such as beer and soft drink.

The Non-Destructive Principle involved relies on a high Magnification Microscope 100, 200 or 400X with very shallow depth of field. The accuracy of the depth measurement desired determines the magnification used. This Microscope, because of its short working distance, has to use Co-Axial Illumination. This allows the user to focus on the top or bottom of the part being analyzed. This is then brought in sharp focus with the coarse and fine adjustments, then refocused at the other end of the range to be measured and the displacement read between the two points.

This measuring is accomplished with a Mechanical (not supplied) or our DI-35-700-10 Digital Indicator reading in .0001" or (2 Micron) divisions. The indicator is set and zeroed in the top of the Microscope and their displacement is recorded as the focusing is done from Point A to Point B. (The indicator is not included in the price of the Microscope). The bracket provided will allow for any standard A.G.D. Indicator with a .375" holding stem. The bracket allows a use of indicators with small or large range of travel.

The 10X Eyepiece of the Microscope is provided with a Reticle with Cross-Hairs and Circles as well as minute divisions on the Vertical and Horizontal Axis. The same Reticle is used with the TSTVA-12 VIDEO ADAPTER.

The LED Co-Axial Illuminator is provided with a Green Filter and an adjustable diaphragm to control Light, Color and Intensity. The Illuminator comes with a USB power cord and North American Power Plug.

TSTVA-12 VIDEO ADAPTER

RETICLE



Electronic Depth Measuring Indicator Model DI-35-700-10

Resolution: 0.001mm
Range: 0-12.5mm



No Dial Indicator is supplied with unit.

ADVANTAGE:

- 1) Greater Accuracy
- 2) No eye strain
- 3) Better Repeatability
- 4) Multiple Viewing



As purchased, the Microscope will have 200X Magnification with a 20X Objective and 10X Eyepiece. Separate 10X or 40X Objectives and a 20X Eyepiece are available as alternate options, and can be ordered separately. The image in the Microscope is optically correct and all lenses are fully coated to eliminate glare. The round tubular legs allow for stability on round or flat objects. The SWING-AROUND Body on the Round Post Allows for many different Microscope Positions to facilitate its universal applications.

The ZDM-1 can be converted to Video with the removal of the 10X Eyepiece and the purchase of the TSTVA-12 VIDEO ADAPTER. This adds greatly to the resolution of this unit for Z Axis Measurements.

Ordering Information

Model Number

ZDM-1
10X - 40X Objectives
MTS-20 20X Eyepiece
TSTVA-12 Video Adapter
DI-35-700-10 Digital Indicator

TABLE OF MAGNIFICATION VALUES FOR EXTRA OBJECTIVES FOR THE ZDM-1 DEPTH MEASURING MICROSCOPE

WITH 10X EYEPIECE							WITH OPTIONAL 20X EYEPIECE						
Mag.	Field of View Inches	Working Distance Inches	Value Each Division in Thousands of Inch	Value of Radi	Res.*	Depth of Field	Mag.	Field of View Inches	Working Distance Inches	Value Each Division in Thousands of Inch	Value of Radi	Res.*	Depth of Field
100X	.0705"	.255"	.0005"	.010" & .020" & etc.	400 +	.010"	200X	.045"	.255"	.0005"	.010" & .020" & etc.	500	.0025"
200X	.036"	.060"	.00025"	.005" & .010" & etc.	500 +	.0022"	400X	.024"	.060"	.00025"	.005" & .010" & etc.	600	.0013"
400X	.018"	.030"	.000125"	.0025" & .005" & etc.	600 +	.0014"	800X	.012"	.030"	.000125"	.0025" & .005" & etc.	700	.00085"

*Resolution line pairs per millimeter

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