National Award for
Outstanding Entrepreneurship - 2010

National Award for
Quality Products - 2002

Vaiseshika®

Where Quality and Standards Meet

IMAGE CAPTURING DEVICES : MICROSCOPY CAMERAS: Series 7001

Description:

Vaiseshika offers a range of cost effective cameras with very good color reproduction and high speed working. Its driver software algorithm makes perfect color reproduction. These devices can be widely used in Industrial inspections, Microscopy observations, Machine vision & Astronomical applications.

7001-3N/5N/10N

Image Capturing Device
Mounted On Microscope

Specification :	7001-3N (3 Megapixels)	7001-5N (5 Megapixels)	7001-10N (10 Megapixels)
Sensor	1/2" Color, CMOS	1/2.5" Color, CMOS	1/2.3" Color, CMOS
Sensor Resolution	2048x1536, 3 Mpix	2592x1944, 5Mpix	3664x2748, 10Mpix
Pixel Size	3.2µm x 3.2µm	2.2µm x 2.2µm	1.67µm x 1.67µm
Sensitivity	>1.0V/lux-Sec 550nm	1.4V/lux-Sec 550nm	0.34V/lux-Sec-55nm
A/D Conversion	10bit	12bit	10bit
S/N Ratio	43 dB	40.5dB	34 dB
Exposure Time	0.057-350.208ms	0.083-378ms	0.206-1236ms
Frame Rate	11fps@2048x1536 29.3fps@1024x768 47.5fps@640x480	6fps@2592x1944 14.7fps@1280x768 20fps@1024x768 22.8fps@640x480	3.3fps@3664x2748 36fps@640x480
Spectral Response	390-750nm	390-750nm	390-700nm
Readout Noise	12 e-	8 e-	7 e-
Scan Mode	Progressive Scan	Progressive Scan	Progressive Scan
Shutter	Electronic	Electronic	Electronic
Optional Interface	C/CS mount	C/CS mount	C/CS mount
Data Interface	USB2.0 (480 Mbit/Sec)	USB2.0 (480 Mbit/Sec)	USB2.0 (480 Mbit/Sec)
Power Supply	DC 5V ± 5%	DC 5V ± 5%	DC 5V ± 5%
Power Consumption	approx. 2.0W	approx. 2.0W	approx. 2.0W
Operating Temp.	0°C - 60°C	0°C - 60°C	0°C - 60°C
Operating System	Windows XP/ 7(32/64 bit)	Windows XP/ 7(32/64 bit)	Windows XP/ 7(32/64 bit)

IMAGE ANALYSIS & MEASUREMENT SOFTWARES FOR MICROSCOPY & HARDNESS ANALYSIS : Series : 7001/7004/7005

Description:

Image Analysis software offers intutive tools that makes it easy to capture, process, measure, analyze and share your images and valuable data.

Vaiseshika offers three different softwares with Stereo Zoom Microscopes, Metallurgical Microscopes & Hardness Testers. All these softwares provide different tools for customizing your work flow.

IMAGE ANALYSIS & MEASUREMENT SOFTWARE FOR STEREO ZOOM MICROSCOPES: 7004-NS-SZM

Vaiseshika offers Measurement Software with Stereo Zoom, Medical, Polarizing, Biological & other Microscopes having multifaceted capabilities :

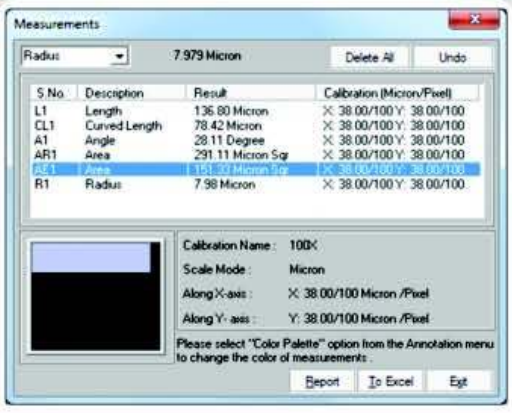
MEASUREMENT TOOLS :

- **Calibration:** This tool is used for calibration through calibration scale. This is done only once when we use with microscope
- **Length:** This tool is used for measuring length. it can measure any given length in the image. It calculates according to your selected scale name, chosen from drop list.
- **Curved Length:** We can measure any cells by simply moving the mouse on the cell and marking area through free hand, it will calculate the result.
- **Angle:** This tool is used for measuring angles of three selected points.
- **Area:** This tool is used for measuring area in square, rectangle, ellipse, polygon, circle and by arrow keys with zoom preview on the screen.
- **Radius:** This tool is used for measuring three points radius.
- **Perimeter:** This tool is used for measuring perimeter of irregular shape.
- **Counting:** This tool is used for automatic counting of cells. It has three intensity ranges for counting manual by selecting area, automatic dark objects and automatic bright objects. It counts in Total Count, Max Dia, Min Dia, Max Area, Min Area, Percentage. It can be searched out with different colors. It shows labels with numbers on every cell. Label color can change. It has five ranges to search. It may count length , width and area. Label size can be changed.

Note: Specification are Subject to change due to our continuous R&D program.

Computer configuration :

1. Minimum Requirement : Intel, Dual Core 2.8GHz or equivalent, 2GB RAM(preferably 4GB), 250 GB HDD & DVD Writer.
2. Operating System : ***Windows XP/ 7(32/64 bit)***



METALLOGRAPHIC STRUCTURE, GRAIN SIZE & IMAGE ANALYSIS SOFTWARE FOR *METALLURGICAL MICROSCOPES*: 7001-NS-MET

Vaiseshika®

Description:

Vaiseshika offers microstructure and grain size analysis Measurement Software with Metallurgical Microscopes having multi-faceted capabilities like measurement tools and metallurgical metrology. Application Program is set in simplest way without compromising accuracy so that inexperienced operator can also make analysis with minimum training. Generated reports can be saved or printed with images, data & various other related information.

MEASUREMENT TOOLS : For details please refer features of ***Software 7004-NS-SZM.***

METALLOGRAPHY TOOLS : Broad features of this tool are given here below :

- **Count And Classification :** Identification of objects in an image, count them, obtain several features measurements. Objects identification by user or automatically. User defined classification on basis of size or intensity.
- **Threshold Particle Measurement :** Manual, Auto bright and Auto dark methods to identify intensity range defined object to be measured. Various calculation & measurements available for selected Particle are; Dimensions, Area, Perimeter, Feret Length, Min/Max Radius, Thread Length, Thread Width, Fibre Length, Fibre Width.
- **Density :** This tool is used for measuring density in Black & White images. It will give results in %.
- **Phase :** Measure area fraction & volume fraction. Identify multiple phases within Microstructure. Also delineate phases from the histogram as per ASTM Standard E562 & E1245. This tool is used for analysis of Ferrite, Pearlite, Graphite, Carbide, Spherodization and more.
- **Coating Thickness :** This application rapidly measures thickness or width of coating at multiple positions along a sample as per ASTM B487 standard. Tabulated results available for min/max and mean of width measured at various points of sample cross section.
- **Decarburization :** Measured depth or width of decarburization occurs as per ASTM 1077 standard.
- **Non Metallic Inclusion :** Measure inclusions and report ASTM E-45, E-1245 AND DIN-50602, JIS G-552 numbers, cumulative length, width ratio.
- **Nodules :** Measure Nodularity as per ASTM 247 standard. Nodules & Flakes are separated on the basis of its shape and aspect radio. The detail measurement of each micro structure is available for further analysis. The processed image displays non-Nodules in different color. The Nodules can be classified by its range, on the basis of its size & shape.
- **Porosity :** They are recognized on the basis of its intensity as per ASTM B-276 standard. The measurement of each Pore Is Displayed. The Processed image displays pores in red color.
- **Graphite Flakes :** Graphite Flakes length, width, distribution and percentage as per ASTM A-247-67, ISO 9451-1, DIN EN 945-94, BIS 7754 JIS G5504, IS-7754
- **Grain Size :** The module analyze Grain image and measure the Grain no. & Grain size using ASTM E 112 , JIS G-551, E-930, E-1181, ISO 643-03, BS 490 DIN 643-03, IS-4748-88, SIS 111101 GOST 5639-82. The options for measurement available are 1. Manual Trace, 2. Popular Comparison Method, 3. Quick Single Grain measurement. 4. ALA method. 5. Interception method. Various filters are used to make user defined templates.
- **Grain Crack :** Count the number of cracks and number of intercepts in a grain image by circle and square method.
- **Dentring Arm Spacing :** we can anlyze the Dentring Arm Spacing with the help of this metallography Software.
- **Bearing Analysis :** This tool is capable of analyzing bearing structure with mechanical properties.
- **Annotation :** It has various options like you can write text on image, can mark with arrow, can mark with pointer, can draw sqaure and rectangle on image. We can change line color, text color, font color, size, font name, bold, italic, underline.
- **Filters :** It has various filter for improving image quality. It has Solarize, Emboss, Bright, Sharpness, Smooth, Diffuse, and Contrast.
- **Gray Scale :** We can change image into gray scale by simple click.
- **Report :** Direct printout with original image , Processed image & Tabular results. Facility to export to MS Office or Excel for further modification