National Award for
Outstanding Enterpreneurship - 2010

National Award for
Quality Products - 2002

Vaiśeshika®

Where Quality and Standards Meet

PARALLEL OPTICS ZOOM STEREOSCOPIC/VIDEO MICROSCOPES : SERIES 7004

DESCRIPTION :

Parallel Optics Zoom Stereo Microscope Type: 7004E/F, designed by **Vaiseshika** is characterized by Parallel optical system. The features include magnification from low to high, non-flash in zoom course, large depth of field and long working distance. Various kinds of attachments are available to enhance the capability and magnification range of the microscope. The microscope applications are in the fields of checking-up and analysis in modern biology, medicine, environment, semiconductors etc.

FEATURES :

- Built-in-halogen Light and incident light arrangement
- Fluorescent LED Ring Light for daylight illumination
- 2.8x to 360x magnification
- Parfocal zoom objectives
- Trinocular head with C Mount Camera attachment
- Eye diopters adjustment of the viewer
- Full interface with PC through CMOS/CCD Camera
- Complete windows based measurement software

WHAT IS PARALLEL OPTICS : Parallel Optics system in microscopy is basically consists of set of Plan Objectives. A plan objective infact corrects better for color and spherical aberration than either the **semi-plan** or the **achromatic objective**. Plan objectives have a flat field about the center 95% of the image. They also often have larger working distances. While plan objectives give you flatter fields than achromatic objectives, they also are the most expensive.

BINOCULAR VS TRINOCULAR HEAD : UTILITY AND APPLICATION

BINOCULAR

Binocular Head having **two tubes** for vision through both eyes. It does not have facility for camera port.

TRINOCULAR

Trinocular Head having **three tubes** for vision through both eyes, as well as facility for camera port.

PARALLEL OPTICS ZOOM STEREOSCOPIC/VIDEO MICROSCOPES : SERIES 7004

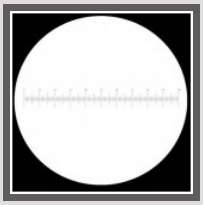
GENERAL SPECIFICATION:	7004E	7004F
Microscope Base/Stand	Standard Base with Illumination	Universal Stand without Illumination
Standard Magnification	(06X to 50X) or (08X to 50X) or (08X to 80X) with standard Eyepiece & Zoom Objective	
Zoom Objective	(0.6X to 5.0X) or or (0.8X to 5.0X) or (0.8X to 8.0X) continuously variable	
Zoom Ratio	(8.3:1) or (6.25:1) or (10:1)	
Standard Eyepiece	High Eye Point Wide Field 10X / Ø 23	
Optional Magnification	A) (3X to 30X) or (4X to 360X) with optional Eyepiece & Objectives	
	B) Customized magnification of 2.8X to 480X can be provided on request.	
Optional Eyepieces	WF Eye Piece Pair 15X, 20X & 30X and Micrometer WF Eye Piece Pair 10X, Least count: 0.1mm	
Optional Objectives	Auxiliary Objective 0.35/0.5X, 0.75X, 1.5X & 2.0X attachable below main objective	
Viewing Head (Inclined at 20° or 0-35° or 45°)	Trinocular (three parts, two for visual observation & one for camera attachment)	
Rotation of Head	0 to 360°, Binocular vision is convenient to observer & eliminates fatigue of eyes.	
Interpupillary Distance	Adjustable according to your eyes from 50mm to 76mm	
Diopter Adjustment	± 6	
Light Distribution	50:50 between camera pot & observation head	
Color Filters	Blue, Green etc. **(optional)**	
Focusing	Coarse focusing with pillar clamp. Fine focusing with sensitive rack & pinion motion	
	through large knobs on both sides. Fine focusing range 50 mm approximately.	
Working Distance	90-115mm with standard objective.	
Illuminator	**Base Illuminator**	Transmitted Illumination of the Fluorescent halogen lamp/LED
	Outer Illuminator	Reflected Illumination of the halogen lamp/LED

OPTICAL SPECIFICATION :

Eyepiece	Item	Auxiliary Objectives			
		0.5X	0.7X	1X	1.5X
10X	Total Magnification	4X~40X	5.6X~56X	8X~80X	12X~120X
	Field of View in mm	55~8.8	39.3~6.3	27.5~4.4	18.33~2.93
15X	Total Magnification	6X~60X	8.4X~84X	12X~120X	18X~180X
	Field of View in mm	42.5~6.8	30.36~4.86	21.25~3.4	14.17~2.27
20X	Total Magnification	8X~80X	11.2X~112X	16X~160X	24X~240X
	Field of View in mm	35~5.6	25~4	17.5~2.8	11.67X~1.87X
30X	Total Magnification	12X~120X	16.8X~168X	24X~240X	36X~360X
	Field of View in mm	22.5~3.6	16.1~2.57	11.25~1.8	7.5~1.2X
Working Distance(mm)		186	135	90-115	40

1. WIDE FIELD EYE PIECES : Vaiseshika offers high quality WF Eye Pieces of different magnifications like 10X, 15X, 20X and 30X (pair). These eye pieces are used to increase or decrease the magnification of the microscope from standard magnification to 480X (on higher side) and 2.8X (on lower side). The lenses used in these eyepieces are made of coated glass to give high degree of clarity and protection from dust.

WF EYE PIECES



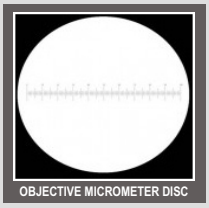
MICROMETER DISC

2. MICROMETER WF EYE PIECES: Micrometer Eye Piece is a glass disc fitted into the eyepiece of the microscope. These can be fitted to existing eyepieces or eyepieces can be purchased with graticules already fitted. The disc is marked with a fine scale from 0 to 100. The absolute size of the scale is not important as this is what will be calibrated. With the Help of this, you can do the manual measurements of Specimen. **Options are 10X/15X/20X/30X.**

3. AUXILLIARY OBJECTIVES: Vaiseshika offers a range of Auxilliary Objectives with magnification of 0.35X, 0.5X, 0.7X, 1.0X, 1.5X and 2.0X. Here 0.35X objective works as **Reducer** and 2X objective works as **Enhancer** of the magnification. These objectives can be fitted under the standard objective with standard threading. The lenses used in these objectives are also of same quality as used in eyepieces.

AUXILLIARY OBJECTIVES

STAGE MICROMETER DISC

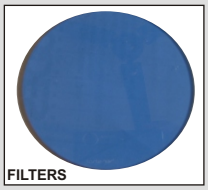


OBJECTIVE MICROMETER DISC

4. OBJECTIVE MICROMETER DISCS: Objective Micrometer Disc is used to calibrate the eyepiece reticule. An Objective Micrometer Disc consists of a microscopic slide, a fine and accurate scale is engraved on it. The scale, incorporated on the slide where has to be accurately produced to give reference dimensions. The disc is marked with a fine scale from Value of 1 to 100 divisions. The value of 1 scale division is 0.01mm **or** 0.1mm.

It is the most important sub assembly to carry out the Calibration of Microscopes & Micro-hardness Testers. When carrying out calibration; each objective lens along with eyepiece reticule has to be separately calibrated and calculate the value of 01 division of eyepiece reticule.

5. FILTERS : Vaiseshika offers a range of different colour filters like Blue, Yellow & Green etc. These color filters are used to create different contrast from standard color thereby enhancing the clarity and resolution of the object under observation. Natural light consists of seven colors and sometimes a particular color interferes with the sample contrast resulting in poor quality picture. In such cases particular color filter use can reduce this effect and enhance the quality of the image substantially.



FILTERS

BEAMSPLITTERS

6. BEAMSPLITTERS : Vaiseshika Offers two types of Beamsplitters. These are optical components used to split input light into two separate parts. Beam splitters are common components for Illumination systems. Beamsplitters are also ideal for fluorescence applications, optical interferometry, or life science or semiconductor instrumentation. Light can be split by percentage of overall intensity, wavelength, or polarization state.

MICROSCOPE STAND

Vaseshika Offers a range of different types of microscope stands to suit different applications

E-mail : vaiseshika@gmail.com

OPTIONAL ACCESSORIES

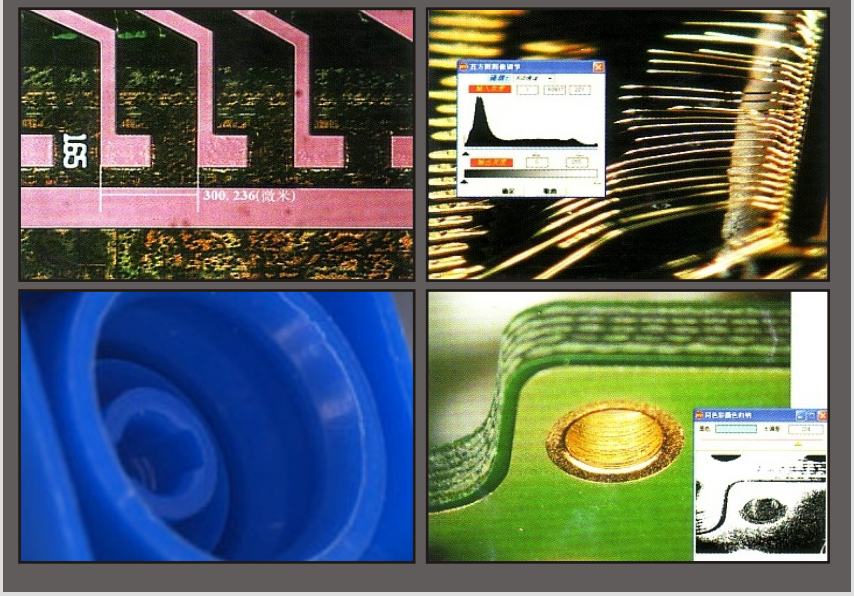
7. C-MOUNT ADAPTER : is used to connect **Camera with Microscope** through trinocular port of Microscope. C-Mount adapter has built-in lenses. It compensates too much magnification at camera end, as compared seeing through the eyepieces. It makes the field of view of specimen on screen 65% or above as compared with 100% FOV on10X WF Eye Piece. If we are to use a C-Mount adapter with no lenses, we would see object at grater magnification than what we are currently seeing through EP. This is due to inherent magnification of image sensor of camera which is always greater than 10X.

8. SPECIMEN TABLE ASSEMBLY : Vaiseshika offers, additional specimen table assembly with dual motion in X and Y direction. The travel distance will be 0 to 25 **or** 50mm with high quality vernier screw gauges. The least count of the motion will be 0.01mm **or** 0.005 mm in any direction. It helps in observing the complete specimen without disturbing the specimen and moving it through screw gauge motion.

9. SPECIMEN TABLE ASSEMBLY (ROTARY & DIGITAL) : It is one of the most versatile and useful designs for all types of microscopy and photomicrography. The travel distance will be 0 to 25mm **or** 50mm with high quality vernier screw gauges. The least count of the motion will be 0.001 mm in any direction This stage rotates 360°, permitting complete rotation of the samples and great ease in fine-tuning the composition of fields of view for photomicrography. An added feature is the graduations included on the periphery of the stage, which allow for precise alignment, when critical analytical measurements are undertaken. The stage rotates on ball bearings that provides precision rotation, without any jerks.


SPECIMEN TABLE ASSEMBLY


APPLICATION/FITTING OF SPECIMEN TABLE ASSEMBLY ON A MICROSCOPE


DIFFERENT IMAGES CAPTURED THROUGH ZOOM MICROSCOPE

Vaiseshika®
Address : 38-Industrial Estate, Across Tangri River Bridge
Ambala Cantt -133 001 (India)
Phone : (171) 2699827, 2699891, Fax : (171) 2699773
E-mail : vaiseshika@gmail.com, vaiseshika@dataone.in
Website : www.vaiseshika.com