



Stereo **ZOOM**
MICROSCOPE



HIGH QUALITY OPTICAL SYSTEM

Fully coated Optical System, sharp and clear images with extremely good flatness and contrast. The images are brighter and more distinct even at the periphery of the visual field.

LARGER MAGNIFICATION

Turret objective 1x/3x, 2x/4x, 1x/2x, 1x/4x for choice, zoom objectives 0.7x - 4.5x. Optional auxiliary objectives and other eyepieces help you achieve best magnification

OVERLONG EFFECTIVE WORKING DISTANCE

Standard working distance is 100mm. With optional auxiliary objectives, the working distance is increased to 30mm - 165mm

STRUCTURE DESIGN OF ERGONOMICS

Viewing head 45° inclined , 360° rotatable. each tube allows interpupillary distance and diopter adjustments to suit the user and ergonomic design. Head wheel two-side horizontal (Axial) set, high repeatability precision of magnification-change and comfort.

LCD MONITOR SERVES FAST TEST AND RAPID DETECTION

A complete clear image without eyepieces, automatic / manual white balance.

CRACK DETECTION & AUTO MEASUREMENT SYSTEM

(Galileo Infinity Corrected Parallel Zoom Microscope)



Technical Data	
Optical System	CMO (Common Main Objective)
Total Magnification	4x - 320x
Zoom Ratio	10:1
Observation Tube Inclination	20°
Interpupillary Distance	55mm - 75mm
Objectives	Plan Achromatic 1.0x
Eyepieces	WF10x F.N.22

- ❖ Auto Measurement Software for Welding Analysis for Crack, Depth, Penetration
- ❖ 0.5x TV Zoom Relay Adopter for 1:1 Calibration of Image aspect ratio
- ❖ Multitek 5MP HD Camera Panasonic Sensor Chip Progress Scan For Real Time Scanning
- ❖ Mechanical X-Y stage with Digital Micrometer L.C. 1µm for Fine Movements and Alignment
- ❖ Study the fracture surface under Stereo-microscope at 60X Magnification.
- ❖ The original broken bolt did show some flaking at the base of the threads but this is expected for a bolt that has been in service.
- ❖ Etching the sections revealed a microstructure of coarse pearlite in a matrix of ferrite. The SAE grade 5 standard requires that the bolt be quenched and tempered to conform and therefore should have a tempered martensite structure. Martensite has higher material properties such as yield strength and hardness, which increases its resistance to fatigue initiation. The ferrite matrix of the original bolt has low yield strength, which in

METALLOGRAPHY

- ❖ Microscopic examination of the bolts where done using longitudinal and latitudinal mounts for each. The sections taken from the fractured bolt were taken close to the fracture surface.
- ❖ Examination before etching of the two bolts showed no cracking or unusually large inclusions.
- ❖ turn reduces its resistance to fatigue initiation.