

HST301-AW Computerized Trinocular upright metallographic microscope



HST Group Co.,LTD.

Development Base of Advanced Testing Machine Of China

Introduction

HST301-AW computerized metallographic microscope is a trinocular upright metallographic microscope, suitable for microscopic observation of opaque objects. This instrument is equipped with an epi-illuminator, long-distance plan achromatic objective lens (without cover glass), large-field eyepiece and built-in polarizing observation device. It has the characteristics of clear image, good contrast and easy operation. It is an ideal tool for metallurgy, mineralogy, Ideal instrument for precision engineering, electronics and other research. Suitable for use in schools, scientific research, factories and other departments.

Observation system

Trinocular observation tube, single vision is adjustable, the lens tube is tilted at 30°, and can be connected to a camera device.



Mechanical stage

Double-layer mechanical stage, size: 185*140mm; movement range: 75mm*50mm, moderate design concept, making it more convenient and comfortable for users to operate the stage.



Epi-illumination system

6V20W halogen lamp, adjustable brightness. Built-in field diaphragm, (yellow, green, blue, frosted glass) color filter conversion device, push-pull polarizer



Main Specifications

Standard Configuration		Model
Item	Specification	HST301-AW
Optical system	Finite distance chromatic aberration correction optical system	●
Observation tube	Trinocular, tilted 30°, (built-in analyzer, can be switched)	●
Eyepiece	Large field of view WF10X (Φ18mm)	●
Standard objective lens (long distance plan achromatic objective lens)	PL L5X/0.12 WD15.5 mm	●
	PL L10X/0.25 WD8.80mm	●
	PL L40X/0.6 WD3.73 mm	●
	PL L60X/0.75 WD1.34 mm	●

Converter	Four holes (inward-facing ball positioning)	●
Focusing mechanism	Coarse and fine motion coaxial focusing, fine motion grid value: 2μm, coarse motion and tightness adjustable, with locking and limiting device	●
Stage	Double-layer mechanical mobile (size: 185mmX140mm, moving range: 75mmX50mm)	●
Lighting system	6V 20W, halogen lamp, adjustable brightness; epi-illuminator with field diaphragm, aperture diaphragm, and polarizer.	●
Color filter	Equipped with frosted glass, yellow, green and blue color filters	●
Metallographic Analysis System	Metallographic analysis software, Sony chip 5 million camera device, 0.65X adapter mirror interface, high-precision micrometer (100x0.01mm, 100x0.01cm, calibration points: d = 0.15mm, d = 0.07mm).	●
Optional configuration		
Eyepiece	Large field of view WF10X (Φ18mm) differentiated eyepiece	○
	Large field of view WF16X (Φ11mm)	○
Objective lens	PL L 20X/0.40 WD8.6mm	○
	PL L 50X/0.70 WD2.02mm	○
	PL L 80X/0.80 WD0.96mm	○
	PL L 100X/0.85 WD0.4mm	○
	PL L 20X/0.40 WD8.6mm	○
camera device	12-megapixel Sony chip camera device	○
Computer	HP	○

Note: "●" is standard configuration; "○" is optional

Metallographic image analysis software system

Features:

- Software installation is more intuitive and concise

The new software installation, registration, and calibration guide mode are simple and clear, and can be completed by default prompts.

- Genuine Software Assurance System

After the software installation is completed, the original software activation is performed first, and then the computer hardware ID registration is performed to ensure the legitimate rights of the customer.

- Quick access to 7 inspection categories

Statistical production of 7 categories of quick entry: grain size, non-metallic inclusions, steel microstructure, decarburization layer analysis, gray iron, ductile iron, carbon steel spheroidization, etc., plus a metallographic teaching.

- Demand standards can be customized

In addition to the standard testing modules, special testing modules can be customized according to customer needs, such as: corporate standards, special industry standards, etc.

- The report template can be modified

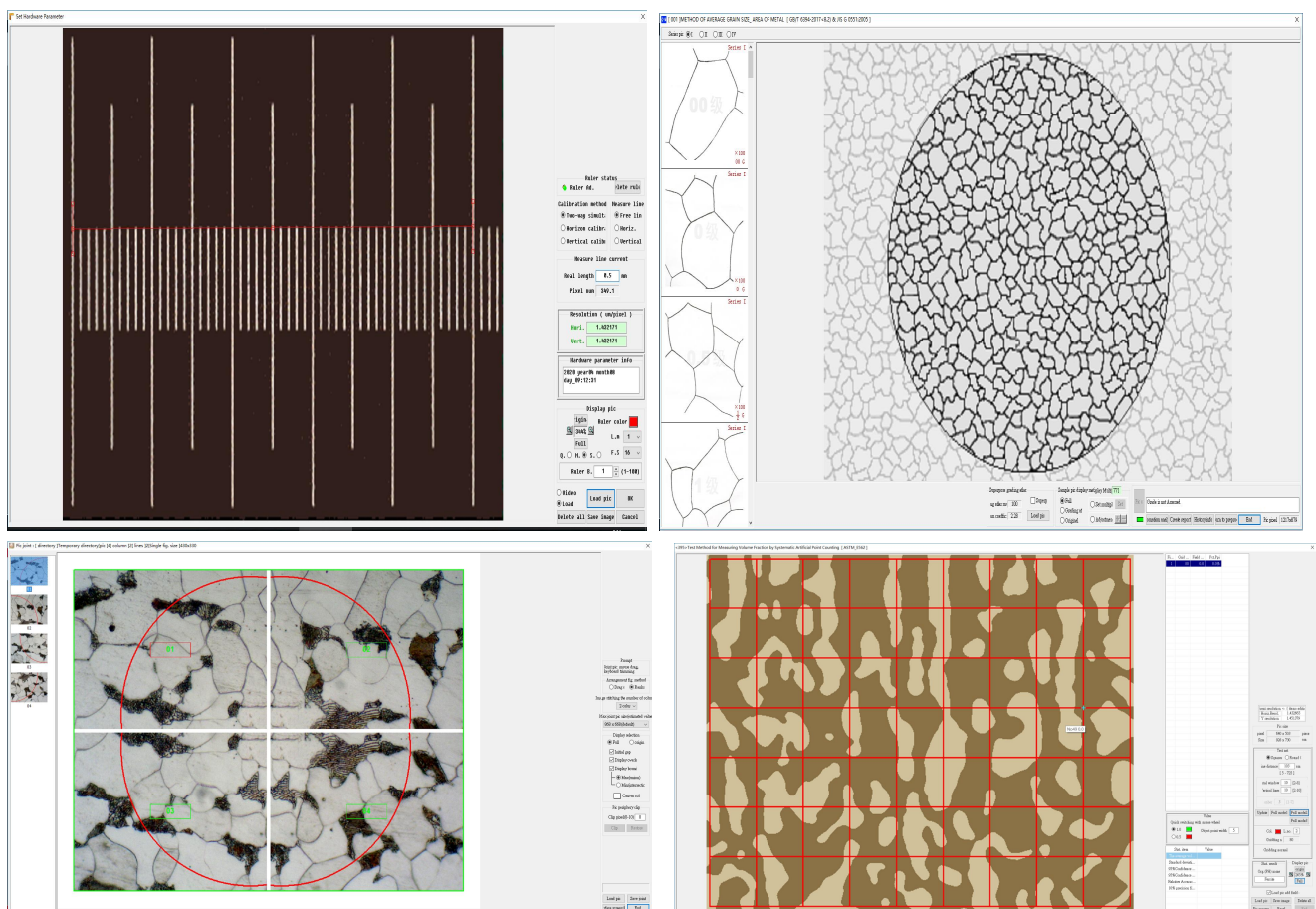
Report templates can be customized for different companies.

- Genuine software can be upgraded

According to the standard implementation time of the National Standardization Committee, the software will be upgraded for free.

- Wide application of computer systems

This software can be installed and run under Windows 7, Windows 10.



The latest metallographic software standard:---partial excerpt

- GB/T 6394-2017 Grain size measurement rating (grain boundary extraction, grain boundary reconstruction, single phase, dual phase, grain size measurement, rating)
- GB/T 10561-2005/ISO 4967:1998 Determination of non-metallic inclusion content in steel
- GB/T 7216-2009 gray cast iron: graphite distribution shape, graphite length, pearlite quantity, carbide quantity, etc.
- GB/T 9441-2009 Ductile Iron: Spheroidization Rate, Graphite Size, Pearlite Quantity, Carbide Quantity, etc.
- GB/T 26656-2011 Vermicular graphite cast iron: graphite morphology, creep rate, pearlite quantity, phosphorus eutectic quantity, carbide quantity, etc.
- GB/T 18254-2016 Metallographic examination of high carbon chromium bearing steel
- GB/T 34891-2017 Rolling bearings_Technical conditions for heat treatment of high carbon chromium bearing steel parts
- GB/T 1499.2-2018 Steel for reinforced concrete Part 2: Hot-rolled ribbed steel bars
- GB/T 1299-2014 tool steel
- GB/T 3246.1-2012 Microstructural test methods for wrought aluminum and aluminum alloy products_Part 1_Microstructure test methods
- GB/T 13925-2010 cast high manganese steel: grades of undissolved carbides, grades of precipitated carbides, grades of superheated carbides
- JB/T 7946-2017 Metallography of cast aluminum alloys
- JB/T 1255-2014 Rolling bearings_Technical conditions for heat treatment of high carbon chromium bearing steel parts
- JB/T 9986-2013 Tool Heat Treatment Metallographic Examination
- QC/T 262-1999 Metallographic examination of automobile carburized gears: martensite needle length, carbide, austenite rating, austenite content
- QC/T 502-1999 metallographic inspection of automobile induction hardening parts
- QC/T 553-2008 Metallographic Examination of Cast Aluminum Pistons for Automobile Engines
- TB/T2942.2-2018 Steel Castings for Locomotives and Rolling Stock Part II: Metallographic Examination Chart.
- TB/T 2478-1993 Metallographic Structure Grading Chart of Spring Bar
- TB/T 2451-1993 Metallographic examination of non-metallic inclusions in cast steel
- TB/T 2944-1999 Carbon steel forgings for railway
- DL/T 773-2016 Standard for spheroidization rating of 12Cr1MoV steel for thermal power plants_Characteristics of ferrite plus pearlite spheroidization

- DL/T 773-2016 Spheroidization rating standard for 12Cr1MoV steel for thermal power plants_Features of ferrite plus bainite or bainite spheroidization
- DL/T 1422-2015 18Cr-8Ni series austenitic stainless steel boiler tube microstructure aging rating standard
- ISO 4499-2016 Cemented carbide -- Metallographic determination of microstructure
- ASTM A262-2015 Test procedure for susceptibility to intergranular corrosion of austenitic stainless steel
- ASTM E45-2013 Evaluation method of inclusion content in steel

The national standard library contains about 700 commonly used sub-modules in 150 categories, basically covering the commonly used metallographic standards and meeting the requirements of metallographic analysis and inspection in most units; the software randomly releases about 120 commonly used sub-modules, and the others are all Lifetime free upgrade calls.

Basic skills:

1. Organization analysis

Correctly select the execution standard of the material, capture and take pictures of the metallographic structure of the sample through the camera system of the metallographic microscope, and enter the evaluation level interface:

(1) Automatic grading: If there are quantitative standards in metallographic standards (such as calculation formulas, percentage ranges, etc.), the software automatically grades, gives metallographic grades, and generates metallographic inspection reports.

(2) Comparison and rating: The software can also compare the sample map with the map in the gallery, and manually determine the level.

(3) Multi-module rating: Multiple modules can be counted at the same time

2. Image measurement

The software provides a variety of measurement tools such as distance, rectangle, circle, polygon, polyline length, angle, line angle, radian, point to circle center measurement, etc., to meet the user's basic geometric measurement functions and obtain relevant measurement data.

(1) Data export: The measured data can generate a dedicated measurement report with pictures and texts, and can also be directly imported into EXCEL.

(2) Save the image: the measured data can be automatically fused with the picture, and the accuracy of the measured part can be displayed intuitively and clearly.

3. National standard library

The software provides the function of viewing the gallery, providing users with the latest national standard gallery.

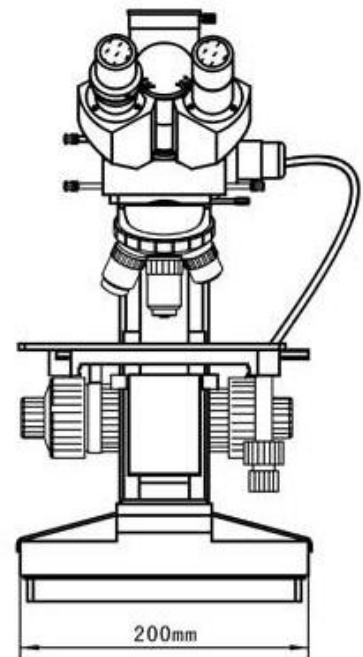
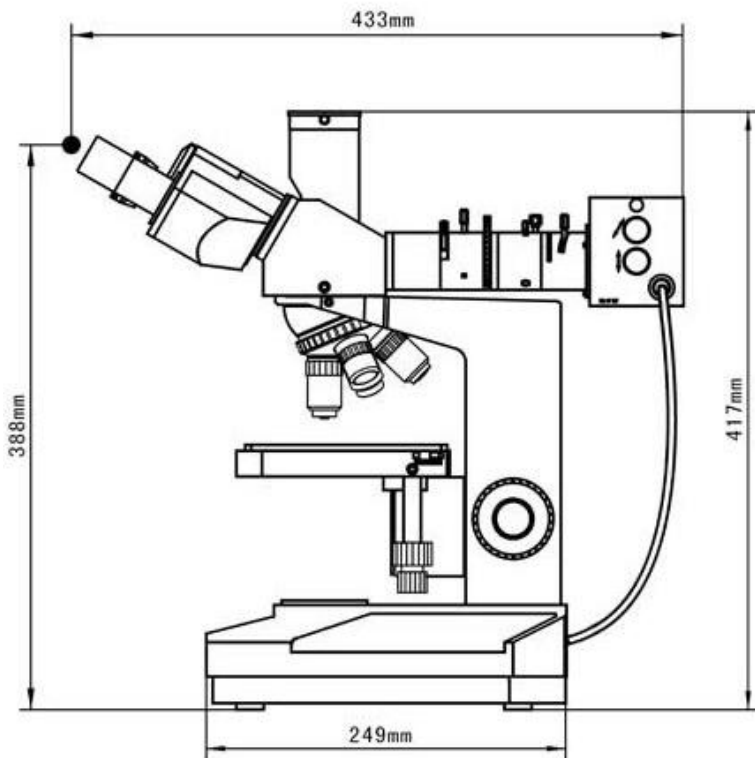
4. Fixed-time printing

The software provides a fixed-time printing function, and users can realize fixed-time printing of pictures according to the actual printing multiple requirements.

5. Inspection report

Metallographic analysis software system composition:

1. Software program FMIA2021 (U disk);
2. Dongle: USB type + dynamic code verification;
3. Text information: "Instruction Manual" (on the U disk);
4. 0.01mm micrometer ruler.





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