

HST401W Computerized Metallographic Microscope



HST Group Co.,LTD.

Development Base of Advanced Testing Machine Of China

Introduction

The HST401W computer metallographic microscope is a three-lens upright metallographic microscope, which provides superior image quality and stable operating system, easy operation and complete accessories. Widely used in teaching and research, metallographic analysis, industrial testing and other fields.

Focusing mechanism

Coarse trimming coaxial, with mechanical upper limit and elastic adjustment device, coarse adjustment stroke 25mm, fine tuning accuracy 0.002mm.

Mechanical mobile platform

Composite double-layer mechanical moving platform, low hand position coaxial adjustment, and the mechanical platform is equipped with 180mm*145mm flat platform, easy to place larger size samples.



Lighting system

Fall-type Cora lighting, and the design of anti-reflection structure, effectively prevent the interference of reflected light, so that the imaging clearer, better field of view contrast.



Standard Accessories		Model
Unit	Specification	HST401W
Optical system	Optical system for correcting finite distance chromatic aberration	■
Observation tube	30° tilt, hinged triocular observation cylinder, 360° rotation, pupil distance adjustment range: 50-75mm, bilateral visibility adjustment: ± 5 diopter, fixed optical splitting ratio, binocular: triocular = 80:20.	■
Eyepiece	High eye point large field of view flat field eyepiece PL10X/18mm	■
Long anomaly field achromatic objective	LMPL5X / 0.13WD15.5mm	■
	LMPL10X/ 0.25WD8.7mm	■
	LMPL20X/ 0.40WD8.8mm	■
	LMPL50X/ 0.60WD5.10mm	■
Convertor	Internal positioning four-hole converter	■
Focusing mechanism	Low hand position coarse micro coaxial focusing mechanism, fine tuning accuracy 0.002mm, with the adjustment of the tension device to prevent sliding and mechanical upper limit device.	■
Stage	Composite double-layer mechanical mobile platform, table size 140*132mm (with 180*145mm flat platform, 102*102mm glass stage, easy to place larger size samples), moving range: 76mmX50mm, accuracy 0.1mm.	■
Reflective lighting system	Reflective Cora lighting, adaptive wide voltage 100V-240V, 5W LED warm color, light intensity continuously adjustable, with variable aperture diaphragm and field of view diaphragm, field of view diaphragm center adjustable	■
Metallographic analysis system	FMIA2023 genuine metallographic analysis software, 5 million SONY chip camera device, 0.5X adaptive mirror interface, micrometer.	■
Optional		

Unit	Specification	
Eyepiece	High eye point large field of view flat field eyepiece PL10X/18mm with micrometer	O
	High eye point large field of view eyepiece WF15X/13mm with micrometer	O
	High point large field of view eyepiece WF20X/10mm	O
Objective lens	Long anomaly field achromatic objective LMPL100X/0.80WD2.0mm	O
Convertor	Internal positioning five-hole converter	O
Transmission lighting system	Adaptive 100V-240V wide voltage, single high-power 5W LED, warm color	O
Condenser	Abbe condenser, numerical aperture N.A.1.25.	O
Polarizing attachment	Polarizing mirror insert, polarizing mirror insert	O
Color filter	Yellow, green, blue, neutral filter	O
Computer	HP business	O

Note: "●" is standard configuration; "O" 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

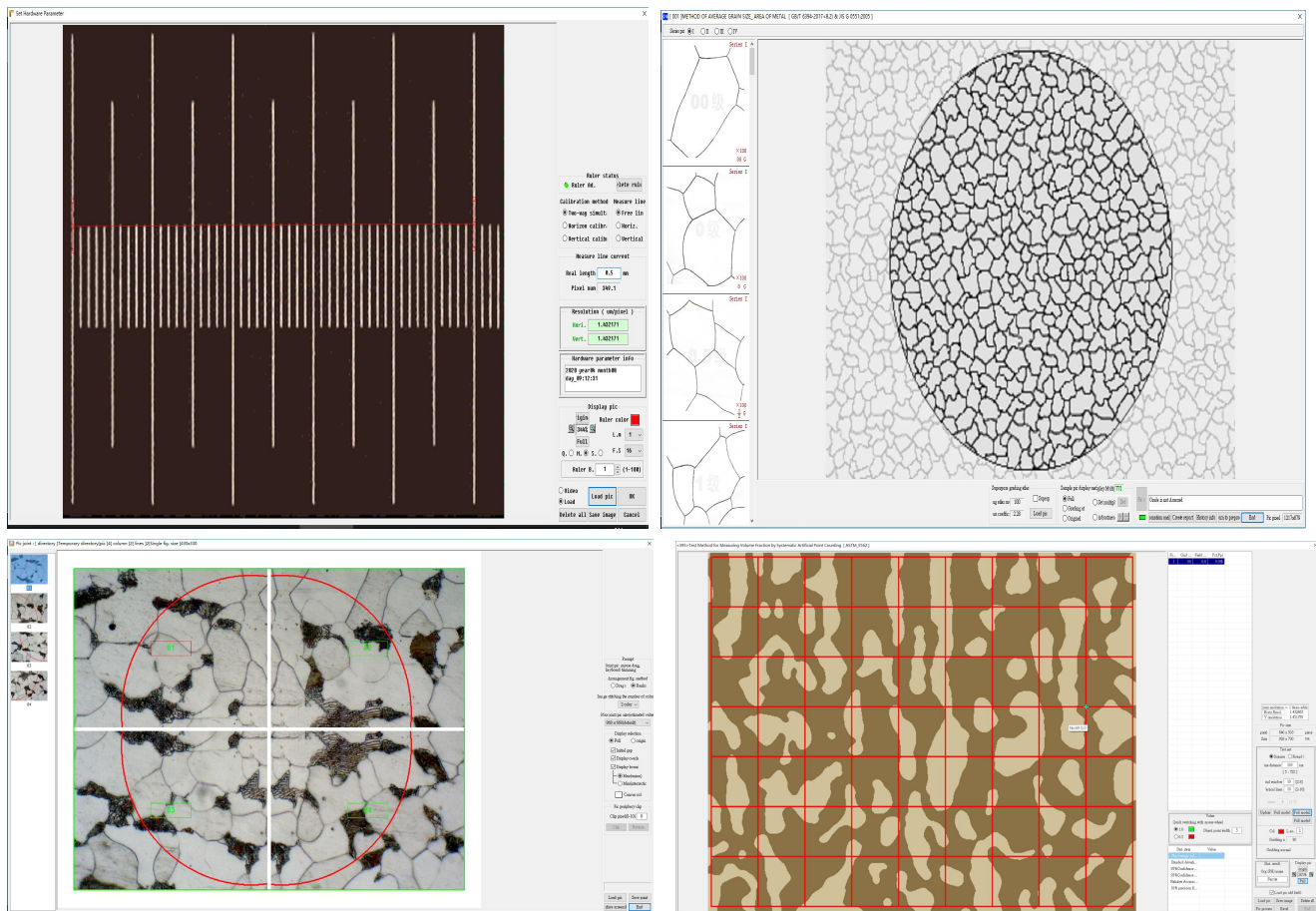
Report templates can be customized for different companies.

- 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.

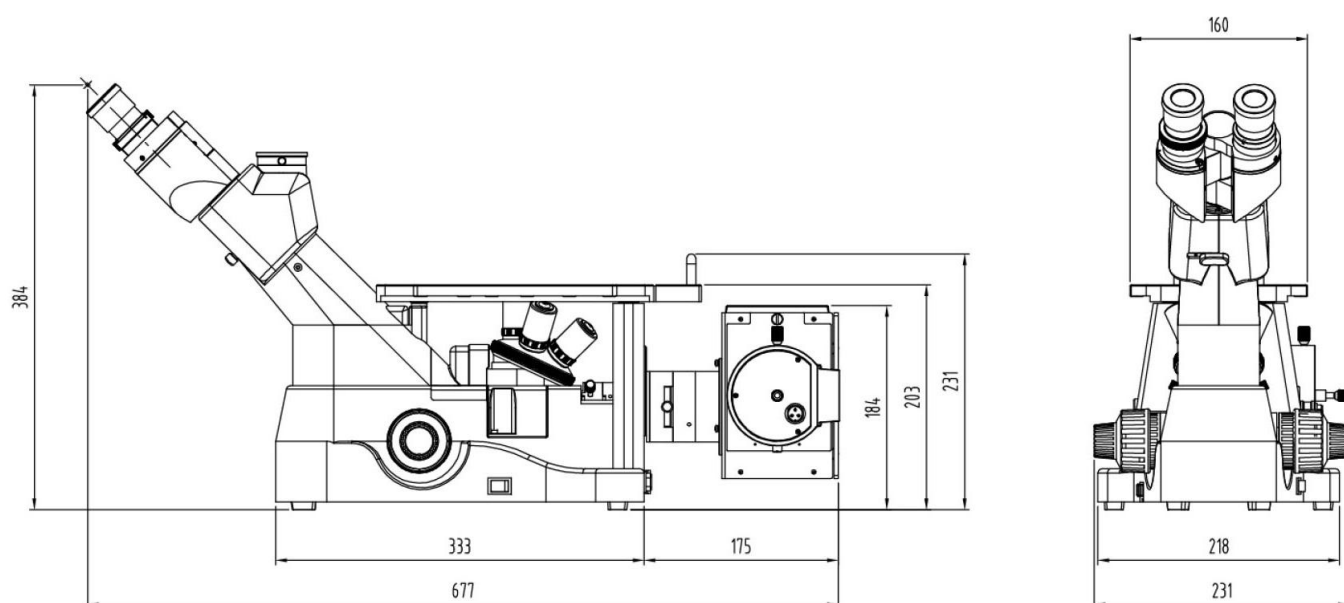
4. Fixed-time printing

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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