

HST201-BW Computerized Research Grade Metallographic Microscope



HST Group Co.,LTD.

Development Base of Advanced Testing Machine Of China

Introduction

HST201-BW computer research grade metallographic microscope is a three-eye inverted metallographic microscope, using a newly designed infinity optical system, can be widely used in casting, smelting, heat treatment research, raw material inspection or material processing analysis and other inverted microscopes. The machine covers a wide range of observation methods such as bright field, dark field, simple polarization, differential interference, etc., to meet a variety of research needs.

Comfortable and simple operation mode

In order to meet the long-term observation needs of users, the HST201-BW uses a low hand mode and is equipped with a 360° rotating binocular viewing cylinder, which is fully ergonomic.

Stable and thoughtful appearance design

HST201-BW fuselage is made of all-metal casting, the surface is treated by anti-corrosion and wear-resistant technology, and the quality is guaranteed and solid. Make full use of the built-in space of the

fuselage to place the instrument disassembly tool, which is commonly used in the main parts of the disassembly instrument, pragmatism, convenient storage.

Pre-magnification display function

Front objective magnification display function, through the built-in magnification sensor, the current magnification is displayed in front of the instrument, making the research work more convenient.

New intelligent ECO system

The ECO infrared sensor system is added with the concept of environmental protection and economy. When the microscope is not operated for a long time, the system will automatically turn off the power or restart to save energy consumption.

Configuration Table:

Standard Configuration:		
Unit	Specification	HST201-BW
Optical system	Infinite distance chromatic aberration correction optical system	●
Observation tube	Triocular observation tube, 45° tilt, hinge group can be rotated 360°, fixed eyepiece tube, pupil distance adjustment range 50-75mm, two-stage split ratio: binocular: triocular = 100:0 or 0:100	●
Eyepiece	High eye point large field of view flat field eyepiece PL10X/22mm, adjustable visibility.	●
Objective lens	Infinite long range light and dark field objective: LMPL5X /0.15BD DIC WD9.0	●
	Infinitesimal long range light and dark field objective: LMPL10X/0.30BD DIC WD9.0	●
	Infinitesimal long range light and dark field objective: LMPL20X/0.45BD DIC WD3.4	●
	Infinite long distance semi-apochromatic objective: LMPLFL50X/0.55 BD WD7.5	●
Convertor	Internal positioning 5-hole bright and dark field converter (with DIC slot) with built-in power sensor	●
Rack	Reflected light and dark field metallurgical frame, using low hand position coarse fine-tuning coaxial, coarse adjustment stroke 9mm, focus face up 6.5mm, down 2.5mm, fine-tuning accuracy 0.002mm, with a tight adjustment handwheel to prevent sliding	●

	With light and dark field switching device, with variable field of view diaphragm, aperture diaphragm, the center can be adjusted; With filter slot and polarizing device slot, with lamp source brightness indicator, with infrared sensing and objective magnification display function	●
Stage	Three-layer mechanical mobile platform, platform size: 240 (W) ×250 (L), moving range 50×50mm, two-way rail transmission, right hand low hand control. Metal platform center hole φ12mm.	●
Lighting system	External wide voltage transformer, input 100-240V, output 15V13.4A, 12V100W halogen lamp, brightness continuously adjustable	●
Polarizing attachment	Polarizing mirror insert plate, fixed polarizing mirror insert plate, 360° rotating polarizing mirror insert plate	●
Color filter	LBD filter (φ32mm).	●
Metallographic analysis system	FMIA2023 Genuine metallographic analysis software, SONY chip USB3.0, 12 million pixel camera device, 0.5X adaptive mirror interface, micrometer (with: specifications 100x0.01mm, 100x0.01cm, calibration point d = 0.15mm, d = 0.07mm).	●
OPTIONAL		
Unit	Specification	
Eyepiece	High eye point large field of view flat field eyepiece PL10X/22mm, adjustable visibility, with micrometer	O
	High eye point large field of view flat field eyepiece PL15X/16mm, adjustable visibility	O
Objective lens	Infinite long distance semi-apochromatic objective: LMPLFL100X/0.80 BD WD2.1	O
Differential interference	DIC differential interference module	O
Camera unit	20 million pixel SONY chip camera device, 1X adaptive mirror interface	O
Computer	HP	O

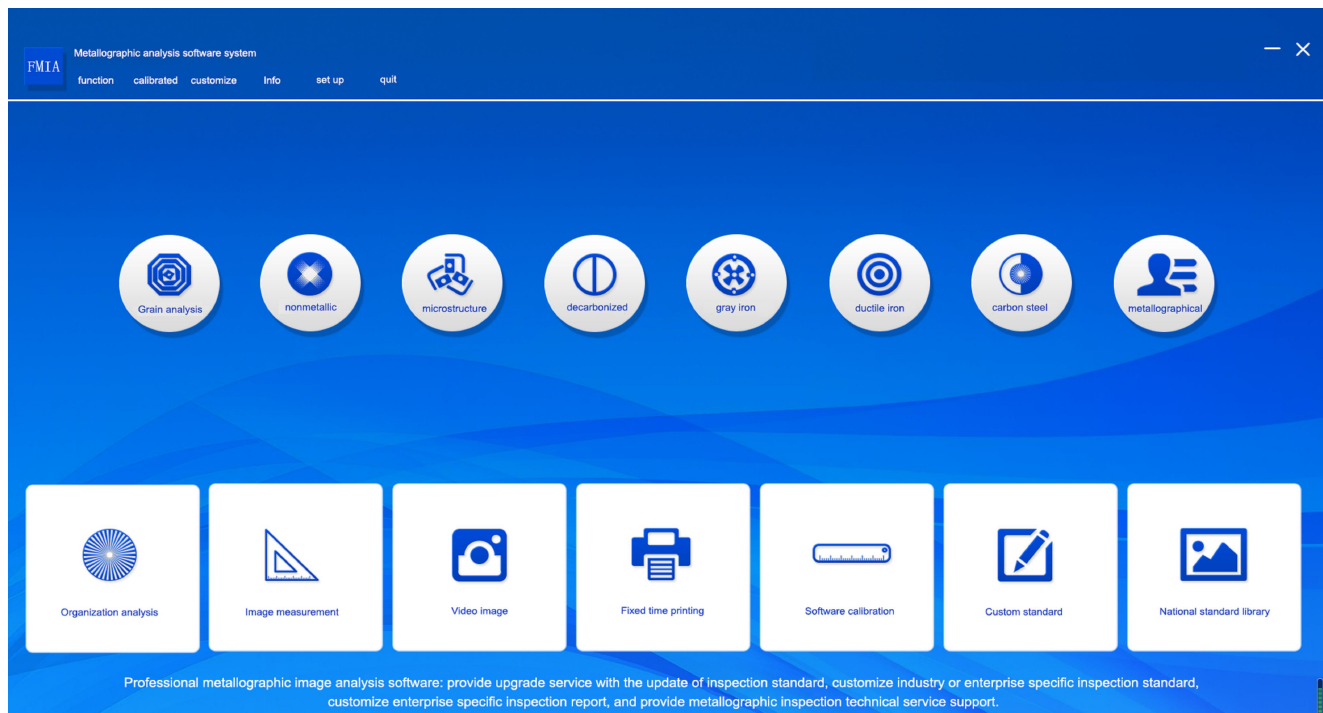
Note: "●" is standard configuration; "O" is optional

Metallographic image analysis software system

FMIA2023 version of metallographic image analysis software system, is our company combined with the current casting enterprises, auto parts enterprises, heat treatment enterprises, bearing steel industry, power system industry, railway parts industry, as well as the relevant testing companies for metallographic testing needs, improve the product pass rate, help the laboratory inspection level to improve, We collect the needs of experts and teachers in various industries and develop this set of FMIA2023 version of metallographic image analysis software system.

The national standard library of the software system contains about 700 commonly used submodules in 150 categories, which basically covers the commonly used metallographic standards and meets the requirements of the vast majority of metallographic analysis and inspection units. According to the needs of different industries, relevant categories are designated and opened to meet the requirements of industry testing. Free access to all modules for life, free upgrade standards for life.

In view of the increasing number of new materials and imported grade materials, materials and assessment standards that have not been entered in the software can be customized and entered.



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

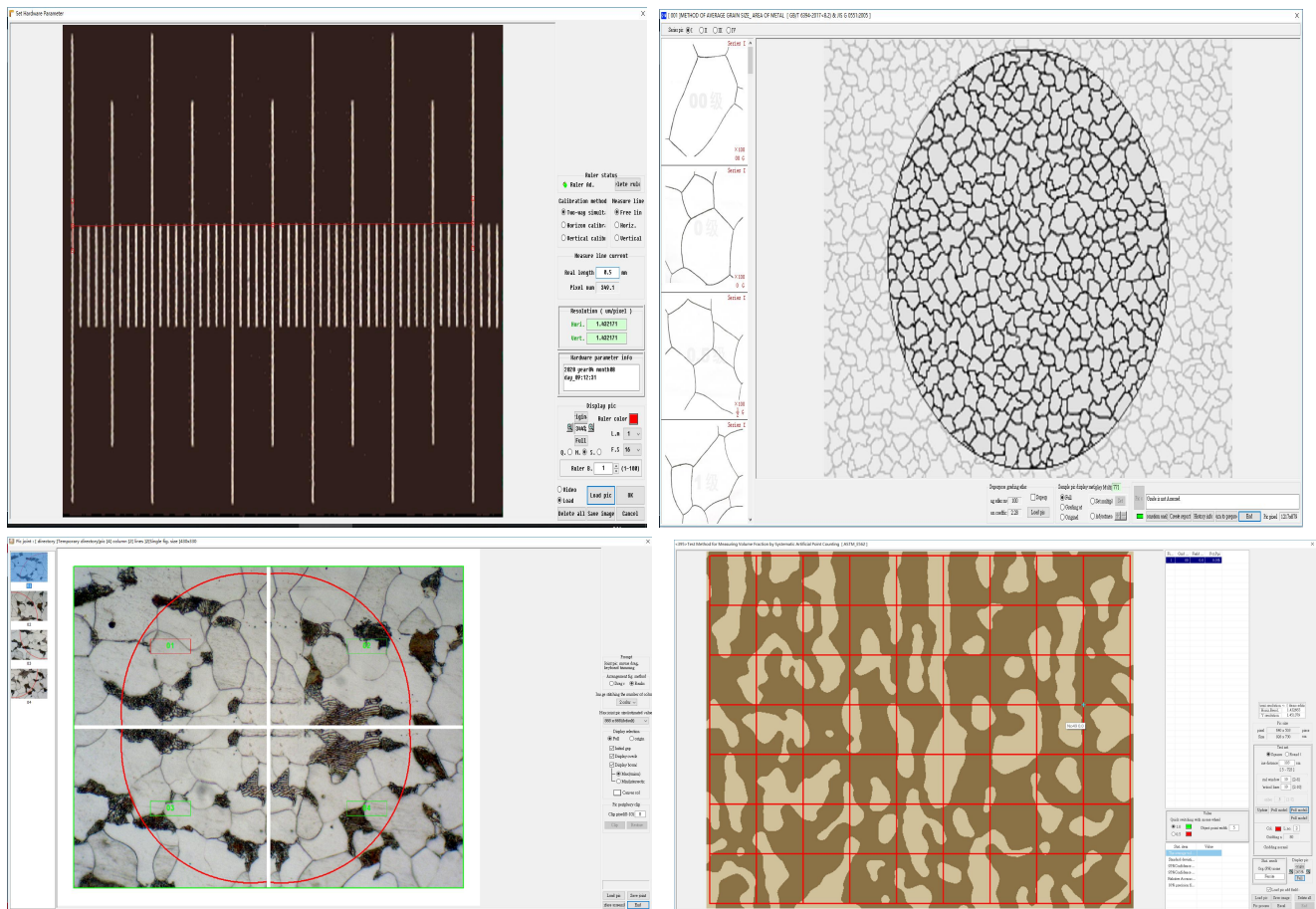
Report templates can be customized for different companies.

- 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

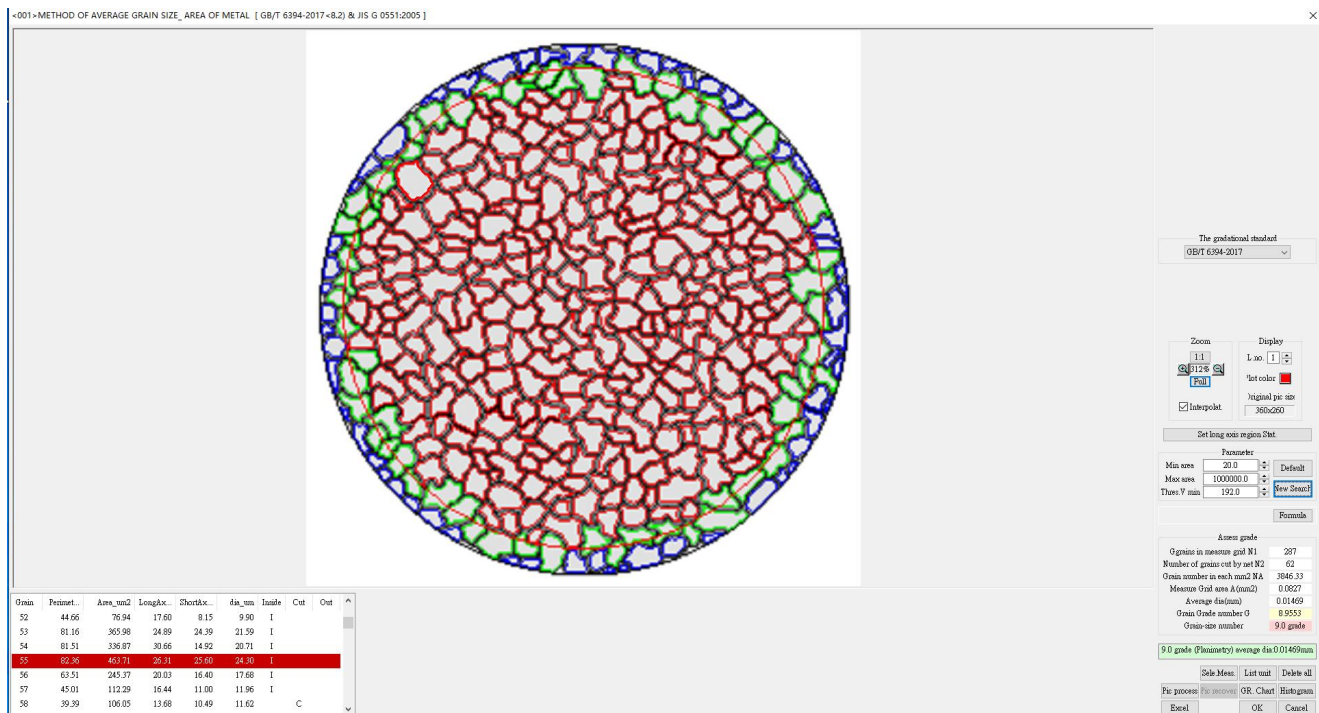
- GB/T 1499.2-2018 Steel for reinforced concrete Part 2: Hot-rolled ribbed steel bars
- GB/T 1299-2014 tool steel
- GB/T 3246.1-2012 Microstructural test methods for wrought aluminum and aluminum alloy products_Part 1_Microstructure test methods
- GB/T 13925-2010 cast high manganese steel: grades of 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:

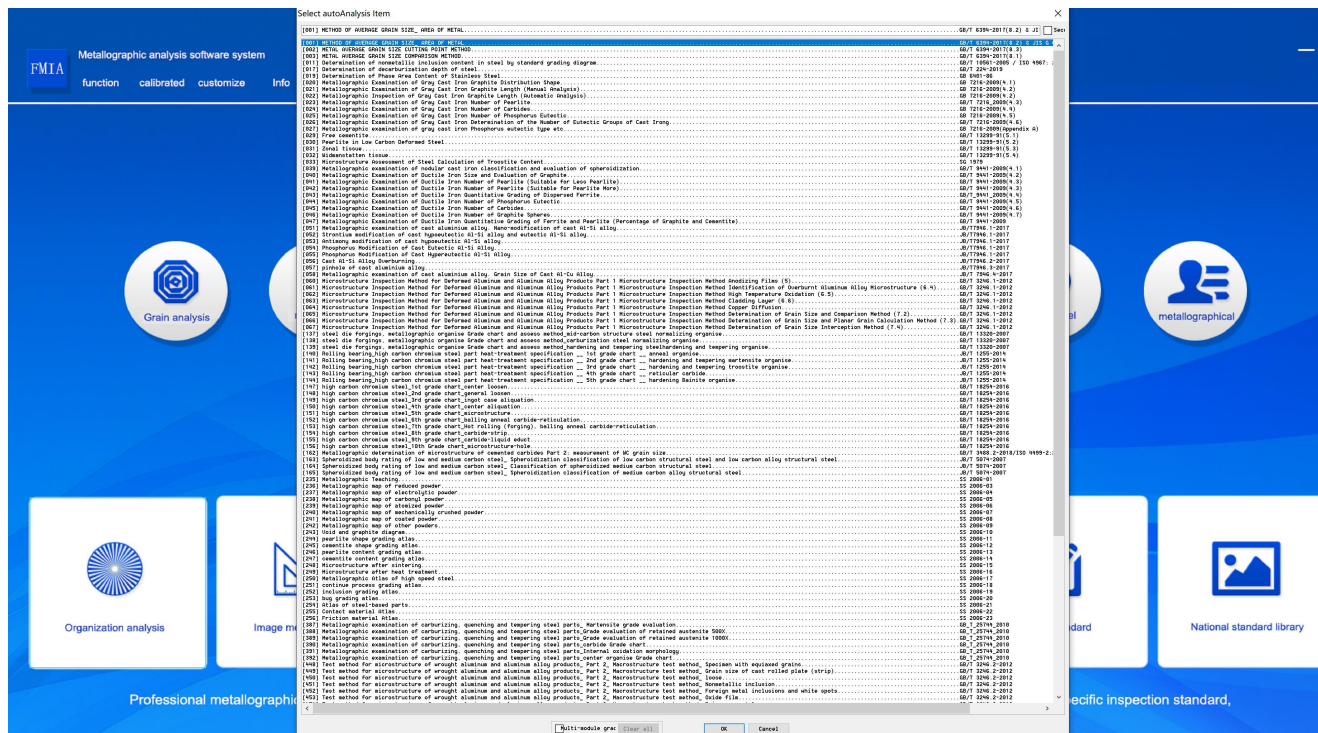


The software provides a variety of measurement tools such as distance, rectangle, circle, polygon, polyline length, angle, line angle, radian, point to circle center measurement, etc., to meet the user's basic geometric measurement functions and obtain relevant measurement data.

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

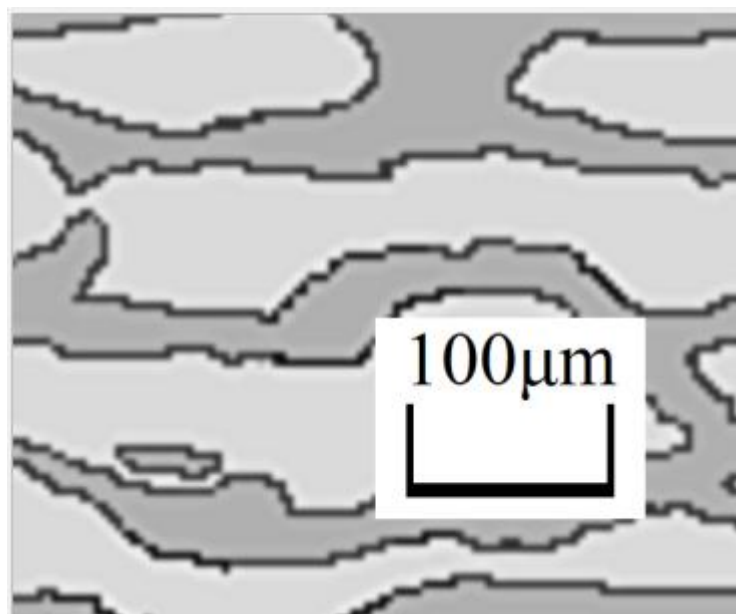
(2) Save the image: the measured data can be automatically fused with the picture, and the accuracy of the measured part can be displayed intuitively and clearly.

3. Standard library



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

4. Fixed-time printing (English)



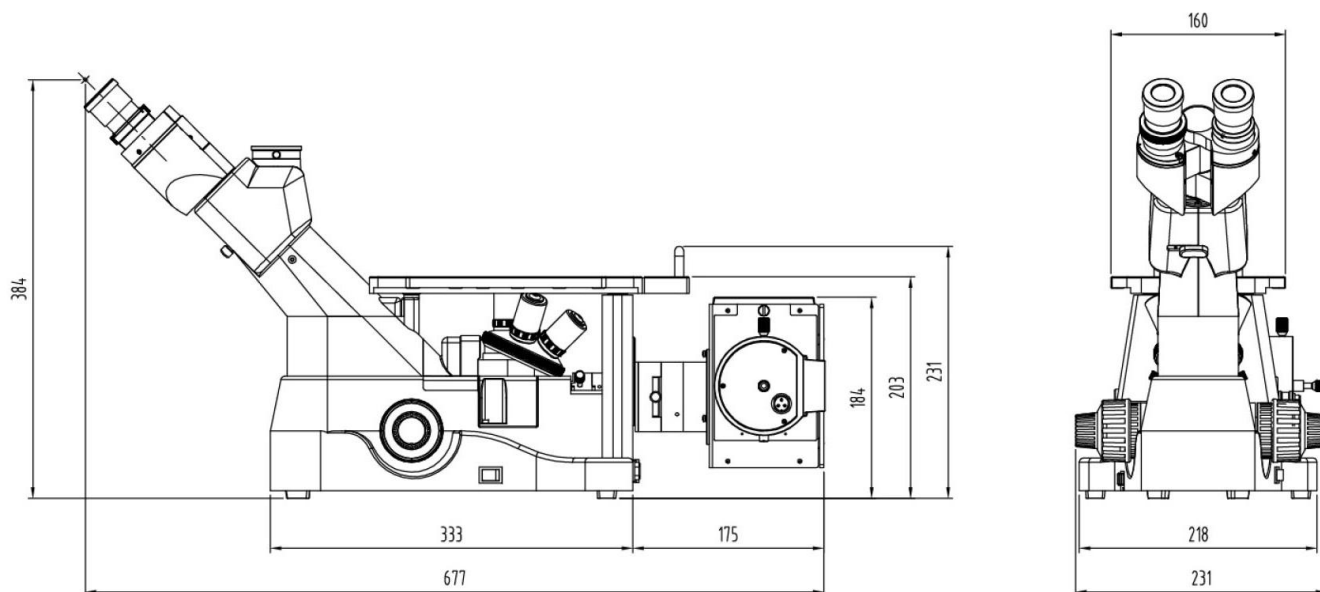
The software provides a fixed-time printing function, and users can realize fixed-time printing of pictures according to the actual printing multiple requirements.

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.

Size of microscope:





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