

Product Brochure

Hardness Testers
Metallographic Equipments
Metallographic Consumables
JIASHAN LAB INSTRUMENTS CO.,LTD

About Us

Founded in 2004, the company's R & D and production plant covers an area of more than 10000 square meters. It is a testing equipment and instrument company integrating R & D, manufacturing and sales of hardness tester, metallographic equipment and metallographic consumables. It provides global customers with a complete set of cost-effective metallographic and hardness testing solutions.

- The hardness testers manufactured by LABTT range from the most simple and affordable manual Rockwell hardness testers to the world's advanced fully automatic Brinell, Rockwell and Vickers, with complete varieties and first-class quality.
- Metallographic equipment range including: cutting machine, abrasive belt machine, mounting press, polishing machine, microscope and software, etc., with complete variety, reliable quality and affordable prices.
- The low magnification acid etching device, electrolytic polishing corrosion instrument and end quenching machine produced by the company meet the needs of customers worldwide.
- Metallographic consumables are full and complete, have been widely used in metallurgy, aviation, aerospace, electronics, machinery, automobile, shipbuilding and other industries, and exported to Europe, US and other country. We can provide OEM / ODM services for customers.

The company has obtained the national high-tech enterprise certification, the Zhejiang science and technology small and medium-sized enterprise certificate, and passed ISO9001 international quality management system certification. The company has obtained 2 trademarks, 2 invention patents, 17 utility model patents and 15 software copyrights.

Adhering to the mission of "Testing is easy", LABTT is committed to the innovation of hardness and metallographic testing products.

Enterprise Honor



High and New Tech Enterprises



2 invention patents
17 utility model patents



2 trademark registration certificates



15 software copyright certificates



Awarded various other certificates
Participated in the national standard customization

Founded in 2004

Founded a company in Shanghai, engaged in the R&D and production of metallographic equipment and consumables

2008

The production base is relocated to plant 3, No. 4299 Jindu Road, Xinzhuang Industrial Zone, Shanghai

2013

Factory set up in Zhejiang province, the first fully automatic Rockwell hardness tester delivered to customer

2014

LABTT production and R&D building was completed in Guigu Park, Jiashan, and the company was relocated to Guigu town

2016

The company carried out shareholding reform and introduced external shareholders and employee stock ownership. In the same period, the company was recognized as a national high-tech enterprise



The company has two R&D and production buildings, covering an area of about 15 mu and a construction area of nearly 20000 square meters

2017

Phase II new plant with an area of 8000 square meters was completed

2018

Full automatic online cloth hardness tester delivered to an aircraft manufacturing company

2019

The research and development of super large cutting machine with cutting blade diameter of 450mm has been completed

2020

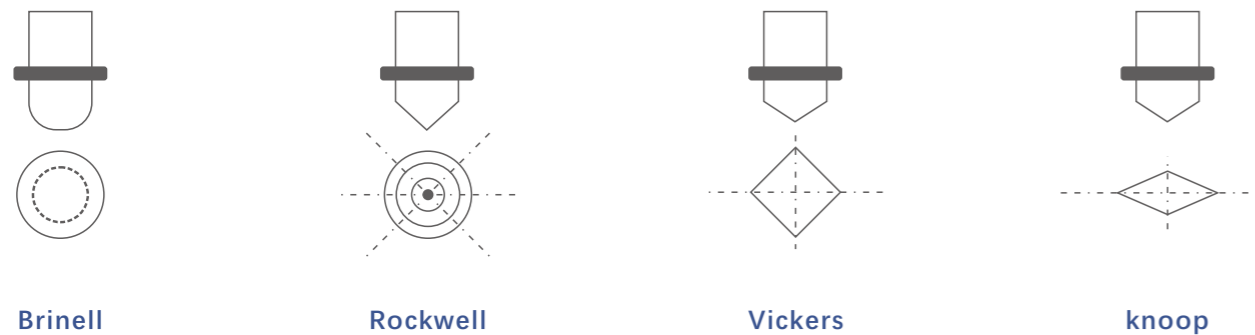
Generate a portable Rockwell hardness tester with the same accuracy as a desktop computer. The microhardness tester and Brinell hardness tester with double indenter and double objective lens were successfully developed and mass produced

2021

Lc-500zayaxa large cutting machine was successfully delivered, and 6-position microhardness tester was successfully developed and mass produced



Hardness Testing Equipment



There are 6 Station versions

THV-1MDT Auto Turret Micro Vickers Hardness Tester

1. 1.8 inch touch screen interface, easy to operate;
2. During the test, the indenter and the objective lens automatically switch to each other, and the test point automatically locates accurately.
3. Lifting mechanism guided by optical cross rail ensures guiding accuracy; Using rack and pinion two stage force transmission, can achieve fast and smooth force transmission;
4. LED light source, long life, no need to replace the bulb;
5. It can be equipped with a built-in camera for clearer images.
6. It can be calibrated according to standard hardness blocks or length scales, and automatically corrected according to high, medium and low hardness values, which makes the hardness value more accurate.
7. All test parameters and results are saved in EXCEL format on USB disk, which is convenient for data processing and inspection report output;
8. Various hardness values convert to each other;
9. Test setting parameters are protected by password;
10. Chinese, English and other languages for choice;
11. RS-232 interface for computer connection (optional);
12. Optional maximum test force 2kg.

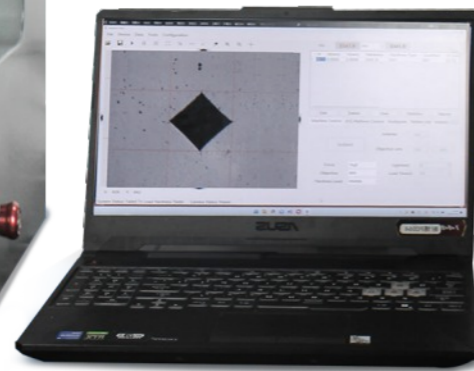
Model	THV-1MDT	THV-1MDT-Q	THV-1MDT-6	THV-1MDTe
Test force	10gf (0.098N), 25gf (0.245N), 50gf (0.49N), 100gf (0.98N), 200gf (1.96N), 300gf (2.94N), 500gf (4.9N), 1Kg (9.8N)			
Meet standard	GB/T4340.2, ASTM E92			
Measurement resolution	0.01μm			
Data display output	The 8-inch touch screen displays readings and can store 20 kinds of test results. It has a built-in printer and RS-232 interface, and can be equipped with U disk (mdte does not have it)			
Conversion scale	Rockwell, Brinell			
Hardness test range	8~2900HV (1MDT-Q/1MDT-6 /HK)			
Test force application method	Automatic (loading, maintaining, unloading)			
Test microscope magnification	400X, 100X 1MDT-Q: (500X\200X Optional) 1MDT-6: (With 4 objective lenses)			
Test force dwell time	1-99s			
Maximum allowable specimen height	100mm			
Distance from indenter to wall	130mm			
X-Y platform	Size: 100*100mm Max movement: 25*25mm			
Size/Weight	540*260*650mm/50Kg			
Power supply	AC220V+5%, 50-60Hz			

Micro Hardness Tester



IHV Intelligent Hardness Testers

Hardness Values With One Click



Auto-focusing

- Independently-written software that achieves fast and precise auto-focus
- Distinctively new auto-focus algorithms which transcend conventional industry standards

Six-turret machine with high precision

- HV, HK indenters
- Multi-objective configuration: 10X, 40X (2.5X, 5X, 20X, 50X optional)

Modern minimalism style

- Built-in light source, camera, auto-focus and force-adaptation mechanism

Ultra-precision X/Y operation platform

- Platform with repeatable positioning accuracy: one-micron-precision
- Moving distance of up to 200mm

Z-axis automatic-control and anti-collision protection

- Support high-speed automatic focusing
- Adoption of optical cross-guide lifting mechanism
- Automatic anti-collision device

Automatic force-switching and brightness adjustment

- Catering to different material and surface condition;
- Automatic force-switching;
- Automatic brightness & contrast adjustment.

Operation platform with panoramic camera (optional)

- Equipped with a panoramic camera
- No image combination required to create a panoramic image of the sample
- Built-in 12 megapixel high-definition industrial camera

Automatic hardness measurement

- Automatic and precise measurement in substitution of manual search of indentation
- New algorithm allowing indentation detection and measurement on non-smooth or scratched surfaces

More exclusive features

- Automatic exporting of customized reports
- Seamless connection to factory MES system
- Automatic calculation of the uncertainty of the measured value
- Automatic connection to Cloud storage: automatic storage of current and historical measurement data
- More customized functions upon inquiry

Micro Hardness Tester



Multistage test force
Force value is optional
Meet the standard for all test forces in this range



Automatic turret
During the test, the indenter and the objective lens automatically switch to each other, and the test point is automatically located accurately



Different magnification objectives
10X, 40X (2.5X, 5X, 40X, 50X)
The rate objective can be measured



Experimental result derivation
The test parameters and experimental results are stored on U disk in excel format, which is convenient for data processing and test report output



Language
Support Chinese and English language switching
(Customizable language)

Model	IHV-1AZ	IHV-10AZ	IHV-50AZ
Test force	10 gf - 1Kgf	0.3 - 10Kgf	0.5- 50Kgf
Automatic switching of force values	YES	YES	YES
Vickers measurement	YES	YES	YES
Knoop's measurement	YES	YES	YES
Brinell measurement	YES	YES	YES
Automatic turret	YES	YES	YES
Number of turret stations	3(6)	3(6)	3(6)
Objective	10X , 40X (2.5X, 5X , 20X, 50X)		
Panorama camera	Optional	Optional	Optional
Intensity control	YES	YES	YES
Sample bench lighting	Optional	Optional	Optional
Hardness Values With One Click	YES	YES	YES
Sample edge location	Optional	Optional	Optional
Fracture toughness measurement	YES	YES	YES
Report output	YES	YES	YES



Micro Vickers Hardness Tester

IHV-1-10-50SE Micro Hardness Tester

Automatic hardness measurement
6 station precision, automatic turret.



Model	IHV-1SE	IHV-5SE	IHV-10SE	IHV-30SE	IHV-50SE
Test force	10gf - 1Kgf	0.3 - 5Kgf	0.3 - 10Kgf	0.5-30kgf (0.3kgf起)	1-50kgf (0.5kgf起)
Automatic switching of force values	YES	YES	YES	YES	YES
Vickers measurement	YES	YES	YES	YES	YES
Knoop's measurement	YES	—	—	—	—
Brinell measurement	—	—	YES	YES	YES
Automatic turret	YES	YES	YES	YES	YES
Number of turret stations	3(6)	3(6)	3(6)	3(6)	3(6)
Objective	10X, 40X (2.5X, 5X, 20X, 50X可选)		10X, 20X (2.5X, 5X, 20X, 50X可选)		
Intensity control	YES	YES	YES	YES	YES
Sample bench lighting	Optional	Optional	Optional	Optional	Optional
laser positioning	Optional	Optional	Optional	Optional	Optional
Hardness Values With One Click	YES	YES	YES	YES	YES
Report output	YES	YES	YES	YES	YES
Data export	YES	YES	YES	YES	YES
Wi-Fi	YES	YES	YES	YES	YES
Bluetooth	Optional	Optional	Optional	Optional	Optional

Micro Vickers Hardness Tester



Manual turret

Model	THV-1DT
Test force	10gf (0.098N), 25gf (0.245N), 50gf (0.49N), 100gf (0.98N), 200gf (1.96N), 300gf (2.94N), 500gf (4.9N), 1Kgf (9.8N)
Meet standard	GB/T 4340, ASTM E92
Measurement resolution	0.01 μm
Data display output	8"touch screen display reading, can store 20 test results, USB drive, optional built-in printer and RS-232 interface
Conversion scale	Rockwell, Brinell
Hardness test range	8 ~ 2900 HV
Test force application method	Automatic (loading, dwell, unloading)
Test microscope magnification	400X(test), 100X (test, observation)
Test force dwell time	1 - 99 s
Maximum allowable specimen height	100 mm
Distance from indenter to wall	130 mm
X-Y platform	dimension : 100*100mm movement : 25*25mm
Size/Weight	540*260*650mm/About 50 kg
Power supply	AC 220V + 5%, 50 - 60 Hz

The digital display touch screen microhardness tester adopts touch screen display, and the operation interface adopts menu structure. The hardness scale HV or HK can be selected on the operation panel to test the hardness value, automatic calculation, automatic display and standard printer.
Optical cross guide rail guidance is adopted to ensure the guidance accuracy; The gear rack two-stage force transmission is adopted, which can realize fast and stable force transmission; High precision worm gear with high transmission ratio is adopted to ensure more precise force transmission.
Various hardness values can be converted to each other; The brightness of the light source can be adjusted infinitely; It can be equipped with a built-in camera to make the image clearer.
It can be calibrated according to the standard hardness block or length scale to make the hardness value more accurately meet the requirements.
Eyepiece structure with digital encoder, and the touch screen directly displays the hardness value and D1 and D2 values.
Dual language setting, convenient for users to choose.



Model	THV-2MDT
Test force	10gf (0.098N), 25gf (0.245N), 50gf (0.49N), 100gf (0.98N), 200gf (1.96N), 300gf (2.94N), 500gf (4.9N), 1Kgf (9.8N), 2Kgf (19.6N)
Meet standard	GB/T4340.2, ASTM E92
Measurement resolution	0.01 μm
Data display output	8"touch screen display reading, can store 20 test results, USB drive, optional built-in printer and RS-232 interface
Conversion scale	Rockwell, Brinell
Hardness test range	8~2900HV
Test force application method	Automatic (loading, dwell, unloading)
Test microscope magnification	400X(test), 100X (test, observation)
Test force dwell time	1 - 99 s
Maximum allowable specimen height	100 mm
Distance from indenter to wall	130 mm
X-Y platform	dimension : 100*100mm movement : 25*25mm
Size/Weight	540*260*650mm/About 50 kg
Power supply	AC 220V + 5%, 50 - 60 Hz



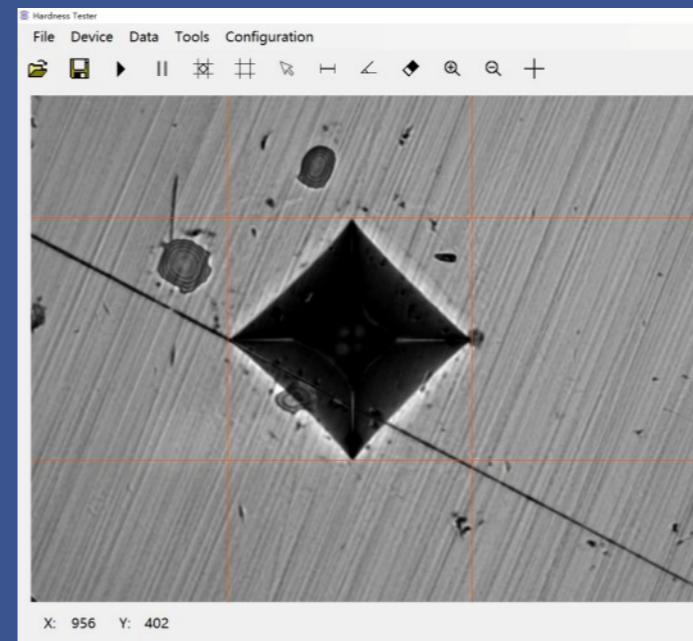
Manual turret
Single objective measurement

Model	THV-1DTe
Test force	10gf (0.098N), 25gf (0.245N), 50gf (0.49N), 100gf (0.98N), 200gf (1.96N), 300gf (2.94N), 500gf (4.9N), 1Kgf (9.8N)
Meet standard	GB/T 4340, ASTM E92
Measurement resolution	0.01 μm
Data display output	8"touch screen display reading, can store 20 test results, USB drive, optional built-in printer and RS-232 interface
Conversion scale	Rockwell, Brinell
Hardness test range	8 ~ 2900 HV
Test force application method	Automatic (loading, dwell, unloading)
Test microscope magnification	400X(test), 100X (test, observation)
Test force dwell time	1 - 99 s
Maximum allowable specimen height	100 mm
Distance from indenter to wall	130 mm
X-Y platform	dimension : 100*100mm movement : 25*25mm
Size/Weight	540*260*650mm/About 50 kg
Power supply	AC 220V + 5%, 50 - 60 Hz

Hardness Tester Accessories



Automatic Micro Hardness Tester

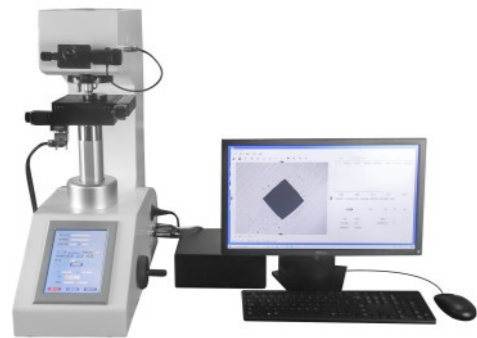
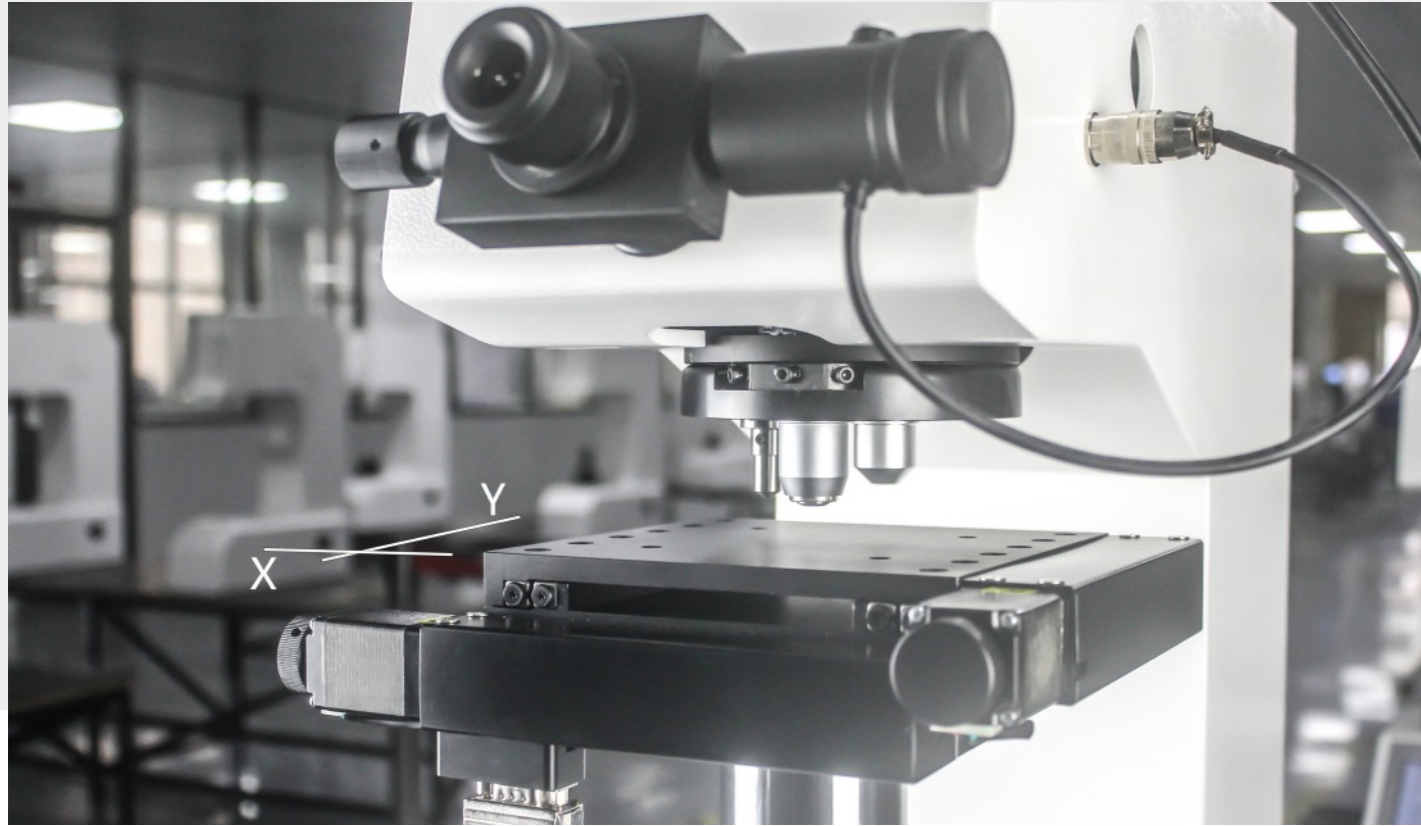


AUTOMATIC
THVS-1MDX-AXYZF



Model	THVS-1MDX-AXYZF	Test force application method	Automatic (loading, holding and unloading)
Test force	10gf (0.098N), 25gf (0.245N), 50gf (0.49N), 100gf (0.98N), 200gf (1.96N), 300gf (2.94N), 500gf (4.9N), 1Kgf (9.8N)	Test microscope magnification	400X (test), 100x (test, observation)
Conform to standard	GB/T4340.2, ASTM E92	Test force holding time	1 - 99 s
Measurement resolution	0.01 μm	Maximum allowable specimen height	100 mm
Function	Z-axis automatic lifting and focusing, X/Y-axis automatic, multiple points can be set at the same time for indentation measurement	Distance from indenter to machine wall	130 mm
Exchange Scales	Rockwell and Brinell	XY test bench	Size 150 * 150mm, maximum moving distance 50 * 50mm, accuracy ± 1 μm
Hardness test range	8 ~ 2900 HV	Size / Weight	540 * 260 * 650 mm / 50 Kg
		Power Supply	AC 220V + 5%, 50 - 60 Hz

Semi Automatic Micro Hardness Tester



Model	THVS-1MDT-AXY
Test force	10gf (0.098N), 25gf (0.245N), 50gf (0.49N), 100gf (0.98N), 200gf (1.96N), 300gf (2.94N), 500gf (4.9N), 1Kg (9.8N)
Meet standard	GB/T4340.2, ASTM E92
Measurement resolution	0.01 μm
Function	The x/y axis is automatic, and multiple points can be set at the same time for indentation measurement
Conversion scale	Rockwell, Brinell
Hardness test range	8 ~ 2900 HV
Test force application method	Automatic (loading, dwell time, unloading)
Test microscope magnification	400X (test), 100X (test, observation)
Test force dwell time	1 - 99 s
Maximum allowable specimen height	100 mm
Distance from indenter to wall	130 mm
X-Y platform	150*150mm, 50 × 50mm in x-y direction
Size/Weight	540 * 260 * 650 mm / About 50 kg
Power supply	AC 220V ± 5%, 50 - 60 Hz

Automatic Turret Vickers Hardness Tester

1. Multi gear test force, meeting all test forces in this range in the standard
2. 8 Inch Touch screen interface, easy to operate
3. The turret is equipped with 10x and 20x (5x and 40x optional) objective lenses with different magnification at the same time, which can scan the sample profile in a large range with low magnification as required
4. 10x, 20x (5x, 40x) two different magnification objective lenses can be measured, 40x (optional)
5. During the test, the indenter and the objective lens automatically switch to each other, and the test point is automatically positioned accurately
6. It can be calibrated according to the standard hardness block or length scale, and the hardness can be automatically corrected according to the high, medium and low hardness values, so that the hardness value is more accurate
7. Mutual conversion of various hardness values
8. All test parameters and test results are stored in the U disk in Excel format to facilitate data processing and inspection report output
9. Test setting parameters are protected by password
10. The light source adopts LED lamp, with long service life and no need to replace the bulb
11. Built in camera, clearer image (option)
12. Chinese, English and other languages are available



Convenient measurement

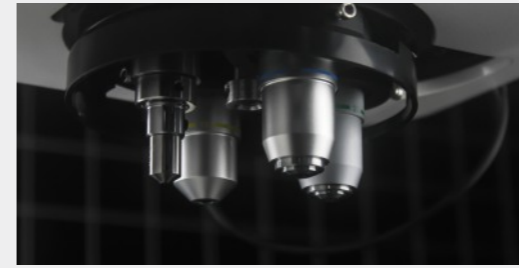
Automatic Turret Vickers Hardness Tester



Multi gear test force Force value (optional) Meet all standard test forces	Automatic turret During the test, the indenter and the objective lens automatically switch	Objective lens 10X、20X(5X、40X) Both objective lenses can be measured	Result export The test parameters and results are stored in the U disk in ECE format, which is convenient for data processing and inspection report output	Language Support Chinese English language switching (customizable language)
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Model	THV-5MDX	THV-10MDX	THV-30MDX	THV-50MDX	THV-100MDX	THV-120MDX
Test force	0.3Kgf (2.94N), 0.5Kgf (4.90N), 1.0 Kgf (9.8N), 2.0Kgf(19.6N), 2.5Kgf(24.5N), 3.0Kgf(29.4N), 5.0Kgf(49.0N) (Optional 0.2kgf)	0.3Kgf (2.94N), 0.5Kgf (4.90N), 1.0 Kgf (9.8N), 2.0Kgf(19.6N), 2.5Kgf(24.5N), 3.0Kgf(29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N)	0.5Kgf (4.90N), 1.0 Kgf (9.8N), 2.0Kgf(19.6N), 2.5Kgf(24.5N), 3.0Kgf(29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N), 15.0Kgf(147N), 20.0Kgf(196N), 30.0 Kgf (294N), 40.0Kgf(392N), 50.0Kgf(490N) (Optional 0.3kgf)	1.0 Kgf (9.8N), 2.0Kgf(19.6N), 2.5Kgf(24.5N), 3.0Kgf(29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N), 15.0Kgf(147N), 20.0Kgf(196N), 30.0 Kgf (294N), 40.0Kgf(392N), 50.0Kgf(490N) (Optional 0.5kgf)	2.0Kgf(19.6N), 3.0Kgf(29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N), 20.0Kgf(196N), 30.0 Kgf (294N), 50.0Kgf(490N), 60Kgf(588N), 80Kgf(784N), 100Kgf(980N) (Customizable)	2.0 kg (19.6N), 3.0 kg (29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N), 20.0Kgf(196N), 30.0Kgf(294N), 50.0Kgf(490N), 60.0 kg (588N), 100.0Kgf(980N), 120.0Kgf(1176N)
Executive standard	GBT4340.1 , GBT4340.2 , ASTM_E92					
Hardness value conversion	According to GB1172-99 and ASTM standards					
Accuracy: in accordance with	JJG260-91、JIS B 7725、JIS B 7734、GB/T3430.2 -99、ASTM E-384、ISO 6507-2、ISO4546					
Loading method	Automatic load / hold / unload					
Rotating tower mechanism	Objective lens indenter objective lens automatic switch rotation automatic turret provides fast and simple operation sequence without manual rotation of the turret to realize automatic switch of objective lens indenter. The coincidence accuracy of the objective lens center and the indenter center is high, and the error is within 1 μm, which ensures that the sample is accurately pressed and positioned, and the center position of the objective lens is adjustable.					
Minimum test unit	0.01μm					
Data output	LCD display readout, directly save to U disk in Excel format					
Exchange Scales	HRA、HRB、HRC、HRD、HRF、HV、HK、HBW、HR15N、HR30N、HR45N、HR15T、HR30T、HR45T					
Hardness test range	8~2900HV (1MDT-Q/1MDT-6 have HK)					
Test force application method	Automatic (loading, holding and unloading)					
Measuring eyepiece	Electronic type 10x (15x optional)					
Measuring objective	× 10 times × 20x (5x, 40x optional)					
Total magnification	100X, 200X (50X、400X Optional)					
Test force holding time	1~99s					
Maximum allowable specimen height	180mm					
Distance from indenter to machine wall	160mm					
Size weight	580*190*700mm/ 55Kg					
Power Supply	AC220V+5%, 50-60Hz					

Three Objective Vickers Hardness Tester



Model	THV-5MDX-Q	THV-10MDX-Q	THV-30MDX-Q	THV-50MDX-Q	THV-100MDX-Q
Test force	0.3Kgf (2.94N), 0.5Kgf (4.90N), 1.0 Kgf (9.8N), 2.0Kgf(19.6N), 2.5Kgf(24.5N), 3.0Kgf(29.4N), 5.0Kgf(49.0N) (可选配0.2Kgf)	0.3Kgf (2.94N), 0.5Kgf (4.90N), 1.0 Kgf (9.8N), 2.0Kgf(19.6N), 2.5Kgf(24.5N), 3.0Kgf(29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N)	0.5Kgf (4.90N), 1.0 Kgf (9.8N), 2.0Kgf(19.6N), 2.5Kgf(24.5N), 3.0Kgf(29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N), 15.0Kgf(147N), 20.0Kgf(196N), 30.0 Kgf (294N), 40.0Kgf(392N), 50.0Kgf(490N) (Optional0.3Kgf)	1.0 Kgf (9.8N), 2.0Kgf(19.6N), 2.5Kgf(24.5N), 3.0Kgf(29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N), 15.0Kgf(147N), 20.0Kgf(196N), 30.0 Kgf (294N), 40.0Kgf(392N), 50.0Kgf(490N) (Optional0.5Kgf)	2.0Kgf(19.6N), 3.0Kgf(29.4N), 5.0Kgf(49.0N), 10.0Kgf(98.0N), 20.0Kgf(196N), 30.0 Kgf (294N), 50.0Kgf(490N), 60Kgf(588N), 80Kgf(784N), 100Kgf(980N) (Customizable)
Executive standard	GBT4340.1 , GBT4340.2 , ASTM_E92				
Hardness value conversion	According to GB1172-99 and ASTM standards				
Accuracy: in accordance with	JJG260-91、JIS B 7725、JIS B 7734、GB/T3430.2 -99、ASTM E-384、ISO 6507-2、ISO4546				
Loading method:	Automatic load / hold / unload				
Rotating tower mechanism	Objective lens / indenter / objective lens automatic switching rotation automatic turret provides fast and simple operation sequence without manual rotation of the turret to realize objective lens indenterAutomatic switching. The coincidence accuracy of the objective lens center and the indenter center is high, and the error is within 1 μm, which ensures that the sample is accurately pressed and positioned, and the center position of the objective lens is adjustable.				
Minimum test unit	0.01μm				
Data out	LCD display readout, directly save to U disk in Excel format				
Exchange Scales	HRA、HRB、HRC、HRD、HRF、HV、HK、HBW、HR15N、HR30N、HR45N、HR15T、HR30T、HR45T				
Hardness test range	8~2900HV (1MDT-Q/1MDT-6 Have HK)				
Test force application method	Automatic (loading, holding and unloading)				
Measuring eyepiece	Electronic type 10x (15x optional)				
Measuring objective	5X、10X、20X、40X Any three objective lenses in				
Total magnification	50X, 100X, 200X, 400X Any three objective lenses in				
Test force holding time	1~99s				
Maximum allowable specimen height	180mm				
Distance from indenter to machine wall	160mm				
Size weight	580*190*700mm/ 55Kg				
Power Supply	AC220V+5%, 50-60Hz				

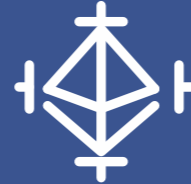
Automatic Vickers Hardness Tester



Automatic stage



Autofocus



Automatic measurement

Model	THVS-M-AXY	THVS-M-AXYZF	Test force application method	Automatic (loading, holding and unloading)
Test force	0.3Kgf (9.8N)~120Kgf(1176N)		Test microscope magnification	400X (test), 100x (test, observation)
Conform to standard	GB/T4340.2、ASTM E92		Test force holding time	1 - 9 9 s
Measurement resolution	0 . 0 1 μ m		Maximum allowable specimen height	1 0 0 m m
Function	Z-axis automatic lifting and focusing (axyzf), X / Y-axis automatic, multiple points can be set at the same time for indentation measurement			
Exchange Scales	Rockwell and Brinell			
Hardness test range	8 ~ 2 9 0 0 H V			
			Distance from indenter to machine wall	1 3 0 m m
			XY test bench	Size 150 * 150mm, maximum moving distance 50 * 50mm, accuracy ± 1 μ m
			Size / Weight	5 4 0 * 2 6 0 * 6 5 0 m m / 5 0 K g
			Power Supply	A C 2 2 0 V + 5 % , 5 0 - 6 0 H z

Rockwell Hardness Tester

DT



Model	THR-150DT	THR-45DT
Initial test force	10kgf(98.07N)	3Kgf(29.42N)
Total test force	60kgf(588N) 100kgf(980N) 150kgf(1471N)	15kgf(147.1N) 30kgf(294.2N) 45kgf(441.3N)
Hardness scales	HRA, HRBW, HRC, HRD, HREW, HRFW, HRGW, HRHW, HRKW, HRL, HRM, HRR, HRP, HRS, HRV	
Test scope:	HRA:20-95 HRBW:20-100 HRC:20-70 HRD:40-77 HREW:70-100 HRFW:60-100 HRGW:30-94 HRHW:80-100 HRKW:40-100 HRL:100-120 HRM:85-115 HRR:114-125	
Duration Time	0-99s	
Hardness value resolution	0.1HR	
Test force error	< 1.0%	
Data output	LCD	
Touch screen size	8 inches	
Data storage	Can store 20 kinds of test results, built-in printer RS-232 interface or select U disk Excel to save data	
Exchange Scales	Surface Rockwell, Brinell and Vickers	
Conform to standard	BSEN 6508, ISO 6508, ASTM E18, GB/T230	
Maximum allowable specimen height	200mm	
Distance from indenter to machine wall	160mm	
Size	560×200×800mm	
Weight	70kg	
Power Supply	AC220+5%,50~60Hz	

DX



Model	THR-150DX	THR-45DX	THR-150/45DX
Initial test force	10kgf(98.07N)	3.0kgf(29.4N)	3.0kgf(29.4N)
Total test force	60kgf(588N) 100kgf(980N) 150kgf(1471N)	15kgf(147.1N) 30kgf(294.2N) 45kgf(441.3N)	
Hardness scales	HRA, HRBW, HRC, HRD, HREW, HRFW, HRGW, HRHW, HRKW, HRL, HRM, HRR, HRP, HRS, HRV		
Test scope:	HRA:20-95 HRBW:20-100 HRC:20-70 HRD:40-77 HREW:70-100 HRFW:60-100 HRGW:30-94 HRHW:80-100 HRKW:40-100 HRL:100-120 HRM:85-115 HRR:114-125		
Duration Time	0-99s		
Hardness value resolution	0.1HR		
Test force error	< 1.0%		
Data output	LCD		
Data storage	The measured values are saved in the U disk in Excel format or the built-in printer is selected		
Exchange Scales	Surface Rockwell, Brinell and Vickers		
Conform to standard	BSEN 6508, ISO 6508, ASTM E18, GB/T230		
Maximum allowable specimen height	200mm		
Distance from indenter to machine wall	200mm		
Size	560×220×800mm		
Weight	70kg		
Power Supply	AC220+5%,50~60Hz		

Curve display: force, displacement and depth change curve, real-time force value curve. (optional)

Rockwell Hardness Tester



IHR Intelligent Hardness Testers

Hardness Values With One Click



- Modern minimalist design using **high-strength material**;
- The hardness value is automatically corrected depending on the hardness range: **hard, medium and soft**;
- **Automatic force calibration** (after manual input of correct force value);
- **Ultra-precision X/Y operation platform**
- Manual and automatic ascension/descension of operation platform
- **Anti-collision detection device**;
- Automatic measurement: sample can be automatically lifted, **force applied and measured**;
- Scan QR code for cloud storage of measurement data, **data analysis, remote diagnosis and upgrade**;
- Optional function: automatic calculation of **uncertainty to meet CNAS***;
- Scales include Rockwell, Surface Rockwell as well as **depth-testing scales such as HVT and HBT**;
- Seamless connection to factory **MES or LIMS systems**;

Rockwell Hardness Tester



Multistage test force
Force value is optional
Meet the standard for all test forces in this range

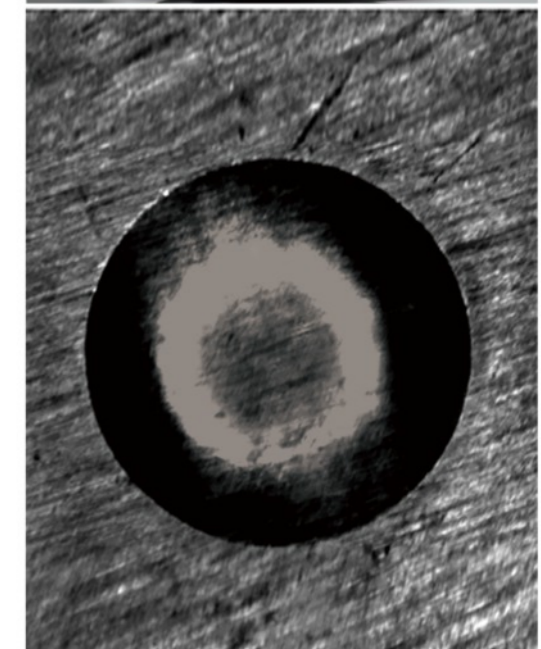
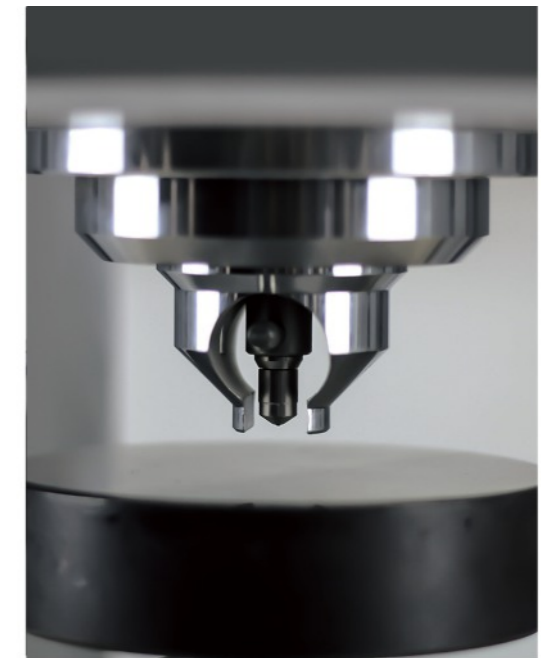
Automatic turret
During the test, the indenter and the objective lens automatically switch to each other, and the test point is automatically located accurately

Different magnification objectives
10X, 40X (2.5X, 5X, 40X, 50X)
The rate objective can be measured

Experimental result derivation
The test parameters and experimental results are stored on U disk in excel format, which is convenient for data processing and test report output

Language
Support Chinese and English language switching
(Customizable language)

Model	IHR-150AZXY	IHR-45AZXY	IHR-150-45AZXY
Initial test force	10(98.07N)	3.0(29.4N)	10(98.07N) 3.0(29.4N)
Principal test force	60(588N) 100(980N) 150(1471N)	15(147.1N) 30(294.2N) 45(441.3N)	60(588N) 100(980N) 150(1471N) 15(147.1N) 30(294.2N) 45(441.3N)
Standard	ASTM E18, GB/T230, ISO 6508, BSEN 6508		
H V T	Optional	Optional	Optional
H B T	Optional	Optional	Optional
Automatic z-axis	YES	YES	YES
Z-axis rise anti-collision	YES	YES	YES
Laser test point indication	Optional	Optional	Optional
Hardness values are automatically measured	YES	YES	YES
Hardness distribution measurement	YES	YES	YES
End quenching curve	Optional	Optional	Optional
Customized report	YES	YES	YES
Conversion scale	Superficial Rockwell Brinell Vickers		
Data storage	Save in EXCEL format on USB flash drive		
Data output	PC		
Testing bench	X-Y automatic mobile station		



Elevated Rockwell Hardness Tester

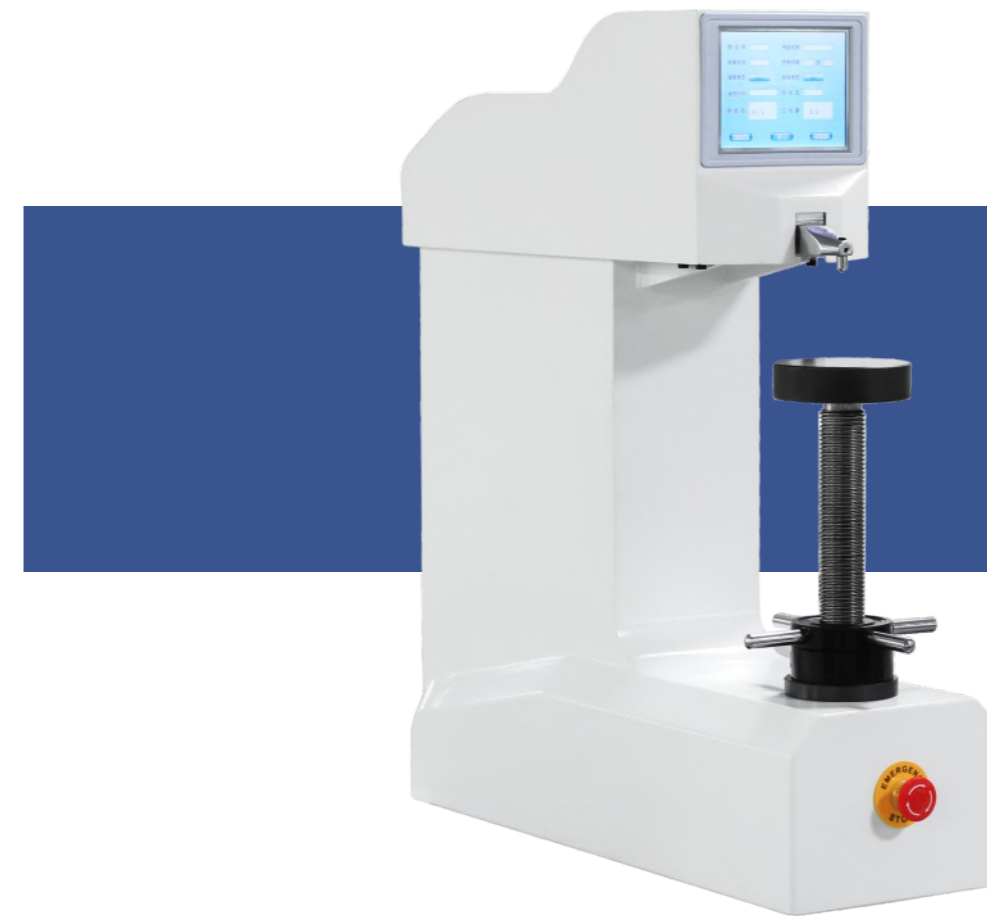


THR-150DX (H)
THR-150DT (H)

Maximum allowable specimen height
400mm

Height of common test piece
200mm

Nose Rockwell Hardness Tester



The specially designed indenter extends horizontally and can measure the parts that cannot be measured by ordinary hardness tester such as ring and tube, with the minimum test inner diameter of 25mm.

Model	THR-45DXC	THR-150DXC	THR-150/45DXC
Rockwell initial test force		10kgf(98.07N)	10kgf(98.07N)
Surface Rockwell initial test force	3.0kgf(29.4N)		3.0kgf(29.4N)
Rockwell total test force		60kgf(588N) 100kgf(980N) 150kgf(1471N)	60kgf(588N) 100kgf(980N) 150kgf(1471N)
Total surface Rockwell test force	15kgf(147.1N) 30kgf(294.2N) 45kgf(441.3N)		15kgf(147.1N) 30kgf(294.2N) 45kgf(441.3N)
Hardness scales		HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRR, HRP, HRS, HRV	HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRR, HRP, HRS, HRV
Surface Rockwell hardness scale	15N, 15T, 15W, 15X, 15Y, 30N, 30T, 30W, 30X, 30Y, 45N, 45T, 45W, 45X, 45Y		15N, 15T, 15W, 15X, 15Y, 30N, 30T, 30W, 30X, 30Y, 45N, 45T, 45W, 45X, 45Y
Rockwell test range		HRA:20-88, HRB:20-100, HRC:20-70, HRD:40-77, HRE:70-100, HRF:60-100, HRG:30-94, HRH:80-100, HRK:40-100, HRL:100-120 HRM:85-115, HRR:114-125	HRA:20-88, HRB:20-100, HRC:20-70, HRD:40-77, HRE:70-100, HRF:60-100, HRG:30-94, HRH:80-100, HRK:40-100, HRL:100-120 HRM:85-115, HRR:114-125
Surface Rockwell test range	HR15N: 70-94 HR30N: 42-86 HR45N: 20-77 HR15T: 67-93 HR30T: 29-82 HR45T: 1-72		HR15N: 70-94 HR30N: 42-86 HR45N: 20-77 HR15T: 67-93 HR30T: 29-82 HR45T: 1-72
Duration Time	0-99s	0-99s	0-99s
Hardness value resolution	0.1HR	0.1HR	0.1HR
Test force error	< 1.0%	< 1.0%	< 1.0%
Data output	LCD	LCD	LCD
Data storage	The measured values are saved in the U disk in Excel format	The measured values are saved in the U disk in Excel format	The measured values are saved in the U disk in Excel format
Exchange Scales	Brinell and Vickers	Brinell and Vickers	Brinell and Vickers
Conform to standard	BSEN 6508, ISO 6508, ASTM E18, GB/T230	BSEN 6508, ISO 6508, ASTM E18, GB/T230	BSEN 6508, ISO 6508, ASTM E18, GB/T230
Maximum allowable specimen height	300mm	300mm	300mm
Distance from indenter to machine wall	250mm	250mm	250mm
Size	720×260×840mm	720×260×840mm	720×260×840mm
Weight	80kg	80kg	80kg
Power Supply	AC220+5%,50~60Hz	AC220+5%,50~60Hz	AC220+5%,50~60Hz

Rockwell Hardness Tester



Automatic XY bench - Custom

Rockwell Hardness Tester



Z-axis button
(automatic lifting)

Model	THR-150/45XP
Rockwell initial test force	10kgf(98.07N)
Surface Rockwell initial test force	3.0kgf(29.4N)
Rockwell total test force	60kgf(588N) 100kgf(980N) 150kgf(1471N)
Total surface Rockwell test force	15kgf(147.1N) 30kgf(249.2N) 45kgf(441.3N)
Hardness scales	HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRR, HRP, HRS, HRV
Surface Rockwell hardness scale	15N, 15T, 15W, 15X, 15Y, 30N, 30T, 30W, 30X, 30Y, 45N, 45T, 45W, 45X, 45Y
Rockwell test range	HRA:20-88, HRB:20-100, HRC:20-70, HRD:40-77, HRE:70-100, HRF:60-100, HRG:30-94, HRH:80-100, HRK:40-100, HRL:100-120 HRM:85-115, HRR:114-125
Surface Rockwell test range	HR15N: 70-94 HR30N: 42-86 HR45N: 20-77HR15T: 67-93 HR30T: 29-82 HR45T: 1-72
Duration Time	0-99s
Hardness value resolution	0.1HR
Test force error	<0.5%
Data output	LCD
Data storage	The measured values are saved in the U disk in Excel format
Exchange Scales	Rockwell, Brinell and Vickers
Conform to standard	BSEN 6508, ISO 6508, ASTM E18, GB/T230
Maximum allowable specimen height	380mm
Distance from indenter to machine wall	260mm
Size	730×340×1050mm
Weight	100kg
Power Supply	AC220+5%,50~60Hz

Model	THR-150/45DX-Z
Rockwell initial test force	10kgf(98.07N)
Surface Rockwell initial test force	3.0kgf(29.4N)
Rockwell total test force	60kgf(588N) 100kgf(980N) 150kgf(1471N)
Total surface Rockwell test force	15kgf(147.1N) 30kgf(249.2N) 45kgf(441.3N)
Hardness scales	HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRR, HRP, HRS, HRV
Surface Rockwell hardness scale	15N, 15T, 15W, 15X, 15Y, 30N, 30T, 30W, 30X, 30Y, 45N, 45T, 45W, 45X, 45Y
Range of Rockwell's satire test	HRA:20-88, HRB:20-100, HRC:20-70, HRD:40-77, HRE:70-100, HRF:60-100, HRG:30-94, HRH:80-100, HRK:40-100, HRL:100-120 HRM:85-115, HRR:114-125
Surface Rockwell test range	HR15N : 70-94 HR30N: 42-86 HR45N: 20-77 HR15T: 67-93 HR30T: 29-82 HR45T: 1-72
Duration Time	0-99s
Hardness value split rate	0.1HR
Test force error	<0.5%
Data output	LCD
Evidence storage	The measured values are saved in the U disk in Excel format
Exchange Scales	Rockwell, Brinell and Vickers
Conform to standard	BSEN 6508, ISO 6508, ASTM E18, GB/T230
Maximum allowable specimen height	300mm
Distance from indenter to machine wall	200mm
Size	560x280x850mm
Weight	80kg
Power Supply	AC220+5%,50~60Hz

Automatic Rockwell Hardness Tester

On-line Rockwell Hardness Tester



Model	THRS-150DX-ZXY	THRS-150/45DX-ZXY
Initial test force	10kgf(98.07N)	10kgf(98.07N) 3.0kgf(29.4N)
Total test force	60kgf(588N) 100kgf(980N) 150kgf(1471N)	60kgf(588N) 100kgf(980N) 150kgf(1471N) 15kgf(147.1N) 30kgf(294.2N) 45kgf(441.3N)
Hardness scale	HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRR, HRP, HRS, HRV	HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRR, HRP, HRS, HRV, 15N, 15T, 15W, 15X, 15Y, 30N, 30T, 30W, 30X, 30Y, 45N, 45T, 45W, 45X, 45Y
Test scope	HRA:20-88, HRB:20-100, HRC:20-70, HRD:40-77, HRE:70-100, HRF:60-100, HRG:30-94, HRH:80-100, HRK:40-100, HRL:100-120 HRM:85-115, HRR:114-125	HRA:20-88, HRB:20-100, HRC:20-70, HRD:40-77, HRE:70-100, HRF:60-100, HRG:30-94, HRH:80-100, HRK:40-100, HRL:100-120 HRM:85-115, HRR:114-125 HR15N : 70-94 HR30N : 42-86 HR45N : 20-77 HR15T : 67-93 HR30T : 29-82 HR45T : 1-72
Conform to standard	GB/T230, ISO 6508, ASTM E18, BSEN 6508	
Duration Time	0-99s	
Hardness value resolution	0.1HR	
Test force error	< 1.0%	
Data output	LCD	
Exchange Scales	Surface Rockwell, Brinell and Vickers	Rockwell, surface Rockwell, Brinell and Vickers
Maximum allowable specimen height	300mm for common sample table; 200mm with X mobile station; 100mm for X / y mobile station	
Distance from indenter to machine wall	200mm	
X / y motor table stroke	100 mm (optional 200 mm)	
Accuracy of X / y motor table	0.005 mm	
Size	560×280×850mm	
Weight	80kg	
Power Supply	AC220±5%,50 ~ 60Hz,600W	

THRS-150LN Online Rockwell hardness tester (customizable)

- 1 - hardness measurement shall be carried out according to GB / T 230.2-2002 metal Rockwell hardness test Part 2: Inspection and calibration of hardness tester, ISO 6508-2 and ASTM e18-12;
- 2 - as a process of the production line, it is completely controlled by the production line;
- 3 - meet the high temperature, high dust and high vibration environment on the site;
- 4-The rack height can be customized to meet the measurement of large workpieces up to 2 meters; With shockproof base;
- 5 - automatic clamping of workpieces, the clamping mode is mechanical clamping or oil pressure;
- 6 - attached test plane grinding device;
- 7 - imported PLC and high-precision imported servo motor;
- 8 - according to the different dimensions of the workpiece, the software sets the initial height of the indenter to reduce the downward stroke of the indenter;
- 9 - sensor loading and closed-loop control are adopted to keep the measuring force accurate and reliable; Automatic compensation test force, force accuracy of 0.1%, an order of magnitude higher than the international standard;
- 10 - displacement sensor: grating displacement sensor with an accuracy of 0.1 μm, which is 10 times higher than that of ordinary durometer;
- 11 - Automatic Test of hardness value; The hardness value is automatically calibrated at three points of high, medium and low values, and the error reaches the level of standard hardness tester;
- 12 - if the hardness is unqualified, automatic audible and visual alarm will be given;
- 13 - operation interface, as required by Party A;
- 14 - automatically generate the inspection report customized by Party A;
- 15 - hardness test data, permanently stored in the database, and easy to query.

Rockwell Hardness Tester



Brinell Hardness Tester



Automatic turret Brinell hardness tester

Model	THB-62.5MDX
Hardness scale	HBW1/1, HBW1/2.5, HBW1/5, HBW2.5/6.25, HBW1/10, HBW2.5/15.625, HBW5/25, HBW1/30, HBW2.5/31.25, HBW2.5/62.5, HBW5/62.5
Test force (KGF)	1Kgf(9.8N), 2.5Kgf(24.5N), 5Kgf(49N), 6.25Kgf(61.29N), 10Kgf(98N), 15.625Kgf(153.23N), 25Kgf(245.2N), 30Kgf(294N), 31.25Kgf(306.47N), 62.5Kgf(612.94N)
Conform to standard	BSEN 6506, ISO 6506, ASTM E10, GB/T231
Minimum unit of measurement	0.01 μm
Hardness value resolution	0.1HBW
Amplification of Microscope	50X, 100X
Retention time	0~99S
data output	LCD
data storage	The measurement value is saved in the U disk in Excel format
Maximum allowable specimen height	180mm
Distance from indenter to machine wall	160mm
size	590×200×680mm
weight	50kg
Power Supply	AC 220 + 5%, 50~60Hz

Portable high precision Rockwell hardness tester (customized Brinell / Vickers)

Model	THR-45PDX	THR-150PDX	THBR-187.5PDX
Initial test force	3.0kgf(29.4N)	10kgf(98.07N)	10kgf(98.07N)
Total test force	15kgf(147.1N) 30kgf(294.2N) 45kgf(441.3N)	60kgf(588N) 100kgf(980N) 150kgf(1471N)	10, 62.5, 125, 187.5kgf
Hardness scale	15N, 15TW, 15W, 15X, 15Y, 30N, 30TW, 30W, 30X, 30Y, 45N, 45TW, 45W, 45X, 45Y	HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRR, HRP, HRS, HRV	
Test scope	HR15N:70-94 HR30N:42-86 HR45N:20-77HR15TW:67-93 HR30TW:29-82 HR45TW:10-72	HRA:20-88, HRB:20-100, HRC:20-70, HRD:40-77, HRE:70-100, HRF:60-100, HRG:30-94, HRH:80-100, HRK:40-100, HRL:100-120 HRM:85-115, HRR:114-125	
Conform to standard	BSEN 6508, ISO 6508, ASTM E18, GB/T230		
Duration Time	0-99s		
Hardness value resolution	0.1HR		
Test force error	< 1.0%		
Data output	LCD		
Exchange Scales	Rockwell, Brinell and Vickers		
Dimensions of tested parts	Plane: area ≥ 160x100, thickness ≥ 5mm		
Size	320×170×230mm		
Weight	10.5kg		
Power Supply	AC220+5%,50~60Hz		

Brinell hardness tester (customizable height)



Model	THB-3000S
Test force	62.5 Kgf (612.9N), 100 Kgf (980.7N), 125 Kgf (1226N), 187.5 Kgf (1839N), 250 Kgf (2452N), 500 Kgf (4903N), 750 Kgf (7355N), 1000 Kgf (9807N), 1500 Kgf (14710N), 3000 Kgf (29420N)
Conform to standard	BSEN 6506, ISO 6506, ASTM E10, GB/T231
Test force accuracy	62.5~250Kgf≤1% 500~3000Kgf≤0.5%
Measuring device resolution	0.01mm
Hardness value resolution	0.1HBW
Hardness test range	3.18~653HBW
Retention time	0~99S
Test microscope magnification	20X
Test force holding time	1-99s
Maximum allowable specimen height	230mm
Distance from indenter to machine wall	155mm
Minimum reading of micrometer hub wheel	0.01mm
Size / weight	550×210×800mm / 110Kg
Power Supply	AC 220V + 5%, 50-60Hz

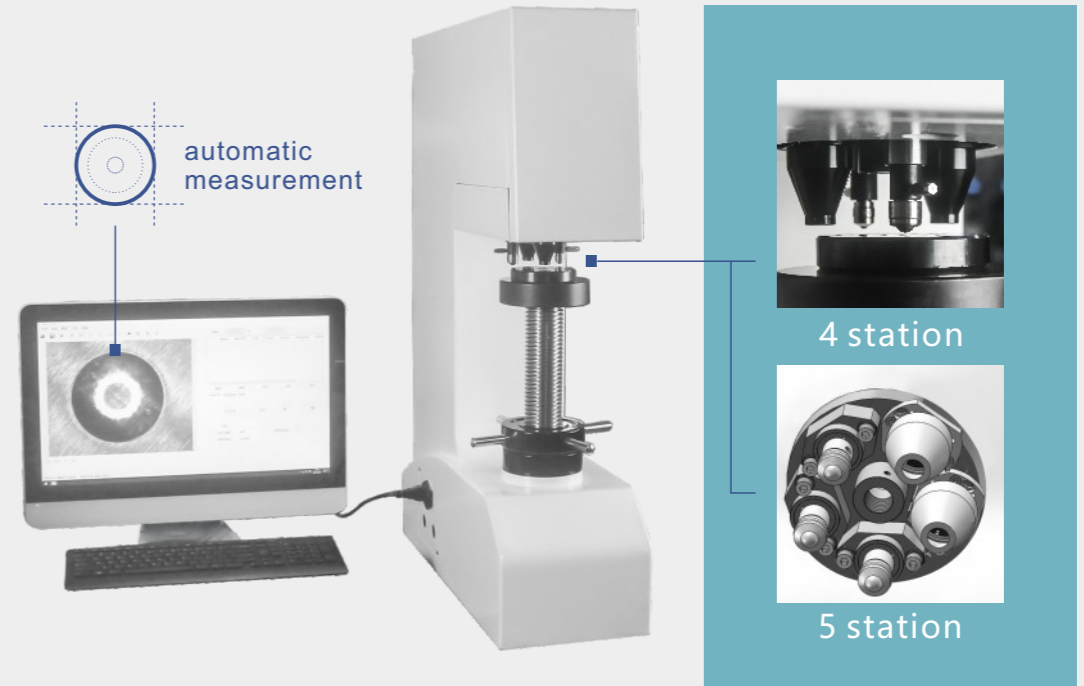
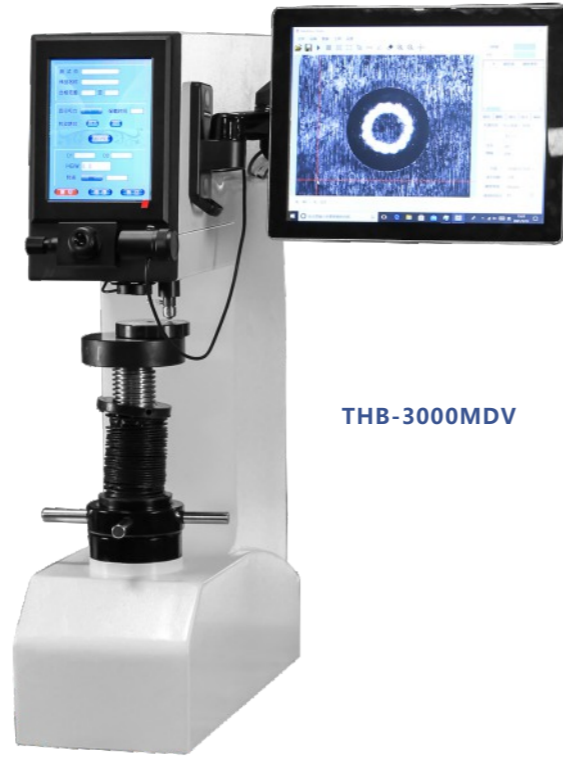
Brinell Hardness Tester

Brinell Hardness Tester

**THB-3000DX
THB-3000MDX**



THB-3000MDV



Model	THB-3000DX	THB-3000MDX	THB-3000MDV
Brinell hardness tester scale	HBW2.5/62.5, HBW5/125, HBW5/250, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000	HBW2.5/62.5, HBW5/125, HBW5/250, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000	HBW2.5/62.5, HBW5/125, HBW5/250, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000
Test force (KGF)	62.5kgf(612.9N), 100kgf(980.7N), 125kgf(1226N), 187.5kgf(1839N), 250kgf(2452N), 500kgf(4903N), 750kgf(7355N), 1000kgf(9807N), 1500kgf(14710N), 3000kgf(29420N)	62.5kgf(612.9N), 100kgf(980.7N), 125kgf(1226N), 187.5kgf(1839N), 250kgf(2452N), 500kgf(4903N), 750kgf(7355N), 1000kgf(9807N), 1500kgf(14710N), 3000kgf(29420N)	62.5kgf(612.9N), 100kgf(980.7N), 125kgf(1226N), 187.5kgf(1839N), 250kgf(2452N), 500kgf(4903N), 750kgf(7355N), 1000kgf(9807N), 1500kgf(14710N), 3000kgf(29420N)
Conform to standard	BSEN 6506, ISO 6506, ASTM E10, GB/T231	BSEN 6506, ISO 6506, ASTM E10, GB/T231	BSEN 6506, ISO 6506, ASTM E10, GB/T231
Test force accuracy	62.5 ~ 250kgf ≤ 1% 500 ~ 3000kgf ≤ 0.5%	62.5 ~ 250kgf ≤ 1% 500 ~ 3000kgf ≤ 0.5%	62.5 ~ 250kgf ≤ 1% 500 ~ 3000kgf ≤ 0.5%
Measuring device resolution	0.1 μm	0.1 μm	0.1 μm
Duration Time	0-99s	0-99s	0-99s
Hardness value resolution	0.1HBW	0.1HBW	0.1HBW
Test force error	< 1.0%	< 1.0%	< 1.0%
Data output	LCD	LCD	LCD
Data storage	Save the measured value in Excel format (U disk)	Save the measured value in Excel format (U disk)	Save the measured value in Excel format (U disk)
Maximum specimen height	200mm	200mm	200mm
Distance from indenter to machine wall	155mm	155mm	155mm
Size	550×210×800mm	550×210×800mm	550×210×800mm
Weight	110kg	110kg	110kg
Power Supply	AC220+5%,50 ~ 60Hz	AC220+5%,50 ~ 60Hz	AC220+5%,50 ~ 60Hz

Model	THB-3000MDP-Q	THB-3000MDP-V
name	Automatic rotating double indenter and double objective lens	Automatic turning three indenter and double objective lens
computer	All in one computer or industrial control touch screen computer (option)	
Automatic turret	-Y	-Y
Double indenter	-Y	-Y
Triple indenter		-Y
Double objective lens	-Y	-Y
Brinell hardness scale	HBW2.5/62.5, HBW2.5/187.5, HBW5/62.5, HBW5/125, HBW5/250, HBW5/750, HBW10/100, HBW10/250, HBW10/500, HBW10/1000, HBW10/1500, HBW10/3000	
Test force	62.5kgf(612.9N), 100kgf(980.7N), 125kgf(1226N), 187.5kgf(1839N), 250kgf(2452N), 500kgf(4903N), 750kgf(7355N), 1000kgf(9807N), 1500kgf(14710N), 3000kgf(29420N)	
Conform to standard	BSEN 6506, ISO 6506, ASTM E10, GB/T231	
Test force accuracy	62.5 ~ 250kgf ≤ 1% 500 ~ 3000kgf ≤ 0.5%	
Measuring device resolution	0.1 μm	
Hardness value resolution	0.1HBW	
Retention time	1 ~ 99S	
Maximum specimen height	200mm (Customizable)	
Distance from indenter to machine wall	155mm (Customizable)	
Computer	19 inch. Display; Win10 operating system	
Camera	1.3 million pixels (500 pixels optional)	
Weight	110kg	
Power Supply	AC220+5%,50 ~ 60Hz	

Brinell Hardness Tester

HB Intelligent Hardness Testers

Hardness Values With One Click

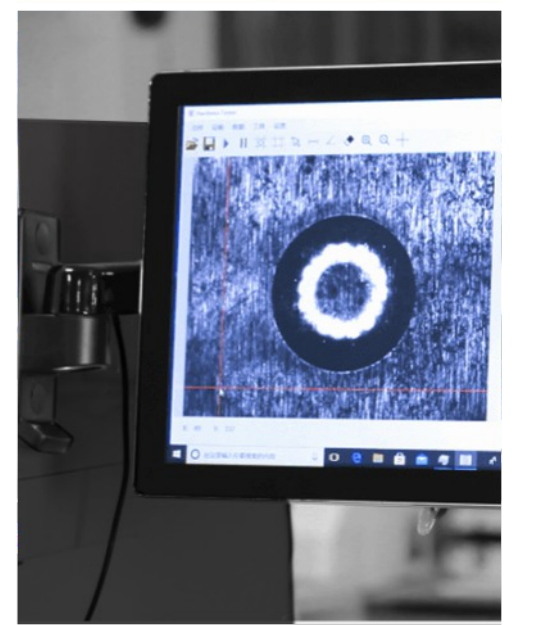


- Modern minimalist design using **high-strength material**;
- The hardness value is automatically corrected depending on the hardness range: **hard, medium and soft**;
- **Automatic force calibration** (after manual input of correct force value);
- Equipped with **2 indenters and 3 objective** lenses;
- **70 mm** diameter lifting bearing;
- Manual and automatic ascension/descension of operation platform
- **Anti-collision detection device**;
- Seamless connection to factory **MES or LIMS systems**;
- Optional function: automatic calculation of **uncertainty to meet CNAS***;
- Scan QR code for cloud storage of measurement data, **data analysis, remote diagnosis and upgrade**;
- Larger sample space and larger **operation platform allowing larger samples**;
- Automatic measurement: sample can be automatically lifted, **force applied and measured**;

Brinell Hardness Tester

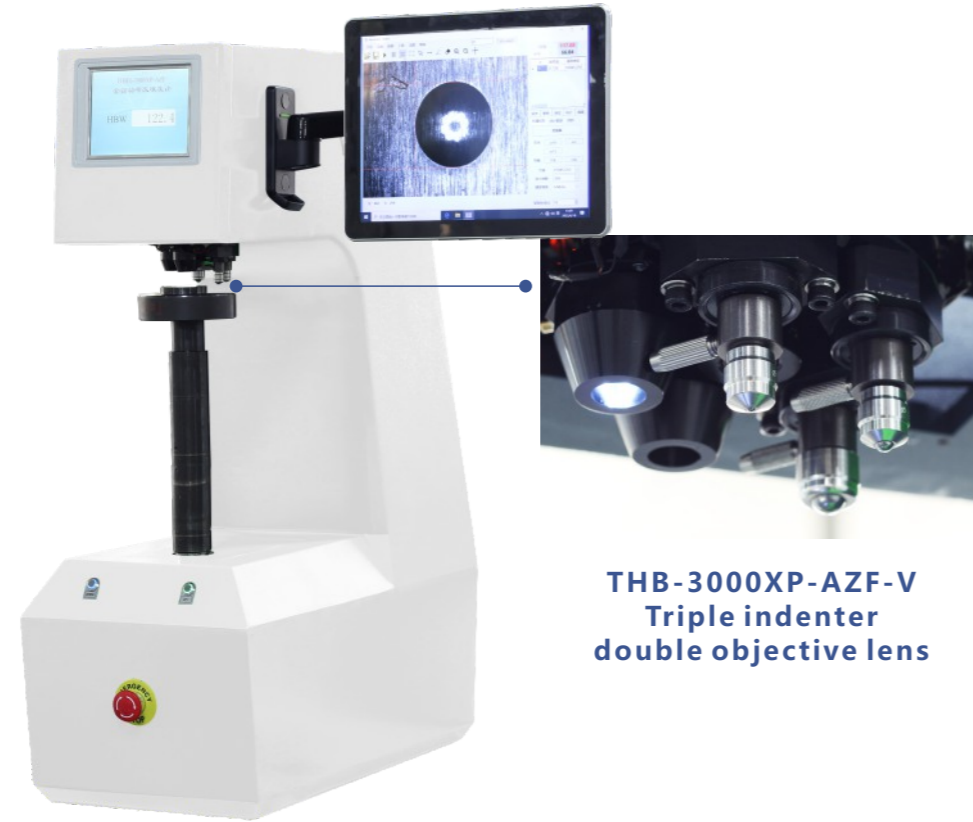
Multistage test force Force value is optional Meet the standard for all test forces in this range	Automatic turret During the test, the indenter and the objective lens automatically switch to each other, and the test point is automatically located accurately	Different magnification objectives 10X、40X (2.5X,5X 40X , 50X) The rate objective can be measured	Experimental result derivation The test parameters and experimental results are stored on U disk in excel format, which is convenient for data processing and test report output	Language Support Chinese and English language switching (Customizable language)

Model	iHB-3000AZ
Hardness scale	HBW2.5/62.5、HBW2.5/187.5、HBW5/62.5、HBW5/125、HBW5/250、HBW5/750、HBW10/100、HBW10/250、HBW10/500、HBW10/1000、HBW10/1500、HBW10/3000
Test force (KGF)	62.5 (612.9N)、100(980.7N)、125 (1226N)、187.5 (1839N)、250 (2452N)、500 (4903N)、750 (7355N)、1000 (8907N)、1500 (14710N)、3000 (29420N)
Conform to standard	ASTM E10, GB/T231, ISO 6506 , BSEN 6506
Retention time	0 ~ 99S
Digital imaging	12 million industrial-grade digital cameras
Measurement mode	Manual measurement, automatic measurement
Calibration mode	Standard hardness block
Language	Chinese/English
Industrial computer	15inch, touch screen
Main accessories	Industrial touch screen computer Industrial camera



Brinell Hardness Tester

Other Brinell Hardness Tester



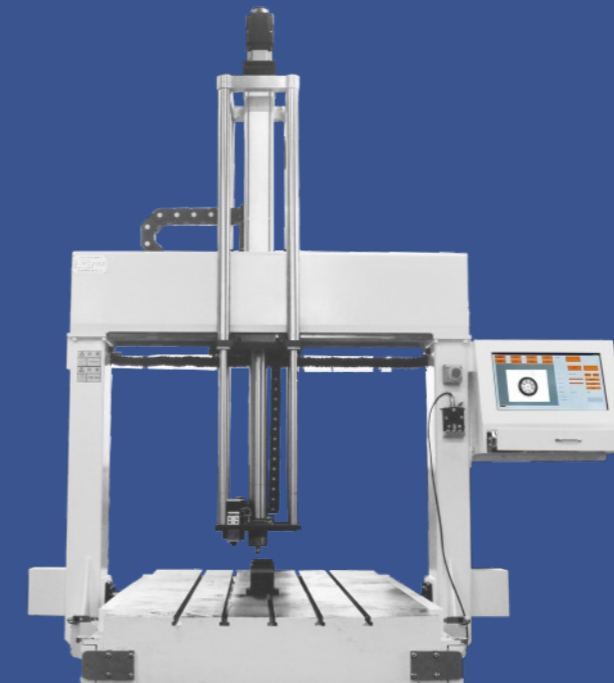
THB-3000XP-AZF-V
Triple indenter
double objective lens



Portable Brinell hardness automatic measuring system

Model	THBS-P
Hardness scale	HBW2.5/62.5 HBW2.5/187.5 HBW5/62.5 HBW5/125 HBW5/250 HBW5/750 HBW10/100 HBW10/250 HBW10/500 HBW10/1000 HBW10/1500 HBW10/3000
Conform to standard	BSEN6506, ISO6506, ASTM E10, GB/T231
measuring range	15.9-650HBW (ASTM E10 Recommended effective hardness value)
Measurement resolution	0.0001 mm
Hardness value resolution	0.1 HBW
digital imaging	630W Industrial digital camera
Measurement method	Manual measurement, automatic measurement (for standard sample)
Calibration method	Standard hardness block / length scale
Supported languages	Chinese / English (optional)
Power Supply	USB power supply
weight	0.5 kg

Model	THB-3000XP	THB-3000XP-Z	THB-3000XP-AZF	THB-3000XP-AZF-V
Function	/	One key lifting	Automatic lifting and automatic measurement	Triple indenter double objective lens
Hardness scale	HBW2.5/62.5 HBW2.5/187.5 HBW5/62.5 HBW5/125 HBW5/250 HBW5/750 HBW10/100 HBW10/250 HBW10/500 HBW10/1000 HBW10/1500 HBW10/3000			
Test force(Kgf)	62.5Kgf(612.9N) 100Kgf(980.7N) 125Kgf(1226N) 187.5Kgf(1839N) 250Kgf(2452N) 500Kgf(4903N) 750Kgf(7355N) 1000Kgf(8907N) 1500Kgf(14710N) 3000Kgf(29420N)			
Conform to standard	BSEN 6506, ISO 6506, ASTM E10, GB/T231			
Test force accuracy	62.5 ~ 250kgf ≤ 1% 500 ~ 3000kgf ≤ 0.5%			
Measuring device resolution	0.1 μm			
Hardness value resolution	0.1 HBW			
Retention time	0 ~ 99S			
Data output	LCD			
Data storage	The measured values are saved in the U disk in Excel format			
Maximum allowable specimen height	350mm/400mm(Optional)			
Distance from indenter to machine wall	250mm			
Size	700×340×970mm			
Weight	160kg			
Power Supply	AC220+5%, 50 ~ 60Hz			



Gantry Brinell hardness tester (customizable)

Model	THB-3000G/THB-3000Ge/THB-3000GX
Measuring range	3.18 ~ 653HBW
Measuring scale	125kgf, 187.5kgf, 250kgf, 500kgf, 750kgf, 1000kgf, 1500kgf, 3000kgf (Customizable)
Test force accuracy	≤ 0.5%
Maximum movement range of x-axis	1000mm (Customizable)
Maximum movement range of y-axis	1500mm (Customizable)
Maximum height of tested part	950mm (Customizable)
Bench size	2000X1500mm (Customizable)
Duration Time	0 ~ 99seconds adjustable
Supply voltage	AC220V , 50Hz
Durometer weight	host: 3000kg

Brinell, Rockwell, Vickers Hardness Testers



Quick change ram design



Special Hardness Tester



Plastic Rockwell Hardness Tester

Model	THR-150DT-P	THR-150DX-P
Initial test force	10kgf(98.07N)	
Total test force	60kgf(588N) 100kgf(980N) 150kgf(1471N)	
hardness scales	HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRR, HRP, HRS, HRV	
Test scope:	HRE:70-100 HRL:100-120 HRM:85-110 HRR:114-125	
Duration Time	0-99s	
Hardness value resolution	0.1HR	
Test force error	< 1.0%	
data output	LCD	
Touch screen size	8 inches	
data storage	20 kinds of test results can be stored, with built-in printer RS-232 interface	
Conform to standard	GB/T230.2, GB/T3398.2, JB/T7409	
Maximum allowable specimen height	200mm	
Distance from indenter to machine wall	200mm	
size	560×200×800mm	
weight	70kg	
Power Supply	AC220+5%,50~60Hz	

Automatic plastic ball indentation hardness tester THPB-100

- Meeting standard: gb3398.1-2008 plastics hardness determination part 1: Ball Indentation Method ISO 2039-1-2001 plastics hardness determination part 1: ball indentation method
- Touch screen interface, easy to operate, directly select the hardness scale, and the force value is automatically changed in the test parameters
- The preload is automatically applied.
- Automatic loading and unloading of main load;
- Automatically calculate the hardness value;
- Optional computer control the whole test process, the test process is fully automatic, the hardness test data is always kept, the database is queried, and the user-defined inspection report is automatically generated.

Model	THBRV-187.5DX	THBRV-250DX
Force value	5 ~ 187.5kgf	3 ~ 250kgf
Brinell hardness scale	HBW1/5, HBW2.5/6.25, HBW1/10, HBW2.5/15.625, HBW1/30, HBW2.5/31.25, HBW2.5/62.5, HBW10/100, HBW5/125, HBW2.5/187.5(任选10个标尺)	HBW1/5, HBW2.5/6.25, HBW1/10, HBW2.5/15.625, HBW1/30, HBW2.5/31.25, HBW2.5/62.5, HBW10/100, HBW5/125, HBW2.5/187.5, HBW5/250, HBW10/250
Hardness value resolution	0.1HBW 0.1HR 0.1HV	
Rockwell Scales	HRA, HRB, HRC, HRD, HRE, HRF, HRG, HRH, HRK, HRL, HRM, HRP, HRR, HRS, HRV	
Vickers Scales	HV5, HV10, HV20, HV30, HV40, HV50, HV60, HV80, HV100, HV120 (Optional 10 scales)	
Objective lense	2.5X, 5X (10X, 20X Optional)	
Test microscope magnification	Brinell: 37.5x, Vickers: 75X	
Hardness test range	Brinell: 8 ~ 650hbw Rockwell: 20 ~ 100hr Vickers: 8 ~ 2900hv	
Hardness reading	LCD display, U disk storage	
Retention time	1 ~ 99S	
Maximum specimen height	Rockwell 220mm, Brinell and Vickers 150mm	
Distance from indenter center to outer wall	200mm	
Size weight	560*350*800mm	
Weight	70Kg	
Power Supply	AC220V+5%, 50-60Hz	

In addition, thus-187.5/thus-250 universal hardness tester



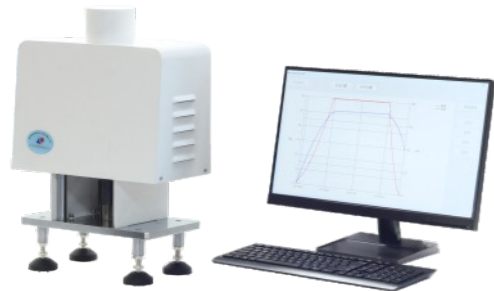
THW-1500 Wood Hardness Tester

- Thw-1500 wood hardness tester is used to measure the hardness of wood according to GB/T 1941-2009 wood hardness test method. It is specially used for hardness measurement of wood.
- The maximum pressure of the hardness tester is 15000 n (1500 kg), which can measure the hardness of all wood, including the hardest wood;
- The hardness tester has high accuracy, simple operation, convenient and practical, and high cost performance.
- Set the pressing depth through the panel: 5.64 or 2.82 mm
- Set the loading speed through the panel: 3, 4, 5, 6 mm / min
- Automatic display of hardness value

Parameter	Index	Remarks
Maximum load (n)	15,000	
Load accuracy (n)	1	One order of magnitude higher than the standard requirement (standard requirement: 10%)
Precision of pressing depth (μ m)	1	One order of magnitude higher than the standard requirement (standard requirement: 0.01mm)
Power Supply	AC220V/300W	
Size (mm)	550*210*750	
Weight (kg)	89	
Weight (kg)	< 1.0%	

Special Hardness Tester

Special Hardness Tester



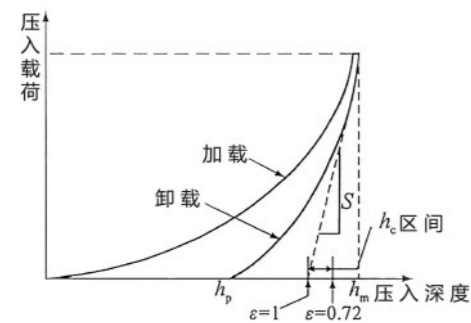
IIT-200 Instrumented Indentation Tester (Indentation Tester)

-Main features

1. The gantry structure frame adopts the gantry structure in the right figure (the display screen in the figure is replaced by a computer) to greatly improve the rigidity;
2. Large application force range and high accuracy;
3. The downward moving speed of the ram can be set;
4. High displacement resolution, up to 0.1 μm;
5. The indenter can be diversified and customized according to user requirements;
6. The loading and unloading control mode can be customized by the user.

-Technical parameters

1. Test force range: 3-200kg;
 2. Force value error: less than 1%;
 3. Ram stroke: not less than 5mm;
 4. Downward moving speed range of indenter: 0.001-0.1mm/s
 5. Displacement resolution: 0.1 μm;
 6. WC steel ball for indenter, diameter: 1, 1.588 mm, 2, 2.5, 5 mm;
 7. Loading and unloading control:
 - /1. The loading curve can be set, and the loading and unloading control can be carried out according to the curve setting (loading rate, loading and unloading point, and load holding time);
 - /2. The loading rate (displacement rate of the indenter) is adjustable;
 - /3. Unload or reload at the set load or press in depth;
 - /4. You can set the percentage of unloading to the maximum force value and continue loading.
 - /5. The data sampling frequency can be set to accurately determine the complete pressure head loading and unloading curve;
- The rigidity error is corrected and compensated.



Curve of pressing load and pressing depth



THB-250 Sounding Brinell hardness tester

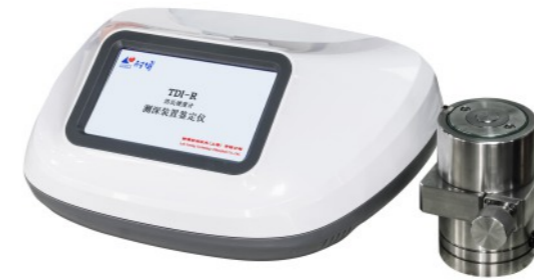
- Carry out the rapid measurement of hardness on site according to the sounding method specified in GB / t24523, and directly display the Brinell hardness value;
- Automatic measurement of indentation and hardness is completed automatically once;
- The indenter is automatically pressed down and automatically lifted after unloading;
- The minimum measurement time can not exceed 15s, and the efficiency is extremely high.
- Measured force value: 250kg.
- The full-automatic closed-loop pressure control force can be automatically compensated, and the force value error is less than 0.5%;
- Error ratio (GB / t231.2)
- The requirements of ASTM e-10-08 are increased by 2 times;
- The measured values are saved in the U disk in Excel format.

Executive standard	ASTM E10,ASTM E103,GB/T214.2,GB/T24523
Vickers Scales	HBW5/250、HBW10/250
Test force	250 kg f (2450 N)
Maximum height of test piece	200mm (Customizable)
Head to outer wall distance	200mm (Customizable)
Depth measurement resolution	1μm
Duration Time	1~99s(Can be set arbitrarily)
Hardness test range	8~217HBW
Test force accuracy	±0.5% (2 times higher than the standard requirement of 1%)
Hardness reading	The touch screen displays the measured values, which are saved in the U disk in Excel format
Power Supply	AC220+5%,50~60Hz
Service temperature:	5~45°C
Overall dimension (mm)	560×220×800mm
Weight of main engine	90kg

TDI-R Rockwell sounder calibrator

TDI-R Rockwell sounding device calibrator is one of the instruments used for verification of Rockwell hardness tester, which is used for direct verification of Rockwell Calibration of indentation depth measuring device. It is the first Rockwell hardness in China that has passed the authoritative verification of Beijing 304 Institute This is the calibrator of the depth measuring device. Meet GB / t230.2, jgg112, astme18 and iso6508 standards The requirements have broken the current situation that domestic sounding devices are completely dependent on imports.

Scope of application	Rockwell hardness tester (both weight and closed-loop loading)
Conform to standard	GB/T230.2、JJG112、ASTME18、ISO6508
Measuring range	0-200um
Total range	220um
Maximum allowable error	±0.2μm
Resolving power	0.1μm
Weight	4.34KG
Power Supply	AC220+5%,50~60Hz



Digital Pencil Hardness Tester

It is specially used for the hardness test of pencil lead of various pencils, and the standard GB / T 26704-2011 pencils shall be implemented. This product has been widely used in the domestic pencil manufacturing industry.

Model	THKS-1MDP (THK-1MDP Without computer software)
Test force	0.245、0.49、0.98、1.96、2.94、4.98
Executive standard	GB/T 26704-2011 Pencil
Minimum test unit	0.01μm
Hardness test range (HK)	40 - 700
Test force application method	Automatic (loading, holding and unloading)
Indenter and lens conversion	automatic
Amplification of Microscope	100x (observation, test) 200X (test)
Test force holding time	1 ~ 99S, 10s recommended
X-Y test bench	Size: 100 * 100mm maximum movement: 25 * 25MM
Data output	LCD display readout, built-in printer
Effective height of workpiece	100 mm
Distance from indenter to outer wall	130 mm
Power Supply	AC220V + 5% , 50 - 60Hz
Overall dimensions	540 * 260 * 650 mm
Weight of main engine	50 Kg



Pencil holder

THCM-150 Carbon Material Hardness Tester

- Meet DIN 51917-2002 carbon material inspection and hardness inspection;
- The computer controls the whole testing process, and the testing process is fully automatic;
- Automatic application of preload;
- Automatic loading and unloading of main load;
- The hardness value is automatically generated and recorded in the database;
- The hardness test data is always kept and the database is queried;
- Automatically generate user-defined inspection reports.



Metallographic Equipments

Metallographic Cutting Machine



LC-150 Precision Cutting Machine

- 1. The closed transparent protective cover and safety switch provide protection for the operator and facilitate observation.
- 2. Through the gravity loading system, the feed speed of the processed object can be precisely adjusted to reduce sample damage
- 3. Closed loop control cutting to prevent overload from burning motor and circuit.
- 4. When the sample cutting is completed, the cutting machine automatically stops, and unattended processing can be realized.
- 5. Use ultra-thin cutting pieces, such as 0.4 mm thick diamond cutting pieces, to move the sample laterally with a precision of 0.01 mm, so as to realize the precision cutting of the sample.
- 6. 7 sets of different sample clamps to meet the cutting requirements of different samples.
- 7. Large size circuit board mesa cutting device (option), convenient for large-size sample preparation and cutting of sheet materials, circuit boards, glass, etc.
- 8. Adopt sintered diamond saw blade to easily realize accurate cutting of various hard materials such as glass, circuit board and rock



Optional: table top cutting device (suitable for cutting thin sheets, glass, electronic circuit boards, etc.)

Model	LC-150
Cutting blade	150x12.7x0.43mm (6inch)
Cutting positioning accuracy	BSEN6506,ISO6506,ASTME10,GB/T231
Built in cooling device	The cutting blade drives the water tank to circulate and cool
Brushless DC motor	Power:750W Speed:0-1500r/min
Hardness value resolution	0.1HBW
Display	LED digital display
Emergency braking device	Emergency stop switch
Power Supply	AC220V 50HZ
Dimensions (W x D x H)	455 x 610 x 380 mm
Weight	33 kg



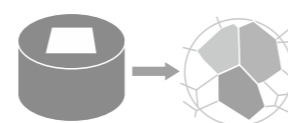
Cutting



Mounting



Grinding and polishing



Microscopic



Gravity pressure (no manual cutting required)



Fine tuning micrometer (more accurate)



7 sets of different sample clamps

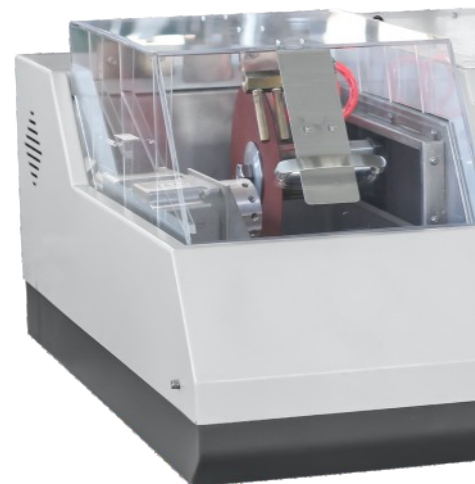
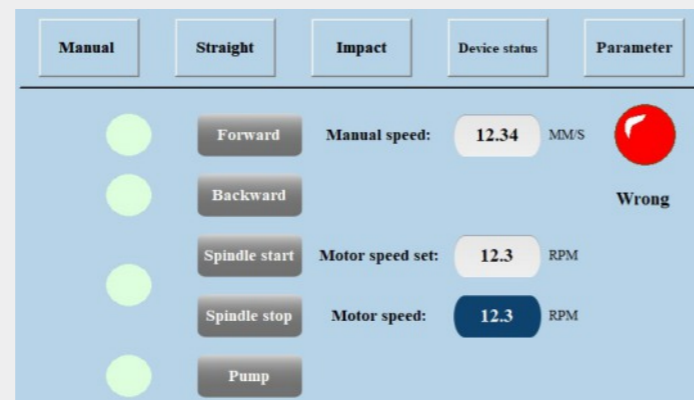
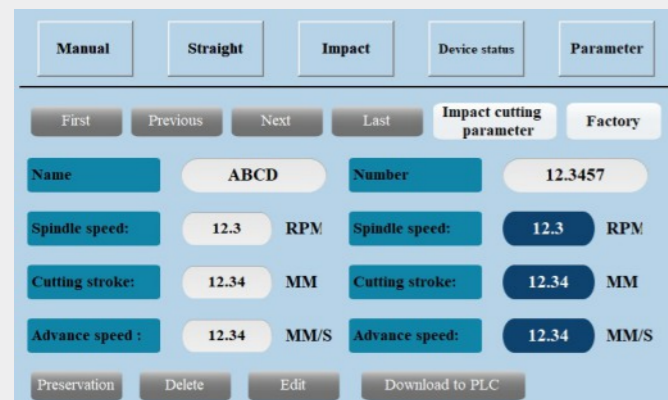
Metallographic Cutting Machine



LC-200XP Automatic Precision Cutting Machine

- 1. It adopts man-machine interface and PLC control, with intuitive interface and simple operation.
- 2. The language can be switched between Chinese and English. The operation is simple and the parameter setting is convenient.
- 3. The spindle adopts frequency conversion control and overload protection.
- 4. There are two cutting methods to choose cutting, which is more suitable for cutting of various materials.
- 5. The setting parameters can be stored. The parameters stored by the user can be selected for cutting different materials. It is not necessary to set the parameters every time.
- 6. External circulating water cooling device is provided. The closed transparent protective cover and safety switch provide protection for the operator.

Parameter setting interface



Also available with R-axis - rotatable cutting
Diameter (thickness) of cut sample: 20mm
Maximum cutting size: 180 * 160mm

Model	LC-200XP
Cutting blade	Standard Φ200xΦ32x0.9
Spindle speed	500-3000r/min (Optional 500-5000r/min)
Feed speed	0.01-3mm/s
Reverse speed	0 - 5 mm/s
Impact cutting distance	0 - 5 mm/s
Impact cutting distance	0.1 - 2mm
Cutting stroke (Y-axis)	200 mm
Maximum cutting diameter	Φ60 mm
Maximum clamping length	150mm
Maximum clamping width	215mm
Three phase AC asynchronous motor	Power: 1.5kw
Usage data	Can store 12 kinds
Power Supply	AC220V 50HZ
Dimensions (W x D x H)	790 × 870 × 455mm
Weight	126KG

Metallographic Cutting Machine

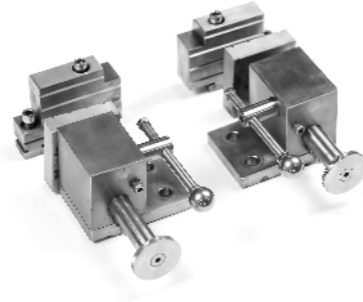
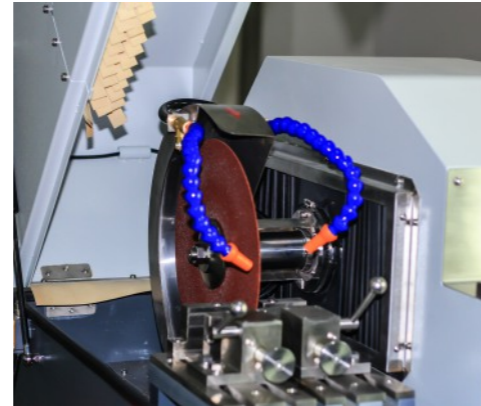


LC-300Z Cutting Machine (Optional workbench)

- 1. The machine adopts a fully enclosed structure, with good sealing effect and safety and reliability;
- 2. The machine adopts a fast clamping device to clamp objects more quickly and accurately;
- 3. The double gas spring device balances the weight of the upper cover and makes it easy to open and close the upper cover;
- 4. Special cooling water tank for circulating cooling liquid;
- 5. Main parts and components such as jaws and worktops are made of stainless materials with long service life;
- 6. Large cutting range and transmission power;
- 7. Stable rotation and low noise.

Maximum cutting section	Φ85 mm
Grinding wheel specifications	300*2*32
Speed	2800r/min
Electric machinery	2.2KW 380V 50HZ
Emergency braking device	Emergency stop switch
Cutting room lighting	Low voltage DC lighting
Cutting platform specification	210*208 mm
Clamping device	Standard quick fixture (one set for each side)
Cooling system	External circulating filter water tank 40L, multiple sets of adjustable sprinklers and cleaning water guns
Cutting mode	Manual cutting
Observation window	Explosion proof transparent engineering plastics
Dimensions (W x D x H)	720X725X670mm
Weight	100Kg

Metallographic Cutting Machine



Metallographic Cutting Machine

LC-350YAT Automatic Cutting Machine

Cutting blade	350*2.5*32
Spindle speed	2800r/min
Feed speed	0.01-3mm/s Adjustable
Cutting blade stroke (Y-axis)	220mm
Theoretical maximum cut sample	Φ100mm Round bar
Maximum clamping distance of clamp	128mm
Table size	333mm*240mm
Table distance (optional)	290mm
Cutting fixture	One set of quick push-pull type, jaw height60mm
Key control	LCD touch screen, button
Lighting	LED lighting
Cooling system	Four cooling water and one cooling water gun
Circulating water tank	External circulating filter water tank 40L (optional magnetic filter water tank)
Electric machinery	Power:4KW
Emergency braking device	Emergency stop switch
Power Supply	AC380V 50HZ
Dimensions (W x D x H)	970X950X760mm , Anchor center distance830X710mm
Weight	200KG

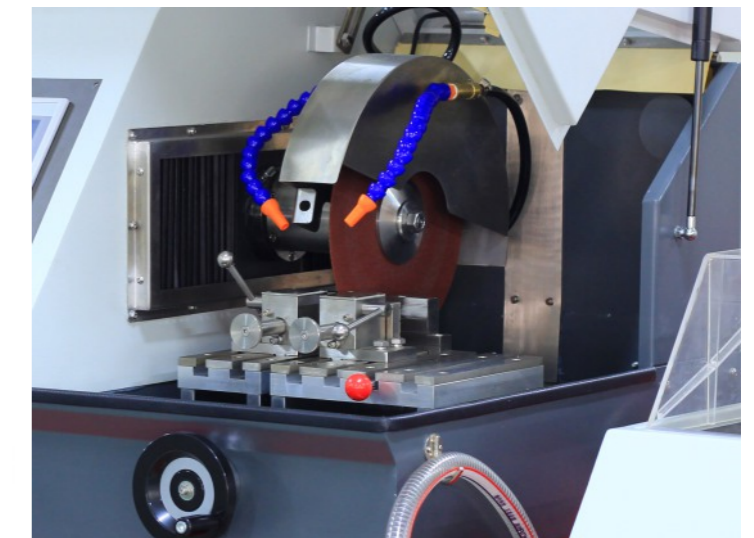


Product features

1. Adopt advanced single chip microcomputer PLC automatic control to realize full automatic cutting;
2. Built in 9 cutting modes. According to the soft and hard degree of the sample material, the nine corresponding cutting parameters can be modified and saved;
3. In the automatic working state, the automatic feeding and retracting, and the feeding and retracting speed can be set;
4. The innovative vibration (feed - retract - feed) cutting mode makes the cutting part of the sample cool enough to ensure that the cut sample will not be burned;
5. It can be operated completely manually without being affected by automatic mode;
6. The sample and cutting piece can be moved independently (double Y-axis - optional), and the cutting sample size is larger and more flexible (optional)
7. Quick clamping mechanism, convenient for loading and clamping samples;
8. The fully enclosed structure and transparent protective cover are adopted to increase the observation field of view. The upper and lower opening and closing methods are simple and easy, and do not occupy space;
9. The super circulating cooling system ensures that the workpiece will not burn during cutting. There is a filter screen in the water tank, which is convenient for collecting residues and scraps;
10. Main parts and components such as jaws and worktops are made of stainless steel with long service life;

Model	LC-300Y	LC-350Y	LC-400Y
Maximum cutting area	Φ85mm	Φ100mm	Φ120mm
Cutting blade specification	300*3*32	350*2.5*32	400*3*32
Speed	2800r/min	2800r/min	2800r/min
Motor	3KW,380V,50HZ	3KW,380V,50HZ	4KW,380V,50HZ
Emergency braking device	Emergency stop switch	Emergency stop switch	Emergency stop switch
Cutting room lighting	Low voltage DC lighting	Low voltage DC lighting	Low voltage DC lighting
Cutting platform specification	240*232mm	240*232mm	240*232mm
Clamping device	Standard quick fixture (one set for each side)		
Cooling system	External circulating filter water tank 40L, multiple sets of adjustable sprinklers and cleaning water guns		
Cutting mode	Manual Y-direction moving cutting		
Observation window	Explosion proof transparent engineering plastics		
Overall dimension (W x D x H)	780X905X1285mm	780X905X1285mm	780X905X1285mm
Weight	250KG	250KG	250KG

LC-350YAT-Y Automatic Cutting Machine



Metallographic Cutting Machine

LC-350XP Automatic Cutting Machine

1. Adopt advanced PLC automatic control to realize full automatic cutting;
2. The sample and cutting piece can be moved independently (double Y-axis), and the cutting sample size is larger and more flexible
3. In the clamped state, the sample can move in parallel in the precise transverse direction (x-axis), with the movement accuracy less than 0.1mm, which is especially conducive to the parallel cutting of thin-film samples.
4. The main motor is driven by a frequency converter, with a speed adjustment range from 500rpm to 3000rpm, and the speed stability will not be affected by the load changes to meet the cutting needs of various materials.
5. The original vibration (feed back feed) cutting mode makes the sample cutting part cool enough to ensure that the cut sample will not be burned;
6. Built in 9 cutting modes. According to the soft and hard degree of the sample material, the nine corresponding cutting parameters can be modified and saved;
7. In the automatic working state, the tool is automatically fed and retracted, and the feed and retract speed can be set;
8. It can be operated completely manually without being affected by automatic mode;
9. The filter water tank with magnetic system is adopted. When the circulating water passes through the magnetic system, the metal cutting debris generated during cutting is absorbed by the magnetic system
- Suck out and drain out, improve the effect of sample cutting and the utilization times of circulating water, and avoid blocking the drainage system of the laboratory;
10. Adopt fully enclosed structure, transparent protective cover, increase observation field of view, and move the door horizontally, which is simple and easy and does not occupy space;
11. Quick clamping mechanism, convenient for loading and clamping samples;
12. Main parts and components such as jaws and worktops are made of stainless materials with long service life;
13. Emergency stop, air switch provides protection for the operator



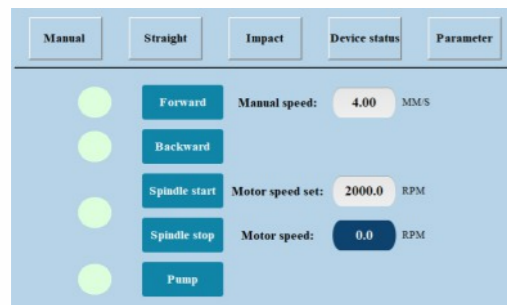
Metallographic Cutting Machine



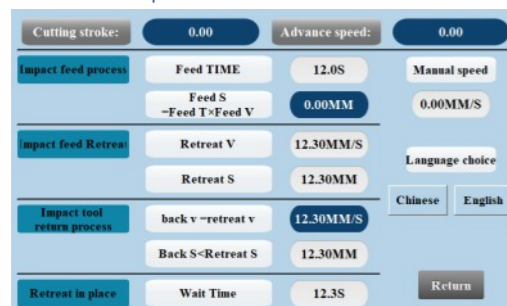
1. Advanced electrical technology (lc-400yaza / lc-400yaz) is adopted:
 - PLC programmable controller
 - Touch screen human-computer interaction
 - High precision schedule motor with closed loop control
 - Variable frequency motor with variable frequency control
2. The cutting piece moves up and down (Z-axis) to achieve chopping cutting, and the sample table moves back and forth (Y-axis) to achieve sample translational cutting:
 - The upper and lower shafts and the front and rear shafts can be moved separately or simultaneously;
 - Both axes can be manually or automatically;
 - Both axes adopt encoder to realize high-precision displacement control.
3. For 200 different workpieces, 200 sets of corresponding cutting parameters (lc-400yaza / lc-400yaz) can be saved or selected.
4. Protection of each group of cutting parameters: cutting mode, motor speed, cutting stroke, feed depth and other parameters affecting cutting performance (lc-400yaza / lc-400yaz).
5. Adopt high-power variable-frequency motor, which can change the rotation speed according to the material to be cut and the size of the cutting piece to improve the controllability of cutting (lc-400yaza / lc-400yaz).
6. Laser positioning of cutting position.
7. 450 mm cutting blade (option) can be used, and the cutting diameter can be up to 170 mm.
8. Adopt multi-stage filtration technology such as magnetic filtration to make the cooling water cleaner and greatly improve the cooling effect.
9. The cutting bin and the motor and other electrical bins are separated independently to ensure the reliability and safety of the electrical appliances.

LC-400 Automatic Metallographic Cutting Machine

Model	LC-400YAZA	LC-400YAZ	LC-400YZ
Y-axis feed	Automatic		Manual
Z-axis feed	Automatic	Manual	
Feed mode	1) Continuous automatic feeding of workpieces; 2) Cutting blade cutting type automatic feeding; 3) Automatic reciprocating feeding of workpieces; 4) Workpiece automatic cutting back feeding; 5) Automatic cutting back feeding of cutting sheet; 6) Workpiece and cutting piece are fed at the same time (curve); 7) Manual feeding of workpieces; 8) Manual feeding of cutting sheet;	1) Continuous automatic feeding of workpieces; 2) Cutting blade chopping manual feeding; 3) Automatic reciprocating feeding of workpieces; 4) Workpiece automatic cutting back feeding; 5) Manual cutting back feeding of cutting sheet; 6) Manual feeding of workpieces; 7) Manual feeding of cutting sheet	1) Manual feeding of workpieces; 2) Cutting blade chopping manual feeding; 3) Manual reciprocating feeding of workpieces; 4) Manual cutting back feeding of cutting sheet; 5) Manual feeding of cutting sheet
Frequency control	500~3000 RPM	500~3000 RPM	3000 RPM
Electrical control mode	LCD touch screen, button, joystick	LCD touch screen, button	Button
Maximum stroke	Z-axis 100; Y-axis 300mm		
Cutting speed	0.01~3mm/s		
Cutting blade specification	400*3*32		
Cutting motor power	4KW		
Maximum cutting diameter	Φ150mm		
Maximum cutting length	300mm		
Cutting bin size	445mm×625mm (Customizable)		
Cutting fixture	One set of quick push-pull type, jaw height 60mm		
Lighting	LED lighting		
Cooling system	Four cooling water and one cooling water gun		
Circulating water tank	Magnetic filtration, 80L		
Power Supply	380V/ 50Hz		
Weight	200kg		
Overall dimension (W x D x H)	1050mm×1150mm×1800mm		



Operation data interface



Setting parameter interface

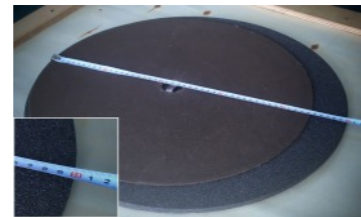
Cutting blade	350*2.5*32
Spindle speed	500-3000r/min
Feed speed	0.01-3mm/s
Cutting blade stroke (Y-axis)	200mm
Cutting blade stroke (x-axis)	45mm (Option)
Cutting method:	Manual / automatic
Maximum cutting capacity	Φ 100mm round bar or equipped with special clamp can cut a rectangle with length of 200X width of 240x height of 80mm
Maximum clamping length	120mm
Table size	282mm*240mm
Cutting fixture	One set of quick push-pull type, jaw height 60mm
Key control	LCD touch screen, button
Lighting	Dual LED lighting
Cooling system	Two cooling water and one cooling water gun
Magnetic filter circulating water tank	80L
Cutting motor	Power:4KW
Emergency braking device	Emergency stop switch
Power Supply	AC380V 50HZ
Dimensions (W x D x H)	1080X950X1500mm
Weight	225KG

Metallographic Cutting Machine



LC-500ZAYAXA Automatic Metallographic Cutting Machine

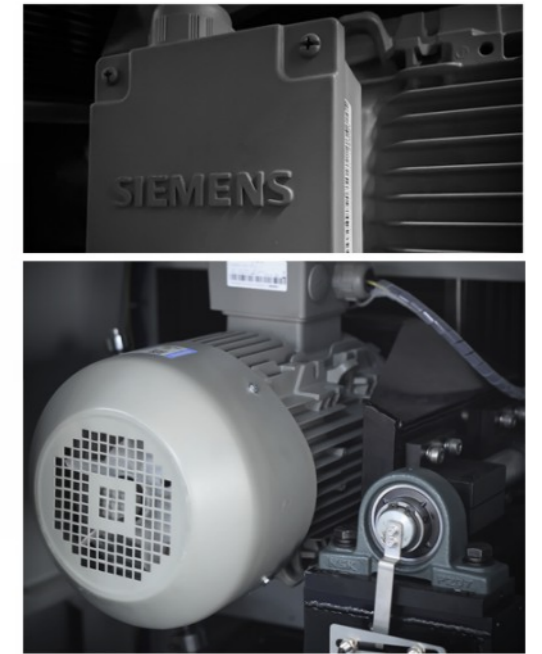
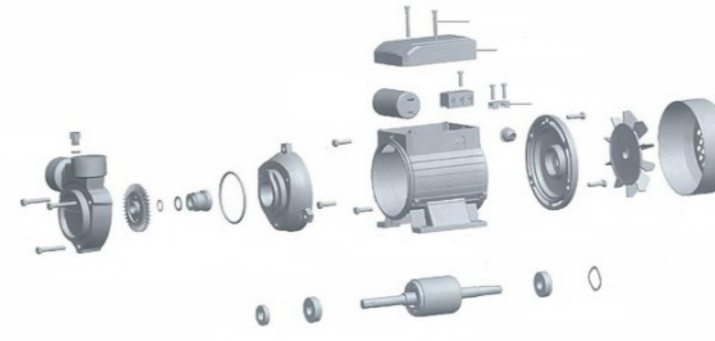
LC-500ZAYAXA ultra large automatic metallographic cutting machine, using a cutting piece with a diameter of 500mm, is one of the cutting machines with the largest cutting capacity at present. It is suitable for cutting specimens of various metal and non-metal materials to observe the metallographic and petrographic structures of materials. The cutting process of this machine is automatic, low noise, easy to operate, safe and reliable, and can meet the cutting requirements of large workpieces made in modern laboratories.



Super large cutting piece
Diameter 500 mm

Metallographic Cutting Machine

SIEMENS MOTOR SIEMENS



Customizable R-axis
And cutting fixture tooling

CUTTING RANGE (MAXIMUM)



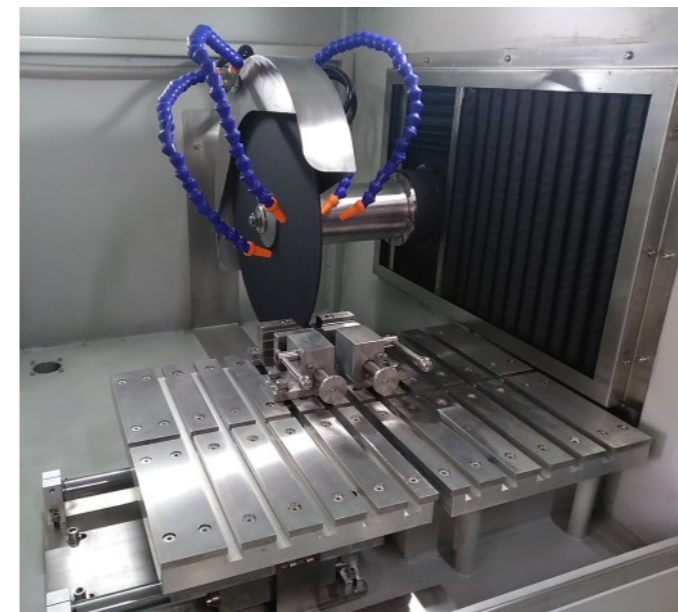
Φ200mm



100mmx300mm



50mmx350mm



Cutting mode	Automatic (x-axis, y-axis, z-axis, R-axis) R-axis is optional
Feed mode	Continuous feed / pulse feed / manual feed / curve rotary feed (optional R-axis)
Cutting motor	Siemens, 7.5kW (optional)
Frequency control	500 ~ 3000 rpm
PLC	Siemens, LCD touch screen, button
Cutting blade specification	500*5*32mm
Maximum cutting diameter	Φ200mm
Cutting speed	0.01~3mm/s
Axis movement	Z, Y-axis servo motor; X-axis stepper motor; R-axis servo motor (optional)
Maximum stroke	Z-axis 160; Y-axis 300mm; X-axis 110mm
Cutting chamber size	830mm x 1040mm
Cutting fixture	One set of quick push-pull type, jaw height 60mm
Cooling system	Four cooling water and one cooling water gun
Circulating water tank	Magnetic filter, 120L
Lighting	Double machine tool working lights
Power Supply	380V/50Hz
Dimensions (width, depth and height)	2253mm x 1270mm x 1955mm
Weight	700 kg

Interface



Cutting Machine Accessories



Metallographic Mounting Press



LHM-1000 Metallographic Mounting Press

Mold diameter plus	Standard $\Phi 30\text{mm}$ (Optional $\Phi 22\text{mm}/\Phi 45\text{mm}$)
Heat exchanger insert	$\Phi 22\text{mm}/\Phi 30\text{mm}$ power:450W、 $\Phi 45\text{mm}$ power : 650W
Embedded temperature range	0 ~ 200 °C adjustable
Temperature display	Set temperature and actual temperature led display
Mosaic time range	0 ~ 30min
Cooling mode:	Air
Pressurization mode	Manual
Power Supply	AC220V 50HZ

LHM-2000W Automatic Metallographic Mounting Press

- 1. Human machine interface and PLC control, the system is stable and reliable.
- 2. The motor closed-loop control is used to pressurize the inlay, with stable and reliable pressure and low noise.
- 3. Efficient heating / cooling system, maximizing heat transfer and cooling, and realizing rapid circulation. The preheating function maintains the constant standby temperature of the equipment, reduces the heating time and shortens the sample preparation time.
- 4. The touch screen displays the operation interface, with simple operation and convenient and intuitive parameter setting.
- 5. Built in storage of 99 sets of mounting processes (save mounting materials and other parameters), one of which can be called at any time to meet specific requirements.
- 6. One key start automatically completes the sample preparation process.
- 7. USB interface, mounting process parameters are imported and exported through U-disk.



Mold diameter	Standard $\Phi 30\text{mm}$ (Optional $\Phi 22\text{mm}/\Phi 45\text{mm}$)
Heater	power: 560W
Mounting temperature range	0 ~ 200°C Adjustable
Temperature display	Led touch screen
Mounting time range	0 ~ 30min
Cooling mode:	Water cooling (optional chiller)
Pressurization mode	Automatic (motor loading)
Mounting program	Editable mounting process library, which can store 99 sets of mounting processes
Mounting process input and output	USB drive
Working mode	Automatic and manual can be switched
Total power	1000W
Power Supply	AC220V 50HZ
Overall dimensions	530 × 430 × 410mm
Weight	66 Kg

Automatic Hot Mounting Press

IHM-4000 Automatic Mounting Press

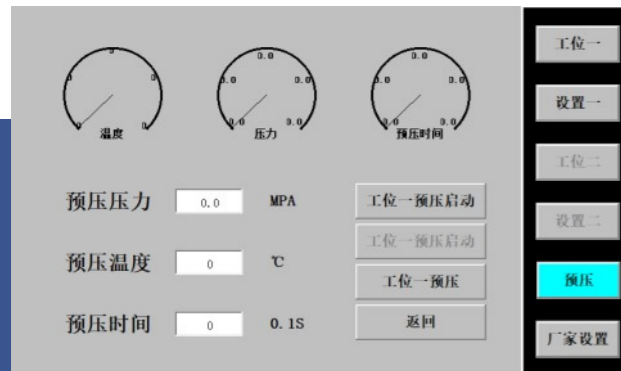
- 1. Automatically cover the upper mold, remove the upper mold automatically, and eject the sample automatically.
- 2. Built in storage of 99 sets of inlay processes (saving parameters such as mounting materials), there is always one process that meets specific requirements.
- 3. Efficient heating/cooling system, maximizing heat transfer and cooling, achieving rapid circulation.
- 4. In order to prevent the sample from being deformed or crushed by compression, a pre compression function is built-in, and the pre compression pressure, temperature, and time can be set.
- 5. The electric hydraulic system is loaded with high pressure and stable reliability.
- 6. USB interface, embedding process parameters are imported and exported through a USB flash drive.
- 7. Automatic circulating cooling device with refrigeration function (optional).
- 8. Combination of two or more mounting workstations (optional).
- 9. Automatic and quantitative addition of components for mounting materials (optional).
- 1) Automatic quantitative addition of mounting materials.
- 2) The amount of addition can be set and automatically controlled.



IHM-4000



Various hot mounting consumables



Control interface

Cold Mounting Press

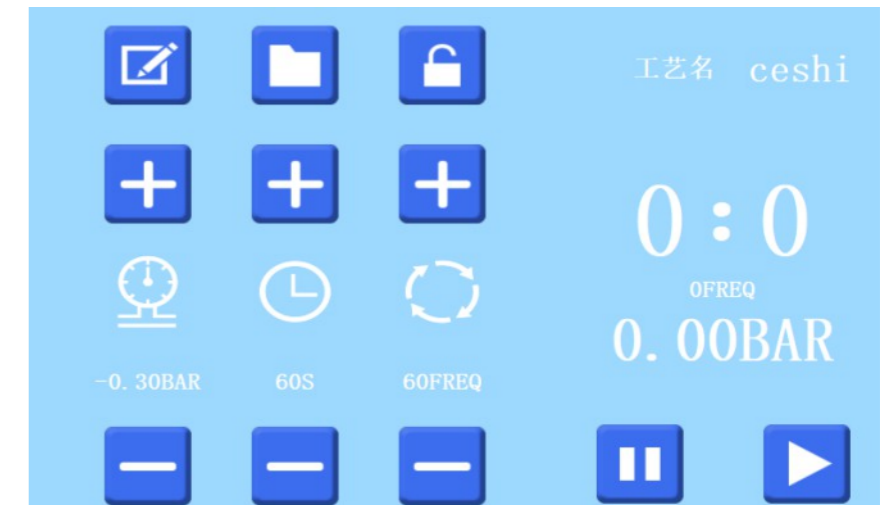


VM-3000S Vacuum Cold Mounting Press

VM-6000 Vacuum Cold Mounting Press



Efficient bubble removal



VM-6000 touch screen operation interface

Model	IHM-4000
Mold diameter	Standard configuration: Φ 30mm (optional Φ 25mm/ Φ 40mm/ Φ 50mm) Customizable: 1in / 1.25in/1.5in
Number of mold sets (including double sample separator)	1 set
Mounting program	Programmable mounting process library, which can store 99 sets of mounting processes
Program input / output	USB drive
Heater	2000W
Maximum number of samples	2
Mounting temperature range	0~200°C Adjustable
Mounting time range	0~30min
Pressure range	0-6MPa Adjustable
Minimum total mosaic time	6 minutes (Φ 30 samples); About 8 minutes (Φ 50 samples)
Pre-loading function	The preloading pressure, temperature and time can be set
Pressurization mode	Automatic (electro hydraulic system)
Cooling mode:	Automatic water cooling (optional with chiller), solenoid valve control
Operation and display mode	Touch screen operation and display
Maximum power	2200W
Power Supply	AC220V 50HZ
Cavity height	60mm
Overall dimensions	680×570×530mm
Weight	90Kg
Other	/

VM-3000S

1. Quickly reach high vacuum (-60kpa)
2. Vacuum degree digital display and automatic control. After reaching the set vacuum value, the automatic vacuum pump will automatically stop, and after the vacuum drops to a certain value, the vacuum pump will automatically start;
3. Large volume and transparent vacuum chamber;
4. Built in vacuum pump, low noise, no oil, no pollution, no maintenance
5. The embedded sample and the embedded material can be evacuated in advance;
6. Using the rotating cup holder in the vacuum container, multiple samples can be poured into the mold at one time in vacuum for vacuum mounting;
7. Special air release valve, which can implement multiple circulation air extraction and air release mounting process.
8. It is equipped with a timer. After the mounting is completed, the pressure will be released automatically.

VM-6000

1. One key to complete the whole mounting process such as vacuuming, maintaining vacuum and bleeding cycle;
2. Process parameters such as vacuum degree, vacuum holding time, bleeding, and cycle times, mounting completion reminder can be set;
3. 999 sets of process parameters, set according to different materials and samples, password protection, easy to call;

Model	VM-3000S Vacuum Cold Mounting Press	VM-6000 Vacuum Cold Mounting Press
Number of mounting samples	> 10 pieces (in case of mounting mold with diameter of 30mm)	
Vacuum chamber size	300Lx 300W x 300H mm	
Maximum vacuum	-0.06MPa(-60KPa)	
Pumping time	Less than 1 minute	
Mold	Applicable to various shapes of molds: 20, 40, 50mm in diameter, or rectangular molds, or disposable molds	
Overall dimensions	container: 300Lx 300W x 300H mm	host : L230×W300×H230mm
Power Supply	220V , 50/60Hz , 200W	
Weight	Vacuum chamber: 1.15kg main cabinet: 10kg	

Cold Mounting Press

Pressure Cold Mounting Press

Pvm-1000 full-automatic pressure cold inlay machine adopts PLC control, high-strength pressure cooker and built-in air pump to complete the whole inlay process of multiple pressurization, pressure maintenance and air release with one key. It is a special inlay equipment designed for the special requirements of cold inlay.

Using this equipment, without changing the physical and chemical properties of the resin, the bubbles and pores in the embedded sample can be greatly reduced, providing the best effect for subsequent sample polishing and microstructure analysis.



Production of various supporting consumables



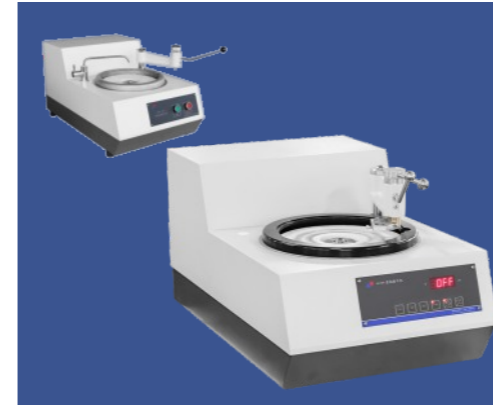
PVM-1S Pressure Cold Mounting Press

PVM-1000 Pressure Cold Mounting Press



Model	PVM-1S	PVM-1000
Mounting mode	Mounting under pressure	
working pressure	0.2MPa	
Maximum air supply pressure	0.6MPa	
Sample chamber diameter	200mm	
Overall dimensions	Container:L300×W400×H300mm Controller:L320×W300×H230mm	
Cooling mode	air	
Pressurization mode	Manual	
Power Supply	AC220V 50HZ	
Overall dimensions	310×300×400mm	
Weight	Pressure vessel: 8kg main cabinet: 10kg	

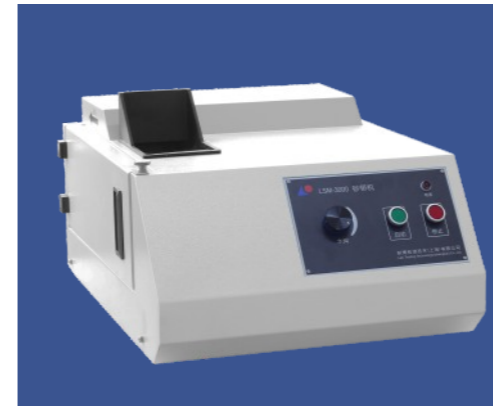
Metallographic Pre-grinding Machine



LAD-250/LAD-250V Grinding Wheel Grinding

1. Use cooling water during grinding to prevent samples from being hot and free of dust;
2. Self equipped diamond correction pen
- When the surface of the grinding wheel is uneven, it can be easily trimmed into a plane
- When the grinding wheel is not sharp, improve the sharpness of the grinding wheel
3. Four common speeds, each speed can be set by the user to realize stepless speed regulation (only lad-250v has the function)

Grinding wheel size	250*30*32mm
Electric machinery	Rated power: 750W rated speed: 1400R / min (variable frequency control speed adjustable range: 100-1400r / min)
Speed	1400r/min; Stepless speed regulation 100-1400r/min-onlyLAD-250V
Power Supply	AC380V 50HZ(LAD-250) AC220V 50HZ(LAD-250V)
Cooling	Water cooling
Overall dimensions	730*420*360mm
Weight	70kg



LSM-3000 Belt Grinding Prototype

1. Simple operation, weak current, safe and convenient.
2. Fully enclosed shell, easy to clean, motor isolation, and prevention of wear and debris erosion.
3. There is a cooling device, which can prevent the dust from injuring the human body and burning the workpiece during use.
4. Stable operation, automatic deviation correction of sand belt, not easy to deviate.

Roller Spacing	310mm
Sand belt	Perimeter:920mm Width:100mmStandard60#
Belt surface velocity	790m/min
Electric machinery	550W 1400r/min
Power Supply	380V 50HZ
Cooling system	City Water Cooling
Overall dimensions	690*520*355mm
Weight	49KG



LAP-1E Two speed

1. One machine can be used to complete the grinding and polishing of metallographic samples.
2. Two gear constant speed switching, simple and convenient operation
3. The rotating water pipe can rotate to adjust the water flow.
4. The equipment has low operating noise and the grinding plate is flat.

Millstone diameter	Standard Φ230mm(OptionalΦ203mm)
Millstone speed	V1=500r/min、V2=1000r/min(Customizable)
Power Supply	0.37KW
Motor power	AC380V 50HZ(AC220Customizable)
Overall dimensions	680x360x340mm
Weight	37Kg



LAP-2E Two speed

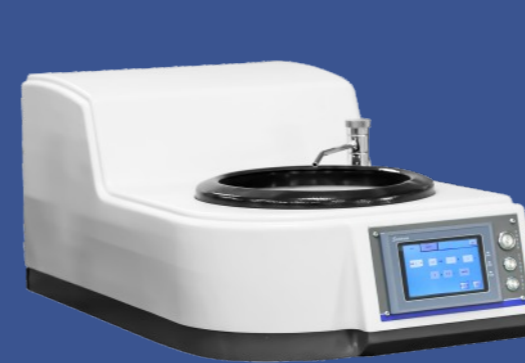
1. One machine can be used to complete the grinding and polishing of metallographic samples.
2. Two gear constant speed switching, simple and convenient operation
3. The rotating water pipe can rotate to adjust the water flow.
4. The equipment has low operating noise and the grinding plate is flat.

Millstone diameter	Standard Φ230mm(OptionalΦ203mm)
Millstone speed	low speed V1=300r/min、V2=500r/min high speed V1=600r/min、V2=1000r/min
Power Supply	0.37KW
Motor power	AC380V 50HZ(AC220 Customizable)
Overall dimensions	680x360x340mm
Weight	37Kg

Polishing Machine - Common Type



Polishing Machine - Advanced Type



LAP-1S



LAP-2S/SE

■ LAP-2MV Double Millstone and Double Control (Desktop) LAP-2CV Double Millstone and Double Control (Cabinet Type)

- Two grinding discs, independent motor, independent control
- Eight common speeds, each speed can be set by the user to realize stepless speed regulation;
- Anticlockwise / clockwise, one key switch, follow the habits of operators
- The rotating water pipe cooling can rotate the direction and adjust the water flow
- The equipment runs smoothly and has low noise

Millstone diameter	StandardΦ230mm(OptionalΦ203mm)
Millstone speed	Left millstone: V1=150, V2=300, V3=600, V4=800 (Settable 100-1000r/min) Right millstone: V1=300, V2=500, V3=800, V4=1000 (Settable 100-1000r/min)
Rotation direction	Counterclockwise / clockwise, one key switch
Power Supply	AC220V 50HZ
Motor power	0.75kw X 2
Overall dimensions	670×710×340mm
Weight	52Kg

Product Features

- PLC control: all grinding and polishing parameters such as rotation speed, grinding and polishing time, rotation direction, water valve closing, etc. are automatically saved and easy to call;
- Touch screen interface: grinding and polishing parameters are easy to set, the status display is intuitive, and the operation is simple;
- Four gear manual mode;
- Eight sets of automatic modes;
- The parameters of each mode are set by the user; Stepless speed regulation setting can be realized for each grinding and polishing step;
- The water drop position can be adjusted by rotation, the water flow can be adjusted, the grinding and polishing start and end, and the water can be automatically turned on and off;
- The equipment runs smoothly and has low noise;
- It can connect and control the polishing liquid dripper (optional).



Model	LAP-1S	LAP-2SE	LAP-2S
Station	1	2	2
Function	Automatic payment	Simple version	Automatic payment
Electrical Machinery	High power motor 1kW		
Operation Mode	single motor	single motor	Dual motor
Plc	DELTA		
Working Disc Diameter	Φ254 (Φ200 , Φ230 , Φ300)		
Speed	5-1500r/min		
Program	custom		
Four Speed Manual	V1=200r/min, V2=400r/min, V3=600r/min, V4=800r/min		
Automatic Process	64 processes, each of which includes: speed, time, and direction of grinding disc rotation.		
Common material sampling process	12 sample making processes for materials such as steel and iron, with a maximum of 10 steps for each material		
Power	AC220V		
Size	670 x 470 x 360mm	760 x 730 x 360mm	
Weight	28kg	38kg	

Fully Automatic Grinding and Polishing Machine



LAP-1000



LAP-2000SN

Fully Automatic Grinding and Polishing Machine



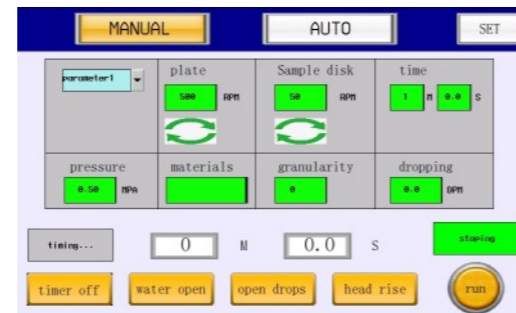
LAP-1000X



LAP-2000SC

Product Features

- 1.6 samples, independently pressurized.
- PLC independently controls the grinding and polishing disc and sample disc: speed, grinding and polishing time, rotation direction, water valve closing and all grinding and polishing parameters Number, and automatically save, easy to call;
- Touch screen interface: grinding and polishing parameters are easy to set, the status display is intuitive, and the operation is simple;
- The rotation of grinding disc and sample disc is stepless, and the rotation direction can be switched. PLC controls the on-off of water and abrasive dripper.
- 5.3 working modes:
 - 1) Full automatic mode: According to the sample material or user's habits, it can be set and called: 30 sets of processes (processes), each process can contain 10 Step process parameters (for each step of grinding or polishing process, the process parameters: grinding disc and grinding head rotation speed, grinding and polishing Time...)
 - 2) Single operation mode: According to each grinding and polishing process, 30 process parameters can be set and called: grinding disc and grinding head rotation speed, grinding and polishing time Water on / off
 - 3) Manual mode: Operate a certain function of the equipment separately
- Self equipped four channel automatic dripper (option):
 - 1) The main machine of the grinding and polishing machine controls the four channel dripper, and the type and speed of drips are controlled by the grinding and polishing machine Command issued by the machine
 - 2) There are three working modes of the dripper: manual, online and automatic
 - 3) Connect with the polishing machine and drip according to the grinding and polishing parameters set by the grinding and polishing machine; Each The modes can be set independently: dripping speed and dripping time
- The USB flash disk stores 300 processes, which can be imported and exported;
- The grinding head is electromagnetically and automatically locked, which is more convenient to replace the manual grinding head locking wrench;
- Easily replace the magnetic anti sticking disc, and you can complete the rough, fine grinding and rough
- For all processes such as fine polishing, one disk is equivalent to n disks.
- Chinese / English interface switching.
- Mobile terminal remote control operation (option).



Three working modes



Three working modes

Mobile terminal remote control operation(option)

Model	LAP-1000 Grinding and Polishing Machine (Multi-point Pressurization)	LAP-2000SN Grinding and Polishing Machine (Multi-point Pressurization)
Station	Single millstone	Double millstone
Working disc diameter	Standard configuration Φ 254MM (optional Φ 230mm/ Φ 203mm) with magnetic conversion disk system	
Speed	15-1500r/min steering forward and reverse can be switched	
Sample disk speed	30-200 RPM steering forward and reverse can be switched	
Manual mode	30 groups of parameters can be selected, and each group of parameters can be set and called respectively	
Automatic mode	30 sets of processes (processes), each of which contains 10 process parameters (automatically from process 1 to process 10, each process has an independent set of parameters)	
Sample tray	Standard configuration Φ 30mm six hole (optional) Φ 20 six holes Φ 40 six hole Φ 50mm three holes, others can be customized)	
Locking mode of grinding head	Electromagnetic automatic locking	
Working air supply pressure	Not less than 0.6MPa	
Motor power	0.75Kw	
Power Supply	AC220V , 50/60Hz , 2KW	
Overall dimension (L * W * H)	760 x 470 x 700	760 x 730 x 700
Weight	63kg	74kg

Product Features

- Center loading method, fix six samples at one time, complete all grinding and polishing processes, and ensure that the grinding throws out the complete plane of each sample
- Independently control the grinding and polishing disk and sample disk: rotate speed, grinding and polishing time, rotating direction, water valve closing and other all grinding and polishing parameters;
- Touch screen interface: grinding and polishing parameters are easy to set, the status display is intuitive, and the operation is simple;
- The loading force can be adjusted during operation, which is flexible and convenient.
- Use solenoid valve to control the on-off of water.
- It is easy to replace the magnetic anti sticking disk, and can complete all procedures such as rough and fine grinding, rough and fine polishing of various samples. One disk is equivalent to n disks.
- High precision, stable operation and low noise.
- Thickness control of sample grinding layer: precisely control the grinding amount of the sample to the specified position (optional);
- External dropper control: Dropper speed and dropper material of external dropper (optional);



Model	LAP-1000X Grinding and Polishing Machine (Center Pressurization)	LAP-2000X Grinding and Polishing Machine (Center Pressurization)
Station	Single millstone	Double millstone
Working disc diameter	Standard configuration Φ 254MM (optional Φ 203/ Φ 230mm, customizable Φ 304mm) with magnetic conversion disk system	
Grinding disc speed	5-1500 RPM steering forward and reverse can be switched	
Grinding head speed	0-100r/min	
Sample preparation time range	0-9999s	
Loading force range	30-200N	
Loading force mode	Central loading	
Sample holder	Standard configuration Φ 30mm six (optional Φ 40- Φ 50mm four, the rest can be customized)	
Power Supply	AC220V , 50HZ	
Motor power	0.75Kw	
Overall dimension (length * width * height)	760 x 470 x 700	760 x 730 x 700
Weight	63kg	74kg

Fully Automatic Grinding and Polishing Machine



LAP-1000S



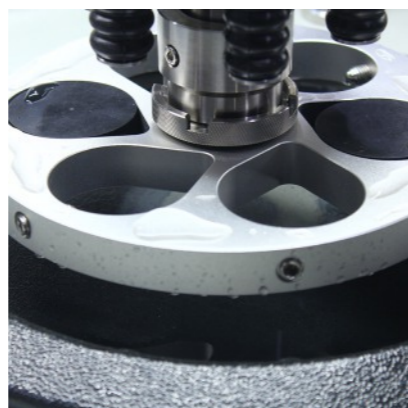
LAP-2000S



Four station drip (optional)

Product Features

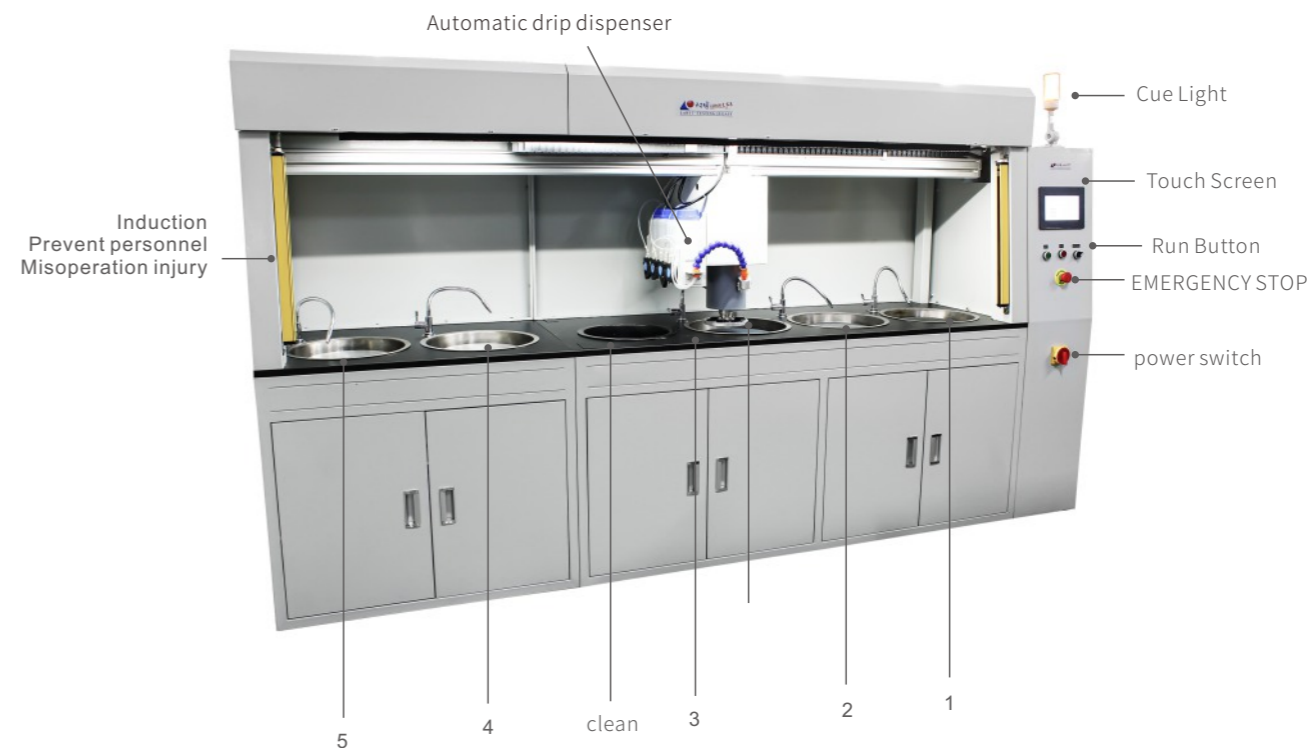
- LAP-1000S/LAP-2000S fully automatic single and double disc metallographic polishing machine, supporting:
 - Multiple samples loaded independently
 - Load the center of the sample disk, fix six (8 samples can be customized) samples at once, complete the entire grinding and polishing process, and ensure the complete plane of each sample is ground out
- Grinding and sample tray: Set and operate all grinding and polishing parameters such as rotational speed, grinding and polishing time, rotation direction, water valve closure, etc., and automatically save and facilitate calling;
- Adopting PLC+1KW high-power motor
- Using two independent 1KW high-power motors (LAP-1000S as a single motor) with high torque, regardless of speed, the torque is large and constant;
- Wide speed range, from 5 rpm to 1000 rpm (maximum of 1500 rpm);
- The turntable can start and stop quickly, and it can stop rotating within 2 seconds;
- All grinding and polishing parameters, such as rotational speed, grinding and polishing time, rotation direction, and water valve closure, will be automatically saved and easily accessed;
- Imported PLC brand, reliable quality;
- Touch screen interface, convenient for setting grinding and polishing parameters;
- 10.4 working modes:
 - Full automatic mode: According to the sample materials or user habits, 99 sets of processes (processes) can be set and called, each set of processes can contain 10 steps of process parameters (process parameters for a certain grinding or polishing process: grinding disc and grinding head rotation speed, grinding and polishing time...)
 - Single process mode: According to each grinding and polishing process, 30 process parameters can be set and called: grinding disc and grinding head rotation speed, grinding and polishing time, water on/off
 - According to the prepared material mode: Select the corresponding grinding and polishing process parameters based on the type of sample material
 - Manual mode: Operate a specific function of the device separately
 - Store 100 processes that can be imported or exported;
 - Sample grinding layer thickness control: Accurately control the amount of sample grinding to the specified position (optional);
 - Comes with 4 or 6 channel automatic dripper (optional):
 - The main machine of the grinding and polishing machine controls the four channel droplet dispenser, and the variety and speed of the droplets are issued instructions by the grinding and polishing machine
 - There are three working modes for the drip dispenser: manual, online, and fully automatic
 - Connect with the polishing machine and drip according to the polishing parameters set by the polishing machine; Each mode can be independently set: drip speed, drip time
 - The electromagnetic automatic locking of the grinding head replaces the manual grinding head locking wrench, making it more convenient.
 - By easily replacing the magnetic anti stick disc, all processes such as rough and fine grinding, as well as rough and fine polishing of various specimens can be completed. One disc is equivalent to N discs;
 - Switching between Chinese and English interfaces;
 - Remote control operation on mobile devices (optional).



Quick Change Interface

Model	LAP-1000S	LAP-2000S
Grinding disc	1	2
Grinding disc main motor	1KW	1KW * 2
control mode	PLC	
Pressurization method	Pneumatic multi-point pressurization (individual pressurization for each sample)+electric center pressurization	
Grinding disc diameter (mm)	Φ254 (Φ200 , Φ230 , Φ300)	
Grinding disc speed	5-1500 (r/min)	
Sample disk diameter	160mm customizable, Φ 30mm six hole (optional: Φ 30mm eight hole Φ 30mm six hole Φ 20 Six Holes Φ 40 Six Holes Φ 50mm three hole, or customized)	
Sample disk speed	30-200 rpm steering can switch between forward and reverse directions	
Common material sampling process	12 sample making processes for materials such as steel and iron, with a maximum of 10 steps for each material	
Sample grinding thickness control	Thickness control accuracy of 0.01 millimeters	
Grinding head locking method	Electromagnetic automatic	
Size	760 x 470 x 700	760 x 730 x 700
Weight	63kg	74kg

Fully Automatic Grinding and Polishing Machine



LAPS-3000-6 Fully Automatic Grinding and Polishing System

A fully automatic metallographic sample grinding and polishing system with multiple workstations, LAPS-3000-6 is a six station system. Multiple (6-8) samples on the sample holding plate are automatically completed in one go through multiple processes such as grinding, polishing, and cleaning; The entire grinding and polishing process is automatically and regularly sprayed with cooling water and intelligently added with grinding and polishing fluid. To achieve convenience, speed, efficiency, and unmanned completion of the entire metallographic sample preparation process.

model	LAPS-3000-6
control mode	PLC
Workstation	6
Grinding disc main motor	1KW*5
Number of cleaning workers	1
Grinding disc diameter (mm)	254 (optional \$200, \$230\$300)
Grinding disc speed	5-1500 (r/min)
Grinding disc rotation direction	Optional counterclockwise/clockwise, automatic switching between forward and reverse
Sample disk diameter	160mm, customizable
Sample disk sample aperture	30mm Six Holes (optional: p30mm Eight Holes, 30mm Six Holes, O20 Six Holes, H40 Six Holes, 50mm Three Holes, or customized)
Pressurization method	Multi point pressurization (each sample is pressurized separately); Center pressurization (optional)
Center pressure	300N
Single sample pressure	(1-40N) × 6, (1-60N) X8 (optional)
Sample disk speed	30-200 rpm
Sample disk rotation direction	Optional counterclockwise/clockwise, automatic switching between forward and reverse
Manual mode	30 sets of parameters can be selected, each set of parameters can be set and called separately
Automatic mode	99 sets of processes, each containing 10 steps of process parameters (automatically from process 1 to process 10, with each step having an independent set of parameters)
Common material sampling process	12 sample making processes for materials such as steel and iron, with a maximum of 10 steps for each material
Dropper	One channel, controlled by a grinding and polishing machine; Can connect to 6 channels (optional)
Source	AC220V
Size	1600x700x1500
Weight	150kg

Supporting Equipments



DSU-1 Automatic Digital Dripper

Infusion speed: about 20 drops / minute to 300 drops / minute for the Standard Version (meeting 90% of customer needs)
The optional version is about 0 drops / minute -300 drops / minute
Maximum flow: 13.5 ml / min
Drip speed: Ten gears, adjustable
Power supply: AC single-phase 220V



DSU-4 Four-channel Automatic Digital Dripper

1. Four channels are set separately and work at the same time
2. Connect with the polishing machine and drip according to the grinding and polishing parameters set by the grinding and polishing machine
3. Three working modes:
-Manual
-Online
-Fully automatic
4. Each mode can be set independently: dripping speed and dripping time
5. Automatic cleaning dropper
6. Larger or smaller drop speed, customizable
7. It can be easily expanded into 6 channels or 8 channels
Infusion speed: about 6 drops / min -280 drops / min
Maximum flow: 18 ml / min
Speed regulation: stepless speed regulation, from 6 drops / min to 280 drops / min
Power supply: AC 220V, 10W



LDB-2 Sample Dryer

1. 1600W power adjustable heating unit heats the air flow to 90 and the power is continuously adjustable; The temperature of cold and hot air can be adjusted;
2. The sample table is made of 140*190mm stainless steel, which can process more than 20 samples with a diameter of 30mm at most at one time;
3. Timer value display, simple and convenient operation;
4. The tilt angle of the sample rack can be adjusted according to needs, so as to improve the drying effect.

Sample table size 140*190mm
Power Supply AC220V 50HZ Rated power 2000W
Overall dimension Path 355 190mm

LDB-1000 Sample Dryer

1. Dry the sample in 5 seconds;
2. Automatically sense the sample in place and start drying; Remove the sample and stop automatically.
3. Cold and hot air options
4. The blowing time can be optional and set from 1 second to 99 minutes;
5. Place it on the sample rack for drying, or hand-held drying.

Sample table size 140*190mm
Power Supply AC220V 50HZ Rated power 1150W
Overall dimension Path 355 190mm

LDB-3000 Sample Dryer



Supporting Equipments



PCH-1000 Sample Fixture for Controlling Grinding and Polishing Quantity

1. The thickness resolution removed by grinding is 0.01 mm
2. Inlay samples with a diameter of 30mm, and samples with other diameters can be customized.



RFW-1000 Water Filtering and Circulating System for Metallographic Grinding and Polishing

When grinding and polishing metallographic samples, tap water needs to be added to the grinding and polishing machine to cool the samples, and the outflow water is discharged into the sewer, causing pollution to the environment; Especially for the sample preparation with radiation samples, the waste water cannot be discharged and must be treated and recycled.

Rfw-1000 metallographic grinding and polishing water filtration and circulation system is used to filter, treat and store particles larger than 0.1 or 0.5 micron through high pressure, and then return to the grinding and polishing machine for reuse.

Parameter

1. Control: manual or online automatic control with grinding and polishing machine
2. Filter particle size: 0.5 or 0.1 micron
3. Filter media: Reusable
4. Water tank volume: 50 liters
5. Source: 220V, 300W
6. Small size, can be placed in the test bench
7. Weight: 38kg

Options

Special test bench for grinding and polishing
Prevent grinding and polishing machines, drippers, etc. on the platform
Water filtration and circulation system is placed under the stage

Electropolishing Etcher



EP-06X Electropolishing Etcher

1. The range of voltage and current is large, which can meet the polishing and corrosion of various materials at the same time;
2. Realize the working mode of constant current and constant voltage;
3. DC 0~100v / 0~6a, current / voltage value can be customized;
4. The voltage and current have rough adjustment and fine adjustment switching functions, which can set the voltage and current values quasi stably;
5. Voltage and current regulation, display accuracy, two decimal places;
6. Low ripple of electrical signal and high stability;
7. Power supply overvoltage, overheating and mains input overvoltage and undervoltage protection;
8. The polishing / corrosion area of the sample can be controlled (the opening diameter of the sample cover is 15mm, 20mm, 30mm);
9. Control polishing / corrosion working time;
10. The mixing device ensures that the polishing / corrosion medium is uniform and the sample surface environment is consistent;
11. The working voltage and current can be input into the computer for further data analysis and Research (options: RS232, RS485, wireless connection, three connection modes, optional communication with the computer).
12. IV-C polarization curve test software, which can control the current and voltage to display the change curve in real time (optional)

working voltage	AC220V 50Hz
Electrolytic output	DC 0~100v / 0~6a, continuously adjustable, digital display power
Voltage and current regulation and display accuracy	Voltage 0.01v/ current 0.001a
Constant temperature range	Normal temperature ~ 100 °C ± 1 °C
Time display	Working hours can be set by yourself
Container capacity	800ml
Cooling system	Cooling coil, external tap water cooling
Size of electric box	two hundred and ninety-two × three hundred and eighty × 120mm
Size of magnetic stirrer	two hundred and forty × one hundred and ninety × 130mm
Total power	900W
weight	15Kg

EP-3000 Electropolishing Etcher

1. The range of voltage and current is large, which can meet the polishing and corrosion of various materials at the same time;
2. Realize the working mode of constant current and constant voltage;
3. DC 0~60v / 0~20a (or 0~100v / 0~12a); The current / voltage value can be customized;
4. The voltage and current have coarse adjustment and fine adjustment switching functions;
5. Accurately and stably set the voltage and current value, adjust and display the voltage and current to two decimal places, voltage accuracy: 0.01V, current accuracy: 0.001a;
6. Low ripple of electrical signal and high stability;
7. Power supply overvoltage, overheating and mains input overvoltage and undervoltage protection;
8. The polishing / corrosion area of the sample can be controlled (the opening diameter of the sample cover is 10mm, 15mm, 20mm);
9. Set and control polishing / corrosion working time;
10. Real time digital display of solution temperature, and automatic alarm when the set temperature is exceeded; Automatically turn on the cooling device (option);
11. The mixing device ensures that the polishing / corrosion medium is uniform and the sample surface environment is consistent;
12. The working voltage and current can be input into the computer for further data analysis and Research (options: RS232, RS485, wireless connection, three connection modes, optional communication with the computer).
13. 12. IV-C polarization curve test software, which can control the current and voltage to display the change curve in real time (optional)

Working voltage	AC220V 50Hz
Electrolytic output	DC 0~60v / 0~20a, continuously adjustable, digital display voltage 0.01V/
Voltage and current regulation and display accuracy	Current 0.001a
Time display	Working hours can be set by yourself
Container capacity	300~1000ml
Cooling system	External tap water cooling
Size of electric box	two hundred and fifteen × five hundred and seven × 460mm
Size of magnetic stirrer	two hundred and seventy × two hundred and thirty × 340mm
Weight	10Kg

Electropolishing Etcher

IV-C Polarization Curve Test Software (Optional)

The IV-C polarization curve test software is for ep-06x and ep-3000 accessories. It can set the voltage and current in the software interface and control the machine work. The working voltage and current data can be input into the computer for further data analysis and research, and provide a basis for determining the best polishing and corrosion parameters of materials.

1. Wireless connection (RS232, RS485 optional) three connection modes are optional to communicate with the computer;
2. According to the set voltage or current increase rate and holding time, and accurately measure the corresponding current or voltage value;
3. High accuracy of current and voltage, accurate to two decimal places;

-The polarization curve can be used to confirm the specific voltage and current of electrolysis or polishing. After generating the curve,

The software shows the best parameters suitable for the corrosion and polishing of the material.

- 1) Polarization curve of sample current voltage;
- 2) Curve of voltage changing with time;
- 3) Curve of current changing with time;
- 4) Curve of temperature changing with time (function of ep-3000);

- 1) Polarization curve of sample current voltage;
- 2) Curve of voltage changing with time;
- 3) Curve of current changing with time;
- 4) Curve of temperature changing with time (function of ep-3000);

The user's computer can directly read all historical data and analyze, archive and print all data.

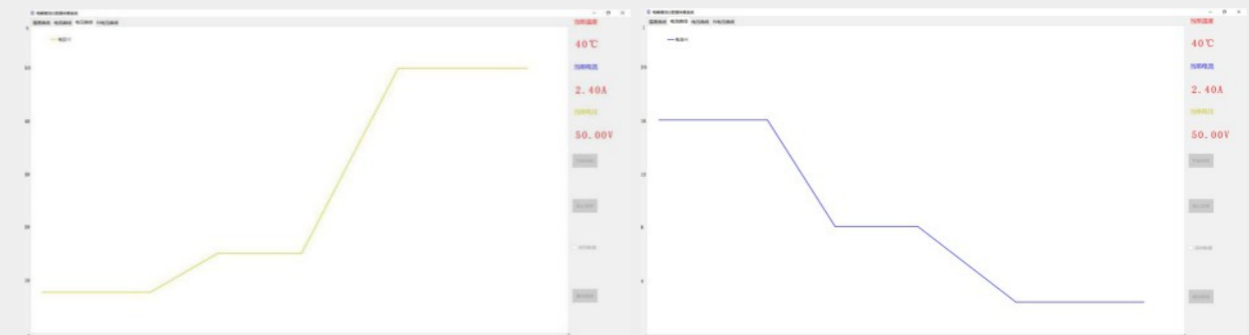
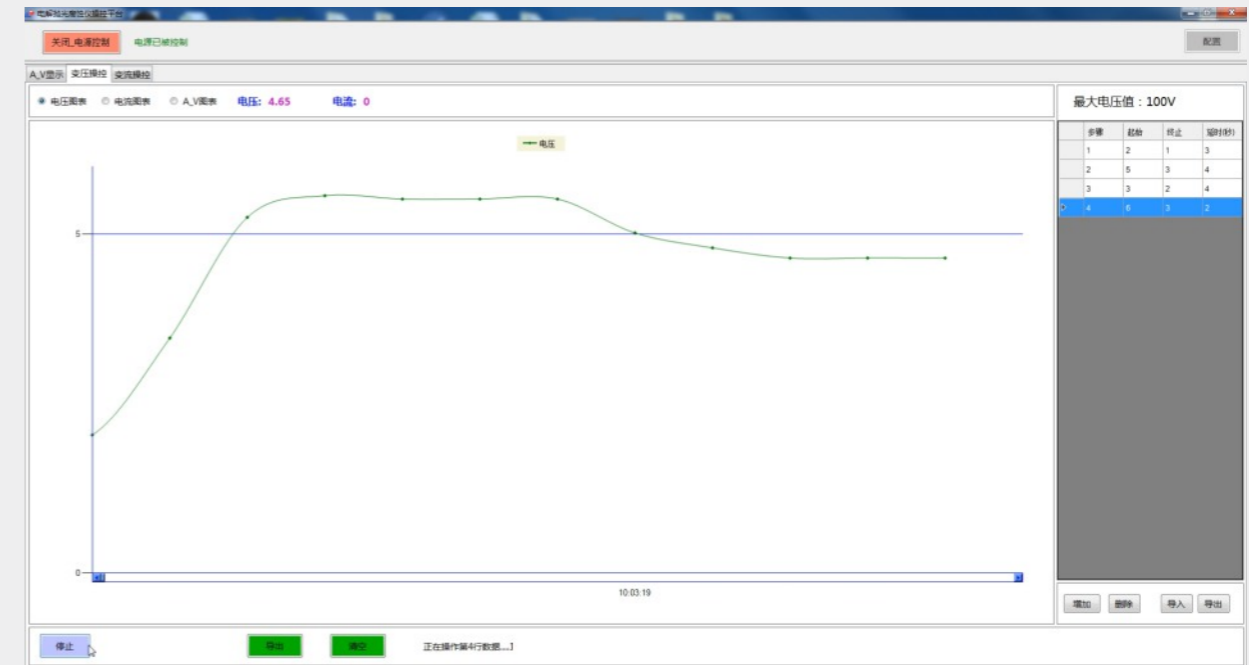
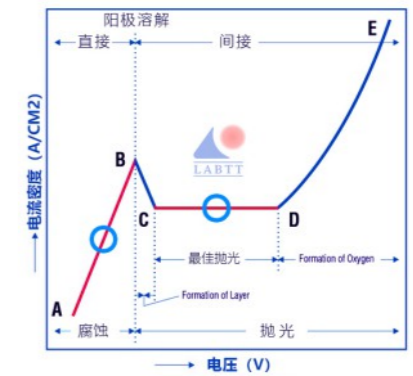


Fig. 1 Voltage versus time curve

Fig. 2 Current curve with time



ICT-4 Intergranular Corrosion Meter

Acid Mist Treatment Cabinet (Customized)

LBM-2000 Intergranular Corrosion Sample Bending Machine

ICT-4 Intergranular Corrosion Meter

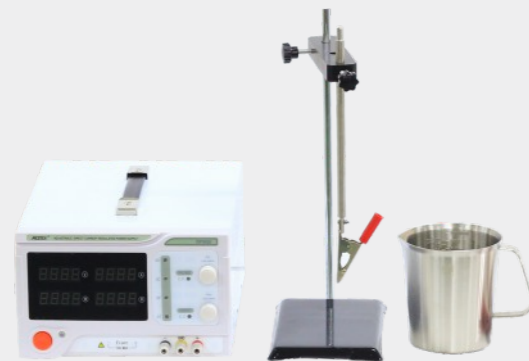
1. Meet the national standard gb/t 4334-2020 (including method a (optional)).
2. PLC and PID control, the water temperature is always controlled at the set temperature to realize the long-term corrosion process under the set temperature, and the system is stable and reliable.
3. Four samples can be corroded at the same time (the number of samples can be customized).
4. The touch screen displays the operation interface, with simple operation and convenient and intuitive parameter setting.
5. Without external water source, circulating cooling water (optional) controls the automatic reflux of hot acid to the beaker to reduce the change of acid concentration.
6. In case of insufficient cooling water or failure, the system will automatically alarm and stop heating.
7. If the glass container breaks, the equipment will automatically detect, alarm and cut off the power supply.
8. If the power is called again after the sudden power failure, the corrosion test will continue, and the corrosion time will continue to count on the time before the power failure.
9. The power of each individual station is 500W, which is controlled independently and easy to operate.
10. The total power of intergranular corrosion meter is 2000W.
11. Between 240 °C -260 °C, the solution is in a slight boiling state, the liquid vapor refluxes, and the liquid vapor is in a dynamic equilibrium state. The maximum temperature can reach 400 °C.
12. Remote mobile wifi real-time monitoring (optional), no need to be on duty.
13. Remote SMS monitoring (option), no need to be on duty.
14. Acid mist treatment cabinet (optional)



Operation interface



Remote monitoring system / remote SMS monitoring (optional)



Intergranular corrosion instrument sensitization test-A method kit ICT-A



Automatic circulating water system ICT-W

LMH-2000 Macrostructure Thermal Etching Device

1. The device performs thermal etching of macrostructure according to gb226-2015 method for acid etching inspection of macrostructure and defects of steel.
2. To check the defects of steel raw materials or forging flow lines;
3. PLC and thyristor are used to control the thermal etching process of macrostructure, the heating temperature is controlled more accurately, and the volatilization of hydrochloric acid is reduced to the minimum, so as to significantly improve the working environment;
4. Automatic liquid level detection, alarm and automatic power off to effectively prevent dry burning;
5. Separate the sediment filter plate to prevent impurities from sinking to the bottom, protect the heater and facilitate cleaning and replacement;
6. The touch screen is adopted, which makes the operation more convenient and the display more intuitive;
7. It has the function of temperature calibration, providing engineering transformation of temperature within 60 °C -80 °C, which is set according to the calibration tool;
8. The acid etching tank is made of special materials, which is resistant to strong acid and high temperature;
9. There is a three-layer sample tray, which can place and process three layers of samples at the same time, and it is convenient for samples to be put in and taken out;
10. The effective space of the etching tank is large and can be customized according to user needs;
11. The acid etching tank has a compact structure and can be placed in the exhaust cabinet to improve the working environment;
12. The power supply and control part are separated from the acid etching tank, which can ensure the corrosion resistance of the whole system;
13. There is a valve for discharging acid, which is easy to discharge;
14. All parts are removable, and the acid etching tank is easy to clean.



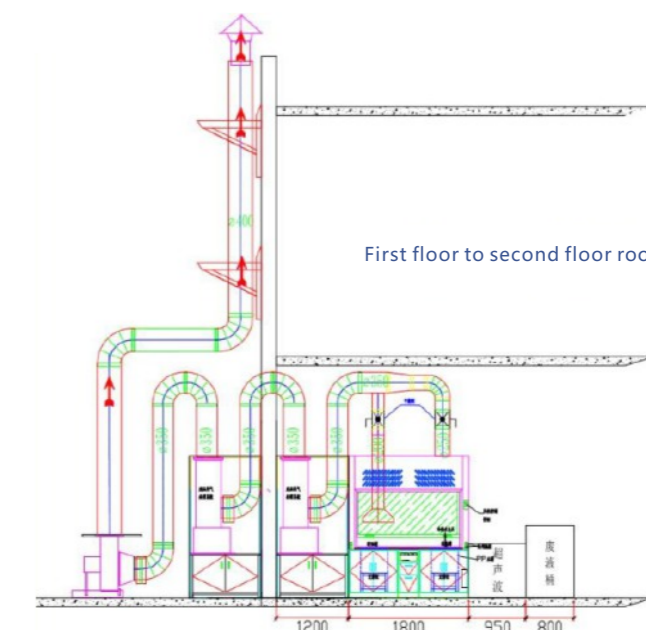
Parameter

1. PLC and SCR control temperature, range: room temperature ~1000c, time: 0 - 99.9 minutes, with time reminder function, temperature error ± 1 °C
 2. The electric heater is directly put into the lower part of hydrochloric acid solution, which is heated evenly and has high efficiency
 3. Standard electric heater power / voltage: 3.0kw/220v, long life, heating power can be customized
 4. Standard etching tank (customizable)
- Overall dimension: 420 x 480 x 580mm (plus cover edge around the other side, edge width: 50mm)
 Effective size: 400 x 400 x 250mm
 Maximum size of sample that can be processed: 400 x 400mm
5. Three layers of sample tray are placed and processed at the same time

■ LME-IIS Macrostructure Electrolytic Etching Device



- 1. Power supply and control:**
 Input voltage: AC 220V
 Output voltage: 0-16v
 Output current: max. 250A
 Maximum power: 5.0 kw
 Overall dimension: 450x400x840mm
 Time control: 0-99 minutes, and the preset time and countdown working time are displayed at the same time
- 2. Electrolytic etching tank:**
 During acid etching, the acid liquid is quickly added to the upper part from the lower storage tank through the acid resistant pump
 In the corrosion tank of;
 After the completion of acid etching, the liquid will automatically return to the storage tank;
 When putting or taking out the sample, there is no liquid in the acid tank, so the operation is safe and convenient
 Overall dimension: length x width x height 620 x 420 x 1030 mm;
 The size of the acid bath can be customized according to the size and quantity of samples checked by the user.
- 3. Sample:**
 Maximum sample size: length x width x height 380 x 310 x 350 mm
 By customizing the size of the acid tank, the maximum sample size requirements of users can be met
 Multiple rows of samples can be placed side by side at the same



■ LME-IIIS Macrostructure Electrolytic Etching Device



- 1. Power supply and control**
 Input voltage: 380V, 50Hz;
 Output voltage: 0-36v;
 Output current: 0-400a (effective value);
 Rated input maximum power: About 16kw;
 Time control: 0-99 minutes, displayed at the same time
 Preset time and countdown working time;
- 2. Electrolytic etching tank**
 During acid corrosion, the acid liquid is quickly added to the upper corrosion tank from the lower storage tank through the acid resistant pump;
 After the completion of acid etching, the liquid will automatically return to the storage tank;
 When putting or taking out the sample, there is no liquid in the acid tank, so the operation is safe and convenient;
 Overall dimension: length x width x height: 1250x780x1110 mm;
 The size of the acid bath can be customized according to the size and quantity of samples checked by the user;
 Acid resistant pump flow: 75l/ min, corrosion tank wall thickness: 20mm;
- 3. Samples**
 Effective size of corrosion groove: length x width x depth 860 * 460 * 420 mm;
 By customizing the size of the acid tank, the maximum sample size requirements of users can be met;
 Equipped with sample carrying frame, size 800*400*380mm;



■ ATC Acid Mist Treatment System

ATC acid mist treatment cabinet is a system specially used in the laboratory, especially when the laboratory is corroded by low-power samples, to pump and neutralize the acid mist generated by corrosion, so as to produce a system that meets the air emission standard. The system is corrosion-resistant and beautiful, and can be customized to put neatly with other equipment and furniture in the laboratory. The system is composed of exhaust cabinet and acid mist neutralization device, which can be integrated with low power acid etching device.

- 1. Exhaust cabinet**
 - 1) The exhaust adopts LCD panel and microcomputer control;
 - 2) The exhaust fan is installed outdoors, and there is no noise indoors;
 - 3) All parts are made of acid resistant materials, which will not corrode after long-term use;
 - 4) Worktop: made of 8mm PP board, acid and high temperature resistant;
 - 5) Cabinet body: made of 8mm thick Porcelain White PP, with excellent acid and alkali resistance. After CNC cutting and processing, the same color and same quality electrode is welded and modified, and the surface is free of acute angles.
 - 6) Water tank with PP: size: 384*285*270mm
 - 7) Acid proof fan, air volume: 10000m³/h;
 - 8) Exhaust cabinet size (mm): 1800 (width) x 850 (depth) x 2350 (height)
 - 9) Size of acid mist neutralization device (mm): 1000 (width) x 850 (depth) x 2350 (height)
 - 9) The low magnification etching device is integrated with the exhaust system (see the right figure);
 - 10) It is equipped with a heating water device to wash the sample in time with hot water (option);
- 2. Acid mist neutralization device**
 When the acid mist caused by low magnification corrosion or other corrosion passes through the device, the acid mist is sprayed from the top to the bottom, and the alkaline water is sprayed from the top to the bottom. The acid and alkali neutralization treatment is carried out on the interface of a large number of Bauer balls, and then after filtration, the acid and alkali free gas that meets the emission standard is discharged outside the room. It includes the following parts:
 - 1) Waste gas tower body
 - 2) Lye tank
 - 3) Sprinkler
 - 4) Circulating pump
 - 5) Ball ball
 - 6) Air inlet and outlet pipes
 - 7) Sodium bicarbonate

End Quenching Testing

JFH-27/27X Special Heating Furnace



1. Six sided heating is adopted, and its temperature control and furnace temperature uniformity reach the international advanced level. Heat treatment in the laboratory, especially at the end Quenching sample heating test and other precision heating applications;
2. The furnace shell of furnace resistance is made of thin steel plate by folding and welding, and the inner furnace lining is a rectangular furnace lining made of six refractory materials;
3. Spiral heating elements made of iron chromium aluminum alloy wire are threaded on the upper, lower, left, right, rear wall of the inner lining and the wire of the furnace door
4. The electric furnace temperature controller is close to the electric furnace;
5. Platinum Rhodium Platinum thermocouple for temperature measurement is inserted through the thermocouple hole behind the furnace.
6. High quality mullite products are lined with reasonable furnace structure, and the translational furnace door with more humanized operation

Rated temperature: 1200 °C (1000 °C -27)
 Furnace form: box type
 Rated power: 10.0 kw
 Temperature control form: SSR PID intelligent instrument
 Heating element: resistance wire
 Heating method: six side heating 1200 °C (27x)
 Heating method: six side heating 1000 °C (27)
 Overall dimension: 850 × nine hundred × 750mm
 Intelligent instrument: high precision temperature control meter, multi-stage programmable automatic control, PID regulation temperature control accuracy.

Communication function: configure RS485 communication interface and communication monitoring software (optional)

Furnace size: 300x300x300mm
 Heating time: ≤ 80 min
 Power supply voltage: 380v/3 Φ
 Temperature control accuracy: ≤ ± 1.5 °C
 Furnace material: mullite products
 Uniformity of furnace temperature: ≤ 3.0 °C
 Weight: 150kg

JFH-10 Special Heating Furnace



Rated temperature: 1000 °C
 Heating method: four side heating
 Heating element: embedded with resistance wire
 Rated power: 4.0 kw
 Temperature control form: SSR PID intelligent instrument
 Furnace form: box type
 Overall dimension: 700*600*400mm
 Temperature control: more than 30 segments can be programmed, and the heating rate can be set
 Uniformity of furnace temperature: ≤ + / - 3.0 °C
 Furnace size: 300*200*140mm (LxWxH)
 Heating time: ≤ 20 minutes, reaching temperature 700 °C
 Power voltage: 220V
 Temperature control accuracy: ≤ ± 1 °C
 Furnace material: mullite products
 Weight: 80kg

End Quenching Testing

EQM-2000 End Quenching Testing Machine



Eqm-2000 series end quenching testing machine meets gb/t225-2006, ASTM A 255, DIN 50191, ISO 642 "end quenching test method for steel hardenability (Jominy test)". It is applicable to the hardenability test of high-quality carbon, alloy structural steel, spring steel, tool steel, bearing steel and other steel grades.

1. The advanced quenching time control system is adopted, which can automatically complete the whole process of quenching and turning off the water pump
- Working cycle;
2. Each station can be controlled manually and automatically independently;
3. It has its own cooling water level alarm. When the water level reaches the set value, the automatic alarm will remind you to add cooling water;
4. Auxiliary heating function (standard 1.0kw, optional 2.0 or 3.0kw), when the ambient temperature is lower than the set value When, the auxiliary heating device will start automatically with the heating instrument of the refrigerator;
5. Temperature control: it can ensure long-term stability under the ambient temperature of 0-50 degrees, which is superior to the national standard;
6. Spray height: each station is adjusted independently, accurate and stable;
7. The relative spatial position of the bottom center of the sample and the nozzle (x/y/z, coaxiality, etc.): adjust respectively The factory debugging has been completed
8. The whole is made of 304 stainless steel.



Model	EQM-2000-2	EQM-2000-4	EQM-2000-6
Number of jobs (PCs.)	2	4	6
Water pump (set)	2	4	6
Spraying time (min)	0-99min(Can be set arbitrarily)		
Nozzle diameter (mm)	12.5		
Water column height (mm)	65+-5(Each water column can be adjusted separately)		
Distance from water column to end face of sample (mm)	12.5+ -0.5 (Adjustable)		
Hole diameter in specimen support (mm)	26		
Rated flow of water pump (L/min)	200		
Cooling water temperature (°C)	20+/-3		
Compressor size (PCS)	1		
Auxiliary heating power	1.0kw(Optional 2.0 or 3.0kw)		
Power Supply	220V/2KW		
Overall dimension (mm)	1150*500*1000		
Weight (Kg)	100		

End Quenching Testing



EQM-3000 End Quenching Testing Machine

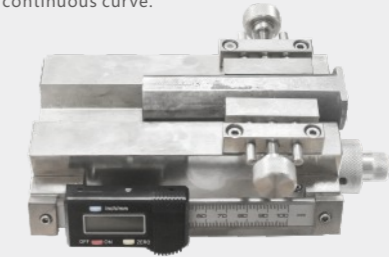
EQM-3000 End quenching testing machine meets GB/T225-2006, ASTM A 255, DIN 50191, ISO 642 "end quenching test method for steel hardenability (Jominy test)". It is applicable to the hardenability test of high-quality carbon, alloy structural steel, spring steel, tool steel, bearing steel and other steel grades.

1. PLC controls the whole process accurately and reliably;
2. Touch screen parameter setting, simple operation;
3. Water spray control mode:
 - 1) Automatic (high sensitivity photoelectric sensor)
 - 2) Manual control (manual on and off).
4. Temperature control: it can ensure long-term stability within 20 ± 3 degrees at an ambient temperature of 0-50 degrees, which is superior to the national standard Standards;
5. Spray height: each station is adjusted independently, accurate and stable;
6. Relative spatial position (x/yl/z, coaxiality, etc.) of the bottom center of the sample and the nozzle: adjust respectively, Convenient and accurate adjustment;
7. The whole is made of 304 stainless steel;
8. It has its own cooling water level alarm. When the water level reaches the set value, the automatic alarm will remind you to add cooling water;
9. Super large auxiliary heating function (standard 1.0kw, optional 2.0 or 3.0kw), when the ambient temperature is lower than the setting Value, the auxiliary heating device will start automatically with the heating of the refrigerator

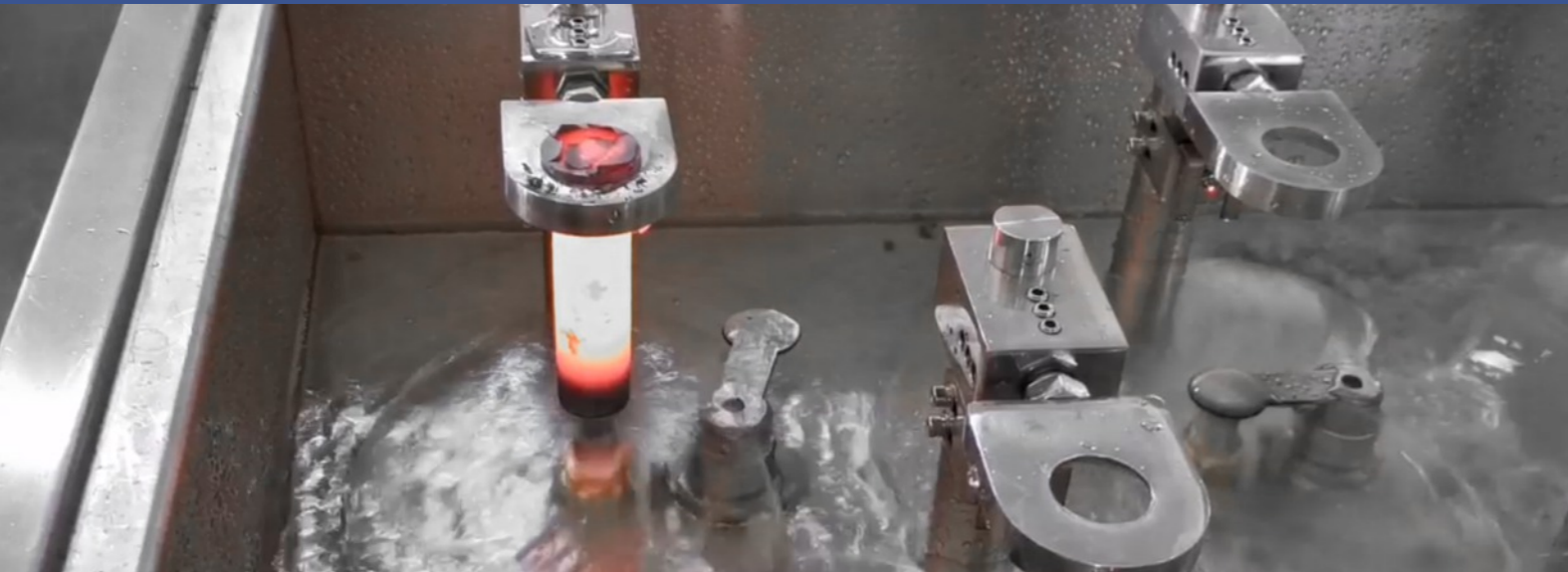
End Quenching Testing

THSR-800J6 Automatic End Quenching Curve Hardness Tester

The principle of the end quenching test is: according to the HRC (or HV30) hardness scale, start from the quenching end of the end quenching sample, and test the hardness values of multiple points at certain intervals along the axis direction. In the coordinate system where the vertical coordinate is the hardness value and the horizontal coordinate is the distance, mark the position of each measurement result, connect each point, and draw a continuous curve.



Manual sample table for end quenching test

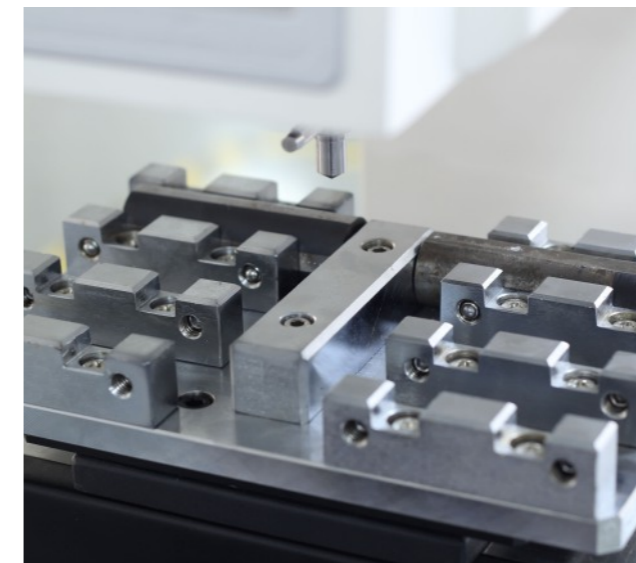


Software interface

Model	THSR-800J1	THSR-800J6
Number of measured samples	1	6
Sample rises automatically		√
Automatic application of initial and main test forces		√
Automatic measurement		√
Automatic X-direction movement		√
Automatic Y-direction movement	×	√

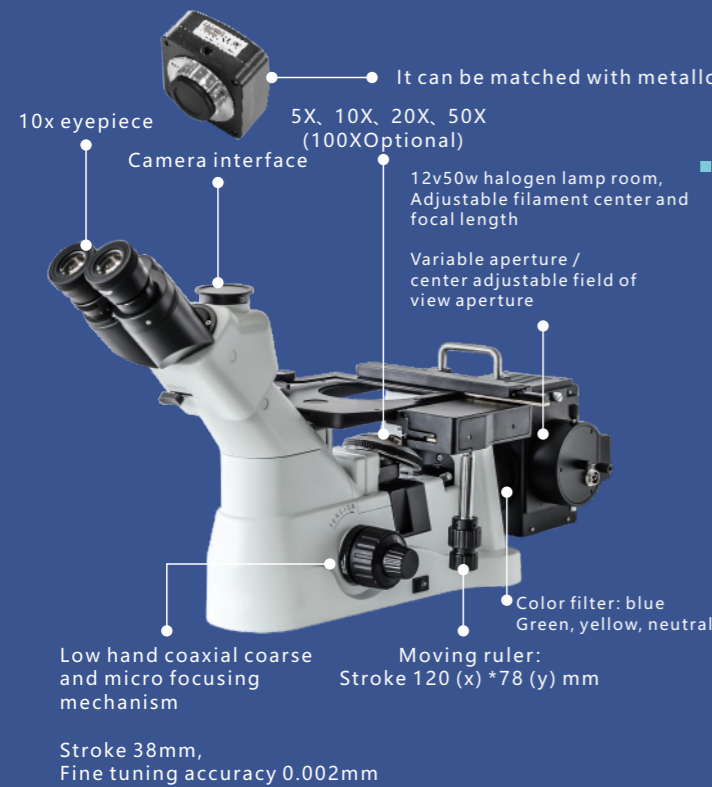


Model	EQM-3000-3	EQM-3000-5	EQM-3000-7
Number of jobs (PCs.)	3	5	7
Water pump (set)	3	5	7
Spraying time (min)	0-99min(Can be set arbitrarily)		
Nozzle diameter (mm)	12.5		
Water column height (mm)	65+-5(Each water column can be adjusted separately)		
Distance from water column to end face of sample (mm)	12.5+-0.5 (Adjustable)		
Hole diameter in specimen support (mm)	26		
Rated flow of water pump (L/min)	200		
Cooling water temperature (°C)	20+/-3		
Compressor size (PCS)	1.5		
Auxiliary heating power	1.0kw(Optional 2.0 or 3.0kw)		
Power Supply	220V/2KW		
Overall dimension (mm)	1472*710*1030		
Weight (Kg)	100		



1. The hardenability curve of up to 6 end quenched samples can be measured automatically at one time. The measurement methods are divided into: General hardenability steel, low hardenability steel;
2. The hardness tester is a digital Rockwell hardness tester with high accuracy, which can be separated from the automatic system and used independently;
3. Automatically generate the user-defined inspection report and draw the hardenability curve of the sample.
4. The z-axis of the workbench will rise and fall automatically, and the x-axis and Y-axis of the sample table will move automatically.
5. The set coordinate points can be saved for automatic end quenching test and batch inspection, which greatly improves the efficiency.
6. Various fixtures can be customized, and different samples can be tested in batches.
7. Powerful data processing functions, including: HR, Hb, HV and other hardness system conversion, setting the qualified range, over limit automatic alarm, and inputting the tester, sample name and other information.
8. For more sample and test information, the measurement data USB flash disk is saved in Excel format, which is convenient for editing and processing.

Inverted Microscope - Common Type



It can be matched with metallographic professional analysis software

M-41X Inverted Microscope

The microscope adopts a semi apochromatic objective lens and an infinite chromatic aberration correction optical system. Its image quality is equivalent to that of imported microscopes, and it is one of the best domestic metallographic microscopes.

1. Total magnification: 50-1000 times
2. Optical system: infinite color difference correction optical system (CSIS), with better image quality, higher resolution and more comfortable observation;
3. Objective: professional metallographic objective with infinite distance and ultra long working distance
The 50x and 100x objective lenses are semi apochromatic, and the image definition is greatly improved
4. Eyepiece: high eye point, ultra wide field of vision flat field eyepiece, p110x/22mm, provides a wider and flat observation space, and can be equipped with various micrometers for measurement;
5. Observation tube: hinged three eyes, adjustable visibility, 45° tilt, capable of photographing, collecting and saving observation images, and configuring computers and professional software to realize image analysis;
6. Focusing mechanism: low hand coarse and fine-tuning coaxial focusing mechanism, with coarse and tight adjustment device, coarse adjustment stroke of 38mm, and fine-tuning accuracy of 0.002mm;
7. Lighting system: reflective Cora illuminator with variable aperture and central adjustable field aperture, adaptive 90v-240v wide voltage, 12v50w imported halogen lamp, effectively protecting and extending the service life of halogen bulb;
8. Stage: coaxial low hand position adjustment moving ruler and stage extension plate can be added to expand the application

Inverted Microscope - Advanced

M-50BD Metallurgical Microscope

- the newly designed infinite optical system, ergonomically capable of 360° rotating binocular observation cylinder and low hand operation mode, meets the user's long-term observation and use.
- newly added eco infrared induction system with environmental protection and economy as the design concept. When the user leaves for a certain time or returns again, the system will automatically turn off the power or turn it on again, saving energy consumption.
- meet a variety of observation methods: bright field, dark field, simple polarization, differential interference, etc., which can be widely used in the research of casting, smelting, heat treatment, raw material inspection or material treatment analysis, as well as food safety assessment, medical research, geological research, etc.



M-45X Inverted Microscope

1. Total magnification (standard configuration): 50-500 times, optional 100 times objective lens (dry), magnification to 1000 times.
2. Optical system: infinite color difference correction optical system, with better image quality, higher resolution and more comfortable observation;
3. Objective lens: long working distance professional metallographic objective lens, providing good resolution and clear image
4. Eyepiece: high eye point, ultra wide field of vision flat field eyepiece, p110x/22mm, provides a wider and flat observation space, and can be equipped with various micrometers for measurement;
5. Observation tube: hinged three eyes, adjustable visibility, 45° tilt, capable of photographing, collecting and saving observation images, and configuring computers and professional software to realize image analysis;
6. Focusing mechanism: low hand coarse and fine-tuning coaxial focusing mechanism, with coarse and tight adjustment device, coarse adjustment stroke of 10mm per revolution, fine adjustment of 0.2mm per revolution, and grid value of 0.002mm;
7. Lighting system: reflective Cora illuminator with variable aperture and central adjustable field aperture, adaptive 100v-240v wide voltage, 12v50w imported halogen lamp, effectively protecting and extending the service life of halogen bulb;
8. Stage: super large working stage, with an area of 210 × 180mm, moving range 50 × 50mm, vernier scale 0.1mm
9. Adjustable field of view light bar and aperture light bar to provide good contrast
10. Polarizing and checking the insert can provide polarizing observation.



Orthographic Microscope



M-40MRT Metallurgical Microscope

1. With excellent imaging performance and comfortable operation experience, m-40mrt provides customers with cost-effective metallographic analysis and industrial testing solutions.
2. The optimized Implan series infinite distance and long working distance metallographic objective improves the level of color difference correction, and adjusts the film system design to further improve the image resolution and color reduction.
3. It can provide bright field, oblique lighting, simple polarization and other observation functions, and bright field images have high brightness, high resolution and positive color restoration; Oblique lighting can highlight the intuitive three-dimensional relief effect.
4. 50x, 100x, 200x, 500x, 1000x (option) (standard configuration 10x eyepiece)
5. The observation tube with the best comfortable angle (30°) can relieve the tension and fatigue of users under long-time working conditions and ensure the best observation state; The scale on the observation tube is convenient for users to adjust the best pupil distance range by themselves.
6. The falling illuminator adopts LED Cora lighting system, with field aperture, aperture aperture and oblique lighting device; Preset polarizer, polarizer and filter slots.
7. Single 5W led warm white light illumination (3000-3300k), compared with similar LED illumination, can minimize the visual fatigue of observers.
8. The excellent condensing system is adopted, with larger numerical aperture and higher brightness, which greatly improves the transmittance of transmitted light.
9. The pull rod device of the field diaphragm and aperture diaphragm, with adjustable center, can flexibly adjust the size of the lighting range, and effectively avoid the influence of stray light on the image.
10. Polarizer and polarizer can realize simple polarizing observation. You can also choose color filters of different colors to obtain ideal observation results according to your needs.
11. The reflection and transmission frame can place samples up to 28mm high. By rotating the screws at the same position in the right figure, the reflection frame can lower the stage by 50mm, so that the maximum sample height can reach 78mm.
12. The random limit device can effectively prevent the sample from touching the objective lens and avoid damage.



M-60DX Metallurgical Microscope

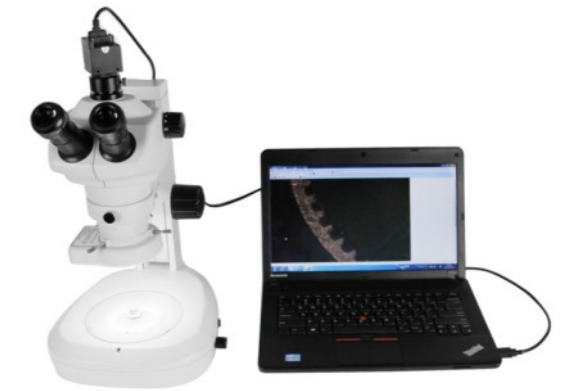
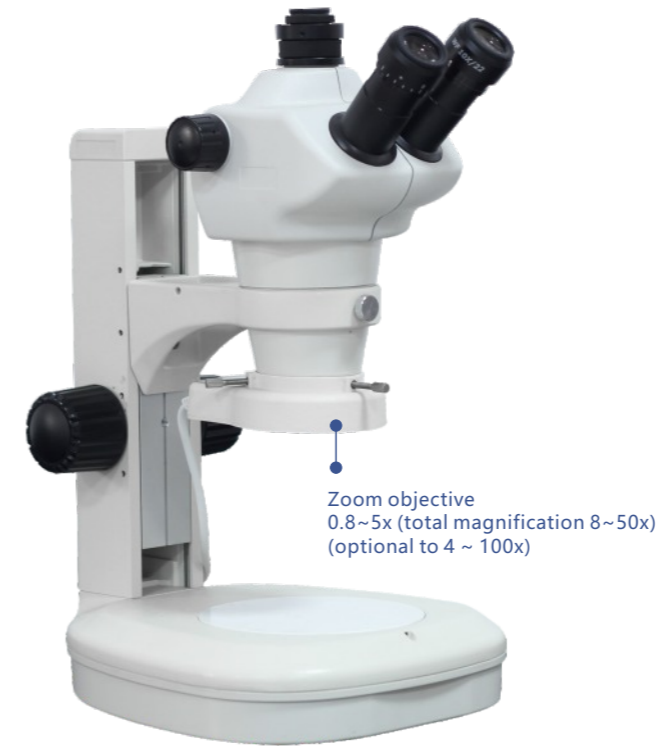
All operations of M-60DX are designed according to ergonomics to minimize operator fatigue. Its modular component design allows free combination of system functions. It covers a variety of observation functions, such as bright field, dark field, oblique illumination, polarization, DIC differential interference, and can be selected according to practical applications. The microscope is specialized in industrial testing and metallographic analysis. It has flexible system combination, excellent imaging performance and stable system structure. The operating mechanisms are designed according to ergonomics to minimize fatigue.



Stereomicroscope

SM645S Stereo Microscope

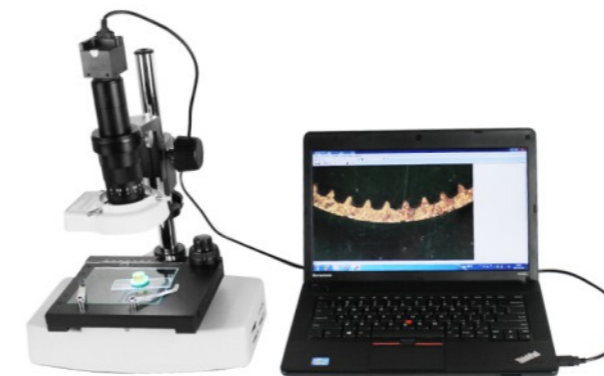
1. Sm645s stereomicroscope is the best microscope among domestic microscopes, which is OEM produced for Nikon in Japan;
2. The stereomicroscope is connected with the digital camera, and the microscopic image can be digitized with high resolution, with a total pixel of more than 3 million pixels. The photos enter the computer system for storage and printing, and can be printed at fixed magnification as required;
3. The computer used can be a notebook computer, which is simple to operate and convenient to carry;
4. The measurement of various image parameters is comprehensive and accurate;
5. The picture ruler can be superimposed on the photo to always determine the magnification and always meet the requirements of the experimental report.



MM-45X Measuring Microscope

1. The zoom microscope has the advantages of convenient zoom, long working distance and high reliability;
2. Magnification multiple to realize step-by-step adjustment;
3. The magnification range is wide, and the zoom microscope can realize at the same time: measuring tooth parameters, counting the number of copper pipe teeth, and measuring the spiral angle;
4. Adopt high-resolution digital camera, with a total pixel of more than 3 million pixels, and the image is clear. Compared with the analog camera, the measurement accuracy can be more than doubled.
5. Measure various geometric parameters of the image, which is convenient and accurate;
6. It is specially customized for specific parts, such as the copper tube industry, which can directly measure all parameters of the tooth, and can count and automatically generate the tooth

Parameter
 Continuous objective: 0.7x-4.5x
 Measurement accuracy: 0.005mm
 Moving range of mechanical stage: X-axis: 75mm
 Y axis: 55mm
 Object field of view diameter: 28mm
 Working distance: 108mm
 Focusing range: 60mm
 Lighting: light source: ring lamp / bottom lamp, brightness adjustable
 Imaging system: dc130 color digital camera
 More than 3million pixels, color, 1/2-inch
 Color, target surface 1/2-inch, progressive scanning
 Plug and play and automatic power control through





M-20D Portable Microscope

1. The microscope base is equipped with a high magnetic two-dimensional mobile base that can turn on and off magnetism, which is made of rubidium iron boron material. Users only need to turn the knob gently to realize on-off magnetic energy, which is suitable for adsorbing various complex workpiece surfaces, such as pipes and planes with various diameters;
2. The field of view can be adjusted in the X-Y plane;
3. The gear type mechanical mobile platform will not slide by itself even if the microscope is placed horizontally;
4. Portable LED lighting, uniform color temperature and clear photography;
5. It can be equipped with a camera to take photos and record pictures directly on site, with accurate magnification;
6. Supporting mechanical / Electrolytic on-site polishing equipment (optional)



LED portable light source and 6V15W halogen lamp, two light sources

objective lens Standard 10x, 40x, one each (optional 20x, 80x)



M-20DS Portable Microscope

1. The microscope base is equipped with a high magnetic two-dimensional mobile base that can turn on and off magnetism, which is made of rubidium iron boron material. Users only need to turn the knob gently to realize on-off magnetic energy, which is suitable for adsorbing various complex workpiece surfaces, such as pipes and planes with various diameters;
2. The field of view can be adjusted in the X-Y plane;
3. The gear type mechanical mobile platform will not slide by itself even if the microscope is placed horizontally;
4. Portable LED lighting, uniform color temperature and clear photography;
5. Supporting mechanical / Electrolytic on-site polishing equipment (optional)
6. Camera configuration, the following four options are available:



Microscope+industrial camera+adapter interface Microscope + SLR + SLR interface Microscope + WiFi camera + adapter interface Microscope + LCD

MIAS3000 Metallographic Analysis Software Professional Edition

Metallographic analysis software is a set of professional computer software system developed for metallographic inspection. Its basic principle is: use hardware equipment such as optical interface and video acquisition to collect metallographic pictures from metallographic microscope, process and analyze the pictures according to metallographic standards, and obtain relevant inspection results.

- The software has powerful functions and complete metallographic standard modules
1. Automatic rating: Based on the metallographic inspection standard, the software has developed more than 100 categories and more than 400 software function modules. See the attachment for the list of software modules. There are three rating methods for this software module: Automatic rating: the software can automatically get the final analysis results; Auxiliary rating: the software can obtain parameters that are related to the analysis results; Comparison and rating: compare the collected sample image with the standard image library, and make the result judgment manually.
 2. Create a new report: The software can automatically generate electronic report documents, and provide the function of saving and printing reports.
 3. Open the report: Open and browse the saved report file.
 4. Geometric measurement: This software provides a variety of measuring tools and methods such as "straight line", "Rectangle", "circle", "polygon", "angle", which can complete the measurement of length, area, angle and so on.
 5. View the Gallery: Users can choose to view all metallographic maps included in this software. The metallographic maps of this software are provided by users and entered by us.
 6. Fixed print: It can load multiple pictures at one time, process them, set explanatory text and print layout, and then generate a report document suitable for the special requirements of various industries.

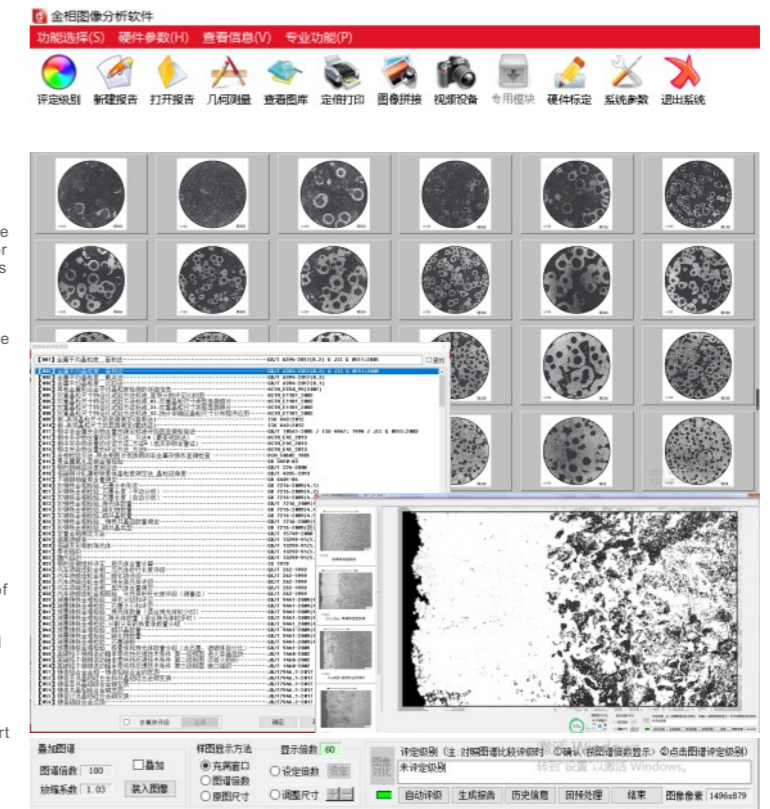
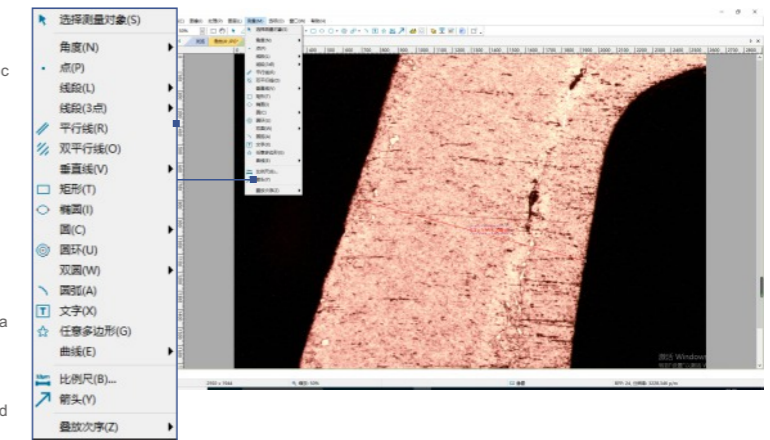


IMAGE3000 Metallographic Analysis Software - Measurement Version

1. System description The system is connected with microscope / stereomicroscope / microhardness tester through digital camera to realize high-resolution digitization of microscopic images, and the photos are entered into the computer system for storage and printing; Metallographic analysis function is complete; The measurement of various image parameters is comprehensive and accurate.
2. Hardware
 1. Digital CCD 3million pixels, color, 1 / 2-inch
 2. A special interface connects the interface between microscope / stereomicroscope / microhardness tester and digital CCD
3. Software
 1. The system is connected with various microscopes, stereomicroscopes or microhardness meters through a special optical interface. After digital CCD conversion, it provides high-resolution color metallographic images with a total pixel of more than 3 million pixels to replace heavy darkroom work;
 2. The image can be quickly transferred to the computer, which can adjust the brightness, contrast and other image processing of the image, and save the image in compressed format;
 3. Measurement of phase content percentage of two-phase or multiphase structure;
 4. Measurement of size and layer depth of various phases;
 5. See the standard list for the rating of common metallographic structures such as the grain size rating of steel and copper;
 6. Customize according to various standard ratings proposed by users;
 7. Measurement of any length, angle and radian;
 8. Add any text mark on the picture, and attach a scale on the picture, and the magnification can always be determined;
 9. Realize fixed size printing or printing at any magnification





Metallographic Consumables



Product pictures	Cutting blade	10 pieces / piece, resin consumable type, suitable for precision cutting of samples	
	HCW125	Φ125×0.5×12.7mm	
	HCW150	Φ152×0.6×12.7mm	
	HCW200	Φ200×1.0×32mm	
	HCW230	Φ230×1.2×32mm	
	Cutting blade	10 pieces / piece, high hardness Nemesis	
	HCW250 LCW250	Φ250×1.5X32/250×2.0×32mm	HCW high hardness nemesis series is applicable to medium and high hardness steel (hrc35-50)
	HCW300 LCW300	Φ300×1.5×32/300×2.0×32mm	
	HCW350 LCW350	Φ350×2.5×32mm	LCW series is applicable to iron-based materials, low hardness steel Annealed steel and non-ferrous materials (copper, aluminum, etc.)
	HCW400 LCW400	Φ400×3.0×32mm	
	Imported diamond cutting blade	Applicable to non-ferrous materials, made in USA ukam	
	DCW100	Φ100 (4inch.) × 0.3 × 22/32mm	
	DCW125	Φ125 (5 inch.) × 0.38 × 12.7(1/2 inch)	
	DCW150	Φ152 (6 inch.) × 0.43 × 12.7(1/2 inch)	
	DCW175	Φ178 (7 inch.) × 0.63 × 12.7(1/2 inch)	
	DCW200	Φ203 (8 inch.) × 0.80 × 22mm	
	Diamond cutting blade	It is used to cut samples of metals and cemented carbide, non-metallic minerals, glass, ceramics, brittle hard and brittle materials with extremely high hardness.	
	DCWA100	Φ100× 0.3 × 12.7mm	
	DCWA125	Φ125× 0.4 × 12.7mm	
	DCWA150	Φ150× 0.5 × 12.7mm	
	DCWA175	Φ175× 0.7 × 12.7mm	
	DCWA200	Φ200 (8 inch.) × 0.9 × 22/32mm	
	DCWA250	Φ254 (10 inch.) × 0.9 × 32mm	
	DCWA300	Φ300X1.5X32mm	
	DCWA350	Φ350X2.0X32mm	
		Cutting coolant lubricant	It is used in conjunction with metallographic cutting pieces to prevent thermal effects on samples, etc
CLL		Replace coolmet of Struers company addun and Buehler company, yellow / green transparent Concentrated solution, 1:20 diluted with water Package: 1l/4l bottle	

Metallographic Hot Mounting Consumables

Cold Mounting Consumables

Metallographic mounting materials are divided into two categories: Hot mounting and cold mounting		
Product pictures	Product code	Hot mounting
	HM1	Common type, black, suitable for ordinary sample preparation Package: 500g/2kg/4kg/18kg
	HM1	Common type, green, suitable for common sample preparation Package: 500g/2kg/4kg/18kg
	HM1	Common type, red, suitable for common sample preparation Package: 500g/2kg/4kg/18kg
	HM2	Conductive type, black, suitable for conductive samples, such as electron microscope and electrolytic polishing Package: 500g/2kg/4kg/18kg
	HM3	Edge retaining type, black, very low shrinkage, closely combined with samples, high hardness, good wear resistance, suitable for samples with high requirements for edges Package: 500g/2kg/4kg/18kg
	HM5	Hot mounting, transparent, suitable for samples with requirements on location, size, layer depth, etc Package: 500g/3kg/4kg/18kg
	HM7	Soluble, transparent, samples can be taken from the inlaid sample block without damage, applicable samples need to be recycled, and samples with requirements for location, size, layer depth, etc Package: 500g/3kg/10kg











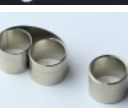
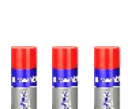


Product pictures	Model	Cold mounting
	CM1	Resin Component: 1000g powder + 800ml liquid Enclosure: Φ 30 cold mounting mold 1 + 40 plastic cups and mixing rods respectively Acrylic, translucent Curing time: 25 °C for 25 minutes Replace acry fix / citofix / durofix-2 of Struers or samplwick of Buehler
	CM1SE	Resin Component: 1000g powder + 800ml liquid Enclosure: Φ 30 cold mounting mold 1 + 40 plastic cups and mixing rods respectively Acrylic, fully transparent Curing time: 25 °C for 15 minutes Replace acry fix / citofix / durofix-2 of Struers or samplwick of Buehler
	CM2	Resin Component: resin 1000ml liquid + 50ml curing agent Enclosure: Φ 30 cold mounting mold 1 + 40 plastic cups and mixing rods respectively As transparent as crystal Curing time: 25 °C for 30 minutes Replace serif of Struers
	CM3	Resin Component: resin 1000ml liquid + 500ml curing agent Enclosure: Φ 30 cold mounting mold 1 + 40 plastic cups and mixing rods respectively Epoxy resin, fast curing, yellow, transparent, odorless Curing time: 25 °C 40 minutes Replace Buehler's powick
	CM4	Resin Component: resin 1000ml liquid + 300ml curing agent Enclosure: Φ 30 cold mounting mold 1 + 40 plastic cups and mixing rods respectively Epoxy resin, very low viscosity, good permeability, completely transparent and odorless. Curing time: 3 ~ 4 hours at 25 °C Replace Buehler's ephotoin or Struers' caldo fix
	CM6	Resin Component: resin 1000ml liquid bottle + 300ml curing agent Enclosure: Φ 30 cold mounting mold 1 + 40 plastic cups and mixing rods respectively Epoxy resin, small shrinkage, less heat, blue, transparent and odorless Curing time: 25 °C 20 ~ 24 hours Replace epoxicure of Buehler company and specifi-20 and epofix of Struers company
	CM7 CM7A	Conductive epoxy King (conductive quick cold mosaic king-CM7A) Standard package: resin 1000ml liquid + 300ml curing agent + 300g conductive material Large package: 4000ml resin liquid + 1200ml curing agent + 1200g conductive material Enclosure: Φ 30 cold mounting mold 1 + plastic cup, mixing rod 40 epoxy resin, Curing time: 25 °C 3~4 hours (25 minutes: CM7A) It is suitable for all kinds of materials, especially electrolysis, electron microscope observation and other conductive applications.
	LC-2000E	Light curing Package: 100ml liquid enclosure: Φ 30 cold mounting mold 1 + plastic cup, mixing rod 40 epoxy resin, Curing time: 1-20 minutes with UV curing machine It is suitable for internal stress sensitive materials, with high transparency, excellent liquidity and no internal stress.



It needs to be used with hot mounting press



Cold Mounting Consumables

Product pictures	Model	Cold mounting mold
	CMM1 CMM2 CMM3 CMM4 CMM5	CMM1 Φ20 Inner height18mm CMM2 Φ25 Inner height18mm CMM3 Φ30 Inner height18mm CMM4 Φ40 Inner height21mm CMM5 Φ50 Inner height24mm 12 / Box Silicone rubber, combined with cold mounting, can be used repeatedly
	CMM6 CMM7 CMM8	CMM6 size: 55×20 Inner height22mm CMM7 size: 70×40 Inner height22mm CMM8 size: 100×50 Inner height22mm 6 / Box Silicone rubber, combined with cold mounting, can be used repeatedly
	CMM9	12 / box Diameter: Φ25 inner height 20mm Material: POM hard, with bottom cover; It can be used repeatedly with cold mounting
	CMM10	12 / box Diameter: Φ30 inner height 25mm Material: POM hard, with bottom cover; It can be used repeatedly with cold mounting
	CMM11	12 / box Diameter: Φ32 inner height 27mm Material: POM hard, with bottom cover; It can be used repeatedly with cold mounting
	CXX1	300 disposable rectangular crystal molds / bag It is 24mm long, 10mm wide and 18mm high. It is made of PS material by injection molding This product is used in PCB factory for metallographic slice analysis and plays the role of carrying slices, It is characterized by high transparency, beautiful and practical, and saves cold mounting
	CXX2	200 disposable square crystal molds / bag Length: 24mm, width: 24mm, height: 20mm, made of PS material by injection molding This product is used in PCB factory for metallographic slice analysis and plays the role of carrying slices, It is characterized by high transparency, beautiful and practical, and saves cold mounting
	CXX3	Disposable round crystal mold (half lattice) 100 pieces / bag The outer diameter is 30mm and the height is 18mm. It is made of PS material by injection molding This product is used in PCB factory for metallographic slice analysis and plays the role of carrying slices, It is characterized by high transparency, beautiful and practical, and saves cold mounting
	CXX4	Disposable round crystal mold (full grid) 100 pieces / bag The outer diameter is 30mm and the height is 18mm. It is made of PS material by injection molding This product is used in PCB factory for metallographic slice analysis and plays the role of carrying slices, It is characterized by high transparency, beautiful and practical, and saves cold mounting
	CLIP1	Sample clip for mounting Made of plastic, thin samples are clamped by two closely contacted circles It is applicable to stand the thin sample vertically to observe the profile during mounting Package: 100 / 500 pieces / box
	CLIP2	Sample clip for mounting Plastic, Ω shaped, three pole support, black / White / transparent It is applicable to stand the thin sample vertically to observe the profile during mounting Package: 100 / 500 pieces / box
	CLIP3	Sample clip for mounting Made of stainless steel, thin samples are clamped through two closely contacted circles It is applicable to erect the thin sample vertically to observe the profile during mounting Package: 100 / 500 pieces / box
	MMR	Mounting release agent Packed in spray cans with nozzles, it can be sprayed evenly on the surface of the mold Suitable for demolding of hot mounting press and cold mounting mold Package: 420ml/ bottle (air tank capacity)
	MMR2	Mounting release agent 200ml/ bottle Bottled liquid, with nozzle, can be sprayed evenly to the surface of the mold Suitable for demolding of hot mounting press and cold mounting mold Package: 200ml/ bottle

Grinding and Polishing Consumables


Product pictures	Model	According to whether there is back glue: with or without, according to the quality classification: imported or domestic, imported is more expensive
	GSC	Abrasive: black silicon carbide water resistant abrasive paper Particle size No.: P60, p80, p120, P180, p220, P240, P320, P400, P500, P600, P800 P1000, P1200, P1500, P2000, P2500, P3000, P4000 Specification: square 230mmx280mm Package: 100 pieces /1 bag
	GSC200 GSC220 GSC230 GSC250 GSC300	Abrasive: black silicon carbide water-resistant abrasive paper, without adhesive on the back Particle size No.: P60, p80, p120, P180, p220, P240, P320, P400, P500, P600, P800 P1000, P1200, P1500P2000P2500, P3000, P4000 Specifications: Φ200/ Φ220/ Φ230/ Φ250/ Φ300mm Package: 100 pieces /1 bag
	GSC200A GSC220A GSC230A GSC250A GSC300A	Abrasive: black silicon carbide water-resistant abrasive paper with adhesive back, which can be directly fixed on the grinding plate Particle size No.: P60, p80, p120, P180, p220, P240, P320, P400, P500, P600, P800 P1000, P1200, P1500, P2000, P2500, P3000, P4000 Specifications: Φ200/Φ220/Φ230/Φ250/Φ300mm Package: 100 pieces /1 bag
	GSC-YS GSC200YS/AYS GSC220YS/AYS GSC230YS/AYS	German Warrior Sandpaper Specification: square 230x280mm/ round Φ200/220/230mm Particle size No.: p80, p120, P180, p220, P240, P320, P400, P600, P800, P1000 P1200, P1500, P2000, P2500, P3000, P5000, P7000 A tape is pasted on the back, which can fix the sandpaper directly on the grinding plate
	DiaP-01/02/0/04	Diamond grinding disc Rough grinding / medium grinding / fine grinding / fine grinding
	GSC-MP	Sand belt of spectrum grinding prototype 100mm wide and 910mm long Particle size: 60# 80# 120# 180# 240# 320# 400# 600# 800#
Classification by abrasive type: diamond, alumina, silicon dioxide; classification by abrasive particle size: from 0.03 μ m to 40 μ m; classification by abrasive carrier: powder, paste, spray, suspension		
	DSP	Diamond Spray Abrasive Polishing Agent Diamond is evenly distributed by pressure injection Particle size: 0.05,0.25,0.5,1,1.5,2.5,3,3.5,5,6,7,9,10,14,15,20,28,40microns, suitable for all kinds of materials Package: gas tank capacity 420ml/ bottle
	DSU	Diamond Suspension Grinding Polishing Fluid Diamond is suspended in liquid and dripped into it by watering can or automatically, with uniform distribution Particle size: 0.05,0.25,0.5,1,1.5,2.5,3,3.5,5,6,7,9,10,14,15,20,28,40 microns, suitable for all kinds of materials Package: 500ml/1000ml/4000ml
	DPA	Diamond Grinding and Polishing Paste Particle size: 0.5,1,1.5,2.5,3,3.5,5,6,7,9,10,14,15,20,28,40 microns Suitable for manual polishing or low hardness samples Package: 5g / piece
	OSP OP-A	Alumina Suspension Grinding Polishing Liquid Particle size: 0.03,0.05,0.25,0.5,1,1.5,2.5,3,3.5,5,6,7,9,10,14,15,20,28,40 microns Applicable to all kinds of polishing machines Package: 500ml/1000ml/4000ml
	OP-S	Silicon Dioxide Polishing Fluid Particle size: 0.02,0.04,0.05 μ m pH value: 9.5 It is applicable to the final fine polishing of samples Package: 500ml/1000ml/4000ml

Grinding and polishing consumables

Metallographic Consumables

Product pictures	Model	
	DPP	Diamond Grinding and Polishing Powder Particle size: 0.05,0.25,0.5,1,1.5,2.5,3,3.5,6,7,9,10,14,15,20,28,40 microns For users to choose carrier for grinding and polishing Package: 100 carats / bag
	ALP ALPF ALPN	Alumina Grinding and Polishing Powder For grinding and polishing Particle size: 0.03,0.05,0.5,1,1.5,2.5,3,3.5,5,6,7,9,10,14,15,20,28,40 microns Package: 500g / 1000g / bottle
	DSPP	Polycrystalline Diamond Spray Abrasive Polishing Agent Through pressure injection, diamond is evenly distributed and suitable for all kinds of materials Particle size: 0.25, 0.5, 1, 1.5, 2.5, 3, 3.5, 5, 6, 7, 9, 10, 14, 15, 20 microns Gas tank capacity: 420ml/ bottle
	DSUP	Polycrystalline Diamond Suspension Grinding Polishing Fluid Diamond is suspended in liquid and dripped by watering can or automatically. It is evenly distributed and suitable for all kinds of materials Particle size: 0.25, 0.5, 1, 1.5, 2.5, 3, 3.5, 5, 6, 7, 9, 10, 14, 15, 20 microns Capacity: 500ml/ bottle
	DPV	Polycrystalline Diamond Grinding and Polishing Powder For users to choose carrier for grinding and polishing Particle size: 0.25, 0.5, 1, 1.5, 2.5, 3,3.5, 5, 6, 7, 9, 10, 14, 15, 20 microns Weight: 100 carats / bag
	SIP	Silicon Carbide Grinding and Polishing Powder For grinding and polishing Particle size: 0.5, 1, 1.5, 2.5, 3.5, 7, 10, 14, 20, 28, 40 microns Weight: 500g / bottle
	CRP	Chromium Oxide Polishing Powder For grinding and polishing Particle size: 0.5, 1 micron Weight: 500g / bottle

Metallographic Polishing Fabric

	FT200/A/C	Polished fabric type: Velvet: long fluffy silk, high-precision steel materials or soft materials such as aluminum, copper and magnesium are polished or polished Flocking: short plush wool material, strong and durable, commonly used in steel materials, electronic industry circuit boards, soft metal polishing Canvas: Lint Free cotton material, used for rough polishing of steel materials Silk: no fluff, used for polishing containing graphite or inclusions Nebu: thickened Navy cloth: Woolen pressing products, used for polishing steel materials Nylon: chemical fiber products, suitable for rough polishing of steel materials Synthetic polymer materials: No fluff, porous, used together with diamond, alumina and silica suspensions, suitable for a variety of materials (especially the final fine polishing of extremely soft materials such as titanium, copper, silver, etc.) (especially polishing carried out at the same time of mechanochemistry) Polished fabric diameter: Φ200mm (for fabrics without adhesive back, its diameter is 240mm or 250mm) Φ230mm (for fabrics without adhesive back, its diameter is 270mm) Φ250mm (for fabrics without adhesive back, its diameter is 290mm or 300mm) Φ305mm is suitable for automatic and semi-automatic polishing machines of struts company Fabric back status: Ordinary: when in use, place it directly on the polishing disc and fasten it with a pressing ring Paste back: when in use, the fabric can be directly fixed on the grinding plate.
	FT220/A/C	
	FT230/A/C	
	FT250/A/C	
	FT300/A/C	A: Adhesive tape C: synthetic polymer

Conversion plate system		
Product pictures	Model	Magnetic plate
	MAGNODISC203	Upper surface: with magnetism, connected with anti sticking disc through magnetism Lower surface: connected with aluminum plate or iron plate on polishing machine / pre grinding machine with non drying viscose Replace Buehler's apexm Diameter: Φ 203/220/230/254/304mm Package: 1 piece / box
	MAGNODISC220	
	MAGNODISC230	
	MAGNODISC250	
	MAGNODISC300	
Anti sticking plate		
	MAGNOMET 203	The surface adopts a special anti sticking coating. You can stick sandpaper or polishing cloth with adhesive backing on this plate, which is easy to replace without leaving residual glue. It can be used repeatedly. This disk is directly used on the magnetic disk of Buehler or strings; It can also be glued on the back, It is used to fix this plate directly on any grinding plate or throwing plate. Replace magnomet and magnopad of Buehler company Diameter: Φ 203/220/230/254/304mm Package: 5 pieces / box
	MAGNOMET 220	
	MAGNOMET 230	
	MAGNOMET 250	
	MAGNOMET 300	
Metallographic polishing lubricating coolant		
	LB (blue) LR (red)	Metallographic polishing lubricating coolant 1l/ bottle Blue is suitable for fine grinding and polishing of all materials Equivalent to Struers' DP blue Package: 1l/4l bottle
Accessories and other items		
	SCM	Plasticine for metallography 200g / bag Green pure plasticine, inelastic, can be used repeatedly, and will not dry or crack after long-term storage
	ACP	AC paper 100 pieces / bag 10mmx10mm, thickness 0.03~0.05mm, For laminating, replica, fracture cleaning, etc
	DTP	Carbon fixing piece 100/ bar Original carbon content: 0.036%; Size: long x wide x Thickness (mm): 150 x fifteen x 0.08mm, With hanging hole
	Disc storage rack	Metal structure, durable and easy to clean There are 10 layers in total, and the distance between each layer is 54 mm It can store grinding discs of 8 inches (203mm), 10 inches (254MM) and 12 inches (305mm) Overall dimension: long x wide x Height: 370 x four hundred and five x 570mm
	SAMPLE-PROT	Sample surface protection solution 50ml / bottle It is applicable to the protection of sample surface (especially metallographic sample surface) With brush, easy to use
	DCS	Quxiubao 500ml / bottle It is used to remove the rust on the fracture without damaging the fracture details
	SAS	200g/ bottle, 400g in total Sample adhesive separator
	CS-1 CS-2 CS-3 CS-4 CS-5	Metallographic etchant 500ml / bottle CS-1 nitric alcohol /cs-2 ferric chloride hydrochloric acid aqueous solution / cs-3 other corrosive solutions / CS-4 special purpose CS-5 new grain size etchant 50ml/ bottle, suitable for carburizing steel (20Cr, 20CrMnTi, etc.) Bearing steel (GCr15, etc.) Medium alloy steel (40CrMo, 40Cr, etc.)
	ALC	Anhydrous ethanol 500ml / bottle For preparing metallographic samples