



ASEL - Machine production
Bakic 33, 33520 Slatina - CROATIA

tel: +385 33 400 570 Fax: +86 851 5822114



Website: www.asel.hr

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Optical Measuring Machines

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Φ400 Digital Horizontal Profile Projector HB16 Series

Applied fields:

HB16 is widely used for quality checking, researching and developing at the field of mechanic, electronic, rubber industry. It is a necessary instrument for 2D non-contact measurement in college, research institute and metrology department. HB16 is able to inspect all kinds of surface and outline of complicated work-pieces such as Template, Pressing work-pieces, Cam, Screw thread, Gear, etc.

Features:

- ◇ Sturdy metal design with the novel shape
- ◇ Excellent optical path with sharp image
- ◇ Large X, Y measuring travel stage with precision accuracy $(3+L/50) \mu\text{m}$
- ◇ Digital Multifunctional digital readout DP300 with the strong process function
- ◇ Touch panel switch protects operators' safe
- ◇ Cold surface optical fiber light source insures the unsealing for operators and undamaging for the tested specimens



HB16-3015+DP300

Technical Specifications:

Model		HB163015	HB162515	HB162010		
Projective screen	Screen diameter	φ400 mm (16")				
	Rotation range	0°~ 360°				
	Resolution of the rotary angle	1'				
	Accuracy of the rotary angle	4'				
Worktable	X, Z axis measuring travel	300x150	250x150	200x100		
	X, Z linear resolution	0.001				
	Y-axis travel	0~80 (Focusing)				
	Load capacity	15kg				
Accuracy		$(3+L/75)\mu\text{m}$;				
Light source	Contour lighting:	24V/150W Halogen tungsten lamp				
	Surface lighting:	Double tube optical fiber				
Lens: (Magnification error $\leq 0.08\%$)	Magnification	5×	10×	20×	50×	100×
	Visual Field	Φ80	φ40	Φ20	Φ8	φ4
	Working Distance	93.7	88.376	81.375	54	44.9
Power supply		AC110V/60Hz; 220V/50Hz				
Standard Delivery		<ul style="list-style-type: none"> ◇ 10X lens group and cold surface optical fiber ◇ LCD display DRO DP300 ◇ mini-printer ◇ foot-switch 				
Optional accessories		<ul style="list-style-type: none"> ◇ 5x, 20x, 50x and 100x lens group ◇ measuring software ◇ angle over chart ◇ support-vice 				

Φ300 Vertical Profile projector VP12 series

Applied fields:

It is widely used at the field of mechanic, electronic, rubber industry, and college, research institute and the measuring checking department for quilting control. VP12 can inspect all kinds of surface and outline of complicated work-pieces such as Template, Pressing work-pieces, Cam, Screw thread, Gear, etc

Features:

Profile projector VP12 series are excellent for its high quality of optical system and stable worktable with big travel. The focus is adjusted by ascending and descending the projective box. The erect and revise image can be selected by different customers' request. .

Optional accessories

It has the optional foot-switch, LCD display digital readout DP300, 2D measuring software, and other optional accessories for upgrade.



VP12-2515+DP300

Technical Specifications:

Model		VP121510(Z)	VP122010(Z)	VP122515(Z)	
Travel of X and Y axis		150x100	200x100	250x150	
Metal stage dimension		354x228	404x228	450x280	
Glass Stage Dimension		210x160	260x160	306x196	
Travel: Z axis		100 (for focusing)			
Measuring accuracy (μm)		≤3.0 + L/75			
Resolution (X/Y-axis)		0.001			
Projector Screen	Size (mm)	Ø308, effective range≥Ø300mm			
	Rotation range	0 ~ 360°			
	Angle resolution	1' or 0.01°			
Objective	Magnification	10X(Std.)	20X(Opt.)	50X(Opt.)	100X(Opt.)
	Object view	Ø30	Ø15	Ø6	Ø3
	Working distance	77.7	44.3	38.4	25.3
Digital readout system		Standard delivery: DC3000; Optional: DP300			
Illumination		Transmission and reflection light source: 24V/150W-halogen lamp			
Power		AC110V/60Hz; 220V/50Hz			
Light source cooling		Forced air cooling			
Instruments dimension (mm)		780x780x1100	780x780x1100	810x780x1100	
Weight		160 Kg	170 Kg	180 Kg	
Optional Accessories		◇ Cupboard;			
		◇ Rotary table;			
		◇ Objective 20X, 50X, 100X;			
		◇ Angle over-chart; DRO DP300			

Φ300 Vertical Profile projector VT12 series

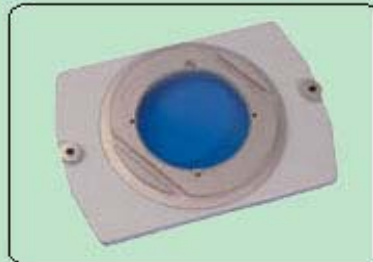
Applied fields:

Profile Projector VT12 series are precise and excellent effective measuring instrument integrating Optic, Mechanic, Electricity, and Computer technology.

It is widely applicable to measure the 2D dimension at the field of mechanic, electronic, rubber industry, and college, research institute and the measuring checking department for checking product quality. VT12 can inspect all kinds of surface and outline of complicated work-pieces such as Template, Pressing work-pieces, Cam, Screw thread, Gear, etc.



Objective 10x 20X, 50X, 100X



Rotary table



VT12-2010+DP300

Technical Specifications:

The Technical Specification of Profile Projector VT12 series (Unit: mm)				
Model	VT121550T		VT122010T	
Stage Travel: X and Y-axis	150×50		200×100	
Metal stage dimension	340×152		350×170	
Glass Stage Dimension	196×96		246×120	
Resolution of X and Y-scale	0.001			
Travel: Z axis	90 (for focusing)			
Screen diameter	Ø308, effective range≥Ø300mm			
Rotary range of screen	0~360°			
Resolution of Rotary Indicator	1'0.01°			
Accuracy	≤4+L/50 (um)			
Objective magnification	10X(Std.)	20X(Opt.)	50X(Opt.)	100X(Opt.)
Object view-field	30	15	6	3
Work distance	78.33	44.30	24.50	25.30
Digital Readout	Standard delivery: DC3000			
Instrument Illumination	Surface and Contour Illumination: 24V/150W halogen lamp			
Power	AC110V/60Hz; 220V/50Hz			
Dimension (D× W × H)	770×550×1100		770×810×1120	
Instrument Weight	130Kg		170Kg	
Optional Accessories	◇ Cupboard;			
	◇ Objective 20X, 50X, 100X;			
	◇ Rotary table;			
	◇ Angle over-chart;			
	◇ DRO DP300			

Vertical Touch Panel Video Projector VCS series

Applied fields:

It is suitable to be put in the production field or the quality-control room, to measure arbitrary dimension of the work piece. It is widely used on the gear, mould, rubber production, electron production, hardware production, metal work, mobile phone accessory, PCB, plate work pressing, terminal connector, household appliance, electronic parts and so on.

Features:

- 1.Highly precise granite base with perfect stability and durability.
2. Elevation changeable touch screen, suitable for different statures, avoids being in a poor light.
- 3.Adjustable LED illumination
- 4.High resolution CCD for fetching image
- 5.Lens changeable with 20-120X magnification
- 6.As the collimation function, strong-function crosshair generator is mixed, fetching image border is refined, improve the accuracy further.



VCS-300

Specialty:

1. The touch screen and measuring technology are combined, make the operation very easy.
2. User interface design of humanization, foresee the operation order, so the machine training time is shortened.
3. The accuracy is greatly increased, from the traditional 0.2mm to 5 μ m
4. The functions are more advanced, such as quick measuring the correlative parameters of the gear, taper and so on.
5. Have functions of quick export, printing, and storage.

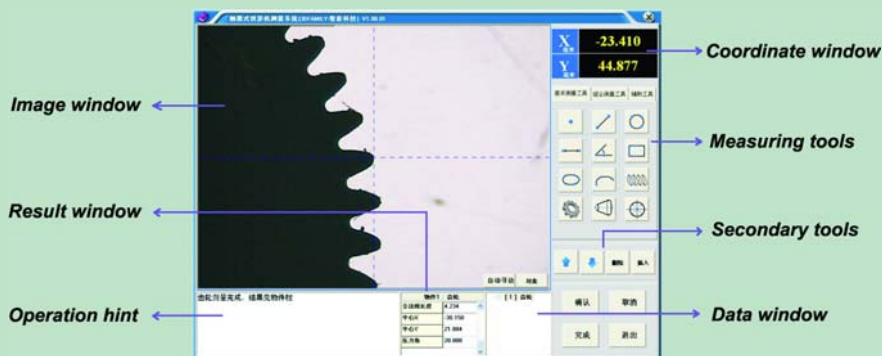
Technical Specifications:

The Technical Specification of Profile Projector VCS series (Unit: mm) :			
Model	VCS200	VCS250	VCS300
(X/Y/Z) measuring range(mm)	200×100×150	250×150×150	300×200×150
Machine dimension(mm)	650×800×1600		
Operation mode	Manual		
Magnification	20X-120X		
Screen dimension	17" touch-type LED monitor		
Measuring system	OTS touch screen measuring interface		
Lens work range (mm)	95		
X/Y optical scale resolution	1 μ m		
Accuracy	(3+L/200) μ m		
repeatability	5 μ m		
Color CCD Camera	430,000pixel		
Machine load capability	10Kg		
Power supply	AC110V/60Hz; 220V/50Hz		
Suitable environment	Production field and quality-control room		

VCS OTS touch screen professional vision measuring interface;

Introduction:

OTS touch screen measuring interfaces specially used on touch screen vision projector. The interactive interface is friendly, and the guidance mode makes the operation easy and convenient, the training time also be shortened.



Vertical Video Projector VPS200

Applied fields:

It is suitable to be put in the production field or the quality-control room, to measure arbitrary dimension of the work piece. It is widely used on the gear, mould, rubber production, electron production, hardware production, metal work, mobile phone accessory, PCB, plate work pressing, terminal connector, household appliance, electronic parts and so on.

Features:

- Instrument is operated by mouse and keyboard.
- LED light can be used more than 70,000 hours.
- Advanced light-source design can do profile measurement as well as rapid surface measurements accurately.
- Z axis design in a lifting way ensures the worktable bear greater weight up to 20 kg.
- Friendly user interface and leading operation process make training time shortened.
- The repeatability accuracy is greatly increased from 0.02mm of the traditional profile projector to 5µm.



VPS200

Technical Specifications:

Model	VPS200
Measuring range(mm)	200×100×150
Machine size(mm)	650×800×1600
LCD monitor size(mm)	17"
Magnification	20-120X
X/Y axis optical ruler resolution	1µm
Accuracy	(3+L/200) µm
Repeatability	2µm
Measuring system	DC3000 microprocessor
Color CCD Camera	430,000pixel
Illumination	LED
Operation mode	Manual
Load capacity	10Kg
Power supply	AC110V/60Hz; 220V/50Hz

Digital Readout System DC3000 & DP300

Sinowon digital readout DC3000 and DP300 is mature product designed for the 2D measurement field, it is applicable with the optical measuring instruments, such as profile projector, video measuring system, toolmaker microscope and so on.

Common functions of digital readout system:

Measurement, preset and construct the graphic elements such as the point, line, circle, angle, distance, rectangle, thread, etc.

Axis-skew and Coordinate-shift conveniently

Connect with foot-switch to accelerate the collection of the data.

Transfer tested data and order printer to print.

Record program and measure same work pieces in large quantity

Coordinate displaying ways: Polarity and Cartesian; INC coordinated and ABS; metric/British unit conversion

Linear error compensation and segmental linear error compensation

Z-axis can be connected with linear scales or rotary degree encoder's

Store permanent data and temporary data

1. Digital Readout System DC3000:



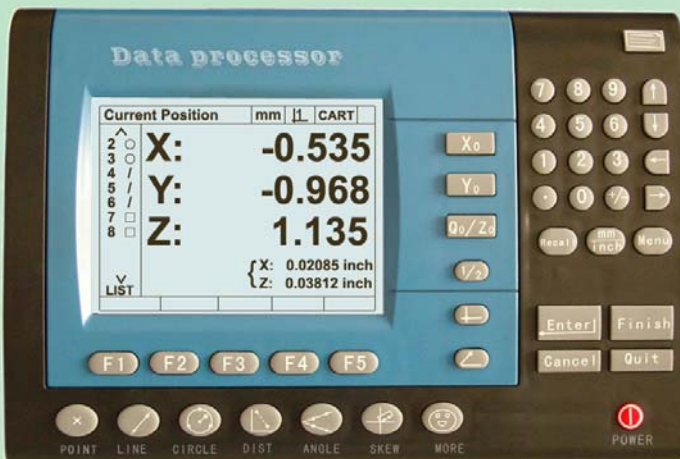
DC3000

Technical Specifications:

1. Language conversion: English/Chinese
2. Voltage: AC 90V-240V.
3. Power: Maximum: 15W
4. Dimension: 295*185*68(mm)
5. Weight: 1.60kg
5. Linear scale signal: TTL,
Frequency<2Mhz,
Current>1uA
6. Resolution (um): 0.1, 0.2, 0.5, 1, 2, 2.5,10

2. New Generation Digital Readout System DP-300:

DRO DP300 is our new designed products for the high-end market, it is very excellent with innovate shape, powerful functions, friendly operation interface and reasonable cost.



DP300

Technical Specifications:

1. Language conversion: English/Chinese
2. Voltage: AC 90V-240V.
3. Power: Maximum: 20W
4. Dimension: 300*200*70(mm)
5. Weight: 1.60kg
5. Linear scale signal: TTL,
Frequency<2Mhz,
Current>1uA
6. Resolution (um): 0.1, 0.2, 0.5, 1, 2, 2.5,10

Remark: 1um and 5um linear scales can be provided with our DRO.

Manual Video measuring system VMS series

Applications:

It is mainly applied in 2D measurement field, such as: Mobile phone fittings, precision fixture, family-used machines, precision pressing, linker, circumjacent fields of the computer, etc.

Features:

Video measuring system is a photoelectric measuring system with high precision and efficiency. It is composed of a series of components, such as color CCD camera, CCD adapter zoom lens, PC monitor, precision linear scale, capture card, 2D measuring software and high precision worktable.

The user can manage and output the graph by connecting with PC and running the 2D measuring software.



VMS-2010D

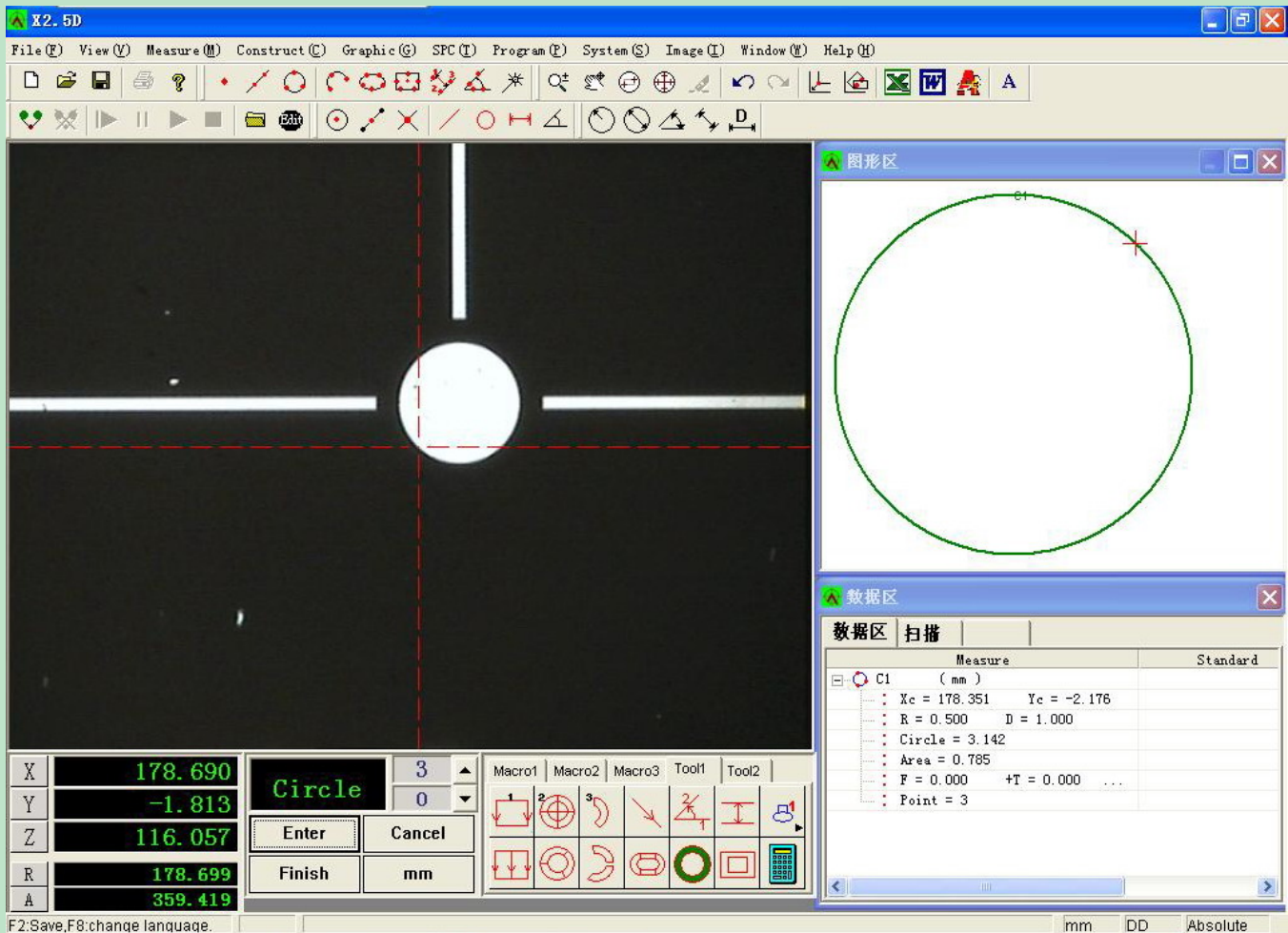
Technical Specifications (Unit: mm):

Model	VMS1510	VMS2010	VMS2515	VMS3020	VMS4030
Metal table size	354*228	404*228	450*280	500*330	606*466
Glass table size	210*160	260*160	306*196	350*280	450*350
Travel: X, Y	150*100	200*100	250*150	300*200	400*300
Weight (Kg)	100	110	120	140	240
Dimension	540*560*850		970*670*940		
Z-axis travel	150				
Resolution of X,Y,Z scales	0.001				
Contour and surface light	Ring LED and brightness adjustable				
Zoom lens work distance	92mm				
Instrument accuracy	$\leq(3+L/75)\mu\text{m}$				
Video system	CCD Camera: Color 1/3 "				
	CCD adapter: 1x				
	Magnification: 30X~230X				
	Magnification of zoom lens: 0.7X~4.5X				
	Object view: 10.6mm-1.6mm				
Power	AC110/220V; 50/60Hz				
Standard software	X2.5D with Auto-edge-find function				
Optional accessories	Digital Readout DC3000 and DP300				

Video Measuring Software X2.5D

Applications:

Video measuring software X2.5D is based on Windows XP, it can visually analyze and process the 2D coordinate data. It is mainly applicable with video measuring system, toolmaker microscope and other 2D coordinate measuring instruments.



Features:

1. Measure Point, Line, Circle, Arc and Ellipse feature with multi-point;
2. The functions of Axis-skew and coordinate-shift are very convenient;
3. The functions of element-combination can enhance the efficiency;
4. MACRO function;
5. Save as *.dxf format and edit in AutoCAD;
6. The data can be sent to Excel, can draw easy Xbar-S graph;
7. Shift between in English and Chinese;
8. Record, edit and run the program.
9. Auto-edge-find function

Functions:

1. Element measure: Can measure the Point, Circle, Arc and Angle; measure the rectangle with state points; identify the Point, Line, Circle and the Arc Automatically.
2. Element construct: Construct the Center, Point of intersection, Midpoint, Line, Circle and Angle, Element preset: Point, Line, Arc, Angle.
3. Graph manages: Coordinate move and coordinate skew, and y-axis skew.* Zoom in, Zoom out, Move, Print, Select, Cancel select, Delete.
4. Set the image's grayness, saturation, contrast, the image can be saved as *.bmp.
5. Multiple ways of detecting, can gather the point automatically.*Cross detecting, The color of the edge changes. Gather the point by manual.* The image support S-video input, the image is 640*480mm

Recommend PC configuration:

1. Hardware: P4, 1.7G, USB interface and PCI slots;
2. Monitor resolution: 1024*768;
3. Screen color quality: 32";
4. Operation system: Windows XP.;
5. Application: Excel, AutoCAD

3D Video Measuring System with Touch Probe

Applications:

It is mainly applied in 2D measurement field, such as: Mobile phone fittings, precision fixture, family-used machines, precision pressing, linker, circumjacent fields of the computer, etc.

Instrument characteristic:

1. Transmission system of Z axes in front, convenient to operate.
2. Step-Zoom orientation lens, No needs linear calibration at fixed multiple with the software.
3. Multi-use calibration flake is as attachment of the machine, used both for teach drilling and precision calibration.
4. OVM vision measuring software.
5. As VMET, England RENISHAW touch probe can be chosen to match, $\Phi 1$, $\Phi 2$ probe being matched, can do measuring on tridimensional work piece with TPM measuring software.



3D Video measuring system with probe

Technical Specifications:

Model type	VME250T	VME300T	VME400T	VME500T
Measuring Range (X/Y/Z) (mm)	250×150×200	300×200×200	400×300×200	500×400×200
Machine dimension(mm)	800×500×1650		980×650×1650	1160×800×1650
Operation mode	Manual			
Image system	410,000 pixel color CCD camera			
Zoom lens	Step Zoom Optical magnify zoom:0.7X-4.5X;			
	CCD adapter: 1x			
	Image magnify zoom:30X-230X			
Measuring system	OVM+TPM			
X/Y/Z optical ruler resolution	1 μ m			
Repeatability	2 μ m			
X/Y measuring precision	(3+L/200) μ m			
Machine load capacity	30kg			
Applicable environment	Power:110V~220V \pm 10% 50/60Hz			
	Temperature : 20 \pm 5			
	Humidity: 45%-75%			

Air Driven Video Measuring System VMA Series

Applications:

It is mainly applied in 2D measurement field, such as: Mobile phone fittings, precision fixture, family-used machines, precision pressing, linker, circumjacent fields of the computer, etc.



Air driven video measuring system VMA5030/VMA6040

Features:

1. Bride style design;
2. Air-driven for X, Y-axis movement;
3. Granite base with cupboard;
4. Adjustable Cold LED lightsource;
5. Sharpe image;
6. Powerful software X2.5D

Technical Specification (Unit: mm):

Model		VMA5030	VMA6040
Stage	Metal Dimension	700X450mm	800X550mm
	Glass Dimension	550X350mm	650X450mm
	X&Y-axis travel	500X300mm	600X400mm
Z-axis focus travel		200mm	
Lens working distance		92mm	
Resolution of X, Y, Z linear scales		0.001mm	
Instrument accuracy		$\leq(3\pm L/200)\mu\text{m}$	
Video System	CCD camera	Sony 1/2" Inch color CCD camera	
	Zoom lens	0.7-4.5x	
	CCD adapter	1X	
	LED light source	Contour and Surface	
	Video Magnification	30~230X	
Measuring System		PC + Measuring software X2.5D	
Compress Air		0.4~0.5Mpa	
Flux of Air		160L/min(0.4Mpa)	
Applicable environment		Power:110V~220V \pm 10% 50/60Hz	
		Temperature : 20 \pm 5; Humidity: 45%-75%	

CNC Video Measuring System VMC series

Applications:

It is mainly applied in 2D measurement field, such as: Mobile phone fittings, precision fixture, family-used machines, precision pressing, linker, circumjacent fields of the computer, etc.

Features:

1. Fashionable style design;
2. CNC-motor-driven;
3. Metal base with cupboard;
4. Adjustable 40-Division Cold LED lightsource;
5. Sharpe image;
6. Powerful software McInS



VMC3030

Technical Specifications (Unit: mm):

Model	VMC3030	VMC4040
Metal table size	450x450mm	550x550mm
Glass table size	350x350mm	450x450mm
Travel: X&Y-axis	300x300mm	400x400mm
Weight G.W.	Approximately 400Kg	Approximately 500Kg
Instrument Dimension		
Z-axis travel	150mm	
Lens Work distance	100mm	
Indication error of X, Z-axis	$\leq(3+L/75)\mu\text{m}$	
X,Y&Z Scale Resolution	0.001mm	
Video system	Camera: Color 1/2 " CCD camera	
	Magnification: 30X~230X	
	Magnification of zoom lens: 0.7X~4.5X	
	Object view: 10.6mm-1.6mm	
Applicable environment	Power:110V~220V±10%; 50/60Hz	
	Temperature : 20±5; Humidity: 45%-75%	

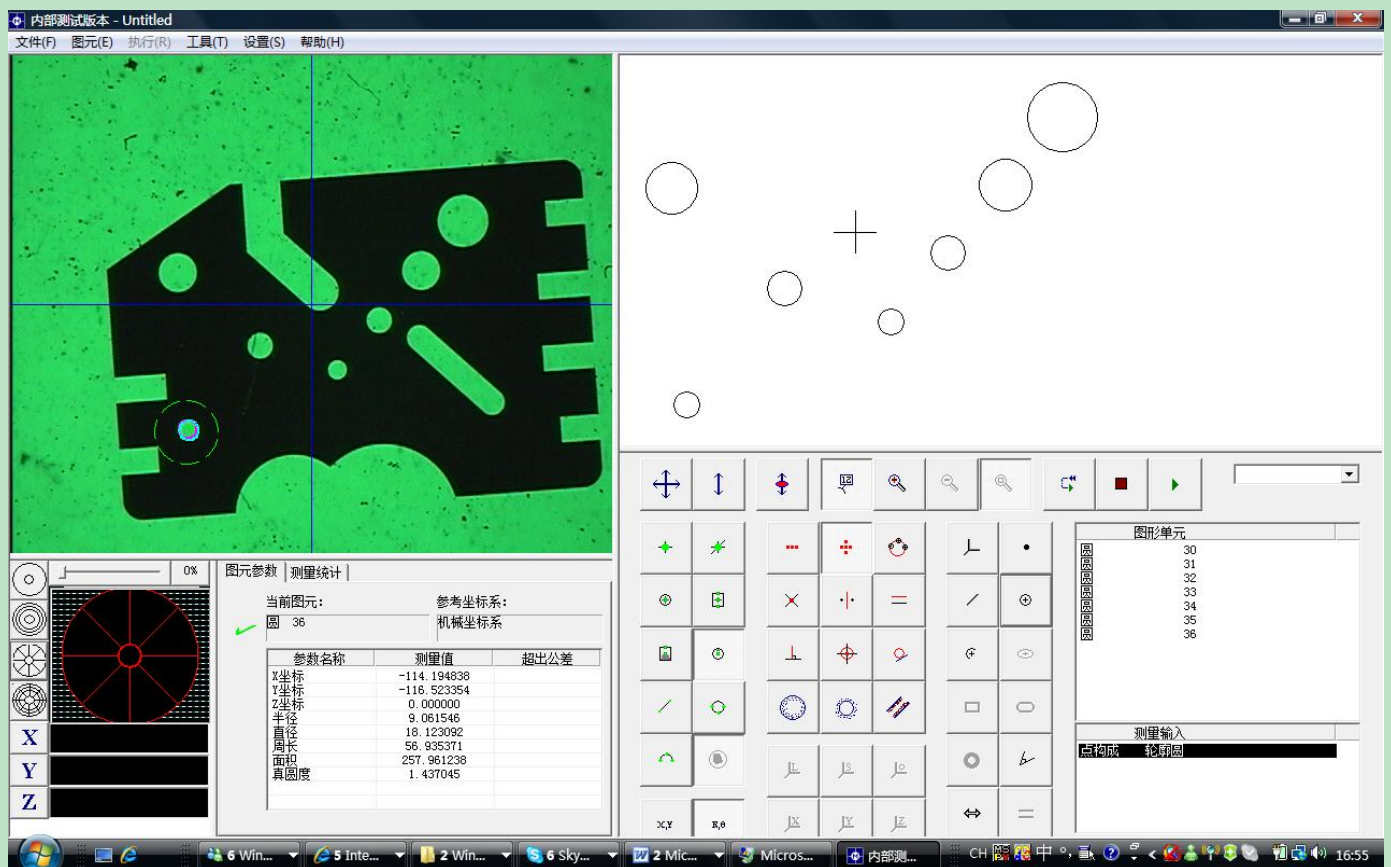
Advanced Measuring Software MclnS Series

Applications:

Video measuring software X2.5D is base on windows XP, it can visually analyze and process the 2D coordinate data. It is mainly applicable with stereo microscope, video measuring system, toolmaker microscope, profile projector and other 2D coordinate measuring instruments.

Recommend PC configuration:

1. Hardware: P4, 2.5G, USB interface and PCI slots;
2. Monitor resolution: 1024*768;
3. Screen color quality: 32";
4. Operation system: Windows XP.;
5. Application: Excel, Word, AutoCAD



MclnS-CNC Windows Interface

Advanced Measuring software McInS Series

Software Functions:

Features		McInSM	McInSV	McInSCNC
		Cross-hair image measuring software	Multi-function image measuring software	CNC Vision measurement software
★	CCD capture for motion image	○	○	○
File/Drawing Function	File format	.si /.dxf	.si /.dxf	.si /.dxf
	Image with Zoom in, Zoom out, Pan, Zoom. Window and Zoom All	○	○	○
	Export the measurements to EXCEL	○	○	○
	Print out the Report (Graph and Data)	○	○	○
	Drawing and Data-Undo/Redo	x	○	○
	CAD Function- Simple Drawing and point	x	○	○
Switch the Measuring Coordinate	CAD function- Simple Modification: Cutting and Extension	x	○	○
	Dimension Remarks	x	○	○
	The tolerance judgment	x	○	○
	Switch the Measuring Coordinate	○	○	○
	Setting origin and Skew the axis of coordinate system	○	○	○
	Switch the Display/Figure Area	○	○	○
Framing Measuring	VGA Edge Auto-detecting	○	○	○
	Cross- hair framing	○	○	○
Image Measuring	Load a saved or an existing image file	○	○	○
	Magnification Calibration	x	Manual	Manual/Auto
Language	Chinese	○	○	○
	English	○	○	○
Other Functions	Program Teaching / Multi-Sampling	x	Manual move	Auto move
	USB Joystick operation	x	x	○
	Z axis auxiliary focusing function	x	Manual Focus	Manual/Auto Focus

NC control Video Measuring System SVN series

Applications:

It is mainly applied in 2D measurement field, such as: Mobile phone fittings, precision fixture, family-used machines, precision pressing, linker, circumjacent fields of the computer, etc.

Instrument characteristic:

- 1、Specially designed granite bridge-type structure, no distortion
- 2、Middle transmission of Y axes, closed loop design of X axes , insure that when running, the physical phenomenon of swinging left and right or swinging tail will not appear and so the precision increases.
- 3、 NC control system for the 3 axes(X/Y/Z)
- 4、Zoom lens, needs no linear calibration at fixed multiple with the software.
- 5、 OVM Pro full automatic vision measuring software developed by ourselves.



Video measuring system SV-1000N

Technical Specifications:

Model type	SV1000N	SV1200N	SV1500N
Measuring Range (X/Y/Z) (mm)	800×1000×200	1000×1200×200	1200×1500×200
Machine dimension(mm)	1600×2300×1500	1800×2500×1500	2000×270×1500
Operation mode	NC		
Image system	430,000 pixel Japanese original color CCD		
Magnify zoom	Step Zoom: Optical magnify zoom:0.7X-4.5X		
	Image magnify zoom:28X-180X		
Measuring system	OVM Pro		
X/Y/Z optical ruler resolution	1μm		
Repeatability	2μm		
X/Y measuring precision	(4.5+L/200)μm		
machine load capacity	20kg		
Applicable environment	Power:110V~220V±10% 50/60HZ;		
	Temperature : 20±5 oC;		
	Humidity: 45%-75%		
Free maintaining time	One year maintaining		

Measuring Microscopes STM505 series

Applied fields:

It is an excellent measuring instrument for non-contact inspection and 2D precision measurement, it is applicable to measure the small parts in the metrology department and product line.

It can be installed with digimatic measure heads, CCD adapter, CCD camera, digital crossline generator, monitor to be a 2D vision system.



STM505



STM505D

Technical Specifications:

Model	STM505	STM505D
Measuring travel	50 x 50mm	
Working distance	67mm	
Glass stage size	96x96mm	
Maximum work-piece height	115mm	
Maximum work-piece weight	5Kg	
Optical system	Magnification: 30x (15x eyepiece; 2x objective)	
	The eyepiece protractor is graduated in 1°	
	Minimum angle reading: 6' ;	
	Sighting device: cross-reticel	
Measuring Heads & Resolution	Mechanic & 0.002mm	Digital (164-162) & 0.001mm
Optional accessories	Rotary table with diameter: ϕ 66mm;	
	5x, 10x objective;	
	CCD adapter,	
	CCD camera,	
	digital cross line generator, monitor	
Power supply	AC110V/60Hz; 220V/50Hz	
Dimension	210x333x391mm	
Weight	13.5Kg	

Portable Measuring Microscopes XC series

It is used for measuring or viewing purposes in production or laboratory. It is particularly suitable for spot examination of machinery industry, paper making, print and textile, etc. The product features small size, light weight, nice design and easy operation.



XC100 XC100L
 XC50 XC50L
 XC40 XC40L
 XC20 XC20L



10× Eyepiece with reticule and diopter adjustment



Available to precisely Adjust magnification

Technical Specifications:

	XC100(L)	XC50(L)	XC40(L)	XC20(L)
Total Magnification	100X	50X	40X	20X
Mechanical Tube Length	160mm			
Power of Objective	10X	5X	4X	2X
Numerical Aperture	0.25	0.12	0.10	0.05
Minimum Readable Division	0.01mm	0.02mm	0.025mm	0.05mm
Working Distance	6.93mm	17.6mm	18mm	17.2mm
Power of Eyepiece	10X			
Focus Range	30mm			
Diameter of Viewing field in Eyepiece	Φ18mm			
Reticule of Eyepiece	0.1 Micrometer			
Diameter of Bearing Plane	Φ63mm			
Height of Microscope	210mm			
Mass of Microscope	0.65kg			
Illumination	Pen light, No.2 battery			

	XC100	XC60	XC40	XC20	XC100L	XC60L	XC40L	XC20L
Cross with Reticule	●	●	●	●	●	●	●	●
Objective 10×	●	○	○	○	●	○	○	○
Objective 5×	○	●	○	○	○	●	○	○
Objective 4×	○	○	●	○	○	○	●	○
Objective 2×	○	○	○	●	○	○	○	●
Pen Light (with holder)	○	○	○	○	●	●	●	●

■ Outfit □ Option

MZPS0850 series parallel optics zoom stereo microscopes

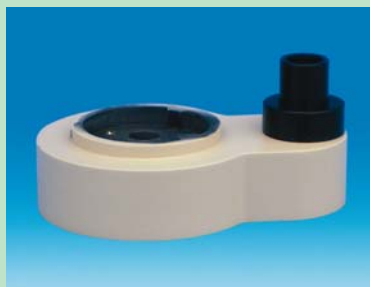
MZPS0850 series parallel optics zoom stereo microscopes have two types, MZPS0850 (binocular) and MZPS0850T (trinocular). Magnification range of zoom body is 0.8X~5X, it is characterized by Galileo optical system, magnification from low to high non-flash in zoom course, large depth of field, long working distance, has many kinds of attachments. It can be satisfied the demands of checking- up and analysis in modern biology, medical, environment, farming, police, micro-electronics, semiconductors etc. fields.



MZPS0850 main body



MZPS0850T main body



PS-T trinocular beam splitter



MZPS0850 standard



MZPS0850T standard

Main data:

- Total magnification 8X~50X(standard outfits), extend total magnification : 300X
- Parallel optics system, 0.8X~5X zoom body, 1X plane objective none aberrance , working distance 105mm
- With wide field, high eye point and none aberrance 10X eyepieces (Φ 23mm)
- Binocular/ Trinocular eye tubes inclined 45°
- The range of adjusting the diaper is $\pm 6^\circ$
- Interpupillary distance adjustment range 52mm ~ 76mm
- The range of adjusting the focus is 100mm (round post is 50mm), the diameter of the center working stage is Φ 95mm
- The measurement to match between the support and the main body is Φ 76mm
- The distance between from the post center to the main body center is 140mm
- The size of the round post is Φ 25mm
- There are many magnification objectives, eyepieces, auxiliary illuminators etc. attachments and kinds of stands and universal stands to be selected.

Technical data:

Objective		Plane achromatic none aberrance objective		
		0.5X	1X	2X
5X	Total magnification	2X~12.5X	4X~25X	8X~50X
	Diameter of visual field	57.5~9.2	28.75~4.6	14.375~2.3
10X	Total magnification	4X~25X	8X~50X	16X~100X
	Diameter of visual field	57.5~9.2	28.75~4.6	14.375~2.3
15X	Total magnification	6X~37.5X	12X~75X	24X~150X
	Diameter of visual field	42.5~6.8	21.25~3.4	10.625~1.7
20X	Total magnification	8X~50X	16X~100X	32X~200X
	Diameter of visual field	35~5.6	17.5~2.8	8.75~1.4
30X	Total magnification	12X~75X	24X~150X	48X~300X
	Diameter of visual field	22.5~3.6	11.25~1.8	5.625~0.9
Working distance		200	105	35

Optional attachments:

- Stands: SD1~SD20
- Universal stands: U1, U2, U3, U4, U1C, U 2C , U3C,U4C
- Eyepieces: 10X,15X, 20X, 30X; divisional eyepieces: 10X, 15X, 20X
- Plane achromatic none aberrance objectives: 0.5X , 1X, 2X
- Auxiliary illuminators: ML01, YKB144T, XQK150, etc
- Photo adapters and CCD adapters: PT01, DT01 , 0.5X CCD adapter: C0.5, 1X CCD adapter: C1.0
- 1X CCD adapter with micrometer: CDM1.0
- Dark field attachment and Gem clamp: DC01, CJ01
- Mechanical stages: S7650, S20210

MZPS0850 series connect with different attachments and stands exemplify:

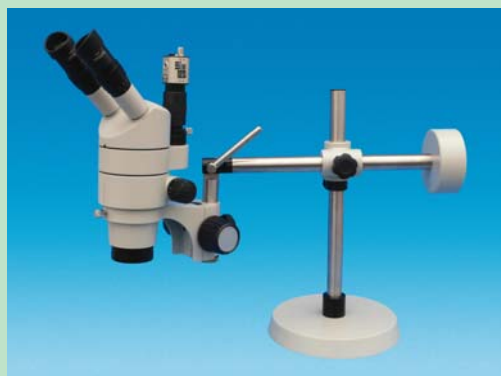
MZPS0850+SD3



MZPS0850+SD4+S7650



MZPS0850T+CDM1.0+PT01+DC



MZPS0850T+SF1+U4+C1.0+CCD

MZS1065C zoom stereo microscope with built-in coaxial illumination

MZS1065C zoom stereo microscope with built-in coaxial illumination is the first high performance microscope type which can be completely replaced import product in China. It is characterized by illumination over the whole field, in focus all the zoom course non-flash, large depth of fields. It can be used for observation micro-surface in integrated circuit, metal parts, semiconductor etc.



MZS1065C main body



LCD circuit(60X coaxial illumination observing)



MZS1065C standard

Main data:

- Total magnification 10X~65X(standard outfits), extend total magnification: 390X
- Zoom objective magnification 1.0X~6.5X, working distance 118mm
- With high eye point and wide field eyepiece SWH10X(Φ 23mm)
- Binocular eye tubes inclined 45°and main body can be rotated 360°
- With built -in coaxial illumination optical system
- The range of adjusting the diopter is $\pm 6^\circ$
- Interpupillary distance adjustment range 52mm ~ 76mm
- The range of adjusting the focus is 100mm
- The measurement to match between the support and the main body is Φ 76mm
- The distance between from the post center to the main body center is 140mm

Optional attachments:

- Eyepieces : 10X,15X, 20X,30X; Divisional eyepieces: 10X,15X 20X
- Auxiliary objectives : 0.5X ,0.7X,2X
- Mechanical stage : S7650, S20210

Technical data:

Objective		Main body	objective			
			0.5X	0.7X	1X	2X
Eyepiece		1~6.5	0.5~3.3	0.7~4.6	1.5~9.8	2~13
5X	Total magnification	5~32.5	2.5~16.3	3.5~22.8	7.5~48.8	10~65
	Diameter of visual field	23~3.5	46~7	32.9~5	15.3~2.3	11.5~1.8
10X	Total magnification	10~65	5~32.5	7~46	15~98	20~130
	Diameter of visual field	23~3.5	46~7	32.9~5	15.3~2.3	11.5~1.8
15X	Total magnification	15~97.5	7.5~48.8	10.5~69	22.5~147	30~195
	Diameter of visual field	17~2.6	34~5.2	24.3~3.7	11.3~1.7	8.5~1.3
20X	Total magnification	20~130	10~65	14~92	30~196	40~260
	Diameter of visual field	14~2.2	28~4.2	20~3.1	9.3~1.4	7~1.1
30X	Total magnification	30~195	15~97.5	21~138	45~294	60~390
	Diameter of visual field	9~1.4	18~2.7	12.9~2	6~0.9	4.5~0.7
Working distance		118	195	145	50	35

MZS1065 series zoom stereo microscopes

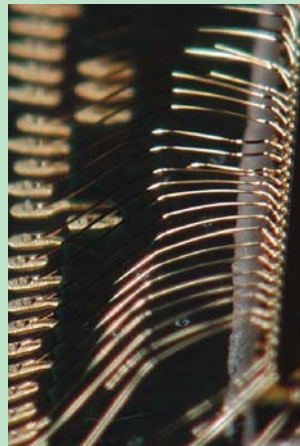
MZS1065 series zoom stereo microscopes have two types, MZS1065 (binocular) and MZS1065T (trinocular). It is characterized by unique optical design, large depth and width of visual fields, long working distance. It has many optional stands and attachments. It can be applied in modern biology research, semiconductor and the other science and technology industry field .



MZS1065 main body



MZS1065T main body



IC's pins(65X observing)



MZS1065 standard



MZS1065T standard

Main data:

- Total magnification 10X~65X(standard outfits), extend total magnification : 390X
- Zoom objective magnification 1.0X~6.5X, working distance 118mm
- With high eye point and wide field eyepiece SWH10X(Φ 23mm)
- Binocular/ Trinocular eye tubes inclined 45°and main body can be rotated 360°
- The range of adjusting the diopter is $\pm 6^\circ$
- Interpupillary distance adjustment range 52mm ~ 76mm
- The range of adjusting the focus is 100mm (round post is 50mm), the diameter of the center working stage is 95mm
- The measurement to match between the support and the main body is Φ 76mm
- The distance between from the post center to the main body center is 140mm
- The size of the round post is Φ 25mm
- Illuminators : the low illuminator is the transmitted illumination of the fluorescent lamp (5W),the up illuminator is the reflected illumination of the halogen lamp(6V 、 10W)

Technical data:

Objective		Main body	objective			
			0.5X	0.7X	1X	2X
Eyepiece		1~6.5	0.5~3.3	0.7~4.6	1.5~9.8	2~13
5X	Total magnification	5~32.5	2.5~16.3	3.5~22.8	7.5~48.8	10~65
	Diameter of visual field	23~3.5	46~7	32.9~5	15.3~2.3	11.5~1.8
10X	Total magnification	10~65	5~32.5	7~46	15~98	20~130
	Diameter of visual field	23~3.5	46~7	32.9~5	15.3~2.3	11.5~1.8
15X	Total magnification	15~97.5	7.5~48.8	10.5~69	22.5~147	30~195
	Diameter of visual field	17~2.6	34~5.2	24.3~3.7	11.3~1.7	8.5~1.3
20X	Total magnification	20~130	10~65	14~92	30~196	40~260
	Diameter of visual field	14~2.2	28~4.2	20~3.1	9.3~1.4	7~1.1
30X	Total magnification	30~195	15~97.5	21~138	45~294	60~390
	Diameter of visual field	9~1.4	18~2.7	12.9~2	6~0.9	4.5~0.7
Working distance		118	195	145	50	35

Optional attachments:

- Stands: SD1~SD20
- Universal stands: U1, U2, U3, U4, U1C, U 2C , U3C,U4C
- Eyepieces: 10X,15X, 20X, 30X; divisional eyepieces: 10X, 15X, 20X
- Plane achromatic none aberrance objectives: 0.5X , 1X, 2X
- Auxiliary illuminators: ML01, YKB-144T, XQK-150, etc
- Photo adapters and CCD adapters: PT01, DT01 , 0.5X CCD adapter: C0.5, 1X CCD adapter: C1.0
- 1X CCD adapter with micrometer: CDM1.0
- Dark field attachment and Gem clamp: DC01, CJ01
- Mechanical stages: S7650, S20210

MZS1065 series connect with different attachments and stands exemplify:

MZS1065+SD4



MZS1065+SF1+U3



MZS1065T+SD2+C1.0+CDM1.0



MZS1065T+ Ring optical fiber

MZS0745 series zoom stereo microscopes

MZS0745 series zoom stereo microscopes have two types, MZS0745 (binocular) and MZS0745T (trinocular). It is characterized by unique optical design, large depth and width of visual fields, long working distance. It has many optional stands and attachments. It can be applied in modern biology research, semiconductor and the other science and technology industry field.



MZS0745 main body



MZS0745T main body



Chip(40X observing)



MZS0745 standard



MZS0745T standard

Main data:

- Total magnification 7X~45X(standard outfits), extend total magnification : 270X
- Zoom objective magnification 0.7X~4.5X, working distance 118mm
- With high eye point and wide field eyepiece SWH10X(Φ 23mm)
- Binocular/Trinocular eye tubes inclined 45°and main body can be rotated 360°
- The range of adjusting the diopter is $\pm 6^\circ$
- Interpupillary distance adjustment range 52mm ~ 76mm
- The range of adjusting the focus is 100mm (round post is 50mm), the diameter of the center working stage is Φ 95mm
- The measurement to match between the support and the main body is Φ 76mm
- The distance between from the post center to the main body center is 140mm
- The size of the round post is Φ 25mm
- Illuminators : the low illuminator is the transmitted illumination of the fluorescents lamp (5W),the up illuminator is the reflected illumination of the halogen lamp(6V 、 10W)

Technical data:

Objective		Main body	objective			
			0.5X	0.7X	1X	2X
Eyepiece		0.7~4.5	0.35~2.25	0.49~3.15	1.05~6.75	1.4~9
5X	Total magnification	3.5~22.5	1.75~11.3	2.5~15.8	5.3~33.8	7~45
	Diameter of visual field	32.8~5.1	65.7~10.2	46.9~7.3	21.9~3.4	16.4~2.6
10X	Total magnification	7~45	3.5~22.5	4.9~31.5	10.5~67.5	14~90
	Diameter of visual field	32.8~5.1	65.7~10.2	46.9~7.3	21.9~3.4	16.4~2.6
15X	Total magnification	10.5~67.5	5.3~33.8	7.4~47.2	15.8~101.3	21~135
	Diameter of visual field	24.3~3.8	48.6~7.6	34.7~5.4	16.2~2.5	12.1~1.9
20X	Total magnification	14~90	7~45	9.8~63	21~135	28~180
	Diameter of visual field	20~3.1	40~6.2	28.6~4.4	13.3~2.1	10~1.6
30X	Total magnification	21~135	10.5~67.5	14.7~94.5	31.5~202.5	42~270
	Diameter of visual field	12.9~2	25.7~4	18.4~2.9	8.6~1.6	6.4~1
Working distance		118	195	145	50	35

Optional attachments:

- Stands: SD1~SD20
- Universal stands: U1, U2, U3, U4, U1C, U2C, U3C, U4C
- Eyepieces: 10X, 15X, 20X, 30X; divisional eyepieces: 10X, 15X, 20X
- Plane achromatic none aberrance objectives: 0.5X, 1X, 2X
- Auxiliary illuminators: ML01, YKB-144T, XQK-150, etc
- Photo adapters and CCD adapters: PT01, DT01, 0.5X CCD adapter: C0.5, 1X CCD adapter: C1.0
- 1X CCD adapter with micrometer: CDM1.0
- Dark field attachment and Gem clamp: DC01, CJ01
- Mechanical stages: S7650, S20210

MZS0745 series connect with different attachments and stands exemplify:

MZS0745+SD2



MZS0745T+S7650



MZS0745T+SD2+DT01+DC



MZS0745+SF1+U2

MZS0740 series zoom stereo microscopes

MZS0740 series zoom stereo microscopes include MZS0740 (binocular inclined 45°) and MZS0740/60° (binocular inclined 60°). It is characterized by particular high dentition optical system. It can be extensively used for microelectronics, exact manufacture and the other science-technology industry field.



MZS0740 main body



MZS0740/60° main body



Part of IC(60X observing)



MZS0740 standard



MZS0740/60° standard

Main data:

- Total magnification 7X~40X(standard outfits), extend total magnification:240X
- Zoom objective magnification 0.7X~4.0X, working distance 110mm
- With high eye point and wide field eyepiece SWH10X(Φ 23mm)
- Binocular/Trinocular eye tubes inclined 45° / 60° and main body can be rotated 360°
- The range of adjusting the diopter is $\pm 6^\circ$
- Interpupillary distance adjustment range 52mm ~ 76mm
- The range of adjusting the focus is 100mm (round post is 50mm), the diameter of the center working stage is Φ 95mm
- The measurement to match between the support and the main body is Φ 76mm
- The distance between from the post center to the main body center is 140mm
- The size of the round post is Φ 25mm
- Illuminators : the low illuminator is the transmitted illumination of the fluorescents lamp (5W),the up illuminator is the reflected illumination of the halogen lamp(6V 、 10W)

Technical data:

Objective		Main body	objective			
			0.5X	0.7X	1X	2X
Eyepiece		0.7~4.0	0.35~2.2	0.49~2.8	1.05~6	1.4~8
5X	Total magnification	3.5~20	1.75~10	2.45~14	5.3~30	7~40
	Diameter of visual field	32.8~5.75	65.7~11.5	16.9~8.2	21.9~3.4	16.4~2.6
10X	Total magnification	7~40	3.5~20	4.9~28	10.5~60	14~80
	Diameter of visual field	32.8~5.75	65.7~11.5	46.9~8.2	21.9~3.4	16.4~2.6
15X	Total magnification	10.5~60	5.3~30	7.4~42	15.8~90	21~120
	Diameter of visual field	24.3~4.3	48.6~8.5	34.7~6.1	16.2~2.8	12.1~2.1
20X	Total magnification	14~80	7~40	9.8~56	21~120	28~160
	Diameter of visual field	20~3.5	40~7	28.6~5	13.3~2.3	10~1.8
30X	Total magnification	21~120	10.5~60	14.7~84	31.5~180	42~240
	Diameter of visual field	12.9~2.3	25.7~4.5	18.4~3.2	8.6~1.5	6.4~1.1
Working distance		110	195	145	50	35

Optional attachments:

- Stands: SD1~SD20
- Universal stands: U1, U2, U3, U4, U1C, U 2C , U3C,U4C
- Eyepieces: 10X,15X, 20X, 30X; divisional eyepieces: 10X, 15X, 20X
- Plane achromatic none aberrance objectives: 0.5X , 1X, 2X
- Auxiliary illuminators: ML01, YKB-144T, XQK-150, etc
- Photo adapters and CCD adapters: PT01, DT01 , 0.5X CCD adapter: C0.5, 1X CCD adapter: C1.0
- 1X CCD adapter with micrometer: CDM1.0
- Dark field attachment and Gem clamp: DC01, CJ01
- Mechanical stages: S7650, S20210

MZS0740 series connect with different attachments and stands exemplify:

MZS0740+SD3



MZS0740/60°+SD5



MZS0740/60°+ML01



MZS0740+SF1+U1

MTS series turret-type stereo microscopes

MTS100 series turret-type stereo microscopes, according to combinational magnification, have three types, MTS112, MTS113, MTS124. It is characterized by unique optical design, over long working distance, large depth of fields, horizontal axial drive control knobs, easy operation. It can be extensively used in researching mineral specimen, assembling precision components, industry product line and fine test.

MTS300 series turret-type stereo microscopes, according to combinational magnification, have three types, MTS312, MTS313, MTS324. It is characterized by vertical rotating zoom, position precision, focusing best, high eye point and wide field eyepieces. Especially it can be long used in industry product line.



Bolt's section
(30X observing)



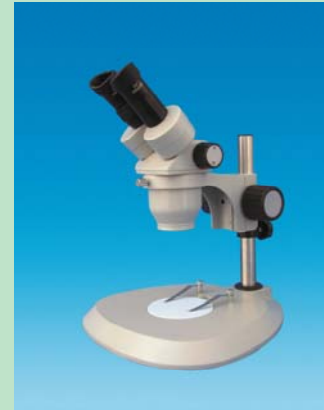
MTS112 main body



MTS113 main body



MTS124 main body



MTS112 standard



MTS312 main body



MTS313 main body



MTS324 main body



MTS312 standard

Main data:

- Zoom driver: MTS100 series: Horizontal axial drive control knobs; MTS300: vertical axial drive rotating knobs
- With high eye point and wide field eyepiece SWH10X (Φ23mm), the diameter of fitting: Φ30mm
- Objectives: 1X/2X、1X/3X、2X/4X, working distance: 105mm
- Total magnification: 10X/20X, 10X/30X, 20X/40X (standard outfits)
- Interpupillary distance adjustment range: 52mm~76mm
- Diopter adjustment: ±6°(left drawtube)
- Focusing range: 100mm (round post is 50mm)
- The diameter of the round post: Φ25mm
- The measurement to match between the support and the main body is Φ76mm
- The distance between from the post center to the main body center is 140mm
- The diameter of the center working stage is Φ95mm
- Illuminators: the low illuminator is the transmitted illumination of the fluorescent lamp (5W), the up illuminator is the reflect illumination of the halogen lamp(6V、10W)

Technical data:

Model	Objective	Eyepiece			
		Total Magnification	Diameter of visual field	Total Magnification	Diameter of visual field
		SWH10X		WF15X	
MTS112	1X	10X	23	15X	17
MTS312	2X	20X	11.5	30X	8.5
MTS113	1X	10X	23	15X	17
MTS313	3X	30X	7.7	45X	5.7
MTS124	2X	20X	11.5	30X	8.5
MTS324	4X	40X	5.7	60X	4.3
		WF20X		WF30X	
MTS112	1X	20X	14	30X	9
MTS312	2X	40X	7	60X	4.5
MTS113	1X	20X	14	30X	9
MTS313	3X	60X	4.7	90X	3
MTS124	2X	40X	7	60X	4.5
MTS324	4X	80X	3.5	120X	2.25

Optional attachments:

- Stands: SD1~SD20
- Universal stands: U1, U2, U3, U4, U1C, U 2C , U3C,U4C
- Eyepieces: 10X,15X, 20X, 30X; divisional eyepieces: 10X, 15X, 20X
- Auxiliary illuminators: ML01, YKB-144T, XQK-150, etc
- Mechanical stages: S7650, S20210

MTS series connect with different attachments and stands exemplify:

MTS112+SD6



MTS312+SD4



MTS124+SD10



MTS312+SF1+U1C

MZDA1490 series high-contrasted coaxial illumination

zoom monocular video microscopes

MZDA1490 series high-contrasted coaxial illumination zoom monocular video microscopes have two types, MZDA1490BC (binocular) and MZDA1490BTC (trinocular). They are the high-class products within coaxial illumination microscopes. Original imaging and illumination optical system design, making it have higher contrast and depth of field, are finished video displaying and binocular eyepieces observing at the same time. The image is erecting by eyepieces observing. It can be used in observing and checking-up reflecting objects. Specially fit for checking-up LCD, plane press works and other plane articles with low reflectivity.

Main data:

- ◇ It can be finished video displaying and eyepieces observing at the same time. The orientation of the observing image and the object is the same. The image is erecting. Choose to buy corresponding adapter, can connect CCD (CMOS) camera, digital camera or film camera.
- ◇ Standard eyepieces observing total magnification is 14X~90X. 1.4X~9X zoom magnification body, WF10X/22 plane eyepieces. The working distance is 103mm. Matching 2X auxiliary objective and 30X eyepieces, the maximal magnification is 540X.
- ◇ Long life, environmental protection type many kinds of wavelength high lightness LED coaxial illuminator
- ◇ Binocular eye tubes inclined 45°
- ◇ The range of adjusting the diopter is ± 6
- ◇ Interpupillary distance adjustment range 53~75mm
- ◇ The range of adjusting focus: Hand wheel adjusting focus is 50mm. The height of round post is 242mm.
- ◇ The measurement to match between the support and the main body is $\Phi 45$ mm.
- ◇ WF10X/22、SWF15X、SWF20X、SWF30X four kinds magnification eyepieces and 0.7X、2X auxiliary objectives to be matched.
- ◇ There are 0.3X, 0.5X, 1X CCD adapters to be matched.



Main optical data:

1. Binocular eyepieces observing

Eyepieces	Auxiliary objective	Main body	Auxiliary objective 0.7X	Auxiliary objective 2X
10X/ $\Phi 22$	Total magnification	14X~90X	9.8X~63X	28X~180X
	Field of video	$\Phi 15.7 \sim \Phi 2.44$	$\Phi 22.4 \sim \Phi 3.5$	$\Phi 7.86 \sim \Phi 1.22$
15X/ $\Phi 17$	Total magnification	21X~135X	14.7X~94.5X	42X~270X
	Field of video	$\Phi 12.14 \sim \Phi 1.89$	$\Phi 17.35 \sim \Phi 2.7$	$\Phi 6.07 \sim \Phi 0.94$
20X/ $\Phi 14$	Total magnification	28X~180X	19.6X~126X	56X~360X
	Field of video	$\Phi 10 \sim \Phi 1.56$	$\Phi 14.29 \sim \Phi 2.22$	$\Phi 5 \sim \Phi 0.78$
30X/ $\Phi 9$	Total magnification	42X~270X	29.4X~189X	84X~540X
	Field of video	$\Phi 6.43 \sim \Phi 1$	$\Phi 9.18 \sim \Phi 1.43$	$\Phi 3.21 \sim \Phi 0.5$
Working distance(mm)		103	145	35

Magnification range of zoom body 1.4X~9X

Note:

- a. Total magnification = Eyepieces magnification \times Zoom body magnification \times Auxiliary objective magnification
- b. Field of video = The diameter of field of eyepieces \div Zoom body magnification \div Auxiliary objective magnification (without auxiliary objective the value is 1)

2. Video displaying

Auxiliary objective	CCD adapter		
		0.5X	1X
Main body (Without auxiliary objective)	Total optical magnification	0.7X~4.5X	1.4X~9X
	Field of video	5.14X6.86~0.8X1.07	2.57X3.43~0.4X0.53
	Working distance (mm): 103		
0.7X	Total optical magnification	0.49X~3.15X	0.98X~6.3X
	Field of video	7.35X9.8~1.14X1.52	3.67X4.9~0.57X0.76
	Working distance (mm): 145		
2X	Total optical magnification	1.4X~9X	2.8X~18X
	Field of video	2.57X3.43~0.4X0.53	1.29X1.71~0.2X0.27
	Working distance (mm): 35		
Magnification range of zoom body 1.4X~9X			
Note: a. Field of video is based on 1/3" CCD camera. b. Video magnification=Total optical magnification × Digital magnification Total optical magnification=CCD adapter magnification × Auxiliary objective magnification × Zoom body magnification Digital magnification = The size of display screen diagonal ÷ The size of CCD camera plate diagonal The size of CCD camera plate diagonal: 1/3" CCD: 6mm; 1/2" CCD: 8mm; 2/3" CCD: 11mm.			

Main advantages:

its high contrast and high definition are the same level to the other international similar competitive grade, but price is just 50% -70% of those products. The image is erecting, MZDA1490BTC are available for binocular and trinocular. It can see including LCD, chips, wafer etc. almost the whole objects.

Main sphere of application:

it uses to observe, analysis and checking-up wafer fab, chips, LCD etc fine test with low reflectivity and generic objects high clearly imaging observing, analyses. Especially fit for the high level research.

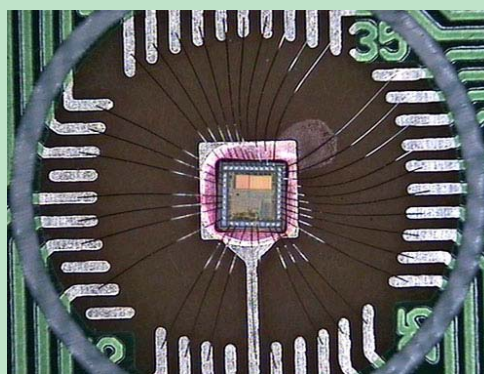
Optional attachments:

- ◇ CCD adapter, Digital camera junction and Photo adapter: C0.5、C1.0 CCD adapter, DT01、PT01
- ◇ 1X stage micrometer CCD adapter: CDM1.0
- ◇ Eyepieces: 10X, 15X, 20X, 30X; divisional eyepieces: 10X, 15X, 20X
- ◇ Stage micrometer: CDM0.01
- ◇ Auxiliary objective: 0.7X, 2X
- ◇ Mechanical stage: S10086

MZDA1490BTC connect with different attachments and stands:



MZDA1490BTC+SD11+SF10+C1.0+CCD+S7650



80X eyepieces observing IC effect picture

MZDA0745C high-contrasted coaxial illumination

zoom monocular video microscope systems

MZDA0745C, original imaging and illumination optical system design, making it have higher contrast and depth of field. It can connect with CS-mount or C-mount CCD (CMOS) camera, display, computer etc. They can be used in electric equipments, semiconductor, LCD, LED etc. for observing, checking-up and survey digital images. Specially fit for checking-up objects with low reflectivity (such as plane presswork, LCD bugs).

Main data:

- ◇ High-contrasted, in focus all the zoom course, even illumination
- ◇ Zoom objective magnification: 0.7X~4.5X. Working distance is 103mm.
- ◇ Standard total optical magnification: 0.7X~4.5X, extend total magnification: 0.15X~18X
- ◇ Adjustable high luminance LED coaxial illumination, AC100~240V, breadth voltage input.
- ◇ The measurement to match between the support and the main body is $\Phi 45\text{mm}$
- ◇ 0.3X, 0.5X, 1X(standard outfits), 1.5X, 2X five magnification CS-mount CCD adapter to be selected
- ◇ 0.7X, 2X auxiliary objective



Main optical data:

Auxiliary objective		CCD adapter				
		0.3X	0.5X	1X	1.5X	2X
Main body (Without auxiliary objective)	Optical magnification	0.21X~1.35X	0.35X~2.25X	0.7X~4.5X	1.05X~6.75X	1.4X~9X
	Field of video	17.14X22.86~2.67X3.56	10.29X13.71~1.6X2.13	5.14X6.860.8X1.07	3.43X4.57~0.53X0.71	2.57X3.43~0.4X0.53
	Working distance(mm): 103					
0.7X	Optical magnification	0.147X~0.945X	0.245X~1.575X	0.49X~3.15X	0.735X~4.725X	0.98X~6.3X
	Field of video	24.49X32.65~3.81X5.08	14.69X19.59~2.29X3.05	7.35X9.8~1.14X1.52	4.9X6.53~0.7X1.02	3.67X4.9~0.57X0.76
	Working distance(mm): 145					
2X	Optical magnification	0.42X~2.7X	0.7X~4.5X	1.4X~9X	2.1X~13.5X	2.8X~18X
	Field of video	8.57X11.43~1.33X1.78	5.14X6.86~0.8X1.07	2.57X3.43~0.4X0.53	1.71X2.29~0.27X0.36	1.29X1.71~0.2X0.27
	Working distance(mm): 35					

Magnification range of zoom body 0.7X~4.5X

Note:

a. The field of video is based on 1/3" CCD adapter.

b. Total magnification = Optical magnification × Digital magnification

Optical magnification = CCD adapter magnification × Auxiliary objective magnification × Zoom body magnification

Digital magnification = The size of display screen diagonal ÷ The size of CCD camera plate diagonal

Main advantages:

its high contrast and high definition are the same level to the other international similar competitive grade, but price is just 50% -70% of those products. It can see including LCD, chips, wafer etc. almost the whole objects.

Main sphere of application:

it uses to observe, analysis and checking-up wafer fab, chips, LCD etc fine test with high reflectivity and generic objects high clearly imaging observing, analyses. Especially fit for the high level research.

Adjusting explanation:

Loosen two screws above the Holder, the CCD attachment may revolve 360°so as to adjust the direction of CCD; meanwhile loosen three screws of the annular knurl part, and revolved the annular knurl part, it can adjust the high and low on focus. The top three screws can be adjusted when the CCD target surface isn't in the central.

Optional attachments:

- ◇ CCD adapter, Digital camera junction and Photo adapter: C0.5、 C1.0 CCD adapter, DT01、 PT01
- ◇ 1X stage micrometer CCD adapter: CDM1.0
- ◇ Eyepieces: 10X, 15X, 20X, 30X; divisional eyepieces: 10X, 15X, 20X
- ◇ Stage micrometer: CDM0.01
- ◇ Auxiliary objective: 0.7X, 2X
- ◇ Mechanical stage: S10086



Model: 0.3X, 0.5X, 1X, 1.5X, 2X CCD adapters

Introduction:

Selecting different magnification CCD adapters can change the total magnification of MZDA0745C high-contrasted coaxial illumination zoom monocular video microscope systems. We can select it according to the magnification.



Model: CDM1.0 1X stage micrometer CCD adapter

Introduction:

Having 0.1mm/scale cross stage micrometer, cross stage micrometer and the image show in display at the same time, can do length measure directly. It can do precise length measure using software.

Install: Twist this part to screw thread on top of CCD adapter, and directly twist CCD camera to C-mount top of this part.

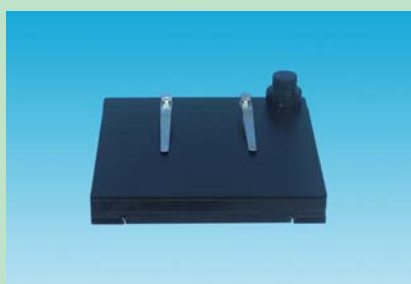


Model:0.7X, 2X auxiliary objectives

Introduction:

Connect the auxiliary objective under the MZDA0745C high contrasted coaxial illumination zoom monocular video microscope systems, can change the total magnification and the working distance. Users can select it according to the magnification and working distance.

Working distance: DA-W0.7: 145mm; DA-W2.0: 35mm



Model: S10086 Mechanical stage

Introduction:

◇ Put the object on the mechanical stage for expediently moving specimen in XY directions, easily finding images.

◇ The moving range of X direction 100 mm

◇ The moving range of Y direction 86 mm

MZDH15100 series high-magnification erecting images

zoom monocular video microscopes

MZDH15100 series high-magnification erecting images zoom monocular video microscopes include MZDH15100BT (non-coaxial illumination) and MZDH15100BTC (coaxial illumination). Original design, characterized by exceed high-magnification, high-resolution, and can be doing video(or digital) displaying, take pictures using digital camera and eyepieces observing at the same time. The image is erecting by binocular eyepieces observing. They fit for observing, checking-up and measure analysis microcosmic surface of various objects.

Main data:

- ◇ Exceed high-magnification. Standard eyepieces observing total magnification is 15X~100X. 1.5X~10X zoom magnification body, WF10X/22 plane eyepieces.
- ◇ The working distance is 82mm.
- ◇ It can be finished video displaying and eyepieces observing at the same time. The orientation of the observing image and the object is the same. The image is erecting. Choose to buy corresponding adapter, can connect CCD(CMOS) camera, digital camera or film camera.
- ◇ Long life, environmental protection type many kinds of wavelength (white, purple, red, blue, yellow, green) high lightness LED coaxial illuminator (use in MZDH15100BTC)
- ◇ Binocular eye tubes inclined 45°
- ◇ The range of adjusting the diopter is ± 6
- ◇ Interpupillary distance adjustment range 53~75mm
- ◇ The range of adjusting focus: Hand wheel adjusting focus is 50mm. The height of round post is 242mm.
- ◇ The measurement to match between the support and the main body is 45mm.
- ◇ WF10X/22,SWF15X,SWF20X,SWF30X four kinds magnification eyepieces and 0.5X,0.75X,1X,2X,5X auxiliary objectives to be matched.



Main optical data:

1. Binocular eyepieces observing

Eyepiece	Auxiliary objective	main body	auxiliary objective			
			0.5X	0.75X	2X	5X
10X/Φ22	Total magnification	15~100	7.5~50	11.25~75	30~200	75~500
	Field of video(mm)	14.67~2.2	29.33~4.4	19.56~2.93	7.33~1.1	2.93~0.44
15X/Φ17	Total magnification	22.5~150	11.25~75	16.875~112.5	45~300	112.5~750
	Field of video(mm)	11.33~1.7	22.67~3.4	15.11~2.27	5.67~0.85	2.27~0.34
20X/Φ14	Total magnification	30~200	15~100	22.5~150	60~400	150~1000
	Field of video(mm)	9.33~1.4	18.67~2.8	12.44~1.87	4.67~0.7	1.87~0.28
30X/Φ9	Total magnification	45~300	22.5~150	33.75~400	90~600	225~1500
	Field of video(mm)	6~0.9	12~1.8	8~1.2	3~0.45	1.2~0.18
Working distance(mm)		82	175	117	35	10.1

Magnification range of zoom body 1.5X~10X

Note:

- a. Total magnification= Eyepieces magnification × Zoom body magnification × Auxiliary objective magnification
- b. Field of video = The diameter of field of eyepieces ÷ Zoom body magnification ÷ Auxiliary objective magnification (without auxiliary objective the value is 1)

2. Video displaying

Auxiliary objective	CCD adapter			
	0.5X		1X	
Main body (1X auxiliary objective)	Total optical magnification	0.375X~2.5X	Total optical magnification	0.75X~5X
	Field of video	9.6X12.8~1.44X1.92	Field of video	4.8X6.4~0.72X0.96
	Working distance(mm):82			
0.5X	Total optical magnification	0.375X~2.5X	Total optical magnification	0.75X~5X
	Field of video	9.6X12.8~1.44X1.92	Field of video	4.8X6.4~0.72X0.96
	Working distance(mm):175			
0.75X	Total optical magnification	0.5625X~3.75X	Total optical magnification	1.125X~7.5X
	Field of video	6.4X8.53~0.96X1.28	Field of video	3.2X4.27~0.48X0.64
	Working distance(mm):117			
2X	Total optical magnification	1.5X~10X	Total optical magnification	3X~20X
	Field of video	2.4X3.2~0.36X0.48	Field of video	1.2X1.6~0.18X0.24
	Working distance(mm):35			
5X	Total optical magnification	3.75X~25X	Total optical magnification	7.5X~50X
	Field of video	0.96X1.28~0.144X0.19 2	Field of video	0.48X0.64~0.072X0.09 6
	Working distance(mm):10.1			
Magnification range of zoom body 1.5X~10X				
Note:				
a. Field of video is based on 1/3" CCD camera.				
b. 1.Video magnification=Total optical magnification × Digital magnification				
2.Total optical magnification=CCD adapter magnification × Auxiliary objective magnification × Zoom body magnification				
3.Digital magnification = The size of display screen diagonal ÷ The size of CCD camera plate diagonal				

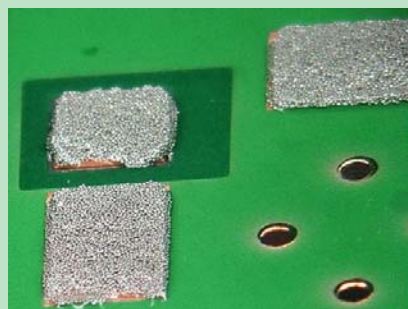
Optional attachments:

- ◇ CCD adapter, Digital camera junction and Photo adapter: C0.5、C1.0 CCD adapter, DT01、PT01
- ◇ 1X stage micrometer CCD adapter: CDM1.0
- ◇ Eyepieces: 10X, 15X, 20X, 30X; divisional eyepieces: 10X, 15X, 20X
- ◇ Stage micrometer: CDM0.01
- ◇ Auxiliary objective: 0.7X, 2X
- ◇ Mechanical stage: S10086

MZDH15100BT connect with different attachments and stands:



MZDH15100BT+SD2+
C1.0+CCD+S7650



85X eyepieces observing soldering
cream printing effect picture



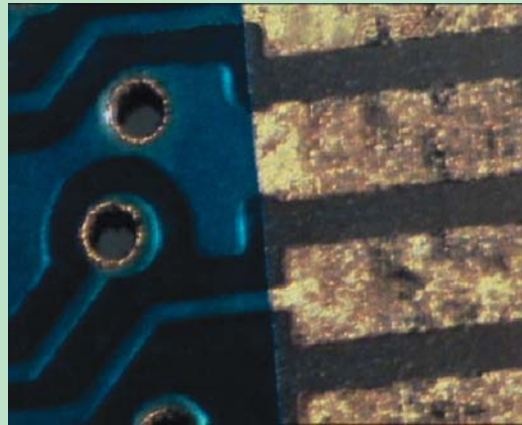
MZDH15100BT+MLR25

MZDR0850 three-dimensional rotated zoom video microscope systems

MZDR0850 three-dimensional rotated zoom video microscope systems, adopts advanced optical technology and fine machine electron technology. It is made observe from single front to three-dimensional many-sided and more fine. It needn't incline, you can observe high-resolution dynamic image of 360°all-direction, large depth of fields. It has realistic stereo perception and gradation and revolving speed can be changed. It can be observed the place of tradition lens unable display, e.g. below of PCB board, inside of metal hole, side-wall etc. It can be used extensively in surface board of SMT、PCB、BGA , etc.



MZDR0850 standard



Circuit board (100X video displaying)

Main data:

- ◇ Lens can be rotated 360°, large depth of fields, stereo observing each direction of objects.
- ◇ Inlet miniature motor, long life LED illumination, 90V~260V breadth voltage input.
- ◇ Zoom objective magnification 0.56X~3.75X.
- ◇ The measurement to match between the support and the main body is $\Phi 45\text{mm}$.
- ◇ The diameter of the round post is $\Phi 25\text{mm}$.
- ◇ 0.3X, 0.5X, 1X(standard outfits), 1.5X CCD adapters and kinds of stands to be selected. (CCD is selected to buy).

Note: The standard outfits don't include CCD camera.

Adjusting explanation:

Loosen two screws above the Holder, the CCD attachment may revolve 360°so as to adjust the direction of CCD; meanwhile loosen three screws of the annular knurl part, and revolved the annular knurl part, it can adjust the high and low on focus. The top three screws can be adjusted when the CCD target surface isn't in the central.

Technical data:

CCD adapter	Optical magnification	Video magnification	Field of view	Working distance	Observing angle
0.3X	0.169X~1.125X	9.99X~66.6X	21.3X28.4~3.2X4.27	20	45°(or other angles)
0.5X	0.28X~1.875X	16.65X~111X	12.9X17.1~1.92X2.56		
1X	0.56X~3.75X	33.3X~222X	6.4X8.6~0.96X1.28		
1.5X	0.84X~5.625X	49.95X~333X	4.3X5.7~0.64X0.85		
Magnification range of zoom body 0.56X~3.75X					

Optional attachments:

Model 0.3X、0.5X、1X、1.5X CCD adapters

Accessories of Stereo microscopes

Attachments >> Holder:



SF1



SF2



SF3



SF4



SF5



SF6



SF7



SF8



SF9



SF10



SF11

Main data:

- SF1 、 SF2 、 SF3 、 SF4 、 SF6 、 SF7 、 SF8 、 SF9, the measurement to match between the support and the main body is Φ 76mm, match with stereo microscopes
- SF5 、 SF10 、 SF11 the measurement to match between the support and the main body is Φ 45mm, match with monocular video microscopes
- The distance between from the post center to the support center is 140mm
- Special SF4 、 SF7, the distance between from the post center to the support center is 110mm . And SF9 、 SF10, the distance is 150mm
- The range of adjusting focus is 50mm
- SF9 、 SF10 with fine adjustment

Attachments >> Stand:



SD1



SD2



SD3



SD4



SD5



SD6



SD7



SD8



SD9



SD10



SD11



SD12



SD13 with Spinner



SD14 with Spinner



SD15 with Spinner



SD16 with Spinner



SD17 with surface & contour LED light



SD18 with surface & contour LED light



SD19 with double LED lightsource & Spinner



SD20 with double LED lightsource & Spinner

Main data:

- The measurement to match between the support and the main body is Φ 76mm
- The distance between from the post center to the main body center is 140mm
- Range of adjusting the focus is 100mm (round post is 50mm), the diameter of the center working stage is Φ 95mm
- The height of the round post is 240mm
- Illuminators: the low illuminator is the transmitted illumination of the fluorescent lamp(5W), the up illuminator is the reflected illumination of the halogen lamp(6V 、 10W)
- SD13, SD14, SD15,SD16, SD19 and SD20 with fine adjustment
- SD17 Round pole LED Light Source, SD18 Square pole LED Light Source, SD19 Round pole LED Light Source with Spinner, SD20 Square pole LED Light Source with Spinner

Attachments >>Universal Stand:



U1



U1c

U1 and U1c universal stand:

- Cast iron soleplate, wearable and stainless steel metal post and rail. Use with holder SF1, can observe object with any direction, enlarge the range of observation
- The size of the soleplate: 254× 254 × 40mm (used in U1)
- The maximal clamped thickness of U shape nip: 63.2mm (used in U 1c)
- The height of post: 475mm, diameter: Φ 37mm
- Rail with gear and rack flexed adjustment, the shortest flexed length is 560mm, and the longest is 605mm, diameter: Φ 37mm
- The measurement to match between the steeve and the aperture: Φ 25mm



U2



U2c

U2 and U 2C universal stand:

- Cast iron soleplate, wearable and stainless steel metal post, aluminum alloytelescopic rail. Use with holder SF1, can observe object with any direction, enlarge the range of observation
- The size of the soleplate: 254× 254 × 40mm (used in U2)
- The maximal clamped thickness of U shape nip: 63.2mm (used in U 2c)
- The height of post: 475mm, diameter: Φ 37mm
- The measurement to match between the steeve and the aperture: Φ 25mm



U3



U3c

U3 and U 3c universal stand:

- Cast iron soleplate, two stainless steel rails, exact sliding bearing, insure agile glide
- The size of the soleplate: 254× 254 × 40mm (used in U3)
- The maximal clamped thickness of U shape nip: 63.2mm (used in U 3c)
- The height of post: 550mm, diameter: Φ 37mm
- The length of rails: 460mm, diameter: Φ 19.05mm
- The measurement to match between the steeve and the aperture: Φ 25mm



U4



U4c

U4 and U 4c universal stand:

- Cast iron soleplate, wearable and stainless steel metal post and rail. Use with holder SF1, can observe object with any direction, enlarge the range of observation
- The size of the soleplate: Φ 220mm, the height of the soleplate: 30mm (used in U4)
- The maximal clamped thickness of U shape nip: 63.2mm (used in U 4C)
- The height of post: 345mm, diameter: Φ 25mm
- The length of rail: 345mm, diameter: Φ 25mm
- The measurement to match between the steeve and the aperture: Φ 25mm

Attachments >> Others:



Eyepieces and divisional eyepieces



Auxiliary objectives



Dark field attachment & Gem clamp



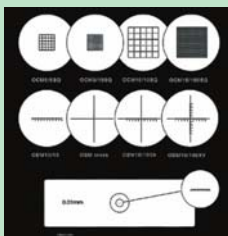
CCD adapters



1X stage micrometer CCD adapter



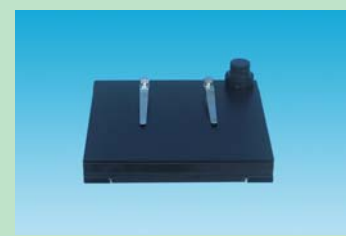
Digital camera junction & Photo adapter



Micrometers and stage micrometers



S7650 Mechanical stage



S10086 Mechanical stage



Auxiliary objectives used in MZD



CCD adapter used in MZDH

← Accessories of monocular video microscopes

Microscope Accessory >> Illuminator

Fluorescent Ring Illuminator



ML01



ML02

Technical Specifications:

Model	Voltage	Ring diameter	Output power	Color temperature
ML01	110V / 220V	60 mm	8W	6400K
ML02	110V / 220V	70 mm	10W	6400K

LED Ring Illuminator:



LEDL64T



LEDL96T



LEDL144T



LEDB64T4-Division



LEDB96T4-Division



LEDB144T4-Division



LEDS48W



LEDS64W



LEDS144W

Technical Specifications:

Model	LED64,96,144T	LED64,96,144T4-Division	LEDS48,64,144T
LED quantity	64,96,144EA	64,96,144EA	48,64,144T
Input Voltage	90 - 265V	90 - 265V	90 - 265V
Output Voltage	DC12V	DC12V	DC12V
Ring diameter	61/30/61 mm	61/30/61 mm	61mm
Working distance	55-140mm	55-140mm	55-140mm
Lumen	12000	12000	12000
Color temperature	6400K	6400K	6400K
Brightness control	Dimmable	Dimmable: 4-division	Without

40-division high-end LED Illuminator:

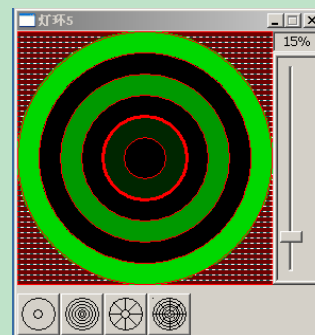
It is applicable with CNC video measuring systems and researching stereo microscopes. It has software with USB2.0 cable to control the switch and brightness of different divisions.



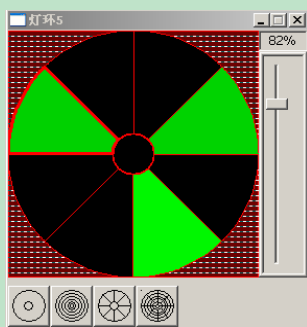
40-division LED light source



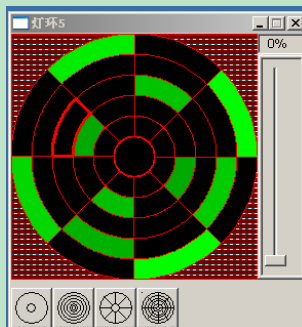
Cover with USB2.0 cable



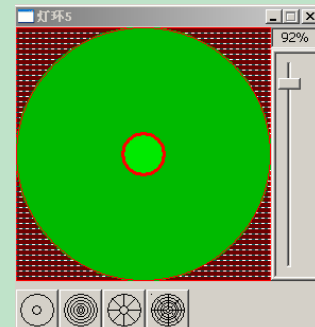
5-division



8-division



40-division



Full light

Optical fiber light source XQK150:

XQK150 features “cold” illumination through filtration and a series of user defined colored filters. The cold light source has high intensity fiber optic illumination and accessories that allow you to position your light for best possible viewing. The original design shown above features a sturdy small footprint through integrated solid state circuitry. The 150 watt lamp is equipped with a variable control. The XQK150 provides the excellent illumination for high brightness & low temperatures.

Features:

- ◇ Streamline facade; New design for easy replacing lamp
- ◇ Adopt over loading protect set; Brightness > 23000LU
- ◇ Color change by filter: Filter Red / Blue / Green / Yellow



XQK150

Technical Specifications:

Power Input	110V / 60Hz / 150W; 220V / 50Hz / 150W;		
Power Output	21V		
Dimensions	210mm×170mm×130mm		
Filter	Filter Red / Blue / Green / Yellow		
Reflector Lamp	21V/150W		
Fiber adapter diameter	20mm		
Option	Twin-Arm Fiber	double-Arm Fiber	Ring Fiber
Specification	2- F5X500mm	2-Φ9X500mm	F55XF10X1000mm
Option	Microscope Adapter for Ring Fiber		
Ring adapter diameter	It is available from 30mm to 70mm		

Upright metallurgical microscope L2030 Series

L2030 series reflected and transmitted metallurgical microscope is suitable to observe surfaces of non-transparent object or transparent object. It is equipped with vertical illuminator and transmitted illuminator, plan achromatic objectives with long working distance (no cover glass), wide field eyepieces and set polarizer device in trinocular. It provides clear and high-contrast image, convenient control.

It is the ideal instruments in research work in biology, metallography, mineralogy, precision engineering, electronics and etc. It is suitable for scientific research, teaching demonstration in the colleges and factory.

Features:

- ◇ With plan achromatic objectives with long working distance (no cover glass) and wide-field eyepieces, can get clear pictures and wide view field.
- ◇ Coaxial coarse/fine focus system, with tensional adjustable and up stop, minimum division of fine focusing: 2 μ m.
- ◇ With vertical illuminator and transmitted illuminator can observe surfaces of non-transparent object or transparent object.
- ◇ 6V 20W halogen lamp, brightness control.
- ◇ Trinocular, can switch to observe normally or to observe the Polarize, can send 100% of light to the binocular eyepieces or to the top port.



Standard Configuration:

Model	L2030A	L2030B
Eyepiece	Wide field WF10X(μ 18mm)	
Objective	Plan achromatic objectives with long working distance (no cover glass) PL 5X/0.12、PL L10X/0.25、PL L40X/0.60、PL L60X/0.75 (Spring)	Plan achromatic objectives with long working distance (no cover glass) PL 5X/0.12、PL L10X/0.25、PL L20X/0.40、PL L40X/0.60 (Spring)、PL L60X/0.75 (Spring)
Eyepieces tube	Trinocular, Inclination of 30, (Analyzer with field diaphragm to switch)	
Vertical illumination unit	6V 20w, halogen lamp, adjustable control.	
	Vertical illumination with field diaphragm, aperture diaphragm and polarizer,(Y,B,G)filter and frosted filter	
Focus system	Coaxial coarse/fine focus system, with tensional adjustable and up stop, minimum division of fine focusing: 2 μ m.	
Nosepiece	Quadruple (Backward ball bearing inner locating)	Quintuple (Backward ball bearing inner locating)
Stage (mm)	Double layer mechanical (Size:185X140, moving range:75X50)	
Vertical illumination unit	Abbe condenser NA.1.25 Rack & pinion adjustable、(B,G)filter and Frosted filter、Collector for halogen lamp、6V 20w halogen lamp, adjustable control.	

Optional accessories:

Name	Sort / Technique parameter
Eyepiece	Wide field WF16X(μ 11mm)、Dividing 10X(μ 18mm) 0.1mm/Div
Objective	Plan achromatic objectives with long working distance (no cover glass) PL L 50X/0.70、PL L 80X/0.80、PL L 100X/0.85 (Spring)、PL 100X/1.25 (Spring, oil)
Filter	Green & Yellow filter
CCD adapter	0.4X ; 0.5X ; 1X ; 0.5X with dividing 0.1mm/Div
Camera	DV-1 (With USB & video output) ; DV-2 (With USB output) ; DV-3 (With video output)
Photograph unit	10X Viewing eyepiece、2.5X/4X Change over photograph attachment、4X Focusing photograph attachment
Digital camera adapter	CANON(A610,A620,A630,A640)

Upright metallurgical microscope L3003 Series

L3003 reflected metallurgical microscope is suitable to observe the surfaces of non-transparent object. It is equipped with vertical illuminator, plan achromatic objectives with long working distance (no cover glass), wide-field eyepieces and set polarizer device in trinocular. It provides clear and high-contrast picture, beautiful sculpt, convenient operation, etc. It is the ideal instruments for research work in metallographic, mineralogy, precision engineering, electronics, etc. It is suitable for scientific research, teaching demonstration in the colleges and factory.

Features:

- ◇ With plan achromatic objectives with long working distance (no cover glass) and wide-field eyepieces, can get clear pictures and wide view field .
- ◇ Coaxial coarse/fine focus system, with tensional adjustable and up stop, minimum division of fine focusing: 2 μ m.
- ◇ 6V 20W halogen lamp, adjustable brightness.
- ◇ Trinocular, can switch to observe normally or to observe the polarize, can send 100% of light to the binocular eyepieces or to the top port.



Standard Configuration:

Model	L3003
Eyepiece	Wide field WF10X(μ 18mm)
Objective	Plan achromatic objectives with long working distance (no cover glass) PL 5X/0.12
	Plan achromatic objectives with long working distance (no cover glass) PL L10X/0.25
	Plan achromatic objectives with long working distance (no cover glass) PL L20X/0.40
	Plan achromatic objectives with long working distance (no cover glass) PL L50X/0.70
Eyepieces tube	Trinocular, Inclination of 30, (Analyzer with field diaphragm to switch)
Vertical illumination unit	6V 20W, Halogen lamp, Adjustable brightness
	Vertical illumination With field diaphragm ,aperture diaphragm and polarizer,(Y,B,G)filter and Ground glass
Focus system	Coaxial coarse/fine focus system, with tension adjustable and up stop, minimum division of fine focusing: 2 μ m.
Nosepiece	Quadruple Backward ball bearing inner locating
Stage (mm)	Double layer mechanical (Size: 210X140, moving range:75X50)

Optional accessories:

Name	Sort / Technique parameter
Eyepiece	Wide field WF16X(μ 11mm)
	Dividing 10X(μ 18mm) 0.1mm/Div
Objective	Plan achromatic objectives with long working distance (no cover glass) PL L 50X/0.70、PL L 80X/0.80、 PL L 100X/0.85 (Spring)、 PL 100X/1.25 (Spring, oil)
Nosepiece	Quintuple Backward ball bearing inner locating
CCD adapter	0.4X ; 0.5X ; 1X ; 0.5X with dividing 0.1mm/Div
Camera	DV-1 (With USB & video output) ; DV-2 (With USB output) ; DV-3 (With video output)
Photograph unit	2.5X/4X Change over photograph attachment with 10X Viewing eyepiece、 4X Focusing photograph attachment、 MD Adapter、 PK Adapter
Digital camera adapter	CANON(A610,A620,A630,A640)

Upright metallurgical microscope XJL101 Series

XJL-101 series reflected metallurgical microscopes is suitable to observe the microscopically surfaces of non-transparent object. They are equipped with large move range mechanical stages, reflected vertical illumination and set polarizer device in trinocular. It has clear and high-contrast picture beautiful sculpt, convenient control and etc. It is the ideal instrument in research work in metallography, mineralogy, precision engineering, electronics and etc. It is suitable for scientific research, teaching demonstration in the colleges and factory.

Features:

- ◇ With plan achromatic objectives with long working distance (no cover glass) and wide-field eyepieces, can get clear pictures and wide view field.
- ◇ With large move range mechanical stages, can move quickly and slowly.
- ◇ Coaxial coarse/fine focus system, with tension adjustable and up stop, minimum division of fine focusing: 0.7 μ m.
- ◇ 6V 20W halogen lamp, adjustable brightness.
- ◇ Trinocular, can switch to observe normally or to observe the polarize, can send 100% of light to the binocular eyepieces or to the top port.



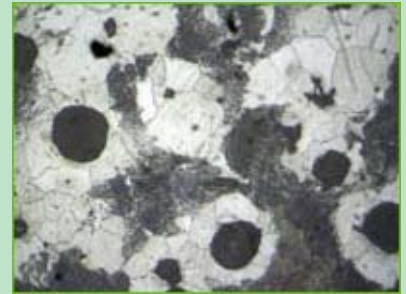
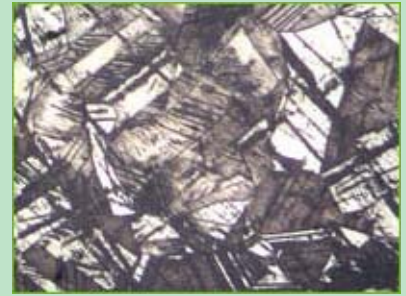
Standard Configuration:

	XJL101	XJL101A
Eyepiece	Wide field WF10X(μ 18mm)	
Objective	Plan achromatic objectives with long working distance (no cover glass) PL5X/0.12 、 PL L10X/0.25、 PLL20X/0.40 、 PLL40X/0.60 、 PLL80X/0.80	
Eyepieces tube	Trinocular, Inclination of 30, (Analyzer with field diaphragm to switch)	
Vertical illumination unit	6V 20w, halogen lamp, brightness control. Vertical illumination with field diaphragm, aperture diaphragm and polarizer,(Y,B,G)filter and frosted filter	
Focus system	Stage adjustable, Coaxial coarse/fine focus system, with tensional adjustable and up stop, minimum division of fine focusing: 0.7 μ m.	
Nosepiece	Quintuple(Frontward ball bearing inner locating)	
Stage	Three layer mechanical Size:250mmX230mm, movingrange:154mmX154mm	Three layer mechanical Size:280mmX270mm, movingrange:204mmX204mm

Optional accessories:

Name	Sort / Technique parameter
Eyepiece	Wide field WF16X(μ 11mm)、 Dividing 10X(μ 18mm) 0.1mm/Div
Objective	Plan achromatic objectives with long working distance (no cover glass) PLL50X/0.70 、 PLL60X/0.75 、 PLL100X/0.85 (Spring) 、 PL100X/1.25 (Spring, oil)
Filter	Green & Yellow filter
CCD adapter	0.4X ; 0.5X ; 1X ; 0.5X with dividing 0.1mm/Div
Camera	DV-1 (With USB & video output)
	DV-2 (With USB output)
	DV-3 (With video output)
Photograph unit	10X Viewing eyepiece
	2.5X/4X Change over photograph attachment
	4X Focusing photograph attachment
Digital camera adapter	CANON(A610,A620,A630,A640)

Inverted metallurgical microscope MDS Series



Packing Size: 581mm×423mm×328mm; Gross Weight: 14.5 kg; Net Weight: 13 kg

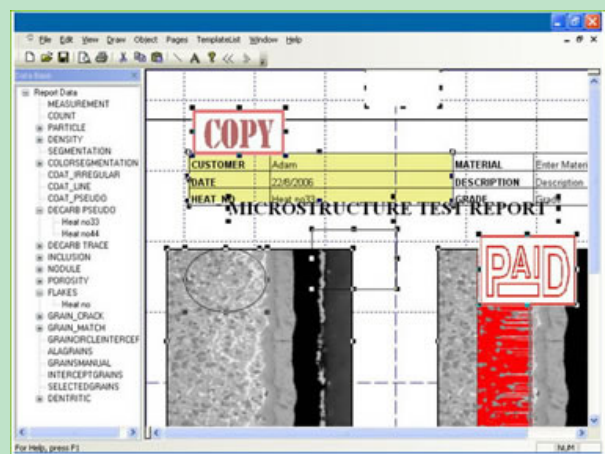
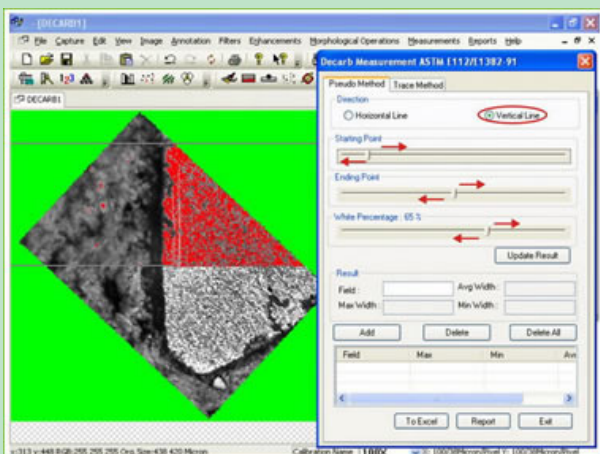
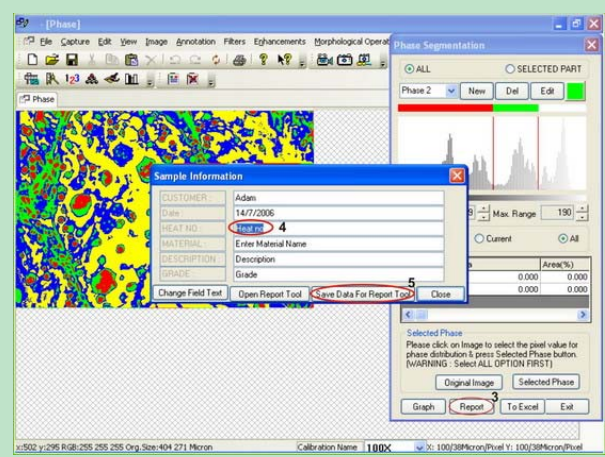
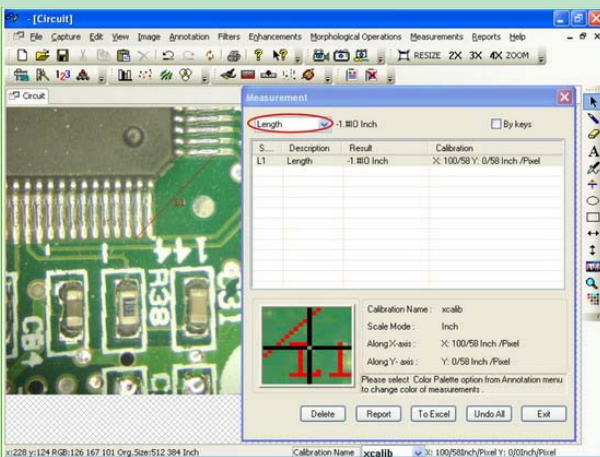
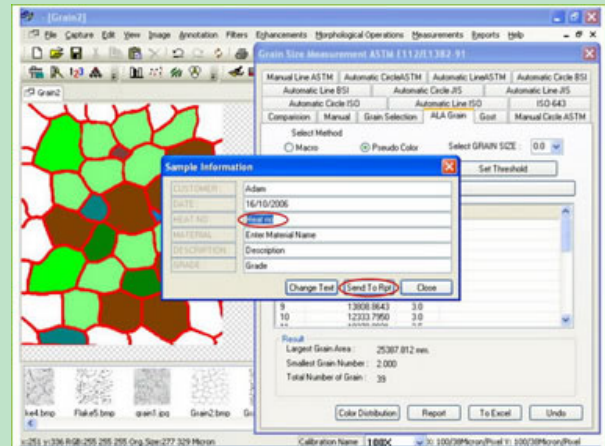
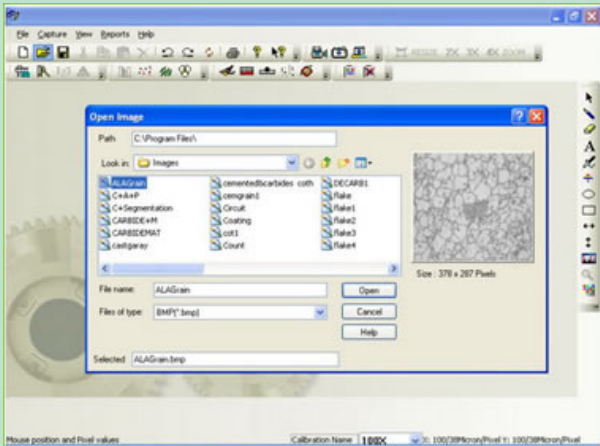
Technical Specification:

Items	Specification	
Standard Attachment	Main Body	●●
	Set of Stage Plate Polarizing Slide Analyzing Slide	●●
Eyepieces	WF10×/Φ18; WF12.5×/Φ14	●●
	WF10×/Φ20; WF16×/Φ13;	○○
	Huygenian Ocular 5×/Φ20	○○
	WF10×/Φ18 (Reticule)	●
Plan Achromatic Objectives	Plan 2.5×/0.07; Plan 4×/0.10	○
	Plan 10×/0.25; Plan 20×/0.35(S);	●
	Plan 40×/0.65(S); Plan 100×/1.25(S)(Oil)	●
Trinocular Head	Inclined 45°, Light Distribution:20:80	●
Mechanical Stage	Travel Range: 50×40mm;	●
	Size: 180×165mm	●
Stage Plate	1 (Φ10) ; 2 (Φ20)	●
	3 (Φ40)	○
Illuminator	6V/30W Halogen Lamp;	●
	Spare Lamp: 2pc;	●
	Spare Fuse: 2pc	●
Filters	Blue, Green, Grey, White	●
Optional Accessories	1× C-mount (Available for Digital Camera)	○
	0.6× C-mount (Available for Vision)	○
	Available for Digital Camera;	○
	Micrometer (Division 0.01mm)	○
Note: "●" Is Standard Attachment. "○" Is Optional Accessories.		

META VISION Image Analysis Software

This software is new generation image software meant for Metallurgist's to do analysis in the simplest way. This is single screen window based system. The system is flexible, independent to adopt any capture card, camera or Microscope.

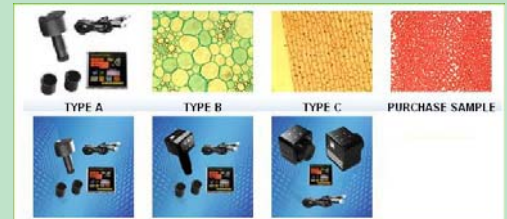
This software can handle monochrome (8 bits) and color (24 bits) images. Multiple images of any size can be opened and displayed on the screen for analysis or comparison. The software supports most common formats such BMP, JPEG, TIFF, PNG, GIF & PSD. The live image can be observed and captured on the same platform. Since the system is made in Windows environment, graphs and charts displayed on the monitor can be quickly transferred to any other Windows based program like MS word, MS Excel or any other commercial Windows based software for use in reports and presentation.



Microscope Accessory >> CMOS Camera DCM series

It can be used with every microscope and hardness tester.

DCM series of CMOS camera proves a subtle color differentiation, and the microscope camera captures excellent digital images, especially when contrast methods with high light intensities are applied. The integrated CMOS sensor is absolutely resistant against blooming and shows superior performance in imaging highlights.



Fits Easily into any Laboratory

Configured with standard interfaces such as eyepiece tube or C-Mount and USB2.0, the DCM camera easily connects to any microscope and computer. Delivery includes MiniSee or Scope Photo image acquisition software with comprehensive functionality designed for intuitive handling. The camera is dedicated to bright field and reflective light microscopy, but also suitable for many other contrast methods in light microscopy.

Making Superior Image Quality Affordable

Ease of operation, high resolution and excellent color reproduction are the distinguishing features of the microscope camera. With 1.3, 2.0, 3.0 and 5.0 mega pixel resolution, this camera is the ideal tool for high-quality image documentation and elementary image analysis.

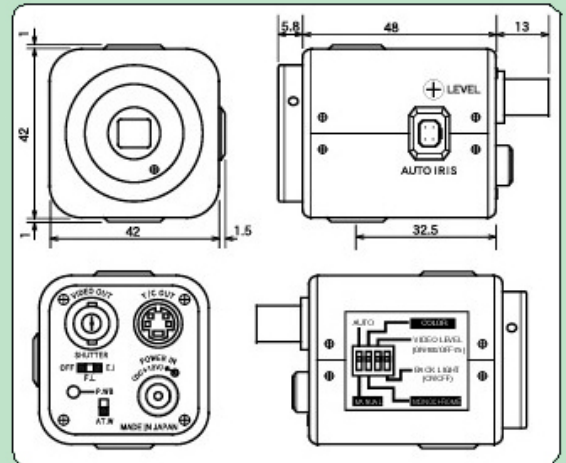
Technical Specifications:

Model	DCM1.3	DCM3.0	DCM5.0
Pixel	1.3M	3.0M	5.0M
PC Interface	USB 2.0, Direct Show & Twain		
Sensor	1/2.2", SUPER COLOR CMOS (CCD sensor optional available)		
Dynamic Range	68dB		
Color	Max 1.64 million 24Bit Color		
Video Mode	2592×1944 / 2048×1536 / 1280×960 / 864×600		
Sensitivity	1.2V/lux-sec@550nm		
White balance	Automatic or Manual		
Power Source	From USB 2.0 Port		
Image Control	Color-Brightness / Gamma Correction / Exposure-Sharpness Adjustment / Auto, 50/60 Hz light auto detection		
Operating System	Windows2000(SP4)、XP (SP2)、VISTA are installed when shipping. No working if specifications up to reach of above after shipment		
Basic PC*	CPU equivalent to Inter Pentium4 2.4GHz or more; 1GB RAM or more; 1 High-speed USB 2.0 Port; 19" Monitor or 21"		
Software Disc	Driver & Image Software "Scope Photo"		

Microscope Accessory >> CCD Camera

It is used with Trinocular stereo, metallurgical microscopes, toolmaker maker microscopes, video measuring systems, profile projectors, Vickers hardness testers and Brinell hardness testers, etc.

WAT-250D 1/3" CCD DSP Color Camera



Technical Specifications:

Pick-up element	1/3 inch Interline transfer CCD image sensor
Total pixels	811(H)×508(V) (NTSC);
	795(H)×596(V) (PAL)
Effective pixels	768(H)×494(V) (NTSC);
	752(H)×582(V) (PAL)
Unit cell size	6.35µm(H) × 7.4µm(V) (NTSC);
	6.35µm(H) × 7.4µm(V) (PAL)
Scanning system	2:1 interlace
Synchronizing system	Internal
Video output	Composite Video, 1 Vp-p, 75ohm Unbalanced
Resolution (Horizontal)	450TV lines (center)
Minimum illumination	0.1 lx. F1.2 (AGC ON)
Gamma correction	0.45 (ON) / 1.0 (OFF)
AGC	ON = 8~36dB (High), 8dB
S/N Ratio	50dB(AGC OFF, Gamma OFF)
AE Mode	OFF, FL, EI (OFF~1/100000sec.)
White balance	Auto trace, Push Lock White Balance
Lens Mount	CS-mount
Auto Iris	Video / DC Drive Auto Select
Installation screw	U 1/4inch (D=5mm) (Top/Bottom)
Connection terminal	Video out (BNC), Power, Auto Iris
Power supply	DC +10.8~13.2V (recommendation DC+12V+10%)
Current	Max. 150mA (at DC +12.0V)
Temperature	-10°C~ +40°C (Operating);
	-30°C~ +70°C (Storage)
Dimensions	35.5(W) x 36(H) x 64(D) mm
Weight	Approx. 90g
Accessories	DC Plug(WPDC12),
	Hex Key wrench,
	Iris-plug (AIC-G)

Stereo Magnifier ST430

ST430 improves operators' working efficiency and makes operators no longer suffer the strain of eye, neck or back due to the humanistic design. It can be applicable to the field of electronic industry, precision project, plastic shop, medical diagnosis, public security system, and so on.

Introduction:

Stereo Magnifier ST420 with magnification 4-30x and stereo image; rotary turret can together fix three pieces of lens to work, wide-field view and long working distance make the observation more ease and joyful; new LED Cold light source system deduces the radiation of heat and ensures the instruments have longer life of using.



Stereo Magnifier ST420

Technical specification:

Delivery	Lens magnification	Total magnification	Working distance	Visual field
Standard	2X	4x	208mm	68 mm
Standard	4X	8x	98 mm	34 mm
Standard	6X	12x	80 mm	22.7 mm
Optional	8X	16x	58 mm	17 mm
Optional	10X	20x	46 mm	13.6 mm
Optional	15X	30x	38 mm	9.6 mm

Working magnifiers SKA Series



SKAC: 3x, 5x, 8x available

Technical Specifications:

- ◇ Lenz material: glass
- ◇ lens size: 5"
- ◇ Diopter: 3diopter, 5diopter
- ◇ Light sources: 22w circular fluorescent lamp
- ◇ Transparent lamp protection cover is supplied
- ◇ Color available: white, black, light grey



SKAS: 3x, 5x, 8x available

Technical Specifications:

- ◇ Lenz material: glass
- ◇ lens size: 7.5"*6.2"
- ◇ Diopter: 3diopter, 5diopter
- ◇ Light sources: 2*9w energy saving compact fluorescent lamp
- ◇ Lenz cover is available as an option
- ◇ Color available: white, black, light grey

Working magnifiers SKB Series



SKBC: 3x, 5x, 8x available

Technical Specifications:

- ◇ Lenz material: glass
- ◇ lens size: 5"
- ◇ Diopter: 3diopter, 5diopter
- ◇ Light sources: 22w circular fluorescent lamp
- ◇ Transparent lamp protection cover is supplied
- ◇ Color available: white, black, light grey



SKBS: 3x, 5x, 8x available

Technical Specifications:

- ◇ Lenz material: glass
- ◇ lens size: 7.5"*6.2"
- ◇ Diopter: 3diopter, 5diopter
- ◇ Light sources: 2*9w energy saving compact fluorescent lamp
- ◇ Lenz cover is available as an option
- ◇ Color available: white, black, light grey

Working magnifiers SKC Series



SKCC: 3x, 5x, 8x available

Technical Specifications:

- ◇ Lenz material: glass
- ◇ lens size: 5"
- ◇ Diopter: 3diopter, 5diopter
- ◇ Light sources: 22w circular fluorescent lamp
- ◇ Transparent lamp protection cover is supplied
- ◇ Color available: white, black, light grey



SKCS: 3x, 5x, 8x available

Technical Specifications:

- ◇ Lenz material: glass
- ◇ lens size: 7.5"*6.2"
- ◇ Diopter: 3diopter, 5diopter
- ◇ Light sources: 2*9w energy saving compact fluorescent lamp
- ◇ Lenz cover is available as an option
- ◇ Color available: white, black, light grey

Manual Rockwell hardness tester SHR150M(D)

Introductions:

SHR150M is an effective and affordable Rockwell testing machine with high accuracy, reliability and durability, and it is applied in the workshops and measurement departments for determining the Rockwell hardness of ferrous and non-ferrous metals.

SHR150M adopts mechanical test cycle without any need of electricity, load force 60, 100, 150Kg is selected by dial knob, test force is manually loaded in handle, and tested result: HRA, HRB, HRC is showed on the analogue gauge.



Technical Specifications:

Rockwell Scales	HRA, HRB, HRC
Preliminary test force	10Kgf(98.07N)
All Testing Force	60Kgf (588N), 100Kgf (980N), 150Kgf (1471N)
Hardness Indication	Analogue
Hardness analogue resolution	0.5HR
Max. Height of Specimen	170mm
Instrument Throat	140mm
Dimension (L*W*H)	520*240*700MM
Gross/Net Weight	120/90Kg
Accuracy	Conform to GB/T230.2; ASTM E-18; ISO6508
Remark: Optional protective indenter device is available on the model of SHR150MD.	

Standard delivery:

Main unit	1SET	Ø1.588mm ball indenter	1PC	Ø 55mm flat anvil	1PC
Hardness block (57-70) HRC	1PC	Ø1.588mm spare ball	5PCS	Ø 150mm flat anvil	1PC
Hardness block (20-33) HRC	1PC	Cone diamond indenter	1PC	Operation Manual	1COPY
Hardness block (85-100) HRB	1PC	Ø 55mm V-shape anvil	1PC	Accessories box	1PC



Medium Testing Anvil



V-shaped Testing Anvil



Large Testing Anvil

Optional accessories:

Other Rockwell Hardness blocks; Ø 10mm flat anvil; Ø3.175mm ball indenter, and so on

Electronic Rockwell hardness tester SHR150E(D)

Introductions:

SHR150E is an effective and affordable Rockwell testing machine with high accuracy, reliability and durability, and it is applied in the workshops and measurement departments for determining the Rockwell hardness of ferrous and non-ferrous metals.

SHR150E adopts the design of load test force in electric, load force 60, 100, 150Kg is selected by dial knob, test force is loaded in switch control, and tested result: HRA, HRB, HRC is showed on the analogue gauge.



Technical Specifications:

Rockwell Scales	HRA, HRB, HRC
Preliminary test force	10Kgf(98.07N)
All Testing Force	60Kgf (588N), 100Kgf (980N), 150Kgf (1471N)
Hardness Indication	Analogue
Hardness analogue resolution	0.5HR
Dwell Time	2 ~ 60S
Max. Height of Specimen	170mm
Instrument Throat	140mm
Dimension (L*W*H)	520*240*700MM
Gross/Net Weight	120/90Kg
Power Supply	AC220V /50Hz; 110V/60Hz
Accuracy	Conform to GB/T230.2; ASTM E-18; ISO6508
Remark: Optional protective indenter device is available on the model of SHR150ED.	

Standard delivery:

Main unit	1SET	Ø1.588mm ball indenter	1PC	Ø 55mm flat anvil	1PC
Hardness block (57-70) HRC	1PC	Ø1.588mm spare ball	5PCS	Ø 150mm flat anvil	1PC
Hardness block (20-33) HRC	1PC	Cone diamond indenter	1PC	Power cable	1PC
Hardness block (85-100) HRB	1PC	Ø 55mm V-shape anvil	1PC	Accessories box	1PC



Medium Testing Anvil



V-shaped Testing Anvil



Large Testing Anvil

Optional accessories:

Other Rockwell Hardness blocks; Ø 10mm flat anvil; Ø3.175mm ball indenter, and so on

Digital Rockwell hardness tester SHR150C(D)

Introductions:

SHR150C is an effective digital Rockwell testing machine with high accuracy, reliability and durability, it is applied at the workshops and measurement departments for determining the Rockwell hardness of ferrous and non-ferrous metals.

SHR150C adopts the design of load test force in electric, except to lift up the anvil and chose the test force, other operations are entirely automatic. The test force, dwell time, load and unload process, and test results are displayed on LCD screen, which avoid the man-made error and enhance the measuring accuracy, meanwhile, built-in processor and mini-printer can record and print the main measuring data for reducing human working intension.



Build-in Mini-printer



Hardness Blocks



Anvil



Diamond Rockwell Indenter

Technical Specifications:

Rockwell Scales	HRA, HRB, HRC
Preliminary test force	10Kgf(98.07N)
All Testing Force	60Kgf (588N), 100Kgf (980N), 150Kgf (1471N)
Hardness Indication	Digital LCD Display
Hardness Resolution	0.1HR
Dwell Time	1 ~ 60S
Auto Hardness conversion	HRC, HRB, HRA, HV, HK, HBW, etc.
Max. Height of Specimen	170mm
Instrument Throat	140mm
Dimension (L*W*H)	520*240*700MM
Gross/Net Weight	120/90Kg
Power Supply	AC220V /50Hz;110V/60Hz
Accuracy	Conform to GB/T230.2; ASTM E-18; ISO6508
Remark: Optional protective indenter device is available on the model of SHR150ED.	

Standard delivery:

Main unit	1SET	Ø1.588mm ball indenter	1PC	Ø 55mm flat anvil	1PC
Hardness block (57-70) HRC	1PC	Ø1.588mm spare ball	5PCS	Ø 150mm flat anvil	1PC
Hardness block (20-33) HRC	1PC	Cone diamond indenter	1PC	Power cable	1PC
Hardness block (85-100) HRB	1PC	Ø 55mm V-shape anvil	1PC	Accessories box	1PC

Manual Superficial Rockwell hardness tester SHR45M(D)

Introductions:

SHR45M is an effective and affordable superficial Rockwell testing machine with high accuracy, reliability and durability, it is applied in the workshops and measurement departments for determining the Rockwell hardness of ferrous and non-ferrous metals.

SHR45M adopts mechanical test cycle without any need of electricity, load force 15, 30, 45Kg is selected by dial knob, test force is manually loaded in handle, and tested result is showed on the analogue gauge.



Technical Specifications:

Rockwell Scales	HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
Preliminary test force	3Kgf (29.42N)
All Testing Force	15Kgf (147.1N), 30Kgf (294.2N), 45Kgf (441.3N)
Hardness Indication	Analogue
Hardness analogue resolution	0.5HR
Max. Height of Specimen	170mm
Instrument Throat	140mm
Dimension (L*W*H)	520*240*700MM
Gross/Net Weight	120/90Kg
Accuracy	Conform to GB/T230.2; ASTM E-18; ISO6508
Remark: Optional protective indenter device is available on the model of SHR150MD.	

Standard delivery:

Main unit	1SET	Ø1.588mm ball indenter	1PC	Ø 55mm flat anvil	1PC
Hardness block HRN	1PC	Ø1.588mm spare ball	5PCS	Ø 150mm flat anvil	1PC
Hardness block HRN	1PC	Cone diamond indenter	1PC	Operation Manual	1COPY
Power cable	1PC	Ø 55mm V-shape anvil	1PC	Accessories box	1PC



Medium Testing Anvil



V-shape Testing Anvil



Large Testing Anvil

Optional accessories:

Other Rockwell Hardness blocks; Ø 10mm flat anvil; Ø3.175mm ball indenter, and so on

Electronic Superficial Rockwell hardness tester SHR45E(D)

Introductions:

SHR45E is an effective and affordable Rockwell testing machine with high accuracy, reliability and durability, it is applied in the workshops and measurement departments for determining the Rockwell hardness of ferrous and non-ferrous metals.

SHR45E adopts the design of load test force in electric, load force 15, 30, 45Kg is selected by dial knob, test force is loaded in switch control, and tested result: HRA, HRB, HRC is showed on the analogue gauge.



Technical Specifications:

Rockwell Scales	HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
Preliminary test force	3Kgf (29.42N)
All Testing Force	15Kgf (147.1N), 30Kgf (294.2N), 45Kgf (441.3N)
Hardness Indication	Analogue
Hardness analogue resolution	0.5HR
Hardness Indication	Analogue
Hardness analogue resolution	0.5HR
Max. Height of Specimen	170mm
Instrument Throat	140mm
Dimension (L*W*H)	520*240*700MM
Gross/Net Weight	120/90Kg
Accuracy	Conform to GB/T230.2; ASTM E-18; ISO6508

Remark: Optional protective indenter device is available on the model of SHR150MD.

Standard delivery:

Main unit	1SET	Ø1.588mm ball indenter	1PC	Ø 55mm flat anvil	1PC
Hardness block HRN	1PC	Ø1.588mm spare ball	5PCS	Ø 150mm flat anvil	1PC
Hardness block HRN	1PC	Cone diamond indenter	1PC	Operation Manual	1COPY
Accessories box	1PC	Ø 55mm V-shape anvil	1PC		



Medium Testing Anvil



V-shape Testing Anvil



Large Testing Anvil

Optional accessories:

Other Rockwell Hardness blocks; Ø 10mm flat anvil; Ø3.175mm ball indenter, and so on.

Digital Superficial Rockwell hardness tester SHR45C(D)

Introductions:

SHR45C is an effective and affordable Rockwell testing machine with high accuracy, reliability and durability, it is applied in the workshops and measurement departments for determining the Rockwell hardness of ferrous and non-ferrous metals.

SHR45C adopts the design of load test force in electric, except to lift up the anvil and choose the test force, other operations are entirely automatic, and the test force, dwell time, load and unload process, and test results are displayed on LCD screen, which avoid the man-made error and enhance the measuring accuracy, meanwhile, built-in mini-printer can record and print the main measuring data for reducing human working intensity..



Build-in Mini-printer



Hardness Blocks



Anvil



Diamond Rockwell Indenter

Technical Specifications:

Rockwell Scales	HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
Preliminary test force	3Kgf (29.42N)
All Testing Force	15Kgf (147.1N), 30Kgf (294.2N), 45Kgf (441.3N)
Hardness Indication	Digital LCD Display
Hardness Resolution	0.1HR
Dwell Time	1 ~ 60S
Auto Hardness conversion	HRC, HRB, HRA, HV, HK, HBW, etc.
Max. Height of Specimen	170mm
Instrument Throat	140mm
Dimension (L*W*H)	520*240*700MM
Gross/Net Weight	120/90Kg
Power Supply	AC220V /50Hz;110V/60Hz
Accuracy	Conform to GB/T230.2; ASTM E-18; ISO6508
Remark: Optional protective indenter device is available on the model of SHR150ED.	

Standard delivery:

Main unit	1SET	Ø1.588mm ball indenter	1PC	Ø 55mm flat anvil	1PC
Hardness block HRN	1PC	Ø1.588mm spare ball	5PCS	Ø 150mm flat anvil	1PC
Hardness block HRN	1PC	Cone diamond indenter	1PC	Operation Manual	1COPY
Power cable	1PC	Ø 55mm V-shape anvil	1PC	Accessories box	1PC

Digital Superficial Twin Rockwell hardness tester HRSS150

Introductions:

HRSS150 is a effective and affordable hardness testing machine with novel appearance and unique inside structure, features high measuring accuracy, reliable performance and applicable to wide fields, it is applicable to measure hardness testing all kinds of Rockwell and Superficial Rockwell. It can to measure the hardness of hard metals, carburizing steels, quenching steels, hardcast irons, mild steels, A1, Cu and malleable irons

HRSS150 has big LCD screen to display the measuring data, and it has the contrast function of Brinell, Rockwell and Vickers, and it has other functions, such as, revise the dwell time, data dispose, storage, print and RS-232 output, etc.

Conform to GB/T230.2; ASTM E-18; ISO6508



Technical Specifications:

Rockwell Scales	HRA, HRB, HRC; HR15N, HR30N, HR45N, HR15T, HR30T, HR45T
Preliminary test force	29.4M(3kg),98.07N(10kg)
Total test force	For superficial Rockwell testing:147.1N(15Kgf), 294.2N(30 Kgf), 441.3N(45 Kgf); For Rockwell hardness testing: 588.4N(60 Kgf),980.7N(100 Kgf), 1471N(150 Kgf)
Hardness Indication	Digital LCD Display
Hardness Resolution	0.1HR
Dwell time	1-60s adjustable
Loading method	Automatic
Auto Hardness Conversion	HRC, HRB, HRA, HV, HK, HBW, etc.
Max Height of Specimen	180mm
Instrument Throat	160mm
Gross/Net Weight	120/90Kg
Dimension	551*260*80 mm
Power Supply	AC220V /50Hz;110V/60Hz
Accuracy	Conform to GB/T230.2; ASTM E-18; ISO6508

Standard delivery:

Main unit	1SET	Ø1.588mm ball indenter	1PC	Ø 55mm flat anvil	1PC
Hardness block (57-70) HRC	1PC	Ø1.588mm spare ball	5PCS	Ø 150mm flat anvil	1PC
Hardness block (20-33) HRC	1PC	Cone diamond indenter	1PC	Power cable	1PC
Hardness block (85-100) HRB	1PC	Ø 55mm V-shape anvil	1PC	Accessories box	1PC
Hardness block HRN	1PC	Hardness block HRN	1PC	Operation Manual	1COPY



Medium Testing Anvil



V-shape Testing Anvil



Large Testing Anvil

Vickers hardness tester HV5Z,HV10Z,HV30Z,HV50Z

Introduction:

Vickers Hardness Tester HV5Z, HV10Z , HV30Z, HV50Z is high-tech instruments integrate with technology of optics and mechanic, electronic and computer. It is the hardness testing machine for Vickers and Knoop scale measurements. It is specially designed for measure micro, thin and interface cladding materials, and Knoop hardness suit for test brittle and hard materials, such as glass, ceramics, carnelian and synthetic cut stone, etc, and it is widely used in scientific research organization, factory and quality inspection department.

Main characteristic:

It applies computer software program, high-resolution optical measuring system and photoelectric sensor. Through Key-input on the panel, it can adjust brightness of light source, select Vickers and Knoop test, hardness converse comparison, dwell time, file number and store, etc.

LCD screen displays test method, test force, length of diagonal, hardness value. It is easy to use with high precision.

HV-5/10/30/50Z is equipped with auto-turret, Halogen Light-source and Built-in Mini-printer as the standard delivery.



HV5/10/30/50Z with auto-turret



LCD screen and Panel



Auto-turret



Halo gen Light-source



Built-in Mini-printer

Technical Specifications:

Model	HV5Z	HV10Z	HV30Z	HV50Z
Testing Force	2.94N(0.3Kgf)	2.94N(0.3Kgf)	9.8N(1.0Kgf)	9.8N(1.0Kgf)
	4.9N(0.5Kgf)	4.9N(0.5Kgf)	29.4N(3Kgf)	49.0N(5.0Kgf)
	9.8N(1.0Kgf)	9.8N(1Kgf)	49.0N(5.0Kgf)	98N(10Kgf)
	19.6N(2.0Kgf)	29.4N(3Kgf)	98N(10Kgf)	196N(20Kgf)
	29.4N(3.0Kgf)	49.0N(5Kgf)	196N(20Kgf)	294N(30Kgf)
	49.0N(5.0Kgf)	98.0N(10Kgf)	294N(30Kgf)	490N(50Kgf)
Testing Range	8HV0.3~2900HV50			
Auto-Turret	Automatic switch of 10x, 20x objective and indenter			
Loading Control	Automatic (loading, dwell, unloading)			
Magnification of Objective	10x (For Observation) ; 20x (For Measurement)			
Magnification of Eyepiece	10x			
Hardness Indication	LCD display			
Dwell Time	0~60s			
Illumination	Halogen Light-source			
Printing	Built-in Mini-printer			
Max Height of Specimen	160mm			
Instrument Throat	135mm			
Accuracy	Standard conforms to EN-ISO 6507			
Power Supply	AC220V/50Hz; 110V/60Hz			
Dimension	520×190×650mm			
Gross/Net Weight	60/50Kg			

Standard Delivery:

Main unit	1SET	10X Objectives	1PC	V-shape test anvil	1PC
Hardness block	2EA	20X Objectives	1PC	Vickers indenter	1PC
Auto-turret	1PC	10X measuring eyepiece	1PC	Power cable	1PC
Halogen Light-source	1PC	Large test anvil	1PC	Accessories box	1PC
Mini-printer	1PC	Medium test anvil	1PC	Operation Manual	1COPY

Optional Accessories:

Knoop Indenter, X,Y anvil Hardness block, Clamp, etc

Digital Vickers hardness tester HVS5Z,HVS10Z,HVS30Z,HVS50Z

Introduction:

Vickers Hardness Tester HV5Z, HV10Z, HV30Z, HV50Z is high-tech instruments integrate with technology of optics and mechanic, electronic and computer. It is the hardness testing machine for Vickers and Knoop scale measurements. It is specially designed for measure micro, thin and interface cladding materials, and Knoop hardness suit for test brittle and hard materials, such as glass, ceramics, carnelian and synthetic cut stone, etc, and it is widely used in scientific research organization, factory and quality inspection department.

Main characteristic:

It applies computer software program, high-resolution optical measuring system and photoelectric sensor. Through Key-input on the panel, it can adjust brightness of light source, select Vickers and Knoop test, hardness converse comparison, dwell time, file number and store, etc.

LCD screen displays test method, test force, length of diagonal, hardness value. It is easy to use with high precision.

HV5/10/30/50Z is equipped with auto-turret, Halogen Light-source and Built-in Mini-printer as the standard delivery.

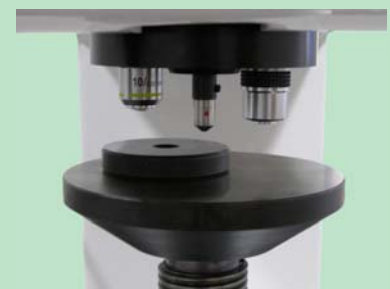
HVS-XZ is a full digital hardness testing instrument, don't need operator to read the length of diagonal, just press the sensor key.



Digital HVS5/10/30/50Z



LCD screen and Panel



Standard Auto-Turret



Halogen Light-source



Built-in Mini-printer

Technical Specifications:

Model	HVS5Z	HVS10Z	HVS30Z	HVS50Z
Testing Force	2.94N(0.3Kgf)	2.94N(0.3Kgf)	9.8N(1.0Kgf)	9.8N(1.0Kgf)
	4.9N(0.5Kgf)	4.9N(0.5Kgf)	29.4N(3Kgf)	49.0N(5.0Kgf)
	9.8N(1.0Kgf)	9.8N(1Kgf)	49.0N(5.0Kgf)	98N(10Kgf)
	19.6N(2.0Kgf)	29.4N(3Kgf)	98N(10Kgf)	196N(20Kgf)
	29.4N(3.0Kgf)	49.0N(5Kgf)	196N(20Kgf)	294N(30Kgf)
	49.0N(5.0Kgf)	98.0N(10Kgf)	294N(30Kgf)	490N(50Kgf)
Testing Range	8HV0.3~2900HV50			
Loading Control	Automatically (loading, dwell, unloading)			
Auto-Turret	Automatic switch of 10x, 20x objective and indenter			
Magnification of Objective	10x (For Observation) ; 20x (For Measurement)			
Magnification of Eyepiece	10x			
Hardness Indication	LCD display			
Hardness conversion	HR; HB; HK; etc			
Dwell Time	0~60s			
Illumination	Halogen Light-source			
Printing	Built-in Mini-printer			
Max Height of Specimen	160mm			
Instrument Throat	135mm			
Accuracy	Standard conforms to EN-ISO 6507			
Power Supply	AC220V/50Hz; 110V/60Hz			
Dimension	520×190×650mm			
Gross/Net Weight	60/50Kg			

Standard Delivery:

Main unit	1SET	10X Objectives	1PC	V-shape test anvil	1PC
Hardness block	2EA	20X Objectives	1PC	Vickers indenter	1PC
Auto-turret	1PC	10X measuring eyepiece	1PC	Power cable	1PC
Halogen Light-source	1PC	Large test anvil	1PC	Accessories box	1PC
Mini-printer	1PC	Medium test anvil	1PC	Operation Manual	1COPY

Optional Accessories:

Knoop Indenter, X,Y anvil Hardness block, Clamp, etc

Micro Hardness Hester DHV1000/HV1000

Micro Vickers Hardness Tester DHV1000/HV1000, MHV1000/HVS1000 and XHV1000 are precision hardness testing machines integrate the technology of optics, mechanics and computer. It is applicable to measure the hardness value of ferrous metals, non-ferrous metals, IC thin sections, coatings, ply-metals; Glass, ceramics, agate, precious stones, and it can be tested about the depth and the trapezium of the carbonized layers and quench hardened layers.



DHV1000/HV1000



Eyepiece



LCD panel

Standard delivery:

- Halogen light source
- 20x and 40x objective
- Vickers indenter
- X-Y anvil with 25mm travel micrometer
- LCD Panel, etc.

Optional accessories:

- Knoop indenter
- Mini-printer
- CCD adapter,
- Camera and Monitor
- Micro hardness testing software
- Auto-turret

Digital Micro Hardness Hester MHV1000/HVS1000

Micro hardness tester MHV1000/ HVS1000 is upgrading products base on DHV1000/HVS1000. Beside processing the their function, MHV1000/HVS1000 is equipped with a big LCD display to show the technical parameters, and it can convert the tested HV scale to HRC, HRB, HBW, HK.



MHV1000/HVS1000



Built-in printer



Large LCD display

Standard delivery:

- Halogen light source
- 20x and 40x objective
- Vickers indenter
- Mini-printer
- X-Y anvil with 25mm travel micrometer
- LCD Panel, etc.

Optional accessories:

- Knoop indenter
- CCD adapter,
- Camera and Monitor
- Micro hardness testing software
- Auto-turret.

Digital Micro Hardness Tester XHV1000

Micro hardness tester XHV1000 is upgrading products base on MHV1000/HVS1000, it is equipped with auto-turret, LCD touch panel and mini-printer as the standard delivery.



XHV1000



Built-in printer



Eyepiece



LCD touch panel



Touch Interface

Technical Specifications of micro hardness tester DHV1000/HV1000, MHV1000/HVS1000 and XHV1000:

Testing Forces	(0.098, 0.246, 0.49, 0.98, 1.96, 2.94, 4.90, 9.80) N (10, 25, 50, 100, 200, 300, 500, 1000) gf
Turret	Automatic (loading / dwell / unloading)
Magnification of the Microscope	200×, 400 ×
Dwell Time of the Test Force	(5-60)s
Min. Graduation Value of the Testing Drum Wheel	0.0625um
Testing range	1HV—2967HV
Dimension of the XY anvil	100 × 100 mm
Travel of the XY anvil	25 × 25mm
Max. height of the specimen	70 mm
Instrument throat	95mm
Light source	Halogen light source
Accuracy	Standard conforms to EN-ISO 6507
Power Supply	110V/220V,60/50Hz
Dimension & Net Weight	425 × 245 × 490 mm & 30Kg
Standard delivery	XY anvil ; Thin specimen anvil ; Fork-shaped anvil ; Fine wire anvil; Level; Adjustable screw ; 10 ×eyepiece ; 20x and 40x objective; Micro Vickers hardness blocks (high and medium)

Sample DEMO:



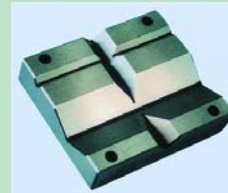
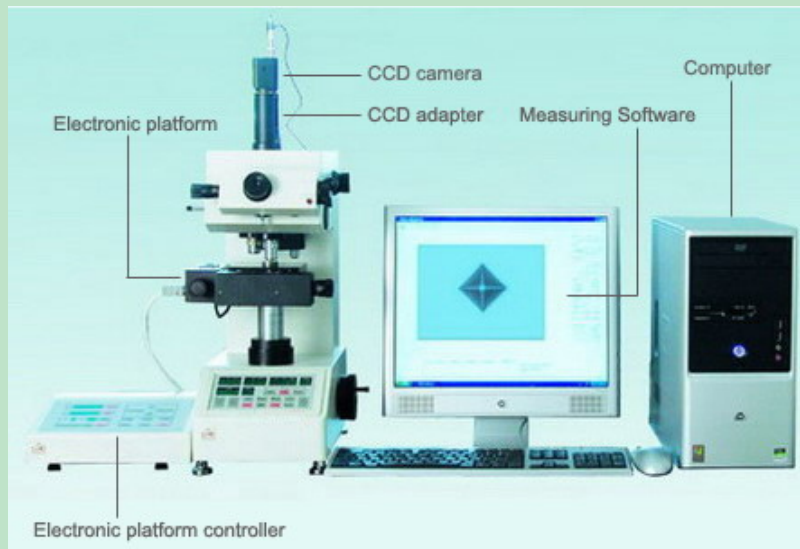
Optional Accessories:

- CCD adapter
- CCD camera
- Clamp
- Monitor
- Mini-printer
- Auto-turret
- Digital micro meter head

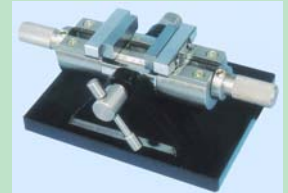
Auto Micro hardness tester SMHV1000ZK

Introductions:

SMHV1000ZK is auto micro hardness tester with precision on automatic electronic platform, digital eyepiece, CCD camera system and PC software system; it is an excellent instrument for the automatic micro hardness testing. SMHV1000ZK is equipped with Vickers and Knoop indenter simultaneously, it can be applicable to measure any micro hardness in the testing.



Mounting clamp



Unequal specimen clamp



Small bearing clamp



Thin-piece clamp

Technical Specifications:

Type \ Series	SMHV1000Z (single indenter)	SMHV1000ZK (double indenters)
Test force	gf: 10,25,50,100,200,300,500,1000	
Loading way	Digital control directly, preloading, loading and unloading automatically	
Dwell time	1-99 second can be setup	
Indenter, lens conversion	automatic conversion	
Platform	Motorized by PC software	
Specimen maxi height	90mmmm	
Eyepiece	Magnification: 10X	
	Reticle: Zero base line and sight line	
Lens	10X /40X	20X/40X
Indenter	HV indenter	HV and HK indenter
Measuring	HV measurement	HV and HK measurement
Specimen max-width	120mm	
Hardness conversion	HV transfer to HRC	
Light source	12V30W halogen bulb	
Measuring range	5-3000HV	
Accuracy	Standard conforms to EN-ISO 6507	
Dimension	490×250×395(height × width × depth) ;	
Weight	Approximate 43kg	
Power supply	AC220V/50HZ/60W; AC110V/60HZ/60W	
Standard delivery	XY anvil ; Thin specimen anvil ; Fork-shaped anvil ; Fine wire anvil; Level; Adjustable screw ; 10 ×eyepiece ; 20x and 40x objective; Micro Vickers hardness blocks (high and medium)	

Electronic Brinell hardness tester DHB3000/HBE3000

◇DHB3000/HBE3000 Electronic Brinell Hardness Test er is a advanced product integrate the precision mechanical structure with the computer control by means of the mechanical and electrical circuit system. It adopts the motorized test force application without weight blocks, and uses 0.5% accuracy compression sensor and the CPU control system to compensate the test force lost automatically during the testing. The test force and the load dwell time can be directly setup in pressing the selected keys on the panel with reliable repetition, precise reading and easy operation.

Usage Range:

◇Brinell indentation is the largest indentation among all the hardness testing, it is able to reflect the comprehensive features of the material, and the testing is unaffected by the macrostructure and the compositional unevenness of the specimen, hence it is a reliable hardness testing with high precision. The Brinell hardness testing is widely used in such industrial fields as metallurgy, forging, casting, unhardened steel and nonferrous metals industries, as well as in the laboratories, colleges and scientific research institutes.



Technical Specifications:

Testing range	(8~650) HBW		
Test Force	612.9N (62.5Kgf) 、 980N(100Kgf)、 1226N(125Kgf)、 1839N(187.5Kgf)、 2452N(250Kgf)、 4900N(500Kgf)、 7355N (750Kgf) 、 9800N(1000Kgf)、 14700N(1500Kgf)、 29400N(3000kgf)		
Accuracy of Displayed Hardness Value			
Hardness Range(HBW)	Max tolerance%	Repetition%	
≤ 125	± 3	≤ 3.5	
125<HBW≤225	± 2.5	≤ 3.0	
> 225	± 2.0	≤ 2.5	
Max. Height of specimen	225mm		
Max. Distance from indenter center to instrument throat	135mm		
Magnification of microscope	20X		
Min Reading Grade of Drum wheel of the microscope	0.005mm		
Power supply	AC220V/50; 110V/60Hz		
Main Accessories	◇ One Large testing anvil		
	◇ One Small testing anvil		
	◇ One V-shaped testing anvil		
	◇ One Hard Alloyed Steel Ball Indenters: \varnothing 2.5mm		
	◇ One Hard Alloyed Steel Ball Indenters: \varnothing 5mm		
	◇ One Hard Alloyed Steel Ball Indenters: \varnothing 10mm		
	◇ One Microscope: 20X		
◇ Two Standard Hardness Blocks			

Digital Brinell hardness tester XHB3000/HBS3000

◇XHB3000/HBS3000 Digital Brinell Hardness Tester is a advanced instrument integrates the technology of optical, mechanic and electrical and computer. It adopts the motorized testing force application without weight blocks and uses 0.5% accuracy compression sensor to compensate the test force lost automatically. The indentation is measured directly in the built-in 20x microscope sensor system, and the LCD screen indicates the indentation diameter and the hardness value. 17 different hardness testing comparison scales can be converted automatically by setup the panel. The load, dwell time and brightness of light can be adjusted on the panel, and an F/D2 selection table to make the operation ease.

◇The instrument is equipped with a RS232 serial interface, printer and date storage, it can be connected with PC for readout.

Usage Range:

◇Brinell indentation is the largest indentation among all the hardness testing, it is able to reflect the comprehensive features of the material, and the testing is unaffected by the macrostructure and the compositional unevenness of the specimen, hence it is a reliable hardness testing with high precision. The Brinell hardness testing is widely used in such industrial fields as metallurgy, forging, casting, unhardened steel and nonferrous metals industries, as well as in the laboratories, colleges and scientific research institutes.



Technical Specifications:

Testing range	(8~650) HBW		
Testing force	612.9N (62.5Kgf)、 980N(100Kgf)、 1226N(125Kgf)、 1839N(187.5Kgf)、 2452N(250Kgf)、 4900N(500Kgf)、 7355N (750Kgf)、 9800N(1000Kgf)、 14700N(1500Kgf)、 29400N(3000kgf)		
Accuracy of Displayed Hardness Value			
Hardness Range(HBW)	Max. tolerance%	Repetition%	
≤ 125	± 3	≤ 3.5	
125 < HBW ≤ 225	± 2.5	≤ 3.0	
> 225	± 2.0	≤ 2.5	
Max. Height of specimen	225mm		
Max. Distance from indenter center to instrument throat	135mm		
Magnification of microscope	20X		
Min. Reading Grade of Drum wheel of the microscope	0.00125mm		
Power supply	AC220V/50; 110V/60Hz		
Main Accessories	◇ Anvil: Large, Small and V-shaped each		
	◇ One Hard Alloyed Steel Ball Indenters: ϕ 2.5mm		
	◇ One Hard Alloyed Steel Ball Indenters: ϕ 5mm		
	◇ One Hard Alloyed Steel Ball Indenters: ϕ 10mm		
	◇ One Microscope: 20X		
◇ Two Standard Hardness Blocks			

Portable Rockwell Hardness Tester PHR Series

- ◇ There are two basic types of Rockwell hardness testing: Standard and Superficial. Each requires a slightly different instrument construction.
- ◇ Standard testers read directly in these fifteen Rockwell scales: A, B, C, D, E, F, G, H, K, L, M, P, R, S, and V. Superficial models are for testing case-hardened stocks, thin stock and soft materials in the Rockwell N and T scales.
- ◇ Hardness Tester model numbers tell you up to three things.
- ◇ The first number is the thickness in inches the instrument can test.
- ◇ The second number is the throat depth in inches, or how far in from the edge of the material tests can be made.
- ◇ The letter "S" at the end tells you this is for Superficial testing on the N and T scales only. ("ST" indicates a unique model for thin and tube stock.)



PHR1S



PHR1ST



PHR14



PHR2
PHR2S



PHR42
PHR42S



PHR44



PHR84



PHR16



Bench Stand

Portable Rockwell Hardness Tester PHR Series

The tester model numbers show the maximum opening (dimension A), and throat depth (dimension B). The letters tell you the type of tester or specific application. "S" indicates a Superficial tester.

Model	Opening(A)	Depth(B)
PHR1	1"(25mm)	1"(25mm)
PHR1S	1"(25mm)	1"(25mm)
PHR14	1"(25mm)	4"(100mm)
PHR14S	1"(25mm)	4"(100mm)
PHR2	2"(50mm)	2"(50mm)
PHR2S	2"(50mm)	2"(50mm)
PHR42	4"(100mm)	2"(50mm)
PHR42S	4"(100mm)	2"(50mm)
PHR44	4"(100mm)	4"(100mm)
PHR84	8"(200mm)	4"(100mm)
PHR16	Diameter: <400mm	
PHR32	Diameter: <800mm	
PHR64	Diameter: <1600mm	



Standard equipment with each tester:

- ◇ 1 diamond penetrator
- ◇ 1 1/16" ball penetrator
- ◇ 3 test blocks, 2 hard steel, 1 brass.
- ◇ 1 flat anvil, 1 V anvil (additional anvils for some models)
- ◇ Extensions in appropriate sizes
- ◇ High-impact carrying case

ANVILS



V ANVIL

1/2"	#4210
1"	#4220
1-1/4"	#4230



CONVEX ANVIL

1/2"	#4410
3/4"	#4420
1"	#4430



CYLINDRICAL

1/2"	#4310
3/4"	#4320
1"	#4330



RAISED FLAT

1/8"	#4610
1/4"	#4620
Diamond	#4630



FLAT ANVIL

1/2"	#4110
1"	#4120

Penetrators



Diamond Penetrator



Ball Penetrator

Ball Penetrators

1/16"	Ball	#2210
1/8"	Ball	#2220
1/4"	Ball	#2230
1/2"	Ball	#2240

Diamond Penetrators

Standard	#2110
Superficial	#2120

Extensions



Extensions allow testing thinner items with larger tester models without sacrificing stability.

1/2"	#5100
3/4"	#5120
1"	#5130
2"	#5140

Hardness Blocks

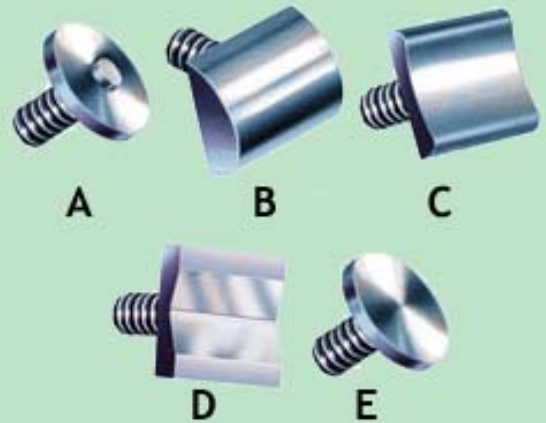


	Certified	
Hard Steel	(HRC64)	#1131
Soft Steel	(HRC33)	#1133
Brass	(HRB33)	#1121

Anvils

The correct anvil helps ensure valid readings by making sure work does not move during load buildup. Anvils are interchangeable.

- A - Raised flat for thin stock
- B - Convex for tube stock
- C - Round for larger round stock
- D - Vee for small round stock
- E - Standard Flat stock anvil



The positions of anvil and penetrator can be reversed for internal-surface testing.

Penetrators

For each scale, you need the correct penetrator. They are interchangeable.

Diamond Penetrators with 120° cone and spherical point.

Standard - for Standard Scales A, C, D

Superficial - for Superficial Scale N

Ball Penetrators

- 1/16" - for B, F, G, and T Scales
- 1/8" - for E, H, L, and W Scales
- 1/4" - for L, M, P, and Y Scales
- 1/2" - for R, S, V, and Y Scales



Bench Stand

Cast iron for solid support. Holds tester at convenient angle, freeing hands for ease of use. Internal fiber sleeve protects tester handle.

Weight: 5Kg.

#3100

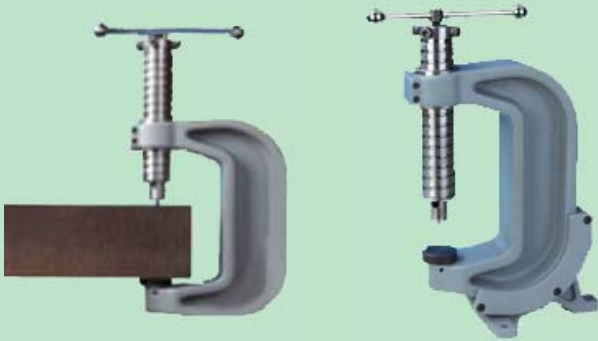


Portable Brinell Hardness Tester PHB series

◇ It's mainly used to test the hardness of metal products with big grains and uneven micro constructions, such as large-sized forgings, castings, rollers, or those parts that assembled, inconvenient to move or not allowed to be cut, and to test the hardness of nonferrous metals, annealed metal materials and most of steel raw materials.

◇ Compare to Leeb hardness tester, the Brinell hardness tester has higher precision, fewer factors that affect the testing accuracy, lower requirement on the surface roughness of work pieces. With F/D2 ratio of 30, the PHB tester has an equivalent test condition as the Brinell test with 3000kgf and 10mm ball indenter. The testing result meets requirements of common standards and do not need to be converted. Tensile strength (σ_b) can be gotten through conversion tables in Brinell reading.

Portable Brinell Hardness Tester PHB150 & PHB300



PHB150

PHB300

Technical Specifications:

Model	PHB150	PHB300
Opening Size	150×100mm	300×150mm
Net Weight	4.2Kg	7.5Kg

Portable Brinell Hardness Tester PHB0.5



Feature and Applications:

Small volume, convenient for carrying, easy operation.

Precision conforms to ISO 6506-2 and ASTM E10

It can determine the Brinell hardness of ferrous, non-ferrous metals and tensile strength of steel products. It is especially suitable to determine the Brinell hardness of large heavy parts on the spot

Specifications:

Measuring range: < Measuring range: 100-400HBS;

Impact capacity: 4.9J;

Dimensions: $\Phi 55 \times 370$ mm

Weight: approx. 3.5kg

Hammer Hitting Type Portable Brinell Hardness Tester PHBHB



Feature and Applications:

Small volume, convenient for carrying, easy operation

It can determine the Brinell hardness of ferrous, non-ferrous metals and tensile strength of steel products. It is especially suitable to determine the Brinell hardness of large heavy parts on the spot

Specifications:

Measuring range: < 450 HBS;

Diameter of steel ball: $\Phi 10$ mm;

Dimensions: $\Phi 25 \times 110$ mm

Weight: approx. 0.5kg

Portable Webster Hardness Tester W Series

W Series Webster Tester is a portable instrument which can on-site test soft metals quickly. The Webster Hardness Tester is used to inspect the result of heat treatment, to sort the materials in the warehouse, and to test the long work pieces inconvenient taken to the lab. The Webster hardness tester is very suitable for quality inspection of batch products one by one in the production field. The hardness value can be read directly on the indicator dial.

W20 Webster Hardness Tester is the choice of virtually every aluminum extrusion manufacturer. This first hardness tester specially crafted for aluminum has improved the aluminum industry.

A test can be completed by one press.

Model W20 equivalent to Model B Tester

Models for testing brass, copper and mild steel respectively

Modification models for testing thick pieces or slim tubings

Tests sheets, extrusions, pipes; Very fast, very simple and very portable

Small indentation;

Conforms to ASTM B647;

Recommended in YS/T420.



Aluminum Alloys W20
Copper Alloys WB75
Copper Alloys WBB75
Mild Steel WB92



Aluminum Alloys W20a



Aluminum Alloys W20b
Copper Alloys WB75b
Copper Alloys WBB75b

Technical Specifications:

Product	Model	Capacity	Net Weight	Applications
Webster Hardness Tester for Aluminum Alloys	W20	Thickness: 0.4 – 6 mm, Inner Diameter: >10mm	0.5Kg	regular type for aluminum alloy profile, pipe and sheet
	W20a	Thickness: 0.4 – 13 mm, Inner Diameter: >10mm	0.5Kg	thick wall aluminum alloy material
	W20b	Thickness: 0.4 – 8 mm, Inner Diameter: >6mm	0.5Kg	aluminum alloy pipe of small diameter and aluminum alloy
Webster Hardness Tester for Copper Alloys	WB75	Thickness: 0.4 – 6 mm, Inner Diameter: >10mm	0.5Kg	extra-hard aluminum, brass
	WB75b	Thickness: 0.4 – 8 mm, Inner Diameter: >6mm	0.5Kg	slim extra-hard aluminum or brass pipe
	WBB75	Thickness: 0.4 – 6 mm, Inner Diameter: >10mm	0.5Kg	copper and soft copper alloys such as annealed brass
	WBB75b	Thickness: 0.4 – 8 mm, Inner Diameter: >6mm	0.5Kg	copper or annealed brass pipe
Webster Hardness Tester for Mild Steel	WB92	Thickness: 0.4 – 6 mm, Inner Diameter: >10mm	0.5Kg	soft steel materials not exceeding 230 HV, such as cold rolled sheet, hot rolled sheet and galvanized sheet etc.

Portable Barcol Durometer 9341

The Barcol durometer is an indentation hardness tester. The operation is easy, quick and almost non-destructive. The test is as simple as one press. It is a convenient tool for testing the hardness of aluminum, aluminum alloys and fiber reinforced plastics, which conforms to American Standard ASTM B648.

Application:

Barcol Hardness Tester is mainly used to test the hardness of aluminum and aluminum alloys, to test the hardness of other soft metals and glass fiber reinforced plastic products. It can also be used to test the hardness of extra large, extra wide, extra thick work pieces, and to test the hardness of boards, belt materials, section materials, forgings and castings etc.

Barcol Hardness Tester is commonly used as supplement of Webster Hardness Testers. It is usually used when test the hardness of pure aluminum, low hard aluminum alloys and extra large, extra thick materials.



Advantage:

It is small and light, easy to take.

It is very easy to operate without any experience, in any occasion.

It has extensive testing range, from very soft pure aluminum to very hard aluminum alloys, the testing range equal to 25~150HB.

High-sensitivity. Webster Hardness tester only has 20 scales, but Barcol has 100 scales. So Barcol Hardness tester has much higher sensitivity.

It does not need a bench stand. Barcol Hardness Tester is put on one side of the work pieces without bench stand.

Disadvantage:

The surfaces of work pieces need to be broad and flat. It is inconvenient to test the hardness of strips, small-sized pieces or work pieces with curved surfaces.

There will be conversion error. When testing the hardness of aluminum section materials, the Barcol hardness need to be changed into Webster hardness, but there is 2.7 HW discrepancy between Barcol conversion table and GB Standard YS/T420-2000, so the Barcol conversion table should be used cautiously.

Standard package:

- 1 Tester
- 2 Standard testing blocks
- 1 Calibration wrench
- 2 Spare penetrators

Optional accessories:

- Standard testing block
- High: 87-89
- Low: 43-45
- Spare penetrators

Portable Leeb hardness tester and accessories

Introduced:

- ◇ Wide measuring range. Based on the principle of Leeb hardness testing theory. It can measure the Leeb hardness of all metallic materials.
- ◇ Large screen, showing all functions and parameters. With EL background light
- ◇ Test at any angle, even upside down.
- ◇ Direct display of hardness scales HRB, HRC, HV, HB, HS, HL
- ◇ Seven impact devices are available for special application. Automatically identify the type of impact device.
- ◇ Large capacity memory could store 500 groups (Relative to average times 32 ~ 1) information including single measured value, mean value, testing date, impact direction, impact times, material and hardness scale etc.
- ◇ Upper and lower limit can be preset. It will alarm automatically when the result value exceeding the limit.
- ◇ Battery information indicates the rest capacity of the battery.
- ◇ Software calibration function; Software to connect with PC via USB port.
- ◇ Compact metal case, suitable for use under poor working conditions
- ◇ Continuous working period of no less than 50 hours with two alkaline batteries(AA size); Auto power off to save energy.

Main Application:

- ◇ Die cavity of molds
- ◇ Bearings and other parts
- ◇ Failure analysis of pressure vessel, steam generator and other equipment
- ◇ Heavy work piece
- ◇ The installed machinery and permanently assembled parts.
- ◇ Testing surface of a small hollow space
- ◇ Material identification in the warehouse of metallic materials
- ◇ Rapid testing in large range and multi-measuring areas for large-scale work piece



HL200A



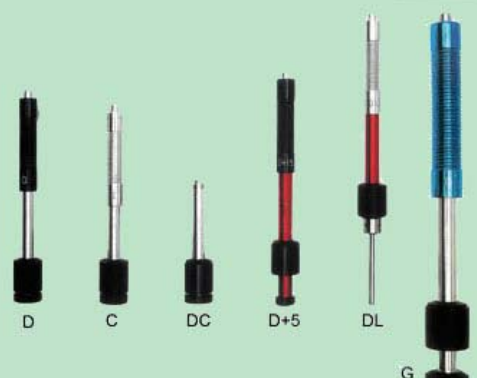
MH210A



MH180A



MH182A



Impact device

Outline:

Item	No.	Item	Quantity	Remarks
Standard delivery	1	Main body	1	
	2	D type impact device	1	With cable
	3	Standard test block	1	
	4	Cleaning brush (I)	1	
	5	Small support ring	1	
	6	Manual	1	
	7	Instrument case	1	
Optional Accessories	8	Cleaning brush (II) (For use with G type impact device)		
	9	Other type of impact devices and support rings		
	10	Data Program software		
	11	Communication cable		
	12	Mini-Printer with cable (MH210A、MH180A、MH182A)		

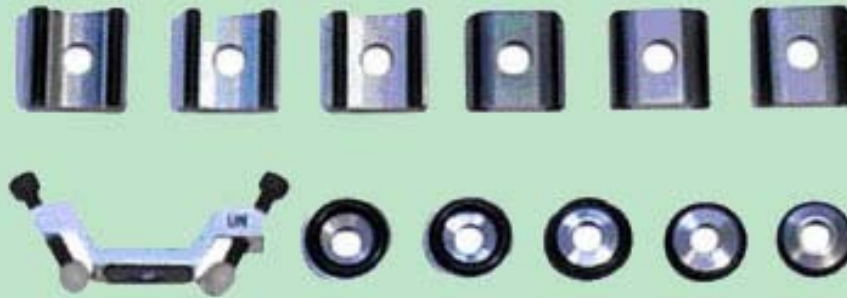
Technical specification of Optional Impact Devices:

Impact Devices		D / DC / DL	D+ 15	C	G
Impacting energy		11Nmm	11Nmm	3Nmm	90Nmm
Mass of impact body		5.5g/5.5g/7.3g	7.8g	3.0g	20g
Test tip	Hardness & Material	1600HV & Tungsten carbide			
	Diameter	3mm			5mm
Impact body	Diameter	20mm			30mm
	Length	147 / 86mm	162mm	141mm	254mm
	Weight	75 / 50gr	80gr	75gr	250gr
Max. hardness of work-piece		940HV	940HV	1000HV	650HB
Preparation of surface	Roughness class	N7	N7	N5	N9
	Max. roughness	10μm	10μm	2.5μm	30μm
	Average roughness	2μm	2μm	0.4μm	7μm
Min. weight of sample	Of compact shape	5kg	5kg	1.5kg	15kg
	On solid support	2kg	2kg	0.5kg	5kg
	Coupled on plate	0.1kg	0.1kg	0.02kg	0.5kg
Min. thickness of sample	coupled	3mm	3mm	1mm	10mm
	Min. thickness of hardened layers	0.8mm	0.8mm	0.2mm	-
Size of indentation of spherical test	With 300HV	Diameter	0.54mm	0.54mm	0.38mm
		Depth	24μm	24μm	12μm
	With 600HV	Diameter	0.45mm	0.45mm	0.32mm
		Depth	17μm	17μm	8μm
	With 800HV	Diameter	0.35mm	0.35mm	0.30mm
		Depth	10μm	10μm	7μm

Technical Specifications:

Impact device	Hardness value	Error of value	Repeatability
D	760±30HLD / 530±40HLD	±6 / ±10 HLD	6 / 10 HLD
DC	760±30HLDC / 530±40HLDC	±6 / ±10 HLDC	6 / 10 HLD
DL	878±30HLDL / 736±40HLDL	±12 HLDL	12 HLDL
D+15	766±30HLD+15 / 544±40HLD+15	±12 HLD+15	12 HLD+15
G	590±40HLG / 500±40HLG	±12 HLG	12 HLG
E	725±30HLE / 508±40HLE	±12 HLE	12 HLE
C	822±30HLC / 590±40HLC	±12 HLC	12 HLC

- ◇ Measuring range: 170~960HLD; Measuring direction: 0~360°
- ◇ Hardness Scale: HL、HB、HRB、HRC、HRA、HV、HS
- ◇ Display: segment LCD
- ◇ Data memory: max. 100 groups (relative to impact times 32~1)
- ◇ Working power: 3V (2 AA size alkaline batteries)
- ◇ Continuous working period: about 100 hours (With backlight off)
- ◇ Communication interface: RS232
- ◇ Working temperature: 0°C~+40°C; Storage temperature: -30°C~+60°C
- ◇ Relative humidity: ≤90%
- ◇ Dimensions & Weight: 132 X 76.2 mm/345g (HL200A/MH210A) ;
150 X 74 X 32 mm/245g(MH180A、MH182A)



Support Rings

Technical specification of Optional Support Rings:

Type	Sketch of non-conventional supporting ring	Remarks
Z10-15		For testing cylindrical outside surface R10~R15
Z14.5-30		For testing cylindrical outside surface R14.5~R30
Z25-50		For testing cylindrical outside surface R25~R50
HZ11-13		For testing cylindrical outside surface R10~R15
HZ12.5-17		For testing cylindrical outside surface R10~R15
HZ16.5-30		For testing cylindrical outside surface R10~R15
K10-15		For testing spherical inside surface SR10~SR15
K14.5-30		For testing spherical inside surface SR14.5~SR30
HK11-13		For testing spherical inside surface SR11~SR13
HK12.5-17		For testing spherical inside surface SR12.5~SR17
HK16.5-30		For testing spherical inside surface SR16.5~SR30
UN		For testing cylindrical outside surface, radius adjustable R10

Analogue Shore Durometer LX series

LXA durometer is an essential characteristic of various rubber, elastomers and plastic products. It is feature portability, ease of operation, with facility, high resolution and it is available in GB/T 531 -1999 and ISO 7619. It can be used in SLX hardness test stand.

LXC durometer is an essential characteristic of various foam, sponge and so on. It is feature portability, ease of operation, with facility, high resolution and it is available in HG/T2489-93.

LXD durometer is an essential characteristic of various hard rubber, colophony, glass, print board, fiber and so on. It is feature portability, ease of operation, with facility, high resolution and it is available in GB/T 531 -1999.

The durometer test stand is R&D for Shore A, C, and D Durometer. The test stand construction includes operating handle, adjusted glass stage, die poise, clip beam of durometer and carrick column. The shore hardness testing will be more accurate with the stand.



LXA



LXC



LXD



Rubber Test Stand

Technical Specifications:

Model	LXA	LXC	LXD
Test range	0-100 HA	0-100 HW	0-100 HD
Available test range	10-90 HA	10-90 HW	10-90 HD
Stroke	2.5 mm		0~2.5 mm
Tip dimension	0.79mm	SR2.5mm	SR0.1mm
Dimension & Net weight	115x60x25mm & 0.5kg		

Digital Shore Durometer HT6510 series



HT6510A / HT-6510D



HT6510C

Technical Specifications:

- ◇ Test scale: shore hardness
- ◇ Standard: DIN53505, ASTM D2240, ISO7619, JISK7215
- ◇ Parameters: hardness result, average value, maxes. value
- ◇ Measurement range: 0-100HA(HD) (A/D); 0-100HC (C)
- ◇ Measurement deviation: < 1%H; Resolution: 0.1
- ◇ Communication interface: RS232C
- ◇ Operating conditions: 0°C to 40°C
- ◇ Power supply: 4x1.5V AAA (UM-4) battery, Auto switch off
- ◇ Battery indicator: low battery indicator
- ◇ Dimensions & Weight: 162x65x38mm & 173g (no probe)
- ◇ Standard delivery: Instrument, test block, English manual and carrying case

Surface roughness testers SRT6200/6210

It is compatible with four standards of site to measure surface roughness of various machinery-processed parts, calculate corresponding and clearly display all measurement parameters. When measuring the roughness of a surface, the sensor is placed on the surface and then uniformly slides along the surface by driving the mechanism by the sharp built-in probe. This roughness causes displacement of the probe which results in change of inductive amount of induction coils so as to generate analogue signal, which is in proportion to the surface roughness at output end of phase-sensitive rectifier. The exclusive DSP processes and calculates and then outputs the measurement results on LCD.

- ◇ Multiple parameter measurement: Ra, Rz, Rq, Rt
- ◇ Highly sophisticated inductance sensor
- ◇ Four wave filtering methods : RC, PC-RC, GAUSS and D-P
- ◇ Built-in lithium ion rechargeable battery and control circuit with high capacity
- ◇ Small in size, light in weight and easy to use
- ◇ Can communicate with PC computer for statistics, printing and analyzing by the optional cable and the software for RS232C interface.



SRT6210

- ◇ Manual or automatic shut down. The tester can be switched off by pressing the Power key at any time. On the other hand, the tester will power itself off about 5 minutes after the last key operation.
- ◇ The tester can memorize 7 groups of measurement results and measuring conditions for later use or download to PC.; Metric / Imperial Conversion. (SRT6210)

Technical Specifications:

Model	SRT6200	SRT6210
Display	4 digits, 10 mm LCD, with blue backlight	
Parameters	Ra, Rz	Ra, Rz, Rq, Rt
Measuring Range	Ra, Rq: 0.005-10.00um / 1.00-400.0uinch	Ra,Rq: 0.005-16.00um / 0.020-629.9uinch
	Rz, Rt: 0.020-100.0um / 0.078-4000uinch	Rz,Rt: 0.020-160.0um / 0.078-6299uinch
Accuracy	Not more than 10%; Fluctuation of display value: Not more than 6%	
Test Principle	Inductance type	
Radius of Probe Pin	5um	
Material of Probe Pin	Diamond	
Dynamo-measurement of Probe	16mN(1.6gf)	4mN(0.4gf)
Probe Angle	90	
Vertical Radius of Guiding Head	48mm	
Maximum driving stroke	17.5mm/0.7inch	
Cutoff length (l)	0.25mm / 0.8mm / 2.5mm optional	
Evaluation length	1--5cut off optional	
Driving speed	<a.> sampling length = 0.25mm Vt=0.135mm/s <b.> sampling length = 0.8mm Vt=0.5mm/s <c.> sampling length = 2.5mm Vt=1mm/s <d.> returning Vt=1mm/s	
Profile digital filter	<a.> Filtered Profile: RC; <b.> Filtered Profile: PC-RC; <c.> Filtered Profile: Gauss; <d.> Non-Filtered Profile: D-P	
Power Li-ion battery	rechargeable	
Operating conditions	Temperature: 0~50°C; Humidity <80%	
Dimension & Net weight	140x57x48 mm (5.5x2.2x1.9 inch) & about 420 g	

Coating thickness gauge CM Series

Principle	Application	Tested materials.
(F Type) Magnetic induction	Can measure the thickness of non-magnetic coating layers on magnetic substrate	Such as: (aluminum, chrome, copper, enamel, rubber, paint) on magnetic substrate (steel, iron, alloy and magnetic stainless steel)
(NF Type) Eddy current	Can measure the thickness of nonconductive coating layers covered on nonferrous substrate	Such as: (enamel, rubber, paint, varnish, plastic anodic-oxide layer) covered on nonferrous substrate (aluminum, brass, zinc, tin and nonmagnetic stainless steel)



CM8828



CM8825FN



CM8826FN

Technical Specifications:

Specifications	Model	CM8825 in built probe(s)			CM8828
		CM8826 with separate probe(s)			
Operating principle	F Type	CM8825FN / CN8826FN			(F & NF)
	NF Type	(F & NF)	(only NF)	(only F)	
Measuring range	0-1250um/0-50mil (default range)				
Resolution	0.1/1				
Accuracy	±1-3%n or ±2.5um				
Min. radius work piece	F: Convex 1.5mm / Concave 25mm				
	N: Convex 3mm / Concave 50mm				
Min. measuring area	6mm				
Min. sample thickness	0.3mm				
Battery indicator	low battery indicator				
Metric/ imperial	convertible				
Power supply	4x1.5V AAA(UM-4)battery; Auto switch off				
Operating conditions	Temperature: 0--45°C (32°F --104°F), Humidity≤90%RH				
Dimensions & weight	126x65x27mm & 81g(not including battery)				
Standard delivery	Main unit	1			
	F Type probe	1		1	1
	N Type probe	1	1		1
	F Calibration base set	1		1	1
	N Calibration base set	1	1		1
	Calibration foil set	1 set (4 foils)			--
	Carrying case	B04			
Instruction manual	1				
Optional accessories	Cable & software for RS-232C				



CM8829FN



CM8829

Technical Specifications:

Specifications	Model	CM8829 (please specify probe type, in built or separate while ordering)		
Operating principle	F Type	CM8829FN	CN8829N	CN8829F
	NF Type	(F & NF)	(only NF)	(only F)
Measuring range		0-1250um/0-50mil (default range)		
Resolution		0.1/1		
Accuracy		±1-3%n or ±2.5um		
Min. radius work piece		F: Convex 1.5mm / Concave 25mm		
		N: Convex 3mm / Concave 50mm		
Min. measuring area		5mm		
Min. sample thickness		0.3mm		
Battery indicator		low battery indicator		
Metric/ imperial		convertible		
Power supply		4x1.5V AAA(UM-4)battery;		
		Auto switch off		
Operating conditions		Temperature: 0-45°C (32°F --104°F)		
		Humidity ≤90%RH		
Dimensions		124x62x30mm		
Weight (not including battery)		115g (CM8829) 200g (CM8829FN)		
Standard delivery	Main unit	1		
	F Type probe	1		1
	N Type probe	1	1	
	F Calibration base set	1		1
	N Calibration base set	1	1	
	Calibration foil set	1 set (4 foils)		
	Carrying case	B04		
Instruction manual	1			
Optional accessories		Cable & software for RS-232C, other ranges		



CM8823



CM8821



CM8822

Technical Specifications:

Specifications	Model	CM8822	CM8821	CM8823
			CM8822F	CM8822N
Operating principle		(F & NF)	(only F)	(only NF)
Measuring range		0-1000um/0-40mil (default range)		
Resolution		0.1/1		
Accuracy		±1-3% <i>n</i> or ±2.5um		
Min. radius work piece		F: Convex 1.5mm / Concave 25mm		
		N: Convex 3mm / Concave 50mm		
Min. measuring area		6mm		
Min. sample thickness		0.3mm		
Battery indicator		low battery indicator		
Metric/ imperial		convertible		
Power supply		4x1.5V AAA(UM-4)battery;		
		Auto switch off		
Operating conditions		Temperature: 0--40°C (32°F --95°F)		
		Humidity: 10--90%RH		
Dimensions		160x68x32mm		
Weight (not including battery)		250g		210g
Standard delivery	Main unit (1000um)	1		
	F Type probe	1	1	
	N Type probe	1		1
	F Calibration base set	1	1	1
	N Calibration base set	1		1
	Calibration foil set	1 set (4 foils)		1foil
	Carrying case	B01		
Instruction manual	1			
Optional accessories	Other range: 0--200um to 15000um			

Ultrasonic thickness gauge MT200 / MT160 / MT150

MT series of digital ultrasonic thickness gauge is based on the same operating principles as SONAR, the MT200 and MT160 is capable of measuring the thickness of various materials with accuracy as high as 0.01 millimeters, or 0.001 inches. It is suitable for a variety of metallic and non-metallic materials.

Main Functions:

- ◇ Capable of performing measurements on a wide range of material, including metals, plastic, ceramics, composites, epoxies, glass and other ultrasonic wave well-conductive materials.
- ◇ Four transducer models are available for special application, including for coarse grain material and high temperature applications.
- ◇ Probe-Zero function, Sound-Velocity-Calibration function
- ◇ Two-Point Calibration function. Two work modes: Single point mode and Scan mode.
- ◇ Coupling status indicator showing the coupling status.
- ◇ Battery information indicates the rest capacity of the battery.
- ◇ Auto sleep and auto power off function to conserve battery life.
- ◇ Optional software to process the memory data on the PC. Optional thermal mini-printer to print the measured data via RS232 port. (MT200 / MT160 / MT150)



MT200



MT160 / MT150

Technical Specifications:

Model	MT200	MT160	MT150
Display	128×64 dot matrix LCD with EL backlight		4.5 digits LCD with EL backlight.
Measuring Range	0.75~300mm (in Steel)		
Sound Velocity Range	1000~9999 m/s		
Resolution	0.1/0.01mm (selectable)		0.10mm
Accuracy	± (0.5%Thickness+0.04) mm, depends on materials and conditions		
Units	Metric / English unit selectable		
Communication	RS232 serial port		
Power Supply	Two "AA" size, 1.5 volt alkaline batteries. 100 hours typical operating time (EL backlight off)		
Dimensions	132 x 76.2 x 35 mm	150×74×32 mm	
Weight	345g	245g	

- ◇ Four measurements readings per second for single point measurement, and ten per second for Scan Mode.
- ◇ Memory for 20 files (up to 99 values for each file) of stored values.
- ◇ Upper and lower limit can be preset. It will alarm automatically when the result value exceeding the limit.

Ultrasonic thickness gauge TM Series



TM-8810



TM-8811



TM-8812

Technical Specifications:

Model	TM8810	TM8811	TM8812
Measuring range	1.5-200mm,0.06-8inch		1.2-225mm,0.05-9inch
Operating principle	Ultrasonic		
Materials measured	steel, cast iron, aluminum, red copper, brass, zinc, quartz glass, polyethylene, PVC, gray cast iron, nodular cast iron		
Sound velocity	500-9000m/s		
Lower limit steel pipes	φ15x2.0mm, φ20x3.0mm determined by the transducer		
Calibration block	included		
Resolution	0.1mm		
Accuracy	±(0.5%n+0.1)		
Power supply	4x1.5vaa(UM-3) battery		
Battery indicator	low battery indicator		
Operating conditions	Temperature: 0-+45°C (32°F -104°F); Humidity ≤90%RH		
Dimensions	160x68x32mm		120x62x30mm
Weight	208g(not including battery)		164g

Metallurgical Specimen cutter QG1 series

Specimen cutting is the first step during metallurgical sample preparation. QG-1 adopts high speed rotating thin grinding wheel to cut specimen, and it is equipped with cooling system to prevent the heat damage during cutting. The operation of QG1 is awfully easy and the maintenance is extremely convenient.



Technical Specifications:

Model	QG15	QG13
Maximum sample section	50 x 50 mm	35 x 35 mm
Grinding wheel size	φ 300×2×φ 32mm	φ 250×2×φ 32mm
Rotate speed	2800r/min	
Electromotor	Y90L-2,2.6KW, 380V, 50Hz	Y802-2, 1.2KW, 380V, 50Hz
Dimensions	740×465×390mm	650 ×400×350mm
Net Weight	70Kg	55Kg

Metallurgical Specimen cutter Q3A

Q3A is suitable for cutting the specimens of metal and rock materials, which facilitates the observation of metallographic and rock structure.

Q3A is equipped with cooling system that can cool down the specimen during cutting so as to prevent overheating and damaging. The operation of Q3A is awfully easy and the maintenance is extremely convenient, it is an indispensable device for the factories, research institutions and college labs to prepare metallurgical specimen.

Technical specification:

- ◇ Max. Cutting Width: 60mm
- ◇ Max. Cutting Height: 80mm
- ◇ Max. Cutting Diameter: $\phi 50$ mm
- ◇ Specifications of Abrasive Wheel: $250 \times 2 \times 32$ mm
- ◇ Weight: 130kg



Metallurgical Specimen Cutter QG5/QG5A

Q5 and Q5A is used to chiefly cut the specimen with cylinder-shaped, multi-angular and ordinary metallurgical specimens with convex space. With a double-cover fully-sealed structure and double clipping clamp structure, which can guarantee the absolute safety under the state of cutting. Equipped with double deck stage, the cutting speed can be controllable. What is more, it is installed with a strongly cooling system so as to avoid the damages to the structure of the specimen caused by over-heating during cutting operation, thus enlarging the cutting space while avoiding the hurt to the specimen surface. With the above-mentioned merits on both operation and maintenance, it is an excellent machine to cut the specimens with irregular shaper.



QG5 Technical specifications:

- ◇ Maximum cutting section: 120×120 mm
- ◇ Rotary cutting speed: 2800r/min
- ◇ Cutting disk size: $\phi 400 \times 3 \times \phi 32$ mm
- ◇ Cutting power: 4KW/380V/50Hz
- ◇ Machine Dimensions: $760 \times 850 \times 1400$ mm
- ◇ Net weight: 380Kg



QG5A Technical specifications:

- ◇ Maximum cutting section: 100×100 mm
- ◇ Rotary cutting speed: 2800r/min
- ◇ Cutting disk size: $\phi 350 \times 2.5 \times \phi 32$ mm
- ◇ Cutting power: 4KW/380V/50Hz
- ◇ Machine Dimensions: $800 \times 660 \times 1380$ mm
- ◇ Net weight: 315Kg

Auto Metallurgical Specimen Cutter Q100B/Q80Z

Main features:

- ◇ LCD displays all the cutting data.
- ◇ The diameters of specimens to be cut range from 5 to 8mm (100B:100mm) and the cutting capacity reaches 100x 200mm.
- ◇ Manual cutting and automatic cutting can be changed over at random.
- ◇ Large cutting chamber and tempered-glass view window.
- ◇ Non-burnt movable cutting mode which greatly improves cutting quality.
- ◇ Automatic retract at the end of cutting operation.
- ◇ Dual-direction feed which increase the depth of cutting.



Technical Specifications:

Model	Q80Z	Q100B
Power supply	3phases/4wires; 380v/50Hz;	
Rotary cutting speed	2100rpm	
Cutting disk size	350mm×2.5mm×32mm	
Max. cutting diameter	Φ80mm	φ100mm
Max .cutting capacity	80mm×200mm	100mm×200mm
Motor Power	22.2KW	23KW
Dimensions of cutting table	310mm×280mm	
Overall dimension	930×700×610mm	

Metallurgical Specimen Grinder/Polisher MP1B/MP2B

MP1B and MP2B can be used for coarse grinding, fine grinding, rough polishing and fine polishing. It is the perfect metallographic specimen machines for the metallurgical specimen preparation.



Single disc Polisher/Grinder MP1B

Technical Specifications:

- ◇ Diameter of grinding disc: 230mm
- ◇ Diameter of polishing disc: 200mm
- ◇ Rotation speed of grinder/polishing disc: 50-1000r/min
- ◇ Power: 250W / 220V / 50Hz
- ◇ Dimension: 615×380×270mm
- ◇ Net weight: 30Kg



Double disc Polisher/Grinder MP2B

Technical Specifications

- ◇ Diameter of grinding disc: 230mm
- ◇ Diameter of polishing disc: 200mm
- ◇ Rotation speed of grinder/polishing disc: 50-1000r/min
- ◇ Power: 550W / 220V / 50Hz
- ◇ Dimension: 690×715×310mm
- ◇ Net weight: 45Kg

Single disc Dual Speed Metallurgical Specimen Preparation Grinder/polisher MP1 with polishing head



Fix-speed Polisher/Grinder MP1

By change the grinding/polishing disc, MP1S single disc polisher/grinder can be used for coarse grinding, fine grinding, coarse polishing and fine polishing. MP1S operates steadily in low noise, easily change speed and grind/polish units.

Technical Specifications:

- ◇ Grinding disc diameter: 250mm
- ◇ Sand paper diameter: 230mm
- ◇ Polishing disc diameter: 220mm
- ◇ Abrasive disc diameter: 220mm
- ◇ Rotation speed: 500/1000rpm
- ◇ Power supply: 380V/50Hz
- ◇ Dimension: 360x480x680
- ◇ Net Weight: 70Kg

Single disc Stepless Speed Metallurgical Specimen Preparation Grinder/polisher MP1S with polishing head



Stepless speed Polisher/Grinder MP1S

By change the grinding/polishing disc, MP1S single disc polisher/grinder can be used for coarse grinding, fine grinding, coarse polishing and fine polishing. MP1S operates steadily in low noise, easily change speed and grind/polish units.

Technical Specifications:

- ◇ Grinding disc diameter: 250mm
- ◇ Sand paper diameter: 230mm
- ◇ Polishing disc diameter: 220mm
- ◇ Abrasive disc diameter: 220mm
- ◇ Rotation speed: 50-000rpm/min
- ◇ Power supply: 220V/50Hz
- ◇ Dimension: 360x480x680
- ◇ Net Weight: 70Kg

Single disc stepless-speed automatic specimen metallurgical Grinder/polisher Mapao200M3/M5 with polishing head



Auto Polisher/Grinder Mapao200M3

1. Applying high-intensity FRP shell, rugged durability;
2. Adopting low-noise high-torque brushless motors, operate smoothly;
3. Sophisticated rotary balance, to ensure the plainness of specimen;
4. Leak-proof design of Main spindle, bearing durability;

Technical Specifications:

- ◇ Grinding/polishing disc diameter: 200mm
- ◇ Rotation speed: 0-600rpm/min
- ◇ Power supply: 250W/220V/50Hz
- ◇ Inlay molds: 3EA/EA available; diameter: $\phi 25$ / $\phi 30$ mm
- ◇ Cooling pipe: 1PC
- ◇ Dimension: 350×440×540 mm; Net Weight: 60Kg

Medium-speed Metallurgical Specimen Grinder/Polisher MoPao2DE / 260E /160E

1. This grinder polisher is the most economical and applied machine for metallographic specimens. Full series of styles can fit multiple specimen preparation.
2. Designed and manufactured according to international advanced methodology and qualification of metallographic specimens.
3. Equipped with beautiful and applied glass fiber crust; pure stainless steel, rustless forever.
4. Two optional styles equipped with diameter of 200mm, 250mm, and disk respectively.
5. Both of style of single-disk and double-disk equipped with stepless speed change and multiple-step constant speed system.
6. E-style machine equipped with stepless speed change and dual step constant speed system simultaneously, and can be switched each other. The turnaround of plates can be selected.



Technical Specifications:

Model	Plate number	Diameter of plate	Rotate speed	Remark	
MoPao160	1	200/250mm	150/300 (dual-speed)	380v/50Hz three phases	
MoPao260	2				
MoPao300	1	300mm			
MoPao160E	1	200/250mm	50-600 (stepless speed change)	220v/50Hz	
MoPao260E	2				
MoPao300E	1	300mm			
MoPao2DE	2	200/250mm	150/300	380v/50Hz; three phases;	two motors; isolative control system
MoPao2D	2			220v/50Hz;	

Abrasive Band Grinding Machine SAD11 (Double Abrasive Band)

SAD11 apply abrasive band to grind and polish the specimen for spectral measurement, different bonds can be replaced timely, conveniently and easily.

Technical specifications:

- ◇ Roller center distance: 255mm
- ◇ With cooling water device
- ◇ Abrasive band: width 100mm, perimeter 920 mm
- ◇ Rotation speed: 1400r/min
- ◇ Power supply: 550W / 380 V / 50Hz
- ◇ Dimension: 550×600×310mm



High-speed Metallurgical Specimen Grinder/Polisher YMP2 Series

In metallographic testing laboratory, it is the indispensable procedures about sample's pre-rubbing, grinding and polishing during the cause of metallographic sample preparation. YMP2 series of grinder/polisher is developed and designed after extensive market surveys in many aspects and absorb users' requirements. It's a newly developed product with novel appearance.

It starts steady with high-speed and low noise and it can meet different specimen preparation requirements. It can improve the quality of grinding, polishing and preparing efficiency of the specimen.



Dual-disc-stepless-speed metallurgical preparation
Polisher/Grinder YMP2

Technical Specifications:

- ◇ Diameter of grinding disc: 250mm
- ◇ Diameter of sand paper: 230mm
- ◇ Diameter of polishing disc: 220mm
- ◇ Rotation speed: 50-1400r/min
- ◇ Power: 350W/220V/50Hz ; 350W/110V/60Hz
- ◇ Dimension: 700×610×330mm
- ◇ Net weight: 80Kg



Dual-disc-four-speed metallurgical preparation
Polisher/Grinder YMP2A

Technical Specifications:

- ◇ Diameter of grinding disc: 250mm
- ◇ Diameter of sand paper: 230mm
- ◇ Diameter of polishing disc: 220mm
- ◇ Grinding speed: 500 / 1000 r/min, 300 / 600 r/min
- ◇ Power: 370W/380V/50Hz
- ◇ Dimension: 700×610×330mm
- ◇ Net weight: 80Kg



Dual-disc-dual-speed metallurgical preparation
Polisher/Grinder YMP2B

Technical Specifications:

- ◇ Diameter of grinding disc: 250mm
- ◇ Diameter of sand paper: 230mm
- ◇ Diameter of polishing disc: 220mm
- ◇ Grinding speed: 500,1000r/min,
- ◇ Power: 550W/380V50Hz
- ◇ Dimension: 700×610×330mm
- ◇ Net weight: 80Kg

Manual Mechanic Mounting press XQ1

XQ1 is manual mechanic mounting press with 3 different size of mounting mould, the temperature and heating time can be setup and shown manual on the panel.

Technical specifications:

- ◇ Mould diameter: $\varnothing 22\text{mm}$; $\varnothing 30\text{mm}$; $\varnothing 45\text{mm}$
- ◇ Input voltage: 220V/50Hz; 110V/60Hz
- ◇ Power: Max. 650W
- ◇ Dimension: 340×260×430mm;
- ◇ Weight: 33kg



Consumables	Diameter of mould	Volume of inserted powder	Heating temperature	inlaying time	cooling time
Formaldehyde Molding power (white)	$\varnothing 22$	10ml	130℃	10min	15min
	$\varnothing 30$	20ml	130℃	10min	15min
	$\varnothing 45$	35ml	130℃	10min	15min
Ebonite power (black)	$\varnothing 22$	10ml	135-150℃	8min	15min
	$\varnothing 30$	20ml	135-150℃	8min	15min
	$\varnothing 45$	35ml	135-150℃	8min	15min

Automatic Mounting press ZXQ1

Mounting press is used for inlay the irregular metallurgical specimens. ZXQ1 is an auto-machine, it can setup with the heating temperature, mounting time and force.

Technical specifications:

- ◇ Mould diameter: $\Phi 22\text{mm}$; $\Phi 30\text{mm}$; $\Phi 45\text{mm}$
- ◇ Voltage: 220V50HZ; 110V/60HZ
- ◇ Power: Max.1000W
- ◇ Pressure: 0~2MPa
- ◇ Temperature: 0~300℃
- ◇ Mounting time: 0~99 minutes and 0~59 seconds can be setup
- ◇ Dimension: 380×350×420mm
- ◇ Weight: 100Kg
- ◇ Automatic/Manual operation is available



Automatic Mounting Press ZXQ5

Mounting press is used for inlay the irregular metallurgical specimens. ZXQ-5 is an auto-machine, it can setup with the heating temperature, mounting time and force. Four different size of mould is available for mounting, and it can inlay two specimens simultaneously.

Technical specifications:

- ◇ Mould diameter: $\Phi 25\text{mm}$; $\Phi 30\text{mm}$; $\Phi 40\text{mm}$; $\Phi 50\text{mm}$
- ◇ Voltage: 220V50HZ; 110V/60HZ
- ◇ Power: Max.1800W
- ◇ Pressure: 0~2MPa
- ◇ Temperature: 0~300℃
- ◇ Mounting time: 0~99 minutes and 0~59 seconds can be setup
- ◇ Dimension & Weight: 615×510×500mm & 110Kg
- ◇ Cooling system: By water



Many thanks for your kind reading!

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Contact us:

ASEL - machine production
Bakic 33, 33520 Slatina - CROATIA
tel: +385 33 400 570 Fax: +86 851 5822114

www.asel.hr

asel@asel.hr

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