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Analytical Instruments

Model **723N** Visible Spectrophotometer
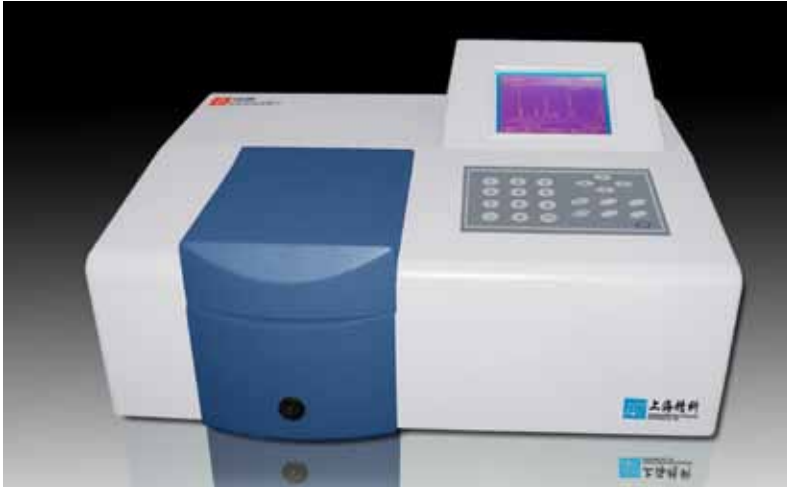
Model 723N Visible Spectrophotometer is an intelligent product with single-chip microprocessor control technology so that it has many sophisticated functions possessed by large high-end instruments and can meet the requirements of qualitative and quantitative tests for most samples conducted in conventional laboratories. The instrument is widely used in medical and health, clinical examination, biochemical, petroleum chemical, environmental protection and quality control departments, etc. The instrument with a low price and high performance is your best choice.

Main Characteristics

• The instrument adopts a 5.8" LCD graphic display and an externally linked thermal sensitive printer as its display and output devices to give a clear display of test results and prompts during the operation procedures. The thermal sensitive printer can easily print out test results for making data report and retention.

• Test method offers photometric mode, wavelength scanning, quantitative analysis and dynamical analysis and multi-wavelength test mode. In the quantitative test mode, three normal analytical methods of factor input, single-point and undetermined multiple-point are offered.

Unique cell-matching function eliminates measurement errors caused by cell-matching (effective only in the photometric mode and quantitative analysis).
• It has the function of automatic zero and full scale adjustment.
• It is highly accurate in measurement reading and excellent in repeatability and stability.
• The instrument has many advanced functions such as concentration direct reading, linear regression, timing print, GOTOλ and spectrum scanning and the like.
• Sampling at different wavelength intervals of 0.1nm, 0.2nm, 0.5nm, 1nm, 2nm and 4nm can be made according to users' requirements.

Technical Specifications

• Optical system: single beam, grating of 1200 lines/mm
• Wavelength range: 325-1000nm.
• Wavelength accuracy: ± 1nm
• Wavelength repeatability: ≤ 0.5nm.
• Spectrum bandwidth: 4nm
• Stray light ≤ 0.3% τ (in a test at 360nm with NaNo2, the value is 0.1%τ)
• Transmittance display range: 0.0%τ -200.0%τ.
• Transmittance accuracy: ±0.5% τ (tested with NBS930D).
• Transmittance repeatability: ≤ 0.2% τ
• Absorptivity display range: -0.301A- 4.000 A
• Concentration direct-reading range: 0000-9999
• Baseline flatness: ±0.005A
• Noise: 100% noise ≤ 0.3%τ
• Drift: ≤0.004A/h

Standard configuration:
1. Main instrument   1
2. Power cable   1
3. 10mm glass cell   4
4. 10mm Cell holder   1
5. Fuse 3A   2
6. Printer FD-TP40   1
7. Printing paper   2
8. Signal cable   1

Optional accessories:
1. 10mm Glass cell
2. 10mm Cell holder
3. Printer
4. Tungsten-halogen lamp(6V10W)
5. Printing paper

Overall dimension & weight:
Shipping package dimension   : 570-470-330mm
Gross weight   : 20Kg
Net weight   : 15Kg

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722G UV-VIS Spectrophotometer

Characteristics

• The monochromator with a holographic flashing grating is used.
• It has the advantage of high wavelength precision, good monochromaticity and low stray light.
• Automatic switching of tungsten halogen lamp and deuterium lamp.
• A sample compartment for 0.5cm-10cm cells.
• Computer control system, precise automatic T/A changeover.
• Automatic zero and full scale adjustment.
• Direct concentration read-out and concentration factor setting function.
• Equipped with RS232 port. Printer can be connected and data can be sent to PC by special software.

Specifications

Wavelength range 325-1000nm
Wavelength accuracy ≤2nm
Wavelength repeatability ≤ 1nm
Transmittance accuracy ±0.5% (t) (NBS930D)
Transmittance repeatability ≤0.2% (t)
Spectrum bandwidth 5nm
Stray light ≤ 0.5% (t)
(at 360nm, NaNO2)
Light current drift: 0.5%(t)/3min
Dark current drift: 0.2% (t)/3min
Cell Holder 10mm

Standard configuration:

1 Main instrument 1 unit
2 Operation Manual 1 pc
3 10mm Glass cell   4 pcs
4 Power cable 1 pc
5 Fuse (3A) 2 pcs

Optional accessories:

1. 5/10/20/50mm Glass cell
2. 5/10/20/50mm Quartz cell
3. 50mm Cell holder
4. 100mm Cell holder
5. Tungsten-halogen lamp(12V 30W)
6. Printer (FD-TP211)

Overall dimension & weight:

Shipping package dimension : 555-475-285mm
Gross weight   : 13.5Kg
Net weight   :   27Kg

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Model **4530F** Atomic Absorption Spectrophotometer

Characteristics

• Completely controlled by PC, can flexibly select the flame and graphite furnace atomizer (optional)
• Integrated floated optical platform design can obviously improve the optical system shock resistance and can keep stable though use the optical signal for a long term.
• Eight light stands can be changed automatically and preheat the eight element lights meantime as well as optimize the working condition of the hollow cathode lamp
• Position adjusting: the best height of the flame burner and can automatically set the front and rear positions
• Fully automated wavelength scanning and peak searching
• Complete safety chains protection equipment: the function of warning and automatic safety protection towards the wrong burner, leakage of the gas, under voltage of air and the abnormal flameout
• Deuterium lamp and self-absorption background regulation
• Data processing: super strong database, possesses more than 500 data self-storage and cut-off storage function, can store the analyzed result with the form of EXCEL and the testing method and the result can be randomly called
• Measuring method: flame absorption method and emission method
• Result printing: parameter printing, data result printing and diagram printing

Complete automatic controlling system

With the help of the software, the following can be easily achieved
• Selection of the element lamp
• Up-down-front-rear adjustment of the lifter
• Adjustment of the optical energy
• Selection of the slit
• Determination of wavelength scanning and peak searching
• Selection of the atomizer
• Setting of the background deduction method
• Controlling of the gas flow
• Automatic flaming and flaming out
• Setting of the graphite furnace testing method

Advanced graphite furnace temperature controlling technology

• The bringing in of PID technology can effectively overcome the influence on the temperature rising process caused by the voltage fluctuation and the resistance change to make more accurate controlling process. The combination of the 3ms/time fast sampling technique can make more accurate and reliable testing data
• The fast heating capacity can improve the flexibility of the elements further
• Use the ordinary power source of 220V without need of dynamic power of 380V
• The maximum procedure heating capacity setting of 20 levels can make a more convenient and easier test of different samples
• Three grades adjustable gas flow can accustom to more application needs
• Can timely alarm when the gas and water is stopped and insufficient gas and water, can avoid the equipment damage and measuring error

Safe, reliable and convenient flame system

• Epc can control the flow of Acetylene (C2H2) more accurately and it is a kind of system which also can operate easily
• Efficient Atomization system enables a higher sensitivity
• The whole operation system has a high security as the fire safety system can alarm whenever the electricity is cut off, abnormal flame occurs, a lack of pressure happens or the burner does not match well. And it will automatically turn off the gas, prohibit tempering. Thus it keeps the operation people and equipment from harm and damage.

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Multi-functional software workstation

• A workstation that is supported WINDOWS XP/2000/NT
• The rich menu brings great convenience to the use of customer
• Convenient conversion between different menus makes the operation more easily
• Various analytical correction methods provide the users more choices
• Basic default parameter settings enable even the beginners can do the normal operation
• Flexible storage, editing and printing methods give the user largest support
• Instrument configuration:
Atomic Absorption Spectrophotometer   1pc
Air compressor without noise   1pc
PC workstation: computer, HP inkjet, apparatus operating software (the object can be prevailed on the specific configuration)
A set of accessories (including Acetylene reducing valve, one copper and manganese element lamp and air filter)

4530f	
Wavelength range	190 – 900nm
Spectral bandwidth	Can automatically change between 0.1nm, 0.2nm, 0.4nm, 1.0nm and 2.0nm
Accuracy of the wavelength	±0.15nm
Receptivity of the wavelength	≤0.04nm
Base line stability	≤0.002A/30min (Cu)
Characteristic viscosity	0.02μg/ml/1% (Cu)
Checking limit	0.004μg/ml (Cu)
Preciseness	0.5%
Grating	1800 lines/mm
Inflamer	All-metal titanium burner
Atomizer	Effective glass atomizer
Lamp stand	Eight lamps
D2 background correction ability	When the background is 1 A, the background ability should be deducted not less than 50 times; self absorption background deduction method
Size and weight	700mm×550mm×450mm 75Kg
Power source	220V±22V AC
Flame system	
Acetylene air burner	100mm
Nitrous oxide acetylene flame head	50mm
Ignition dynamic baseline drift	≤0.006A/30min
(Cu) Characteristic viscosity	≤0.025μg/ml/1%
Related standard deviation of the accuracy	≤0.5%(Cu, absorbance>0.8A) (detection limit Cu≤0.008μg/ml)
Safety system	Can automatically cut off the gas when the pressure is not eno-ugh, the power is off, flameout and unconformity of the burner.
Graphite furnace	
The highest temperature	3000℃
The largest temperature rising speed	≥2000℃/S
Characteristic quantity	Cd≤0.5×10-12g Cu≤0.5×10-11g
Accuracy	Cu≤3% Cd≤3%
Size and weight	550mm×450mm×300mm 65Kg
Safety system	Over current protection
Low air pressure alarm / protection	
Low cooling water flow alarm/protection	
Power source and power	220V±22V AC 7000W

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Model **762** Double beam UV- VIS Spectrophotometer
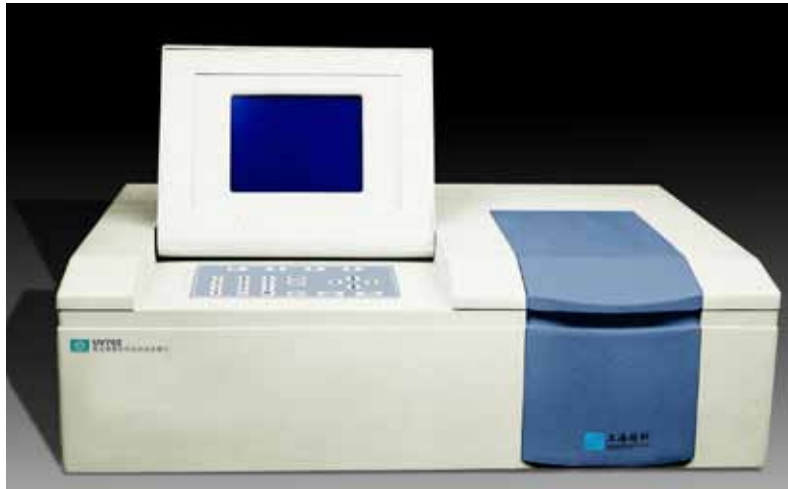
Features & Applications

• UV762 is a double beam scanning ultraviolet-visible spectrophotometer. It has wider spectral range and is of very good quality. Since the instrument is equipped with a powerful micro-computer processing system, excellent optical and circuit system, and applies appropriate mechanical structure, and has a large LCD screen, it has become an effective and important tool for measurement applications at the lab in all industries.

The UV762 UV-Visible Spectrophotometer applies the human-machine operational mode and is quite easy to operate. Users can quickly master the operation skills. The replacement of source lamp abandons the outdated and complicated ways and adopts more simple and easy way.

The user can simply rotate a few screws to replace the illuminant light, which guarantees that the lamp is at the best position without complex adjustment.

The software design of the instrument has self-protection function, which ensures the device can restore normal working condition in case of any wrong operations.

As an excellent and useful apparatus, the fast and simple analysis performance allows UV762 to be widely applied to economic departments related to organic and inorganic, petroleum, pharmacy, environment, biochemistry, medicine, food and other sectors. It is one of the indispensable instruments for the conventional quality control (QC) and quality of analysis (QA).

Technical Parameters

• Wavelength range	200nm~1100nm
• Maximum Permissible Error of Wavelength	±0.5nm
• Wavelength reproducibility	≤0.2nm
• Transmittance range	0~300%
• Absorbance range	-0.477~3.000A
• Maximum Permissible Error of Transmittanc	e±0.5%
• Transmittance reproducibility	≤0.2%
• Drift	≤0.004A/h (2h after power on, at 500nm)
• Baseline flatness	±0.004A(200 nm~1000nm)
• Stray light	≤0.15% (220nm NaI, 340nm NaNO2)
• Noise	100%(T) Line Noise ≤0.3%(T); 0%(T) Line Noise ≤0.2%(T)
• Scanning speed	Fast, Medium, and Slow (three types)
• Spectral bandwidth	2nm

1.1. Main Functions

Main functions can be divided into two categories: auto-control, and analytic testing & information processing.

Auto-Control
1) Internal system auto-checking when start-up; and automatically calibrating wavelength;
2) Automatic wavelength positioning;
3) Automatic filter switch;
4) Automatic source lamp switch;
5) Automatically select the best light switching point;
6) Graph and data displaying and printing;
7) All kinds of error messages displaying.

Analytical Measurement & Information Process

1) Spectrum scanning;
2) Single wavelength quantitative analysis (including multi-order concentration parameters determination);
3) Two wavelength and three wavelength quantitative analysis (including multi-order concentration parameters determination);
4) Multi-order derivative determination
5) Multi-wavelength determination;
6) Chemical kinetics measurement;
7) Curve combination and calculation, multi-order differential curve smoothing, graph zooming, curve preservation and calling;
8) Peak calibration, searching, and printing.

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Model **AA320N** Atomic Absorption Spectrophotometer

Characteristics

1. Build-in computer data processing and LCD: adopting highly integrated micro digital circuit, which is stable and reliable with the functions of integral holding, peak height and area, auto zero adjusting, deuterium lamp and background, multi-linear and nonlinear curves fitting, various parameters and working curves displayed in screen and report printing, etc. It is equipped with interface for externally linking PC.

2. Good basic line stability: Double-beam system of optimized design can automatically compensate the light source drift and wavelength drift caused by the variation of temperature (with the function of the eliminating the affection of wavelength drift on the base line stability) and electronic circuit drift so as to reach a good basic line stability. The cathode lamp needs not be pre-heated for long time and sample can be analyzed immediately. It is the preferable instrument chosen by users to conduct analysis of multiple kinds of elements and fast analysis of samples.

3. High precision of measurement: Gas path system is equipped with precision pressure stabilizing and current stabilizing devices to reach stable flame and low noise. Specially designed fine light beam passes through the flame to ensure a high precision analytical test and low characteristic concentration

4. Optical path of high energy: A total reflection system is adopted to eliminate color difference in full range. By means of chemical conversion, a round light spot of the light source becomes a long light spot, which enters into the slit. Therefore the light flux of double beam is enhanced.

5. Long-life and anti-corrosive atomization system: The burner is made of new type titanium alloys, anti-corrosive and fast thermal equilibrium. It meets the requirement of measurement sensitivity without water-cooling.

6. Multi-functional analysis mode: for methods of flame absorption, flame emission, graphite furnace atomic absorption and hydride generation.

7. Safe and reliable gas path system: Special devices of quick gas conversion and safety protection can be used to analyze air-acetylene flame as well as nitrous oxide-acetylene flame and extend the analytic elements to reach more than 60.

8. Complete set of accessories: to be supplied with the instrument and ready for use after they are purchased.

Technical Specifications

1. Working spectral range : 190-900nm
2. Wavelength accuracy : ≤ ±0.5nm
3. Wavelength repeatability : ≤ 0.3nm (single direction)
4. Spectrum bandwidth : 0.2nm, 0.4nm, 0.7nm, 1.4nm, 2.4nm, 5.0nm
5. Resolution : <40%
6. Base line stability : ±0.004Abs/30min
7. Characteristic concentration of copper : ≤ 0.04μg/ml/1%
8. Detection limit of copper : ≤0.008μg/ml
9. Background calibration ability : Greater than 30 times.
10. Standby Interface : RS 232
11. Instrument power supply : 220V, 3A, 50Hz

Accessory

Main accessories supplied with the instrument: Several decades of accessories including air compressor, printer, one piece of (Zn or Cu) and K. Gas external pipe, acetylene cylinder pressure-reducing valve and water knockout gas filter.

Optional accessories:

GA3202 HGA graphite furnace system: Used to conduct trace and ultra-trace analysis with an absolute sensitivity of 10-10-10-12 gram.

5cm long-life titanium burner: The necessary accessory for nitrous oxide-acetylene flame analysis.

Hydride generator (Totally automatic): Making the characteristic concentration of As, Se, Sb, Bi, Pb, Sn, Te, Ge, In, Tl, Cd and Zn lower than ppb level with cold atomic mercury measurement method.

Nitrous oxide reductor: The necessary accessory for nitrous oxide-acetylene flame analysis.

Hollow cathode lamp: All specifications are available.

Graphite tube: All specifications are available.

Software with I/O port

Overall dimension & weight: Shipping package dimension: Main instrument: 1260-800-730mm   160kgs
Accessories: 880-600-1010mm   65kgs

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Model **GA3202** Graphitic Furnace Production

Main Use
GA3202 graphitic furnace production is especially used for measuring the trace element by the method of graphite furnace atomic absorption, and is important accessory of atomic absorption spectrophotometer.

Characteristics
1) The function of photoelectric high-speed temperature rising control, display the temperature and absorbance curve.
2) LCD back light word-symbol and graphic display, menu typed operation enables it to memorize the parameters and curves of temperature rising program set every time, in order to be transferred next time.
3) Simplified single-lined pipe is connected with the dual atomic transformer by the body of furnace, which makes the installation and test of the graphitic furnace much easier and realize the quick shift between two kinds of analytic method of flame and of graphitic furnace.
4) Pneumatic closing construction is used to ensure constant pressure and reliable contact. It has functions of monitor alarming and protection against overheating, overflow, over-efficiency and the pressure of argon gas.

Specifications
1) Temperature range: 20°C-3000°C
2) Temperature range of light control: 1500°C-3000°C
3) Rate of temperature rising: 3000°C/S
4) Power supply: 220V 50Hz ±10%, 6KW

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Model **GC102AF/AT**
Gas Chromatograph

General Features

Computer aided temperature control with high accuracy (less than ±0.1°C)

All control and application parameters, including operation parameters of the detector, can be set up through keyboard. Functions, such as self-diagnosis, switch-off protection, document storage and transaction, limit temperature setup thermal trip valve setup, and FID auto-ignition are incorporated inside of the instrument.

Large-screen LCD display, supporting Chinese characters, can accurately and clearly present all temperature control setup values, actual values, TCD working electricity supply, sensitivity of FID magnifier, and etc.

The instrument supports packed column i.e. on-column sample injection. It is compatible with such devices as instantaneous vaporizing sample injection, gas sample injection with gas sample injection valves, and 0.53mm large diameter capillary column direct sampler.

Open-end computer system can apply RS-232 interface and N-2000 chromatogram workstation to achieve dual path communication control and data processing.

Large capacity column (300mm×280mm×270mm) is easy to be installed with packed column and large diameter capillary column.

Performance Indicators

Temperature Control:

1. Temperature control areas: gas chromatogram column, sampler, detector
2. Temperature control range: 15-399°C of room temperature (increment by 1°C)
3. Temperature control accuracy: less than ±0.1°C (measured at 200°C)

Flame Ionization Detector (FID):

1. Detection limit: $Mt \leq 1 \times 10^{-10}$ g/s(sample C_{16})
2. Drift: $\leq 2 \times 10\text{-}12$ A/h

Thermal Conductivity Detector (TCD):

1. Sensitivity: $S \geq 1500$ mV.ml/mg(carrier gas: H2; sample: n-Hexadecane)
2. Baseline noise: $\leq 20 \mu V$
3. Baseline drift: $\leq 50 \mu V$/h

GC102AT / GC102AF

Optional accessories:
1. CDP-4A data processor
2. Software with I/O port

Overall dimension & weight:

Shipping package dimension	:	950-670-770mm
Net Weight	:	45kg
Gross Weight	:	65kg

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Model **FP640** Flame Photometer

Features & Applications
• FP-640 flame photometer is an improved instrument based on the original model.
• A digital display to show clear measurement results. Improved gas path system suitable for various fuels, easy to operate and with stable readings.
• It meets the requirements of medical clinical test. In addition to new added functions of testing high contented K and Na, it has the detection function of Li salt taken by the mental patients.
• Complete set including a main instrument, an air compressor, accessories and spare parts

Specifications
Range   K:0~199
                        Na:0~199
                        Li:0~199
Sensitivity   K:0.2μg/mL
                        Na:0.2μg/mL
Linearity   K:0.2μg/mL
                        Na:0.7μg/mL
Drift   less than 3% within 15s
Reproducibility   3%
Aspiration rate   <6mL/min
Fuel supply   Gasoline or L.P.G.

Standard configuration:
1. Main Instrument 1
2. Power Cable   1
3. Air compressor   1

Overall dimension & weight:
Shipping package dimension: 800-500-560mm
Gross weight: 48Kg
Net weight: 43Kg

ŞAFAK
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Model **FP6510** Flame Spectrophotometer

General Features

1) The instrument is capable of measuring three elements at the same time among five elements including Na, K, Li, Ca and Ba;
2) The series of product is comprehensive and the end user can use it directly with preparing gas source of propane, butane and petroleum gas only;
3) Application areas: beverage, chemical manufacturing, clinical detection, agriculture, food detection, mineral extraction, oil industry, petroleum, chemical industry and soil analysis.

Structural Characteristics

1) Five filters (Na, K, Li, Ca, and Ba) are equipped with five-channel detection function. Three elements can be detected at the same time and the content of three elements can be displayed as well.
2) The touch panel has number keys.
3) Single point calibration. The calibrated curve can be saved in the device.
4) RS232 interface. The device is able to connect extension equipment, such as, computer and printer.
5) A mist separator is provided.

Technical Characteristics

1) Linear processing: each of the five elements can be processed with the application software; and single point calibration is prepared.
2) Sample injection rate: 4-6ml/min
3) The best measurement range: Na: 0 - 100ppm;
     K: 0 - 100ppm;
     Li: 0 - 100ppm;
     Ca: 0-1000ppm;
     Ba: 0 - 3000ppm;
4) Repeatability: when the equipment is stable for about 30mins, the deviation factor is not higher than 3% (the concentration of sample is 100ppm or even less);
5) Detection limit: Na: 0.01ppm;
     K: 0.01ppm;
     Li: 0.025ppm;
     Ca: 0.1ppm;
     Ba: 10ppm;
6) Time stability: less than 15s (after the sample is burnt in the flame);
7) Drifting: ≤3% (when the equipment is stable for about 30mins);
8) Linear: better than the median value of optimal result by 2% (single point calibration);
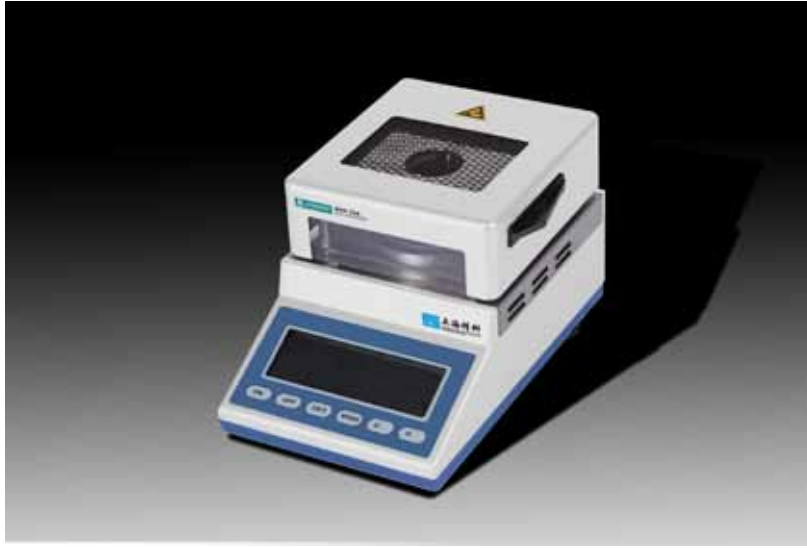9) Two linear calibration methods: subsection method, and quadric fitting method;

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Balance
Instruments

DHS Series Moisture Analyzer

DHS16-A Multi-functional Infrared Moisture Analyzer is composed of an electronic balance and a heating device. It adopts electric-magnetic balance and infrared heating technology and a single-chip microprocessor. With perfect and complete functions, it is durable, small and easy to operate. It has the functions of weighing, temperature and time setting, manual and automatic heating selection and adjustable display parameters. Provided with RS-232 interface, 8 parameters can be output with 4 output modes for selection. Therefore, the instrument is widely used in the fields of pharmaceutical, food, tobaccos, grains and chemicals, etc.

Model	DHS16-A	DHS20-A
Reading Accuracy	0.001g	
Capacity	0-100g	
Temperature Range	RT to 160℃	RT to 200℃
Temperature Control Accuracy	±1℃	
Moisture Measuring Readability	0.01%	
Moisture Measuring Repeatability	0.2%(sample^{3}2g)	
Time Setting	0-120 min	
Analytical Mode	Manual, Automatic	
Control Mode	Program control	
Display Parameter	8 kinds	
Pan Diameter	f 90mm	
Overall Dimensions	325mm´195mm´195mm	
Power Supply	220V+22V (50Hz) or110V±11V (60Hz)	
220V-33V (50HZ)	220V+22V (50Hz) or110V±11V (60Hz)	
Net Weight	6kg	

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LHS Series Drying Moisture Meter

LHS16-A Drying Moisture Meter is also called halogen moisture analyzer.
The instrument is a new product which applies the technology of electronic balance, halogen radiation and temperature controlling.
The instrument is robust and small in size, the operation is easy, the functions are complete and the quality is reliable.
It has various functions, such as weight calibration, temperature and time setting, manual or auto heating selections, adjustable display parameters, and buzzer sound indicating heating finish, etc. With RS232 serial printer or computer, the instrument can print out 8 types of parameters and has 4 output modes for selections.
**The** instrument is fast and can perform a testing within few minutes.
The instrument is widely used in pharmaceuticals, food and beverage, tobacco, grain and chemicals, either as a precision instrument in the laboratory, or for routine test of purchased goods or doing process control in the factory.

Main Technical Specifications

Maximum Weighing Capacity : 100g
Readability of the Balance : 1mg
Allowable Error of Moisture Content : ±0.02% (sample≥2g)
Readability of Moisture Content : 0.01%
Temperature Control Accuracy : ±1°C
Drying Temperature Setting : Ambient - 160°C (adjusting by 1°C)
Drying Time Setting : 0 - 120min. (adjusting by 1min.)
Analyzing Mode : Auto or Manual
Data Display : 8 (See section of printing mode setting)
Range of Moisture Content to be Measured : 0 - 100%
Dimensions : 325mm x 195mm x 195mm

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FB214 Electronic Balance
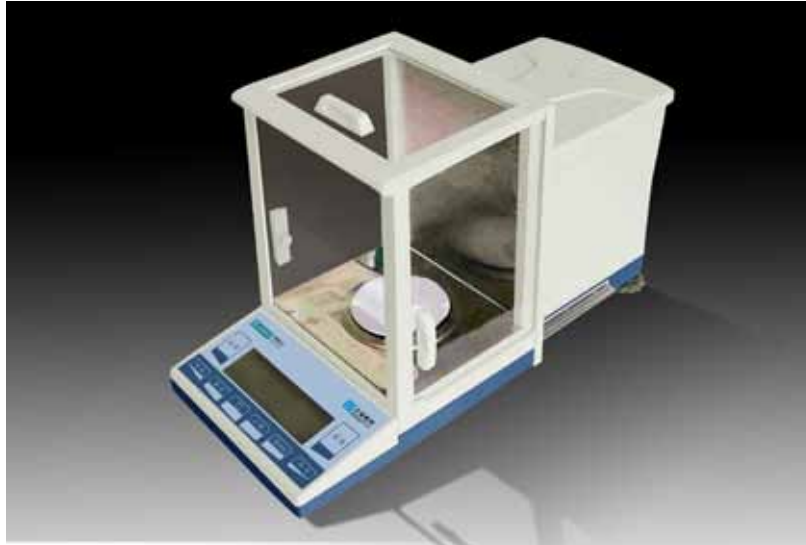
Functions
• Quick response
• Multi-application program
• Easy to operate
• Display with bias light and clear readings in any light
• Build-in RS 232 Serial Port
• Timing automatic calibration to eliminate measurement errors

FB series electronic balance is an electronic analytical balance with an all new structure and functions of automatic internal calibration and timing calibration. It is characterized by its quick response, stable readings and complete functions in a novel style. The balance has been widely used in scientific research institutes, colleges and universities, industrial and mining enterprises and other fields for precision weighing and mass analysis. It is an ideal instrument to measure mass.
• Weighing Range: 0-210g
• Accuracy Level: o, '
• Margin of Error: ±0.0005g for a weighing range of 0-50g
                              ±0.0010g for a weighing range of 50-200g
• Repeatability Error (Standard Deviation): 0.3mg
• Linearity Error: ±0.5mg
• Actual Scale Division Value (d): 0.1mg
• Pan Diameter: f90mm
• Way of Calibration: Automatic internal and external calibration
• Output Interface: RS 232
• Overall Dimensions (Length Width Height):
   477mm×216mm×298mm
• Power: 220V 50Hz/15W
• Operating Temperature: 20°C±5°C
• Operating Relative Humidity: 50%-70%
• Weigh: about 9kg

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

DDB-303A Portable Conductivity Meter

Characteristics

1.31/2LCD displaying with blue back-light
2.Four measurement ranges and automatic range change.
3.Manual temperature compensation
4.Automatic switching measuring frequency, measuring ultrapure water with using K=0.01cm-1 titanium alloy electrode and sealing measuring cell
5.D.C. power supply: one piece of 9V battery(the life of battery is greater than 100h for continuous duty.)
6.Easy to carry

Specifications

1.Measurement range: 0-1´105 mS/cm
There is the best correspondence point between conductivity measuring range and conduction cell constant

Conduction cell constant(cm-1)	0.01	0.1	1	10
Measuring range (uS/cm)	0~2	0.2~20	$2~1\times10^4$	$1\times10^4~1\times10^5$

1. Electrode constant, cm-1: 0.01. 0.1, 1.0.10.0
2. Accuracy of the electric unit: ±1.0%(FS) ±1 bit
3. Stability of the electronic unit: ±0.66%(FS) ±1bit/3h
4. Accuracy ±1.5%(FS) ±1 bit
5. The range of temperature compensation: 15-35°C, basic temperature: 25°C

Standard configuration:

1.Main instrument   1
2.AA Salinity Battery   4
3.DJS-1C Platinum Electrode   1
4.DJS-0.01 Titanium Alloy Electrode
5.Suitcase

Optional accessories:

1. DJS-1 bright Electrode
2. DJS-10 Conductivity Electrode
3.DJS-0.1 Platinum Electrode

Overall dimension & weight:

Shipping package dimension: 255-255-195mm
Gross weight: 1.5Kg
Net weight: 0.5Kg

ŞAFAK

LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

DDS-307A Conductivity Meter

Characteristics

1. Double digits LCD display with big screen and blue back light, display conductivity value and temperature value
2. With manual or automatic temperature compensation.
3. There are four types of electrodes for conduction cell constant: 0.01,0.1,1.0 and 10.0cm-1 ,user can select by your need.
4. Automatic switching measuring frequency, measuring ultrapure water with using K=0.01cm-1 titanium alloy electrode and sealing measuring cell

Specifications

1. Measurement range: 0-1×105 mS/cm
There is the best correspondence point between conductivity measuring range and conduction cell constant

Conduction cell constant(cm-1)	0.01	0.1	1	10
Measuring range (uS/cm)	0~2	0.2~20	$2\sim1\times10^4$	$1\times10^4\sim1\times10^5$

2. Electrode constant, cm-1: 0.01. 0.1, 1.0.10.0
3. Accuracy of the electric unit: ±0.5%(FS) ±1 bit
4. Stability of the electronic unit: ±0.33%(FS) ±1bit/3h
5. Accuracy ±1.0%(FS) ±1 bit
6. The range of temperature compensation: 15-35°C, basic temperature: 25°

Standard configuration:

1. Main instrument   1
2. Power cable   1
3. DJS-1C Platinum-balck Electrode   1
4. T-818-B-6 Temperature Sensor   1
5. REX-I Mutli-function Electrode Support Stand   1

Overall dimension & weight:

Shipping package dimension: 332-265-275mm
Gross weight: 3Kg
Net w eight: 2Kg

Optional accessories:

1. DJS-1 bright Electrode
2. DJS-10 Conductivity Electrode
3.DJS-0.1 Platinum Electrode
4.DJS-0.01 Titanium Alloy Electrode

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

PHSJ-3F PH Meter

Characteristic

1. Blue back-light & LCD displaying;
2. Automatic temperature compensation, automatic calibration and automatic calculation of percentage theoretical slope of electrodes;
3. Measurement results can be stored, deleted, searched and printed. It can store 50 sets of measurement data;
4. Protection from electricity cutting off.;
5. One point or two points automatic calibration can be conducted on the meter with five types of pH buffer solution selected by users within the temperature range of 0-60□;
6. With RS-232 interface for connecting TP-16 printer using DC 1.0 software of data-collection to communicate with computers;
7. Users can measure the pH value of ultra-pure water, pure water and boiler water through adjustment of equipotential point to select special electrodes.

Specifications

 1 Measurement range : pH: (-2.00~18.00)pH
mV: (-1999.9~1999.9)mV
Temp.: (0..0~100.0) ℃
2. Resolution: pH:0.01pH,
mV: 1 mV
Temp.: 0.1 ℃
3. Accuracy pH: ±0.01pH±ibit
mV: ±1mV±1bit
Temp.: ±0.3 ℃ ±1bit
4. Input impedance:1 x 10 12 Ω
5. Stability: ±0.01pH ±1bit/3h
6. Temperature compensation range: 0.0~100.0 ℃
7. The temperature of the measured solution:5~60 ℃

Standard configuration:

Standard configuration:
1. Main instrument	1
2. Power cable	1
3. PH Combined Electrode	1
4. T-818-B-6 Temperature Sensor	1
5. REX-I Mutli-function Electrode Support Stand	1
6. PH4,6.86,9.18 Buffer	5 bags for each
7. Data Collecting software	1
8. RE-232 Communication Line	1
9. TP-16 Print Connection Line	1

Overall dimension & weight

Shipping package dimension: 332-265-275mm
Gross weight: 3Kg
Net weight: 2Kg

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

JK-PH007 High-Precision Pen Type PH Meter

Model	JK-PH007
Measurement Range	0.00~14.00PH
Resolution Ratio	0.01 pH
Accuracy	±0.1pH
Correction	2points
Automatic Temperature Compensation	0 to 60°C
Power Supply	4×1.5v (AG13 batteries)
Dimensions	177×42×24mm
Weight	90g

PXSJ-226 Ion Analyzer

Specification

1. Measurement range: mV: -1999.99-1999.99 mV
pH/pX: 0.000~14.000 pH/pX
Temperature:-5-105.0°C
Concentration: various concentration value correspondence to potential measurement range and indicator electrode
2. Resolution: pH/pX: 0.01/ 0.001pX
 mV:0.1/0.01mV
 Temperature:0.1°C
3. Accuracy of the electric unit: pX ± 1: ± 0.002pX±1 bit
 pX ± 2: ± 0.005pX±1 bit
 mV: ±0.03% (FS) ± 1 bit
 Temp.: ±0.2°C ± 1 bit
 Concentration: ±0.5% (FS) ± 1 bit

Characteristic

1. Novel touching LCD screen;
2. With multi-points calibration((max/mum five points calibration) function, can set buffer solutions groups by yourself
3. With major ion mode, such as: H+、Ag+、Na+、K+、NH4+、Cl-、F-、NO3-、BF4-、CN-、Cu2+、Pb2+、Ca2+,etc.
4. Easy switching between each kind of concentrations unit after measurement finished
5. Measurement concentration unit can be switched among (0.000~19990)mg/L、mol/L、PX
6. Set self-defining ion mode, and can also measure the other ion
7. With RS-232 interface, TP-16 printer can be connected and measuring result can be printed. Or communication with computer

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.
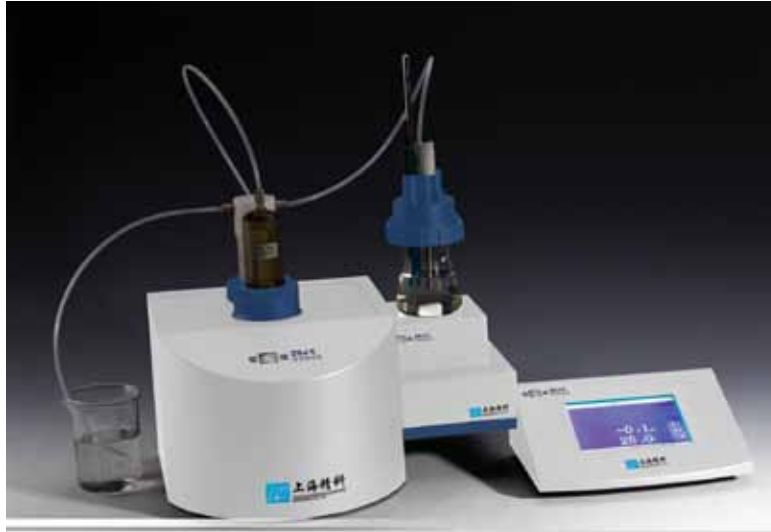
ZDJ-4A Automatic Potential Titrator

Characteristic

1. Microprocessor technology
2. Special titration mode with the function of pre-titration, pre-setting terminal titration, empty terminal titration or manual titration.
3. The meter can be used to make acid and alkali titration, oxidation-reduction titration, precipitation titration, complex titration and nonaqueous titration etc., as well as pH measurement.
4. Electricity cutting off protection.
5. With RS-232 interface (model TP-16, TP-24 and TP-40) printers can be connected.
6. The computer communicating software is provided with the meter, titrating tension, one step and two steps derivative and graphs contrast analysis are instantly displayed on computer. Titration mode can be compiled and revised. The meter can be remote controlled. The results of the measurement can also be counted up.
7. Titration system made of perchloric acid resistant materials to make nonaqueous titration possible.

Specification

1. Measurement range: pH: 0.00-14.00 pH,
                              mV:-1800.0-1800.0 mV
                              temp.: -5.0-105.0°C
2. Resolution: pH:0.01 pH
                   mV:1mV
                   temp.: 0.1°C
3. Accuracy of the electric unit: pH: ±0.01pH±1 bit
                                       mV: ±0.6mV
                                       temp.: ±0.3°C
4. Input impedance: 3´1012 W
5. Stability: ±0.3mV±1bit/3h
6. Control titration sensitivity: ± 2mV
7. Titration tube capacity error: 10ml tube: ±0.025ml
                                        20ml tube: ±0.035ml
8. Capacity analysis reproducibility: 0.2%.

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

ZDY-500 Automatic Constant Titrimeter

The meter is a volume analyzer mainly used in college, scientific research departments, pharmacy, etc, especially suitable for inspecting kinds of sulfanilamide medicine indicated in medicine dictionary.

Main Characteristic

Needle Meter
1. With manual, automatic titration function
2. With polarized voltage selection, terminal setting selection, inspecting sensitization selection function
2. Electric current measuring is divided into 10-9A, 10-8A, 10-7A, 10-6A to match different kinds of chemical analysis.

Main technology index

1. polarized current sensitivity: 2 x 10-9, 2 x 10-8, 2x 10-7, 2 x 10-6(A)
2. polarized voltage: 30, 50, 100mV
3. terminal setting: 10, 20, 30 …… 100
4. titration terminal controlling sensitivity: ± 5% FS
5. polarized voltage inspecting accuracy: ± 2.5% FS
6. volume analysis repeatability accuracy: 0.2% reading figure
7. outside dimension(mm): 300 x 230 x 130
8. weight: about 1.5 kg
9. normal working condition:
a). Ambient temperature: (5 ~ 35) □
b). Relative humidity: ≤80%
c). Power supply: AC (220 ± 22) V; (50 ± 1)Hz
d). No disturbing by electron magnetic field except terrestrial magnetic field.

&ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

SCILOGEX DispensMate
Plus Bottle-Top Dispensers

- Description
- Additional Info
- Excellent chemical resistance
- Entirely autoclavable at 121°C
- Four ranges of bottle-top dispensers cover a volume from 0.5mL to 50mL
- Easy to clean and maintain
- 2.2g/cm3 vapor pressure maximum 500mbar
- Viscosity maximum 500mm2/s
- Temperature maxiumum 40°C
- Density maximum 2.2g/cm3
- Adapter can fit any common lab bottles
- Telescoping filling tube adjusts easily to different size bottles
- 3-year manufacturer's warranty

Levo Pipette Controllers

Features:
- Comfortable and simple to use.
- Precise pipetting control
- Robust and light weight
- Fits the entire range of volumetric and graduated pipets, both glass and plastic, from 0.1 to 100ml.
- Uses replaceable 3.0µm filter
- Easy to maintain and clean
- Five colors
- Filling and delivery are easily controlled with a small sensitive lever.

100-1000 uL Micropipette And
1000-5000 uL Micropipette

Features
- Comfortable and simple to use.
- Precise pipetting control
- Robust and light weight
- Fits the entire range of volumetric and graduated pipets, both glass and plastic, from 0.1 to 100ml.
- Uses replaceable 3.0µm filter
- Easy to maintain and clean
- Five colors
- Filling and delivery are easily controlled with a small sensitive lever.
- Autoclavable Micropipette

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

Levo Plus Pipette Filler

Levo Plus Pipette Filler can be used with all plastic or glass pipettes between 1-100ml. The Levo Plus Pipette Filler is lightweight and designed for one-handed fatigue-free pipetting.
• A full volume range of 1-100ml.
• Levo Plus can be used with all plastic or glass pipets between 1-100ml
• Easy to one-handed operation.
• Lightweight, ergonomic design allows longer, fatigue-free pipetting.
• Lithium-ion battery offers long runtime charge and no battery memory problems.
• Self-regulate the aspirate and dispense by circuit feedback.
• Large LCD display provides visual confirmation of remaining battery charge and speed settings.
• The aspirate and dispense speed controls are separate.
• Fills a 50ml pipet in 5 seconds.
• Button at the upper part of the handle allow you to set your aspiration and dispense speeds.
• Eight speeds are available for aspirate and dispense liquid. If the dispense button is pressed only up to a point where a check can be felt, the dispensing function will be based on the force of gravity and the liquid will simply flow out.
• Comply with ISO9001, 13485 and GLP guidelines.
• Hydrophobic filter
• **Three year warranty**

Dragon Lab Levo Plus LCD Display

Specifications

Aspirate Speeds	8
Dispense Speeds	8 + Gravity Dispense
Battery	Lithium-ion
Battery Service Life	More than 15 Hours of Continuous Use
Charging Time	Approx. 2 Hours
Pipette Types	Glass or Plastic Pipettes (0.1 - 100ml)
Filter	Hydrophobic
Dimensions(mm)	(L)290×(D)520×(H)298
Weight	30kg
Additional Features	Speed/Acceleration switch Short-Time Run Function sound-alert Function

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

Refractometer for brines VSA2
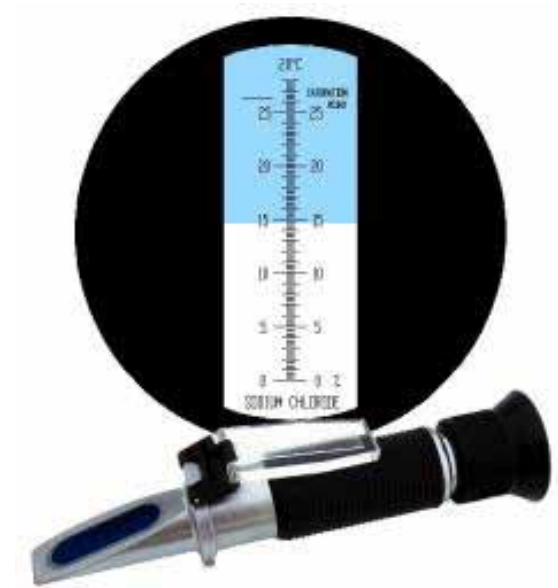
Advice: most of customer prefer the ATC variant (because there is not necessary to use a thermometer and a temperature compensation table)

This optical refractometer (salinity meter) has scales in the range of 0 - 28 %. The reading resolution is 0.2 %. It is designed for the measurement of salt solutions and brines.

Scale / characteristic   Scale Range
Resolution
Salinity   0 to 28 %
0.2 %

The usual salinity of the selected aqueous solutions
Example: Salinity 36 ‰ means, that there are 36 grams of salt in 1 liter aqueous solution.

Fresh water   < 0.5 ‰
Brackish water   0.5 to 30 ‰
Saline water (Seawater)   30 to 50 ‰
Brine   > 50 ‰
Measurement
The liquid measurement is very easy. Place a few drops of the liquid on the optical part of the refractometer, cover the prism (the liquid will spread more easily over the prism), look throught the eyepiece against the light (focus, if necessary) and you will be able to read the result value on the scale.

General technical parameters
reference temperature 20 °C
this refractometer is not equipped with automatic temperature compensation (ATC)
focus possibility
length ~ 175 mm
quality technical design
Content and equipment
a firm plastic case
a refractometer
a cleaning cloth
a suction tube
a screw driver
operating instructions

DBR 45 Brix Digital Refractometer

Product Description

Product Name: Digital refractometer/fruit pressure meter/pocket refractometer

Digital refractometer/Fruit pressure meter/Pocket refractometer Characteristic:
1. Small and portable, user-friendly
2. 2AAA batteries, can accurately test anytime and any where,
3. Touch key, comfortable and beautiful
4. Special designed sample place, avoid sample spilling, easy to clean
5. Can not test the sugar content but also test the temperature of measured stuffs, automatic temperature compensation
6. Fast measuring speed, measuring just 3s once
7. Wide measuring range, suitable for almost any liquid measurement such as fruit juice, food and drink and so on
8. Display mode: Large LCD display.

Model	TD-45
Measuring range	0-45%
Resolution	Sugar (Brix) 0.1% temperature 0.1° C
Accuracy	Sugar (Brix) ± 0.2% temperature ± 0.5° C
Temperature	9.9° C-99.9° C(automatic temperature compensation)
Sample volume	0.3 ml
Respond time	3 s
Power supply	AAA*2
Battery life	About 8000 times

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

Physico-Optical Instruments

Physico-Optical Instruments Physico-Optical Instruments

co-Optical Instruments

SGW-2 Automatic Polarimeter

Characteristics
• Use the LED plus filter stand for sodium lamp in order to lengthen the service life of the light power.
• Need not prewarm when turning on.
• Measuring specific rotation, optical rotation, sugar degree and concentration
• Automatic repetition-measurement for 6 times, and calculation of average value and means square root
• Sample chamber adopts constant temperature designing in order to decrease the temperature heating effect on measurement
• Temperature display
• USB interface

Specifications
• Measurement range: -45°+45°
• Minimum Reading: 0.001°
• Accuracy: ±0.01° (-15°≤ optical rotation ≤+15°)
                          ±0.02° (optical rotation<-15° or optical rotation>+15°)
• Repeatability (Standard Deviation σ):≤ 0.002° (optical rotation)
• Minimum sample transmittance: 1%
• Temperature control range: 18-30℃
• Accuracy: ±0.5℃
• Interface: USB and RS232
• Weight (Gross): 37kg
• Overall Dimensions: 850mm × 470mm × 380mm

ŞAFAK

LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

WGT-S Hazemeter

Characteristics
• Measurement of transmittance and haze of the parallel plane sample of all transparent and semi-transparent (plastic board or sheet).
• Measurement of turbidity of liquid sample (water and beverage).
• In conformity with the standard of GB 2410-80, ASTMD 1033-61(1977), JISK7105-81.
• Microcomputer control and easy to operate.
• Display of transmittance and haze at the same time.
• Printer interface.

Specifications
• Measurement range:
  Transmittance: 0-100 %
  Haze: 0-30%
• Accuracy:
  Transmittance: ≤1 %
  Haze: when ≤0.5%: ≤±1 %; when >0.5%: ≤±0.3 %
• Weight (Gross): 23kg
• Overall dimensions: 910mm × 410mm × 480mm

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

WGZ-200 Ratio Turbidimeter

Characteristics
• Measurement of light scatter and decay of the insoluble particles suspended in water or transparent liquids.
• Quantitative analysis of particle contents.

Specifications
• Measurement range: 0.00-199NTU
• Minimum Reading NTU 0.01(0.00-1.99), 0.1 (2.0-19.9), 1 (20-199)
• Weight (Gross): 9kg
• Overall dimensions: 460mm × 430mm × 250mm

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

WJL Laser Granulometer
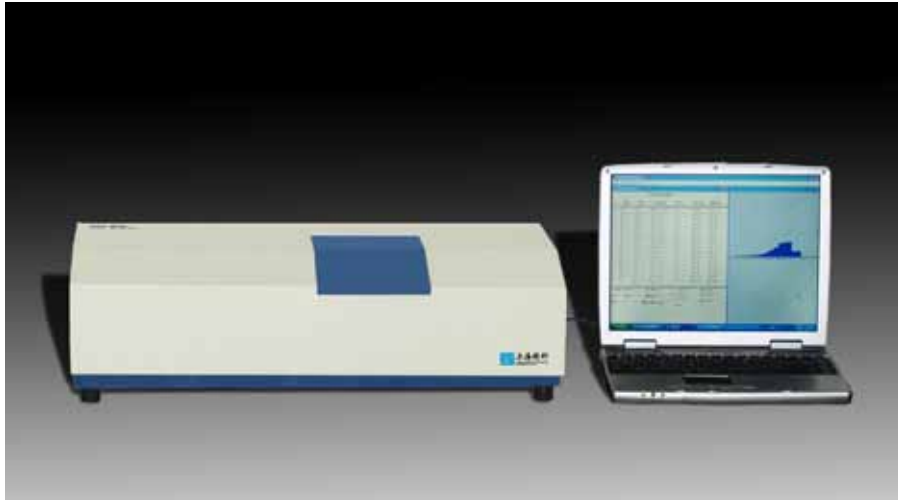
Characteristics

• Compact in structure, small in volume and easy to operate.
• Automatic measurement control by computer based on Mie scattering theory.
• Widely used for laboratory analysis and quality control in the fields of materials, chemical industry, pharmacy, fine ceramics, paper-making, cosmetics and metallurgy with grain as production materials or intermediates.

Specifications

• Measurable particle range: 0.5-200µm
• Measurement time: Sampling:0.5s + several seconds for calculation
• Measurement accuracy: ≤±6% (weight medium position D50)
• Repeatability: ≤±6% (weight medium position D50)
• Weight (Gross): 13kg
• Overall dimensions: 730mm × 410mm × 250mm

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

WQL Particle Size Analyzer

Characteristics
• Measurement of particle size and distribution based on the centrifugal settling of solid particle and light transmittance principle.
• Speed-change measurement mode.
• The ratio of particle size range in one measurement is greater than 20:1.

Specifications
• Disc rotation speed: 600-10,000 rpm
• Stability: 0.2%/30min.
• Measurement range: 0.01-60µm
• Accuracy: 5%
• Weight (Gross): 33kg
• Overall dimensions: 480mm × 380mm × 430mm

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

Model WQS Vibrator with Sieve
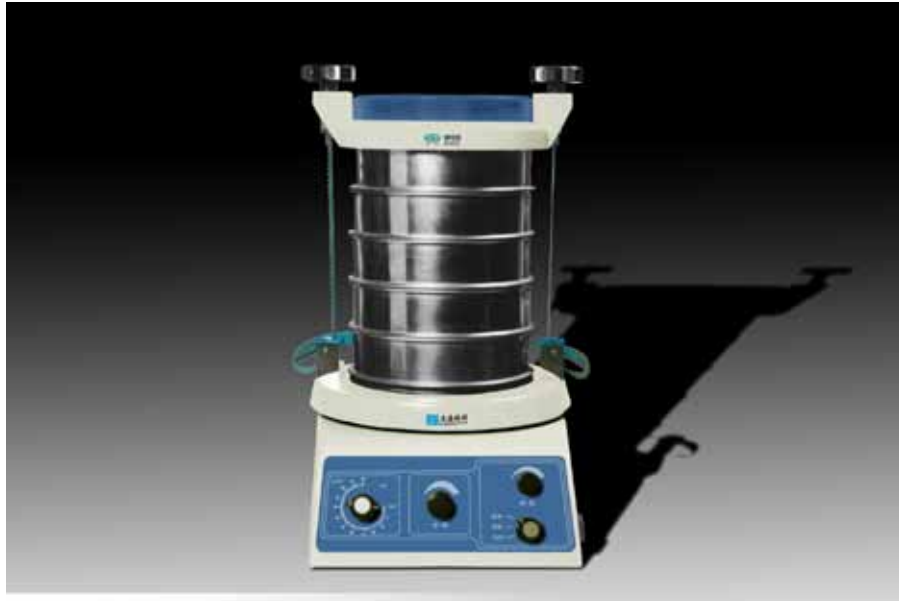
Characteristics
• Particle analysis.
• Widely used in the field of pharmaceutical industry, food, cosmetics, grain.
• Advanced integrated circuit control
• Easy to operate
• The sieves is chosen by user.

Specifications
• Vibration direction: Vertical vibration
• Measurement range: ≤ 325 mesh
• Weight (Net): 25kg
• Overall dimensions: 610mm × 390mm × 400mm

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

WRS-1B Digital Melting-point Apparatus
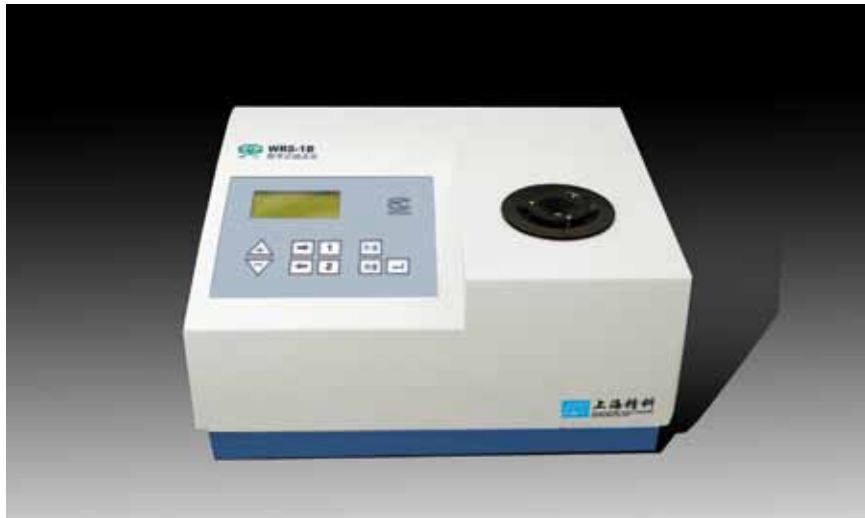
Characteristics
• Measurement of melting point is one of the important methods of measurement of purity.
• To be used in production of medicines, dye-stuffs, perfumes and other organic crystal substances.
• Photoelectric test
• LCD display
• RS-232 interface and real time melting curve.

Specifications
• Melting-point measurement range: room temperature -300° C
• Minimum digital display: 0.1° C
• Linear heating-up rate: 0.2, 0.5, 1.0,1.5, 2.0 3.0, 4.0, 5.0° C/min
• Accuracy: < 200° C : ±0.5℃; 200-300° C: ±0.8℃
• Weight (Gross): 8 kg
• Overall Dimensions: 490mm × 430mm × 320mm

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

WSB-L White Meter

Characteristics
• Measurement of whiteness of blue light of substances such as paper, building materials, starch, flour, sugar and salt.
• Manual zero adjustment and calibration suitable for small and medium sized enterprises.

Specifications
• Measurement range: 0-120
• Illumination geometric conditions: 45/0
• Peak wavelength: 457nm
• Stability: ±0.2
• Repeatability: 0.3
• Accuracy: ±1.5%
• Weight (Gross): 9kg
• Overall dimensions: 410mm × 240mm × 490mm

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

V–1100D Spectrophotometer

V–1100D is the only model of manually setting wavelength among Mapada families，But precise design and high quality components ensures excellent performance．It is widely used in high schools and colleges for general analysis and experiments．

Features

- Large LCD Screen(128x64Dots),
- The wavelength can be read out from the screen directly.
- Auto zero and blank，easy to use. Press one button for easy switching of Transmittance，Absorbance and Concentration modes．
- Parallel port，data can be exported to printer directly．
- Coefficient method to measure the unknown samples. C=kA+B. It can memorize the Last input of K and B.
- Large sample compartment，it can accommodate 5–100mm path length cuvettes with optional holders．
- Pre–aligned design ensures the user to change lamp conveniently
- Optional software M.Wave Professional based on windows® can expand the applications to Standard Curve & Kinetics.
- High quality silicon photometric diode detector and 1200 lines/mm grating ensure the high accuracy and precision．

Specifications

Model	V-1100D	UV-1100
Wavelength Range	325-1000nm	200-1000nm
Spectral Bandwidth	4nm	
Optical System	Single Beam, Grating 1200lines/mm	
Wavelength Accuracy	±2nm	
Wavelength Repeatability	1nm	
Wavelength Setting	Manual	Auto
Photometric Accuracy	±0.5%T	
Photometric Repeatability	0.3%T	
Photometric Range	-0.3-3A，0-200%T	
Stray Light	0.3%T	
Stability	±0.004A/h @500nm	
Display	128 x 64 Dots LCD	
Photometric Mode	T，A，C，F	
Detector	Silicon Photodiode	
Standard Cell Holder	4-position 10mm cell changer	
Sample Compartment	Standard 10mm pathlength cuvette	
Light Source	Tungsten lamp	Tungsten & Deuterium lamp
Output	USB Port & Parallel Port (printer)	
Power Requirement	AC 220V/50Hz or AC 110V/60Hz	
Dimensions (W x D x H)	480 x 360 x 160mm	
Weight	10kg	12kg

UV–1100 Spectrophotometer

Besides the features mentioned above that V–1100D has，UV–1100 has its own features．

- Large LCD screen (128x64 Dots)．
- Can display and save 50 groups of data，3 groups per screen．
- Data can be restored after a sudden power cut．
- Auto setting wavelength．
- Tungsten lamp & deuterium lamp can be turned on/off individually to extend lifetime．
- Two-points–method to measure concentration of unknown samples.
- Automatical WL. calibration and dark current getting.
- Optional software M.Wave Professional can expand the applications to Kinetics

1

UV/V-1200 Spectrophotometer

MAPADA

The Mapada 1200 series spectrophotometer have the most attractive cost performance. Using your standard sample solutions, you can get a standard curve on the large LCD screen by the local control software, also you can print the curve through the parallel port.

They are widely used in colleges and enterprises for general quantitative analysis and experiments.

Functions

1. Basic Mode

Absorbance, Transmittance or Concentration measurements.

2. Quantitative

I) Standard Curve

At most 9 standard samples can be used to establish a standard curve, the curve and the curve equation will display on the screen simultaneously. You can measure your unknown concentration solutions by the curve.

II) Coefficient Method

If you have known the coefficient k&b of the formula C=kA+b, you can input the value directly by the button, Then to test your unknown solutions.

Features

- Large LCD screen (128x64Dots). Can display total 50 groups of data, 3 groups per screen. Can display standard curve and the curve equation.

- System can also save the test result, total 50 groups of data and 100 standard curves can be saved in the RAM. Convenient for check and reload.

- Data can be restored after a sudden power cut.

- Auto setting wavelength.

- Tungsten lamp & deuterium lamp can be turned on/off individually to extend lifetime.

- The Mapada application software M.Wave Professional provides complete control of the spectrophotometer from a computer through the Built-in USB port. You can achieve the following functions: Quantitative, Kinetics, WL.Scan and Multi-wavelength.

- Pre-aligned design makes it convenient to change lamps.

- Large sample compartment, It can accommodate 5-100mm path length cuvettes with optional holders. A variety of optional accessories are under your choice.

Specifications

Model	V-1200	UV-1200
Wavelength Range	325-1000nm	200-1000nm
Spectral Bandwidth	4nm	
Optical System	Single Beam, Grating 1200lines/mm	
Wavelength Accuracy	±2nm	
Wavelength Repeatability	0.8nm	
Photometric Accuracy	±0.5% T	
Photometric Repeatability	0.3% T	
Photometric Range	-0.3-3.0A, 0-200% T	
Stray Light	0.3% T	
Stability	±0.002A/h @ 500nm	
Detector	Silicon Photodiode	
Sample Compartment	Standard 10mm pathlength cuvette	
Light Source	Tungsten lamp	Tungsten & Deuterium lamp
Output	USB Port Parallel Port (printer)	
Power Requirement	AC 220V/50Hz or AC 110V/60Hz	
Dimensions (W x D x H)	470 x 370 x 180mm	
Weight	12kg	12kg

2

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

Mapada 16/18 Series Spectrophotometer

MAPADA 16/18 Series are developed for precise test, its stray light is only 0.05%T. They are flexible, easy to use and maximize value. The value is evident from the performance provided every day. The local stand-alone software provide functions of Basic Mode, Quantitative Test, Kinetics and System Utilities.

Features

1. Large LCD screen（128x64Dots）.
   Can display total 200 groups of data, 5 groups per screen. Can display standard curve and kinetics curve.

2. System can also save the test results, total 200 groups of data and 100 standard curves can be saved in the RAM. Be Convenient for check and reload.

3. Data can be restored after a sudden power cut.

4. Auto setting wavelength.

5. Tungsten lamp & deuterium lamp can be turned on/off individually to extend lifetime.

6. The optional Mapada application software M.Wave Professional provides complete control of the spectrophotometer from a Computer through the Built-in USB port. It can expand to the following functions: Quantitative, Kinetics, Wavelength Scan, Multi-wavelength & DNA/Protein Test.

7. Pre-aligned design makes it convenient to change lamps.

8. Large sample compartment, It can accommodate 5-100mm path length cuvettes with optional holders. A variety of optional

Specifications

Model	V-1600	V-1800	UV-1600	UV-1800
Wavelength Range	320-1100nm		190-1100nm	
Spectral Bandwidth	4nm	2nm	4nm	2nm
Optical System	Single Beam, Grating 1200lines/mm			
Wavelength Accuracy	±0.5nm			
Wavelength Repeatability	0.3nm			
Photometric Accuracy	±0.3%T			
Photometric Repeatability	0.2%T			
Photometric Range	-0.3-3A, 0-200%T			
Stray Light	0.05%T@360nm		0.05%T@220nm,340nm	
Stability	±0.002A/h @500nm			
Display	Graphic LCD (128X64 dots)			
Keyboard	22 Membrane keypad			
Sample Compartment	Standard 10mm pathlength cuvette			
Light Source	Tungsten lamp		Tungsten & Deuterium lamp	
Output	USB Port & Parallel Port (printer)			
Power Requirement	AC 220V/50Hz or AC 110V/60Hz			
Dimensions (W x D x H)	470 x 370 x 180mm			
Weight	14kg		14kg	

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M.Wave Professional PC-Control Software

The Mapada windows® based PC application software takes the best features of the stand-alone version plus more powerful data processing and expanded data collecting and storage capability. The software is optional. Once it be used, the Mapada uv/v-1 series become more excellent.

Quantitative

Use up to 38 standards to establish standard curve. Four methods for fitting a curve:
1. Linear fit
2. Linear through zero
3. Square fit

Kinetics

The Kinetics mode may be used for time course scanning or reaction rate calculations. Abs. Vs. time graphs is displayed on the screen in real time.

Wait time, test time and time intervals may be set.

Wavelength scan

Automatically record peaks and valleys. The quantity of the curves is unlimited that you store.

Post-run manipulation and processing includes:
1. Re-scaling axes, curve
2. Smoothing, combination, zooming, overlap. . .
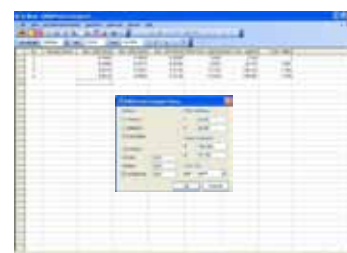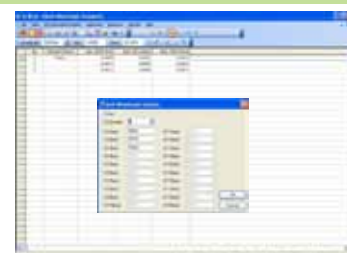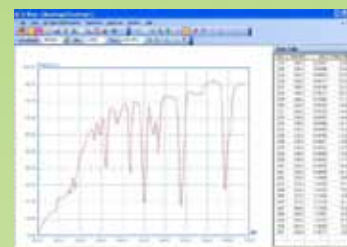3. 1st to 4th derivative.

Multi-wavelength Test

You can set at most 20 wavelengths to measure a sample.

DNA/Protein Test

Two formulas are under your choice:

1. DNA Con.=62.9 x A260 - 36.0 x A280
   or   =49.1 x A260 - 3.48x A230

2. Protein Con.=1552 x A260 - 757.3 x A280
   or   =183 x A260 - 75.8 x A230

You can also enter other wavelengths and factors to calculate.

Mapada UV-3 Series Spectrophotometer

UV-3 series are advanced single beam design consisting of 10 models. Different one with different bandwidth and wavelength accuracy. They provide excellent performance for measurements in the range of 190nm to 1100nm.

They are suitable for clinical lab applications, pharmaceutical and bio-chemical as well as routine applications such as quantitative analyses, kinetics, wavelength scanning, multiple components and DNA/Protein analysis.

PC Windows® applications software UV-Vis Analyst makes these instruments versatile. All instruments provide excellent performance for measurements.

Stand-alone Model

Always they were divided into two types: PC models and Stand-alone models.
The stand-alone models with 5 inches screen and the PC models with 3.8 inches screen.

- To Stand-alone models, all software methods are included as built-in standard, thus eliminating the need for software options.
- Online software upgrade via internet helps to keep your software up-to-date.
- Data Download-to-PC software expands the data storage to unlimited.
- The PC models come standard with Windows® based application software UV-Vis Analyst.

The local software offers:

a. Basic Mode
Absorbance, Transmittance or Concentration measurements

b. Quantitative
Establish or use stored calibration equation to measure the concentration of unknowns.

c. WL scan
Spectrum scan of sample at any selected wavelength range with choice of scanning speed and wavelength interval.

d. Kinetics
Measurement of absorbance changing vs. time with reaction rate calculation function

e. Multi Wavelength
Measurement at multiple wavelengths to analyze and determine the composition of the mixtures

f. DNA/Protein
Calculation of concentration and DNA purity. Ratio at other wavelengths can be measured.

The PC application software offers:

1、Basic Photometric Mode 2、Quantitative test（standard curve） 3、Kinetics
4、Mult - wavelength Test   5、Wavelength Scanning   6、DNA/Protein

PC Model

6

Mapada Double Beam UV‑6 Series Spectrophotometer

UV-6 Series are advanced double beam design consisting of four models:
Stand-alone models：UV6100 with 1.8nm fixed bandwidth and UV6300 with 1.0nm fixed bandwidth;
PC models: UV-6100PC with 1.8nm fixed bandwidth and UV-6300PC with 1.0nm fixed bandwidth.
Other specifications of the four models are almost the same except bandwidth.

The two detectors are measuring sample and reference respectively and simultaneously for optimizing measurement accuracy. They provide excellent performance for measurements in the range of 190nm to 1100nm. They are suitable for pharmaceutical, biochemical and clinical lab applications as well as routine applications such as quantitative analyses, kinetics, spectrum scanning, multiple components and DNA/Protein，PC Windows application software make these instruments versatile. All instruments provide excellent performance for measurements.

Stand-alone model

- To Stand-alone models，All software methods are included as built-in standard, thus eliminating the need for software options.
- Online software upgrade via internet helps to keep your software up-to-date.
- Data Download-to-PC software expands the data storage to unlimited.
- The stand-alone models with 5 inches screen and the PC models with 3.8 inches screen.

Stand‑alone models of UV‑6 Series have the same functions as UV‑3 series have，see next page for details.

Model	UV-6100	UV-6100PC	UV-6300	UV-6300PC
Wavelength Range	190-1100nm		190-1100nm	
Spectral Bandwidth	1.8nm	1.8nm	1.0nm	1.0nm
Optical System	Double Beam, Grating 1200 lines/mm			
Wavelength Accuracy	±0.3nm			
Wavelength Repeatability	0.2nm			
Scanning Speed	Hi, Med., Low. Max.3000nm/min			
Photometric Accuracy	±0.3%T			
Photometric Repeatability	±0.15%T			
Photometric Range	-0.3-3A, 0-200%T.0-9999Conc.			
Stray Light	0.05%T			
Stability	±0.001A/h @ 500nm			
Display	5 inches LCD (320x240)	3.8 inches LCD (320x240)	5 inches LCD (320x240)	3.8 inches LCD (320x240)
Baseline Flatness	±0.001A (200-1000nm)			
Sample Compartment	Accommodates 100mm pathlength cuvette with optional holder			
Light Source	Halogen& Deuterium lamp (pre-aligned)			
Output	USB Port & Parallel Port (Printer)			
Power Requirement	AC 220V/50Hz or AC 110V/60Hz			
Dimensions (W x D x H)	600 x 450 x 200mm			
Weight	22kg		22kg	

The PC models come standard with windows® based application software UV/Vis Analyst.
PC models of UV‑6 Series have the same functions as UV‑3 series have，see next page for details.

PC model

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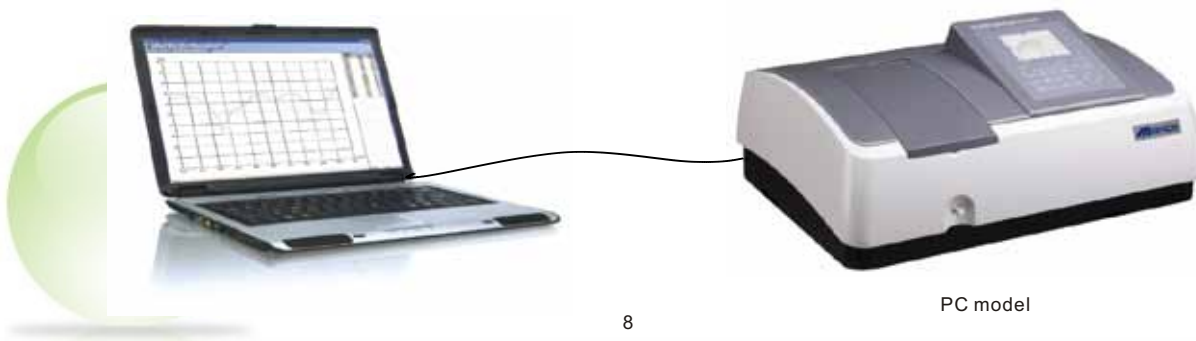
Optimal Accessories

4-CELL HOLDER FOR 10mm SQU.CUVETTE

900410

4-CELL HOLDER FOR UP TO 50mm SQU.CUVETTE

900420

4-CELL HOLDER FOR UP TO 100mm SQU.CUVETTE

900430

CYLINDRICAL CELL HOLDER

900540

WATER-JACKETED CELL HOLDER

900610

MICRO CELL HOLDER

900210

TEST TUBE HOLDER

900530

8-POSITION AUTO CELL CHANGER

900310

SOLID SAMPLE HOLDER (SINGLE CELL)

900550

10mm WATER-JACKETED 4-CELL HOLDER

900620

Shanghai Mapada Instruments Co., Ltd. is a high-tech enterprise who devotes to manufacturing advanced, high quality and full range of UV/VIS Spectrophotometers. In nowadays, Mapada has provided the market with Single beam & Double beam, Fixed Bandwidth & Variable Bandwidth, Quantitative Styles & Qualitative Styles. All the instruments can communicate to the PC and controlled by the software. Qualified professional staff ensures the company's continuous and fast development.

Spectrophotometer selection guide

Model	Optical System	Lamp sources	Wavelength Range	Band Width	Commen
V-1100D	Single Beam	Tungsten Lamp	325-1000nm	4nm	For students and teaching labs
UV-1100D		Tungsten & Deuterium Lamp	200-1000nm	4nm	
UV-1100		Tungsten & Deuterium Lamp	200-1000nm	4nm	
V-1200		Tungsten Lamp	325-1000nm	4nm	
UV-1200		Tungsten & Deuterium Lamp	200-1000nm	4nm	
V-1600/PC		Tungsten Lamp	320-1100nm	4nm	Ideal for QC labs
UV-1600/PC		Tungsten & Deuterium Lamp	190-1100nm	4nm	
V-1800/PC		Tungsten Lamp	320-1100nm	2nm	
UV-1800/PC		Tungsten & Deuterium Lamp	190-1100nm	2nm	
UV-3000/PC	Single Beam, scanning function	Tungsten & Deuterium Lamp	190-1100nm	4nm	Laboratory workhouse
UV-3100/PC		Tungsten & Deuterium Lamp	190-1100nm	2nm	
UV-3200/PC		Tungsten & Deuterium Lamp	190-1100nm	1.8nm	
UV-3200S/PCS		Tungsten & Deuterium Lamp	190-1100nm	0.5,1,2,4nm	
UV-3300/PC		Tungsten & Deuterium Lamp	190-1100nm	1nm	
UV-6100/PC	Double Beam	Tungsten & Deuterium Lamp	190-1100nm	1.8nm	
UV-6300/PC		Tungsten & Deuterium Lamp	190-1100nm	1nm	
UV-6100S/PCS		Tungsten & Deuterium Lamp	190-1100nm	0.5,1,2,4nm	

"PC" means with PC software   All products have CE certificate

All products have safety certifications (CE 2006/95/EC Report No.:15027384 001)

All spectrophtometers have Products Liability Insurance.

Linear Shaker

Speed Control	Elektronic
Sweep speed	50-250 d/d
Size	400x600
Shaker capacity	10 kg
Power	230 V, 50 Hz
İnstalled power	100 W
structure of the outer surface	electrostatic powder coating
Plate dimensions (mm)	400x600

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HP-400 Hot-Plate Piramit

Features

• Temperature range: ambient to 400°C
• Heating plate dimensions: 300X600 mm (2 pcs plate)
• Overall dimensions: 340X640X27 mm.
• Power: 800W
• Microprocessor controlled feedback technology provides precise temperature up to 540°C
• Bright red analog display of temperature settings
• The control panel which contains the electronic parts is completely separate from the heating plate in order to increase the safety during use

ŞAFAK
LABORATUVAR CİHAZLARI TİC. VE SAN. LTD. ŞTİ.

JK-PWS-Q Reverse Osmosis Deionized Purewater System

Features

system flow:PF+AC+RO+DI
Water requirements: city water:TDS<200 ppm,5-45°C,1.0~3.5Kg/cm2
Water flowTDS>200ppm,propose a optional softener mobile
Ultra-pure water resistivity:18.2 MΩ-cm@25°C
2 RO water conductivity:1~5µs/cm
heavy metal ion :< 0.1ppb
TOC:<10 ppb(UV<3 ppb)
Heat / endotoxin:<0.001 EU/ml(UF
Microbiology / bacteria:<1 CFU/ml
particulate matter:>0.22µm)<1/ml
Output:10 liter/hour
Dimensions / weight / power:50×36×54cm/ 20-30 Kg/ 220V,50Hz

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