

Analytical Instruments

METASH
SHANGHAI METASH INSTRUMENTS CO.,LTD
Analytical Instruments



Products Catalogue 2015-2016

Spectrophotometer•Microwave Digestion System•TOC

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COMPANY INTRODUCTION






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Since 2008, Metash Instruments Co.,Ltd has been dedicated to excellence in manufacturing laboratory and scientific instruments. We provide a full range of spectrophotometers including UV/VIS, single/double beam Spectrophotometers. With high quality and good service,our products go into Environmental,- Food,Cosmetics,Pharmaceutical,life science and chemical fields.Metash has a strong reputation in users and distributors.

We aim to be the leading supplier of analytical instruments in both China and worldwide, so we always attach great importance to the fact that we should provide the best to our customers.We possess a first class management team,a strong R&D team and a passionate sales team who are willing to offer you reliable products and satisfactory service.

Our products are exported to over 40 countries through our authorized distribution network.We are aslo working on OEM and ODM basis with other major companies worldwide.We continue to look for reliable partners worldwide and we look forward to growing with you.



	
14001 environment certification	ohsas 18001-2007 health&safety
	
TOC-CE-EMC	TOC-CE-LVD
	
TOC-FCC	TOC-ROHS
	
MWD-CE-EMC	MWD-CE-LVD
	
MWD-FCC	MWD-ROHS

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PRODUCT

SPECTROPHOTOMETER SERIES

MICROWAVE DIGESTION SYSTEM SERIES

TOC SERIES



UV/VIS Spectrophotometer



V-5000 is a single beam visible spectrophotometer with manual wavelength setting. It is a basic model and ideal choice for routine analysis and general experiments. This specially designed single beam spectrophotometer is a low cost one which offers high performance, easy operation and wide application.

Features

Microprocessor controlled
With microprocessor controlled, V-5000 can realize auto Zero and auto 100%T adjustment with one push-button. V-5000 has a LCD display instead of LED display for direct readout of Transmittance, absorbance, and Concentration.

Grating monochromator
V-5000 uses 1200 line grating which ensures high resolution, low stray light and high parameters accuracy.

Compact design, easy to carry
The compact design of V-5000 saves bench space while all components function remain performed like 120mm wide sample compartment and long optical path monochromator.

Four Display Mode
V-5000 can display absorption, transmittance, concentration and coefficient directly by different modes switching.

Date output
V-5000 is equipped with USB port which can be connected to PC to edit data through specific software. Data can also be printed through a parallel port when connected to a micro printer.

V-5000 Visible Spectrophotometer

Model	V-5000
Optical System	Single Beam,Grating 1200lines/mm
Wavelength Range	325-1000nm
Spectral Bandwidth	4nm
Wavelength Accuracy	±2nm
Wavelength Repeatability	1nm
Photometric Accuracy	±0.5%T
Photometric Repeatability	0.3%T
Photometric Mode	T,A,C,F
Stray Light	≤0.2%T
Stability	±0.002A/h@500nm
Display	LCD
Detector	Silicon Photodiode
Output	USB Port & Parallel Port (Printer)
Light Source	Tungsten Halogen Lamp
Power Requirements	AC 85-250V
Dimension	420*280*180mm
Weight	8kg

Technical Specification



Standard Accessories

Item	Description	Quantity	Unit
1	Spectrophotometer	1	set
2	1cm Glass cuvette	4	pcs
3	Power cord	1	pcs
4	User's Manual	1	pcs
5	Black block	1	pcs
6	Dust Cover	1	pcs

UV/VIS Spectrophotometer



5100 series include 2 classic models : V-5100 works in visible range and UV-5100 works in UV/Vis range.

Features

2.5 ' LCD screen

Equipped with a 2.5' screen to give a clear display of standard curves and groups of results.

Standard curve

Can set up various standard curves according to customer 's solutions and find the concentration of unknown solutions.

Imported deuterium lamp

UV-5100 is equipped with imported deuterium lamp which ensures low stray light,photometric accuracy and is easy to be replaced.

Auto setting wavelength

Users can set wavelength automatically through arrow keys to avoid operation errors.

Data output

Equipped with USB port to connect with a PC to display spectrum scanning,kinetics and multi wavelength measurement results on the screen.The software is optional.

Multiple results readout

Can display wavelength,absorbance and transmittance with 5 results per screen.It also has a memory store of up to 200 results.

V-5100/UV-5100 Spectrophotometer

Model	V-5100/UV5100
Optical System	Single Beam,Grating 1200lines/mm
Wavelength Range	325-1000nm/190-1000nm
Bandwidth	4nm
Wavelength Accuracy	±1nm
Wavelength Repeatability	0.5nm
Wavelength Setting	Auto
Photometric Accuracy	±0.5%T
Photometric Repeatability	0.3%T
Photometric Range	- 0.3-3A,0-200%T
Photometric Mode	T,A,C,F
Stray Light	≤0.2%T
Stability	±0.002A/h@500nm
Display	128*64 LCD
Detector	Silicon Photodiode
Output	USB Port & Parallel Port (Printer)
Light Source	Tungsten Lamp/Tungsten Lamp&D2 Lamp
Power Requirements	AC 85-250V
Dimension	420*280*180mm
Weight	11kg/12kg

Technical Specification



Standard Accessories

Item	Description	Quantity	Unit
1	Spectrophotometer	1	set
2	1cm Glass cuvette	4	pcs
3	Power cord	1	pcs
4	User's Manual	1	pcs
5	1 cm quartz cuvette (UV series)	2	pcs
6	Dust Cover	1	pcs

UV/VIS Spectrophotometer



UV-5100B is a practical UV visible spectrophotometer. It's special structural design ensures high reliability and easy replacing of components.

Features

- Low stray light**
UV-5100B is made of high quality components with rigid structure which ensures low stray light.
- Auto setting wavelength**
Users can set wavelength automatically through arrow keys to avoid operation errors.
- Stability and durability**
UV-5100B users a rigid die-cast aluminum base as its optical mount to ensure instrument stability and reliability.
- Multiple results readout**
UV-5100B can display wavelength, absorbance and transmittance with 5 results per screen. It also has a memory store of up to 200 results.
- Standard curve**
UV-5100B can set up various standard curves according to customer's solutions and find the concentration of unknown solutions.
- Data output**
UV-5100B is equipped with USB port to connected with a PC to display spectrum scanning,kinetics and multi wavelength measurement results on the screen. The software is optional.

UV-5100B Sepctrophotometer

Model	UV-5100B
Optical System	Single Beam,Grating 1200lines/mm
Wavelength Range	190-1000nm
Bandwidth	2nm
Wavelength Accuracy	±1nm
Wavelength Repeatability	0.5nm
Wavelength Setting	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	±0.002A/h@500nm
Display	128*64 LCD
Detector	Silicon Photodiode
Output	USB Port & Parallel Port (Printer)
Light Source	Tungsten & Deuterium lamp
Power Requirements	AC 85-250V
Dimension	420*280*180nm
Weight	15kg

Technical Specification



Standard Accessories

Item	Description	Quantity	Unit
1	Spectrophotometer	1	set
2	1cm Glass cuvette	4	pcs
3	Power cord	1	pcs
4	User's Manual	1	pcs
5	1 cm quartz cuvette (UV series)	2	pcs
6	Dust Cover	1	pcs

UV/VIS Spectrophotometer



The 5600 and 5800 series include 4 models:V-5600,UV-5600,V-5800 and UV-5800. They all have a lead screw structure which ensures high wavelength accuracy of the instrument. 5800 series with more accurate technical specification are your best choice for single beam spectrophotometer.

Features

Lead screw structure

The instrument uses a lead screw structure so that the instrument wavelength accuracy and wavelength resolution can be greatly improved.

Auto setting wavelength

Users set wavelength automatically through numerical keys to avoid operation errors.

Numerical Keys

With microprocessor controlled, all parameters of the instrument can be easily set by numerical keys.

8mm thick optical base

The instrument uses a rigid die-cast aluminum base as its optical mount to ensure instrument stability and reliability.

Imported high quality deuterium lamp

The UV instruments use imported deuterium lamp with low stray light, photometric accuracy and easy replacing.

Standard curve

5600 and 5800 instruments can set up various standard curves according to customer's solutions and find the concentration of unknown solutions.

Data output

Equipped with USB port to connect with a PC to display spectrum scanning, kinetics and multi wavelength measurement results on the screen through the optional software.

V-5600/UV-5600,V-5800/UV-5800 Spectrophotometer

Model	V-5600/UV-5600	V- 5800/UV-5800
Wavelength Range	320nm–1100nm/190–1100nm	320nm–1100nm/190–1100nm
Bandwidth	2nm	2nm
Wavelength Accuracy	±0.8nm	±0.5nm
Wavelength Repeatability	0.3nm	0.2nm
Wavelength Setting	Auto	Auto
Photometric Accuracy	±0.3%T	±0.3%T
Photometric Repeatability	0.2%T	0.2%T
Photometric Range	- 0.3-3A,0-200%T,0-9999C	- 0.3-3A,0-200%T,0-9999C
Stray Light	≤ 0.05%T	≤0.05%T
Stability	±0.002A/h@500nm	±0.001A/h@500nm
Display	128*64 Dots LCD	128*64 Dots LCD
Detector	Silicon Photodiode	Silicon Photodiode
Output	USB & Parallel Port	USB & Parallel Port
Light Source	W Lamp/D2&W Lamp	W Lamp/D2&W Lamp
Power Requirements	AC 220V/50Hz or 110V/60Hz	AC 220V/50Hz or 110V/60Hz
Dimension	460*360*225mm	460*360*225mm
Weight	18kg	18kg

Technical Specification



Standard Accessories

Item	Description	Quantity	Unit
1	Spectrophotometer	1	set
2	1cm Glass cuvette	4	pcs
3	Power cord	1	pcs
4	User's Manual	1	pcs
5	1 cm quartz cuvette (UV series)	2	pcs
6	Dust Cover	1	pcs

UV/VIS Spectrophotometer



UV-6000 spectrophotometer equipped with 6' inches LCD display, is an ideal and advanced analytical instrument for laboratory to realize wavelength scanning,kinetics test, multi wavelength functions. All functions can be operated on spectrophotometer and can be read directly on the display.

Features

6 inches LCD display
UV-6000 series has a 6' inches LCD display to show results and curves directly on the screen.

8mm thick optical base
UV-6000 uses a rigid 8mm die-cast aluminum base as its optical mount to ensure instrument stability and reliability.

Powerful functions
Multi functions like spectrum scanning, standard curve, kinetics,multi wavelength, DNA/Protein testing can be operated directly on the spectrophotometer and all corresponding curves and data can be displayed directly.

Data output
UV-6000 is equipped with USB port to connect with a PC to display spectrum scanning, kinetics and multi wavelength testing results on the screen. The software is optional.

UV-6000 Spectrophotometer

Model	UV-6000
Wavelength Range	190- 1100nm
Bandwidth	1.8nm
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,0-9999C
Stray Light	≤0.05%T @220nm,360nm
Stability	±0.002A/h@500nm
Noise	±0.001A
Display	320*240LCD
Detector	Silicon Photodiode
Output	USB & Parallel Port
Lamps	D2&W Lamp
Power Requirements	AC 220V/50Hz or 110V/60Hz
Dimension	460*380*180mm
Weight	20kg

Technical Specification



Standard Accessories

Item	Description	Quantity	Unit
1	Spectrophotometer	1	set
2	1cm Glass cuvette	4	pcs
3	Power cord	1	pcs
4	User's Manual	1	pcs
5	1 cm quartz cuvette (UV series)	2	pcs
6	Dust Cover	1	pcs

UV/VIS Spectrophotometer



UV-6100 series are large scanning UV visible spectrophotometers which combine best features of single beam spectrophotometers. It is your ideal choice for stand-alone spectrophotometers.UV-6100 series spectrophotometer including: UV-6100, UV-6100A and UV-6100S.

Features

Long light path design

UV-6100 series' unique 520mm long light path design greatly improved resolution and the bandwidth can reach 0.5nm.

Multi functions on spectrophotometer

Multi functions operated directly on the spectrophotometer and display the test results' curve and data : wavelength scanning, standard curve, kinetics, multi wavelength scanning, DNA/Protein test.

16mm optical base

UV-6100 series use a rigid 16mm die-cast aluminum base as its optical mount to ensure instrument stability and reliability.

Perfect calibration system

All baseline, wavelength, dark current can be calibrated automatically to keep good running conditions.

6 inches LCD display

UV-6100 series have a 6' inches LCD display to show results and curves directly on the screen.

Data output

UV-6100 series are equipped with USB port to connect with a PC, and the software comes standard with the instruments.

Powerful software functions

Multi functions like spectrum scanning, standard curves, kinetics, multi wavelength scanning, DNA/Protein measurements can be operated directly on the PC.

UV-6100 Series Single Beam Spectrophotometer

Model	UV-6100/UV-6100A/UV-6100S
Wavelength Range	190-1100nm
Bandwidth	1.8nm/1nm/0.5 , 1.0 ,2.0 ,4.0nm
Wavelength Accuracy	±0.3nm
Wavelength Repeatability	0.2nm
Photometric Accuracy	±0.3%T
Photometric Repeatability	0.2%T
Photometric Range	- 0.3-3A,0-200%T,0-9999C
Stray Light	≤0.05%T @220nm,360nm
Stability	±0.002A/h@500nm
Noise	± 0.001A
Display	320*240LCD
Detector	Silicon Photodiode
Output	USB/Parallel Port(printer)
Lamps	D2 Lamp/W Lamp
Power Requirements	AC 220V/50Hz or 110V/60Hz
Dimension	625*430*206mm
Weight	28kg/28kg/30kg

Technical Specification



Standard Accessories

Item	Description	Quantity	Unit
1	Spectrophotometer	1	set
2	1cm Glass cuvette	4	pcs
3	Power cord	1	pcs
4	User's Manual	1	pcs
5	1 cm quartz cuvette (UV series)	2	pcs
6	Dust Cover	1	pcs
7	Software	1	pcs

UV/VIS Spectrophotometer



UV-9000 series are wide screen double beam spectrophotometer.They adopt double beam long light path design to ensure the stability and accuracy; They are the best choice of high quality spectrophotometers.

Features

- Light path design: double beam**
UV-9000 series' double light path design can prevent circuit fluctuation and stray light to ensure stability of the instrument.
- Powerful software functions**
Multi functions like spectrum scanning, standard curve, kinetics, multi wavelength scanning,DNA/Protein testing can be operated directly on the PC.
- Long path light design**
UV-9000 series' unique 520mm long light path design greatly improved resolution and the bandwidth can reach 0.5nm.
- Multi functions on Spectrophotometer**
Multi functions operated directly on the spectrophotometer and display the test results' curve and data: wavelength scanning, standard curve, kinetics, multi wavelength scanning, DNA/Protein test.
- 6 inches LCD display**
UV-9000 series have a 6 inches LCD display to show results and curves directly on the screen.
- Data output**
UV-9000 series are equipped with USB port to connect with a PC, the software comes standard with the instrument.
- 16mm optical base**
UV-9000 series use a rigid 16mm die-cast aluminim base as their optical mount to ensure the stability and reliability.
- Perfect calibration system**
All baseline, wavelength,dark current can be calibrated automatically to keep good running conditions.

Model	UV-9000/UV-9000A/UV-9000S
Optical System	Double Beam(1200 Lines/mm Grating)
Wavelength Range	190~1100nm
Bandwidth	1.8nm/1nm/0.5 1.0 ,2.0 ,4.0nm
Wavelength Accuracy	±0.3nm
Wavelength Repeatability	0.2nm
Photometric Accuracy	±0.3%T
Photometric Repeatability	0.2%T
Photometric Range	- 0.3-3A,0-200%T,0-9999C
Stray Light	≤0.05%T @220nm,360nm
Stability	±0.001A/h@500nm
Noise	±0.001A
Display	320*240 Dots LCD
Detector	Silicon Photodiode
Output	USB/Parallel Port
Lamps	D2 Lamp/W Lamp
Power Requirements	AC 220V/50Hz or 110V/60Hz
Dimension	625*430*206mm
Weight	30kg/32kg

Technical Specification



Standard Accessories

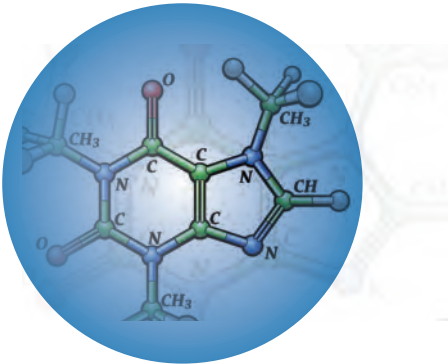
Item	Description	Quantity	Unit
1	Spectrophotometer	1	set
2	1cm Glass cuvette	4	pcs
3	Power cord	1	pcs
4	User's Manual	1	pcs
5	1 cm quartz cuvette (UV series)	2	pcs
6	Dust Cover	1	pcs
7	Software	1	pcs



B-500 is a new designed model that is suitable for quick test of DNA,RNA,and Protein.

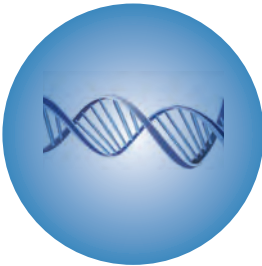
Features

- Can measure 0.5-2µl samples
- Quick measurement without pre-warming
- No need to dilute the samples
- Quick scanning, scanning curve can be got in only 0.2 seconds
- Long life lamp with more than 2000 hours lifetime
- Software comes standard with the instruments



Technical Specification

Model	B-500
Wavelength Range	190- 850nm
Wavelength Accuracy	1nm
Wavelength Repeatability	1nm
Optical Accuracy	0.002Abs
Optical Range	0.02 - 300Abs
Measurement Speed	2 - 5 Seconds



Technical Specification

TOC (Total Organic Carbon), which directly shows the total organic content,is regarded as a key factor to evaluate pollution potentials of organic compound in water.

After 3 years research and development, Metash successfully launch our new product: TOC. With Metash patent laws, our TOC can meet requirements for application in water analysis, environment monitoring, pharmaceutical production, quality control, processing control etc.

So far, Metash launch 2 models TOC: TOC-2000 (Catalytic combustion oxidation) and TOC-3000 (Wet chemical oxidation by UV) which are widely used for quality control of drinking water, industrial water, sewage and waste water. Meanwhile, it has wide application in monitoring of river, lake, sea and surface water.

Features

- Signal management system with our own patent law which has great advantages of online setting, real-time monitoring, self testing and flow rate control to ensure high performance and safe operation.
- Low current system design also ensures operation safety.
- Different temperature setting for various samples ensures complete sample digestion so as to get more accurate measuring data.
- Adjust cooling module power according to sampling volume which improves drying performance to ensure dry gas into the detector.
- Automatic leakage prevention system to avoid operation mistakes and improve instrument performance, so as to ensure operation safety and instrument's safety.
- Flow rate controlling system to avoid any effect caused by flow rate fluctuation which ensures accurate data.
- TOC detector with 24 bits data solution extends monitoring range. Controlling system with 32bin processing technology greatly improves performance.



Model	TOC-2000
Detector	NDIR
Parameters	TC,TIC,TOC,NPOC
Digestion	High Temperature Combustion
Operation	PC Control
Application	Liquid Sample,Gas Sample,Solid Sample
Gas Requirement	Oxygen/Nitrogen≥99.995%
Measurement Range	0-30000mg/l
Detection Limit	50µg/l
Repeatability	3%
Maximum Salinity	85g/l
Power	AC 220V,50Hz or AC 110V,60Hz
Size	430*455*440mm



Model	TOC-3000
Detector	NDIR
Parameters	TC,TIC,TOC,NPOC
Digestion	Wet chemical oxidation by UV
Operation	PC Control
Application	Liquid Sample,Gas Sample
Gas Requirement	Nitrogen≥99.995%
Measurement Range	0-10000mg/l
Detection Limit	5µg/l
Repeatability	3%
Maximum Salinity	85g/l
Power	AC 220V,50Hz or AC 110V,60Hz
Size	430*455*440mm

Microwave digestion, as a high efficient method of sample pretreatment has advantages of fast even heating ,less reagent, lower blank value, energy saving and high efficiency. It keeps sample integrity for volatile element analysis testing. It is widely used in Food, Textile,Geology, Metallurgy, Coal, Biological Medicine, Petrochemicals, Environment Waste Water Treatment, Battery Manufacturing Fields, etc.



Features

1

- High quality digestion vessel
- Inner and outer digestion vessel design ensures safety for easy pressure measurement
 - Imported TFM material for inner digestion vessel
 - Imported PEEK and glass fiber for outer digestion vessel
 - Special processing technique ensures no using of sealing bowl or explosion-proof membrane which reduces large consumable cost
 - Special vessel structure design makes continuous working and automatic return to closed condition in case of digestion vessel over-pressure which ensures no sample and reagent waste
 - Special mould for vessel ensures uniformity

2

- Multi safety protection measurements
- High precise pressure testing system to test inner vessel pressure and display it
 - High precise controlling system makes instruments stop heating if inner vessel pressure is higher than limit to avoid any injury or hurt
 - Sound monitoring sensor ensures the alarm and pause the instrument when there is abnormal sound
 - Special protection for over-pressure or instant pressure raise
 - Door can be opened if there is any abnormal circumstances, and at the same time the instrument will stop running microwave
 - Self checking and prompting function, ensure the instrument will pause and prompt relevant fault during the digestion process.
 - Reaction data of the closed digestion vessel will be transferred to CPU for analysis and do real-time monitoring the change during digestion procedure

Multi Functions

- Create curve according to pressure and time and display on the touch-screen
- Measure and real-time monitor the pressure without contact.
- Set corresponding protection pressure in accordance with different conditions of experiment.
- Users can set parameters in various functions according to their own requirements
- Suitable for high pressure digestion, multi-vessel closed digestion and closed organic synthesis
- Can edit and store 255 digestion programs; each program can set up 10 digestion steps; Can set relative parameters(pressure, time and microwave power)according to use's requirements.
- 360° rotation mode of digestion platform to solve heat uniformity problem.
- High frequency resonant regulation mode, Users can set microwave power between 0-1000W according to their requirements.
- Automatic calibration for different parameters and basic troubleshooting function

MICROWAVE DIGESTION

- High quality large touch-screen
- 7' inches large touch screen for easy operation
- High Resolution clear display, easy readout
- Multi parameters display; curves, pressure, timing, power, digestion procedure and operation and humanity.
- Stable and good quality display

Mode	MWD-500	MWD-520
Pressure Control	Main Tank	Full Scanning
Temperature Control	No	Full Scanning
Vessel Volume	60ml	
Pressure Testing	Non-Contact	
Temperature Testing	No	Non-contact
Sample Quantity	7	6
Vessel Material	Inner Vessel:imported TFM;Outer Vessel:Imported PEEK+glass fiber	
Maximum Working Pressure	5Mpa	
Pressure Limit	6Mpa	
Maximum Working Temperature	250℃	
Temperature Limit	300℃	
Outer Vessel Pressure Limit	10Mpa	
Display	7'Inches Touch Screen	
Pressure Control Range	0-5 Mpa(0-50kg/cm ²)	
Pressure Control Accuracy	0.1Mpa(1kg/cm ²)	
Microwave Power	1000W,Set from 0 to1000W according to requirements	
Microwave Frequency	2450MHz	
Exhaust System	High-power Blower, Exhaust speed>5m ³ /min)	
Rotation Mode	360°continuous rotation	
Microwave Leakage	<5mw/cm ²	
Power	AC220V,10A,50/60Hz	
Size	520mm*400mm*460mm	
Weight	30kg	

Technical Specification



MWD-600 is a new developed microwave digestion system with all vessels temperature and pressure control. With IR temperature measurement method, our digestion system can realize real-time temperature monitoring of each individual sample. With special mechanic design, the consumable free microwave digestion system is of safety and friendly operation and durability.

Features

- 60L industrial grade chamber is made of 316 stainless steel with PFA coating to prevent emissions and corrosions.
- Contact free pressure control and IR temperature control techniques to measure pressure and temperature of each individual sample.
- Intelligent protection system will alarm and self protect when temperature and pressure turn to abnormal conditions which ensures operation safety.
- Contact free temperature and pressure measurement which avoids cross-contamination.
- Outer vessel made of PEEK glass fiber which prevents corrosion and high temperature is high quality material which assures operation safety.
- The system is design to avoid of leakage after over-pressure release which saves batch samples and solutions so as to reduce cost.
- The system releases pressure vertically to ensure safety during operation.
- The continuous 360°rotation design assures even digestion and makes system shelf life longer.
- Lid locking design with multiple protection greatly improves user's ease of handling.
- 12 vessels/batch digestion capacity improves sample preparation efficiency. Individual frame for each vessel makes operation convenient and meets different application requirements.
- Multi safety protection functions double door prevention, temperature monitoring, high temperature prevention, pressure monitoring, high pressure prevention, instruments abnormal sound monitoring, and lid locking prevention.
- No consumables are necessary for the microwave digestion system for future use which makes users more convenient.

Multi Functions

- Create curve according to pressure and time and display on the touch screen
- Measure and real-time monitoring pressure without contact.
- Set corresponding temperature and time in accordance with different conditions.
- Set corresponding pressure protection in accordance with different experiment conditions.
- 8 pre-programming digestion method and can store 255 programs, users can set parameters according to users' requirements.
- Application for high pressure closed microwave digestion,multi-vessel microwave digestion, closed microwave extraction, closed microwave synthesis.
- Realize continuous 720°rotation which assures even digestion.
- The high frequency resonance type allows for adjustment between 0-2000W.
- Automatic calibration for different parameters and basic troubleshooting function.



Sample Quantity	12
Chamber	Round Oven Chamber Design
Sample	100ml
Pressure Control	Full Scanning
Pressure Measurement	Touch-free
Temperature Control	Full Scanning
Temperature Measurement	IR
Vessel Material	Inner Vessel Imported TFM, Outer Vessel Imported PEEK + Glass Fiber
Material of Explosion-Proof Frame	Polypropylene Glass Fiber
Max Working Pressure	10 MPa
Max Working Temperature	250℃
Temperature Limit	300℃
Chamber Volume	60 L
Display	8 inches touch screen
Pressure Control Range	0~6 MPa (0~60kg/cm ²)
Pressure Control Accuracy	±0.01MPa(0.1kg/cm ²)
Microwave Power	2000 W (0~2000 adjustable)
Microwave Frequency	2450MHz
Rotation Mode	360°continuous rotation
Microwave Leakage	<5mw/cm ²
Power	AC 220V, 10A, 50/60Hz
Dimension	640mm×630mm×590mm
Weight	75kg

Technical Specification



ACCESSORY



Spectrophotometer Accessory



Quartz Cuvettes



Printer



10mm 4-hole cell holder



Manual 10mm 8 cell holder



Automatic 10mm 8 cell holder



Sipper system/Peltier system



50mm 4-hole cell holder



Transparent film holder



Tungsten Halogen lamp



Micro cuvettes cell holder



10mm 4-hole cell holder



Test tube holder

All spectrophotometers are shipped out with standard accessories. The above accessories can be ordered separately once needed.

Spectrophotometer Accessory

Item	Model No	Description	Unit
Cell Holder	10101	10mm single cell holder	Pcs
	10102	10mm 4-hole cell holder	Pcs
	10103	50mm 4-hole cell holder	Pcs
	10104	100mm 4-hole cell holder	Pcs
	10105	10mm 8-hole auto cell holder	Pcs
	10201	10mm single hole water jact-eted ambient cell holder	Pcs
	10301	Adjustable cell holder for micro cuvettes	Pcs
	10401	Transparent film holder	Pcs
	10501	Test tube holder	Pcs
Control Units	20101	Peltier system	Pcs
	20102	Sipper system	Pcs
	20103	Peltier/Sipper system	Pcs
	20201	Micro printer	Pcs
Lamps	30101	W lamp 12V, 20W (Phillips)	Pcs
	30201	D2 lamp A510YXU (Milas)	Pcs

Item	Model No	Description L *W*H mm			Unit
Glass Cuvettes with Lid	40101	7.5*12.5*45	1.7	5	Set(4Pcs)
	40102	12.5*12.5*45	3.5	10	Set(4Pcs)
	40103	22.5*12.5*45	7	20	Set(4Pcs)
	40104	32.5*12.5*45	10.5	30	Set(4Pcs)
	40105	42.5*12.5*45	14	40	Set(4Pcs)
	40106	52.5*12.5*45	17.5	50	Set(4Pcs)
	40107	102.5*12.5*45	35	100	Set(4Pcs)
Quartz Cuvettes with Lid	40201	7.5*12.5*45	1.7	5	Set(2Pcs)
	40202	12.5*12.5*45	3.5	10	Set(2Pcs)
	40203	22.5*12.5*45	7	20	Set(2Pcs)
	40204	32.5*12.5*45	10.5	30	Set(2Pcs)
	40205	42.5*12.5*45	14	40	Set(2Pcs)
	40206	52.5*12.5*45	17.5	50	Set(2Pcs)
	40207	102.5*12.5*45	35	100	Set(2Pcs)

Spectrophotometer Accessory

Item	Model No	DescriptionL*W*H mm	Volume ml	Path Length mm	Unit
Glass Cuvettes with Stopper	40301	7.5*12.5*45	1.7	5	Set(4Pcs)
	40302	12.5*12.5*45	3.5	10	Set(4Pcs)
	40303	22.5*12.5*45	7	20	Set(4Pcs)
	40304	32.5*12.5*45	10.5	30	Set(4Pcs)
	40305	42.5*12.5*45	14	40	Set(4Pcs)
	40306	52.5*12.5*45	17.5	50	Set(4Pcs)
	40307	102.5*12.5*45	35	100	Set(2Pcs)
Quartz Cuvettes with Stopper	40401	7.5 *12.5*45	1.7	5	Set(2Pcs)
	40402	12.5*12.5*45	3.5	10	Set(2Pcs)
	40403	22.5*12.5*45	7	20	Set(2Pcs)
	40404	32.5*12.5*45	10.5	30	Set(2Pcs)
	40405	42.5*12.5*45	14	40	Set(2Pcs)
	40406	52.5*12.5*45	17.5	50	Set(2Pcs)
	40407	102.5*12.5*45	35	100	Set(2Pcs)

Item	Model No	Description L * W* H mm	Volume ul	Unit
Micro Cuvettes	40501	12.5*12.5*45	100	Set(2Pcs)
	40502	12.5*12.5*45	200	Set(2Pcs)
	40503	12.5*12.5 *45	500	Set(2Pcs)
	40504	12.5*12.5*45	700	Set(2Pcs)
Software	50101	UV Basic; Quantitative & Kinetics; Series 5 models except PC models	Set(Disc. + U5B cable + Manual)	
	50102	MetaSpec; Quantitative & Kinetics & Wavelength Scan & DNA/Protein & Multi wavelength; series 5 models except PC models	Set(Disc. + U5B cable + Dongle +Manual)	
	50103	UV Analyst Quantitative & Kinetics & Wavelength Scan & DNA/Protein & Multi-wavelength; Series 6 & Series 8 & Series 9	Set(Disc. + U5B cable + Dongle +Manual)	

HIGH QUALITY ACCESSORIES

SOFTWARE

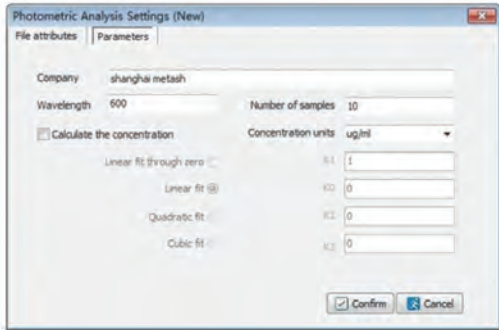


Spectrophotometer software

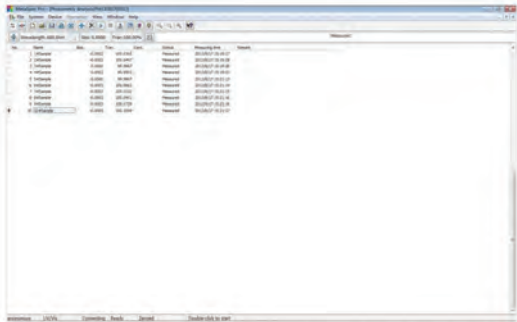
METASPEC is a new windows based PC software designed by Metash engineers. It is compatible with Metash V/UV 5 Series spectrophotometers. Metaspec takes the best features of the stand-alone version spectrophotometers with more powerful data processing and expanded data collecting and storage capability. It can realize basic testing,Quantitative,Wavelength,Scanning,Kinetics,DNA and standard curve functions.

Functions

Basic test
Measure the Transmittance or Absorbance of the samples



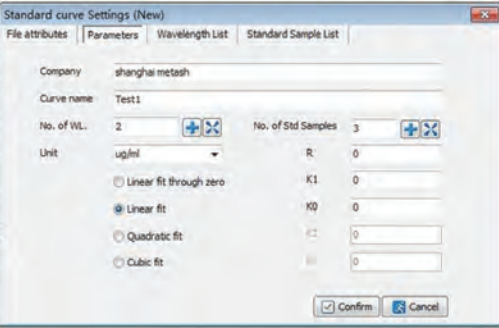
Setting



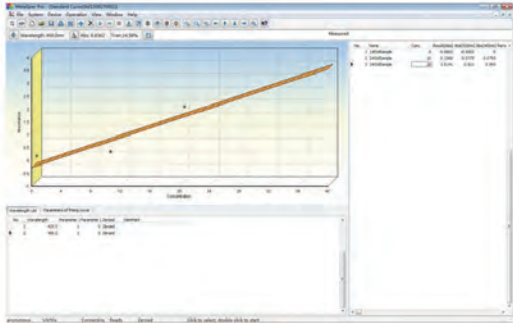
Results

Standard Curve
Use up to 38 standards to establish standard curve. Four methods for fitting a curve:

- a. Linear fit
- b. Linear through zero
- c. Square fit
- d. Cubic Fit



Setting

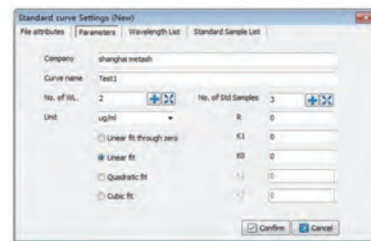


Results

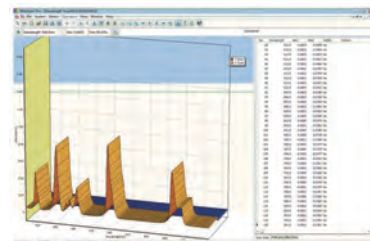
Wavelength scanning

The software can save record of peaks and valleys automatically. The capacity of standard curve saving is unlimited. Post-run manipulation and processing includes:

- a .Re-scaling axes, curve
- b .Smoothing, combination, zooming, overlap
- c . 1st to 4th derivative



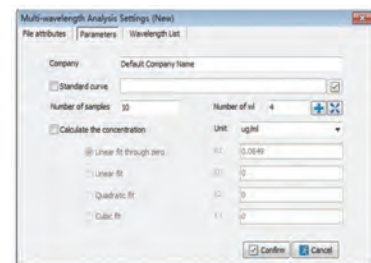
Setting



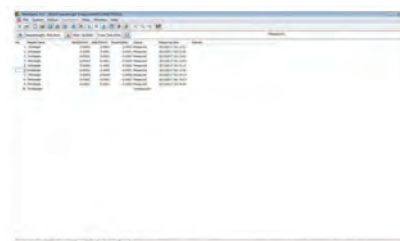
Results

Multi Wavelength Analysis

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

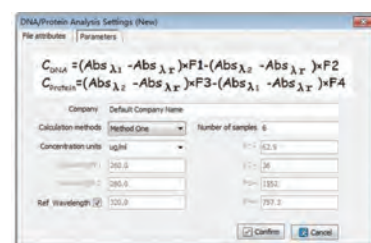


Setting

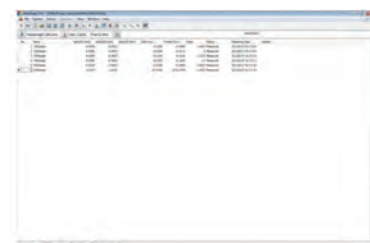


Results

DNA/ Protein Analysis



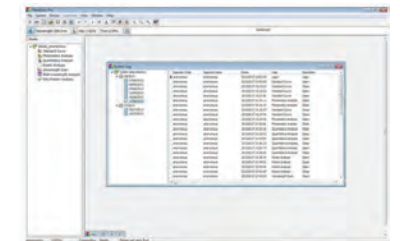
Setting



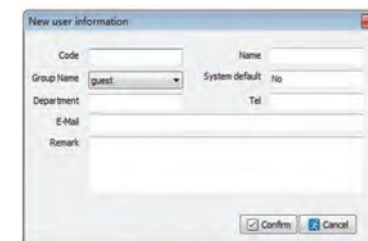
Results



System security setting



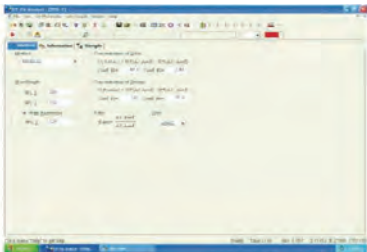
Historical data management



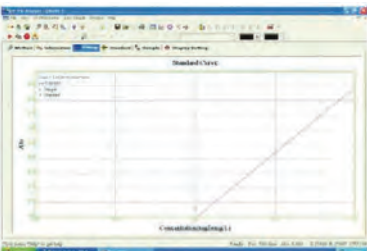
New user management system



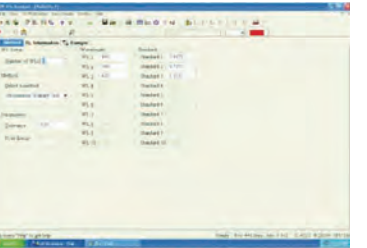
Metash UV /VIS analyst is the PC control software which is compatible with Metash UV-6/9 series of spectrophotometers It offers the following functions:



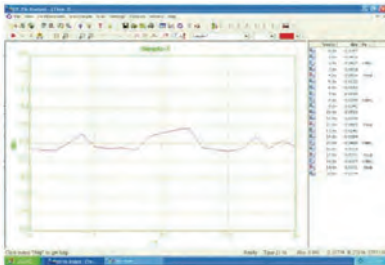
Standard Curve
Up to 32 wavelengths can be selected and multiple samples can be measured.



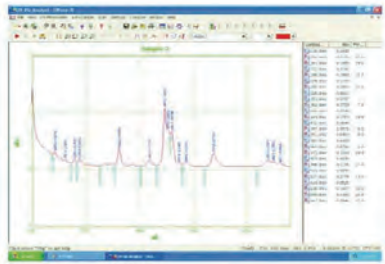
Quantitative
1. Coefficient Method
2. Standard Curve
Up to 10 standard samples may be used to establish a curve, four methods for fitting a curve through the calibration points : Linear fit , Linear fit through zero , Square fit and Cubic fit



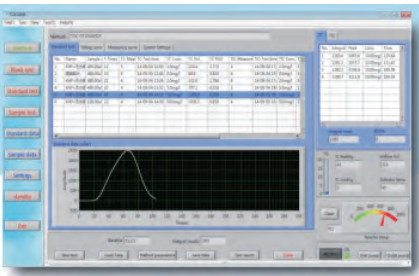
DNA/Protein Test
Concentration and DNA purity are quickly and easily calculated:
Absorbance ratios 260nm/280nm with optional subtracted absorbance at 320nm
DNA concentration= $62.9 \times A_{260} - 36.0 \times A_{280}$
Protein concentration= $1552 \times A_{260} - 757.3 \times A_{280}$



Kinetics
This 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 and measurement time up to 12 hours may be entered with time intervals of 0.5 , 1,2, 5,10,30 seconds and 1 min.
■ Post-run manipulation includes re-scaling, curve tracking and selection and of the part of the curve required for the rate calculation . Rate is calculation . Rate is calculated using a linear regression algorithm before multiplying by the entered factor

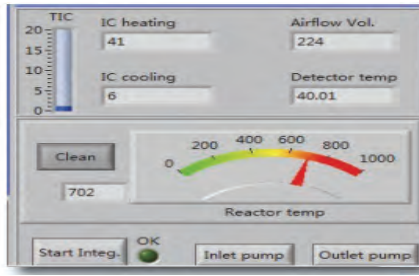


Wavelength Scan
■ The wavelength scan intervals are 0.1 , 0.2 , 0.5 , 1, 2, 5nm
■ High medium and low scan speeds are available. They vary from 100 to 3000 nm/ min.
■ Wavelengths are scanned from high to low so that the instrument waits at high WL.



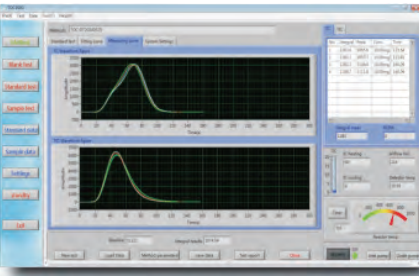
Sample measurement processing monitoring

- 1. Set different Name, concentration and sample volume
- 2. Real-time sample reaction
- On-line AVG and RSD calculation of testing results



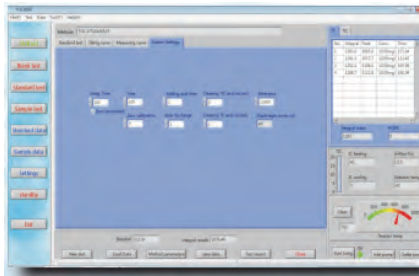
Display and monitoring of sampling

- 1. Sampling volume real-time monitoring
- 2. Automatic sample draining monitoring
- 3. Real time display and monitoring for heating,cooling and furnace temperature
- 4. Auto switch of sampling and draining
- 5. Acidification operation by peristaltic pumps



Scanning Curves

- 1. Samples curves shows in the same coordinate system for easy reading of repeatability



Parameter Setting Interface

- 1.Settings for heating and cooling
- 2.Temperature;acidification sampling and draining time; Basic setting for pump, valve and temperature control;
- 3.Press "TC" clean, the system will automatically start drain-add sodium persulfate draining sampling draining

Instrument main Interface

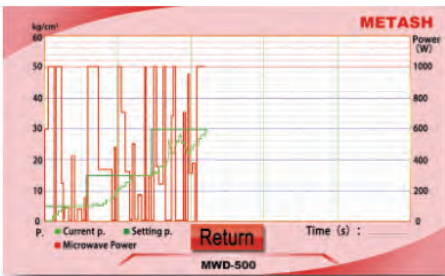
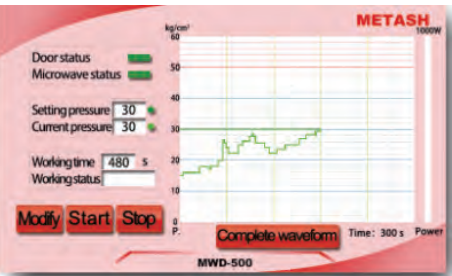


Clear display, easy operation,can realize all functions by easy touching



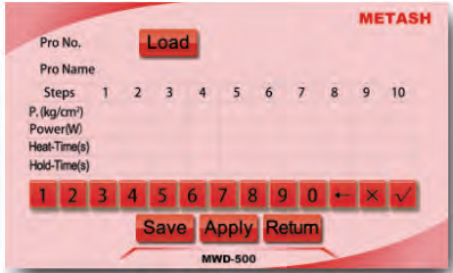
Instrument Working Interface

Parameters set by user display in working interface; Display of furnace door and microwave opening and closing condition;real-time set up pressure and timing curves automatically to ensure accurate measurement results; Can start and stop operation at any time.



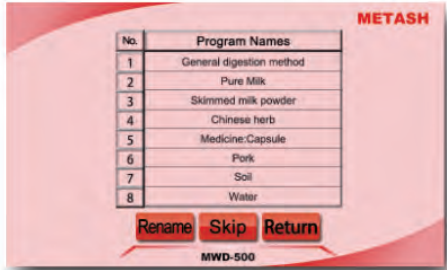
Parameter Setting Interface

Clear display for all zones, users can set up parameters according to their requirements: pressure, temperature, time, parameter edit, protection steps etc. Users can set up 10 complete steps for each program, each step with one "temperature raise" phrase and one "constant temperature" phrase to meet digestion controlling requirements for complicated samples.



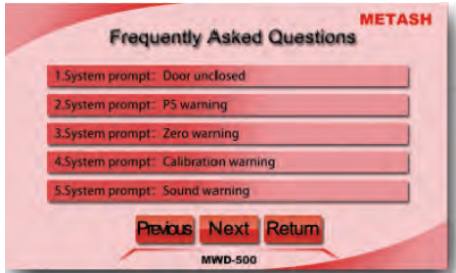
Program Interface

8 common digestion methods pre-set which are convenient for beginners to enter digestion procedure.



FAQ Interface

Users who are not familiar with microwave digestion can easily find answers and solutions in this interface when they have any questions.



Instrument Calibration Interface

Instrument calibration functions can calibrate all parameters after the instrument running a very long time, ensure the instrument in a good condition all the time.

