



*Reaching Worldwide*



- ✦ Spectrophotometers
- ✦ Ion Selective Electrodes ( ISEs )
- ✦ Ion with pH meter - 5 point
- ✦ pH Electrodes
- ✦ pH meter - 3 point / 5 point
- ✦ Conductivity / TDS meters
- ✦ Multiparameter
- ✦ Dissolved Oxygen meter(DO)
- ✦ Turbidity Meter
- ✦ Visual Colorimeter
- ✦ Polarimeters
- ✦ Refractometers
- ✦ Viscometers
- ✦ Probe Sonicators
- ✦ Ultrasonic Cleaners (Sonicators)
- ✦ Ice Flakers / Ice Makers
- ✦ Gradient Thermal Cycler - PCR
- ✦ Ceramic Hotplate Magnetic Stirrers

**Part II**

**Scientific Instruments**

## **PRODUCT CATALOGUE**

**2018-19**

LMSP-UV1900



Double Beam UV-VIS. Spectrophotometer

## Salient Features

- ✦ The two detectors are used to measure sample and reference respectively and simultaneously for optimizing measurement accuracy.
- ✦ Lamp Selection enables conserving the life of D2 & Tungsten lamps. Real time clock for date & time stamping of results.
- ✦ **LIGHT PATH DESIGN: DOUBLE BEAM**  
LMSP-UV1900 double light design can prevent circuit fluctuation and stray light to ensure stability of the instrument.
- ✦ **LONG PATH LIGHT DESIGN**  
LMSP-UV1900 unique 520mm long light path design greatly improved resolution and the bandwidth can reach 0.5nm.
- ✦ **16MM OPTICAL BASE**  
LMSP-UV1900 series use a rigid 16mm diecast aluminum base as their optical mount to ensure the stability and reliability.
- ✦ **6 INCHES LCD DISPLAY**  
LMSP-UV1900 series have a 6 inches LCD display to show results and curves directly on the screen.
- ✦ **SOFTWARE FUNCTIONS ( Optional )**  
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.
- ✦ **PERFECT CALIBRATION SYSTEM**  
All baseline, wavelength, dark current can be calibrated automatically to keep good running conditions.
- ✦ **DATA OUTPUT**  
LMSP-UV1900 series are equipped with USB port to connect with a PC ( software optional ) comes standard with the instrument.

# Catalogue 2018 - 19



## Doublebeam UV - VIS. Spectrophotometer

SPECIFICATIONS	Model	LMSP-UV1900	LMSP-UV1900S
	Cell Holder	Single Cuvette Holder (10mm)	
	Bandwidth	1nm	0.5, 1.0, 2.0, 4.0 nm (variable)
	Make	LABMAN	
	Optical System	Double Beam(1200 Lines/mm Grating)	
	Wavelength Range	190-1100nm	
	Bandwidth	1nm	
	Wavelength Accuracy	±0.3nm	
	Wavelength Repeatability	±0.2nm	
	Scanning Speed	Fast, Medium & Low	
	Photometric Accuracy	±0.3%T	
	Photometric Repeatability	0.2%T	
	Photometric Range	-0.3-3A,0-200%T,0-9999C	
	Stability	± 0.001A/h @ 500nm	
	Baseline Flatness	± 0.001A/h	
	Noise	± 0.001A/h	
	Stray Light	0 . 0 5 % @ 220nm,360nm	
	Data Output Port	USB	
	Printer Port	Parallel Port	
	Display	LCD	
	Lamps	D2 Lamp & Tungsten Halogen Lamp (W Lamp)	
	Detector	Silicon Photodiode	
	Power Supply	AC 220V / 50Hz	
	Dimension (LxWxH) mm	625x430x206	
	Weight	30kg	

★ Specifications are subject to change without notice.

STANDARD ACCESSORIES	UV Analyst Software	1 pc
	10mm Glass Cuvette	4 pcs.
	Power Cord	1 pc
	Instruction Manual	1 pc.
	10mm quartz cuvette	2 pcs.
	Dust Cover	1 pc.



### Optional Accessories

- ✚ 8 cell programmable Holder

Upgraded Model

LMSP-UV1200



UV - VIS. Spectrophotometer  
Single Beam

## Salient Features

### ◆ NUMERICAL KEYS

Microprocessor controlled, all parameters of this instrument can be easily set by numerical keys.

### ◆ 8MM THICK OPTICAL BASE

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

### ◆ STANDARD CURVE

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

### ◆ AUTO SETTING WAVELENGTH

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

### ◆ DATA OUTPUT

LMSP -UV1200 is equipped with USB port to connect with a PC to display spectrum scanning, kinetics and multi wavelength testing results on the screen through the optional software.

### ◆ IMPORTED HIGH QUALITY DEUTERIUM LAMP

This instrument uses imported flanged deuterium lamp with low stray light, photometric accuracy and easy replacing

- ◆ Data can be restored after a sudden power cut.
- ◆ Tungsten lamp & Deuterium lamp can be turned on/off individually to extend shelf life
- ◆ Large sample compartment, it can accommodate 5-100mm path length cuvettes with optional holders.

## UV - VIS. Spectrophotometer - Single Beam

SPECIFICATIONS	Model	LMSP-UV1200
	Make	LABMAN
	Wavelength Range	190-1100nm
	Bandwidth	2nm
	Optical System	Single Beam, Grating 1200 lines / mm
	Wavelength Accuracy	$\pm 0.8\text{nm}$
	Wavelength Repeatability	$\pm 0.2\text{nm}$
	Wavelength Setting	Auto
	Photometric Accuracy	$\pm 0.3\%T$
	Photometric Repeatability	$\pm 0.2\%T$
	Photometric Range	-0.3-3A, 0-200%T
	Stability	$\pm 0.002A/h$ @ 500nm
	Baseline Flatness	$\pm 0.002A/h$
	Stray Light	0 . 0%5
	Data Output	USB
	Printer Port	Parallel Port
	Display	LCD
	Cell Holder	10 mm 4 position cuvette holder
	Lamps	D2 Lamp & Tungsten Halogen Lamp ( W Lamp )
	Detector	Silicon Photodiode
	Power Supply	AC 220V/50Hz
	Dimension (LxWxH) mm	460x360x225mm
	Weight	18kg

★ Specifications are subject to change without notice.

STANDARD ACCESSORIES	Software	1 pc
	10mm Glass Cuvette	4 pcs.
	10mm Quartz Cuvette	2 pcs.
	Power Cord	1 pc
	Instruction Manual	1 pc.
	Dust Cover	1 pc.



Upgraded Model

LMSP-V320



Visible Spectrophotometer

## Salient Features

### ✦ MICROPROCESSOR CONTROLLED

Microprocessor controlled, LMSP-V320 can realize auto Zero and auto 100% T adjustment with one push-button.

LMSP-V320 has a LCD display for direct readout of Transmittance, Absorption, and Concentration.

### ✦ GRATING MONOCHROMATOR

LMSP-V320 uses 12000 line grating which ensures high resolution, low stray light and parameters accuracy.

### ✦ DATA OUTPUT

LMSP-V320 is equipped with USB port which can be connected to PC to edit data through specific software (Optional)

Data can also be printed through a parallel port connected to a micro printer.

### ✦ COMPACT DESIGN, EASY TO CARRY

The compact design of LMSP-V320 saves bench space while all components function remain performed like 120mm wide sample compartment and long optical path monochromator.

### ✦ DISPLAY MODE

LMSP-V320 can display absorption, transmittance, concentration and coefficient directly by different mode switching.

### ✦ Large sample compartment, it can accommodate 5-100mm path length cuvettes with optional holders

## Visible Spectrophotometer

<b>SPECIFICATIONS</b>	Model	LMSP-V320
	Make	LABMAN
	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 . T3 %
	Stability	± 0.002A/h
	Display	LCD
	Detector	Silicon Photodiode
	Output	USB Port & Parallel Port(Printer)
	Light Source	Tungsten Halogen Lamp
	Power Supply	AC 220V/50Hz
	Dimension (LxWxH) mm	420x280x180mm
	Weight	8kg

★ Specifications are subject to change without notice.

<b>STANDARD ACCESSORIES</b>	Software	1 pc.
	10mm Glass Cuvette	4 pcs.
	Power Cord	1 pc.
	Instruction Manual	1 pc.
	Black Block	1 pc.
	Dust Cover	1 pc.



Upgraded Model

LMSP-V325



Visible Spectrophotometer

## *Salient Features*

### ✦ MULTIPLE RESULTS READOUT

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

### ✦ AUTO SETTING WAVELENGTH

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

### ✦ STANDARD CURVE

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

### ✦ DATA OUTPUT

LMSP-V325 is equipped with USB port to connect with a PC to display spectrum scanning, kinetics and multi wavelength testing results on the screen.

### ✦ 2.5" LCD SCREEN

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



## Visible Spectrophotometer

SPECIFICATIONS	Model	LMSP-V325
	Make	LABMAN
	Optical System	Single beam, Grating 1200 lines/mm
	Wavelength Range	325-1000nm
	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
	Stray Light	0.13 %
	Stability	± 0.002A/h @ 500nm
	Display	LCD
	Detector	Silicon Photodiode
	Standard Cell Holder	4-position 10mm cell holder
	Light Source	Tungsten Lamp
	Output	USB Port & Parallel Port(Printer)
	Power Supply	AC 220V/50Hz
	Dimension (LxWxH) mm	420x280x180
	Weight	10kg

★ Specifications are subject to change without notice.

STANDARD ACCESSORIES	Software	1 pc
	10mm Glass Cuvette	4 pcs.
	Power Cord	1 pc
	Instruction Manual	1 pc.
	Black Block	1 pc.
	Dust Cover	1 pc.





## *Salient Features*

### ✦ **LOW STRAY LIGHT**

LMSP-UV1000B is made of high quality components with rigid structure which ensures low stray light.

### ✦ **STABILITY AND DURABILITY**

LMSP-UV1000B uses a rigid die-cast aluminum base as its optical mount to ensure instrument stability and Reliability.

### ✦ **STRANDED CURVE**

LMSP-UV1000B can set up various standard curves according to customer's solutions and find the concentration of unknown solutions.

### ✦ **MULTIPLE RESULTS READOUT**

LMSP-UV1000B can display wavelength, absorption and transmittance with 5 results per screen. It also has a memory store of up to 200 results.

### ✦ **AUTO SETTING WAVELENGTH**

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

### ✦ **DATA OUTPUT**

LMSP-UV1000B is equipped with USB port to connected with a PC to display spectrum scanning, kinetics and multi wavelength testing results on the screen. The software is optional.

### ✦ **Data can be restored after a sudden power cut**

## UV-Visible Spectrophotometer - Basic

<b>SPECIFICATIONS</b>	Model	LMSP-UV1000B
	Make	LABMAN
	Optical System	Single beam, Grating 1200 lines/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 . T3 %
	Stability	± 0.002A/h @ 500nm
	Display	LCD
	Detector	Silicon Photodiode
	Standard Cell Holder	4-position 10mm cell holder
	Light Source	D2 lamp & Tungsten Halogen Lamp ( W Lamp)
	Output	USB Port & Parallel Port(Printer)
	Power Supply	AC 220V/50Hz
	Dimension (LxWxH) mm	490 x 370 x 220
	Weight	15kg

★ Specifications are subject to change without notice.

<b>STANDARD ACCESSORIES</b>	Software	1 pc.
	10mm Glass Cuvette	4 pcs.
	10mm Quartz Cuvette	2 pcs
	Power Cord	1 pc.
	Instruction Manual	1 pc.
	Black Block	1 pc.
	Dust Cover	1 pc.



Upgraded Model



## Automatic Digital Polarimeter Touch Screen

The polarimeter is an instrument used for determining the Optical rotation of substances. In this way, the concentration, content, purity, etc of certain substances can be find out. Therefore, the polarimeter has become one of the most useful instruments in laboratories of sugar industry, pharmaceutical industry, oil refining, foodstuff industry, chemical industry, universities and scientific research field.

### *Salient Features*

- ✦ Touch screen colour display
- ✦ Temperature display
- ✦ Faraday magneto-optical modulator
- ✦ Polarizer Polarizing film
- ✦ Digital Polarimeter based on Optical null principle
- ✦ No warm-up time is required when instrument is switched on
- ✦ Measuring multiple scales - specific rotation, optical rotation, sugar degree and concentration
- ✦ Automatic repetition-measurement for 6 times, and calculation of average value.
- ✦ Measurement of dark-coloured sample
- ✦ Response time 3°/sec.
- ✦ Insulated Sample chamber to keep sample temp. constant
- ✦ User can set retesting sample between 1 to 6
- ✦ Photodiode Detector
- ✦ Data display - date, time, measuring mode, length of tube, temp. test time, measured value (1 - 6 values), average value,
- ✦ Purity method - saccharic concentration

#### **Pharmaceutical industry**

- ✦ Monitoring chemical processes
- ✦ Purity control and determination of concentrations
- ✦ Characterizations of new synthetic substances
- ✦ Hospitals & Pharmacies

#### **Chemical industry**

- ✦ Purity control and determination of concentrations
- ✦ Analysis of optically-active components (qualitative and quantitative)
- ✦ Determination of changes in the configuration
- ✦ Monitoring chemical processes

#### **Sugar industry**

- ✦ Quality control of original and end product
- ✦ Determination of fructose and glucose

#### **Food industry**

- ✦ Determination of concentration
- ✦ Purity control
- ✦ Quality control

SPECIFICATIONS	MODEL	ADP-45	ADP-89
	Make	LABMAN	
	No. of Measuring Mode (4)	Optical Rotation, Specific Rotation, Sugar, Concentration	
	Measuring Mode	Rotation	
	Measuring range	-45° +45°	-89° +89°
	Unit	Angle°	
	Resolution	0.001°	
	Accuracy	±0.01°	
	Measuring Mode	Sugar	
	Range	-120° +120°Z	-257° +257°Z
	Unit	°Z	
	Resolution	0.01°Z	
	Accuracy	±0.02°Z	
	Measuring Mode	Concentration	
	Range	0-99.9g/ml	
	Unit	g/100 ml	
	Resolution	0.1mg/ml	
	Accuracy	±0.5g/100ml	
	Temperature control	-	Peltier
	Temperature control range	-	15-30° C
	Temperature resolution	-	0.1° C
	Temp. Accuracy	-	±0.5°C
	Constant temp. test tube	-	100 mm
	Memory	-	99 data sets
	Display	Touch Screen	
	Sample transmittance	> 1%	
	Light Source	LED (2.4V, 1W, 5000hours)	
	Operation Wavelength	589.3nm	
	Length of Test Tube	100mm & 200mm	
	Interface	USB & RS232	
	Dimension LxWxH(mm) &Weight	850 x 470 x 380 & 35 kg	

Optional Accessories : Micro test tube.

★ Software - Optional

★ Specifications are subject to change without notice.

RFM-950



## Salient Features

- ◆ Fully automatic measuring system
- ◆ Touch Screen display.
- ◆ Measure the °Brix of sugar solution
- ◆ Display the temperature of sample
- ◆ Correct effect of temperature on the °Brix automatically
- ◆ Memory upto 1024 results
- ◆ Reading Time 2 seconds.
- ◆ Calibration password protected
- ◆ Easy clean prism & Simple operation
- ◆ User can set the Scan times, Type, Revise, Sample ID, Calender

## Automatic Digital Refractometer Touch Screen

This instrument can widely be used in petroleum, chemical, pharmaceutical, sugar refining and food industries, as well as in related colleges, universities and scientific research institutions for measuring refractive index nD of transparent, semi transparent liquid.

This instrument can also be used to measure the °Brix (BX) of the sugar solution, and correct the effect of temperature on the °Brix automatically. In addition, this instrument can also display the temperature of the sample.

SPECIFICATIONS	Model	RFM-950
	Measuring range - Refractive index nD	1.30000-1.70000
	°Brix (BX)	0 - 100 %
	Measuring accuracy- Refractive index nD	±0.00002
	Dissolved solids °Brix	±0.1%
	Measuring resolution - Refractive index nD	0.00001
	Dissolved solids °brix	0.01 %
	Temperature display range	0-50°C
	Temperature resolution	0.1°C
	Ambient temperature	10°- 35°C
	Memory & Output	1024 data & RS232 Interface
	Display	Touch Screen
	Power supply	AC 220V / 50Hz
	Dimension LxWxH (mm)	330 x 215 x 150
	Weight	3 kg

★ Specifications are subject to change without notice.

LMAR-1317



## Salient Features

- ✦ Measurement of Refractive index  $n_D$  of transparent or translucent liquid and solid substance.
- ✦ Measurement of brix of sugar solution
- ✦ Prism made of hard glass
- ✦ Visual aim and LCD Display
- ✦ Automatic correction of the effect of temperature on the Brix
- ✦ Printer Interface for direct data print-out.

## Digital ABBE Refractometer

The instruments can widely be used in petroleum, chemical, pharmaceutical, sugar, refining and food industries, as well as in related colleges, universities and scientific research institutions for measuring the refractive index  $n_D$  of transparent, subtransparent liquid or solid substance.

This instrument can also be used to measure the Brix (BX) of the sugar solution, and correct the affect of temperature on the Brix automatically. In addition, this instrument can display the temperature of the sample.

SPECIFICATIONS	Model	LMAR-1317
	Make	LABMAN
	Measurement range Refractive index $n_D$	1.3000-1.7000
	Measurement range dissolved solids Brix	0-100%
	Accuracy refractive index $n_D$	$\pm 0.0002$
	Accuracy Dissolved Solids Brix	$\pm 0.1\%$
	Temperature Resolution	0.1°C
	Temperature Range (Min 0.1°C)	0.-50°C
	Correcting Range of Brix Versus Temperature	15-45°C
	Usage Temperature Range	Ambient to 35°C
	Interface	RS232
	Dimensions (mm)	370x240x470
	Power Supply	AC 220V / 50Hz
	Weight	12 kg

★ Specifications are subject to change without notice.

Sample temperature can be controlled by using thermostatic water bath ( Optional )

LMCR-80F



## Visual Colorimeter

### Salient Features

- Measuring principle visual, in terms of international colour scale units
- Visual measurement of colour matching to determine material colour
- Design in conformity with internationally accepted colour scale unit
- Simple structure and easy to operate
- Replaceable sample chamber liner
- Replaceable light source, two spares Incandescent lamps.
- Viewing system fully adjustable

Visual Colorimeter is a kind of Visual colour measuring Instrument. It measures colour scale unit which is an International acknowledged specific colour method, as a standard to measure the colority of liquid, gelatin, solid and powder samples

This instrument has the features of simple structure and convenient operation and often used in the colour measurements of different material of grease, Paint, Plastic, Jam, Textile fabric, foodstuff, liquid chemicals and pharmaceuticals.

SPECIFICATIONS	Model	LMCR-80F
	Make	LABMAN
	Measuring principal	Visual, in terms of International colour scale units
	Modes	Transmittance, reflectance
	Measurments range	0.1 – 79.9 Red, 0.1 – 79.9 Yellow, 0.1 – 49.9 Blue, 0.1 – 3.9 Neutral
	Resolution	0.1 colour scale unit
	Viewing system	Fully adjustable
	Light Source	Incandescent lamp
	Illuminant	Approximates to daylight
	Path Length	Up to 180 mm
	Diffuse reflectivity of White plate	> 80%
	Amplification of the magnifiers	1.9 X
	Dimension of Colorimetric utensil	10x20x40mm, 25.4x20x40mm, 133.4x20x40mm
	Power Supply & Power Watts	AC 220V/50Hz & 50W
	Dimension	620x440x300mm
	Weight	12.5 kg

★ Specifications are subject to change without notice.



## LMDV-SERIES



### Salient Features

- ◆ Auto Range function
- ◆ Selectable Speed
- ◆ Direct Viscosity reading and temperature display
- ◆ Big Ultra Bright Backlight LCD Display
- ◆ Optional - Datalog Software for LMDV-100 & LMDV-200

### Digital Direct Reading Rotational Viscometer

Labman LMDV series is Rotational Digital Direct Reading Viscometer to measure absolute viscosity of Newton Liquids as well apparent viscosity of non – Newton liquid featured by high flexibility reliable Test result, easy operation and good appearance.

## Digital Rotational Viscometer

SPECIFICATIONS	Model	LMDV-60	LMDV-100	LMDV-200
	Make	LABMAN		
	Measuring Range mpa.s	20-2,000,000	20-2,000,000	20-6,000,000
	Speed	0.3 to 60	0.3 to 100	0.1 to 200
	No of Speed	8	18	54
	No of Standard Spindle	4		
	Display	LCD		
	Temperature Monitoring	Yes		
	Measurement Accuracy	+ / - 1% (FS)		
	Repeatability	+ / - 0.5 % (FS)		
	Output	RS232 Interface		
	Power Supply	AC 220V / 50Hz		
	Dimension LxWxH (mm)	400 x 350 x 360		
	Weight	9 kg		10 kg

★ Specifications are subject to change without notice.

Optional Accessories: • Low Viscosity Adapter • Small Sample Adapter

LMUC SERIES

Upgraded Model



## Digital Ultrasonic Cleaner ( Sonicator )

Digital Ultrasonic cleaning is based on the cavitation effect caused by high frequency ultrasonic wave vibration signal in the fluid. Microscopic bubbles are formed, and they implode violently causing the cavitation which create an intense scrubbing action on the surface of the item being cleaned. The bubbles are small enough to penetrate microscopic crevices, cleaning them thoroughly and consistently.

Ultrasonic cleaning is extremely effective at removing dirt and grime which would normally require tedious manual cleaning by hand. It has been used to clean a wide variety of instruments and mechanical parts such as carburetors, returning them to almost "like new" condition without damage to delicate parts.

### *Salient Features*

- ✦ Inner Tank & Outer body made of Stainless Steel
- ✦ Digital RED LED display
- ✦ Temperature with timer function
- ✦ Ceramic heaters provides improved heating effect
- ✦ Drainage and cool fan available in 6L to 25L
- ✦ Overheat protector, Cooling fan
- ✦ Moisture-proof PCB
- ✦ User friendly
- ✦ High-performance transducers.

**Digital Ultrasonic Cleaner**  
**with**  
**Lid, Digital Timer, Heater & Basket**

## LMUC- SERIES

## Digital Ultrasonic Cleaner

SPECIFICATIONS	MODEL	LMUC-2	LMUC-3	LMUC-6	LMUC-9	LMUC-12	LMUC-20	LMUC-25
	Capacity	1.8L	3 L	6L	9L	12L	20L	25L
	Tank Size (mm)	150x137x100	240x140x100	300x155x150	300x240x150	330x300x150	500x300x150	500x300x200
	Overall Size (mm)	190x170x220	270x170x240	330x180x310	330x270x310	360x330x310	550x330x310	550x330x360
	Ultrasonic Power	50W	100W	150W	200W	300W	400W	500W
	Heating power	100W	100W	300W	300W	400W	500W	500W
	Tank Drain	NA		Drain Valve				
	Time Setting	1-99						
	Heating Temp.	0-80°C						
	Display	Digital RED LED						
	Frequency	40kHz						
	Lid Material	SS 304						
	Inner Tank Material	SS 304						
	Outer Tank Material	SS 201						
	Power Supply	AV 220V / 50 Hz						
	Weight (approx.)	2.6 kg	4 kg	7.5 kg	10 kg	12 kg	16 kg	18 kg

### STANDARD ACCESSORIES :

- ◆ Main Instrument
- ◆ Lid
- ◆ Power cord
- ◆ Basket
- ◆ Instruction Manual



### Application Ranges



★ Specifications are subject to change without notice.

Note : Ultrasonic Cleaner is not recommended for the following gemstones Opal, Pearl, Emerald, Tanzanite, Malachite, Turquoise, Lapis and Coral



## Gradient Thermal Cycler PCR Touch Screen

Polymerase Chain Reaction (PCR) is widely used in Molecular biology. As PCR progresses, the DNA thus generated is itself used as a template for replication. With PCR it is possible to amplify a single or few copies of a specific DNA fragment across several orders of magnitude, generating millions of copies of the DNA fragments.

### Salient Features

- ◆ Advanced technologies, WINDOWS operating system.
- ◆ Automatic restart after power failure.
- ◆ Each thermal block has 4 independent temperature control sensors and 8 peltier heating units to ensure accurate and uniform temperature across block surface, and provide users with replicating previous condition set-up.
- ◆ 8" TFT color touch-screen with graphical display provides easy use for setting up and monitoring set parameter.
- ◆ The actual and target temperatures can be viewed and displayed graphically in real time.
- ◆ Built-in 11 standard program file template, can quickly edit the required files.
- ◆ Internal flash memory for 10000 typical PCR files in free configurable folders.
- ◆ Compatible with mouse, keyboard, capable to transfer data and perform software updates via USB Drive.
- ◆ Applicable with the following 0.2ml tube models: non-skirted, semi and fully skirted plated.
- ◆ Replaceable module, dual-block module can simultaneously run two different PCR programs.

Temperature 45.0

Gradient 20.0



## SPECIFICATIONS

MODEL	PCR-9602G
Capacity	96x0.2ml
Make	LABMAN
Temperature Range	0 ~100
Max. Heating Rate	5 º/s
Max. Cooling Rate	4 º/s
Uniformity & Accuracy	±0.1
Display Resolution	0.1
Temperature Control	Block\Tube
Ramping Rate Adjustable	0.1 ~ 5
Gradient Uniformity	±0.2
Gradient Accuracy	±0.2
Gradient Temp. Range	30 ~ 100
Gradient Spread	1 ~ 30
Hot Lid Temperature	30 ~ 110
Hot Lid Height Adjustable	Stepless adjustable
Number of Programs	10000 +(USB FLASH)
Max. No. of Step	30
Max. No. of Cycle	99
Time Increment/Decrement	1 Sec ~ 99min 59 Sec
Temp. Increment/Decrement	0.1 ~ 9.9
Pause Function	Yes
Auto Data Protection	Yes
Hold at 4	Forever
Print, LAN to computer,	Yes
LCD display	Touch Screen, 8inch , 800x600 Pixels, TFT
Communication	USB2.0 , LAN
Power Supply	85 ~ 264VAC , 47 ~ 63Hz , 600 W
Dimension (LxWxH)	380 x 240 x 260 mm
Weight	9 kg

★ Specifications are subject to change without notice.

LMIM-15



## Salient Features

- ✦ 3 different size Ice cubes  
Large, Medium and Small (Selectable)
- ✦ Add water - indicator & Power Indicator
- ✦ "Ice Full" indicator
- ✦ CFC free compressor
- ✦ Ice Basket & Scoop for easy ice cube removal
- ✦ Noiseless operation
- ✦ Automatic run and easy to use.
- ✦ Compact Design and low maintenance

## APPLICATION :

Hospitals, Educational Research Institutes & Biotechnology Laboratories



## Desktop Ice Maker

SPECIFICATIONS	Model	LMIM-15
	Make	LABMAN
	Capacity of Ice cube (kg per 24 hrs.)	15 kg
	Storage Capacity (kg)	2 kg
	Storage bin	ABS Plastic
	Cooling method	Air
	Ambient temperature	Below 25 °C for optimum working
	Water Supply	with bottled water
	Refrigerant	R134A
	Power supply	AC 220V / 50Hz
	Dimension LxWxH (mm)	300 × 365 × 375
	Input Power	180 W
	Weight	12.5 kg

★ Specifications are subject to change without notice.

Please use Ice maker with stabilizer for better result

## LMIF SERIES



### Ice Flaker

#### Salient Features

- Fully Automatic microprocessor control
- Stainless Steel construction
- Continuous Ice Flakes Output
- CFC free compressor
- Low water level Indication
- Overload protection
- Noiseless operation
- Compact Design and low maintenance

#### APPLICATION :

Hospitals, Educational Research Institutes & Biotechnology Laboratories

SPECIFICATIONS	MODEL	LMIF-30	LMIF-50	LMIF-100
	Make	LABMAN		
	Capacity of Ice flake (kg per 24 hrs.)	30 kg	50 kg	100 kg
	Storage Capacity (kg ~ app.)	5 kg	7 kg	15 kg
	Storage bin	ABS Plastic		
	Cooling Method	Air		
	Ambient temperature	Below 25 °C for optimum working		
	Construction	Stainless Steel		
	Noise level	52 dB		
	Water Supply	3 / 4 inch BSP		
	Refrigerant	R134A		
	Input Power	180W	280W	420W
	Power supply	AC 220V / 50Hz		
	Dimension LxWxH (mm)	300X493X547	380X543X722	548X611X883
	Gross Weight	36kg	45kg	64kg

★ Specifications are subject to change without notice.

Please use Ice Flaker with stabilizer for better result



PRO-SERIES



## Probe Sonicator with Sound Proof Enclosure

The Probe Sonicator is an ideal instrument to accelerate the chemical, biochemical and physico - chemical reactions as well as to accelerate the liquid degassing. This has various application such as Homogenization extraction, smash, emulsification, fluid suspension ,precipitation acceleration, crystallization and compounding of various biological specimens.

### Salient Features

- ◆ Sound Proof Enclosure to reduce cavitation sound ( Includes )
- ◆ Microprocessor controlled and completely programmable.
- ◆ Digital LCD display with Time setting .
- ◆ Temperature Indicator and controller.
- ◆ Auto-tuning for convenience and optimal processing efficiency.
- ◆ Variable Power Output control.
- ◆ Auto frequency chasing.
- ◆ Output amplitude 0-100% adjustment.
- ◆ Can be used to smash animal and plant cells.

SPECIFICATIONS	Model	PRO-250	PRO-500
	Make	LABMAN	
	Frequency	20 KHz	
	Power	250 W	500 W
	Probe Dia (Titanium Alloy) Standard	6mm (1/4")	9.5mm ( 3/8")
	Display	LCD	
	Temperature range( )	0-99	
	Timer (Selectable)	Yes	
	Overload Protection	Yes	
	Operation Programme	10	
	Power supply	AC 220V /50HZ	
	Dimensions LxWxH (mm)	490 x 370 x 280	
	Weight	10 kg + 5kg (Sound Proof Enclosure)	

★ Specifications are subject to change without notice.

Please use Probe Sonicator with stabilizer for better result

**Optional Probe :** 3mm(1/8") for PRO-250  
3mm(1/8") 6mm(1/4") for PRO-500



**LMDO-50**  
(Microprocessor based)



## Dissolved Oxygen Meter

### Salient Features

- ◆ 1 or 2 points auto-calibration (100% in saturated air or air-saturated water, 0% in zero oxygen solution).
- ◆ Automatically compensates salinity and barometric pressure after manual input.
- ◆ Selectable readout in ppm, mg/L or % saturation.
- ◆ Selectable temperature units between degrees Celsius (°C) and degrees Fahrenheit (°F).
- ◆ Automatic Temperature Compensation ensures high accuracy of measurements.
- ◆ Automatic endpoint function freezes the stable measured values for easy reading and recording data.
- ◆ Calibration due reminder prompts you to calibrate the meter regularly.
- ◆ Help message as an operational guide to helps you understand how to use meter.
- ◆ Setup menu lets user customize calibration points, resolution, stability condition of measurements, temperature units, date/time to meet personal preferences.
- ◆ Reset function allows user to returns all settings to the factory default values.
- ◆ Expand memory stores and recalls up to 500 readings.
- ◆ Built-in real-time clock stamps stored data to meets GLP standards.
- ◆ Stored data can be transferred into personal computer via USB communication interface

LMDO-50 is a professional bench top dissolved oxygen meter designed for laboratory applications. The meter is equipped with a polarographic sensor for measurement of dissolved oxygen concentration or % saturation in water

SPECIFICATIONS	Model	LMDO-50
	Make	LABMAN
	Dissolved Oxygen Range	0.00~20.00mg/L or ppm
	Resolution	0.1, 0.01 ppm, (Selectable)
	Dissolved Oxygen Accuracy	+ 0.2mg/L or ppm
	Saturation of Oxygen	0.0~200.0%
	Accuracy	± 2.0%
	Temperature Range	0.0~50.0°C
	Temperature Accuracy	± 0.5°C
	Temperature Compensation	0~50°C, Automatic
	Salinity Correction	0~50g/L
	Barometric Pressure Correction	60.0~112.5kPa, 450~850mmHg
	Calibration Points	1 or 2 points (100% in air or 0% in zero oxygen solution )
	Memory & Output	500 data sets with Date/Time stamping & USB Interface
	Power supply	DC 5V adapters, using AC 220V / 50Hz,
	Dimensions LxWxH (mm) & Weight	210 X 188 X 60 & 1.2 kg

★ Specifications are subject to change without notice.

**STANDARD ACCESSORIES** : Dissolved Oxygen Probe, Electrode Stand, 5V AC Adaptor & Instruction Manual.

LMMS-5LC



## Salient Features

- ◆ Digital LCD display with back light
- ◆ Big Size Ceramic hot plate with flame protection and durability
- ◆ Heating and stirring can proceed simultaneously.
- ◆ Temperature & Stirring speed is stepless adjusted.
- ◆ Real temperature & speed display on the screen simultaneously
- ◆ Two sensors, outside PT 100 sensor controls the liquid temperature, inside K type sensor control the hot plate temperature (selectable)
- ◆ Over temperature alarm

## STANDARD ACCESSORIES

Stir Bar, Temperature Probe, Stand, Instruction Manual

## Ceramic Hotplate Magnetic Stirrer

SPECIFICATIONS	MODEL	LMMS-5LC
	Make	LABMAN
	Display	Digital
	Speed (RPM)	100-1600
	Plate Size (mm)	190 x 190
	Top Plate Type	Ceramic
	Max. Volume (ml)	5000
	Temp. Controller	PID
	Max Temp. ( Plate Surface)	300°C
	Temp.resolution	0.1°C
	Temp. Accuracy	±0.5°C(<100°C)±1°C(<300°C)
	Power Wattage	600 W
	Power supply	AC 220V / 50Hz
	Dimension LxWxH (mm)	300 x 190 x 126
	Weight	5 kg

★ Specifications are subject to change without notice.

LMMS-300



## Hotplate Magnetic Stirrer

### Salient Features

#### ◆ MICROPROCESSOR CONTROL

The LMMS-300 hot plate magnetic stirrer is operated by a digital control CPU. The CPU regulates the heating up to 300 °C

#### ◆ DIGITAL SPEED CONTROL

Stirring speed is also controlled by the CPU from the keypad while the stirring speed is indicated on the bar graph.

#### ◆ PROGRAMABLE

Operator can setup the objective temperature, hold temperature, stirring time and speed.

#### ◆ AUTOMATIC TEMPERATURE CONTROL

Connect the temperature probe and place into glass container being stirred to measure and maintain the object temperature.

Accuracy is  $\pm 1$  °C.

#### ◆ STANDARD ACCESSORIES

Stir Bar, Temperature Probe, Instruction Manual

SPECIFICATIONS	MODEL	LMMS 300
	Make	LABMAN
	Display	LCD
	Max. Volume (ml)	2000 ml
	Speed (RPM)	1250 rpm
	Top Plate Size	135 x 135 mm
	Plate Material	Steel
	Max.Temp. (Plate Surface)	300°C
	Temp. Accuracy	$\pm 1^\circ\text{C}(<100^\circ\text{C}) \pm 3^\circ\text{C}(<300^\circ\text{C})$
	Timer	999 minutes
	Power supply	AC 220V / 50 Hz
	Dimensions LxWxH (mm)	230 x 180 x 120
	Weight	2.3 kg

★ Specifications are subject to change without notice.

pH Meter - 3 point Calibration

**LMPH-10**  
**Microprocessor**



## pH Meter 3 Point Calibration

**LMPH-10** is an easy-use benchtop pH meter designed for daily testing and controls are required. The meter has a clear and bright back light LCD display that show the measured value, mode indicators and help messages

### *Salient Features*

- Large backlit LCD display shows mode indicators and help messages.
- Up to 3 points push-button calibration with auto-buffer recognition.
- Selectable pH buffer standards and temperature units.
- Automatically calculates and displays electrode slope after calibration.
- Automatic Temperature Compensation (ATC) ensures highly accurate measurements over the entire range.
- Automatic endpoint function freezes the stable measured values
- Help message as a operational guide to helps you understand how to use meter.
- Setup menu lets user customizes buffer standards, calibration points, temperature units, automatic or manual hold function, auto-off feature to meet personal preferences.
- Reset function can resumes all settings to factory default values

## SPECIFICATIONS

### pH Meter - 3 point

	MODEL	LMPH-10
	Make	LABMAN
pH	Range	-2.00 to 16.00 pH
	pH Resolution	0.01 pH
	Accuracy	$\pm 0.01$ pH
	Calibration Points	up to 3 points
	pH Buffer options	USA (pH4.01/7.00/10.01) or NIST (pH4.01/6.86/9.18)
mV	mV Range	$\pm 1999$ mV
	Accuracy	$\pm 1$ mV
	Resolution	1mV
Temperature	Range	0 to 105°C
	Accuracy	$\pm 0.5^\circ\text{C}$
	Resolution	0.1°C
	Temperature Compensation	0~100°C, Manual / Automatic
General	Hold Function	Available
	Auto Off Function	Available
	Connector	BNC
	Display	LCD (135x 75mm)
	Power Requirements	DC9V, using AC adapters, 220VAC/50Hz
	Dimensions ( L x W x H)	210 x 205 x 75 mm
	Packing Box Size	300 x 250 x 175 mm
	Weight	1.5 kg

★ Specifications are subject to change without notice.



## Applications

- Water and wastewater treatment
- Research and education
- Environmental and agricultural monitoring
- Drinking water and cosmetics
- Other industrial applications

### STANDARD ACCESSORIES :

- pH Electrode, Liquid Calibration pH Buffer Bottle ( 4.01, 7.00 pH), Temperature Probe, Electrode Stand, 9V Power Adaptor, Instruction Manual

LMPH-12



## Benchtop pH/mV/°C Meter

LMPH-12 is a high precision pH meter with large backlit LCD display. The meter can displays many useful prompt messages to helps you quickly and easily measuring the samples.

### *Salient Features*

- ◆ During the pH mode, Up to 5 points push-button calibration with auto- buffer recognition.
- ◆ Selectable pH buffer standards and temperature units.
- ◆ Automatically calculates and displays electrode slope after calibration.
- ◆ Automatic Temp.Compensation (ATC) ensures highly accurate measurement over the entire range.
- ◆ Calibration due reminder prompts you to calibrate the meter regularly.
- ◆ During ORP mode, Single point offset calibration allows user adjusts displayed value to a known standard.
- ◆ Absolute or Relative millivolt (R.mV) measurement provides accurate ORP readings.
- ◆ Automatic endpoint function freezes the stable measured values for easy reading and recording data.
- ◆ Help message as an operational guide to helps you understand how to use meter.
- ◆ Setup menu lets user customizes buffer standards, calibration points, stability conditions, resolution, temperature units, date and time to meet measurement requirements.
- ◆ Reset function can resumes all settings to factory default values.
- ◆ Expanded memory stores and recalls up to 500 readings.
- ◆ Built-in real-time clock stamps stored data to meets GLP standards.
- ◆ Stored data can be transferred into computer via USB communication interface.

## *pH Meter - 5 Point Calibration*

<b>SPECIFICATIONS</b>	<b>Model</b>	<b>LMPH-12</b>
	<b>Make</b>	<b>LABMAN</b>
	<b>pH Range</b>	-2.000~20.000pH
	<b>pH Accuracy</b>	±0.002pH
	<b>pH Resolution</b>	0.001, 0.01, 0.1pH ( Selectable)
	<b>mV Range</b>	±1999mV
	<b>mV Accuracy</b>	±0.2mV
	<b>mV Resolution</b>	0.1, 1mV ( Selectable )
	<b>Calibration</b>	upto 5 points
	<b>pH Buffer Groups</b>	USA (pH1.68,4.01,7.00,10.01,12.45), NIST (pH1.68,4.01,6.86,9.18,12.45) DIN (pH1.09,4.65,6.79,9.23,12.7 OR User Define)
	<b>Calibration due reminder</b>	1 to 30 days or Off
	<b>Temp. Range</b>	0~105°C, 32~221°F
	<b>Temp. Accuracy</b>	±0.5°C, ±0.9°F
	<b>Temperature Compensation</b>	0~100°C, 32~212°F, Automatic or Manual
	<b>Auto-Off</b>	Manual or Automatic (10, 20, 30 minutes after last key pressed (Selectable)
	<b>Memory</b>	500 readings with date & time
	<b>Power Supply</b>	DC 5V adapters, using AC 220V / 50Hz,
	<b>Dimensions LxWxH (mm)</b>	210x188x60
	<b>Weight</b>	1.2kg

★ Software - Optional

### STANDARD ACCESSORIES :

- ✦ pH Meter
- ✦ pH Electrode,
- ✦ pH Buffers,(pH 4.01, 7.00, 10.01)
- ✦ Temperature Probe,
- ✦ Electrode Stand,
- ✦ 5V Power Adaptor
- ✦ Instruction Manual.



★ Specifications are subject to change without notice.



Conductivity / TDS Meter - 3 point

**LMCM-20**  
**Microprocessor**



## Conductivity / TDS Meter 3 Point Calibration

LMCM-20 is a Auto Ranging, microprocessor Conductivity TDS / meter for measurement of conductivity and Total Dissolved Solids of liquids.

The meter is widely used in environmental and ecological studies for monitoring the purity and concentration of liquids.

### *Salient Features*

- Multipoint push - button calibration allows user to use customized calibration solutions  
[Up to 3 points, Default 84uS, 1413uS, 12.88mS and 111.8mS]
- Auto - Ranging for conductivity and TDS measurements.
- Selectable TDS conversion factors and temperature units (°C or °F)
- Adjustable TDS factors, cell constants and temperature units.
- Automatic Temperature Compensation (ATC) ensures highly accurate measurements over the entire range.
- Automatic endpoint function freezes the stable measured values for easy reading and recording data.
- Help message as a operational guide to helps you understand how to use meter.
- Setup menu lets user customizes calibration points, temperature units, automatic or manual hold function, auto-off feature to meet personal preferences.
- Reset function allows user to returns all settings to the factory default values



## SPECIFICATIONS

## Conductivity / TDS meter

	<b>MODEL</b>	<b>LMCM-20</b>
	Make	LABMAN
<b>Conductivity</b>	Range	0~20.00, 200.0, 2000 $\mu$ S/cm, 20.00, 200.0mS/cm ( 5 auto ranges)
	Accuracy	$\pm 1\%$ F.S
	Resolution	0.01, 0.1, 1
	Calibration Points	up to 3 points
	Conductivity Buffer Option	10 $\mu$ S/cm, 84 $\mu$ S/cm, 1413 $\mu$ S/cm, 12.88mS/cm, 111.8mS/cm ( any three )
	Temperature Compensation	0~100°C, 32~212°F, Manual or Automatic
	Temperature Coefficient	0.0~10.0%/°C
	Cell Constant	K=0.1, 1, 10
	Normalization Temperature	25°C
<b>TDS</b>	Range	0~10ppt (Max. 200 ppt, depending on factor setting & conductivity range)
	Accuracy	$\pm 1\%$ F.S
	TDS Factor	0.1 to 1.0 (Default 0.5)
<b>Temperature</b>	Temperature Range	0 to 105°C
	Accuracy	$\pm 0.5^\circ\text{C}$
	Resolution	0.1°C
<b>General</b>	Hold Function	Available
	Auto Off Function	Available
	Connector	6-pin Mini Plug
	Display	LCD
	Power Requirements	DC9V, using AC adapters, 220VAC/50Hz
	Dimensions LxWxH	210 x 205 x 75mm
	Packing Box Size	300 x 250 x 175 mm
	Weight	1.5kg

★ Specifications are subject to change without notice.



## Applications

- ✦ Water and wastewater treatment
- ✦ Research and educations
- ✦ Environmental monitoring and aquaculture
- ✦ Printing and chemical industry

## STANDARD ACCESSORIES :

- ✦ Conductivity Cell (K=1), Calibration Solutions - 84.0  $\mu$ S/cm, 1413  $\mu$ S/cm, 12.88 mS/cm. Temperature Probe, Electrode Stand, 9V Power Adaptor, Instruction Manual

( 5 Point - Calibration for pH & Conductivity )

LMMP-30

pH  
ORP  
Conductivity  
TDS  
Salinity  
Resistivity  
°C



## Water Quality Multiparameter

### Salient Features

**PH MODE:** Up to 5 points push-button calibration with auto-buffer recognition. Selectable pH buffer standards, (USA, DIN, NIST, User-defined) resolution (0.1, 0.01, 0.001pH) temperature units (°C or °F) Automatically calculates and displays electrode slope that helps you decide whether to replace pH electrode. Calibration due reminder prompts you to calibrate the meter regularly.

**ORP MODE:** Absolute or Relative mV measurements provides accurate ORP measured value. 1 point offset calibration allows user adjusts displayed value to a known standard.

**CONDUCTIVITY/TDS/SALINITY/RESISTIVITY MODE:** Up to 5-point push-button calibration allows user to use customized calibration solutions. Default 10uS, 84uS, 1413uS, 12.88mS and 111.8mS) Adjustable TDS conversion factors, cell constants, temperature coefficients and normalization temperature. (20°C or 25°C) Allows user selects linear or pure water temperature compensation modes. In salinity measurement modes, selectable practical salinity (PSU) or seawater measurement standards. (ppt)

- ✦ Selectable either temperature units between degrees Celsius (°C) and degrees Fahrenheit (°F)
- ✦ Automatic Temperature Compensation (ATC) ensures high accuracy of measurements
- ✦ Automatic endpoint function freezes the stable measured values for easy reading and recording data.
- ✦ Help message as a operational guide to helps you understand how to use meter.
- ✦ Setup menu lets user customize the calibration points. stability conditions of measurement. temp. units and date/time to meet personal preference.
- ✦ Reset function allows user to returns all setting to the factory default values.
- ✦ Expanded memory stores and recalls upto 500 readings.
- ✦ Built-in real-time clock stamps stored data to meets GLP standards.
- ✦ Stored data can be transferred into personal computer via USB communication interface.

### STANDARD ACCESSORIES :

- ✦ pH Electrode
- ✦ Conductivity cell (1.0)
- ✦ pH buffers
- ✦ temperature probe
- ✦ Electrode Stand
- ✦ Power Adaptor
- ✦ Instruction Manual.

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SPECIFICATIONS	Model	LMMP-30
	pH Range	- 2 . 0 0 0 pH 2 0 . 0 0 0
	Resolution	0 . 0 0 1 , pH, Selectable 0 . 1
	Accuracy	± 0 pH 0 2
	Calibration Points	Up to 5 points
	pH Buffer Groups	USA, (pH1.68/4.01/7.00/10.01/12.45), NIST (pH1.68/4.01/6.86/9.18/12.45), DIN (pH1.09/4.65/6.79/9.23/12.75)
	ORP (mV) Range / Calibration	0 ~ ± 1 9 9 9 9 1 point
	Resolution	0 . 1 mV, Selectable
	Accuracy	± 0 mV 2
	Measuring Mode	Absolute mV or Relative mV
	Conductivity Range	0 ~ 2 0 mS/cm
	Resolution	0.01 / 0.1 / 1
	Accuracy	± 0 . 5 % Scale
	Cell Constant	0.1 / 1 / 10 / User defined
	Temperature Coefficient	0 . 0 ~ 1 0 0 °C 0 %
	Calibration Points	Up to 5 points
	Calibration Solutions	150cm, 84uS/cm, 1413uS/cm, 12.88mS/cm, 111.8mS/cm
	Compensation Modes	Linear or Pure Water
	TDS Range	0 ~ 2 0 0 0 Max.200 ppt, Depending on factor setting )
	Resolution	0.01 / 0.1 / 1
	Accuracy	± 1 % Full Scale
	TDS Factor	00~ 1 . 0
	Salinity Range	0 ~ 80ppt
	Resolution	0.01 / 0.1 / 1
	Accuracy	± 1 % Full Scale
	Measurement Mode	Practical Salinity (PSU) or Seawater Measurement Standard (ppt)
	Resistivity Range	0 ~ 1 0 0 0
	Resolution	1 / 0.1 / 0.01
	Accuracy	± 1 % Full Scale
	Temp. Range	0 ~ 1 0, 532~221°F
	Temp. Compensation	0 ~ 1, 0, 2~212°F, Automatic or Manual
	Temp. Accuracy	± 0.1, ± 0.5°F
	Auto-Off Function	10 / 20 / 30 minutes after last key pressed
	Reset & Auto Hold Function	Yes
	Electrode Diagnosis	Slope, Offset
	Stability Conditions	High or Low, Selectable
	Calibration due reminder	1 to 30 days, Selectable
	Memory	5 0 0 data sets with Date/Time
	Output & Connector	USB Communication Interface & BNC / 6-pin connector
	Dimensions (LxWxH)& Weight	2 1 × 188 × 60 mm & 1 kg

★ Specifications are subject to change without notice.

★ Software - Optional

( 5 Point - Calibration for pH & Ion )

LMION-40



## Benchtop ION/pH/mV/°C Meter

**LMION - 40** is a high accuracy meter, used for measuring the ION concentration, ORP and pH values of liquids. The meter widely used in environmental studies, chemical labs, swimming pools etc.

### Salient Features

- ✦ During the pH mode, Up to 5 points push-button calibration with auto-buffer recognition
- ✦ Selectable pH buffer standards and temperature units.
- ✦ Automatically calculates and displays electrode slope after calibration.
- ✦ During the ion mode, 2 to 5 points push-button calibration from low to high concentrations
- ✦ Direct readout ion concentration simplifies the elaborate measurement process.
- ✦ Automatic Temperature Compensation (ATC) ensures highly accurate measurements over the entire range.
- ✦ Automatic endpoint function freezes the stable measured values for easy reading and recording data.
- ✦ Calibration due reminder prompts you to calibrate the meter regularly.
- ✦ Help message as a operational guide to helps you understand how to use meter.
- ✦ Setup menu lets user customizes buffer standards, calibration points, stability conditions, resolution, measurement units, date and time to meet measurement requirements.
- ✦ Reset function can resumes all settings to factory default values.
- ✦ Built-in real-time clock stamps stored data to meets GLP standards.
- ✦ Stored data can be transferred into computer via USB communication interface.

**STANDARD ACCESSORIES :** pH Buffers, Temperature Probe, Electrode Stand, Power Adaptor Instruction Manual.

## SPECIFICATIONS

### *Ion / pH Meter - 5 Point Calibration*

pH	Model	LMION-40
	Make	LABMAN
	pH Range	-2.000 ~ 20.000pH
	pH Accuracy	±0.002pH
	Resolution	0.001,0.01,0.1pH ( Selectable )
Ion	Calibration Points	up to 5 points
	Ion Concentration Range	0.001~19999 ppm,mg/L,mol/L (Selectable Depending on meas. Range of Ion Selective Electrode)
	Ion Concentration Accuracy	±0.5% Full Scale ( Monovalent),±1% Full Scale (Divalent)
	Ion Resolution	0.001, 0.01, 0.1, 1
mV	Calibration Points	up to 5 points
	mV Range	±1999.9 mV
	mV Accuracy	±0.2mV
	Resolution	0.1/1mV, Selectable
Temperature	Calibration points	1 point (Only for Relative mV mode)
	Temperature Range	0~105°C, 32~221°F
	Accuracy	±0.5°C,±0.9°F
	Resolution	0.1°C,
Others	Calibration Points	Ion / pH : Up to 5 Points
	pH Buffer Groups	USA (pH1.68,4.01,7.00,10.01,12.45), NIST (pH1.68,4.01,6.86,9.18,12.45), DIN (pH1.09,4.65,6.79,9.23,12.7 OR User Define)
	Memory	500 data sets with Date/Time stamping,
	Output	USB Communication interface.
	Connector	BNC
	Hold Function	Selectable
	Temperature Compensation	0~100°C,32~212°F,
	Compensation Mode	Automatic or Manual
	Stability Conditions	Low or High, Selectable
	Calibration due Reminder	1 to 31 days or Off
	Power Supply	DC 5V adapters, using AC 220V / 50Hz,
	Dimensions LxWxH (mm)	210 × 188 × 60
	Weight	1.2kg

\* Software - Optional

★ Specifications are subject to change without notice.

## Ammonia Combination Electrode



### Ammonia

#### Application :

Sewage effluent, boiler water, fish tanks, Stack gases, sea water, biological samples, fertilizers,

Part No	ISE-17
Ion Type	Ammonia
Symbol	$\text{NH}_3^-$
Make	LABMAN
Refillable or Gel (Sealed)	Refillable
Concentration range	$10^{-1} \text{ M}$ to $5 \times 10^{-6} \text{ M}$
Limits (ppm)	1700 ppm to 0.1 ppm
pH Range	above 11
Temperature Range	5 to 45 °C
Electrode Resistance	less than 1000 megohms
Reproducibility	$\pm 2\%$
Membrane	Gas Sensing
Material	Plastic
Slope	-54 to -60 mV
Cable Length	Coaxial 1 meter
Connector	BNC
Main Interferences	Hydrazine, Amines
Dimension	F 12 x 165 mm
Accessories	Ammonia Standard Solution & ISAB ( 500ml each )

## Iodide Combination Electrode



### Iodide

#### Application :

Milk, Feeds, Plants and Pharmaceuticals

Part No	ISE-127
Ion Type	Iodide
Symbol	$\text{I}^-$
Make	LABMAN
Refillable or Gel (Sealed)	Sealed
Concentration range	$10^{-1} \text{ M}$ to $5 \times 10^{-7} \text{ M}$
Limits (ppm)	12700 ppm to 0.07 ppm
pH Range	2 - 12 pH
Temperature Range	5 - 60 °C
Electrode Resistance	less than 1000 megohms
Reproducibility	$\pm 2\%$
Membrane	Solid State
Material	Plastic
Slope	-54 to -60 mV
Cable Length	1 meter
Connector	BNC
Main Interferences	$\text{Hg}^{++}$ $\text{CN}^-$
Dimension	F 12 x 165 mm
Accessories	Iodide Standard Solution & ISAB ( 500 ml each )

## Sodium Combination Electrode



### Sodium

#### Application :

Steam condensate, meats, fish, dairy, fruit juices, fermentation, body fluids, ground/sea water, soils,

Part No	ISE-23
Ion Type	Sodium
Symbol	Na <sup>+</sup>
Make	LABMAN
Refillable or Gel (Sealed)	Sealed
Concentration range	10 <sup>-1</sup> M to 10 <sup>-6</sup> M
Limits (ppm)	2300ppm to 0.02ppm
pH Range	above 10
Temperature Range	5 to 60°C
Electrode Resistance	less than 1 megohms
Reproducibility	±2%
Membrane	Solid State
Material	Glass Electrode
Slope	+54 to +60mV
Cable Length	1 meter
Connector	BNC
Main Interferences	Li <sup>+</sup> , K <sup>+</sup>
Dimension	F 12x165 mm
Accessories	Sodium Standard Solution & ISAB (500ml each)

## Bromide Combination Electrode



### Bromide

#### Application :

Biological fluids, soil, plants roots, effluents,

Part No	ISE-80
Ion Type	Bromide
Symbol	Br <sup>-</sup>
Make	LABMAN
Refillable or Gel (Sealed)	Sealed
Concentration range	10 <sup>-1</sup> M to 5 x10 <sup>-6</sup> M
Limits (ppm)	7990 ppm to 0.4 ppm
pH Range	2 to 12 pH
Temperature Range	5 to 60 °C
Electrode Resistance	less than 1 megohms
Reproducibility	± 2%
Membrane	Solid State
Material	Plastic
Slope	-54 to -59 mV
Cable Length	1 meter
Connector	BNC
Main Interferences	I <sup>-</sup> , S <sup>2-</sup> , CN <sup>-</sup>
Dimension	F 12 x 165 mm
Accessories	Bromide Standard Solution & ISAB ( 500ml each )

## Chloride Combination Electrode



### Chloride

#### Application :

Water / waste water, soil, dairy meals, tomato, vegetable products

Part No	ISE-35
Ion Type	Chloride
Symbol	Cl <sup>-</sup>
Make	LABMAN
Refillable or Gel (Sealed)	Sealed
Concentration range	10 <sup>-1</sup> M to 5x10 <sup>-5</sup> M
Limits (ppm)	3550 ppm to 1.8 ppm
pH Range	2 to 12pH
Temperature Range	5 to 60 °C
Electrode Resistance	less than 1 megohms
Reproducibility	± 2%
Membrane	Solid State
Material	Plastic
Slope	-54 to -60 mV
Cable Length	1 meter
Connector	BNC
Main Interferences	I <sup>-</sup> , Br <sup>-</sup> , CN <sup>-</sup> , S <sup>2-</sup>
Dimension	F 12 x 165 mm
Accessories	Chloride Standard Solution & ISAB ( 500 ml each )

## Calcium Combination Electrode



### Calcium

#### Application :

Foods beverages, soil, pharmaceuticals explosives, fertilizers, plants.

Part No	ISE-40
Ion Type	Calcium
Symbol	Ca <sup>++</sup>
Make	LABMAN
Refillable or Gel (Sealed)	Sealed
Concentration range	10 <sup>-1</sup> M to 10 <sup>-5</sup> M
Limits (ppm)	4000 ppm to 0.4 ppm
pH Range	2.5 to 11 pH
Temperature Range	5 to 60 °C
Electrode Resistance	1 to 4 megohms
Reproducibility	± 4%
Membrane	PVC
Material	Plastic
Slope	+25 to +30 mV
Cable Length	1 meter
Connector	BNC
Main Interferences	Fe <sup>++</sup> , Pb <sup>++</sup> , Zn <sup>++</sup> , Mn <sup>++</sup>
Dimension	F 12 x 165 mm
Accessories	Calcium Standard Solution & ISAB ( 500ml each )

★ Specifications are subject to change without notice.



## Fluoride Combination Electrode



**Fluoride**

Use Plastic Containers only for analysis

**Application :**

Drinking Water, Wastewater and natural waters, stack gases, sea water, minerals, soils, foods, biological, fluids, toothpaste.

Part No	ISE-19
Ion Type	Fluoride
Symbol	F <sup>-</sup>
Make	LABMAN
Refillable or Gel (Sealed)	Sealed
Concentration range	10 <sup>-1</sup> M to 10 <sup>-6</sup> M
Limits (ppm)	1900 ppm to 0.02 ppm
pH Range	5 to 7 pH
Temperature Range	5 to 60 °C
Electrode Resistance	less than 1000 megohms
Reproducibility	± 2%
Membrane	Solid State
Material	Plastic
Slope	-54 to -60 mV
Cable Length	1 meter
Connector	BNC
Main Interferences	OH <sup>-</sup>
Dimension	F 12 x 165 mm
Accessories	Fluoride Standard Solution & TISAB ( 500ml each )

## Nitrate Combination Electrode



**Nitrate**

**Application :**

Pollution testing, foods, pharmaceuticals explosives, fertilizers, plants, meats, pickling baths

Part No.	ISE-62
Ion Type	Nitrate
Symbol	NO <sub>3</sub> <sup>-</sup>
Make	LABMAN
Refillable or Gel (Sealed)	Sealed
Concentration range	10 <sup>-1</sup> M to 10 <sup>-5</sup> M
Limits (ppm)	6200 ppm to 0.62 ppm
pH Range	2.5 to 11 pH
Temperature Range	5 to 60 °C
Electrode Resistance	1 to 4 megohms
Reproducibility	± 4%
Membrane	PVC
Material	Plastic
Slope	-54 to -60 mV
Cable Length	1 meter
Connector	BNC
Main Interferences	ClO <sub>4</sub> <sup>-</sup> , I <sup>-</sup> , BF <sub>4</sub> <sup>-</sup>
Dimension	F 12 x 165 mm
Accessories	Nitrate Standard Solution & ISAB ( 500 ml each )

## Silver Combination Electrode



### Silver

#### Application :

Sewage. effluent, soils, sediments, plating baths, pulping, liquors, photographic fixing solution

Part No	ISE-107
Ion Type	Silver
Symbol	Ag <sup>+</sup>
Make	LABMAN
Refillable or Gel (Sealed)	Sealed
Concentration range	10 <sup>-1</sup> M to 3x10 <sup>-7</sup> M
Limits (ppm)	10790 ppm to 0.03 ppm
pH Range	2 to 12pH
Temperature Range	5 to 60°C
Electrode Resistance	less than 1 megohms
Reproducibility	±2%
Membrane	Solid State
Material	Plastic
Slope	+54 to +60 mV
Cable Length	1 meter
Connector	BNC
Main Interferences	S <sup>2-</sup> , Hg <sup>++</sup>
Dimension	F 12 x 165 mm
Accessories	Silver Standard Solution & ISAB ( 500 ml each)

## Sulfide Combination Electrode



### Sulfide

#### Application :

Sewage. effluent, soils, sediments, plating baths, pulping, liquors, photographic fixing solution

Part No	ISE-32
Ion Type	Sulfide
Symbol	S <sup>2-</sup>
Make	LABMAN
Refillable or Gel (Sealed)	Sealed
Concentration range	10 <sup>-1</sup> M to 3x10 <sup>-7</sup> M
Limits (ppm)	3200 ppm to 0.01 ppm
pH Range	2 to 12 pH
Temperature Range	5 to 60 °C
Electrode Resistance	less than 1 megohms
Reproducibility	± 4%
Membrane	Solid State
Material	Plastic
Slope	-25 to -30 mV
Cable Length	1 meter
Connector	BNC
Main Interferences	Ag <sup>+</sup> Hg <sup>++</sup>
Dimension	F 12 x 165 mm
Accessories	Sulfide Standard Solution & ISAB ( 500 ml each )

\* Potassium (K<sup>+</sup>) ISEs also available. Model No. : ISE-39

★ Specifications are subject to change without notice.

LMTB-200



## Salient Features

- ◆ Turbidity meter with TSS measurement mode, selectable four turbidity units
- ◆ Turbidity meter is equipped with a 4.5" LCD display.
- ◆ 2 to 7 points calibration using the Formazin Standards.
- ◆ Selectable four turbidity units, including the NTU, FNU, EBC and ASBC.
- ◆ TSS conversion factor ensures accurate measurement for Total Suspended Solids.
- ◆ Continuous measurement mode that can be used for indexing and matching the sample vials.
- ◆ Hold function freezes current reading for easy viewing and recording.
- ◆ Password protection prevents the unauthorized calibration and settings.
- ◆ Help message as a operational guide that helps user quickly begin using the meter.
- ◆ System menu allows setting the 9 parameters, including the date and time, resolution, etc.
- ◆ Reset feature automatically resumes all settings back to factory default settings.
- ◆ Expanded memory stores and recalls up to 200 readings.
- ◆ Stored data can be transferred into computer by USB communication interface.

## Turbidity Meter

SPECIFICATIONS	Model	LMTB-200
	Make	LABMAN
	Measurement Method	nephelometric method (90°)
	Turbidity Range	0~2000 NTU/FNU, 0~500 EBC, 0~9999 ASBC
	TSS Range	Depends on conversion factor
	Resolution	0.01 (0~100 NTU), 0.1 (100~999 NTU), 1 (999~2000 NTU)
	Accuracy	±2% (0~500 NTU), ±3% (501~2000 NTU)
	Calibration	0.02, 10, 200, 500, 1000, 1500, 2000 NTU or User-Defined
	Light Source	Infrared-emitting diode (850 nm wavelength)
	Detector	Silicon Photodiode
	Stray Light & Sample Vials	< 0.02 NTU & 60(H) × 25(Dia)mm
	Operating Temperature	0~60°C
	Power Off & Reset Function	Manual or Automatic (2 hours after last key pressed) & Yes
	Memory & Output	Stores up to 200 data sets & USB Interface
	Power supply	DC 12V adapters, using AC 220V / 50Hz,
	Dimensions LxWxH (mm) & Weight	250 X 177 X 96 & 1.2 kg

★ Specifications are subject to change without notice.

**STANDARD ACCESSORIES :** Glass sample vials, Calibration Standards, Lint free cloth, Adaptor & Instruction Manual.

WENSAR range of  
**Weighing & Weights**



**Analytical Balance - Touchscreen**



**High Precision Balance**



**Moisture Analyzer - Touchscreen**



**Density Determination Kit**



**PGB 200**



**PGB 220**



**PGB 600**



**PGB 610**



**3000g / 0.01g**



**Platform Balance**



**Crane Scale**



**Crane Scale - Wireless**



**300g / 0.01g**



**6kg / 1g**



**Table Top Balance**



**20kg / 0.1g**

**E1  
E2  
F1**



**Standard Weights**



**Authorized  
Dealer & Distributor**