

## **DIGITAL PHOTO COLORIMETER**



#### DIGITAL PHOTO COLORIMETER WITH AUTO ZERO CALIBRATION (MODEL SL-EE-001)

STANDARD GLASS FILTER : 8(Wavelength range 400-700nm).

MINIMUM VOLUME : 1ml

DISPLAY : 3 Digit Bright Red 7 Segment LED Display

KEY BOARD : 1 key, Soft touch membrane type.

ABSORBANCE : 0 to 1.99.
RESOLUTION : 0.01.
ACCURACY : 0.5% FSI.

DETECTOR : Selenium Photo Cell/Photodiode. LIGHT SOURCE : 6.3V-0.3Amp. Tungsten Lamp.

POWER :  $230 \pm 10 \% 50 \text{ Hz AC}$ .

#### **MICROPROCESSOR PHOTO COLORIMETER (MODEL SL-EE-002)**

STANDARD GLASS FILTER : 8(Wavelength range 400-700nm).

MINIMUM VOLUME : 1ml

DISPLAY : 3.5 Digit Bright Red 7 Segment LED Display

% TRANSMITTANCE : 0-100%.
ABSORBANCE : 0-1.99.
CONSENTRATION : 0-999.

RESOLUTION KEY BOARD : 1% T, 0.01 Abs, 1 Conc., 0.01K factor.

KEY BOARD : 5 key, Soft touch membrane type.

AUTO ZEROING : Available (for Abs) and 100% for % T.

LIGHT SOURCE : 6.3V-0.3Amp., Tungsten Lamp.

POWER :  $230 \pm 10\% 50 \text{ Hz AC}$ .

MEMORY : Facility for storage of 3 standard concentrations.



### DIGITAL SPECTROPHOTOMETER



# DIGITAL SPECTROPHOTOMETER (MODEL SL-EE-003) WAVELENGTH

Range : 340 to 990 nm

Accuracy : + 1 nm

Read out : 31/2 digit LED, 1 nm step

Bandwidth : 5.0 nm

**PHOTOMETRIC** 

Range : 0 to 1.999 Abs Grating : 600 lines /mm

Source : Tungsten Halogen Lamp 12V,

50w

Detector : Silicon Photo diode Measuring Mode: % T, ABS, CONC, K

K factor Range : 0.0 to 9999 Concentration range : 0 to Double ABS

## DIGITAL SPECTROPHOTOMETER (MODEL SL-EE-004)

**WAVELENGTH** 

Range : 340 to 960 nm

Accuracy : + 1 nm

Read out : 5 nm step, Dial

Bandwidth : 5.0 nm

**PHOTOMETRIC** 

Range : 0 to 1.999 Abs Grating : 600 lines /mm

Source : Tungsten Halogen Lamp 12 V,

50 w

Detector : Silicon Photo diode Measuring Mode: % T, ABS, CONC, K

K factor Range : 0.0 to 9999 Concentration range : 0 to Double ABS

#### DIGITAL SPECTROPHOTOMETER (DOUBLE DISPLAY) (MODEL SL-EE-005)

STANDARD GLASS FILTER : 8(Wavelength range 400-700nm).

MINIMUM VOLUME : 1ml

DISPLAY : 3 Digit Bright Red 7 Segment LED Display

KEY BOARD : 1 key, Soft touch membrane type.

ABSORBANCE : 0 to 1.99.
RESOLUTION : 0.01.
ACCURACY : 0.5% FSI.

DETECTOR : Selenium Photo Cell/Photodiode.

LIGHT SOURCE : 6.3V-0.3Amp. Tungsten Lamp.

POWER :  $230 \pm 10 \% 50 \text{ Hz AC}$ .



### **DIGITAL PH METER**



## DIGITAL PH METER (MODEL SL-EE-006) SPECIFICATIONS

PH Range : 0 To 14 PH MV Range : 0 To +1999 MV

Resolution : 0.01 PH, In PH Range 1 Mv In

MV Range

Repeatability : 0.01 PH 1 Digit 1 MV 1 Digit

Standardization Range: Min. 2 PH.
Temp Compensation: 0 - 1000c
Display: 3½ Digits LED
Power: 230v 10%, 50 Hz

## DIGITAL PH METER (MODEL SL-EE-007) SPECIFICATIONS

PH Range : 0 To 14 PH MV Range : 0 To +1999 MV

Resolution : 0.01 PH, In PH Range 1 Mv In

MV Range

Repeatability : 0.01 PH 1 Digit 1 MV 1 Digit

Standardization Range: Min. 2 PH.

Temp Compensation: 0 - 1000c Manual And

Automatic Compensation With

(PT 100)

Display : 3½ Digits LED
Power : 230v 10%, 50 Hz

#### **MICROPROCESSOR PH MODEL (MODEL SL-EE-008)**

DISPLAY : 16 X 2 Alpha Numeric LCD Display.

RANGE : pH : 0 To 14.00 mV : 0 +/- 1999.9.

RESOLUTION : 0.01 pH, 0.01 mV, Temp. 0.01UC.

ACCURACY :  $\pm$  0.01 pH,  $\pm$ . 1mV, Temp.  $\pm$  1UC. (Auto/Manual)

TEMPERATURE COMPENSATION : 0 to 100UC

CALIBRATION : Auto / Manual.

STORAGE : Up to 100 Samples.

POWER : 230V ± 10%, 50 Hz AC

AUTO BUFFER RECOGNIITION : Auto 4.00, 7..00, 9.20pH.



### **CONDUCTIVITY METER**



#### MICROPROCESSOR CONDUCTIVITY / TDS / TEMP. (MODEL SL-EE-009)

DISPLAY : 16 X 2 Alpha Numeric LCD Display RANGE : 0.1 µS to 100mS (6 Decadic Ranges)

RESOLUTION :  $0.01 \mu S$ .

CELL CONSTANT : 0.1 To 5.0 Adjustable. SENSOR : Up to 100 Samples. POWER :  $230V \pm 50$  Hz. AC.

#### **DELUXE DIGITAL CONDUCTIVITY METER (MODEL SL-EE-010)**

DISPLAY : 3.5 Digit LED.

RANGE : 5 Ranges, 0 to 1000Mhos / cm.

ACCURACY :  $\pm 1\%$  of F.S.  $\pm 1$  Digit.

TEMPERATURE COMPENSATION : Auto / Manual 0 To 50 deg. C

CELL CONSTANT : Adjustable.

SENSOR : Conductivity Cell.

POWER : 230V ± 50 Hz AC.

#### **DIGITAL CONDUCTIVITY METER (MODEL SL-EE-011)**

DISPLAY : 3.5 Digit LED.

RANGE : 5 Ranges, 0 to 1000Mhos / cm.

ACCURACY :  $\pm$  1% of F.S.  $\pm$  1 Digit. TEMPERATURE COMPENSATION : Manual 0 To 50 deg. C

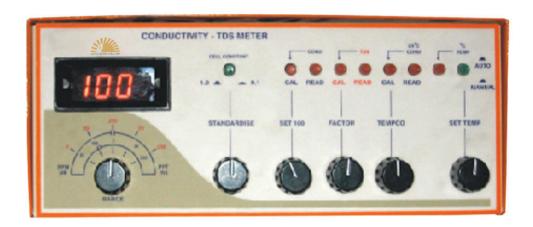
CELL CONSTANT : Adjustable.

SENSOR : Conductivity Cell.

POWER : 230V ± 50 Hz AC.



### **CONDUCTIVITY -TDS METER**



## CONDUCTIVITY -TDS METER (MODEL SL-EE-012) SPECIFICATIONS

Range

Conductivity :  $2\mu s$  To 200mS With 0.1 `Cell Constant And 20 $\mu s$  To 200mS With

Unity Cell Constant in 5 Decade Range

TDS : 2 PPM To 2 PPT With 0.1 Cell Constant And 20 PPM To 200 PPT With

Unity Cell Constant, in 5 Decade Range

Temperature : 0 °c To 100°c

Resolution

Conductivity : 0.01 In Lowest Range With 0.1 Cell Constant

TDS : 0.01 Ppm With 0.1 Cell Constant;

Temperature : 1 °c.

Accuracy

Conductivity/TDS : +1 % Of F.s. +1 Count.

Temperature :  $+ 1 \,^{\circ}$ C.

**Cell Compensation** 

0.1 Conductivity Cell:0.09 To .11 Cell Constant1 Conductivity Cell:0.9 To 1.1 Cell Constant

TDS Factor : 0.20 To 1.00 Conductivity Tempco Range : 0 To 3.0 % Per °c

Cond. Compentation

Temperature Range : 0 To 55 °c

Power Requirement : 230 Volt + Or 10 %,50 Hz
Display : 2½ Digit Digital Panel Meter



## **DIGITAL WATER & SOIL TESTING KIT**



**DIGITAL WATER & SOIL TESTING KIT (MODEL SL-EE-013)** 

**DISPLAY** 3.5 Digit LED PH: **RANGE** pH 0 TO 14.00

> **RESOLUTION** 10.0 Ha

**ACCURACY** pH  $0.01 \pm 1$  Digit TEMP. COMP. 0 to 100 Deg. C.

ORP: **RANGE**  $0 \text{ to } \pm 1999 \text{mV}$ 

> **RESOLUTION** 1mV.

**ACCURACY** 1mV ± Digit.

**CONDUCTIVITY: RANGE** 0 to 200M Mhos / Cm in 4 ranges.

> **RESOLUTION**  $0.1 \mu$  Mhos / Cm

ACCURACY 0.5% of Range ± 1Dight **CELL CONSTANT** 0.4 to 1.5 on Display

TDS: 0 to 200M Mhos / Cm in 4 ranges. **RANGE** 

> **RESOLUTION** 0.1 ppm

**ACCURACY** 0.5% of Range ± 1Dight **CELL CONSTANT** 0.4 to 1.5 on Display

DO: **RANGE** 0 to 20ppm **RESOLUTION** 0.1 ppm.

ACCURACY  $0.2ppm \pm 1 Digit$ 

5 deg C to 55 deg C. TEMP. COMP.

**SENSOR** Gold / Sliver Amperometric Probe.

**TEMPERATURE: RANGE** 0 to 100Deg.C

> 0.1 Deg.C. **RESOLUTION**

**ACCURACY**  $\pm$  0.2% of range  $\pm$  1 digit.



### **DIGITAL TURBIDITY METER**



#### **DIGITAL TURBIDITY METER (MODEL SL-EE-014)**

DISPLAY : 3.5 Digital LED. POWER :  $230v \pm 10\%$  50 Hz. RANGE : 0 to 200 NTU.

RESOLUTION : 1 NTU.

ACCURACY :  $\pm 2\%$  FS  $\pm 1$  Digit.

SAMPLE SYSTEM : 30mm Clear Glass Test Tubes.

LIGHT SOURCE : 6V-1Amp. Tungsten Lamp.

DETECTOR : Photocell / Photodiode.

#### **DIGITAL TURBIDITY METER (MODEL SL-EE-015)**

TURBIDITY RANGE : 0 -1 NTU, 0-10 NTU,

0-100 NTU, 0-1000 NTU

ACCURACY : UP To±3%,
DETECTOR : PHOTO DIODE
BULB : 6 V , 6 W

DISPLAY : 3 ½ DIGIT PANEL METER POWER : 220 volts, 50 Hz AC ACCESSORIES : 1) TEST TUBE 4 NOS

CESSORIES . I) TEST TODE 4 INC

2) CELL RISER3) LIGHT SHIEL D

4) INSTRUCTION M



### **DIGITAL DISSOLVED OXYGEN**



#### DIGITAL DISSOLVED OXYGEN ANALYZER CUM TEMP. METER (MODEL SL-EE-016)

RANGE : 0 to 20.0ppm RESOLUTION : 0.1 ppm ACCURACY :  $\pm$  0.2ppm

TEMPERATURE COMP. : Oto 50 deg. C. Manual.

DISPLAY : 3.5 Digit LED STIRRER : Provided.

POWER :  $230V \pm 10\% 50 \text{ Hz}$ 

SENSOR : DO Amperometric Gold / Sliver Temp. RTD (PT-100)

TIME RESPONSE : 10 Sec

#### **DIGITAL DISSOLVED OXYGEN METER (MODEL SL-EE-017)**

DISPLAY : 3.5 Digit LED

RANGE : 0 to 20.0ppm.

RESOLUTION : 0.1 ppm.

ACCURACY : ± 0.2ppm

TEMPERATURE COMP. : 0 to 50 deg. C.

SENSOR : DO Amperometric Gold / Sliver

TIME RESPONSE : 10 Sec.

POWER :  $230V \pm 10\% 50 \text{ Hz AC}$ 



### **BOD INCUBATOR**

#### **BOD INCUBATOR (MODEL SL-EE-018)**

#### **FEATURES OF THE PRODUCTS:**

- 1. Refrigerated Insulation & Freezing in one unit.
- 2. Better mineral & Puf Insulated to keep the surface Temp. of body comfortable & avoid Cooling loss.
- 3. Silent energy saving Kirloskar/ Tecumseh compressor, Designed to circulate uniform air through out the chamber with better imported coil condenser copper coil, improved Temperature distribution
- 4. Polish 304 grade S. Steel interior corrosion resistant long life operation having adjustable shelves to make more space for different Height.
- 5. Kanthal A-1 tubular heater is fitted for better accuracy.
- 6. Safety Controller are provide with the Digital Temperature Controller Cum Indicator
- 7. Full features with Digital Temp. Controller Cum Indicator & Microprocessor Based PID Temperature Controller Cum Indicator with Voltmeter (Optional: Digital Voltmeter)
- 8. Choose among the model with window front glass door or inner Perspex / Acrylic sheet full view door to observe the Test Process inside the incubator as desired while keep Temp. uninterrupted.
- 9. Angle Iron Frame at bottom with castor wheel for easy movement.
- 10. Fitted with 2 Nos. Fan (One for Cooling & One for Heating inside the chamber)



#### **INDUSTRIAL APPLICATIONS:**

Incubation for BOD & COD Determination, Storage for BOD Samples, General Incubation at 37°C Vaccine keeping, fermentation study stability Test.

Model	(SL-EE-018)	(SL-EE-018A)	(SL-EE-018B)	(SL-EE-018C)
Capacity (Ltrs.)	112	171	280	336
Interior (mm)	455 x 610 x 410 .	505 x 830 x 415	570 x 875 x 550 .	900x650x500
	4 Cuft	6 Cuft	10 Cuft	12 Cuft
Heater Wattage "W"	250 W	250 W	250 W	500 W
Shelves	2	3	3	3

#### **TECHNICAL SPECIFICATIONS:**

Material : CRC / Mild Steel duly power Coated
 Optional : Double Colour Gate, Top & Grill
 Power Consumption : 220/ 230V AC supply +- 10% 50Hz.

**Safety Function**: Safety Controller for Safety of Digital Temp.Controller cum Indicator & Cooling Compressor

Optional : RSS 232 Communication Interface

**Compressor**: Kirloskar/ Tecumseh Model as per size requirement

**Refrigerant** : R 134 **Duty Cycle** : Continuous

Interior : illumination provide inside the chamberOptional : Illumination of 3 Fluorescent tube

2Ft. for 4, 6, 10, 12 Cuft. BOD, 24 Hrs. Cyclic Manual Timer Voltage Stabilizer, Capacity as per size / Cap. requirement.



### AIRBORNE PARTICLE COUNTER



### AIRBORNE PARTICLE COUNTER (MODEL SL-EE-019)

#### **FUNCTIONS:**

- 1. Eight particle-size channels (0.3, 0.5, 0.7, 1.0, 2.0, 5.0, 7.0, 10µm) 9-digit LED display (7 digitals for data display)
- 2. Count data is displayed as cumulative or differential count for each particle-size channel
- 3. Temperature and humidity display (optional)
- 4. RS-232 communication interface
- 5. Date and clock display
- 6. 95%UCL calculation
- 7. Built-in printer, multi-print mode
- 8. Data storage 200 samples

#### **SPECIFICATIONS:**

Maximum particle concentration :35,000/L
 Sensitivity :0.3μm
 Sample flow rate :1.0cfm

4. Sample period :1 minute to 10 minutes

5. Sample times :1 to 10 times 6. Purge time :<20min

7. Measure mode :manual or auto

a) Manual mode :measurement starts and stops manually, particle counter display or

printout data without storage

b) Auto mode :measurement starts manually and then particle counter operate in

accordance with the parameters you have set; data will be stored and

calculate.

8. Print mode :all mode or 209E mode

a) All mode :particle counter print the original data
b) 95% UCL mode :particle counter print the data calculated

9. Dimension :340 x 140 x 370mm

10. Weight :10kg

11. Power supply :AC 220V, 50Hz±5%

12. Power rating :40W



### **HANDY SAMPLER**



## HANDY SAMPLER (MODEL SL-EE-020) INTRODUCTION

The increasing general awareness of atmospheric pollution and its hazards to the health and well-being of industrial workers is bound to result in greater stress on accurate, reliable and frequent assessment of work place pollution and worker-exposure.

#### **SPECIAL FEATURES**

- -Battery operated pump runs for a full shift of 8 hrs.
- -Rechargeable, Maintenance free Battery.
- -Provision for the system to operate off the mains also.
- -Digital Timer to facilitate unattended operation.

Suction Pump Built-in Rotary vane type.

Flow Rate 0 – 3 LPM

Timer 3 digit display in minutes

Running Time 1 – 999 Min.

Delay Time 1 – 99 Min.

Power Supply 230+/-10V AC, 50Hz with Battery charger and Rechargeable Batteries (2AH).

Operation Time 10 hours with full charge, with sampling rate of 1 LPM.

Charge 15 hours or less

Sampling Train Consisting of 2 nos., 35 ml glass impinges kept in ice tray connected with inert Silicone tubing.



### HANDHELD PARTICLE COUNTER

#### **HANDHELD PARTICLE COUNTER (MODEL SL-EE-021)**

It's handheld, ergonomically designed and lightweight. The airborne particles in six different size ranges simultaneously. Count data is displayed on screen (320 x 240 pixels, high resolution) as total number of particles (cumulative count). Data can be easily downloaded to computer, or print out by an optional printer. Now it is easy to carry a particle counter right to the point of interest and obtain accurate results-results you can immediately print or store to computer. The large LCD display lets you see the data easily and err-free.

#### **FEATURES:**

- 1. 0.1 CFM(2.83 LPM) flow rate
- 2. Six Particle-Size Channels(0.3,0.5,1.0,2.0,3.0,5.0um)
- 3. 320 x 240 pixels LCD display
- 4. Rechargeable Li-ion Battery
- 5. Internal Audible Alaram
- 6. 95% UCL Calculation
- 7. Large Memory for Storing data(1000 samples)
- 8. Data Easily Loaded to Computer
- 9. Lightweight(0.6kg)



#### **TECHNICAL SPECIFICATION:**

Channel Thresholds : 6 channels: 0.3,0.5,1.0,3.0,5.0um

Flow Rate : 0.1ft<sup>3</sup>/min(2.83L/min)

Light Source : Laser Diode
Calibration Particles : SIMT Certification
Max. Concentration : 2,000,000/ft^3
Zero Count : <1 per 5 min

Counting Efficiency : 50% @0.3um,100%@0.5um

Communication Modes : RS232 via DB9 Communication Protocol : 9600bps baud Rate

User interface & Display : 320 x 240 Pixels high resolution LCD Data Display modes : Count, Count/ m^3, Counts/ ft^3

Sampling modes : Manual repeated, Auto for UCL calculation(calculation for all 6 channels)

ISO Certification :ISO 5-8 @0.5 and5.0um

Error Messages(Real time) :Exceeds alarm limits, battery status indication

External Software :Easy upload to PC
Data Storage :1000 samples

Data Security :Cannot Edit Stored Data, Cannot delete individual records

External Surface :ABS(plastic resin)
Dimensions(w,h,d) :23 x 13 x 4.5(cm)

Weight :0.6kg

Power :AC Adapter:100240 VAC; 50/60Hz

Batteries :3.7V Li-on Rechargeable battery, 4800mAH

Operating time on Battery : More than 5 hr for sampling

Battery Recharging :External charger

Operating Temperature :10-35°C
Operating Humidity :0.85%



## HIGH VOLUME SAMPLER



## HIGH VOLUME SAMPLER (MODEL SL-EE-022) INTRODUCTION

Suspended Particles upto 100 microns have emerged as the most critical among all the criteria air pollutants & is caused by number of sources like:

- -Large, medium & small-scale industries
- -Road dust construction activities, house hold fuel cooking, waste burning, vehicular emissions etc.

In order to control the pollution, it is necessary to periodically monitor the air to determine the extent of pollution and to identify the source of emission is designed to meet these needs. This model confirm to guidelines of Central Pollution Control Board.

#### **PRINCIPLE**

The high volume air sampler collects suspended particulates on large filter paper. The name high volume is appropriate because the sampling flow rate has a high level of 20 to 60 standard cubic feet per minute (SCFM). Because of the high flow rate, large quantities of particles ranging from 0.1 to 1 gram are collected over a typical 24-hour sampling period. This facilitates gravimetric and chemical analysis and is the advantage high volume samplers have over other air sampling methods.

#### **SPECIAL FEATURES**

- Brushless Blower. Low running cost. Low noise operation.
- Controlled flow. Light Weight & Small in Size. Drain plug for manometer.

#### **TECHNICAL SPECIFICATION**

Flow rate :0.8 to 1.8 m3/min

Particle Size :Down to 1.6 micron depending upon Filter used Blower :Continuous duty blower with brushless motor

Recommended filter :GF/A (8" X 10") for common use, EPM 2000 for Special Research or equivalent

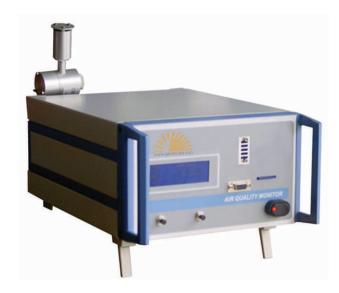
Time Record :0 to 99999.99 hrs. Time totalizer records the running time in hours

Timer :24 Hr programmable timer, number of required intervals can be programmed

Power requirement :220 Volts, Single phase AC



## **INDOOR AIR QUALITY MONITOR**



## INDOOR AIR QUALITY MONITOR (MODEL SL-EE-023) SPECIAL FEATURES

- •Cost-Effective CO2 monitors made with IR-SOC technology.
- •NDIR technology to Improve the long term Stability.
- •The Alarm mode will sound at 1000PPM or adjust Alarm level
- Several Modes for adjusting the setting parameters.
- Portable accurate handheld CO2 Monitor.

**Specifications:** 

Method :NDIR
Display :LCD

Independent CO2 and Temperature Readings Calculates

Displays Ventilation Rates

Sample Method- Diffusion or flow through (50

200ml/min)

#### Performance -CO2 Channel

Α

Measurement Range Resolution 0-3000ppm

1ppm at 0-1000ppm 5ppm at 0-2000ppm 10ppm at 0-3000ppm В

0-10000ppm

1ppm at 0-1000ppm

5ppm at 1001-2000ppm

10ppm at 2001-4000ppm

20ppm at 4001-6000ppm

40ppm at 6001-10,000ppm

Accuracy: ±50ppm or ±5% of Reading

Repeatability: ±20ppm

**Temperature Dependence:** ±0.1% of Reading per °C or ±2ppm per °CWhichever is greater, referenced to 25°C

Pressure Dependence: 0.13% of Reading per mm Hg

(Corrected via user input for attitude)

**Response Time :**< 2min for 63% of Step Change

Warm-up time: <60 Seconds at 22°C

**Response time:** < 2min for 63% of Step Change

**Performance – Temperature Channel** 

**Temperature Range:** Display 32 to 122 °F (0 to 50 °C)

**Display resolution:** 0.1°F (0.1°C)

Display Options: °C/°F or Off . Set up with Up/Down

button

Accuracy: ±2°F (±0.1°F)

**Response Time:** 20-30 minutes **Calibration Interval:** 12 Months

#### **Outputs**

**OC-** Normally Low, 100mA max.@24 VDC. Adjustable set point Factory setting is 1000 ppm, One RJ-45 Connector Digital output in R11 protocal, One graphing Software ZyAura view (Under Developing)

#### **Power Supply**

Two Power Supply types

Battery type: Alkaline, AA \* 4 (80 Hours) External: 6 VDC from External AC/DC adapter

Which included in package (Use specified AC adapter

only)

Power Requirement

160mA Peak, 15mA average from 6V

#### **General Operating Conditions**

Operating Temperature: 32-122 °F (0-50 °C), 0-95%

RH, non-condensing.

Storage Temperature: -4 to 140°F (-20 to 60°C)



## **FLUE GAS ANALYZER**



#### **FLUE GAS ANALYZER (MODEL SL-EE-024)**

Stack Gas Analyzing System that can be configured for 1 gas to 8 gas analysis. Add-on modules make it flexible and adaptable to any process conditions. Also it offers various detection methods like NDIR, electrochemical, paramagnetic and ZrO2 technology. 7000 UNIVERSAL can simultaneously ensure up to eight gas components.:

#### **ANALYZER FEATURES:**

- Up to 8 gas species
- Volumetric measurement in terms of mg/m3, ppm and vol%
- Double stage sample gas cooler
- Full range of outputs & alarms
- Fully automated sample conditioning Unit
- •Modular system, can increase gas species from min one up to max eight
- **TECHNOLOGY INVOLVED:**
- High resolution NDIR technology for IR absorption gases such as CO, CO2, CH4, SO2, NO
- Options of zirconium oxide analyzer, paramagnetic analyzer or fuel cell for oxygen
- Accurate electrochemical sensors for CO, CO2, NO, NO2, SO2, HCL and H2S
- Other gases on request
- TYPICAL APPLICATIONS
- Hazardous waste incinerators
- Municipal waste incinerators
- Biomedical waste and sludge incinerators
- Combustion analysis

- DeNOx and DeSOx of power plants
- Brick, tiles and glass manufacturing
- Solvent recovery and destruction

- Correction to O reference values 2
- Continuous monitoring
- Data logging via pc software package

- Cement kilns
- Steel and aluminum smelters
- Gasification and paralysis processes



### RESPIRABLE DUST SAMPLER



## RESPIRABLE DUST SAMPLER (MODEL SL-EE-025) SPECIAL FEATURES

- •Low noise operations
- Brushless Blower
- Portable for Easy Transportation
- Controlled Flow
- •SPM of Particle Size less than 100 microns
- ●RSPM of Particle size Less than 10 microns

#### **PRINCIPLES:**

Suspended Particles in the air are sampled at constant rate of 0.9 to 1.3 m3/min through the inlet of cyclone. By virtue of their momentum, particles greater than 10 microns are carried vertically upwards by the air flow and collected on a filter paper of 8 x 10 inch.

#### **TECHNICAL SPECIFICATION:**

Flow Rate :0.8 to 1.5 m3/min

Particle Size :Up to 10 micron collected on filter and SPM bigger than 10 micron collected in a

separate collector cup

**Blower** :Continuous duty blower with Brushless blower

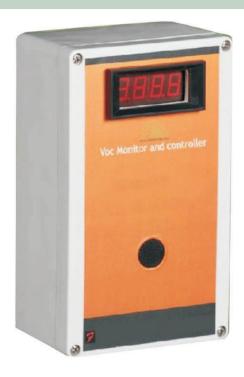
**Recommended Filter** :GF/A(8" x 10") for common use, EPM 2000 for special Research or Equivalent

**Time Record** :0 to 9999.99 hrs. Time Totalizer records the running time in hours

**Timer** :24 hr Programmable timer **Power Requirement** :220 Volts, Single Phase AC



### **VOC MONITOR AND CONTROLLER**



#### **VOC MONITOR AND CONTROLLER (MODEL SL-EE-026) FEATURES:**

- 1. The LabTek VOC Monitor gas sensor module provides state of the art gas measurement in a flexible cost effective package.
- 2. Each module is ready to use with multipoint calibration
- 3. Outputs include analog voltage, relay and status
- 4. With optional RS232, RS485 and LED (blue) or LCD displays.
- 5. Recommended applications include:
- Perchloroethylene monitoring for dry cleaning machines.
- HVAC
- Ozone generator control
- Food and beverage
- Sanitation
- Refrigeration

**SPECIFICATION:** 

**Sensor Type** 

Sensor

0-5V out scale

**LDL** 

**Accuracy** 

Resolution

**Response Time (T90)** Sampling Method

**Operating Temp** 

**Relative Humidity Operational mode** 

Warm up time

**Display** 

Relay set point

**Digital output** 

**Analog output** 

Relay output (no internal alarm)

Alarm option (no relay output)

**Power supply** 

**Enclosure rating** 

LxWxH

Weight

**Approvals** 

: Analytic GSS Technology Gas Sensitive Technology

: VOC 0-500 ppm

: 0 - 500

: 1 ppm

 $\pm 10 \text{ ppm } 0 - 200 \text{ ppm } \pm 10\% 200 - 500 \text{ ppm}$ 

:1 ppm

:< 60 s

:Fan

: -0°C to 40°C

:5 to 95% (non-condensing)

:Continuous control or Alarm

:10 minutes (max. Accuracy)

:3.5 digit LED

:User configurable

:RS232

:0 - 5 VDC (8 bit)

:24 V; 5A (max.)

:Internal piezo 85 db @ 30cm

:12 VDC; 800 mA; Plug - in AC power adaptor

:IP20 & NEMA 1 equivalent

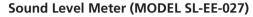
:200 x 120 x 85 (mm)

:700 gms

: Part 15 of FCC Rules EN 61000 -6-3: 2001



### **SOUND LEVEL METERS**



The Sound Level Meter is used to measure sound level in decibels (dB). An output port on the meter records sound level data. A switch on the meter is used to select DBA or DBC weighting. The Sound Level Meter also has an LCD panel, which allows you to use it as a stand-alone device. A dB range switch and a response switch provide flexibility in the standalone mode.



#### SPECIFICATION:

**1. Accuracy** :+/- 1.5 dB (under reference conditions)

**2. Frequency range** :31.5 Hz to 8.5 KHz

**3. Linearity range** :50 dB

**4. Measuring level** :30-130dBA, 35-130dBC

5. Frequency weighting6. Digital display7. digits8. digits9. 1dB9. Display9. 5 secretary

**7. Bar graph** :50dB scale at 1dB step for monitoring current sound pressure level display period: 50mS

8. Level range :30-80 dB, 50-100 dB, 60-110 dB, 80-130 dB
9. Over indicate over range :Under indicate less then lower limit of the range :0.707 Vrms at FS output impedance approx 600T
11. PG authorit
12. Over V/dB authorit impedance approx 100T

**11. DC output** :10mV/dB output impedance approx 100T

**12. Time waiting** :Fast/Slow

**13. Microphone** :½ inch Electret Condenser microphone

**14. Max** :Maximum hold

**15. Power supply** :4\*AA 1.5V alkaline cells or DC 6V 100(Maximum) hold

**16. Self calibration time** :10 sec (every turn on)

17. Operating temperature :0°C to 40°C

Operating humidity :10% to 80%RH

18. Storage temperature :-10°C to 60°C

Storage humidity :10% to 70%RH

19. Dimension :265(L)\*72(W)\*35(H)mm

**20. Weight** :300g (including batteries)

**21. USB & Data Storage**May record directly 43690 noise data (special user may expand to 131070). May connect with PC through USB, have functions of data record downloading, real

time data sampling analysis & printing graph & data etc.



### STACK SAMPLER



#### STACK SAMPLER (MODEL SL-EE-028)

#### **SPECIAL FEATURES:**

- Specially designed to monitor PM & Gaseous pollutants from stack/ chimney emissions.
- Collection based on wet chemical techniques.
- Measures total quantity/volume of the emissions
- Rugged & convenient for sampling with oil free Vacuum Pump assembly.
- Accommodated in a suitcase for better accessibility.
- Convenient to use.

#### **SPECIFICATIONS:**

**Stack Temperature Range** :Ambient to 600°C read on a Digital Pyrometer.

Stack Velocity Range :3 to 60 m/sec

**Thermocouple** :T/C sensor in SS 304 casing, length of inseration: 1 m with 2 m long cable

**Manometer** :Digital with 0-1300 mm of H2O range

Pitot Tube :Calibrated S-type fabricated - SS 304, 1m long

**Particulate Sampling** :0-60 1pm collection on thimble type filter up to 0.3 micron rating

**Gaseous Sampling** :0-6 1pm collection in a set of Borosillicate glass impingers.

**Rotameter** :Acrylic body with 2 % FSD accuracy, 0-60 LPM for PM and 0-6 LPM for GAS.

Sampling Probe :1m long SS tube

**Filter Holder** :Filter Holder suitable to hold either cellulose filteration thimble (size 28mm ID x

100 mm long) or glass fibre thimble (size 19mm ID x 90 mm long).

**Nozzels** :A set of 3 nozzles made of SS 304.

**Digital Clock** :0-60 minutes, 1 second readout with start and stopswitches.

Sampling Train :Glass Impinger 1 no. 240ml, glass impinger i no. 120ml(silica) glass impinger 2

no. 120 ml (gas)

**Vacuum Pump** :Monoblock Rotary Vane type, oil free, 0.5 HP single phase motor (230V) with

More than 50 1pm free flow capacity.



### **OZONE ANALYZER**



## OZONE ANALYZER (MODEL SL-EE-029) FEATURES:

- Ambient gas monitoring and control
- Active sampling for higher accuracy
- Analog Digital Relay outputs
- Large easy -to read display
- Alarm or Control options
- Low maintenance
- Easy to install

#### **APPLICATIONS:**

- Ambient gas control
- Ozone generator control
- Alarm systems

#### **TECHNICAL SPECIFICATION:**

Sensor Type :Analytical GSS Technology® Gas Sensitive Semiconductor

**Ozone LOW sensor** :Range: 0 - 0.500 ppm ozone Accuracy: <± 0.02 ppm

0 - 0.1ppm;<± 20% >0.1ppm

Max. exposure: 1 ppm T90 response: <60 s

Sampling method :Active sampling

Operational mode :Continuous control or Alarm

**Operating temperature** :-5°C to 50°C

**Operating relative humidity** :5% to 95% non condensing

Warm up time :10 minutes (max. Accuracy)

**Display** :3.5 digit LCD

**Relay set point** :User configurable

**Digital output** :RS232

Analog output :0 - 5 VDC (8 bit)
Relay output (no internal alarm) :24 V; 5A (max.)

Alarm option (no relay output) :Internal piezo 85 db @ 30cm

**Power supply** :12 VDC; 800 mA;

Plug - in AC power adaptor supplied

Enclosure rating:IP20 & NEMA 1 equivalentEnclosure dimensions:130 W x 94 H x 57 D (mm);Enclosure casing:Flame resistant thermoplast PS

**Enclosure mounting** :Screw fix

**Weight** :< 270 g; 9.5 oz

(excludes AC power adaptor)

**Approvals** :Part 15 of FCC Rules

EN 61000 -6-3: 2001 EN 61000 -6-1: 2001

## Sun LabTek Equipments (I) Pvt. Ltd.

Corporate Office: B-3A, Shiv Shakti Complex, Ist Floor, East Vinod Nagar, New Delhi-110091, Tel: 011-2273 2108/2109

Mob.: +91- 9971-077-233, +91- 9811-888-915 E-mail.: Labtekindia@gmail.com, Website.: www.labtekindia.com

Works: 88A, Rajendra Nagar Industrial Area, Sahibabad, Ghaziabad-210005 (U.P)



### **WEATHER STATION**



## WEATHER STATION (MODEL SL-EE-030) SPECIFICATIONS:

- Touch Screen Display
- Solar Powered Outdoor Sensors
- Indoor/Outdoor Temperature & Humidity
- Wind Speed and Direction
- Wind Chill/Dew Point
- 12-24 hour weather forecast
- Expandable: Accepts up to 3 additional sensors
- Long-range sensors transmit up to 328-feet from the main unit
- Large LCD touch screen
- Illuminated with HiGlo electro-luminescent backlight
- PC compatible (with optional RS-232 serial cable and software, not included)
- Wall-mount or desktop display options
- AC Adapter and backup batteries included for base unit (4 x AA)
- 4 x AAA batteries included for BTHR indoor sensor
- Solar powered remote sensors use 2 x AA batteries for backup (not included)

#### **SENSORS INCLUDED:**

- Anemometer measures wind speed and direction
- Self-emptying Rain Gauge measures rainfall
- Indoor temperature
- Humidity
- Barometric Pressure
- THGR968 measures outdoor temperature and humidity
- Dimensions: 8.5L x 1.75D x 5.5H (in.)

## Sun LabTek Equipments (I) Pvt. Ltd.

Corporate Office: B-3A, Shiv Shakti Complex, Ist Floor, East Vinod Nagar, New Delhi-110091, Tel: 011-2273 2108/2109

Mob.: +91- 9971-077-233, +91- 9811-888-915 E-mail.: Labtekindia@gmail.com, Website.: www.labtekindia.com

Works: 88A, Rajendra Nagar Industrial Area, Sahibabad, Ghaziabad-210005 (U.P)



### FINE PARTICULATE SAMPLER



#### FINE PARTICULATE SAMPLER (MODEL SL-EE-031)

Advanced fine dust sampler, which can be used to determine the concentration of particular matter of size less than 2.5u in atmosphere. It has been specifically designed to comply with reference method for determination of PM2.5, when used without Imapactor (2.5u out stag), the system may be optionally used for particular matter less than 10u.

#### **FEATURES:**

- •PMI0 and PM2.5 Impactors of sampler based on designs Standardized by US EPA
- •Same instrument can be used for PM10 and PM2.5 sampling
- Lower constant sampling rate of 1m3/hr
- Compact and portable
- Sturdy construction for outdoor use
- Easy setup and operation

#### **TECHNICAL SPECIFICATIONS**

Particle Size :Omni directional air inlet with PM 10 separation through an impactor followed by PM 2.5

separation through a WINS impactor.

Sampling Rate :Constant sampling rate of 1m3/hr unaffected by voltage fluctuation and filter maintained

by critical orifice system

**Filter Media** :Filter holder designed to hold any standard 47mm dia filter

**Sample Volume** :Dry Gas meter records the total air volume sampled

**Power requirement** :Single phase AC 220 volts, 50 Hz



### PASSIVE AIR SAMPLER



## PASSIVE AIR SAMPLER (MODEL SL-EE-032) PRINCIPLE OF METHOD

Low sensitivity to accidental short-time changes in the concentration of pollutants is a basic characteristic of passive samplers. They provide information about the long-term contamination of the studied environmental compartment (for example air). The air streams freely around a filter, membrane or other medium (sorbent), which captures pollutants during the period of passive air sampling. It is possible to use polyurethane foam (PUF) for persistent organic pollutant (POPs) sampling.

The relationship between the amount of POPs captured on PUF filter and their concentrations in sampled air has not been mathematically fully described yet. Due to this reason only empirical estimated information (for example based on parallel active and passive measurements) is available for results interpretation. Passive air sampling is a cheap screening method for a comparison of contamination on various sites or for verification of information obtained by active samplers.

#### **MATERIAL**

Sampler (description, maintenance)

Passive air sampler consists of two stainless steel bowls with diameter 30 and 24 cm positioned on the common axis, which also fixes PUF filter in the proper position. All parts of the sampler are made from the stainless steel.



### THERMOELECTRIC GASEOUS ATTACHMENT



## THERMOELECTRIC GASEOUS ATTACHMENT (MODEL SL-EE-033) INTRODUCTION

In High Volume Sampler / Reparable Dust Sampler provision has been made for simultaneous sampling gaseous pollutants. Here the air is passed through suitable reagents that would absorb specific gases where gaseous pollutant like SO2, NOx, CL2, H2S, CS2, NH3 etc. are analyzed subsequently by simple wet chemistry method to determine the concentration of specific pollutant. During Gaseous sampling it often happens that ice does not last for full sampling period due to high ambient temperature. As a result temperature of chemical reagents increases and it reduces absorption efficiency of gaseous pollutant. During high temperature even chemical reagents taken for absorption evaporates with time. Thermoelectric Attachment has been designed to take care of such problems. It is provided with non wearing thermoelectrics / peltier system.

#### **SPECIAL FEATURES**

- Provides 24 hours continuous cooling.
- Non wearing thermoelectrics (peltier eystem).
- Full polyurethane-foam lining.
- Brings down temperature by 10-25 deg G depending upon the ambient conditions.
- Easy to use even with High Volume Sampler or Respirable Dust Sampler.

#### **TECHNICAL SPECIFICATION**

Flow rate :0-3 lpm measured using plastic body flow meter

**Accuracy** :2% Full Scale Division

**Power Consumption** :48 watts

Sampling Train :Four inlet and one outlet manifold with built in Needle Valves for flow control of

each in let.

**Absorber** :4 Nos. of 35 ml. Borosilicate glass impingers

**Battery Eliminator** :For providing 12 volt DC power



## **INDUSTRIAL COMBUSTION & EMISSIONS ANALYZER**

## INDUSTRIAL COMBUSTION & EMISSIONS ANALYZER (MODEL SL-EE-034) FEATURES:

- Built-In Thermoelectric Chiller
- Automatic Condensate Drain Pump
- Built-In Printer
- Draft & Differential Pressure Measurement
- 2 Channel Thermometer
- CO Dilution Auto-Range
- True NOx Measurements
- Up to 9 Total Gas Sensors
- NDIR Sensors
- Gas Velocity with Pitot Tube
- Rechargeable Battery
- Heated Sample Line optional
- Internal Memory
- PC Software Package



Parameter	Sensor	Range	Res.	Accuracy
O2	Electrochemical	0 - 25%	0.1%	±0.1% vol
CO up	Electrochemical	0 - 8000 ppm	1 ppm	<300 ppm=±10 ppm to 2000 ppm=±4% >2000 ppm=±10%
CO Auto Range	Electrochemical	0.80 - 10.00 %	0.05%	±10% rdg.
CO	NDIR	0-15.00%	0.01%	±3% rdg or ±0.3%
NO	Electrochemical	0 - 4000 ppm	1 ppm	<100 ppm=±5 ppm
NO2	Electrochemical	0 - 1000 ppm	1 ppm	up to 3000ppm=±4% <100 ppm=±5 ppm 2 up to 800 ppm=±4%
NOX	Calculated	0 - 5000 ppm	1 ppm	
SO2	Electrochemical	0 - 4000 ppm	1 ppm	<100 ppm=±5 ppm 2 up to 2000 ppm=±4%
CO2	Calculated	0 - 99.9%	0.1%	11
CO2	NDIR	0 - 40.00%	0.01%	±3% rdg or ±0.3%
CXHY H2S	NDIR Electrochemical	0 - 50000 ppm 0 - 1000 ppm	1 ppm 1 ppm	±3% rdg or ±10ppm * ±5 ppm <100 ppm2 ±4% rdg or 1000 ppm
Tair	Pt100	-10 - 99.9°C 14.0 - 212.0°F	0.1°C 0.2°F	$\pm (0.2\% \text{ rdg } + 0.15^{\circ}\text{C})$ $\pm (0.2\% \text{ rdg } + 0.3^{\circ}\text{F})$
Tgas	Tc K	0 - 999.9°C 32.0 - 1830°F	0.1°C 0.2°F	±(0.3% rdg + 0.3°C) ±(0.3% rdg + 0.6°F)
ΔΤ	Calculated	0 - 999.9°C 32.0 - 1830°F	0.1°C 0.2°F	_(0.0 / 0 . ag . 0.0 /
Pressure/Draft	Bridge	±40inH2O	0.004inH2O	±0.12inH2O<1.2inH2O ±1% rdg.>1.2inH2O
Excess Air	Calculated	1.00 - infinity	0.01	
Gas Velocity	Calculated	0 - 99.9 m/s 0 - 330 ft/s	0.1 m/s 0.1 ft/s	
Efficiency	Calculated	1 - 99.9%	0.1%	



### SEMI AUTOMATIC FINE PARTICULATE SAMPLER



#### SEMI AUTOMATIC FINE PARTICULATE SAMPLER (MODEL SL-EE-035)

Ambient Air Sampler," Electronic model, for 24-hour continuous sample periods, has been designed in accordance with the requirements specified in 40 CFR Part 50, Appendix L. has been evaluated in different environmental conditions. Suspended particulate matter in the PM 2.5 size range is separated for collection on a PTFE filter over the specified sampling period. The total volume of air sampled is determined by the sampler from the measured flow rate at actual ambient temperature and pressure and the sampling time. The mass concentration is computed as the total mass of collected particles in the PM2.5 size range divided by the actual volume of air sampled, and is expressed as g/m³. Data is stored on a Data Logger. The Data logger writes this data on a Pen Drive which can be later transferred to a computer in an Excel Sheet. The Flow Control is achieved by an Electronic Controller with very precise control over flow rate.

- Data Storage is directly on USB
- No manual calculation is required for sampling information
- Measures both filter as well as ambient temperature
- Also monitors operational parameters such as barometric pressure & flow rate digitally.
- Automatic control of sample volumetric flow rate and other operational parameters.
- Provides data information at the end of each sample period in digital form.
- Determines the elapsed sample collection time for each PM2.5
- Total Flow has to be recorded manually
- Designed according to US EPA 40 CFR 50 Appendix L.
- Top plate and wind deflector have been redesigned at a sampling flow rate of 16.67 LPM and unaffected by wind direction and wind speed of ambient air

#### **DATA DISPLAY FORMAT:-**

CHANNEL 1: Ambient Temperature

CHANNEL 2: % RH

CHANNEL 3: Filter Temperature
CHANNEL 4: Barometric Pressure

CHANNEL 5: Flow Rate



### **FULLY AUTOMATIC FINE PARTICULATE SAMPLER**

## FULLY AUTOMATIC FINE PARTICULATE SAMPLER (MODEL SL-EE-036)

Ambient Air Sampler has been designed in accordance with the requirements specified in 40 CFR Part 50, Appendix L. It consists of a sample air inlet, downtube, particle size separator (impactor), filter holder assembly, air pump and flow rate control system, flow rate measurement device, ambient and filter temperature monitoring system, barometric pressure measurement system, timer, outdoor environmental enclosure, and suitable mechanical, electrical, or electronic control capability to meet or exceed the design and functional performance

AN OVERVIEW OF SOFTWARE

#### **MAIN SCREEN**

This screen shows summary information regarding the sampling program currently defined by the user, the site information, the current operating mode, the existence of any status conditions and certain operational information.

The sampler displays the following fields on the Main screen:

- 1) Control Panel
- 2) Data Table: This feature allows the user to browse for a file that is, to search any file from the stored database. The required data can also be saved in Excel to plot graph of the available parameters.
- 3) Data Graph: This helps the user to see the graphical interpretation of the readings.
- 4) Settings & Info:This feature allows the user to calibrate the flow pulse (Pulse/L) periodically



#### **DESIGNED AS PER USEPA STANDARDS**

The Ambient Air Fine Particulate sampler is designed as per the USEPA reference method to meet or exceed the operational requirements for the determination of Fine Particulate matter of size 2.5 microns in the atmosphere.

#### THE REPORT SHALL CONTAIN THE FOLLOWING INFORMATION:-

- Sample ID
- Sampling location
- Start time and Date
- Stop time and date
- Total Elapsed time
- Flow rate (minimum, Maximum and average)
- % CV in flow data
- Barometric Pressure (Minimum, Maximum and Average)
- Ambient Temperature (Minimum, Maximum and Average)
- Filter Temperature (Minimum, Maximum and Average)
- Sample volume (m3)
- Error messages and Flags
- All the data should be retrievable through RS 232 and or USB



### **FULLY AUTOMATIC FINE PARTICULATE SAMPLER**

#### INTERACTIVE CONTROL PANEL

Eequipped with an interactive control panel which helps to specify the flow rate, filter's initial weight, sample time. It also alerts filter saturation level when it is choked.

#### **FULLY AUTOMATED CONTROL**

Fully automated system loaded with a computer interface for automatic control and data generation.

#### **COLLECTION EFFICIENCY**

The collection efficiency is greater than 99.7% as measured by the DOP test (ASTM D 2986-91) with 0.3 particles at the sampler's operating face velocity.

#### **DATA SAFETY:**

The data collected during the process is saved into the system which is backed by a UPS for automatic shutdown and start of the system which results in Data storage and accurate sampling results.

#### **AUTOMATIC REPORT GENERATION**

The Data collected by automatically generates a report for a specified sample time. This report contains information such as

- Volumetric flow rate
- Filter temperature
- Relative humidity(%)
- DP
- Barometric pressure
- Elapsed sample time

#### **USER LOGIN SYSTEM**

Sampler which is password protected so as to minimize data theft and bring greater efficiency in the process.

#### **CLOCK TIMER SYSTEM**

The sample time required for the analysis of sample can be fed into the system and the system will automatically stop after the specified time.

#### **DATA INTERFACE THROUGH LCD**

The data which is collected during the process is displayed in real time.