RESPIRABLE DUST SAMPLER (PM10) MODEL APM-860 MAKE LATA ENVIROTECH

Overview

The APM 860 sampler uses an improved cyclone with sharper cutoff (D50 at 10 microns) to separate the coarser particulates from the air stream before filtering it on the glass microfibre filter. By using the APM 860, measurement of Respirable Particulate Matter can be done accurately and TSPM can also be assessed by collection of dust retained in the cyclone cup. Respirable Dust Sampler Lata Envirotech Model APM 860 is designed and developed for monitoring of PM10 (based on cyclonic flow technique) meets most of the requirement of BIS 5182 (Part 23) 2006. The particulate matter 10 micron and below in size are directly The ambient air is sucked by a blower through corrosion free aluminum modular pipe and pass and it enters thorough a cyclone which divides the particulate matters in two fraction are below 10 micron and another above 10 microns. The Respirable dust (below 10 micron) directly gets deposited on filter paper and the coarser dust (above 10 microns) collected in the cup fitted under the cyclone. A time totalizer records the total running time of the blower. A programmable timer makes the instrument to stop and start as per desired intervals. A stabilizer is provided to provide constant power supply for smooth running of the system. The manometric systems indicate the rate of flow in cubic meter per minute which can be read directly on provided calibrated scale. Collected on filter paper and particulate matters above 10 microns are collected in cyclone cup. This instrument has got the provision for Gaseous Sampling Attachment suitable for sampling 4 gases viz SO_2, NO_2, O_3 and NH_3 simultaneously.

Special features:

- **Brushless blower** reduces equipment downtime and maintenance effort.
- **Lockable** casters and gaseous attachment.
- Improved cabinet design which is **more sturdy and durable** with SS hardware.
- Brushless blower reduces equipment downtime and maintenance efforts
- Significantly reduce Noise

APM 860 comes with **an in-built voltage stabilizer to compensate for voltage fluctuations**. This model has been made more user-friendly, tool box within the instrument, softer handles.

Owing to its modular design, APM 860 can be easily paired with a gaseous sampling attachment (for monitoring SO2, NOx, NH3, Ozone etc.) as gaseous sampling requires only a few LPM of air flow. This is possible through an **attachable subsidiary unit LES 411**. Kindly refer to respective brochures of LES 411.

Specification:

- **Flow Rate:**0.9 – 1.4 m3 /min free flow
- **Particle Size:** Particles of 10 microns & below collected on Filter Paper holder. SPM bigger than 10 microns collected in a separate sampling bottle under the cyclone
- **Sampling Time:** 28 hours (maximum)
- **Sampling Time Record:** 0 to 9999.99 hrs. recorded on a Time Totalizer
- **Power requirement:** Nominal 220 V, Single Phase, 50Hz AC mains supply. For proper operation and safety a good earth connection is mandatory
- **Size & Weight:** 420 x 340 x 790 mm, 40 Kg
- **Automatic Sampling:** 24 hrs programmable timer to automatically shut off the system after pre-Control set time interval.
- **Warranty:** One year

Gaseous Sampling Attachment Model LES- 411 Make Lata Envirotech

Overview

The Respirable Dust Sampler is essentially a particulate sampling system requiring a high flow-rate. Gaseous sampling (for NO2, SO2, CL2, H2S, etc) requires only a few LPM of air flow. Lata Envirotech Respirable Dust Samplers APM 860 and PM10/2.5 Sampler APM 154 are provided with a suction port and mounting hardware to facilitate interface of the Gaseous Sampling Attachment LES 411

Special Features:

- Easy manipulation of Impingers
- No heating up of absorbing solutions due to heat from the blower
- Provision of using ice or cold water bath around Impingers for complete absorption of sparsely soluble gases
- Facility of taking the Impinger tray directly to the laboratory for safer transit of glass parts

Technical Specification:

- **Flow Rate:** 0.3 to 2 LPM, accuracy 2% of span
- **Flow Control:** Four inlet, one outlet with needle valves for flow control of each unit
- **Sampling Train:** 4 Nos. of 35ml glass Impingers
- **Size:** 240 x 125 x 350 mm
- **Warranty:** One year

PM 10/2.5 SAMPLER MODEL-APM 154 MAKE LATA ENVIROTECH

Overview

The APM 154 system is a manual method for sampling fine particles (PM2.5 fraction) and is based on impactor designs standardized by US-EPA for ambient air quality monitoring. Ambient air enters the APM 154 series samplers system through an omni-directional inlet designed to provide a clean aerodynamic cut-point for particles greater than 10 microns. Particles in the air stream finer than 10 microns proceed to a second impactor that has an aerodynamic cut-point at 2.5 microns. The air sample and fine particulates exiting from the PM 2.5 impactor are passed through a 47 mm diameter Teflon filter membrane that retains the fine particulate matter. The sampling rate of the system is held constant at 1m3/hr by a suitable critical orifice. The standard system is supplied with a Dry Gas Meter to provide a direct measure of the total air volume sampled.

As per recent Air quality standard published by Govt. of India where measurement of PM 2.5 dusts has been made mandatory besides other parameters for defining the quality of ambient air. An Impactor based PM10/2.5 Sampler has been manufactured by Lata Envirotech Services which meet requirements of PM 2.5 is sampling using APM 154; PM 2.5 concentration in ambient air can be measured gravimetrically by using this sampler. APM 154 fitted with brushless and noiseless pump assembly where sampling rates of $1m^3$/hr is maintained constant with the help of orifice.

Special features:

- PM10 and PM2.5 Impactors of sampler **based on designs standardized by US EPA**
- **Two part cabinet** ensures that temperature of PM 2.5 filter remains close to ambient temperature
- **Diaphragm Pump** with a low noise
- Lower sampling rate of 1m3/hr **reduces filter choking** even in areas having high FPM levels
- **Critical Orifice maintains constant sampling rate** of 1 m3/hour
- Sampler can run continuously 28 hrs monitoring
- Low power consumption
- Low weight essay to transport in field
- Can be measure PM10 or PM2.5 at a time
- Calibration Certificate for each instrument shall be provided with instruments
- **Compact and portable.**
- **Weight: Approx 25 Kg.**

Owing to its modular design, APM 154 can be easily paired with a gaseous sampling attachment (for monitoring SO2, NOx, NH3, Ozone etc.) as gaseous sampling requires only a few LPM of air flow. This is possible through an **attachable subsidiary unit LES 411.** Kindly refer to respective brochures of LES 411

Specification:

- **Size Selective inlets:** Omni-directional air inlet with PM 10 separation through an impactor followed by PM 2.5 separation through a WINS Impactor
- **Flow Rate:** Constant sampling rate of 1 m3/hr unaffected by voltage fluctuation and filter choking maintained by critical orifice system
- **Sampling Time Record:** 0 to 9999.99 hrs. recorded on a Time Totalizer
- **Vacuum Pump: Diaphragm Pump**
- **Power requirement:** Nominal 220 V, Single Phase, 50Hz AC mains supply. For proper operation and safety a good earth connection is mandatory
- **Automatic Sampling:** 24 hrs programmable timer to automatically shut off the system after pre-Control set time interval.
- **Sample Volume:** Dry Gas meter records the total air volume sampled
- **Filter:** Filter holder designed to accept any standard 47 mm diameter filter media
- **Warranty:** One year

COMBINED PM10 & PM2.5 SAMPLER LATA ENVIROTECH MODEL APM 250

As per recent Air quality standard published by Govt. of India where measurement of PM 2.5 dusts has been made mandatory besides other parameters for defining the quality of ambient air. An impactor based PM 2.5

sampler has been manufactured by Lata Envirotech Services which is meet requirements of PM10 & PM 2.5 sampling using APM 250. PM 10 & PM 2.5 concentration in ambient air can be measured by using this sampler simultaneously.

APM 250 fitted with brushless and noiseless pump assembly where sampling rates of $1m^3$/hr is maintained constant with the help of orifice.

This sampler is suitable for PM 10 & PM 2.5 monitoring simultaneously both the parameter can be monitored at a time.

Advantages:

1. This sampler suitable for measurement of PM10 and PM2.5 simultaneously
2. PM10 & PM 2.5 Impactors of sampler are based on designs standardized by USEPA
3. Critical orifice maintains constant sampling rate of $1m^3$/hr.
4. Sampler can run continuously for 28 hrs monitoring.
1. Pump assembly brushless and noiseless motor with low maintenance.
2. Calibration Certificate for each instrument shall be provided with instruments

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 choking maintained by critical orifice system.
Filter Media:	Filter holder designed to accept any standard 47 mm diameter filter media.
Sample Volume:	Fitting 2Nos. of Dry Gas meter records the total air volume sampled for PM10 & PM2.5
Power Requirement	Single phase AC 220 Volts, 50 Hertz supply. Sampler unaffected by +/- 10% fluctuation in supply voltage
Weight	35 Kg approx.

STACK SAMPLER APM 160 MAKE LATA ENVIROTECH

Monitoring of stacks and vents are requirement to ensure that emission of air pollutants are within the limit prescribed by regulatory authorities. By regular monitoring of emission one can establish that functioning and performance of installed control system are within the designed limits. Emission data also helps in improving performance of Air Pollution Control System energy saving and helps in optimizing process operation.

Lat Envirotech Stack Sampler APM 160 has been developed to fulfill these requirements where user ease and emission monitoring regulations requirement have been given due consideration for reliable data generation.

Stack Sampler APM 160 is light weight and portable system fitted with suction pump, with digital pyrometer and digital differential meter. Shifting of instrument from one stack to another stack is very easy. Measurement for differential pressure done by using S-Type Pitot Tube and digital differential meter.

High quality leak proof push fitting for Thermocouple and Pitot tube are used. Two dial type vacuum gauges are provided for onsite monitoring of pressure drop in gas stream and particulate stream separately.

Thimble holder nozzle and probe pipe has been fitted with Viton O Ring for leak proof connection. Thimble holder can accommodate CFT and GFT and Silica thimble with no extra efforts.

Measurement temperature of outgoing gases after cooling can be done with the help of Thermometer which is placed in the impinger tube.

SPECIFICATIONS:		
Stack Gas Temp.	:	Up to 600 degree C A digital pyrometer and 1m Long thermocouple is provided
Thermocouple	:	Thermocouple is made up of SS 304 Casing, length of insertion: 1.0 m with 2 m long cable with suitable connector.

Monometer	:	Digital with 0-1300 mm of H2O Column.
Pitot Tube	:	S-Type pitot tube fabricated from SS 304, 1.0m length extendable to 2m, individual, calibrated at reference setup of Lata envirotech traceable to FCRI Palghat.
Particulate Sampling	:	SPM collection in thimble type filter (with pore size of 1.6µm with collection efficiency for 0.3µn particles 99.7%)
Gaseous Sampling	:	Collections of gases @ 0.3-3 lpm in chemicals kept in a set of 120 ml capacity borosilicate glass impingers
Rotameter	:	Plastic body rotameter with 2% FSD accuracy, 0-30 lpm for particulate and 0-3 Lpm for gases.
Sampling Probe	:	Made from SS 304 tube, 1.0m length extendable to 2.0m
Filter Holder	:	Fabricated from SS 304 tube suitable to hold either cellulose filtration thimble (size 28 mm ID x 100 mm ling) or glass micro fiber thimble (size 19 mm ID x 90 mm long).
Nozzles	:	A set of 3 stainless steel nozzles of different diameter
Digital Clock	:	0-60 minutes, 1 second readout with start stop and reset functions.
Sampling Tray	:	1 Nos. of 240 ml capacity and 2 Nos. of 120 ml capacity borosilicate glass Impingers. Accommodated in SS ice tray, placed on the rear side of instrument panel with a provision to keep ice.
Vacuum Pump	:	Vacuum Pump Mono block Rotary vane type oil filled, 0.5 HP, Single phase motor (230 V) with 40 lmp free flow capacity.

HANDY SAMPLER MODEL APM 831 MAKE LATA ENVIROTECH

Overview

The increasing impacts of pollutants and hazards to the health and industrial workers has resulted in effect on accurate, reliable and frequent assessment of work space pollution and worker-exposure. The data generation needed for corrective measures to safe the workers as per Factory act 1948 and amendment in 1986-87.

Lata Envirotech Handy Sampler APM 831 used best light weight pump battery operated to suck air through 25 mm dia filter and through suitable absorption solution contained in Impingers (2Nos) fitted. Thus besides particulates any two gaseous pollutants can be monitored simultaneously.

Rechargeable battery has been used with sufficient storage of power to operate the sampler for 8 hours. A charger is also provided with APM 831 to recharge the battery.

The APM 831 system uses a small battery operated pump to draw air thorough a suitable absorption solution contained in an impinger. If necessary, 2 impingers can be used in series to monitor 2 gaseous pollutants. There is an additional provision to determine suspended particulates in the same exercise by using the open sampling head designed for 25mm diameter filters or membranes.

The same hardware can be used to sample a variety of pollutants including oxides of sulphur and nitrogen, halogens, ammonia, sulphides, etc. The particulate sampling head provided with the system is useful for monitoring particulates like silica, cement dust, metal fumes and asbestos fibers in work areas of cement plants, foundries, etc.

To ensure complete absorption and reduce loss of absorbing solutions by evaporation, the impinger tubes of the APM 831 are kept in an insulated ice tray.

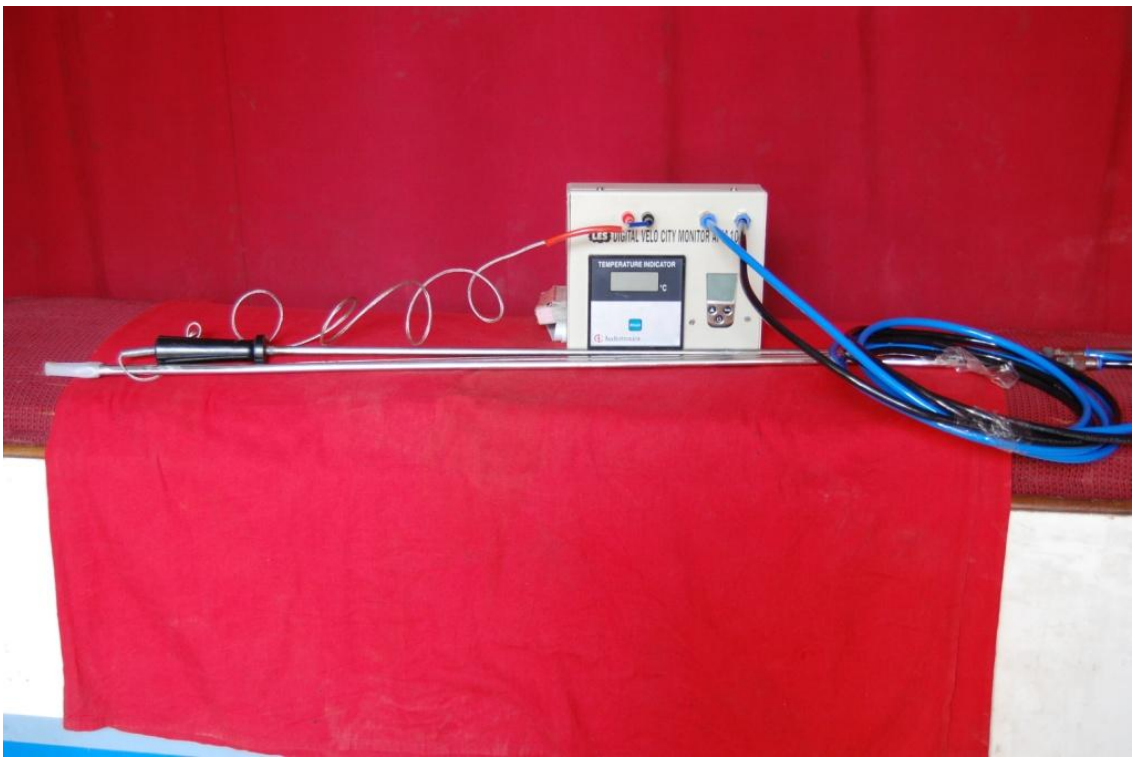
ADVANTAGES:

- 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.
- Calibration Certificate for each instrument shall be provided with instruments

SPECIFICATION

Suction Pump:	Diaphragm Pump.
Sampling Rate:	0.5 – 1 LPM
Power Supply:	230+/-10V AC, 50Hz with Battery charger and Rechargeable Batteries (2AH).
Operation Time:	8 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.

DIGITAL VELOCITY MONITOR MODEL APM-101
MAKE LATA ENVIROTECH



Overview

Digital Velocity Monitor Model APM-101 is designed to determine velocity of air/flue gas in duct /pipe/chimney. Where determination of the rate of flow inside a chimney is of interest. This instrument can be conveniently used to measure the total quantity/volume of emissions.

Lata Envirotech Digital Velocity Monitor APM–101 is designed to determine velocity of air/flue gas in duct / pipe/chimney. In situations where determination of the rate of flow inside a chimney is of interest, this instrument can be used very conveniently to measure the total quantity/volume of emissions.

Lata Envirotech Digital Velocity Monitor APM-101 is provided with a Digital Pyrometer and Thermocouple for measurement of temperature. A digital pressure cell is incorporated in a hand held unit for the measurement of pressure in mm of H2O directly along with a pitot tube. The pitot tube has been provided with an extendable arm for easy transportation.

SPECIAL FEATURES

1 Hand Held Velocity Monitor & Compact
2 Digital pressure cell in place of cumbersome liquid manometer
3 Highly Accurate & Reliable Readings,

Technical specifications:

1. Stack Temperature Range: Ambient to 600 C read on a Digital Pyrometer.
2. Stack Velocity Range: 2 to 1 00 m/sec.
3. Thermocouple: Thermocouple sensor in SS 304 casing, length of insertion: 0. 6m with 2m long cable
4. Manometer: Digital with 0-1300mm of H_2O ranges with 0.1 mm least count.
5. Pitot Tube: Modified Calibrated S-type pitot tube fabricated from SS 304, 0.6m length with extension of 0. 6m.

PM 2.5 MINI SAMPLER APM-153 MAKE LATA ENVIROTECH

Over View

As per recent Air quality standard published by Govt. of India where measurement of PM 2.5 dusts has been made mandatory besides other parameters for defining the quality of ambient air. Ambient Air enters the APM 153 MINI sampler through an omni-directional inlet designed to provide a clear aerodynamic cut-point for particles larger than 10 microns. The air stream then passes through a WINS Impactor that retains the fraction between PM10 and PM2.5. The PM10 and PM2.5 impactors used in the APM 153 MINI are based on designs standardized by US-EPA and as such the **system complies with international norms for PM 2.5 Samplers**. The sampling rate is held constant at 1 m3/hr by a critical orifice.

A special light weight oil free pump has been used in the instrument and adequate cooling air draft has been provided to ensure that the operating temperature near the filter holder remains close to ambient temperature. Sampling rate is continuously displayed on a**built-in rotameter** while the duration of sample is available through a Time Totalizer.

An Impactor based PM2.5 sampler has been manufactured by Lata Envirotech Services which meet requirements of PM 2.5 is sampling using APM 153; PM2.5 concentration in ambient air can be measured gravimetrically by using this sampler.

APM 153 sampling rates of $1m^3$/hr is maintained constant with the help of orifice.

Sampler WINS IMPACTOR (PM 2.5 Impactor) as per design of US EPA.

This sampler is suitable for PM 10 or PM 2.5 monitoring one parameter can be monitored at a time.

Special features:

- PM10 and PM2.5 Impactors of sampler **based on designs standardized by US EPA**
- Brushless, Oil-free, light weight pump practically requires **no maintenance**
- Filter holder designed for **any 47mm diameter filter media**
- **Critical Orifice maintains constant sampling rate of 1m3/hour.**
- Sampler can run continuously 24 hrs monitoring
- Low power consumption
- Low weight essay to transport in field
- Can be measure PM 10 or PM 2.5
- Pump assembly brushless
- Calibration Certificate for each instrument shall be provided with instruments
- **Compact cabinet design** for easy portability.

Specification:

- **Size Selective inlets:** Omni-directional air inlet with PM 10 separation through an impactor followed by PM 2.5 separation through a WINS Impactor
- **Flow Rate :**Constant sampling rate of 1 m3/hr maintained by critical orifice system and displayed on a rotameter requires no maintenance
- **Vacuum Pump:** Oil Free, light weight pump driven by brushless induction motor
- **Power requirement:** Nominal 220 V, Single Phase, 50Hz AC mains supply. For proper operation and safety a good earth connection is mandatory
- **Size & Weight:** Compact & Light: Single unit compact cabinet made of Aluminum is light and robust
- **Warranty:** One year
- **Time Totalizer:** Records the actual time duration of each sample.

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A CENTRE FOR SALE, SERVICING AND CALIBRATION OF AIR POLLUTION MONITORING SYSTEMS & ENVIRONMENTAL CONSULTANCY

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