

Envirotech Instruments

Pioneers & now Leader in the Indian Market
Offers

Appropriate Instruments for complying with
Latest Ambient Air Quality Standards notified on 18th Nov 2009 by Govt. of India

Parameters	For Routine & Compliance Monitoring (by Industries & Consultants)	For Accurate & Precise Monitoring for developing scientific understanding (by Regulatory agencies, Research & Academic Institutions & Consultants doing EIA's)
For measurement of Particulate Matter PM ₁₀ , Lead, Arsenic, Nickel & Benzo(a)pyrene	Respirable Dust Samplers APM460BL/NL (High flow rate of sampler ensure sufficient quantity of material on filter paper)	Respirable Dust Samplers APM460DXNL (High flow rate of sampler ensure sufficient quantity of material on filter paper)
For manual measurement of Gaseous pollutants like Ammonia, SO ₂ , NO _x & Ozone	Gaseous Sampling attachment with Respirable dust sampler	An independent Gaseous Sampler APM433
For measurement of PM _{2.5} Particulate Matter	Fine Particulate Sampler APM550	Fine Particulate Sampler APM550MFC
For measurement of Benzene & VOCs	Low flow VOC Sampler APM802	Low flow VOC Sampler APM802

Also available online analyzers for measurement of Carbon monoxide, Benzene, Ozone & fully automated Online Air Quality Monitoring Stations

All instruments are supported with Hands on Training & Prompt after sales services & supplied with Calibration Certificate with NABL symbol.

Contact for your requirements



Envirotech
We Care for Better Air

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National Ambient Air Quality Standards

S.No.	Pollutant	Time Weighted Average	Concentration in Ambient Air		Methods of Measurements
			Industrial, Residential Rural and other area	Ecologically Sensitive Area (notified by Central Govt.)	
1	Sulphur dioxide (SO ₂) µg/m ³	Annual*	50	20	<ul style="list-style-type: none"> ▪ Improved West & Gaeke Method ▪ Ultraviolet fluorescence
		24 hour**	80	80	
2	Nitrogen dioxide (NO ₂) µg/m ³	Annual*	40	30	<ul style="list-style-type: none"> ▪ Modified Jacob & Hochheiser (Na-Arsenite) ▪ Chemiluminescence
		24 hour**	80	80	
3	Particulate Matter (size less than 10µm) or PM ₁₀ µg/m ³	Annual*	60	60	<ul style="list-style-type: none"> ▪ Gravimetric ▪ TOEM ▪ Beta attenuation
		24 hour**	100	100	
4	Particulate Matter (size less than 2.5µm) or PM _{2.5} µg/m ³	Annual*	40	40	<ul style="list-style-type: none"> ▪ Gravimetric ▪ TOEM ▪ Beta attenuation
		24 hour**	60	60	
5	Ozone (O ₃) µg/m ³	8 hours**	100	100	<ul style="list-style-type: none"> ▪ UV photometric ▪ Chemiluminescence ▪ Chemical method
		1 hour **	180	180	
6	Lead (Pb) µg/m ³	Annual*	0.5	0.5	<ul style="list-style-type: none"> ▪ AAS/ICP method after sampling on EPM2000 or equivalent filter paper ▪ ED-XRF using teflon filter
		24 hour**	1.0	1.0	
7	Carbon monoxide (CO) µg/m ³	8 hours**	02	02	<ul style="list-style-type: none"> ▪ Non Dispersive Infrared Spectroscopy
		1 hour **	04	04	
8	Ammonia (NH ₃) µg/m ³	Annual*	100	100	<ul style="list-style-type: none"> ▪ Chemiluminescence ▪ Indophenol blue method
		24 hour**	400	400	
9	Benzene (C ₆ H ₆) µg/m ³	Annual*	05	05	<ul style="list-style-type: none"> ▪ Gas chromatography based continuous analyzer ▪ Adsorption & Desorption followed by GC analysis
10	Benzopyrene (BaP) particulae phase only ng/m ³	Annual*	01	01	<ul style="list-style-type: none"> ▪ Solvent extraction followed by HPLC/GC analysis
11	Arsenic (As) ng/m ³	Annual*	06	06	<ul style="list-style-type: none"> ▪ AAS/ICP method after sampling on EPM2000 or equivalent filter paper
12	Nickel (Ni) ng/m ³	Annual*	20	20	<ul style="list-style-type: none"> ▪ AAS/ICP method after sampling on EPM2000 or equivalent filter paper

•*Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

•** 24 hourly or 8 hourly monitored values as applicable shall be compiled with 98% of the time in a year. 2% of the time they may exceed the limits but not on two consecutive days of monitoring.

•Source : Ministry of Environment & Forest, GOI, 2009

Instruments for Monitoring of PM10, Lead, Arsenic, Nickel & Benzopyrene in Solid Phase

Best for Routine Monitorings



Envirotech APM460BL

- ❖ Uses a **brushless blower** & eliminates the problem of frequent wear & tear of carbon brushes & equipment down time.
- ❖ Prevents Electromagnetic Interference (EMI) to TV & other electronic devices.

Best for Eco-Sensitive Areas



Envirotech APM460NL

- ❖ Fitted with Brushless & almost **NOISE-LESS Blower** - ideal for monitoring in residential areas or near hospitals, libraries etc.

Best for Precise Monitorings



Envirotech APM460DXNL

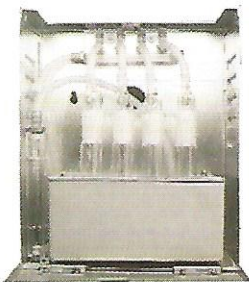
- ❖ Flow rate automatically controlled by feed back electronic flow controller to compensate for Dust loading on the filter.
- ❖ **Auto Shut-off** if flow rate drops below $0.85\text{m}^3/\text{min}$.
- ❖ As per BIS 5182 part 20

A high flow rate sampling system uses an improved cyclone designed by CSIR NEERI, to separate the coarser particles larger than 10 micron from the air stream before filtering it on the filter allowing the measurement of both TSP and Respirable fraction of suspended particulate matter. The particulate matter less than 10 microns separated due to cyclonic motion are deposited on the filter paper. Dust collected over its filter paper can be analyzed for **Lead, As, Ni & Benzo(a)pyrene**.

Instruments for Monitoring Gaseous Pollutants like NH_3 , SO_2 , NO_x & O_3 in Ambient Air

This unit is attachable to all the models of RDS. By these attachments measurement of NH_3 , SO_2 , NO_x & O_3 and other Inorganic soluble pollutants can be done.

Gaseous Sampling Attachment



Envirotech APM411

- **Require ice for cooling**



Envirotech APM411TE

- **No Ice Required**
- Thermo-Electric Cooling system
- Improved Valve design helps to maintain constant flow

- ❖ **For Precise monitoring with better efficiency.**

Independent Gaseous Sampler



Envirotech APM433

- **No Ice Required**
- Thermo-Electric Cooling system
- Improved Valve design helps to maintain constant flow
- ❖ Special Silica-gel filter tubes to remove entrained particulates & moisture.
- ❖ For efficient sampling of NO_2 and HCHO fritted bubbler are used .
- ❖ For Fluorides Teflon impinger can be fitted in the sampler

Instruments for Monitoring of PM2.5 Particulate Matter

Best for Routine Monitorings



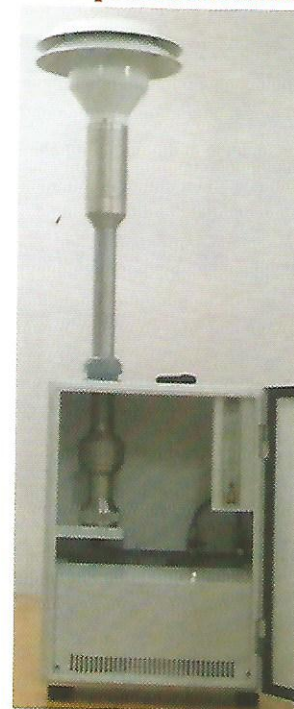
Envirotech APM550

Best for Precise Monitorings



Envirotech APM550MFC

Best for Frequent Relocation



Envirotech APM550Mini

- ❖ Simple in use
- ❖ Field proven sampler, more than 2000 samplers are in use.
- ❖ Uses a **brushless blower** & eliminates the problem of frequent wear & tear of carbon brushes & equipment down time.

- ❖ Mass Flow Controller is used to maintain constant flow rate.
- ❖ Ambient Temperature, Barometric Pressure, Filter Temperature, Filter Pressure, Flow Rate, volume of air data are logged in USB/pen drive.

- ❖ Simple in use
- ❖ Compact small size & light in weight. Easy for frequent transportation.
- ❖ Uses a **brushless blower** & eliminates the problem of frequent wear & tear.

Ambient air enters the APM 550 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 PM2.5 impactor are passed through a 47mm diameter Teflon filter membrane that retains the FPM. This is a manual method of sampling PM2.5 micron particulate matter based on impactor designs standardized by USEPA. It uses a brushless pump with low noise. Critical orifice maintains a constant sampling rate of 16.7lpm. It is compact portable and convenient for field operation.

Ultrafine Particulate Sampler for Monitoring of PM1 Particulate Matter

- ❖ The APM577 is a manual method for sampling very fine sub-micron particulates (PM1 fraction). This sampler is based on **impactor design standardized by Indian Institute of Technology, Kanpur**. Lower sampling rate of 10 LPM reduces filter choking even in areas having high FPM levels.
- ❖ Totally indigenous (designed, developed and made in India)
- ❖ **Sample Volume: Dry Gas meter** records the total air volume sampled.
- ❖ **Automatic sampling control:** 24 hour programmable timer is provided to automatically start and shut off sampler as per requirement.
- ❖ Uses a maintenance-free brush-less pump with low noise.
- ❖ **Provision for attachment to sample gaseous pollutants simultaneously.**
- ❖ By locating impactor & filter holder assembly separate from all power dissipating components, the system ensures that the temperature of filter remains close to the ambient temperature and there is no chance of losing volatile fraction of PM1.
- ❖ Compact and portable for convenient field operation.



Envirotech APM577

Instruments for Shop Floor & Noise Monitoring

Personal Sampler APM 800/801



Compact air sampler for monitoring workers exposure on shop floor. Fitted with rechargeable battery operated pump. Very light in weight. Provision to attach a cyclone to monitor respirable dust.

Handy Sampler APM 821



A portable battery operated air sampler for monitoring gaseous & particulate pollutants in the work space environment. Applications: Monitoring of Halogens (Cl-F), NH₃, CS₂, H₂S, NO_x, SO₂ in the work place environment.

Envirotech SLM100



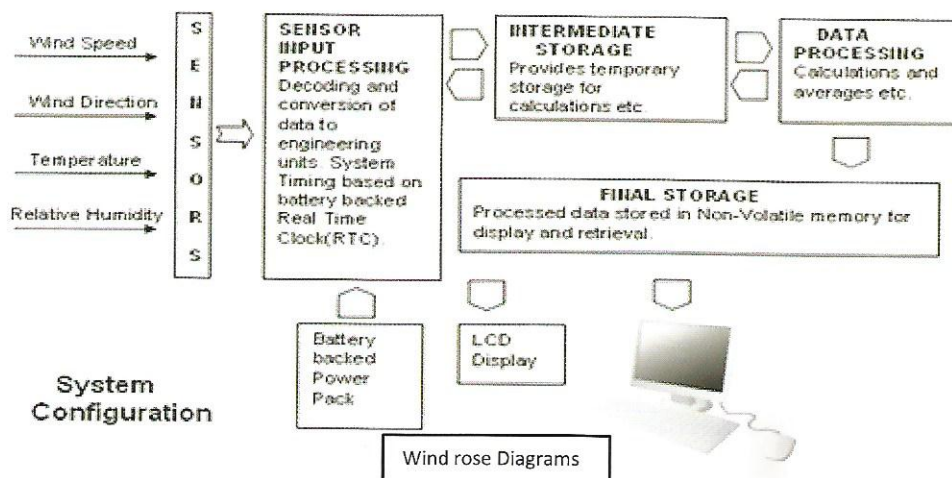
Type 2 integrating Sound level meter. Simple to operate. SLM gives readings of SPL, LEQ & SEL on a digital display. Frequency weighing "A" type & time weighing SLOW and FAST mode provided as per requirements of IS 15575 (Part1) 2005. Data recording facility with multiple file storage.

For Monitoring Local Meteorology

Wind Monitor WM 271



- ✓ WM271 is a complete automatic weather monitoring system has the capability to monitor almost all the meteorological parameters like **Wind Speed, Wind Direction, Temperature, Relative Humidity, Rain Fall, Barometric Pressure, Solar Radiation** etc.
- ❖ Reduced power consumption & New battery backed power-pack with optional Solar Panel charger enables operation in open fields.
- ❖ New software allows: Export of data to Excel & TXT file, Prepares Diurnal graphs, Color Windrose Diagrams, Graphs & Windroses can be saved as a picture for inclusion in reports & presentations & View instantaneous sensor values can be displayed directly on Computer system.

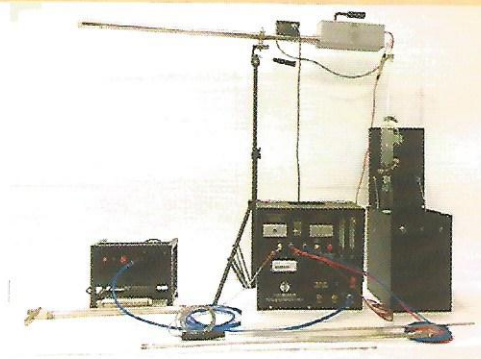


Instrument for Monitoring Stack Emissions



Stack Sampler VSS1

- ✓ For monitoring emission, the most common and widely used method (world over) is extractive sample method or Grab sampling technique.
- ✓ VSS1 can monitor Particulate Matter (PM) and any water-soluble gaseous pollutants like SO₂, NO_x, HF, Cl₂, H₂S, NH₃ etc., in industrial emissions from Stationary Source /Chimney and Vent.



Stack Sampler VSS3 for monitoring Dioxins, Furan & Heavy Metals

Instruments for Monitoring of Benzene



APM802 Low flow VOC sampler collects samples of organic compounds present in ambient air by adsorbing them on an activated charcoal column. The organics are then desorbed and analyzed via a gas chromatograph to estimate the actual concentration in ambient air. APM 802 uses a digital flow meter to accurately measure low flow rates in the range of 20 to 200ml/min. These low flow rates coupled with its feature of collecting a composite sample allows the user to collect a representative sample over several hours without fear of sample loss due to saturation or breakthrough in the adsorbing column. Sampler is a battery operated instrument. After an overnight charge the system will operate for a full 8 hour shift allowing comparison with TLV limits for toxic organics present in the Shop floor environment.

Low Flow VOC Sampler APM 802

Online Instruments for Monitoring Gaseous Pollutants

Carbon monoxide Analyzer



Ecotech Serinus 30

- ✓ **Approved by USEPA.**
- ✓ **Based on NDIR proven gas filter correlation technology to measure CO in ambient air.**
- ✓ **Measurement Range : 0 to 200ppm with Auto ranging.**
- ✓ **Detection limit <0.05ppm.**
- ✓ **Available in 19" Rack mountable or Table top model.**

Ozone Analyzer



Ecotech Serinus 10

- ✓ **Approved by USEPA .**
- ✓ **Auto Ranging 0 - 20 ppm**
- ✓ **Removable flash memory stores 10 years of data, including up to 12 individual parameters and event logs. Operational parameters can also be transferred to memory for easy retrieval.**
- ✓ **Latest firmware updates can easily be installed using the USB flash memory drive.**
- ✓ **Available in 19" Rack mountable or Table top model.**

BTX Analyzer



Synspec GC955

- ✓ **Built for the measurement of benzene, toluene and xylene isomers in ambient air.**
- ✓ **The instrument is a Automated gas chromatograph with a built-in pre-concentration system.**
- ✓ **Based on photo ionization detector.**
- ✓ **Simple operation, good reliability and low maintenance cost.**
- ✓ **Cycle time: 15 min, temp program 50-70°C Detector: PID detector.**
- ✓ **Lowest detection level for benzene 0.1 µg/m³ (0.03 vppb). Range: up to 300 ppb.**

**Due to Sturdy design, Reliability and Ease in
operation & Maintenance**

**Envirotech Instruments
are Preferred choice of Users**

- **Envirotech instruments are used at all the monitoring stations** set up across India by the CPCB under the National Air Monitoring Programme (NAMP)
- **Used by ALL the State Pollution Control Boards** across the country for their Air Pollution Monitoring needs.
- **Preferred choice by Indian Industry**
 - ALL NTPC's Super Thermal Power Stations
 - ALL IOC refineries
 - ALL Steel, aluminum and non-ferrous metallurgical plants
 - 80% of Cement Plants across the country
 - Leading Chemical & Fertilizer units
- **Sole supplier of Instruments** for developing infrastructure and capacity building projects under the aegis of the World Bank & Asian Development Bank in India (1999-2000).
- **Main supplier of instruments to seven SAARC countries & Iran** for laboratories set up by the UNEP under the MALE declaration.
- **Preferred by leading Academic & Research Institutions** such as IITs, NEERI, PPRI, IBM, ISM, IITM, GEMI etc.
- **Leading Consultants** such as SGS, VIMTA, MECON, BHEL, EHSRD, ABC, Kadam & many more depend on Envirotech Instruments for their field surveys.
- **Used in many Neighbouring Countries:**
Instruments of Envirotech are being used in several Neighbouring Countries.

OUR AFTER SALES SERVICE SUPPORT includes

- Annual Service Camps
- Periodic Interactive Sessions with Customers
- Hands on Training Programmes
- Prompt after sales service support through service personnel located at various places across India
- Recalibration of Instruments

Envirotech Calibration Laboratory is NABL Accredited for recalibration of Air Quality Monitoring Instruments under Fluid Flow, Mechanical, Thermal & Electro-technical discipline.

Contact us
We are at your Service



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