Envirotech
We Care for Better Air

APM 586

APPLICATION

Envirotech APM 586, can collect samples over at least a month. Thus, only a fewer samples may be required to calculate the annual average values in a reliable and representative manner. This would also allow estimation of seasonal variations.

OVERVIEW

Mining and Mineral-based industries (including crushers, cement plants, thermal power plants, steel and other metal refining and processing plants, coke-ovens, brick/lime and pottery kilns, etc. all emit large quantities of pollutants in air; not just ordinary dust, smoke, CO2 and CO but toxic, phyto-toxic and harmful gases and toxic particulates. Very often these include components of toxic heavy metals like As, Cd, Cr, Hg, Ni, Pb etc. as also (sometimes) highly toxic organics causing serious human health problems, crop-damage and economic losses besides adverse ecological impacts. Studies by WHO as well as other well known International medical groups have confirmed that most heavy metals are human genotoxic carcinogens and there is no identifiable threshold level below which these metals may not pose a risk to human health. Also many organic carcinogens including PAH are found in ambient air in particulate form.

Recognizing these potential dangers to human health, Govt. of India has mandated monitoring of some heavy metals and PAH. Standards have been notified for these in the National Ambient Air Quality Standards (NAAQS) of November, 2009. The limits for Lead, Arsenic and Nickel along with PAHs have been prescribed. Since impacts of these on health are noticeable only over a long period, annual average limits have been laid down.

Currently, heavy metals are being measured by analyzing the dust collected over the filter papers exposed, primarily for monitoring of PM10, for 8 hour or 24 hour duration. Thus, one can get only a 24 hour averaged result from a sample and to get the annual average values one has to collect a very large number of samples followed by their analysis as most sampling systems have operational limits to

NEED

Currently, heavy metals are being measured by analyzing the dust collected over the filter papers exposed, primarily for monitoring of PM10, for 8 hour or 24 hour duration. And if one wants to calculate a reliable annual average, then over 300 samples shall have to be collected, extracted and analyzed which is very laborious, time consuming and costly exercise. APM 586 samplers can collect samples over longer periods enabling collection of adequate particulate matter representing an average over a long period.

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maximum 24 hours. And if one wanted to calculate reliable annual averages, then over 300 samples shall have to be collected, extracted and analyzed which is very laborious, time consuming and costly exercise.

A need was felt for a long time for a sampler which can collect samples over longer periods enabling collection of adequate quantities of particulate matter representing an average over a long period.

Envirotech, with its pioneering spirit, joined hands with IIT Delhi & has developed a unique Heavy Metal Sampler Envirotech APM 586, which can collect samples over at least a month. Thus, only 12 samples may be required to calculate the annual average values in a reliable and representative manner. This would greatly ease the sampling and analytical efforts and reduce the uncertainty involved. It can run 24X7 for 30 days using a standard filter paper of EPM 2000 grade. This would also allow estimation of seasonal values. Composite samples using a programmable timer can also be collected.

Working Principles

Air enters through an omni directional inlet and is allowed to filter through an EPM 2000 glass fiber filter paper of 47 mm diameter. Instrument is provided with dual pump assembly which can be programmed in three different modes of operation. Sampling flow rate can be set from 0 to 5 lpm. A diaphragm gas meter provides the total volume of air sampled.Instrument has rechargeable battery back-up for 8 to 10 hours. Samples can be collected for a period of 30 days, which can be subsequently analyzed for presence of required heavy metals.

Features

- Completely indigenous, designed and developed by IIT Delhi.
- Suitable for long term sampling. Collection of 24 X 7 samples of 30 days or more enables computation of annual average results of Heavy Metals as mandated in National Ambient Air Quality Standards.
- Flow rate range of 0 to 5 LPM provides flexibility of sampling from short term to long term.
- Provided with dual pump assembly. Successive operation of two pumps allows longevity to the life of the instrument.
- Three modes of sampling time selection ie. Continuous, 50-50 Time Lapse and Long Delay modes permit composite sampling options according to the environmental pollution levels.
- Supplied with a tripod stand.

1 Year Warranty

*Specifications are subject to change without any prior notification

For More Information Contact

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SPECIFICATIONS

Filter Holder & Filter Media	Filter holder assembly is designed for convenient installation and removal of 47 mm diameter EPM 2000 filter discs.
Sample Volume	Air flow rate is maintained at 3 LPM with the help of a critical orifice 0-99999.99 h Time Totaliser to record the instrument run time. 0.016 m3/h to 2.5 m3/h Diaphragm Gas Meter to record the total volume of air sampled.
Power Requirements	15 Volt AC operated. 8-10 h battery backup available.
Dimensions (cm)	30 (W) X 20 (D) X 80 (H)
Weight	7.8 Kg

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