



# APM 433



## APPLICATION

The APM 433 Gaseous Pollutants Sampler is a stand alone monitoring instrument, where a suction pump is also made an integral part of the sampler, besides a flow-meter, time totalizer & timer, for monitoring Inorganic Gaseous Pollutants like.

## WORKING PRINCIPAL

Gaseous sampling requires only a few LPM of air flow rate. In the process of gaseous pollutant monitoring, sampled air is bubbled through suitable reagents that absorb specific gaseous pollutants and the absorbing media is analyzed as per standard wet chemical methods. The impingers temperatures can be maintained lower than the atmospheric temperature by using thermo-electric cooling.

## TECHNOLOGICAL ADVANCEMENT

**No ice required to keep Impingers cool:** The APM 433 uses Peltier effect solid-state heat pump units having no moving parts, to keep the impingers upto 25°C below ambient temperature. This means that even in peak summer when outdoor temperature goes above 40°C, Impingers placed in the APM 433 will remain at 15°C. A built-in thermostat constantly monitors the cold box temperature and ensures that absorbing solution is maintained within +/- 2°C of the set point. Envirotech has especially designed the cooling system to provide effective cooling at the point of use via a cold-plate that surrounds the bottom portion of each impinger. The APM 433 is thus able to attain desired temperature within a few minutes of

**Improved valve design to maintain constant flow rate during sampling period:** In the APM 433 special silica gel filter columns have been added in the outflow path of each impinger and the needle valve design has been modified to trap the high concentrations of SPM that escape through the bubbler and deposit in the valve units that control the flow rate. So the flow rate is unaffected by SPM deposition.

**Impingers with fritted disc for sparsely soluble gases:** For sampling of NO<sub>x</sub> and other sparsely soluble gases fritted bubbler is required to improve the absorption efficiency. The pump used in the APM 433 has enough suction pressure to draw air through fritted disc. Thus NO<sub>x</sub> and HCHO sampling is possible in the system as per standard method requirements. Since ambient dust tends to block the fritted disc which is difficult to clean, it is recommended to attach a glass microfiber filter at the inlet of these impingers so that dust free air enters the System. Two 25mm dia Filter Holders are supplied with the sampler for this purpose.

## NEED

Many a times there is no requirement for monitoring of particulates and only gaseous pollutants are to be monitored in ambient air. In such cases there is no need to carry a dust sampler and attaching APM411 or APM 411TE to it. The APM 433 Gaseous Pollutants Sampler is a standalone monitoring instrument, wherein a suction pump is also made an integral part of the sampler, besides a flow-meter, time totalizer & timer. This enables monitoring of gaseous pollutants without a dust sampler. In this unit no ice is required to keep impingers cool. It uses Peltier effect solid-state heat pump units to keep the temperature around the impingers at 15±3°C.



# APM 433

GASEOUS POLLUTANTS SAMPLER  
FOR INDOOR / OUTDOOR  
AIR QUALITY MONITORING

Envirotech APM 433

## FEATURES

- Thermo-Electric Cooling system to keep impingers at a cool 15°C even when ambient temperature is 40°C. Focus on rapid and efficient cooling.
- Special Silica-gel filter tubes to remove entrained particulates & moisture.
- Uses Impingers with fritted disc for sparsely soluble gases.
- Special amber colour glass impinger is also available for monitoring ozone at extra cost.
- The entire unit is packaged in a robust, powder coated Aluminum cabinet.

## SPECIFICATION

Absorbers Provided	3 Nos. of 35ml borosilicate glass impingers as per BIS 5182 (Part 6) 2006 and 1 fritted disc impinger. Optionally an additional amber glass impinger is provided for monitoring Ozone.
Sampling Rate of each Impinger	0.2 -3.0 lpm measured using acrylic body rotameter
Sampling Train	A Manifold having Four inlets and one out let manifold with built in needle valves for flow control of each inlet
Sampling Time Record	0 to 9999.99 Hrs
Automatic Sampling Control	24 hr programmable timer to automatically shut off the system after preset interval.
Power Requirement	Nominal 220v +/- 10V, single phase 50 Hz AC

# 1 Year Warranty

\*Specifications are subject to change without any prior notification