

# Indoor Air Quality Solutions



**KANOMAX**  
*The Ultimate Measurements*

# Ultimate Solutions for Indoor Air Quality Investigation

Demand for quality indoor air continues to increase as we are spending more time indoors than ever before. Indoor air quality (IAQ) issues can be complex due to the diversity of indoor environments. To address IAQ, national and local governments have developed guidelines for acceptable indoor air quality. Assessing indoor air quality in buildings begins with IAQ investigations using professional grade measuring instruments.

Kanomax instruments are preferred by professionals that must monitor and maintain IAQ to ensure comfort, productivity and safety. Our fixed and portable gas monitoring instruments provide solutions for detecting and minimizing gas exposure. Our dust monitoring instruments contribute to worker safety by providing accurate, real-time measurements of dangerous, respirable particles.



## Maintain Occupant Comfort and Productivity

### Ventilation Testing

Acceptable air quality is only achieved by providing air of the specified quality and quantity to a space. As well as improving occupant comfort, maintenance can be reduced and energy savings increased by balancing the HVAC system to the required ventilation rate for the building.

## Minimize Occupational Health Effects

### Monitoring Toxic Gas

There are many sources of harmful airborne contaminants in buildings. The Carbon Dioxide level must be monitored and controlled. Many building materials generate VOCs (Volatile Organic Compounds). VOCs are volatile chemicals containing carbon atoms which are classified as toxic gas. Building owners and facility managers must detect, quantify and control toxic gases and their sources.

## Maintain Industrial Hygiene and Safety

### Respiration of Particles Control

Respirable particles that can lodge in the lungs are generally those smaller than 4 micrometer in diameter. Those particles can include cement dust, fly ash and oil smoke. Government regulations, particularly those established by the EPA, recommend a maximum exposure limit for respirable particles. Monitoring and controlling particle concentration in the workplace is a must to minimize IAQ liability.

### Thermal Comfort Control

To achieve high occupant satisfaction, controlling thermal comfort is very important. Occupant satisfaction directly affects productivity and health. Therefore, parameters, such as air velocity, temperature, and humidity should be controlled to maintain an acceptable indoor environment.

### Biological Contaminants Control

Bioaerosols are compounds of living organism that include fungi, mold, bacteria, and viruses. Their size can be less than 0.1 to as large as 100 micrometers in diameter and some are known toxics. Even in low concentrations, biological contaminants can affect allergies, asthma, and overall health.

### Professional Fume Hood Diagnostic

Properly ventilated Laboratory Fume Hoods should contain and exhaust dangerous vapors. Fume hoods must have proper airflow to ensure the workers breathing zone is free of all contaminants. Stringent hood tests, including the ASHRAE-110 leak, smoke visualization and face-velocity tests must be performed periodically through the life of hood.

# Maintain Occupant Comfort and Productivity

## Handheld Anemomaster™ Series

Kanomax anemometers can measure a wide variety of parameters to test ventilation rate. The parameters include air velocity, airflow, static pressure, temperature, and humidity of the indoor environment.



Model A031



Model A004

### Features and Benefits

- Hot-wire Anemometer measures air velocity and temperature simultaneously
- Built-in temperature compensation sensor keeps precise measurement across full temp range
- High accuracy rotating vane anemometer has simple operation
- Industrial grade enclosure and probe



Vane Anemomaster™ Model 6813



Climomaster™ & Probes

## Climomaster™ Series

Kanomax Climomaster is a multi-function thermal anemometer. It is suitable for many HVAC applications, such as facility ventilation, environmental measurements, and HVAC balancing. This handy and light-weight unit is the most accurate and repeatable hot-wire anemometer in the industry.

### Features and Benefits

- One probe measures air velocity, temperature, relative humidity, and airflow rate simultaneously
- 5 different detachable probe options: capable of low air velocity measurement, and Omni-directivity measurement
- User can control Climomaster and download data to PC by using Anemomaster Measuring Software

# Minimize Occupational Health Effects

## Handheld IAQ Monitor Model 2211

The Kanomax IAQ Monitor Model 2211 features quick start-up and high accuracy in measuring carbon dioxide and carbon monoxide concentration levels in the environment. Temperature and humidity are also simultaneously measured in a handy lightweight design.

### Features and Benefits

- Simultaneous measurements of CO, CO<sub>2</sub>, temperature, and relative humidity
- Interchangeable probe - accuracy is constant with spare probe as well
- Measurements can be sent to PC, and optional portable printer via RS232C



Model 2211



## Handheld Gas Monitor Aeroqual Series

Providing high level of functionality and monitoring capability, the Aeroqual Series can be used portably or fixed in position. The monitors are compatible with the full range of Aeroqual gas sensors. The remote sensor head adaptor kit is designed to allow the sensor head to be located up to 46 ft away from the main unit.

### Examples of Optional Sensors

- Ammonia: 0 - 100 ppm
- Ammonia: 0 - 1000 ppm
- Carbon monoxide: 0 - 100 ppm
- Carbon dioxide: 0 - 2000 ppm
- Hydrogen: 0 - 5000 ppm
- Methane: 0 - 10000 ppm
- VOC: 0 - 500 ppm
- Ozone : 0 - 0.150 ppm
- Nitrogen dioxide: 0 - 0.2 ppm
- Sulfur dioxide: 0 - 100 ppm

\* Ask Kanomax for other parameters



Sensor Head



Aeroqual Series 200

### Features and Benefits

- Interchangeable sensor heads capable of measuring more than 20 types of toxic gases
- Remote sensor capability
- Data logging and communication with PC (Series 500)



Model 3887

## Handheld Particle Counter Model 3887 and 3886

Kanomax handheld particle counters are perfect for initial assessment of indoor particulate levels. The Model 3886 measures 5 particle sizes simultaneously with optional multi-functions, such as air velocity, temperature, and humidity. Its low air velocity measuring function is suitable for laminar flow units. The Model 3887 3-channel is CE certified and provides instant, repeatable levels of toxic parameters, VOCs and particulates.

### Features and Benefits

- Simultaneous 5 channel particle measurements (Model 3886)
- Simultaneous 3 channel particle measurements (Model 3887)
- Handy and easy operation
- RS232C digital output
- Useful tripod mount for repeat, continuous, and remote mode
- Multi-functions: Particle, Air Velocity, Temp, R/H (Model 3886)
- Network capable up to 8 units with PC software (Model 3887)



Model 3886



## Portable Particle Counter Model 3900

The Model 3900 is a CE certified 6-Channel Portable Laser Particle Counter with a high flow rate of 1.0 cfm. The Model 3900 has a large color touch screen and its user-friendly interface makes operation easy. In addition, the Model 3900 offers multi-parameter measurements including airflow, air temperature, humidity, and differential pressure.

### Features and Benefits

- 1.0 cfm flow rate
- Simultaneous 6 channel measurements
- 0.3 micron sensitivity
- Big touch-screen display
- Measures multi-parameters, air velocity, relative humidity, temperature, differential pressure
- Network interface with PC communication software
- Stainless body
- Built-in printer



Model 3900

# Maintain Industrial Hygiene and Safety

## Portable Dust Monitor Model 3431, 3442, and 3521

Kanomax portable dust monitors are optimal tools for real-time monitoring of worker exposure to airborne contaminants, such as dust, smoke, fume, and mist. They measure particle concentrations of PM 10 and PM 2.5.

Digital Aerosol Monitor Models 3431 and 3442 are compact, respirable aerosol monitors which utilize the light scattering method to convert dust count into mass concentration.

The Piezobalance Dust Monitor Model 3521 is a unique respirable aerosol monitor, providing direct mass concentration of particulates using Piezobalance technology.



### National Ambient Air Quality Standards

Particulate Matter	Level	Averaging Time
PM10	0.15 mg/m <sup>3</sup>	24-hour
PM2.5	0.015 mg/m <sup>3</sup>	Annual
	0.35 mg/m <sup>3</sup>	24-hour



Model 3431



Model 3521



Model 3442



## Features and Benefits

- Precise direct mass measurement (Model 3521)
- Light scattering measurement (Model 3431, 3442)
- Particle size range of 0.1 to 10  $\mu$  m
- Mass concentration range of up to 10mg/m<sup>3</sup>
- Compact and light weight unit
- Capable of analog and digital output



Model 3800

## Handheld Condensation Particle Counter Model 3800

The Model 3800 is a handheld condensation particle counter that detects ultrafine particles in many applications. With this advanced technology, users can implement nano-sized particle research in occupation and working areas. The Model 3800 is appropriate as a screening tool to evaluate filter performance and gasket leakage. It is also an optimal tool to detect black carbons, such as soot and smog, which are normal constituents of exhaust contaminants from combustion.

### Features and Benefits

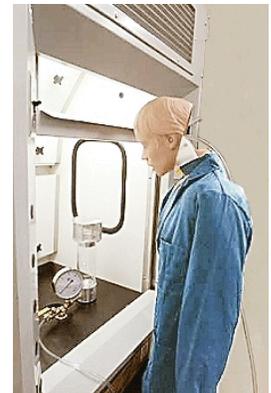
- Particle size range of 0.015 to 1.0  $\mu\text{m}$
- Concentration range of 0 to 100,000 particles/ $\text{cm}^3$
- Data logging and managing data with measuring software



## ASHRAE 110 Diffuser Kits

The ANSI/ASHRAE 110 test is a method of testing the performance of laboratory fume hoods. Kanomax Dif-Kit tracer gas hardware is ideal for use in performing the Tracer Gas test in accordance with ANSI/ASHRAE Standard 110-1995.

Other equipment for fume hood testing includes a thermal anemometer for face velocity measurement. Data stored in the Anemomaster can be downloaded to a datalogger from its analog output. Fume hood data can be analyzed, graphed, and recorded.



ASHRAE 110 - 1995 Performance Testing



Anemomaster™ Model A031



Trace Gas Hardware

### Features and Benefits

- ASHRAE standard tracer gas diffuser with ejector and nozzle assembly
- Diffuser is made to the design and specifications of Standard drawing #110-83M
- Face velocity measurement data can be stored and downloaded (Model A031)
- Test-Manikin for the Trace Gas test is available

# Kanomax Provides Other Outstanding Solutions

## HVAC Testing and Balancing

Calibrate the environmental setting within the building for meeting occupant comfort requirements, achieving HVAC design specifications, extending maintenance intervals, energy conservation, and efficient operation. Kanomax **Anemomaster™ series** measure in-duct airflow and static pressure to maintain and test HVAC systems.



Model A031



## Laboratory Controls

Control ventilation and temperature in critical controlled air environment spaces, such as laboratories and clean rooms in order to maintain the integrity of experiments and production processes. Kanomax provides instruments, such as **Airflow Transducer Model 6332D** for bio safety cabinet testing. Users can detect leakage and test HEPA filter efficiency.



Model 6332D



## Cleanroom Contamination Control

Kanomax cleanroom contamination control products are designed to serve applications from continuous monitoring to certification for any clean environments in the pharmaceutical, electronics, medical, and food industries. Kanomax **Cleanroom Monitoring System** provides an automated means to monitor and gather airborne particle count and other parameter levels in controlled environments.



Cleanroom Monitoring System

## Industrial Testing

Industrial testing covers many applications which integrate manufacturers' research and development processes. Kanomax's strong experience in measuring solutions can serve for various industry needs. **Amenity Manikin System**, the life sized manikin, emulates the positioning of a driver or passengers in the cabin. More than 100 sensors on the manikin monitor the interior environment by measuring air velocity, temperature, pressure, and radiant heat.



Amenity Manikin System

Distributed by



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