



SWAN ENVIRONMENTAL MONITORING SOLUTIONS



OUR GLOBAL PARTNERS



Environmental Monitoring

Sound Level Meters

Sound level meters (SLMs) are designed for measurement of workplace noise levels to determine the degree of hearing protection that may be required.

- Sound Detector is a basic Integrating Sound Level Meter
- Sound Examiner is with Data Logging & PC interface by using powerful DMS Software
- Sound Professional is widely used for advanced research applications with 1/1 & 1/3 Octave Filter analysis.



Deployable Particulate Sampler (DPS) System

- Ideal for ambient and indoor air sampling for PM₁₀ or PM_{2.5} with Patented IMPACT sampling heads.
- Disposable ready-to-use impaction discs - no cleaning or greasing
- The Leland Legacy pump is quiet, fully programmable, and provides a constant 10 L/min flow rate for 24 hours, making it ideal for environmental monitoring or indoor air studies.



Portable Environmental Particulate Air Monitor

Unique sampling design allows for real-time data by using Light Scattering technique and filter gravimetric analysis utilizing the FRM 47mm Cassette. Interchangeable size-selective impactors for PM₁₀, PM_{2.5}, and PM_{1.0}; measures TSP without impactor.



Ideal for ambient, environmental, and indoor air quality investigations and baseline surveys.

Portable Piezobalance Dust Monitor

Ultimate replacement for gravimetric sampling for mass concentrations.

Measures PM₁₀, Respirable, or PM_{2.5} particulate matters, such as dust, oil mist, fume, and soot.



PC interface with RS232C and software for downloading data.

Useful for IAQ Investigations, Industrial Hygiene, Occupational Health & Safety, Product QC, Laboratory Research etc.,

Portable Environmental Monitor

- Measures upto 7 different parameters simultaneously viz., Particulates, VOC's, Toxic Gas, CO₂, RH, Temp. & Air Velocity.
- 90-degree light scattering laser photometer measures particulates in real-time and 37 mm Filter paper for Gravimetric sampling
- Displays instantaneous levels, Min, Max, AVG, STEL & TWA.
- Particulates in 4 different sizes by rotary Impactor.



Real-Time Particulate Monitor

- Simultaneously measure size-segregated mass fraction concentrations corresponding to PM₁, PM_{2.5} Respirable, PM₁₀ and Total PM size fractions. MCERTS certified
- Minimal set-up, New tri-pod mount capability
- Custom alarm settings for alerts anytime.
- Aerosol concentration range 0.001-150 mg/m³
- Cloud Data Management System



Handheld VOC Monitors

- Third-generation patented PID technology
- VOC detection range from 0 to 15,000 ppm
- Humidity compensation with built-in humidity and temperature sensors
- Available with 1 ppb sensitivity also.
- Correction factors for more than 200 compounds.
- IP 65/67 water-proof and dust-tight.
- Built-in man down alarm.



Benzene Monitor

- One of the most advanced compound-specific monitor.
- Accurate measurement of benzene from 10 ppb to 200 ppm and other VOC's up to 10,000 ppm.
- 60sec response for benzene measurement snapshot.
- Unique 15-minute benzene STEL measurement.
- Excellent versatility for entry pre-screening, marine spill response, and refinery down-stream monitoring.



Handheld Odour Meter

Most popular simplified tool for odour analysis by using Semi-Conductor gas sensors, which enables to indicate the relative strength and odour classification numerically by comparing odour gas & purified air.

Three models are available for Industrial, Hospital and IAQ applications.



Automatic Weather Station

- Measures temperature, relative humidity, rainfall, solar radiation, and wind speed & direction.
- It records and communicates the data to the cloud using its internal modem or radio.
- Receive alerts via automated phone call, text message, and/or email immediately.



Wireless Weather Station

- Allows accurate recording of wind direction, wind speed, temperature, relative humidity and rainfall.
- Backlit 7 inch touch screen
- Weather forecast function
- Automatic time setting using DCF
- Software for analyzing the stored data to get reports
- USB interface for data transfer
- Transmitter is powered by a solar panel and the batteries.



Wind Speed Alarm

- Measure and monitor wind load on cranes, wind turbines, construction sites etc.
- High measuring range upto 50m/s or 180kmph. Stormy gusts can also be monitored.
- Radio range in open field is upto 750m/2500ft in the free frequency band of 2.4 GHz. Radio range in buildings is upto 60m/200ft.
- Robust plastic housing. With LCD Display.
- Radio anemometer warning system.



Environmental Monitoring

Real Time Noise Level Monitoring System

- Real Time Noise Monitoring
- Complies with IEC 61672-1:2013, ANSI S1.4-1983 and ANSI S1.43-1997
- 1/1 & 1/3 Octave in accordance with IEC 61260-1:2014 and ANSI S1.11-2004
- Linearity range: 25dBA~136dBA
- Frequency weighting: A/B/C/Z.
- Time weighting: Fast/Slow/Impulse
- Profile calculation in parallel with different frequency / time weighting.
- Calculate SPL, LEQ, Max, Min, Peak



Mini Ambient Air Quality Monitoring System

- Monitors the quality of inhaled air in Smart Homes & Offices, Smart cities on Smart Phones.
- Measures SO₂, NO₂, CO, CO₂, O₃, PM_{2.5}, PM₁₀, Temperature., Relative Humidity, Noise, Light, UV, Pressure.
- Housed inside a shell and can be pole-mount.
- 8 GB internal memory.
- Communicates to cloud via Wi-Fi / GSM(3G/4G).
- Real Time hot spot analytics. Advance Analytics & Trends. Mobile & Email Alerts.
- Solar powered battery.



Environmental Particulate Samplers

Environmental Air Sampling Pump

- Compact and lightweight pump.
- Flow range: 5 to 5000 ml/min.
- Low flows from 5 to 500 ml/min require a kit.
- With Li-Ion battery.
- Provides powerful flows for particulate sampling, low flows for gas and vapor sampling, and the long run-times for low-concentration sampling.



AirChek XR5000



AirLite

Compact Air Sampling Pump

- Offers a flow range of 5 to 3000 ml/min.
- Economical alkaline battery operation.
- Over 10-hour run times for sampling gases and vapors and particulates.
- Maintains sample integrity.
- Optional timer.
- Ideal for abatement, indoor air sampling, and emergency response in non-hazardous locations.

Personal Environmental Monitor (PEM) Sampler

- Small, lightweight inertial impaction sampler for measuring PM₁₀ or PM_{2.5} in indoor air.
- The PM_{2.5} and PM₁₀ PEM models are each available in (2, 4, and 10 L/min) flow rates.



Button Aerosol Sampler

- Porous curved-surface inlet. Designed for better sampling of inhalable dust, including bioaerosols for viable or non-viable analysis.
- For low-level personal or area sampling of inhalable dust.
- Use with AirChek Series Sample Pump at 4 L/min



IOM Inhalable Sampler

- Original, Gold standard, IOM Inhalable Sampler.
- Convenient removable filter cassette is weighed before & after sampling to eliminates wall losses.
- Use with AirChek Series Sample Pump at 2 L/min.
- Plastic IOM for gravimetric sampling. Autoclavable SS for chemical analysis & bioaerosol sampling.



Size Selective Samplers

Area Sample Pump & Cascade Impactor

- The Sioutas Impactor and SKC Leland Legacy Sample Pump operated at 9 L/min are powerful partners that ensure precise particle separation at the specified cut-points and sample collection on the filters at each stage.
- Leland Legacy pump ensures long 24-hour runs on one charge with Li-Ion battery. Highly accurate internal flow sensor.
- The Patented Personal Cascade Impactor separates and collects airborne particles in five size ranges: 2.5 µm, 1.0 to 2.5 µm, 0.50 to 1.0 µm, 0.25 to 0.50 µm, and < 0.25 µm.



Environmental Air Sampling

Air Sampling Bags

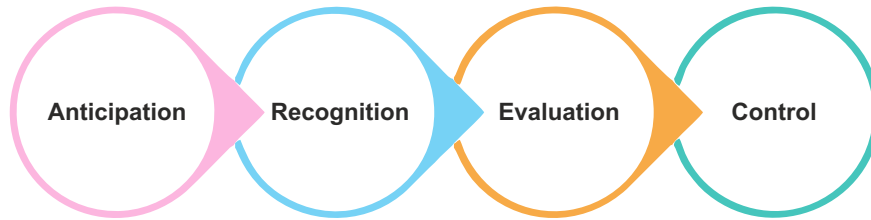


- The Grab Air fixed flow (1 L/min) economical area sample pump uses a 9-volt alkaline battery for sampling gases/vapors.
- The pump is ideal for use with sample bags.
- Variety of sizes. Choice of fittings: Single combined polypropylene / Dual SS.
 - Tedlar Bags: VOCs, H₂S, CO, CO₂, CH₄, SF₆.
 - Flex Film: VOCs and CO, CO₂, CH₄, SF₆.
 - Flex Foil: H₂S, VOCs, CO, CO₂, CH₄, SF₆.
 - Flex Foil Plus: Enhanced version of FlexFoil.

Fundamentals of Industrial Hygiene

What is Industrial Hygiene

Science of Anticipating, Recognizing, Evaluating & Controlling workplace conditions that may cause worker injury or illness, impaired health and well-being, or significant discomfort and inefficiency among workers.



Anticipation

To foresee and do something in advance of the event

- Know the process(s).
- Know the raw material(s).
- Know the finished product.
- Know the properties of raw material and the finished product.

Recognition

Recognition of Agent

- Warning properties of materials.
- Employee complaints.
- Community complaints.
- Affecting Human Health.
- Affecting Environment.
- Affecting Property.

$Hazard \times Exposure = Risk$

Evaluation

Measuring instrument

Taking samples and analyzing:

★ Area, ★ Personal, ★ Biological

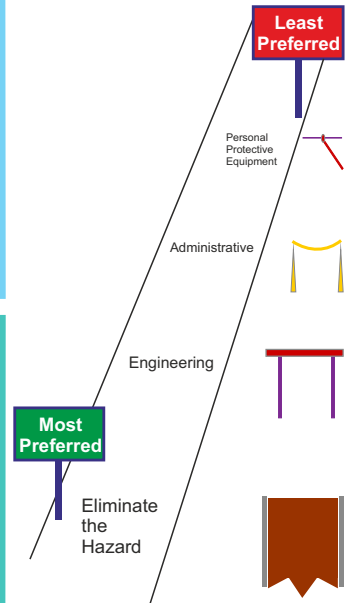
- What - hazards are present at workplace
- Where - the areas where the hazards are present
- When - time and pattern of release of hazards
- How - releasing mechanism of the hazards
- Who - persons likely to be affected by hazards

Control

Hierarchy of control (most to least preferred)

- Eliminate the Hazard
- Engineering
- Administrative
- Personal Protective Equipment

Hierarchy of Controls



Routes of Entry

- Inhalation - Airborne contaminants
- Absorption - Penetration through the skin
- Ingestion - Eating & Drinking



Types of Exposure

- Acute - Short term period between exposure and onset of symptoms
- Chronic - Long time period between exposure to an agent and the onset of symptoms



STEL (15 min)



TWA (8 hrs)

Types of Hazards

- Physical : Noise, Vibration, Heat Stress, Radiation, Illumination
- Chemical : Gases, fumes, Dust, Vapors, Solvents
- Biological : Fungi, Bacteria's, Pathogens, Viral, Parasites, etc.
- Ergonomics : Workstation design, Repetitive motion, Improper lifting/reaching
- Psychological Hazards : Fatigue, boredom, Sick building Syndrome



Hazards Monitoring

Workers are exposed to a variety of hazards in a manufacturing environment, (e.g. solvents, dusts, acids, fuels, noise, etc.).

Exposure monitoring is an important component of an Occupational Hygiene program, as this assessment determines the types of controls required to remove or reduce the hazard to acceptable levels; and therefore, reduce the potential risk to their health.



Personal Monitoring



Area Monitoring

Physical Hazards

Area Sound Level Meters

- SWAN 308 / SWAN 309 are new generation octave sound level meters.
- SWAN 308 is Class 1 and SWAN 309 is Class 2.
- Range: 20dBA~139dBA.
- Frequency weighting: A/B/C/Z. Time weighting: Fast/Slow/Impulse.
- Mini thermal printer for printing measured data.
- GPS module (optional). Supports GPS timing.
- White backlight LCD
- MicroSD card for data storage.
- ATEX certified models also available.
- Real-time 1/1 and 1/3 Octave in accordance with IEC61260-1:2014 and ANSI S1.11-2004.



Personal Noise Dosimeter

- Powerful & intuitive instrument designed for identifying hearing loss threats.
- Measuring range - 70 dB to 140 dB. Frequency wt : A, C, Z.
- 1/4 inch prepolarized condenser (electret) field replaceable threaded microphone.
- Compact, 85 grams unit mounts easily to the shoulder.
- Large color OLED display - easy reading.
- LED indicator flashes when dose level has been exceeded.
- Equipped with two independent dosimeters that can simultaneously measure against separate industry standards.
- Configurable auto display shut off for increased battery life.
- ATEX certified.



Area Heat Stress Monitors

Wet Bulb Globe Temperature Heat Stress Monitors calculate and display a WBGT Index value that considers the effects of Ambient Air Temperature, Humidity, Air Flow (which provides an evaporative cooling effect to the body) and radiant heat from sources such as the sun, furnaces, ovens, and boilers.



- QT32, QT34, and QT36 heat stress monitors are with conventional wet bulb sensor.
- QT 44, 46 and 48N heat stress monitors are engineered with waterless wet bulb sensor.
- Convenient stay time parameters per multiple standards help determine work-rest ratios
- IP 54 ingress rating helps protect unit from exposure to dirt, dust, oil and water

Standard Human Vibration Meter

- For tri-axial measurement (Xh, Yh and Zh axes) of Hand-Arm (ISO 5349) and Whole-Body (ISO 2631) human vibration.
- Captures velocity, acceleration, displacement measurements
- Comes with 4 independent measuring channels.
- Flash memory for up to 10,000 readings
- Displays Maximum RMS (MTVV), estimated Vibration Dose Value (eVDV), Vector Sum, Peak and Maximum Peak.



Personal Heat Exposure Monitor

- It is an arm-worn monitor that provides 24/7 connected real-time physiological monitoring of heart rate, exertion levels, and core temperature.
- Other insights: Fall Detection, GPS Location, Haptic or LED Feedback, Distance Travelled, SOS Tap Alert.
- Compact and blends seamlessly under PPE.
- Most robust, rugged and easy-to-use connected safety wearable ever built.
- Administrators can interact with all devices from a single, centralized, cloud-based platform that provides live or historical insights of personnel.
- Data is recorded and stored in device onboard memory for later download. Mobile app for offline use.



Advanced Human Vibration Meter

- Meets requirements of ISO 8041-1:2017, ISO 2631, ISO 5349, EU 2002/44/EC.
- Enables simultaneous measurements with two triaxial accelerometers (e.g. both-hands vibration or vibration through vehicle seat).
- Low frequency measurements
- Frequency analysis 1/1 & 1/3 octave provides information on dominant frequencies and harmonic
- WAV Recording. Time-history logging.



Light Meter

It can determine whether you have adequate illumination to protect workers, students, visitors, patients or attendees of different venues.

- With footcandle and Lux measurement modes.
- Measures up to 40,000 Fc (or) 400,000 Lux.
- Remote light sensor via 12in. coiled cable
- Indicates change in light levels, peak mode captures highest reading



Solar Radiation Meter

- Measures direct radiation and the diffuse solar radiation of the atmosphere.
- Range: 0 to 2000 W/m²
- Uses monocrystalline silicon solar cell.
- Enables on-site measurement of the solar power yield / irradiation P tot.
- Enables comparative solar measurement.
- Transmission and evaluation software included.



Ionizing Radiation Meter

- Detects α -, β -, γ - and x- radiation
- High measuring accuracy
- Internal memory for up to 2000 data sets
- Large, easy-to-read LCD screen
- Bluetooth interface
- PC software provided for data processing



Non-Ionizing Radiation Detector

- Has a 3-axis circular probe for detecting electromagnetic radiation.
- Frequency range: 50MHz to 3.5 GHz
- Adjustable limit value with alarm
- Large LCD display
- Average function



Personal Sampling Pumps

Medium Flow Sampler

- First personal sampling pump with color touch screen navigation.
- Extended flows from 5 to 5000 ml/min.
- Ultra-quiet and tough. Intrinsically safe.
- Continuous / timed / intermittent sampling.
- High back pressure compensation.
- Automatic flow correction for changes in temperature and atmospheric pressure.
- 20 hours of run time after charging. Hands-free calibration.
- Software for easy pump programming & advanced reporting.
- Screen lock prevents accidental tap errors



Universal Sampling Pumps

- Classic Workhorse for intermittent sampling of particulates and gases/vapors
 - Built-in low flow pressure regulator for multi-tube sampling
 - Flow rate: 5 - 5,000 ml/min.
 - Long run times up to 12-hour extended. Heavy duty and lightweight - only 964grams
- Universal PCXR8 - Programmable Solution
- PCXR4 enhanced with: Programmable start/stop (Delayed start. Timed shutdown.) Extended Intermittent sampling.
- Universal PCXR4 - Compliance Solution
- 44XR enhanced with : Automatic fault shutdown and time retention. High-accuracy timer. Convenient HOLD feature.
- Universal 44XR - Economical Solution:
- Basic operation. Convenient flow indicator.



Low Flow Sampler

- Intuitive touch screen for easy programmability
- Constant flows from 20 to 500 ml/min
- Corrects flow for changes in back pressure, temperature, and atmospheric pressure
- Bluetooth low energy (BLE) communication
- Large backlit screen
- > 20+ hours run time at 500 ml/min with Li-Ion battery
- Small. Intrinsically Safe.
- Multi-tube Sampling
- Screen lock prevents accidental tap errors
- SecureLock feature provides for passcode secured sampling.
- Mobile App



Pocket Pump Touch

DGMS Approved Dust Sampler

- Flow range: Constant flow 5 to 3,000 ml/min. Low flows 5 to 500 ml/min require a low flow kit.
- 12+ hours run time for sampling particulates and gases/vapors.
- Impact-resistant case. Easy On/Off button and flow control.
- Small, compact, and lightweight (567grams)
- Intrinsically safe
- Digital time display tracks sample time in minutes up to 99,999 minutes
- Indicates low battery and flow fault without losing sample run time
- Flow fault protects sample integrity
- DGMS Approved Model for all graded mines.



AirChek 52



Sidekick

Personal Particulate Sampling Media

Filters & Cassettes

Membrane Filters (MCE, PVC, PTFE, Polycarbonate, Silver), Depth Filters (Glass, Quartz, Cellulose), Coated (Treated) Filters and Cassettes (Asbestos, DPM) are available with various pore sizes & diameters suitable for different applications viz., metal dust, alkaline dust, asbestos, Cr⁶⁺, Br, aromatics, Isocyanates, Silica, aerosols, diesel PM etc.



Filter Cassette Holder

Can be attached to person's collar for sampling in the breathing zone. Lightweight. Available in different sizes.

Respirable Dust Cyclones

- Aluminium: Specified in NIOSH methods for silica and respirable dust. Provides sharp size selection. Eliminates electrostatic problems of non-conductive nylon cyclones. ISO @ 2.5L/min
- Plastic: Lightweight. Conductive. Secures a collection filter in its reusable snap-together cassette for optimum sampling. ISO @ 3.0L/min
- GS3: Multiple inlets. Conductive plastic construction. Eliminates ambient wind speed, orientation sensitivity & electrostatic effects of nylon cyclone. ISO @ 2.75L/min



Personal Gas & Vapour Sampling Media

Sorbent Tubes for Solvent Extraction

SKC produced the first commercial sorbent tube for NIOSH in 1973. High sorbent quality and reliability. Reproducible recoveries and low standard deviation.

Adsorbent materials: Silica Gel, Anasorb, Charcoal, Tenax, Chromosorb, PUF, Porapak, XAD, Carbopack X etc.

For: hydrocarbons, mercaptans, methanol, amines, inorganic acids, aldehyde, ammonia, organic vapours, aromatics, aliphatics, benzene, organochlorine pesticides, PCBs, PAHs, volatile nitriles, pesticides, explosives and glycols etc.



Adjustable Low Flow Tube Holders

These products enable a sampling pump to be used with up to 4 sorbent tubes at the same time, either the same tube type running at different flow rates, or with different tubes running at the same or different flow rates.



Protective Tube Covers

These protect the ends of the tube for storage and transit. Collar clips are attached for convenience.

Low Flow Tube Covers with a Non-Adjustable Tube Holder are also available.



Flow Calibrators

Defender Series

- High accuracy. Backed by Proven DryCal technology. Reading uncertainty <1%.
- Field-proven & reliable for decades.
- Real-time flow data with DryCal Pro software
- Trusted accreditation with ISO-17025 facility by NVLAP of NIST.
- Ranges:- Low: 5-500 ccm, Medium: 50-5,000 ccm, High: 300-30,000 ccm.



FlexCal Series

- Portable, Accurate, Easy-to-navigate calibrations. USB connectivity
- Ranges:- low: 5-500 ccm, medium: 50 ccm - 5 LPM, high: 0.5-50 LPM
- Quick start operation. LCD display
- User-selectable flow units and time interval
- Standardized accuracy of 0.5%. High accuracy without the use of soap bubbles, timers, or heavy provers.



DryCal Series

- DryCal 800 is more than 4x more accurate than most flow meters
- 0.5 sccm - 100 slpm Flow Range.
- Consists of a base with a touchscreen and 5 interchangeable cells
- No gas-specific calibrations are required. Use with any non-corrosive, non-combustible gas.
- Small, Light weight and Portable.
- Serial (RS-232) and USB.



Chek-mate Calibrator

- Ranges:- Low: 20 to 500 ml/min, Medium: 0.50 to 5 L/min, High: 5 to 30 L/min.
- Certified volumetric accuracy is 1%.
- Built-in sensors adjust for changes in temperature and atmospheric pressure.
- Average flow display.
- NIST, ISO Calibration. No moving parts, use in any orientation.



Chek-mate Calibrator with Pulsation Dampener

- To ensure the most accurate calibration possible during high flows of 5-30 L/min the Chek-mate is used with pulsation dampener.
- Certified volumetric accuracy is 1%.
- Built-in sensors adjust for changes in temperature and atmospheric pressure.
- Average flow display.
- NIST, ISO Calibration. No moving parts, use in any orientation.



Soap Film Flowmeters

- They are popular traditional flow calibrators
- Easy to use for calibrating sample pumps.
- Two models that are calibrated to within $\pm 2\%$ of the volumes marked on the flowmeter.
- Supplied with a certificate of calibration.



Personal Real Time Monitors - Particulates

Personal Real Time Dust Monitor

- Compliance Monitor with flow compensation.
- Identifies potential dust problems before they become health concerns
- Can accept any 37mm or 25mm pre-weighed and preloaded filter cassette
- Respirable & Inhalable sampling inlets
- Miniature sensor in OSHA defined breathing zone
- Ability to create on screen aerosol profiles & name data sets
- Impactors for PM₁₀, PM₅, PM₄, PM_{2.5}
- Infield calibration verification
- OSHA TWA, min, max, cumulative average along with STEL and ceiling alarms.
- Real-time rolling graphical display. Large color touch screen
- Optional wireless connectivity.



Personal Real Time Diesel Particulate Monitor

- Can accept any 37mm or 25mm pre-weighed and preloaded filter cassette
- Respirable & Inhalable sampling inlets
- Miniature sensor in OSHA defined breathing zone
- Applications: Diesel Engine Surveys, Combustion Efficiency, Mining, Transportation, lung damaging DPM surveys etc.



Personal Real Time Silica Monitor

- Simultaneously provides real-time particulate readout and gravimetric sampling.
- NIST traceable- SAE fine test dust ISO12103-1 A2
- Sensing Range: 0.001-500 mg/m³ or 1-500,000 ug/m³



Mask Fit Tester

- Can measure the leakage ratio of dust concentration quantitatively in and out of the mask, and from the result, it indicates "Fit Factor".
- CNC (Condensation Nuclei Counter) / CPC (Condensed Particle Counter) technology.
- 7" color touch screen. Wi-Fi enabled.
- Stand alone or PC operation
- OSHA and CSA protocol compliant
- Control up to 4 units with single computer



Biological Sampling

Bio-Sampler System



- BioSampler® collects bioaerosols in liquid for sample times upto 8 hours using BioLite+ Pump.
- Swirling liquid method minimizes re-aerosolization, reduces particle bounce, and preserves microorganism integrity and viability
- Can be used with several different liquids.
 - BioLite+ Pump provides up to 62 L/min flow or sonic flow and indefinite run times.
 - Applications: Indoor air quality testing, Infection control (e.g. hospitals and vets), Infectious disease investigations, Animal and human exposure/risk investigations, Agriculture, horticulture, industry and environment e.g. composting, storage areas (wood, waste etc), manufacturing.



Bacteria, Fungus and Virus Sampling System

- VersaTrap® spore trap cassettes capture mold and bacterial spores and other particles ranging from 1.5 µm to 3.9 µm.
- SureSeal certified leak-free cassettes for sample integrity and Unique serial number on each cassette for sample traceability.
- QuickTake 30 Sample Pump with Constant flow from 10 to 30 L/min
- Run times up to 14 hours for sampling particulates.
- Captures on an optically clear adhesive coated slide. The slide is designed for easy removal and positioning.



Mold & Bacteria Sampler System



- BioStage viable cascade impactor can be used for sampling indoor / outdoor mold and bacteria using QuickTake 30 Pump as per NIOSH and ACGIH .
- Collects on agar surface.
- Andersen N-6 Performance. Ensures sample integrity.
- SureLock positive seal ensures sample integrity. Collected organisms remain intact & viable
- Corrosion-resistant aluminum - Autoclavable.
- QuickTake 30 Sample Pump with Constant flow from 10 to 30 L/min
- Run times up to 14 hours for sampling particulates.

Viables & Non-Viables Sampling System

- Superior collection of inhalable particles (viable and non-viable).
- Gelatin filters maintains the survival of stress-sensitive microorganisms.
- Follows the ISO 7708/CEN sampling criteria
- Greater than 93% collection efficiency
- Flow rate: 4 LPM. Max Sampling Time: 30 minutes.
- To be used with Button Sampler & Air Chek Touch Pump



Microbial Air Sampler

- Single aspirating chamber for Petri or Contact plates
- Volume of aspirated air: 100 or 200 L/m
- suitable for 55 mm Contact plates or 90 mm Petri dishes
- Remote control via bluetooth
- Technopolymer shockproof body with antibacterial performances of surfaces
- Auto calibration. IP65.
- Manual operative aspirating cycles. Memorized data: up to 1.000 samples



Virus & Rapid Test Sampler

- Innovative instrument for airborne viable particle sampling.
- Collects virus in a liquid sample for subsequent rapid analytical identification (PCR)
- Active air sampling according to the traditional method of impact on agar culture media to count colonies (CFU).
- The volume of air is aspirated and mixed in a pre-analytical liquid.
- Collection liquid: water, buffer, nutrient broth
- Quantity of collection liquid: 15 ml



Sterile Surface Swabs

- Determines the degree and type of biological contamination present in the area being sampled.
- Use this non-destructive method on most surfaces, including irregular surfaces like air return grills.
- The rayon tip is inert, non-toxic, and permits good sample retrieval and adsorption.



Carpet Sampling Kit

- Regular carpet ingredients : Dyes, Pesticides, Biocides, Chemicals, Odors
- Collect fungal spores or asbestos from carpets and other dusty areas
- Uses Microvacuum Cassettes
- As specified in ASTM Methods D5755 and D5756



Personal Safety Gas Detectors

Personal VOC Detector

- Compact, personal wireless monitor.
- Reliable, rugged, and intrinsically safe
- PID sensor accurately monitors over 300 VOC's.
- Built-in library of 190 correction factors for automatic reading in equivalent units.
- 5-way local and remote wireless alarm
- Water, dust and shock-resistant
- Built-in man down alarm



Personal CO₂ Detector

- IR Sensor Technology
- Rechargeable Li-ion battery. 14days of use by one full charge
- Measured by %vol and ppm
- Lightweight – 135g
- Back-light display
- Automatic alarm record
- Easy configuration and data management via PC program
- Configurable Calibration, Bump test, Self test due warning



Single Gas Detectors

- Single replaceable gas detector designed to detect oxygen deficiency and presence of toxic gas
- Detects O₂, CO, H₂S, H₂, SO₂, NH₃, NO₂.
- Continuously monitors & alerts user using LED, vibration and alarms.
- Excellent water / dust proof structure
- Easy check & calibration via Docking Station



Multi Gas Detectors

- Measures 4-6 major gases, which cause most of the industrial accidents, to protect workers from the disasters caused by the Oxygen deficiency, Toxic gas poisoning and gas explosion.
- Detects O₂, CO, H₂S & Combustible Gas (CH₄).
- Continuously monitors & alerts user using LED, vibration and alarms.
- Intrinsic Safety.
- Easy check & calibration via Docking Station.
- Optional Plug and Play Sensors.



Safety

Continuous VOC Monitor

- Fixed, field-configurable, Continuous detector for VOC's.
- Pre-programmed correction factors for more than 200 compounds.
- Graphic display and LED status indicator for fault and alarm conditions.
- Configurable low, high, and fault relays can trigger alarms or process controls.
- Humidity compensation.
- Explosion-proof enclosure.
- Detection ranges: 0.01 to 100 ppm, 0.1 to 1000 ppm, 1 to 1000 ppm.



Toxic Gas Monitor

- Designed to use in Hazardous Zone 1 & Zone 2 and Zone 0.
- Available with electrochemical, catalytic combustion, photo ionization and infrared technologies.
- Measurable gases : CO, H₂S, O₂, LEL, Cl₂, NH₃, H₂, NO₂, HCN, HF, HCl, HCHO etc.
- Controllers are designed to compute the data from various detectors to central process
- Controllers provide alarm when concentrations exceeds desired level.



LPG / LNG Gas Detector

- Built in sampling pump.
- With digital display of concentration
- Detector for the gas leakage
- Both rechargeable battery and alkaline battery are compatible
- Suitable for low concentration measurements also.



Colorimetric Gas Detection System

Gas Sampling Pump:

With built-in tip breaker.

Smaller piston. Meets leakage test of

EN1231. Shows leakage rates with a red line.

Has full-stroke (100mL) & half-stroke (50mL) positions. Built in Automatic stroke counter.



Detector Tubes: Indicates concentrations directly on a printed scale. For more than 500 different applications. Adjustable sampling volume. Long shelf-life, stability. High quality glass tubes. Reliable detecting agents with high quality standards.



Compressed Breathing Air Quality Monitoring Kit

- Easily, quickly, and simultaneously measure CO, CO₂, Water vapour, and Oil mist contained in compressed breathing air (cylinder or compressor).
- Without electricity or power source.



Refrigerant Gas Leak Detector

- Used to locate CFC/HFC refrigerant gas leaks.
- Detects R-134a, R-404A, Freon R-407C, R-410A and R-22
- Highly sensitive, can locate gas leaks from HVACR refrigeration systems even in areas contaminated by other gases.
- Gas sensor is located at the end of flexible tube to access hard-to-reach places.
- Audible and visual alarms. Tricolor LED indicator.



Alcohol Breath Analyzer

- Professional electrochemical sensor
- Flow sensor for determination of respiratory volume
- Low measurement tolerance of $\pm 0.05\%$
- Stores 9,999 measured values with date and time
- Mouthpieces with certified bio-compatibility
- Short measurement intervals & waiting times



Gas Leak Detectors

Portable Leak Detectors

- Methane-specific measurement with IR-technology.
- Detects CH₄, CO, CO₂, O₂, H₂S, Ethane, Propane, Butane.
- Distinction between natural gas and marsh gas with GC and IR-sensor
- Fast Ethane and Propane Analysis
- High sensitivity, quick reaction and short recovery time
- Pinpointing leaks with a minimum of bar holes
- Integrated GPS chip allows reliable location tracking
- Wireless communication system for easy data transfer
- Modular sensors
- Weatherproof IP54



Innovative Survey System

- Mono-Wheeler Carpet Probe: Walk on a curb following exactly the crack between stone and asphalt.
- Bell: Draw gas samples through asphalt and pinpoint the leak position.
- Flexible Extension: Search in hard-to-reach areas with hand probe flexible extension.
- Bar Hole Probe: Perform bar hole tests, when needed, with the lightweight bar hole probe and the automatic bar hole function.



Industrial Hygiene Kit

Industrial Hygiene Kits are designed to help in monitoring the Industrial Hygiene, Occupational Health & Safety parameters. Designed for use by a variety of people from industrial hygienists to first responders, in a wide range of situations from occupational health to safety applications.

- Best Tool for Multiple Parameter Monitoring.
- Rugged Carrying Case
- Cost saving Combi Pack
- Easy to operate simple instruments

Industrial Hygiene Kits are available in three different configurations as Basic, Intermediate and Advanced Kit.

Basic Kit : SHK-101

Sound Level Meter	Swan, India	SLM-309
Light Meter	Extech, USA	EA-30
Anemometer	Extech, USA	45160
Air Sampling Pump	SKC, USA	Pocket Pump
Sampling Media	SKC, USA	

Intermediate Kit : SHK-201

Sound Level Meter	Swan, India	SLM-309
Light Meter	Extech, USA	EA-30
Anemometer	Extech, USA	45160
Air Sampling Pump	SKC, USA	Pocket Pump
Sampling Media	SKC, USA	
Noise Dosimeter	TSI Quest, USA	Edge 4P
Area Heat Stress Monitor	TSI Quest, USA	QuesTemp 34

Advanced Kit : SHK-301

Sound Level Meter	Swan, India	SLM-309
Light Meter	Extech, USA	EA-30
Anemometer	Extech, USA	45160
Air Sampling Pump	SKC, USA	Pocket Pump
Sampling Media	SKC, USA	
Noise Dosimeter	TSI Quest, USA	Edge 4P
Area Heat Stress Monitor	TSI Quest, USA	QuesTemp 34
IAQ Monitor for RH / Temp / CO ₂ / CO	TSI Quest, USA	EVM-4
Portable VOC Monitor	Honeywell, USA	MiniRAE 3000+
Multi GasDetector O ₂ / CO / H ₂ S & EX	Senko, Korea	MGT



	Physical Exposure Monitoring	Chemical Exposure Monitoring	Safety
Automobile Industry	Noise & Vibration: During furnace loading, mechanical de-coring, stripping, knockout of castings, fettling. Heat: In foundry processes, melting, pouring, shakeout, core knockout, sprue removal.	Silica Dust: During Finishing, moulding, core making, shakeout-knock out, sand system & melt department activities. Lead Fumes: During Melting, pouring, operations of iron & brass foundries. Asbestos: By old asbestos thermal insulations. Chromic & Sulphuric Acid Fumes: During Die-casting, electroplating.	CO: From Cupola furnace maintenance, cupola melting, melt department, cooling tunnels, green sand moulds carbon combustion. VOCs: From Coolants mist, synthetics, soluble oils, core making, core burnoff.
Cement Industry	Noise & Heat: By Milling plants and furnaces. Vibration: By Drillers, Air Hammers, Pile drivers, tractors, graders, excavators, earth moving equipment, pneumatic drills & hammers and disc grinders.	Dust: From Cement dust (contains Free Silica, heavy metals like Ni, Co, Pb, Cr, etc.).	Toxic gases: NOx, SO2, CO during Quarrying, material handling, crushing etc.
Chemical Industry	Noise: By Granulators, Ultrasonic welding machine, ball & pebble mills, high speed dispensers, vibrating filter screens etc. Heat: By Processing machines, injection moulding machines	Dust & Fumes: From Lead & Barium dust, Copper acetate arsenite dust produced during weighing and mixing processes. Lead Chromate Dust: During Weighing, mixer & mill hopper filling, powder paint & coating filling etc.	Acrolein: During Varnish cooking. Acrylates: From radiation curing coatings. Anhydrous Ammonia: Farming area stores. Chlorinated Hydrocarbons: By Cleaning and bonding Solvents. Chlorine Leaks: During production. Formaldehyde Vapors: formaldehyde resins. Hydrogen: During Chlorine manufacturing. Isocyanates Vapors: From Polyurethane resins, polyurethane paints and coatings. Solvent Vapors: Aliphatic & aromatic hydrocarbons, Alcohols, Ketones etc. from lacquers, varnishes. Styrene Vapors: During GRP article manufacturing, Glass fiber emissions.
Coal Based Thermal Power Plant	Noise: By Coal pulverizers, turbine generator unit & station service air compressors. Heat: By Heat exchangers, transformers, solar energy etc.	Coal dust: By coal pulverizers, coal pooling, coal burning etc. Metal fumes: Mn, Cr, Ni, CO & O3 fumes during welding. Solvent vapors: During protective coating for metal surfaces. Asbestos: By older asbestos thermal insulations Ash: From Fly ash (Crystalline silica & Arsenic)	Toxic gases: Natural gas, H2, O2, CO, SO2, NOx, H2S, VOCs from boiler pipework, burners, turbines packages, landfill gas pipework, blade production, confined spaces, landfill leachate pools, perimeter bore holes etc.
Iron & Steel Industry	Noise: By Fume extraction systems, vacuum systems, arc processes, rolling mills, large fans. Vibration: By Shop floor machines and portable tools. (Pneumatic drills, hammers, saws, grindstones) Heat: During forging and melting.	Asbestos: By Older asbestos thermal insulations Heavy Metal Fumes & Particulates: From emissions with Pb, Cr, Zn, Ni, Mn fumes, particulates & adsorbates. HCl & HF Mists: From Pickling areas. Oil Mists: During cold rolling.	H2S & SO2: from Sulphur fossil fuels and blast furnace slag. Polycyclic Aromatic Hydrocarbons (PAH): during Combustion process, coke making. BTX: Benzene, Toulene, Xylene from coke oven gas. CO: During Combustion processes. Vanadium: During alloy additions. NH3 and NOx: During coke making process.
Mining & Quarrying	Noise: By Powerful machines, fans, blastings, ore transportation instruments and channel burners. Heat: From Rock it self. Others: By equipment heat, physical activity, ambient temperature and humidity etc. Vibration: During Drilling operations with Track Drill, Jack Hammer. Light: For dangerous shaky grounds visibility. Other main concerns are glare, radiometric energy exposure, HID light exposure etc.	Silica Dust: During rock drilling, blasting, crushing, pulverization. Dust: coal mine dust, a mixture of coal, silica, clay, limestone, and other mineral dusts is generated during blasting, drilling, cutting, coal transportation. Diesel Particulate Matter (DPM): From diesel machines, a complex mixture of gases, vapors and particle matter. Hazardous gases include: CO, N2O, NO2, SO2 and VOCs like Aldehydes, Hydrocarbons, PAH, N-PAH.	Gases & Vapors: CH4 & H2S are naturally occurring, CO from mine fires, NOx during blasting, Oxygen deficiency during combustion and improper ventilation, Mercury vapors during merucry mining, Arsenic vapors during Gold and Lead mining, Nickel vapors during nickel mining etc.
Oil Refinery and Petrochemical Industry	Heat: In combustion, process units etc.	Aromatic Napthas: coking operations & catalytic cracking processes. (Benzene, PAHs, H2S, CO) Hydro Carbons: In process sampling, combining process, refinery support activities, leak & release. Nickel Carbonyl: During cracking process using nickel catalysts. Solvent Vapors: PAHs, phenol, furfural, glycol, MEK, amines, toluene etc. during solvent treatment process Propane vapors: During solvent treatment. NH3 and Cyanide: From nitrogen feed stocks.	H2S: During coking process, in residual fuel. Oxygen Depletion: During coking process, At confined / enclosed spaces and Inert spaces during hot work (welding, cutting, grinding, blast clearing etc.) Other toxic gases and particulates: Asbestos, Chlorine, CO, CO2, H2SO4, HF, Amines, Phenols etc.
Pulp & Paper Industry	Noise: All the processes involved generate loud noises. Heat: During work in hot processes, outdoor areas, vessel maintenance.	Dust: Wood dust, trimmed paper, waste paper during dryend and finishing operations, recycling Mn, Ni, Cr, CO, NOx, O3 fumes: During welding stainless steel vessels, pipes in pulping, recovery and bleaching operations. Asbestos fumes: From Older asbestos thermal insulations in pulping, recovery, boiler operations.	Bleaching agents: Per Acetic Acid (PAA), chlorinated organics, paper making additives from bleach plants machine room. Sulphur gases & VOCs: By chemical pulping, Black liquor mixing with sodium sulphate. Acids & Alkali: From Chemical recovery areas, Sampling, Testing
Pharma Industry	Noise: By manufacturing equipment & utilities, production & packaging equipment.	Solvent Vapor Dust: benzene, chlorinated hydrocarbons, ketones, formaldehyde etc. solvents vapors during compounding, granulating, table coating, drying, milling and blending.	Other gases: Nitrous oxide, Per Acetic Acid (PAA), Sterilants such as Ethylene oxide(EtO).

Indoor Air Quality (IAQ)

Handheld IAQ Monitor

- Inexpensive multimeter that simultaneously measures and records CO₂, humidity and temperature.
- It also calculates the dew point and wet bulb temperature.
- Data can be downloaded, saved and analyzed.
- Up to 40,000 data point memory
- Large display with backlight
- NDIR sensor with automatic calibration



CO₂, RH & Temperature Display

- Simultaneously measures and records CO₂, Relative Humidity and Temperature.
- Large, easy-to-read display
- Can be configured directly with buttons and stored data can be exported to a USB stick for analysis.
- **Applications:** IAQ of Classrooms, Meeting Rooms, Open-Plan Offices, Shopping Centres, Fitness Studios etc.



Fixed / Portable IAQ Monitor

- Detects: PM_{2.5} & PM₁₀, Temperature, Relative Humidity, CO₂, HCHO, TVOC's, CO, O₃, SO₂, NO, NO₂, NH₃, O₂, H₂S etc.
- Easy to monitor all IAQ-Pro information at local area network via APP.
- Connect with LCD display, Cloud computing.



Anemometers

Can simultaneously measure Air Velocity, Air Flow, Static Pressure, Temperature and Humidity of the indoor environment. It is ideal for HVAC ventilation testing and balancing, laboratory control, fume hood performance testing, IAQ investigations, and industrial testing.



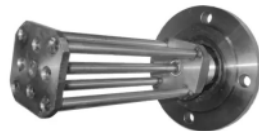
Handheld Moisture Meter

- For measurements on concrete, wood, ETP sludge.
- Ergonomic shape with anti-slip rubber.
- Individually adjustable alarm limits.
- Numeric and graphical view.
- Easy three-button operation.
- Automatic shut down.



Online Moisture Meter

- Continuous Moisture Content in Oil, Diesel, fuel, sand, gravel, cement sludge
- Central probe surrounded by four other probes. Microwave - sensor.
- Large distance between the probes ensures high resistance to clogging.
- Stainless steel - use and special dielectric spacers offer high corrosion resistance.



PM_{2.5} IAQ Monitor

- Provides real-time and reliably accurate measurement of indoor PM_{2.5} dust concentrations, one of the greatest health risks in the world today.
- Simple wall mount installation.
- At-a-glance interpretation of data, correlates to the Air Quality Index.



Outdoor / Indoor Particulate Monitor

- Lightweight, laser-based particle instrument
- Simultaneously outputs PM₁, PM_{2.5}, PM₄, PM₁₀ mass conc. ions as well as temperature and humidity.
- Stream real-time data from cloud using WiFi.
- Internally logs data at 15 min interval, for 2 weeks (SD card).



Portable Dust Monitor

- Surveys dust levels for indoor and ambient air monitoring.
- Use interchangeable size-selective impactors to sample for PM₁₀, PM_{2.5}, PM₁₀, or ISO respirable (4.0 µm).
- Sensing Range: 0.001 to 20.0 mg/m³ (0.01 to 200 mg/m³ - optional)
- Software allows for graphical and statistical representation of the total dust generating process



Innovative Handheld Particle Monitor

Displays 6 particle sizes simultaneously (0.3, 0.5, 1.0, 3.0, 5.0, 10.0µm) in cf or m³. Large, 4.3-inch full-color touchscreen. 0.3 micron minimum sensitivity. Store up to 10,000 measurements. Compact and Light weight. Remote control software. Control and monitor the instrument remotely through a PC.



Pipe Locator & Wire Tracer

- Locates hidden gas or water pipes, identify short circuits, and follow lines inside walls or under flooring.
- Consists of a signal generator (or transmitter) and a receiver. Both have bright LED lights for use in dark and dimly lit spaces.
- Automatic, manual and UAC measuring modes.



Building Vibration Meter

- For vibration and shock metering on buildings, bridges, towers, and other artificial structures.
- Time-based and event-based recording. Short-time and long-time vibration based recording.
- Triaxial acceleration meter. 100,000 readings internal memory. Threshold function. Integrated display. Optional SMS alarms.



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