



SWAN ENVIRONMENTAL MONITORING SOLUTIONS

Field Monitoring Solutions

Lab Monitoring Solutions

On-Line Monitoring Solutions

WQ Enhancement Solutions

Water Quality Monitoring Instruments

OUR GLOBAL PARTNERS

SHIMADZU

LaMotte

KYORITSU
CHEMICAL CHECK LAB. CORP.

DYS

SANSON

PROTEUS INSTRUMENTS

HUMAS

ColiMinder
ONLINE MICROBIAL MONITORING

kikkoman

AQUA
SCIENCE

3S

ECO

OPTEX
Sensing Innovation

seibold

Smart
Storm

UNE

Intellitect

BIO
CERA

Total Organic Carbon (TOC Analyzer)

- Measures total amount of organic carbon present in a water sample.
- TOC-L and TOC 4200: Based on 680°C Catalytic Combustion & NDIR Detection.
- TOC-e uses mercury free excimer lamp and active path technology.
- TOC-L Range: 4 µg/L to 25,000 mg/L.
- Software for intuitive operability and a wealth of functions.
- Superior to COD/BOD Analysis.
- Software for COD/BOD.
- Rapid - Results in Minutes
- Accurate - Full oxidation, No interferences
- Non toxic - No Hazardous chemicals
- Easy - Uses auto sampler



TOC 1000e
Range
0.1ppb-2,000ppb



TOC 1000e S
Range
0.02ppb-500ppb



TOC-LCPH/N



TOC-LCSH/N

Range
H: 4ppb-30,000ppm
N: 50ppb-30,000ppm



TOC-4200
Range
200ppb-50,000ppm

TOC Monitoring of Drinking Water:

- TOC limits for drinking water typically range between 1 to 3 ppm.
- Limits primarily imposed to control carcinogenic DBPs viz., THMs and HAAs, which form during chlorination when Chlorine mixes with Organics. Continuous TOC monitoring before chlorination was also mandated.
- Organics removal efficiency by DWTPs can be optimized by monitoring TOC & alkalinity levels of intake water. Alkalinity hinders TOC removal. Depending on the levels suitable treatment processes can be taken.

TOC Monitoring of Source Water

- Rivers, lakes, groundwater, rainwater and seawater are Source water. It is not pure as it gets mixed with point source pollutants (e.g., industrial discharges, agricultural runoffs) and non-point source pollutants (e.g., decay of naturally occurring organic matter). River/Lake bank erosion due to human activities & weather, also change quality of source water.
- TOC standards & monitoring are essential to control pollution from man-made sources, thereby protect source water resources.
- Many countries have defined TOC limits for source water, typically ranging from 4 to 5 ppm.
- TOC can serve as a key tool to assess and manage water quality in a Water Quality Tagging System. This mapping/tagging of critically polluted river stretches and lakes is helpful in obtaining valuable info to control waste water discharges, thus thereby protect aquatic life.

TOC Monitoring of Process Water:

- Pre-treated Water: Chlorination of clarifiers is controlled to avoid THC formation by monitoring TOC. Backwashing of Sand Filters can be planned using TOC monitoring. Organics removal efficiency by Activated carbon filters can be checked by monitoring TOC.
- Treated Water: Organic fouling of Strong Base Anion (SBA) resins in De-Mineralization (DM) plant can be monitored using TOC. Thereby Rejuvenation / Replacement of resins can be planned.
- Boiler Water: TOC limits in boiler feed water are very stringent, typically ranging from 0.1-0.5mg/L. TOC monitoring of boiler water can help to --- prevent scaling and corrosion of boilers caused by organic acids, identify chloride and sulfate contaminants in condensate by decreasing cation conductivity, identify chloride leakage from Condenser Polishing Unit (CPU) by detecting CO₂.
- Cooling Water: TOC limits in cooling water are 70-80ppm. TOC monitoring can help --- detect leaks during cooling system start up, determine tower cycles, manage biofouling in condenser, prevent biofouling / Microbiologically Influenced Corrosion (MIC) in cooling tower nozzles, walls, bay etc.

TOC Monitoring of Waste Water:

- TOC is the key parameter to monitor organic load in Sewage and Effluent Treatment Plants (STPs & ETPs).
- Online TOC monitoring offers significant opportunities to optimize plant performance.
- It offers shorter measurement cycles without hazardous chemicals, making it a safer and more efficient option.
- Global average TOC limits : 10-30mg/L. TOC Analyzer can also display COD/BOD as per regulations.
- Empowers Operators:** While making critical process decisions in real-time viz., managing variable organic loads, equalization of tank capacity, balancing C:N:P ratio etc.
- Process Control:** TOC monitoring before biological treatment helps to maintain optimal Food-to-Microorganism (F:M) Ratio.
- Asset Protection:** TOC monitoring helps in early detection of high organic loading, reduce membrane fouling and protect assets.
- ZLD Support:** Knowing TOC level of final treated water in a Zero Liquid Discharge (ZLD) plant helps to decide the suitable application.

Other Applications:

- Only proven analyzer that works for high salt/brine sample analysis
- Inorganic chemical determination viz., HCl, H₂SO₄, Brine, Ammonia, Ammonium, HF, H₃PO₄ etc.
- Soil & Solids measurement
- Low range ultra pure water for semiconductor and data center applications.
- Condensate monitoring
- and many more ...



8 port Sampler



Auto Sampler



Solid State Combustion Unit



TN Unit

UV-VIS Spectrophotometer

- Range: 190-1100nm.
- Single / Dual Beams.
- 200+ pre-programmed tests.
- With user defined programs also.
- Output: RS232, USB.
- 7" Color LCD display.
- Light source: Halogen (VIS range), Deuterium (UV range).
- Detector: Sodium Silicon Photodiode
- Can store 5000 data pieces and 500 curves.



Single/Dual Beam
Pre-programmed & User Defined



Single Beam
Pre-programmed

Colorimeters

- Ideal for water analysis in field or lab.
- Range: 0-125%T
- Light source: LED/Filter setup; 428nm, 525nm, 568nm, 638nm
- Backlit LCD display
- Sample cell: 25 mm round cell, 10 mm square cuvette, 16 mm COD tubes
- Logs up to 500 data points.
- Easy to use software allows the analyst to choose a test factor from over 60 pre-programmed calibrations.



COD, TN, TP & AN Analyzer System

- Colorimeter can measure COD, TN, TP, AN
- Methods: 165°C (20min) or 150°C (2h)
- Multi wavelengths: 420, 520, 620 etc.
- Quick, easy and accurate
- Hg-free reagents also available
- Automatic Data Storage
- IP68 waterproof case
- Digester with round cells
- Pre-programs for easy & fast operation. Optional user-defined programs



BOD System

- Differential pressure method
- Test six water samples at same time
- Independent sensor for each bottle.
- BOD Incubator for best results
- Automatic data storage
- Backlit graphic LCD and control LED
- Bluetooth data transfer to PC.



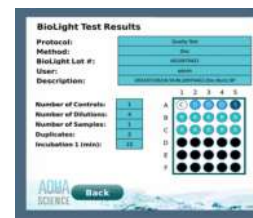
BOD by DO Method

- Self-stirring dissolved oxygen sensor to measure BOD according to the dilution method
- Permanent flow for accurate measured values with built-in stirrer
- Accurate results due to minimal use of oxygen
- Perfectly adapted to BOD measurement in Karlsruhe and Winkler bottles



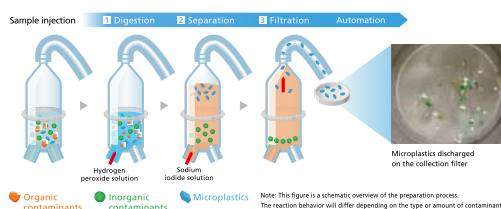
Rapid Toxicity Analyzer

- Bench-top & portable in one inst.
- Principle: Measures light levels of *AliiVibrio fischeri*.
- Based on ASTM Method D5660-96 and ISO 11348-3:2007
- Read time is <7 seconds.
- Screens over 3,600 compounds.
- Upto 60 samples at a time.
- Results in EC50 (Effective Concentration 50%).
- 7" LCD screen luminometer with user-friendly software.
- 16 GB Storage. USB/Wifi (Optional). SCADA Connectivity.



Automatic Microplastic Preparation Device

- Isolates microplastics contained in environmental surface water
- Microplastics are automatically collected through the processes of (1) Digestion, (2) Separation and (3) Filtration
- Extracted plastic size : Major axis 0.3-0.5mm in length
- Plastic density: 1.5g/m³ max
- Automation advantages: Cost savings, Reproducibility, Safety
- Simple control software.



Pocket Meters

- Various models to measure single or multiple parameter
- Multi parameter options:
 - Salt / TDS / Cond. / Temp
 - Salt / TDS / pH / Temperature
- Single parameter:
 - ◆ Total Chlorine ◆ DO ◆ Fluoride ◆ pH
- Built in Battery.
- Optional Memory storage.
- Large Display
- Reagents also available .



Digital Pen Type Conductivity & TDS

- Measures TDS (Total Dissolved Solids) in ppm
- Measures Conductivity in $\mu\text{S}/\text{cm}$
- Helps assess water purity
- Measures water temperature also
- Suitable for water treatment, homes and outdoor use
- EC Range : 0 - 9999 $\mu\text{S}/\text{cm}$
- TDS Range : 0 - 9999 ppm
- Pen type, Light



Handheld Meters

- Single / Multi Parameters Options : pH, ORP, EC, DO, TDS, Resistivity, Salinity, Temperature etc.
- pH: -2.000-20.000 pH
- EC: 0.000 $\mu\text{S}/\text{cm}$ - 2000mS/cm
- DO: 0.000-20.00mg/L
- TDS: 0-1000 $\mu\text{g}/\text{L}$
- Salinity: 0.00-100.00 ppt
- 3.5 TFT color display, easy to read.
- Unique interface, easy operation.
- Parameter setting, data holder.
- Auto-data storage: up to 3000 readings.
- Sample ID identification.
- User level management. History record.
- Software connectivity for data download.



Silicone protective plugs



Foldable-design, user-friendly



USB Type-C port



Benchtop Meters

- Single & Multi Parameters: pH, ORP, EC, DO, TDS, Resistivity, Salinity etc.
- pH: -2.000-20.000 pH
- EC: 0.000 $\mu\text{S}/\text{cm}$ - 2000mS/cm
- DO: 0.000-20.00mg/L
- TDS: 0-100 $\mu\text{g}/\text{L}$
- Keypad or 7" High resolution Touch screen options
- Backlight adjustable, Operation beep selectable
- Easy to use
- Calibration points: pH: 1 to 3/5pts, Cond: 1/2pts, DO: 100%full Oxygen or Zero oxygen
- Optional: Bluetooth printer
- Optional : GLP, User ID Identification, password protection
- Optional: Calibration reminder
- With: magnetic stirrer, electrodes, flexible electrode holder and calibration solutions.



Electrodes



Touch Series

Classic Series

Lab Setup

We can design, supply, install all water quality laboratory set up, room or mobile, with analytical instruments to meet ETP / STP / WTP measurement requirements.



Lab Setup



Mobile Van Setup

Total Coliform & E.coli Qualitative Analysis Kit

- Easy to use and measure.
- Presence/absence for Total coliforms & E.coli.
- Analysis method: DST (Defined Substrate Tech.).
- Detection limit: 1 CFU in 100mL Sample.
- Cultivation / Analysis time: 24hr.
- 20%-50% cost savings compared to existing methods.



ColiTest



UV-Lamp



Blue Color
(X-Gal/MUG)



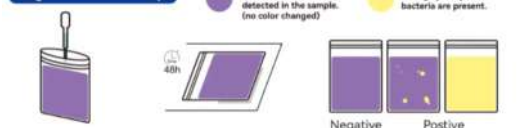
Yellow Color
(ONPG/MUG)

E.Coli Qualitative Analysis Kit

- E. Coli Detection
- Defined Substrate Technology (DST)
- US EPA Compliant
- Universal Water Source
- 48-Hour Results
- Individually Sealed
- Visual Color Change
- Incubation : 25°C @48h, 37°C@24h
- Field-Ready & Portable



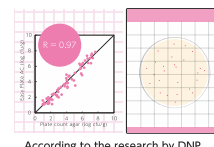
Diagram of detection steps



Total Coliform & E.coli Quantitative Analysis Kits

Easy Plates:

- Film media for microorganism testing.
- Sample, Incubate and Count.
- Easily distinguishable bright colonies.
- High correlation with plate count agar.
- Only 5% space vs traditional plates.
- Reduces waste.
- AOAC PTM Certification



According to the research by DNP



10 petri dishes vs.10 Easy Plate Sheets

MPN Tray with Intelligent Program Controlled Quantitative Sealer

MPN Tray:

- Enumeration by Most Probable Number (MPN) method.
- Analyte : Coliforms, E. coli
- Application: Potable Water Applications
- Platform: Dehydrated Culture Media
- Presence/Absence, Quantitative
- Det. Limit : 1 CFU in a 100 mL sample
- Approvals : US EPA, FDA



- Test for Total Coliforms, E. coli, Fecal/Thermotolerant Coliforms, and Enterococci across various water samples (drinking water, wastewater, surface water, etc.)
- Advanced microbial detection sealer designed for water quality analysis
- Uses Defined Substrate Technology
- Used alongside 51-well or 97-well quantitative trays



Bio-burden Test

Rapid Bio Mass Detection System

- Accurately measures true living biomass health and concentration.
- Measures and differentiates between living biomass, dead biomass, and inert solids.
- Complete results within 5 minutes, allowing real-time assessment of bio-reactor efficiency.



ATP+ADP+AMP Rapid Hygiene Monitoring

- ATP bioluminescence test is useful to rapidly determine if food preparation and processing environment is clean or not.
- Provides a simple rapid test method for monitoring degree of cleanliness, hygiene and risk and acts as first step to HACCP.
- One of the quickest and most useful methods of finding and tracking the source of bacteria that can contaminate food.
- Patented technology detects not only ATP but also AMP which is derived from ATP upon processing viz., heat treatment, fermentation etc.
- The advantages of the ATP+AMP method are: quick, highly sensitive, simple to use, cheap to use improvements in product quality and shelf life.
- ATP+AMP is an excellent tool to take preventive action so that you mitigate risk at a very early stage.



Water Quality Test Tubes

- Prefilled reagents: Add sample and colorimetric comparison.
- Results in 30s. Easy & highly accurate.
- Free from toxic or hazardous substances.
- Parameters: pH, Total Hardness, Ca Hardness, Manganese, Alkalinity, Chloride, Sulfate, Fluoride, Nitrite, Free Residual Chlorine etc.
- Capture color developed tubes with a smartphone app and digitize the assessment results.



Water Test Strips

- Reagent strips for water quality testing
- Parameters: pH, Total Alkalinity, NaCl, Hardness, Zn, Cu, Hg, Cd, Free Cl, Total Cl, NO₃, NO₂, Fe, Cr(VI), Pb, F⁻, Phosphate, Ammonia, Bacteria
- Portable water analyzer operating in Visible light range for easy and accurate digital results.
- Testing speed 70-120 strips / hour.



Chlorine Determination Kits

- To determine Free chlorine, Total Chlorine & Ozone in drinking water
- Add DPD Test Tablets to water sample and do colorimetric analysis
- Free/Total Chlorine range: 0-10 ppm.
- Ozone range: 0-1ppm.
- Colorimetric analysis using Color chart / Slide Comparator Kit / Photometer
- Application: to ensure safe drinking water reaches end consumer (Free Cl range: 0.2-0.5ppm)
- Advantages: distinguishes Free Cl from Total Cl ; more accurate with less rate of error ; not carcinogenic method, as per IS 3025:2021 .



Trimeter for Turbidity, Chlorine, Color

- Ranges - Turbidity: 0-2,000 NTU, Cl: 0-10ppm, Colour: 0-800CU
- Meets ISO 7027/EPA 180.1 for turbidity meters
- Records upto 4,000 time-stamped data points
- Stored tests can be viewed on the meter or downloaded to a PC.



Pocket Testers

- Multi parameter options:
 - Salt / TDS / Cond. / Temp
 - Salt / TDS / pH / Temperature
- Single parameter: Total Chlorine, DO, Fluoride, pH
- Built in Battery. Optional Memory storage.
- Large Display Reagents also available .



Automated Water Analyzer

- Future of water testing!
- Revolutionary Technology!!!
- Simply Inject Sample, Insert Disk, Press "Run"
- Auto: Mixing - Timing - Measuring
- 10 Tests in 60 Seconds
- Accurate Wet Chemistry Methods
- **Drinking Water Parameters (Water Link Spin Touch DW):**
 - **Treated Water:** Free Cl, Total Cl, Combined Cl, pH, Total Hardness, Total Fe, Cu, Total Alkalinity
 - **Well Water:** pH, Total Hardness, Total Fe, Ferric Iron, Ferrous Iron, Cu, NO₃, NO₂, Total Alkalinity
- **Boiling and Cooling Waters' Parameters (Water Link Spin Touch BC):** Total Alkalinity, Br, Free Cl, Total Cl, Combined Cl, Cu, Ca Hardness, Total Hardness, Total Fe, Phosphate and Silica
- **Aquaculture Water Parameters (Water Link Spin Touch FX):**
 - Fresh Water: Alkalinity, Ammonia, Hardness, Nitrate, Nitrite, pH, Phosphate
 - Salt Water: Alkalinity, Ammonia, Calcium, Magnesium, Nitrate, Nitrite, pH, Phosphate
- **Water Link Spin Touch:**
 - Free Chlorine (DPD), Total Chlorine (DPD), Bromine (DPD), pH, Calcium Hardness, Total Alkalinity, Cyanuric Acid, Copper, Iron, Salt, Phosphate, Borate, Biguanide and Biguanide Shock.



Centrifugal
Fluidics
Photometry™

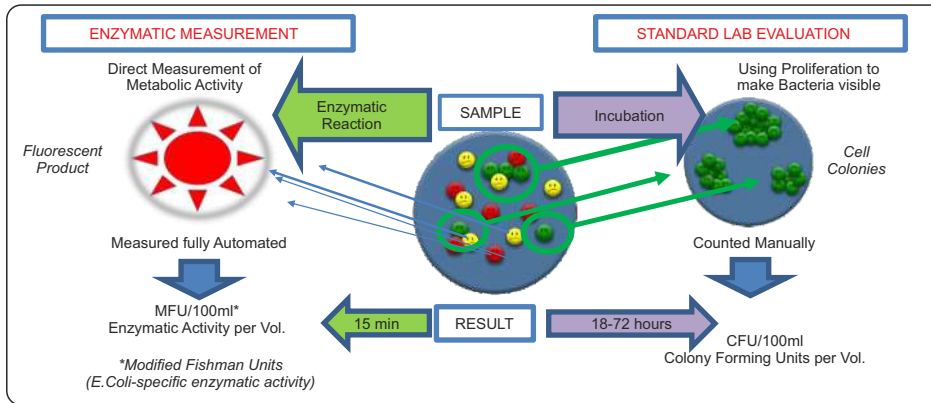


Real Time Microbial Monitoring System

- Fluorometric principle
- Automated sampling, measurement, cleaning, calibration.
- 15 min measurement time. 9 min cleaning cycle. Up to 54 measurements/day.
- Real time data.
- Online data visualization
- Automatic notification.



Stationary Model Transportable Model



On-line Multi Parameter Drinking Water Analyzer

- Continuously measures & transmits 5 or 6 tap water quality parameters in real time.
- Parameters: Turbidity, Free chlorine, pH, Conductivity, Temperature & Chromaticity.
- Optimized sample flow system provides accurate and stable water quality.
- High precision, High Durability, Reagent free. Auto/Remote Diagnostics & Flush.
- IP65 Protection. 7" LCD Touch Display.



Inline Intelligent Sensors

- Parameters: Free Chlorine, Turbidity, Pressure, Flow, Temperature, pH, Conductivity, ORP, Dissolved Oxygen, Chlorine Dioxide, Volumetric Flow, Min Nightly Flows, Total Dissolved Solids, Shear Stress
- Clear, continuous insight into water quality & network health.
- Intellisonde DI : Pipes > 125mm diameter
- Intellisonde Cell : Smaller pipes & hard to access areas
- Fast sampling (standard: 2min)
- Class-leading sensor life
- Flexible power options (battery, solar, mains)
- Communicate via Modbus/RS485 or IoT
- IP68 rating



On-Line Advanced River Water Quality Monitoring System

- 11-port sonde with **UV-AF technology** - full spectrum absorbance & fluorescence.
- Has exclusive proFLUOR fluorimeters & flat-faced sensors.
- Parameters: TOC, COD, DOC, BOD, **Coliform count**, pH, TSS, Turbidity, DO, Conductivity, ISEs, Ammonium, Phosphate etc.
- Superior levels of anti-fouling.
- High precision, performance and reliability.
- Logging Rates: 1 second to 1 day
- With Bluetooth connectivity. Data Memory: 64 Gb SD card
- Depth rating: 100m



Portable/On-Line Multi Parameter Water Quality Analyzer

- Can measures 7 or 8 parameters
- Options: pH/ORP, Conductivity, TDS, Salinity, Turbidity, Suspended solids, COD, Dissolved Oxygen (DO), TOC, Nitrate Nitrogen, Ammonia Nitrogen, Fluoride, Chloride, Calcium ions, Chlorophyll-A, fDOM, Oil in water, Temperature etc.
- Electro-Chemical, Optical, or Physical Detection
- No reagent consumption
- IP68 protection
- LCD touch screen
- Wireless communication



Digital Water Level Recorders (DWLRs)

Measures ground/surface water level continuously. Widely used in Mines, Industries, Institutes, city flood control and city water supply & drainage etc. We are the leading supplier in India (Model SLL99 under MII) with 16,000+ No.s Installations (NHP, ABHY projects, State projects etc.).

Sensor Features:

- Fully sealed, submersible level transmitter with high accuracy.
- Highly reliable & stable pressure sensor
- Titanium / other Construction. Good automatic control. Water-proof cable.
- Compact size, light weight and easy installation and operation.

Datalogger (with Telemetry) Features:

- Capture data in digital (RS485 MODBUS, RS 232) format.
- Bluetooth communication.
- Data logger with inbuilt Telemetry Module for seamless data transfer
- Remote data acquisition through GPRS or GSM protocol.
- Data sent to a centralized data collection website.



Sensor



Datalogger



Water Level Indicator

- Level range: 30/50/100/150/200/250/300m
- Quick response circuit design, high detection speed, high sensitivity.
- Suits to various environmental & regional water quality.
- Low power consumption. Battery-powered, Battery life 2 years.
- Cable has a ruler scale to measure the water level directly.
- Electrode oxidation rust prevention for long-term sensitivity.



Conductivity, Temperature, Depth (CTD) Logger

- Mainly used for underground water monitoring of: Temperature, Conductivity & Water pressure/Level.
- Conductivity Range: 0-200mS/cm (Customizable)
- Four-pole graphite conductivity sensor
- Temperature Range 0-60°C ;
- Pressure Rating: 0-30m, 0-45m, 0-75m, 0-120m, 0-150m, 0-200m (Customizable)
- Prevents biological attachment - on-site cleaning.
- RS485 Modbus communication etc.



Flow Meters

- Electromagnetic or Ultrasonic principles.
- For forward/reverse volume flux .
- Good sensitivity, High accuracy,
- Low power consumption
- Good Low flow
- Dot matrix LCD display
- Suitable for measurement of liquid-solid two-phase fluids such as sewage, slurry, pulp, coal slurry, pulp etc.
- Corrosion/abrasion resistant Lining and electrodes (optional)
- EEPROM prevents sudden loss of the stored data



Continuous Water Level / Radar Velocity Flow Meter

- For continuous level / flow measurement of liquids.
- Universally implementable radar sensor
- Suitable for level measurement in storage containers, reactors and process vessels, even under difficult process conditions.
- Exact measuring results independent of pressure, temperature, gas and steam
- Maintenance-free operation through non-contact measuring principle



Water Quality Test Tubes

- Prefilled reagents: Add sample and Colorimetric comparison.
- Results in 30s. Easy & highly accurate.
- Free from toxic or hazardous substances.
- Parameters : COD, TN, NO_3^- , NO_2^- , PO_4^{3-} , Total Hardness, NH_4^+ , As, Cr, Cu, CN, Fats & Oils, F, H_2O_2 , Pb, Mn, Ni, pH, Phenol, Residual Cl, Zn etc.
- Capture color developed tubes with a smartphone app and digitize the assessment results.



Portable DO Meter

- Measures DO & Temperature.
- Range: 0-20mg/L
- 3.5 TFT color display, easy to read.
- Unique interface, easy operation.
- Parameter setting, data holder.
- Auto-data storage: up to 3000 readings.
- Sample ID identification.
- User level management. History record.
- Software connectivity for data download.



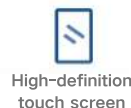
Portable TSS Meter

- Total Suspended Solids meter combines the scattered light & transmitted light method
- Uses a near-infrared light source to eliminate chromaticity interference.
- Range: 0-1000mg/L
- Waterproof seal
- HD LCD screen
- Beautiful and durable appearance
- Strong storage



Portable COD, TP, TN, AN Analyzer

- Standard: COD, TP, TN, AN Analyzer
- 8 wavelengths: 420nm, 500nm, 550nm, 570nm, 620nm, 600nm, 700nm, 850nm
- 8" 2K color touchscreen.
- Built-in lithium battery and thermal printer.
- High temperature resistant ABS shell.
- Rapid digestion temperature: 165°C@20min
- 2,00,000-hour LED cold light source ensures quick, stable & accurate detection.
- Multi-methods: tube, Cuvette, vial colorimetry, tube colorimetry
- 360° rotation to reduce interference.



Portable Waste Water Quality Analyzer

- 60+ parameters: COD, TP, TN, AN, NH_4^+ , pH, DO, EC, TUR, TSS, Heavy metals etc.
- 8+ wavelengths : 420nm, 500nm, 550nm, 570nm, 620nm, 600nm, 700nm, 850nm etc.
- 8" 2K color touchscreen.
- Built-in lithium battery and thermal printer.
- High temperature resistant ABS shell.
- Rapid digestion temperature: 165°C@20min
- 2,00,000-hour LED cold light source ensures quick, stable & accurate detection.
- Multi-methods: tube, Cuvette, vial colorimetry, tube colorimetry
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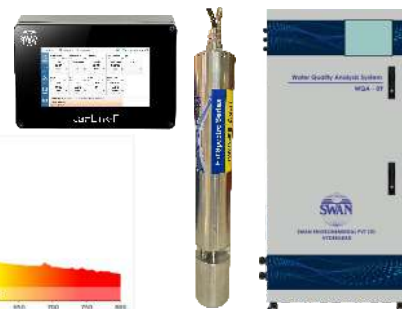
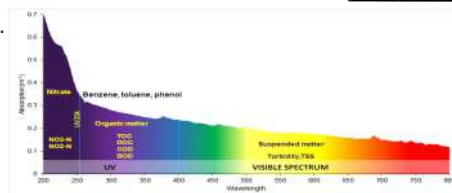
Waste Water Samplers

- Hydrocell range of water samplers are for Composite Collection of (flow, event, or time proportional) samples of trade effluent discharges in industrial applications.
- Thermoelectric cooler with no moving parts
- Integral heater as standard
- Advanced 7" touch screen full colour display
- Intuitive user-friendly programming
- Intelligent distribution arm.
- 8 metre suction lift
- 4 x 10 litre bottles
- Robust peristaltic pump
- IP65 protection rating
- Data logger



Full Spectrum Water Quality Analyzer

- Based on UV-Vis absorption spectroscopy principle for Optical in-situ measurement
- Measures COD, TOC, DOC, BOD, TUR, TSS, Nitrate, Color, temperature, etc.
- 200-800nm full spectrum. Resolution of 1 nm. 601 spectral data points for precise analytical measurement.
- Full spectrum fingerprint allows precise detection of parameters.
- Water pattern recognition identifies water sample type
- MOC of Sensor: SS/Titanium
- No chemical reagents
- 7" color LCD touch screen
- Quick : Measures in 10s.
- Wireless communication

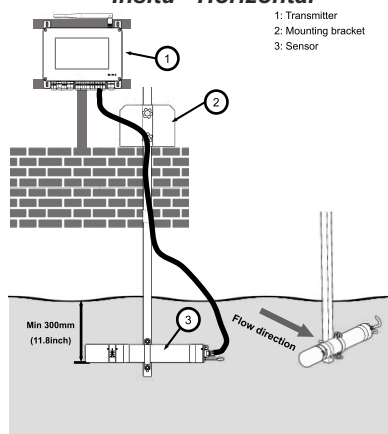


Installation types

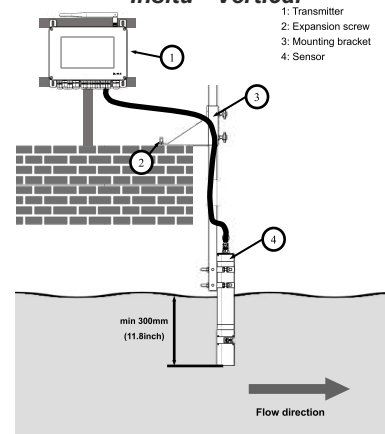
Extractive



Insitu - Horizontal

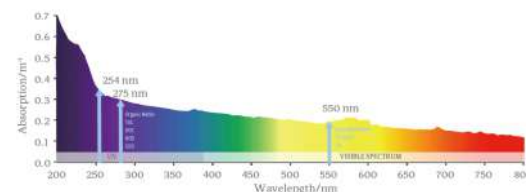


Insitu - Vertical



Multi Wavelength Water Quality Analyzer

- Ultraviolet absorption spectrum
- Measures TOC, COD, BOD, TSS, Turbidity, Temperature. (Optional pH, TSS etc. using ISE)
- 3 or 4 wavelengths measured.
- Optical in-situ measurement.
- No chemical reagent.
- Quick : Measures in 1 second
- 7" color LCD touch screen
- Wireless communication: supports 4G/2G, Wi-Fi



Online pH, TSS / MLSS, Conductivity, DO, Ion Analyzers

- Continuously measure single/multi parameters: pH, TSS / MLSS, Cond., DO, Hardness, Chloride, Sulfide, Ammonium, Fluoride etc.
- Microprocessor based digital program controller.
- Automatic cleaning control (Air jet, Water jet) function.
- Large size LCD screen & backlight.
- Temperature compensation.
- Manual/Auto calibration.



Sludge Blanket Monitoring

- The Avocet Sludge Blanket monitors the sedimentation and scum accumulation in remote settlement tanks and clarifiers in water treatment works, waste water reclamation works and factories with treatment plant.
- Identifying auto-desludging and overspill alarm signals
- Monitor the general biological health of thick sludge blankets.
- Extremely high frequency ultrasound sensors (1.1MHz)
- Powerful Signal Processing to Extract Low Density Sludge Interface
- IP 65 Wall mounted weatherproof enclosure
- 3 Programmable relays. 4-20mA output. Air Purged Sensor Cleaning



Online TOC / BOD / COD / TN Analyzer

- Rapid method for determination of organic load and thus early warning and pollution control management.
- High performance on-line Total Organic Carbon (TOC) analyzer using the established 680°C Catalytic Combustion and Non-Dispersive Infrared (NDIR) Detection method based on USEPA / ASTM methods.
- Measurement ranges from 0-20,000 mgC/L full-scale
- Reliable sample injection system.
- Superior sampling units.
- On-Line calibration.
- MCERTS certification.
- TOC can be easily Correlated with BOD/COD
- Total Nitrogen (TN) measurement by 720°C Thermal decomposition / Chemiluminescence detection : as per EN 12260 & ASTM D – 8083



Online Heavy Metal Analyzer

- Heavy metals : Al, As, Cd, Cr, Co, Cu, Fe, Mn, Hg, Ni, Ag, Sn, Zn
- High accuracy in changing sample matrices of waste water
- Colorimetric analysis - Reliable & accurate analysis
- Automatic indication of measured values, status.
- Fast up-time of analyzer



Online Colorimetric Analyzer

- Measures Total Phosphorous (TP), Cyanide, Phenol, Cr-VI, NH₃, Phosphate, Chlorine etc.
- Heavy Metals: Fe, Zn, Mn, Hg, Cr, As etc.
- Process waters: Silica, Na etc.
- Based on Photometric principle
- Separate waste line for sample with reagent.
- Dual stream, Easy installation, Robust.
- Low reagent level alarm.
- Color touchscreen. Automatic calibration.

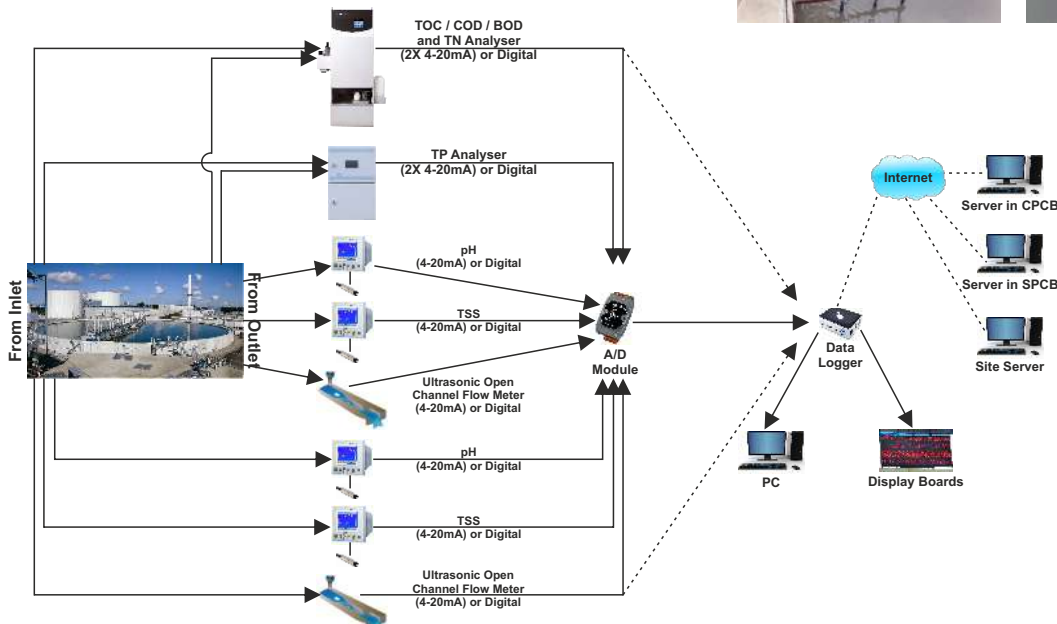


On-Line Continuous Effluent Quality Monitoring System (EQMS)

EQMS is integrated with multi channel sensor based analyzers like pH, TSS, Conductivity, DO, Temperature, Oil in water, Flow etc., & analyzers like TOC, TP, TN etc. with all outputs connected to data logging system and PC/client server.

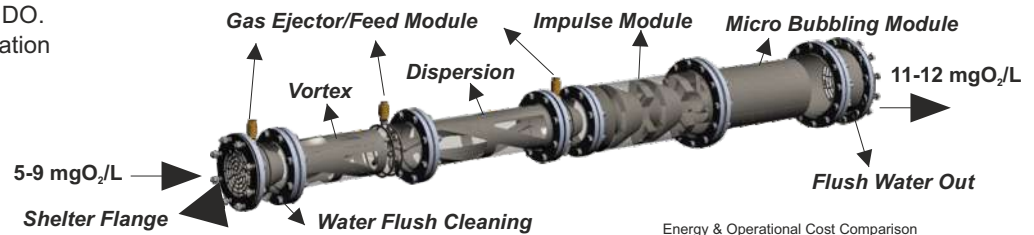
Features:

- EQMS setup as per site requirement. All analyzers housed in a shelter.
- Sample line to draw the samples from remote areas to the shelter (optional).
- COD/BOD Monitoring using MCERTS Certified TOC Analyser (680°C Catalytic Combustion) which is in compliance with the regulatory methods specified in USEPA 415.1, ASTM 5310B, EN 1484 and CPCB.
- Uploading of data to CPCB, SPCBs, PCC and company Corporate Servers.
- Cloud server integration to access and download the logged data for further analysis.
- Remote calibration facility for the analyzers.
- Monitor efficiency of ETP / STP / WTP in treating waste water by comparing influent and effluent values.



Dissolved Oxygen Increaser

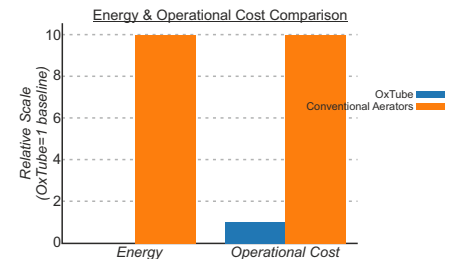
- Fastest & most efficient way to increase DO.
- An Ingenious Dissolving & Mixing Application
- Modular fitting
- Water flow: 3-450 m³/h. (0.5-11 MLD)
- OxTube diameters: 2.5-20 cm.
- Install directly in existing pipeline.
- Low CAPEX & OPEX: no direct power.
- Uses water kinetic energy.
- Durable stainless steel.



Applications

- Potable Water (Chemical Mixing)
- Waste Water (Color/organics/odor removal)
- Municipal Water
- Mineral Removal (Iron, Calcium etc.)
- Pond/Lake Cleaning & Conservation
- Gas Removal
- River Rejuvenation
- Process Water
- & Many more

The fastest & most efficient way to increase DO.
Needs 0 kW external energy.
Water's kinetic energy is utilised in the process.



The dissolving power of OxTube



Fat, Oil & Grease (FOG) Skimmer

- Removes fats, oils and grease (FOG) in waste water tanks.
- Hydrophobic belt attracts FOGs and rejects water.
- Adjustable paddlewheel to break solids FOGs.
- Prevents pipe and sewer blockages
- Simple installation & 24/7 operation
- Removes up to 8m³ of FOG per day
- Removes microthrix, filamentous growth and floating solid waste
- Belt speed control as per load.
- Thermostatic temperature control for heavy FOGs.



Waste Water Evaporator

- Designed to reduce the volume of industrial or contaminated water.
- Minimize disposal costs while meeting environmental regulations.
- Application Industries: manufacturing, automotive, and chemical processing, Coating, Pigment, Metal, Chemical, Laboratories, Food, Pharma, Packaging, Washing etc.
- Plug n play type - easy installation.
- Heat sources: electric, gas, steam, thermic fluid.
- Capacity: 20 / 45 / 90 / 170 / 300 / 500 Ltr/hr
- Standard model up to 10 KLD (SS316-Anti corrosive).

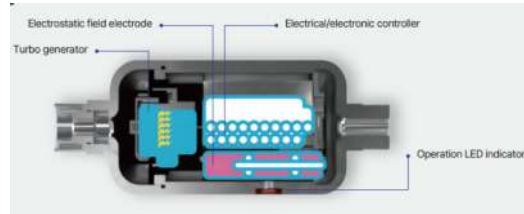


Water Enhancer /Softener

- Measuring Principle - Electrostatic field technology: Multi-electrode electrostatic field applied to flowing water. Charged electrodes create high-potential energy in water pipes. Increases zeta potential, weakens hydrogen bonding, and reduces surface tension. Outcome: softer water, improved cleaning, antibacterial action, prevention/removal of rust, scale, slime.

Key Technical Features:

- Antibacterial effect (removes mold and prevents propagation)
- Converts chlorine into hypochlorous acid for sterilization.
- Better absorption of minerals (for Plants & Animals)
- Ion activation disperses Ca/Mg colloids - prevents hardness buildup.
- Self-powered or low-power (DC 3.3V / AC 110–220V).
- Long lifespan (10 years), no filter required.



Industry Applications

- Cooling towers, boilers, steam heaters, sewage plants.
- Benefits: rust/scale/slime prevention, algae disruption, odor removal, energy savings, reduced maintenance.
- Case references: Singapore Clean Tech Project, Argentina swimming pool algae removal.



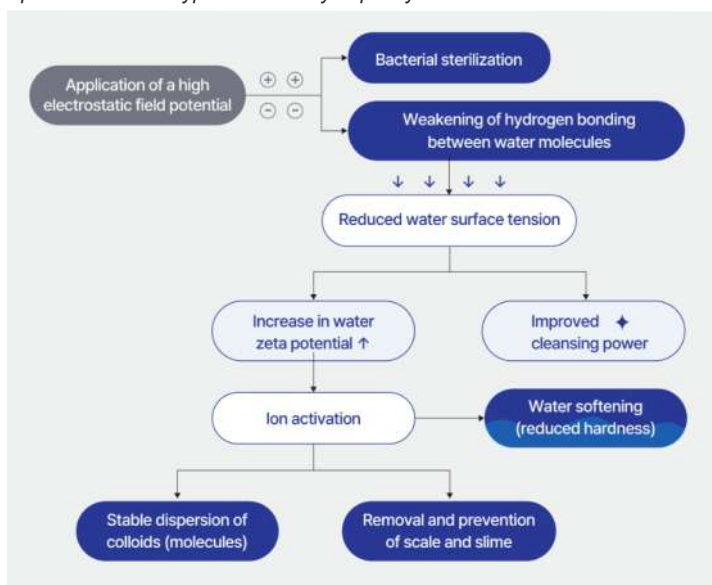
Pipe Size Range

15A - 46 ton/day
500A - 34,128 ton/day

Specific Sizes Available

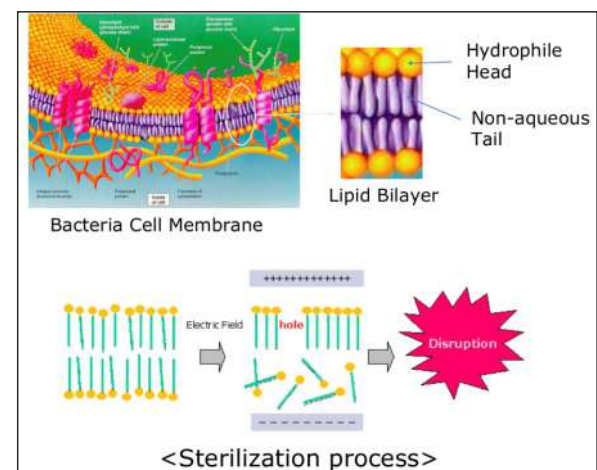
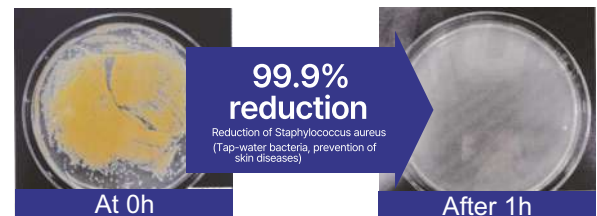
15A, 20A, 25A, 40A, 50A, 65A, 80A,
100A, 150A, 200A, 250A, 300A, 350A,
400A, 450A, 500A

Apart from above typical sizes any capacity custom sizes can be built



Domestic Water Applications

- Household water supply, Showers, ponds, swimming pools,
- Benefits: softer water (15% improvement), antibacterial (up to 99.9% reduction), better skin/hair care, reduced detergent use, eco-friendly.
- Clinical trials: scalp keratin improvement (93.9%), hair cuticle erosion reduction (9.1%).
- Other applications:** Agriculture farming, Livestock farming (Cows, Hens, Pigs etc), Aqua farming (Prawns, fish etc.)



Antioxidant Alkaline (A.A) Filters — Industrial & Commercial

Cartridge and in-line media beds fitted downstream of reverse osmosis or as a polishing stage. The ceramic bed re-balances pH, returns Ca, Mg, K and Na to the permeate and shifts ORP negative before the water reaches storage, filling or distribution.

Typical Applications

- Bottled and packaged water plants
- Water stations and dispensing kiosks
- Water, soda and beverage vending
- Agriculture, horticulture and livestock
- Organic fermented juice production

<i>Slim 10"</i>	10,000 L
<i>Big 10"</i>	50,000 L
<i>Slim 20"</i>	50,000 L
<i>Big 20"</i>	150,000 L
<i>All-in-one</i>	150,000 L

Rated throughput. Housing supplied separately except the all-in-one composite (UF + carbon + ceramic media).



Big 20", Slim 20" and stainless in-line housings

Antioxidant Alkaline (A.A) Filters — Residential & OEM

In-line cartridges for RO water purifiers and OEM assemblies, supplied in the standard sizes

<i>4" filter</i>	1,000 L
<i>8" filter</i>	3,000 L
<i>10" TCR filter</i>	3,000 L
<i>11" filter</i>	6,000 L
<i>14" filter</i>	9,000 L
<i>Jug filter</i>	150 L

Effect on RO Permeate

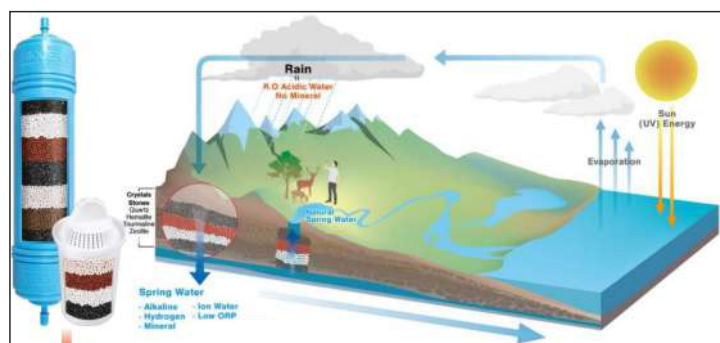
- pH raised from acidic to alkaline
- Dissolved hydrogen generated
- Ca, Mg, K and Na minerals supplied
- ORP shifted negative (antioxidant)



Triple-certified bioceramic media. Certification is held on the ceramic media as a component for material safety — the finished filter assembly is not NSF certified. RoHS compliant and PFAS free as declared by the manufacturer.

*For installation in RO water purifiers.
Rated throughput; replace at the stated volume.*

Water Enhancement Principle — Media Range



RO permeate re-mineralised the way rainwater becomes spring water:

Rain reaching the ground is soft and mildly acidic. It gains its mineral content, alkalinity and antioxidant character by passing through mineral strata. The ceramic bed reproduces that step inside the cartridge



Parameter	Regular Ceramic Ball	BIOCERA Ball
Presence of Heavy metals	Pb, Hg, Cd, As may be present	No. As per NSF/ANSI 42. NSF/ANSI/CAN 61 & 372
Material Safety Certification	?	NSF International, FDA GLP Pass, ISO: 9001
In-house production	?	Self - produced by Wanju Ceramic factory
Know-how	?	Manufacturing and research related to bioceramic materials since 1994
Quality of water	?	pH alkalization and production of hydrogen mineral water-ORP
Country of production	?	Republic of Korea
Value comparison	Weak and cheap quality like graphite	Value of diamond - hard and high quality

Media Types and Characteristics

Type	Characteristics	Crystal Structure
AG Ball	Ag ion is antibacterial, excellent deodorizing power, supports organic adsorption	Zeolite, Silver
SP Ball	Quartz vibrations support activation of water molecules. Far infrared energy effect	Quartz (SiO ₂)
CA Ball	Ca ion supports mineral elution with natural edible calcium and silica components	CaCO ₃ , MgO
PW Ball	Water molecules activity, pH alkalization with rare earth crystal, crystalline minerals	Rare earth material Hematite (Fe ₂ O ₃)
IP Ball	Natural zircon crystals, silica contains healthy ingredients improves the taste of water	Zircon (ZrO ₂)
TO Ball	Piezo electric properties activation of water molecules	Tridymite (SiO ₂)
RC Ball	Residual chlorine removal, removal of THM (carcinogenic compounds)	CaSO ₃
AO Ball	Enables pH alkalization of water, hydrogen dissolution, mineral supply - ORP antioxidant reduction	MgO



Eight bioceramic media types, supplied loose for OEM filling

Media are combined to suit the duty. All eight types are lead free and certified for material safety; characteristics as stated by manufacturer.

Hydroponics & Horticulture Filters

- Cartridge filters conditioning nutrient and irrigation water in soilless cultivation, greenhouses and vertical farming.
- A filter — raises dissolved oxygen
- B filter — removes residual chlorine
- C filter — both effects combined
- Grower trial on sprout ginseng reported no root Sclerotium (manufacturer data)



Alkaline Water Jug

- Gravity pitcher raising pH and supplying minerals while reducing chlorine, turbidity and heavy metals.
- BPA-free housing with filter-life scale indicator
- Coconut-shell carbon plus AG, SP and AO media
- Filter life 150 L
- LGA (Germany) certified; German and Polish co-development



Composite Media Sachet (T-Bag)

- Sealed sachet of composite ceramic media for vessels that cannot be plumbed.
- Use in tea, tumblers, pitchers, 20 L carboys and purifier buckets
- Raises pH and supplies minerals with no installation
- Useful as a sampling and demonstration format



Detergent-Free Laundry Ball

- Wash ball for staff amenities, guest houses and canteens where detergent load in effluent is a concern.
- Impact-resistant polycarbonate shell
- Up to 330 washes; replace after approx. 3 years
- One ball to 5 kg load; two balls at 10 kg and above
- European CE marking; Korean Ministry of Environment award



Portable Alkaline Hydrogen Bottle

- Portable bottle producing alkaline, hydrogen-rich water from bottled or purified water.
- SK-ECOZEN body — BPA-free, baby-bottle grade
- Sealed cartridge with certified ceramic media
- Alkaline pH, dissolved hydrogen, negative ORP
- LGA certified for non-detection of harmful ingredients



Chlorine-Removal Showerhead & Filter

- Showerhead and in-line shower filter using RC ceramic media to strip residual chlorine from supply water.
- Sediment stage removes rust, larvae and micro-plastics
- Ceramic stage removes residual chlorine and THM
- Shower filter: replace at 1/5 media remaining (4–6 months)
- Sediment + chlorine cartridge: 2 to 3 months



Certifications and Standards



NSF/ANSI 42	Drinking water treatment units — material requirements
NSF/ANSI/CAN 61	Drinking water system components — health effects
NSF/ANSI/CAN 372	Drinking water system components — lead content
ISO 9001	Quality management system, certified by SGS

FDA GLP	Non-toxicity pass under FDA GLP guidelines
RoHS	Restricted substances compliance declared
Patents	Korea, USA, China, Turkey and Malaysia
INNOBIZ / KOITA	Korean technology-innovation and R&D registration

Scope of the marks shown: the NSF certifications are component / material certifications held on the bioceramic media. As the manufacturer states in its own literature, the ceramic media is certified for material safety only — the finished filter is not NSF certified. RoHS and PFAS-free status are as declared by the manufacturer. Copies of current certificates are available from Swan Environmental on request.

Rapid Test Strips

Ready-to-use reagent strips and reagent kits for on-the-spot screening of water, soil and food. No sample preparation, glassware or reagent handling — dip the strip, wait, then compare against the colour chart, or read it on the portable analyser for a digital result. Single-parameter and multi-parameter formats cover drinking water, pool and spa water, aquaria and ponds, soil and food.



Dip the strip › hold level for 30 seconds › compare with the colour chart

Portable Strip Reader / Water Analyser

Handheld visible-light analyser that reads the strip directly, removing subjective colour matching. 70 to 120 strips per hour.

Applications: Utilities and laboratories with high strip volumes, inspection agencies and plant QC records.



Drinking Water Test Strips — 17 in 1 / 16 in 1

Parameters: pH, total hardness, total alkalinity, free chlorine, total chlorine, nitrate, nitrite, fluoride, sulfate, iron, copper, lead, manganese, chromium, zinc, cyanuric acid and hydrogen sulfide; the 17 in 1 pack adds a bacteria (coliform) test.

Applications: Borewell, tanker and RO water at home, packaged drinking water units, school, hostel and community supply screening, overhead tank and pipeline contamination checks, and field survey or relief teams working without a laboratory.



Single Parameter Test Strips

Strips carrying one parameter — hardness, pH, chlorine, nitrate, nitrite, iron, copper, lead and fluoride.

Applications: Boiler and cooling tower hardness, softener regeneration, RO feed monitoring and sanitiser checks.



Pool & Spa Water Test Strips — 7 in 1

Parameters: Hardness, total alkalinity, cyanuric acid, total chlorine, free chlorine, bromine and pH.

Applications: Hotel, club and apartment pools, spas, jacuzzis and water parks; daily operator logs.



Fish Tank & Pond Test Strips — 7 in 1

Parameters: Carbonate, pH, hardness, total chlorine, free chlorine, nitrate and nitrite.

Applications: Aquaria, koi ponds, hatcheries and grow-out ponds; catching nitrogen-cycle spikes early.



Soil pH+Nitrogen Test Strips — pH 3 to 9

Dip-and-read strips for soil slurry, graduated across the full agronomic range with the colour developing in 30 seconds.

Applications: Nurseries and greenhouses, field crops and orchards, turf care, compost maturity and lime dose.



Soil Test Kit — 5 in 1 (N, P, K & pH)

Colorimetric reagent kit for ammoniacal nitrogen, available phosphorus, potassium & pH, with tubes, pipettes and charts.

Applications: Fertiliser dose planning, soil health cards, agri-input dealers, horticulture and plantations.



Cooking Oil Quality Test Strips (FFA)

Free fatty acid in frying oil banded across 0, 0.5, 1.0, 2.0, 3.0 and 4.0+ as KOH mg/L, with ideal, caution and bad zones.

Applications: Hotel and QSR kitchens, snack manufacturing, canteens and food-safety audits.



Aflatoxin B1 & M1 Rapid Test Strips

Lateral-flow strips reading in 5 to 10 minutes; B1 from 5 ppb in grain and feed, M1 from 0.05 ppb in milk (manufacturer data).

Applications: Milk collection centres, grain procurement and feed mills.



Digital Salt Meter

This product was developed to measure salt concentration in foods at homes or at restaurants. Use mainly for keeping low-salt diet habits. In addition, temperature content can be measured together. Range: 0% to 5.0%

Applications: Restaurants, Hospitals, Schools, Sea Food Exporters, etc



Digital Refractometer (Brix)

Digital refractometer is a high-precision optical instrument that measures the refractive index of liquids. Range: 0% to 95%

Applications: Brix meter quickly measures the concentration or refractive index of sugar and non-sugar solutions. Food & Beverage, Industrial Applications



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