



Process  
Analyzers

Analyzers for  
Water & Waste  
Water Treatment

Analyzers for  
Boiler Water  
Applications

Analyzers for  
Oil Refineries

Water Quality  
Analyzers/Systems

Ambient Air  
Analyzers

Emission Gas  
Analyzers

Laboratory  
Analyzers

Portable/Handheld  
Analyzers

DKK-TOA CORPORATION

# Creating the 21<sup>st</sup> Century Global Environment

DKK-TOA Corporation, a leading manufacturer of analytical instruments, would like to draw your attention to our highly reliable, excellent, value-added analyzers which meet your requirements in a wide range of fields from ambient analyzers, science/pharmaceutical/food meters to process controllers.

## Process Analyzers

Analyzers and controllers made to enhance productivity and efficiency in a comprehensive range of production control and water treatment processes



Industrial pH Transmitter



Auto-Calibration pH Meter

## Water Quality Analyzers/Systems

Environmental water quality analyzers designed for advanced water treatment process



Total Nitrogen/Phosphorus/COD Analyzer



Automatic COD Analyzer

## Ambient Air Analyzers

Ambient air analyzers contributing to global environmental protection



Nitrogen Oxides Analyzer

## Analyzers for Water Treatment

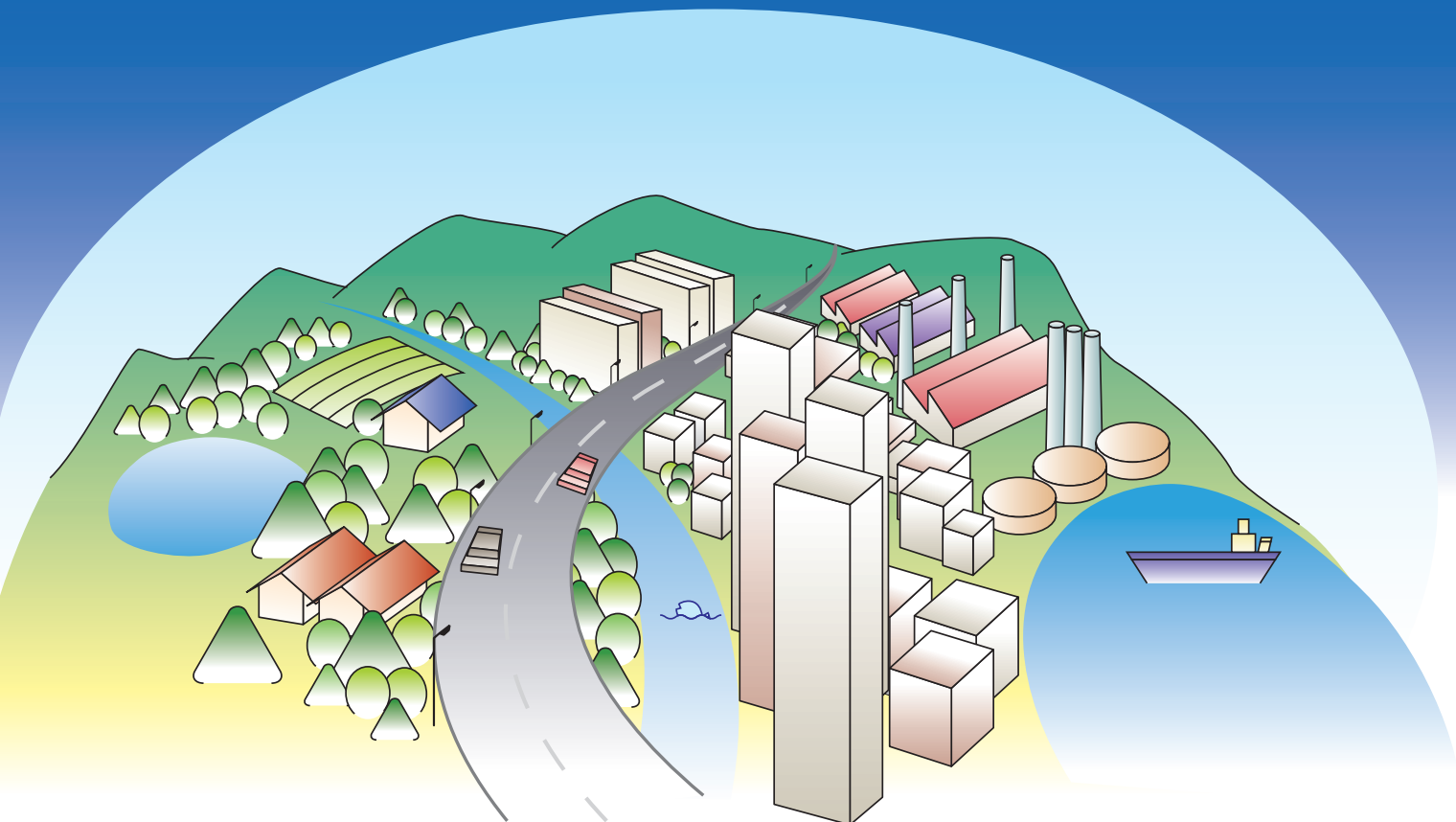
Analyzers for water quality managements ranging from the source of water supply to the end of water distribution



Water Quality Analyzer for City Water



Water Purification System



## Analytical Instruments

Highly reliable analyzers made for various environments from field use to laboratory use



Benchtop Water Quality Meter



Handheld Water Quality Meter

## Table of Contents

### Environmental/ Process Analyzers

Process Analyzers .....	1~5P
Analyzers for Water & Wastewater Treatment .....	6~7P
Analyzers for Boiler Water Applications .....	8P
Analyzers for Oil Refineries .....	8P
Water Quality Analyzers/ Systems.....	9~10P
Ambient Air Analyzers .....	11P
Emission Gas Analyzers .....	12P

### Analytical Instruments

Laboratory Analyzers .....	13~14P
Portable/Handheld Meters .....	15~16P

# Environmental/Process Analyzers

## Process Analyzers

## pH Meters

## ORP Meters

### Industrial pH Transmitter

**HDM-135A (2-wire)**  
**HDM-136A (4-wire)**



- Easy-to-use pH analyzer for field installation in a compact and rigid aluminum enclosure
  - Easier calibration done with standard solution
  - Auto determination of electrode deterioration
  - Alterable output range
  - Automated self-diagnosis of fault (burn-out output)
- Meas. range:  
pH: pH-1~pH14

### Industrial ORP Transmitter

**HDM-137A (2-wire)**  
**HDM-138A (4-wire)**



- Easy-to-use ORP analyzer for field installation in a compact and rigid aluminum enclosure
  - Automatic check done with standard solution
  - Auto-detection of electrode deterioration
  - Alterable output range
  - Automated self-diagnosis of fault (burn-out output)
- Meas. range:  
ORP: -2000 ~ +2000 mV

### pH/ORP Transmitter

**HBM-165H (2-wire)**



- Available for both pH and ORP measurements
  - Diecast aluminum enclosure, digital display and a wide range of other useful features
  - One-touch auto calibration
  - Self-diagnostic function
- Meas. range:  
pH: pH-1 ~ pH15  
ORP: -2000 ~ +2000 mV

### Industrial pH/ORP Transmitter

**HBM-160B**  
**HBM-162B (4-wire)**



- Robust die-cast aluminum enclosure
  - Multi-function, field installation type
  - Automatic diagnosis of the electrode status
  - Display with LED backlight
- Meas. range:  
pH meter (HBM-160B): pH-1 ~ pH15  
ORP meter (HBM-162B): -2000 ~ +2000mV

### Panel Mount pH/ORP Analyzer

**HBM-100B**  
**HBM-102B**



- Compact DIN96 size
  - Automatic diagnosis of the electrode status
  - Display with automatic backlight
- Meas. range :  
pH meter (HBM-100B) : pH-1 ~ pH15  
ORP meter (HBM-102B) : -2000 ~ +2000mV

### CALMEMO-pH Meater

**HBM-100 (Panel type)**  
**HBM-160D (Field installation type)**



- Memory-built in pH electrode
- Preamp and memory are built-in the pH electrode, and data such as calibration value and calibration record can be saved
- For electrode holder, general-use, immersion type, flow type, flow-through type are available.

### Intrinsically Safe Explosion-Proof pH/ORP Transmitter

**SHBM-161**  
**SHBM-163 (2-wire)**



- Compact diecast aluminum enclosure
  - ExiallCT4 (combined with a Zener Barrier) explosion-proof and IP65 conformed enclosure
  - Easy calibration done with standard solution
  - Auto-detection of electrodes deterioration
  - Alterable output range
- Meas. range:  
SHBM-161 (pH) : pH-1 ~ pH15  
SHBM-163 (ORP) : -2000 ~ +2000 mV

### Replaceable Tip pH/ORP Electrode

**GSS-304B/314B (pH)**  
**PSS-304B/314B (ORP)**  
**ASS-304B/314B (ORP)**



- Glass/Metal electrode chip and reference electrode liquid junction chip are easily replaceable
  - KCl replenish-free type (304 B type) for wastewater treatment and KCl replenish type (314 B type) for high precision measurement are available
  - Platinum electrode (PSS type) and a gold electrode (ASS type) are available for ORP electrodes
- Meas. range:  
pH: pH0 ~ pH14  
ORP: -2000 ~ 2000mV

### Immersion Type Holder for Replaceable Tip Electrode

**HC-G70 (KCl Replenish-Free/Refillable)**  
**HC-G72 (KCl Refillable)**



- HC-G70: Transparent PVC holder (heat resistance: 60°C) and semi-transparent PP holder (heat resistance: 80°C) available
- HC-G72: SUS316 holder (heat resistance: 80°C)
- Length: 0.5 ~ 3.0m
- KCl refillable type stores KCl inside the holder
- Mounting bracket/flare available

### Drop-In Type Detector for Replaceable Tip Electrode

**HC-G95 (KCl Replenish-Free)**



- Two selections: throw-in type for deep tanks or drop-in type with a protection pipe
- Made of transparent PVC (heat resistance: 60°C)
- SUS protection pipe (maximum length: 5 m) and mounting bracket available

### Flow-Through Type Holder for Replaceable Tip Electrodes

**HC-G80 (KCl Replenish-Free/Refillable)**  
**HC-G82 (KCl Replenish-Free/Refillable)**



- KCl replenish-free type
- HC-G80: Transparent holders made of PVC (heat resistance: 60°C) ; maximum pressure resistance: 0.3 MPa
- HC-G82: PP/SUS316 part (heat resistance: 80°C) and PVDF/SUS316 part (heat resistance: 100°C) ; maximum pressure resistance: 0.3MPa

### Flow-Through Type Holders for Replaceable Tip Electrodes

**HC-G80P/G82P (KCl Refillable Type)**



- Flow-through type holders for replaceable KCl-supplied electrodes
- HC-G80P: Transparent holders made from PVC (heat resistance: 60°C) ; maximum pressure resistance: 0.15 MPa
- HC-G82P: PP/SUS316 part (heat resistance: 80°C) and PVDF/SUS316 part (heat resistance: 100°C) ; maximum pressure resistance: 0.3MPa



## Process Analyzers

## pH Meters

## ORP Meters

### pH Meter with Auto Calibration

**MAC-1600  
MAC-355**



- Automatic cleaning and 2-point calibration functions serve long-term reliable pH measurement with just little maintenance
  - Lift-up type design incorporated with air jet cleaning allows for superior cleaning effect and stable measurement
  - One converter can control two detectors (MAC-1600)
- Meas. range:  
pH: pH-1~pH15

### pH Meter with Chemical Cleaner

**PAC-R7**



- Easy installation as equipments are previously set on the hold stand
  - Designed for long-term, continuous and highly reliable pH measurement in wastewater treatment facilities
  - Including mounting brackets
- Meas. range:  
pH: pH-1~pH15  
Temp. -5~100°C

### Immersion Type pH/ORP Detector

**HC-7 Series**



- Ideal for pH/ORP measurements in tanks and open water applications
- Assemble electrodes available  
pH :5600 type  
ORP:2600 type
- Mounting flanges for tanks available (50A, 100A, 150A)

### Flow-Through Type pH/ORP Detector

**HC-8 Series**



- Designed for pH/ORP measurements in closed loop lines and environments where process pressure exists, such as pipes or sealed tanks and etc.
- Assemble electrodes available  
pH :5610 type  
ORP:2610 type

### pH/ORP Detector with Ultrasonic Cleaner

**UHC-7D/UHC-8D**



- Detectors composed of holder and ultrasonic cleaner: Immersion type(UHC-7D) and flow-through type(UHC-8D)
- Intermittent irradiation of ultrasonic waves(burst oscillation method) to the electrode sensitive part prevents adhesion of dirt
- The electrode holder can be attached and detached with one touch, making maintenance work such as standard solution calibration easy

### pH/ORP Detector with Water Jet Cleaner

**JHC-7C/JHC-8C**



- Detectors composed of holder and water-jet cleaner: Immersion type (JHC-7C) and flow-through type (JHC-8C)
- By spraying water onto the tip of electrode, the water pressure washes fouling away
- One-touch detachable holder and easy maintenance
- Simple installation with a sensor, timer&electromagnetic valve integrated unit

### Immersion Type pH/ORP Detector with Brush Cleaner

**BHC-7C**



- Immersion type pH/ORP electrode holder with cleaning brush (BHC-7C)
- The swing movements wash the electrode tip and prevent it from fouling
- One-touch detachable holder and easy maintenance

### Immersion Type Detector with Chemical Cleaner

**RHC-7C/RHC-7EC**



- Immersion type electrode holder combined with chemical cleaning system
- By spraying mixed air&cleaning agents onto the electrode tip it dissolves fouling away
- Compatible with GSS series

### Immersion Type Detector with Pulse Air Jet Cleaner

**PHCG-7D/95D  
PHC-7D**



- The detector is composed of an immersion type holder for replaceable tip pH/ORP electrodes and the Pulse Air Jet Cleaner
- The pulse-jetted compressed air created by Pulse Air Jet Cleaner removes dirt on the electrode effectively with massive bubbles
- Drop-in type detector for deep tanks (PHCG-95D) available

### pH Detector for Pure Water Measurements

**HC-G65**



- Measures the pH of low conductivity water such as pure water and boiler water (0.01 m S/m or above)
- Low flow injection of sampling allows for accurate, stable measurement
- Low cost and easy replacement of glass electrode tip or liquid junction tip
- Beaker-stand is equipped (for standard calibration)

### Electrode Holder with Lift up Type Jet Cleaner

**LHC-7D**



- A detector which can lift up from the sample water and remove fouling from the pH/ORP electrode effectively.
- Designed for long-term, continuous and highly reliable measurement.

### pH Sensor for Bio-Process Applications

**ELP-005/006/007  
ELP-045/046/047/048**



- Suitable for bio-process tanks (fermentation tanks). KCl non-refillable and leadless type. Steam sterilizable, strong glass membrane, lead-free safe design
  - Two types available: Liquid junctions of both pressurized gel type products (ELP-005/006/007) and double junction type products (ELP-045/046/047/048)
  - Various electrode lengths available according to various tank sizes
- Meas. range:  
pH: pH0 ~ pH14

# Environmental/Process Analyzers

## Process Analyzers

## Conductivity Analyzers

## Resistivity Analyzers

### Industrial Conductivity Transmitter

#### WDM-135A (2-wire) WDM-136A (4-wire)



- Easy-to-use conductivity analyzer for field installation in a compact and rigid aluminum enclosure
- Wide measurement range, from ultra-pure water to wastewater
- Alterable output range

Meas. range:  
Minimum : 0 ~ 0.2  $\mu$  S/cm  
Maximum : 0 ~ 20 mS/cm

#### WBM-160 (4-wire)



- Multi-function conductivity analyzer for field installation in a compact aluminum diecast enclosure
- Wide application range from ultra-pure water to wastewater
- 2-point contact signal, 2-channel output including temperature (RS-232 optional)
- Power supply: AC90 ~ 264V, 50/60Hz
- Meas. range:  
Minimum : 0 ~ 0.2  $\mu$  S/cm  
Maximum : 0 ~ 20 mS/cm

### Conductivity Transmitter

#### WBM-165H (2-wire)



- Aluminum diecast enclosure, digital display and a wide range of other useful features
- Wide application range from ultra-pure water to wastewater
- Meas. range:  
Minimum : 0 ~ 0.2  $\mu$  S/cm  
Maximum : 0 ~ 20 mS/cm

### Panel Type Conductivity Analyzer

#### WBM-100



- Compact DIN 96 size
- Temperature compensation computed by a microcomputer
- Cell constant value adjustable depends on customers' need
- Water temperature displayable
- Power supply: AC90 ~ 264V, 50/60Hz
- Meas. range:  
Minimum : 0 ~ 0.2  $\mu$  S/cm  
Maximum : 0 ~ 20 mS/cm

### Panel Type Conductivity Analyzer

#### WBM-210A (2-channel type)



- Compact DIN 96 size
- Conductivity meter with built-in microcomputer for various applications such as ultra-pure water production, boiler plants, foodstuff plants, etc.
- Two detectors connectable
- RS-232 equipped as standard specification

Meas. range:  
Minimum : 0 ~ 0.2  $\mu$  S/cm  
Maximum : 0 ~ 20 mS/cm

### Sanitary Type Conductivity Analyzer/Detector

#### WBM-121A/AK Cell



- Compact DIN 96 size
- Designed for sanitary conductivity analyzer for the food industry
- Applied in foodstuff plants and installed in pipes and tanks. Best suited for CIP (stationary cleaning) management, debubbling agent control and liquid level management

Meas. range:  
0 ~ 300/3000  $\mu$  S/cm (at 25°C)  
0 ~ 20/200 mS/cm (at 25°C) etc.

### Intrinsically Safe Explosion-Proof Conductivity Transmitter

#### SWBM-161 (2-wire) SA6 (Detector)



- Compact diecast aluminum enclosure
- ExiallCT4 (combined with a Zener Barrier) explosion-proof and IP65 conformed enclosure
- It can handle a wide measurement range from ultrapure water to factory wastewater.
- Detector supports a wide range applications

Meas. range:  
Minimum : 0 ~ 0.2  $\mu$  S/cm  
Maximum : 0 ~ 20 mS/cm

### Panel Type Resistivity Analyzer

#### AQM-100A AQM-210A (2-channel type)



- Compact DIN 96 size
- Best suited for water quality control in ultra-pure water production lines
- Two detectors connectable
- RS-232 equipped as standard specification (AQM-210A)
- Output: 2-channel, insulated, 4-20mA (AQM-210A)

Meas. range:  
0.00 ~ 20.00 M $\Omega$ ·cm

### RESISTIVITY MONITOR for Ultra-Pure Water

#### AQM-250



- Compact DIN96 size
- Highly accurate measurement of ultra-pure water
- Can be used as a secondary reference standard for the calibration of general resistivity monitors
- 2-channel (2 detectors)·2 transmission output possible
- RS-232C equipped as standard specification
- Portable type (optional) is available
- Meas. range:  
0.00 ~ 20.00 M $\Omega$ ·cm

### Industrial Conductivity Detector

#### A5/A6 Series



- Hermetically sealed 2-electrode type detector featured with excellent heat-proofing and pressure tightness
- Pipeline-insertion/immersion/flow-through/throw-in/leadless, etc. type available
- Four types of cell constants available: 0.01/cm, 0.1/cm, 1/cm, 10/cm
- Meas. range:  
Minimum : 0 ~ 0.2  $\mu$  S/cm  
Maximum : 0 ~ 20 mS/cm

### Industrial Resistivity/Conductivity Detector

#### AR4/AR5 Series



- Compact 2-electrode type (titanium) detector designed for ultra-pure water
- Pipeline insertion type, leadless type
- Two types of cell constants available: 0.01/cm, 0.1/cm
- Meas. range:  
0 ~ 20/200 M $\Omega$ ·cm  
0 ~ 0.2/2  $\mu$  S/cm

### Conductivity Detectors with Amplifier

#### AA-1 (For Standard) AA-2 (For Ultra-Pure Water)



- Single-function (no indication) conductivity analyzer for field installation
- Easy installation for the one-unit amplifier and detector
- Output: DC 4-20mA, Power supply: AC 100V
- Meas. range:  
AA-1 (For Standard Pure Water) :  
0 ~ 2  $\mu$  S/cm to 0 ~ 10000  $\mu$  S/cm  
AA-2 (For Ultra-Pure Water) :  
0 ~ 0.2/0.5/1.0  $\mu$  S/cm

## Process Analyzers

## Electromagnetic Conductivity Analyzers

### Electromagnetic Conductivity Transmitter

#### MDM-135A (2-wire)



- Electromagnetic conductivity analyzer for field installation in a compact and rigid aluminum enclosure
- Made for accurate measurements for high conductivity corrosive solutions (such as strong acid/alkali)
- Alterable output range
- Meas. range:  
Minimum : 0 ~ 2 mS/cm  
Maximum: 0 ~ 2000 mS/cm

### Electromagnetic Concentration Transmitter

#### MDM-137A (2-wire)



- Electromagnetic concentration analyzer for field installation in a compact and rigid aluminum enclosure
- Conductivity of NaCl, HCl, H<sub>2</sub>SO<sub>4</sub>, etc. are measured and converted to concentration (%) data automatically
- Assignable measurement range
- Examples of meas. range:  
NaCl: 0 ~ 10 %, HCl: 30 ~ 40 %, H<sub>2</sub>SO<sub>4</sub>: 93 ~ 99.5 %, NaOH: 0 ~ 15 %

### Electromagnetic Conductivity Transmitter

#### MBM-160 (4-wire)



- Electromagnetic conductivity analyzer for field installation in a compact aluminum diecast enclosure
- Made for accurate measurements for high conductivity corrosive solutions (such as strong acid/alkali)
- 2-point contact signal, 2-channel output including temperature (RS-232 optional)
- Meas. range:  
Minimum : 0 ~ 2 mS/cm  
Maximum: 0 ~ 2000 mS/cm

### Electromagnetic Concentration Transmitter

#### MBM-162 (4-wire)



- Electromagnetic concentration analyzer for field installation in a compact aluminum diecast enclosure
- Conductivity of NaCl, HCl, H<sub>2</sub>SO<sub>4</sub>, etc. are measured and converted to concentration (%) data automatically
- 2-point contact signal, 2-channel output including temperature (RS-232 optional)
- Examples of meas. range:  
NaCl: 0 ~ 10 %, HCl: 30 ~ 40 %, H<sub>2</sub>SO<sub>4</sub>: 93 ~ 99.5 %, NaOH: 0 ~ 15 %

### Panel Type Electromagnetic Conductivity Analyzer

#### MBM-100A



- Compact DIN 96 size
- Accurate measurements for high conductivity corrosive solutions (such as strong acid/alkali)
- 2-point contact signal, 4 ~ 20mA output (RS-232 optional)
- Meas. range:  
Minimum : 0 ~ 2 mS/cm  
Maximum: 0 ~ 2000 mS/cm

### Panel Type Electromagnetic Concentration Analyzer

#### MBM-102A



- Compact DIN 96 size
- Conductivity of NaCl, HCl, H<sub>2</sub>SO<sub>4</sub>, etc. are measured and converted to concentration (%) data automatically
- Assignable measurement range
- 2-point contact signal, 4 ~ 20mA output (RS-232 optional)
- Examples of meas. range:  
NaCl: 0 ~ 10 %, HCl: 30 ~ 40 %, H<sub>2</sub>SO<sub>4</sub>: 93 ~ 99.5 %, NaOH: 0 ~ 15 %

## Electromagnetic Conductivity Detector

### ME-6/ME-7/ME-11T Series (High Sensitivity Type)



- Toroidal type teflon detector with excellent corrosion/heat/pressure resistance
- Accurate results for high conductivity corrosive solutions (such as strong acid/alkali)
- Types of detectors available: flow-through, immersion, pipeline insertion, etc.
- Meas. range:  
Minimum : 0 ~ 0.5 mS/cm  
Maximum: 0 ~ 2000 mS/cm

### ME-100 Series (Compact&Lightweight Type)



- Compact toroidal, heat resistant PVC type or Teflon detector with excellent corrosion resistance are available
- Accurate results for high conductivity corrosive solutions (such as strong acid/alkali)
- Types of detectors available: flow-through, immersion, pipeline insertion, drop-in, etc.
- Meas. range:  
Minimum : 0 ~ 0.5 mS/cm  
Maximum: 0 ~ 2000 mS/cm

# Environmental/Process Analyzers

## Process Analyzers

## Dissolved Oxygen Analyzers

### Industrial DO Transmitter

#### ODM-135A (2-wire) ODM-136A (4-wire)



- Easy-to-use DO analyzer for field installation in a compact and rigid aluminum enclosure
  - Easier procedure for calibration; auto determination of electrode deterioration
  - Alterable output range
  - Self-diagnostic function for failure (burn-out output)
- Meas. range:  
Minimum : 0~1 mg/L  
Maximum : 0~50 mg/L

### Industrial DO Transmitter

#### OBM-162A (4-wire)



- Small, multi-function in an aluminum diecasting enclosure for DO measurements in fields
  - Equipped with membrane-broken detecting system (particular parts code exists)
  - Simultaneously output of DO measurement data and water temperature by analog signal (RS-232 optional)
  - One-touch calibration and various self-diagnostic functions
- Meas. range:  
Minimum : 0~1 mg/L  
Maximum : 0~50 mg/L

### Panel Type DO Analyzer

#### OBM-102A



- Panel type DO analyzer in a compact DIN 96 size
  - One-touch calibration and various self-diagnostic functions
  - 2-point contacts signal, 4-20 mA output (RS-232 optional)
- Meas. range:  
Minimum : 0~1 mg/L  
Maximum : 0~50 mg/L

### Industrial DO Transmitter

#### OBM-165H (2-wire/Low Concentration) OBM-167H (2-wire)



- Robust design in an aluminum diecast enclosure for low-concentration DO measurements in fields
- Meas. range:  
OBM-165H : 0.0~2000  $\mu$ g/L  
OBM-167H : 0.0~50.00 mg/L

### Immersion/Drop-In Type DO Holder

#### OC-711/OC-950



- Lightweight PVC holder; length of immersion type holder: 0.3-3.5m; length of protection pipe for drop-in type holder: 2-6m
- Electrode: polarograph type 7533L (for standard use) or 7536L (for human waste)

### Detector with Water Jet Cleaner

#### JOC-711C/JOC-950C



- Cleaning electrode contamination by jetting water or air onto the electrode
- Immersion type (JOC-711C) and drop-in type (JOC-950C)
- Electrode: polarograph type 7533L (for standard use) or 7536L (for human waste)

### DO Sensor for Bio-Processes

#### ELD-011/012/013/015



- Multiple selections: bio-process (fermentation tanks) type, leadless type, steam sterilizable type, lead-free safe design
- Easy maintenance by cartridge electrodes (working&counter)
- Various electrode lengths available according to various tank sizes

### Industrial Low-Concentration DO Transmitter

#### ODM-110A (4-wire)



- Easy-to-use low-concentration DO analyzer for field installation in a compact and rigid aluminum case
  - Simplified calibration procedure; auto detection of electrode deterioration
  - Alterable output range
  - Automated self-diagnosis of fault (burn-out output)
- Meas. range:  
Minimum : 0~20  $\mu$ g/L  
Maximum : 0~2000  $\mu$ g/L

### Low-Concentration DO Transmitter

#### OBM-300 (4-wire)



- Multi-functional low-concentration DO analyzer for field installation in a compact diecast aluminum case
  - 3 ranges (automatically switched), 2-point regulated output
  - Alterable output range
  - One-touch calibration and various self-diagnostic functions
- Meas. range:  
Minimum : 0~20  $\mu$ g/L  
Maximum : 0~999.9  $\mu$ g/L

### Panel Type Low-Concentration DO Transmitter

#### OBM-100H



- Panel type low-concentration DO analyzer in a compact DIN 96 size
  - Two-point regulated output, 4-20 mA output, RS-232 output
  - One-touch calibration and various self-diagnostic functions
- Meas. range:  
Minimum : 0~20  $\mu$ g/L  
Maximum : 0~1000  $\mu$ g/L

### Low-Concentration DO Detector for Pure Water

#### OC-64



- Suitable for low-concentration DO measurement (pure water in semiconductor factories, boiler water in power plants)
- Micro-flow (100 mL/min) with special flow cell
- Electrode: polarograph type 7561L (Ag electrode) or 7563L (Au electrode)
- Lead wire: ELW-32

### Automatic Process Analyzer

#### XAT-300 Series



- Process analyzer for automating analytical techniques such as atomic absorption and etc.
- Suitable for automating chemical analysis processes such as distillation, heat treatment, etc.
- Example applications:
  - Silica measurement
  - Alkalinity
  - Total chrome
  - Total cyanide by distillation / absorption spectrophotometry
  - Phenols by distillation / absorption spectrophotometry



# Process Analyzers

## Automatic Water Quality Analyzer for City Water

### MWB4-70



- B4 size compact analyzer excellent in reliability, durability and maintainability
- Enables continuously measurement of turbidity, color, residual chlorine, pH, conductivity, temperature and pressure without reagents
- Equipped with interactive easy-to-use color touch panel

## Absorption Meter for Water Treatment

### COL-1600



- Continuous monitoring of three items of UV absorbance, color, and turbidity in clean water
  - Measurement method is 3-wavelength absorption spectrophotometry
  - Automatic cleaning washes cells
  - Function of coefficient-based conversion to COD/TOC is provided as standard.
- Meas. range:  
(Supply Water) (Raw Water)  
UV : 0 ~ 0.5 Abs 0 ~ 2.5 Abs  
color : 0 ~ 5/10 0 ~ 400  
turbidity : 0 ~ 2/4 0 ~ 200

## Residual Chlorine Analyzer

### CLF-1600



- Measures residual chlorine (total or free) happened in the water chlorination process
  - Continuously measurement with polarographic method
  - 1/5 reagent requirement of existing models
  - RS-485 equipped as standard specification; compatible with Modbus communication system
  - Freely mountable on walls, racks, etc. for the compact lightweight design
- Meas. range:  
0 ~ 0.5/1.0 to 0 ~ 5/10 mg/L (ppm)  
(2-range)

## Reagentless Free Chlorine Analyzer

### CLF-1610



- Measures free residual chlorine of clean water continuously with the reagentless polarographic method
  - RS-485 equipped as standard specification; compatible with Modbus communication system
  - Freely mountable on walls, racks, etc. for the compact lightweight design
- Meas. range:  
0 ~ 1/2, 0 ~ 1/3, 0 ~ 2/3 mg/L (ppm)  
(2-range)

## Immersion Type Free Available Chlorine Analyzer

### CWM-160E/CLR-169



- Simply dip the detector into tanks such as drinking water and standing water, free available chlorine can be measured by polarographic method easily and continuously.
  - Continuous cleaning with polishing beads ensures long-term and stable measurements
  - Compact, lightweight design allows for easy installation and relocation
- Meas. range:  
0 ~ 1/2, 0 ~ 1/3, 0 ~ 2/3 mg/L (ppm)  
(2-range)

## Reagentless Free Chlorine Analyzer

### CD-36D



- Measures free residual chlorine of chlorinated samples from purification/food processing/semiconductor plants and pool without reagent
  - Continuous measurement by polarographic method
- Meas. range:  
CD-36D: 0 ~ 2 mg/L (ppm)  
CD-38D: 0 ~ 100 mg/L (ppm)

## Residual Chlorine Analyzer

### CLBM-50



- Ultracompact DIN 48 size
  - Reagentless model
  - Auto-cleaning by polishing beads and micro-vibrating electrode
  - Low power consumption of 5VA
  - Power supply: AC100 ~ 230V
- Meas. range:  
0 ~ 3 mg/L

## Reagentless Residual Chlorine Analyzer (For sewage effluent)

### CLF-1620

CLF-1620A



CLF-1620B  
CLF-1620C

- Used to measure residual chlorine or halogen in sanitizing facilities such as sewage treatment plants
  - Continuous or intermittent measurement by non-reagent polarographic method
- Measurement items  
(Used in sewage treatment plants and other pre-discharge sanitization facilities)  
CLF-1620A (residual chlorometer): 0 ~ 3 mg/L  
(Used in sanitizing equipment for discharged water in rainy weather)  
CLF-1620B (residual chlorometer): 0 ~ 5mg/L  
(For Simplified Discharge of Sewage)  
CLF-1620C (residual halogen meter): 0 ~ 5mg/L

## Automated Ammoniac Nitrogen Analyzer

### XIC-3000



- Ion Chromatograph used in the analyzer room can be online to measure ammonia at extremely low Concentration.
- Stable long-term operation is possible by using a hollow fiber filter for sample filtration as a pretreatment and performing automatic reverse cleaning.
- The use of reagents that do not fall under poisons or dramatics reduces environmental impact

# Environmental/Process Analyzers

## Analyzers for Water & Wastewater Treatment

### Colorimeter/Turbidity Meter

#### COL-110



- Color and turbidity can be measured simultaneously by dual wavelength with just one meter
- Equipped with interactive easy-to-use color touch panel
- Meas. range:  
Color: 0~10/20/30 (DEG)  
Turbidity: 0~2/4/5/10 (mg/L; ppm)

### Turbidity Analyzer

#### TUF-1600



- Suitable for water purification process (including river water, etc.)
- Surface scattering light method employed; 1 range/2 ranges/3 ranges available
- Reduces flow volume of sample water to 1/2 of existing models
- RS-485 equipped as standard specification; compatible with Modbus communication system
- Freely mountable on walls, racks, etc. for the compact lightweight design
- Meas. range:  
0~2 to 0~2000 (1~3 ranges)  
(mg/L, ppm, FTU, NTU)

### High Sensitivity Turbidity Analyzer

#### TUH-1600



- Highly-sensitive turbidity analyzer suitable for water purification process
- Surface scattering light method employed; 1 range/2 ranges/3 ranges available
- RS-485 equipped as standard specification; compatible with Modbus communication system
- Freely mountable on walls, racks, etc. for the compact lightweight design
- Meas. range:  
0~0.2 to 0~2.0 (1~3 ranges)  
(NTU)

### TURBIDITY ANALYZER

#### TUF-1690



- Low-range turbidimeter for city water
- 90 degree light scattering method (Single, Dual, Three ranges available)
- RS-485 equipped as standard specification; compatible with Modbus communication system
- Compact and light-weight with self-supporting stand
- Meas. range:  
0~2/5/10  
(mg/L, ppm, FTU, NTU)

### Chloride Demand Analyzer

#### CLD-7M



- Measures chloride demand of water and estimates chlorine injection level; best suited for feed forward control
- Polarography using eccentrically Rotating micro electrode

### Alkalinity Analyzer

#### ALF-1600



- Continuous measurement of alkalinity data in water purification process by coulometric titration method
- Requires only 1/4 reagent volume of existing model
- RS-485 equipped as standard specification; compatible with Modbus communication system
- Freely mountable on walls, racks, etc. for the compact lightweight design
- Meas. range:  
0~50/100 mg/L (ppm) (2-range)

### Sand Filter

#### FS-3



- The cleaning process done by two filters alternately allows for continuous supply of sample
- Filtration rate:  
1~6 L/min  
(varies from sample turbidity)

## Suspended Solids Concentration Analyzer

#### SSD-1610

(For Low Concentration)

#### SSD-1620

(For Medium Concentration)



- Compact and piston automated analyzer
- Types of detectors available: immersion, drop-in and pipe insertion
- Long-life optical model and high reliability
- RS-485 interface equipped as standard specification; compatible with Modbus communication system
- Meas. range:  
SSD-1610: 0~30/500/1000 mg/L  
SSD-1620: 0~5000/10000/20000 mg/L (three-range, manual switching)

#### SSF-1600

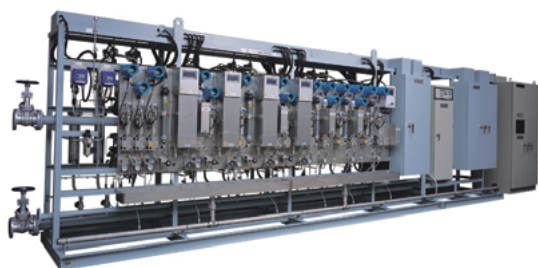


- Continuous optical measurements of SS and MLSS by using infrared scattering method
- Safe and simple maintenance attainable with the small, lightweight stainless detector
- Meas. range:  
0~1000/3000 to  
0~10000/20000/30000 mg/L (two-range or three-range)

## Analyzers for Boiler Water Applications

### Boiler Sampling System

**BSC**



- A complete sampling system composed with cooler, pressure reducer, valves, flowmeter and thermostat chambers
- Enables sampling for analysis from the boiler
- Consistent manufacturing from analyzer to sampler

■ Sample condition :  
Maximum temperature : 600 °C  
Maximum pressure : 30 MPa  
Maximum flow rate : 3 L/min

### Hydrazine Transmitter

**HYM-300**



- Continuous measurement of hydrazine concentration in boiler water
  - Stabilization determination function during calibration
  - Best suited for monitoring of residual hydrazine concentration
- Meas. range :  
0 ~ 999.9 μg/L

## Analyzers for Oil Refineries

Analyzers for  
Boiler Water  
Applications

### Boiling Point Analyzer

**BPM-2000**



- Designed for oil refinery
  - Automatic fractional distillate analyzer of batch distillation type enables distillation test of petroleum products such as kerosene, diesel oil, gasoline and etc.
  - Adopts high resolution liquid level detecting sensor
  - Newly-developed FA computer embedded with large-sized, color touch panel
  - Explosion-proof TIS fd2G4 certified
- Meas. range:  
0 ~ 400 °C

### Vapor Pressure Analyzer

**DVP-03**



- Designed for oil refinery
  - Measures vapor pressure of petroleum products like gasoline
  - Vapor pressure is measured by measuring static pressure of the sample that is jetting out from the nozzle at the constant temperature
  - Measurement result attained via Reid method for vapor pressure
- Meas. range:  
0.01 ~ 1 MPa Abs  
0 ~ 0.15 MPa Abs

### Process Sulfur Content Analyzer

**SCA-200**



- Designed for oil refinery
  - Batch and continuous measurement of sulfur concentration of petroleum products like light and heavy oil
  - Best suited for product and quality control of petroleum products
  - Eliminates RI regulation process and enhances safety by using the compact and X-ray tube
- Meas. range:  
0 ~ 0.1 wt%  
0 ~ 5 wt%

### Process Colorimeter

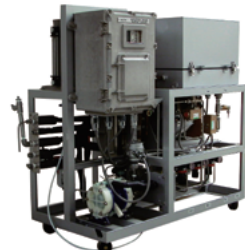
**COL-330**



- Measures color of oil products and coloration out of mixed heavy oil from heat converters, etc.
- Compact onboard spectroscopy allows for a broad range of wavelength measurement
- Saybolt color, ASTM color, APHA color measurable
- Explosion-proof TIS Exd II BT4 certified

### Explosion-Proof Type Cooler

**SCU-02**



- Adopts environmental friendly Freon replacement gas
- Automatic temperature adjustment
- Safety apparatus equipped such as overload relay and current overload breaker
- Explosion-proof TIS Exd II BT4 certified

Analyzers for  
Oil Refineries

# Environmental/Process Analyzers

## Water Quality Analyzers/Systems

### Automated Total Nitrogen/ Phosphorus/COD Analyzer

#### NPW-400



- Measuring based on official measuring method
  - Multiple-wavelength detector enables measurement of total nitrogen, total phosphorus and COD simultaneously
  - Space-saving design attained by eliminating back piping
  - Drip-proof construction
- Meas. range:  
Total nitrogen: 0 ~ 2 mg/L to 50 mg/L  
Total phosphorus: 0 ~ 0.5 mg/L to 20 mg/L  
COD (UV method) : 0 ~ 2 Abs

### Automated COD Analyzer

#### CODR-400



- Measuring based on official measuring method
  - Can be selected between the acid method and the alkaline method
  - Reduced reagent usage to 1/20 of the specified measurement method
  - Reagent replacement and waste liquid treatment once a month
  - Meets requirements for 2-stream and 2-range
- Meas. range:  
0 ~ 20 mg/L to 0 ~ 2000 mg/L

#### COD-203A



- Measures COD of river water, lake water and effluent
  - Meas. method: 100°C digestion with  $\text{KMnO}_4$  acidified by sulphuric acid or 100°C digestion with alkaline  $\text{KMnO}_4$
  - Capability of 2 flow paths measurement (optional)
- Meas. range:  
0 ~ 20 mg/L to 0 ~ 2000 mg/L

### Organic Pollution Monitor (UV Meter)

#### OPM-1630



- The monitor measures organic pollutant concentration of sample by detecting the absorbance of ultra violet ray (254nm)
  - No cell window and free from fouling for the contact-free measuring method
  - With energy-saving lamp it reduces electricity cost significantly
- Meas. range:  
Absorbance: 0 ~ 0.5/1.0/2.0/2.5 Abs

#### OPM-1610



- The monitor measures organic pollutant concentration of sample by detecting the absorbance of ultra violet ray (254nm)
  - Stable measurement realized with the UV absorptiometric method
  - With energy-saving lamp it reduces electricity cost significantly
- Meas. range:  
Absorbance: 0 ~ 2.5 Abs

### Hexavalent Chromium Monitor

#### CRM-1600



- Automated intermittent monitoring unit; Spectrometric Method using 1,5-Diphenylcarbazine
  - Stuck of the electromagnetic valve has been improved with rotating measurement cell
  - Designed for discharged wastewater of plating factory, river water quality and related fields
- Meas. range:  
0 ~ 0.5/1.0 mg/L (2-range)

## Oil Film Detector

#### ODL-1600



- Oil film is detected by measuring differences of the amount of laser reflectance of oil and water
  - With improvements on light source scanning and signal processing, influences occurred in broad water surfaces such as fluctuation, waviness and suspended solids have been reduced effectively
  - Contact-free and easy maintenance
- Meas. object range:  
0.3 ~ 4 m

#### SODL-1600 (Explosion- Proof Model)



- Robust aluminum pressure resistance explosion-proof model
  - Oil film is detected by measuring differences of the amount of laser reflectance of oil and water
  - With improvements on light source scanning and signal processing, influences occurred in broad water surfaces such as fluctuation, waviness and suspended solids have been reduced effectively
  - Contact-free and easy maintenance
- Meas. object range:  
0.3 ~ 3 m

#### ODL-1610A (Long-Distance Model)



- Enables oil film detection even if the surface of sample is 10m away from the detecting cell
  - Ideal for difficult conditions such as turbulent water and places where is difficult to setup near-water detectors
  - Contact-free and easy maintenance
- Meas. object range:  
0.3 ~ 10 m

#### OF-1600



- Oil film is detected by measuring differences of the amount of LED reflectance of oil and water
  - Small and lightweight design
  - Contact-free and easy maintenance
- Meas. object range:  
About 0.5 m



# Water Quality Analyzers/Systems

## Simplified Fluoride Ion Monitor

**FBM-160** (Field Installation Type)  
**FBM-100A** (Panel Type)



- Continuous monitoring of fluoride ion concentration by an ion electrode sensor with the alarm function (non-ionized fluoride is not detectable)
  - Monitors the effluent treatment processes and final effluent from semiconductor factories, etc.
  - Water-jet cleaning function available
- Meas. range:  
0.1 ~ 10 / 0.2 ~ 20 / 1 ~ 100 / 10 ~ 1000 mg/L

## Fluoride Ion Monitor

**FMS-4**



- Simple measurement with just an ion electrode
  - Enables continuous fluoride ion measurement of discharged industrial wastewater
  - By adding ionic strength adjustment solution part of nonionic fluoride is measurable
  - Automatic cleaning and calibration function ensures stable measurement
  - Easy-to-use touch panel
- Meas. range:  
0.1 ~ 10 / 0.2 ~ 20 / 1 ~ 100 / 10 ~ 1000 mg/L

## Simplified Cyanide Ion Monitor

**CNBM-160** (Field Installation Type)  
**CNBM-100A** (Panel Type)



- One-touch calibration done with standard solution
  - Auto-detection of electrode deterioration
  - Automatic detection of electrode error during the measurement
- Meas. range:  
0.00 ~ 9.99 mg/L

## Cyanide Ion Analyzer

**CNMS-4**



- Simple measurement with just an ion electrode
  - Enables continuous cyanide ion measurements in discharged industrial wastewater and river
  - Automatic cleaning and calibration function ensures stable measurement
  - Easy-to-use touch panel
  - Built-in 2L or external 10L lockable waste fluid tank available
- Meas. range:  
0.03 ~ 2 / 0.05 ~ 5 mg/L

## Ammonium Ion Monitor

**NHMS-4**



- Simple measurement with just an ion electrode
  - Enables continuous ammonium ion measurements in discharged industrial wastewater, river and water purification plants
  - Automatic cleaning and calibration function ensures stable measurement
  - Easy-to-use touch panel
  - Low-concentration calibration function available
- Meas. range:  
0.05 ~ 5 / 0.1 ~ 10 / 1 ~ 100 mg/L

## Automatic Online Heavy Metal Analyzer (Total Manganese)

**HMA-TMN**



- Low waste solution (only 1.1L/month at 4H measurement interval)
  - Low reagent consumption (No need for reagent change for 1 month)
  - Auto range with automatic dilution has two measurement ranges (0.1 to 5, 0.5 to 20mg/L) which can be switched automatically
  - Automatic backwashing sample filter, cleaning with each cycle and calibration
  - 5.7 inch color LCD touch panel
- Meas. range:  
0.1 to 20mg/L

## Automatic Online Heavy Metal Analyzer (Chromium VI)

**HMA-CR6**



- Low waste solution (only 1.1L/month at 4H measurement interval)
  - Low reagent consumption (No need for reagent change for 1 month)
  - Auto range with automatic dilution has two measurement ranges (0.01 to 2, 0.04 to 5mg/L) which can be changed
  - Automatic backwashing sample filter, cleaning with each cycle and calibration
  - 5.7 inch color LCD touch panel
- Meas. range:  
0.04 to 5 mg/L

## Automatic Online Heavy Metal Analyzer (Total Chromium)

**HMA-TCR**



- Low waste solution (only 1.1L/month at 4H measurement interval)
  - Low reagent consumption (No need for reagent change for 1 month)
  - Auto range with automatic dilution has two measurement ranges (0.04 to 2, 0.1 to 5mg/L) which can be switched automatically
  - Automatic backwashing sample filter, cleaning with each cycle and calibration
  - 5.7 inch color LCD touch panel
- Meas. range:  
0.1 to 10mg/L

## Automatic Online Heavy Metal Analyzer (Total Copper)

**HMA-TCU**



- Low waste solution (only 1.1L/month at 4H measurement interval)
  - Low reagent consumption (No need for reagent change for 1 month)
  - Auto range with automatic dilution has two measurement ranges (0.1 to 3, 0.5 to 10mg/L) which can be switched automatically
  - Automatic backwashing sample filter, cleaning with each cycle and calibration
  - 5.7 inch color LCD touch panel
- Meas. range:  
0.1 to 10mg/L

## Automatic Online Heavy Metal Analyzer (Total Nickel)

**HMA-TNI**



- Low waste solution (only 1.1L/month at 4H measurement interval)
  - Low reagent consumption (No need for reagent change for 1 month)
  - Auto range with automatic dilution HMA-TNI has two measurement ranges (0.1 to 3, 0.4 to 10mg/L) which can be switched automatically
  - Automatic backwashing sample filter, cleaning with each cycle and calibration
  - 5.7 inch color LCD touch panel
- Meas. range:  
0.1 to 10mg/L

# Environmental/Process Analyzers

## Ambient Air Analyzers

### PM2.5 Monitor

#### FPM-222



- US EPA Approval
- Beta ray attenuation method
- Filter paper roll lasts for 33 days
- Meas. range:  
0 ~ 1000  $\mu\text{g}/\text{m}^3$   
0 ~ 5000  $\text{mg}/\text{m}^3$   
with auto/manual switching

#### FPM-388



- Korean EPA Approval
- Beta ray attenuation method
- Heater type dehumidifier
- Outdoor type and indoor type available
- Filter paper roll lasts for 33 days
- Long life Beta ray detector (semi-permanent use)
- Meas. range:  
0 ~ 500  $\mu\text{g}/\text{m}^3$   
0 ~ 1000  $\mu\text{g}/\text{m}^3$   
0 ~ 5000  $\mu\text{g}/\text{m}^3$   
with auto/manual switching

### Nitrogen Oxides Analyzer

#### GLN-314E



- US EPA Approval
- Chemical luminescence method
- Alternating measurement of nitric monoxide (NO) and nitrogen oxides (NOx) ensures stable and continuous measurement of minute amounts of nitrogen oxides in the air
- Easy-to-use touch panel
- Meas. range :  
0 ~ 0.1, 0 ~ 0.2, 0 ~ 0.5, 0 ~ 1.0, 0 ~ 2.0 ppm

### Sulfur Dioxide Analyzer

#### GFS-312E



- US EPA Approval
- Continuous measurement of  $\text{SO}_2$  by using Ultraviolet fluorescence method
- Improved optical system reduces the impact from interfering substances
- Easy-to-use touch panel
- Meas. range :  
0 ~ 0.05, 0 ~ 0.1, 0 ~ 0.2, 0 ~ 0.5, 0 ~ 1.0 ppm

### Ozone Analyzer

#### GUX-313E



- US EPA Approval
- Continuous measurement of  $\text{O}_3$  concentration by using UV photometry method
- Easy-to-use touch panel
- Meas. range :  
0 ~ 0.1, 0 ~ 0.2, 0 ~ 0.5, 0 ~ 1.0 ppm

### Carbon Monoxide Analyzer

#### GFC-311E



- US EPA Approval
- Gas filter correlation method (IR method)
- High sensitivity measurement enabled with multi-reflection cell
- Easy-to-use touch panel
- Meas. range :  
0 ~ 5, 0 ~ 10, 0 ~ 20, 0 ~ 50, 0 ~ 100 ppm

### Ozone Generator

#### OZ-200



- No warm-up time, little temperature effect and stable ozone output by using frequency controlled pulse xenon lamp
- Zero gas cylinder not required as zero gas generator uses ambient air as resource gas
- Linearity test easily attainable with the 5-division function
- Easy to carry portable type

### Calibration Gas Generator

#### CGS-12



- Calibrator for  $\text{SO}_2/\text{NO}_x/\text{CO}$  analyzers
- Built-in zero gas generator enables suction of ambient air & purification into zero gas
- Concentration of span gas (calibration) is freely adjustable between 1:100 & 1:10000 of component gas concentration

# Emission Gas Analyzers

## Volatile Organic Compounds (VOC) Analyzer

### GHT-200



- Stable and reliable FID method is adopted
- Air purification device built-in
- Various data management function installed
- Meas. range:  
0 ~ 10/20/50/100/200/1000/  
2000/5000/10000ppmC

### GIV-200



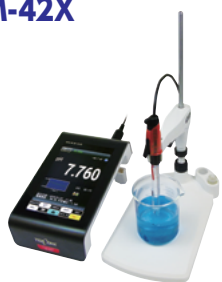
- Catalytic Oxidation/NDIR method is adopted
- Hydrogen and supporting air unnecessary
- Stable carbon conversion sensitivity
- Portable model (compact, light weight, can be carried with one hand)
- Meas. range:  
0 ~ 2000ppmC, 0 ~ 5000ppmC

# Analytical Instruments

## Laboratory Analyzers

### pH Meters

#### HM-42X



- Large Color LCD and Touch Panel
- Automatically recognizes PC, Turntable, Printer
- USB standard equipment
- Data memory function (2000 data each channel)
- Measurement items:
  - pH
  - ORP (electrode sold separately)
  - ion (electrode sold separately)

#### HM-41X



- Large customized LCD Display DC (4 AA batteries) / USB power supply
- Battery life approx. 2500 hours
- PC communication with USB connection
- Data memory (1000 data)
- External printer connectable (optional)
- Measurement items:
  - pH
  - ORP (electrode sold separately)

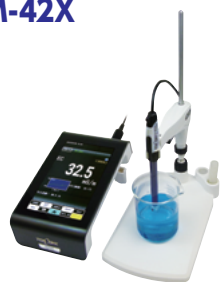
#### HM-40X



- For international sales only
- Large, clear customized LCD Display
- Operated by batteries
- Measurement items:
  - pH

### Conductivity Meters

#### CM-42X



- Large Color LCD and Touch Panel
- Built-in pure water temperature compensation
- Compliant with USP<645> requirements
- Automatically recognizes PC, Turntable, Printer
- Measurement items:
  - electric conductivity, resistivity, salinity, concentration, TDS

#### CM-41X



- Large LCD Display
- DC (4 AA batteries) / USB power supply
- Battery Life Approx. 1000 hours
- PC communication with USB connection
- Data memory (1000 data)
- External printer connectable (optional)
- Measurement items:
  - electric conductivity, resistivity, salinity, concentration, TDS

### Multi-Function Water Quality Meter (pH/ORP/Ion/Conductivity/DO)

#### MM-43X



- Large Color LCD and Touch panel
- Each channel can be connected to pH/ORP/Ion/DO/Conductivity cell
- 2 ports of automatic recognition connector installed
- Automatically recognizes PC, Turntable, Printer
- USB standard equipment
- Data memory function (2000 data each channel)

- Meas. items:
  - pH, ORP, electric conductivity, resistivity, salinity, ion, temperature, DO, saturation, TDS



# Laboratory Analyzers

## Automatic Titrator

**AUT-801**

**NEW**



- Equipped with various functions to support titration analysis
- Reduced titration time with an operation similar to manual analysis (semi-automatic mode)
- Manual detection of the end point is possible. (Set point detection function)
- Simultaneous titration and display for 2 series (dual system)
- Equipped with validation support function
- Can be connected to turntable TTT-710, automatic sampling device, etc.

## Acidity/Salinity/Potentiometric Titrator

**TA-70/TS-70/TP-70**



- Simplified system and specified titrators series
- Electrodes for trace amount titration available
- Turntable connectable
- Data management with external-connected printer (optional)

## Automatic Burette

**ABT-511**



- Precising dispensing system (stable quantitation and speed)
- Titration burette (manual titration) supported
- GLP compliance
- Sampling mode loaded (measure/dilution)
- RS-232C equipped as standard specification

## Sugar Analyzer

**SU-300**



- Simple pretreatment
- Simultaneous measurement of 5 kinds of sugar and ethanol, or 7 kinds of sugar alcohol
- Pulse amperometric method employed
- Automatic analysis and calculation without PC
- Front operation and easy maintenance

## Salinity Analyzer

**SAT-500**



- Simple operation-just inject the sample into electrolyte in dedicated beaker
- Rapid measurement - approx. 25 seconds from measurement start to data output for a standard 1% NaCl standard solution
- Capable of stable measurements without effect from artificial colorings
- Meas. range: 0.0000 ~ 49.99 %

## Simplified COD Meter

**COD-60A**



- The integrated oxidation & titration design and the sequence control function simplified operations
- Smaller waste solution (lower than 10mL per measurement)
- Real time display of sequence and titration curve
- Meas. range: 0 ~ 20.0/40.0/100/200/400/1000 mg/L

## ATP Analyzer

**AF-100**



- Enables bacteria and cell measurements in 50 sec.
- Highly sensitive measurement at 1 ~ 1000 cells/mL level
- Enables direct measurement of membrane filter
- Compliant to sanitary management by swap test
- Useful functions such as ATP concentration and cell converted value available
- Automatic reagent dispenser is optional (DF-10 sold separately)

## Ion Chromatograph

**ICA-7000**



Ion removal device system



Chemical suppressor system

- All-in-one, compact design the same size for the 2ch system as well
- Excellent extensibility due to unitized configuration
- Support for both suppressor and non-suppressor systems
- Low range measurement for high sensitivity analysis has been added
- Use of new pumps to prevent air contamination Improved stability of liquid feeding
- Device control and data processing by USB communication
- High sensitivity analysis with chemical suppressor system
- Compatible with ion chromatography and post-column method (Cyan/Bromic acid analysis (Water test method))
- Support for continuous measurement of multiple samples

## Ion Analyzer

**IA-300**



- 6 cations or 7 anions simultaneous measurement
- Simple and easy-to-use for any user
- Results automatically analyzed and calculated internally
- Displayable and printable results
- Suppressor method available for anion measurements
- Measurement items:  
Anions:  $\text{PO}_4^{3-}$ ,  $\text{F}^-$ ,  $\text{Cl}^-$ ,  $\text{NO}_2^-$ ,  $\text{Br}^-$ ,  $\text{NO}_3^-$ ,  $\text{SO}_4^{2-}$   
Cations:  $\text{Li}^+$ ,  $\text{Na}^+$ ,  $\text{NH}_4^+$ ,  $\text{K}^+$ ,  $\text{Mg}^{2+}$ ,  $\text{Ca}^{2+}$

# Analytical Instruments

## Portable/Handheld Meters

### Handheld Multi-parameter Water Quality Meter

#### MM-42DP (2ch type) /MM-41DP (1ch type)



- NEW Digital Probe  
Automatically recognizes probe information Multiple probe combinations are available for 2ch type
- Easily replaceable electrode for pH and ORP probe
- Slim design
- Display with backlight
- Waterproof design(IP67: 1m depth up to 30mins)
- Data storage up to 1500 points
- Connect to PC via USB Peripheral
- External printer Connectable to (EPS-P30)

Meas. items:  
pH, ORP, electric conductivity, resistivity, salinity(NaCl, PSS), TDS, DO(Optical)

### Handheld pH, Ion, ORP Meter

#### HM-40P



- Slim design
- Display with backlight
- Power-saving design; rechargeable battery adaptable
- Waterproof design(IP67: 1m depth up to 30mins)
- Data storage up to 1500 points

Meas. items:  
pH, ORP, Ion

### Handheld Conductivity Meter

#### CM-31P-W(For Pure Water)



- Highly accurate measurement in pure water attainable with the pure water temperature compensation function
  - Comes with special flow cell CEF-22A (made of PP)
  - Power-saving design; rechargeable battery adaptable
  - Waterproof design (IP67: 1m depth, up to 30mins)
- Meas. range  
(when using a standard cell):  
0.1 mS/m ~ 10 S/m  
0.1 Ω·m ~ 10k Ω·m  
Salinity: 0 ~ 4.00‰  
0 ~ 80°C

### Handheld DO Meter

#### DO-31P



- DO electrodes for incubator bottles and stirring-free DO electrodes available
  - Power-saving design; rechargeable battery adaptable
  - Waterproof design(IP67: 1m depth, up to 30mins)
  - Data storage up to 1000 points
- Meas. range:  
0 ~ 20.00 mg/L (0-50.0 mg/L)\*  
0 ~ 200% (0 ~ 500%)\*  
\*When the high-concentration membrane is used(optional)  
0 ~ 50°C

### Handheld DO/pH Meter

#### DM-32P



- 2-channel type, simultaneous measurement and display of DO/pH
  - Power-saving design; rechargeable battery adaptable
  - Waterproof design (IP67: 1m depth, up to 30mins)
  - Data storage up to 1000 points
  - PC and external printer connectable
- Measurement items: pH, ORP, DO, temperature (ORP electrodes sold separately)

### Handheld Multi-parameter Water Quality Meter

#### WQC-40



- pH, electric conductivity, turbidity, temperature, salinity, TDS, sea water specific gravity, DO, ORP, ion, water depth, Simultaneous measurement of up to 9 items
- Measurement at a depth of 100m is possible
- Standard sensor module diameter is 45mm
- Modbus compatible
- Data memory function(9999data)

\* Suspended solids cannot be measured

### Portable Water Quality Meter

#### WQC-30



- Simultaneous measurement of pH, electric conductivity, turbidity, temperature, salinity (DO measurement possible as option)
- Suitable for water quality management of river/lake or factory/construction effluent
- Reliability of low range turbidity measurement improved
- Energy-saving design, rechargeable batteries can be used
- Water-proof (IP67 rated)

\* Suspended solids cannot be measured

### Portable Turbidity Meter

#### TB-31



- Immersion type of sensor which is convenient for turbidity measurement in fields
- Reliability of low-concentration measurement has been improved
- Power-saving design; rechargeable battery adaptable
- Waterproof design (IP67: 1m, dipable for up to 30mins)

Meas. range:  
0.0 ~ 80.0 NTU (mg/L)  
0 ~ 800 NTU (mg/L)  
Switchable modes: auto/manual  
\* Suspended solids cannot be measured

## Portable/Handheld Meters

### Handheld Residual Chlorine Meter

#### RC-31P



- Polarographic method enables easy and reagentless measurement of residual chlorine in tap water, pool, etc. in a low running cost
- Supported two measuring methods; throw-in style and water intake style
- Waterproof design (IP67: 1m depth, up to 30mins)
- Meas. range:  
0 ~ 2.00 mg/L  
0 ~ 45 °C

### Low Concentration DO Meter

#### DO-32A



- Measurable from  $\mu\text{g/L}$  (ppb) to 20mg/L (ppm)
- Auto-range function ensures continuous measurement
- Small and easy-operated flow cell equipped
- AC/DC 2-way power supply
- Meas. range:  
0 ~ 19.99  $\mu\text{g/L}$  / 199.9  $\mu\text{g/L}$  / 1.999 mg/L (four-range)  
0 ~ 45 °C

### Portable Dissolved Hydrogen Meter

#### DH-35A



- Fast response with membrane polarographic electrode
- Highly sensitive measurement at  $\mu\text{g/L}$  level
- Atmospheric calibration method and hydrogen standard gas not required
- AC/DC batteries 2-way power supply
- Equipped with flow cell and analogue output cable
- Meas. range:  
0.0 ppb ~ 10.00 ppm

### Handheld Hypochlorite Concentration Meter

#### RC-37P



- Measures diluted sodium hypochlorite acid concentration without reagent
- Polishing beads cleaning method allows for stable measurement
- Waterproof design (IP67: 1m depth up to 30mins)
- Meas. range:  
20 ~ 300 mg/L  
5 ~ 40 °C

### Portable Dissolved Ozone Meter

#### OZ-21P



- Simple, reagentless measurement of concentration of ozone stream water produced by ozone water generator
- Waterproof design (IP67: 1m depth up to 30mins)
- Polishing beads cleaning method allows for stable measurement
- External printer connectable
- Meas. range:  
0 ~ 2.00 mg/L  
5 ~ 40 °C

### Portable Ozone Meter

#### OZ-20/30



- Portable, easy calibration, continuous measurement capability
- Two types available: OZ-20 (for liquid phase) and OZ-30 (for gas phase)
- Easy measurement, simply by placing electrode in the atmosphere
- AC/DC 2-way power source
- Optional flow cell for dissolved ozone
- Meas. range:  
1.5 ~ 19.99 mg/L (for liquid)  
1 ~ 100 g/m<sup>3</sup> (for air)

### Handheld Surface Salinity Meter

#### SSM-21P



- Compliant with PSPC
- Ideal for surface salinity measurements of paints used in ship coatings
- Simple operation (just attach the cell to the meter and inject pure water into the cell)
- Meas. range:  
0 ~ 199.9 mg/m<sup>2</sup>, 0 ~ 1999 mg/m<sup>2</sup>  
0 ~ 199.9  $\mu\text{S/cm}$ , 0 ~ 1.999 mS/cm  
0 ~ 50 °C

### Portable Carbon Dioxide Meter

#### CGP-31



- Enables measurement of CO<sub>2</sub> in both liquid phase and gas phase
- Wide measurement range (0.1 ~ 100%)
- Membrane electrode allows for reliable measurement
- Power-saving design; rechargeable battery adaptable
- Waterproof design (IP67: 1m depth up to 30mins)
- Meas. range:  
Liquid phase: 1.49 ~ 1490 mg/L  
Gas phase: 0.1 ~ 100 %

### Portable Electromagnetic Meter

#### MDM-25A (Including a PVC Sensor)



- Concentration of acid and alkali measurable
- High concentration range measurable by electromagnetic method
- Analog output enables easy continuous measurement
- Switchable concentration and conductivity rate
- Easy maintenance requires no daily calibration
- Meas. range (conductivity rate):  
0 ~ 200 S/m



**DKK-TOA CORPORATION**

Overseas Sales Division:  
DKK-TOA Corporation  
29-10, 1-Chome, Takadanobaba, Shinjuku-ku,  
Tokyo 169-8648 Japan  
Tel : +81-3-3202-0225 Fax : +81-3-3202-5685  
E-mail : intsales@dkktoa.com



**CAUTION**

Please read the operation manual carefully  
before using products.

<https://www.toadkk.com/english>

Information and specifications are subject to change without notice.

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