

**On-Line** Industrial Water Quality Analyzer

# H-1 / 48/96

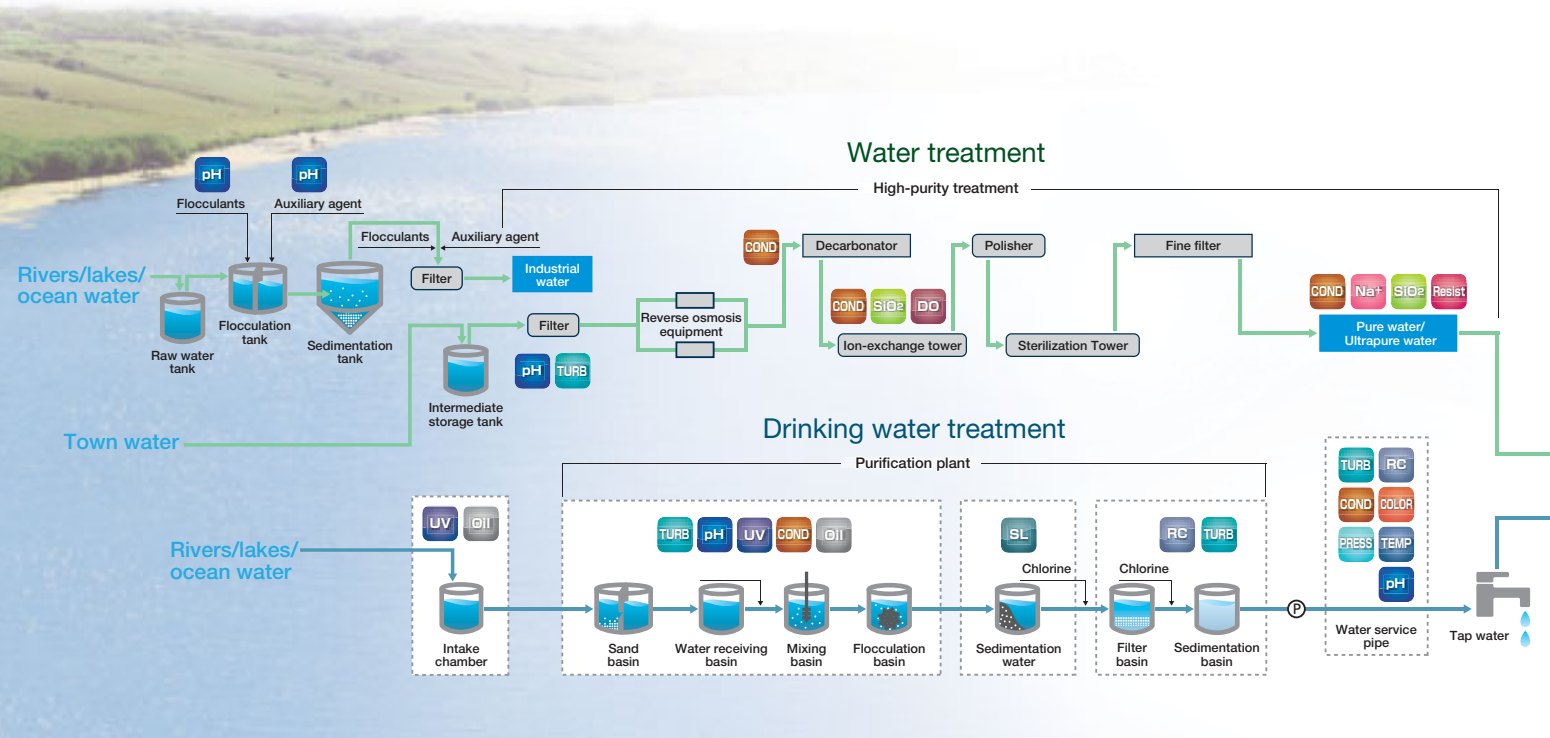
## General Catalog



For all water treatment processes  
from service water to  
waste water treatment



# HORIBA provides various solutions from service water to



## Line up



Water purification

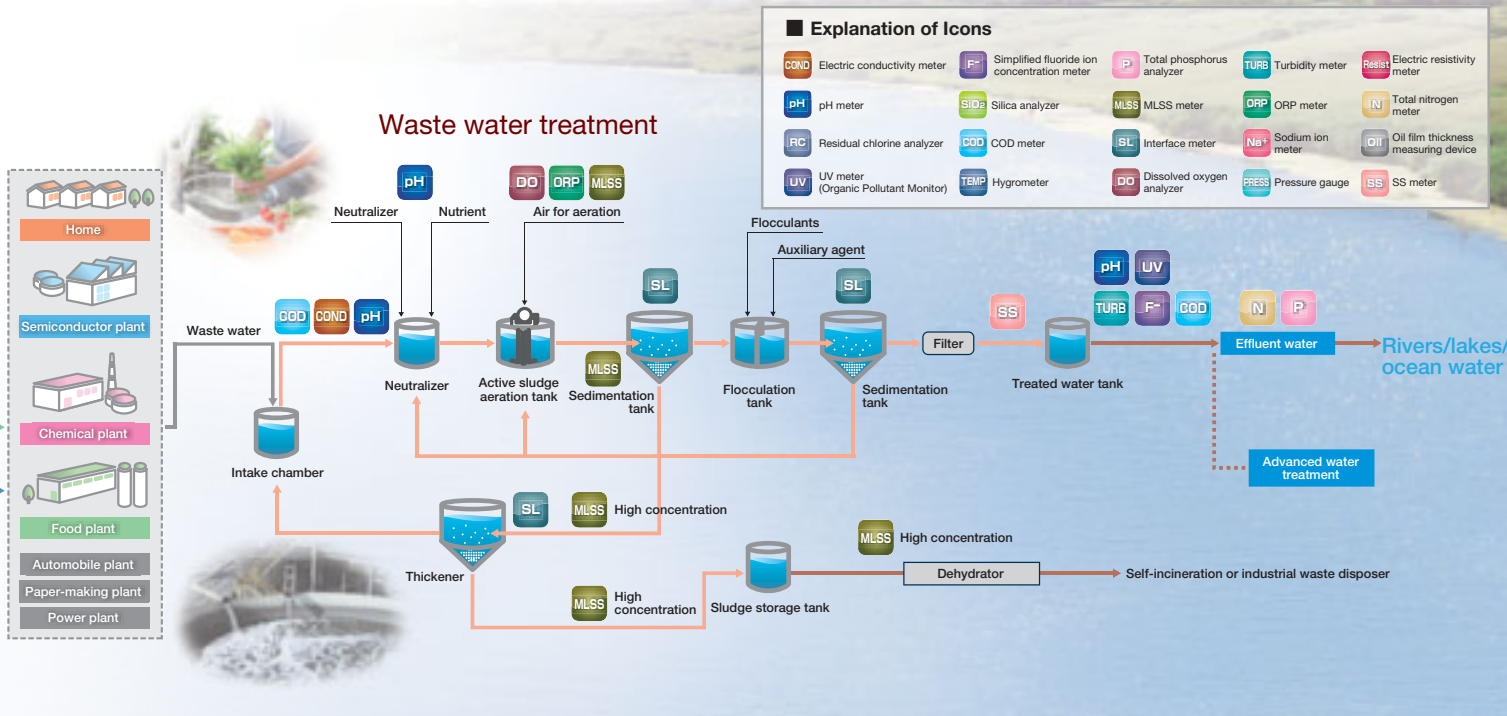


Sewage/drainage

pH meter		<ul style="list-style-type: none"> <li>Inflow monitoring</li> <li>Neutralization treatment</li> <li>Floculation/sedimentation</li> <li>Water distribution monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Inflow monitoring</li> <li>Neutralization treatment</li> <li>Aeration tank</li> <li>Floculation/sedimentation</li> <li>Effluent monitoring</li> </ul>
ORP meter		<ul style="list-style-type: none"> <li>Raw water monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Aeration tank</li> </ul>
Simplified fluoride ion concentration meter			<ul style="list-style-type: none"> <li>Effluent monitoring</li> </ul>
Dissolved oxygen analyzer			<ul style="list-style-type: none"> <li>Aeration tank</li> </ul>
Electric conductivity meter		<ul style="list-style-type: none"> <li>Inflow monitoring</li> <li>Water distribution monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Inflow monitoring</li> <li>Water distribution monitoring</li> </ul>
Electric resistivity meter			
Residual chlorine analyzer		<ul style="list-style-type: none"> <li>Prior treatment (sodium hypochlorite)</li> <li>Intermediate treatment</li> <li>Post-treatment</li> <li>Water distribution monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Waste water sterilization</li> </ul>
MLSS meter		<ul style="list-style-type: none"> <li>Floculation/sedimentation</li> <li>Sludge disposal</li> </ul>	<ul style="list-style-type: none"> <li>Aeration tank</li> <li>Floculation/sedimentation</li> <li>Thickener</li> <li>Sludge disposal</li> </ul>
Turbidity meter		<ul style="list-style-type: none"> <li>Inflow monitoring</li> <li>Filtration monitoring</li> <li>Water distribution monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Effluent monitoring</li> <li>Filtration monitoring</li> </ul>



# waste water treatment as a leading water quality inspection company.



Semiconductor process	Ultrapure water (industrial water)	Pharmaceuticals	Bio/foods
<ul style="list-style-type: none"> <li>Chemical treatment</li> <li>CMP</li> <li>Neutralization treatment</li> </ul>	<ul style="list-style-type: none"> <li>Raw water monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Neutralization treatment</li> </ul>	<ul style="list-style-type: none"> <li>CIP washing process</li> <li>Purification</li> <li>Separation</li> <li>Concentration</li> <li>Culture</li> </ul>
<ul style="list-style-type: none"> <li>HF treatment</li> <li>Chemical liquid management</li> </ul>			<ul style="list-style-type: none"> <li>Concentration</li> <li>Fermentation</li> </ul>
<ul style="list-style-type: none"> <li>Wash management</li> <li>Chemical liquid management</li> <li>Etching</li> </ul>	<ul style="list-style-type: none"> <li>Raw water monitoring</li> <li>Primary pure water management</li> <li>Filter monitoring</li> <li>Film monitoring</li> <li>(Industrial) water management</li> </ul>	<ul style="list-style-type: none"> <li>CIP washing process</li> <li>(Industrial) water management</li> </ul>	<ul style="list-style-type: none"> <li>CIP washing process</li> <li>(Industrial) water management</li> </ul>
<ul style="list-style-type: none"> <li>Wash management</li> <li>(Industrial) water management</li> </ul>	<ul style="list-style-type: none"> <li>Purity control</li> <li>Filter monitoring</li> <li>Film monitoring</li> </ul>	<ul style="list-style-type: none"> <li>(Industrial) water management</li> </ul>	<ul style="list-style-type: none"> <li>(Industrial) water management</li> </ul>
	<ul style="list-style-type: none"> <li>Raw water monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Sterilizing control</li> </ul>	<ul style="list-style-type: none"> <li>Sterilizing control</li> <li>Wash management</li> </ul>



## pH meter

One-touch calibration function  
Realizes gentle measurement by  
combination with lead-free ORP electrode



## ORP meter

Best for neutralization reaction  
treatment management of aeration tank,  
denitrification tank, etc.  
Measure oxidation/reduction potentials of  
various kinds of solution

Lineup with focus on robustness, functionality and maintainability that responds to harsh conditions at the site process

### H-1 Series



**4** 4-wire transmission system HP-200

**2** 2-wire transmission system HP-300

**Explosion-proof** HP-300IS

**4** 4-wire transmission system HO-200

**2** 2-wire transmission system HO-300

**Explosion-proof** HO-300IS

Realizes reduction in size and space savings of storage box. Also environmentally friendly (lead-free electrode and lead-free solder adopted).

### 48/96 Series



**4** 4-wire transmission system HP-480      HP-480TP  
HP-960-FTP    HP-480PL

**4** 4-wire transmission system HO-480

Comprehensively responds to various kinds of water treatment from deionizer to drainage treatment by full lineup of models.

### Various Sensors



Responds to high-load samples with unique tough glass

Extensive wash lineup (water/air/ultrasonic wave/brush/chemical liquid)

		Tough	Replaceable tip	Hydrofluoric-acid	High-Alkali	Oil	Pure Water	Gel - fill
Standard	6108-50B	●						
	6109-50B							
Special	6174-50B		●					
	6151-50B	●		●				
	6152-50B				●			
	6171-50B	●		●				
	6172-50B				●			
	6173-50B	●				●		
	HP-8A						●	
	8300/ Other							●

**COND** Electric conductivity meter (Conductivity)

Best for pure water/boiler water drainage recovery control  
Responds to various types of temperature compensation

**Resist** Electric resistivity meter (Specific resistance)

Measures ultrapure water at high accuracy  
Realizes high-accuracy temperature compensation  
Established traceability system

**RC** Residual chlorine analyzer

Best for pool, simplified service work, desalination unit, etc.  
Equipped with self-diagnosis function

**4** wire transmission system HE-200H HE-200C

**2** wire transmission system HE-300C

Explosion-proof HE-300IS

**4** wire transmission system HE-200R

**2** wire transmission system HE-300R

**4** wire transmission system Polarographic type HR-200

Rotating electrode polarographic type HR-200RT

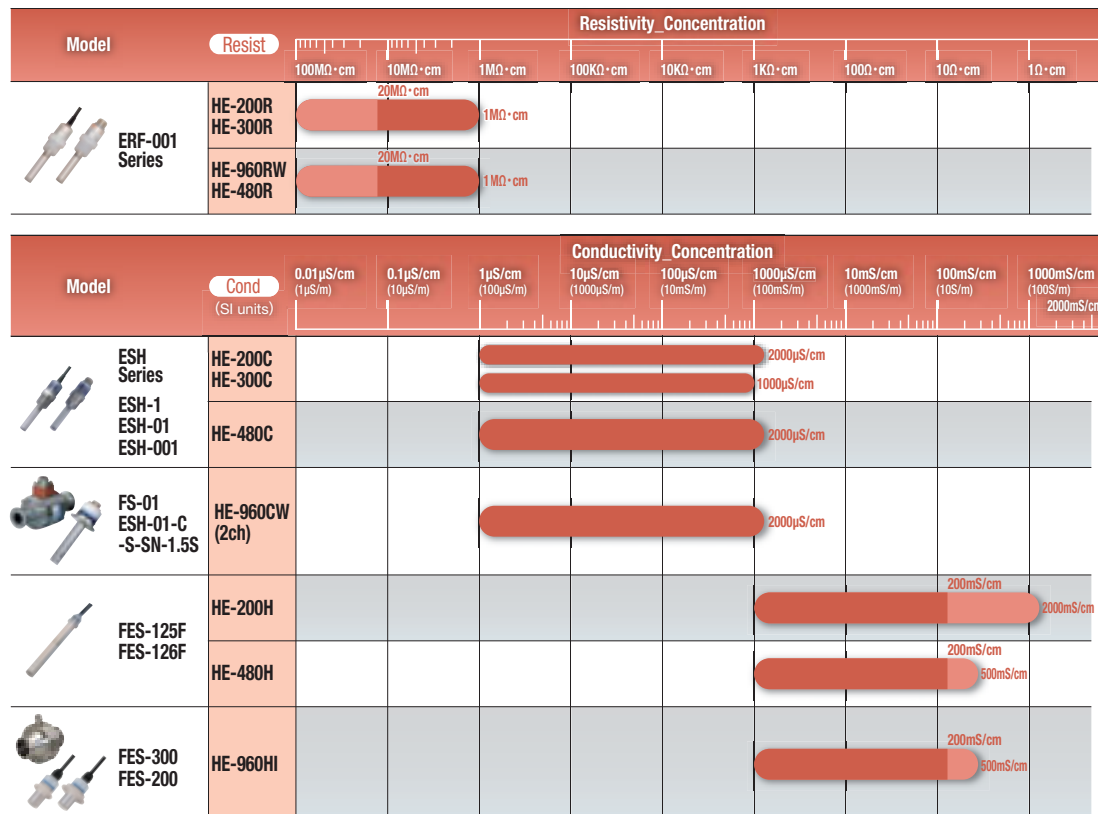
**4** wire transmission system HE-480H HE-960HI  
HE-480C HE-960CW

**4** wire transmission system HE480R  
HE960RW

**4** wire transmission system Polaro type HR-480P

Highest level of temperature responsiveness by adoption of high-accuracy temperature element  
Sensor lineup that can respond to a wide range of applications

With temperature compensation Without temperature compensation



Thorough pursuit of maintainability

**RA-10**  
Overflow type

〈HR-200〉  
〈HR-480P〉



Improvement in maintainability making electrode cartridge type double wash of beads wash + electrochemical

**RA-20**  
In-line type

〈HR-200〉  
〈HR-480P〉



Improvement in maintainability making electrode cartridge type reduction in maintenance cost + double beads wash + electrochemical

**RA-30**  
Rotating electrode polarographic type

〈HR-200RT〉



Improvement in maintainability making electrode cartridge type less directive influence by flow rate fluctuation

Chlorine

Water system,  
Function



## Dissolved oxygen analyzer

Realizes both the cartridge method membrane replacement and the membrane internal liquid replacement regeneration system  
Responds to a wide range of measurements (boiler water/rivers/aeration treatment, etc.)



Optical type Polarographic type **HD-200FL / HD-200**



Polarographic type **HD-300**



Galvanic battery type **HD-480**

Ability

by  
and  
chemical wash

by  
and  
le wash of  
wash

by  
and  
actuation

### 《Galvanic》

**DO-5400**  
**DO-5405**  
《HD-480》



Improvement in maintainability by making electrode cartridge type

### 《Polarographic》

**DO-5505**  
**DO-5510**  
《HD-200》  
《HD-300》



Only membrane cap and internal liquid require replacement. (Reduction in maintenance costs)

### 《Optical》

**DO-2000**  
《HD-200FL》



Realizes long-term maintenance free by combination of unique ultrasonic cleaners



## Turbidity meter

Best for inflow/effluent monitoring  
Adopts the scattering method of transmittance 90 degree



**HU-200TB-IM**    **HU-200TB-W**  
**HU-200TB-H**    **HU-200TB-EH**

### Wide range model lineup

#### SS-150

SS can be measured.  
Adopts unique stain-resistant wiper cleaning mechanism (patent-pending) and PFA material head

#### SS-120-W

Wide range inlet to outlet handling

#### SS-120-H

Sensitive measurement with minimum resolution of 0.001

#### SS-120-EH

Ultrasensitive measurement with minimum resolution of 0.

Model	Turbidity Concentration (NTU, mg/L)							
	0.0001	0.001	0.01	0.1	1	10	100	1000
SS-120-W								
HU-200TB-W								
Wide Range								
SS-120-H								
HU-200TB-H								
High Sensitivity								
SS-120-EH								
HU-200TB-EH								
Ultra High Sensitivity								
SS-150								
HU-200TB-IM								
Wide Range throw in Type								
SS-90								
HU-200SS								
MLSS								





## MLSS meter

Transmits light method in which span calibration is not required  
Adopts long-life LED light source



## Simplified fluoride ion concentration meter

Best for drainage control of semiconductor/FPD plants, glass plants, etc.



## Color meter

Best for chromaticity control of distributed water and filtrate water of water treatment plants  
Open-front cylindrical cell for easy maintenance  
Realizes maintenance free by combination of wiper cleaners



### HU-200SS



### HC-200F



### HC-300F



### HU-200CL

### SS-90



Adopts stain-resistant PFA sensor with superior near-infrared light permeability

### 1009



Wide range of 0-10,000mg/L (Range switchover extends to 10 levels)

### CI-20



Thorough pursuit of maintainability

## Other analyzers for water treatment

Realizes lowest lifecycle cost in the industry (internal investigation in 2013)  
From response to total volume control to an enterprise that emphasizes compliance

### Automatic Total Nitrogen/Phosphorus Monitoring System

#### TPNA-500

**[Measurement method]**  
Total nitrogen: UV absorption method  
Total phosphorus: Molybdenum blue absorption method  
**[Measurement range]**  
Total nitrogen:  
0-2mgN/L (standard range)  
~ 0-1,000mgN/L (Max.)  
Total phosphorus:  
0-0.5mgP/L (standard range)  
~ 0-250mgP/L (Max.)



For water quality total volume control, water quality monitoring of raw water and organic pollutant monitoring in water quality process line

### Organic Pollutant Monitor (UV meter)

#### OPSA-150

**[Measurement method]**  
2 light path 2 wavelength cell length modulation rotary type(UV absorbance)  
\*Patent  
**[Measurement range]**  
UV absorbance/VIS absorbance  
(Cell 10mm conversion)  
0-0.1Abs or 0-5.0Abs of full-scale  
(It can be set at 0.1Abs intervals.)



Automatic COD monitor with low running cost and the highest-level performance realized by the most advanced technology and traditional craftsmanship

### Automatic COD Monitor

#### CODA-500-A, C (Acid process) /500-B (Alkaline process)

**[Measurement method]**  
CODA-500 A, C (Acid Potassium Permanganate Method)  
CODA-500-B (Alkaline Potassium Permanganate Method)  
**[Measurement range]**  
0-20mg/L  
0-30, 40, 50, 100, 200, 500, 1000, 2000mg/L (One-step dilution specification)



Adopts reliable ion electrode method  
Provides measurement values with long-term stability

### Automatic Ammonium Ion Monitoring System

#### AMNA-101 /102

**[Measurement method]**  
Diaphragm ammonia electrode method  
**[Measurement range]**  
0.01-1.0/  
0.1-10\*/0.5-50/  
1-100/5-500/  
10-1000ppmNH<sub>4</sub><sup>+</sup>  
Or ppmN/NH<sub>4</sub><sup>+</sup>, any of ranges  
\*Except for AMNA-102

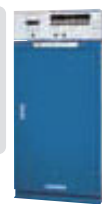


Continuously measures fluoride ion concentrations at high accuracy

### Automatic Fluoride Ion Monitoring System

#### FLIA-101

**[Measurement method]**  
Fluoride ion electrode method  
**[Measurement range]**  
0.1-10/1-100  
/10-1000/  
0.5-50ppm or 5-500ppm



For pharmaceutical water production Purified Water(PW),Water for injection(WFI) and Highly Purified Water(HPW)

### TOC meter (Total organic carbon meter)

#### HT-110

**[Measurement method]**  
Continuous UV oxidation and conductivity difference measurement  
**[Measurement range]**  
0-1000ppb



Installed in a service water facility and at the ends of service water pipes and water supply pipes to automatically monitor daily inspection items without reagents (turbidity, chromaticity and residual chlorine)

### Water Distribution Monitor

#### TW-100

**[Measurement method]**  
Turbidity/Color:Transmitted light absorption  
Free chlorine:Polarography  
Water pressure:Diaphragm pressure sensor  
pH:Glass electrode  
Conductivity:Electrode type (2-electrode method)  
Water temperature:Thermistor  
**[Measurement range]**  
Turbidity: 0-2 NTU/0-4 NTU  
Color: 0-10 CU/0-20 CU  
Residual chlorine: 0-2mg/L  
Water pressure: 0-1MPa  
pH: 2-12pH  
Electric conductivity: 0-50mS/m  
Water temperature: 0-50°C



Unexpected oil spill disasters monitored by laser and video. Performance & maintainability are significantly improved.

### Oil Film Detector (Laser scanning type)

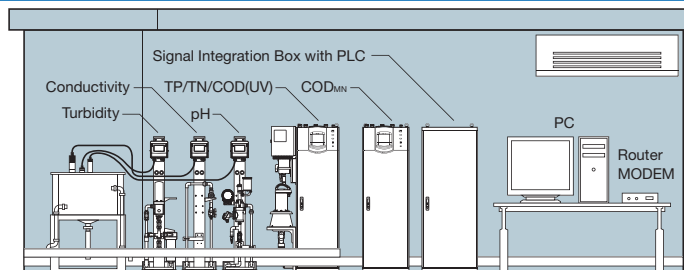
#### LO-300

**[Measurement method]**  
Surface scanning laser/reflected light sensor  
**[Measurement target]**  
Floating oil film on a water surface and floor surface (gasoline, kerosene, light oil, heavy oil, insulating oil, lubricating oil, etc.)



## Water Quality Monitoring System

As the item to watch water quality, we offer the following automatic analytical instruments.



## HORIBA Global Network



The HORIBA Group adopts IMS (Integrated Management System) which integrates Quality Management System ISO9001, Environmental Management System ISO14001, and Occupational Health and Safety Management System OHSAS18001. We have now integrated Business Continuity Management System ISO22301 in order to provide our products and services in a stable manner, even in emergencies.



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