

Ultrasonic Cleaner for Industrial Water Quality Sensors

Burst oscillation method and sweep function

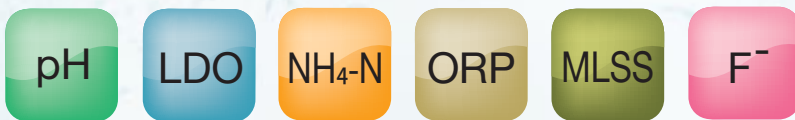
- High cleaning effect reduces the maintenance load by about 90% *refer to figure 1
- Sweeping of the oscillation frequency enables extensive cleaning and prevents uneven cleaning

Continuous cleaning while in operation

- Continuous is possible without affecting measured values

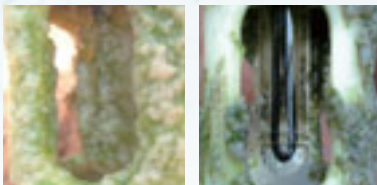
Applicable instruments and examples of cleaning effects

*Please inquire for more details.



Examples

pH



without cleaner after 20 days

with cleaner after 80 days

LDO



without cleaner after 90 days

with cleaner after 90 days

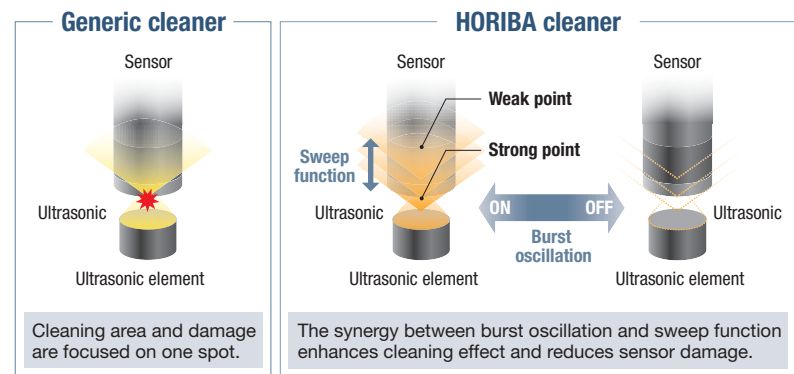
NH₄-N



without cleaner after 60 days

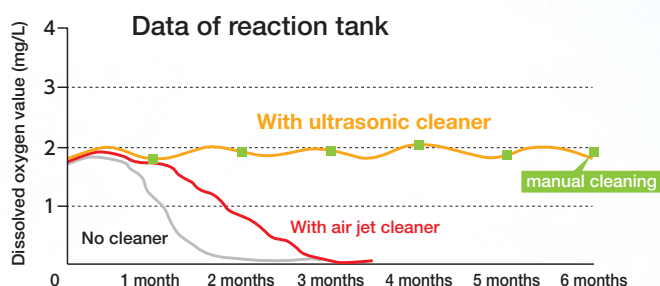
with cleaner after 60 days

Example of burst oscillation and sweep function



Field data (6 months)

Measurement with optical dissolved oxygen meter



By using the ultrasonic cleaner, it was confirmed that no influence on the measured value by fouling was observed even though without maintenance for 6 months.

Cleaning correspondence table

Type of sample		Ultrasonic
Slime	Food, Paper, Pulp	△
Microorganism	Algae, Bacteria (activated sludge)	⊙
Oil	Tar, Heavy oil	×
	Light oil	⊙
	Fatty acid, Amine	×
Suspension	Earth and sand	⊙
	Metal powder	△
	Clay, Calcareous	△
Scale	Cohesive sediment, Neutralizer	△

Equipment illustration



Sensor DO-2000

Ultrasonic cleaner

Specification

Product name	Ultrasonic oscillator integrated type			Ultrasonic oscillator separate installation type		
	Immersion (insertion type)	Immersion (drop-in type)	Flow type	Immersion (insertion type)	Immersion (drop-in type)	Flow type
Measurement parameters	pH	UCH-101/UCH-201	—	UCH-111/UCH-211	UH-111A	UCF-311
	ORP	UCH-101/UCH-201	—	UCH-111/UCH-211	UH-111A	UCF-311
	F ⁻ (Fluoride ion)	UCH-101	—	UCH-111	—	UCF-311
	MLSS	UDH-101	—	UDH-111	UH-111A	—
	LDO (Optical dissolved oxygen)	UDH-151	—	UDH-161	UH-15	—
	NH ₄ -N (Ammonia nitrogen)	—	—	—	UH-16A	—
Power	AC100 ~ 240 V 50/60 Hz					
Power consumption	10 VA					
Cleaning method	Ultrasonic continuous irradiation method					
Control method	Burst method with oscillation time control					
Oscillation frequency	For pH/ORP/F ⁻ : Approx. 70 kHz, for LDO/MLSS/NH ₄ -N : Approx. 68 ~ 72 kHz sweep					
Ambient operating temperature	-5 ~ 50°C : UCH-101 • UCH-111 • Flow-through 5 ~ 50°C : UDH-101 • UDH-111 0 ~ 50°C : UDH-151 • UDH-161					
Ambient operating humidity	Relative humidity 5 ~ 90% (no condensation)					
Measurement solution temperature	-5 ~ 50°C (no condensation) : UH-15 • UDH-151 • UDH161 • UH-16A -5 ~ 80°C (no condensation) : Flow-through • UCH-101 • UCH-111 0 ~ 50°C (no condensation) : UH-111A					
Measurement solution flow rate	Immersion (Insertion type) : 2 m/s or less Flow-through -5 ~ 40°C : 0.30 MPA 60°C : 0.22 MPA 80°C : 0.15 MPA					
Measurement solution pressure	Immersion type : Atmospheric pressure (For F ⁻ including flow type : atmospheric pressure only)					
Liquid junction material	SUS316 PP FKM (exclude detector and sensor)					
Oscillator case	IP Protection Rating : IP54 (IEC60529, JIS C0920) (Category 2)					
Notes	Measurement solution conditions are for ultrasonic cleaner only. Please check the specified temperature and pressure conditions of each product since the operating temperature range, pressure, flow rate conditions, etc. differ depending on the combination of electrode, sensor, and holder. In addition, this product does not include a detector and sensor. The oscillator separate installation type comes with an ultrasonic oscillator and a dedicated cable.					



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Please read the operation manual before using this product to assure safe and proper handling of the product.

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