Specifications

Application	Semiconductor super ultra pure water	Semiconductor ultra pure water	Pharmaceutical WFI/PW	Ultra pure water Desk-top type demineralizer	Semiconductor/Waste water/ Recycle water/Food & vebarages/ Environmental Drainage
Model	**TAC-ACCURA-SX**	**TAC-ACCURA-R**	**TAC-ACCURA-H**	**ACCURA-Mini-α**	**TAC-EVOLUTION-II**
Measurement principle	UV Oxidation with differential conductivity				Wet Oxidation
Measurement range	0.01–30.000ppb	0.1–999.99ppb	0.1–999.99ppb	1–200ppb	A:0-2000ppb/B:0.1-30.0ppm C:0.1-50.0ppm/SP:0-5000ppb
Repeatability	±0.05ppb	±0.1ppb		±5%RD	±2%
Resolution	0.001ppb	0.01ppb	0.01ppb	1ppb	A:5ppb/B:0.1ppm C:0.1ppm/SP:10ppb
Sample quantity	>100ml/min				
Sample pressure	0.03–0.5Mpa			0.05-0.5Mpa	0.00-0.5Mpa
Sample quality	>10MΩ	>1MΩ	<20μ/cm	>5MΩ	no limitation
Sample temperature	15–40℃	5–50℃	5–99℃	5–35℃	5–50℃
Ambient temperature	5–40℃	5–40℃	5–40℃	5–35℃	5–40℃
Surroundings humidity	5-80%RH(don't condensate)				
Size	W326×H183×D348mm			W130×H125×D229mm	W400×H1200×D480mm
Power supply & consumption	AC100-240V ±10% 50/60Hz approx. 50W			AC100-120V ±10% AC100-240V ±10% 50/60Hz approx. 30W(DC24V)	AC100V ±10% 50/60Hz 130W(at 200W Max) available to change the voltage
Weight	approx. 8.5Kg			approx. 1.5Kg	approx. 60Kg
Alarm out put	2 contact relay contact capacity:AC125V/0.4A or less DC30V/2A or less			no spec.	contact outputs 2 relay point contact capacity:AC125V/0.4A or less DC30V/2A or less
Signal out put	4-20mA DC(TOC)				
Network	RS232C			RS-485	no spec.
Printer	connect to RS232C printer port (printer is option)			no spec.	connect to RS232C printer port (printer is option)
Reagent	unnecessary				common with range:A:B:C:SP (Phosphoric acid/approximately 5L/month)
Oxidizer	unnecessary				for range:B:C:SP (Sodium Persulfate/approximately 5L/month)
Carrier gas	unnecessary				High purified nitrogen gas or High purified air(need with option unit)
Option	Ⅰ)Automatic sample water switching device Ⅱ)Sample water dilution device Ⅲ)In organic carbon removing device Ⅳ)High purified air supplying device Ⅴ)Option pump for off-line measurement				

The TAC-EVOLUTION-II & ACCURA-Minia, which described in the above specifications has a individual detailed brochures.

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○The specification and externals of these products may changes with out notice for the improvement.
○This content of brochure is based on August 2009.

Technology and Communication

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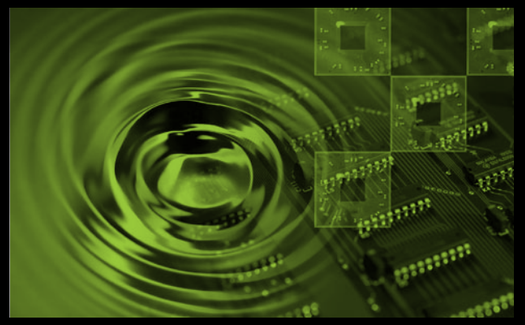
T&C Technical

ACCURA
TOC ANALYZER

Succession of the trust



The theory of evolution for continuous TOC measurement

The ultra pure water used for process of water washing for semiconductor industries or the WFI (water for injection) and PW (purified water) for the pharmaceutical industries, those includes the TOC (Total organic carbon) are oxidized and decomposed by the short wavelength (184.9nm) and by through the intermediate structure, then finally oxidized to carbon dioxide.

Measuring by the batch system or using some moving parts, such as pumps to supply sample water into the equipment was conventionally way. By compensating the demerit of each measurement technology, ACCURA series enable to detect momentary increased TOC, (meaning the quality of the water changes sufficiently).

And these ACCURA Analyzers could realize reduction of a free maintenance and running costs as well.

ACCURA series applies the ultraviolet ray irradiation, amount of water, and well controlled measurement algorithm. With this, ACCURA enables index and calculate the change in conductivity ratio before and after the oxidation of sample water to measure the TOC (Total organic carbon).

ACCURA inherited only the good nature gene in the TOC measurement technology and evolves every day of TOC measuring instrument. Which made ACCURA becomes hopefully CS 100% TOC analyzer in the world.

Crystal of the latest technology

ACCURA-R & ACCURA-SX

Online TOC analyzer for ultra pure water For semiconductor and liquid crystal industries

ACCURA-R and ACCURA-SX can measure TOC in the ultra pure water for semiconductor industries, and can measeure TOC continuously and sufficiently. ACCURA is developed for the following purposes, such are when water quality changes suddenly, (meaning if any changes in TOC amount in ultra pure water the analyzer will detect instantly), and it will contribute to the great improvement in the product, and no more yield from a customer. At the same time, this TOC measurement with the reliability in a primary pure water, a secondary ultra pure water, and also point of use are realized at low cost.

T&C Technical also offers, TAC-EVOLUTION-Ⅱ for city water measurement, reclaim water measurement, and waste water measurement, ACCURA-R for primary and secondary pure water measurement, ACCURA-SX for point of use water measurement. Therefore, we can possible to offer total management of TOC quality control from entrance to exit of the build up water system.

There is no doubt that the ACCURA series contribute customer's initial and reduction of a runnning cost, and it will be greatly for them.

The best selection

ACCURA-H

Online TOC analyzer for medicine and pharmaceutical industries

ACCURA-H is the TOC analyzer based on Validation concepts, such are USP/EP, and well designed so that the function in which various production equipment are expected to be fully demonstrated.

It is possible to realize correspondence to various kinds GMP economically, those are; the specification arrangement of a instruments, delivery, even until the validation, our validation engineer will corresponds appropriately. So that management of reliable TOC are realized at low cost.

Ultimate potential

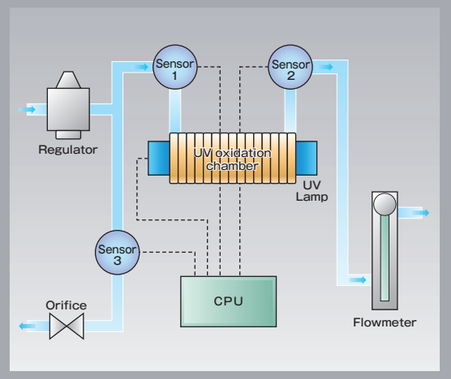
Strong point of ACCURA

- ●USP/EP, CE, CSA approval
- ●Possible to measure TOC completely on line
- ●Possible to oxidize hard-degradable TOC by a high powered UV lamp
- ●Enhanced networking function
- ●No need of reagents and carrier gases
- ●Easy operation and maintenance free
- ●Possible to get good stability at low level of the TOC concentration
- ●Possible to measure TOC on the same line when measurement and system suitability test

Awake! the possibility of water

TOC ANALYZER ***ACCURA***

●ACCURA inner structure



●ACCURA principle of operation

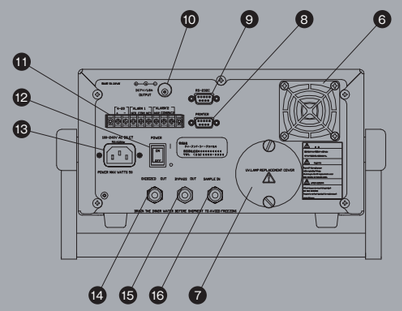
First, sample water passes through a **pressure regulator** which this protects against for fluctuations or excessive of the incoming sample water. Secondary, incoming sample water is separated to two routes after the regulator, the large quantity of sample water passes through the **Sensor 3** for measuring resistivity and temperature of sample water, this sample water will passes through BYPASS OUT PORT to the drain.

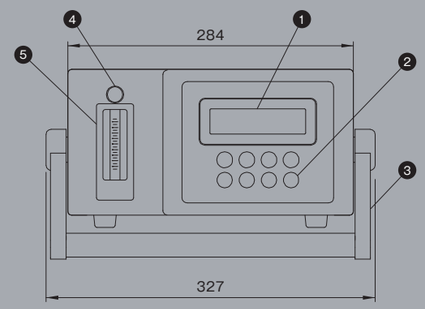
The remaining sample water which is separated after the regulator passes through the **Sensor 1** for measuring conductivity and temperature of sample water.

This water passes through the **UV oxidation chamber** for 185nm UV irradiation, and which these converts organics in sample water to CO_2.

The CO_2. which now present increases in water conductivity is measured by the **Sensor 2**. The oxidized sample passes through a flow meter, which has a fine flow-control adjustment, and then through the OXIDIZED OUT PORT to the drain.

The CPU of the **ACCURA** uses the measured values of initial water conductivity and temperature, and secondary conductivity and temperature, to determine the change in sample conductivity, which is proportional to the concentration of the CO_2 is produced. **ACCURA**'s algorithm converts the differential conductivity and temperature, along with the flow rate, to the value of the organic carbon present in sample water.





❶LIQUID CRYSTAL SCREEN ❷KEY OPERATION PANEL ❸HUNDLE ❹NEEDLE VALVE ❺GLASS FLOW METER ❻AIR FILTER
❼PORT FOR EXCHANGE OF UV LAMP ❽COMMUNICATION PORT FOR PRINTER ❾DIGITAL COMMUNICATION PORT
❿POWER SUPPLY PORT FOR PRINTER ⓫TERMINAL STAND ⓬MAIN POWER SUPPLY SWITCH ⓭PORT FOR POWER SUPPLY OF EQUIPMENT
⓮OXIDIZED WATER OUTLET ⓯BYPASS WATER OUTLET ⓰SAMPLE WATER INLET