

HORIBA

NEW

Non-Contact Chemical Concentration Monitor

CS-900



Beyond Water with You

Explore the future

Automotive Test Systems | Process & Environmental | Medical | Semiconductor | Scientific

HORIBA

The next generation of Wet Process. HORIBA providing chemical concentration manag

In order to fulfil the tight chemical concentration control required in semiconductor WET process, HORIBA realizes higher functionality to meet the needs by designing compact equipment while maintaining stable measurement and carrying out operator safety through its original sensor design.

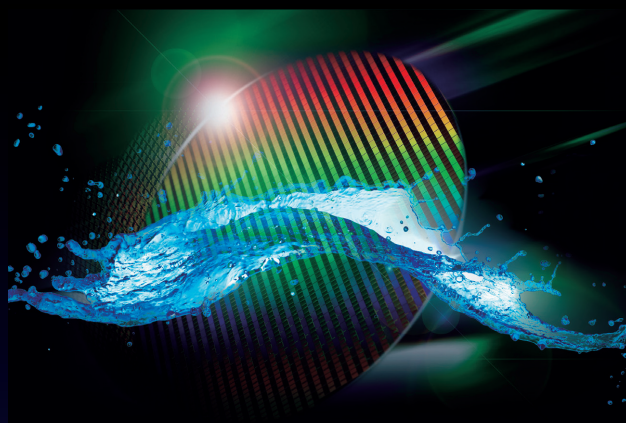
Non-Contact Chemical Concentration Monitor

CS-900

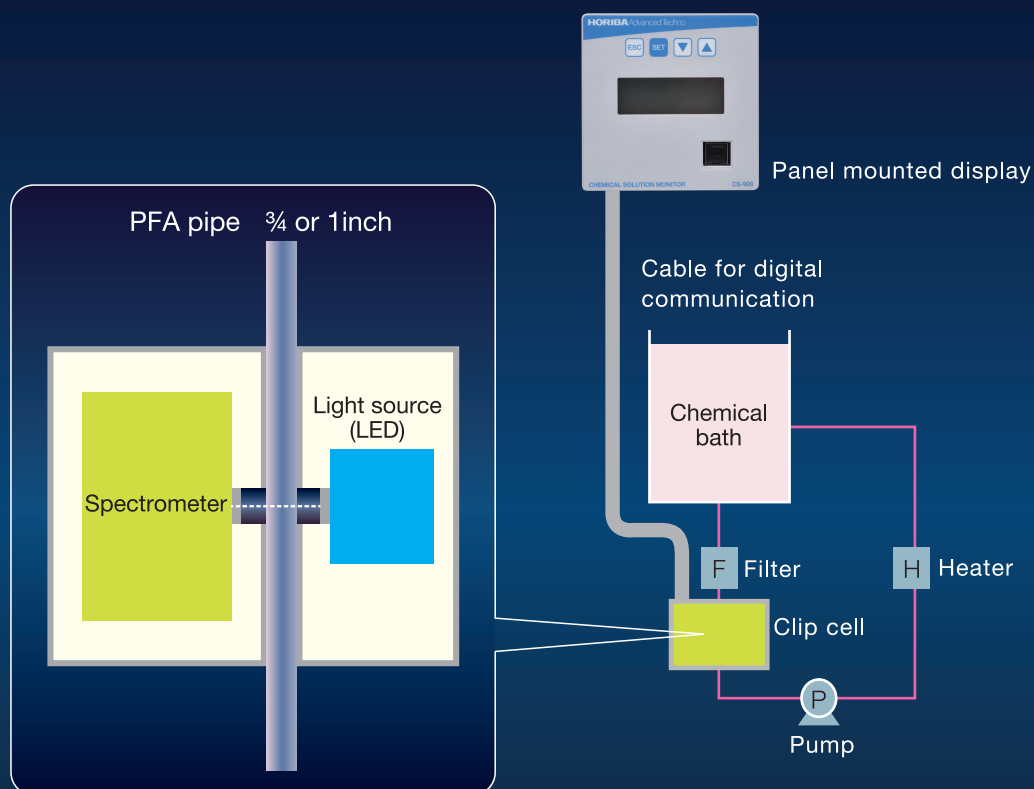
Completely non-contact measurement

Able to measure high temperature sample up to 80°C

Stable operation greatly reduces downtime



Optical design and amplifier without using optical fiber coupled with miniaturization of sensor increase degree of freedom in installation



contributes to the optimization of process by element equipment that increase yield rate.

Completely non-contact and highly stable

Zero contamination is made possible by directly connecting a sensor externally to the PFA piping. This removes the need for plumbing construction when attaching the sensor, which reduces chemical accidents. In addition, by upgrading the optical system, the equipment has been made more compact while retaining the original specifications of CS-600F*1.

High quality and stable measurement

- Zero contamination
- Equipped with temperature compensation to enable stable measurement
- Equipped with HORIBA original algorithm to compensate influence of air bubbles.
- Same repeatability and stability with conventional CS-600*1

Suppression of vibration effects

- HORIBA adopts an optical system structure that is strong against misalignment and synergizes with HORIBA original piping construction.

Space saving

- Light source and light detector have been integrated into cell unit.
- Panel mount display (9.6cm x 9.6cm)

Longer lifespan of light source.

- Use of LED lamp Increases lifespan (5 years warranty)

Improves work safety

- Semi-annually BG compensation cycle
- Piping installation is not required when installing the product, which helps to reduce accidents such as chemical leak.

*1 CS-600 is HORIBA's optical fiber type chemical concentration monitor.

Direct and stable measurement is made possible for chemical with wide temperature range (20°C~80°C)

■ Stability

▶ Measurement Condition

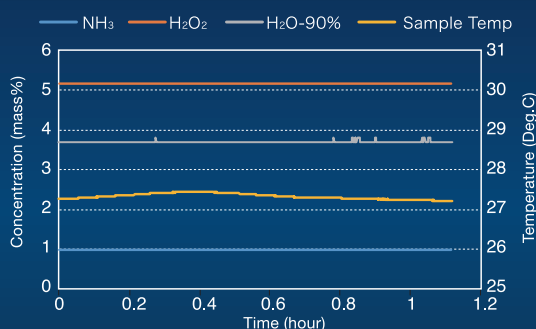
Measurement Frequency: every 3 seconds
Moving Average: 16 times
Temperature: room temperature
Pipe Diameter: 3/4 inch

Initial Sample Concentration

NH₃ : 0.95% H₂O₂ : 5.15% H₂O : 93.9%

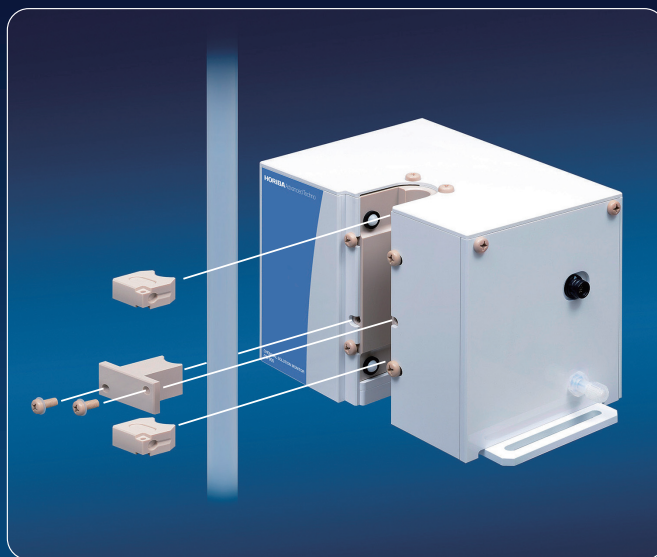
▶ Measurement result

Sample (real liquid) measured for 1 hour shows excellent stability.



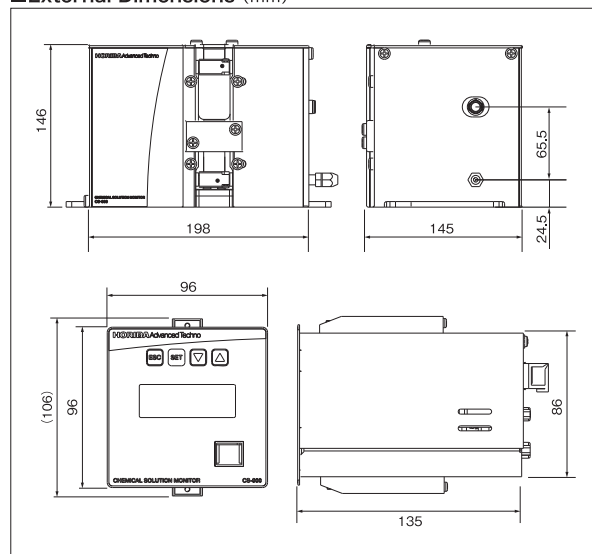
	NH ₃ (mass%)	H ₂ O ₂ (mass%)	H ₂ O (mass%)	Temp. (Deg.C)
Average	0.974	5.169	93.70	27.32
Min	0.97	5.15	93.70	27.2
Max	0.98	5.18	93.80	27.4
Max error from Av	0.006	0.019	0.10	0.12
SD	0.005	0.006	0.02	0.07

Easy installation and removal made possible.



■Specification					
Model name		Non-contact type chemical concentration monitor CS-900			
Model		CS-900			
Measurement method		Absorption spectroscopy			
Concentration calculation		Temperature compensated multivariate analysis			
Measurement range/ Repeatability (mass%)	Model name	Component	Measurable range	Repeatability	Analog output range
	CS-900-1P-1P25P5	NH ₃	0.00%—1.20%	±0.05%	0.00—10.00
		H ₂ O ₂	0.00%—5.50%	±0.10%	0.00—10.00
		H ₂ O	93.3%—100.0%	±1.0%	
	CS-900-1P-P8P8	NH ₃	0.20%—0.80%	±0.03%	0.00—1.00
		H ₂ O ₂	0.20%—0.80%	±0.03%	0.00—1.00
		H ₂ O	98.4%—99.6%	±0.3%	
Conditions of measurement		1) Measurement Frequency : every 3 seconds 2) Moving average ; 16 times			
Tube		PFA tube 1 inch or 3/4inch (Do NOT use anti-static type PFA tube)			
Sample condition*1		Sample temperture : 20 to 80℃ Sample temperture,Atmospheric temperture fluctuation ; ±1 degree C (period of time : 1 hour) Sample pressure : Less than 0.2 MPa(G) Sample pressure fluctuation : Within 0.02MPa			
Power source		DC 24V			
Power consumption		Apporox. 30W (Transient electric current at the time of start is excluded)			
Weight		Display unit : Apporox.0.9kg Sensor unit : Apporox.2.9kg			
Dimension		Display machine : 96(W)X135(D)X96(H)mm Sensor unit : 238(W)X135(D)X190(H)mm			
Slanting angle		Sensor unit : Vertical direction within ±3 degree Lateral direction 0 to 90 degree			
Light source		5years			
communication		Parallel I / O/RS-232C/Analog output			

■External Dimensions (mm)



*1 Air bubble in sample solution effect on measurement so please flow sample to prevent from bubble remaining sensor unit.



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.



Applying to the EU RoHS Directive : This products is compliant with the restriction of the designated 6 hazardous substances(*).
 (*) lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE)
Using lead-free soldering : Lead-free soldering is used for mounting components of printed circuit boards.
 - Many countries consider the reinforcement of regulations concerning the risk caused by lead to human body and the environment



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

- The specifications, appearance or other aspects of products in this catalog are subject to change without notice. ●Please contact us with enquiries concerning further details on the products in this catalog.
- The color of the actual products may differ from the color pictured in this catalog due to printing limitations. ●It is strictly forbidden to copy the content of this catalog in part or in full.
- The screen displays shown on products in this catalog have been inserted into the photographs through compositing.
- All brand names, product names and service names in this catalog are trademarks or registered trademarks of their respective companies.

Manufactured by

HORIBA Advanced Techno

Head Office

31 Miyanonishi-cho, Kisshoin, Minami-ku, Kyoto, 601-8306, Japan
 Phone: 81 (75) 321-7184 Fax: 81 (75) 321-7291
<http://www.horiba-adt.jp>

HORIBA TECHNOSERVICE

Head Office

2 Miyanohigashi-cho, Kisshoin Minami-ku, Kyoto, 601-8510, Japan
 Phone: 81 (75) 313-8125 Fax: 81 (75) 321-5647
<http://www.horiba.com>

HORIBA (China) Trading Co., Ltd. **China**

Unit D, 1F, Building A, Synnex International Park, 1068 West Tianshan Road, 200335, Shanghai, China
 Phone: 86 (21) 6289-6060 Fax: 86 (21) 6289-5553

Beijing Branch

12F, Metropolis Tower, No.2, Haidian Dong 3 Street, Beijing, 100080, China
 Phone: 86 (10) 8567-9966 Fax: 86 (10) 8567-9066

Shenzhen office

Room 1001, Building A, Road HePing Shenzhen China
 Phone: 86 (1) 39-2227-2957

Xi'an office

Room 2306, Building B, Win International, Evoc City Plaza, No 56, 1st Jinye Road, High-tech District, Xian City, China
 Phone: 86 (0) 29-8886-8480

HORIBA Instruments (Singapore) Pte Ltd. **Singapore**

3 Changi Business Park Vista #01-01, Akzonobel House, Singapore 486051
 Phone: 65 (6) 745-8300 Fax: 65 (6) 745-8155

HORIBA STEC KOREA Ltd. **Korea**

98, Digital valley-ro Suji-gu, Yongin-si Gyeonggi-do 16878 Korea
 Phone: 82 (31) 8025-6500 Fax: 82 (31) 8025-6599

HORIBA Taiwan, Inc. **Taiwan**

8F.-8, No.38, Taiyuan St. Zhubei City, Hsinchu County 30265, Taiwan (R.O.C.)
 Phone: 886 (3) 560-0606 Fax: 886 (3) 560-0550

HORIBA Instruments Incorporated **USA**

Sunnyvale Office

430 Indio Way, Sunnyvale CA94085, U.S.A.

Phone: 1 (408) 730-4772 Fax: 1 (408) 730-8975

Austin Office

9701 Dessau Road Suite 605, Austin Texas 78754, U.S.A.

Phone: 1 (512) 836-9560 Fax: 1 (512) 836-8054

Portland Office

7007 S.W. Cardinal Lane, Suite 185, Portland, OR 97224, U.S.A.

Phone: 1 (503) 624-9767 Fax: 1 (503) 968-3236

HORIBA Reno Technology Center

3740 Barron way Reno Nevada 89511

Phone: 1 (775) 358-2332 Fax: 1 (775) 358-0434

Albany Field Office

Suite104, 58 Clifton Country Rd, Clifton Park,

New York 12065, U.S.A.

Phone: 1 (518) 331-1371

HORIBA UK Ltd. Grenoble office **France**

2B, avenue de vignate, 38610, Gieres, France
 Phone: 33 (4) 76 42 07 58

HORIBA UK Limited **UK**

Kyoto Close Moulton Park Northampton NN3 6FL UK
 Phone: 44 (0) 1604 542500 Fax: 44 (0) 1604 542699

HORIBA Europe GmbH **Germany**

Oberursel Office

Hans-Mess-Str.6, D-61440 Oberursel, Germany

Phone: 49 (6172) 1396-0 Fax: 49 (6172) 1373-85

Dresden Office

Zur Wetterwarte 10, Haus 109 01109 Dresden, Germany

Phone: 49 (3518) 896807 Fax: 49 (3518) 896808