

ORGANIC POLLUTANT MONITOR OPSA-150

COD monitoring by UV absorption

Organic Pollutant Monitor

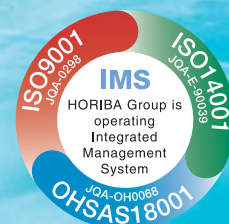
Measurement of Organic Matter
at Water Source

Measurement of Organic Matter
on the Process Line



Continuous Measurements
with Low Maintenance

Large Measurement Range
of 0 to 5.0 Abs



ORGANIC POLLUTANT MONITOR OPSA-150



*Pole mount, outdoor cover, and analysis panel are available as options.

The OPSA-150 is a new organic pollutant monitor that uses HORIBA's proprietary Rotary Cell Length Modulation, a measuring technique incorporating 25 years of expertise. The unit can be used as an organic pollutant monitor at drainage systems for determining compliance with COD monitoring regulations, for monitoring quality of water measuring levels of organic matter at water supply intakes, and as an organic monitor on process lines (phenol meter).



Sensor that makes full use of Rotary Cell Length Modulation (Patent pending)

- Zero drift correction is performed in every cycle of measurement. This correction can eliminate the effect of any interference on cells.
- Cell length modulation provides readings from multiple measurements, making available results from various cell lengths. This allows the single device to make measurements on a large range of concentrations from as low as 0 to 0.1 Abs, up to 0 to 5.0 Abs.

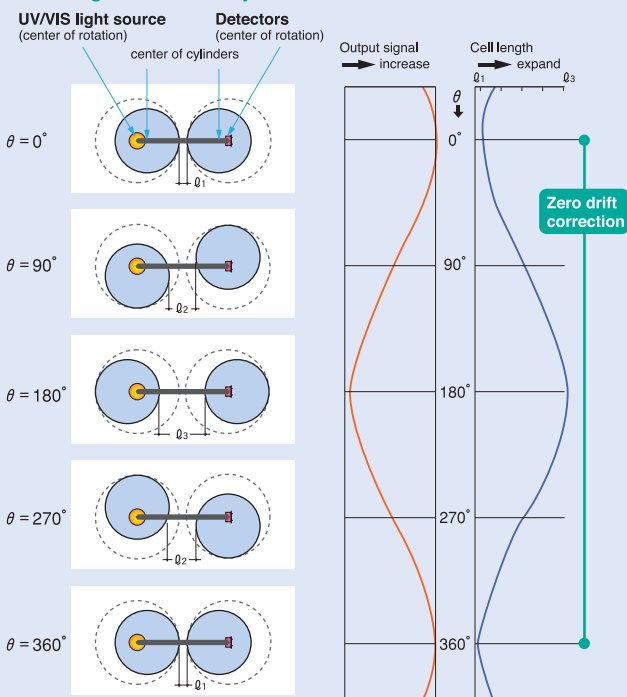


Easy-to-use Control Panel

Control of the OPSA-150 is operated via the intuitively designed touch panel. An interactive setup screen eliminates any doubts that a user may have while operating the unit. The Converted COD and TURB Display allow readings to be confirmed on site.



Cell Length Modulation System



Automatic Data Recording up to One Year

Internal data memory provides data storage for one year in case of one measuring value per hour. A Compact Flash card can be used to allow easy transfer of data to a PC.



Horiba's Proprietary Wiper System

The cell is cleaned continuously by the wiper to eliminate any interference in the measurement light path. Therefore, errors in readings from dirty cells, or differences in results before and after cleaning are not evident.

Sample Failure Switch Input

The sample error alarm provided as an option on the previous OPSA-120 is now a standard feature.

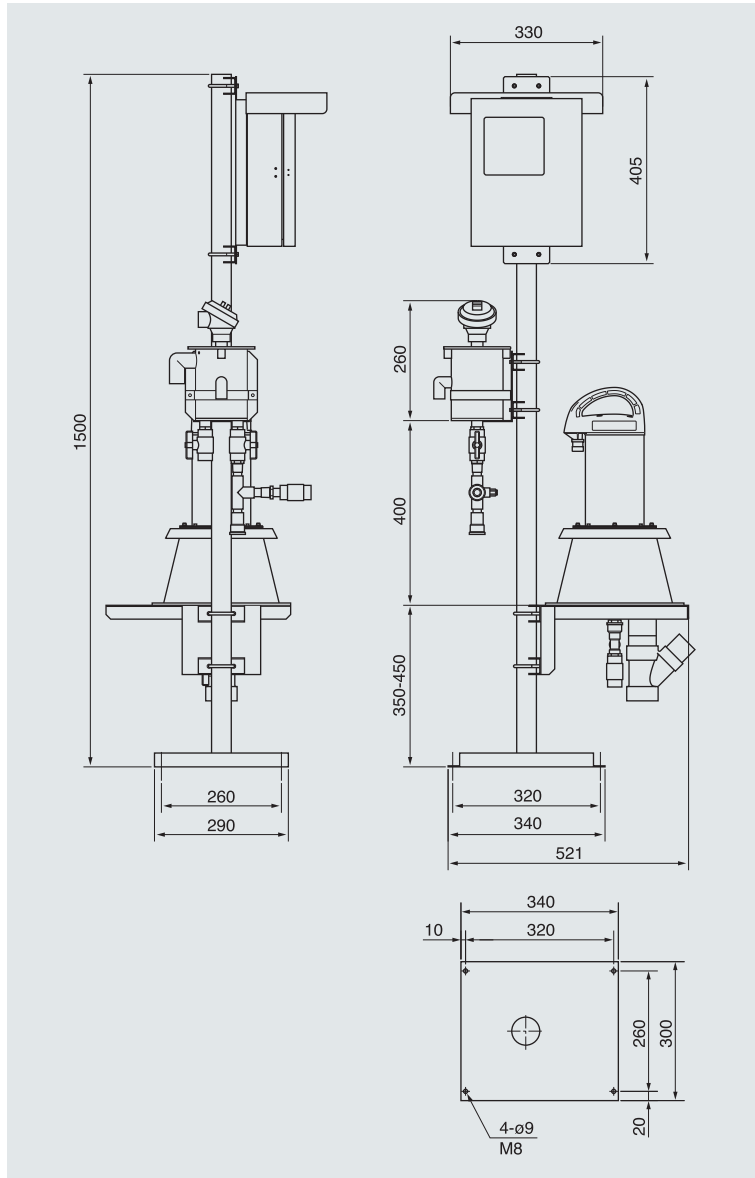
Ten Times Increase in Analysis Sensitivity

The minimum accuracy of analysis ability has been increased to 0.0001 Abs, a ten-fold increase over the previous OPSA-120 unit. Measurements can be made on concentrations as low as 0 to 0.1 Abs.

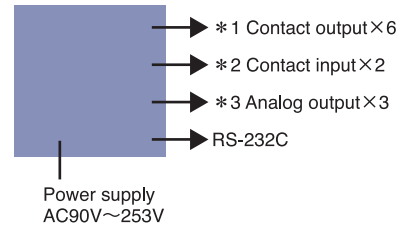
Specifications

Name	Organic Pollutant Monitor	
Model name	OPSA-150	
Measurement items	UV absorbance, VIS absorbance, Converted COD level, Converted TURB level	
Principle	2 light path 2 wavelength cell length modulation rotary type	
Measurement wavelength	UV: 253.7 nm, VIS: 546.1 nm	
Construction of analysis section	Flow through type	
Range (Equivalent to a cell length of 10 mm)	UV absorbance / VIS absorbance 0 to 0.1 Abs - 0 to 5.0 Abs (Can be set 0.1 Abs increments)	
Resolution	0.0001 Abs (Can be set to 0.001 Abs)	
Repeatability	Within $\pm 2\%$ of full scale (within $\pm 5\%$ if full scale is 2.6 to 5.0 Abs)	
Linearity	Within $\pm 2\%$ of full scale (within $\pm 5\%$ if full scale is 2.6 to 5.0 Abs)	
Stability	Within $\pm 2\%$ of full scale in 24 hours (within $\pm 4\%$ in 24 hours if full scale is 2.6 to 5.0 Abs)	
Response time	T ₉₀ within 1 minute (flow rate of 5 L/min)	
Cleaning method (cleaning cycle)	Automatic cleaning via wipers (continuous cleaning)	
Display methods	LCD display: 320 x 240 monochrome crystal display with backlight (touch panel type) Display details: UV absorbance, VIS absorbance, UV-VIS absorbance (Absorbance can be changed to absorption constant (SAC: m ⁻¹), Converted COD level, Converted turbidity level	
Calibration method	Solution calibration (calibration solution inserted in ampule) via zero solution, span solution (single touch calibration)	
Sample conditions	Temperature: 2 to 40°C* Sample flow rate: Minimum 2 L/min, Maximum 20 L/min * Use a heating device to prevent sample freezing.	
Ambient conditions	Ambient temperature: 0 to 40°C, Ambient humidity: 85% or less	
Analog output	No. of outputs: 3 outputs (standard) Type: Up to 3 can be chosen from UV absorbance, VIS absorbance, UV-VIS absorbance, Converted COD level, and Converted TURB level outputs Specification: DC 4-20 mA, or DC 0-16 mA, isolated output (no isolation between each channel), maximum resistance load: 600 Ω	
Alarm and status outputs	No. of outputs: 6 outputs (standard) Type: Up to 4 can be chosen from power failure, maintenance (standard and fixed), batch alarm, COD maximum limit alarm, TURB limit alarm (standard), light source error, sample failure, cleaning motor error, and analyzer error outputs Details: Power failure...occurs when power fails Total alarm...cleaning motor error, light source error, analyzer error Maintenance...occurs when entering maintenance or correction mode, or when the maintenance switch has been turned on Specification: Dry contact output, NO contact Contact rating: AC 125 V 0.3 A, DC 30V 1 A (with resistance load) Each output has an independent COM interface	
Contact input	No. of inputs: 2 inputs (standard) Type: Sample failure float switch input, time correction input Specifications: No-voltage contact input (can connect to open collector), isolated input On resistance: Maximum 100 Ω, Open voltage: DC 5.5 V, Short circuit current: 10 mA	
Communication	Interface: RS-232C Compatible Communication speed: 19200 bps	
Data memory	Values of measurement items are stored in the main unit's data memory. Data can also be transferred to a Compact Flash card. Memory interval: 1 minute or 1 hour Memory save time: Every hour* Data memory capacity: 1 minute intervals...for 10 day's data, 1 hour intervals...for 1 year's data * The most recent data is saved to memory.	
Light source / Detector	Light source: Low pressure mercury lamp / Detector: Silicon photo cell	
Tubing connections	Sample entry: Rp-1/2 socket Bypass outlet: Rc-1/2 socket Overflow outlet (2): 20 A nominal diameter socket	Overflow outlet (1): 13 A nominal diameter socket Drain outlet: 50 A nominal diameter socket Drain outlet: Rc-1/2 socket
Construction	For outdoor installation	
Material of parts in contact with sample	SUS, PVC, PP, CR, SiO ₂	
Power source	AC 100 V to AC 230 V $\pm 10\%$, 50/60 Hz	
Power consumption	AC 100 V to AC 120 V: 45 VA maximum AC 200 V to AC 230 V: 60 VA maximum	
Weight	Operating section: Approx. 5.0 kg Analyzer section: Approx. 5.6 kg	
External dimensions	Operating section: 240 (W) x 104 (D) x 320 (H) Analyzer section: 200 (W) x 180 (D) x 403 (H) (units: mm) (excludes protruding sections)	
Color/Finish	Munsell 5PB8/1	
Installation conditions	<ul style="list-style-type: none"> ● Install on a flat stable surface away from sources of vibration and shocks. ● Ambient air must not contain dust, mist or corrosive gases. ● Use at atmospheric pressure. ● Out of direct sunlight. ● An area with good air circulation. ● An altitude of less than 2000 m. 	

Dimensional Outline (Unit: mm)



OPSA-150 Controller (Signals list)



Signal name	Circuit	Standard
*1 Contact output		<ul style="list-style-type: none"> ●Max. switching voltage and current AC125V 0.3A DC30V 1A (Resistance load) ●No voltage contacts
*2 Contact input		<ul style="list-style-type: none"> ●No voltage contacts ●Isolated inputs [(-) common] ●ON resistance Max. 100Ω ●Open voltage Max. DC 26 V ●Short circuit current Max. 13mA
*3 Analog output		<ul style="list-style-type: none"> ●DC 4 - 20 mA current output ●Isolated output (COM common) ●Load resistance Max. 600Ω



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

- The contents of this catalog are subject to change without prior notice, and without any subsequent liability to this company.
- 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.
- All brand names, product names and service names in this catalog are trademarks or registered trademarks of their respective companies.

<http://www.horiba.com> e-mail: info@horiba.co.jp

●HORIBA, Ltd.

Head Office
2 Miyanoigashi, Kisshoin
Minami-ku, Kyoto, Japan
Phone: 81 (75) 313-8123
Fax: 81 (75) 321-5725

Tokyo Sales Office
Kanda-Awaji-cho Nichome
Building 2-6, Awaji-cho,
Kanda, Chiyoda-ku, Tokyo,
Japan
Phone: 81 (3) 6206-4721
Fax: 81 (3) 6206-4730

●HORIBA (China) Trading Co., Ltd.

Shanghai Office
Room 1701, United Plaza,
1468 Nanjing Rd. West,
Shanghai, 200040, China
Phone: 86 (21) 6289-6060
Fax: 86 (21) 6289-5553

Beijing Office
Room 1801, SK Tower,
Tower 1 No.6Jia, Jianguomenwai Ave.,
Chaoyang District, Beijing,
100022 China
Phone: 86 (10) 8567-9966
Fax: 86 (10) 8567-9066

●HORIBA Korea Ltd.

112-6 Sogong-Dong
Choong-ku, Seoul, Korea
Phone: 82 (2) 753-7911
Fax: 82 (2) 756-4972

●HORIBA Instruments (Singapore) Pte Ltd.

Head Office
10 Ubi Crescent
Lobby B #05-11/12, Ubi
Techpark Singapore 408564
Phone: 65 6745-8300
Fax: 65 6745-8155

Hanoi Office
Unit 10, 4 Floor, CMC tower,
Dich Vong Hau Ward, Cau Giay
district, Hanoi, Vietnam
Phone: 84 (4) 3795-8552
Fax: 84 (4) 3795-8553

Jakarta Office
Menara Bidakara 2 Unit 11-04,
Jl. Jend. Gatot Subroto
Kav. 71-73, Jakarta
Selatan, 12870, Indonesia
Phone: 62 (21) 2906-9419
Fax: 62 (21) 2906-9421

●HORIBA India Private Limited

Delhi Office
246, Okhla Industrial Estate,
Phase 3 New Delhi - 110020,
India
Phone: 91 (11) 4646-5000
Fax: 91 (11) 4646-5020

Pune Office
502, Purushottam Plaza,
Baner Road, Baner,
Pune - 411045 India
Phone: 91 (20) 4076-6000
Fax: 91 (20) 4076-6010

●HORIBA Instruments Incorporated

Irvine North Office
17671 Armstrong Avenue
Irvine, CA 92614, U.S.A.
Phone: 1 (949) 250-4811
Fax: 1 (949) 250-0924

●HORIBA UK Limited

Northampton Office
Kyoto Close
Summerhouse Road
Moulton Park, Northampton
NN3 6FL, UK
Phone: 44 (1604) 542-500
Fax: 44 (1604) 542-699

●HORIBA (Austria) GmbH

Kaplanstrasse 5
A-3430 Tulln,
Austria
Phone: 43 (2272) 65225
Fax: 43 (2272) 65230

HORIBA Czech
Organizacni slozka Praha
Petrohradská 13
CZ-101 00 Praha 10,
Czech Republic
Phone: 420 (2) 717-464-80
Fax: 420 (2) 717-470-64

●HORIBA Europe GmbH

Head Office
Hans-Mess-Str.6
D-61440 Oberursel
Germany
Phone: 49 (6172) 1396-0
Fax: 49 (6172) 1373-85

Leichlingen Office
Julius-kronenberg Str.9
D-42799 Leichlingen
Germany
Phone: 49 (2175) 8978-0
Fax: 49 (2175) 8978-50

●HORIBA France Sarl

12, Avenue des Tropiques
Hightec Sud, F-91955
LES ULIS France
Phone: 33 (1) 69-29-96-23
Fax: 33 (1) 69-29-95-77