



The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

## Header 3

List View

### General Information

### Contact

### Default Values

### Discount

### Document Information

Procurement Folder: 388426

SO Doc Code: CRFQ

Procurement Type: Central Purchase Order

SO Dept: 0313

Vendor ID:  

SO Doc ID: DEP1800000009

Legal Name: HORIBA INSTRUMENTS INC

Published Date: 11/15/17

Alias/DBA:

Close Date: 12/7/17


Total Bid: \$49,754.22

Close Time: 13:30

Response Date:  

Status: Closed

Response Time:

Solicitation Description:   

Total of Header Attachments: 3

Total of All Attachments: 3

Apply Default Values to Commodity Lines

View Procurement Folder



Purchasing Division  
2019 Washington Street East  
Post Office Box 50130  
Charleston, WV 25305-0130

State of West Virginia  
Solicitation Response

Proc Folder : 388426

Solicitation Description : Continuous Sulfur Dioxide (SO2) Analyzers DAQ18-4

Proc Type : Central Purchase Order

Date issued	Solicitation Closes	Solicitation Response	Version
	2017-12-07 13:30:00	SR 0313 ESR12011700000002391	1

VENDOR

000000175553

HORIBA INSTRUMENTS INC

Solicitation Number: CRFQ 0313 DEP1800000009

Total Bid : \$49,754.22

Response Date: 2017-12-01

Response Time: 17:32:06

Comments:

FOR INFORMATION CONTACT THE BUYER

Brittany E Ingraham

(304) 558-2157

brittany.e.ingraham@wv.gov

Signature on File

FEIN #

DATE

All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Continuous Sulfur Dioxide (SO2) Analyzers	3.00000	EA	\$16,584.740000	\$49,754.22

Comm Code	Manufacturer	Specification	Model #
41113100			

Extended Description :	Three (3) Continuous Sulfur Dioxide (SO2) Analyzers, Teledyne Advanced Pollution Instrumentation Model T100 or Equal
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# Horiba

## HORIBA INSTRUMENTS INCORPORATED

9755 Research Drive, Irvine, CA 92618-4626

Tel.: (724) 457-2424; FAX: (724) 457-2344

**To:** Department of Administration  
Purchasing Division  
2019 Washington Street East  
P.O. Box 50130  
Charleston, WV 25305-50130

**Date:** November 28, 2017  
**Quotation No.:** P11711019; Rev. 0  
**Quotation Inquiry:** 0313 DEP1800000009

**Attn:** Brittany E. Ingraham

Page 1 of 5

**Tel.:** (304) 558-2157

**Fax:** (304) XXX-XXXX

Please reference quotation number on all correspondence.

**Cell:** (304) XXX-XXXX

**E-mail:** brittany.e.ingraham@wv.gov

**Re:**

Item	Qty.	Description	Unit Cost	Net Cost				
01	3	<p><b>Horiba Model APSA-370 Ambient SO<sub>2</sub> Analyzer</b> <b>Horiba PN 5200001364</b></p> <p><u>Description of Operation</u> The APSA-370 employs a UV lamp to excite SO<sub>2</sub> molecules to a higher energy state. When the molecules descend to a ground state, light in the region of 220 to 240 nm is emitted. The amount of light detected is then related to the SO<sub>2</sub> concertation.</p> <p><u>Horiba Model APSA-370 Ambient SO<sub>2</sub> Analyzer Certifications</u></p> <ul style="list-style-type: none"><li>• U.S. EPA Reference Equivalency EQSA-0506-159</li><li>• TUEV Bericht 936/21204643D; July 7, 2006</li><li>• EN14212</li><li>• VDI 4202/4203</li></ul> <p><u>Horiba AP-370 Series Ambient Analyzer Features</u></p> <ul style="list-style-type: none"><li>• Automatic calibration</li><li>• Auto-range function</li><li>• Selective data output</li><li>• Data storage internal to analyzer (included)</li><li>• Network communications (Included)</li><li>• Concentration and mass display</li><li>• Pressure compensation (Included)</li><li>• 320 x 240 LCD display</li><li>• I/O via RS232C (included)</li><li>• Data storage memory card (Included)</li></ul> <p><u>Horiba Model APSA-370 Ambient SO<sub>2</sub> Analyzer Features</u></p> <ul style="list-style-type: none"><li>• Fluorescent chamber provides measurements with minimal moisture interference</li><li>• Compensation for decreases in the UV lamp's energy</li><li>• No supplemental gas requirement</li><li>• Linear output</li><li>• Integral PTFE filter</li></ul> <p><u>Horiba Model APSA-370 Ambient SO<sub>2</sub> Analyzer Specifications</u></p> <table><tr><td>Manufacturer:</td><td>Horiba Instruments, Inc.</td></tr><tr><td>Model No.:</td><td>APSA-370</td></tr></table>	Manufacturer:	Horiba Instruments, Inc.	Model No.:	APSA-370	\$16,584.74	\$49,754.22
Manufacturer:	Horiba Instruments, Inc.							
Model No.:	APSA-370							

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Page 2 of 5

**Tel.:** (304) 558-2157

**Fax:** (304) XXX-XXXX

Please reference quotation number on all correspondence.

**Cell:** (304) XXX-XXXX

**E-mail:** brittany.e.ingraham@wv.gov

**Re:**

Item	Qty.	Description		Unit Cost	Net Cost																																							
		Principle of Operation:	UV fluorescence (UVF)																																									
		Measurement Ranges:	0-0.05/0.10/0.20/0.50 ppm F.S. <b>Note:</b> Maximum range is 0-20 ppm																																									
		Lower Detectable Limit:	0.50 ppb at 3 σ																																									
		Repeatability:	±1.0% F.S.																																									
		Linearity:	±1.0% F.S.																																									
		Zero Drift:	<LDL/day at lowest range <LDL/week at lowest range																																									
		Span Drift:	<LDL/day at lowest range <LDL/week at lowest range																																									
		Response Time (T <sub>90</sub> ):	≤120 s at lowest range																																									
		Sample Flow Rate:	0.700 SLM																																									
		Displayed Values:	Concentration, Range, Alarm and Maintenance Screen																																									
		Alarms:	During AIC, Zero Calibration Error, Span Calibration Error, Temperature Error in catalyst																																									
		I/O:	0-1 Vdc, 0-10 Vdc, 4-20 mA (option), RS-232C (option)																																									
		Ambient Temperature:	0-40°C																																									
		Power requirement:	100/110/115/1250/220/230/240 Vac @ 50/60 Hz																																									
		Dimensions:	430W x 550D x 221H – mm																																									
		Weight:	19 kg.																																									
		Each APSA-370 is supplied with the following ancillary items:																																										
						<table><tr><th>Item No.</th><th>Qty.</th><th>Horiba Part No.</th><th>Part Description</th></tr><tr><td>01</td><td>1</td><td>3200043947</td><td>Sample Filters (24 pieces per box)</td></tr><tr><td>02</td><td>1</td><td>3200191630</td><td>Power Cable</td></tr><tr><td>03</td><td>1</td><td>3013002393</td><td>Operation Manual</td></tr></table>	Item No.	Qty.	Horiba Part No.	Part Description	01	1	3200043947	Sample Filters (24 pieces per box)	02	1	3200191630	Power Cable	03	1	3013002393	Operation Manual																						
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03	1	3013002393	Operation Manual																																									
02	3-Kits	<b>Horiba Model APSA-370 Consumable and Spares Kit</b> <b>Horiba PN 5202002107</b>  Each proposed APSA-370 spare and consumable kit will include the items in the quantities listed in the table shown below.		\$0.00 <i>Included with Item No. 01</i>	\$0.00 <i>Included with Item No. 01</i>																																							
		<table><tr><th>Item No.</th><th>Qty.</th><th>Horiba Part No.</th><th>Part Description</th></tr><tr><td>01</td><td>2</td><td>3200043947</td><td>Sample filter element, 24pcs/set</td></tr><tr><td>02</td><td>1</td><td>3014059499</td><td>O-Ring</td></tr><tr><td>03</td><td>1</td><td>3200044033</td><td>Pump diaphragm and valve</td></tr><tr><td>04</td><td>1</td><td>3200082322</td><td>Air filter</td></tr><tr><td>05</td><td>2</td><td>3011014861</td><td>Balston filter</td></tr><tr><td>06</td><td>2</td><td>3200043674</td><td>Xenon lamp</td></tr><tr><td>07</td><td>1</td><td>3014059458</td><td>HC cutter</td></tr><tr><td>08</td><td>1</td><td>3200092415</td><td>Scrubber</td></tr><tr><td>09</td><td>1</td><td>3014059459</td><td>Pump Unit GD-6EH-100</td></tr></table>	Item No.	Qty.	Horiba Part No.	Part Description	01	2	3200043947	Sample filter element, 24pcs/set	02	1	3014059499	O-Ring	03	1	3200044033	Pump diaphragm and valve	04	1	3200082322	Air filter	05	2	3011014861	Balston filter	06	2	3200043674	Xenon lamp	07	1	3014059458	HC cutter	08	1	3200092415	Scrubber	09	1	3014059459	Pump Unit GD-6EH-100		
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08	1	3200092415	Scrubber																																									
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03	1-Lot	<b>Extended Warranty – Two Years from Date of Purchase</b>		\$0.00	\$0.00																																							

<b>To:</b>	Department of Administration Purchasing Division 2019 Washington Street East P.O. Box 50130 Charleston, WV 25305-50130	<b>Date:</b>	November 28, 2017
		<b>Quotation No.:</b>	P11711019; Rev. 0
		<b>Quotation Inquiry:</b>	0313 DEP1800000009
<b>Attn:</b>	Brittany E. Ingraham	Page <u>3</u> of <u>5</u>	
<b>Tel.:</b>	(304) 558-2157	Please reference quotation number on all correspondence.	
<b>Fax:</b>	(304) XXX-XXXX		
<b>Cell:</b>	(304) XXX-XXXX		
<b>E-mail:</b>	brittany.e.ingraham@wv.gov		
		<b>Re:</b>	

Item	Qty.	Description	Unit Cost	Net Cost
		<b>Horiba PN 5202568141-8</b> Horiba's standard warranty is for the period of twelve (12) months from the date of initial start-up or eighteen (18) months from the date of shipment, whichever date occurs first. The extended warranty will cover the period for an additional twelve months or for the period of twenty-four (24) months from the date of initial start-up or thirty (30) months from the date of shipment, whichever date occurs first.	Included with Item No. 01	Included with Item No. 01
04	1-Lot	<b>Packing, Insurance and Freight</b> <b>Horiba PN 5202568141-9</b> The three APSA-370 analyzers and spare parts kits will be packaged in accordance with domestic shipping guidelines and shipped insured to one hundred (100%) of their contract value to: West Virginia Environmental Department of Air Quality, 131A Peninsula Street, Wheeling, WV 26003	\$0.00 Included with Item No. 01	\$0.00 Included with Item No. 01
		<b>Available Options</b>		
05	3-pair	<b>Slide Rails</b> <b>Horiba PN 5200601495</b> Slide rails for mounting the AP-370 Series Analyzers within a standard 19-inch instrument rack.	\$61.00	\$183.00
06	3-pair	<b>Mounting Brackets</b> <b>Horiba PN 5205691221</b> Mounting brackets for mounting the AP-370 Series Analyzers within a standard 19-inch instrument rack.	\$66.00	\$198.00
<b>Total without Options:</b>				<b>\$49,754.22</b>
<b>Total with Options:</b>				<b>\$50,135.22</b>

<b>Proposal valid until December 31, 2017.</b>	<b>HORIBA INSTRUMENTS</b>
<b>Terms:</b> Net 30 days pending credit approval by Horiba Instruments, Inc.	<b>Signed:</b> <u>J. David Vojtko</u>
<b>Shipment:</b> 8 to 12 weeks after receipt and acceptance of a written purchase order.	J. David Vojtko Sales Manager
<b>F.O.B.:</b> Irvine, CA 92618 via UPS ground delivery service on a pre-pay and add basis unless stated otherwise in this proposal..	Tel.: (724) 457-2424; Fax: (724) 457-2344 e-mail: dave.vojtko@horiba.com

Section	Technical Clarifications and Exceptions
3.1.1.3	The Horiba Model APSA-370 SO <sub>2</sub> Analyzer has standard ranges of 0-0.050/0.10/0.20/0.50 ppm. Optional range settings from 0-10 ppm are available.
3.1.1.7	The APSA-370 SO <sub>2</sub> Analyzer is equipped with RS-232C port and TCP/IP connectivity. A USB port is not available.
3.1.1.14	The Horiba Model APSA-370 SO <sub>2</sub> Analyzer retains U.S. EPA Reference Equivalency EQSA-0506-159
3.1.1.16	The Horiba APSA-370 SO <sub>2</sub> Analyzer has zero and span drift of <0.50 ppb per week at the lowest measurement range setting.
3.1.1.17	The Horiba APSA-370 SO <sub>2</sub> Analyzer has a lowest detectable limit of 0.50 ppb at a 3-sigma

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<b>Tel.:</b>	(304) 558-2157	Please reference quotation number on all correspondence.	
<b>Fax:</b>	(304) XXX-XXXX		
<b>Cell:</b>	(304) XXX-XXXX	<b>Re:</b>	
<b>E-mail:</b>	brittany.e.ingraham@wv.gov		

	confidence level.
3.1.1.20	The Horiba APSA-370 SO <sub>2</sub> Analyzer has a response time (T <sub>90</sub> ) of ≤120 seconds.
3.1.1.24	The Horiba APSA-370 SO <sub>2</sub> Analyzer has a required flow rate of 0.70 SLPM.
3.1.1.28	The Horiba APSA-370 SO <sub>2</sub> Analyzer has TCP/IP connectivity. The designated software may or may not be capable of communication.
3.1.1.30, 31,32	One annual supplies kit has been proposed for each analyzer. This kit contains two UV lamps, four band width filters and a pump re-build kit.
3.1.2.2	A warranty extending for the period of thirty months from date of shipment or twenty-four months from date of startup, whichever date occurs first has been proposed for each Horiba APSA-370 SO <sub>2</sub> Analyzer.

General Notes	
THIS QUOTATION IS LIMITED TO THE TERMS AND CONDITIONS ON THE FACE OF THIS QUOTATION AND THE ATTACHED DOCUMENT. ANY ADDITIONAL OR DIFFERENT TERMS PROPOSED BY BUYER IN ANY PURCHASE ORDER OR OTHER DOCUMENT ARE DEEMED TO BE MATERIAL ALTERATIONS AND NOTICE OF OBJECTION TO THEM IS HEREBY GIVEN. ANY SUCH PROPOSED TERMS SHALL BE VOID AND THE TERMS HEREIN SHALL CONSTITUTE THE COMPLETE AND EXCLUSIVE STATEMENT OF THE TERMS AND CONDITIONS OF THE CONTRACT BETWEEN THE PARTIES. NEITHER SELLER'S ACKNOWLEDGEMENT OF A PURCHASE ORDER NOR SELLER'S FAILURE TO OBJECT TO CONFLICTING, DIFFERENT, OR	
ADDITIONAL TERMS AND CONDITIONS IN A PURCHASE ORDER SHALL BE DEEMED AN ACCEPTANCE OF SUCH TERMS AND CONDITIONS OR A WAIVER OF THE PROVISIONS HEREOF.	
HORIBA IS COMMITTED TO PROTECTING THE ENVIRONMENT BY MINIMIZING THE IMPACT OF ALL INTERNAL OPERATIONS AND THE SERVICES AND PRODUCTS WE PROVIDE. IN ADDITION TO COMPLIANCE WITH ALL RELEVANT REGULATORY REQUIREMENTS REGARDING THE ENVIRONMENT, IT IS OUR GOAL TO ENSURE THE REASONABLE ON-GOING IMPROVEMENT OF OUR PERFORMANCE RELATIVE TO THE ENVIRONMENT. AS A RESULT, HORIBA ENCOURAGES THE RECYCLING OF ANY OF OUR EQUIPMENT WHICH IS NO LONGER IN SERVICE. SHOULD YOUR HORIBA EQUIPMENT BECOME OBSOLETE OR OUT-OF-SERVICE, PLEASE CONTACT YOUR LOCAL HORIBA FACILITY OR DIAL 800-4-HORIBA FOR INSTRUCTIONS ON RETURNING THIS EQUIPMENT FOR PROPER RECYCLING OR DISPOSAL.	
1.	Shipping estimates are subject to stock availability at time of order placement.
2.	Part numbers are subject to change.
3.	Products are shipped via ground, least expensive, pre-pay and add unless otherwise requested.
4.	Payment terms are subject to credit approval.
5.	All prices shown are in U.S. dollars.
6.	All sales are subject to taxes unless a tax-exemption certificate has been supplied.
7.	Orders greater than \$100,000 are subject to milestone payments as follows: 10% upon submittal of approved drawings, 30% at start of manufacturing, 30% upon completion of factory acceptance testing and 30% at time of shipment (subject to credit approval.)
8.	Horiba standard terms and conditions apply.

Horiba Instruments, Inc. Terms and Condition of Sale	
<b>PRICES</b> The prices set forth are based upon the quantity and type ordered and are subject to revision when interruptions, engineering changes, or changes in quantity are caused or requested by the customer or when events which are beyond the control of the Company occur, including but not limited to increases resulting from legislation, government regulations, costs, duties, tariffs, insurance, and freight. The amount of increase as computed by the Company shall be binding on the Buyer except for clerical and mathematical errors.	<b>WARRANTY</b> The items offered for sale will be under the following warranty. HORIBA Instruments, Inc. as manufacturer, warrants each instrument to be free from defects in material and workmanship under normal use and service for a period of one year after delivery to the original purchaser, the manufacture's obligation under this warranty being limited to repairing or replacing, at its option, any part or parts thereof which shall, within one year after delivery of such unit to its original purchaser, be returned by the original purchaser to the manufacturer at its factory or authorized repair



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<b>E-mail:</b>	brittany.e.ingraham@wv.gov		
		<b>Re:</b>	

### Horiba Instruments, Inc. Terms and Condition of Sale

The Company may modify deliveries to the extent necessitated by governmental action.

#### SPECIFICATIONS

Weights and dimensions set forth in sales literature are not guaranteed unless previously certified. The Company may, without affecting the obligations under this contract, make normal and customer variations in specifications.

#### TERMS OF PAYMENT

Terms of payment on any approved order are net 30 days from date of the invoice unless otherwise specifically stated herein. (The invoice is payable at par. Bills shall be payable on due date a place of collection designated by seller in funds bankable at par.) All purchase orders are accepted subject to and the obligation of the Company to make deliveries is subject to the right of the Company to require of the purchaser payment of all or any part of the purchase price in advance of delivery or to make shipments C.O.D. If the purchaser fails to make advance payment when requested by the Company, or if the purchase is or becomes delinquent in the payment of any sum due the Company (whether or not arising out of this sales order) or refuses to accept C.O.D. shipments, then the Company shall have the right, in addition to any other remedy to which it may be entitled in law or in equity, to cancel the sales order, refuse to make further deliveries, and declare immediately due and payable all unpaid amounts for goods previously delivered to the purchaser. Each shipment shall be considered a separate and independent transaction and payment thereof shall be made accordingly. The Buyer shall be liable for interest at the rate of seven percent (7%) on all overdue bills.

#### SHIPMENTS

All shipments are made F.O.B. point of shipment unless otherwise stated in this proposal. The cost of packaging for domestic shipment is included in the quoted price. Where special domestic or export packing is specified involving greater expense, a charge will be made to cover such extra expense. All shipments shall be insured, unless the purchaser made a specific request to the contrary, and the purchaser shall pay this insurance expense. All claims for breakage and damage should be made to the carrier, but the Company will render all possible assistance in securing satisfactory adjustment of such claims. The Company assumes no responsibility for delay, breakage, or damage after having made delivery in good order to the carrier. Shipments shall be made in the manner and by the carrier requested by the purchaser but where questions arise concerning stability of carriers for handling specific instruments, the decision of the Company must be accepted. Shipments invoiced but held upon purchaser's request at any place, for whatever reason, shall be at the purchaser's sole risk and account, including payment by purchaser of all storage and interest charges. Each shipment shall be considered a separate sale.

#### DELIVERY

The scheduled shipping or delivery date is our best estimate of the time the order will be shipped and we assume no liability for loss, damage, or consequential damages due to delays. In the event that delivery under this contract is prevented or delayed by strikes, lockouts, embargoes, lack of shipping facilities, or any cause or circumstances of whatever kind or nature not limited to the above beyond the Company's control, the Company's time for performance shall be extended by the period of such delay.

#### TAXES

Federal, state, or local excise, sales, or use taxes shall be paid by the customer.

center, transportation charges prepaid, and which, upon examination by the manufacturer, shall be determined to the manufacturer's satisfaction to be defective. The warranty shall cover all parts and labor necessary to make repair for the first ninety days after delivery, and thereafter parts only for a period of one year. The warranty shall be limited to the original purchaser.

The provisions of this warranty shall not apply to any unit that has been subject to misuse, negligence, or accident in installation or operation, that has been repaired, altered, or serviced in any manner, or that has not been operated by the original purchaser in a manner specified by the manufacturer so as, in the manufacturer's judgment, to adversely affect its operation. The original purchaser shall, upon request of manufacturer, furnish manufacturer reasonable evidence that the defect arose from causes placing a liability upon manufacturer. If the warranty shall not apply, the original purchaser shall pay all repair and replacement costs and all costs of manufacturer in returning the part to the original purchaser. This warranty is expressly in lieu of any other warranties, expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose, and of any other obligations on the part of the manufacturer. In no event shall manufacturer be liable for any consequential damages. Components manufactured by other bear the warranty of their manufacturer.

HORIBA Instruments, Inc. reserves the right to make changes in the design and price of its equipment at any time and to exclude certain components from this warranty without prior notice.

#### SPECIAL WARRANTY

If a Special Warranty (covering a designated item or items) is attached hereto, the terms and conditions specified therein are incorporated herein by reference and shall supplement this warranty. In the event of a conflict between the terms and/or conditions specified herein and those specified in such Special Warranty, the terms and/or conditions of the Special Warranty shall control.

Representations and warranties made by any person, including dealers and representatives of HORIBA, that are inconsistent or in conflict with the terms of this warranty (including but not limited to the limitations of the liability of HORIBA as set forth above) shall not be binding upon HORIBA unless reduced to writing and approved by an expressly authorized representative of HORIBA.

#### GENERAL

This sales agreement is made and entered into in the State of California and shall be governed by its laws. This sales agreement supersedes any purchase order or contract and contains the entire agreement between the parties. This agreement may not be altered, amended or modified by the purchaser except by written consent of the Company. Waiver by the Company of a breach by the purchaser or any provision of this agreement shall not be deemed a waiver of future compliance therewith, and such provision as well as other provisions hereunder shall remain in full force and effect. If any provision of this agreement shall be held invalid or unenforceable under any applicable law, rule, or regulation, such invalidity or unenforceability shall not affect any other provision of this agreement that can be given effect without the invalid provision. In the event that any action at law or suit in equity is necessary to enforce any of the terms and conditions of this agreement, the prevailing party shall be paid promptly by the party prevailed against, all costs and reasonable attorneys' fees.

cc: Mick Dollenmayer  
Regional Sales Manager  
Horiba Instruments, Inc.  
6026 Deerfield Blvd.; No. 332  
Mason, OH 45040  
United States

Tel.: (949) 351-8807  
E-mail: mick.dollenmayer@horiba.com

Exhibit A Pricing Page						
ITEM NO.	SPEC. REF. #	DESCRIPTION	Brand/Model Bid if 'or Equal'	QUANTITY	UNIT COST	EXTENDED PRICE
1	3.1.1	Continuous Sulfur Dioxide (SO <sup>2</sup> ) Analyzers, Teledyne Advanced Pollution Instrumentation Model T100 or Equal	Horiba Model APSA-370 (PN 5200001364) with: Spare Parts Kits, 2-Year Warranty, Packing, Shipping and Insurance.	3	\$16,584.74	\$49,754.22
TOTAL BID AMOUNT						\$49,754.22

Company: Horiba Instruments, Inc.

Name: J. David Vojtko; Nov. 28, 2017

Signature: \_\_\_\_\_

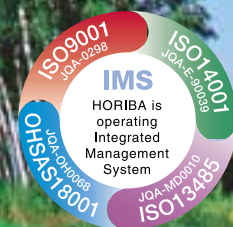
Date:

# HORIBA

Explore the future

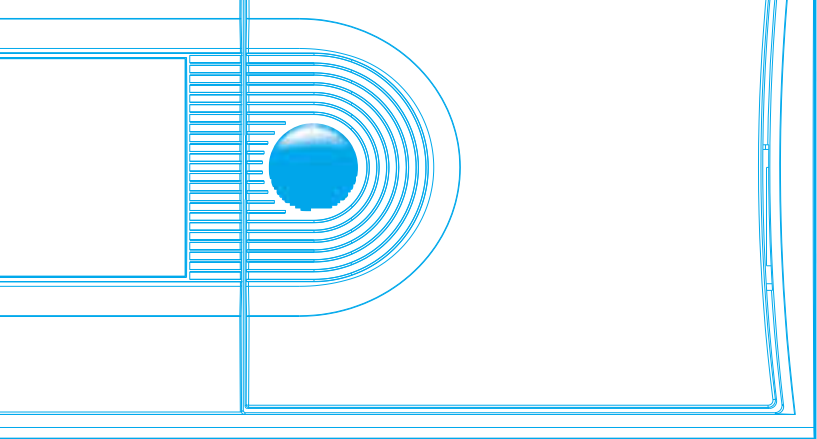
## AIR POLLUTION MONITOR **AP-370** Series

Type approved by European agencies and US.EPA



Explore the future

# HORIBA



These highly sensitive analyzers give precise, reliable measurements and are surprisingly easy to maintain.

## ■ Features ■ ■ ■

### ■ Automatic calibration

Troublesome calibration procedures have been reduced to the push of a function key. At the Auto-Interval Calibration (AIC) menu you can set the start time, the start range, and the interval for the automatic calibration. The system clock and calendar then assure that your calibration instructions are executed precisely. To make things even easier, remote auto-calibration can also be done from your own computer, via the monitor's RS-232C serial port (optional).

### ■ Auto-range function

An auto-range function that automatically switches to the range best suited to the object gas concentration for both momentary and average values is included as a standard feature. As an option, even when randomly set to any range (within 10 times the range ratio), the auto-range function can still be used. Switching over from auto-range to manual-range is a simple task.

### ■ Selective data output

For each component measured, the system provides four types of data: momentary values, integrated values, moving averages, and simple averages. Any two of these data may be output. Simultaneously to any two external devices. The time-span for both average and integrated values may be specified (i.e., when the momentary value has not been selected). With the simple average values, three different time settings can be specified.

### ■ Storing data in memory

Four different values may be stored in memory: three simple averages and the integrated value.

For example:

- ▶ Average value #1 (3 min) 1,000 data sets
- ▶ Average value #2 (30 min) 1,000 data sets
- ▶ Average value #3 (3 h) 100 data sets
- ▶ Integrated value (1 h) 1,000 data sets

### ■ Network Communications (option)

Serial communication is available through RS-232C serial port connected on the rear panel. The serial port makes analyzer data available using HORIBA's proprietary serial communication protocol, and can be easily converted to RS-485 for network data collection. Ethernet communication is available through an optional port using TCP/IP protocol.

ambient air pollution monitors  
measurements, yet they are  
maintain.

## AIR POLLUTION MONITOR **AP-370 Series**

### ■ Memory card for data management (option)

An available Compact Flash(CF) can save average or integrated value, and read and collect data for off-line analysis.

With the CF it is possible to conveniently use the analyzer in a stand-alone mode.

### ■ Readout view, concentration and mass

The front panel can display the readout all that is needed concentration (ppm or ppb) and mass (mg/m<sup>3</sup> or µg/m<sup>3</sup>).

(Not available on Model APHA-370, where CH<sub>4</sub> values are displayed as ppm, NMHC and THC as ppmC.)

### ■ Pressure-compensation

Automatic compensation for ambient pressure assures reliable data regardless of the weather or the monitor's location.

### ■ Easy-to-read, 320 × 240 dot LCD display with touch panel screen.

The adoption of full graphic LCD for the touch screen offers a large, easy-to-use display and user friendly, interactive operation. This user interface facilitates maintenance with displays such as the graph of lamp intensity (applicable for model APOA-370 and APSA-370 only), remaining time before replacement of pumps, valves, source lamp and converters. It also allows you to save average value, data, integrated value alarm history and calibration history.

### ■ Minimal influence from interference components and ambient temperature

These monitors use Horiba's innovative detection technology and sampling method for outstanding sensitivity. The influence from interference components is minimal and results are very stable over long periods of measurement.

### ■ Input/output via RS-232C port (option)

The system's RS-232C serial port can be used to transmit measured values, alarms, and other data to remote equipment. It can also be used to input changes to parameter settings and other data.

### ■ At last—a small, compact system

A small, light-weight unit for each component to be measured fits neatly into a 19inch rack. This makes it easy to upgrade your system in the future. This new design offers great savings in valuable lab space.



# Ambient CO Monitor **APMA-370**



According to EN14626 and VDI 4202/4203

TUEV Bericht 936/21204643B 05. Jan. 2006 U. S. EPA REFERENCE Equivalent Number RFCA-0506-158

## Features

The cross flow modulation type, infrared-absorption technology eliminates the need for adjusting optical alignment.  
For the user, this means very stable and sensitive (5 ppm F.S.) measurements.

The APMA-370 uses an AS-type interference-compensating detector, and a purified reference gas. The reference gas is generated by purging the sample through an oxidation process, where an oxidizing catalyst burns the CO to CO<sub>2</sub>. These features eliminate interference from other elements, resulting in highly accurate measurements.

The APMA-370 does not use such components as reflecting mirrors, that attract foreign matter. This means the optical bench stays clean assuring you of stable results over long periods of time.

## Principle

### Cross flow modulation, Infrared (NDIR) absorption technology

Conventional technology uses an optical chopper to obtain modulation signals. Instead, the APMA-370 uses solenoid valve cross flow modulation. Fixed amounts of the sample gas and the reference gas are injected alternately into the measurement cell. With the cross flow-modulation method, if the same gas is used for both the sample gas and the reference gas (e.g., zero gas could be used for both), no modulation signal will be generated. This has the great advantage that, in principle, when analyzing minute amounts of gas there is no generation of zero-drift. An additional advantage is that the elimination of rotary sectors precludes the need for optical adjustment. These features assure greatly improved stability over long periods of measurement. A further improvement is that in the front chamber of the detector, the measurable components, including interference components, are detected; in the rear chamber, only interference components are detected. By means of subtraction processing, the actual signal obtained is one that has very little interference.

## Specifications

**Principle:** Cross flow modulation, non-dispersive infrared (NDIR) absorption technology

**Application:** CO in ambient air

**Range:** Standard ranges: 0-10/20/50/100 ppm; 0-5/10/20/50 ppm; auto range ~ manual range selectable; can be operated by remote switching.  
Optional (measurable) ranges: 4 ranges selectable from 0-100 ppm, within 10 times range ratio; auto range ~ manual range selectable; can be operated by remote switching.

**Lower detectable limit:** 0.02 ppm (3 sigma)

**Repeatability:**  $\pm 1.0\%$  of F.S.

**Linearity:**  $\pm 1.0\%$  of F.S.

**Zero drift:** < LDL/day at lowest range  
< 0.2 ppm/week at lowest range

**Span drift:** < LDL/day at lowest range  
 $\pm 1.0\%$  F.S./week

**Response time ( $T_{90}$ ):** Within 50 sec at lowest range

**Sample gas flow rate:** Approx. 1.5L/min

**Indication:** Measured value, range, alarm, maintenance screen

**Alarms:** During AIC, zero calibration error, span calibration error, temperature error in catalyzer, etc.

**On-screen messages are available in four languages:** English, German, French, and Japanese.

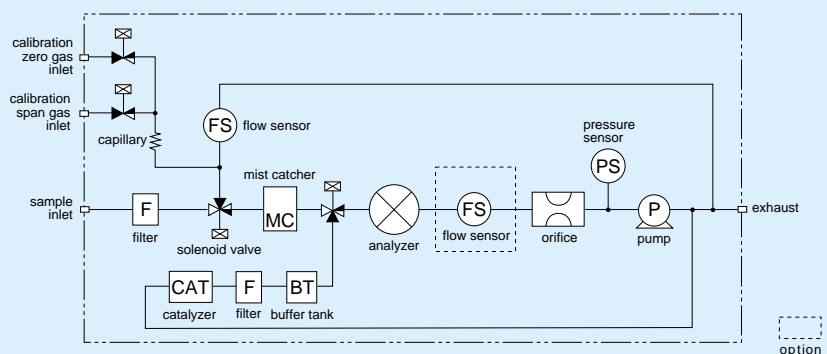
**Input/output:** • 0-1 V/0-10 V/4-20 mA, to be specified (2 systems: either (1) momentary value and integrated or (2) moving average value) • Contact input/output • RS-232C (option)

**Ambient temperature:** 5-40

**Power:** 100/110/115/120/220/230/240 VAC, 50/60 Hz (to be specified)

**Dimensions:** 430(W) × 550(D) × 221(H) mm

**Mass:** Approx. 16 kg.







# Ambient SO<sub>2</sub> Monitor APSA-370



According to EN14212 and VDI 4202/4203

TUEV Bericht 936/21204643D 07. Jul. 2006 U. S. EPA REFERENCE Equivalent Number EQSA-0506-159

## Features

The APSA-370 uses an innovative detector and a new optical system for low background, high sensitivity (0.05 ppm F.S.), and greatly improved stability.

The fluorescent chamber design gives measurements with minimum influence from moisture.

The unit has built-in aromatic hydrocarbon cutter with a selective transmission membrane. This reduces the influence of interference components. Coupled with Horiba's unique flow-path, it also makes it possible to extend the working life of the cutter and to take measurements effects of sample flow variations.

In comparison with the FPD method, the APSA-370 design is (1) highly selective for SO<sub>2</sub>, (2) requires no supplemental gas, and (3) gives linear output.

Compensation for the lamp's luminous energy decline guarantees prolonged calibration stability.

The sample inlet has a built-in Teflon filter.

## Principle

### UV fluorescence

The UV fluorescence method operates on the principle that when the SO<sub>2</sub> molecules contained in the sample gas are excited by ultraviolet radiation they emit a characteristic fluorescence in the range of 220-420 nm. This fluorescence is measured and the SO<sub>2</sub> concentration is obtained from changes in the intensity of the fluorescence.

The reactive mechanism is

- (1)  $\text{SO}_2 + h\nu \rightarrow \text{SO}_2^*$
- (2)  $\text{SO}_2^* \rightarrow \text{SO}_2 + h\nu_2$
- (3)  $\text{SO}_2^* \rightarrow \text{SO} + (\text{O})$
- (4)  $\text{SO}_2^* + \text{M} \rightarrow \text{SO}_2 + \text{M}$

Here, (1) shows the excited state of the SO<sub>2</sub> molecules that have absorbed the amount of energy  $h\nu_1$  by ultraviolet radiation. (2) shows the amount of energy,  $h\nu_2$  emitted by the excited molecules as they return to the ground state. (3) shows the decomposition by the light emitted from the excited molecules. (4) shows the quenching, i.e., the energy lost by the excited molecules colliding with other molecules. The APSA-370 uses an Xe lamp as the light source, and the fluorescent chamber design minimizes scattered light. The optical system has been carefully designed with low background light, making it possible to take measurements with a highly stable zero point. In addition, a reference detector monitors any fluctuation in the intensity of the light source. This allows the unit to calibrate itself automatically for sensitivity, resulting in greater span stability.

## Specifications

**Principle:** UV fluorescence (UVF)

**Application:** SO<sub>2</sub> in ambient air

**Range:** Standard ranges: 0-0.05/0.1/0.2/0.5 ppm; auto range ~ manual range selectable; can be operated by remote switching.  
Optional (measurable) ranges: 4 ranges selectable from 0-10 ppm, within 10 times range ratio; auto range ~ manual range selectable; can be operated by remote switching.

**Lower detectable limit:** 0.5 ppb(3 sigma)

**Repeatability:**  $\pm 1.0\%$  of F.S.

**Linearity:**  $\pm 1.0\%$  of F.S.

**Zero drift:** < LDL/day at lowest range  
< LDL/week at lowest range

**Span drift:** < LDL/day at lowest range  
< LDL/week at lowest range

**Response time (T<sub>90</sub>):** Within 120 sec at lowest range

**Sample gas flow rate:** Approx. 0.7L/min

**Indication:** Measured value, range, alarm, maintenance screen

**Alarms:** During AIC, zero calibration error, span calibration error, temperature error in catalyzer, etc.

**On-screen messages are available in four languages:** English, German, French, and Japanese.

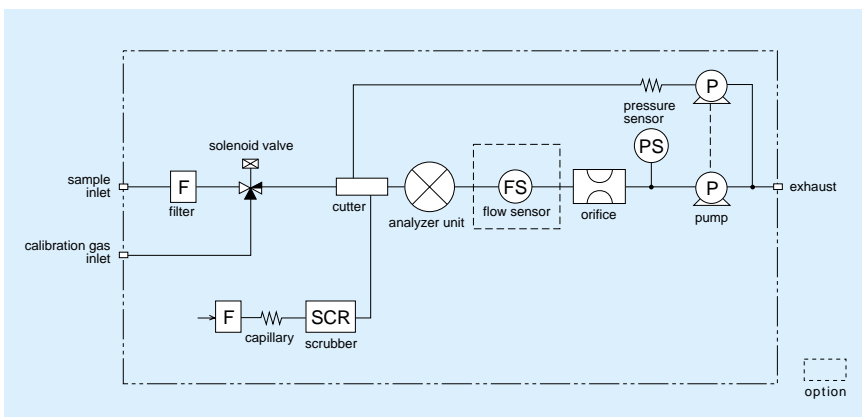
**Input/output:** • 0-1 V/0-10 V/4-20 mA, to be specified (2 systems: either (1) momentary value and integrated or (2) moving average value) • Contact input/output • RS-232C (option)

**Ambient temperature:** 5-40

**Power:** 100/110/115/120/220/230/240 VAC, 50/60 Hz (to be specified)

**Dimensions:** 430(W) x 550(D) x 221(H) mm

**Mass:** Approx. 19 kg.





# Ambient NOx Monitor **APNA-370**



According to EN14211 and VDI 4202/4203

TUEV Bericht 936/21204643C 07. Jul. 2006 U. S. EPA REFERENCE Equivalent Number RFNA-0506-157

## Features

The APNA-370 uses a combination of the dual cross flow modulation type chemiluminescence principle and the referential calculation method.

This gives it the advantages of the single-detector method plus the ability to do continuous measurements of NOx, NO, and NO<sub>2</sub>. The design gives great stability and extremely high sensitivity (0.1 ppm F.S.)

Standard equipment includes a drier unit with an automatic recycle function to provide dry ambient air as the ozone source. This makes long-term continuous measurements possible.

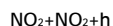
The detector uses a silicon photodiode sensor to reduce size and prolong working life.

All the necessary features are built right into a single rack-sized unit, including a reference-gas generator, an ozone-source drier unit, an ozone decomposer, and a sampling pump. No supplemental gas is required.

## Principle

### Cross flow modulation type, reduced pressure chemiluminescence (CLD)

The chemiluminescence method uses the reaction of NO with O<sub>3</sub>



A portion of the NO<sub>2</sub> generated as the result of this reaction becomes NO<sub>2</sub>\*. As these excited molecules return to the ground state, chemiluminescence is generated in the range of 600 nm to 3,000 nm. The light intensity is in proportion to the concentration of NO molecules and by measuring it we obtain the NO concentration of the sample. A deoxidation converter changes the NO<sub>2</sub> to NO, which is measured. In other words, the NO<sub>2</sub> concentration can be obtained by the difference between (1) the NOx concentration measured when the sample gas is directed through a converter and (2) the NO concentration measured when the gas is not run through the converter.

## Specifications

**Principle:** Cross flow modulation type, reduced pressure chemiluminescence (CLD)

**Application:** NO<sub>2</sub>, NO and NOx in ambient air

**Range:** Standard ranges: 0-0.1/0.2/0.5/1.0 ppm; auto range ~ manual range selectable; can be operated by remote switching.

Optional (measurable) ranges: 4 ranges selectable from 0-10 ppm, within 10 times range ratio; auto range ~ manual range selectable; can be operated by remote switching.

**Lower detectable limit:** 0.5 ppb(3 sigma)

**Repeatability:** ± 1.0% of F.S.

**Linearity:** ± 1.0% of F.S.

**Zero drift:** < LDL/day, at lowest range  
± 1.0 ppb/week at lowest range

**Span drift:** < LDL/day at lowest range  
± 1.5 % of F.S./week

**Response time (T<sub>90</sub>):** Within 90 sec at lowest range

**Sample gas flow rate:** Approx. 0.8L/min

**Indication:** Measured value, range, alarm, maintenance screen

**Alarms:** During AIC, zero calibration error, span calibration error, temperature error in converter, etc.

**On-screen messages are available in four languages:** English, German, French, and Japanese.

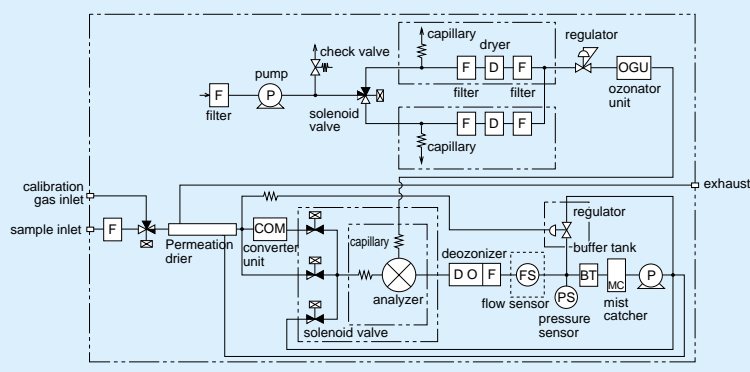
**Input/output:** • 0-1 V/0-10 V/4-20 mA, to be specified (2 systems: either (1) momentary value and integrated or (2) moving average value) • Contact input/output • RS-232C (option)

**Ambient temperature:** 5-40

**Power:** 100/110/115/120/220/230/240 VAC, 50/60 Hz (to be specified)

**Dimensions:** 430(W) × 550(D) × 221(H) mm

**Mass:** Approx. 21 kg,





# **Ambient THC Monitor** **APHA-370**



## **Features**

The APHA-370 uses a combination of the flame ionization detection method and selective-combustion. This gives it the advantage of the single-detector method plus the ability to perform continuous measurements, free of zero-drift, for THC, NMHC, and CH<sub>4</sub>. The design gives great stability and high sensitivity (0-5 ppm F.S.)

The APHA-370 has a relative-sensitivity correction function for CH<sub>4</sub> and NMHC.

All the necessary features are built right into a single rack-sized instrument, including a catalytic unit for selective combustion (i.e., an NMHC cutter); a catalytic unit for generating reference gas and auxiliary combustion air (standard); and a sampling pump. The only supplemental gas required is H<sub>2</sub>.

## Principle

### Flame ionization detection method (FID) with selective-combustion

The flame ionization detection method (FID) used in combination with the selective-combustion system utilizes the ionization that occurs as the result of the high-temperature energy from combustion at the tip of the burner jet when organic carbon compounds are introduced into the hydrogen flame. The hydrogen flame is located between two electrodes.

When an electrical voltage is applied across these electrodes a minute ion current proportional to the hydrocarbon concentration is produced. This current is monitored by a low leakage amplifier, giving a voltage readout for THC. To measure CH<sub>4</sub> the sample gas is passed through the selective catalytic combustion unit (the NMHC cutter), which oxidizes NMHC without oxidizing CH<sub>4</sub>. This is shown as *A* below. *B* represents the THC concentration measured without passing the gas through the NMHC cutter. Thus *B* - *A* will give the concentration of NMHC. The final concentration value is calculated using a relative-sensitivity correction coefficient, *k*, as shown below.

CH<sub>4</sub> Concentration *A*  
 NMHC Concentration *k* (*B* - *A*)  
 THC Concentration *A* + *k* (*B* - *A*)

## Specifications

**Principle:** Flame ionization detection (FID) with selective combustion

**Application:** THC, NMHC, and CH<sub>4</sub> in ambient air

**Range:** Standard ranges: 0-5/10/20/50 ppmC; auto range ~ manual range selectable; can be operated by remote switching.

Optional (measurable) ranges: 4 ranges selectable from 0-100 ppmC, within 10 times range ratio; auto range ~ manual range selectable; can be operated by remote switching.

**Lower detectable limit:** 0.022 ppmC(3 sigma)

**Repeatability:** ± 1.0% of F.S.

**Linearity:** ± 1.0% of F.S.

**Zero drift:** < LDL/day at lowest range  
 ± 0.05 ppmC/week at lowest range

**Span drift:** < LDL/day at lowest range  
 ± 0.5 % F.S./week

**Response time (T<sub>90</sub>):** Within 60 sec at lowest range

**Sample gas flow rate:** Approx. 0.9 L/min

**Indication:** Measured value, range, alarm, maintenance screen

**Alarms:** During AIC, zero calibration error, span calibration error, temperature error in zero gas purifier, ignition failure error, etc.

**On-screen messages are available in four languages:** English, German, French, and Japanese.

**Input/output:** • 0-1 V/0-10 V/4-20 mA, to be specified (2 systems: either (1) momentary value and integrated or (2) moving average value) • Contact input/output • RS-232C (option)

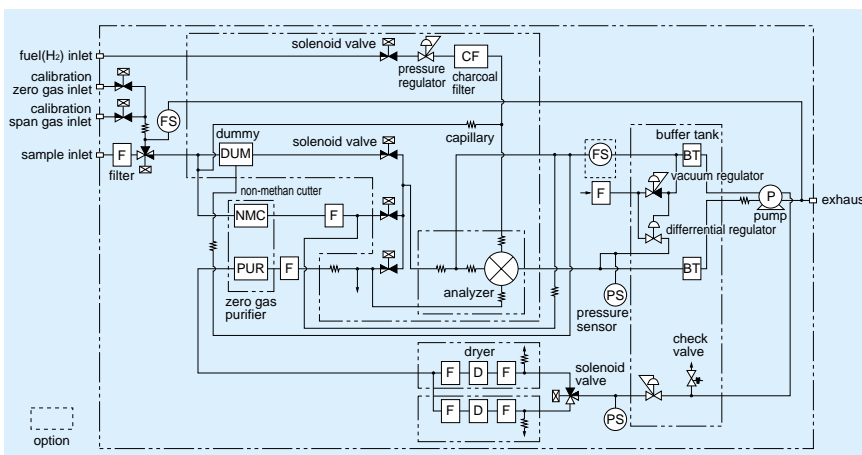
**Ambient temperature:** 5-40

**Power:** 100/110/115/120/220/230/240 VAC, 50/60 Hz (to be specified)

**Dimensions:** 430(W) × 550(D) × 221(H) mm

**Mass:** Approx. 33 kg.

**Notes:** ppmC is shown as symbol, not as unit.





# Ambient O<sub>3</sub> Monitor **APOA-370**



According to EN14625 and VDI 4202/4203

TUEV Bericht 936/21204643A 05. Jan. 2006 U. S. EPA REFERENCE Equivalent Number EQOA-0506-160

## Features

The APOA-370 uses the cross flow modulation type, ultra-violet absorption method in conjunction with the comparative calculation method.

This permits continuous measurement with great stability and high sensitivity (0.1 ppm F.S.)

HORIBA's innovative heated deozonizer provides reference gas by decomposing the O<sub>3</sub> found in the sample gas. This has the advantages of (1) reducing the influence from interference, (2) making the monitor insensitive to great changes in moisture content, and (3) prolonging the working life of the monitor.

All gas connections are either Teflon or glass.

## Principle

Cross flow modulation type,  
Non dispersive ultra-violet absorption  
method (NDUV)

The ultra-violet absorption method works on the principle that ozone absorbs ultra-violet rays in the area of 254 nm. Measurements are taken from continuous, alternate injections of the sample gas and the reference gas into the measurement cell, controlled by a long-life solenoid valve. The cross flow modulation method is characteristically zero-drift free. A comparative calculation circuit automatically compensates for all fluctuations in the mercury vapor light source and in the detector. This means that, in principle, the APOA-370 makes it possible to carry out zero-span drift free, continuous measurements. In addition, HORIBA'S unique deozonizer for the comparison gas line is unaffected by interference elements or moisture retention, prolonged, stable measurement is possible.

## Specifications

**Principle:** Cross flow modulation type, Ultra-violet-absorption method (NDUV)

**Application:** O<sub>3</sub> in ambient air

**Range:** Standard ranges: 0-0.1/0.2/0.5/1.0 ppm; auto range ~ manual range selectable; can be operated by remote switching.  
Optional (measurable) ranges: 4 ranges selectable from 0-10 ppm, within 10 times range ratio; auto range ~ manual range selectable; can be operated by remote switching.

**Lower detectable limit:** 0.5 ppb(3 sigma)

**Repeatability:** ± 1.0% of F.S.

**Linearity:** ± 1.0% of F.S.

**Zero drift:** < LDL/day at lowest range  
< LDL/week at lowest range

**Span drift:** < LDL/day at lowest range  
< LDL/week at lowest range

**Response time (T<sub>90</sub>):** Within 75 sec at lowest range

**Sample gas flow rate:** Approx. 0.7 L/min

**Indication:** Measured value, range, alarm, maintenance screen

**Alarms:** During AIC, zero calibration error, span calibration error, temperature error in ozone separator, light intensity error, etc.

**On-screen messages are available in four languages:** English, German, French, and Japanese.

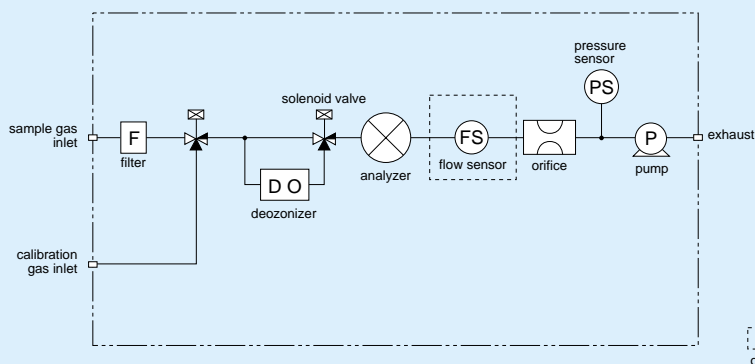
**Input/output:** • 0-1 V/0-10 V/4-20 mA, to be specified (2 systems: either (1) momentary value and integrated or (2) moving average value) • Contact input/output • RS-232C (option)

**Ambient temperature:** 5-40

**Power:** 100/110/115/120/220/230/240 VAC, 50/60 Hz (to be specified)

**Dimensions:** 430(W) × 550(D) × 221(H) mm

**Mass:** Approx. 15 kg,



## H<sub>2</sub>S/TRS Measurement

### Features • Principle

Combined use of the H<sub>2</sub>S converter unit and the APSA: SO<sub>2</sub> Monitor makes H<sub>2</sub>S measurement possible. The H<sub>2</sub>S converter unit contains two types of catalyst: SO<sub>x</sub> scrubber and H<sub>2</sub>S converter. SO<sub>x</sub> is removed by the SO<sub>x</sub> scrubber, and then the H<sub>2</sub>S that has passed through is converted into SO<sub>2</sub> by the H<sub>2</sub>S converter. This SO<sub>2</sub> is then measured by the APSA: SO<sub>2</sub> Monitor for display as H<sub>2</sub>S concentration.

### Specifications

**Range:** 0.1-0.1/0.2/0.5/1.0 ppm

**Power:** 100/110/115/120/220/230/240 VAC, 50/60 Hz

**Dimensions:** CU-1: 430(W) × 550(D) × 221(H) mm

APSA: 430(W) × 550(D) × 221(H) mm

**Mass:** CU-1: Approx. 10 kg

APSA: Approx. 25 kg

## Calibration Equipment

HORIBA offers various calibration products for optional use with the AP-370. HORIBA's calibration equipment support mainly the following methods:

Option	APMA	APSA	APNA	APHA	APOA
Internal or external permeation device for SO <sub>2</sub> , H <sub>2</sub> S, BTX, NO <sub>2</sub> and many more		●	●		
External gas phase titration for NO/NO <sub>2</sub>			●		
Ozone generation with an internal or external O <sub>3</sub> generator based on UV radiation					●

All calibrators can be equipped with thermal mass flow controllers or pressure regulators and capillaries depending on the precision requirements. Stationary and portable single components as well as multi-component calibrators are available upon client's specification. Corresponding interfaces as well as calibration and QC protocols can also be supplied.

## NH<sub>3</sub> Measurement

### Features • Principle

Combined use of the NH<sub>3</sub> converter unit and the APNA: NO<sub>x</sub> Monitor makes NH<sub>3</sub> measurement possible. The NH<sub>3</sub> converter unit contains two types of catalyst tubes: one which converts NH<sub>3</sub> into NO<sub>x</sub>, and one which allows the NO<sub>x</sub> in the ambient air to pass through directly. The difference in NO<sub>x</sub> value between the two is measured by the APNA: NO<sub>x</sub> Monitor for display as NH<sub>3</sub> concentration.

### Specifications

**Range:** 0-1/2/5-10 ppm

**Power:** 100/110/115/120/220/230/240 VAC, 50/60 Hz

**Dimensions:** CU-2: 430(W) × 550(D) × 310(H) mm

APNA: 430(W) × 550(D) × 221(H) mm

**Mass:** CU-2: Approx. 20 kg

APNA: Approx. 26 kg

## Digital Calibrator

### Features

HORIBA's MCC-1000 is designed to calibrate gas analyzers manually, remotely controlled or automatically, installed in air pollution monitoring stations, for quality assurance in the laboratory and also for the production of gas analyzers.

A special feature of HORIBA's MCC-1000 is the easily-to-read touch screen panel, for ease of operation. Characteristic of operation of HORIBA's MCC-1000 is the intuitive, simple and user friendly menu. (Flow rate, mg/m<sup>3</sup>, ppb/ppm, automatic cycles etc.) Via the touch screen, it is possible to enter span gas concentrations or to start automatic routines like multi point calibration cycles.

### Specifications

**Principle:** Dynamic generation of zero and span gas with mass flow controllers

**Mass Flow Controller (MFC):** supports multi-point calibration

**Power:** 230 VAC ± 10%, 50 Hz (other on request), 50 VA

**Dimensions:** 430(W) × 400(D) × 120(H) mm (19") with brackets

**Mass:** Approx. 10 kg

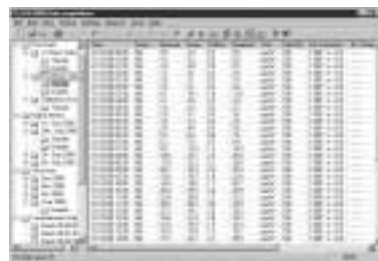
# Intelligent Data Acquisition System

## HORIBA IDA-2000

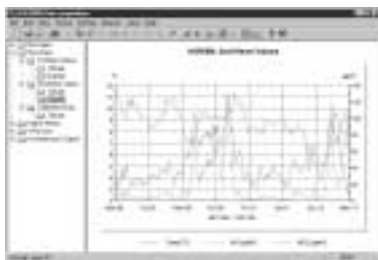
HORIBA's IDA-2000 is an intelligent data acquisition system (DAS) using a desktop or industrial PC, designed for fully automatic monitoring stations. The entire data capture and mean value calculation as well as control of the analyzers is executed by 32 bit multitasking software, running in a state-of-the-art Windows environment. It combines the power of a workstation with the ease of use, compatibility and productivity of a personal computer. The measured values as well as operating and error status messages are gathered in a 5-second interval from the analyzers. They are converted into engineering units, checked for plausibility and synchronously converted into two different averages. Automatic calibration routines in predefined intervals can be started either from the station computer or through a remote host computer. The DAS also supports the manual execution of calibration sequences as well as remote maintenance operations.



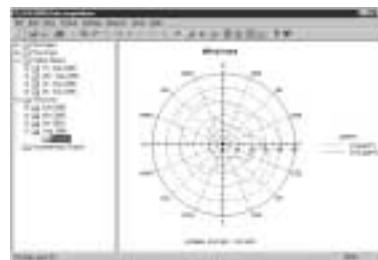
Bar graph of actual values



Tabular report of 2nd mean values



Graphic presentation of 2nd mean values



Wind rose

# Data Management and Reporting Software

## HORIBA IDA-ZRW

HORIBA's IDA-ZRW is a data management and reporting software for use in Ambient Air Quality and Meteorological monitoring. The software package provides data collection, management, analysis and reporting. Measured data and related information is stored in a high-end relational SQL database. The software can be used stand-alone or run on several machines in a network environment operating in Microsoft Windows environments. Communication between Central & Remote Stations works with a wide variety of communication links, such as direct connections, short-haul modems, telephone (including cellular) and multi-drop. Data can be transferred to and presented in Internet pages according to customers requirements.



Report preview



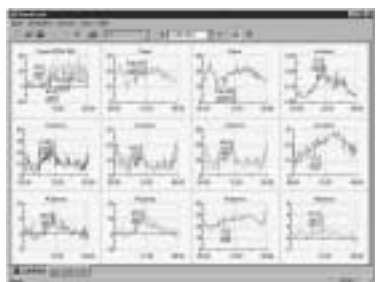
3D-column chart of 3h-means



Example of various reports



DCS main



Quick look



Quick look

## Complete Integrated System

HORIBA designs, assembles, calibrates and tests complete integrated systems for simultaneously measuring multiple pollutants. A system for monitoring five pollutants can typically fit into one 19-inch rack. Rack-mounted systems can be installed in equipment rooms, stand-alone shelters, trailers, vans, large trucks, or aboard marine vessels. HORIBA can integrate products into existing monitoring systems, or design and build a new system.



South african bureau of standards

## Various Types of Fixed Stations and Mobile Laboratories

**HORIBA designs and builds complete solutions precisely tailored to customer's requirements**

**Fixed monitoring stations for continuously measuring air pollutants**



Reykjavik environment / Iceland



Agency for environmental Federal State of Bavaria  
Mobile laboratory with detachable shelter

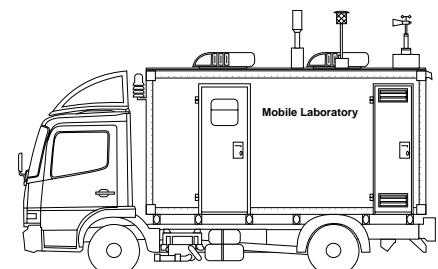
**Mobile laboratories to investigate the geographic distribution of air pollution**



Professional association for civil engineering



These vans and trucks are just some of the projects we've done for customers in Europe

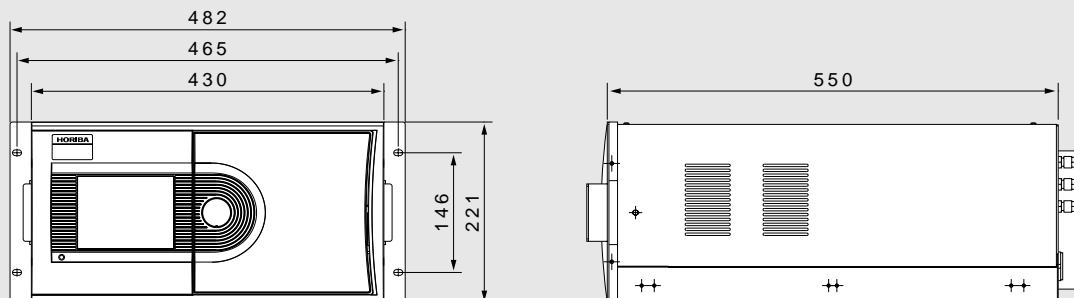


## Standard 19-inch Packages

Each HORIBA AP-370 Series Monitor is packaged in a light metal enclosure with sliding chassis suitable for either a table-top set-up in a research laboratory or mounting on a standard 19-inch rack for permanent installation. All the controls and serviceable components are accessible from the front for easy maintenance while the plumbing and cable connections are neatly arranged at the back.

### Dimensional Outline Unit: mm

APMA-370/APSA-370/APNA-370/APHA-370/APOA-370



*Horiba contributes to the preservation of the global environment through analysis and measuring technology.*



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

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