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- Clarification Request

Procurement Folder: 1083551

Procurement Type: Central Purchase Order

Vendor ID: 000000219346

Legal Name: ENVIRONICS INC

Alias/DBA:

Total Bid: \$109,280.00

Response Date: 01/23/2023

Response Time: 9:18

Responded By User ID: Environics

First Name: Mary Lou

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SO Doc Code: CRFQ

SO Dept: 0313

SO Doc ID: DEP2300000023

Published Date: 1/20/23

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Close Time: 13:30

Status: Closed

Solicitation Description: Eight (8) Multi-Gas Dilution Calibrator with Ozone Generator

Total of Header Attachments: 2

Total of All Attachments: 2



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

**State of West Virginia
 Solicitation Response**

Proc Folder: 1083551
Solicitation Description: Eight (8) Multi-Gas Dilution Calibrator with Ozone Generator
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Solicitation Closes	Solicitation Response	Version
2023-01-26 13:30	SR 0313 ESR01232300000003261	1

VENDOR
 000000219346
 ENVIRONICS INC

Solicitation Number: CRFQ 0313 DEP2300000023
Total Bid: 109280
Response Date: 2023-01-23
Response Time: 09:18:42
Comments:

FOR INFORMATION CONTACT THE BUYER

Joseph E Hager III
 (304) 558-2306
 joseph.e.hageriii@wv.gov

Vendor Signature X **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	Ozone generator	8.00000	EA	13660.000000	109280.00

Comm Code	Manufacturer	Specification	Model #
49241708			

Commodity Line Comments: Environics Series 6100 Multi-Gas Dilution Calibrator with Ozone Generator per specifications.

Extended Description:

Eight (8) Multi-Gas Dilution Calibrator with Ozone Generator
Six (6) Multi-Gas Dilution Calibrator with Ozone Generator:
West Virginia Department of Environmental Protection
Northern Panhandle Regional Office
131 A Peninsula St.
Wheeling, WV 26003
Attn: James P. Ebert
Two (2) Multi-Gas Dilution Calibrator with Ozone Generator:
West Virginia Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
Attn: S. Mark Drake

DESCRIPTION

The Environics® Series 6100 Computerized Multi-Gas Calibration System is a computer controlled, state-of-the-art instrument for dynamic calibration of ambient air analyzers. The Series 6100 automatically performs zero, precision, span and multi-point calibrations using NO, NO₂, SO₂, CO, O₃, hydrocarbons and other gases of interest. The 6100 meets or exceeds all U.S. Environmental Protection Agency requirements. Both in service and new Series 6100 can be optimized for low levels of ozone, down to 2 ppb repeatably.

The Series 6100 consists of a single chassis supporting up to 3 thermal mass flow controllers, an ozone generation module, a mixing zone, a reaction chamber for gas phase titration, and control electronics.

Commands are entered from the front panel and displayed on a backlit 4 line by 20 character liquid crystal display. The instrument may also be remotely operated using contact closures or the RS-232 serial data interface, both standard in the Series 6100.

The mass flow controllers are calibrated to a NIST (National Institute of Standards and Technology) traceable primary standard. The calibration data consists of a comparison of desired versus actual flow over the full dynamic range of the instrument with linear interpolation between points. Calibration data is stored in non-volatile memory and may be updated by the user with a suitable standard.

The Series 6100 ozone generator is factory calibrated using a NIST traceable ozone standard. This temperature controlled, ultra-violet (UV) based ozone generator includes a precision photo-optical feedback circuit to compensate for lamp aging effects.

The Series 6100 is available in either a standard rack mount or portable configuration.

PRODUCT FEATURES AND BENEFITS

User-friendly interactive software with plain language prompts is simple to use, reducing technician training time and virtually eliminating error.

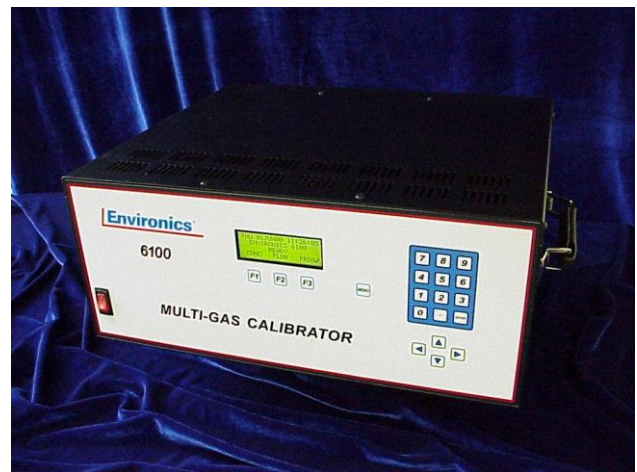
Automatic calculation of dilution and span gas flows based on commanded concentration eliminates the need for manual computation and allows rapid transition from point to point.

Internally-stored mass flow controller calibration data improves accuracy by as much as a factor of ten and simplifies field recalibration.

Internally-stored ozone generator calibration data insures linear, repeatable ozone generation without photometer control. Ozone generator performance exceeds U.S. EPA criteria for ozone transfer standards.

Ozone generator pressure compensation ensures repeatable ozone generation at a flow rate and back pressure other than that at which it was originally calibrated.

Full, two-way RS-232 Serial Data Interface (standard) permits remote operation of the instrument including data collection, gas selection, initiation of zero, span and multi-point calibrations.



SOFTWARE

- **Blend (Conc. Mode):** In response to software prompting, user selects gas port, span (cylinder) gas concentration, output gas flow (total) and output gas concentration. Series 6100 automatically delivers concentrations at the total flow specified.
- **Generate Ozone:** Allows user to specify, then generate a precise concentration of ozone.
- **Gas Phase Titration:** Utilizes blend and generate ozone routines to lead user through GPT using "excess NO" method.

- **Manual (Flow Mode):** Allows user to manually command a desired rate of flow for each mass flow controller.
- **Display:** Allows user to monitor flow rates for each mass flow controller separately. Also provides ozone oven block temperature during generate ozone and gas phase titration routines.
- **Maintain Ports:** User enters the name of the span gas in the source cylinder, its concentration (ppm) and the port to which the cylinder is connected.

SPECIFICATIONS

Mass Flow Controller (as a percent of setpoint)*

	From 10 to 100% of Full Scale Flow
Accuracy:	
Concentration:	± 1.0%
Flow:	± 1.0%
Repeatability	± 0.05%

* Mass flow controllers are calibrated using a NIST traceable Primary Flow Standard, using a Reference Temperature of 25° C (77°F) and a Reference Pressure of 760mm Hg (29.92 in. Hg)

Warm up time: 30 minutes

Ozone Generator

Concentration Range: 0.02 - 0.5 ppm at 5 – 10 slpm
 Optional Ranges: Low ozone – 2 ppb
 0.05 - 1 ppm at 5 – 10 slpm

Other ranges available upon request

Accuracy: ±2% or ± 0.003 ppm
 30 day repeatability: ±2% or ± 0.003 ppm

Mechanical

Inlets

Balance: External ¼" Swagelok™*
 Span(s): External ¼" Swagelok™*

Outlet

One external ¼" Swagelok™*

*(or compatible fitting)

Operating Pressures at inlets

Minimum: 15 psig (1.03 Bar)
 Nominal: 25 psig (1.72 Bar)
 Maximum: 30 psig (2.07 Bar)

Wetted Surfaces

Tubing: Teflon™
 Glass Chambers Pyrex™
 MFC's: Stainless Steel
 Seals: Viton™

Operating temperatures

32° - 122° F (0° - 50° C)

Performance Temperature Range

59° - 95° F (15° - 35° C)

Weight

Standard: 20 lbs.
 Including Options: 30 lbs.

Dimensions (w x h x d)

Portable: 17" x 7" x 15"
 Rack: 19" x 7" x 15"

Electrical

Standard: 100 VAC to 250 VAC, (50/60 Hz)
 Current: 2 Amps (maximum)

Operating Modes

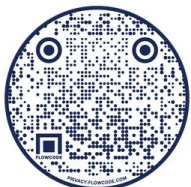
Front panel keypad
 Internal timer control
 RS-232 serial data interface
 I/O control (8 inputs / 8 outputs) programmable through software

Data I/O

RS-232 serial data interface
 I/O Control (8 inputs / 8 outputs)

OPTIONS

- Rack Mount
- Extra Gas Inlets
- Solenoid Valve on Output
- Permeation Oven
- 3rd Mass Flow Controller
- Ammonia/H2S Circuit



Or [click here](#) to learn more

69 Industrial Park Road East, Tolland, CT 06084
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<http://www.environics.com>
info@environics.com

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Environics is pleased to provide the following pricing for the Series 6100 Computerized Multi-Gas Calibration System. Specifications, terms and prices are outlined below.

Series 6100 System

\$13,440.00

This unit will dilute span gas, generate ozone and perform rapid Gas phase titration of NO with O₃ to produce NO₂ and includes:

- One **20 SLPM** dilution gas mass flow controller
- Two span gas mass flow controllers
100 SCCM
10 SCCM
- One dilution gas inlet port
- Four span gas inlet ports
- Ozone Generation Module, reaction chamber and electronics for ozone calibration and gas phase titration
- RS-232 Serial Data Interface (Terminal/Printer Computer/Modem)
- I/O control (8 inputs / 8 outputs) programmable through software
- Portable configuration
- All Teflon tubing

Shipping UPS Ground:

220.00

Total Unit Price:

\$13,660.00