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## Header 2

List View

**General Information** [Contact](#) [Default Values](#) [Discount](#) [Document Information](#)

Procurement Folder: 739524

SO Doc Code: CRFQ

Procurement Type: Central Purchase Order

SO Dept: 0313

Vendor ID:

SO Doc ID: DEP2000000042

Legal Name: THERMO ENVIRONMENTAL INSTRUMENTS

Published Date: 6/30/20

Alias/DBA:

Close Date: 7/7/20

Total Bid: \$58,138.00

Close Time: 13:30

Response Date:

Status: Closed

Response Time:

Solicitation Description:

Total of Header Attachments: 2

Total of All Attachments: 2



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

**State of West Virginia  
 Solicitation Response**

**Proc Folder :** 739524  
**Solicitation Description :** Addendum  
**Proc Type :** Central Purchase Order

Date issued	Solicitation Closes	Solicitation Response	Version
	2020-07-07 13:30:00	SR 0313 ESR0629200000008117	1

VENDOR
000000100799 THERMO ENVIRONMENTAL INSTRUMENTS

**Solicitation Number:** CRFQ 0313 DEP2000000042

**Total Bid :** \$58,138.00      **Response Date:** 2020-06-29      **Response Time:** 11:13:09

**Comments:**

**FOR INFORMATION CONTACT THE BUYER**  
 Joseph E Hager III  
 (304) 558-2306  
 joseph.e.hageriii@wv.gov

<b>Signature on File</b>	<b>FEIN #</b>	<b>DATE</b>
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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 Model T100 or equa	2.00000	EA	\$16,776.000000	\$33,552.00

Comm Code	Manufacturer	Specification	Model #
41113100			

**Extended Description :** (2) Continuous Sulfur Dioxide (SO2) Analyzers, Teledyne Advanced Pollution Instrumentation Model T100 or equal

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Continuous Sulfur Dioxide (SO2) Analyzers Model T100U or equ	1.00000	EA	\$24,586.000000	\$24,586.00

Comm Code	Manufacturer	Specification	Model #
41113100			

**Extended Description :** (1) Continuous Sulfur Dioxide (SO2) Analyzers, Teledyne Advanced Pollution Instrumentation Model T100U or equal

# Thermo Scientific 43iQ

## Sulfur Dioxide Analyzer—pulsed fluorescence



The Thermo Scientific™ 43iQ Sulfur Dioxide (SO<sub>2</sub>) Analyzer utilizes pulsed fluorescence technology to measure the amount of sulfur dioxide in the air.

The pulsing of the UV source lamp serves to increase the optical intensity whereby a greater UV energy throughput and lower detectable SO<sub>2</sub> concentration are realized.

Reflective bandpass filters, as compared to commonly used transmission filters, are less subject to photochemical degradation and more selective in wavelength isolation. This results in both increased detection specificity and long term stability.



### Non-Stop Intelligence

- Predictive Diagnostics
- Proactive Communication
- Personal Device Connectivity

The Thermo Scientific iQ Series Gas Analyzer provides a smart environmental monitoring solution designed for reliability, easy operation and proactive maintenance. Get more control over your instrument's performance, costs, workflow and data availability.



The iQ companion app for the iQ Series Gas Analyzer delivers the ultimate in ease of use and smart engineering. The iQ app allows for remote monitoring of iQ gas analyzers, simplified ways of contacting us and instant access to product resources.

Download the iQ app at [thermofisher.com/iQapp](http://thermofisher.com/iQapp)

## Thermo Scientific 43iQ Sulfur Dioxide Analyzer

Specifications	
Range	0-10 ppm, 0-25 mg/m <sup>3</sup>
Extended ranges	0-100 ppm, 0-250 mg/m <sup>3</sup>
Zero noise	1.0 ppb RMS (10 second averaging time) 0.5 ppb RMS (60 second averaging time) 0.25 ppb RMS (300 second averaging time)
Detection limit	2 ppb (10 second averaging time) 1 ppb (60 second averaging time) 0.25 ppb (300 second averaging time)
Zero drift	<0.5 ppb (24 hour)
Span drift	±0.5% full scale (24 hour)
Response time	60 seconds (10 second averaging time) 110 seconds (60 second averaging time) 320 seconds (300 second averaging time)
Linearity	±1% full scale
Flow rate	0.5 lpm (standard)
Interferences (EPA levels)	Less than lower detectable limit except for the following: NO < 3 ppb, M-Xylene < 1ppb, H <sub>2</sub> O < 3% of reading
Operating temperature	0°-45°C
Power requirements	100-240 VAC 50/60Hz, 275 Watts
Size and weight	24 in (D) x 16.75 in (W) x 8.72 in (H), 37.1 lbs 609 mm (D) 425.45 mm (W) x 221.48 mm (H), 16.8kg
Analog I/O	4 isolated voltage inputs 0-10 V 6 isolated analog voltages outputs, with 4 selectable ranges 6 isolated analog current outputs, with 2 selectable ranges
Digital I/O	16 digital inputs (TTL) 8 solenoid driver outputs 10 digital reed relay contact outputs
Serial ports	1 RS-232/485 port 1 RS-485 external accessory port
Other ports	3 Full speed USB ports (one in front, two in rear) 1 Gigabit ethernet port
Communication protocols	MODBUS, streaming
Approvals and certifications	CE, TUV-SUD Safety, US EPA: EQSA-0486-060

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality equipment needs repair or replacement. We offer comprehensive, flexible support solutions for all phases of the product life cycle. Through predictable, fixed-cost pricing, our services help protect the return on investment and total cost of ownership of your Thermo Scientific products. For more information on our comprehensive service solutions visit [thermofisher.com/EMservice](http://thermofisher.com/EMservice)

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Find out more at [thermofisher.com/43iQ](http://thermofisher.com/43iQ)  
[thermofisher.com/iQSeries](http://thermofisher.com/iQSeries)

## Ordering information

### 43iQ Sulfur Dioxide Analyzer

Choose from the following configurations/options to customize your own 43iQ Analyzer

#### 1. Power Cord

A = 100-120 VAC, 50/60 Hz (NA)

B = 220 VAC, 50/60 Hz (EU)

C = 220 VAC, 50/60 Hz (CHN)

#### 2. Communications

N = No I/O

A = Serial RS232/RS485

B = Analog and Digital

C = Serial, Analog and Digital

#### 3. Case Configuration

N = No zero/span valves

A = Internal zero/span valves

B = Internal zero/span valves, internal permeation oven

C = No zero/span valves, high flow

D = Internal zero/span valves, high flow

E = Internal zero/span valves, internal permeation oven, high flow

#### Your Order Code: 43iQ –

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# Thermo Scientific 43iQTL

## Trace Level Sulfur Dioxide Analyzer



The Thermo Scientific™ 43iQ Trace Level SO<sub>2</sub> Analyzer utilizes pulsed fluorescence technology to measure the amount of sulfur dioxide in the air to .05ppb.

The 43iQTL operates on the principle that the pulsing of the U.V. source lamp serves to increase the optical intensity whereby a greater U.V. energy throughput and lower detectable SO<sub>2</sub> concentration are realized.

Reflective bandpass filters, as compared to commonly used transmission filters, are less subject to photochemical degradation and more selective in wavelength isolation. A wide variety of internal diagnostics, with user settable alarm levels, are available from an easy to follow touch screen menu. This results in both increased detection specificity and long term stability.



### Non-Stop Intelligence

- Predictive Diagnostics
- Proactive Communication
- Personal Device Connectivity

The Thermo Scientific iQ Series Gas Analyzer provides a smart environmental monitoring solution designed for reliability, easy operation and proactive maintenance. Get more control over your instrument's performance, costs, workflow and data availability.



The iQ companion app for the iQ Series Gas Analyzer delivers the ultimate in ease of use and smart engineering. The iQ app allows for remote monitoring of iQ gas analyzers, simplified ways of contacting us and instant access to product resources.

Download the iQ app at [thermofisher.com/iQapp](http://thermofisher.com/iQapp)

## Thermo Scientific 43iQ Trace Level SO<sub>2</sub> Analyzer

Specifications	
Range	0-1000 ppb; 0-2000 mg/m <sup>3</sup>
Zero noise	0.14 ppb RMS (10 second averaging time)
	0.06 ppb RMS (60 second averaging time)
	0.025 ppb RMS (300 second averaging time)
Detection limit	0.28 ppb (10 second averaging time)
	0.12 ppb (60 second averaging time)
	0.05 ppb (300 second averaging time)
Zero drift (24 hour)	<0.2 ppb
Span drift	+/- 1% full scale per week
Response time	80 sec (10 second averaging time)
	110 sec (60 second averaging time)
	320 sec (300 second averaging time)
Linearity	+/- 1% full scale
Flow rate	0.5 lpm (standard)
Interferences (EPA levels)	Less than lower detectable limit except for the following: NO: < 1 ppb, M-Xylene: <1 ppb, H <sub>2</sub> O: <3% of reading
Operating temperature	0°-45° C
Power requirements	100-240 VAC 50/60 Hz 275W
Size and weight	24 in (D) x 16.75 in (W) x 8.72 in (H), 37.1lbs
	609 mm (D) 425.45 mm (W) x 221.48 mm (H), 16.8kg
Analog I/O	4 Isolated voltage inputs 0-10 V
	6 Isolated analog voltages outputs, with 4 selectable ranges
	6 Isolated analog current outputs, with 2 selectable ranges
Digital I/O	16 digital inputs (TTL)
	8 solenoid driver outputs
	10 digital reed relay contact outputs
Serial ports	1 RS-232/485 port
	1 RS-485 external accessory port
Other ports	3 Full speed USB ports (one in front, two in rear)
	1 Gigabit ethernet port
Communication protocols	MODBUS, Streaming, Bayern Hessen
Approvals and certifications	CE, TUV-SUD Safety, EPA

## Ordering information

### 43iQ Trace Level SO<sub>2</sub> Analyzer

Choose from the following configurations/options to customize your own 43iQTL Analyzer

#### 1. Power Cord

A = 100-120 VAC 50/60 Hz (NA)

B = 220 VAC 50/60 Hz (EU)

C = 220 VAC 50/60 Hz (CHN)

#### 2. Communications

N = No I/O

A = Serial RS232/RS485

B = Analog and Digital

C = Serial, Analog and Digital

#### 3. Case Configuration

N = No zero/span valves

A = Internal zero span valves

B = Internal zero/span valves, Internal permeation oven

#### Your Order Code: 43iQTL



To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality equipment needs repair or replacement. We offer comprehensive, flexible support solutions for all phases of the product life cycle. Through predictable, fixed-cost pricing, our services help protect the return on investment and total cost of ownership of your Thermo Scientific products. For more information on our comprehensive service solutions visit [thermofisher.com/EMservice](http://thermofisher.com/EMservice)

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