



# Oxygen Analyzer QO-3500 Series

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The QO-3500 Series Oxygen Analyzer is a cutting-edge product designed for the precise determination of oxygen levels in ferrous and nonferrous metals, rare earth materials, alloys, and various other inorganic substances. This state-of-the-art analyzer, recently introduced by the China Iron & Steel Research Institute Group, is a high-tech instrument with a strong technical foundation in production and development.

## APPLICATIONS

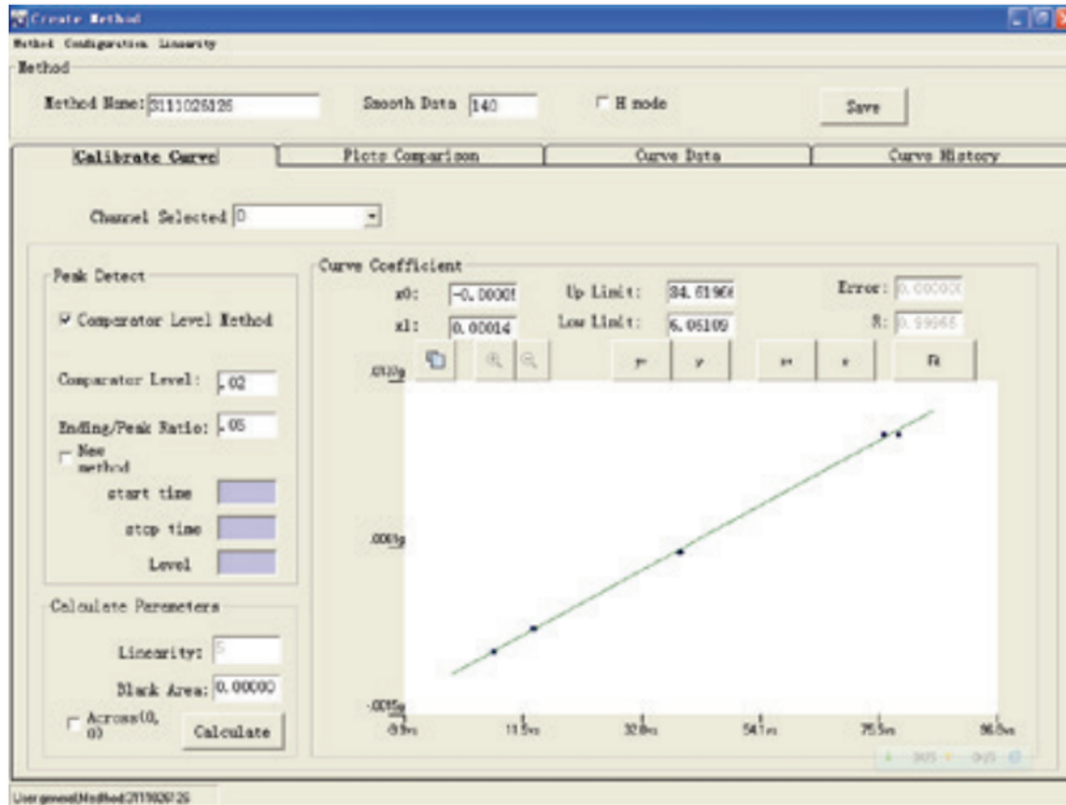
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### Oxygen Analyzer - Oxygen Analyzer QO-3500 Series by Qualitest

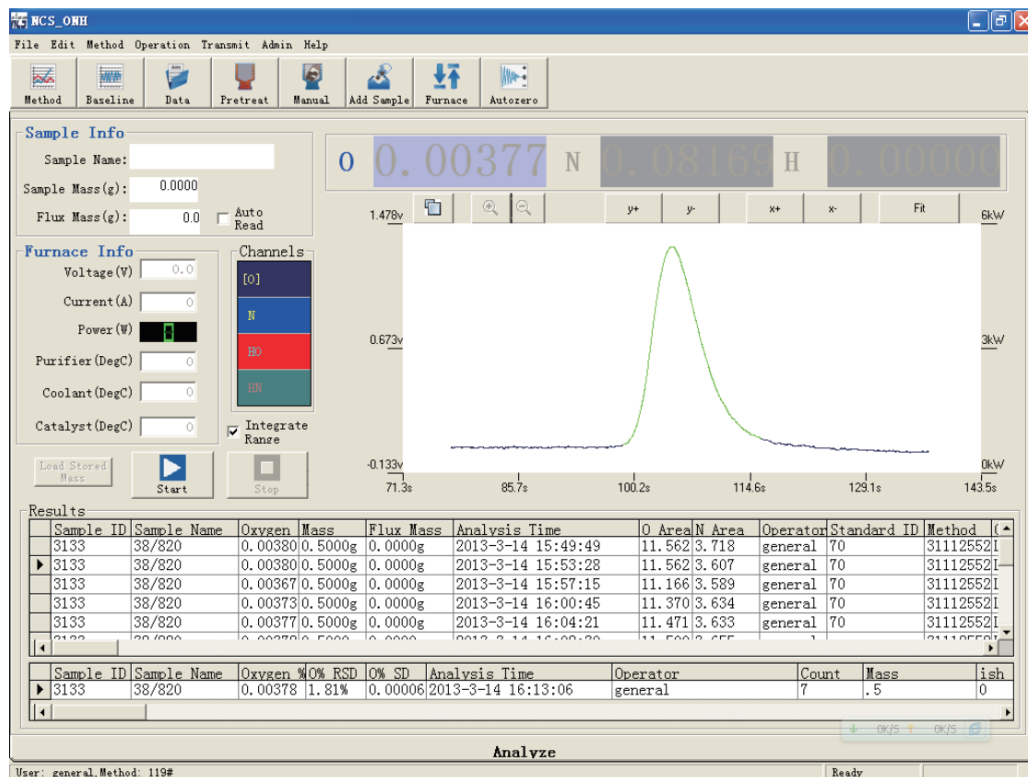


## Oxygen Analyzer QO-3500 Principle:

1. **Introduction:** The QO-3500 Series Oxygen Analyzer operates on the principle of pulse heating inert gas fusion. The measurement of oxygen (O) is achieved through NDIR (Non-Dispersive Infrared absorption).
2. **Working Curve:** The instrument's working curve is established based on the pulse heating inert gas fusion method and utilizes Non-Dispersive Infrared (NDIR) absorption for the accurate determination of oxygen levels.



3. **Main Analysis Window:** The main analysis window of the QO-3500 Series Oxygen Analyzer is the area where NDIR absorption is employed to measure oxygen. This window serves as the focal point for the instrument's analysis, ensuring precise and reliable results in the determination of oxygen content in various materials.



## FEATURES

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# Oxygen Analyzer QO-3500 Series

### Parameters Configuration:

**1. Sample Characteristics Customization:**

- Parameters for outgassing, analyzing, flux, etc., can be configured based on the specific characteristics of the sample under examination.

**2. Flexible Analyzing Methods:**

- Analyzing methods, along with parameters and calibration curves, can be established independently for different samples. These configurations can be conveniently stored in the database for future use.

### Diagnostic Function:

**1. Cooling Water Temperature Monitoring:**

- Feedback and display of cooling water temperature ensure optimal operating conditions.

**2. Furnace Voltage and Current Monitoring:**

- Continuous feedback and display of furnace voltage and current for real-time diagnostics.

**3. Catalyst Heaters Temperature Control:**

- Feedback and display of catalyst heaters temperature to maintain precise control.

**4. Valve Action Monitoring:**

- Monitoring and displaying the action of valves for operational feedback.

**5. IR Baseline Adjustment:**

- Dynamic adjustment and display of IR baseline for accurate measurements.

**6. Furnace Adjustment:**

- Capability for furnace adjustment to optimize instrument performance.

## **Software:**

### **1. Efficient Analyzing Results Display:**

- Quick display of analyzing results for immediate review.

### **2. Automated Data Storage:**

- Automatic storage of data onto the disk post-analysis for convenient record-keeping.

### **3. Dynamic Plotting:**

- Real-time plotting of releasing plots, providing a dynamic visual representation of the results.

### **4. Automated Sample Mass Transfer:**

- Seamless transfer of sample mass from the electronic balance to the computer, ensuring accuracy and efficiency.

### **5. Content-Based Calculation:**

- Analyzing results are calculated by the calibration curve, either in the high-content channel or low-content channel, based on sample content. The selection is done automatically by the software.

## **Data Processing:**

### **1. Database Management:**

- Utilization of ACCESS as a database for efficient data management and storage.

### **2. Comprehensive Data Handling:**

- Inquiring, statistical analysis, and printing capabilities are integrated into the software.

### **3. Data Sorting:**

- Sorting of data by date or name for easy retrieval and organization.

### **4. Plot Analysis:**

- Analysis of releasing plots for enhanced interpretation of results.

## **Instrument Configuration:**

### **1. Electronic Balance:**

- Sartorius BSA124S is employed as the electronic balance for precise mass measurements.

## 2. Water Circulate Chillers:

- Independent development of water circulate chillers ensures effective temperature control.

## TECHNICAL SPECIFICATIONS

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### Oxygen Analyzer QO-3500 Series Technical Specifications:

Low Oxygen	0.1ppm - 0.5%; High Oxygen: 0.5% - 20%
Sensitivity	O: 0.01ppm
Repeatability	O: 1ppm or 1%
Sample Mass	1g (Sample mass can be changed according to the content)
Analysis Time	About 3 min
Carrier Gas	High-purity argon for O
Pneumatic Gas	Nitrogen
Structure	<ul style="list-style-type: none"><li>• Modular Structure</li><li>• Including Analyzer</li><li>• Computer</li><li>• Electronic Balance</li><li>• Printer</li><li>• Water Circulate Chillers</li></ul> <p>Note: is optional.</p>

Detection System	<p>Solid state Infrared detector is used for Oxygen.</p> <ul style="list-style-type: none"> <li>• <b>Infrared Cells:</b> Two IR cells are installed in the analyzer. The length of each cell can be customized according to the content of samples</li> <li>• <b>Detector:</b> Solid-state pyroelectric detector made in Germany</li> <li>• <b>Motor:</b> Synchronous motor made in Swiss</li> <li>• <b>Source:</b> Anti-oxide, stable IR emitter made in US</li> <li>• <b>Temperature control:</b> Keep the constant temperature in the whole infrared unit to make sure the temperature of detected gas is stable and the results are accurate</li> <li>• <b>Protecting gas: The infrared</b> emitter and the detector are separated from the ambient by nitrogen, which can improve the stability and the accuracy</li> </ul>
Gas Flow Control	<p>High sensitive and accurate electric flow control technique based on the low-pressure difference is applied, and an Anti-Overshoot System is applied</p>
Pulse Heating Electrode Furnace	<ul style="list-style-type: none"> <li>• Power: Max.7.5KVA</li> <li>• Temperature: Max.3000°C</li> </ul>
Calibration	<ul style="list-style-type: none"> <li>• Fast calibration</li> <li>• Normal calibration</li> </ul>
Power	<p>220VAC±10%, 50±1Hz, current max. 50A (Max.10KW)</p>



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Address: 8201 Peters Rd., #1000,  
Plantation, FL 33324, USA.

### Qualitest Canada & International

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E-mail: [sales@qualitest-inc.com](mailto:sales@qualitest-inc.com)  
Address: 70 East Beaver Creek Rd., #9, Richmond Hill,  
Ontario L4B 3B2, Canada.

### Qualitest Latin America (Mexico and LATAM Region)

E-mail: [ventas@qualitest-inc.com](mailto:ventas@qualitest-inc.com)

### Qualitest KSA (Regional Office)

Tel: +966 11 500 6659  
Address: Level 7, 3.09, District 3, King Abdullah  
Financial District, Riyadh, Saudi Arabia

### Qualitest Singapore (ASIA PACIFIC Regional Office)

Tel: +65 6393 5480 | E-mail: [singapore@qualitest-inc.com](mailto:singapore@qualitest-inc.com)  
Address: 50 Raffles Place, Singapore Land Tower,  
Level 46, Singapore, 048623.

### Qualitest Indonesia (Representative Office)

Tel: +62 21 2985 9522 | Fax: +62 21 2985 9889  
E-mail: [indonesia@qualitest-inc.com](mailto:indonesia@qualitest-inc.com)  
Address: One Pacific Place Level 11, Jl. Jend. Sudirman,  
Kav. 52-53, SCBD Area, Jakarta 12190, Indonesia.

### Qualitest FZE (Regional GCC/ME Office)

Tel: +971 4 8819252 | Fax: +971 4 8819262  
Email: [gcc@qualitest-inc.com](mailto:gcc@qualitest-inc.com)  
Address: Jafza One, BB 1610, Jebel Ali Free Zone,  
PO Box 261440, Dubai, UAE.

### Qualitest India

E-mail: [india@qualitest-inc.com](mailto:india@qualitest-inc.com)  
Address: 15th Floor, Dev Corpora, Pokhran Road No.1,  
Eastern Express Highway, Thane, Maharashtra,  
Mumbai, 400601, India

