



OXYGEN NITROGEN HYDROGEN ANALYZER ONH-3500



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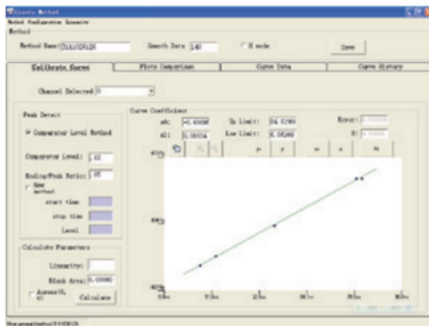
The ONH-3500 Oxygen Nitrogen Hydrogen Analyzer is a state-of-the-art product designed for determining oxygen, nitrogen, and hydrogen levels in ferrous and non-ferrous metals, rare earth materials, alloys, and various other inorganic materials.

APPLICATIONS

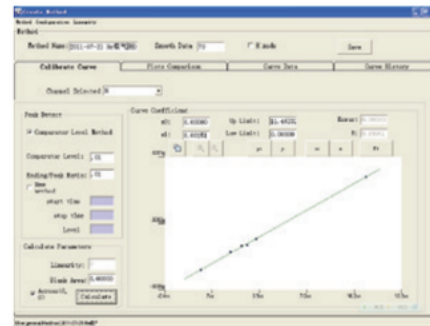
Oxygen Nitrogen Hydrogen Analyzer ONH-3500 Principle:

Oxygen Nitrogen Hydrogen Analyzer

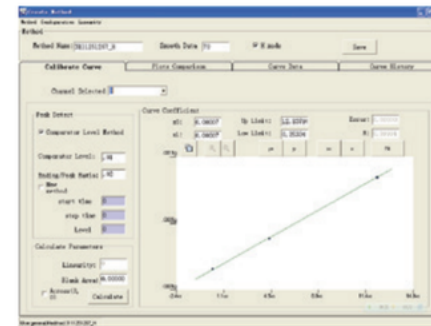
1. Introduction: Pulse heating inert gas fusion. Oxygen (O): NDIR (Non-Dispersive Infrared absorption); Nitrogen/Hydrogen (N/H): TCD (Thermal Conductivity Detection).
2. Working Curves:



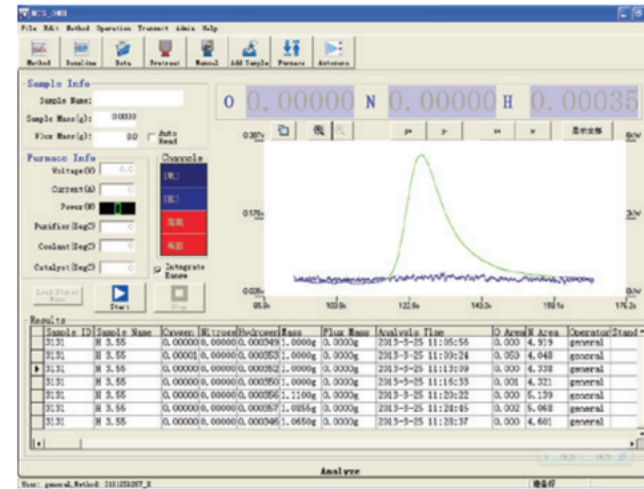
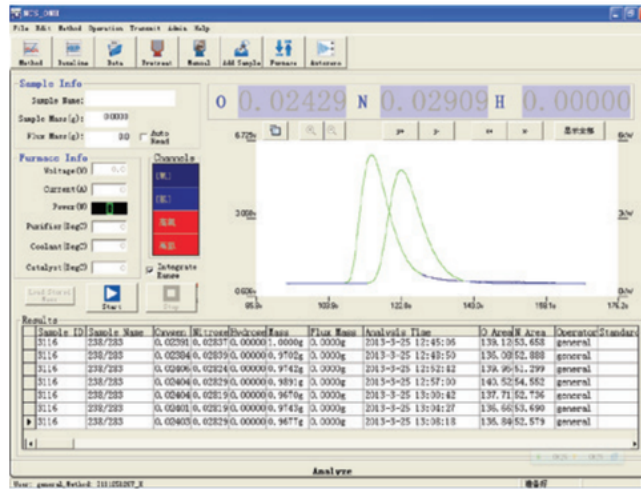
Working curve for oxygen



Working curve for nitrogen



Working curve for hydrogen



3. Main Analysis Window:

FEATURES

Oxygen Nitrogen Hydrogen Analyzer ONH-3500

Parameters Configuration:

1. Parameters for outgassing, analysis, flux, etc., can be configured based on the sample characteristics.
2. Analytical methods with specific parameters and calibration curves can be independently established for different samples and stored in the database.

Diagnostic Function:

1. Feedback and display of cooling water temperature.
2. Feedback and display of furnace voltage and current.
3. Feedback and display of catalyst heater temperature.
4. Feedback and display of valve actions.
5. Adjustment and display of IR baseline and TCD baseline.
6. Furnace adjustment.

Software:

1. Quick display of analyzing results.
2. Automatic storage of data onto the disk after analysis.
3. Dynamic drawing of releasing plots.
4. Automatic transfer of sample mass from the balance to the computer.
5. Calculation of analyzing results using 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. Use of ACCESS as a database to manage and store data.
2. Inquiry, statistics, and printing capabilities.
3. Sorting of data by date or name.
4. Analysis of releasing plots.

THEORY & METHOD

Oxygen Nitrogen Hydrogen Analyzer ONH-3500

Typical data:

Content: O:88ppm N: 32ppm H: 5.8ppm			
Sample No.	O content	N content	H content
1	0.00878	0.00315	0.000591
2	0.00882	0.00319	0.000577
3	0.00865	0.00321	0.000592
4	0.00870	0.00316	0.000580
5	0.00900	0.00312	0.000558

TECHNICAL SPECIFICATIONS

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<p>Range</p>	<p>Oxygen:</p> <ul style="list-style-type: none"> • Low Oxygen: 0.1ppm ~ 0.5% • High Oxygen: 0.5% ~ 20% <p>Nitrogen:</p> <ul style="list-style-type: none"> • Low Nitrogen: 0.1ppm ~ 0.5% • High Nitrogen: 0.5% ~ 50% <p>Hydrogen:</p> <ul style="list-style-type: none"> • Low Hydrogen: 0.1ppm ~ 200ppm • High Hydrogen: 200ppm ~ 5000ppm <p>Note: * the measurement range can be changed by changing the measurement quantity.</p>
<p>Sensitivity</p>	<p>Oxygen, Nitrogen, and Hydrogen:</p> <ul style="list-style-type: none"> • 0.01ppm
<p>Repeatability</p>	<ul style="list-style-type: none"> • Oxygen and Nitrogen: 1ppm or 1% • Hydrogen: 0.2ppm or 2%
<p>Sample Mass</p>	<p>1g (Sample mass can be changed according to the content)</p>
<p>Analysis Time</p>	<p>About 3 min</p>
<p>Carrier Gas</p>	<p>High purity helium for O/N, high purity nitrogen for H</p>
<p>Pneumatic Gas</p>	<p>Nitrogen or compressed air</p>

<p>Structure</p>	<ul style="list-style-type: none"> • Modular Structure • Including Analyzer • Computer • Electronic Balance • Printer • Water Circulate Chillers <p>Note: * is optional.</p>
<p>Detection System</p>	<p>A Solid-state Infrared detector is used for Oxygen. Thermo-conductivity detector is used for Nitrogen and hydrogen.</p> <ul style="list-style-type: none"> • Infrared Cells: Two IR cells are installed in the analyzer. The length of each cell can be customized according to the content of samples • Detector: Solid-state pyroelectric detector made in Germany • Motor: Synchronous motor made in Swiss • Source: Anti-oxide, stable IR emitter made in US • Temperature control: Keep the constant temperature in the whole infrared unit to make sure the temperature of detected gas is stable and the results are accurate • Protecting gas: The infrared emitter and the detector are separated from the ambient by nitrogen, which can improve the stability and the accuracy • Thermo-conductivity (TCD) detecting unit: Anti-oxide NTC thermistor • Signal processing: A small current control technique is developed to make sure the thermistors can be used without carrier gas • Reference gas circuit: Low flow control technique is used
<p>Gas Flow Control</p>	<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>
<p>Pulse Heating Electrode Furnace</p>	<ul style="list-style-type: none"> • Power: Max.7.5KVA • Temperature: Max.3000°C
<p>Calibration</p>	<ol style="list-style-type: none"> 1. Fast calibration 2. Normal calibration

Power	220VAC±10%, 50±1Hz, current max. 50A (Max.10KW)
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