Yokogawa presents zirconia oxygen analyzers for saving energy and environmental protection

Get a Long Service Life and Stable Operation with a Zirconia Sensor
Sensor Replacement is Easy

A molecular bonding method completes installation of platinum electrodes, and its inherent connection prevents separation of platinum from the zirconia element.

A lead-less electrode design eliminates electrical disconnection. Special coating protects the platinum and prevents the sensors from deteriorating or becoming damaged.

This special but is required for cell replacement. Whenever required, the cell is easily removed by removing four screws from the top of the probe. Down time (from the time installation is started until it is completed) is minimized to approximately ten minutes. After the cell is replaced, the analyzer requires a zero and span calibration only once.

---

### SPECIFICATIONS AND DIMENSIONS

#### Explosionproof version

- **Ambient Temperature**: -20 to 55 °C
- **Measuring Range**: 0 to 25% O2
- **Drift**: 1% F.S. / month for both zero and span
- **Warm-up**: 30 minutes or less

#### Integrated type Explosionproof Zirconia Oxygen Analyzer

- **Display**: 0 to 100% (3-digit display)
- **Measurement range**: 0 to 100% O2
- **Calibration Gas Inlet**: Rc 1/4 or 1/4NPT
- **Reference gas Inlet**: Rc 1/4 or 1/4NPT
- **Valves**: Ø B or Ø A
- **Calibration gas inlet**: Ø B or Ø A
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### SPECIFICATIONS AND EXTERNAL DIMENSIONS

#### Standard Specifications

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- **Valves**: Ø B or Ø A
- **Calibration gas inlet**: Ø B or Ø A
- **Reference gas inlet**: Ø B or Ø A
Can cut wiring, piping and installation costs.
Can be operated in the field without opening the cover using an infrared switch.
Allows replacement of the zirconia cell and heater in the field.
Can measure either oxygen concentration or humidity with a single analyzer.
Remote maintenance using digital communication reduces maintenance cost.
Explosionproof approval.
ATEX: EEx d IIB + H2, Group II, Category 2GD, T2, T300°C
FM/CSA: Class I, Division 1, Groups B, C and D,
Class II/III, Division 1, Groups E, F and G, T2
IECEx: Ex d IIB + H2 T2, Ex tD A21 IP66 T300°C

The automatic calibration unit can be attached in the field easily.
ZR402G/ZR22G/ZR22S
Separate Type In Situ Zirconia Oxygen / High Temperature Humidity Analyzer

- Liquid-crystal touch panel display provides easy operation.
- Interactive model displays instructions to follow, including those for: settings, oxygen concentration trends, and calibration operations.
- Digital communications features are provided as standard – this enables the analyzer to be maintenance-serviced remotely.
- Can measure either oxygen concentration or humidity with a single analyzer.
- Highly reliable measurements with trend-data graphs.
- The zirconia cell and heater assembly can be replaced in the field.
- Explosionproof approval.
  ATEX: EEx d IIB + H2, Group II, Category 2GD, T2, T300°C
  FM/CSA: Class I, Division 1, Groups B, C and D,
  Class II/III, Division 1, Groups E, F and G, T2
  IECEx: Ex d IIB + H2 T2, Ex tD A21 IP66 T300°C

Achieving accurate O₂ measurement in exhaust gas

With the measurement of oxygen in the exhaust gas the flow of fuel can be controlled for optimum burner efficiency and minimum environmental effects.
ZR402G Separate Type Converter

Complete Operation Display
- Interactive operations along with operation display.
- A variety of display modes – enabling you to select the operation mode freely.
- Back-lit LCD allows viewing even in the darkness.
- Error codes and details of errors can be checked in the field without the need to refer to the appropriate instruction manual.

Self-testing suggests countermeasures for problems
If a problem occurs, the liquid-crystal display will provide an error code and the reason for the problem. This enables prompt and appropriate corrective action to be taken.

<table>
<thead>
<tr>
<th>Error code</th>
<th>Reason for error</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-1</td>
<td>Cell failure</td>
</tr>
<tr>
<td>E-2</td>
<td>Abnormal heater temperature</td>
</tr>
<tr>
<td>E-3</td>
<td>Defective A/D converter</td>
</tr>
<tr>
<td>E-4</td>
<td>Faulty EEPROM</td>
</tr>
<tr>
<td>ALARM1</td>
<td>Abnormal oxygen concentration</td>
</tr>
<tr>
<td>ALARM2</td>
<td>Abnormal moisture content</td>
</tr>
<tr>
<td>ALARM3</td>
<td>Abnormal mixing ratio</td>
</tr>
<tr>
<td>ALARM6</td>
<td>Abnormal zero calibration factor</td>
</tr>
<tr>
<td>ALARM7</td>
<td>Abnormal span calibration factor</td>
</tr>
<tr>
<td>ALARM8</td>
<td>Stabilization time over</td>
</tr>
</tbody>
</table>

Typical Converter Displays

- Example of basic display
  This display enables you to operate the analyzer while checking data on the display.

- Example of trend display
  - displays data changes
  During automatic calibration, you can check stabilized display data while viewing oxygen trend data, thus providing highly reliable calibration.

- Example of setting data display
  - displays data changes

One-touch interactive display operation
User-friendly design providing easy operation without having to use the instruction manual.

ZR22S Explosionproof version Detector

ZR22S Detector

System configuration
A multiple point oxygen measurement system is required for situations when gas stratification in the flue duct affects combustion control. The AV550G Averaging Converter can accept inputs from up to eight zirconia oxygen detectors. It sends output signals for the individual as well as averages of multiple oxygen concentrations. A robust multipoint converter reduces installation and maintenance costs.

- Full color touch screen operation.
- Special trend graph functions with customer graph configuration.
- Multiple display modes shows average data, single detector or all detector gas concentrations.
- Handles input of up to 8 oxygen detectors.
- “Hot swap” of channel cards so the analyzer remains on line while maintenance is performed.
- Eight 4-20 mA outputs for individual detectors.
- Three 4-20 mA outputs for average oxygen concentration outputs.
- Failed, in calibration, or alarming, detectors are automatically excluded from average calculations.
- Allows contact input, calibration activation, range change and detector performance validation.
- Remote maintenance using digital communications (HART or FOUNDATION Fieldbus) reduces maintenance costs. *

* HART is a registered trademark of HART Communication Foundation. FOUNDATION is a registered trademark of Fieldbus foundation.

**Combustion control by a multiple point oxygen measurement**

A multiple point oxygen measurement system is required for situations when gas stratification in the flue duct affects combustion control. The AV550G Averaging Converter can accept inputs from up to eight zirconia oxygen detectors. It sends output signals for the individual as well as averages of multiple oxygen concentrations. A robust multipoint converter reduces installation and maintenance costs.
AV550G Averaging Converter

Complete Operation Display
- A large 5.7-inch color touch screen operation.
- The trend graph of max 8 channels helps diagnose problems and view individual detector performance over time.
- Error codes and details of errors can be checked in the field without the need to refer to the appropriate instruction manual.

Easy Maintenance and Inspection
Maintenance and inspection are simplified by a modular hardware design. The Hot Swap feature allows changing channel modules without powering off the analyzer. Each channel card is fitted with spacious, and accessible, self-trapping terminal strips that make wiring and maintenance fast and easy.

Applications
- Utility Boiler – With large boilers used in the utility industry, the oxygen concentration varies in different zones across the flue. In order to obtain the most reliable oxygen data, the most common method used is the averaging of several measuring points using an external averaging unit. The AV550G not only averages the signals but fully controls all of the individual detectors thereby eliminating the need for costly, redundant hardware or DCS programming.
- Process Heater – Process industries, such as refining, use large numbers of individual oxygen analyzers to maximize the combustion efficiency of process heaters. The AV550G receives and controls inputs from oxygen detectors mounted on the same or multiple flues and transmits either individual or averaged output signals.
The basic configuration consists of a probe and a converter. A flow unit and calibration cylinder may be added as required, depending on the application requirements. The optimal probe may be selected from a variety of probes. One type of converter is capable of handling all applications.

### Application

**Detector**

- **High temperature probe**
  - Temperature 0 to 1400°C
  - For sample gas temperature over 700°C
  - Protects probe against dust
  - Various insertion lengths available: 0.4, 0.7, 1.0, 1.5, 2.0, 2.5, and 3.0 meters

**Converter**

- **General purpose probe and probe protector**
- **General purpose probe and probe supporter**
- **Dust guard protector**
- **Explosion proof probe**
- **Check valve**
- **Pipe for high-temperature application (SiC/SUS310S)**

**Signal line/heater line**

- Special cables not required.
- General-purpose shielded cables can be used.
- The distance between the probe and converter can be approximately 500 m if a 2 mm² cable is used and approximately 300 m if a 1.25 mm² cable is used.

**Reference gas line**

- If this line is not installed, atmospheric air will flow into the probe as reference gas.

### Application

- **Boiler** (dust oil and gas)
  - **Boiler** (coal/guncoke oxidized coal on fluidized bed)
  - **Heating furnace**
  - **Soaking pit**
  - **Annealing furnace**
  - **Net smelting furnace**
  - ** Coke oven**
  - **Sintering furnace**
  - **Melt furnace**
  - **Heating and annealing furnaces**
  - **Lime kiln (rotary)**
  - **Lime kiln (vertical)**
  - **Cement kiln (cyclone exit)**
  - **Glass melting furnace (in furnace)**
  - **Glass melting furnace (in stack)**
  - **Ceramic baking furnace**
  - **Heating furnace**
  - **Phosphite cracking furnace**
  - **Heating furnace**
  - **Black liquor recovery boiler**
  - **Sludge/kiln boiler**
  - **Forging furnace**
  - **Heat treatment furnace**
  - **Window box**
  - **Drying furnace**
  - **Reactor furnaces**
  - **Heating furnace**
  - **Sintering furnace**
  - **Sludge burning furnace**
  - **Fermentation tanks**
  - **Indoor oxygen-deficiency monitoring**

### Explosion-proof probe

- **Application**
  - **Boiler** (fuel oil and gas)
  - **Boiler** (coal)
  - **Heating furnace**
  - **Soaking pit**
  - **Annealing furnace**
  - **Hot stove**
  - **Coke oven**
  - **Sintering furnace**
  - **Melting furnace**
  - **Heating and annealing furnaces**
  - **Lime kiln (rotary)**
  - **Lime kiln (vertical)**
  - **Cement kiln (cyclone exit)**
  - **Glass melting furnace (in furnace)**
  - **Glass melting furnace (in stack)**
  - **Ceramic baking furnace**
  - **Heating furnace**
  - **Phosphite cracking furnace**
  - **Heating furnace**
  - **Black liquor recovery boiler**
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  - **Heat treatment furnace**
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  - **Reactor furnaces**
  - **Heating furnace**
  - **Sintering furnace**
  - **Sludge burning furnace**
  - **Fermentation tanks**
  - **Indoor oxygen-deficiency monitoring**

**Detector**

- **General purpose probe + Dust guard protector**
- **General purpose probe + probe protector**
- **General purpose probe + probe supporter**
- **General purpose probe**

- **Calibration gas line**
  - Check valve installed to prevent a reverse flow of the process gas.
  - Special cables not required. General-purpose shielded cables can be used.

- **Reference gas line**
  - If this line is not installed, atmospheric air will flow into the probe as reference gas.

**Converters**

- **Waterproof and dustproof construction (panel, wall, or pipe-mounted)**

**Application**

- **Common**
  - **Iron & steel**
  - **Non-ferrous metals**
  - **Ceramics**
  - **Petroleum**
  - **Petrochemical**
  - **Pulp & paper**
  - **Machinery**
  - **Electric power**
  - **Others**

**Detectors**

- **Flow Setting Unit (ZA8F)**
- **Auto Calibration unit (ZR40H)**

**Converter**

- **Waterproof and dustproof construction (panel, wall, or pipe-mounted)**

- **Pressure regulator**
- **Zero gas**
- **Digital communication**

**Pipe**

- **SiC (Silicon Carbide max. 1400°C) and SUS310S (Stainless steel max. 800°C) available. Insertion length 1.0m, 1.5m**

- **Air ejector**
  - Process gas is ejected when the pressure is negative.

- **Probe for high-temperature use (process temperature of 0 to 1400°C)**
  - If the process temperature exceeds 700°C, use the probe for high-temperature application. For other special application requirements, appropriate probes and associated attachments are available.
## General purpose version

<table>
<thead>
<tr>
<th>Model Name</th>
<th>ZR22G/ZR402G, ZR202G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object of measurement</td>
<td>Oxygen Analyzer: Oxygen concentration in combustion exhaust gas and mixed gases (excluding inflammable gases) Humidity Analyzer: water vapor (in vol%) in mixed gases (air and water vapor) (Only non-explosionproof)</td>
</tr>
</tbody>
</table>

### Measuring system

- **Zirconia**

### Measuring range

- **Display**
  - O2: 0 to 100 vol% O2 (digital display)
  - Hi: 0 to 100 vol% Hi or 0 to 1,000 kg/kg, % relative humidity, dew point
- **Output**
  - Any setting in the range from 0 to 5 vol% O2 to 0 to 100 vol% O2 (1 vol% O2 scale)
  - Hi: Any setting in the range from 0 to 25 vol% Hi or 0 to 100 vol% Hi or 0 to 0.200 kg/kg to 0 to 1,000 kg/kg

### Process gas pressure

- O2: -5 to +500 kpa (Non-explosionproof)
- Hi: -5 to +20 kpa

### Sample gas temperature

- General purpose use: 0 to 1400 °C
- High temperature use: 0 to 250 °C

### Insertion length

- General purpose use: 0.4, 0.7, 1.0, 1.5, 2.0, 2.5 or 3.0 meters
- High temperature use: 1.0 or 1.5 meters

### Output signal

- 4 to 20 mA, DC analog output and Digital Communication
- ZR202G: 2 points
- ZR402G: 4 points
- Blowback, (13) Flameout gas detection (answerback of contact input)
- Alarm Related Items
  - Oxygen concentration high alarm/ high-high alarm limit values (vol% O2), Oxygen concentration low alarm/ low-low alarm limit values (vol% O2), Oxygen concentration alarm hysteresis (vol% O2), Oxygen concentration alarm detection, alarm delay (seconds)

### Self-diagnosis

- Abnormal cell, abnormal cell temperature (low/high), abnormal calibration, defective A/D converter, defective digital circuit

### Calibration method

- Manual, semi-auto or auto-matic calibration

### Construction of converter

- Dustproof and waterproof construction, NEMA4X/IP66

### Ambient temperature

- ZR22G: -50 to 150 °C, ZR402G: -20 to 55 °C, ZR202G: -20 to 55 °C

### Power requirements

- 85 to 265 V AC, 50/60 Hz

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### Separate type Zirconia Oxygen / High Temperature Humidity Analyzer, Detector

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix code</th>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZR22G</td>
<td></td>
<td>SUS316</td>
<td>Stainless steel with Inconel calibration gas tube</td>
</tr>
</tbody>
</table>

### Flange

- A: ANSI Class 150 2 RF SUS304
- B: ANSI Class 150 4 RF SUS304
- C: DIN PN10 DIAM A SUS304
- D: DIN PN10 DIAM A SUS304
- E: DIN PN10 DIAM A SUS304
- F: DIN PN10 DIAM A SUS304
- G: DIN PN10 DIAM A SUS304
- H: JIS 5K 65 FS SUS304
- I: JIS 10K 65 FS SUS304
- J: JIS 10K 100 FS SUS304
- K: JIS 5K 65 FS SUS304
- L: JIS 10K 65 FS SUS304
- M: JIS 10K 100 FS SUS304
- N: JIS 5K 65 FS SUS304
- P: JIS 10K 65 FS SUS304
- Q: JIS 10K 100 FS SUS304
- R: JIS 5K 32 FS SUS304
- S: JIS 10K 32 FS SUS304
- T: JIS 10K 32 FS SUS304
- U: JIS 10K 32 FS SUS304
- V: JIS 10K 32 FS SUS304
- W: JIS 10K 32 FS SUS304
- X: JIS 10K 32 FS SUS304
- Y: JIS 10K 32 FS SUS304
- Z: JIS 10K 32 FS SUS304

### Reference gas

- C: Natural gas
- D: Natural gas
- E: Natural gas
- F: External connection (instrument air) Pressure compensated

### Gas Thread

- A: R 1/4
- B: R 1/4

### Connection box

- A: R 1/4
- B: DIAM 1/4
- C: DIAM 1/4
- D: DIAM 1/4
- E: DIAM 1/4

### Instruction manual

- A: Japanese
- B: Chinese
- C: English

### Options

- A: Always -A
- B: Derakane coating
- C: Inconel bolt
- D: Set for Humidity Analyzer
- E: Check valve
- F: Valve
- G: Step valve
- H: Hood
- I: Dust Filter
- J: Dust Guard Protector
- K: Printed tag plate

### Integrated type Zirconia Oxygen / High temperature Humidity Analyzer

<table>
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- B: DIAM 1/4
- C: DIAM 1/4
- D: DIAM 1/4
- E: DIAM 1/4

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*Refer to the GS11M12A01-01E for detailed specification.*
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Get a Long Service Life and Stable Operation with a Zirconia Sensor

Sensor Replacement is Easy
- A molecular bonding method completes installation of platinum electrodes, and its inherent connection prevents separation of platinum from the zirconia element.
- A lead-less electrode design eliminates electrical disconnection.
- Special coating protects the platinum and prevents the sensor from deteriorating or becoming damaged.
- No special tool is required for cell replacement. Whenever required, the cell is easily removed by removing four screws from the top of the probe. Down time (“from the time installation is started until it is completed”) is minimized to approximately ten minutes. After the cell is replaced, the analyzer requires a zero and span calibration only once.

**Principle of Zirconia Oxygen Analyzer**

The principle of the zirconia oxygen analyzer is as follows:

- At high temperatures, the zirconia element functions as a solid electrolyte and is a conductor of oxygen ions. Platinum electrodes are attached to the interior and exterior of the zirconia. Heating the element allows different partial oxygen concentrations on the reference side and process gas side.
- Oxygen concentration cell. In other words, oxygen molecules gain electrons to form oxygen ions.
- Oxygen molecules diffuse through the zirconia from the process gas to the reference gas side where the oxygen ions are oxidized to oxygen molecules, thereby creating a voltage difference, which is measured as an output signal.

- Oxygen analyzers for saving energy
- Yokogawa presents zirconia oxygen analyzers for saving energy
- The principle of the zirconia oxygen analyzer is as follows:

**Specifications and Dimensions**

- **Explosionproof version**
- **Separate type Explosionproof Zirconia Oxygen Analyzer, Model ZR202S**
- **Integrated Type Explosionproof Analyzer ZR202S**
- **Averaging Converter AV550G**
- **Base, Oxygen Channel Cards, Individual Isolation**
- **Base, Oxygen Channel Cards, Individual Isolation**
- **Base, Oxygen Channel Cards, Common Isolation**
- **Base, Oxygen Channel Card, Common Isolation**

**Characteristics**

- **DIN PN10 DN100 A SUS304**
- **DIN PN10 DN80 A SUS304**
- **ANSI Class 150 2 RF SUS304**
- **ANSI Class 150 3 RF SUS304**

**Getting Started**

- Always -A
--horizontal mounting
- Vertical mounting
- Integrated Type

**Options**

- **Instruction Manual**
- **Calibration Gas Inlet**
- **Calibration Gas Outlet**
- **Reference gas outlet**
- **Reference gas inlet**
- **Gas Connection**
- **Stop Valve**
- **Inconel Bolt**

**Dimensions**

- **Connection box**
- **Frame**
- **Flange**
- **Gas Thread**
- **Material**

**Material**

- **SUS316**
- **SUS304**
- **ANSI Class 150 3 RF SUS304**
- **ANSI Class 150 2 RF SUS304**

**Drift**

- ±2% F.S./month for both zero and span

**Repeatability**

- 0.5% F.S.

**Cell, temperature, analog circuit, digital circuit, calibration, ROM/RAM error**

- Power loss

**Failure alarm down-scale**

- 3.6 mA or less

**Output status at CPU failure and hardware error**

- 2.0 mA or more

**Response speed**

- 90% response within 5 sec. (after gas is introduced from calibration gas inlet)

**Measurement range**

- ZR22G, ZR22S, ZO21D, ZO21DW

- Range: Settable in the range from 0 to 5% to 0 to 100% O2

**Process gas pressure**

- ±1.0, 1.5, 2.0 m

**Response time**

- 5 sec maximum for 90% response

**Failure alarm response time**

- 5 sec maximum for 90% response

**Approvals**

- **ATEX certified flameproof**
- **FM certified explosionproof**

**Certification**

- **ATEX**
- **IECEx**
- **FM/CSA**

**Environmental conditions**

- **Ambient temperature range**
- **Relative humidity**

**Temperature basics**

- ±385 °C (without cable gland and grommet)
- ±21.0 mA or more

**Start-up**

- Always -A
- Horizontal mounting
- Vertical mounting
- Integrated Type

**Environmental protection**

- **Oxygen partial pressure of process gas on the reference gas side**
- **Oxygen partial pressure of process gas on the reference gas side**

**Base, 8 Channel Base, 7 Channel Base, 3 Channel Base, 2 Channel Base, 1 Channel Base**

- **8 Channel Base**
- **7 Channel Base**
- **3 Channel Base**
- **2 Channel Base**
- **1 Channel Base**

**Base, 8 Oxygen Channel Cards, Individual Isolation**

- **8 Oxygen Channel Cards, Individual Isolation**
- **7 Oxygen Channel Cards, Individual Isolation**
- **3 Oxygen Channel Cards, Individual Isolation**
- **2 Oxygen Channel Cards, Common Isolation**
- **1 Oxygen Channel Card, Common Isolation**

**Detector Compatibility**

- 5 points, contact rating 30 VDC 3A, 250 VAC 3A (resistive load)

**Integral Type Explosioproof Analyzer ZR22S**

- **Number of detectors**
- **Measurement range**

**AV550G**

- **Averaging Converter**
- **Output status at CPU failure and hardware error**
- **Failure alarm down-scale**

**Base, 5 Channel Base, 4 Channel Base, 3 Channel Base, 2 Channel Base, 1 Channel Base**

- **5 Channel Base**
- **4 Channel Base**
- **3 Channel Base**
- **2 Channel Base**
- **1 Channel Base**

**Base, 5 Oxygen Channel Cards, Common Isolation**

- **5 Oxygen Channel Cards, Common Isolation**
- **4 Oxygen Channel Cards, Common Isolation**
- **3 Oxygen Channel Cards, Common Isolation**
- **2 Oxygen Channel Cards, Common Isolation**
- **1 Oxygen Channel Card, Common Isolation**

**Separate type Explosionproof Zirconia Oxygen Analyzer, Model ZR22G/S**

- **Model name**

**Specifications and External Dimensions**

- **Characteristics**
- **Drift**
- **Repeatability**

**Connections**

- **Connection box**
- **Frame**
- **Flange**
- **Gas Thread**
- **Material**

**Material**

- **SUS316**
- **SUS304**
- **ANSI Class 150 3 RF SUS304**
- **ANSI Class 150 2 RF SUS304**

**Drift**

- ±2% F.S./month for both zero and span

**Repeatability**

- 0.5% F.S.
Yokogawa presents zirconia oxygen analyzers for saving energy and environmental protection

Get a Long Service Life and Stable Operation with a Zirconia Sensor
Sensor Replacement is Easy

A molecular bonding method completely eliminates installation of platinum electrodes, and its inherent connection prevents separation of platinum from the zirconia element.

A lead-less electrode design eliminates electrical disconnection.

Special coating protects the platinum and prevents the sensors from deteriorating or becoming damaged.

No special tool is required for replacement. When necessary, the cell is easily removed by removing four screws from the top of the probe.

A lead-less electrode design eliminates electrical disconnection.

The principle of the zirconia oxygen analyzer is as follows:

1. A high temperature electrolyte, which acts as a solid electrolyte, is placed in a metal tube.
2. Platinum electrodes are placed at both ends of the cell.
3. The platinum electrodes are connected to a voltmeter.
4. The cell is easily removed by removing four screws from the top of the probe.

The zirconia cell is easily removed by removing four screws from the top of the probe.

A lead-less electrode design eliminates electrical disconnection.

Electrodes, and its inherent connection prevents separation of platinum from the zirconia element.

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A lead-less electrode design eliminates electrical disconnection.

Electrodes, and its inherent connection prevents separation of platinum from the zirconia element.
Separate Type Zirconia Oxygen / High Temperature Humidity Analyzer, Converter

Separate Type General Purpose Detector ZR22G

Separate Type General Purpose Converter ZR402G

Integrated Type General Purpose Analyzer ZR202G

Display Terminal

4-G 1/2, 1/2 NPT

Display Terminal

8-G 1/2, 1/2 NPT

Unit: mm

L = 0.15, 0.4, 0.7, 1.0, 1.5, 2.0, 2.5, 3.0 (m)

BØ 

AØ 

C

(Reference gas inlet)

(Wiring hole)

(Rc 1/4 or 1/4 NPT)

Rc 1/4 or 1/4 NPT

(Rc 1/4 or 1/4 NPT)

2-G 1/2, 1/2 NPT

8-G 1/2, 1/2 NPT

2-G 1/2, 1/2 NPT

Flange

Flange

Flange

153~164

125

170 252~265 49

48.5

Ø123

25

50.8

127 Ø

85

L

48

100

108

228

280

338~351

1~6 (Panel thickness)

126.5

57.3

136.3 54.7

111

36

120.2

340

428

436

457

EXA ZR402G

4-Ø 6 hole

(Panel mounting)

(Panel mounting)

(1/2 NPT)

VigilantPlant is Yokogawa's comprehensive concept for safe, reliable, and profitable industrial processes. Through VigilantPlant, Yokogawa delivers a complete range of products, services, and solutions that enable your business to continuously improve performance and reliability, and be ready for the future with the most advanced technologies.

Model Suffix code Option code Description
-J
-E
-G
-F

Display
Japanese
English
German
French

-Tag plates
NAMUR NE43
compliant

/A
-J
-E
-C

Tag plates

/HS
/H

Instruction manual
Options

/PT

Set for Humidity Analyzer

/HS

/Hood

Printed tag plate

/HT

Failure alarm down-scale: Output status at CPU failure and hardware error is 3.6 mA or less

/F

Failure alarm up-scale: Output status at CPU failure and hardware error is 21.0 mA or more

/V

Stainless steel tag plate

/HT

Always -A

/Y

Failure alarm (local)

/HT

Automatic failure alarm

/HT

Stainless steel failure alarm

/Y

Failure alarm (remote)

/HT

Failure alarm (remote)

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Failure alarm (remote)

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