Compact Design, High Precision, Best for Installing in Equipment

Zirconia Oxygen Analyzer

Model : LC-450D

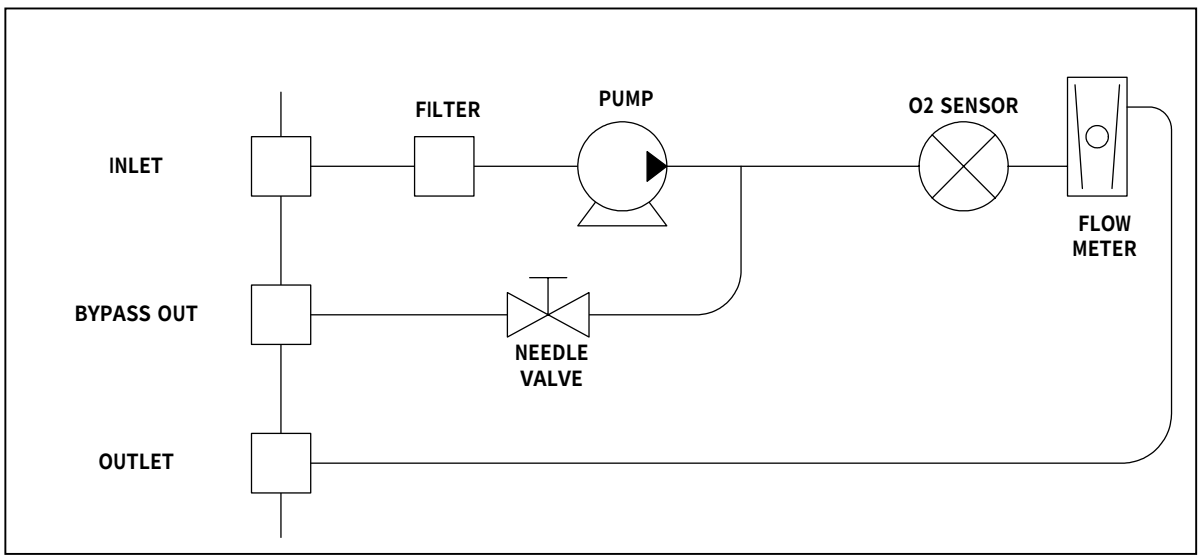
LC-450D is a highly-advanced zirconia oxygen analyzer developed on the basis of our longtime credibility and performance, with which alone from low to 100% level of oxygen is measurable. LC-450D is more durable than ever because our own zirconia sensor is specially-treated, by which the long-term stable and precise measurement is available. LC-450D is the best oxygen analyzer to be installed in the various equipments such as semiconductors or liquid crystal devices because it is compact and easily-handled.

Features

- **Measurement in Wide Concentration Range**
  Wide concentration display from ppm to 100% is available.
- **Increase of Sensor Durability**
  Specially-treated O2 sensor is more durable than ever.
- **DC Drive**
  DC24V drive makes the installation easier.
  (AC power source spec is also available)
- **Compact Design and Easy Installation**
  Shorter depth saves the installation space.
- **RoHS-compliant**
- **Self-declaration of CE Marking**
  EN61010-1:2002(Compliance), EN61326:+A3:2003

Measurement Principle

Toray zirconia oxygen analyzers determine oxygen concentration using the conductivity of a zirconia ceramic cell. Zirconia ceramic cells only allow oxygen ions to pass through at high temperatures. With reference gas on one side and sample gas on the other, oxygen ions move from the side with the highest concentration of oxygen to that with the lowest concentration. The movement of ions generates an Electro Motive Force, which can be measured to determine the oxygen content. This is in accordance with the so-called Nernst Equation.



Toray Engineering Co.,Ltd.

Specification

1. Instrument Specification

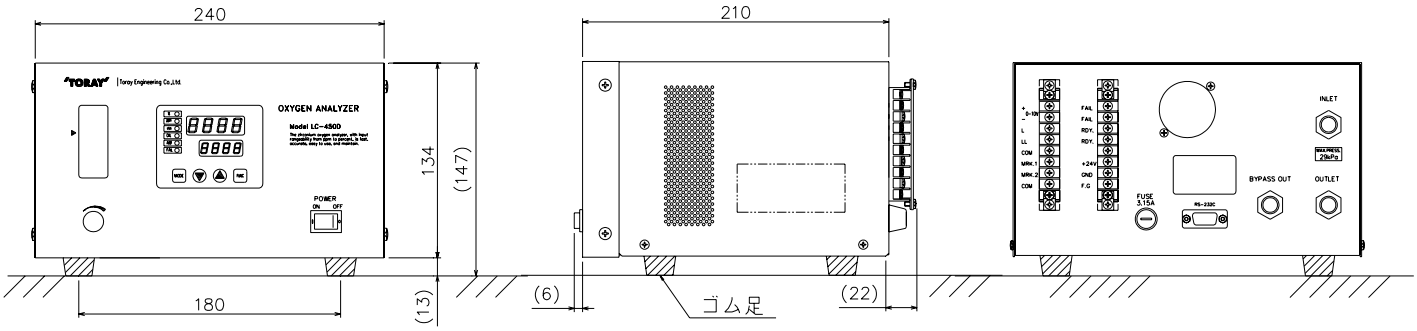
Type	Portable / Panel Mounted	
Display	Digital 4 Digits (Concentration Display)	
Measurement Range	0.1ppm～100vol%O_2	
	Display: Auto range or 4 Ranges	
	Recorder: 0-10/100/1000ppm/100%	
	Available for any combination of the following ranges.	
	1/10/100/1000/10000ppm	
	1/10/100%, 10^{-20}-10^{-0}atm	
	※ 1ppm range and atm range is the reference value (No guarantee)	
Sampling Method	Continuous Suction by Built-in Pump	
Supply Gas	Approx. 1.5L/min	
Sensor Gas	60±10mL/min	
Gas Connection	INLET(Sample gas inlet)	Rc1/8
	BYPASSOUT(Bypass outlet)	Rc1/8
	OUTLET(Sample gas outlet)	Rc1/8
Reference Gas	Atmospheric Gas	
Dimension	240(W)×134(H)×210(D)	
Weight	Approx. 5kg	
Color	Mat Coating(Black)	

2. Feature

Repeatability	Within ±1%FS (More than 0-10ppm range) (Display range below 0-10ppm is no guarantee)
Air Point Stability	±1%FS／Within 24 Hours
Gas Response	Within 30 Seconds (90% Response)

3. Engineering Specification

Recorder Output	External Output: 0～10V (4～20mA is option)
Transmission Output	RS-232C-compliant (Single Direction)
Contact Output	Instrument Error (No-voltage Contact)
	Concentration Error (No-voltage Contact)
	Warm-up Signal (No-voltage Contact)
	(Contact capacity: 30VDC/AC, below 0.5A)
Range Marker Output	2 Points Output (Voltage Contact)
	(Contact capacity: 30VDC/AC, below 0.3A)
Self-diagnosis	Sensor Temperature Error, Calibration Error
	Temperature Error, CPU Error
	Furnace Error, Warm-up Error
	Asymmetry Potential Error, Sensor Resistance Error
	AIR/SPAN Point Calibration Error
Sample Gas Condition	No Combustible/Corroded Component, No Halogen, No Silica, No Waterdrop
	Pressure: Below 29kPa
	Flow: 1,000～2,000mL/min
	Temperature: Below 50℃
	Humidity: Dew point below ambient temperature
Power Source	Voltage: 24VDC±10%(30VA, Stationary time)
Installation Condition	Location: Indoors, Non Explosion Area
	Ambient Temperature: 0～40℃
	Ambient Humidity: 45～85%RH, No Condensation
Option	Active Carbon Filter, Sintered Metallic Filter



Cautions

For safe and correct operation, please read the instruction manual carefully before use.

■The design and specification may be changed without notice for improvement.

■Please contact us at the following address if you have any questions or requests.

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