



# ACCURRA-Zr<sup>®</sup>

## Flue Gas Oxygen Analyser

**Rugged all SS Design**  
**Sensor protected from Flue Gas**  
**Compact, Reliable and Accurate**

**Excellent Long term Stability**  
**Long Calibration Interval**  
**Lowest Cost of Ownership**

### Applications

**Industrial Boilers**  
**Furnace Application**

**Stack Application**  
**Power Station Boilers**

**Efficiency Monitoring**

### Salient Features

Suitable for In-Situ  
Installation

Head Mounted Electronics  
with Display & Keypad

Sensor Protected  
Probe design

Single Point Calibration  
with Air Only

Dual Range Programmable  
Current Output

Powerful Diagnostics  
with Sensor Protection

Modbus RTU  
over RS 485

Output Freeze / Follow  
during Blowback / Calibration

Auto Blowback Timer  
with Solenoid Valve

4-20mA output range is USER  
configurable

Blowback Set Points are USER  
configurable

Optional:  
**High Dust Load Probes**  
available

Optional:  
**Probes available**  
upto **1400 °C**

## Measurement Technology

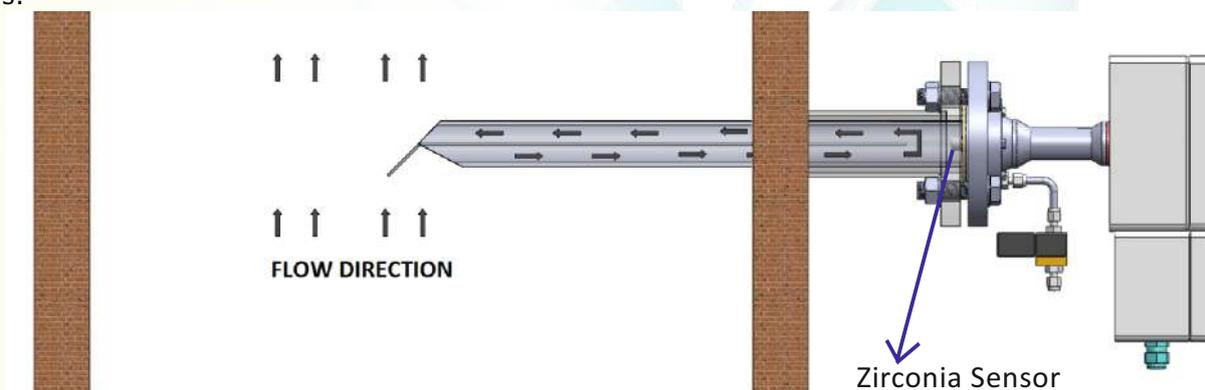
**ACCURRA-Zr** from Sarvesh Analytics is a Online Zirconia based Flue Gas Oxygen Analyser suitable for various Stack and Furnace applications. It is simple to use and help you to quickly achieve Combustion Efficiency. This new generation on-line analyser does not require any reference gas.

**ACCURRA-Zr** has many in-built **Salient Features** which help you to overcome many issues associated with traditional analyser assuring you years of trouble-free operation.

## Advanced Probe Design

In conventional Flue Gas Zirconia Analyser the Zirconia Sensor, Heater and Thermocouple are at the tip of the probe. This tip of the probe is directly exposed to the Furnace Turbulence, the Furnace Temperature variation and abrasion due to the Dust / Flow. This gives rise to error in reading and frequent failure of sensors or heaters.

We M/s Sarvesh Analytics Pvt. Ltd. have developed the following probe design to overcome these traditional problems.



In ACCURRA-Zr probe design the Zirconia Sensor is located outside your Stack or Furnace and is thus **protected from the process** flow and dust and temperature variations. The flue gas flow through the guide tube as shown. This design helps to keep the sensor at constant temperature and also save the sensor from dust load. This unique design ensures a very stable reading and a long life of sensor.

## Auto - Blowback

A timely Blowback ensure long life of any Flue gas analyser. Hence ACCURRA-Zr comes with inbuilt Blowback as standard with the Relay and Solenoid valve. The user can program the blowback frequency either through keypad or through Modbus. ACCURRA-Zr also has Power ON Blowback, Manual Blowback and Blowback before Calibration.

## Single Point Calibration

ACCURRA-Zr has only one point calibration and uses only Air as Span point. Which means that you don't need any special calibration gas. Before every Calibration, blowback is done to clean the sensor. This ensures a error-free calibration and long calibration interval.

## Dual Range Current Output

When you start your furnace the initial reading is high. As you control the furnace the reading stabilizes to a lower value. ACCURRA-Zr allows you to define two ranges to the 4 - 20 mA current output e.g. 0 - 25% and 0 - 10%. When the reading is above 25% the current output will correspond to 0-25%. When the reading goes below 10% the current output will correspond to 0-10% and vice versa.

The first Range 0-25% is fixed. The second range is user configurable. This feature is very useful during start up.

## Output Freeze or Follow Function

When you use the 4-20 mA output signal from ACCURRA-Zr as input to your PLC / DCS, you can freeze the 4-20mA to the last value during Blowback and Calibration. This Output Freeze or Follow function is a user configurable feature.

### MODBUS and PC connectivity

The ACCURRA-Zr has Modbus output over RS-485 which can be connected to PLC/DCS or with a RS485 to USB converter you can connect ACCURRA-Zr to your PC and collect data for analysis.

### Sensor and Hardware Diagnostics

The ACCURRA-Zr has inbuilt hardware diagnostic mode for hardware check and simulation during failure.

## Performance Specifications

<b>Measurement Range</b>	0.1 - 21 % Oxygen
<b>Sensor Technology</b>	Zirconia
<b>Expected Sensor Life</b>	Clean Gas > 10 Yrs Low Sulphur Natural Gas > 5 Yrs Biomass / Coal > 3 Yrs
<b>Repeatability</b>	Better than 1% of FS
<b>Response Time, T90</b>	< 15 seconds
<b>Display</b>	Backlit LCD, 2 Line x 16 Character, Alphanumeric
<b>Analog Output</b>	1 x 4-20 mA, isolated, Max Load = 500 $\Omega$ , Dual Range
<b>Blowback Relay</b>	1 x SPST rated @ 1A 230VAC
<b>Communication</b>	MODBUS protocol over RS 485 READ: Measured Value, Status, Setup Parameters WRITE: Initiate Auto Blowback

## Process Specifications

Probe Lengths	300 / 500 / 1000 mm
Wetted Parts	SS 316
Process Temperature	200 - 500 <sup>o</sup> C
Recommended Fuel Types	Oil, Gas, NG (without blowback) Coal, Bagasse (with blowback)
Maximum Dust Load	10 gm/Nm <sup>3</sup>
Flue Gas Velocity	Between 5-20 m/sec
Process Connection	2" ANSI Flange
Blowback Connection	1/4" OD SS316
Probe Head Enclosure Protection	IP 66



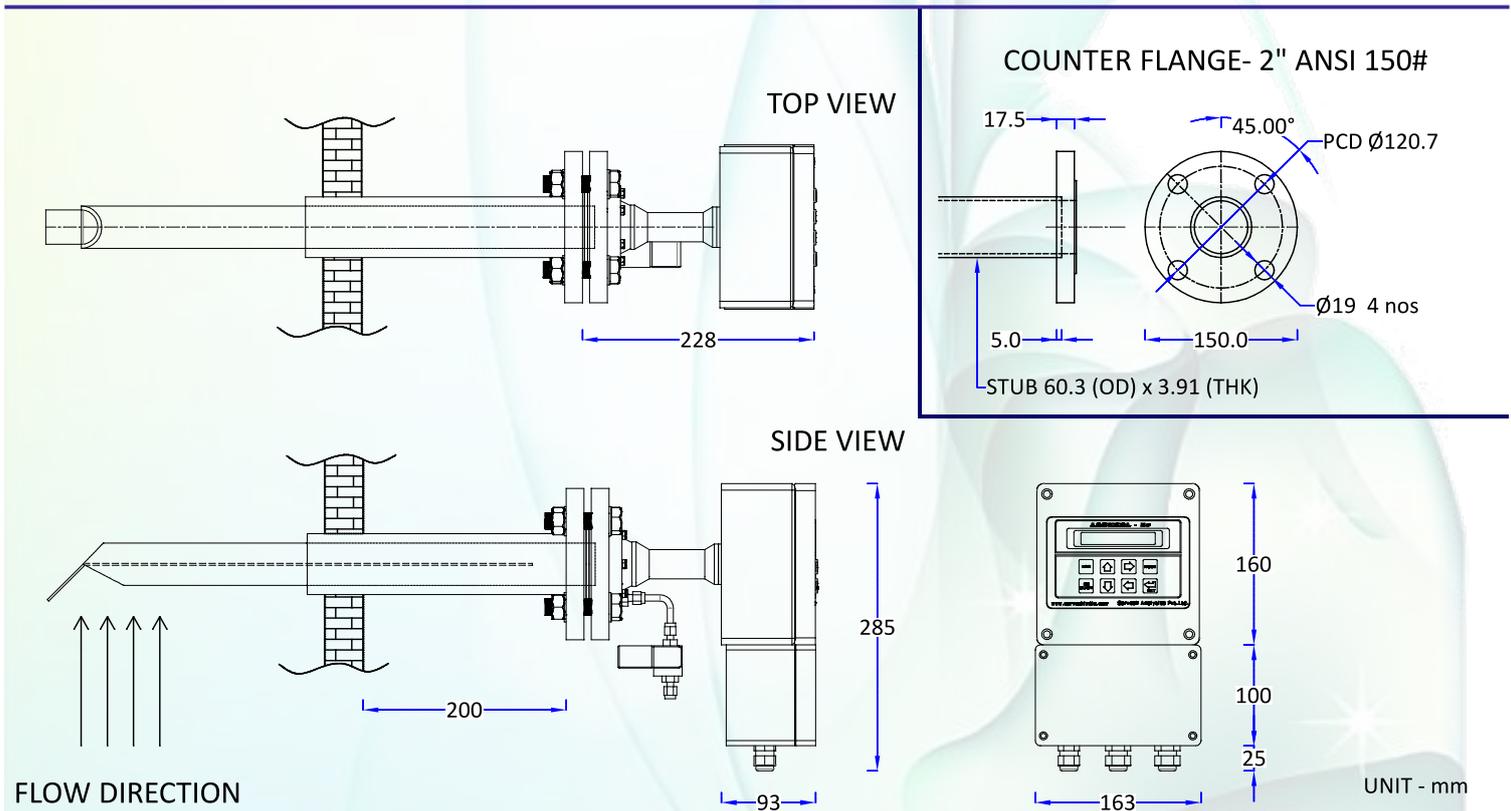
### Other Specifications

<b>Probe Head Enclosure</b>	
MOC	Cast Aluminum
Dimension	285 (H) x 165 (W) x 230 (D) mm
Ingress Protection	IP 66
<b>Net Weight</b>	
Probe Head	Approx. 5 Kgs
Probe Tube - 500mmL	Approx. 5 Kgs
Probe Tube - 1000mmL	Approx. 6.5 Kgs
<b>Gross Weight (wooden)</b> Approx. 40 Kgs	
<b>Packed Dimension(Max.)</b> 140(L) x 25(W) x 25(H) cm	
<b>Power Supply</b> 100 - 240 V AC 50/60 Hz, 45W	

### Environmental Conditions

Ambient Temperature:	+10°C to + 50°C
Storage Temperature:	+0°C to + 50°C
Area Classification:	Safe Area

### Dimensions & Process Flange Details



Notes: - The final responsibility to check whether this product meets the requirement of the Process and / or Analyser remains solely with the customer.  
 - M/s SARVESH ANALYTICS PVT. LTD. has a policy of continuous improvement of product & services and hence reserves the right to change the specifications and features without prior notice.

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