AMETEK®
PROCESS INSTRUMENTS

MEASURES: **O_2, Combustibles, CH_4/Hydrocarbons**

WDG-V SERIES COMBUSTION ANALYZERS





RoHS COMPLIANT

WDG-V Oxygen (O_2) Analyzer
WDG-VC O_2 and Combustibles ($CO+H_2$, COe) Analyzer
WDG-VCM O_2,Combustibles and Hydrocarbon Analyzer

The WDG-V series combustion analyzer is designed to provide the complete solution for combustion process control and process control safety applications. Designed for SIL-2, the WDG-V provides an additional layer of safety with the measurement of excess O_2, Combustibles ($CO+H_2$, COe) and Hydrocarbon (including Methane, CH_4) to ensure the safe operation of the Burner Management System. With built-in redundancy and diagnostics, the WDG-V monitors overall performance and health and provides the statistical data needed to implement predictive and proactive maintenance programs. In control and safety applications, it is critical that the analyzer is always operational.

SAFETY

Continual diagnostic checks while in operation allow the analyzer to send out alerts when there is an issue with the combustion measurement. Service alarms inform the control system or safety implemented system (SIS) if inspection or service is required.

Communication through Modbus RTU or Fast Ethernet with everything needed for diagnostics, calibration, verification and error notification for the SIS.

RELIABILITY

The WDG-V is designed with measurement redundancy and continual diagnostic functions that analyze the health of the instrument and validate the proper combustion measurements.

These features provide high safety availability with low probability of failure which insures maximum reliability and reduces process risk.

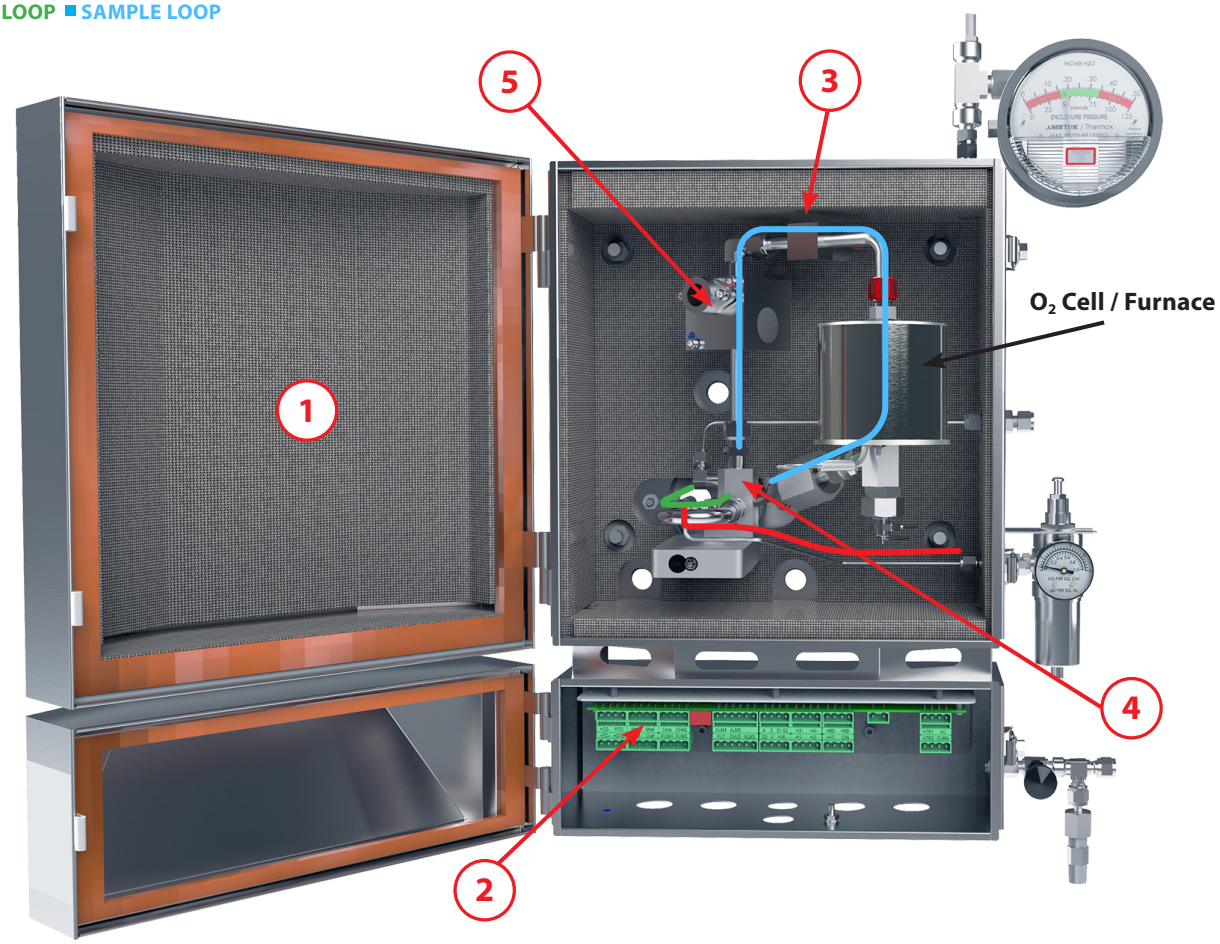
MAINTENANCE

All components are easily serviceable without having to remove the analyzer from the process flange.

The analyzer will pro-actively let you know when components need to be serviced. Ethernet connection allows remote performance monitoring for maintenance LANs or asset management systems (AMS).

SENSOR ENHANCEMENTS

■ AIR ■ FAST LOOP ■ SAMPLE LOOP



1 Sensor temperature stability

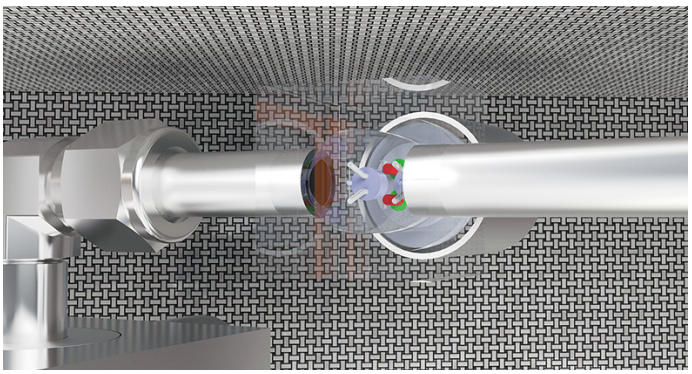
The sensor enclosure is lighter with a smaller footprint than previous designs. The weight has been decreased by 30% and it features a hinged door IP65 enclosure as standard. A lightweight, high "R" value insulation blanket inside the enclosure provides sensor temperature stability throughout wide ambient air temperature fluctuations.

2 Sensor terminal enclosure

Modular snap in terminal strips with laser-etched labels simplify wire connections. Recessed electronics and bottom conduit connections eliminate problems due to conduit stress, moisture ingress, and improve the reliability and integrity of the sensor connection in high radiant heat areas.

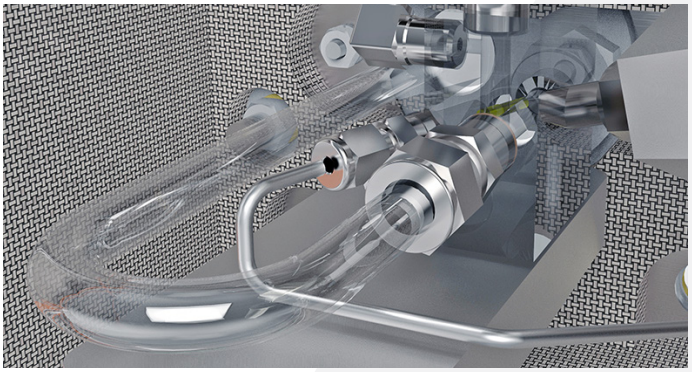
3 Flow sensor accuracy

The WDG-V analyzer uses a thermal dispersion flow sensor to accurately measure the analyzer sample flow across the oxygen (O_2), combustibles ($CO+H_2$), and hydrocarbon sensors to guarantee that proper flow is maintained for accurate sensor measurements. The flow is measured every 90 seconds to ensure proper signal measurement. Sample system integrity is continually monitored from sample probe tip to sensor exhaust.



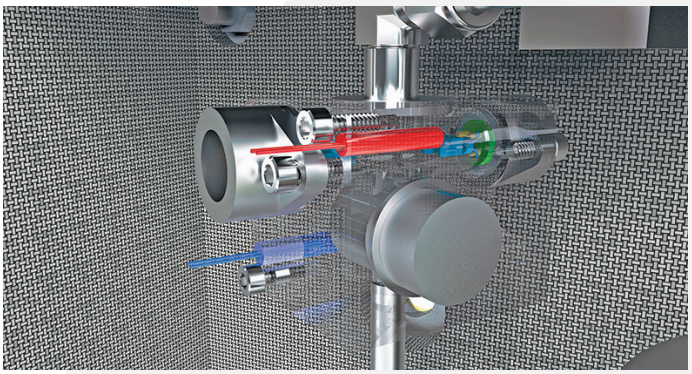
4 Aspirator design

The WDG-V series of combustion gas analyzers features a new and improved aspirator design which incorporates larger orifices that reduce the chance of particulate interference. Instrument air or nitrogen gas aspirator consumption is reduced by over 20%.



5 Accurate combustibles and hydrocarbon monitoring

The combustibles and hydrocarbon sensors are mounted in a thermally regulated stainless steel block where temperature is controlled to within 0.1°C (0.18°F) to keep sensor temperature variations to a minimum regardless of ambient air temperature extremes, to maximize measurement accuracy.



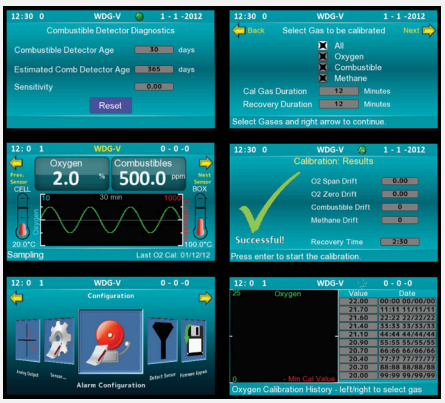
ASSET MANAGEMENT

The WDG-V series of analyzers continually monitors the performance and health of the analyzer and provide details regarding the analyzer's proper operation and the interpretation of its measurements through Modbus RTU and Fast Ethernet transmission.

CERTIFICATIONS

AMEVision Host Display, Class I, Div 2 Grp A-D Class I, Zone 2, Grp IIC, IECEX, EX nA NCIIC T4, -20°C to +55°C.





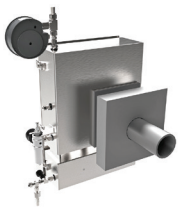
The AMEVision HMI Display Unit enables the convenience of site calibration and communication with the analyzer via Modbus RTU, TCP/IP Fast Ethernet via RJ45, USB port and 4.2" VGA display.

The AMEVision HMI/Host Display Unit offers:

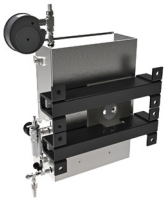
- End of life prediction of zirconium oxide cell and combustible detector with warning
- Stability indicator during calibration
- Individual controls of analog outputs and relays for diagnostics
- Trend data logging & access by USB
- Cell enclosure and electronics temperature monitoring
- Up to 8 sensors can be configured to one AMEVision
- Analog output verification of accuracy

VERSATILITY

Designed for fast response in a wide variety of combustion applications, these analyzers mount directly or remotely on the combustion process to provide a continuous measurement of excess oxygen, combustible, and hydrocarbon levels in combustion exhaust gas. They are suitable for gas streams up to 1648°C (3000°F). They are available in a range of mounting styles that match process connections. For hazardous area locations, purged or explosion proof versions are available.


DIRECT WELD MOUNT

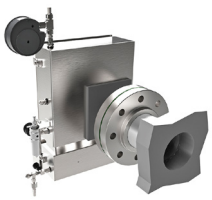

FLOOR MOUNT


UNISTRUT MOUNT


REMOTE MOUNT


FLANGE MOUNT


RACK MOUNT


SPOOL MOUNT


PIPE NIPPLE MOUNT



WDG-V, ZONE1

Enclosure protection	Ambient temp. range	Temperature code	IECEx certificate of conformity
NEMA 4X (IP65)	-20 to 60°C (-4 to 140°F)	T3	-20°C < Ta < 60°C (-4°F <Ta <140°F) EX pz IIC T3 Gc IECEx ETL 13.0003X

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PROCESS INSTRUMENTS

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Specifications subject to change without notice.