

HYDROCARBON PROCESSING

Optimized process solutions

With decades of experience in this industry, AMETEK Process Instruments offers an extensive range of gas and moisture analyzers for the hydrocarbon processing market.

Our unique technologies and advanced designs provide the critical measurements needed to optimize your process. This ensures a high-quality product produced in safe operating conditions.

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HYDROCARBON PROCESSING

IPS-4

MEASURES: NH₃, H₂O, CO₂, SO₂, H₂S, NO, NO₂, NO_x, THC, ASTM color standards, Ethylene Glycol

RANGE
ppmv/ppmw to 100%, application dependent

ACCURACY
UV: ±1% of full scale range
IR: ±2% of full scale range
Dual Bench: ±2% of full scale typical

PROCESS
Sulfur Recovery, Emission Compliance, Ethylene Oxide, Sour Gas Treatment, SO₂ Recovery/H₂SO₄

APPLICATION
Feed Forward, Emissions, Ethylene Glycol QA/QC, Amine Efficiency, SO₂ Removal Efficiency



TECHNOLOGY: UV/NDIR

WDG-V

MEASURES: O₂, Combustibles, CH₄

RANGE
O₂: From 0-1% to 0-100%
Combustibles: 0-500 ppmv to 0-10,000 ppmv, 0-2% to 0-5%
Hydrocarbon: 0-5%

ACCURACY
O₂: ±0.75% of measured value or ±0.05%, whichever is greater
Combustibles: ±2% of full-scale output range
Hydrocarbon: ±5% of full scale output range

PROCESS
Fired Heaters, Power Generation

APPLICATION
Combustion Control in Ethane Reformers, Steam Boilers, Process Heaters, Thermal Oxidizers



TECHNOLOGY: ZrO₂, Catalytic Sensor

5000

MEASURES: H₂O

RANGE
0 to 1000 ppmv, trend indication above 1000 ppmv
Output capability in lb./mmscf and dew point temperature (requires sample line pressure as analog input; single point systems only)

ACCURACY
±1 ppmv or ±5% of reading, whichever is greater

PROCESS
Continuous Catalyst Regeneration

APPLICATION
Hydrogen Recycle Gas



TECHNOLOGY: QCM

888

MEASURES: H₂S, SO₂

RANGE
Standard: 0 to 1% SO₂; 0 to 2% H₂S
High Range: 0 to 2% SO₂; 0 to 4% H₂S

ACCURACY
±1% of full scale

PROCESS
Sulfur Recovery

APPLICATION
Tail Gas/Air Demand Ratio, Sulfur Pit Safety Monitoring



TECHNOLOGY: UV

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900

MEASURES: H₂S, SO₂, COS, CS₂

RANGE

Species measured	Minimum full scale	Maximum full scale
H ₂ S	5000 ppm	100%
SO ₂	2500 ppm	100%
CS ₂	5000 ppm	100%
COS	5000 ppm	100%

ACCURACY

SO₂ and H₂S: ±1% of full scale of standard ranges
 COS and CS₂: ±10% of full scale of standard ranges

PROCESS

Sulfur Recovery

APPLICATION

Tail Gas/Air Demand Ratio



TECHNOLOGY: UV

909

MEASURES: H₂S, SO₂, NO, NO₂, NO_x, NH₃, Optional O₂

RANGE

Species measured	Minimum full scale	Maximum full scale
SO ₂	250 ppm	100%
NO	300 ppm	100%
NO ₂	300 ppm	100%
H ₂ S	125 ppm	100%
NH ₃	500 ppm	100%
Cl ₂	500 ppm	100%

ACCURACY

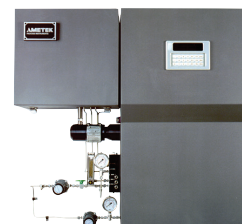
±1% full scale of standard ranges

PROCESS

Sulfur Recovery

APPLICATION

CEMS, Mass Flow Single Gas



TECHNOLOGY: UV

910

MEASURES: H₂S, SO₂, NO, NO₂, NO_x, NH₃, Optional O₂

RANGE

Species measured	Minimum full scale	Maximum full scale
SO ₂	250 ppm	100%
NO	300 ppm	100%
NO ₂	300 ppm	100%
NO _x	300 ppm	100%
H ₂ S	125 ppm	100%
NH ₃	500 ppm	100%
Cl ₂	500 ppm	100%

ACCURACY

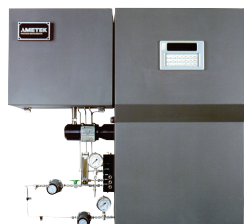
±1% full scale of standard ranges

PROCESS

Sulfur Recovery

APPLICATION

CEMS, Mass Flow Multi Gas



TECHNOLOGY: UV

914

MEASURES: H₂S, SO₂, NO, NO₂, NO_x, CO₂, O₂

Designed to meet regulatory reporting requirements for CEM

ACCURACY

Designed to meet customer specifications

PROCESS

Emissions Control

APPLICATION

Continuous Emission Monitoring System (cold-dry)



TECHNOLOGY: UV, NDIR, Paramagnetic

To find out more or request a quote, visit our website today

919

MEASURES: H₂S, SO₂, NO, NO₂, NO_x, NH₃, Optional O₂

RANGE

Species measured	Minimum full scale	Maximum full scale
SO ₂	250 ppm	100%
NO	300 ppm	100%
NO ₂	300 ppm	100%
H ₂ S	125 ppm	100%
NH ₃	500 ppm	100%
Cl ₂	500 ppm	100%

ACCURACY

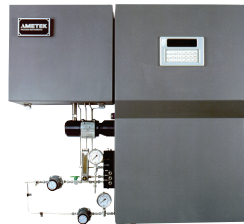
±1% full scale of standard ranges

PROCESS

Sulfur Recovery

APPLICATION

CEMS Single Gas (no mass flow)



TECHNOLOGY: UV

920

MEASURES: H₂S, SO₂, NO, NO₂, NO_x, NH₃, Optional O₂

RANGE

Species measured	Minimum full scale	Maximum full scale
SO ₂	250 ppm	100%
NO	300 ppm	100%
NO ₂	300 ppm	100%
NO _x	300 ppm	100%
H ₂ S	125 ppm	100%
NH ₃	500 ppm	100%
Cl ₂	500 ppm	100%

ACCURACY

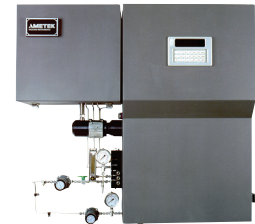
±1% full scale of standard ranges
±2.0% full scale of standard ranges for H₂S + NH₃ application

PROCESS

Sulfur Recovery

APPLICATION

CEMS Multi Gas (no mass flow)



TECHNOLOGY: UV

930

MEASURES: H₂S, SO₂

RANGE

Species measured	Maximum full scale
H ₂ S	0-4%
SO ₂	0-2%

(other ranges available on request)

ACCURACY

±1% full scale of standard ranges

PROCESS

Sulfur Recovery

APPLICATION

Sulfur Pit



TECHNOLOGY: UV

931/932

MEASURES: H₂S, Optional COS, CS₂, NH₃, SO₂, H₂, CO₂

RANGE

H₂S: ppm ranges to high percent levels
H₂: 0 to 5% or 0 to 10%
Other components and ranges are available upon request

PROCESS

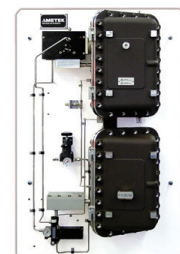
Sulfur Recovery

APPLICATION

Feed Forward/TGTU

ACCURACY

Standard range (UV): ±1% of full scale of standard ranges
Optional (TCD) H₂ sensor for TGTU applications: ±2% on a 0 to 10% range



TECHNOLOGY: UV/TCD

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934

MEASURES: H₂

RANGE

0 to 5% or 0 to 10%

ACCURACY

±2% on a 0-10% range
±4% on a 0-5% range

PROCESS

Sulfur Recovery

APPLICATION

TGTU Efficiency



TECHNOLOGY: TCD

9900 RM/WM

MEASURES: H₂S, SO₂, NO, NO₂, ClO₂, NOx, NH₃, Optional O₂

RANGE

Species Measured	Single Species Minimum Full Scale	Multi-Species Minimum Full Scale
SO ₂	10 ppm	20 ppm
H ₂ S	25 ppm	100 ppm
NO	50 ppm	50 ppm
NO ₂	100 ppm	100 ppm
NOx	n/a	100 ppm
O ₂	0%	25%

ACCURACY

Better than ±1.0% of standard full scale range
O₂: ±0.1%

PROCESS

Emissions Control

APPLICATION

Continuous Emission Monitoring System



TECHNOLOGY: UV (opt. Paramagnetic/ZrO₂)

3050-OLV

MEASURES: H₂O

RANGE

0.1 to 2,500 ppmv

Readout capability in ppmw, lb/mmscf, mg/Nm³, and dew point temperature in °C or °F (requires process pressure as an input)

ACCURACY

±0.1 ppmv or ±10% of reading, whichever is greater

PROCESS

Continuous Catalyst Regeneration

APPLICATION

Hydrogen Recycle Gas



TECHNOLOGY: QCM

ta3000R

MEASURES: CO

RANGE

0 to 3 ppmv

ACCURACY

±10 ppbv or ±10% of reading, whichever is greater

PROCESS

PE/PP Production, Ethylene/Propylene Feedstock

APPLICATION

Catalyst Protection



TECHNOLOGY: GC-RGD

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HYDROCARBON PROCESSING

ProLine

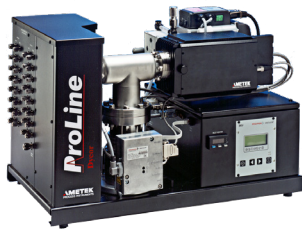
MEASURES: BTU values, H₂, C1-C7 alkanes, CO₂, CO, N₂, O₂, and other components m/z 1-200

RANGE
1 ppmv-100%

PROCESS
Emission Flare Compliance

ACCURACY
±0.5% of measured value for argon in air

APPLICATION
Flare BTU Monitor



TECHNOLOGY: Mass Spectrometer

WDG-IV UOP

MEASURES: O₂

RANGE
From 0-1% to 0-100%

PROCESS
Catalytic Reforming/Platforming, Continuous Catalyst Regeneration (CCR)

ACCURACY
±0.75% of measured value or ±0.05%, whichever is greater

APPLICATION
Oxygen Monitoring in CCR



TECHNOLOGY: ZrO₂

ProMaxion

MEASURES: BTU values, H₂, C1-C7 alkanes, CO₂, CO, N₂, O₂, and other components m/z 1-200

RANGE
1 ppmv-100%

PROCESS
Emission Flare Compliance

ACCURACY
±0.5% of measured value for argon in air

APPLICATION
Flare BTU Monitor



TECHNOLOGY: Mass Spectrometer

682T-HP

MEASURES: Sulfur

RANGE
Analysis range for sulfur of 0.02-6.0%

PROCESS
Blending Operations, Marine Fuel

ACCURACY
Repeatability: Typical 1 sigma precision for (100 sec.):
10% relative at 0.04 wt. % sulfur
5% relative at 0.1 wt. % sulfur
0.1% relative at 3.24 wt. % sulfur

APPLICATION
Sulfur Concentration in Crude Oil, Blending Operations, Marine Bunker Fuel



TECHNOLOGY: X-Ray Transmission

HYDROCARBON PROCESSING

WDG Insitu

MEASURES: O₂

RANGE

0-1% to 0-100%

ACCURACY

±1% of measured value or ±0.05%, whichever is greater

PROCESS

Fired Heaters, Power Generation

APPLICATION

Oxygen Monitoring in Power and Steam Boilers, Process Heaters, Thermal Oxidizers



TECHNOLOGY: ZrO₂

FlarePro

MEASURES: BTU values, H₂, C1-C7 alkanes, CO₂, CO, N₂, O₂, and other components m/z 1-200

RANGE

1 ppmv-100%

ACCURACY

±0.5% of measured value for argon in air

PROCESS

Emission Flare Compliance

APPLICATION

Flare BTU Monitor



TECHNOLOGY: Mass Spectrometer

5100HD

MEASURES: CO, CO₂, O₂, H₂O, H₂S

RANGE

ppmv to % level, application dependent

ACCURACY

±2% of reading (typical)

PROCESS

Ethylene Production, Refining, Emission Compliance

APPLICATION

Acetylene Conversion Rate, CO and CO₂ Levels in Furnace Decoking, Moisture in Continuous Catalyst Regeneration, Moisture in Hydrogen Recycle Gas, Moisture in Olefins (UOP Catalytic Regeneration), H₂S in Flare and Refinery Fuel Gas

Consult AMETEK for more potential applications



TECHNOLOGY: TDLAS

To find out more or request a quote, visit our website today