

CEMS

Continuous emission monitoring systems

FGMS for CO, NO_x, SO₂, H₂S, O₂ measurement pressurized for zone 2

MEASURED GASES

CO - Carbon monoxide - Infrared Analyzer Mod. Enox II

NO_x - Nitrogen oxides - Infrared Analyzer Mod. Enox II and NO₂/NO molybdenum-based converter

SO₂ - Sulphur dioxide - Infrared Analyzer Mod. Enox II

H₂S - Hydrogen sulfide - Electrochemical cell analyzer Mod. Methox

O₂ - Oxygen - Extractive zirconium oxide cell Analyzer Mod. E705

SAMPLING AND TREATMENT SYSTEM

System with fast loop and double tapping pump for response time minimization

n. 1 probe with heated filter suitable for zone 1, no. 1 Heated line with AISI 904L inner tube and heater suitable for zone 1, Heated (180 °C) box with redundant dual-stage filtering and solenoid valves suitable for high temperature for zero calibration control, Corrosion resistant cooler with double glass heat exchanger, n. 2 Sampling pumps, Condense monitor, Flow-meters, AISI 904L wiring for the part in contact with the sample

MONITORED PLANT

On-shore refinery chimney

CABINET

Protection for area with danger of explosion with Eex method-p (y)

Stainless steel 30/10 with conditioner (EEx-d protection for temperatures up to 55 °C)

Degree of protection IP65

DATA PROCESSING

Modbus and hardwired output

The entire periphery for connection to PLC of all hardwired signals provided







FGMS for CO, NO_x, O₂ x2 measurement

MEASURED GASES (redundant analyzers)

CO - Carbon monoxide - Infrared Analyzer Mod. Enox II

NO_x - Nitrogen oxides - Infrared Analyzer Mod. Enox II and NO₂/NO molybdenum-based converter

O₂ - Oxygen - Extractive zirconium oxide cell Analyzer Mod. E705

SAMPLING AND TREATMENT SYSTEM

n. 1 Probe with heated filter, n. 1 Heated line with double inner tube for sample and dynamic calibration, Heated (180 °C) box with solenoid valves suitable for high temperature for zero calibration control, Cooler with AISI316 heat exchanger, n. 1 Sampling pump, Condense monitor, Flow-meters, Pneumatic wiring completely Viton ® for the part in contact with the sample

MONITORED PLANT

Industrial boiler fueled with natural gas

CABINET

Painted sheet metal with conditioner for temperatures up to 45 °C

Degree of protection IP54

DATA PROCESSING

Modbus and hardwired output



FGMS for CO, NO_x (with NH₃), O₂, T multiplexing on 3 points measurement

MEASURED GASES

CO - Carbon monoxide - Infrared Analyzer Mod. ENOX II

NO_x - Nitrogen oxides - Infrared Analyzer Mod. ENOX II, NO₂/NO molybdenum-based converter, NH₃/NO converter

O₂ - Oxygen - Extractive zirconium oxide cell Analyzer Mod. E705

T - Flue gas temperature - K-type thermocouple and converter

SAMPLING AND TREATMENT SYSTEM

System with fast loop for response time minimization

n. 3 Probes with heated filter, n. 3 Heated lines, Heated (180 °C) solenoid valves for scanning and fast loop control, Cooler with double heat exchanger, n. 2 Sampling pumps, Condense monitor, Flow-meters

Additional stream for CO measurement to prevent leakage on the NH₃/NO converter

MONITORED PLANT

3 Internal combustion engines fueled with natural gas

CABINET

Painted sheet metal with double redundant conditioner for temperatures up to 45 °C

Degree of protection IP54

DATA PROCESSING

Modbus output and DAS-DAC data acquisition: remote control for service and technical support



FGMS for CO, NO_x, NH₃ (hot), O₂ measurement

MEASURED GASES

CO - Carbon monoxide - Infrared Analyzer Mod. Enox II

NO_x - Nitrogen oxides - Infrared Analyzer Mod. Enox II and NO₂/NO molybdenum-based converter

NH₃ - Ammonia - Infrared (HOT / WET) analyzer with measurement performed directly on hot fumes

O₂ - Oxygen - Extractive zirconium oxide cell Analyzer Mod. E705

SAMPLING AND TREATMENT SYSTEM

System with fast loop for response time minimization

n. 1 Probe with heated filter, n. 1 Heated line, Heated (180 °C) solenoid valves, Cooler with continuously operating peristaltic pump, n. 1 Sampling pump with fast-loop tapping, Condense monitor, Flow-meters

MONITORED PLANT

1 Internal combustion engine fueled with natural gas installed in hazardous area

CABINET

Double width painted plate with dual redundant conditioner for temperatures up to 45 °C

Degree of protection IP54

DATA PROCESSING

Modbus output and DAS-DAC data acquisition: remote control for service and technical support



FGMS for CO, NO_x, O₂, Dust measurement

MEASURED GASES

CO - Carbon monoxide - Infrared Analyzer Mod. Enox II

NO_x - Nitrogen oxides - Infrared Analyzer Mod. Enox II and NO₂/NO molybdenum-based converter

Dust - With electro-dynamic indicator

O₂ - Oxygen - Extractive zirconium oxide cell Analyzer Mod. E705

SAMPLING AND TREATMENT SYSTEM

n. 1 Probe with heated filter, n. 1 Heated line, Heated (180 °C) solenoid valves and fine filtering system, Cooler with peristaltic pump continuously operating, n. 1 Sampling pump with fast-loop tapping, Condense monitor, Flow-meters

MONITORED PLANT

1 Internal combustion engine fueled with vegetable oil

CABINET

Painted plate with dual conditioner for temperatures up to 45 °C

Degree of protection IP54

DATA PROCESSING

Modbus output and DAS-DAC data acquisition: remote control for service and technical support





FER STRUMENTI S.r.l. reserves the right, without any notice, to make any modifications needed for improving the product.

C-100075 rev.0

FGMS for CO, NO_x, SO₂, CO₂, O₂ measurement

MEASURED GASES

CO - Carbon monoxide - Infrared Analyzer Mod. Enox II

NO_x - Nitrogen oxides - Infrared Analyzer Mod. Enox II and NO₂/NO molybdenum-based converter

SO₂ - Sulfur dioxide - Infrared Analyzer Mod. Enox II

CO₂ - Carbon dioxide - Infrared Analyzer Mod. Methox

O₂ - Oxygen - Extractive zirconium oxide cell Analyzer Mod. E705

SAMPLING AND TREATMENT SYSTEM

n. 1 Probe with heated filter, n. 1 Heated line, Compressor-based cooler, n. 1 Sampling pump, Condense monitor, Flow-meters

MONITORED PLANT

Emissions from heating plant in Egypt

CABINET

Painted plate with conditioner for temperatures up to 55 °C

Degree of protection IP54

DATA PROCESSING

5 x 4-20 mA analog outputs

10 x Relay outputs for alarm and service signals



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C-100075 rev.0



FGMS for CO, NO_x, O₂, TOC, Dust measurement

MEASURED GASES

CO - Carbon monoxide - Infrared Analyzer Mod. Enox II

NO_x - Nitrogen oxides - Infrared Analyzer Mod. Enox II and NO₂/NO molybdenum-based converter

O₂ - Oxygen - Extractive zirconium oxide cell Analyzer Mod. E705

TOC - Total Organic Carbons - Flame ionization analyzer - FID

Dust - With electro-dynamic indicator

SAMPLING AND TREATMENT SYSTEM

n. 1 Probe with heated filter, n. 1 Heated line, Compressor-based cooler, n. 1 Sampling pump, Condense monitor, Flow-meters

MONITORED PLANT

Emissions from aluminum recovery oven

CABINET

Painted plate with conditioner for temperatures up to 55 °C

Degree of protection IP54

DATA PROCESSING

Modbus output and DAS-DAC data acquisition: remote control for service and technical support





FGMS for CO, NOx, O2 measurement

MEASURED GASES

CO - Carbon monoxide - Infrared Analyzer Mod. Enox II

NOx - Nitrogen oxides - Infrared Analyzer Mod. Enox II and NO2/NO molybdenum-based converter

O2 - Oxygen - Extractive zirconium oxide cell Analyzer Mod. E705

SAMPLING AND TREATMENT SYSTEM

n. 1 Probe with heated filter, n. 1 Heated line, Heated (180 °C) solenoid valves for zero calibration control, Cooler with AISI315 heat exchanger and pump continuously operating, n. 1 Sampling pump, Condense monitor, Flow-meters

MONITORED PLANT

Gas turbine

CABINET

Painted plate with double redundant conditioner for temperatures up to 45 °C

Degree of protection IP54

DATA PROCESSING

Modbus output and DAS-DAC data acquisition: remote control for service and technical support



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C-100075 rev.0

FGMS for SO2 measurement

MEASURED GASES

SO2 - Sulfur dioxide - Infrared Analyzer Mod. Enox II

SAMPLING AND TREATMENT SYSTEM

n. 1 Probe with heated filter, n. 1 Heated line, Heated (180 °C) solenoid valves for zero calibration control, Cooler with glass heat exchanger and pump continuously operating, n. 1 Sampling pump, Condense monitor, Flow-meters

MONITORED PLANT

Refinery smokestack

CABINET

AISI316 with "Rittal" finishing

Degree of protection IP54

DATA PROCESSING

Modbus and hardwired output



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C-100075 rev.0

FGMS for CO, O2 measurement

MEASURED GASES

CO - Carbon monoxide - Infrared Analyzer Mod. Enox II

O2 - Oxygen - Extractive zirconium oxide cell Analyzer Mod. E705

SAMPLING AND TREATMENT SYSTEM

n. 1 Probe with heated filter, Peltier-based cooler and pump continuously operating, n. 1 Sampling pump, Condense monitor, Flow-meters

MONITORED PLANT

Hospital boilers

CABINET

Wall rack with intermediate opening for easy access to devices

DATA PROCESSING

Modbus output and DAS-DAC data acquisition: remote control for service and technical support



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C-100075 rev.0

O2 control system for explosion control scanning on 6 +5 points with redundant analyzers

MEASURED GASES

O2 - Oxygen – 2+2 Redundant extractive zirconium oxide cell Analyzers Mod. E705

SAMPLING AND TREATMENT SYSTEM

The system consists of two sections of analyzes in a cyclic scan on respectively 6 and 5 points
n. 6+5 Probes with heated filter, n. 2 Peltier-based cooler and pump continuously operating, n. 2
Sampling pumps, Condense monitor, Flow-meters with low flow rate alarm

MONITORED PLANT

Dried resins transport

CABINET

Painted plate with double redundant conditioner for temperatures up to 45 °C
Degree of protection IP54

DATA PROCESSING

Hardwired analog and digital output



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