UV Integrated Flue Gas Analyzer

YQ-1204

Overview



The YQ-1204 uses ultraviolet differential optical absorption spectroscopy to measure SO2, NO, NO2 and NH3 in flue gas. Optional O2, CO, H2S and CO2 sensors measure gas concentrations. The brochure states that the method has relatively low water interference and is suited to high-humidity, low-sulfur conditions. Its integrated design is portable and is listed for routine or emergency monitoring in environmental protection, health, occupational safety, research and education.

Technical specifications

Parameter	Range / value	Resolution	Accuracy / error
Flue-gas temperature	(0-200)°C	0.1°C	±3.0°C
Flue-gas dynamic pressure	(0-4000)Pa	1Pa	±1.0%
Flue-gas total pressure	(-30-30)kPa	0.01Pa	±1.0%
Moisture content	(0-40)VOL%	0.01VOL%	Calibration range ≤5.00%: absolute error ≤±0.7%; >5.00%: relative error ≤±15%
Atmospheric pressure	(60-130)kPa	0.1kPa	±0.5kPa
Sampling flow	0.6L/min	0.1L/min	±2.5%
Sampling-pump load capacity	≥40kPa		
Data storage	>8000 records		
Operating temperature	(-20-50)°C		
Power consumption	<150W		

Flue-gas parameters

Parameter	Range / value	Resolution	Accuracy / error
SO2 (UV)	Low (0-430)mg/m³; high (0-4300)mg/m	0.1mg/m³	±5.0%
NO (UV)	(0-1340)mg/m³ (expandable)	0.1mg/m³	±5.0%
NO2 (UV)	(0-1000)mg/m³ (expandable)	0.1mg/m³	±5.0%
NH3 (UV)	(0-380)mg/m³ (expandable)	0.1mg/m³	±5.0%
O2 (electrochemical)	(0-30)%	0.1%	±5.0%
CO (electrochemical)	(0-5000)mg/m³	0.1mg/m³	±5.0%
CO2 (nondispersive infrared)	(0-20)%	0.01%	±5.0%

Technical features

• Hot-wet measurement of SO2 and NOx is intended to prevent condensate-related loss under high-humidity, low-sulfur conditions.
• Built-in moisture module, external dynamic/static pressure and flue-temperature ports support simultaneous temperature, velocity and moisture measurements.
• Dual-range SO2 analysis automatically switches range according to measured concentration.
• Rapid heating and short preheating.
• 7-inch high-brightness color touchscreen.
• Titanium-alloy vacuum-insulated probe.
• High-temperature extension tube supplied as standard.
• Built-in lithium battery; data lookup, USB export and Bluetooth printing.
• Automatic backup of software data.
• BeiDou positioning, time synchronization and operation-log storage.
• Bluetooth printing of instrument data with anti-counterfeit printouts.

Standards listed in the brochure

• JJG968-2002 - Verification regulation for flue-gas analyzers
• HJ/T 397-2007 - Technical specifications for monitoring waste gas from stationary sources
• GB 13233-2011 - Emission standard of air pollutants for thermal power plants
• HJ 1131-2020 - Stationary source waste gas: sulfur dioxide by portable UV absorption
• HJ 1132-2020 - Stationary source waste gas: nitrogen oxides by portable UV absorption
• HJ1045-2019 - Technical requirements and test methods for portable UV absorption instruments measuring sulfur dioxide and nitrogen oxides in stationary source waste gas

Standard accessories

• Main unit
• Aluminum case
• Fabric bag
• Extension rod
• Pitot tube assembly
• Charger
• Bluetooth printer
• YQ-T02 flue-gun support

Optional accessories

• Handheld tablet

Source and review notes

• The flue-gas total-pressure range is in kPa but its resolution is printed as 0.01 Pa; retained pending confirmation.
• The SO2 high-range unit is printed as mg/m with no cubic exponent visible; retained pending confirmation.
• H2S is described as optional in the overview, but the brochure provides no H2S measurement specifications.
• Performance and standards have not been independently verified.
• English translation has not received native-speaker technical review.