Integrated Particulate and Flue Gas Analyzer

YQ-1220

Overview

The YQ-1220 collects particulate matter in emissions from stationary sources using Pitot-tube parallel isokinetic tracking sampling, and calculates particulate concentration by gravimetric weighing. It is intended for monitoring particulate and flue-gas emission concentrations, total emissions and dust-removal and desulfurization efficiency. The brochure lists applications including environmental protection, disease control, military, education and research, including measurements at boilers and kilns.



Technical specifications

Parameter	Range / value	Resolution	Accuracy / error
Sampling flow	(0-120)L/min	0.1L/min	±2.5%
Flue-gas dynamic pressure	(0-4000)Pa	1Pa	±1.0%
Flue-gas total pressure	(-30-30)kPa	0.01Pa	±1.0%
Pressure upstream of flowmeter	(-103-0)kPa	0.01Pa	±1.0%
Temperature upstream of flowmeter	(-55-125)°C	0.1°C	±2.5°C
Flue-gas temperature	(0-500)°C	0.1°C	±3°C
Isokinetic suction velocity	(1-45)m/s	0.1m/s	±4%
Atmospheric pressure	(50-130)°C	0.01kPa	±0.5kPa
Sampling-pump load capacity	≥60L/min (at 30kPa resistance)		
Data storage	99999 records		
Main-unit weight	approximately 11.5kg (including battery)		
Instrument noise	<65 dB(A)		
Power consumption	<300W		
Main-unit dimensions	(420×220×340)mm		

Flue-gas parameters

Parameter	Range / value	Resolution	Accuracy / error
Sampling flow	1.0L/min	0.1L/min	±5.0%
SO2 (electrochemical)	(0-5700)mg/m³	0.1mg/m³	±5.0%
NO (electrochemical)	(0-1300)mg/m³	0.1mg/m³	±5.0%
NO2 (electrochemical)	(0-200)mg/m³	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

• On-screen navigation guides users through the sampling process.
• Simultaneous particulate and flue-gas sampling reduces field work time.
• Built-in waterproof high-performance, high-flow particulate sampling pump with strong load capacity for negative-pressure sampling.
• A visible dust-gas filter element is replaceable and protects the gas path and sampling pump.
• Leak testing supports rapid system airtightness checks.
• Flue-gas sensor type and maintenance-date management supports sensor servicing and replacement.
• Built-in corrosion-resistant, low-noise high-flow pump, up to 120 L/min.
• Integrated particulate sampling unit with a lightweight, high-strength impact-resistant portable case.
• Built-in lithium battery provides more than 4 hours of continuous operation when fully charged.
• Anti-backflow function.
• Automatic backup of software data.
• Optional BeiDou positioning, time synchronization and operation-log storage.
• Bluetooth printer for rapid instrument-data printing, with anti-counterfeit printouts.
• Compatible titanium-alloy or stainless-steel integrated sampling probe supports flue gas, moisture, operating conditions, filter cartridges, filter membranes and oil-fume measurements.
• Backpack-style accessory bag for field portability.

Standards listed in the brochure

• JJG680-2021 - Stationary source waste gas: determination of sulfur dioxide by fixed-potential electrolysis
• HJ 693-2014 - Stationary source waste gas: determination of nitrogen oxides by fixed-potential electrolysis
• HJ 973-2018 - Stationary source waste gas: determination of carbon monoxide by fixed-potential electrolysis
• HJ 836-2017 - Stationary source waste gas: determination of low-concentration particulate matter by gravimetry
• DB37/T 2537-2014 - Shandong stationary source waste gas: determination of low-concentration particulate matter by gravimetry
• GB/T 16157-1996 - Stationary source exhaust: particulate determination and gaseous pollutant sampling

Standard accessories

• Main unit
• Backpack
• YQ-1230 integrated particulate sampling probe
• Gas-water separator
• Combined tubing
• Bluetooth printer

Optional accessories

• YQ-1200 beta-ray direct-reading particulate instrument
• YQ-1230 integrated probe (filter cartridge/filter membrane)
• YQ-1230 integrated probe (filter membrane)
• YQ-1230 integrated probe (filter cartridge)
• YQ-5233YY oil-fume sampling probe
• YQ-1230 integrated probe (coupled type)
• Low-concentration sampling case
• Oil-fume adapter assembly

Other illustrations - classification unspecified

• YQ-1232A flue-gas preprocessor
• YQ-1208 direct-reading flue-gas velocity and humidity instrument
• YQ-5233LQ asphalt-fume sampling probe
• YQ-1233KB blank sampling probe

Source and review notes

• The atmospheric-pressure range is printed in degrees Celsius in the brochure, inconsistent with the parameter name; reproduced as printed pending confirmation.
• Flue-gas total-pressure and upstream-pressure ranges use kPa while resolutions are printed in Pa; reproduced as printed pending confirmation.
• The first standard number and title are reproduced from the brochure; their correspondence has not been independently verified.
• The four additional illustrations are not identified as standard or optional in the source.
• Performance and standards have not been independently verified.
• English translation has not received native-speaker technical review.