

ULTRA-SENSITIVE AMMONIA SLIP ANALYZER

NEXT GENERATION QC-LASER SOLUTION IN DeNO_x PROCESSES



Emissions from coal-fired boiler flue gas contain air pollution precursor nitrogen oxides (NO, NO₂, referred to as NO_x). Reduction of NO_x emissions is the focus of most national environmental laws and regulations. Currently the mainstream technology for flue gas denitrification (DeNO_x) processes is by injecting ammonia into the flue gas, reacting with NO_x to produce non-harmful N₂ and H₂O.

The residual NH₃ concentration (ammonia slip) in the off gas must be monitored in real time to ensure sufficient NH₃ reacts with NO_x, and avoid excessive NH₃ slip. Controlling the amount of NH₃ slip at the SCR outlet below 3 ppm can prolong the air preheater maintenance cycle and the catalyst replacement cycle. Sometimes NO monitoring is a favorable plus to further optimize the process efficiency.

FEATURES

- Leading-edge QC laser technology, sensitivity up to 0.1 ppm with very short response time
- No need for multiple reflection absorption cell, simple and stable opto-mechanics, low maintenance costs
- 190°C heated gas cell, unique high-temperature ammonia absorption line without water peak interference
- Online calibration, flexible configuration, OEM module ideal for system integration

Beebird™ QCL-BASED

NH₃ ANALYZER



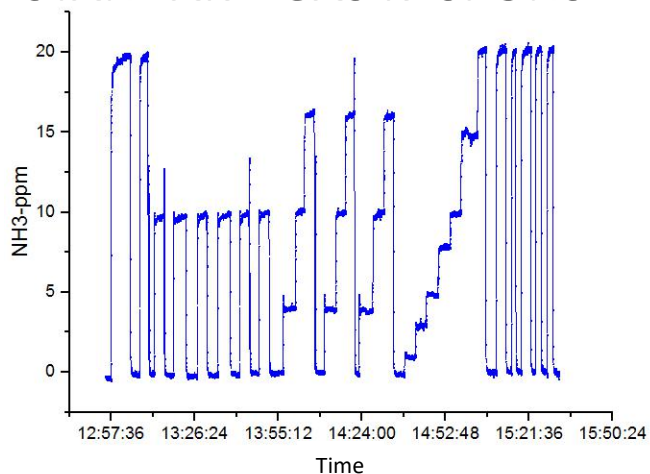
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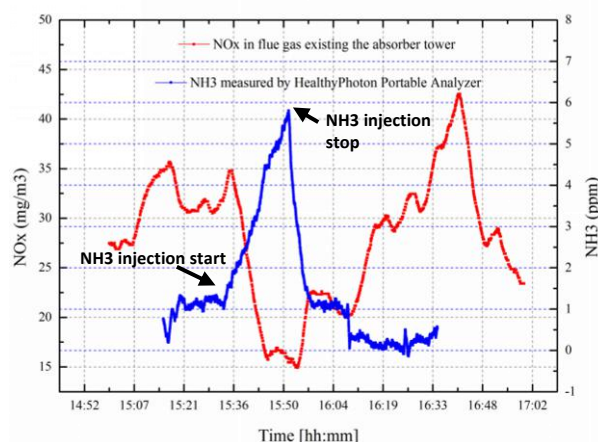
SENSOR SPECIFICATIONS

Technology	QCLAS (Quantum Cascade Laser Absorption Spectroscopy)	
Specifications	Measuring range	0 ~ 300 ppm
	Detection limit/Resolution	0.1 ppm (1s integration time)
		0.03 ppm (10s integration time)
	Response time (T90)	≤ 5s (gas flow > 2L/min)
	Size	345 × 142 × 220 mm ³ (L×W×H)
Weight	~10 kg	
Ports	Analog output	4 ~ 20mA output (max. load 750Ω)
	Digital output	RS-232 serial
Work condition	Power	220VAC for heating (typ. 200W) 24VDC for sensor (typ. 50W)
	Temperature	-10°C ~ 50°C

STANDARD GAS RESPONSE



FIELD MEASUREMENT



MECHANICAL DIMENSION

Notes from drawing:

- ① Ports for circulation chiller fluid
 - ② Sample gas inlet/outlet
 - ③ Power connector for heating
- Chinese&US patents pending

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