

GASS™-35 Portable Flue Gas Conditioning System

Applicable to conditioning for portable optical and electrochemical analyzers under high humidity and low SO₂ flue gas



- Remove water vapor in gas phase by Nafion® tubing to improve analysis accuracy
- Stable operation, suitable for high- and low-temperature operational environment
- Light and strong frame, suitable for carrying

The Perma Pure GASS™-35 portable conditioning system adopts Nafion® drying tube technology to remove moisture from sample gas, enabling accurate analysis of low SO₂ in high humidity sample, while not requiring any external connection of purge gas. There is no generation of condensate water during dehydration.

The sample gas flow rate can reach 2.0 LPM (at 1.5 LPM, the flue gas with water content $\leq 30\%$ V/V can be conditioned). The dew point of the sample gas after conditioning can be lower than 0 °C, which prevents the dissolving loss of low-concentration SO₂ (< 35mg/m³) during condensation and dehydration, to ensure measurement stability and accuracy by portable analyzers (including optic and electrochemical analyzers) in the high humidity and low SO₂ range, while ensuring higher measurement response speed.

The GASS™-35 system is light-weight and strong with a net weight of 11.5kg, making it easy to use for portable applications. It can be stably operated at ambient temperature ranges of 50°C to -10°C. The GASS™-35 portable conditioning system is suitable for use with portable non-dispersive infrared and electrochemical analyzers commonly used in the market, and solves the problem of SO₂ loss and other problems caused by the generation of condensate water.

Product applications

- Portable analysis of flue gas for SO₂ and NO after “Ultra-low Emission”
- Portable flue gas analysis of SO₂ after wet flue gas desulfurization (WFGD)
- Portable flue gas analysis of SO₂ and HCl at the vent of solid waste in an incineration plant
- Temporary dehydration backup system for Ultra-low emission CEMS systems during repairs to, or replacement of, fixed CEMS unit



Technical Specifications

Maximum sampling flowrate:	2 LPM
Normal sampling flowrate:	1.5LPM Max. Humidity rate 30% V/V
Sampling negative pressure:	-10Kpa
Warm up time:	<30min
Off time:	15min
Highest temperature of sample gas at the inlet:	180°C
Dew point of sample gas at the outlet:	≤0°C (Ambient Temp. below 40°C) ≤4°C (Ambient Temp. 40°C-50°C)
Maximum pressure of sample gas at the inlet:	103.4 kPa
Data storage:	Temp. Dew point data real-time storage, USB Interface
Inlet/Outlet fitting size:	1/4" FPT
Electrical requirements:	220 VAC, 2 amps, 0.4 kW
Enclosure:	Spray coating steel shell
Weight:	11.5kg (package excluded)
Dimension:	550mm×370mm×190mm
Working environment:	-10°C to 50°C air environment 0-95% relative humidity Altitude reaches 2,000 meters
Accessories:	High temp. sampling probe+heating cable Temp. control range 150°C-180°C

Available Markets:

- Flue gas monitoring manual comparison for Environmental Monitoring Department
- Flue gas monitoring manual comparison for Third Party Testing Organization
- Environmental protection scientific research project of flue gas monitoring in Scientific research units, colleges and universities
- The condenser of CEMS system temporarily repair/replacement
- Portable "back-up" gas conditioner for use during repair/replacement of fixed CEMS units

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