

S-700 Flue Gas VOCs Monitoring System



I. Introduction

The SS-700 process VOCs monitoring system is based on the standards of HJ/T80, HJ/T75, HJ/T76 and other related standards, sampling by extraction method, configuration based on advanced gas chromatography, mass spectrometry separation technologies and hydrogen flame Ionization Detectors (FID), photoionization detectors (PID) to measure the composition of volatile organic gases such as total hydrocarbons (THC), non-methane total hydrocarbons (NMHC), aromatic hydrocarbons, esters, etc. According to the composition and detection requirements in the analysis project, it can be configured to meet the requirements of the analysis project and the frequency of analysis. At the same time, the optimization of instrument configuration can be performed to maximize the use of the instrument and ensure the continuity of sample analysis. reliability.

The analysis system fully considers sample gas conditions, dew point and other factors, and specifically designs the pretreatment system to prevent the crystallization of components in sample gas from condensing and changing the concentration of components.

The instrument uses special column combination, center cutting and back blowing technology and hydrogen flame ionization detector (FID) technology for detection. The FID Hydrogen Flame Ionization Detector is a typical mass detector that measures the mass change rate of a component in a GC gas. The response value is proportional to the mass of a component entering the detector per unit of time.

II. Features

1. The system piping is imported clean stainless steel pipe to reduce adsorption;
2. The system adopts full calibration to eliminate the influence of a small amount of adsorption

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- on the measurement.
3. The analytical method is consistent with the calibration method, and it is detected by GC-FID method.
 4. The whole process of high-temperature 180 °C with hot sample transmission, high temperature FID detection, to avoid high-boiling VOCs adsorption and condensation, more accurate measurement;
 5. Continuously run maintenance-free design, start-up automatic cycle operation, real online analysis;
 6. The whole flow path insulation design is 180°C, no water vapor condensation, to avoid corrosion degradation of parts, suitable for high temperature / high humidity / corrosive conditions;
 7. Non-methane total hydrocarbons and simultaneous monitoring of benzene, toluene, xylene and other components

III. Application fields

It is used for on-line monitoring of organized organic waste gas emissions from chemical, printing, pharmaceutical, rubber, spray coating, electronic semiconductor, synthetic leather, organic waste gas recovery.

四、 Specifications

Sampling point	Measurement components	Ranges
Emissions stack	non-methane total hydrocarbons (NMHC); volatile organic compounds (VOCs)	0-1-10-100ppm (can be customized)
	Temperature	0-300 °C
	Pressure	-5-5kpa
	Velocity	0-30m/s

1. Measurement components: methane, non-methane total hydrocarbons and total hydrocarbons, toluene, ethylbenzene, xylene;
2. Range: methane (0.1-10000) ppm; non-methane total hydrocarbons (0.05-10000) ppm; benzene (0.1-10000) ppm (optional);
3. Detector: Hydrogen flame ionization detector (FID);
4. Detection limit: \leq 0.1ppm (methane), 0.05ppm (non-methane total hydrocarbons), \leq 0.1ppm (benzene);
5. Repeatability: $RSD \leq 3\%$ (total hydrocarbons / benzene);
6. Accuracy: $\pm 1\%$ F.S;
7. Zero drift: no drift;
8. Range drift: $\pm 1\%$ F.S;
9. Sample flow rate: Sample for analysis: 50 ml/min Sample update rate: 3-10 L/min
10. Analysis cycle: non-methane total hydrocarbons <60s, benzene <15min;

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11. Power supply: <400W, 220V AC/50HZ;
 12. Working environment: temperature: (-10-50) °C, humidity: (10% -90%) RH;
 13. Gas source requirements: carrier gas: high purity nitrogen ($\geq 99.99\%$); combustion gas: high purity nitrogen ($\geq 99.99\%$); combustion gas: zero grade air (hydrocarbons <10ppb);
 14. Output: 4-20MA, RS232/RS485, Ethernet.

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