Continuous Monitoring of Total Non-methane Hydrocarbons IVOCS 100

The IVOCS 100 Source Volatile Organic Compounds (VOCs) online monitoring system can measure a variety of volatile organic compounds such as non-methane total diameter (NMHC), benzene series (BTEX), and VOC signature factors. The system can be widely used in various industrial pollution sources VOCs emission monitoring, such as semiconductor, electronics, medicine, petrochemical, chemical, printing, automotive, painting, rubber and other industries, stable and reliable performance, high degree of integration. We can provide customized s olutions, including explosion-proof cabinet type, whole-process high temperature tracing type, mobile monitoring vehicle, etc.

Feature

- Analysis method: GC-FID method was used, which was consistent with the reference method HJ38-2017. GC-FID has chromatographic analysis, high detection limit, strong scalability, and scalable characteristic pollutant monitoring.
- Monitoring factor expansion: On the basis of meeting the monitoring of total menstrual, non-methane total menstrual and benzene series, the advantages of customized VOC other characteristic factors monitoring.
- Sampling analysis full heat method: sampling probe, sampling pipeline temperature until the entire analysis process temperature ≥120℃ (can be adjusted according to the actual site and sample conditions), no need to remove water, effectively avoid sample loss, to ensure the accuracy and reliability of monitoring data (in line with HJ1013-2018).
- FID detector use safety design: meet the set conditions of automatic ignition function, flame extinguishment determination, to ensure the safety of hydrogen use. The function of overtemperature alarm for heating components such as injection valve, column box and detector protects key components from damage.
- With automatic remote/near-end calibration function, calibration cycle can be programmed to achieve instrument quality control and fault isolation judgment.
- Built-in integrated industrial computer, HD color LCD touch screen display, the software adopts hierarchical modular design, the operation interface is simple and easy to control. It has operation permission restriction and password control functions to prevent operation errors or unauthorized operations.
- The system software has the functions of automatically recording, storing data and mapping, automatic diagnosis and fault alarm, etc. You can set criteria to query and display historical data and trend charts, and provide a variety of report formats for choice.
- Provide LAN, RS232, RS485, 4-20mA a variety of data transmission modes, in line with the standard Modbus protocol, to achieve real-time data communication, and access to the enterprise monitoring center and environmental protection department monitoring platform.
- Provide customized solutions: If the installation area has explosion-proof requirements, explosion-proof analysis rooms or explosion-proof models can be customized to meet the safety and environmental protection needs.

Specification

Detection principle	**GC-FID**
Detection object	**THC, CH4, NMHC:BTEX; VOC characteristic factor**
Detection range	**0-50/500/5000ppm (based on methane, scalable range)**
Detection limit	**≤0.1ppm (CH4); ≤0.05ppm (NMHC)**
repeatability	**RSD≤2%**
Analysis cycle	**GC-FID:≤1min (NMHC), other characteristic factors customized**
Linear error	**≤±2%F.S.**
Zero drift	**±2%F.S/ 24h**
Range drift	**±1%F.S/ 24h**
accuracy	**≤3%(standard gas)**
Sample velocity	**Sample size :0-1Lmin;Sample update rate :0-10L/min.max.**
The effect of changing sample flow rate	**±2%F.S**
The effect of ambient temperature change	**±5%F.S**
The effect of supply voltage change	**±2%F.S**
parallelism	**5% or less**
exportation	**LANRS232/RS485 (Standard Modbus protocol), 4-20mA**
Environmental condition	**Operating temperature :5-45℃,<90%RH (no condensation) Storage mixing degree :-20-60℃,<90%RH (no condensation)**
Dimension	**19' standard cabinet**

Continuous Monitoring of Total Non-methane Hydrocarbons IVOCS 200

IVOCS 200 continuous automatic monitoring system for non-methane total hydrocarbons in ambient air can be used for on-line monitoring of total hydrocarbons, methane, non-methane total hydrocarbons (NMHC), benzene series (BETX), VOC signature factors and other volatile organic compounds. The system can be widely used to monitor VOCs emission in the air of urban air quality, industrial parks, factories and industrial park boundaries, factory boundaries, etc.

Feature

- The analysis method was GC-FID.On the basis of meeting the monitoring of total hydrocarbons, non-methane total hydrocarbons and benzene series, the advantages of customized VOCs other characteristic factors monitoring.GC-FID has a professional chromatographic analysis software using intelligent identification technology based on spectral peak, to realize the automatic processing of peak judgment, baseline correction, overlapping peak segmentation, and the use of high-fidelity digital filtering algorithm, has a strong anti-noise interference ability, can detect the weak peak at the same level as the baseline noise, improve the minimum detection limit and quantitative accuracy of the measured components.
- The innovative heating function of the sampling manifold fundamentally solves the problem of condensation in sampling, and all parts that touch the sampled gas are made of teflon, which does not adsorb and affect the substance under test.
- Provide customized solutions: If the installation area has explosion-proof requirements, explosion-proof analysis rooms or explosion-proof models can be customized to meet the safety and environmental protection needs.

Specification

Monitoring principle	Gas chromatography GC-FID principle, NMHC direct measurement method
Monitoring items	Non-methane total hydrocarbon (NMHC), methane (CH4), Total hydrocarbon (THC)
Monitoring range	0-5000ppbC (NMHC), 0-5000ppB (CH4), adjustable range
Concentration unit	ppbC, ppb, μg/m^{3}C, μg/m^3
Analysis period	≤15min
Calibration curve	R2≤0.999
Detection limit	NMHC≤20ppbC, CH4≤100ppb
Repeatability	≤5%
Linear error	≤±1%F.S. (NMHC)
High concentration residue	≤±1% (NMHC)
Accuracy	≤±10%
Multi-component value error	Ethylene ≥60%, toluene 90%~105%, ethyl acetate ≥60%, trichloroethylene 95%~110%, n-undecane ≥60%
24h zero drift	≤±20ppbC (NMHC)
24h range drift	≤±2%F.S. (NMHC)
Long-term (≥7d) drift	≤±2%F.S (NMHC)
Output	RS232/RS485 (standard Modbus protocol) /LAN /4-20mA
Operating temperature	-10-45℃, < 90%RH (no condensation)
Storage temperature	-20-60℃, < 90%RH (no condensation)
Air source	Nitrogen, hydrogen and zero air
Power supply	AC220±10%V, 50/60Hz

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Specification

Detection principle	**Hydrogen Flame Ion Detector (GC-FID)**
Detection object	**THC, CH4, NMHC, BETX, VOC characteristic factors**
Detection range	**The methane total hydrocarbon 0-50/100/200/1000/5000 mg/m3 (configurable) benzene series: 0-200 mg/m3/50/100 (configurable)**
Chromatographic column	**Packed column, micropacked column, capillary column**
Detection limit	**0.05 mg/m3**
Repeatability	**RSD<3%**
Linear deviation	**≤ Soil 2%F.S/**
Stability	**≤ 2%F.S/24h**
Analysis cycle	**1min~1h**
Operation/display	**LCD display, menu mode of operation**
Power source	**AC 220V±10%, 50 Hz ±1Hz**
Air source	**The probe is backblown (0.4~0.7)MPa, and the instrument uses hydrogen, nitrogen and zero-level air**
Exportation	**DC(4~20)mA: failure, maintenance, and operation; RS485, RS232, TCP/IP**
Ambient temperature	**(5~40)°C**
Sampling method	**Full heat extraction type**
Cabinet dimension	**700mmX900mm x 2000mm standard cabinet**