GDFJ-VI Portable Dissolved Gas Analyzer

General Information

GDFJ-VI Transformer Dissolved Gas Analyzer is a portable gas chromatograph suitable for on-site rapid analysis. It integrates chromatographic detection, analysis and diagnosis in one, as well as micro detector, mini gas source and built-in touch screen computer. It has higher integration, better stability, more delicate shape and more convenient operation than traditional portable oil chromatography. On-site analysis can timely analyze and diagnose transformer fault conditions, making power work simpler and more convenient. The instrument adopts the classical three-detector process, and the analytical data are identical with those of the traditional laboratory chromatograph. The instrument adopts advanced small modular design concept. It has high integration,

small size and light weight, which is easy to carry to the site for analysis. It provides timely and accurate data for transformer monitoring and test, and saves a lot of manpower and material resources.

A full analysis of the contents of the seven gas components H2, CO, CO_2, CH_4, C_2H_4, C_2H_6, C_2H_2 (hydrogen, carbon monoxide, carbon dioxide, methane, ethylene, ethane, acetylene) dissolved in the insulating oil can be completed in one injection. The minimum detection concentration of acetylene is 0.1ppm, and has been successfully applied to many industries and departments such as power supply companies, power plants, transformer plants, large-scale smelting enterprises, and railway power supply sections.

Features

- Built-in touch screen anti-control technology to realize visual display of instrument air pressure.
- All air pressures are digitally displayed by the pressure sensor. The pressure of the carrier gas, hydrogen gas and air can be directly read through the workstation, and the analysis conditions can be grasped in real time.
- Using touch screen anti-control technology to achieve instrument temperature setting, display and other operations.
- All temperature parameters can be displayed digitally. The temperature of column box, detector and reformer can be read and controlled directly by workstation. The operation is simple and clear.
- Touch screen click to complete heating, cooling, ignition and current settings.
- Built-in automatic air path control device automatically removes a part of the air when operating on the touch screen, so that the ratio of hydrogen to air

reaches the ratio suitable for ignition, and restores the ratio after the ignition is completed automatically; likewise, through the bridge flow setting window in workstation software can complete the setting of the thermal bridge flow.

- Digital FID electronic zero-setting technology to enhance the anti-interference ability of the instrument.
- FID detector uses electronic zero-setting technology and high-precision digital circuit to compensate the basic current of FID, so as to realize the electronic regulation of the output signal level of FID. Because the electronic regulation can be directly installed on the signal channel of the circuit board to improve the ability of electronic noise suppression, there is no interference signal when the mechanical potentiometer is connected. Because of reducing parasitic parameters, it has strong anti-interference ability.
- Using computer anti-control technology to achieve control of the oscillator.
- Through a connecting signal line, it can provide power for the small oscillator, and through the workstation, it can operate the whole process of the oscillator, such as heating up, starting oscillation, standstill, buzzing prompt at the end, etc.ystem in English and Chinese, which can be switched freely.
- Built-in silent air pump, without external air source.
- With an imported small air pump inside the main engine, it can provide air source for the instrument uninterruptedly. Because of the shock-proof design, the air pump can work silently, and the user will hardly feel its existence.
- Gas breakage protection function of thermal conductive tungsten wire.
- With intelligent thermal cutoff protection function, when the carrier gas pressure is less than the safety threshold, the system will automatically cut off the thermal conductivity current to protect the thermal conductivity detector from damage.

Specification

Minimum detection concentration and limit (Unit μL/L)	
Component	Min. detection concentration
H_2	2
CO	5
CO_2	10
CH_4	0.1
C_2H_4	0.1
C_2H_6	0.1
C_2H_2	0.1
FID (flame ionization detector)	
Detection limit	Mt≤3×10-12g/s (Hexadecane/isooctane)

Baseline noise	≤5×10-14A
Baseline shift	≤1×10-13A/30min
Linear range	≥ 106
TCD (thermal conductivity detector)	
Sensitivity	S≥3500mV•ml/mg (conventional); 5000mV•ml/mg (highly sensitive)
Baseline noise	≤10μV
Baseline shift	≤30μV/30min
Linear range	≥104
Temperature control index	
Temperature control part	Range
Column box	4~ 450℃ above room temperature, accuracy ±0.1℃
Packed column injector	4~ 450℃ above room temperature, accuracy ±0.1℃
FID Detector	4~ 450℃ above room temperature, accuracy ±0.1℃

TCD Detector	4~ 450℃ above room temperature, accuracy ±0.1℃
Ni nickel catalyst reformer	4~ 450℃ above room temperature, accuracy ±0.1℃
Other parameters	
Dimension	420*280*300mm
Weight	<15kg
Power supply	AC220V±10%, 50Hz

Accessories

No.	Name	Specification	Qty.
1	Portable DGA	GDFJ-VI	1 set
2	Chromatography workstation	Insulating oil special edition	1 set
3	Miniature Full Automatic Oscillator		1 set

4	High Purity Nitrogen	2L, 99.999%, Aluminum alloy bottled	2 bottles
5	High Purity Hydrogen	2L, 99.999%, Aluminum alloy bottled	1 bottle
6	Standard Gas	2L, 7 Components, Aluminum alloy bottled	1 bottle