



PGC-2020 Industrial on-line gas chromatography

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| INTRODUCTION

The PGC-2020 Industrial Online Gas Chromatograph can be used in various industrial sectors, including fine chemicals, petroleum refining, and petrochemicals. It enables the analysis of chemical compositions in both gas and liquid phases at all stages of a process. This gas chromatograph can be installed for online analysis directly in harsh environments or in a process analysis laboratory for offline analysis. Its high level of versatility allows it to analyze raw materials, partially processed stream samples, finished products, and process by-products, including emissions and environmental hazards.

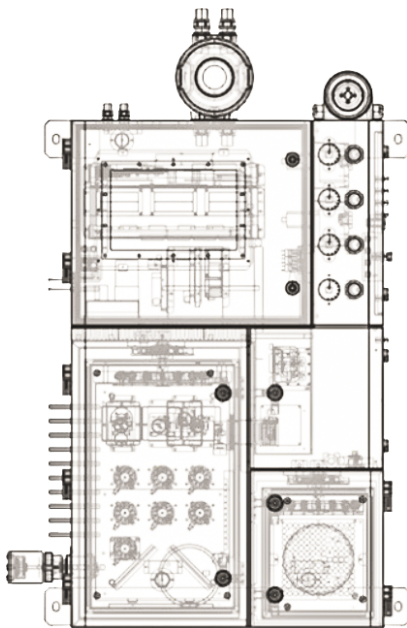


The PGC-2020 Industrial Online Gas Chromatograph features specially designed hardware and software for exceptional stability. This allows it to extract samples from the process flow and automatically inject them continuously into the chromatographic column. Its high-quality hardware and integrated intelligent processing software meet demanding requirements for measurement repeatability and long-term uninterrupted operation. Powerful communication tools transfer measurement data to process control computers. The 12-inch colorful touchscreen, designed for explosion-proof environments, simplifies instrument maintenance and configuration through intuitive graphical user interfaces, thereby reducing the training time for technicians. The isolation structure design prevents contamination of the chromatographic column and makes maintenance more convenient without the need for special tools.

PGC-2020

Product Concept

- Flameproof and positive pressure explosion proof
- Large size touch screen, touch screen explosion-proof design
- Multi-channel design, up to 31 flow channels
- A variety of explosion-proof detector options
- Pipe materials can be configured based on customer trial scenarios
- The software can automatically process chromatogram signals



System Modules



Liquid sampling valve:

Fully inert design, effectively prevent liquid corrosion;

Up to 10,000 samples can be injected to reduce maintenance;

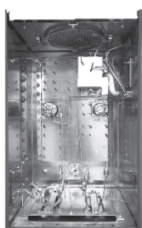
Independent heating and temperature control to ensure complete vaporization of analytical liquid.



Positive pressure controller:

Overvoltage protection, automatically adjust the flow switch;

Loss of voltage alarm power off to ensure explosion-proof safety.

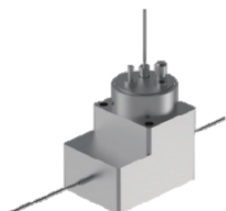


Hearth:

The air circulation design ensures the temperature uniformity and temperature in the furnace body;

Temperature control accuracy $\pm 0.1^{\circ}\text{C}$.

Detector



Explosion-proof FID:

Minimum detection limit 10ppb

Magnify high resistance plate design

Linear range over 10^7

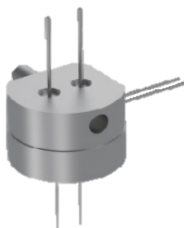


Explosion-proof FPD:

Baseline noise: $\leq 4 \times 10^{-12}\text{A}$

Baseline drift: $\leq 4 \times 10^{-11}\text{A}/30\text{min}$

Sensitivity: $\leq 4.4 \times 10^{-12}\text{g}$ (Sulfur)



Explosion-proof TCD:

Baseline noise: $\leq 0.1\text{mV}$

Baseline drift: $\leq 0.2\text{mV}/30\text{min}$

Sensitivity: $\geq 50000\text{mV.mL/mg}$

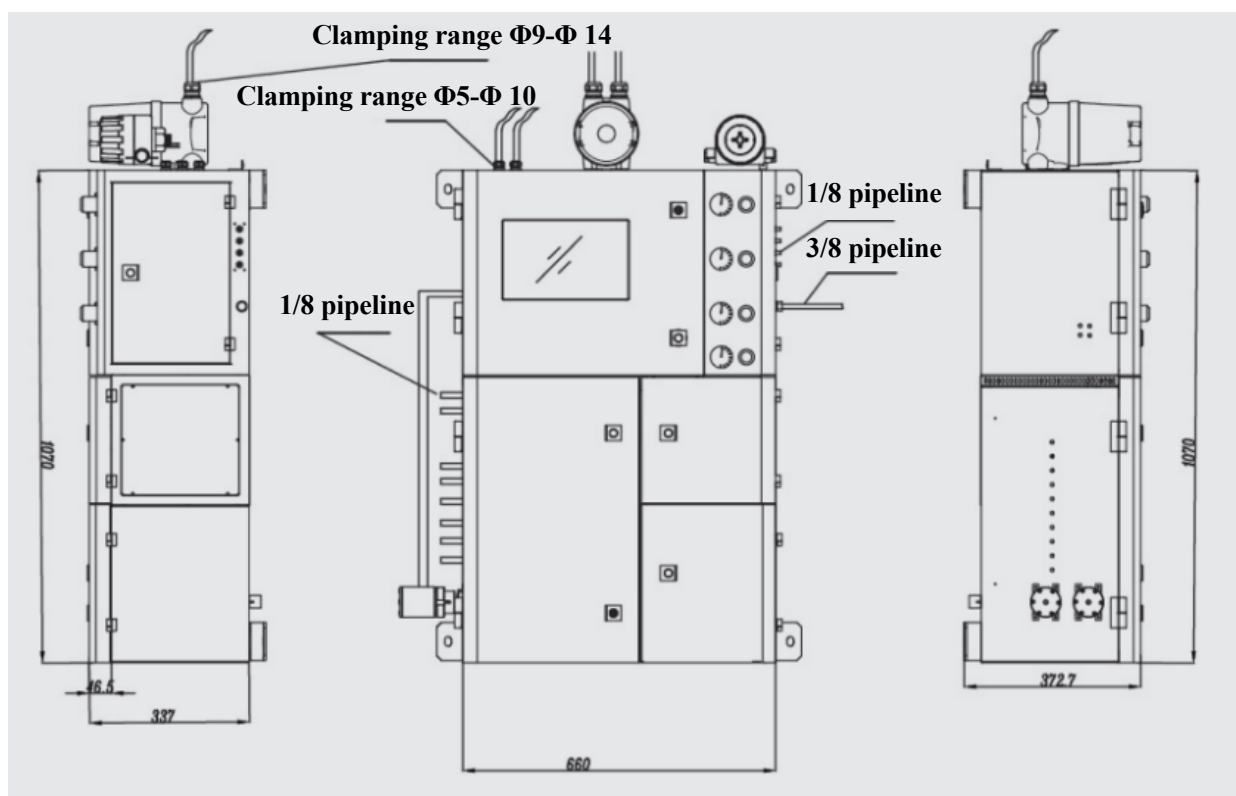


Explosion-proof EPC:

Electronic gas path control accuracy up to 0.001psi

Technical parameters

Detection object	Gas or volatile liquid (Boiling point below 400°C)
Analytical method	Gas chromatographic method
Detection range	Detector dependent:TCD:1ppm~100%;FID:10ppb~100%; FID(With a methane converter):10ppb~0.1%; FPD:25ppb~0.1%;ECD:10ppb~0.1%
Detection period	1min~6h
Detect the number of flow paths	Up to 31 routes
Contact material	RV:316SS、Hastelloy C、Rulon、PTFE LSV:316SS、Hastelloy C、Pick 702、Rulon、Glass、PTFE、Viton、Kalrez
Repeatability	Gas sample: ±1% of full scale Liquid sample: ±2% of full scale
Protection type	Hazardous rating
Hazardous rating	Ex d px IIC T1-T4 Gb
Operating environmental condition	-10~50°C, ≤95%RH(Dew free)



| RANGE

PGC-2020 industrial chromatography has a wide range of applications. Thousands of different chemical, petrochemical and environmental gases can be analyzed in different configurations. It can be used to analyze individual key components in the sample, such as continuous in-line process control, or to monitor specific contaminants, catalyst toxicities, and environmental poisons that need to be controlled. It is also possible to analyze and report on all components in the sample, such as automatic recording of product quality, closed transmission or calculation of physical properties.



Petrochemical engineering

Composition and purity analysis of ethylene, polyethylene, propylene, styrene, butadiene and their derivatives.



petroleum refining

Composition of crude oil, olefin isomerization, reforming and other heavy hydrocarbon intermediates; Sulfur, BTX, PINA, PIONA measurements of gasoline and diesel.



Natural gas

Methane, ethane and other light hydrocarbons; Calorific value, BTU, density, NGL, LNG and LPG process analysis



Chemical engineering

Fine chemicals, chlor-alkali and chlorinated hydrocarbons, industrial gases and gas separation analysis.



Environmental monitoring

Regional environmental monitoring, exhaust gas monitoring, wastewater and cooling water analysis.



Industrial gas

Nitrogen, helium, gas purity and air purification.

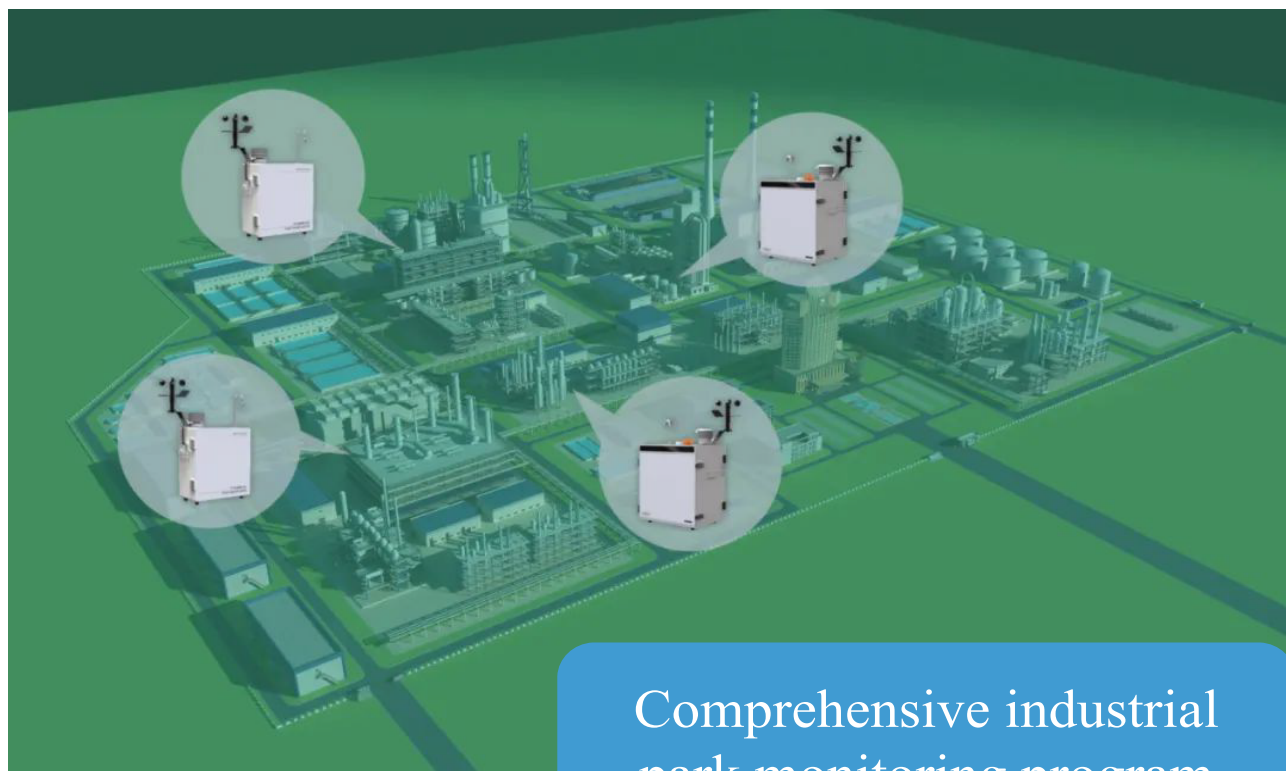


Other

Steel (blast furnace, coking furnace), coal gasification/liquefaction, synthetic pharmaceutical, pesticide production, etc.



Monitoring layout



Comprehensive industrial
park monitoring program



- Full range, full parameter monitoring
- Real-time data transmission
- Remote intelligent control



Configuration List

Main Configuration Option			
1	PGC-80Plus	Industrial Online Gas Chromatograph	1
2	AUX EPC/ Explosion-proof AUX EPC	3-Channel Auxiliary Electronic Pressure Flow Control Module	1
3	Ten-way Membrane Valve	Membrane Valve	1
4	Six-way Membrane Valve	Membrane Valve	1
5	Explosion-proof FID Detector	Detector	1
6	Explosion-proof FID Detector + Nickel Conversion	Detector	1
7	Explosion-proof FPD Detector	Detector	1
8	Explosion-proof TCD Detector	Detector	1
9	Passivation Quantitative Ring	0.1ml Customizable Sample Introduction Quantitative Ring	1
10	LTM Programmable Temperature Ramp Module	Programmable Temperature Ramp Module	1
Sample Accessories Optional			
11	SSL split/splitless sample inlet	Sample Inlet	1
12	Four-Way Liquid Sample Injection Valve	0.2ul/0.5ul/1ul	1
Auxiliary Configuration Optional			
13	PANNA Chromatograph Workstation	V1.0	1
14	Piping Accessories Package	Consumables	1
15	Explosion-Proof Hydrocarbon Analyzer	Air Purification	1
16	freight insurance		1
GC Column options			
17	1/8Stainless Steel Packing Column	fHQ、PQ、HN、Al2O3	1