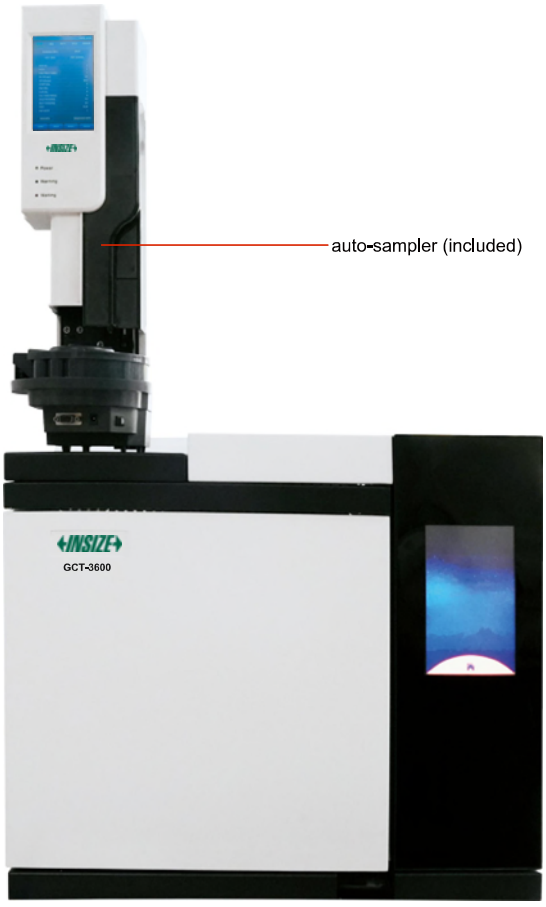
GAS CHROMATOGRAPHY (ADVANCED TYPE)
CODE GCT-3600

ANALYSIS METHODS AND CONFIGURATIONS CAN BE CUSTOMIZED ACCORDING TO INSPECTION REQUIREMENTS



hydrogen generator (included)

air generator (included)

electronic balance **(optional)**

- Widely used in petrochemical, environmental analysis, food analysis, drug analysis, polymer analysis, etc.
- The instrument is equipped with a 7" screen, supports hot-swappable, can be used as a handheld controller
- The instrument adopts a microcomputer system to control temperature with high precision, high reliability, and anti-interference
- The instrument is equipped with an electronic flow control unit (EFC) and an electronic pressure control unit (EPC) to improve stability and repeatability
- Chromatography microcomputer system with MODBUS/TCP standard protocol, can be interfaced with DCS system

STANDARD DELIVERY

Main unit	1pc
Auto-sampler	1pc
Computer	1pc
Software	1pc
Detector (FID)	1pc
Hydrogen generator	1pc
Air generator	1pc
Gas purifier	1pc
Column (SE-54)	1pc
Consumable and spare parts	1set*

*Including injection needles, injection pads, graphite pads, gas connection lines and other common consumables and tools

OPTIONAL ACCESSORY

Electronic balance	8304-220
Thermal conductivity detector*	GCT-D-TCD
Flame photometric detector*	GCT-D-FPD
Electron capture detector*	GCT-D-ECD
Nitrogen phosphorus detector*	GCT-D-NPD

*The detector needs to be ordered with the main unit together, up to two detectors can be ordered

SPECIFICATION

Analysis material		hydrocarbons, carbonaceous organic matter (COC), volatile organic compound (VOCs), etc
Control System	**Temperature control area**	8 signals
	Temperature control range	above room temperature 4-450°C, incremental 1°C, accurate: ±0.1°C
	Program temperature rise rate	0.1-120°C/min
	Air circuit control	full electronic pressure flow control
	Measurement range	0-100Psi (pressure), 0-1000mL/min (flow rate)
	Resolution	0-0.1Psi (pressure), 0-1mL/min (flow rate)
	External control	8 signals, auxiliary control output 2 signals
	Program temperature rise step	16 steps
Detector	**Type**	hydrogen flame ionization detector (FID)
	Detection limit	≤3×10^{-12}g/S (n-hexadecane)
	Baseline noise	≤1×10^{-14}A (after 2 hours of instrument stabilization)
	Baseline drift	≤1×10^{-13}A/30min (after 2 hours of instrument stabilization)
Auto-sampler	**Syringe specifications**	1, 5, 10, 25, 50, 100, 250, 500 (μL)
	Vial position	24 bits (customizable expansion to 160 bits)
	Solvent bottle position	2 bits (customizable expansion to 11 bits)
	Vial volume	2mL
	Injection volume	0.1-250μL
	Feed rate	fast, Slow, user-defined
	Feed mode	general, continuous, PTV, user-defined
Gas supply	**Carrier gas**	N_2≥99.999%
	Natural gas	H_2≥99.999%
	Combustion gas	dry oil-free air
Data processing		•can simultaneously process data from up to 5000 chromatographys •can automatically generate chromatograph files •can name chromatograph folders by time and shift sequence
Communication interface		ethernet: IEEE802.3
Working environment		15~30°C, ≤85%RH
Power supply		AC 220V, 50Hz, 3kW
Dimension (LxWxH)		560×530×480mm
Weight		60kg

DETECTORS

Thermal conductivity detector (TCD)	**Code**	**GCT-D-TCD**
	Sensitivity	≥10000mv • mL/mg (Benzene/Toluene)
	Baseline noise	≤20μv
	Baseline drift	≤20μv/30min
	TC bridge road	air break protection: protects the tungsten filament from damage
	Analysis material	purity of industrial gases such as oxygen, nitrogen, helium, etc. and VOCs
Flame photometric detector (FPD)	**Code**	**GCT-D-FPD**
	Detection limit	(S) ≤5×10^{-11}g/s (Thiophene/Ethanol), (P) ≤1×10^{-12}g/s (Methyl Parathion/Ethanol)
	Baseline noise	≤3×10^{-13}A
	Baseline drift	≤2×10^{-12}A/30min
	Linear range	S≥10^2, P≥10^3
	Analysis material	sulfur and phosphorus containing compounds
Electron capture detector (ECD)	**Code**	**GCT-D-ECD**
	Detection limit	≤1×10^{-14}g/mL (Propyl Hexahydroxy/Isooctane)
	Baseline noise	≤0.03mV
	Baseline drift	≤0.2mV/30min
	Radiation source	Ni^{63}
	Analysis material	halogenated compounds, peroxides, nitro compounds, metal-organic compounds, steroidal compounds, polycyclic aromatic compounds, etc.
Nitrogen phosphorus detector (NPD)	**Code**	**GCT-D-NPD**
	Detection limit	(P) ≤5×10^{-13}g/s (Malathion/Isooctane), (N) ≤7×10^{-13}g/s (Azobenzene/Isooctane)
	Baseline noise	≤3×10^{-13}A
	Baseline drift	≤2×10^{-12}A/30min
	Linear range	≥10^3
	Analysis material	organic compounds containing nitrogen and phosphorus