RoHS 2.0 Tester

Model: GC-MS 7220

Gas Chromatography Mass Spectrometry

Reference standards

IEC 62321-8:2017 "Determination of Certain Substances in Electronic Products - Phthalates in Polymers",etc.

product description

GC-MS 7220 Gas Chromatography-Mass Spectrometry Instrument A high-performance single quadrupole gas chromatograph independently developed by our company, the detection limit is better than $10^{-14}g$, reaching the mainstream level of similar products in the world, and can be widely used in Industrial manufacturing, chemical raw materials, environmental monitoring, scientific research and other industries. GC-MS first uses chromatography to effectively separate the mixture, and then conducts mass spectrometry identification. It is a strong combination, one plus one is greater than two. GC-MS combines the high-efficiency separation of chromatography with the advantages of high sensitivity and strong qualitative specificity of mass spectrometry, and is widely used in the qualitative and quantitative analysis of organic compounds.

Test substances

Professionally respond to RoHS 2.0 phthalate four items (BBP, DIBP, DBP, DEHP) substance testing.

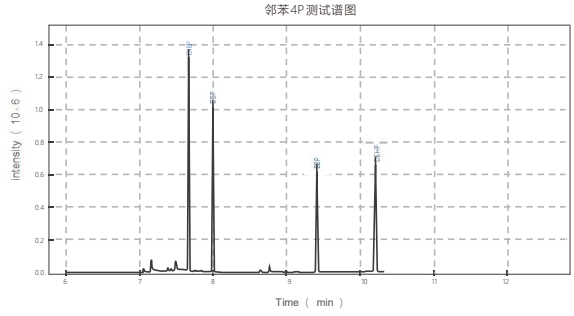
Can be upgraded to expand the test, after the expansion to meet the test: o-phenyl 16P, polybrominated biphenyl (PBB), polybrominated diphenyl ether (PBDE), polycyclic aromatic hydrocarbons (PAHs), dimethyl formamide (DMFA), CP 65 regulation response, REACH regulation Coping and so on.

Application industry

electronic appliances, wire and cable, new energy, medical equipment, toys and plastics, ink coatings, packaging materials and other industries.

Detection of four phthalates in RoHS 2.0

Reference standard: ICE 62312-8:2017 "Determination of Certain Substances in Electronic Products - Phthalates in Polymers", "GB/T 29786-2013 Determination of Phthalates in Electrical and Electronic Products Gas Chromatography-Mass Spectrometry".



Test spectra of four PAEs standard samples measured by GCMS
1.DIBP、2.DBP、3.BBP、4.DEHP

Step 1
Split the sample

Step 2
Accurate Weighing

Step 3
ultrasonic extraction

Step 4
Cooling and constant volume

Step 5
Test on the machine

Product advantages

1. Using a high-performance turbomolecular pump with high pumping speed, the ion source, quadrupole and detector are located in two independent chambers to maintain an excellent vacuum environment for the quadrupole and detector, so that the ions at the quadrupole The loss is reduced to a minimum, background interference is reduced, and detection sensitivity and stability are improved.
2. MS 7220, mass range 1.5-1250amu, leading in the industry. Meet the detection of large molecular weight samples such as polybrominated biphenyls and polybrominated diphenyl ethers.
3. High sensitivity. 7220 GCMS 1pg octafluoronaphthalene m/z272 signal-to-noise ratio is 800:1, and the detection limit of the instrument is better than 10fg, reaching the level of imported instruments.
4. The electronic pressure accuracy of gas chromatography is 0.01psi, the temperature control accuracy is 0.1℃, the high-precision quadrupole and the long-life electron multiplier jointly ensure that the retention time repeatability is better than 0.02%, and the peak area repeatability is better than 1%, which is world-class .
5. With synchronous scanning function, scan and sim data can be obtained at the same time for a sample injection test, improving analysis efficiency; with alternate scanning function, scan and sim can be performed alternately to expand the analysis function.
6. Turn off the filament and electron multiplier at the middle of the operation to avoid the solvent or other easily saturated substances that peak at the middle of the operation.
7. Cylindrical ion source lens group, pin-type electrodes, easy to disassemble, convenient for cleaning and maintenance, ceramic insulation components, uniform temperature, high temperature resistance, ultra-clean, up to 350 ° C, high temperature baking, anti-pollution. Ion source lens voltage status feedback for easy viewing.
8. Equipped with an ion source observation window, which can visually judge the status of the filament. Mass spectrometer and gas chromatograph are fully controlled in Chinese; one-key shutdown; chromatographic flow monitoring; chromatographic gas shut-off, mass spectrometry ion source, transmission line automatic cooling protection; molecular pump speed and current real-time monitoring, abnormal prompt.
9. Equipped with 24-position autosampler, compatible with thermal analysis, headspace, purge and trap of mainstream manufacturers.

Anti-control version autosampler

The 24-position liquid autosampler is a fixed tower autosampler for gas chromatography mass spectrometry analysis, and is used for high stability and high precision quantitative injection of liquid samples.

1. Configure a 24-bit autosampler:
2. Double-tower sampling can be realized;
3. The autosampler with dual injection ports in the turret can realize the selection of injection ports through software control;
4. Sampling depth and injection depth can be adjusted;
5. Automatic syringe cleaning function before and after sample injection: solvent A and B are automatically cleaned 0-15 times;
6. Sampling accuracy deviation: <1%
7. Software anti-control setting autosampler;
8. Injection volume range: 0.2-10μL;
9. The autosampler comes with a color display, which can synchronize parameters with the software;

Technical Parameters

Gas Chromatography (GC)	
Inlet type	Capillary column with EPC split/splitless maximum split ratio 1000:1
Oven temperature	Above room temperature 4℃~450℃; setting value resolution 1℃; column temperature change <0.01℃ for every 1℃ change in room temperature
heating ladder	The maximum heating rate is 120℃/min; the longest running time is 999.99min; the cooling rate is 450℃~50℃, <5min
temperature stability	6 steps, 7 platforms, gradient cooling
pressure setting	0~100psi
control precision	0.01psi
voltage control mode	Constant current, constant pressure, programmed flow, programmed pressure, pulse pressure
Carrier gas flow	0~200ml/min (N_2) , 0~1000ml/min (He)
Program Boost/Current	3rd stage
Electronic Pneumatic Control	Multiple electronic flow control channels for inlet, detector, or auxiliary gas; adjust pressure in 0.1 psi increments; barometric pressure sensor compensates for changes in altitude or environment
heating zone	Excluding the column oven, there are 6 independent heating zones (two each for the injection port, detector and auxiliary heating zone); the maximum operating temperature of the auxiliary heating zone: 300℃
mass spectrometry (MS)	
Temperament interface	The mass spectrometer controls the temperature independently, does not occupy chromatographic resources, the maximum temperature is 350℃, and the accuracy is 0.1℃
filament	double filament
ionization energy	10eV~100eV adjustable
Ion source temperature	Accurate temperature control ±0.1℃, up to 350℃
mass analyzer	Surface passivation, high-precision all-metal quadrupole, integrated assembly of pre-quadrupole and main quadrupole
Foreline vacuum pump	Mechanical pump, pumping speed 4.0m3/h
Backstage vacuum pump	Turbomolecular pump, 250L/s optional
Detector	electron multiplier
control method	Network port control
RF power	Wide Temperature Range RF Power Supply
Mass range	1.5u~1250u
Mass accuracy	±0.1u
Quality stability	±0.1u 48h
resolution	Unit mass resolution
SNR	1pg OFN m/z272≥800:1 RMS
scan speed	10000u/s

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