

COLINTech®

成都科林分析技术有限公司

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CHENGDU COLIN ANALYSIS TECHNOLOGY CO., LTD.

www.colintech.com



AutoHS®
Headspace Sampler
自动顶空进样器

ISO9001

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成都科林分析技术有限公司

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Company introduction 公司简介

公司简介

成都科林分析技术有限公司是专门从事分析仪器研制、生产和提供技术服务的高新技术企业。在样品前处理设备领域如自动顶空进样器,从设计研制到生产和技术服务取得了重大突破;在技术服务方面,特别是进口仪器技术咨询、维修技术服务一直受到广大客户的认可。本公司以强有力的先进技术和丰富的经验为客户提供优质服务和特殊产品(如多维气相和液相色谱仪)。在已成功推出具有优越性能的高度自动化的自动顶空进样器(已获专利授权)的基础上,又进行了系列化和功能扩展。自动顶空进样器经国家鉴定,评审结果为:此产品达到国际先进水平,建议加大推广力度;该产品获得2005BCEIA金奖和科技创新奖,也得到了科技部创新基金资助;已经通过“ISO9001:2008国际质量体系认证”。

Company introduction

Chengdu Colin Analysis Technology Co., Ltd. is a high-tech enterprise. It specializes in the professional development, production and technological service of the analysis instrument. To sample-handling equipment, such as automatic headspace sampler, we achieved a major breakthrough from design and development to production and technical service, especially the technical consultation, maintenance and service of the imported equipment which has been recognized by the majority of customers. The company offers good service and special products to customers with powerful advanced technology and abundant experience (such as the multidimensional gas and liquid chromatograph). After developing a kind of advanced and intuitive headspace sampler and putting it in market successfully, we carried out expansion and serialzation of function to it. This product passed the detailed performance appraisal by the government agency. The result is that AutoHS automatic headspace sampler reached an advanced level in the world, and proposed that we should promote the sales of this product strongly. Meanwhile, it earned the 2005 BCEIA Gold Medal and 2006 Technology Innovation Prize. It earned a support of the Innovation Fund for Technology-based Firms as well. Our products are certified under the quality requirement of ISO9001:2008.

AutoHS® Headspace Sampler 自动顶空进样器

自动顶空进样器

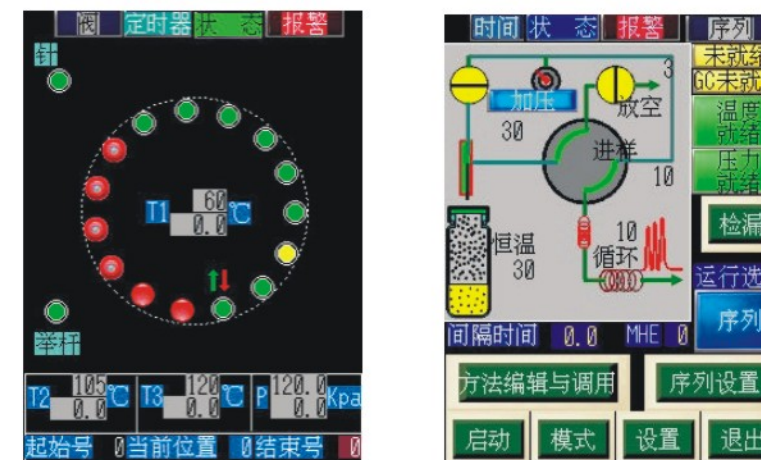
自动顶空进样相对于其它气相色谱样品处理技术来讲,它消除了复杂的容易产生错误的步骤。能使您在较短的时间内获得大量有用信息。AutoHS智能的触摸屏图形用户界面使得操作极为方便。专利的结构设计,具有动态和静态功能,大大拓展了顶空技术的应用范围。

AutoHS® Headspace Sampler

Headspace Sampler eliminate tedious and error-producing steps required in other GC sample preparation techniques, enabling you to extract more information from your sample in less time. The intuitive touch-screen graphical user interface provides easy control of the sampler. A patent device with dynamic and static function extended the range of the headspace technology application.



AutoHS®智能的触摸屏图形用户界面



Features 产品特点

远程控制

- + 网络控制
- + 能在 iPhone 和 iPad 上实现对仪器的实时完全控制



现代的用户接口界面

智能的彩色触摸屏用户界面，能方便地直接设定或编辑、存储及调用方法，快速启动分析。图示，先进的动态图形显示，能清楚地展示有关样品提取过程中各部分的动作状态，使用户对仪器运行过程一目了然。

Modern User Interface

An intuitive, color touch-screen user interface provides instant access to system functionality. Set parameters, recall stored methods and start sampling quickly. The modern screen graphical user interface displays a sampling process. And making users know it well.

全流路自动泄漏测试

使分析质量更为可靠。如图所示，用户选定泄漏测试，仪器将进入全流路泄漏测试（包括样品瓶在内），最大限度地保证仪器可靠性。

Leak Test

This function will help users to complete the whole carrier gas system test with a vial and get a high reliability.

动态和静态任意选择

采用单针双流路及气路选择技术，能很方便实现动态和静态顶空功能。防止样品高温氧化功能。提供一种样品反应动力学研究手段，对于一些特殊样品，Purge 模式为用户提供样品处理前顶空瓶内空气置换，避免了样品的变性，影响分析质量。

Dynamic and Static Mode are Available

The double holes in needle and gas selecting provide dynamic and static headspace methods. Employed the technique prevent from sample decomposition or oxidation. Employing the Purge mode, can sweep the air in vials with carrier gas. The mode is useful in kinetic studies.

高的样品输出特性

几乎任何样品中的挥发性化合物都能简单、快速用顶空气相色谱分析，顶空进样技术提供了对液相和固体样品的无溶剂萃取，从而节约了时间并消除了其它样品制备方法中可能出现的错误，如吸附和萃取。

High Sample Throughput

Volatile compounds in almost any sample matrix can be analyzed simply and quickly by headspace gas chromatography. Headspace sampling provides a method that extract sample of liquid and solid with a solvent-free and minimizes rework by eliminating many of the tedious and error-producing. The system completely rely on volatilization to separate the compounds from the sample matrix, so sample extraction, clean up and preconcentration are not necessary.

恒定模式和吹扫模式

AutoHS® 提供了极大的样品输出能力，40 个样品位的样品盘和 15 个样品位的加热炉，对许多应用都可以进行无人干预操作。在 Purge 模式下，可以一次性上装 13 个瓶进入炉内，进行气体置换。恒定模式（Constant Mode）使用优化的样品重叠模式，顶空的汽化平衡是在恒温条件下获得的，恒温器可以同时容纳 13 个样品瓶，以确保在上一个样品被分析完之前，准备好下一个样品的分析。这一过程，大大节约了由于分析下一个样品所需加热恒温平衡时间，也使样品的重复性得到保证。提供样品流路的同时，样品输出采用去活性衬管连接，消除了样品间的污染。

Constant and Purge Mode

AutoHS® provides high sample throughput. Equipped with a 40 sample tray and 15 positions in the heating oven allowing unattended overnight operation for many applications. It can load 13 vials to be purged in the Purge Mode. In Constant Mode, automated constant heating time is employed with optimized sample overlapping for maximum sample throughput in the minimum amount of time. It can simultaneously thermostat up to 13 samples, ensuring that the next sample is always ready for analysis upon completion of the previous run. This adds up to a significant time savings since there is no need to wait for the next sample to be heated and get best reproducibility. A deactivated sampling path, from switch valve to transfer line, is standard on the AutoHS. The clean gas swept the sample path.

时间渐进模式

时间渐进模式以一个较短的时间基数，对同等含量同样组份的一系列样品恒温平衡时间以等差级数递增，得到一组色谱数据，同一组分，当它在顶空达到平衡后，它的分压是不随时间变化的，平衡后所得到的色谱峰面积也就最高。从而获得一个最理想的平衡时间。在这个模式运行过程中，仪器将自动选择最短的运行时间，即能从单个样品恒温平衡到多个样品恒温平衡的自动转换。

Progressive Mode

In the Progressive Mode, the vials are thermostatted for an increasing time, representing a multiple of the first thermostating time. It is used in the determination of the necessary equilibration time, where a number of vials containing the same sample are to be thermostatted for increasing periods. Automatically optimized sample.

多次顶空模式

对于同一样品瓶的多次顶空提取，得到多个样品色谱图，用于方法的开发和特种样品的分析。

MHE Mode

The technique requires multiple extractions from the sample vial. This is very useful for developing method and running special samples.

仪器接口

与各种气相色谱仪连接，提供各种气路样品传输接口，电路输入/输出接口采用标准的信号接口，外部准备，启动、停止，准备输出，运行输出等。

Input/Output Port

Provided ports to connect with any gas chromatograph with a standard interface. They include: Ready In, Start In, Stop In, Ready Out and Run Out.

操作控制

能储存和运行 10 个用户定义的序列。具有样品追加功能。

Operate Control

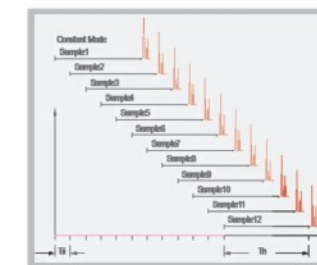
Store and Run up to 10 user-defined sequences and sample superaddition function.

电子压力控制

电子压力控制使操作更加方便。

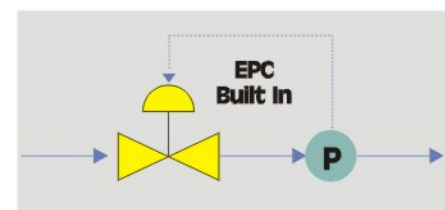
EPC Built in

It is more convenient to operate the instrument by using electronic pressure technology.



序列运行			
方法选择	方法号码	样品位置	
		起始号	结束号
[停止]	1	1	5
[等待]	5	2	6
[等待]	3	7	15
[等待]	6	1	5
[停止]	0	0	0
[停止]	0	0	0
[停止]	0	0	0
[停止]	0	0	0
[停止]	0	0	0
[等待]	平衡时间	05.0	Min
	剩余时间	1.1	Min

仪器接口



电子压力控制

Application examples 应用事例

No-01

AutoHS®自动顶空进样器由于采用了动态补偿的密闭提取方式,在载气压力下单位体积的样品量较高,能获得很低的检出限,如能检出1ppb的水中的苯。

AutoHS® headspace sampler has high volume of sample under pressure of carrier gas per unit because of using extracting method with dynamic compensation, it has a low detection limit and it can detect 1ppb of benzene in water.

No-02

由于采用简洁和低死体积的样品路径,对样品无记忆效应和歧视效应,对任何样品都能获得一致的定量提取效果,如无论对乙醇还是对吡啶和二氯乙烯都能获得良好的结果。

As a result of using simple and low dead volume of the sample path, the instrument has no cross-over and discriminatory effect on any sample, it can guarantee the consistency of extracted result quantitatively, for example, we received good results to detect ethanol, pyridine and dichloroethene.

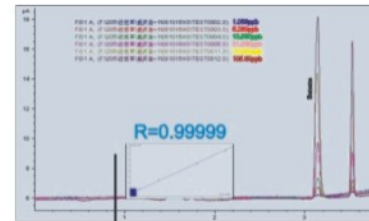
AutoHS® 1,1-DICHLOROETHYLENE Test			
No	Area	Average	Deviation
1	55981.699	640.790875	
2	55142.043	-198.895125	
3	54678.926	-862.012125	
4	56103.434	-312.739125	
5	55028.199	265.913875	
6	55606.852	-128.336125	
7	55214.602	-369.188125	
8	54971.75	-369.188125	
SUM	442727.505	-	-1131.684
STD			505.7625671
RSD			0.009139031

AutoHS® Pyridine Test			
No	Area	Average	Deviation
1	41245.168	-455.2135	
2	41324.105	-376.2765	
3	42005.938	305.5565	
4	41850	41700.3815	
5	41846.078	145.6965	
6	41931	230.6185	
SUM	250202.289	-	-1.45519E-11
STD			328.3187987
RSD			0.00787328

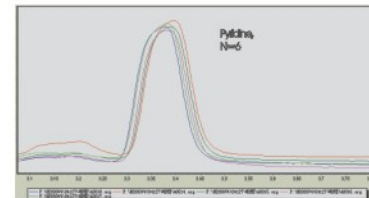
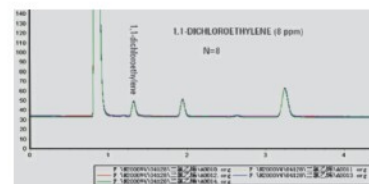
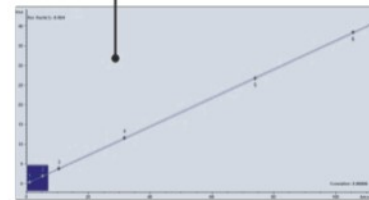
No-03

- 对挥发性极强的物质同样表现出杰出的品质—高灵敏度和稳定性。
- 如:水中挥发性卤代烃测定,在最低的一组标样0.15µg/L的CCl₄,重复性为1.8%。

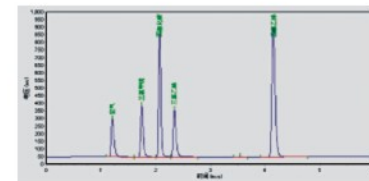
It shows outstanding quality to the highly volatile substances - high sensitivity and stability. Such as: Determination of volatile halogenated hydrocarbons in water: it's repeatability is 1.8% in a group of minimum standard sampler 0.15 µg/L CCl₄.



No-01 图例



No-02 图例

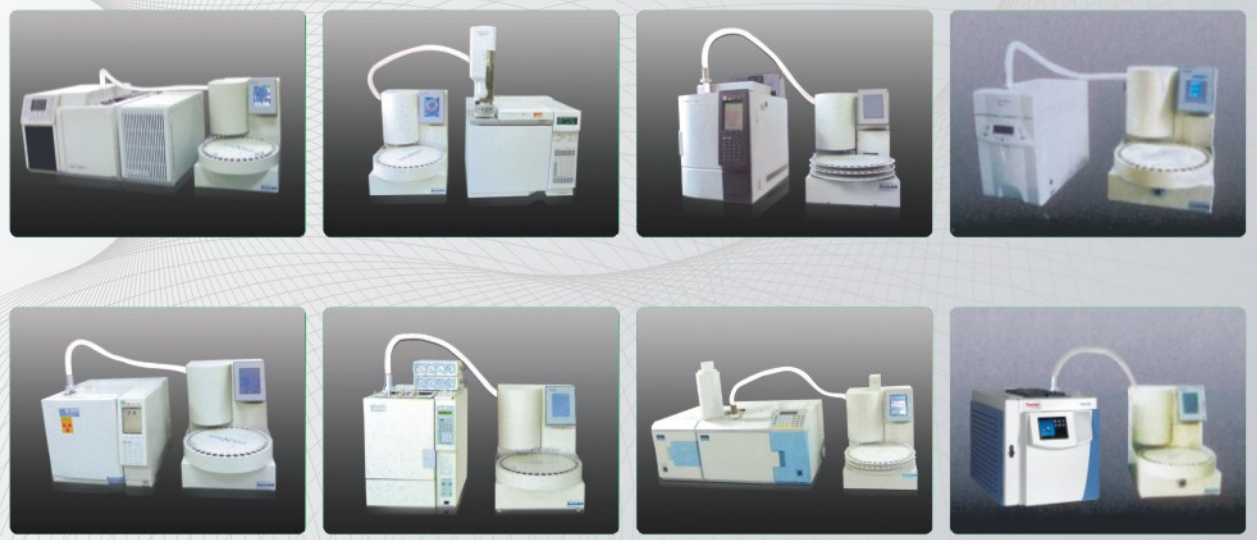


No-03 图例



Our honor
我们的荣誉

连接图



自动顶空进样器
AutoHS®
Headspace Sampler