

## FEATURES

### Tracking Instrument Maintenance and Calibration .....4

Finally a software package for tracking your instrument inventory, maintenance, and calibration. Keeping track of instrument costs and calibration is vital for complete SOPs and productivity tracking.

### New Velocity LC Columns from Optimize .....6

Optimize Technologies is promoting their breakthrough Velocity LC Columns with a limited time discount. These columns have a new internal design that dramatically increased chromatographic efficiency.

### Name Changes

We have had quite a few name changes in our field this year. The following changes are reflected in our new catalog.

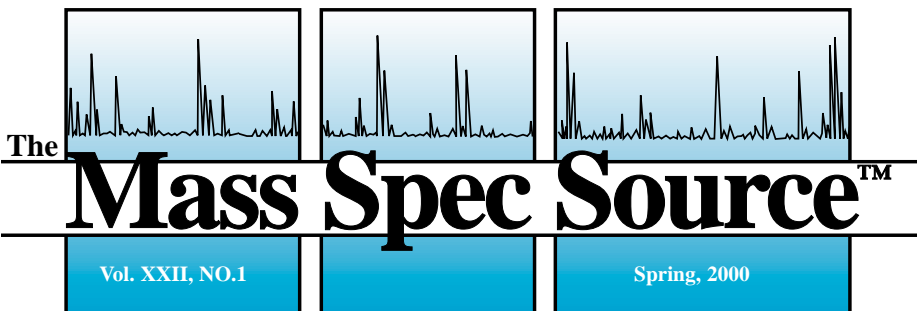
**Hewlett Packard → Agilent Technologies**  
*With the spin-off of the test and measurement division of HP to a new firm.*

**Galileo Electro-Optics → Burle Electro-Optics**  
*Galileo was purchased by Burle*

**ETP → SGE**  
*ETP was purchased by SGE*

## CONTENTS

PittCon .....	1
New Products .....	1-2
Name Changes .....	2
Terms and Conditions .....	2
Vacuum Pump Exhaust Filter System ..	3
Instrument Maintenance .....	4
SGT Triple Filter .....	5
Optimize Velocity Columns .....	6



*For Mass Spectrometry and Chromatography*

## NEWS FROM SIS

### PITTCON Science for the 21st Century 2000

Scientific Instrument Services will once again be exhibiting at the Year 2000 PittCon Conference. This year's meeting will be held in New Orleans the week of March 13, 2000. We invite you to stop by our booth (#2516) in the convention center.

We will be introducing the Model 2000 AutoDesorb™ System, Thermal Desorption Sampling Chambers, Vacuum Pump Filter System, a new line of LC Fittings, and many other new products and services for GC and MS at this meeting. In addition we will be demonstrating the latest versions of SIMION 3D for Windows and NIST 98 in our booth. Please stop by our booth, we would be glad to discuss any of our products and services with you.

In addition we are presenting four posters at PittCon which are listed below. These posters cover a range of research on our product lines including SIMION, CRIMS, Thermal Desorption and LC/MS.

### NEW PRODUCTS



### AutoDesorb™ Now Shipping

SIS has started shipping the new AutoDesorb™ Thermal Desorption system. This autoinjecting system has a capacity of 12 samples and is completely computer controlled by software that integrates with HP ChemStation. Details of the AutoDesorb™ system are available on our web site. The system now supports both the HP 5890 and HP 6890 GC's. As discussed on the following page, we are also developing a wide variety of sample

### SIS Posters and Presentations at PittCon 2000

1. 1933P Simulation of a Unique Cylindrical Quadrupole Mass Analyzer Using SIMION 7.0.
2. 1536P Improvement of Detection Limits in GC-CRIMS Using Noise Reduction Software
3. 1539P Analysis of Polynuclear Aromatic Hydrocarbons in Soil Using Automated Direct Thermal Extraction-GC-MS.
4. 1691P Solvent Vapor Removal Efficiency of a Redesigned Interface Between HPLC and GC Detectors.

collection devices to match the throughput of the new automated injector. If you are interested in upgrading your current thermal desorption techniques to the AutoDesorb™ please contact SIS for more information.

## Agilent, New Objective, and Optimize Dealerships greatly increase LC offerings.

We are now the only supplier giving our customers a choice of chromatography columns from four of the top manufacturers. SIS offers columns from Agilent (HP), Optimize, J & W, and SGE. In this newsletter we are proud to highlight the Optimize Velocity columns (see page 6). These columns offer you quality separations with quick connect fittings for high throughput applications.

## We Now Have **EVERYTHING** for Agilent (HP) Instruments.

Our Agilent dealership now allows us to support HP users with the complete line of Agilent parts and supplies. For example, we can now sell original equipment detectors and filaments. SIS customers, therefore, can choose among all of the available detectors for their HP instruments. Our traditional repair services are now supplemented by the ability to offer new replacement parts. We are stocking many of the more critical Agilent parts and can deliver by the fastest means available.

## LC fittings from SIS

SIS is proud to offer its own line of LC parts and fittings including mobile phase filters and sparging frits, high and low pressure connectors, and unions, tees and crosses. We also have items such as nuts, ferrules, and many fingertight connectors. Biocompatible products include filters and a vortex based mixing tee. Finally, we are offering PEEK™ sample loops and backpressure regulators. These items can be found on pages E22 through E30 of our new catalog.


## Membrane and Bulk Samplers to be shown at Pittcon 2000.

SIS is developing two new sample collection devices for our Thermal Desorption system. The first is a membrane sampler. This device is capable of selectively collecting volatiles from a specific side of a membrane. Initial applications have included the analysis of food packaging and composite sheets. The system can also be used to monitor the transmission of volatile materials across a membrane or other interface. The second device is a bulk sampler designed to hold samples of up to 4 inches in diameter. It is capable of a maximum temperature of 800°C. Both samplers can be made in custom sizes. For more information contact SIS.

## Book and Software Offerings

During the past year we have greatly expanded our offerings of scientific books and software. Our most popular software continues to be SIMION and NIST programs. However, our customers have also been very happy with items such as training programs, chemical and sample inventory, MSDS utilities, chromatograph simulators, and, of course, mass spec tools. Our book offerings have been supplemented by an agreement with CRC press. We now offer all of their fine products including, for example, the *CRC Handbook of Chemistry and Physics*. Our book listings are now divided into over 20 scientific classifications and topics. Visit our web site at [www.sisweb.com](http://www.sisweb.com) for the latest listings.

## MSLinks Expanded - Again!

SIS continues to expand our web site.  [www.sisweb.com](http://www.sisweb.com) has always been and is still one of the largest sites devoted to mass spec and chromatography. We currently have approximately 2100 pages of information. During the last few months we have greatly extended our "MSLinks" section. This part of our site includes massive amounts of resources and links to other sites on the web. For example, we now have the largest selection of academic laboratory links. If you don't see your lab and you would like to be listed, simply contact us by e-mail.

### Terms and Conditions

Scientific Instrument Services (S.I.S.) continues to supply "The Mass Spec Source" newsletter as a service to our customers. Printed four times a year, it includes articles and notes on new products and procedures of interest to mass spec and GC users. Papers from all fields of scientific inquiry in which mass spectrometry and gas chromatography can play a role will be considered and subject to review. However, S.I.S. reserves the right to reject any article that is in direct competition with S.I.S. products.

### Articles and Application Notes

Editorials and reviews on new instrumentation and techniques for GC/MS will be considered for publication. These articles may be any length and our Graphics Department will aid you in any way you may need.

### Mass Spec Tips

Any new ideas or tips that could benefit other mass spectroscopists can be submitted for inclusion in this section.

### For More Information

Anyone interested in writing in any of the areas above should contact the editor of the Mass Spec Source, at (908) 788-5550. We are always trying to improve this newsletter, if you have any suggestions please give us a call. Thanks for your continued support.

### Warranty

S.I.S. does not warranty that the items described herein are usable or fit for a particular purpose. Our company makes no representation as to condition or character of the merchandise. S.I.S. will not be responsible for consequential or special damages.

### "The Mass Spec Source"

#### Editorial Board & Newsletter Staff

*John J. Manura*  
*Christopher W. Baker*  
*Dr. Steve Colby*  
*Eric Butrym*  
*J. Philip Tielmann, Production*



### Scientific Instrument Services, Inc.

1027 Old York Road  
Ringoes, NJ 08551-1039

Phone: 908-788-5550 FAX: 908-806-6631

Web: <http://www.sisweb.com>, E-mail: [http://www.sisweb.com/contact](mailto:mailto:http://www.sisweb.com/contact)

Copyright 1999 by Scientific Instrument Services, Ringoes, NJ 08551



# Vacuum Pump Exhaust Filter System

*Maintain a Safe Working Environment by Eliminating Air Contaminants Caused by Vacuum Pump Exhaust Emissions*

## 2 Stage Exhaust Filter System

### Stage 2 - Charcoal Filter

- High Efficiency Filtration of Organics
- Traps Organic Compounds on Charcoal Bed
- Low Operating Cost
- Completely Disposable
- Attaches on Top of Oil Mist Eliminator

### Stage 1 - Oil Mist Eliminator

- Eliminates Oil Fumes
- Prevent loss of Pump Oil
- Returns Used Oil to Pump
- Clamps onto most vacuum pumps
- Replaceable Filter



The SIS Vacuum Pump Exhaust Filter System attaches to most rotary and belt driven vacuum pumps including all Alcatel and Edwards pumps. Additional details are on our WEB site or call us for more information.

Part #	Description	Price
FK100	Filter Kit for Alcatel Pumps and Edwards RV Series Pumps	\$242.45
FK200	Filter Kit for Edwards E2M2 and Larger Pumps	\$283.95
FK250	Filter Kit for Edwards E2M1.5 Pump	\$361.95

# FEATURE

## Instrument Maintenance & Calibration System IMCS™ Pro 2000

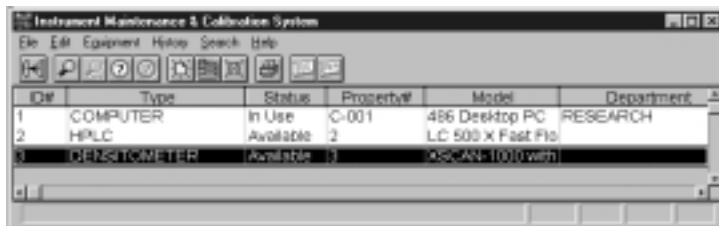
*Control costs, extend instrument life, and improve quality*

The Instrument Maintenance & Calibration System (IMCS Pro) is a high-performance Windows-based database program, specifically designed for tracking instrument history. In IMCS, the term "instrument history" refers to information regarding the type and identification of the instrument, where it is and who is using it, what problems are ongoing with the instrument, as well as what problems have occurred in the past and how they were corrected. IMCS allows one to schedule periodic maintenance and inspection events and to keep track of when they were performed and what the outcome was. The program comes with an extensive array of reports that allow one to create customized output.

In short, IMCS is a fast, easy-to-use, and comprehensive solution to a pressing need: the ability to maintain long term, organized, and readily accessible maintenance history on laboratory instruments and other types of equipment.

This article will provide a detailed explanation of what IMCS can do, along with several screen snapshots that illustrate how the program is organized.

The idea behind IMCS is quite simple – provide a very easy to use equipment tracking program. To achieve this, IMCS uses an Equipment List, as shown below. One can resort this list by just clicking on any column header. One can limit the equipment displayed in the list to a certain type of equipment, or a particular department, or by whether the equipment is "In Use" or not, as well as a variety of other criteria.



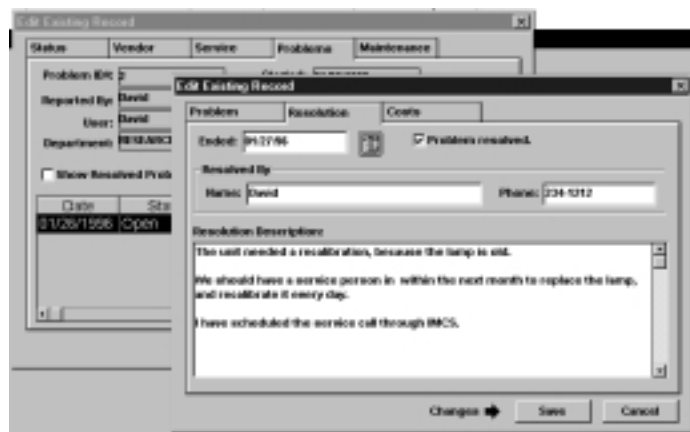
The Equipment List provides instant access to detailed information on any piece of equipment: just double-click on the row you want.

Clicking brings up the "Detail Cards", which are a series of index cards showing all the detailed information known about the instrument. There are five cards: Status (for identification and location), Vendor (for purchase information), Service (for warranty and other service contract information), Problems & Maintenance (we will look at these closer in a minute).



IMCS was designed by people who use laboratory instruments for people who use them. The interface was designed to be very easy to use for the novice but still packed with features and power for the expert. For example, notice that button that says "Jan 1" (it looks like a calendar)? Anywhere you need a date to be entered, you can click a button and up pops a multi-year calendar, just select a date and click OK! And the little "+" buttons allow you to quickly add new Departments and Equipment Types on the fly.

The Problems and Maintenance tabs are really the heart of IMCS. The problem tab is used for keeping track of equipment trouble. When a problem occurs, the user enters the date and their name and department, and then a description of the problem (which can be quite long if needed). One can generate reports and work orders that show problems which are "Open". When the problem is corrected, the Resolution tab is filled out (see below), and the problem is marked "Resolved". In this way, problems never get lost, and the solutions are always available for the next time! Financial accounting is also simplified.





As you can see, there is a lot of power packed in to an intuitive screen layout. IMCS uses the Crystal Report Engine for reporting, and comes with a wide variety of reports for listing equipment by type, department, status, or ID#; for printing work orders; for listing vendors, and for showing open problems or due events.

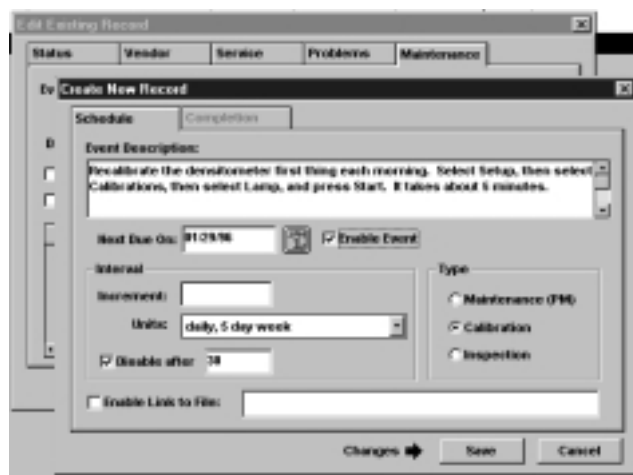
If you have to maintain records about your instruments, you owe it to yourself to try IMCS Pro.

The Maintenance tab is where you schedule events. In IMCS, an event is some operation you intentionally want to perform, perhaps at some time in the future. Instead of having to remember it, you tell IMCS about it, and when you want it to occur. Then IMCS notifies you when the event becomes "due". IMCS is really good at scheduling events. For example, what if you need to do a Preventative Maintenance operation on some instrument, every week? You can tell IMCS when the first due date

is, and then to schedule it weekly, and IMCS will do it automatically!

You have a wide variety of options for how often to schedule an event, from once, to daily, to semi-annually, and just about anything in between. You can also set the maximum number of times to perform the event, and optionally run some other application for maintaining external data (like an excel spreadsheet with calibration records).

If you have to maintain records about your instruments, you owe it to yourself to try IMCS Pro.



Part No.	Description	Price
12196	IMCS - Single User	\$399.00

Requires Windows 3.1, 95 or NT  
Quantity Discounts and Demo Available

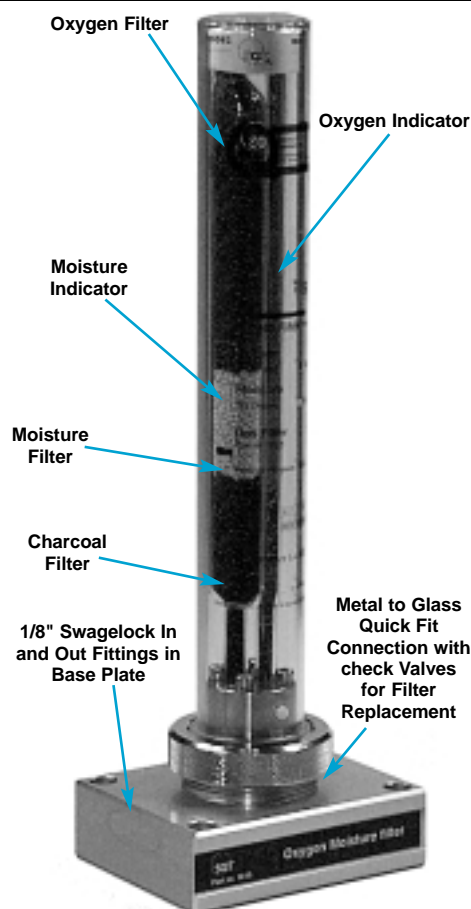
# Super-Clean MS-Triple Gas Filter

The Ultimate GC/MS Gas Filter System For Clean GC Gases

*One single Super-Clean MS-Triple Filter purifies the carrier gas for your GC/MS system for Hydrocarbons, Oxygen (color indicated) and Moisture (color indicated) to at least 6.0 quality.*

## Features

- Single Replaceable Cartridge for Hydrocarbons, Moisture and Oxygen
- Purifies gas to 6.0 grade or better
- Recommended for GC/MS Applications
- Visual Indicators for Both Moisture and Oxygen
- Fully Glass and Metal - No Diffusion of Oxygen into the System!
- Quick-Fit Baseplate - Replacement of Filter within Seconds
- Check Valves Close during Cartridge Replacement Allow for fast filter changes in seconds without shut down of gas supply
- Metal to Glass Connection of Filter - to Quick-Fit Baseplate No Diffusion and No Microleaks!
- Polymer Shielding of Glass Filter - Safety!



Part #	Description	Price
2030101	MS-Super Gas Filter Kit (includes base plate and MS-Super Gas Filter)	\$330.00
2020403	MS-Super Gas Cartridge (Replacement Cartridge)	\$140.00

<b>Total Capacity</b>	500 ml of Oxygen 3.6 gram of Water
<b>Effectivity:</b>	<.1 ppm at a Flow of 2 l/m
<b>Max. Supply Pressure</b>	11 bar (150 psi)

# The Velocity™ Analytical Column System

## A New Type of Analytical Column Designed for High-Throughput HPLC

By David Ingram, Optimize Technologies, Inc.



### The Column: The Heart of your HPLC

The analytical column is the heart of the HPLC – the place where all of the time and effort spent on achieving smooth pump performance, proper solvent chemistry, and effective sample preparation techniques come together to create the environment necessary for a well-resolved and sensitive separation. In recent years, numerous advances have been made with respect to the quality and purity of reversed-phase packing materials. But improvements in the design and function of analytical column hardware – the combination of column tubing, end fittings and frits that keeps the stationary phase tightly packed and firmly in place as solvent flows across it – have not kept pace with packing material advancements. The most significant improvements have come with the introduction of cartridge-based column hardware systems. While these systems do help to minimize the need to fiddle with tube fittings, some bring greater ease-of-use with the downside of increased extra-column volume, and thread-turning remains an integral step in the removal and replacement of the analytical column cartridge.

As a company known primarily for performance and innovation in HPLC hardware, we at Optimize Technologies are proud to make our first entrance into the analytical column arena a big one. The introduction of the Velocity analytical column system marks a dramatically different approach to analytical column

design. Velocity combines the versatility of a cartridge-based design with a low-dispersion, high-pressure TRUE quick-connect mechanism, delivering unparalleled ease of use, and rapid changeover of column and precolumn protection components.

### A Brand New Design

The Velocity analytical column system is based on our patent-pending OPTI-

LYNX quick-connect technology, which allows you to make and break HPLC tubing and component connections in a simple, easy quarter-turn. OPTI-LYNX/Velocity connections are made by bringing two component halves – a bayonet side and a slotted receptor side – together with a twist and a click. They are incredibly easy to actuate, given that they are rated to operate reliably at pressures of up to 6,000 psi. But the true versatility of this system is found between the two component halves, where practically any in-line HPLC component can be accommodated – anything from in-line/precursor filters, to guard columns, trap cartridges, and of course, analytical columns.

### Fast Hardware for High Throughput

The Velocity Analytical Column System is targeted to the short/fast column user, including chromatographers concerned with drug-discovery/combinatorial chemistry assays and LC-MS. To meet the demands of chromatographers in these fields, we offer a range of column lengths from 15 to 50 mm and diameters from 2.1 to 4.6 mm. For

### Here's how it works:

**1** Start by connecting your existing tubing to an OPTI-LYNX Holder Cap using the included fingertight fitting.



**2** Then, tighten a slotted Holder Tube into the Holder cap. There are two Holder Tubes of different lengths to choose from—one for OPTI-LYNX guard column cartridges, and one for filtration elements and straight-through (union) connections.



**3** For every plug, there's a socket, and for every OPTI-LYNX Holder Tube, there's a Bayonet Connector. We have Bayonets for making ZDV connections to any analytical column (our Universal Port Adapter) and Bayonets that adapt to 10-32 fingertights, for use in-line anywhere on your HPLC system.



**4** When it's time to bring the two halves of OPTI-LYNX together for a high-pressure, quick-connect seal, all you need is an OPTI-LYNX insert. Choose a guard column cartridge, a precolumn or in-line filter, or a sealing element for straight-through connection.



packing technology, we have partnered with the experts at Column Engineering, makers of state-of-the-art Monitor™ and rugged Reliasil™ ODS phases. Rounding out our packing selection is Kromasil™, a phase that is popular in the pharmaceutical and bioscience industries. Custom packing with the material of your choice is also possible, subject to availability.

## Velocity: Different in Form and Function

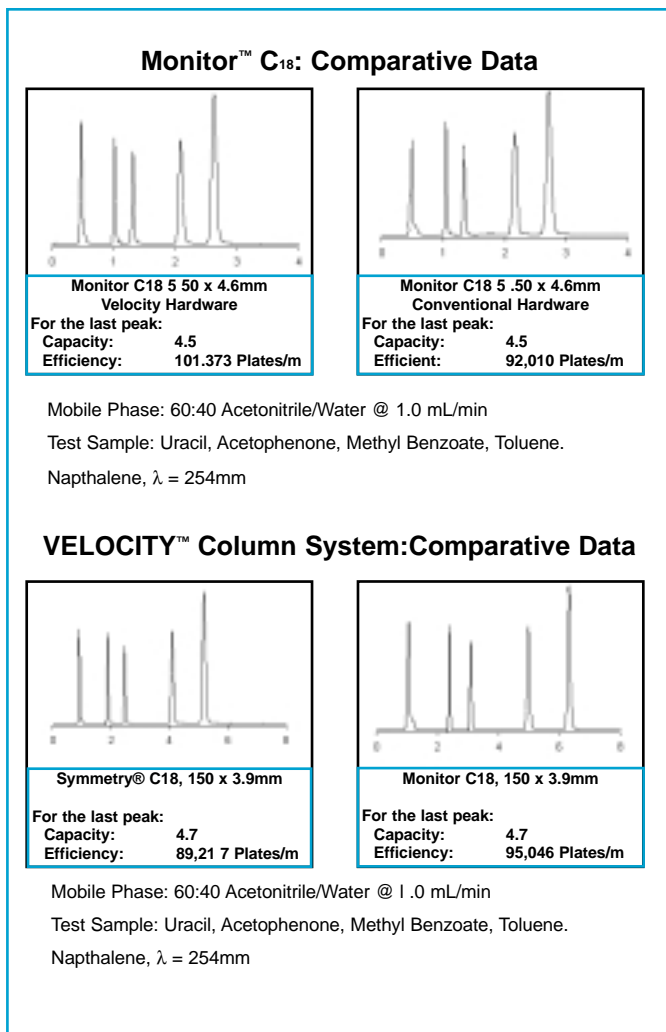
The Velocity system installs simply, with no more effort than is required to connect a conventional column. Once installed, however, Velocity cartridge columns can be changed in seconds – literally. A simple quarter-twist allows you access to the column cartridge, and to any precolumn protection device you are using (OPTI-LYNX/Velocity guard columns and precolumn filters are available in numerous phases and porosities.) When new components are in place, the Velocity system closes again, with a quarter-turn in the opposite direction. Changing column lengths is simply a matter of changing a Holder Tube – all other Velocity hardware remains in place, allowing column lengths to be switched very quickly.

## Comparative Data

Velocity's low-dispersion component interface delivers quick-connect capability without adversely affecting extra-column volume. Velocity column hardware has an internal volume of less than 2µL, for convenience without compromise. The

chromatograms in **Figure 1** show the same 5 component separation performed on two columns of the same dimension; the first run is made using a 4.6 x 50mm Velocity column packed with Monitor C18, while the second shows the same separation on a conventional 4.6 x 50mm with the same packing material.

While custom-packing is always an option, we have selected three versatile, high-performance ODS phases as standard. Of these phases, the Monitor™ C18 will be of particular interest to users of Waters™ Symmetry® packings. Monitor C18 is an excellent alternative for challenging applications requiring base-deactivated stationary phase. In **Figure 2**, Monitor C18 is shown in comparison with Symmetry C18 using the same 5 component separation as in **Figure 1**.



Contact SIS or Visit our WEB Site for Ordering Information

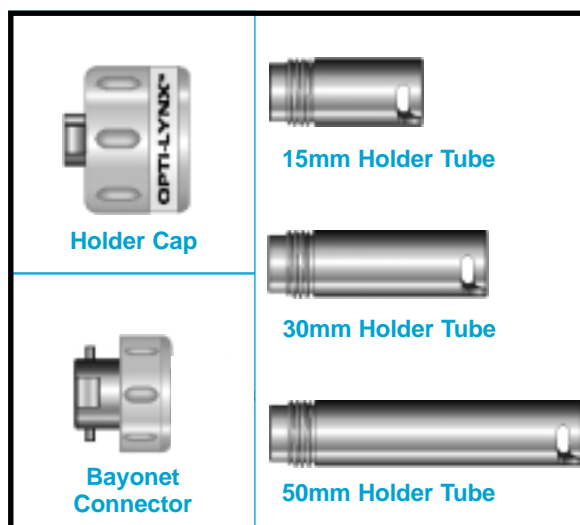


## All-In-One Velocity™ Holder Kit

To use the Velocity™ system, you'll need to start with a Holder Kit. Then, you can order Velocity cartridge columns in the lengths, diameters and packings you require. This kit includes all the hardware you need to use Velocity columns in all three lengths — 15, 30, and 50mm: complete with the fittings you need to connect your tubing.

Velocity columns are available with Monitor™ C18, Kromasil™ C18, and Reliasil™ C18 packings and with 2.1, 3.0 and 4.6 mm ID

For Additional Details on the Velocity Column System and Columns Available, See the SIS 2000 - 2001 Catalog Pages E41 - E43.



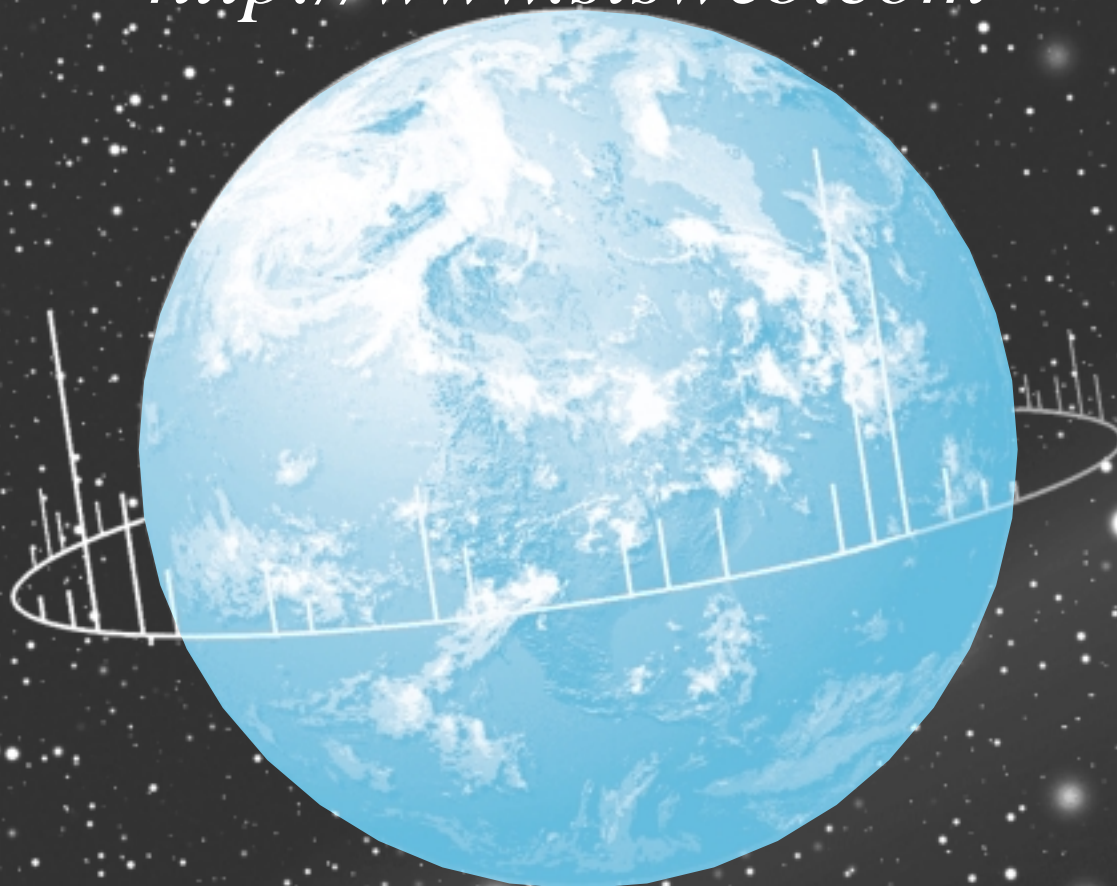
Part Number	Description	Price
12-02398-AA	<b>All-In-One Velocity Holder Kit:</b> Includes: Holder Cap, Bayonet Connector, 3 Holder Tubes (15, 30, 50mm) and all required fittings.	\$185.00



# Explore The World of Mass Spec

*S.I.S. Invites you to explore our web site.*

*<http://www.sisweb.com>*



## **The S.I.S. Web Site is continually expanding.**

- **MSLinks** - *expanded listings and reference materials*
- **Books** - *expanded listings of scientific related books*
- **Application Notes** - *on thermal desorption GC and GC/MS*

Scientific Instrument Services  
1027 Old York Rd.  
Ringoes, NJ 08551

Bulk Rate  
US Postage  
**PAID**  
Permit No.388  
Somerville, NJ

