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AUTOSAMPLERS

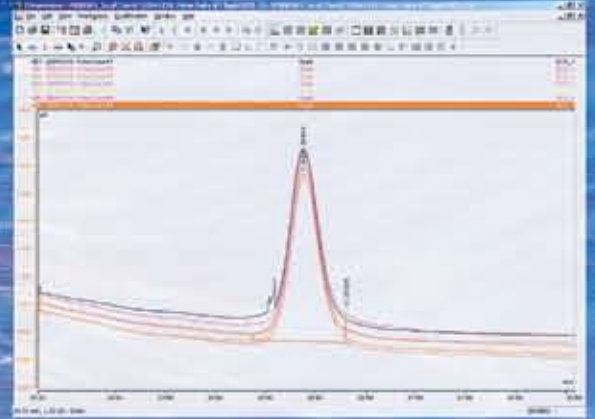
AS, AS40, and AS-HV Autosamplers



Passion. Power. Productivity.

Simultaneous

The powerful new Dionex AS provides a full suite of automation capabilities that elevates laboratory productivity to new heights. Flexible, customizable, and easy to use, the AS establishes a new standard for laboratory automation performance.



Automated
The chromatogram
in detection
(5 ppb)
example
concentration
desired
this concentration

Sequential

AS AUTOSAMPLER

Advanced Features

Perform full-loop, partial-loop, limited sample, sample preparation, sample dilution, precolumn derivatization, matrix elimination, sample preconcentration, and more. With so much application flexibility, even your most difficult analytical challenges can now be fully automated.

Simultaneous and Sequential Analysis

Double sample throughput with one autosampler. The AS runs both simultaneous and sequential analysis to dramatically improve laboratory productivity. The simultaneous injection technique (Figure 1) speeds analysis by using one AS to supply a single sample to two systems running

unique or similar applications. Sequential analysis (Figure 2) introduces two unique samples to two systems running unique or similar applications using only one AS.

Application Flexibility

Since your application needs are unique, the AS can be configured to accommodate even the most complex matrix. From large volume syringes to small volume sample trays, you now have the flexibility to mix and match features to suit your needs. In addition, since all wetted surfaces are inert, there is no longer need to compromise when it comes to running metal sensitive samples or corrosive buffers.

Sample Concentrate/Matrix Elimination

Achieve the lowest possible detection limits on your most difficult analysis with sample concentrate/matrix elimination Figure 3. With these powerful sample preparation tools, even the most complex tasks can now be automated. The AS simplifies each step with powerful Chromeleon® Wizards and the option of front panel control.

Precise Performance

The AS provides accurate and consistent performance for all your sampling needs. From small sample volumes to large-loop or concentrator loading, delivery of sample is precise, reliable, and accurate with every injection and operation.

Temperature Control

Temperature control is ideal for thermally sensitive samples including carbohydrates, amino acids, organic acids, proteins, peptides, and nucleic acids. The AS reliably controls the sample environment to ensure that even the most reactive samples are safely maintained in the sample tray.

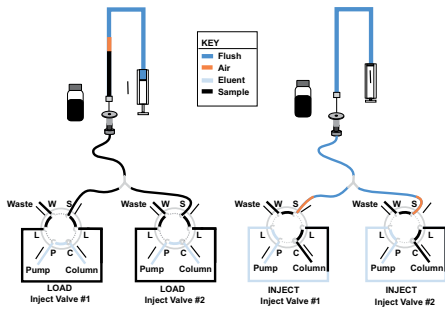


Figure 1. Schematic of simultaneous injection, using one AS with two systems.

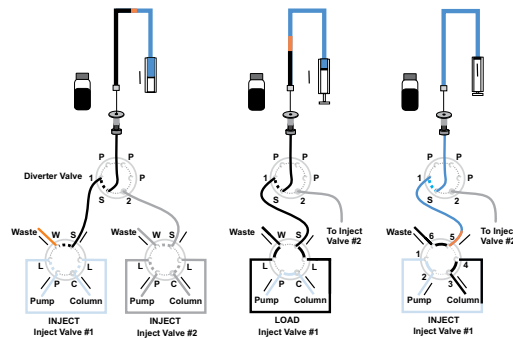


Figure 2. Schematic of sequential injection using one AS with two systems.

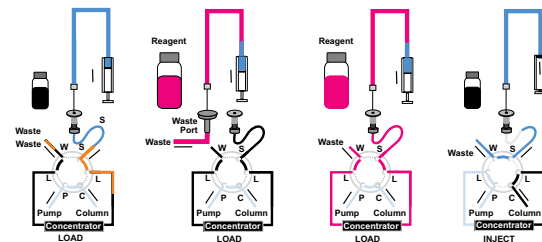


Figure 3. Schematic of concentrate/matrix elimination, using one AS.

Autosamplers



IOUS

Concentrate

ate difficult applications:
romatogram illustrates the use of the AS
mining low concentrations of perchlorate
via sample preconcentration. In this
e, 5 mL of sample were injected over a
rator column (TAC-ULP) to achieve the
detection limits. RSDs for perchlorate at
concentration are less than 1%.

The Dionex AS40 provides features that you would expect in a high-end autosampler yet with a much lower price. Affordable automation is now within your reach without sacrificing performance.

Matrix Elimination



AS40 AUTOSAMPLER

Fully Inert Peek Needle and Flow Path

Only Dionex provides a completely inert pathway for your sample. The unique PEEK needle design protects sensitive samples from metallic contamination and ensures compatibility with aqueous and reversed-phase eluents.

Reliability

Load the AS and walk away. With fully integrated communication feedback and audit trails, the AS performs every assigned automation task and tracks each activity. Ruggedized with electrically actuated Rheodyne valves, the AS completes each task with ease and confidence.

AS Features:

Syringe Size	250, 500, 1000, 5000, and 10000 μ L
Vial Size	1.5 μ L to 10 mL
Heat/Cool	4–60 $^{\circ}$ C
Injection	Electrically actuated, Rheodyne valves
Flow Path	PEEK / Teflon [®]
Sample Capacity	49 (10-mL) vials / 100 (1.5-mL) vials
Applications	Simultaneous, sequential, concentration, matrix elimination

Powerful and Easy to Operate

The AS40 is a breeze to use with one-button start-stop operation. Enjoy program-free logic that automates your sample tasks. It's easy. Load your samples, press start, and your analysis begins. The AS40 takes the guesswork out of autosampler programming through simple serial sample loading.

Automatically Filters as It Samples

The AS40 offers a unique sample filter cap. Each sample can be filtered during loading by an optional 20- μ m filter in the vial cap. This unique design removes the tedious task of individually prefiltering samples, saving time and labor. Caps without filters are also available for particulate-free samples.

Sample Concentration

With unique positive displacement, the AS40 is able to concentrate up to 5 mL of sample through a concentrator column. Achieve lower detection limits with no additional sample preparation. Load, concentrate, and review the results. The AS40 does the rest.

Chemically Inert

The AS 40 is entirely chemically inert. All wetted surfaces are non-metallic and designed to work with a large variety of samples, from deionized water to pH extreme chemicals, reagents, and buffers. Inert materials ensure that sample contamination is minimized and that the hardware life is extended.

Low Profile

With one of the smallest footprints available in an autosampler, the AS40 occupies very little bench space, yet has features that support what you need to perform your analysis, with reliability, speed, and precision.

AS40 Features:

Injection Type	Displacement into existing injection valve
Vial Size	0.5 mL and 5 mL
Sample Filtration	Optional caps with or without filters
Flow Path	PEEK / Teflon
Sample Capacity	66 (5-mL) vials / 88 (0.5-mL) vials
Applications	Concentration, matrix elimination

The Dionex AS-HV simplifies low-level ion analysis with state-of-the-art design, customizable fluidics, and trace-compatible materials.

Trace Analysis



AS-HV AUTOSAMPLER

High-Volume Samples and Optimized Automation

When higher sample volumes are required for trace analysis, matrix elimination, or automated sample preparation, the AS-HV delivers with ease of use, reliability, and flexibility. The AS-HV provides superior functionality in a very compact footprint. Using a unique pirouette arm motion, the AS-HV provides powerful automation for many sampling requirements.

- All non-metallic flow path using a unified PEEK sample delivery needle:
 - With all PEEK fluidics, the AS-HV achieves the lowest possible level of detection by using the cleanest materials on all wetted surfaces.
- Sample volumes up to 250 mL with extremely clean tissue culture flasks or Nalgene poly bottles:
 - When detection limits count, rely on trace grade vials from Dionex. Available in two configurations, polystyrene and polyethylene, each sample vessel configuration is fully supported with optional septa.

- Rapid, precise arm motion speeds up sampling time to maximize efficiency:
 - The unique X, θ , Z movement of the AS-HV arm provides a unique and refreshing approach to autosampler arm movement. The design minimizes the mechanical motion typical of autosamplers and thus increases the reliability and ease of operation of the unit.
- Optional sample delivery pumps:
 - Not all applications are created equal; therefore, the AS-HV supports syringe pump, single piston and peristaltic pump sampling options.
- Optional trace analysis cover:
 - Extremely clean samples require isolation and protection from ambient contamination. The AS-HV can be isolated with a protective cover that can be purged with ultrahigh purity gases.
- Vials accommodate split septum that can be pierced with any supported probe:
 - To further isolate your sample, each Dionex sample vessel can accommodate septa to ensure that no atmospheric or other contamination comes into contact with the sample
- Fully integrated Chromeleon control:
 - To ensure maximum productivity, the AS-HV is fully controlled using the advanced features that you have come to expect from Chromeleon.

AS-HV Features

Parameter	Specification
Sample Capacity	24 – with 250 mL Tissue Culture Flask 15 – with 250 mL Narrow Mouth Nalgene Bottle
Vial Size	250 mL
Number of Injections per Vial	Variable
Injection Type	Full Loop / Concentrator
Flow Path	PEEK
Sample Loading	Push or Pull
Applications	Concentration, matrix elimination, simultaneous

Ordering Information

In the U.S., call 1-800-346-6390 or contact the Dionex regional office nearest you. Outside the U.S., order through your local Dionex office or distributor. Refer to the following part numbers.

AS	
Description	Part Number
AS	063102
AS with sample prep	063103
AS with sample tray temperature control	063106
AS with sample prep and sample tray temperature control	063107
AS with internal injection valve	061786
AS with internal injection valve and sample tray temperature control	061788
Simultaneous Injection AS with no injection valves	063104
Simultaneous Injection AS with sample prep and no injection valves	063105
Simultaneous Injection AS with two internal injection valves	063101
AS40	
Description	Part Number
AS40 with 5-mL Starter Vial Kit*	046029
AS40 with 0.5-mL Starter Vial Kit*	046028
*AS40 Starter Vial Kits include 12 cassettes and one box of vials with filter caps.	
AS40, acid resistant, with 5-mL Starter Vial Kit	055539
Six-position cassettes, box of six, for 5-mL vials	046032
Eight-position cassettes, box of six, for 0.5-mL vials	046031
PolyVials and filter caps, 250 each, for 5-mL vials	038141
for 0.5-mL vials	038142
PolyVial and plain caps, 250 each, for 5-mL vials	039532
Sample Tip Replacement Kit	040835
Peak Performance Kit	055647

AS-HV

Description	Part Number
AS-HV with 24 Position Rack for 250 mL Syringe Pump Option	064051
AXP Pump Option	064506
External Peristaltic Pump	064507
Trace Analysis Cover	064508
Sample Probe Kit – PEEK	064052
Sample Probe Kit – PTFE Lined and Sleeved	064511
Additional Sample Rack – 250 mL Nunclon – 24 Position	064056
Additional Sample Rack – 250 mL Nalgene Poly Bottles – 15 Position	064233
250 mL Tissue Culture Flask – Nunc (Pkg of 50)	064234
Caps and Septa for Tissue Culture Flask (Pkg of 50)	064053
250 mL Nalgene Bottle – Narrow Mouth (Pkg of 72)	064235
Caps and Septa for 250 mL Nalgene Bottle – Narrow Mouth (Pkg of 72)	064236
	064232

Dionex's goal is to provide you with solutions to your chromatographic challenges rather than just selling you an instrument. You get a complete solution with an open future, and a partner committed to your success.



To meet that goal, we offer a complete line of training, service, and consulting products, installation and warranty service, and comprehensive support programs.

Quality Products from a Global Leader in Separation Science

Dionex provides an extensive array of innovative, high-quality instruments, software, consumables, and associated products that solve problems for laboratories. All Dionex products are designed, developed, tested, and manufactured in accordance with life cycle processes modeled after ISO 9001.

If You Need Help

Dionex offers a range of hardware and software training courses to help you get the most from your system. Whether you need basic training for new operators or advanced training to further the skills of experienced operators, we have the training courses to meet your needs. Training courses are held regularly at Dionex facilities, and can also be held at your organization—including custom training. To protect your investment, we offer extended warranties and software subscriptions that keep your system up to date.

Find Out More

For more information, demonstrations, and no-obligation quotations, contact your local Dionex representative.

Corporate Headquarters

Dionex Corporation
1228 Titan Way
P.O. Box 3603
Sunnyvale, CA 94088-3603
Tel: (408) 737-0700
Fax: (408) 730-9403

North America

Sunnyvale, CA	(408) 737-8522
Westmont, IL	(630) 789-3660
Houston, TX	(281) 847-5652
Atlanta, GA	(770) 432-8100
Marlton, NJ	(856) 596-06009
Canada	(905) 844-9650

Europe

Austria	(01) 616 51 25
Belgium	(03) 353 42 94
Denmark	36 36 90 90
France	01 39 30 01 10
Germany	06126-991-0
Italy	(06) 66 51 50 52
The Netherlands	(0161) 43 43 03
Switzerland	(062) 205 99 66
United Kingdom	(01276) 691722

Asia Pacific

Australia	(61) 2 9420 5233
China	(852) 2428 3282
India	91-22-28475235
Japan	(06) 6885-1213
Korea	82 2 2653 2580

www.dionex.com



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LPN 1751-01 4M 04/06 Printed in U.S.A.

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