



SPE-DEX® 4790
EXTRACTOR SYSTEM



SPE-DEX® 4790 Automated Extraction System

A Fully Automated Sample Preparation System

Available in Canada from...



**CHROMATOGRAPHIC
SPECIALTIES INC.**

1-800-267-8103 • www.chromspec.com • instrum@chromspec.com



FULLY AUTOMATED

SPE-DEX® 4790

Horizon Technology understands the challenges today's laboratories face.

The automated extraction systems we develop and manufacture, help laboratory managers meet their business objectives.

The Horizon Technology SPE-DEX® 4790 Automated Extraction System is a programmable, multipurpose, automated SPE system, capable of processing aqueous samples directly from their original containers. Once initiated, each SPE-DEX® 4790 Automated Extraction System sequentially delivers all the necessary solvents to precondition the sorbent material within the SPE disk, then passes the water sample through the disk and, after a preset air-dry time, extracts the sorbed analytes from the disk into a collection vessel using the required amounts of solvents.

The SPE-DEX® 4790 Automated Extraction System uses Solid Phase Extraction (SPE) technology replacing the old, labor-intensive liquid-liquid extraction (LLE) technique. The SPE procedure reduces up to 90 percent of solvent consumption when compared with the conventional methods, exhibiting a significant reduction in purchase and disposal costs of chlorinated solvents such as methylene chloride.

SPE-DEX® 4790 Automated Extraction System - Hardware

- Processes the sample directly from the original sample bottle.
- Delivers all necessary solvents.
- Thoroughly rinses the sample bottle.
- Extracts the analyte from the SPE disk into a collection vessel.
- Purges the extractor in preparation for the next sample.

Analyte	% Recovery
Hexachlorocyclopentadiene	102
Dimethylphthalate	93
Acenaphthylene	99
Diethylphthalate	120
Fluorene	108
Propachlor	113
Trifluralin	120
Hexachlorobenzene	105
Atrazine †	104
Prometon	81
Simazine	80
gamma-BHC	106
Phenanthrene	97
Anthracene	95
Pentachlorophenol	99
Metribuzin	60
Alachlor	107
Heptachlor	112
Di-n-butylphthalate	106
Bromacil	90
Metalachlor	108
Aldrin	88
Heptachlor Epoxide	109
gamma-Chlordane	105
Butachlor	111
alpha-Chlordane	106
trans-Nonachlor	105
Pyrene	107
Dieldrin	114
Endrin	107
cis-Nonachlor	97
Butylbenzylphthalate	111
Di-(2-ethylhexyl) Adipate	117
Methoxychlor	115
Benzo (a) Anthracene	101
Chrysene	103
Di-(2-ethylhexyl) Phthalate*	183
Benzo (b) Fluoranthene	108
Benzo (k) Fluoranthene	99
Benzo (a) Pyrene	96
Indeno (1,2,3-cd) Pyrene	97
Dibenz (a,h) Anthracene	97
Benzo (g,h,i) Perylene	98

Table 1: % Recovery of EPA 525.2 Analytes

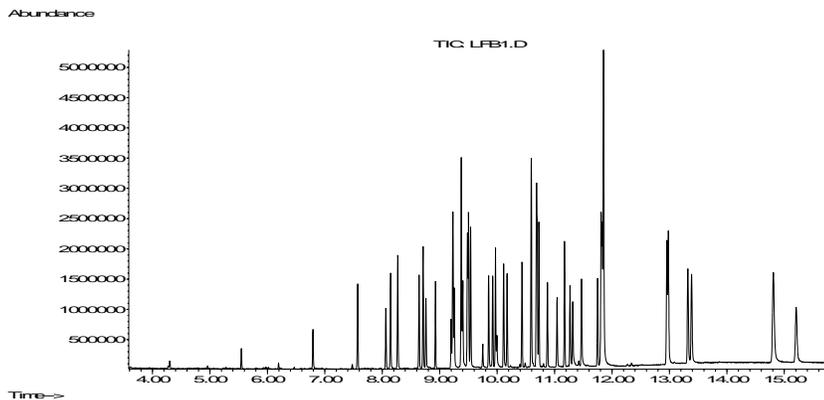
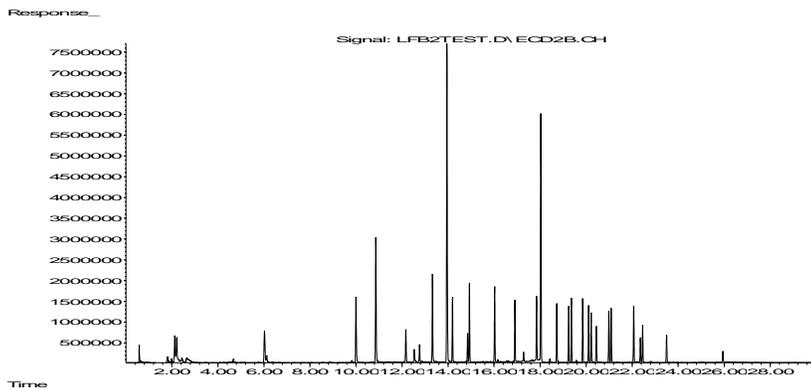


Table 2: % Recovery of EPA 608 Analytes



Analyte	% Recovery
apha-BHC	78
gamma-BHC	65
Heptachlor	86
Aldrin	74
beta-BHC	77
delta-BHC	79
Heptachlor Epoxide	90
Endosulfan I	84
4,4'-DDE	81
Dieldrin	85
Endrin	82
4,4'-DDD	83
Endosulfan II	80
4,4'-DDT	89
Endrin Aldehyde	77
Endosulfan Sulfate	82
Methoxychlor	93
Endrin Ketone	87
TCMX (surrogate)	62
DCB (surrogate)	22
PCB 1016	72
PCB 1260	69

DRAMATICALLY LOWER YOUR RE-EXTRACTION RATE



Accommodates a wide range of sample bottles, volumes, types, and sizes by utilizing custom cap adapters.

Fast flow rates through a large sample inlet valve.

PTFE, sample handling valves and tubing eliminate internal and crossover contamination.

Use of 47mm or 90mm SPE disks or SPE cartridges.

HPLC grade check valves.

Uses 19/22 taper collection vessels, 40-mL or 60-mL VOA vials

Automatic sample bottle rinse.

Pre-programmed EPA methods, with modifying capabilities for method development.

Includes a purge function to prep the extractor between sample runs.

Dispense up to five (5) pre-wet and three (3) rinse solvents to condition and extract SPE.

Various environmental samples are typically “dirty” with high particulate matter. The Horizon Technology SPE-DEX® 4790 Automated Extraction System extractors are capable of handling any combination of 47 and 90-mm SPE disks and cartridges. This versatility allows the most economical disk to be used. The sample inlet valve opens to 1/2” diameter, to allow a variety of sample particulates to pass through the system without difficulty.

The Envision Controller connects to a PC (not included) from which you can configure and control up to eight (8) individual Horizon Technology SPE-DEX® 4790 Extractors. The Envision Platform Controller is pre-programmed with the EPA 500 series

methods, 600 series methods, and 9000 series methods. Methods can be created or modified to handle specific sample matrices.



SOLID PHASE EXTRACTION SYSTEM

All sample and solvent pathways, including internal valves and tubing are made of inert materials and PTFE to eliminate internal and crossover contamination. Kalrez® valves and PEEK compression fittings provide the system with the chemical resistance and durability required for the multiple solvents used in a wide range of analyte extractions.

The SPE-DEX® 4790 Automated Extraction System processes the sample directly from the bottle from which it was collected. This eliminates the need for multiple transfer steps. The system also automatically rinses the sample bottle with the extraction solvent, ensuring the highest recovery of the analytes of interest. Also, the modular design allows the laboratory to start with a single extractor station, and have up to eight (8) extractors on one system, as sample loads increase.



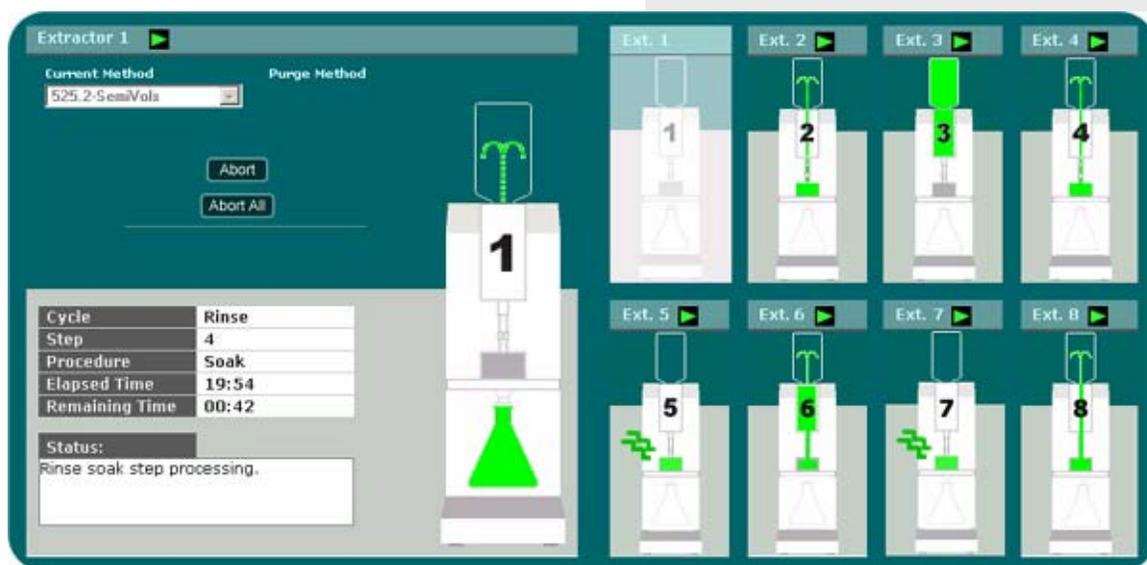
Are high demands placed on your laboratory to increase sample throughput, shorten sample turnaround times, achieve reproducible results, and provide lower detection limits?

Can you envision more control of your extractor process?

The Horizon Technology Envision™ Platform is the next generation controller for the SPE-DEX® 4790 Extractor System. Built on proven technology, it is the first web-based controller for SPE. The Envision™ Platform Controller downloads methods to the extractors individually, providing the system the ability to run different EPA methods simultaneously.

Envision™ Controller for SPE-DEX® 4790 Extractions – Software

- Web-based, user-friendly interface for controlling and monitoring up to eight extractors.
- Connects to a standard PC for both configuration and operation.
- User interface allows real-time status viewing.
- All solvents identified by name and selected from a library or user-defined solvents list.
- Files can be downloaded to a PC, allowing for backup and transfer to subsequent controllers.
- Optional PDA and wireless connectivity.



TECHNICAL SPECIFICATIONS

Extractor:

Dimensions	7" W x 15" D x 21" H
Weight	20 lbs.
Gas Requirements	Nitrogen (Commercial Grade) (60 PSI min)
Vacuum Requirements	25" Hg (min)



Controller:

Maximum Size	4 3/8" W x 12 1/2" D x 9" H / 11.11 x 31.75 x 22.86 cm
Weight	18 lbs. / 8.17 kg
Power Consumption	180 VA
Input Voltage	115 VAC or 230 VAC Nominal. Manually selectable
Input Voltage Frequency	50 – 60 Hz
Input Voltage Current (Amps)	1.6 AMP at 115 VAC / 0.8 AMP at 230 VAC
Fuses (2 Required)	2.5 AMP for 115 VAC / 1.25 AMP for 230 VAC
Fuse Type	20 mm
Electrical Safety	UL 61010C laboratory instruments, per acceptable NRTL (TUV) FCC Part 15
International Safety	CE EN61010 ISO 7000 – Graphical Symbols for use on Equipment IEC 60417 - Graphical Symbols for use on Equipment
PC Requirements	PC with Windows Operating System software; Win 98/ME, Win 2000, Windows XP, Window XP Pro, Vista Intel Pentium III 1.0 GHz minimum or equivalent 512 MB Ram (min) 4 MB free hard disc space (min). CD ROM Drive. Ethernet 10/100 Port (10BaseT) Monitor with 1024 x 768 resolution. Internet Web Browser software; Mozilla Firefox, Netscape, Internet Explorer 6, or Internet Explorer 7



CHROMATOGRAPHIC SPECIALTIES INC.

1-800-267-8103 • www.chromspec.com • instrum@chromspec.com