

ASE[®] 200 Accelerated Solvent Extractor



The ASE 200 Accelerated Solvent Extractor performs extractions using less solvent and less time than traditional techniques. Two additional modules are now available to enhance the performance of the ASE 200: the Solvent Controller and AutoASE.[®] The Solvent Controller is an easy-to-use module that allows automated delivery of up to four solvents. AutoASE is a control and reporting application software package.

Now sold under the
Thermo Scientific brand

Thermo
SCIENTIFIC

Accelerated Solvent Extraction

ASE is a technique for extracting solid and semisolid samples with liquid solvents.

ASE uses conventional liquid solvents at elevated temperatures and pressures to increase the efficiency of the extraction process.

Increased temperature accelerates the extraction kinetics, while elevated pressure keeps the solvent below its boiling point, thus enabling safe and rapid extractions.

ASE meets all of the requirements for extraction under U.S. EPA SW-846 Method 3545 for Pressurized Fluid Extraction of base/neutrals and acids (BNAs), chlorinated pesticides and herbicides, polychlorinated biphenyls (PCBs), and organophosphorus pesticides.

ASE can be used to replace Soxhlet, sonication, wrist shaking, and other extraction techniques using less solvent and less time.



Passion. Power. Productivity.

ASE 200 Accelerated Solvent Extractor

Product Highlights

- Extraction time and solvent consumption are reduced by the use of elevated temperature and pressure during extraction.
- Requires less than 15 mL of solvent for a 10-g sample to reduce total solvent usage.
- Extracts are automatically filtered and ready for direct injection or final clean-up.

- 24-position carousel for unattended operation.
- Easy-to-fill sample cells with finger-tight fittings.
- Easy-to-use collection vials.
- Convenient multiple method and schedule storage for automatic operation.
- Convenient front panel operation runs methods automatically on up to 24 samples.

- The schedule editor screen lets the operator schedule the extraction conditions and allows the re-extraction of the same cell into separate vials.
- Sensors for temperature, pressure, and solvent leaks alert the operator to a problem, sound an audible alarm, and shut down the system if necessary.

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 part numbers listed below.

ASE 200 with 11-mL extraction cells and 40-mL collection vials
..... P/N 047004

ASE 200 with 22-mL extraction cells and 60-mL collection vials
..... P/N 047005

ASE 200 with 33-mL extraction cells and 60-mL collection vials
..... P/N 047006

The ASE 200 with the Solvent Controller, AutoASE software, and Bottles Package (three 2-L bottles, includes caps with tube assemblies) can be ordered under one part number as follows.

ASE 200 with 11-mL extraction cells, Solvent Controller, AutoASE software package, bottles package.....
..... P/N 052597

ASE 200 with 22-mL extraction cells, Solvent Controller, AutoASE software package, bottles package.....
..... P/N 052597

ASE 200 with 33-mL extraction cells, Solvent Controller, AutoASE software package, bottles package.....
..... P/N 052597

ASE 200 SPECIFICATIONS

Oven:

Accepts 1-, 5-, 11-, 22-, and 33-mL cells.
Auto-seal actuator places cell into oven and returns cell to tray after extraction.
Temperature control up to 200 °C.
Vertical cell orientation with flow from top to bottom.

24 cell positions.
4 rinse positions.
Automatic home-position sensing.
Multiple extractions per cell.

Pump:

Fluid delivery pressure up to 20 MPa (3000 psi).
Automatic pressure sensor and pressure relief during heat-up.

Collection Vials:

Two standard vial sizes: 40 or 60 mL.
Vial lids with solvent-resistant septa (TFE-coated on solvent side).
Graduated concentration vial: 40 mL

Fluid Sensors:

IR sensors detect the arrival of fluid into the collection vial and fluid levels during extract collection.

Collection Vial Tray:

Removable vial tray.
26 vial positions plus 4 vial positions for rinse/waste collection.
Tray compatible with 40-mL or 60-mL vials.

Display and Keyboard:

Menu operated.
LCD 7 x 40 character display.
Method and schedule editor.
Method and schedule storage.

Extraction Fluids:

Compatible with a wide range of organic and aqueous-based solvents.

Extraction Cells:

Five capacities: 1, 5, 11, 22, and 33 mL.
Internal cell diameter: 5.8, 12.94, 19.1 mm.
Finger-tight cell caps with compression seal for high-pressure closure.

Dimensions (h x w x d):

23.4 x 23.1 x 23.8 in.
(59.5 x 58.8 x 60.4 cm)

Weight:

156 lb (71.6 kg)

Power Requirements:

Voltage: 100–120 or 220–240 V ac
Frequency: 50/60 Hz

Extraction Cell Tray:

Pneumatic Requirements:

Air at 400–827 kPa (60–120 psi)
N₂ at 1034–1340 kPa (150–200 psi)

ASE Solvent Controller

Product Highlights

- Allows unattended, automatic switching between solvent systems.
- Solvent is delivered from up to four reservoirs with mixing from 5% to 95% of total volume.
- Most commonly used solvents are compatible with the Solvent Controller.
- Reduces operator's exposure to the solvent by eliminating frequent solvent bottle changes between different sample types.
- Solvent caddy can hold up to four 1-L or 2-L solvent bottles and has a reservoir to contain and direct solvent spills to waste.
- The Solvent Controller is directly programmable from the ASE 200.
- Multiple extractions from any combination of solvent sources can be performed.
- When running in Schedule Mode, the user can specify any one solvent to perform the rinse step.

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 part numbers listed below.

Solvent Controller (includes connecting cables and fluid lines)

..... P/N 051987

Use this part number for Solvent Controllers ordered with an ASE 200 for factory installation or for ASE 200 extractors with serial numbers starting from 97050396.

Solvent Controller with Kit for Field Installation (includes connecting cables, fluid lines, and CPU card)..

..... P/N 051995

Use with ASE 200 extractors with serial numbers up to 97050395.

Bottles Package, 2 L, set of three

(includes caps with tube assemblies)..... P/N 053848

Solvent Controller, AutoASE software, and bottles package..... P/N 052577



ASE Solvent Controller

SOLVENT CONTROLLER SPECIFICATIONS

Dimensions:

8.0 x 14.0 x 19.6 in.
(20.3 x 35.6 x 49.8 cm)

Weight:

10 lb (4.5 kg)

ASE 200 Firmware:

FW 2.01
BIOS 3.00

Power Requirements:

Provided via cable from the ASE 200



The Method Edit screen on the control panel display can be programmed to automatically mix up to four different solvents.

AutoASE—ASE Computer Control Software

AutoASE is a control and reporting application software for ASE Accelerated Solvent Extractors.

Product Highlights

- Easy operator interface with ASE systems.
- Sample information can be stored and tracked electronically.
- Provides variable rinse volumes.
- Allows up to five static cycles.
- Provides preheat sample mode.
- Allows text and numeric sample identifiers.
- Virtually unlimited methods and schedules can be stored.
- Easy-to-use icon bar allows quick access to control functions.
- Colorful graphic display of system.
- Up to eight ASE systems can be controlled or monitored from one PC, making it easier to transfer methods between systems.
- Compatible with bar code readers.

Method Editor Screen

The Method Editor screen allows the operator to create new methods and to review and edit existing methods.

Schedule Editor Screen

The Schedule Editor screen lets the operator schedule the extraction conditions for a series of extractions and request variable rinse volumes. Allows the re-extraction of the same cell into separate vials.

Operating Status Screen

This screen provides all of the operating details of a method, including a graphical display of the current status and detailed information on operating parameters.

AutoASE SPECIFICATIONS

System Requirements:

Pentium®-based PC with one open ISA slot

Windows® 95, 98, or NT 4.0

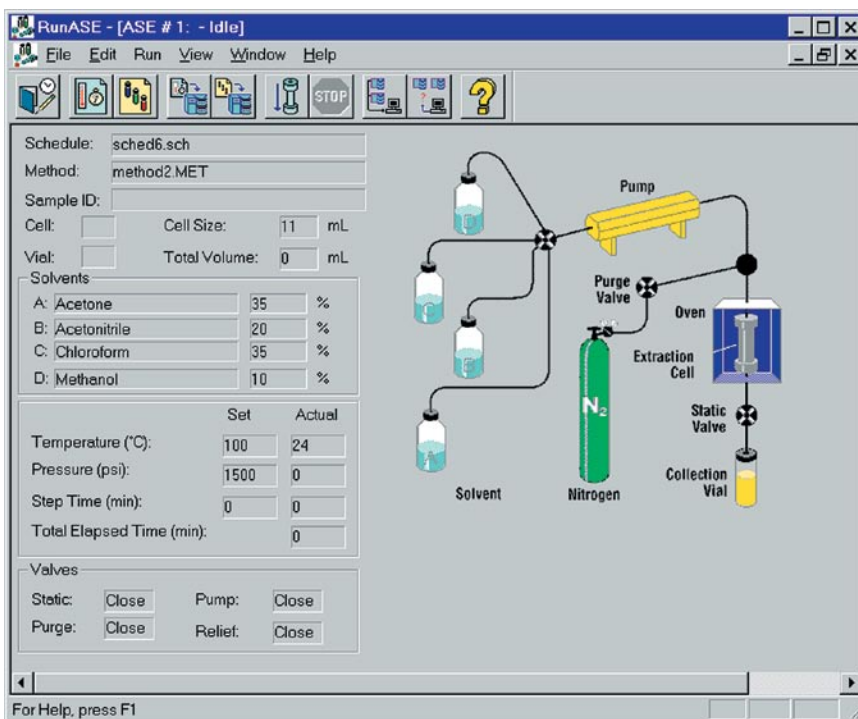
CD-ROM drive

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 part numbers listed below.

AutoASE (Includes software, hub moduleware, 2 LAN cards, cable, and 10BaseT connectors)
 P/N 057082

ASE Solvent Controller Package (Includes Solvent Controller, AutoASE software, four 2-L bottles, and cap assemblies)
 P/N 052577



The user-friendly main operating screen of AutoASE software displays current operating information, such as cell size, total solvent volume, solvents used, and set vs. actual temperatures and pressures. The graphical display shows the operator what the ASE 200 is doing, with solvent lines that light up and an oven that radiates when in use.

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 ASE and AutoASE are registered trademarks of Dionex Corporation.

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