

ASE 350 Accelerated Solvent Extractor



The ASE® 350 Accelerated Solvent Extractor with pH-hardened pathway featuring Dionium® components performs extractions using less solvent and less time than traditional techniques. The integrated Solvent Controller is an easy-to-use module that allows automated solvent delivery from up to three solvents.

Accelerated Solvent Extraction (ASE)

Accelerated solvent extraction is a technique for extracting organic compounds from solid and semisolid samples with liquid solvents. ASE systems use conventional liquid solvents at elevated temperatures and pressures to increase the efficiency of the extraction process. Increased temperature accelerates the extraction kinetics, and elevated pressure keeps the solvent below its boiling point, ensuring safe, rapid extractions. Additionally, the pH-hardened pathway allows the extraction of pretreated matrices.

ASE instruments meet the requirements for extraction under US EPA SW-846 Method 3545A for Pressurized Fluid Extraction of base/neutrals and acids, (BNA), organophosphorous pesticides (OPP), chlorinated pesticides and herbicides, polychlorinated biphenyls (PCB), polychlorinated dibenzodioxins (PCDD) and polychlorinated dibenzofurans (PCDF), and diesel range organics (DRO). Accelerated solvent extraction replaces Soxhlet, sonication, wrist shaking, and other extraction techniques, and uses less solvent and less time.

ASE 350 SPECIFICATIONS

Oven:

Accepts sample cell sizes of 1,5, 10, 22, 34, 66, and 100 mL

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.

Pump:

Fluid delivery pressure: 10 MPa (1500 psi).

Pump flow: 70 mL minute

Automatic pressure sensor and pressure relief during heat-up.

Fluid Sensors:

IR sensors detect fluid level during extract collection.

Display and Keyboard:

Menu operated LCD, 8 x 45 character display method and schedule editor and storage

Extraction Cells:

Seven capacities: 1, 5, 10, 22, 34, 66, and 100 mL cells

Finger-tight cell caps feature compression seal for high-pressure closure

Extraction Cell Tray:

24 cell positions

Two rinse positions

Automatic home position sensing

Can perform multiple extractions per cell

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Product Highlights

- Reduces extraction time and solvent consumption using elevated temperature and pressure during extraction.
- Requires less than 50 mL solvent for a 20 g sample.
- Extracts are automatically filtered and ready for direct injection or final cleanup.
- Nineteen or twenty six-position carousel for unattended operation.
- Easy-to-fill sample cells (1, 5, 10, 22, 34, 66, and 100 mL) with finger-tight fittings.
- Easy-to-use collection bottles or vials (vials require vial tray insert).
- Convenient multiple method and schedule storage for automatic operation.
- Convenient front panel operation runs methods automatically on up to 26 samples.
- The schedule editor screen lets the operator schedule the extraction conditions and allows the re-extraction of the same cell into separate vials.
- SmartRun™ protects against cell and collection vessel mismatch and optimizes oven heat-up program to match cell size and type
- Sensors for temperature, pressure, and solvent and liquid leaks alert the operator if there is a problem, sound an audible alarm, and shut down the system if necessary.

ASE 350 Installation

Prior to scheduling your ASE installation, the following items must be at your site:

Nitrogen tank, 99.99% standard grade (or house nitrogen with minimum of 150 psi).

Nitrogen regulator, capable of 200 psi minimum delivery output.

OPTIONAL: Air tank, 99.99% standard grade (or house air with minimum of 100 psi).

OPTIONAL: Air regulator, capable of 200 psi (pressure fitting included in the ship kit).

500mL HPLC grade acetone.

1 Kg Ottawa Sand Standard (equivalent to Fisher catalog #s23-3, 20-30 mesh).

A lab bench capable of supporting the ASE 200/350. (See height and weight dimensions above)

Caution: Lift the module only from the bottom or side surfaces. Lifting from the panel door will damage the door hinges.

Electrical. 90 to 260 Vac, 50/60 Hz: Less than 5 amps at 120 Vac.

At the time of your installation, the Dionex Field Service Representative will:

1. Make all hardware connections between the ASE and gas cylinders.
2. Test cell tray and autoseal alignment.
3. Test the ASE for proper operation and solvent recovery.
4. Provide training for up to two end users, on routine operations of the ASE instrument.

Your warranty period will begin upon completion of the installation or the 61st day after the system shipment.

The ASE 350 provides sequential operation of up to 24 samples in one batch. System includes one solvent bottle, snap-ring pliers, power cords, and gas line fittings. Extraction cells must be ordered separately.

KEY SPECIFICATIONS	
<p><i>Collection Vials:</i></p> <p>60 mL or 250 mL; vial lids have solvent-resistant septa (TFE-coated on solvent side)</p> <p><i>Collection Vial Tray:</i></p> <p>26 position tray insert for 60 mL vials and 19 position tray for 250 mL bottles bottle positions plus two bottle position for rinse/waste collection tray compatible with 250 mL bottles</p> <p><i>Extraction Fluids:</i></p> <p>Compatible with a wide range of organic and aqueous solvents</p>	<p><i>Dimensions (h x w x d):</i></p> <p>69.3 x 67.3 x 61.7 cm (27.3 x 26.5 x 24.3 in.)</p> <p><i>Weight:</i></p> <p>65 kg. (140 lb)</p> <p><i>Power Requirements:</i></p> <p>Consumption: 500 VA max. Voltage: 100–120 or 220–240 Vac Frequency: 50/60 Hz</p> <p><i>Pneumatic Requirements:</i></p> <p>Air at 400–827 kPa (60–120 psi) N₂ at 1034x–1340 kPa (150–200 psi)</p>

ORDERING INFORMATION	
<p>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 listed below. (Extraction cells and starter kits must be ordered separately).</p>	
Product Description	Part Number
ASE 350	066050

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