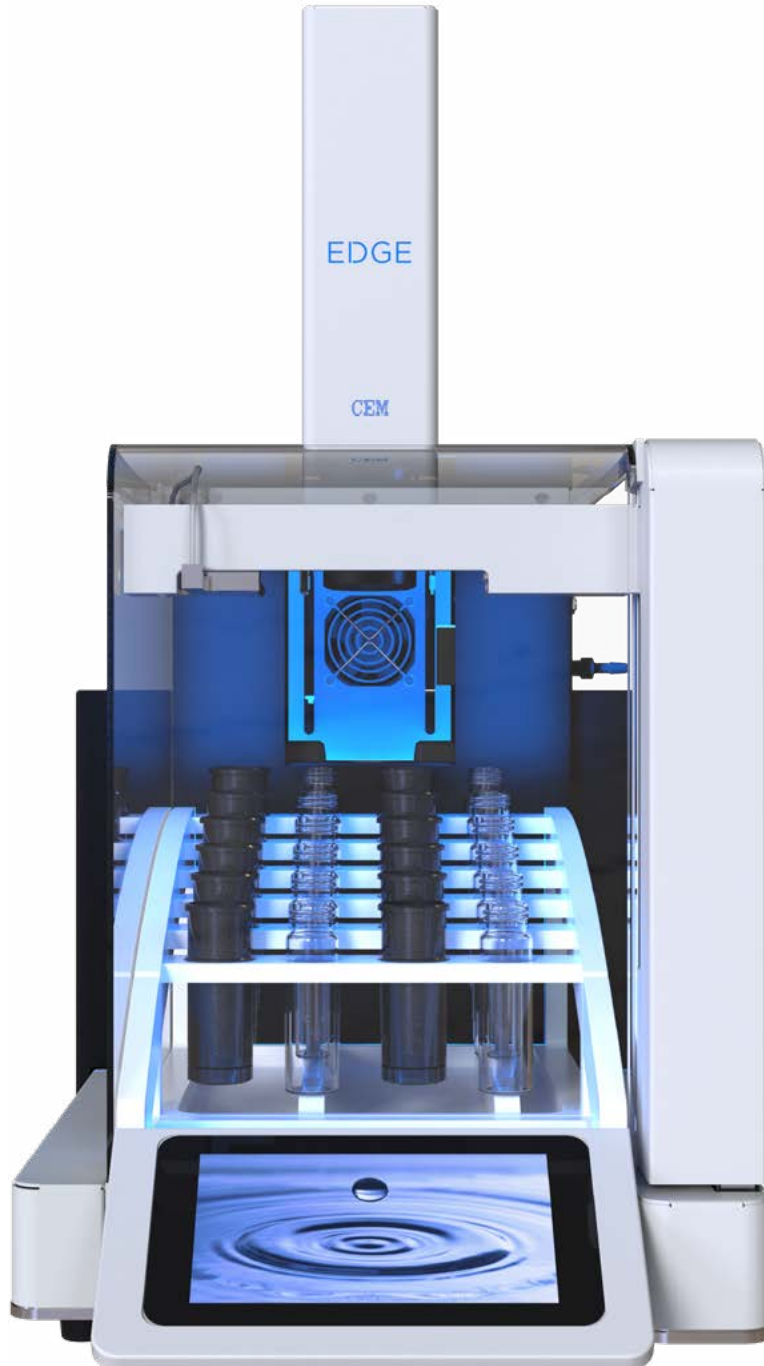
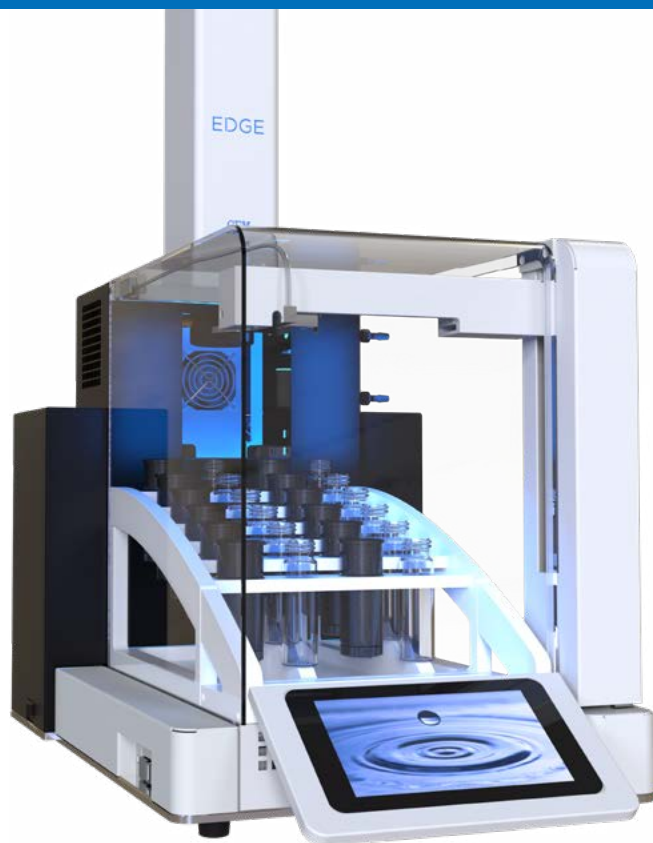




EDGE[®]
Automated Extraction System





Automates the technologies of PFE and dSPE.

Faster than Soxhlet, more automated than QuEChERS, and simpler than other automated solvent extraction systems, the EDGE has revolutionized the extraction process for sample preparation. Extract up to 30 grams in only five minutes, including the filtering and cooling process; 6 times faster than other pressurized fluid extractors.

- Fastest technique available
- 12 samples in an hour
- Q-Cups™ are easily assembled and cleaned
- Small footprint
- One technology with unlimited applications

6 times faster than most current techniques

Technique	Time (minutes)	Solvent Usage (mL)	Cost Effective
EDGE	5	20	\$
Microwave	15	30	\$ \$
QuEChERS	20	23	\$ \$
Pressurized Fluid Extraction	30	21	\$ \$ \$
Soxhlet	360	150	\$ \$
Automated Soxhlet	120	90	\$ \$ \$
Ultrasonic	60	300	\$ \$

The Q-Cup is a simple solution to a complicated problem.

The Q-Cup sample holder consists of three easy-to-assemble pieces. The unique open cell concept creates a dispersive effect which promotes rapid extraction and filtration. No additional steps are required prior to analysis.

Load your samples in seconds.

Just add a Q-Disc™, screw on the bottom, and add your sample; it's that simple.



Q-Cup Side View



Q-Cup Cylinder

- up to 30 g sample and 40 mL extract
- made of ultra-thin, coated aluminum for efficient heating
- light-weight and easy to use

Q-Disc

Threaded Bottom

Q-Cup Bottom View



Cleaning

The simple design lends itself to easy cleaning.
A quick rinse is all you need.

Q-Disc



Disposable

The disposable Q-Discs completely filter your sample prior to analysis.

Energized Dispersive Extraction

With Q-Cup technology, Energized Dispersive Extraction is simple and fast for all applications. Extract semi-volatile organic compounds from soil, fat from food, phthalates from plastics, and many more applications with EDGE.



Environmental



Food



Plastic



Consumer Products

Energized Dispersive SPE

With Q-Cup technology, Automated Dispersive Solid-Phase Extraction (dSPE) is possible. EDGE is an alternative to QuEChERS for the extraction of pesticides. This new technology offers a more effective extraction and cleanup for difficult matrices.



Food



Pharmaceutical



Flexible

Get better results with one instrument.

- Dispersive Solid Phase Extraction
- Pressurized Fluid Extraction
- Supported Liquid Extraction
- Liquid-Liquid Extraction

No need for multiple systems for different samples, EDGE is the answer for all extractions, made possible by Q-Cup technology. No matter your technique, you'll extract a particle-free solution, ready for analysis.

Compact

Its small size is a big advantage.

- The EDGE is only 14.25" wide, about the size of an analytical balance

You can extract 48 samples an hour with 4 EDGE systems, easily placed side-by-side on one bench top.



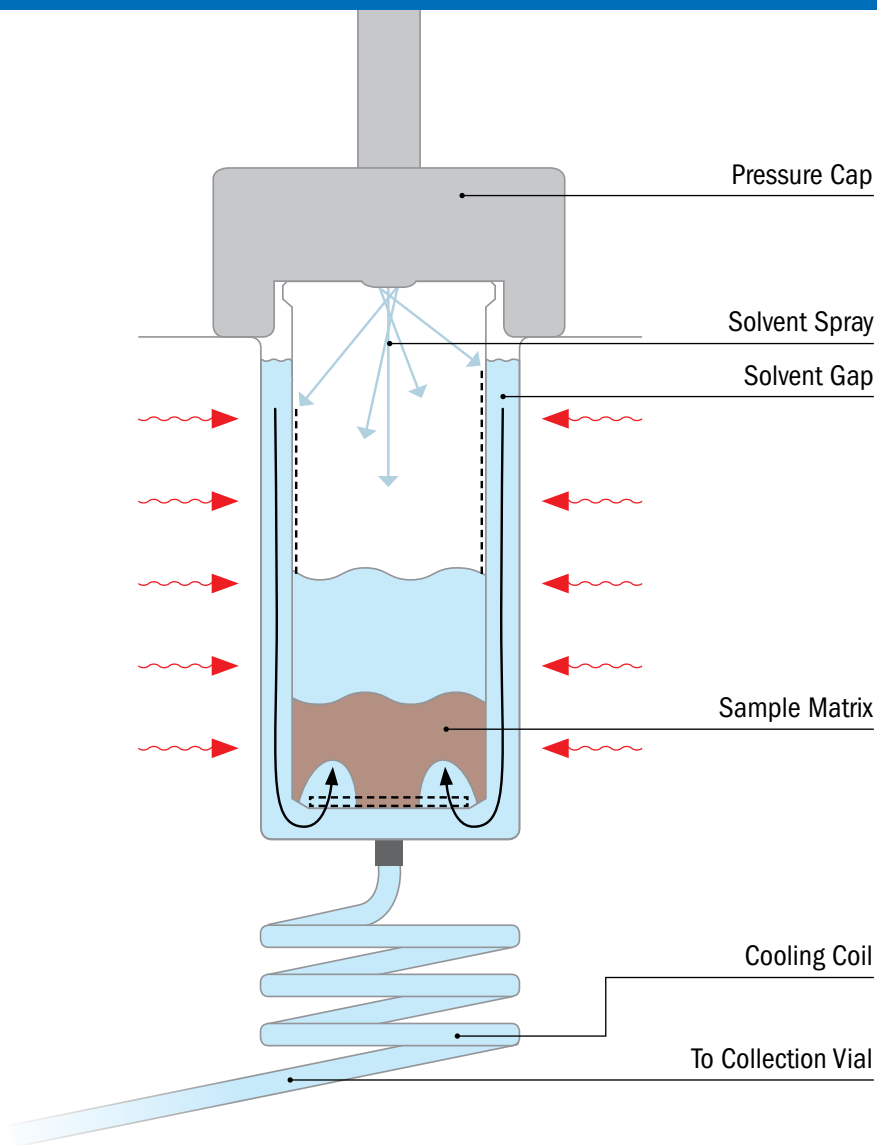


Press play and walk away.

Program up to 12 samples, using the integrated touchscreen and intuitive software, and EDGE takes care of the rest.

Every sample is run using either a pre-programmed One Touch® Method or with your own custom method.

The EDGE Process



1

Sample is Loaded

The Q-Cup is automatically loaded into the chamber by the auto sampler. The pressure cap then creates a pressurized seal on the top of the Q-Cup.

2

Matrix is Extracted

Solvent is first added from the bottom to fill the gap between the chamber and Q-Cup, this aids in heat transfer. Then, solvent is added from the top of the Q-Cup to wet the sample.

As the chamber walls are heated, the pressure in the solvent gap increases. This overcomes the pressure inside the Q-Cup, forcing the solvent to disperse into the sample.

3

Extract is Collected

Once the sample reaches temperature, the solvent is filtered through the Q-Disc, the cooling coil, and into a collection vial.

EDGE Meets the Requirements of USEPA 3545A

Samples

- Soils
- Clays
- Sediments
- Sludges
- Waste Solids

Contaminates

- Polychlorinated Dibenzo-p-Dioxins
- Semivolatile Organic Compounds
- Polychlorinated Dibenzofurans
- Organophosphorus Pesticides
- Organochlorine Pesticides
- Polychlorinated Biphenyls
- Chlorinated Herbicides
- Diesel Range Organics

EDGE Data

Compound	Sand	Loam	Clay
Pyridine	100	88	93
1,4-dichlorobenzene	88	88	96
2-methylphenol	84	95	115
3-methylphenol	90	102	104
hexachlorobutadiene	86	92	97
2,4,6-trichlorophenol	90	105	103
2,4,5-trichlorophenol	89	113	99
2,4-dinitrotoluene	90	102	99
hexachlorobenzene	86	86	81

% Recovery of spiked 15 g soil samples

EDGE for Air Monitoring



PUF Plugs

The EDGE can extract absorbed polychlorinated biphenyls (PCBs) from polyurethane foam (PUF) plugs. Both large and small PUF plugs fit in the Q-Cup for easy extraction.

The EDGE can also easily clean PUF plugs quickly.



XAD Resin

The EDGE can extract priority pollutants from XAD resin. The dispersive ability of the Q-Cup is very effective with solid phase extraction materials.

EDGE makes the extraction and cleaning of the XAD resin easy and quick.

EDGE for Pesticide Residue Analysis

Food Samples

- Fruit
- Vegetables
- Meat
- Milk
- Nutraceuticals

Pesticides

- Insecticides
- Herbicides
- Rodenticides
- Bactericides
- Fungicides
- Larvicides

EDGE Results

Pesticide	Rice	Avocado	Strawberries	Hops
Tokuthion	87	86	93	102
Guthion	90	85	90	102
Dichlorvos	88	116	120	98
Methyl Parathion	95	107	107	98
Dursban	89	93	100	107
Ronnel	90	97	102	105
Disulfoton	92	89	92	101
Mocap	94	93	109	102

% Recovery of spiked pesticides in rice, avocado, hops, and strawberries

EDGE for Fat Analysis



The EDGE makes it simple to extract fat from food samples. A major advantage provided by its patented Q-Cup, is preservation of the sample for further processing.



EDGE Rack

EDGE rack holds 12 Q-Cups and 12 collection vials. Includes 12 collection vials. Available for glass vials and centrifuge tube collection options.



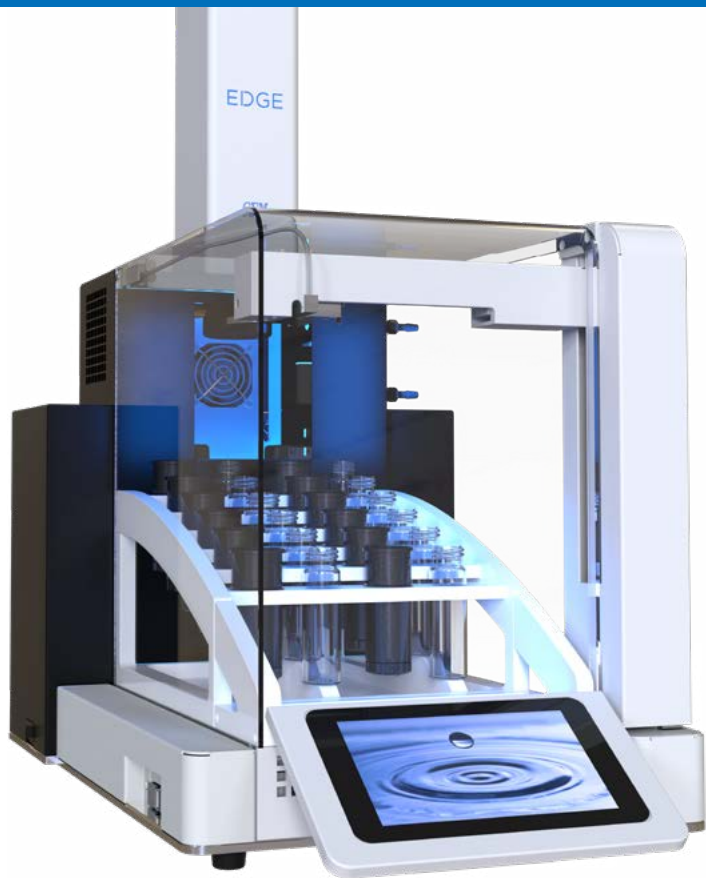
Q-Cup

The Q-Cup sample holder consists of 2 easy-to-assemble pieces for use in the EDGE. Thin-walled, aluminum design for optimum heat transfer and containment of up to 30 g of sample or 40 mL of solvent.



Q-Disc

The Q-Discs are disposable filtration discs that provide final filtration of the extract prior to analysis. Various types of discs are available for different applications and analysis techniques.

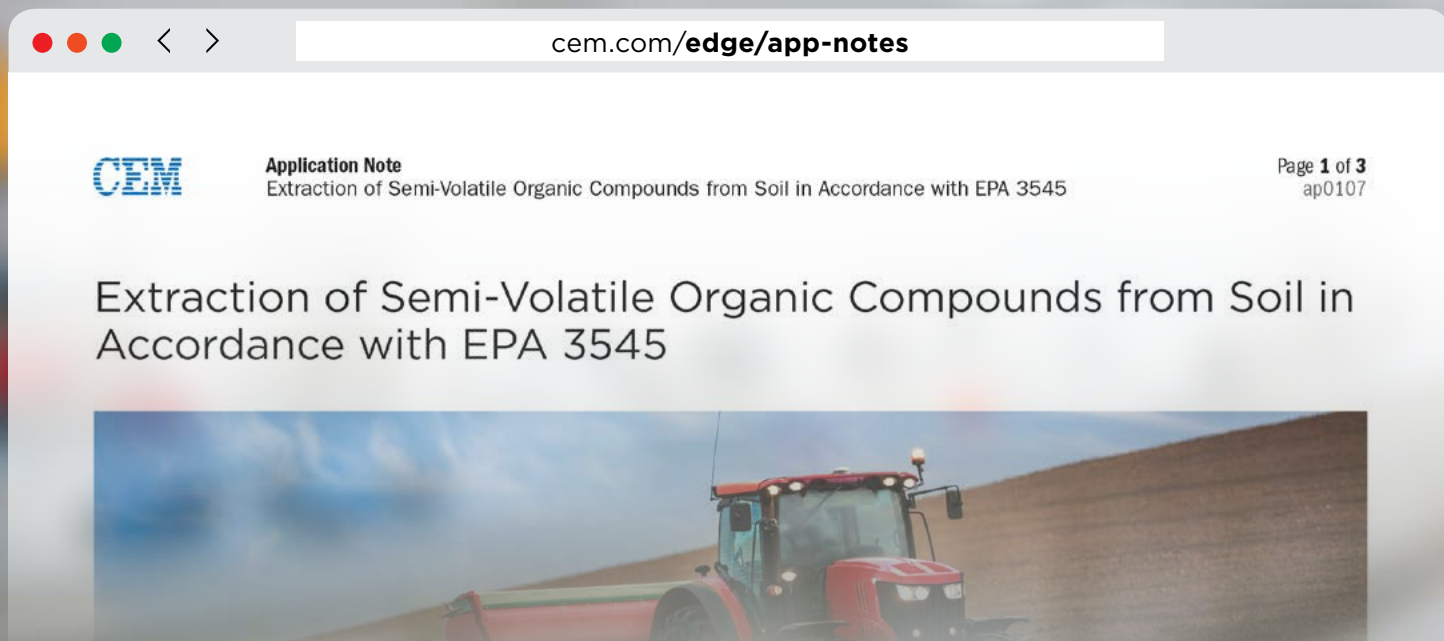


You get
more than an
instrument.

When you own a CEM instrument, you have access to a whole team of scientists and engineers that are ready to support you. We are here to make sure you succeed.

Application Notes

Go to cem.com/edge/app-notes to download EDGE application notes.





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