

NATIONAL CENTRE FOR SUSTAINABLE COASTAL MANAGEMENT

Ministry of Environment, Forest and Climate change

Koodal Building, Anna University Campus

Chennai – 600025

Specifications for a Solvent Extraction System for organic compounds

1.	A fully automated, software controlled, unattended system for extraction of organic compounds(PAHs, PCB, Dioxin, Sterols etc.) from soils and sediments/water using organic solvents at elevated temperatures and high pressures.
2.	The system should be able to handle environmental samples from 0.5 g to at least 5 g of solid materials.
3.	The extraction should be completely contamination free.
4.	The instrument should be capable of using common solvents at elevated temperatures up to 200 C and variable pressure more than 100 bars.
5.	The system should be able to extract from up to 4 or more samples in a single automated run.
6.	<ul style="list-style-type: none">• The instrument shall be compatible with various extraction cells (~ 10 ml to ~ 40 ml)• 4 numbers of ~ 10 ml cells and 4 numbers of ~ 40 ml cell shall be included with the quote.
7.	Collection bottles/vials shall be included with the quote (12 bottles of ~50 ml and 12 bottles of 250 ml)
8	Multiple extractions from any combination of solvent sources can be performed.
9	<ul style="list-style-type: none">• System should be able to mix multiple solvents (3 or more) for complex extractions.• Solvent Reservoirs (atleast 3, of 1 ltrs each) shall be included in the quote.
10	The instruments shall have the flexibility for method development and storage for automated extraction as specified by the user.
11	The instrument should have an option for user for setting the pressure and temperature for extraction.

12	The extraction rates for a batch should be rapid (~0.5 hr) with reproducibility
13	The recovery of solvent should be high
14	The extraction should have least manual interface with automatic sealing of extraction cells.
15	For high pressure closures Sensors for temperature, pressure, and solvent leaks to alert the operator
16	Extraction Fluids: Compatible with a wide range of organic and aqueous solvents
17	All the accessories and consumable (e.g. <i>cellulose filters, Septa, O rings, ring/filter paper insertion tools, extruder, sample funnels, Frits, adsorbents, Sand, Brushes, Syringe, Plunger</i>) for complete run of the 1000 samples shall be quoted.
18	<ul style="list-style-type: none"> • The instrument should be supplied with required software for PC based operation operation. • A suitable PC (window 7 or higher; with processor i5 or higher) shall be included with quote.
19	Optional: Price of a set (6 numbers) of 20 ml cells shall be included. Price of accessories and consumable shall also be quoted.
20	Warranty minimum 1 year. And additional 2 year CMC