

Power-Prep™ PLE

Pressurized Liquid Extraction: FAST EXTRACTION

PLE™ is a high speed Pressurized Liquid Extraction system for Dioxins, PCBs, Pesticides, PAHs and BFRs analysis. With the PLE™, one just needs to load solid or liquid samples into the PLE Cartridges, and press the start key. The entire extraction is performed automatically and unattended producing excellent precision and high recoveries.

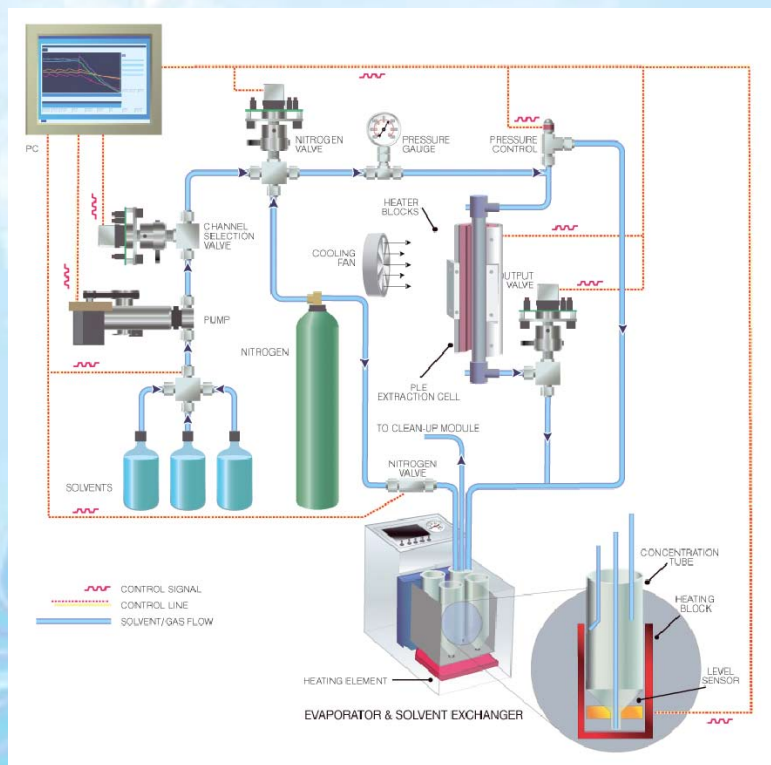
Pressurized Liquid Extraction (PLE) is also known as Pressurized Solvent Extraction (PSE), also known as Accelerated Solvent Extraction (ASE), and also known as Pressurized Fluid Extraction (PFE)

Principles of Operation

The PLE™ (Pressurized Liquid Extraction) works similar to Soxhlet extraction, with the exception that during the extraction process the solvents inside the PLE™ extraction cartridge are near their supercritical region which has high extraction properties. The high temperature makes possible the high solubility and high diffusion rate while the high pressure keeps the solvent below its boiling point. At high pressures and high temperatures the solvents penetrate the solid samples at a much higher rate permitting a fast and efficient extraction process with minimal solvent usage.



PLE® Fast Extraction & Concentration System



To operate the PLE™, 5 to 100 grams of the sample is mixed with sodium sulfate, loaded in the extraction cartridge and capped with two disposable filtration end fittings. The extraction cartridges are clamped inside the unique and easy to use PLE™ cartridge seal cups. Upon pressing the start key, the HPLC pump dispenses the organic solvent of choice, such as Hexane, DCM, Toluene, etc., into the extraction cartridges. The PLE™ control system then starts the pressurization and heating of the samples. The pressure is maintained at 1500-3000 PSI, and at temperature 70-200°C.

The extracted solvent containing target analytes is then transferred for either column clean up or collected and concentrated in FMS's evaporator & solvent exchanger.



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