



Products and Services:

SFT-100 and SFT-100XW Supercritical Fluid Extractors

- Extraction Vessels from 5 ml to 100 ml (500 ml in the SFT-100XW); User Interchangeable
- 10,000 psi (68.9 MPa); 200°C Operation
- PID Control of Pressure and Temperature
- Integrated Fluid Preheater and Flow Meter
- High Pressure CO₂ Pump with Integrated Thermoelectric Cooling
- Optional Co-solvent Addition Modules
- Multiple vessel configurations possible (SFT-100XW only)

SFT-150 and SFT-250 Supercritical Fluid Extractors

- Extraction Vessels up to 2 Liters (5 Liters in the SFT-250); User Interchangeable
- 10,000 psi (68.9 MPa); 200°C Operation
- Feedback Control: PID Fuzzy Logic Controllers
- Integrated Fluid Preheater
- Upgrade Adaptable for New Applications
- Remote Control Software with Data Logging (SFT-250 Only)
- Optional Co-solvent Addition Modules

SFT Phase Monitor High Pressure View Cell

- 30 ml Variable Volume View Cell
- 10,000 psi (68.9 MPa); 150°C Operation
- Programmable Heater with Fuzzy Logic Controller
- Variable Speed Mixer
- Captive Holder for Powder Samples
- Vertical Position for Solid Samples
- Horizontal Position for Liquid Samples
- Digital Image and Data Capture Software

HPR-Series Reactor

- Stirred Reactor Vessel: 50 ml to 4 Liter Capacity
- Operating Pressures up to 10,000 psi (68.9 MPa) and 350°C
- Integrated Microcontroller with Color Touch Screen or Menu Driven Controller
- Magnetic Drive Mixing
- Safety Rupture Disc Assembly
- Communications Port for Data Export
- Optional Reagent Addition Module for Liquids and Gases
- Optional Vessel Windows (Limits Working Temperature to 150°C)

Custom Equipment

- Supercritical Water Oxidation (SCWO)
- Specialized Vessel Materials
- Pilot Scale SFE and SFR Systems
- Ultra High Pressure (35 Kpsi) Reactors
- BioReactors

High Pressure Pumps, Vessels, Parts

- SFT-10 CO₂ Pump Module (10,000 psi; 24.0 ml/min)
- Solvent Pumps
- Hand Tight™ High Pressure Vessels
- Restrictor Valves

Contract Research and Consulting Services:

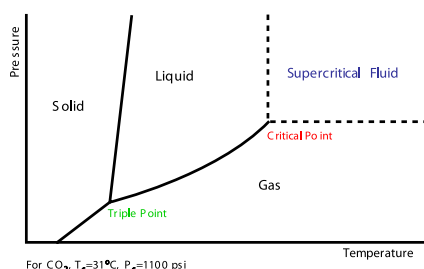
- Process Feasibility Studies
- Small Scale Toll Processing
- In-House and Field Service Support

**SFT-100 SFE ▲****SFT-150 with a 1 Liter Vessel ▲****SFT Phase Monitor II ▲****HPR Series Reactor with RxTrol™ Controller ▲****Custom SCWO System ▲**

How Do Supercritical Fluids Work?

When a liquefied gas is contained and heated beyond its critical temperature, its physical properties change. Under these conditions it is a supercritical fluid, possessing both the solvating power of a liquid and the diffusivity of a gas. In short, it has properties of both a gas and a liquid. Due to this unique characteristic, supercritical fluids are well suited as extraction and processing media for a wide variety of chemical, biological, and polymer applications.

Typical Phase Diagram



Supercritical fluids offer a great advantage over traditional solvent media because of the capability to control which component(s) of a complex matrix are extracted and which ones are left behind. This is accomplished through precise control of several key parameters such as temperature, pressure, flow rates and processing time. Product purity is higher and yields are much greater with SFE than extractions performed by traditional techniques. Decomposition of materials almost never occurs due to the relatively mild processing temperatures.

Application Expertise:

Supercritical Fluid Extraction

- Pharmaceutical Purification
- Foods – Flavor and Fat Extraction
- Natural Product Extraction
- Polymer Chemistry – Extraction and Infusion
- Electronics and Medical Device Cleaning

High Pressure Reactors

- Organic Product Synthesis
- Polymerization
- Hydrogenation Reactions
- Supercritical Fluid Reaction Chemistry

Custom Applications

- Supercritical Water Oxidation
- Pilot Plant Systems

Innovative Leadership in Supercritical Fluids and High Pressure Chemistry

At Supercritical Fluid Technologies, we develop innovative solutions for your demanding extraction and processing needs. Since our inception in 1994, Supercritical Fluid Technologies, Inc. (SFT) has worked to advance research in supercritical fluids and high pressure material processing. SFT's core expertise centers around the design and construction of equipment for supercritical fluid extraction (SFE), supercritical fluid reaction chemistry (SFR) and related high pressure applications.

SFT has established a reputation as a leader in technology. Our equipment is used in major universities, government laboratories, and Fortune 500 companies around the world. SFT provides the level of technical expertise and support these organizations demand. When application requirements extend beyond the capabilities of standard equipment, SFT's engineers design and construct custom systems to meet those needs.

SFT maintains corporate headquarters, manufacturing, and laboratory facilities in Newark, Delaware. Local sales and service support is provided through SFT's world-wide network of factory trained representatives and distributors.