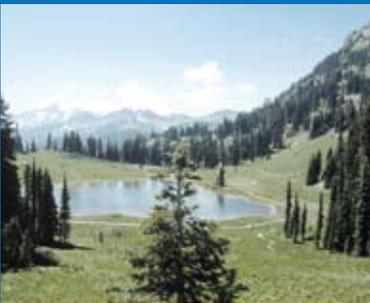




SUPERCritical FLUID TECHNOLOGIES, INC.

Supercritical Fluid Extractions, Reactions and High Pressure Chemistry
www.supercriticalfluids.com

SFT-120 Series SFE Systems



*Innovative Leadership in Supercritical Fluids
and High Pressure Chemistry*

www.supercriticalfluids.com



SFT-120

SFT-120XW Quad Option



Bench Top SFE for Universities and Industry

- Sample Vessel Volumes from 5 ml to 100 ml
- Interchangeable Vessels 5 ml to 1000 ml
- Operation up to 10,000 psi (68.9 MPa) / 200°C
- PID Control of Pressure and Temperature
- Integrated Fluid Preheater and Optional Flow Meter
- Various Extract Collection Options
- Optional Co-solvent Addition Modules



The SFT-120 and SFT-120XW Supercritical Fluid Extractors (SFE) are entry level systems which possess many features typically found in more costly SFE equipment. They may be used for a variety of applications from basic research to process development.

These SFE systems were developed for researchers who want to investigate the feasibility of applying supercritical fluid techniques to a wide variety of analytical and processing problems. In addition to numerous industrial uses, the SFT-120 and SFT-120XW are ideal for colleges and universities. They are affordable for teaching laboratories and well-suited to the needs of the serious researcher.

The SFT-120 accommodates 5 ml to 100 ml extraction vessels. It may be operated at pressures up to 10,000 psi. (68.9 MPa) and at temperatures ranging from ambient to 200°C.

The SFT-120XW accommodates 5 ml to 1000 ml extraction vessels. It may be operated at pressures up to 10,000 psi. (68.9 MPa) and at temperatures ranging from ambient to 200°C. It is possible to configure the SFT-120XW with the wide range of vessels volumes making the SFT-120XW well-suited to both analytical scale SFE applications and basic process development work. With a 1000 ml vessel, the SFT-120XW can extract very low levels of key components from materials and process larger amounts of bulk material than would be possible with smaller, analytical scale SFE equipment. For even greater versatility, the SFT-120XW may be configured for dual vessels, in series or parallel operation.

Inside the SFT-120 series' oven, a preheater ensures that the temperature of the fluid reaching the extraction vessel(s) is controlled precisely. This is essential to obtaining accurate, repeatable results.

Both the SFT-120 and SFT-120XW incorporate the Nex10 high pressure pump, a high performance, pneumatically driven piston pump rapidly compresses liquid CO₂ from tank pressure (750-900 psi) up to the pressures required for SFE, SFR, and other high-pressure applications. The pump operates in a constant pressure mode. The flow rate automatically adjusts to maintain the desired pressure.

Manually operated valves ensure long term, maintenance free operation. A PID temperature controller monitors and maintains precise fluid temperature inside the high pressure vessel.

The SFT-120 and SFT-120XW utilize the latest variable restrictor valve (back pressure regulator) technology, providing precise control over the flow rate of the expanding gas. This is essential for obtaining highly reproducible results. Flow rates up to 50 ml/min liquid CO₂ under typical operating conditions.

Extract collection options include: solid phase extraction (SPE) cartridges, solvent filled vessels, fractional cyclone separators, and EPA sample vials. Optional co-solvent addition modules are available for the SFT-120 and SFT-120XW. For greater versatility and ease of use, sample bags, sample baskets and flow meters are recommended.

SFT-120 Series System Specifications

Standard Configuration

Temperature and Pressure Display: Independent LED displays.

Temperature Range: Ambient to 200°C.

Temperature Precision: +/- 0.5°C.

Operating Pressure: 10,000 psi upper pressure limit.
Front keypad control, with LED display. Constant pressure mode of operation.

Flow Rates: Up to 50 ml/min liquid CO₂ (+/- 2% accuracy).

Over Pressure Safeguard: High / Low pressure alarms and rupture disc assembly.

Nex10 High Pressure Pump: High performance, pneumatically driven piston pump rapidly compresses liquid CO₂ from tank pressure (750-900 psi) up to the pressures required for SFE, SFR, and other high-pressure applications. The pump operates in a constant pressure mode.

Restrictor Valve: Controls flow precisely; heated up to 200°C; User selectable set point; Resistant to blockage.

Preheater: Improves temperature consistency of the fluid by heating the fluid before it reaches the main pressure vessel.

Extraction Vessel: Accommodates vessels ranging in size from 5 ml to 100 ml. (Up to 1000 ml for the SFT-120XW) Vessels come with 5 micron frits and are interchangeable.

Collection Vessel: Externally mounted. Many options available.

SFT-120 Dimensions: Width: 29 cm, Depth: 57 cm, Height: 76 cm.

SFT-120XW Dimensions: Width: 40 cm, Depth: 57 cm, Height: 102 cm

SFT-120 Weight (without vessel): 24 kg (52 lbs)

SFT-120XW Weight (without vessel): 28 kg (60 lbs)

Configuration Options

The SFT-120XW can be configured for a dual or quad vessel option for series or parallel operation.

Co-solvent Addition: Doping module or direct, in-line metered addition.

Interchangeable Sample Vessels: 5, 10, 25, 50 and 100 ml. Up to 1000 ml for the SFT-120XW (All vessels included 5 micron frits)

Sample Baskets: SS, 30 mesh, with lids.

Sample Bags: 5 Micron Nylon, various sizes.

Flow Meter: 0 - 35 SLPM of expanded gas.

System Requirements

Power Requirements: 220 VAC, 50/60 Hz

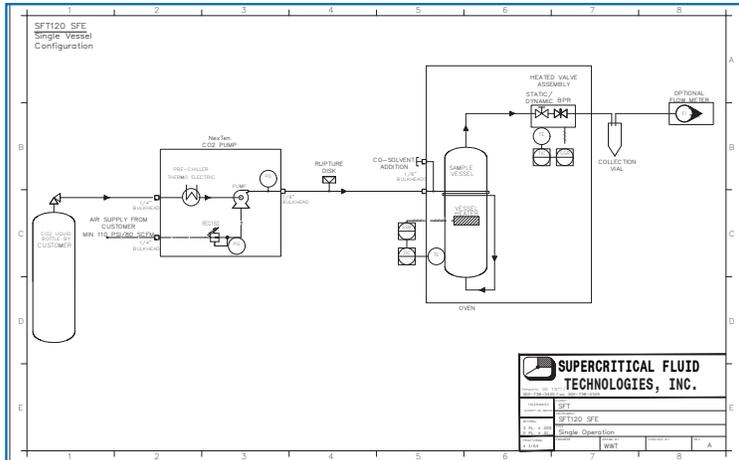
Liquid Gas Supply: Liquid CO₂ cylinder with dip tube.



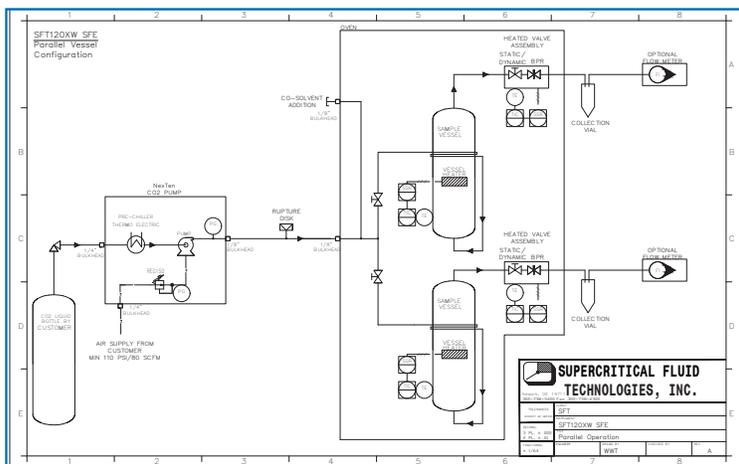
SFT-120 ▲



SFT 25ml Vessel ▲



The SFT Nex10 Liquid CO₂ Pump ▲



Inside the Dual SFT-120XW Oven ▲

