



CannabisSFE - 3x5

Rapid Liquid CO₂ Extraction of Hemp and Cannabis



▲ CannabisSFE - 3x5 Extraction System

- Efficient liquid CO₂ pumping with electric liquid CO₂ pump and pre-chiller
- Flow rates up to 1500mls/min (1250 g/min) liquid CO₂
- Up to 8000psi (552 Bar, 55.2 MPa) operation
- Ambient up to 120°C operation (perform supercritical and subcritical extractions)
- Easy access of collection assembly for removal of extracts
- Compact Design (78" L x 43" W x 42" L)
- Optional raw material loading fixtures, pre-processing grinders, and 150 micron (100 mesh) sample bags
- Includes full liquid CO₂ recycle (7-Liter accumulator)
- ASME Code Designed vessels & components.
- Meets current GMP

The CannabisSFE 3x5 Extraction System is designed specifically for the rapid extraction of Hemp and Cannabis. Within its compact footprint resides three 5-liter processing vessels, and a powerful liquid CO₂ pumping system. This system delivers flow rates up to 1,500 mls/min (1,250 grams/min) of liquid CO₂.

Configured to operate in full cascade mode, the high flow rates of the CannabisSFE 3x5 maximize throughput and efficiency. The first vessel is extracted in about 30 minutes, while the second vessel is partially extracted. In the next 30 minutes, the second vessel is completely extracted, and the third vessel is partially extracted. The net result is 12.5 pounds (5,675 grams) of biomass extracted per hour. The process is repeated until stopped by the operator.

The CannabisSFE 3x5 design is simple, easy to use, and reliable. The system can be run 24/7 with consistent results and minimal downtime.

Our extractors are developed with over 25 years of experience of manufacturing supercritical fluid CO₂ extractors to serve the pharmaceutical industry, government agencies, and university researchers. We understand the need for quality, safety and performance.

System	Feedstock Processed Per Hour	Feedstock Processed Per Hour	CBD Oil Extracted Per Hour	THC Oil Extracted Per Hour
CannabisSFE 3x5 Liters	12.5lbs/5.66kg	5,675 grams	397 grams	1,021 grams

Assumes high quality dry Trim and or Flowers

Expanded System Specifications

Maximum Operating Pressure: 8,000 psi (55.2 MPa)

Pressure Display: Pressure gauge for each processing vessel Temperature

Range: Ambient to 120°C

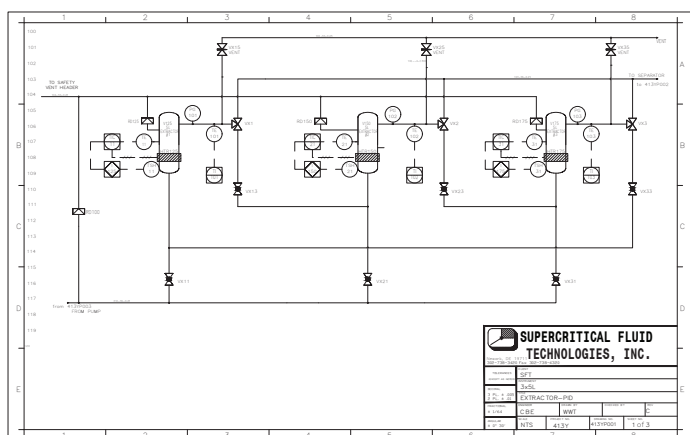
Temperature Precision: +/- 0.5°C

Temperature Display: Allen Bradley PLC with panel view touchscreen. Displays internal vessel temperature

Liquid CO₂ Flow Rates: Up to 1500mls/min (1250grams/min) liquid CO₂ at 8,000psi electric driven pump

Restrictor Valve: Extractor pressure controlled by Equilibar Back Pressure Regulator, requires user to provide 6ksi nitrogen cylinder, heated up to 120°C; resistant to blockage (factory set to 80°C)

Integrated Chiller Assembly: The integrated chiller cools the liquid CO₂ from the delivery tank. The chilled CO₂ is then delivered directly to the CAT supercritical fluid pump. Proper cooling of the CO₂ before it arrives at the pump ensures that the CO₂ is pumped in an efficient manner that eliminates cavitation to achieve the pressures and flow rates required for supercritical fluid extraction processes. This same Chiller assembly is then employed as the condenser in the CO₂ Recycle Loop of the Unit



CannabisSFE 3x5 Liter Extraction System Flow Diagram

Sample Extraction Vessels: Three 5 Liters Processing Vessels

Collection Vessel: Externally mounted with valve for ease in extract removal

Preheater and Extractor Temperature Control: High-efficiency electric CO₂ heat exchanger to raise temperature to up to 120 °C +/- 1.0 °C. The extractor actively heated with band heater to accelerate vessel warming at startup

Over-Pressure Safeguards: Rupture disc assemblies

Instrument Control: Vessel and preheater temperature controlled by Allen Bradley PLC with PanelView Touchscreen. Displays Internal vessel temperature. Logic Controllers

Power Requirements: CannabisSFE 3x5 will require 30 Amps of 230V three phase. The Chiller will need 20 Amps of 230V three phase



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