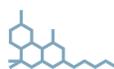


STX 90

SOLVENTLESS TERPENE EXTRACTOR

produce strain-specific terpene isolates
for ultra-premium products

ROOT 
SCIENCES

STX 90

Key Features

- **Solventless Cannabis Derived Terpenes:** Process 90 pounds in a single 8-hour shift, yielding approximately 200 grams of strain-specific >99% terpene isolate - enough for over 6,000 ultra-premium half-gram vape carts
- **Plug-And-Play:** Easily integrate this unique, non-destructive direct distillation technique prior to your existing cannabinoid extraction process on either dry or fresh-frozen biomass
- **90 L Biomass Vessel:** Allows a wide range of batch sizes, from 5 to 30 lb, allowing you to maintain the ultimate strain-specificity with your solventless terpene isolates - taking your extracts to the next level
- **Fully-Automated Operation:** Integrated 15-inch HMI allows users to program custom tailored extraction recipes, requiring minimal operator involvement and ensuring quality, consistency, and compliance
- **Patented Cryogenic Trap Technology:** Based on decades of experience in the semi-conductor industry, the patented design ensures maximum yields while minimizing run-times
- **Preserves Most Valuable Terpenes:** Collect the most fragrant and thermo-sensitive terpenes prior to extraction, allowing you to harvest the higher boiling point di- and triterpenes as usual, using wiped film distillation



Advantages of Terpene Extraction Systems

Terpenes are extremely valuable compounds that give cannabis strains their unique and pungent aromas, as well as attenuate the psychoactive effects of flower, concentrates, and vape pens. Preserving volatile terpenes throughout the extraction and purification process is very difficult, yet terpene content is one of the major criteria by which extracts are judged. The most volatile and aromatic terpenes (mono- and sesquiterpenes) are typically lost to the extraction solvent or thermally degrade in subsequent steps, forming foul smelling compounds.

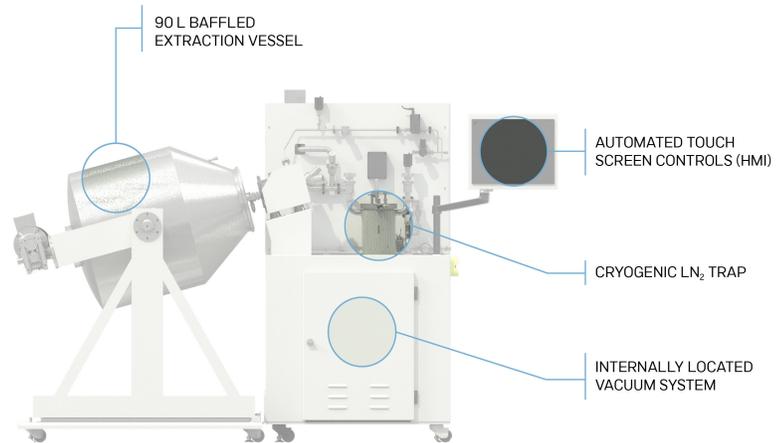
Enter the STX 90 Solventless Terpene Extractor. By directly distilling the most valuable aromatics straight from the biomass prior to conventional extraction, these prized molecules can be preserved, and the biomass processed as usual. The terpenes can then be recombined with the concentrates or distillates, resulting in a full spectrum, terpene rich product that resembles the original biomass as closely as possible.

Automated Terpene Extraction

Direct distillation is a solventless extraction technique where the most volatile terpenes are gently evaporated from dry or fresh-frozen biomass prior to any subsequent cannabinoid extraction. By separating these compounds under deep vacuum, without the use of any solvents, a maximum yield of unadulterated cannabis derived terpenes can be harvested.

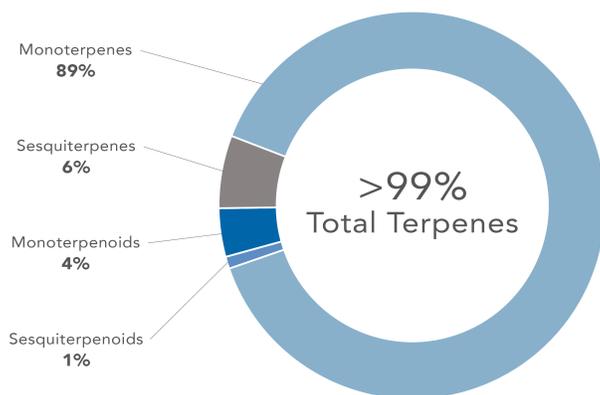
The integrated 15-inch touch screen HMI makes operation and compliance a breeze. First, a single operator loads material into the baffled extraction drum, slides the vessel into place, and then seals the connections.

Next, the automated controls take over and begin the pre-programmed extraction cycle, allowing the operator to tend to other tasks. The extraction vessel rotates under deep vacuum and gently heats the biomass, causing the lowest boiling point compounds to evaporate. Vapors from the chamber are condensed on a specially engineered cryogenic trap, freezing them in place for collection after the cycle is complete.



TERPENE EXTRACTION

Typical Results: Hawaiian Haze



The terpene condensate is harvested by removing the cold trap from the machine, allowing it to thaw, and then pouring it into a separatory funnel where it will quickly separate into a crystal-clear terpene layer and a hydrolat. The resulting terpene isolate is unique from strain-to-strain and typically >99% terpenes and >90% monoterpenes and monoterpenoids, making it extremely fragrant and cannabinoid-free. These terpenes can be re-introduced to products downstream, allowing processors to preserve the complete 'terpene fingerprint' that makes each strain valuable and unique.

Yield is highly dependent on feedstock quality, but typically each run will produce around 60 grams of solventless terpene isolate. When used in vape cartridge production, this equates to approximately 2,000 half-gram vape cartridges. (Typical usage levels between 4% - 10%)

TECHNICAL DATA

Model	STX 90
Batch Time	2-3 h
Processing Capacity	Up to 90 lb/shift
Electrical Options	1Φ 240 V, 50-60 Hz, 40 A
Required Utilities	LN₂ Dewar (300 L recommended)
Extraction Vessel Volume	90 L
Batch Size	5-30+ lb
Dimensions (LxWxH)*	213 cm x 124 cm x 176 cm
Weight	2,101 lb (953 kg)

*Additional 30 cm required to move the rotating drum for emptying and filling.
The operating space dimensions are 244 cm x 124 cm x 176 cm (plus space for a LN₂ dewar)



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ABOUT US

Root Sciences is a global leader in the distribution of equipment and support services for processing facilities in the cannabis and hemp industries, representing premium extraction, distillation, and other post-processing technologies. Backed by years of hands-on experience in both growing and processing, Root Sciences' collective knowledge as a team of seasoned practitioners and process engineers is unmatched in the hemp/cannabis industry.

The STX 90 is manufactured by Tandem Technology, a leading innovator in terpene extraction. Their PhD CEO and team of engineers have over 100 years of combined experience in extraction technologies. Tandem Technology have developed patented cold trap technology which, when combined with their unique sequence of pressure, vacuum, and temperature, gently extracts the terpenes and some water from the biomass (leaving the unaffected cannabinoids for future processing). Their equipment produces cost-effective terpene extraction, along with consistent repeatability, for a premium extraction process.