



system

10/10/2021

608-238-6001 [TEL]

greg@infinitysupercritical.com [Email]

**Infinity
Supercritical LLC**

New 10L Infinity Supercritical CO2 Extraction System

Structured Data

```
<script type= "application/ld+json">
  { "@context": "http://schema.org",
    "@type": "WebPage",
```

```
    "name": "New 10L Infinity Supercritical CO2 Extraction System",
```

```
    "description": "10L Supercritical CO2 Extractor by Infinity Supercritical LLC is perfect for all botanical extractions including full spectrum hemp oil.
```

```
    Price: $149,000 USD.
```

Features: Silent operation, Compact, Fast return on investment, electrostatic precipitation collection of oil. Closed loop. Engineer certified and documented.

Power: Single phase 220V power and liquid CO2.

Dimensions:

24 inches wide (610 mm)

48 inches length (1,219 mm)

71 inches height (1,803 mm)

Extraction Vessel: Top Loading

Pressure: Up to 2,000 psi

Capacity: 10L (by volume) 1-3 pounds of dry hemp flower

Cycle time: 1-4 hours"

```
  }
```

```
</script>
```

10L Supercritical CO2 Extractor by Infinity Supercritical LLC is perfect for all botanical extractions including full spectrum hemp oil.

Price: \$149,000 USD.

Features: Silent operation, Compact, Fast return on investment, electrostatic precipitation collection of oil. Closed loop. Engineer certified and documented.

Power: Single phase 220V power and liquid CO2.

Dimensions:

24 inches wide (610 mm)

48 inches length (1,219 mm)

71 inches height (1,803 mm)

Extraction Vessel: Top Loading

Pressure: Up to 2,000 psi

Capacity: 10L (by volume) 1-3 pounds of dry hemp flower

Cycle time: 1-4 hours



PDF Version of the webpage

This webpage QR code

<https://infinitysupercritical.com/system.html>

\$149,000 10L CO2 Extractor System

Supercritical CO2 Extractor 10L system for full spectrum botanical oil extraction.

Standard Package Price: \$149,000

Includes :

- chiller
- spare parts (o-rings and some consumables)
- extra new CO2 pump
- professional training via Zoom or online from actual Infinity Supercritical business owner who has two 10L machines and running a successful business in the botanicals industry
- professional build plywood and framed crate
- surface freight with professional lift-gate pick-up and delivery
- freight insurance to anywhere lower 48 USA

Build in the USA using parts fabricated and assembled in the USA.

Note: This system can be used to sterilize PPE.

Note: This system can be used to extract gold and other precious metals from electronic waste.

Note: This system produces an extract that has an indefinite shelf-life compared to other extracts (like ethanol or BHO extractions).

This system is built like a tank. Powder coated caster beams with 5 inch heavy duty casters for easy movement.

This system is compact and will fit through any standard door, hallway, or elevator.

System operation is manually set parameters, with automatic feedback PID to maintain temperature and pressure. Set it and watch the extraction.

System is designed for maximum 2,000 psi operation. Most processors use 1,400 psi or less.

Terpene extraction can be done running cold prior to turning on the heat for FSO extraction. This system is great for hemp, lavender, vanilla, pinene, and other valuable terp extractions.



Ready to process last years fall harvest ?

Buy a 10L system to process up to 20 pounds per day of hemp into the best quality full spectrum hemp oil and bottle straight from the machine while leaving behind most of the waxes and lipids. CO2 extracts command the best prices, much better than fly-by-night ethanol extraction. Make additional income by toll processing hemp from other farmers.

10/10/2021



Terpenes Extractor

Other ways to make profit are to run as a terpene extractor. This can be done by running the system cold (no heat). If you want to make alpha Pinene (a terpene which is common in Canna, Pine Needles, Pine Oleo Resin, Basel, Orange Peels, Rosemary, Cumin, and others).

Here is a short abstract of a-Pinene: These two phytochemicals exhibit diverse biological activities, leading them to various applications and uses, such as fungicidal agents, flavors, fragrances, and antiviral and antimicrobial agents. In addition, alpha and beta pinene are components of renal and hepatic drugs. Also, alpha and b-pinene are used as antibacterials due to their toxic effects on membranes.

Moreover, alpha and beta pinene have been found to have inhibitory effects on breast cancer and leukemia. The application of pinenes goes beyond natural medicine; for instance, they have been proven to be very flexible in the synthesis of polymers; polymers synthesized from pinenes are of better quality than other polymers.

The safety profile of pinenes is considered outstanding, allowing their use in various chemicals, and they are generally recognized as safe (GRAS). Thus, due to their physicochemical characteristics, it is challenging in the process of biotransformation, but are still used in the production of aroma compounds.

(full science reference at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6920849/>)



Income Possibilities

Make \$1,800-\$5,000 per day: Perfect for terpene harvesting, full spectrum oil, tinctures, vertically integrated farm-to-table extractions you can bottle and sell directly to customers, or provide white-label products. Beautiful quality CO2 oil that has a long shelf life because it's processed using pressurized CO2.

Depending on your sales market, you may be able to sell \$1,800 – \$5,000 of extracts per processing day. If you mix 1 gram of high value CO2 extracted full spectrum oil with 30ml (about an ounce) of carrier oil, you can sell retail for \$45 -90.00 a bottle.

Make extra income from Toll Processing (suggest charging \$2/gram extracted or take half of the extract as toll – with 10 percent oil content hemp make anywhere from 300 to 900 grams per day extract depending on how long you run.

That is \$600 to \$1,800 per day income just on toll processing, of course you can charge more than that if you want). Full spectrum CO2 oil is worth a lot more than crappy ethanol processed oil, with fewer active ingredients (most filtered out during ethanol processing).



Get Training

Without training, expect zero results and no machine operation. This is not a coffee machine. It's a industrial processor that requires user training and comprehension of basic concepts. User error or and not following instructions is not a warranty issue.

10/10/2021



ROI Based on \$149,000 System Price

Based on a system price of \$149,000:

- Producing High Quality Full Spectrum Extract
- Bottle straight from the machine into retail product (mix with carrier oil)
- \$20.00 / gram sell price (private label sell in 1 oz or 30 ml bottle with 500 to 1000 mg of extract)
- May sell for \$40 / bottle or more on retail side
- 713 grams / day running 24/hours per day extraction
- 11 day Payback or Return on Investment
- Net income of \$13,273 per day
- Your yield depends on the quality of the product you put in, and the available oil

10/10/2021



10/10/2021



Supercritical CO2 Extraction System Applications and Use

1. Live resin processing and diamond mining: Using a live resin process, this system can be used for -processing the basis of recrystallization (Diamond Mining or Jar Tech). The separation of CB D from terpenes is what Diamond Mining (crystallization of terp sauce) is all about, and is incredibly flavorful and potent end product.

2. High quality hemp flower extract: Supercritical CO2 provides a superior craft extraction, compared to any other extraction method.

3. Botanical extract: Supercritical CO2 is the best method to harvest valuable plant terpenes and essential oil.

4. Produce extract which is ready-to-bottle: Running at near 1,200 psi allows you to leave most of the waxes and lipids behind, producing a terpene rich (around 85 percent CB D near distillate) full spectrum oil which you can mix with carrier oil to bottle and sell direct to retail. In many cases, this eliminates the long post processing winterization step, and saves on labor and equipment needed. This provides the consumer a nearly touch-free extract with more nutrients than traditionally processed (and diluted) hemp oil. Ethanol processing is terpene delinquent, and many fly-by-night processors use charcoal to filter out chlorophyll, and also filter out CB D from the final product.



Advantages of Buying a Infinity Supercritical System

Terpenes: Supercritical CO2 is a proven method to extract valuable terps.

Plug-and-play: Our systems are built to provide a system that is ready to use after you uncrate. We include a basic installation kit to connect to a small chiller, and vent line for the CO2. Simply attach those, and your CO2 cylinders to fill and run the system. Training is required for this system. We have a learning methodology you need to follow, or you will not learn to run the system. First start with beer hops, which are rich in oil. Then move on to hemp, or other botanicals, after you have learned to use the system properly. **Not following this method, will result in poor success rates and most likely zero results.** We have developed this methodology for years, and it works well, when followed. Your best bet to get up and running quickly and efficiently is to [hire a professional](#) to help out. Without proper training, you most likely will have no machine operation.

One moving part: Our system is unique in that it has one moving part, the liquid CO2 pump. Proper system cleaning, learning, and operation will insure that the **pump works properly**. Hemp oil is very sticky, and will cause pump failure. The key is to prevent any material from reaching the pump, and it will run well. This is true with most CO2 systems. *Without proper training and learning, expect zero results.*

Fast return on investment: Using our CO2 extractor, with our learning methodology will get you producing quality extracts quickly. Craft CO2 extracts command a much higher price than any ethanol process, and retain the nutrients and benefits in the plant, versus other extraction processes which result in poor quality retention.

Built in the USA: Proudly built in the USA. Many parts we fabricated in our shop. Our system is engineer peer reviewed and certified. Pressure vessels and closure systems are built and fabricated to ASME certification, by a certified shop in the USA.

Extractors For Hemp. Make quality 85 percent CB D full spectrum oil right out of the machine (no post processing – ready to bottle).



The finest craft supercritical CO2 full spectrum oil extraction. Botanical oil extraction.

Supercritical CO2 Extraction – Completely Silent – No Air Compressor Required – Start Your Botanical Oil Extraction Profits Today – Fast 1-4 Hour Extraction. Great for terpene extraction and full spectrum oil right out of the machine. Produces the best quality extract in the industry. Leave waxes behind if you run near subcritical (reduces or eliminates winterization). Output oil straight out of the machine near isolate quality (85 percent).

Live Resin Processing and Diamond Mining: Using a live resin process, this system can be used for processing the basis of recrystallization (Diamond Mining or Jar Tech). The separation of CB D from terpenes is what Diamond Mining (crystallization of terp sauce) is all about, and is incredibly flavorful and potent end product.

Free Web Page Listing on This Website: If you purchase a 10L CO2 system at full price, we'll give you a listing for 30 days on your own page, and refer visitors or callers to you who need toll processing to the webpage, or to you directly. That listing can include your business name, email or phone contact info, services offered, and even photos of your machine and full spectrum high quality extracts. This is a huge value since we get large amounts of traffic from Google web searches. Limited time offer.

High Quality Full Spectrum Oil – Right Out of the Machine: Run this system at lower pressure and get a very high quality crude oil output (little to no winterization needed), which is 80 percent CB D (very near isolate quality) which you can bottle and sell to the consumer directly. ROI PDF:

Supercritical CO2 Extracted Oil commands a buy price of almost twice that of ethanol or other conventional extracted methods. Using the Infinity Supercritical CO2 extractor with hemp is considered a full spectrum oil extraction.



Hemp Oil Prices

We see wholesale buy prices for CO2 extracted oil at \$6.0/gram to \$10.00+/gram in Wisconsin. On a retail level, one gram of CO2 extracted full spectrum oil, which is combined with 1 oz of carrier oil (coconut oil) sells for \$45.00-\$90.00 at retail stores. Your cost of production, including the bottle, flower, and processing is typically less than \$3.00 per bottle. If you sell your brand, on your own website, then you can see those higher retail prices, and profits.

10/10/2021



What's Wrong With Ethanol Extraction ?

The Problem With Large Scale Ethanol Batch Extraction:

Typically, large scale ethanol extraction has a number of drawbacks. Since recycled ethanol is imperative to low cost processing operation, the dilution of the pure ethanol becomes compromised (water keeps getting added) which results in poor extraction efficiency. In addition, ethanol has poor terpene retention (terpenes become volatile and simply evaporate).

Finally, many ethanol processors who do a quick-turn extraction, end up with lots of bitter green tasting chlorophyll. To filter out that, they use activated carbon filters (referred to as carbon scrubbing), which also filter out most of the valuable components

(source: Romano LL, Hazekamp A. Oil: chemical evaluation of an upcoming based medicine. 2013;7(1):1-11.)



Silent Running and Saves Time and Your Money:

No more loud air compressors. No more waiting 12-24 hours for your batch processor to complete its cycle.

Your time is money.

Use your time to make extracts faster.

This system will result in less time spent with maintenance, or waiting for a long extraction process, and will provide you with more time that is spent extracting profit. This system provides a faster extraction and cuts your cycle time to extract more oil in less time. Silent operation.



Processing Advantages

Low Carry-Over (More Extracted Oil You Can Sell): Reducing carry-over saves time and parts costs in system maintenance, and puts more profit into your pocket. It also means less time spent on upkeep with the machine, and more time spent on extracting oil.

Target Oil and Reduce Post Processing Time (Save more than 50 percent of your time by targeting oil you want, not wax): Systems are designed to target oil production at pressures lower than 2,000 psi, which specifically can retain valuable terpenes, and emphasize oil harvesting, instead of waxes and other byproducts, which need to be removed in post processing. The crude oil output from the 10L is considered a full spectrum oil, and can be sold directly as-is, or mixed with a carrier oil (such as coconut oil) and bottled for sale.

Run 2 Months Without Pump Cleaning (expert status operator with training and experience): Quiet, reliable, and lowest maintenance CO2 pump in the industry. We have one customer who has run his machine almost everyday for 2 months without cleaning his CO2 pump. We also are the first company to provide a bolt-on pump cleaner to clean your pump head in-place. We specialize in collecting the oil before it gets to the CO2 pump using our proprietary electrostatic collector. Others make you buy additional pumps, or require cleaning every few days.

Cleaning: Respect your equipment, and it will operate great. We recently had one customer comment that the 10L was a gold mine and was looking forward to his second machine, to make even more profit. Keeping a system clean so that it operates correctly is true with most equipment.

We recommend always keeping your machine clean, and at least every 15 cycles do a thorough ethanol clean out of the system. If you do not clean your machine, expect that it will not work at all.

We've had customers that don't clean their machine at all, and they go through seals on a weekly basis, then wonder why it isn't operating up to expectations. We've had a few groups return machines for repair, and all that was needed was a good machine cleaning. Have some respect for your profit center, and you'll get great results.

System Components: 3 collection vessels with bottom exit valves, heat recovery system, CO2 preheat, electrostatic collection, FlowBar, spares package, shipping, crate, chiller, extra baskets, bolt on pump cleaner, training, support, pump head cleaning holder, vent tube and manifold, CO2 monitor, CO2 liquid sight-glass.



CO2 Extraction System Full Configuration

Capacity: 10 Liter (1-3 pounds of dried flower)

Operation: Semi-Automatic Pressure: 2,000 psi

Power: **220V 60hz Single Phase**
(for European installations you must have 60hz)

Engineer Peer Reviewed:
California, Colorado, Nevada, Washington, Arizona, Oregon

10/10/2021



How it Works

High pressure liquid CO₂ is pumped into an extraction vessel, which brings the CO₂ supercritical as it goes into the separation/collection vessels.

As the botanicals come in contact with the CO₂, the oil is released into the CO₂, since the CO₂ acts as a solvent. The gas and oil (co-mingled) are released into the separation/collection vessel where the pressure drops and the botanical oil drops out as a liquid.

The CO₂ gas is then condensed back to a liquid via a small heat exchanger, and then recirculated through a CO₂ pump to start the cycle over.

The system is closed-loop.



System Operation

Electrostatic Precipitator: Infinity Supercritical is the first in the industry to utilize static electricity to assist in collection of oil. Commonly known as ESP, electrostatic precipitation is a method used in many industries to remove particulates in a gas flow. In this case, we're applying some same technology (but with our own invention) to collect oil. A small charge accumulates in the entrained oil, which makes it adhere to the first collection vessel.

Semi-Automated: Turn the CO2 pump on, and leave it on. You can adjust the pump speed, which sets the pressure. The system runs in a steady-state once started. This is a 2,000 psi or less working pressure system. Typical runs will be at 1,300 to 1,800 psi. The system working pressure is rated for 2,000 psi. A safety relief valve is provided to release any pressure which goes above 2,000 psi. Targets oil at or below 2,000 psi to minimize post processing. High Pressure Systems (above 2000 psi) = lots of post processing.

Fittings: We use quality Swagelok fittings. System is made in the USA.

FlowBar: The CO2 FlowBar enhances the CO2 delivery and distribution within the botanicals extraction vessel. While almost every CO2 extraction system enters in one end and exits the other, our new concept delivers CO2 in a uniform manner throughout the entire extraction vessel. The result is a much faster, and more thorough extraction.



Learn Extraction Properly

Recommended Learning Schedule and Strategy: After selling lots of systems, and determining the best practice to learn extraction, we have developed a learning system to help you minimize pump maintenance, and maximize yield and successful extraction runs.

If you follow our learning plan, and practice extraction runs on beer hops, you can expect proper system operation, low pump maintenance, and extractions up to the full oil content of your botanicals. 100 percent of operator problems at first start-up are due to the operator forgetting training. We suggest you run your machine a week after training.

If you follow this schedule, you will learn quickly. If you do not follow this schedule, then you can expect pump clogging, building pressure issues, and lack of yield or extract. If you decide to not follow our plan, then you can expect to have pump problems (from improperly running the system) and little to no yield (extraction).

To be clear, if you do not follow our recommended plan, you may get zero results. Prior experience on other CO2 extraction machines doesn't make any difference to running a new machine, with a different configuration. To be clear, you need proper training, and follow a well thought-out plan to succeed if you want to have great extractions.

Learning Methodology Schedule For Extraction

We suggest you do several practice runs with the machine empty (no botanicals – just CO2) and then practicing using hops (with known oil content).

We recommend using 1 pound of hops in the extraction vessel, and doing at least 10 practice runs up to 1,400 psi. Adjust the extraction time from 1 to 4 hours, and see how your results may vary. You may also practice with doing the first 30-45 minutes without any heat, to collect terpenes. Practice on low value hops first, gain experience, then move on to your trim or bud.

10/10/2021



Producing Alcohol from Liquid CO2

Infinity has already built lots of closed-loop supercritical CO2 systems, and experimented with CO2 cavitation to make a one-moving-part liquid CO2 pump.

Infinity currently sells a cart-mounted portable on-demand supercritical CO2 phase change system for \$150,000 which can be used for the experiments listed below, along with many others. It is a cart which was designed to fit through any standard door, hallway, or elevator and has heaving duty casters for mobility.

We are currently looking for funding to develop the following:

1. On-Demand CO2 to Alcohol: Using our closed-loop liquid CO2 phase change system, adding Nafion in the process to make alcohol. Inputs: Liquid CO2, water, and electricity. About 3-4 kW to make a liter of alcohol (from lab experiments).
2. CO2 to Alcohol with In-Situ Power Generation: Using our closed-loop supercritical CO2 phase change system, produce the power via miniature CO2 turbine generator or static electricity generator (SEG) to power the conversion via Nafion.
3. Spin-To-Liquid (STL): A novel one-step approach to producing alcohol from liquid CO2 using a cavitation device with Nafion. This is a one-moving-part device employing sonochemistry with inputs of water and liquid CO2. Electricity is produced in-situ. Shaft rotation is required to spin the device (this can be done via a electric motor, pressure expanding turbine, or other shaft rotation such as a wind turbine).

You can further our efforts by buying our \$150,000 systems (which we build - and have four in stock) or by considering an investment to fund our development.

Teaser: Why was Nikola Tesla so fascinated with static electricity and spinning discs ? Our guess is that he had already found the worlds best battery - water. The Tesla turbine (while a fascinating pump) was actually a static electricity generator originally designed to charge water. All of his Colorado Springs experiments revolved around static electricity. Power generation and (wireless) transportation was via static electricity.



