



news

10/10/2021

608-238-6001 [TEL]

greg@infinitysupercritical.com [Email]

**Infinity
Supercritical LLC**

Botanical Extraction News from Infinity Supercritical

Structured Data

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

```
    "name": "Botanical Extraction News from Infinity Supercritical",
```

```
    "description": "This page is for current news and updates for Infinity Supercritical LLC.
```

```
    Product: Supercritical CO2 Extraction Systems and Technology
```

```
    Industry: Botanical oil extraction and cosmetics
```

```
    Botanical Oil Extraction Uses: Hemp, lavender, algae, Flax, Oregano, Caffeine, flower, Black Seed, Coconut
```

```
    High Technology Uses: PPE sterilization, Lithium Ion Battery and precious metal recycling. Now working on converting systems to producing Liquid Nitrogen and Liquid Oxygen.
```

```
    Machine Features: Silent operation, Compact, Fast return on investment, electrostatic precipitation collection of oil.
```

```
    Machine Runs On: Single phase 220V power and liquid CO2.
```

```
    Other Technology: Hydrodynamic cavitation plant oil extraction using water.
```

```
    "
```

```
  }
```

```
</script>
```

This page is for current news and updates for Infinity Supercritical LLC.

Product: Supercritical CO2 Extraction Systems and Technology

Industry: Botanical oil extraction and cosmetics

Botanical Oil Extraction Uses: Hemp, lavender, algae, Flax, Oregano, Caffeine, flower, Black Seed, Coconut

High Technology Uses: PPE sterilization, Lithium Ion Battery and precious metal recycling. Now working on converting systems to producing Liquid Nitrogen and Liquid Oxygen.

Machine Features: Silent operation, Compact, Fast return on investment, electrostatic precipitation collection of oil.

Machine Runs On: Single phase 220V power and liquid CO2.

Other Technology: Hydrodynamic cavitation plant oil extraction using water.



PDF Version of the webpage

This webpage QR code

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

Supercritical CO2 Extractor Build Licensing

Infinity Supercritical is now offering build licenses for its popular and successful CO2 extraction system:

- A. Business: Single Build License: \$1,999
- B. Commercial: North America Build License: \$19,999
- C. Industrial: Worldwide Unlimited Build License: \$99,999
- D. Exclusive Build License (per country): \$999,999

10/10/2021



Molecular Hydrogen

Hydrogen can be added to the botanical extraction process, or when making full spectrum oil, hemp water, or hemp creams.

What is Molecular Hydrogen ?

Hydrogen has great potential in the regulation of oxidative stress, inflammation, energy metabolism of organelles, and programmed cell death. Many animal experiments and clinical trials have established the protective effects of hydrogen on many organs and systems.

Recent evidence has shown that hydrogen is a potent antioxidative, antiapoptotic and anti-inflammatory agent and so may have potential medical applications in cells, tissues and organs.

Hydrogen is extremely unique since it has the capability to act at the cellular level. Hydrogen is qualified to cross the blood brain barrier, to enter the mitochondria, and even has the ability to translocate to the nucleus under certain conditions.

The effects of Hydrogen enriched water or other methods is most beneficial for subjects over the age of 30.



New Development Converting 10L Machines to Produce Liquid Nitrogen and Oxygen

Infinity is now working on converting the 10L extraction systems to produce Liquid Nitrogen (LN₂) and Liquid Oxygen (LOX). These valuable gases can be used for rockets, cooling industrial cutting lasers, and cryogenic botanical extraction. The benefits of a on-demand system for the production of liquid nitrogen and liquid oxygen mean that you're no longer dependent on industrial gas suppliers high prices, transportation, and product shorting.

10/10/2021



Infinity Supercritical Announces New 10L System Lease Financing \$49,000 down and \$1,000 payments

Infinity Supercritical is now offering the popular 10L supercritical CO2 extractor lease financing for \$49,000 down and \$1,000 per month payments. \$1 buyout at end of payments. The ROI or payback on this type of processor is less than 11 days when processor-to-retail business strategy is followed. The unique ability of the extract to be bottled into full spectrum hemp CBD products gives this system a unique advantage over other processors. CO2 provides a more efficient and better system of botanical extraction than ethanol by preserving the valuable terpenes and other nutraceuticals to make a full spectrum oil product. Unlike other hemp extraction systems which require a external air compressor to run a diaphragm CO2 gas compressor, the Infinity System does not require a compressor and uses a quiet CO2 liquid pump. Not only does this save money, but operator fatigue, since the Infinity system runs silent.

10/10/2021



Infinity Supercritical Announces New 10L System Lease Financing \$19,000 down and \$2,000 payments

Infinity Supercritical is now offering the popular 10L supercritical CO2 extractor lease financing for \$19,000 down and \$2,000 per month payments. \$1 buyout at end of payments. The ROI or payback on this type of processor is less than 11 days when processor-to-retail business strategy is followed. The unique ability of the extract to be bottled into full spectrum hemp CBD products gives this system a unique advantage over other processors. CO2 provides a more efficient and better system of botanical extraction than ethanol by preserving the valuable terpenes and other nutraceuticals to make a full spectrum oil product. Unlike other hemp extraction systems which require a external air compressor to run a diaphragm CO2 gas compressor, the Infinity System does not require a compressor and uses a quiet CO2 liquid pump. Not only does this save money, but operator fatigue, since the Infinity system runs silent.

10/10/2021



Infinity Supercritical Introduces DIY At-Home Hemp Processor

Infinity Supercritical Announces DIY Countertop Hemp Botanical Oil Extractor and Skin Cream Maker. Infinity Supercritical LLC, is introducing its DIY at-home hemp oil extractor that uses water or plant oil to extract full spectrum oil for topical use or making skin cream. The new system can be used with any organic botanical plant or flower, including lavender, flax, black seed, and vanilla. Mixing and formulation happens simultaneously in the same container. Our induction magnetic mixing system can be used to organically extract plant oil and make skin cream in the same Mason jar, to produce a eco extracted oil, that can organic branded. A pump-top on the jar allows the mixed oil extraction to be dispensed at the same time. Less handling means less oxidation and a pure product. Most commercially processed oils or skin creams have been sitting for months in transit from overseas, which necessitates chemical additives to increase shelf-life.

10/10/2021



Frequently Asked Questions

Why not go fully automated ?

CO2 extraction is already a legacy extraction method. In 2015 we surveyed industry extraction professionals and they wanted a semi-automated machine. We also surveyed Apeks Supercritical customers, and found their dissatisfaction with automation when the power went out (the CO2 was automatically vented, providing huge loss of CO2, which happens more regularly than you'd think), and software update issues. Apparently there were a number of lawsuits initiated because of unhappy customers. So we decided to apply our pressure vessel knowledge from our renewable energy systems (organic rankine cycle) to this industry. We made a system that was semi-automated. The only issues we have are with the Cat310 pump (as with every other extractor manufacturer who has problems with CO2 pumps).

What are the issues ? CO2 is high pressure. Sealing high pressure is difficult and expensive. Pumping a CO2 gas can be done with a diaphragm pump, which requires an external (loud and another maintenance item) air compressor (Apeks), or a liquid CO2 pump using pistons (most common and effective for liquid pumping). Other pumps exist, but cannot tolerate the pressure, unless you go exotic (i.e. expensive).

Why not just invent a new reliable pump ? We did. It was a liquid CO2 cavitation pump (see photo). One moving part. Magnetic seals. No pistons. No maintenance. Nobody had an interest in buying it.

What is the market ?

Below \$10,000: Everyone can afford to buy at this price, but the extraction amount is low, customer service support high, and most at this level are in the hobby-want-to-be-commercial extractor, with very high expectations of profit. This is the group with the lowest amount of professional business prowess, and least educated to make a profit. Turnover, support, and refunds are high in this group. The general customer type is angry, and provide lots of threats (i.e. lawsuits, extortion, harm, fake social media posts, etc.).

\$20,000-\$50,000: Niche market and most active for purchases and businesses that want to make money and more professional.

Above \$50,000: More professional clients, but harder to sell product.

Above \$300,000: Most desired, but least available.

What has the Pandemic done to sales ? Sales have tanked. Nobody is spending money in this industry for equipment. The hemp market has seen raw hemp flower bottom out, since everyone wanted to grow this new novel crop.

What is the best technology ? Water extraction or oil-oil extraction. Both of these methods do not require high pressure, expensive fittings, or a CO2 pump (which is the heart of any CO2 system, and the most problematic). Either system can be push-button (for the operator factor).



Infinity Supercritical Review: Ethanol Extraction. The Good. The Bad. The Ugly.

Infinity Supercritical Review: Ethanol Extraction. The Good. The Bad. The Ugly.

Date: 1/20/2019

Ethanol Extraction

With the huge influx of hemp flower and demand for hemp derived full spectrum oil and CB D, processors have turned to huge batch fed extraction methods.

Ethanol extraction is a low initial cost entry method to get a fast botanical extract. For the processor, it's a quick way to turn cash flow.

For the consumer, they are unwittingly purchasing a product that is cheap to produce, but lacks the robust components when using CO₂, or water extraction. Think of product shorting.

The long term results of ethanol processing are higher consumable costs, a highly flammable process requiring fire code compliance (Class 1 Div 2 D), and poor quality product. On the consumer side, the product shorting may not actually address why the consumer purchased the product in the first place (i.e. reducing inflammation from valuable terpenes and CB's).

Fast Extraction: Large quantities of hemp need to be extracted at harvest time, and ethanol is one extraction method for bulk processing fast.

Low Capital Cost: Large batch fed assemblies are inexpensive to acquire.

Big Batch Quantity: .5 to .6 gallons of ethanol per pound botanical input. Can scale up to almost any size tank or batch.

Super Chill Extraction and Winterization: If you chill with CO₂ or nitrogen down below -70 F, you can optimize extraction and winterization simultaneously.

Poor Overall Efficiency: Unless you use good quality (expensive) ethanol, poor overall extraction efficiency.

Terpenes: Poor terpene retention.

Appearance and Bitter Taste: Unless high quality solvent, expect green tints and bitter taste from chlorophyll.

Lack of Active Hemp Components: Depending on process, you may lose terpenes and CB's.

Ethanol Recovery: A slow process to recover some of the consumable.

Lipids (Waxes): Ethanol pulls out long chain fatty acids very efficiently.

Time/Carbon Filtering. Many processors use carbon filters to remove the green tint and bitter taste, which also



\$399 DIY At-Home Mason Jar Hemp Extraction for Full Spectrum Oil

Micro Botanical Oil Extractor and formulation system using the most advanced induction mixing technology. From farm to table, this oil extractor is perfect for full spectrum hemp and other nutraceutical and essential oil botanicals using the latest green extraction technology. The same mixing technology can also be used to deploy your botanical extraction into a DIY skin cream.

1. Buy certified and legal organic farm-fresh hemp flower (wet or dry).
2. Grind or put whole flower into Mason jar.
3. Add carrier oil (Olive or Rice Bran Oil).
4. Replace pump top with Stainless Steel high micron filter.
5. Turn on magnetic mixer.

Result: The oil extracts the full spectrum hemp oil. You can then dispense (via pump top on Mason jar) for external use, or use to make full spectrum hemp oil skin creams in the same jar.

Start a Business: Make extractions to start a business and sell online or at the farmers market. Mix and sell directly in Mason Jar (touch-free), or make into high value skin cream or salve.



Sell Products Showcase

The Infinity Supercritical CO2 hemp extractor can make craft extractions for your organic hemp flower. These range from making infused hemp cigarettes, hemp cigars (\$20/each retail), tinctures, D8, and skin creams. We have a separate skin cream maker system which uses touch-free induction mixing for high value skin cream products (not limited to hemp, but can use any infused oil or botanicals).

10/10/2021



Infinity Supercritical Introduces Website Format

Infinity Supercritical is pleased to announce its new website and information repository for botanical extraction. Infinity has left WordPress for its own proprietary system based on First Principles (function over form). Gone is the nonsense of flashy non-informative websites. In its place is great data and information which helps you make business decisions based on profit.

10/10/2021



Pro Tips and Consulting Services From Brook at Green County Hemp

Fee based support is available from these groups who own Infinity Supercritical extraction systems and use them on a weekly basis to produce product that they sell for a profit.

Brook Bartels (see email link below)

Green County Hemp:

Owns (2) 10L Systems | Specializes in hemp and hemp extract products | Consulting Services: Start-up, training, optimization, marketing, on-site available, post-processing, CO2 pump | (Wisconsin, Midwest, online support).

Pro Tips from Brook (updated on April 14, 2021):

Brook says that pump cooling is not required if the chiller is run closer to 40F, and the liquid CO2 reservoir is at a higher pressure (near 700 psi). Also said that matching the Collection Vessel (CC) closer to reservoir pressure resulted in beautiful quality honey looking oil extract. Brook runs for 2-3 hours and says running longer than that does not extract any appreciable amount of extract (i.e. waste of time for hemp).

10/10/2021



Botanical Oil Extraction VORTEX TUBE (Air and Water)

Infinity has experimented with many technologies which perform cell lysis. One of those is the fascinating vortex tube. It has traditionally used for pressurized air to produce spot cooling and heat, along with separation functions in the oil and gas industry. The vortex converts pressure into rotational energy (over 1,000 g force) which effectively becomes a centrifuge liquids (air, water, oil, etc.). The high g forces can result in cell lysis, and the rotational element can separate resulting extract.

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 heavy 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.



Why I Left Wordpress and developed my own Web Page Engine

For the past 6 years I've been using WordPress. Initially, I thought it was super easy to build and maintain websites (I had over six), but then quickly realized it was the big Trojan Horse in the room. Basically, they lure you in with flashy sites, then bog you down with Microsoft-like annoyances (uploading plug-ins to fix basic site user experience problems) and other inherecencies. One feature I loved was a mobile upload using a smartphone app. It was great until I found out that images were not rotated properly, and yes, you guessed it, there's a plug-in to fix that. So annoying. It got so bad I found myself spending more time trying to fix the base operability than actually building content.

So I decided to rely on what I know best. And that was FileMaker Database. The essence of FileMaker is to storage and manage data, and replicate success, while eliminating having to do things over and over. I used this basic foundation to write a database which stored all my content (text), links, images, and pdfs and then present them in a logical format based on functionality and good content creation tags presented by the search engine Google (most searches are done from their base). This includes tags they consider important, and leaving out the gobbledygook that is not necessary.

Time savings from not dealing with WordPress issues, image management, and basic user experience were quickly realized. While more time is spent on developing a strategy, the huge time savings by eliminating duplication and confusion quickly bubbled to the top.

Now I can build, modify, and create content quickly and easily. The images and pdfs are contained within the app, so I don't have to worry about managing separate folders of each. Keep your images web friendly at around 300kb and pdf documents the same. If you need huge files, then store them remotely (separately) and link to them for speed. For movies, use Vimeo and YouTube as your storage medium and link or embed them. This not only broadens your exposure to the web for visibility, but allows you to build additional SEO and page ranking. This happens intrinsically when you link back.

The basic premise of the Web Engine strategy is to have a web page, which is comprised of blocks of information (similar in nature to WordPress, but delivered much better). Gone or endless options on text type and size and confusion in WordPress. Each page is part of a group of pages for your website. Blocks comprise the content of that page, also part of a database. Each block has options for text only, image only, text and image, or raw data (in case you want to utilize code which already exists in HTML format). Using any of those options gives you complete control of appearance and delivery.

Gone is the contact page. Instead, why not give interested viewers the ability to contact you from the top and bottom of the page. I've never understood why it has to be an Easter Egg hunt just to send an email or make a call.

First Principles is the living methodology of Nikola Tesla and Elon Musk. Make it yours. That is, functionality over form (purpose vs. flash).

Who is this type of web strategy good for ? Those who want to delivery a message quickly, efficiently, and those who want to deploy information.

We base the business functionality of this strategy incorporating the QR code. The QR code gives quick link access to information. We recommend you put one on each page, which when printed out (each webpage generated can be printed out on standard format paper), gives the reader the ability to point their smartphone at the code and immediately link up to the page, or to order a part, or to reference a fix, or to buy a product. Instantly. Quickly.

10/10/2021



Starting a Hemp Extraction Business

With the incessant demand for consumer grade hemp rich products, along with isolate for product infusion, there is a bottleneck between harvest and concentrate extraction. This is because most farmers don't have funding or capabilities to perform extraction. Third party extractors, termed toll processors, often demand a 50 percent toll for their services. Unfortunately, there aren't many processors available and many are unreliable.

Of the extraction systems available on the market, they are high-priced, legacy-based systems that perform inefficiently, and effectively cause a bottleneck in processing.

Infinity Supercritical recognized these inherent issues in 2015, and established a line of technologically advanced extraction systems.

Why Now ?

Timing: The market has a high demand for CB D rich hemp products.

Opportunity for this market exists as processors scramble to meet demand, with legacy extraction systems. Unfortunately, ethanol extraction falls short with a inferior product that doesn't have good terpene retention.



Topics for Botanical Extraction and Plant to Oil Industry

New to the site are reviews of research topics for the botanical extraction industry.

10/10/2021





