



about

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**Infinity  
Supercritical LLC**

## About Infinity Supercritical LLC and Botanical Extraction

### Structured Data

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    "description":"Company Name: Infinity Supercritical LLC
    Product: Supercritical CO2 Extraction Systems and Technology
    Machine: 10L Supercritical CO2 Extractor
    Industry: Botanical oil extraction and cosmetics
    Start Date: 2015
    Type Company: LLC
    Technology Patents: Yes.
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</script>

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

## 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.



## About Infinity Supercritical LLC

Infinity was started by a developer entrepreneur coming from the supercritical CO2 energy industry. Multiple patents for CO2 based modular block fluid handling system (originally developed for a project in 2004 which converted CO2 into alcohol, such as ethanol, methanol and butanol), and multiple patents are currently pending for a supercritical fluid extraction devices and methods of extraction including Spinning Disc Reactors and other methods of extraction. Future developments will reduce or eliminate the need for external chillers, and will reduce the overall footprint of the extraction system, while increasing yields and decreasing processing time.

Infinity Supercritical uses rapid prototyping and development using the patented Modular Block (National Science Foundation says it's an Industrial LEGO) allows fast deployment into the commercial market space.

To bring the industry up to the current technology, Infinity is blending database, monitoring, smartphone, supercritical technology, cavitation science, sonochemistry, and green energy all together. The result is a better user experience, increased results, and profits, while saving the processor cycle time.

All of the extraction systems are energy efficient, and are designed to have a low environmental footprint. The Spinning Disc Reactor system is the first large scale industrial continuous feed Eco Extraction system available in the botanicals industry.

Infinity has also developed a Fast Filter system for removing wax from winterized solutions. An off-shoot of that Fast Filter development will be a Fast Vacuum Table, for vacuum bagging of botanical products, carbon fiber vacuum bagging, low pressure autoclave, and other vacuum based functions.

Made in USA. Not Canada. Not China. Quality Swagelok Parts.



## 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 hops, you can expect proper system operation, low pump maintenance, and extractions up to the full oil content of your botanicals.

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 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.

Improper use of the 10L system can result in component damage, which is not a warranty issue, it's a flag for the operator to continue to learn, and train with the system for proper, profitable operation. Unless you have had your botanicals tested for oil content, we do not recommend learning on any botanicals with unknown oil content. To be clear, do not use your trim or bud to start with.

### Used Machines

Buyer beware. You have no idea if your machine runs, if you purchase from Ebay, or used, unless it has been certified/reconditioned and tested by Infinity. We do not provide support for used machines, unless you have either done a reconditioned/certification at our shop, or have paid a \$10,000 access fee. Support is not included with your used machine. Any recertification, parts, support, or any time, is extra, and billed on a customer and per-case basis. If your machine does not run, we may not support it at all (since we have no idea if it has been damaged, modified, etc.). There is no warranty for used machines.

### Purchasing Used Machines

Any used machine may or may not be operational. It is your responsibility to determine the operability of the machine prior to purchase, or just assume it does not work at all. Please purchase a new machine with a warranty. All service, support, and parts are additional, and on a per-quote basis. All service and support is on a best-efforts basis.





































