

Isolation Equipment

Isolation Equipment for Crystallizing Cannabinoids

Crystallization is a common Isolation method used to separate a substance in its pure form from a mixture. In cannabinoid applications, crystallization is often used to isolate CBD with additional cannabinoids like THC, terpenes, and other plant components stripped out.

Under proper conditions crystals form creating a highly purified substance. Crystals will begin to nucleate when the substrate in the solvent becomes supersaturated and then process conditions can be dictated to control either nucleation or crystal growth. Most crystallization processes are done with batch reactors as it allows for precise control of these attributes, with filtering and drying performed in other equipment such as Nutsches. Pope offers a variety of equipment and turnkey solutions for crystallization.

Crystallizing Turnkey Solutions

The advantages of pairing a reactor and Nutsche Filter-Dryer include:

- Each vessel is optimally designed for performing these two different processes
- Saves time by having both processes running simultaneously
- Can be performed with no open handling of the raw material or slurry
- Isolation is a critical operation, and often the final step in the entire manufacturing process.
- Pope Scientific's Nutsches are preferred-proven for CBD crystallizing isolation to 99.9%, with less than 0.3%, to undetectable THC levels.

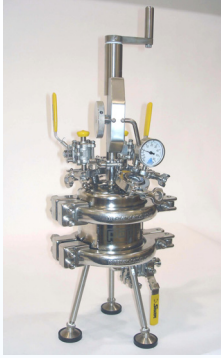
Pope has developed a variety of turnkey systems for creating CBD isolate, including:

- 25L Reactor and 20L Nutsche
- 50L Reactor and 40L Nutsche
- 120L Reactor and 100L Nutsche
- 200L Reactor and 170L Nutsche
- 400L Reactor and 347L Nutsche
- Custom sizes and designs available upon request



Our application engineer specialists are available to help you determine the best system for your needs.

NUTSCHE FILTER-DRYER EXAMPLES



1-liter 4" Special Benchtop Nutsche with manual up/down cake agitator



4-liter, 6" jacketed Benchtop Nutsche with motorized up/down cake agitator (& special upside-down hanging arms)



3-liter 6" Benchtop Nutsche, jacketed, showing harvesting of dried filter cake



20-liter, 8" jacketed nutsche, sanitary flange style, 3-piece cake retention type, electric 800 mixer, Teflon coating



5 gallon 9" 3-piece "basket" style with removable filter holder, jacket, 800 Mixer, cart, disassembled



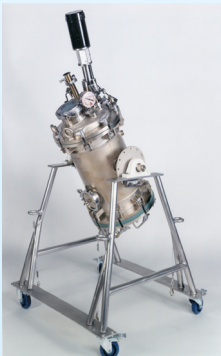
5 gallon 9" 3-piece "basket" style with removable filter holder, jacket, 800 Mixer, cart, assembled



10 gallon 12" 2-piece cake retention sanitary flange type, jacket, motorized up/down cake agitator



40-liter, 12" 2-piece cake retention sanitary flange type, Hastelloy C-276, (unjacketed unit), & SS, (jacketed unit)



10 gallon, 12", with jacket, 800 Mixer, side access port, Teflon coating, 360° rotation support frame



20 gallon 18", with side & bottom jacket, 800 Mixer, side access port, 360° rotation support frame



12 gallon, 12", with sanitary heads, 800 Mixer, 90° rotation support frame, (motorized rotation option available)



120-liter, 18" 3-Piece with removable top head, jacket, 800 Mixer with air motor



37 gallon, 18" 3-piece cake retention type, with jacket, 800 Mixer with air motor, side access port, 8 legs



37 gallon, 18" unit with non-removable top head, jacket, 800 Mixer with XP motor, recirculation pump system



37 gallon, 18", basic unit, no removable head or jacket, 800 Mixer, with lift truck



55 gallon, 24" with non-removable top head, jacket, 800 mixer, showing lift truck lowering bottom filter plate head