

CANNABINOID PURIFICATION

Industrial separation, enrichment, and purification process systems for use in the production of pharmaceutical quality cannabinoids in quantities from grams to kilograms

The medicinal properties of the *Cannabis* plant's extracts have been known for centuries. As modern research rapidly advances into its indications and therapeutic efficacy in treating chronic diseases and other medical conditions, an interesting approach has been developed by Rousselet-Robatel-Kromaton for refining and isolating pure fractions of cannabinoids by sequentially applying centrifugal separation, extraction, and purification technologies.

1st STEP: SEPARATION

Centrifugal Solid-Liquid Separation

Filtration

➤ After maceration or any other extraction method, use the **Model RC** range of solid-liquid filtration centrifuges to filter *Cannabis* biomass from the solvent.

- ✓ Recover the extract containing the compounds of interest.
- ✓ Reduce biomass disposal costs.



Controlled Growing Operation



Decantation

➤ Following winterization, employ the **Model DRC** range of solid-liquid decantation centrifuges to clarify the extract.

- ✓ Separate the crude cannabinoid phase from waxes, lipids, water, and other undesirable components.

2nd Step: ENRICHMENT

Centrifugal Liquid-Liquid Extraction

Solvent Extraction & Separation

➤ After extract recovery apply the **Model BXP** centrifugal extractors to contact the solvent phase containing cannabinoids with aqueous phase.

- ✓ Recover the aqueous phase containing acidic cannabinoids
- ✓ Recover solvent phase containing neutral cannabinoids.



Crude Cannabinoid Extracts



3rd Step: PURIFICATION

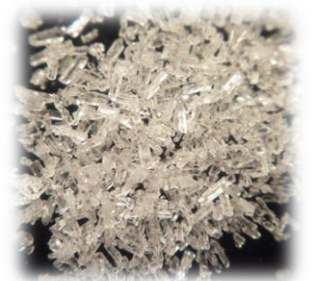
Fast Centrifugal Partition Chromatography

Isolation & Purification

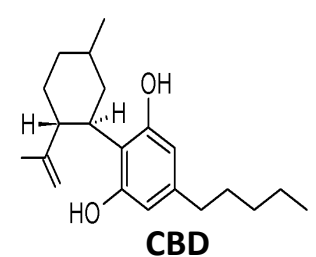
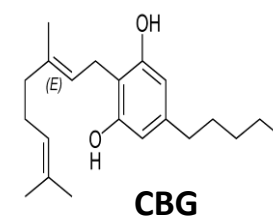
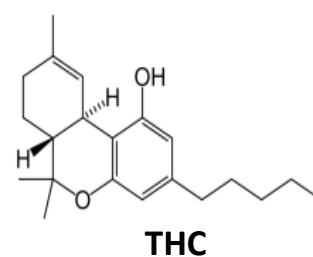
➤ Apply the Kromaton FCPC[®] systems to isolate and recover specific *Cannabis* compounds of interest in high purities (pharmaceutical grade)

➤ Rapidly produce pure fractions of THC, CBD, CBG, and other cannabinoids in gram to kilogram quantities.

- ✓ Remediate pesticide risks, and risks borne by other potential chemical and biological contaminants.



Pure Cannabinoid Fractions



From separation through enrichment and purification, the Rousselet-Robatel-Kromaton *Cannabis* refining & purification process is proven and optimized for extracts containing a mixture of cannabinoids like Tetrahydrocannabinol (THC), Cannabidiol (CBD), and Cannabigerol (CBG) and other bioactive compounds. Due to the selective partitioning nature and discrete stage-wise operation of the FCPC partitioning chromatograph, highly pure fractions of constituents can be obtained in semi-preparative, preparative, and production quantities. Download the [technical flyer](#) or visit www.kromaton.com for more information about the Kromaton FCPC[®].