

## **KROMATON**

Since 1999 Kromaton has pioneered in developing Fast Centrifugal Partition Chromatography (FCPC™) systems for the separation and purification of complex mixtures of natural, synthetic or biological/bio-technological origin.

**KROMATON IS THE WORLD MARKET LEADER  
IN CENTRIFUGAL PARTITION CHROMATOGRAPHY (CPC)**  
with more than 130 systems operating around the globe.

Kromaton's technological expertise is powered by Rousselet Robatel know-how in designing and manufacturing industrial centrifugal systems made of stainless steel.

**This guarantees effectiveness and robustness through state-of-the-art design.**

## MARKETS/SECTORS OF ACTIVITY

**Natural compounds / ingredients of plant origin**  
(Reference standards, APIs, Nutraceuticals, Nutrients, Cosmetics etc.)

**Synthetic compounds**  
(APIs, Specialty chemicals, Pesticides etc.)

**Biotechnology-derived mixtures**  
(Biopharmaceuticals etc.)



## WHAT IS FCPC ?

**Fast Centrifugal Partition Chromatography (FCPC™)** is a liquid/liquid purification technology for high-added-value compounds and molecules.

It is a preparative chromatography technique based on the principle that both mobile and stationary phases are liquid. This, a biphasic solvent system is utilized and the stationary phase is maintained in the column by centrifugal force, while mobile phase percolates

through, thus presenting several advantages in comparison with conventional chromatography techniques :

- No solid packing material to dispose.
- High stationary phase ratio in the column.
- No sample loss due to irreversible adsorption.
- No denaturation of sensitive compounds.
- High throughput capacity.

- Moderate solvent consumption.
- Wide range of possible applications in terms of polarity.
- Easy and predictable scale-up.
- Versatile operation (elution/extrusion, normal/reverse-phase, pH-zone refining, ion-exchange, dual mode, gradient elution, etc).

## PRINCIPLE OF OPERATION

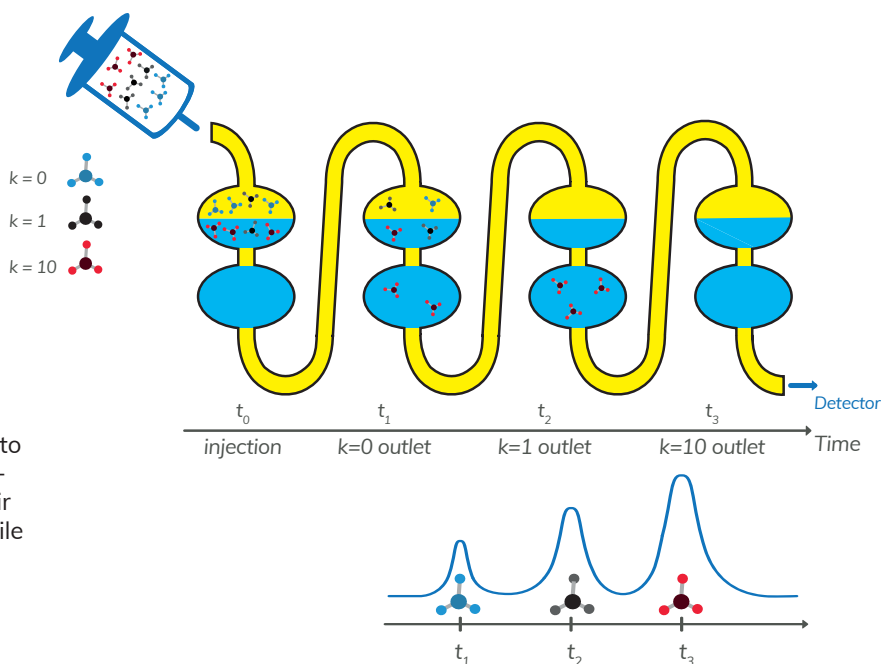
Centrifugal Partition Chromatography operation relies on a simple principle.

A biphasic solvent system is the core of this operation :

- One phase is selected to act as a stationary phase, either the lighter or the heavier. This is achieved by centrifugal force.
- The other phase is continuously diffusing through, thus acting as the mobile phase. This is achieved by a pumping system.

**The solutes of interest** are introduced into the chromatographic column and are migrating along its length according to their distribution coefficient between the mobile and stationary phase.

**The column** (also called rotor) is specifically designed with twin-cells and ducts that guarantee optimal surface of contact between the two phases.



# PRODUCTS

## FCPC C – LABORATORY SCALE EQUIPMENT

FCPC C is a benchtop system, ideal for method development and preparative applications involving small sample quantities, low solvent consumption and faster separations.

Two interchangeable rotors can be mounted on this skid, 25 and 50ml.

DATA	FCPC C25	FCPC C50
Rotor/Column volume	25 ml	50 ml
Sample quantity	10 - 250 mg	10 - 500 mg
Flow rate	1 - 10 ml/min	1 - 10 ml/min
Separation time	5 - 30 min	
Pressure max	80 bars/1160 psi	
Rotation speed max	3000 rpm	
Size/Weight power	300 x 300 x h 555 mm/40 kg 750W - 110 or 220 VAC	
Material of construction	Rotor : Stainless steel + PTFE Housing : Stainless steel	



**FCPC C** is Kromaton's budget solution for feasibility studies and research.

## FCPC A – VERSATILE & SCALABLE EQUIPMENT

FCPC A is a benchtop system, ideal for method development as well as preparative applications with upscalable results and manual or automated control powered by an integrated LC station.

DATA	FCPC A25	FCPC A50	FCPC A200	FCPC A1000
Rotor/Column volume	25 ml	50 ml	200 ml	1000 ml
Sample quantity	10-250 mg	10-500 mg	100mg- 5g	1g-30g
Flow rate	1-10 ml/min	1-10 ml/min	10-50 ml/min	10-80ml/min
Separation time	5-20 min		30-180 min	
Pressure max.	80 bars/1160 psi			
Rotation speed max.	3000 rpm			2000 rpm
Size / Weight power	630 x 437 x h 630 mm/115 kg 750W - 110 or 220 VAC			
Security	Emergency stop, Overpressure, Solvent Retention Tank, Cooling System.			
Material of construction	Rotor : Stainless steel + PTFE. Wetted parts and frame stainless steel.			
Options	Biocompatible version (titanium). Reduced cell number for higher throughput.			



**FCPC A** is Kromaton's most versatile system : four interchangeable rotors, 25, 50, 200 and 1000ml, can be mounted on the same skid.

Additionally it can take a Centrifugal Partition Extractor rotor (CPE) of 300ml total volume.

## FCPC D – INDUSTRIAL PRODUCTION SYSTEM

FCPC D is Kromaton's GMP-compatible Production system, for large-scale purification. It is delivered with automated control powered by an integrated LC station. It can take two interchangeable rotors, of 5 and 10L volume and can be manufactured in an ATEX version.

DATA	FCPC D5000	FCPC D10000
Rotor/Column volume	5 liters	10 liters
Sample quantity	50-500 g	100- 1000 g
Flow rate	700 ml/min	1500 ml/min
Separation time	2 to 4 hours	
Pressure max.	60 bars / 870 psi	
Rotation speed max.	1400 rpm	
Dimensions	1710 mm x 1160mm x 1480mm (height)	
Poids	1400 kg	1600 kg
Puissance	5,5 kW - 400 V	
Material of construction	Stainless steel 316 l / PEEK / PTFE	
Housing Material	Stainless steel 316 l	
Options	FCPC version with reduced cell number for higher throughput. ATEX	



### APPLICATIONS

#### SOLVENT SYSTEMS

Non aqueous systems  
for apolar applications.

Medium polarity  
Ternary/Quaternary  
System families (Arizona, ChMW, etc).

Aqueous  
for polar applications.

### FAST CENTRIFUGAL PARTITION CHROMATOGRAPHY



**KROMATON**

a member of

**ROUSSELET  
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