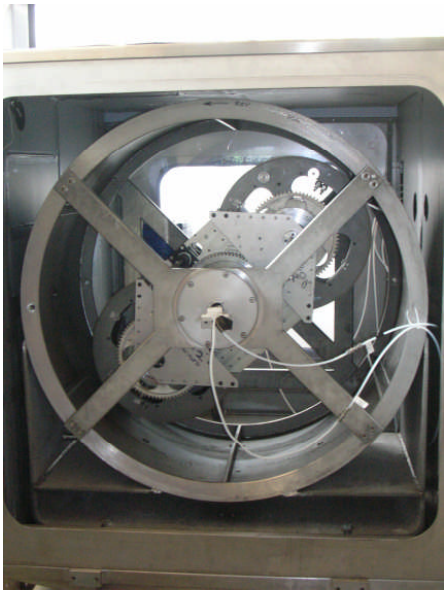
Kilo and Pilot plant scale purification with **DE High Performance CCC Centrifuges**

Dynamic Extractions specializes in offering separation and purification technology, which provides additional capability to chemists and chromatographers who want to purify products from *Discovery* stage through *Research & Development* to *Manufacture*.

The **DE Maxi** High Performance CCC (HPCCC) equipment, which is based on liquid/liquid partitioning, allows kilos of compound to be readily purified per injection. It completes the range of HPCCC equipment available allowing separations to be taken through the complete pharmaceutical development process without the need for redevelopment of the purification scheme. Once a separation has been developed at the analytical scale than it is directly transferable to the kilo scale by simple volumetric scale-up

The equipment is easily operated using existing LC equipment ancillaries or low pressure ancillaries can be purchased to set-up a stand alone system.

The equipment is fully supported by the **Dynamic Extraction's** team that provides support through training, feasibility studies, method development and direct customer visits. This ensures that all customers have peace of mind and confidence in the technique.



Benefits of DE Maxi HPCCC to the Chromatographers and Chemists

- **Increased sample throughput**
- **Total sample recovery**
- **Improved sample solubility options**
- **Ease of reproducibility and scale-up**
- **Expanding operational capability**
- **Reduced sample preparation**

Typical HPCCC applications in medicinal chemistry

- Where solubility of your sample is problematic to your existing RP purification techniques
- Where you want to purify target compounds from crude samples, which are early in their chemistry development and can not be handled by other techniques without significant sample preparation
- Product development where you do not want to redevelop your purification processes at each differing scale

Dynamic Extractions Ltd - Tel: +44 (0) 1753 696979 - Fax: +44 (0) 1753 696976
E-mail: **info@dynamicextractions.com** Web Site: **www.dynamicextractions.com**

Technical Description

The **Dynamic Extractions** equipment is simple in concept and consists of a length of tubing wound in a coil on a drum which is centrifugally rotated in a planetary motion. Separations are achieved by partitioning the sample between two immiscible liquids: a stationary phase which is retained in the tubing and a mobile phase which is pumped through the tubing.

The operational process is extremely straightforward. The mixture is introduced in the mobile liquid and is separated into its component fractions by the time it emerges at the other end of the tubing. A separation of the mixture occurs, because along the tubing's length there are alternate mixing and settling zones created by the centrifugal forces generated. The order in which the fractions appear depends on how they distribute between the two liquids. The entire sample is recoverable, and highly pure fractions can be obtained since the sample undergoes up to 100,000 mixing and settling steps per hour. This allows the technology to be applied to the separation of substances, which are difficult to purify and/or may be unstable by other existing techniques.

Standard Features

- **Performance** - 240g (850 rpm) equipment allowing separations in minutes
- **Temperature control** – Ensures reproducible chemistry of separation
- **Safety features**
  - Column door interlock
  - Automatic shutdown on out of balance operation
  - Automatic shutdown on high temperature operation.
- **Low solvent usage** – Typically 10% of that used in an equivalent solid phase separation
- **Low pressure operation** – 60 - 105psi (4 – 7bar)
- **Easy to use** - Simply interfaced to existing LC equipment (pumps, detector and fraction collector etc)

Technical Specifications	DE Midi HPCCC coils
Column Volume	18,000 ml
Sample load/injection	1,500 grams
Column Bore	10 mm
Flow Rate (Max)	1,500 ml/min

Dimensions	DE Maxi HPCCC	
Height	2,000 mm	78¾ "
Width	2,700 mm	106½ "
Depth	1,500 mm	59"
Weight	500 kg	1,100 lb
Rotor Radius	300 mm	12 "
Electrical Supply	415V/3ph/50-60Hz	
Power Rating	10 kw	

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