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Why you should choose our new titanium rotor Partitron Process HPCPC (5 to 100's L), new titanium rotor Quattro HPCPC's (50 ml to 4 L), or our new Quattro HPCCC, version Mk 8, which includes ILPrep™.

Plus other updates shown below in summary..

1) Our new and totally novel Quattro ILPrep™ uniquely in counter current chromatography can be used routinely with Ionic Liquid Chromatography / Extraction.

2) Also consider our just released Quattro DualFlow™, which can be retrofitted to Mk 5 Quattro CCC™ onwards, and is available as an option on all future Quattro CCC™. The DualFlow™ is used with both phases mobile, for true counter-current flows in both instrumental counter current chromatography and extraction modes.

3) Did you know our Quattro PilotPrep™ HPCCC and HPCPC (2 to 4 L) are for both concepts, bench-top standard laboratory units, that can be custom made with many bores of tubing (HPCCC) or many chamber configurations (HPCPC)? They can be used safely in the laboratory without the need to wear ear defenders, which several chemists informed us were issued and definitely required, during demonstrations by our HPCCC competitors' process 4 (and 18-litre) HPCCC.

Partitron HPCCC

Unsure about PROCESS CENTRIFUGAL PARTITION CHROMATOGRAPHY / EXTRACTION, please consider trying our new demonstration Partitron Process HPCPC that has a 5-litre titanium rotor in our standard modular process chassis. This process chassis is capable of holding up to a 25-litre titanium rotor. Multiple rotors can be linked.

This unit can also be utilized for certain Ionic Liquid-Liquid Chromatography™ (ILLC™) and Ionic Liquid-Liquid Extraction™ (ILLE™) uses as can work at much higher back-pressures than competitor's centrifugal partition chromatography or counter current chromatography instrumentation.

To be convinced of the worth of process centrifugal partition chromatography (also called hydrostatic counter current chromatography), why not book your demonstration of the Partitron Process HPCPC?

So as to enable more convenient client demonstrations, we are presently building a 5-litre demonstration version of our titanium rotor Partitron HPCPC™. This instrument will allow you to view and use the full-scale modular chassis of the Partitron HPCPC™, but one fitted with a 5-litre rotor as opposed to the 25-litre rotor fitted to our original demonstration unit.

The original 25-litre unit is now sold and in regular, commercial process centrifugal partition chromatography / extraction use.

If you would like a Partitron HPCPC™ demonstration, please contact us and indicate with X or X's below, which in the future might be your anticipated volume (or volumes) requirement, for Process HPCPC™

5 ... 10 ... 15 ... 20 ... 25 ... or Multiples of 25 ... Your estimated total volume ... Litres

Please base your estimate on the fact that the typical mass of matrix-injected range, per volume in CCC & CPC, is 5 to 40 g per 1-litre capacity, although approximately 10 g per 1-litre is a typical figure

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The Partitron centrifugal partition chromatography instrument is unique for Process HPCPC in that the chassis is modular, and the same chassis can fit 5 / 10 / 15 / 20 and 25-litre titanium rotors. Therefore you can initially buy a lower-cost 5-litre instrument and update to a larger volume, up to 25-litre for a single chassis, if this later became a requirement.

Multiple chassis 25-litre rotor units can then be combined to give unlimited process volume.

No competitor offers this modular facility or convenience for their process HPCPC.

Titanium Rotors; explanations detailing their advantages for Process, Pilot Plant and Laboratory HPCPC

To the best of our knowledge the Partitron HPCPC™ and new Quattro HPCPC™ are the only hydrostatic or hydrodynamic CCC used in either process, pilot plant or laboratory counter current chromatography or centrifugal partition chromatography instrumentation, that have titanium rotors as options.

The use of titanium for the process Partitron HPCPC™ and the just released, laboratory / pilot plant, Quattro HPCPC™ will give your process, pilot plant or if needed, laboratory chromatography or extraction unique opportunities to use liquid-liquid chromatography / extraction for cGMP and novel research.

Why use titanium?

You will when using titanium be able to prepare sensitive targets that would degrade or absorb on etched or machined surfaces of stainless steel or polymer surfaces utilized by certain of our competitors' HPCPC. One of the many other advantages of titanium is its preference for cGMP manufacture with respect to both its inertness, plus its ease of sanitization. Also unlike stainless steel, titanium is inert to strong acids, which would corrode stainless steel.

The stainless steel surfaces on the inside of stainless steel tubing for Quattro CCC™ (our hydrodynamic counter current chromatography model range), are infinitely less rough than the machined or etched surfaces of hydrostatic counter current chromatography stainless steel rotor plates that certain HPCPC utilize.

The roughness of machined or etched stainless steel makes cGMP compliance or full and effective cleaning of stainless steel rotors very difficult, which whilst not good in laboratory research use, is a very major problem in trying to achieve cGMP compliance during process production.

Titanium is particularly suitable for cGMP target compound preparation in process HPCPC, as titanium can be effectively cleaned and sanitized with vapor, thus avoiding the use of large volumes of sodium hydroxide, that other rotor materials would require.

The 25 Litre Process Partitron HPCPC rotor is an unique design (see <http://www.quattroprep.com/> in centrifugal partition chromatography as all competitors use engraved / machined PPS (polyphenylenesulfide), plates or stainless steel plates and in one case engraved polychlorotrifluoroethylene plates which are stacked.

Please remember all our competitors utilize the stacked discs approach discussed above variously.

Typically competitors use PTFE Teflon to seal between plates. Several occasions are known of leaks occurring between the stacked discs, as PTFE Teflon can stop sealing, when held under constant pressure, if at the same time it is being exposed to various

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solvents and target, plus non-target compounds. Because of weight and diameter of the plates, this affect is much more serious in process centrifugal partition chromatography instruments than in small volume (10-litre and below) laboratory or pilot plant centrifugal partition chromatography instruments.

In HPCPC stacked disc applications, there are cases of certain competitors' having plate-sealing difficulties, which they overcome with different levels of success.

Why avoid a stacked process HPCPC over 10-litre

We understand the problem with using PTFE Teflon discs to seal between competitors' rotor plates resides in the absorption (not adsorption) properties of PTFE Teflon, plus that this material can flow when held under pressure. PTFE Teflon is made from a powder molded into a sheet, but it can contain microscopic voids. Please seek advice and documentation on this matter from our competitors.

As you will see from the photographs on our website in the Partitron 25-Litre titanium rotor, the cells are individual and each can be disassembled on site for rapid cleaning, with relatively minimum downtime, if a blockage should occur owing to an unexpected precipitation.

Please ask our competitors to estimate the downtime for their stack rotor design if a blockage occurs.

It is our understanding that repair requires either return to manufacturer, or specialist engineers to visit (please check which in each case for each competitor). Plus please ask our competitors each to quote for a price to repair a rotor blockage.

You may well be shocked by both the time and price suggested by their replies.

Could you afford a long downtime for a Process HPCPC?

If not, then request your Partitron HPCPC demonstration. .

The 25-Litre Partitron HPCPC titanium rotor does not use stacked discs, for the following reasons; because of pressure limitation, cleaning limitations, and because such rotors have to be tighten up from time to time, with reducing volume at each tightening. Of course a fluctuating volume is damning for cGMP processes.

We should also like to make you aware that there are known cases of irreversible adsorptions observed onto PTFE Teflon and certain other polymers (this also has implications for competitor's process hydrodynamic CCC). Whilst this may be acceptable for research-based laboratory or demonstration HPCPC, we would suggest to you a need for you to review the use of large, multiple sheets of PTFE Teflon, be it as seals between rotor plates, or as a coating onto a competitor's stainless steel plate option, if you are considering a large-scale process cGMP manufacture by HPCPC.

If you find, our competitors' instruments do not comply, because of PTFE Teflon seals or coatings, come and talk to us about the highest quality seals that we utilize on our titanium rotor 25-Liter rotors to seal our Partitron HPCPC individual chambers.

New Quattro HPCPC offers either a NEW TITANIUM or optional PPS rotor choice, for laboratory and pilot plant preparative chromatography / extraction

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To compliment the above-dedicated Process HPCPC, Quattro will from 2013 begin offering ultimately a range of TITANIUM rotor laboratory and pilot plant use Quattro HPCPC™ as an addition to the more standard PPS options.

As you would expect from Quattro our HPCPC designs, are like our hydrodynamic CCC designs; both unique and extremely advantageous to users, whilst also offering the best price / performance available and a wide choice of chamber numbers and bores / volumes.

The original laboratory CPC designs were stacked layers of PPS/PTFE discs, with chambers on the surface of the PPS disc. Recent clone CPC's; that is all our competitors repeat this concept. One such CPC uses multiple stainless steel discs, separated and sealed, by multiple discs of PTFE. All of the disadvantages discussed above with regards to process HPCPC also apply to a greater or lesser extent to smaller volume HPCPC.

LIKE THE 25 LITRE PARTITRON DESIGN, THE NOVEL AND TOTALLY UNIQUE QUATTRO HPCPC HAS NONE OF THESE ABOVE COMPETITOR PROBLEMS.

Plus it has many additional advantages.

If you would like a Quattro HPCPC™ demonstration, please contact us and indicate with X or X's below which in the future might be your anticipated volume or volumes requirements for a Quattro HPCPC™

50 ... 100 ... 200 ... 500 ... 1000 ... 2500 ... 4500 ... ml

Like our unique Quattro HPCCC range, the new Quattro HPCPC will allow you to custom chose the chamber bore, the volume of the chambers, plus number of chambers, and even a mutually agreeable choice of various chamber id's on a single instrument.

No competitor can offer you these custom specification choices!

New innovations for hydrodynamic countercurrent chromatography by Quattro CCC™

In our next update we will give full details on the successful TWO YEARS OF TRIALS just completed on our new Quattro ILPrep™ by a world leading specialist in Ionic Liquid research (patents & papers pending).

We believe that Ionic Liquids use in counter current chromatography will shortly prove to be the most important advancement in counter current chromatography / centrifugal partition chromatography / extraction since Dr Ito's & Dr Conway's pioneering of instrumental countercurrent chromatography sciences.

Also please visit www.quattroprep.com to view our new DualFlow™ bobbin / coils designs. These coils allow TRUE COUNTER CURRENT FLOWS, with the two phases of your biphasic mixture, both mobile, rather than the standard one phase stationary, and one phase mobile.

Existing Quattro Mk 5 users to Quattro Mk 8 users can retrofit DualFlow™ coils / bobbins.

PLUS: Don't forget our just released new Quattro CCC™ Mk 8: **the QUIET ONE.**

All latest Mk 8 Quattro CCC™ are substantially quieter than all previous Quattro CCC™, plus have numerous benefits, including a new flying lead system guaranteed for two years usage per flying lead, rather original one year (exclusive of failures created by client's sample induced blockages).

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Please note in the last ten years, since we released the Quattro Mk IV, we have never been notified of a flying lead failure, within the first year of delivery, excepting if a client's sample unexpected caused a blockage. Failures on fitting of replacements have only occurred if flying leads were not fitted according to instructions. When replacement flying leads fitted correctly and no blockages occur, many will exceed our previous one-year recommended lifespan. Some Quattro CCC™ flying leads have been known to last over 5 years.

DO YOU WISH TO REDUCE THE NOISE OF YOUR EXISTING CCC?

PLEASE CONTACT US FOR ***THE PRICE OF A RETROFITABLE QUATTRO SNOOZEBOX™***.

Kind regards

Les

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