

## RADIAL COMPRESSION TECHNOLOGY ENHANCES THE VALUE OF COMPETITIVE EQUIPMENT

Many customers may make the assumption that Waters RCM-100® Radial Compression Module can only be used on Waters™ Liquid Chromatographs. This is false. Customers may also be under the impression that special adaptations or configurations are necessary if they wanted to use a Radial Compression Module on a competitor's system. This is also false!

To dispell these false impressions, a recent paper (1) shows how RCSS has been successfully used on a Varian LC for caffeine analysis. The authors chose the RCM-100® Radial Compression Module and RESOLVE™ C<sub>18</sub> Radial-PAK™ cartridge because it gave improved resolution as shown in Figure 1. The authors also report that after sample cleanup, a single column lasts for over 1000 injections over several months "...while maintaining good resolution and sensitivity", further attesting to the claim of increased column lifetime when using RCSS.

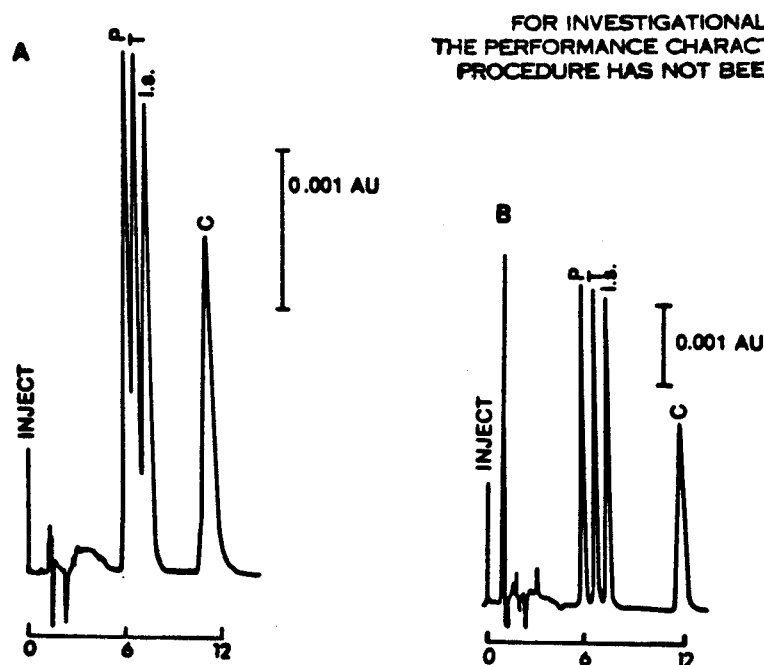


Figure 1: Waters™ μBONDAPAK™ C<sub>18</sub> (30 cm X 3.9 mm) stainless steel column (left) vs. RESOLVE™ C<sub>18</sub> Radial-PAK (10 cm X 8 mm) (right) on a Varian LC. Mobile Phase: THF:MeOH: 0.01M Potassium dihydrogen phosphate, pH = 3.5 (1:9:90). Detection at 214 nm. Flow Rate: A is 2.0 ml/min. B is at 2.5 ml/min. Chart = 0.2 cm/min. Injection Volume is 35 μl in A and 70 μl in B.

The intake of caffeine has become an important concern in recent years and LC has been used extensively to monitor its levels in biological fluids. An improved method using the Radial Compression Separation System (RCSS) has been recently developed to show increased sensitivity for this ubiquitous drug. The LC system consisted of a Varian Model 5020 LC equipped with a WISP™ Sample Processor, Model 441 detector and a 10 cm X 8 mm RESOLVE™ C<sub>18</sub> 5μ column held in an RCM-100® Radial Compression Module. No special adaptations were necessary to attach the RCM-100® Radial Compression Module to the Varian LC; only changing two compression fittings on the inlet and outlet lines are necessary. Figure 1 shows the benefit of using the RCSS system for the analysis of caffeine, theophylline and paraxanthine. Note the improved resolution on the RCSS system when comparing it to a steel column, as would be expected. More importantly note that the RCSS system does an effective separation, independent of the chromatograph used.

Customers may not be aware of the easy adaptation of RCSS to a competitor's or modular system. In extolling the advantages of RCSS to customers, it should not be forgotten that RCSS is easily used with any liquid chromatograph.

1. B. R. Dorrbecker, S. H. Mercik and P. A. Kramer, J. Chromatogr., **336** (1984) 293-300.