



COSMOSIL

for Less Solvent Consumption with Standard System **COSMOSIL 3.0 mm I.D. columns**

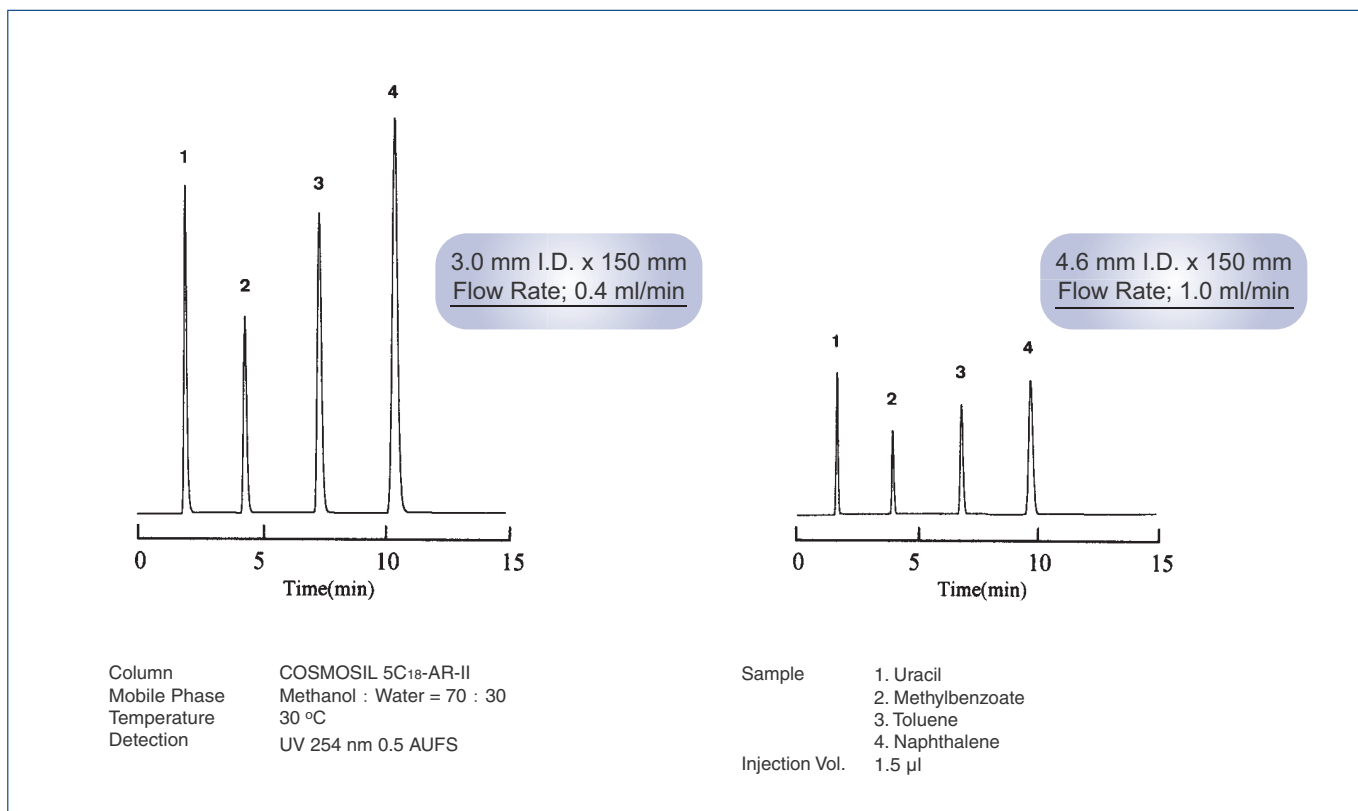
- **Use the same conventional HPLC system**
- **Reduce half solvent consumption**
- **Increase sensitivity up to two times**

| | 5C ₁₈ -MS-II | 5C ₁₈ -AR-II | 5C ₁₈ -PAQ |
|-----------------------|---|---|---|
| Silica Gel | High Purity Porous Spherical Silica | | |
| Average Particle Size | 5 µm | | |
| Average Pore Size | approx. 120 Å | | |
| Stationary Phase | Octadecyl Group | | |
| Main Interaction | Hydrophobic Interaction | | |
| Carbon Content | approx. 16% | approx. 17% | approx. 11% |
| pH Range | 2-10* | 1.5-7.5* | 2-7.5 |
| Features | For separation of the widest range of compounds | Features strong acid resistance and suitable for a wide range of separation | Reversed phase column, compatible with 100% water based mobile phases |

*Optimum pH range of columns based on silica gel is between 2 and 7.5.

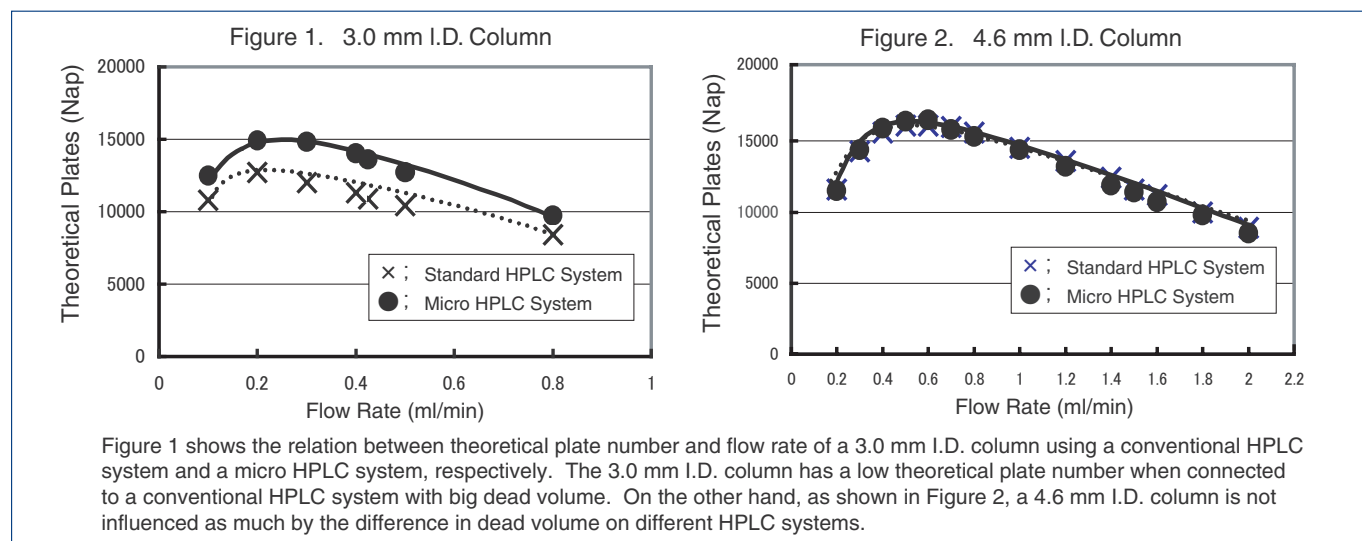
◆ Comparison with 4.6 mm I.D. Columns

COSMOSIL 3.0 mm I.D. columns were developed aiming at high sensitivity and the reduction of solvent requirement. A 3.0 mm I.D. column is about twice as sensitive as a 4.6 mm I.D. column. High performance packing material of the same COSMOSIL series is filled into the 3.0 mm I.D. column. As a result, high reproducibility is achieved for separation of chelating compounds and basic compounds. In addition, there is no change the HPLC system. This is a significant advantage over semi-micro bore columns. By using a mid-core 3.0 mm I.D. column, high sensitivity and economical solvent consumption can be achieved on any conventional HPLC systems.



Theoretical Plate Number

A 3.0 mm I.D. column can be used with any conventional HPLC system without modification. However, theoretical plate number (N) decreases by 10-20% compared with a 4.6 mm I.D. column using the same packing material. The reason for this decrease is the increase in the ratio of system dead volume to the volume of column, and not caused by the column itself. Therefore, it is recommended to use a 3.0 mm I.D. column when the resolution is high enough. It is an excellent choice to minimize sample volume and reduce mobile phase and waste disposal cost.



Ordering Information

| Product Name | Column Size | Product Number |
|---|----------------------|----------------|
| COSMOSIL 5C ₁₈ -MS-II Packed Column | 3.0 mm I.D. x 100 mm | 05458-51 |
| | 3.0 mm I.D. x 150 mm | 34245-31 |
| | 3.0 mm I.D. x 250 mm | 34254-11 |
| COSMOSIL 5C ₁₈ -AR-II Packed Column | 3.0 mm I.D. x 100 mm | 05791-71 |
| | 3.0 mm I.D. x 150 mm | 38028-61 |
| | 3.0 mm I.D. x 250 mm | 38029-51 |
| COSMOSIL 5C ₁₈ -PAQ Packed Column | 3.0 mm I.D. x 100 mm | 05796-21 |
| | 3.0 mm I.D. x 150 mm | 05797-11 |
| | 3.0 mm I.D. x 250 mm | 05798-01 |

For research use only, not intended for diagnostic or drug use.