



An HPLC Column Optimizing Efficiency and Back Pressure

Inertsil[®] ODS-3 4 μ m





We synthesize & chemically bond the silica-gel!

The Best of Both Worlds

The evolution in the HPLC column field is towards smaller and smaller silica particles sizes. In migrating from 5 micron to 3 micron, however, some users find that column back pressures are too high and that column lifetime is reduced. GL Sciences' created **Inertsil ODS-3 4 micron columns** to provide high efficiency with moderate back pressure – a welcome compromise between 5 micron and 3 micron columns.



Features and Benefits of 4 micron Inertsil ODS-3 Columns

-  ***Increase column efficiency by over 15% over 5 micron columns***
-  ***Operate at one-half the back pressure of 3 micron columns***
-  ***Enjoy extended column lifetime compared to 3 micron columns***
-  ***Experience fewer problems with frit/filter clogging since 4 micron columns use the same inlet frit/filter as 5 micron columns***

Extend Column Lifetime and Reduce Cost

Minimize Back Pressure and Maximize Column Efficiency

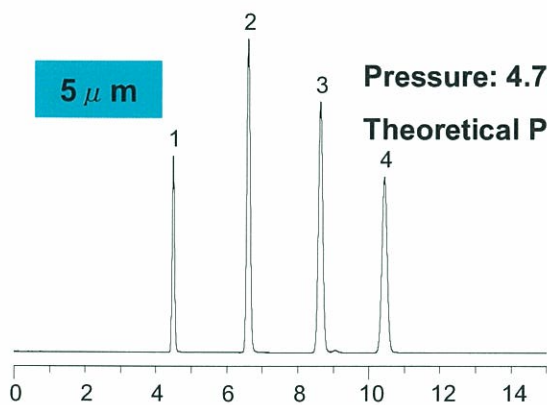
*ISO14001: Save Energy and Resources!!
Reduce Amount of Eluent with Smaller ID Inertsil Columns!!*



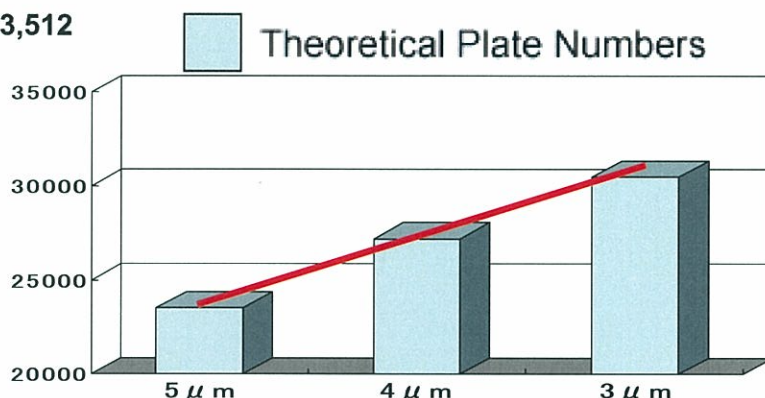
Inertsil[®] ODS-3 4 μ m

Performance comparison between various particle sizes

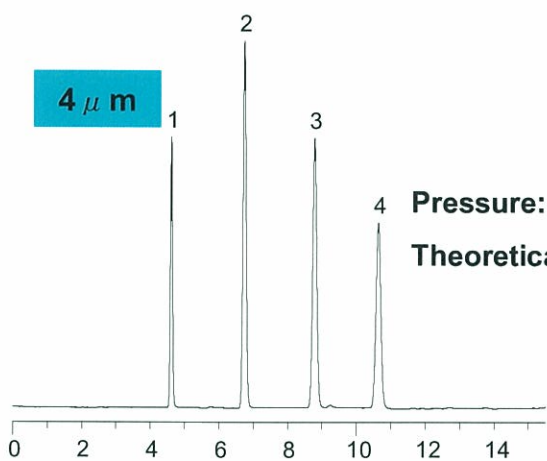
Column: Inertsil ODS-3 4 μ m 250 x 4.6 mm I.D. 1) Acetophenone
 Mobile Phase: CH₃CN / H₂O = 65 / 35 2) Benzene
 Flow Rate: 1.0 mL / min 3) Toluene
 Colum Temp.: 40C 4) Naphthalene



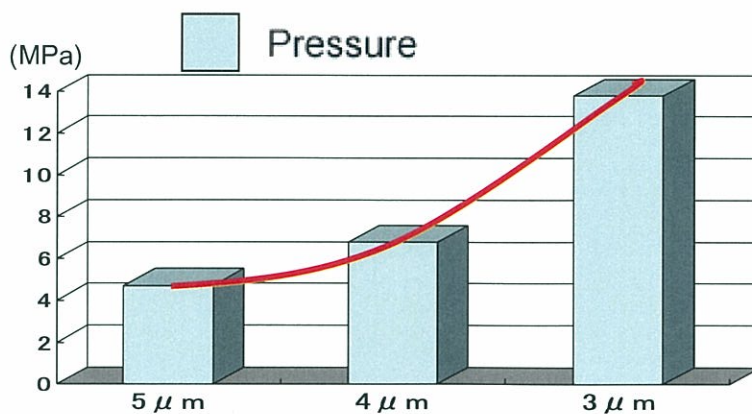
Pressure: 4.7 Mpa
 Theoretical Plates: 23,512



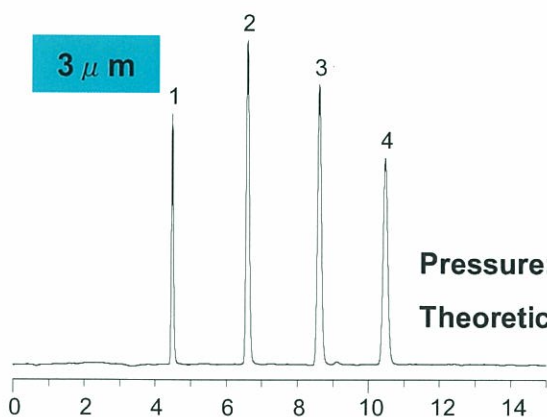
The theoretical plates are proportional to the particle sizes



Pressure: 6.8 Mpa
 Theoretical Plates: 27,206

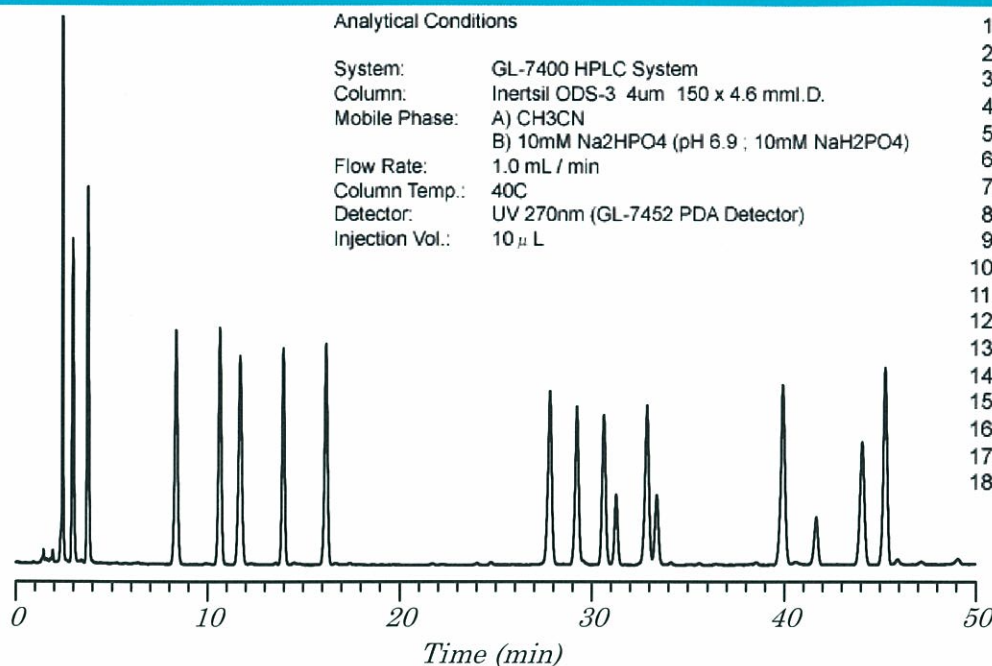


The pressure is inversely proportional to the square of the particle sizes



Pressure: 13.8 Mpa
 Theoretical Plates: 30,484

Simultaneous Analysis of 18 Artificial Colorant Compounds



1. Acid Yellow No.	7.6mg/L
2. Acid Red No.2	3.8mg/L
3. Acid Blue No.2	7.6mg/L
4. Acid Red No.102	3.8mg/L
5. Acid Yellow No.5	5.3mg/L
6. Flavianic Acid Disodium Salt	7.6mg/L
7. Uranine	3.8mg/L
8. Acid Red No.40	5.3mg/L
9. Ponceau R	7.6mg/L
10. Ponceau SX	5.3mg/L
11. Orange I	5.3mg/L
12. Acid Green No.3	3.0mg/L
13. Acid Blue No.1	3.0mg/L
14. Ponceau 3R	7.6mg/L
15. Acid Red No.3	5.3mg/L
16. Azul Blue VX	3.0mg/L
17. Orange II	7.6mg/L
18. Acid Red No.106	3.0mg/L

Base Silica Physical Properties and Chemical Modification

Particle Size:	4um	Pore Volume:	1.05mL/g
Particle Shape:	Spherical	Bonded Phase:	Octadecyl Groups
Specification Surface Area:	450m ² /g	Endcapped:	Yes
Pore Size:	100A	Carbon Load:	15%
		USP L1 Column	

Analytical Column Price List

I.D.(mm)	2.1	3.0	4.0	4.6
Length(mm)	Cat.No.	Cat.No.	Cat.No.	Cat.No.
33	5020-04611	5020-04621	5020-04631	5020-04641
50	5020-04612	5020-04622	5020-04632	5020-04642
75	5020-04613	5020-04623	5020-04633	5020-04643
100	5020-04614	5020-04624	5020-04634	5020-04644
150	5020-04615	5020-04625	5020-04635	5020-04645
250	5020-04616	5020-04626	5020-04636	5020-04646

* End-fitting is Waters 1/16" type. When using other end-fitting types, please specify the type.

* For other column sizes, please give us an enquiry. (Upon request)

Cartridge Guard Column E Price List

Cartridge Guard Column E			Cartridge Guard Column E (2EA. / Set)	Cartridge Guard Column E Holder Set (2 Cartridges & 1 Holder)
Analytical Column I.D.mm Size	Guard Column I.D.mm Size	Guard Column Length mm Size	Cat.No.	Cat.No.
2.1 mm	3.0 mm	10 mm	5020-08515	5020-08525
3.0 mm		20 mm	5020-08565	5020-08575
4.0 mm	4.0 mm	10 mm	5020-08510	5020-08520
4.6 mm		20 mm	5020-08560	5020-08570

* When ordering, please specify the packing material and the particle size.

* Only Waters 1/16" end-fitting type is compatible for our Cartridge Guard Column E.

* Conventional Guard Columns and GL-Cart Guard Columns are also available. For more information, please feel free to contact us.

● The specification and the column type are subject to change without notice due to continual improvements.

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