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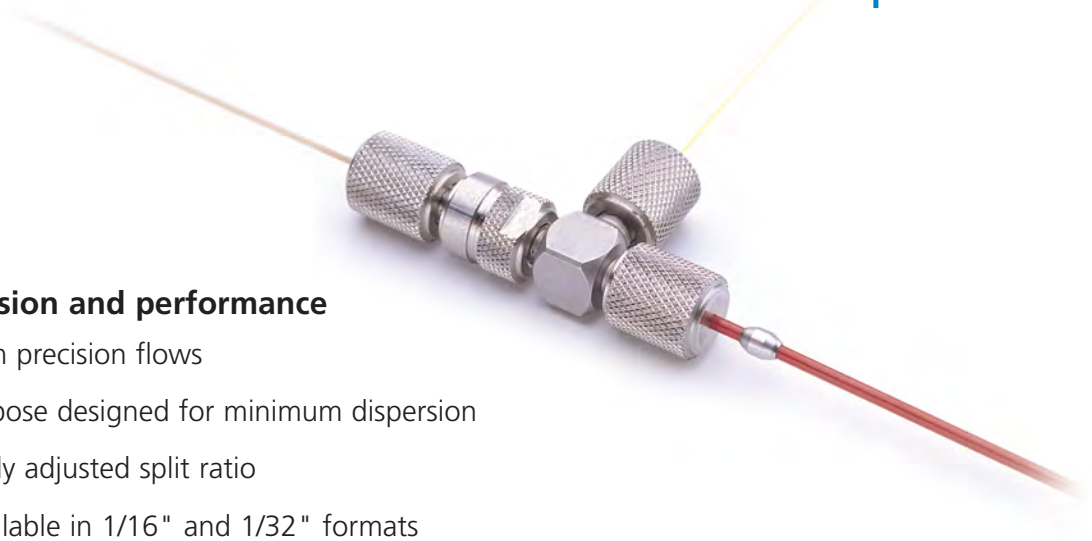
PRODUCT DATA

ProteCol™
Flow Splitter



Precision and performance

- High precision flows
- Purpose designed for minimum dispersion
- Easily adjusted split ratio
- Available in 1/16" and 1/32" formats

The ProteCol Flow Splitter is a precision-engineered static flow splitter that allows Capillary LC columns and components to be used with conventional LC instruments.

The low flow rates required by Capillary LC (100nL to 10µL/min) are typically not achievable by conventional LC pumping systems, which generally operate in the realm of 250µL/min to 8mL/min. Some systems can achieve the lower flows, however, they tend to be operating at or near their physical limits with resulting poor flow precision.

Using the ProteCol Flow Splitter

When performing Capillary LC with a conventional LC instrument, the flow splitter is placed either:

1) Between Pump and Injector

- Ideal position with no wastage of sample. Allows use of small samples, and hence maximizes all the sensitivity benefits of Capillary LC.
- Depends on the injector valve design being suitable for operation at these low volumes.

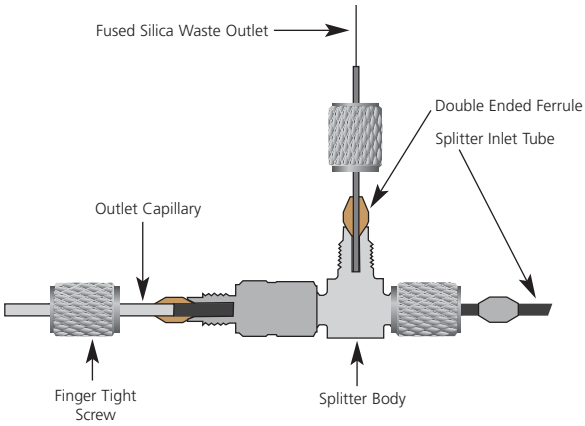
2) Between the Injector and Column(s)

- Requires the normal amount of sample as would be used in conventional LC, although only a fraction of this is split to the column.
- Places no special demands on the injector design, and is useful for new Capillary LC users experimenting with method transference from conventional LC to Capillary LC.

The ProteCol Flow Splitter can also be used for conventional LC in a LC-MS system. The splitter is placed after the column in order to divert most of the flow away from an MS detector, the majority of the flow typically going to a UV detector or to waste.

Minimum dispersion

The ProteCol Flow Splitter is designed with the split point moved away from the T-intersection to the inlet of the splitter, ensuring extremely low internal dimensions and volumes to allow a sample to pass through with minimal dispersion.



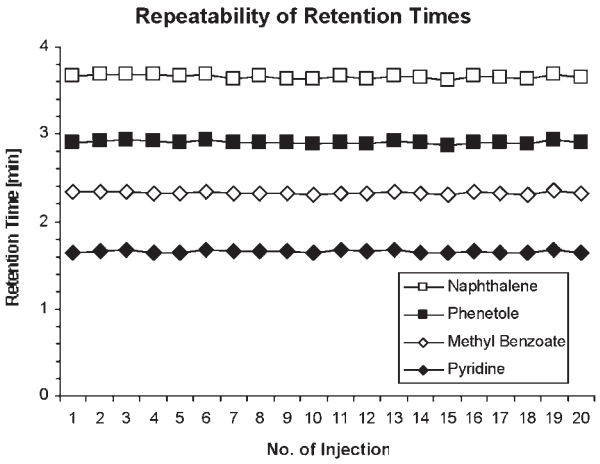
The split ratio is adjusted by changing the length of the fused silica restriction capillary that is supplied with the flow splitter. The fused silica is calibrated at the factory, and the length required is easily calculated (full instructions are provided with the flow splitter).

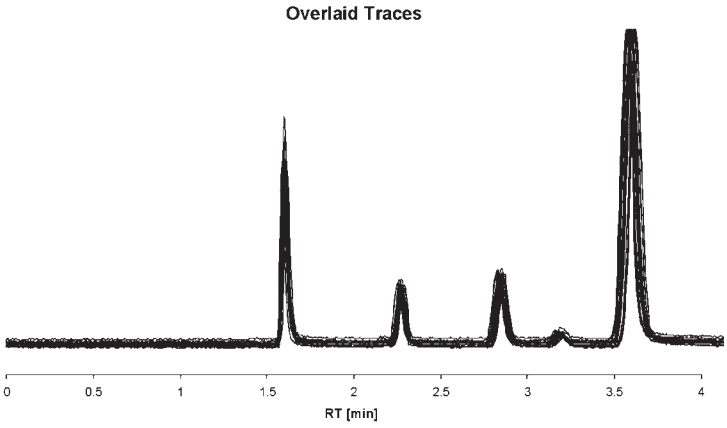
Proven performance

The repeatability of the flows delivered by the ProteCol Flow Splitter is demonstrated by the experiment performed below:

20 consecutive injections onto a ProteCol column C18 3µm 300Å
Column dimensions: 100mm x 300µm ID
Flow rate: 3.9 µL/min

	Pyridine	Methyl Benzoate	Phenetole	Naphthalene
1st inj.	1.65	2.34	2.91	3.67
2nd inj.	1.66	2.34	2.92	3.68
3rd inj.	1.67	2.34	2.93	3.69
4th inj.	1.65	2.33	2.92	3.68
5th inj.	1.65	2.32	2.90	3.66
6th inj.	1.67	2.34	2.93	3.69
7th inj.	1.66	2.33	2.90	3.64
8th inj.	1.66	2.33	2.91	3.66
9th inj.	1.66	2.33	2.90	3.64
10th inj.	1.65	2.31	2.89	3.63
11th inj.	1.67	2.33	2.91	3.67
12th inj.	1.66	2.32	2.89	3.63
13th inj.	1.67	2.34	2.92	3.67
14th inj.	1.65	2.32	2.90	3.65
15th inj.	1.65	2.30	2.87	3.61
16th inj.	1.66	2.34	2.91	3.67
17th inj.	1.65	2.32	2.91	3.65
18th inj.	1.65	2.31	2.89	3.64
19th inj.	1.67	2.35	2.93	3.69
20th inj.	1.65	2.32	2.90	3.65
average	1.66	2.33	2.91	3.66
StdDev	0.01	0.01	0.02	0.02
%RSD	0.50	0.55	0.54	0.62





For a full listing of all ProteCol products, specifications and part numbers, please see the ProteCol Ordering Information data sheet.

To talk with a technical expert, email support@sge.com.

View the ProteCol Flow Splitter specifications and purchase online.

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Patent Pending

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