

# INLET SPLITTER (VSIS-2/-3/-5)

## INTRODUCTION

A relatively simple way of achieving a simultaneous two column analysis is to make a single injection and split the sample between two columns of different phase selectivity. The VSIS carries out this function and there are 3 kits available which suit 0.22, 0.32 and 0.53 mm ID capillary columns. The kits consist of a special Glass Lined union, a length of uncoated, deactivated fused silica and ferrules.

## INSTALLATION

### VSIS-2 (p/n 123632)

The VSIS-2 will allow a single injection to be split between two capillary columns of 0.22 mm ID and of equal length.

1. One end of the fused silica retention gap is passed through a SSNE/16-012 nut and a GVF/004 ferrule.
2. A fresh break must be made at the end of the fused silica prior to making the ferrule connection. This may be carried out using a SGE Capillary Cutting Tool or carborundum and care should be taken to ensure that the break is clean and square.
3. Connection should be made to the longer end of the VSIS-2 union. It is recommended that the fused silica terminates 20 mm into the union. Initially finger tighten the nut, then tighten a further 1/4 of a turn with a 1/4" AF spanner or until the fused silica is secure. (Refer Figure 2).
4. The two analytical columns are passed through the two hole ferrule GVF2/004 whereupon a fresh break should be performed. The connection is then made ensuring the columns terminate in the conical area of the short end of the union. Finger tighten initially, and then complete the tightening a further 1/4 of a turn with a 1/4" AF spanner. Make sure that the columns do not protrude too far or crushing may result.
5. Connect remaining ends of tubing to injection port & detector as per instrument service manual.

### VSIS-3 (p/n 123633)

VSIS-3 will allow a single injection to be split between two capillary columns of 0.32 ID and of equal length.

1. The process for installation is identical to that of the VSIS-2
2. A GVF/005 ferrule is used in making the connection of the fused silica retention gap to the glass lined union.
3. To connect the two analytical columns a GVF2/005 ferrule is used.

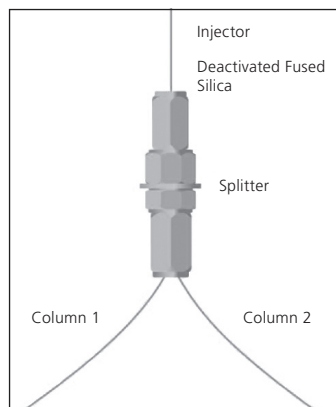


Figure 1.

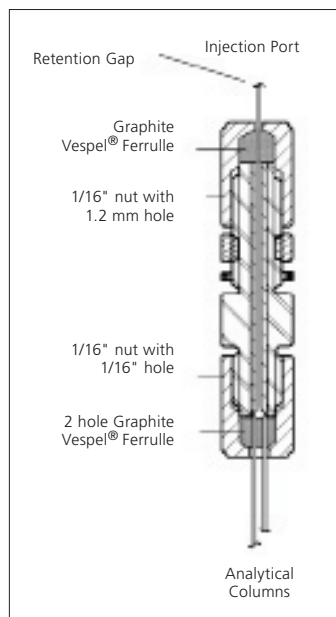


Figure 2.

## VSIS-5 (p/n 123634)

The VSIS-5 union tee will allow a single injection to be split between two capillary columns of 0.53 mm ID and of equal length.

1. One end of the fused silica retention gap is passed through a SSNE/16-012 nut and a GVF/008 ferrule.
2. A fresh break should be made at the end of the fused silica prior to making the ferrule connection. This may be carried out using an SGE Capillary Cutting Tool or carborundum and care should be taken to ensure that the break is clean and square.
3. The fused silica retention gap connection is made by inserting the column front into the side arm and carefully threading the connecting nut (SSNE/16-012) onto the VSIS-5 tee. The end of the fused silica should terminate 1-2 mm beyond the face of the ferrule. Finger tighten the nut, then tighten a further 1/4 of a turn with a 1/4" AF spanner. (Refer Figure 3).
4. The first column connection is made in the same way as described in (3) above, to one cross arm of the VSIS-5 tee.
5. The second column connection is made to the other cross arm of the VSIS-5 tee as described in (3) above.
6. Connect remaining ends of tubing to injection port & detector as per instrument service manual.

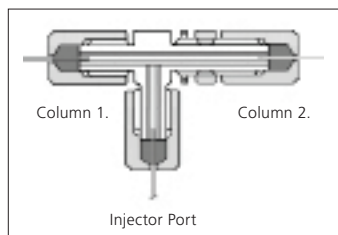


Figure 3.

## Operational Hints

1. A split or splitless injection may be carried out to introduce the sample into the VSIS.
2. The capillary columns being used to carry out the analysis must be of equal length and ID.
3. When using a mass spectrometer on one column and another detector on the other column, such as a FID, a restriction is required on the mass spectrometer to insure the column flows remain balanced.

## Packing List

Type	Description	Qty	Reorder P/N
VSIS-2	Glass Lined Union with 0.4 mm ID	1	–
	5 m x 220 µm ID deactivated fused silica tubing	1	062447
	Graphite Vespel Ferrule – 2 hole, 0.4 mm ID	1	072662
	Graphite Vespel Ferrule 0.4 mm ID	1	072663
VSIS-3	Glass Lined Union with 0.5 mm ID	1	–
	5 m x 320 µm ID deactivated fused silica tubing	1	0624471
	Graphite Vespel Ferrule – 2 hole, 0.5 mm ID	1	072664
	Graphite Vespel Ferrule 0.5 mm ID	1	072654
VSIS-5	Glass Lined Union with 0.8 mm ID	1	–
	5 m x 530 µm ID deactivated fused silica tubing	1	062448
	Graphite Vespel Ferrule 0.8 mm ID	1	072655

### AUSTRALIA & PACIFIC REGION

SGE Analytical Science Pty Ltd  
 Toll Free: 1800 800 167  
 Tel: +61 (0) 3 9837 4200  
 Fax: +61 (0) 3 9874 5672  
 Email: support@sge.com

### CHINA

SGE Shanghai Representative Office  
 Tel: +86 21 6407 9382  
 Fax: +86 21 6407 9386  
 Email: china@sge.com

### MIDDLE EAST

SGE Gulf  
 Tel: +971 6 557 3341  
 Fax: +971 6 557 3541  
 Email: gulfsupport@sge.com

### EUROPE

SGE Europe Ltd  
 European Head Office  
 Toll Free: 00800 2790 8999  
 Toll Free Fax: 00800 2626 2609  
 Tel: +44 1908 568 844  
 Fax: +44 1908 566 790  
 Tel France: +33 1 69 29 80 90  
 Fax France: +33 1 69 29 09 25  
 Tel Germany: +49 (0) 6155 / 60746 0  
 Fax Germany: +49 (0) 6155 / 60746 50  
 Email: europe@sge.com

### INDIA

SGE Laboratory Accessories Pvt Ltd  
 Tel: +91 22 24715896  
 Fax: +91 22 24716592  
 Email: sgeindia@vsnl.com

### UNITED STATES OF AMERICA

SGE Incorporated  
 Toll Free: (800) 945 6154  
 Tel: +1 512 837 7190  
 Fax: +1 512 836 9159  
 Email: usa@sge.com

### JAPAN

SGE Japan Inc  
 Tel: +81 45 222 2885  
 Fax: +81 45 222 2887  
 Email: japan@sge.com