

## Post-Column Applications

Post-column splitting is fairly straight forward. Like pre-column flow splitting, any significant additional pressure (resistance) down stream from the splitter may affect the split ratio. Post-column devices also contribute to chromatographic dispersion so care must be given to connecting tubing and fittings, especially at low flow rates.

Use the back pressure vs split ratio chart on *page 17 and 18* to select a *QuickSplit* Adjustable Flow Splitter that will provide the desired split ratio range and back pressure. These charts correspond to several flow rates and solvent systems. The back pressure is directly proportional to flow rate and viscosity. The back pressure estimates on these charts only apply to post-column applications. Splitters are shipped complete with the resistor cartridge installed.

**To assure optimum pressure drop across the splitter, please specify the actual inlet flow rate when the splitter is ordered if it is significantly different from the calibration flow rate.**

### **Custom Split Ratios**

Split ratios and resistor cartridges other than those listed below can be ordered from ASI to custom configure the *QuickSplit* Adjustable Flow Splitter. Please contact technical support for additional information about custom splitters. We will gladly assist you in determining the best splitter configuration for your application.

## **QuickSplit™ Adjustable Flow Splitters**

### **Analytical Splitters**

**Analytical range, 0.1 mL/min. to 5 mL/min. input flow, calibration flow rate 1.0 mL/min.**

| Description                                      | Split Ratio Range | ASI Part Number |
|--|-------------------|-----------------|
| Analytical Adjustable Flow Splitter, Post-Column | 50:1 to 1,000:1   | 600-PO10-01     |
| Analytical Adjustable Flow Splitter, Post-Column | 15:1 to 250:1     | 600-PO10-03     |
| Analytical Adjustable Flow Splitter, Post-Column | 5:1 to 100:1      | 600-PO10-04     |
| Analytical Adjustable Flow Splitter, Post-Column | 1:1 to 20:1       | 600-PO10-06     |
| Analytical Adjustable Flow Splitter, Post-Column | Custom            | 600-PO10-CS     |

### **Analytical Replacement Resistor Cartridges**

| Description   | Split Ratio Range | ASI Part Number |
|---|-------------------|-----------------|
| Analytical Adjustable Flow Splitter Resistor Cartridge, Post-Column | 50:1 to 1,000:1   | 600-1110-01     |
| Analytical Adjustable Flow Splitter Resistor Cartridge, Post-Column | 15:1 to 250:1     | 600-1110-03     |
| Analytical Adjustable Flow Splitter Resistor Cartridge, Post-Column | 5:1 to 100:1      | 600-1110-04     |
| Analytical Adjustable Flow Splitter Resistor Cartridge, Post-Column | 1:1 to 20:1       | 600-1110-06     |
| Analytical Adjustable Flow Splitter Resistor Cartridge, Post-Column | Custom            | 600-1110-CS     |

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## Post-Column Applications continued

### Semi-Preparative Splitters

Semi-Prep range, 5 mL/min. to 40 mL/min. input flow, calibration flow rate 20.0 mL/min.

| Description  | Split Ratio Range   | ASI Part Number |
|--|---------------------|-----------------|
| Semi-Preparative Adjustable Flow Splitter, Post-Column | 1,000:1 to 20,000:1 | 600-PO20-00     |
| Semi-Preparative Adjustable Flow Splitter, Post-Column | 100:1 to 2,000:1    | 600-PO20-01     |
| Semi-Preparative Adjustable Flow Splitter, Post-Column | 15:1 to 300:1       | 600-PO20-02     |
| Semi-Preparative Adjustable Flow Splitter, Post-Column | 1:1 to 20:1         | 600-PO20-03     |
| Semi-Preparative Adjustable Flow Splitter, Post-Column | Custom              | 600-PO20-CS     |

### Semi-Preparative Replacement Resistor Cartridges

| Description   | Split Ratio Range   | ASI Part Number |
|---|---------------------|-----------------|
| Semi-Preparative Adjustable Flow Splitter Resistor Cartridge, Post-Column | 1,000:1 to 20,000:1 | 600-1120-00     |
| Semi-Preparative Adjustable Flow Splitter Resistor Cartridge, Post-Column | 100:1 to 2,000:1    | 600-1120-01     |
| Semi-Preparative Adjustable Flow Splitter Resistor Cartridge, Post-Column | 15:1 to 300:1       | 600-1120-02     |
| Semi-Preparative Adjustable Flow Splitter Resistor Cartridge, Post-Column | 1:1 to 20:1         | 600-1120-03     |
| Semi-Preparative Adjustable Flow Splitter Resistor Cartridge, Post-Column | Custom              | 600-1120-CS     |

### Preparative Splitters

Prep range, 40 mL/min. to 1,000 mL/min. input flow, custom calibration flow rate

| Description  | Split Ratio Range | ASI Part Number |
|--|-------------------|-----------------|
| Preparative Adjustable Flow Splitter, Post-Column, Input Flow Range: 40 - 125 mL/min.    | Custom            | 600-PO30-CS     |
| Preparative Adjustable Flow Splitter, Post-Column, Input Flow Range: 75 - 200 mL/min.    | Custom            | 600-PO40-CS     |
| Preparative Adjustable Flow Splitter, Post-Column, Input Flow Range: 100 - 1,000 mL/min. | Custom            | 600-PO60-CS     |

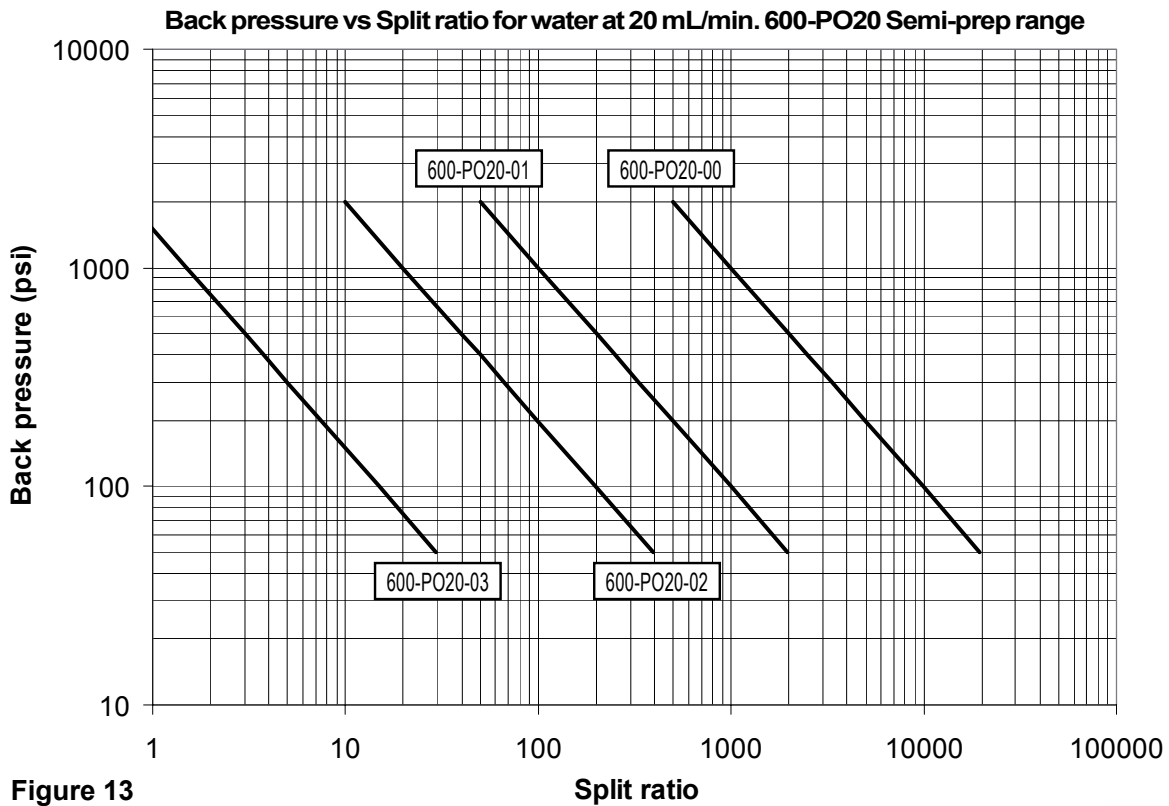
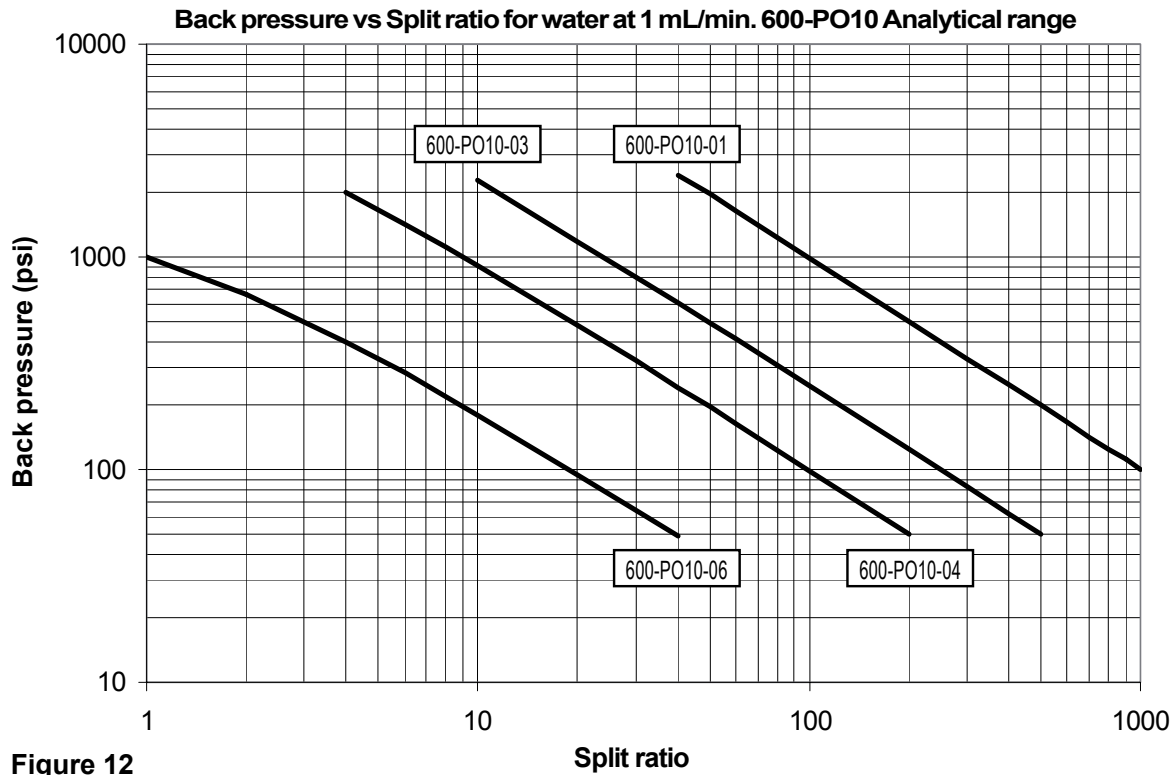
### Preparative Replacement Resistor Cartridges

| Description   | Split Ratio Range | ASI Part Number |
|---|-------------------|-----------------|
| Preparative Adjustable Flow Splitter Resistor Cartridge, Post-Column, Input Flow Range: 40 - 125 mL/min.    | Custom            | 600-1130-CS     |
| Preparative Adjustable Flow Splitter Resistor Cartridge, Post-Column, Input Flow Range: 75 - 200 mL/min.    | Custom            | 600-1140-CS     |
| Preparative Adjustable Flow Splitter Resistor Cartridge, Post-Column, Input Flow Range: 100 - 1,000 mL/min. | Custom            | 600-1160-CS     |

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# Adjustable Flow Splitters

## QuickSplit Adjustable Flow Splitter Selection Charts



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## QuickSplit Adjustable Flow Splitter Selection Charts

Back pressure vs Split ratio for 50/50 ACN/water at 1 mL/min. 600-PO10 Analytical range

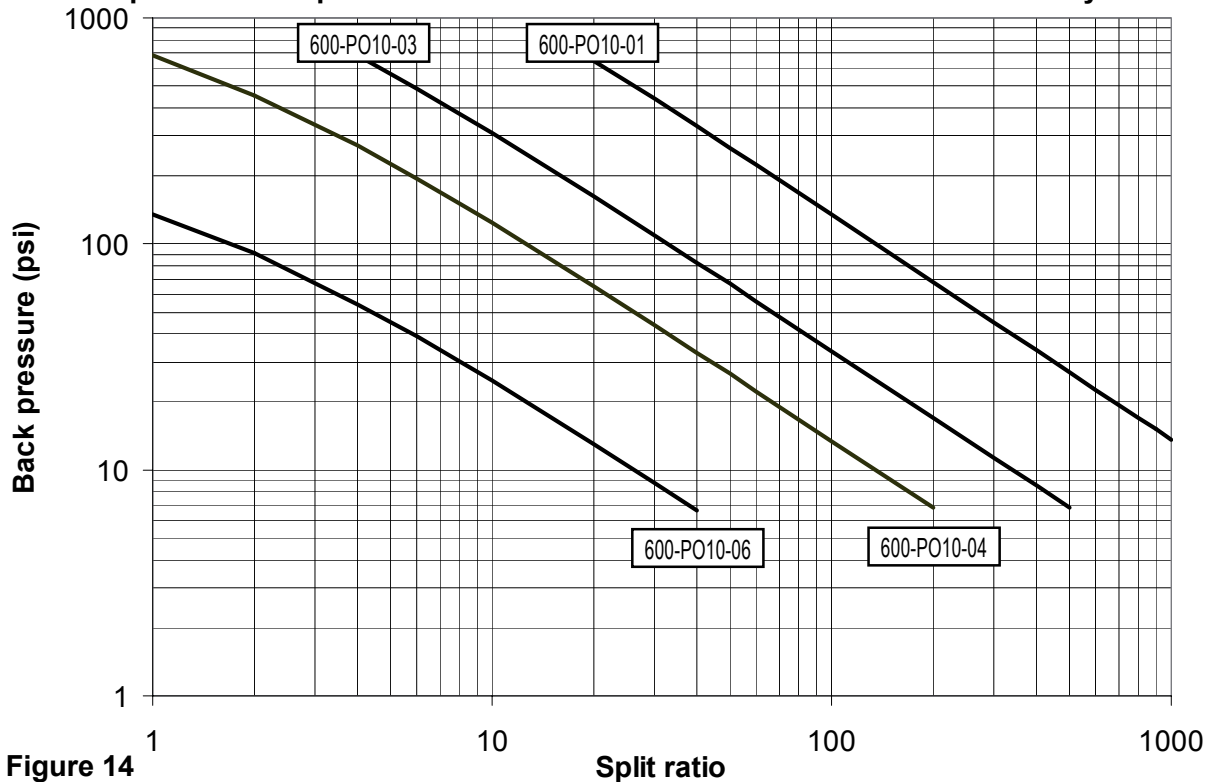


Figure 14

Back pressure vs Split ratio for 50/50 ACN/water at 0.5 mL/min. 600-PO10 Analytical range

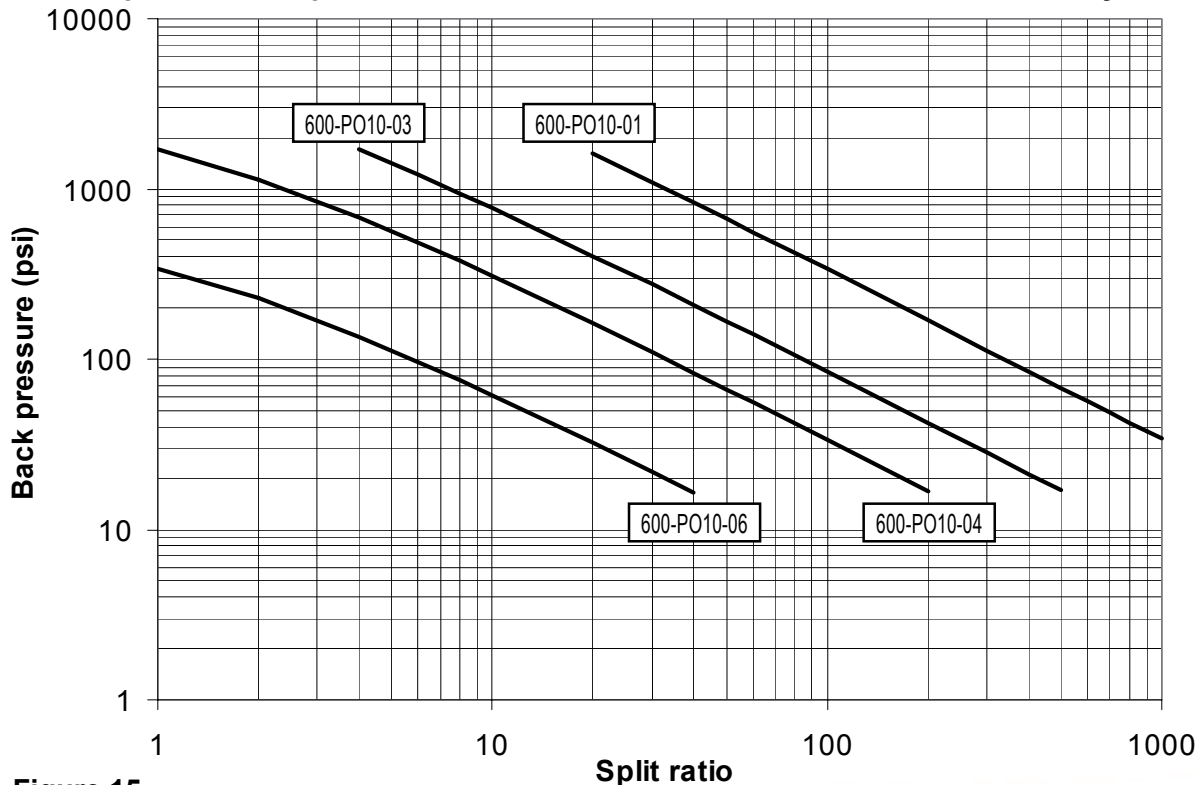


Figure 15

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## Pre-Column Applications

Pre-column splitting is used for micro, capillary, and nano HPLC applications, where the flow from the pump is split from analytical flow rates down to microliter or nanoliter flows. It is important to note that even though the split ratio created by the splitter valve will remain constant, the split ratio will change when a HPLC column is installed. This is due to the added resistance on the low flow rate channel from the HPLC column. This added resistance must be factored in to make sure the fluid resistor selected for the flow splitter provides the correct split ratio. Please contact ASI if you need assistance. The charts on *page 17 and 18* only estimate the pressure drop across the splitter for post column applications and do not include the HPLC column back pressure. Splitters are shipped complete with the resistor cartridge installed.

**When ordering a pre-column flow splitter, please provide ASI with the column flow rate and back pressure. If the inlet flow rate or column pressure specification is not provided, ASI will configure pre-column flow splitters assuming a 0.5 mL/min. inlet flow rate and a pressure drop across the column of 1,500 PSI.**

### **Custom Split Ratios**

Split ratios and resistor cartridges other than those listed below can be ordered from ASI to custom configure the *QuickSplit* Adjustable Flow Splitter. Please contact technical support for additional information about custom splitters. We will gladly assist you in determining the best splitter configuration for your application.

## **QuickSplit™ Adjustable Flow Splitters**

### **Analytical Splitters**

**Analytical range, 0.25 mL/min. to 1 mL/min. input flow, calibration flow rate 0.5 mL/min.**

These splitters will produce under 3,500 PSI backpressure with water at 0.5 mL/min.

| Description                                     | Split Ratio Range | ASI Part Number |
|---|-------------------|-----------------|
| Analytical Adjustable Flow Splitter, Pre-Column | 50:1 to 1,000:1   | 600-PR10-01     |
| Analytical Adjustable Flow Splitter, Pre-Column | 15:1 to 250:1     | 600-PR10-03     |
| Analytical Adjustable Flow Splitter, Pre-Column | 5:1 to 100:1      | 600-PR10-04     |
| Analytical Adjustable Flow Splitter, Pre-Column | 1:1 to 20:1       | 600-PR10-06     |
| Analytical Adjustable Flow Splitter, Pre-Column | Custom            | 600-PR10-CS     |

### **Analytical Replacement Resistor Cartridges**

| Description  | Split Ratio Range | ASI Part Number |
|--|-------------------|-----------------|
| Analytical Adjustable Flow Splitter Resistor Cartridge, Pre-Column | 50:1 to 1,000:1   | 600-PR00-01     |
| Analytical Adjustable Flow Splitter Resistor Cartridge, Pre-Column | 15:1 to 250:1     | 600-PR00-03     |
| Analytical Adjustable Flow Splitter Resistor Cartridge, Pre-Column | 5:1 to 100:1      | 600-PR00-04     |
| Analytical Adjustable Flow Splitter Resistor Cartridge, Pre-Column | 1:1 to 20:1       | 600-PR00-06     |
| Analytical Adjustable Flow Splitter Resistor Cartridge, Pre-Column | Custom            | 600-PR00-CS     |

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# Adjustable Flow Splitter Accessories

## Replacement Inlet Filters

| Description   | Flow Splitter   | ASI Part Number |
|---|---|-----------------|
| Inlet Filter, 2 micron .063" dia.<br>5/Pack, 1 µL Volume  | Adjustable FS - Post/Pre-column Analytical Range                | 600-0063-2      |
| Inlet Filter, 10 micron .125" dia.<br>5/Pack, 4 µL Volume | Adjustable FS - Semi-Prep Range<br>& Prep Range for 600-PO30,40 | 600-0125-10     |
| Straight Thru Hole, No Filter<br>5/Pack, 1 µL Volume      | Adjustable FS - Prep Range for 600-PO60                         | 600-028-2-0     |

## Capillary Resistor

| Description        |        | ASI Part Number |
|--------------------|--------|-----------------|
| Capillary Resistor | Custom | 600-PR00-CP     |

## Flow Measurement Kits

| Description                               |   | ASI Part Number |
|---|---|-----------------|
| Flow Rate Range 50 nL/min. to 5 µL/min.   | interfaces to 360 µm OD fused silica tubing | 600-0010S       |
| Flow Rate Range 5 µL/min. to 25 µL/min.   | interfaces to 1/16" OD PEEK tubing          | 600-0025S       |
| Flow Rate Range 10 µL/min. to 100 µL/min. | interfaces to 1/16" OD PEEK tubing          | 600-0100S       |
| Flow Rate Range 25 µL/min. to 500 µL/min. | interfaces to 1/16" OD PEEK tubing          | 600-0250S       |

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