QuickSplit™ Flow Splitters

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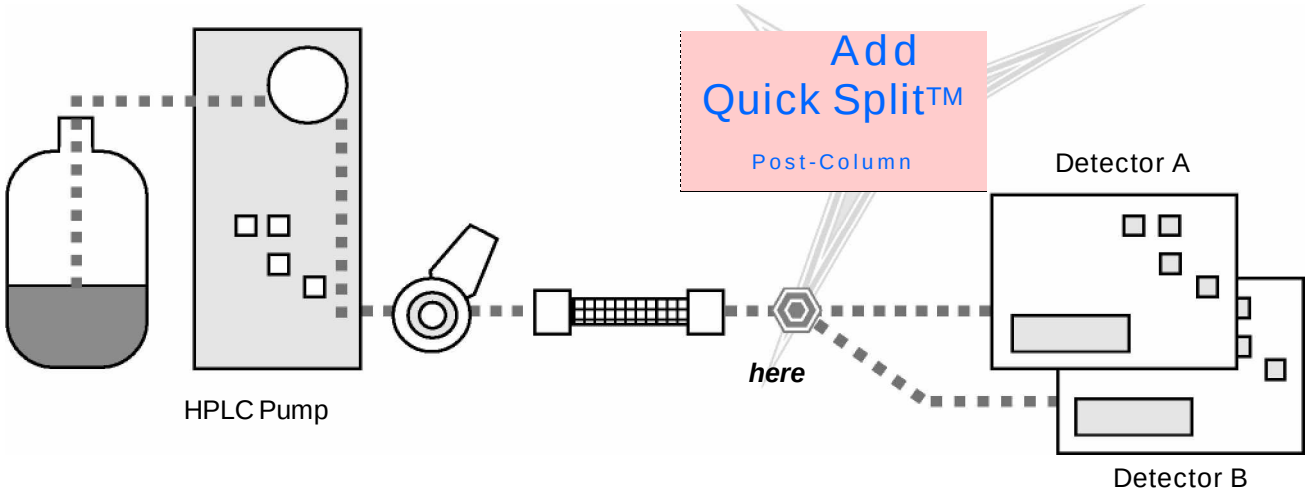
Post-Column Application

- Applies to single and multiple Detectors

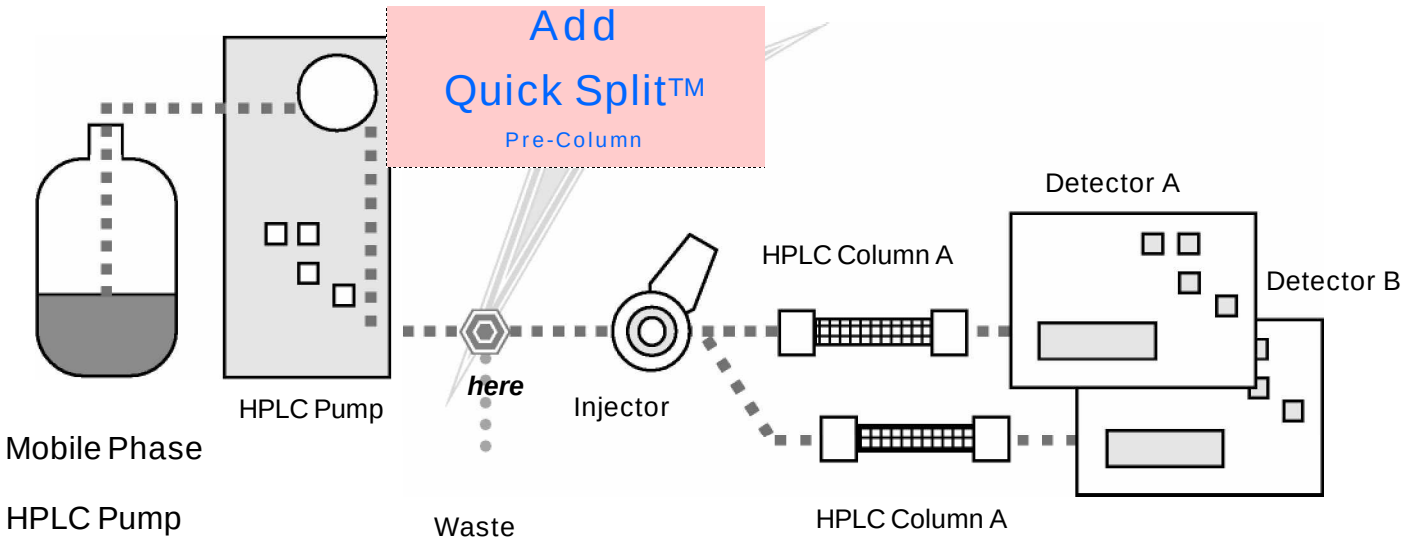
While the diagram below does not cover all possible Post-Column Flow Splitter configurations, it depicts the most common application. Post-Column flow splitters specifications should be reviewed carefully in the subsequent product literature before selecting a splitter to order. !f you have questions about which splitter is right for your application, please contact the techni-cal support group at *ASI*

Pre-Column Application



- Applies to single and multiple Columns

While the diagram below does not cover all possible Pre-Column Flow Splitter configurations, it depicts the most common application. Pre-Column flow splitters specifications should be re-viewed carefully in the subsequent product literature before selecting a splitter to order. !f you have questions about which splitter is right for your application, please contact the technical support group at *ASI*



QuickSplit™ Fixed Flow Splitter

Unlike conventional splitters that use long lengths of capillary tubing, the *ASI QuickSplit* Fixed Flow Splitter uses two compact fluid resistor elements which are designed as cartridges for easy replace-ment. *ASI* fluid resistors are analogous to resistors used in an electrical circuit. Resistance values (L) are rated in Psi /mL/min. Because of the extremely low internal volume of the fluid resistors, the solvent composition in both resistors at any instant in time is the same, and therefore viscosity changes associated with gradient runs do not impact the split ratio.

QuickSplit Fixed Flow Splitters provide a fixed split ratio with extremely low dead volume. Delay volume on the low flow rate side is as low as 100 nanoliters depending upon the resistor cartridge selected. The split ratio is not affected by changes in solvent viscosity or pressure, and is extremely stable and reproducible. The interchangeable fluid resistors are available in a wide range of values which make it possible to create split ratios from 1:1 to as high as 20,000:1.

The flow path of the *QuickSplit* Fixed Flow Splitter contains two fluid resistors that form a parallel flow path. Both low and high flow rate streams pass through fixed resistor cartridges. The ratio of these two resistors creates the split ratio. To understand how the *QuickSplit* Fixed Flow Splitter works it helps to look at a diagram, figure 1, of the fluid resistors in relation to the flow paths and how a split ratio is calculated.

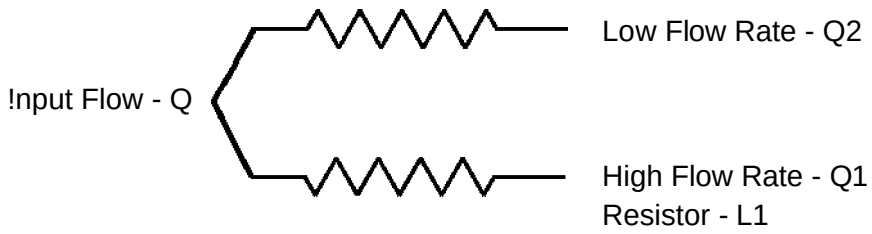


Figure 1. Schematic flow diagram of the *QuickSplit* Fixed Flow Splitter

L1 = Fixed fluid resistor (resistance value varies depending on cartridge rating)
L2 = Fixed fluid resistor (resistance value varies depending on cartridge rating) R = Split ratio = Q1/Q2 = Resistance ratio = L2/L1

Since the flow rate is indirectly proportional to resistance, changing the resistance in either flow path results in a change to the split ratio. Changing resistance is accomplished by exchanging the fixed fluid resistor cartridges with a resistor set that has different resistor ratings.

The *QuickSplit* Fixed Flow Splitter is shipped with resistors installed that deliver the nominal stated split ratio. The split ratios have a tolerance range of +/- 10 %. The exact split ratio is measured at *ASI* and is stated on the certificate shipped with the splitter. The input flow rate can be adjusted to compensate for the tolerance in split ratios. For instance, a 10 % increase in input flow rate will result in a 10 % increase in flow at both the low and high flow channels. Flow rate and viscosity changes will change the backpressure generated by the splitter, but will not affect the actual split ratio. The *QuickSplit* Fixed Flow Splitter is shipped configured for either post-column or pre-column applica-tions

Post-Column Applications

Post-column splitting is fairly straight forward. Devices contribute to chromatographic dispersion so care must be given to connecting tubing and fittings, especially at low flow rates. The pressure drop specification for all input flow ranges is 500 PSI with water at the corresponding inlet flow rate respec-tively. **To assure a maximum pressure drop of 500 PSI across the splitter, please specify the inlet flow when the splitter is ordered.** Splitters are shipped complete with fluid resistors installed.

QuickSplit™ Binary Fixed Flow Splitter

This easy to use "plug and play" device comes with a predefined split ratio eliminating tedious adjust-ments to capillary tubing. Split ratio changes are accomplished by changing the resistor set. The split ratio is determined by the ratio of fluid resistors installed in the splitter manifold. The pressure drop across a fixed splitter for post column applications is typically low, less than 500 PSI. The low internal dead volume prevents excessive dispersion and the replaceable inlet filter insures robust operation. Available in models for analytical, semi-preparative, preparative and high-preparative inlet flow rates.

Q *Custom Split Ratios*

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

Post-Column Applications

QuickSplit™ Binary Fixed Flow Splitters

Analytical Splitters - Binary

Analytical range, 0.1 mL/min. to 5 mL/min. input flow

These splitters will produce under 500 PSI backpressure with water at 1 .0 mL/min.* The backpressure will decrease or increase in proportion to flow rate changes. **In order to assure <500 PSI pressure drop across the splitter, please specify the inlet flow when you order.**

Description	Split Ratio =	ASI Part Number
Analytical Fixed Flow Splitter, Post-Column	2,000:1	620-PO10-03
Analytical Fixed Flow Splitter, Post-Column	1,000:1	620-PO10-04
Analytical Fixed Flow Splitter, Post-Column	500:1	620-PO10-05
Analytical Fixed Flow Splitter, Post-Column	200:1	620-PO10-06
Analytical Fixed Flow Splitter, Post-Column	100:1	620-PO10-07
Analytical Fixed Flow Splitter, Post-Column	50:1	620-PO10-08
Analytical Fixed Flow Splitter, Post-Column	20:1	620-PO10-09
Analytical Fixed Flow Splitter, Post-Column	10:1	620-PO1 0-10
Analytical Fixed Flow Splitter, Post-Column	5:1	620-PO10-1 1
Analytical Fixed Flow Splitter, Post-Column	3:1	620-PO10-12
Analytical Fixed Flow Splitter, Post-Column	1:1	620-PO10-13
Analytical Fixed Flow Splitter, Post-Column	Custom	620-PO1 0-CS

Does not come with mounting bracket, please *see page 21* for mounting bracket order information.

Analytical Replacement Resistor Sets - Binary

Description	Split Ratio =	ASI Part Number
Analytical Fixed Flow Splitter Resistor Set, Post-Column	2,000:1	620-1110-03
Analytical Fixed Flow Splitter Resistor Set, Post-Column	1,000:1	620-1110-04
Analytical Fixed Flow Splitter Resistor Set, Post-Column	500:1	620-1110-05
Analytical Fixed Flow Splitter Resistor Set, Post-Column	200:1	620-1110-06
Analytical Fixed Flow Splitter Resistor Set, Post-Column	100:1	620-1110-07
Analytical Fixed Flow Splitter Resistor Set, Post-Column	50:1	620-1110-08
Analytical Fixed Flow Splitter Resistor Set, Post-Column	20:1	620-1110-09
Analytical Fixed Flow Splitter Resistor Set, Post-Column	10:1	620-1110-10
Analytical Fixed Flow Splitter Resistor Set, Post-Column	5:1	620-1110-11
Analytical Fixed Flow Splitter Resistor Set, Post-Column	3:1	620-1110-12
Analytical Fixed Flow Splitter Resistor Set, Post-Column	1:1	620-1110-13
Analytical Fixed Flow Splitter Resistor Set, Post-Column	Custom	620-1110-CS

Post-Column Applications

QuickSplit™ Binary Fixed Flow Splitters

Semi-Preparative Splitters - Binary

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

These splitters will produce under 500 PSI backpressure with water at 20.0 mL/min.** The backpressure will decrease or increase in proportion to flow rate changes. **In order to assure <500 PSI pressure drop across the splitter, please specify the inlet flow when you order.**

Description	Split ratio	ASI item
Semi-Preparative Fixed Flow Splitter, Post-Column	Split Ratio = 20,000:1	620-PO20-00
Semi-Preparative Fixed Flow Splitter, Post-Column	Split Ratio = 10,000:1	620-PO20-01
Semi-Preparative Fixed Flow Splitter, Post-Column	Split Ratio = 5,000:1	620-PO20-02
Semi-Preparative Fixed Flow Splitter, Post-Column	Split Ratio = 2,000:1	620-PO20-03
Semi-Preparative Fixed Flow Splitter, Post-Column	Split Ratio =1,000:1	620-PO20-04
Semi-Preparative Fixed Flow Splitter, Post-Column	Split Ratio = 500:1	620-PO20-05
Semi-Preparative Fixed Flow Splitter, Post-Column	Split Ratio = Custom	620-PO20-CS

Does not come with mounting bracket. Mounting bracket is not available.

Semi-Preparative Replacement Resistor Cartridges - Binary

Description	Split ratio	ASI item
Semi-Preparative Fixed Flow Splitter, Highflw resistor cartridge, Post-Column	Split Ratio = 20,000:1	620-PO20-00
Semi-Preparative Fixed Flow Splitter, Highflw resistor cartridge, Post-Column	Split Ratio = 10,000:1	620-PO20-01
Semi-Preparative Fixed Flow Splitter, Highflw resistor cartridge, Post-Column	Split Ratio = 5,000:1	620-PO20-02
Semi-Preparative Fixed Flow Splitter, Highflw resistor cartridge, Post-Column	Split Ratio = 2,000:1	620-PO20-03
Semi-Preparative Fixed Flow Splitter, Highflw resistor cartridge, Post-Column	Split Ratio =1,000:1	620-PO20-04
Semi-Preparative Fixed Flow Splitter, Highflw resistor cartridge, Post-Column	Split Ratio = 500:1	620-PO20-05
Semi-Preparative Fixed Flow Splitter, Highflw resistor cartridge, Post-Column	Split Ratio = Custom	620-PO20-CS

***** Flow rates higher than 1 .0 mL/min. can be used, but may result in a higher pressure drop across the splitter.

****** Flow rates higher than 20.0 mL/min. can be used, but may result in a higher pressure drop across the splitter.

QuickSplit™ Binary Fixed Flow Splitters

Preparative Splitters - Binary

Prep range, 30 mL/min. to 200 mL/min. input flow

These splitters will produce under 500 PSI backpressure with water at the specified inlet flow rate.* The backpressure will decrease or increase in proportion to flow rate changes. **In order to assure <500 PSI pressure drop across the splitter, please contact *ASI* for assistance in configuring your Fixed Splitter prior to ordering.**

Description	Split ratio	ASI part Nb
Preparative Fixed Flow Splitter, Post column Input flow Range : 30—200 ml/min	Custom	620-PO40-CS

Does not come with mounting bracket. Mounting bracket is not available.

Preparative Replacement Resistor Cartridge/Resistor Set - Binary

Description	Split ratio	ASI part Nb
Preparative Fixed Flow Splitter, Post column Resistor cartridgeInput flow Range : 30—200 ml/min	Custom	620-1140-CHS

High-Preparative Splitters - Binary

High-Prep range, 200 mL/min. to 1,000 mL/min. input flow

These splitters will produce under 500 PSI backpressure with water at the specified inlet flow rate.* The backpressure will decrease or increase in proportion to flow rate changes. **In order to assure <500 PSI pressure drop across the splitter, please contact *ASI* for assistance in configuring your Fixed Splitter prior to ordering.**

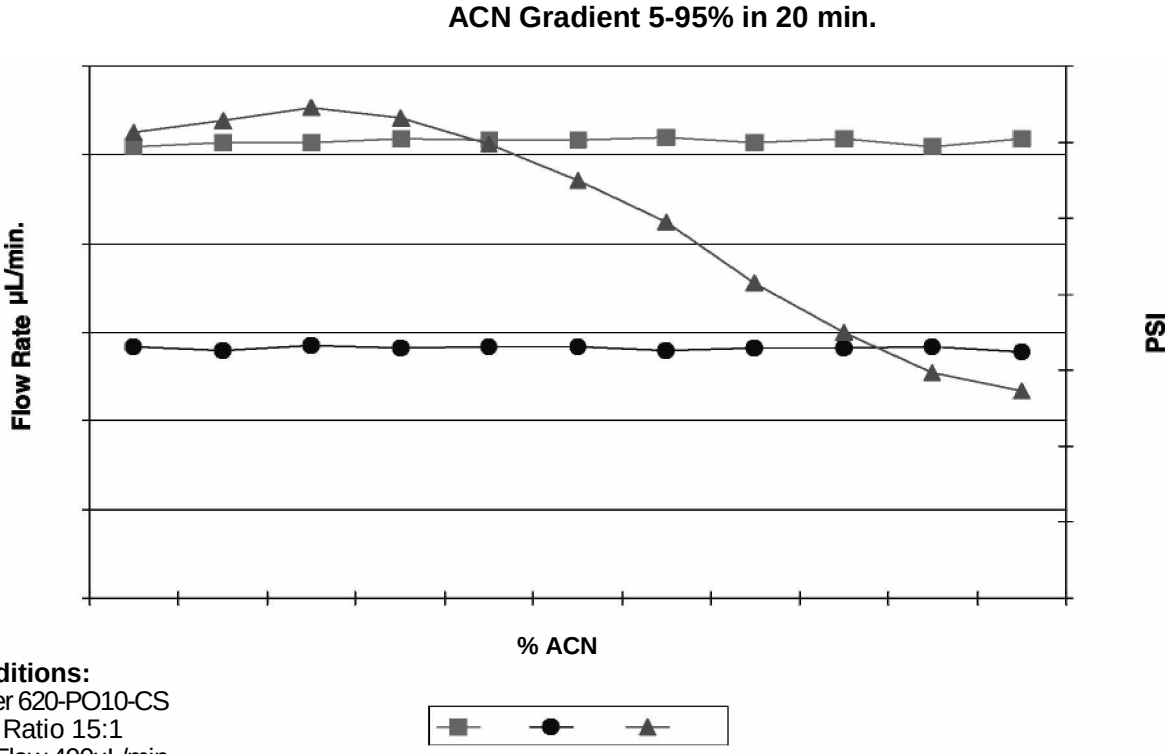
Description	Split ratio	ASI part Nb
High Preparative Fixed Flow Splitter, Post column Input flow Range : 200– 1000 ml/min	Custom	620-PO60-CS

Does not come with mounting bracket, please *ask us for* mounting bracket order information.

Description	Split ratio	ASI part Nb
High Preparative Fixed Flow Splitter, Post column Resistor Set Input flow Range : 200– 1000 ml/min	Custom	620-1160-CHS

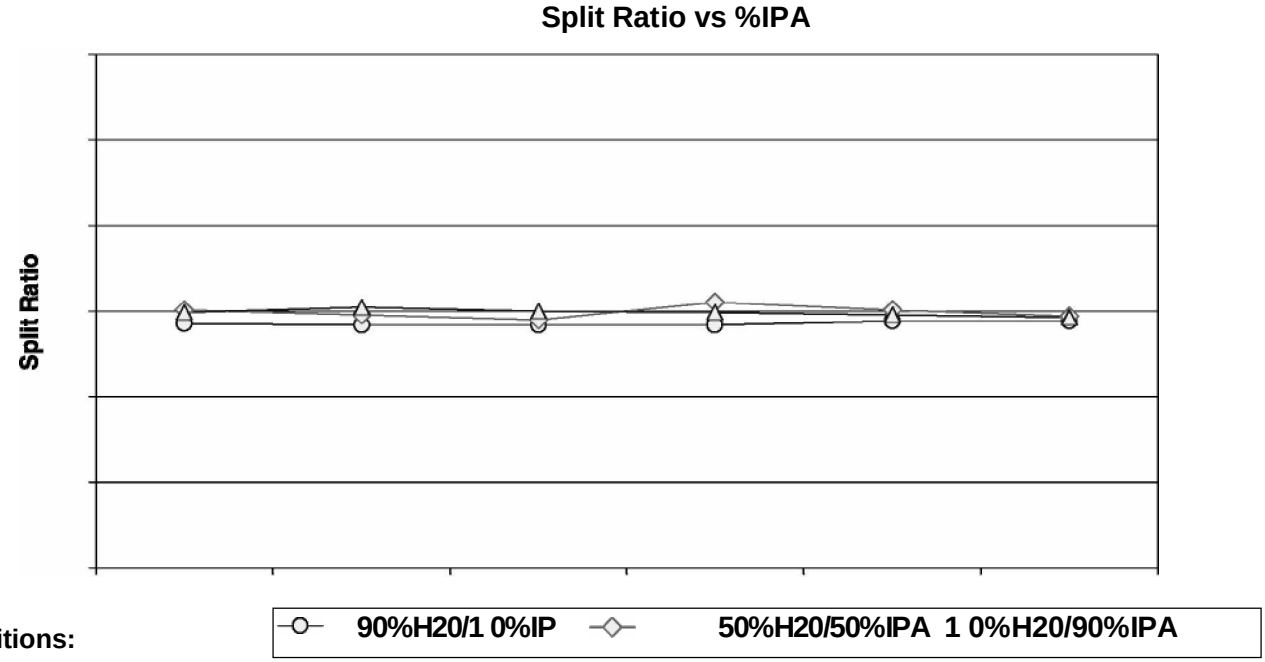
Flow rates higher than the specified inlet flow rate can be used, but may result in a higher pressure drop across the splitter.

Effect of Gradient on Flow Rate Stability



Conditions:
Splitter 620-PO10-CS
Split Ratio 15:1
Inlet Flow 400µL/min.

Effect of Viscosity on Split Ratio



Conditions:
Splitter 620-PO1 0-CS
Split Ratio 15:1
Inlet Flow 400µL/min.

Post-Column Applications continued

High-Preparative Replacement Resistor Cartridge/Resistor Set - Binary

Post-column splitting is fairly straight forward. Devices contribute to chromatographic dispersion so care must be given to connecting tubing and fittings, especially at low flow rates. The pressure drop specification for both analytical and semi-preparative fixed splitters is 500 PSI with water at a flow rate of 1.0 mL/min. and 20.0 mL/min. respectively. To assure a maximum pressure drop of 500 PSI across the splitter, please specify the inlet flow when the splitter is ordered. Splitters are shipped complete with fluid resistors installed.

QuickSplit™ Multiport Fixed Flow Splitters

Divides the incoming flow stream into 3 or 4 channels. The *QuickSplit* Multiport Flow Splitter is ideal for applications that use multiple detectors and/or a fraction collector. Split ratios can be configured to be identical in each channel or custom configured to accommodate specific flow rates at each channel. The low internal dead volume prevents excessive dispersion and the replaceable inlet filter insures robust operation. Available in models for analytical and semi-preparative inlet flow rates. **Please contact *ASI* for assistance in configuring your *QuickSplit* Multiport Fixed Splitter prior to ordering. Please specify inlet flow rate and desired output flow rate in each channel when you order.**

QuickSplit Multiport Fixed Flow Splitter

Post-Column Applications continued

QuickSplit™ Multiport Fixed Flow Splitters

Please contact *ASI* for assistance in configuring your *QuickSplit* Multiport Fixed Splitter prior to order-ing. Please specify inlet flow rate and desired output flow rate in each channel when you order.

Analytical Splitters - Multiport

Analytical range, 0.1 mL/min. to 5 mL/min. input flow

These splitters will produce under 500 PSI backpressure with water at 1 .0 mL/min.* The backpressure will decrease or increase in proportion to flow rate changes.

Description	Split Ratio	ASI part Nb
Analytical Three Port Fixed Flow Splitter, Post-Column	Custom	630-PO10-CS
Analytical Four Port Fixed Flow Splitter, Post-Column	Custom	640-PO10-CS

Comes with mounting bracket.

Semi-Preparative Splitters - Multiport

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

These splitters will produce under 500 PSI backpressure with water at 20.0 mL/min.** The backpressure will decrease or increase in proportion to flow rate changes.

Description	Split ratio	ASI part Nb
Semi-Prep three port fixed flow Splitter	Custom	630-PO20-CS
Semi-Prep four port fixed flow Splitter	Custom	630-PO20-CS

Comes with mounting bracket.

***** Flow rates higher than 1 .0 mL/min. can be used, but may result in a higher pressure drop across the splitter.

****** Flow rates higher than 20.0 mL/min. can be used, but may result in a higher pressure drop across the splitter.

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 resistors selected for the flow splitter provide the correct split ratio. Please contact *AS!* if you need assistance. Splitters are shipped complete with fluid resistors 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. splitter inlet flow rate and a pres-sure drop across the column of 1,500 PSI. Adjustments to the low flow rate channel can be made by increasing or decreasing the splitter inlet flow rate.

! Please consider Pre-column Adjustable Flow Splitters on following *pages* when you need more than one split ratio.

QuickSplit™ Binary Fixed Flow Splitter

This easy to use "plug and play" device comes with a predefined split ratio eliminating tedious adjust-ments to capillary tubing. Split ratio changes are accomplished by changing the resistor set. The split ratio is determined by the ratio of fluid resistors installed in the splitter manifold. The pressure drop across a fixed splitter for pre-column applications where the pressure is nominally 1,500 Psi The low internal dead volume prevents excessive dispersion and the replaceable inlet filter insures robust operation. Available in models for analytical inlet flow rates.

Q *Custom Split Ratios*

Split ratios and resistor cartridges other than those listed can be ordered from *ASI* to custom config-ure the *QuickSplit* Fixed 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.

Pre-Column Applications

QuickSplit™ Binary Fixed Flow Splitters

Analytical Splitters - Binary

Analytical range, 0.1 mL/min. to 0.5 mL/min. input flow

The pressure drop across a pre-column flow splitter will generally be between 1,000 PSI to 3,500 PSI. The exact pressure drop will depend on how the splitter is configured.

Description	Split Ratio =	ASI Part Number
Analytical Fixed Flow Splitter, Pre-Column	2,000:1	620-PR10-03
Analytical Fixed Flow Splitter, Pre-Column	1,000:1	620-PR10-04
Analytical Fixed Flow Splitter, Pre-Column	500:1	620-PR10-05
Analytical Fixed Flow Splitter, Pre-Column	200:1	620-PR10-06
Analytical Fixed Flow Splitter, Pre-Column	100:1	620-PR10-07
Analytical Fixed Flow Splitter, Pre-Column	50:1	620-PR10-08
Analytical Fixed Flow Splitter, Pre-Column	20:1	620-PR10-09
Analytical Fixed Flow Splitter, Pre-Column	10:1	620-PR1 0-10
Analytical Fixed Flow Splitter, Pre-Column	Custom	620-PR1 0-CS

Does not come with mounting bracket, please *ask us* for mounting bracket order information.

Analytical Replacement Resistor Sets - Binary

Description	Split Ratio =	ASI Part Number
Analytical Fixed Flow Splitter Resistor Set, Pre-Column	2,000:1	620-PR00-03
Analytical Fixed Flow Splitter Resistor Set, Pre-Column	1,000:1	620-PR00-04
Analytical Fixed Flow Splitter Resistor Set, Pre-Column	500:1	620-PR00-05
Analytical Fixed Flow Splitter Resistor Set, Pre-Column	200:1	620-PR00-06
Analytical Fixed Flow Splitter Resistor Set, Pre-Column	100:1	620-PR00-07
Analytical Fixed Flow Splitter Resistor Set, Pre-Column	50:1	620-PR00-08
Analytical Fixed Flow Splitter Resistor Set, Pre-Column	20:1	620-PR00-09
Analytical Fixed Flow Splitter Resistor Set, Pre-Column	10:1	620-PR00-1 0
Analytical Fixed Flow Splitter Resistor Set, Pre-Column	Custom	620-PR00-CS

Fixed FS / Makeup-Flow Splitter Accessories

Replacement Inlet Filters

Description	Application	ASI part Nb
Inlet Filter assembly 2 micron 0,063 '' dia. 5 /pack, 1 ul Volume	Fixed FS Analytical Range Makeup flow Splitter, inlet Port for 620—PO90-01 Makeup flow Splitter, Makeup Inlet Port All ranges	620-0063-2
Inlet Filter & housing assembly 10 micron 0,125'' dia. Each, 4 ul volume	Fixed FS Semi Prep Range Makeup flow Splitter, inlet Port for 620—PO90-02, 04	620-23-0125-10
Inlet Filter & housing assembly 10 micron 0,188'' dia. Each, 10 ul volume	Fixed FS Prep Range Makeup flow Splitter, inlet Port for 620—PO90-03	620-23-0188-10
Inlet Filter & housing assembly 20 micron 0,188'' dia. Each, 12 ul volume	Fixed FS Prep Range Makeup flow Splitter, inlet Port for 620—PO90-03	620-23-0188-20
Inlet Filter & housing assembly 20 micron 0,188'' dia. Each, 12 ul volume	Fixed FS, High Prep Range	620-18-0188-20
Straight Thru Hole , No Filter 5/ pack, 0,1 ul Volume	Fixed FS, Analytical range	620-001-2-2
Straight Thru Hole , No Filter 5/ pack, 1 ul Volume	Fixed FS, High Prep Range	620-001-2-3

Mounting Bracket 620

Description	ASI part Nb
Mounting bracketfor 620-PO60 and 620 PR10	620-1000

Capillary Resistor

Description	ASI part Nb
Capillary reistor custom	620-PR00-CP

Flow measurement Kit

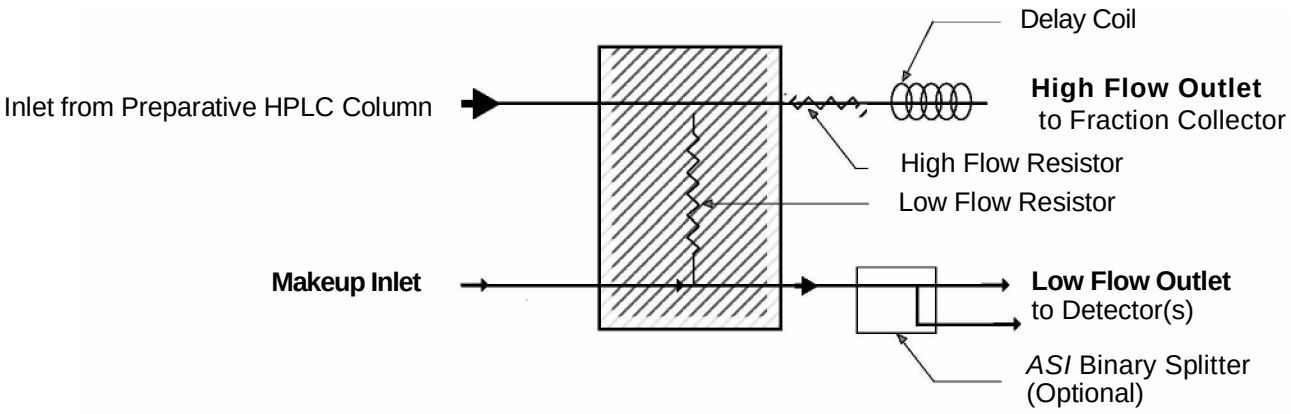
Description		ASI art Nb
Flow Rate Range 5 0 nL/min. to 25 µL/min.		600-0010S
Flow Rate Range 5 µL/min. to 25 µL/min.	Interfaces to 1/16" OD PEEK tubing	600-0025S
Flow Rate Range 10 µL/min. to 100 µL/min.	Iinterfaces to 1/16" OD PEEK tubing	600-0100S
Flow Rate Range 25 µL/min. to 500 µL/min.	Interfaces to 1/16" OD PEEK tubing	600-0250S

QuickSplit™

Makeup-Flow Splitter Manifolds

The *ASI QuickSplit* Makeup-Flow Splitter Manifold is designed for post-column applications where a small amount of flow from an HPLC column is efficiently combined with a makeup-flow before it reaches the detector. Although there are many variations of this type of application, one of the most common involves splitting a small portion of the outlet flow from a preparative HPLC column which is then combined and diluted with a makeup-flow. The combined makeup-flow is used by a detector, typically Mass Spectrometry or UV, to trigger fraction collection from the remaining flow. A minimum delay time of 5 seconds (maximum inlet flow) is built into the splitter to insure proper sequencing between detection and fraction collection. Unique integral resistor design eliminates tees and fittings within the splitter, resulting in extremely low peak dispersion. An additional binary splitter (*see page 12)* can be added after the manifold to allow splitting the makeup-flow stream prior to entering the detector.

Custom configuration orders must include inlet flow, split ratio, and delay time. In order to assure <500 PSI pressure drop across the splitter, please specify the inlet flow when you order.



QuickSplit Makeup-Flow Splitter Manifold

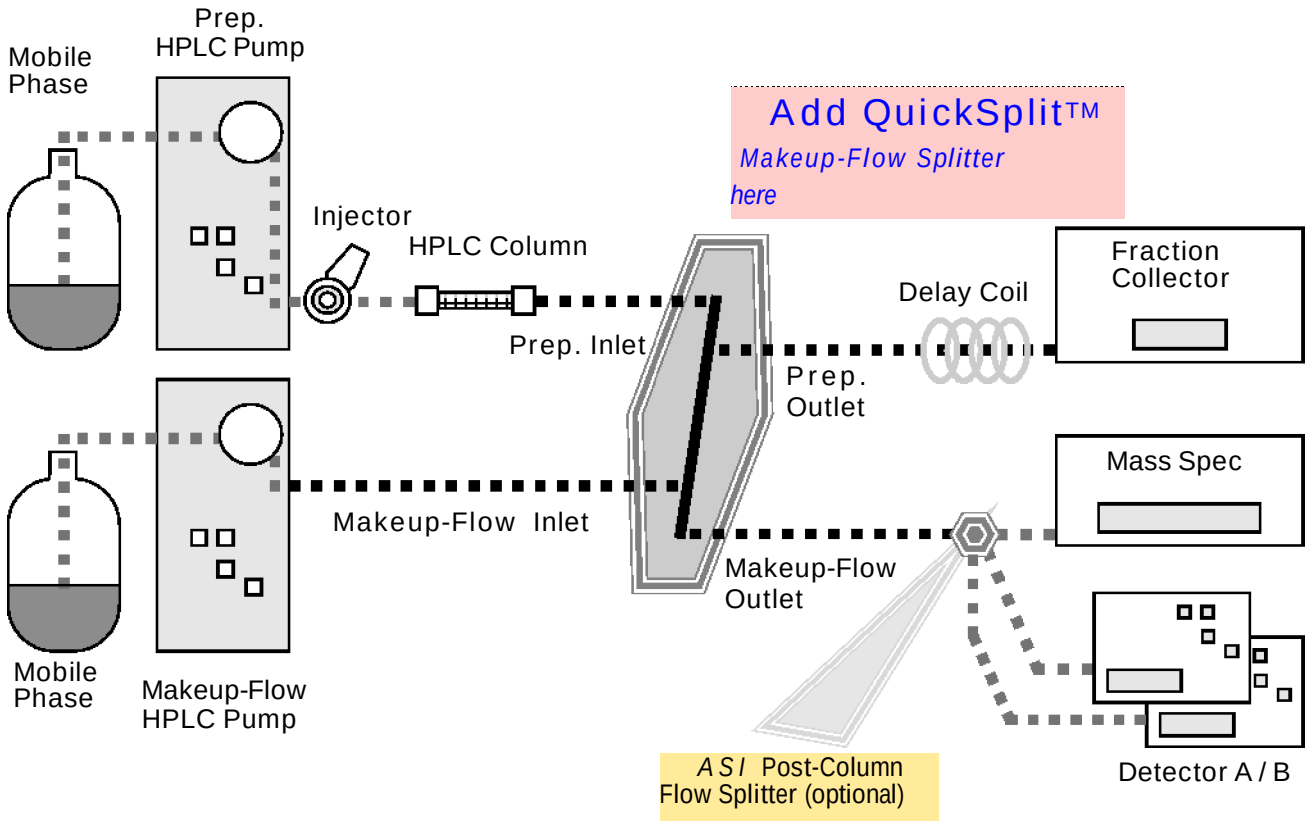
Common Hydraulic Schematic for Makeup-Flow Splitter

Applies to single and multiple Detectors

While the diagram on next page does not cover all possible Makeup-Flow Splitter configurations, it depicts the most common application. Post column flow splitters specifications should be reviewed carefully in the subsequent product literature before selecting a splitter to order. !f you have ques-tions about which splitter is right for your application, please contact the technical support group at *ASI.*

QuickSplit™

Makeup-Flow Splitter Manifolds



QuickSplit™ Makeup-Flow Splitter Manifolds

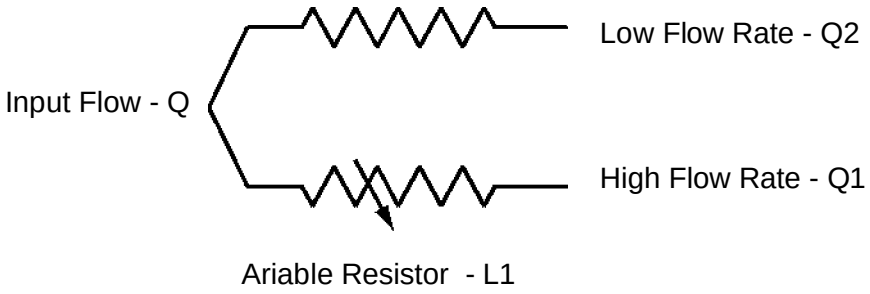
Description		Split Ratio =	ASI Part Number
Makeup-Flow Splitter Manifold	Flow Range: 1 - 20 mL/min.	1,000:1	620-PO90-01
Makeup-Flow Splitter Manifold	Flow Range: 20 - 50 mL/min.	1,000:1	620-PO90-02
Makeup-Flow Splitter Manifold	Flow Range: 50 - 150 mL/min.	5,000:1	620-PO90-03
Makeup-Flow Splitter Manifold	Flow Range: 20 - 50 mL/min.	10,000:1	620-PO90-04
Makeup-Flow Splitter Manifold	Flow Range: Custom	Custom	620-PO90-CS

QuickSplit™ Adjustable Flow Splitter

Unlike conventional splitters that use long lengths of capillary tubing, the *ASI QuickSplit* Adjustable Flow Splitter uses fluid resistors to achieve a wide range of split ratios. The flow path of the *QuickSplit* Adjustable Flow Splitter contains two fluid resistors that form a parallel flow path. The low flow rate stream passes through a fixed resistor cartridge, while the high flow rate stream passes through an adjustable fluid resistor (metering valve). The ratio of these two resistors creates the split flow ratio. The fixed fluid resistor is analogous to a resistor used in an electrical circuit. The compact fluid resistor elements are designed as cartridges for easy replacement with resistance values (L2) rated in PSI/mL/min. Because of the extremely low internal volume of the fluid resistors, the solvent com-position in both resistors at any instant in time is the same, and therefore viscosity changes associ-ated with gradient runs do not impact the split ratio.

Due to the rugged design, the split ratio repeatability is +/- 1 % of setting, and unlike alternative splitter valves or tees, will not be affected by actions that effect input flow such as turning the pump off and on, or pressure spikes. Because the *QuickSplit* Adjustable Flow Splitter incorporates a metering valve, split ratios can be changed frequently with flow changes that are stable and reproducible. The *QuickSplit* Adjustable Flow Splitter will create split ratios that are not affected by changes in solvent viscosity or pressure and provides direct real time control over split ratio optimization.

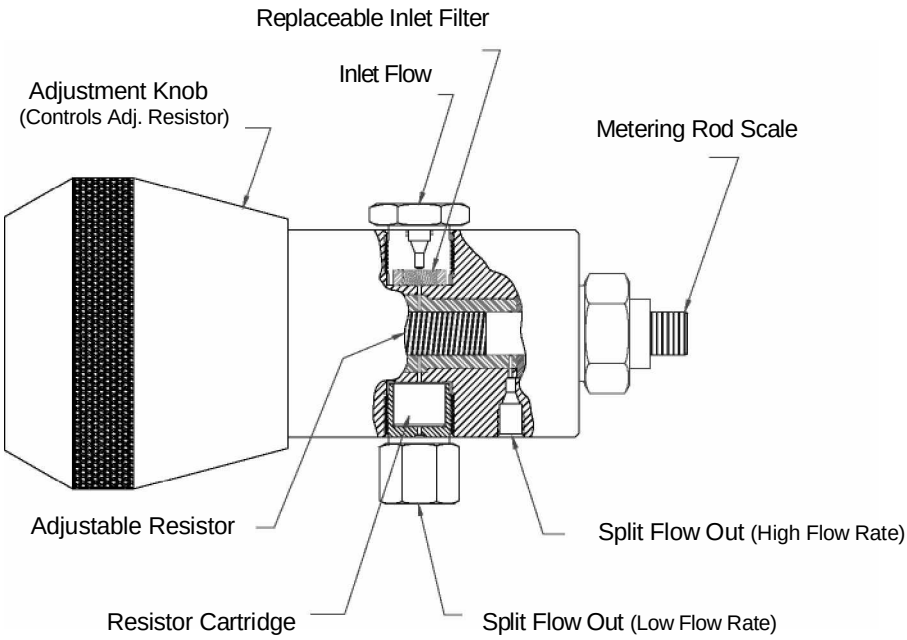
To understand how the *QuickSplit* Adjustable Flow Splitter works it helps to look at a diagram, figure 3, of the fluid resistors in relation to the flow paths and how a split ratio is calculated.



L1 = Adjustable fluid resistor (metering valve)
L2 = Fixed fluid resistor (resistance value varies depending on cartridge rating)
R = Split ratio = Q1/Q2 = Resistance ratio = 2/L1

Since the flow rate is indirectly proportional to resistance, changing the resistance in either flow path results in a change to the split ratio. Changing resistance is accomplished by adjusting the metering valve on the high flow rate channel or exchanging the fixed fluid resistor cartridge in the low flow rate channel with a resistor cartridge which has a different resistance rating. Adjusting the metering valve is analogous to changing the capillary tubing length or diameter on conventional tee type flow splitters. The *QuickSplit* Adjustable Flow Splitter has a convenient mounting bracket and hand ad-justment knob to control the split ratio. A calibrated indicator rod tracks the split ratio setting and each splitter is shipped with calibration data. Split ratios are not affected by changes in solvent viscosities or pressure, which makes this product suitable for gradient applications as well as isocratic. The *QuickSplit* Adjustable Flow Splitter is shipped configured for either post-column or pre-column appli-cations.

QuickSplit^{TM} Adjustable Flow Splitter



QuickSplit Adjustable Flow Splitter connexion

QuickSplit Adjustable Flow Splitter

Post-Column Applications

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

Use the back pressure vs split ratio chart on *page 28 and 29* 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 esti-mates 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 inlet flow when the splitter is ordered.

Q *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 configu-ration for your applica-tion.

QuickSplit^{TM} Adjustable Flow Splitters

Analytical Splitters

Analytical range, 0.1 mL/min. to 5 mL/min. input flow

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-PO1 0-CS

Analytical Replacement Resistor Cartridges

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

Post-Column Applications

Semi-Preparative Splitters

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

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

Semi-Preparative Replacement Resistor Cartridges

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

Preparative Splitters

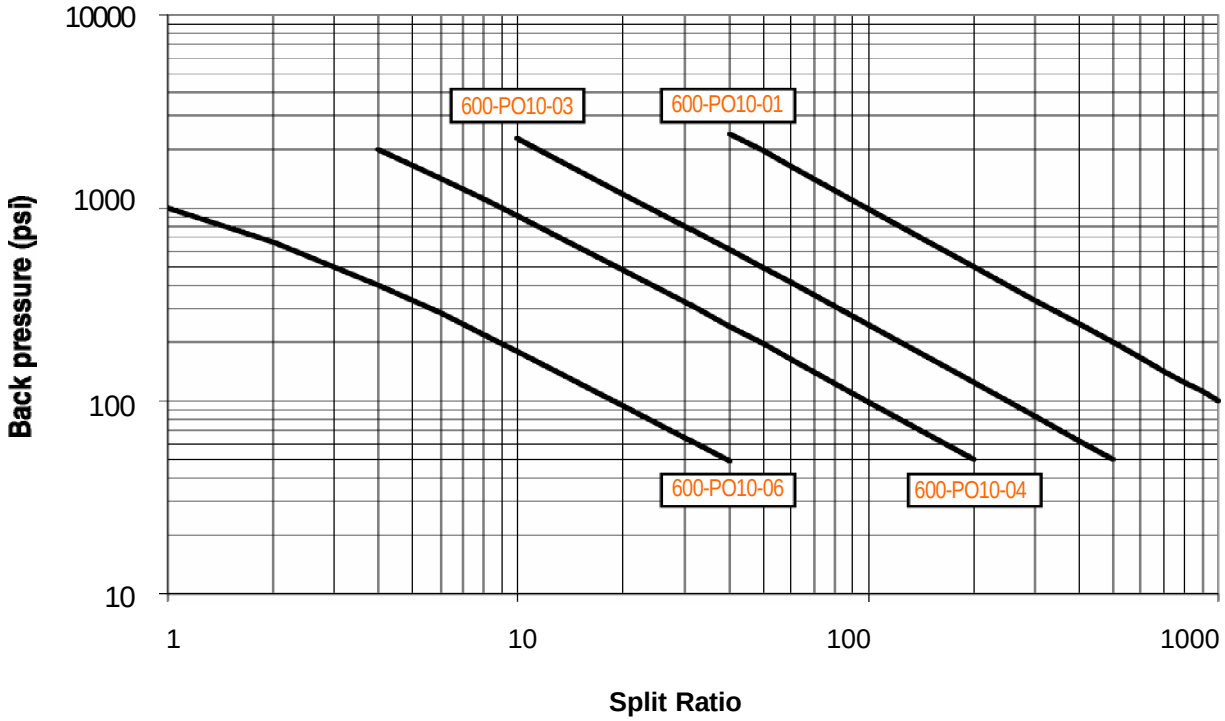
Desciption Post column	**Split ratio range**	**ASI Part Number**
Preparative Adjustable Flow splitter Input flow range : 40-125 ml/min	Custom	600-PO30-CS
Preparative Adjustable Flow splitter Input flow range : 75-200 ml/min	Custom	600-PO30-CS
Preparative Adjustable Flow splitter Input flow range :100-1000 ml/min	Custom	600-PO30-CS

Preparative Replacement Resistor Cartridges

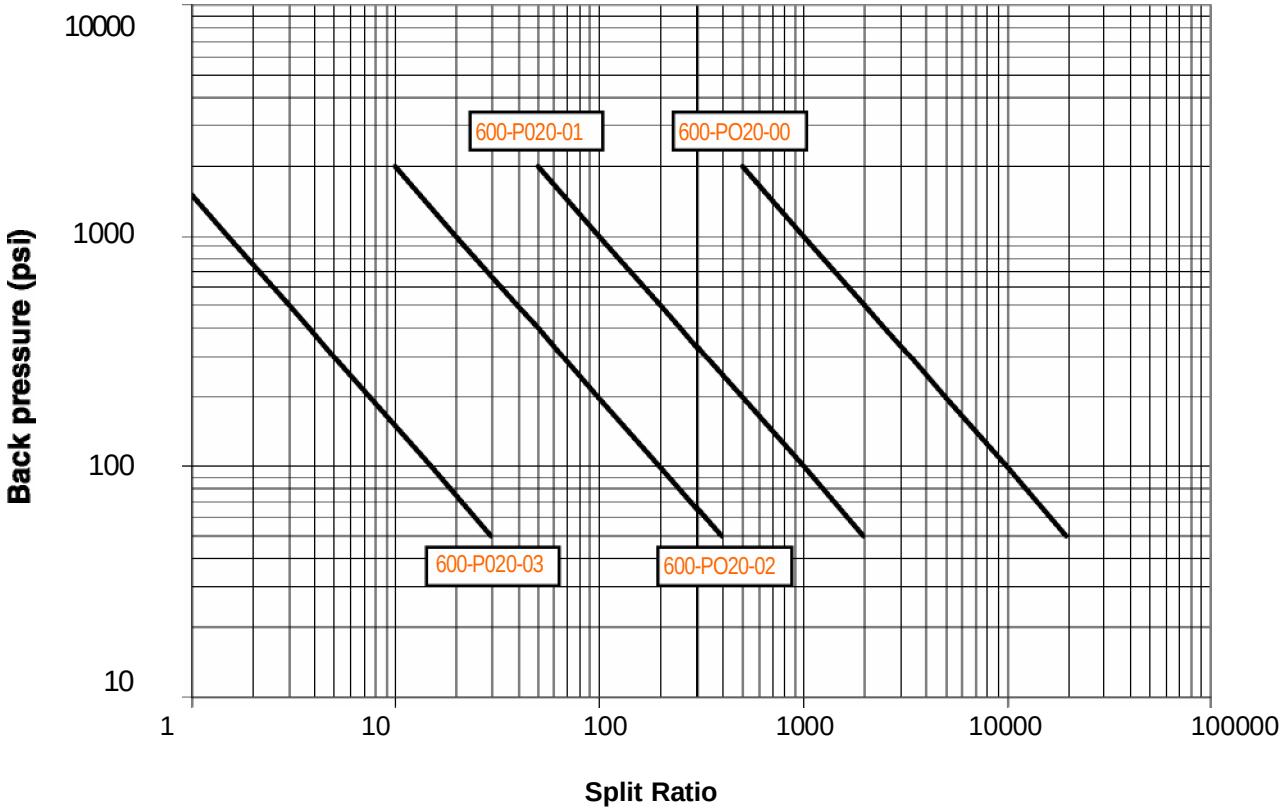
Desciption Resistor cartidge Post co-lumn	**Split ratio range**	**ASI Part Number**
Preparative Adjustable Flow splitter Input flow range : 40-125 ml/min	Custom	600-PO30-CS
Preparative Adjustable Flow splitter Input flow range : 75-200 ml/min	Custom	600-PO30-CS
Preparative Adjustable Flow splitter Input flow range :100-1000 ml/min	Custom	600-PO30-CS

QuickSplit Adjustable Flow Splitter Selection Charts

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

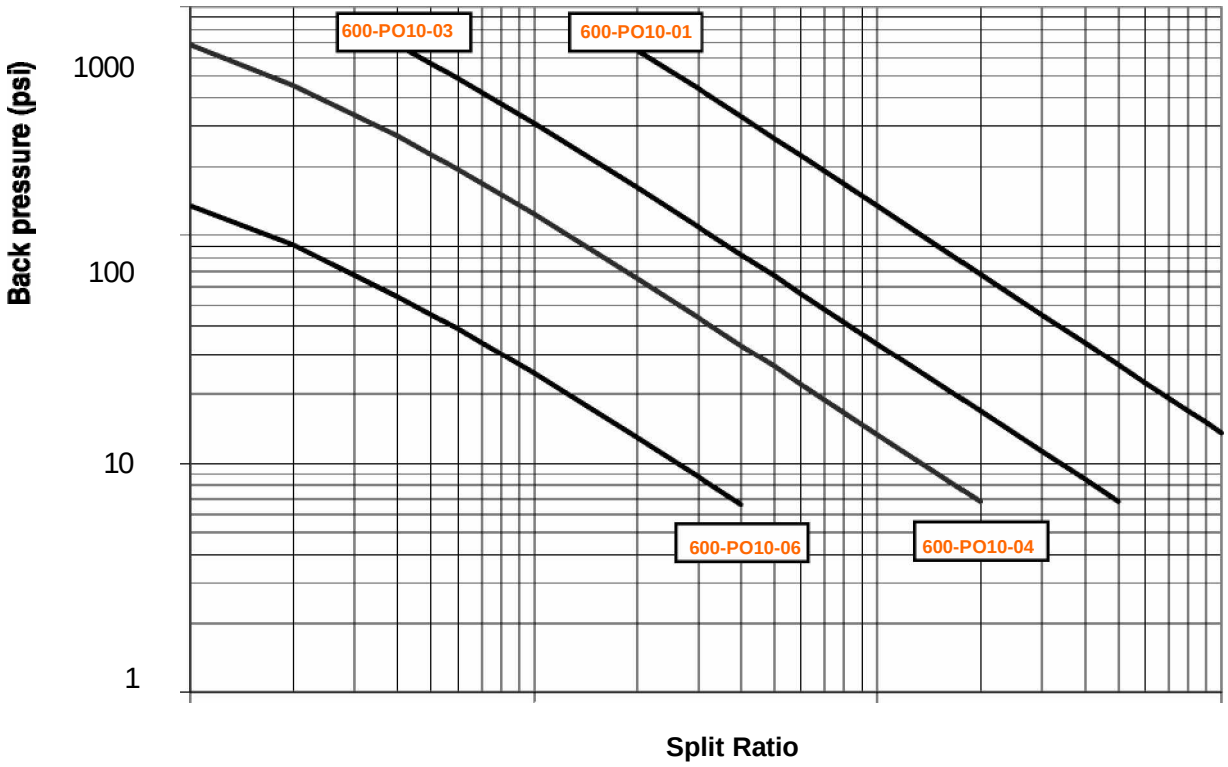


Back pressure vs. Split ratio for water at 20 l / min , 600-PO20 Semi prep range

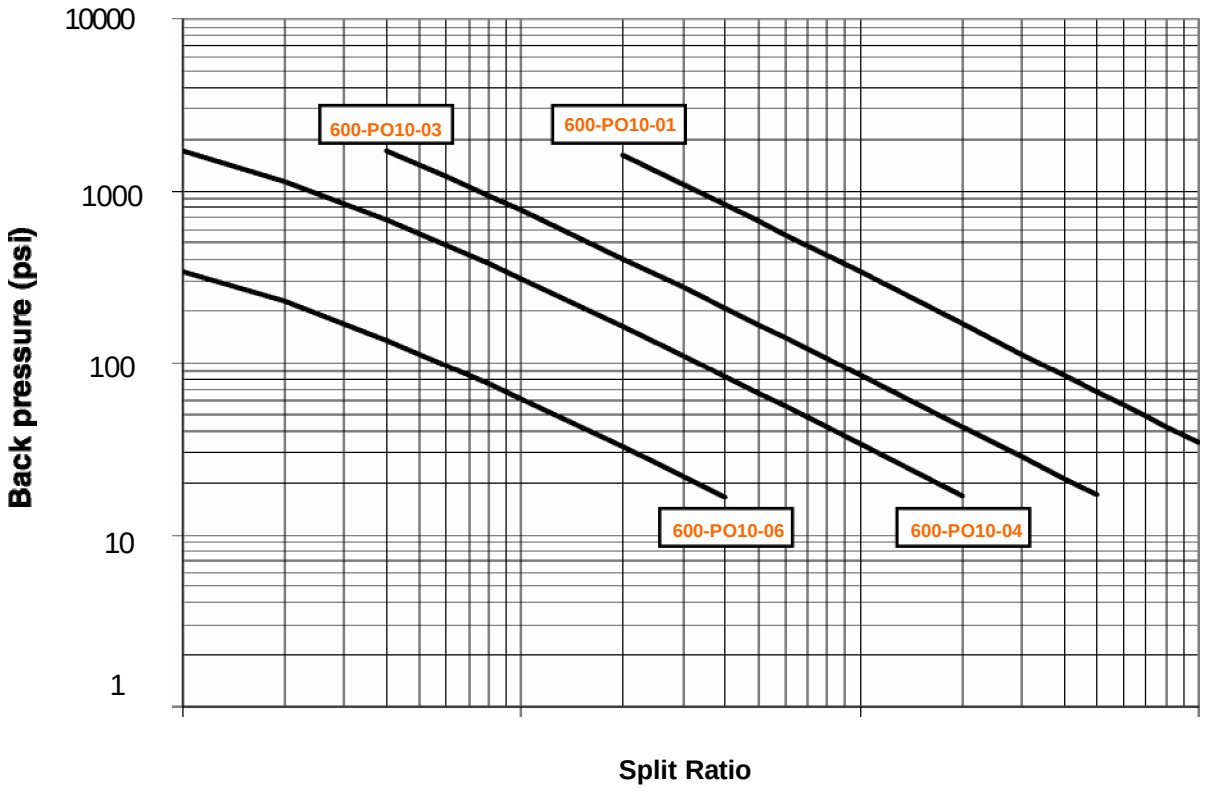


QuickSplit Adjustable Flow Splitter Selection Charts

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



Back pressure vs Split ratio for CAN / Water 50/50 at 0,5 mL/min. 600-PO10 Analytical range



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 28 and 29* 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.

Q *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 configu-ration for your application.

QuickSplit™ Adjustable Flow Splitters

Analytical Splitters

Analytical range, 0.125 mL/min. to mL/min. input flow

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

Adjustable Flow Splitter Accessories

Replacement Inlet Filters

Description	Flow splitter	ASI Part Number
Inlet filter, 2 micron, 0,063'' dia. 5 / Pack, 1ul Volume	Ajustable FS Post / Pre column Analytical Range	600-0063-2
Inlet filter, 10 micron, 0,125'' dia. 5 / Pack, 4ul Volume	Ajustable FS Post / Semi prep range & Prep range for 600-PO30 and 40	600-0125-10
Straight Thru Hole, No filter 5 / Pack, 1ul Volume	Ajustable FS Prep Range for 600-PO60	600-0063-2

Capillary Resistor

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

Flow Measurement Kits

Description		ASI Part Number
Flow Rate Range 5 µL/min. to 25 µL/min.	interfaces to 360 um 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