

## Hi-Flow Mini-Eductor

Introducing the High-Flow mini-eductor, the ASP-520R-series. A new mini-eductor designed for your most challenging applications.

For gases, the **Hi-Flow** generates high sample flow rates especially when exhausting to high backpressures. For liquids the **Hi-Flow** is crafted to perform efficiently with greater sample flow rates.

- gases in vent headers to be discharged to a flare
- analyzed samples returned to the process
- process fluids (gas or liquid) used for eductor motive source
- high vacuum/high flow to strip volatiles from process streams
- high dilution ratios with high sample flow
- compact design with integral compression fittings assuring no leaks

These are some of the performance requirements that this eductor was specifically designed to deliver. These and other needs have led to the development of the **Hi-Flow mini-eductor** in a compact design.

### Gases: High flow/high discharge backpressure

Often times due to environmental regulations, analyzed gas samples must be exhausted to a disposal system which has an elevated or fluctuating backpressure. Figure 1 illustrates the motive pressure required to deliver a sample flow of 1 LPM, the flow rate commonly used in ¼" sample transport lines, at elevated discharge pressures. The **Hi-Flow mini-eductor** will also produce much higher flow rates when needed, e.g. for longer transport lines (see Figure 2). This becomes important when exhaust from analyzer vent headers must be sent to a return that fluctuates in pressure, e.g. a plant flare. Vent pressure from the analyzers must be "isolated" from these pressure fluctuations to preserve the integrity of the measurement. This can be sent directly at a given pressure/flow or integrated into reactive systems that isolate the analyzer from fluctuating outlet pressures. This is done by controlling the pressure of the vent header and motive gas while pumping the effluent sample gases into the fluctuating return system. These systems not only deliver higher flow rates but react to the backpressure as well, automatically adjusting the motive air pressure while minimizing air usage.

Included below are performance curves for the "Hi-Flow mini-eductor" for gas and liquid use.

## Performance

Performance characteristics of the Hi-Flow are illustrated in the following graphs.

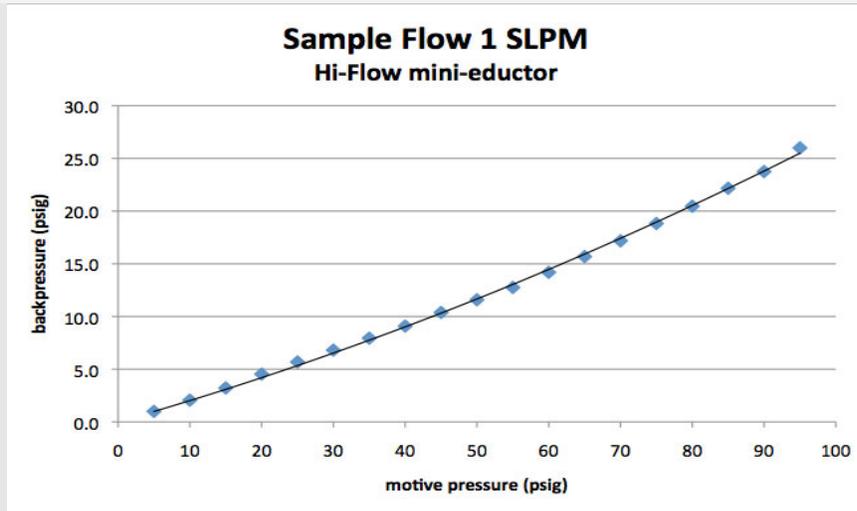


Figure 1: The above illustrates the required motive pressure for a range of educator discharge backpressures that will produce a sample flow of 1 SLPM

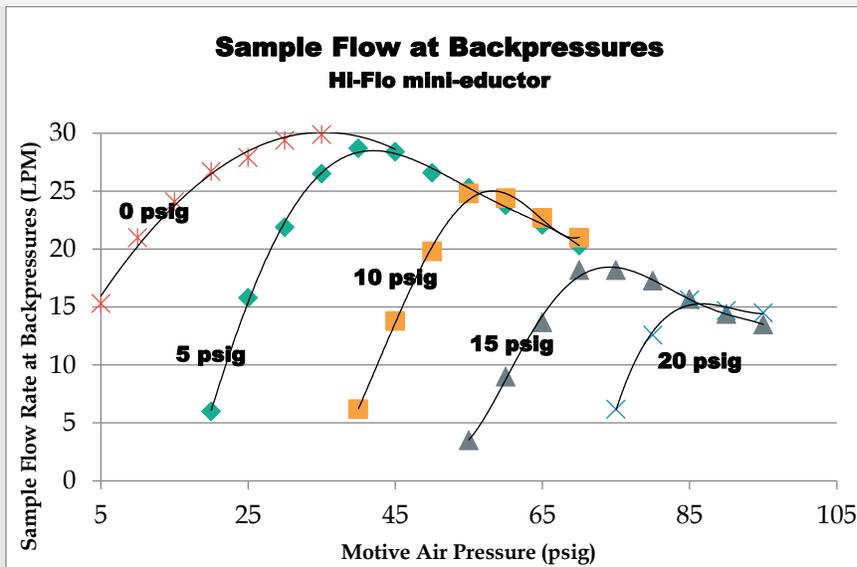


Figure 2: These curves illustrate the sample flow delivered at various motive pressures for an educator having an exhaust backpressure of 0 psig to 20 psig.

## Liquid samples:

When you have a liquid sample that must be “pumped” through an analyzer, an eductor offers a maintenance-free, inexpensive, intrinsically safe device that can be relied upon to deliver worry free service. Performance curves for the **Hi-Flow mini-eductor** are given in Figures 3 & 4.

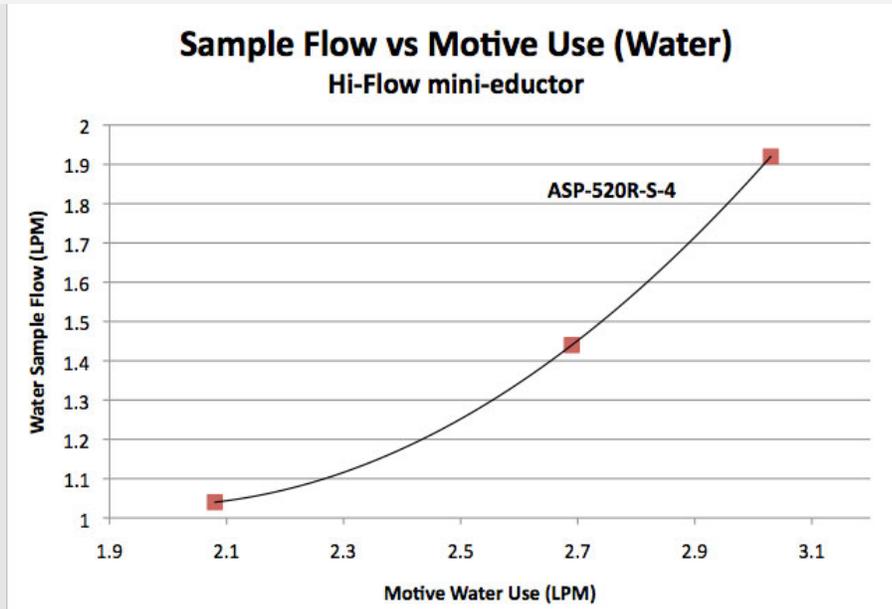


Figure 3: Water flow vs water pressure for the Hi-Flow mini-eductor (ASP-520R-S-4)

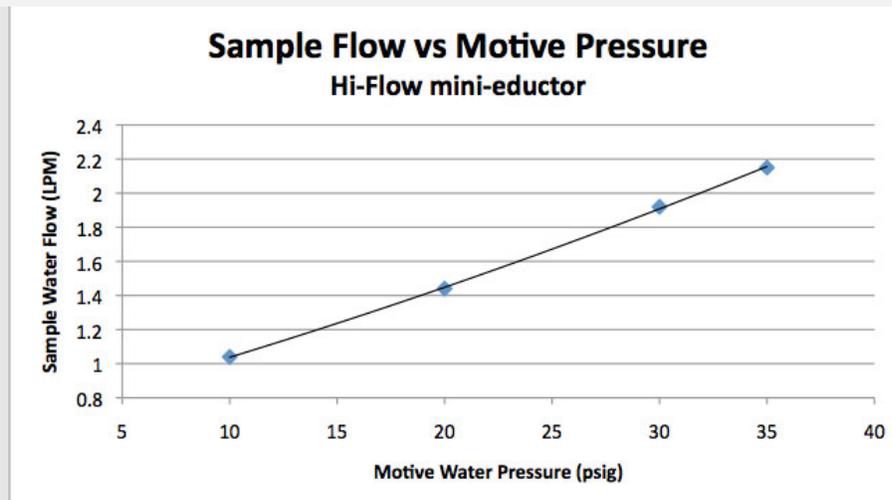


Figure 4: Sample flow vs water use for the Hi-Flow mini-eductor (ASP-520R-S-4)

**CAUTION:** When using an eductor with water or a process liquid stream, the system must be liquid-liquid. Use liquid as motive to educt a liquid sample. Do not mix gas and liquids. This is extremely inefficient or completely ineffective. Use water or process liquid for the motive force when educting a liquid sample.

## How to Order

Contact us at [steve@JacobsAnalytics.com](mailto:steve@JacobsAnalytics.com) \*protected email\* or call [423-967-2019](tel:423-967-2019) or fill out a [Request a Quote](#) form and we will be in touch with you shortly.