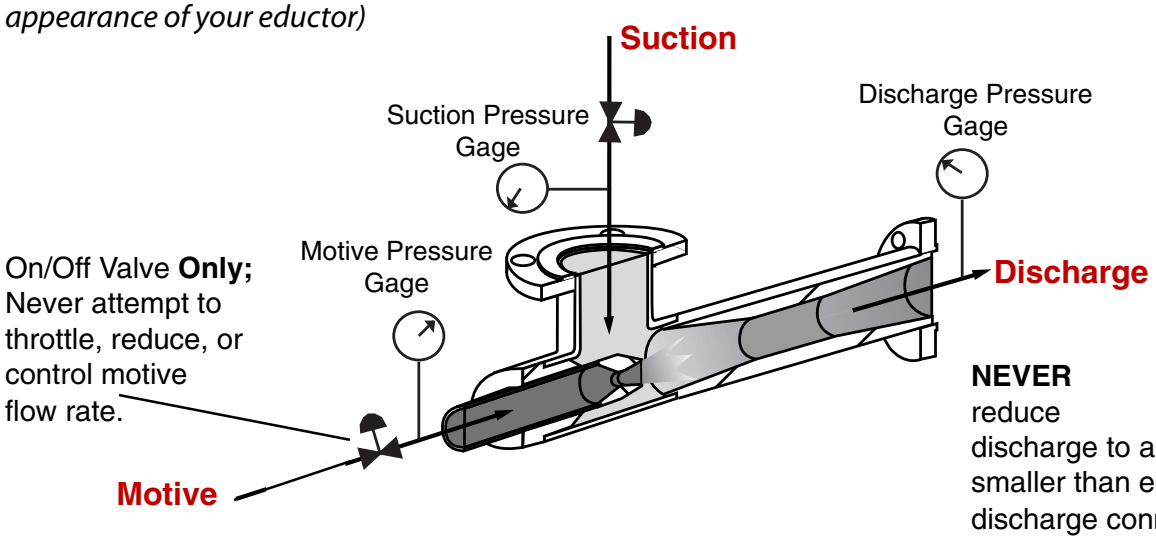
Fox Liquid Jet Eductors
Series 121-WJE

Used to Mix or Blend Liquids

Recommended Installation

(Diagram/illustration is for explanation purposes only and is not intended to represent the actual appearance of your eductor)



Installation of Fox Liquid Eductors

- ***Ejector Orientation***: This ejector can be installed and operated in any position - horizontal or vertical
- ***Mating piping*** : Use equal or larger line size for all three eductors connections. NEVER reduce discahrge pipping to a line size smaller than eductor outlet connection. (This may cause motive liquid to discharge out suction branch instead of creating suction.) Provide a 90° elbow downstream of the eductor to assure adecuate eductor priming.

Motive Liquid Line :

- Eductor performance is based on motive gas pressure as measured **at the eductor,** not at your liquid supply location somewhere else (header, pump, etc.).
- Motive pressure and flow rate can not be varied or controlled in any way.
- Motive pressure must be regulated to design pressure. You can't, for example, use unregulated city water. Choose the city water's lowest pressure and regulate to that pressure so eductor sees a constant inlet pressure.
- Motive liquid must be free of any solids - they will erode the motive nozzle

Suction Line:

- Minimize pressure losses by installing eductor as close to suction source as possible.
- Install a check valve on the suction line it it is critical to avoid even the slightest discharge out the suction port that may briefly occur during start-up, shut down or if you experience an unexpected surge in eductor discharge pressure
- The eductor does not control suction flow rate or final dilution ratio, but simply suck in fluid at its maximum rate. You must install a control valve on the suction port to limit, reduce or control suction flow rate or mixture ratio.
- Suction lift are limited to 25 ft WC at 80°F at notmal atmospehric prressure. The attainable lift is severly reduced if hot water or refrigerants with high vapor pressure are to be pumped.

Fox Venturi Eductors
from Fox Valve
Dover NJ USA
www.foxvalve.com

Discharge Line Installation

- Eductor discharge pressure is the single most important factor affecting the liquid eductor perfromance. Increasing the discharge pressure above the design conditions will result in deterioration of eductor perfromance. Discharge line size should be the same or larger tha ejector discharge connection. Avoid unnecessary restrictions, valves, filters, etc.

Operation of Fox Liquid Eductors

Start Up

- Open discharge line valve if applicable. Start the motive water supply and regulate the pressure to **design** pressure. (Motive pressure higher than design point will ***degrade***, not improve, eductor performance). Open suction valve(s) to allow liquid into eductor. The eductor should now performed as designed.

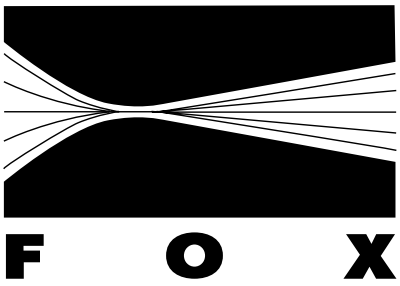
Maintenance and Troubleshooting

Fox eductors should be able to operate for long periods of time without maintenance.
Here's a Troubleshooting Guide:

- ***Eductor operation outside of initial design conditions:*** Call Fox
- ***Air leakage:*** Reduction in the perfroamnce can occur because air is leaking either inot the process or eductor. Check all seals, flanges, and piping on the vacuum side of your process.
- ***Wear on the motive nozzle:*** If the motive nozzle shows any signs of wear or erosion, it needs to be replaced. The nozzle should be checked when related equipment is inspected, or whenever performance or vacuum problems occur.
- ***Scale build up in the diffuser section of the ejector:*** Depending on the degree of build up this will produce instability and poor eductor performance.

Effect of Process Variables on Liquid Eductor Operation

- ***Effect of Motive Pressure:*** Using motive pressure below the design pressure will result in an abrupt loss of vacuum and suction capacity. Gradually increasing the motive pressure above the design pressure will result in gradual loss of capacity. The term 'suction capacity' refers to the volumetric flow rate.
- ***Effect of Discharge Pressure:*** Increasing the discharge pressure will result in abrupt loss of vacuum and suction capacity. Gradually reducing the discharge pressure below the design pressure will result in gradual loss of capacity. The term 'suction capacity' refers to the volumetric flow rate.
- ***Effect of Suction Load Changes (ie. suction liquid viscosity, vapor pressure)*** Viscosity of the fluids influence the performance of the eductor. Fluids with viscosity up to 100 centipoise behave according to our published water data. High liquid vapor pressure can cause noise and vibration of the eductor. If for any reason the liquid flashes the eductor will stop working.



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