

# Venturi User Guidelines

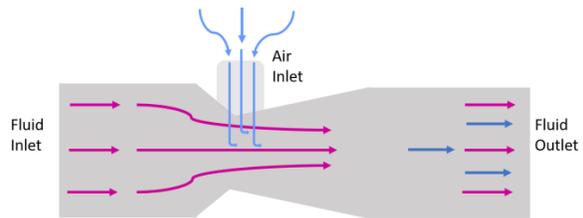
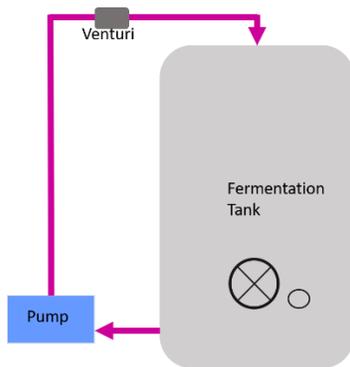


## Why Use a Venturi?

- Venturis are used most commonly to introduce air into the wine during fermentation, but can also be used for introducing other gaseous or liquid additives.

## How Does it Work?

- Venturis work by fluid dynamic properties (Bernoulli effect). As juice is pumped through the venturi, it is forced through a small diameter opening (towards the center of the venture, at the air inlet) that increases the speed of the juice. That increased speed comes at the expense of decreased pressure, creating a low-pressure zone that suctions air or other fluid from the outside of the venturi.
- Venturis are a completely passive system: you just need to move juice through the venturi, and the laws of physics do the rest.



## How to Use a Venturi

- Due to the fact that venturis operate as a passive process, they need to be as high on the fermentation system as possible so that no backflow occurs while they are inactive.
- Keeping the venturi at the highest point of your system also serves to decrease the amount of backpressure that the venturi is exposed to, which helps it to work most effectively.

## Common Issues and Troubleshooting

- **When my pump turns on, wine sprays out of the air inlet**
  - This means your system has too much back pressure downstream of the venturi. If you cannot change the location of the venturi, you can try increasing the pump speed and/or remove any excess bends or turns in the line after the venturi.
- **When my pump turns off, wine leaks out the air inlet**
  - This means that the venturi is not the highest part of the plumbing system, and the column of liquid above is sliding down and out the venturi once it is idle. You can move the venturi higher, add a simple check valve, or a stand-pipe on the air inlet that goes above the highest part on the system.
- **My venturi isn't pulling enough air into the system**
  - Venturis are directional; make sure you have it oriented correctly and have reduced the amount of downstream backpressure as much as possible. If that doesn't work, try increasing your flow rate, decrease the size venturi, or change the type of venturi.