Instructions:
Single Use FOSMOS Pouch

REV052025

INSTRUCTIONS FOR SINGLE USE FOSMOS POUCH – 100ml

The FOSMOS Concentrator Pouch is made from the following materials:

- Membrane is cellulose base – dried in food grade (kosher) glycerin.
- Pouch is polyester/polyethylene.
- No off-flavors will result in the contact of the pouch materials and wine.

Instructions:

Wine Concentration/Alcohol Reduction – 1000 ml trial

- Before first use, soak the pouch in a bucket of water (warm or room temperature) for 2 minutes or run under flowing warm water to ensure all glycerin is rinsed off the membrane. Once rinsed, use the bag IMMEDIATELY to avoid the membrane drying out, which will destroy the membrane.
- Prior to placing the pouch in the wine, weigh the pouch on a scale.
- Add 1000 ml of wine you are interested in trialing to a container (preferably with a lid). The container should be shaped to allow for the pouch to easily submerge in the wine solution.
- Once weighed, add the pouch to the wine ensuring the membrane side is completely submerged.
- The pouch is able to draw 50 – 100 ml of a water/alcohol solution within 1-2 hours from wine. This rate depends highly on the temperature and sugar content of the wine.

Alcohol Reduction Calculations:

Typically the pouch rejects around 20% of the ethanol from the wine. So let's assume you started with 15% ethanol by volume of wine, the amount of ethanol in the solution in the pouch will be 12%. We will work on this number.

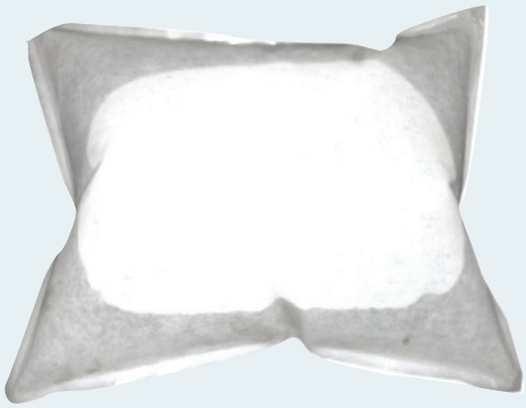
Water add back

To calculate the add back of water to the wine, you need to know how much liquid was removed. Lets say you removed 112 ml from 1000 ml of wine and we assume the ethanol concentration in the pouch is 12%. The amount of water to add back is:

- 112ml x 0.12 = 13.44 ml (alcohol removed from the wine)
- Amount of water to add back: 112ml - 13.44ml = 98.6 ml
- Add back 98.66 ml of water to the 888 ml of remaining wine. This will leave you with an alcohol content in the wine calculated as follows:
- Volume Alcohol in the original wine: 150 ml (1000 ml x 15%)
- Alcohol content removed from the wine: 150 ml – 13.44 ml = 136.56 ml
- Final alcohol concentration of wine: 136.56/(888+98.6) x 100 = 13.84%

Accuracy

- In order to improve trial accuracy, we would recommend running an alcohol analysis on the liquid in the pouch. That way you know the exact volume of ethanol removed from the wine.



Fully Hydrated Single Use FOSMOS Pouch

Instructions cont.

- Based on a starting volume of 1000 ml of wine, 100 ml permeate removed will be a 10% concentration.
- Move the bags around in the wine every 30 min or as often as possible to ensure no concentration pockets form, which will slow down the draw rate.
- The bag is fully hydrated when it has expanded completely. *See picture above*.
- Our recommendation is to remove the pouch from the wine prior to reaching this fully expanded point to avoid any fructose from making its way into the wine due to pressure fatigue at the seams.
- Once you believe a sufficient volume of liquid has been removed from the wine, remove the pouch from the wine solution. Now weigh it again. Don't be afraid to return the pouch to the wine if the weight is not where you need it to be.
- The weight difference of the pouch before and after is the amount of water/alcohol solution that has been removed from the wine. IF you are running concentration trials, you can determine the strength of the concentration by dividing the volume of permeate removed by the original starting volume of wine.
- If you are running alcohol reduction trials, please continue. If you are running wine concentration trials you are done!