

# Yops™ Technical Guide



## Yops™ characteristics

- Up to 1% terpenes in propylene glycol (depending on the blend)
- Density = 1.032 kg/L
- Viscosity = 43.43cP at 25°C (water = 1cP)

## Terpene considerations

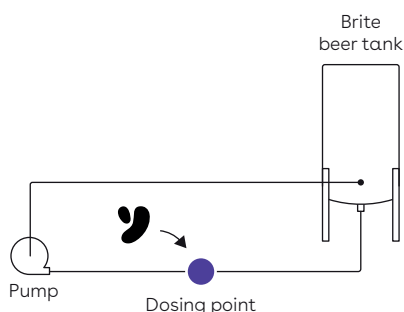
- Terpenes have a low density (~0.85 kg/L)
- Terpenes are lipophilic (oil loving)
- Remove solids (yeast, hop material, etc) prior to Yops™ addition, or risk scalping of the aroma compounds

## Step 1 - Select mixing method

Dosing should be made close to the final storage vessel to avoid stripping terpenes on suspended solids and beverage processing equipment. To guarantee proper mixing we recommend dosing Yops™ into transfer or recirculation flow. Dosing over time will lead to the most homogenous result.

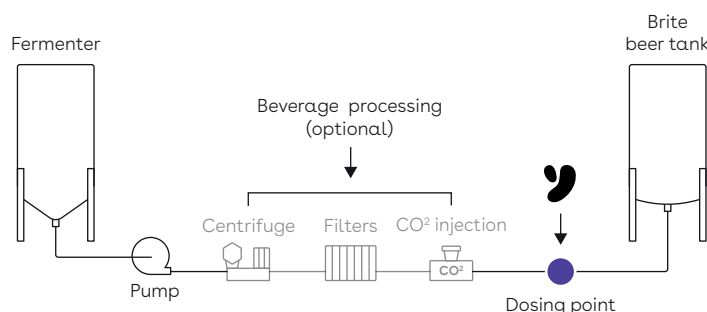
### Option 1 - Small beverage volumes

Recirculation method



### Option 2 - Any beverage volume

Transfer mixing method (preferred)

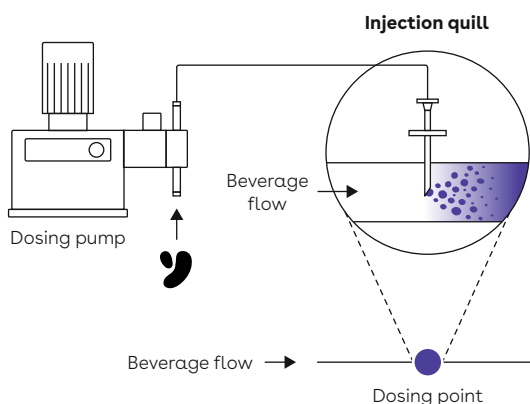


## Step 2 - Select dosing technology

Yops™ blends are ready to dose with or without prior dilution. Dosing method will depend on the technology available. Shake well before use. Minimize oxygen introduction wherever possible.

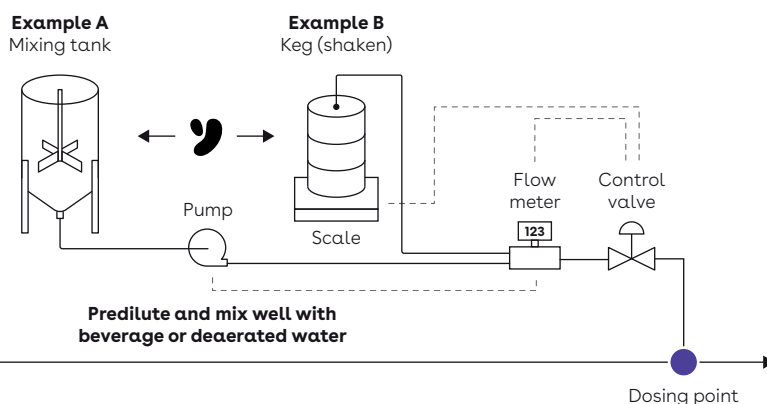
### Direct dosing

- Dosing/metering pump
- Consider adding Yops™ directly into the center of beverage flow through an injection quill



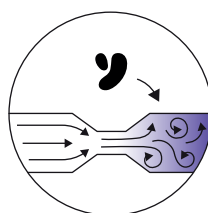
### Prediluted dosing

- Manual dosing or through an automatic blending system
- Mix Yops™ into a portion of the beverage or deaerated water
- Manage dosage by flow meter, vessel weight, or fill height

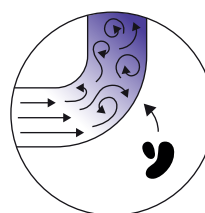


## Beverage flow considerations

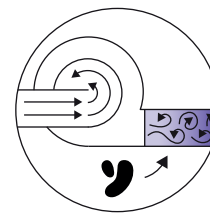
- Dose Yops™ into turbulent flow for maximum mixing
- Turbulent flow results from higher flow velocities and changes in flow direction



After a restriction,  
e.g. a venturi pipe



In the bend  
of an elbow



After a  
pump