

Pore decisions

Choosing the right filters for a beverage plant.

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When talking about beverages, water isn't just an ingredient — it's *the* ingredient. Put quite simply, if you don't have water, you don't have an alcoholic beverage or soft drink. Taking it a step further, if you don't

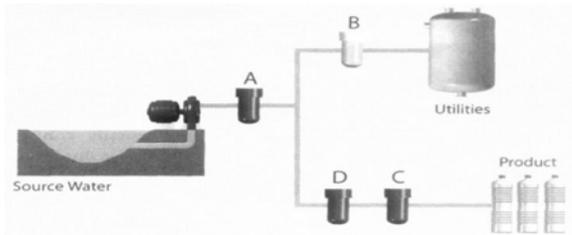
have high-quality water, you won't have a high-quality beverage. Regardless of the beverage produced, water is a critical raw material in producing what every marketer strives for — a unique product

signature.

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More than just equipment, beverage manufacturers and dealers servicing this market niche must be able to make educated decisions to meet the filtration and separations needs throughout the beverage production process.

Expertise of this type integrates treatment methods to allow companies to reduce total cost, enable new processes or products, and meet regulatory requirements.

Common water constituents and their potential effects

	Beer	Bottled Water	Juice	Soft Drinks	Tea
Hardness	pH affects bitterness	Moderate Hardness impacts taste	Can cause post precipitation and hazing	Can cause precipitates	Affects taste
Iron	Inhibits yeast, may cause gray discoloration and haze	"Tin" taste, affects plant fixtures and appearance	Affects taste and may cause clouding or hazing	Affects plant fixtures and product taste	Can be chelated by tea and later precipitation
Calcium		Calcium hardness has positive taste effects	Undesirable in clear juices	Can cause precipitation	Negatively impacts taste
Copper		Toxic at higher concentrations	May accelerate oxidation	N/A	Can be chelated by tea
Magnesium		Toxic at higher concentrations	Can cause post-bottling effects	Can cause precipitation	Negatively impacts taste
Manganese	Inhibits yeast, may cause gray discoloration and haze	Affects product appearance and plant fixtures	Creates a "speckled" effect	Affects plant fixtures and product taste	Can cause precipitation
Nitrate		Water is likely polluted, negative impact on taste and appearance	Negatively impacts taste, health concerns	Negatively impacts taste, health concerns	Negatively impact state, health concerns

Water quality challenges

Apart from the obvious health concerns, water quality is critical to the taste and appearance of any beverage.

In the beverage universe, a truly unique product signature is the painstaking result of a precise combination of liquid ingredients including flavors, additives, sweeteners, enhancers and water.

As the basis of any beverage, fluctuations in water quality affect taste, appearance and even safety. It can also affect the efficient operation of any bottling or production facility.

Feed water content and quality can vary according to raw water source and pretreatment. Since incoming water comes from many sources including municipal, groundwater, surface water