

Achieve high level CO₂ purity with

Wittmann Point-of-Use Purifiers

- **Large capacity filter element.**
 - Removes carbonyl sulfide and hydrogen sulfide.
 - Removes aromatic and volatile oxygenated hydrocarbons.
 - Allows high CO₂ flows at low pressure drop.
 - Permits a much smaller sized filter when compared to traditional carbon filters.
 - Filter media is completely contained in filter element – no loose carbon.
- **Filter housing flexibility and durability.**
 - Housing accommodates coalescing, activated carbon stages, and sulfur stages.
 - All Stainless Steel, corrosion free design.
 - High strength ASME vessel.
- **Filter designed for easy maintenance.**
 - Easy top loading access to filter element for quick change.
 - No messy carbon to change.
 - Lowest total maintenance costs.



WHY YOU NEED PURE CARBON DIOXIDE

To reduce batch contamination and product loss, effective purification of CO₂ is a must. Especially important in the food and beverage markets, pure CO₂ protects your products from the risk of contamination by sulfur compounds, aromatic hydrocarbons, aldehydes and potentially harmful submicron particle contamination and bacteria. These contaminants may cause off-flavors and spoilage problems that can quickly translate into product and dollar loss.

You may not now be adequately protected. Sophisticated quality testing equipment has shown that the commonly used activated carbon filters do not always effectively achieve the high quality gas as recommended in the ISBT CO₂ Guidelines.*

However, you can achieve this high level of purity when using a Wittmann Point-of-Use Purifier, which incorporates a unique combination of adsorbents (Sulfur Guard™) to remove the contaminants from CO₂ that most threaten food and beverage quality. The use of effective, economical filtration media specifically designed for CO₂ will help ensure that your product is protected from these contaminants.

HOW THE WITTMANN POINT-OF-USE PURIFIER DOES IT BETTER

The Wittmann Point-of-Use Purifier purifies CO₂ by removing sulfur compounds, aromatic hydrocarbons, and aldehydes, plus other potential contaminants, through chemical adsorption. The Wittmann Point-of-Use Purifier has been designed specifically to absorb the sulfur compounds, hydrogen sulfide (H₂S) and the particularly troublesome carbonyl sulfide (COS) that can be unpredictably present in CO₂. This special design also removes benzene, hexane, volatile oxygenated hydrocarbons, and some aldehydes more efficiently than traditional activated filters. Under typical levels of contamination, the filter cartridges should be changed every six months.

The Point-of-Use Purifier mechanism is irreversible. Its formulation of filter adsorbents has special properties that when

combined with activated carbon chemically converts H₂S and COS into a stable form. This ensures that the adsorbed contaminants will not de-sorb back into the pure CO₂ stream. Extensive testing both in the laboratory and in the field has shown that this technology is extremely effective.**

The adsorption filter is only part of the Wittmann Point-of-Use Purifier. In addition to the sulfur-adsorbing filter stage, there are other filter stages that include upstream coalescing filters to remove liquid water and oils and, if desired, an additional activated carbon filter can be added upstream of the special Point-of-Use Purifier to remove high levels of aromatic hydrocarbons. A final stage particulate filter will remove particles and bacteria down to the 0.2 micron level.

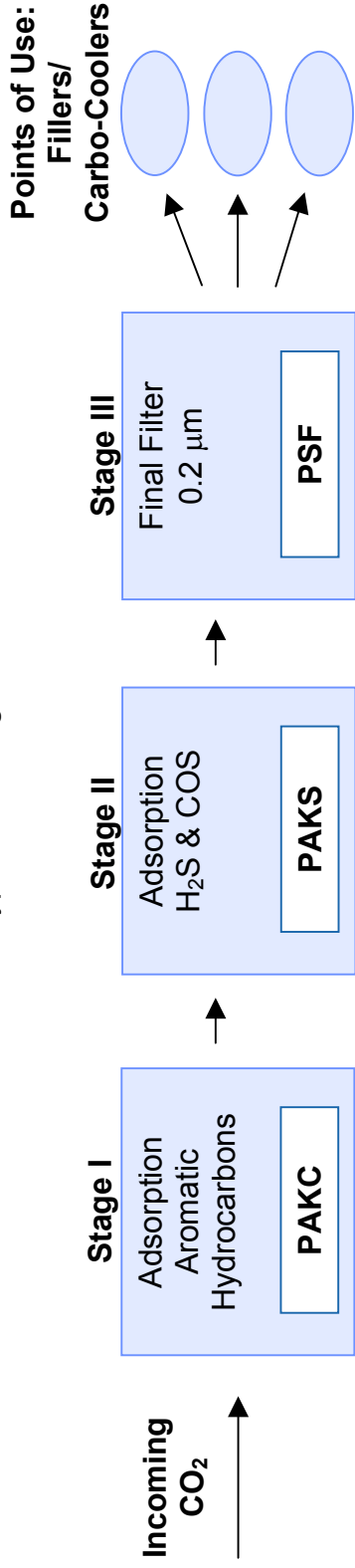
*ISBT Carbon Dioxide Guidelines, 1999, International Society of Beverage Technologists

**Evaluation of Filtration Material for Removal of CO₂ and H₂S from CO₂, 2000, AJE Testing and Research

™Sulfur Guard is a registered trademark of Micropure Filtration, Inc.

Wittmann Point-of-Use Purifiers

Typical Beverage Plant



FILTER STAGES

Stage I: Removes aromatic hydrocarbons

Stage II: Removes sulfur compounds, oxygenated aromatic hydrocarbons, and aldehydes

Stage III: Removes ultra fine particles, including potentially harmful bacteria

TECHNICAL DATA

Maximum Operating Pressure: 325 psig (22.4 Bar g)

Maximum Operating Temperature: 120°F (49°C)

Maximum Intermittent Temperature: 250°F (121°C)

Maximum Relative Humidity: 50%

Materials of Construction:

Filter Housing: 304 Stainless Steel

Filter Element: Galvanized Carbon Steel and Polypropylene

Gaskets: Fluoroelastomer

TYPICAL APPLICATIONS

- Soft Drink Production Plant
- Beer Production Plant
- Soda Fountain or Beer Retail Points-of-Use