



F I L T R A T I O N

Target Market:

Oil and Gas

Application:

Amine Gas Sweetening

Application Description

Natural gas is contaminated with a variety of materials including water, hydrogen sulfide (H₂S) and particulate. To be used efficiently without odor or dangerous chemicals, gas must be treated to remove these contaminants. Amine is a method used to remove the H₂S from the gas. By passing the gas through the amine, it removes the H₂S and much of the particulate from well dirt to pipe scale. Amine has great capacity for the H₂S, which makes its reuse economical. However, the particulate needs to be removed to improve the efficiency of H₂S removal and best maintain the amine system.

Material: Porous Polyethylene

Types of Filters Used

The most common type of filter used in amine gas sweetening applications is the sock-type or tubular depth cartridge (resin bonded or meltblown). The typical configuration is the 336 size.

Purpose of Filtration

The purpose of filtration is to remove particulate from the amine solution to allow efficient reuse.

Common Filtration-Related Problems

- **High Amine Usage** - Significant amine loss caused during filter change (sock and tubular depth cartridges hold amine at high capacity)
- **Particulate Passage** - Poor seals or inconsistent media porosity
- **Short Filter Life** - Low surface area filters
- **Low Flow Rate** - Low surface area
- **High Disposal Cost** - Low capacity filters without backflush capability

Sintered High-Density or Ultra-High Molecular Weight Polyethylene

FEATURE	ADVANTAGE	BENEFIT
Rigid, Omni-Directional Pore Structure		
• Absolute Ratings	• Consistent pore structure minimizes performance changes caused by differential pressure	• Reproducible performance
• Narrow Pore Size Distribution	• Highly-effective surface filtration for particles larger than the filter pore size rating	• Allows for effective cleaning, backwash and reuse
• Thermally-Bonded	• Sintered omni-directional pore structure	• No media migration, bypass or unloading from 5 to 100 microns
• Excellent Chemical and Thermal Compatibility	• High chemical resistance of HDPE and UHMWPE • Completely incineratable with a high BTU output	• No chemical degradation resulting in bypass or contamination of the process fluid • No incineration residue
Unique, Molded Radial Design		
• High Surface Area	• Low pressure drop and higher flow rate	• Increased life or fewer filters results in lower filtration costs
• Open Channels	• Easy access to filtration area	• Effective filtration and cleaning
• Single-Layer Structural Media	• Eliminates unnecessary support materials	• Improves backwash and cleanability
• Rigid, One-Piece Construction	• Multiple diameters, lengths and end configurations	• Easily adapts to existing filtration systems

PERFORMANCE COMPARISON

Rigid, Omni-Directional Pore Structure				Unique, Molded Radial Design			
POREX Radial Cartridge Filter vs	Sock Cartridges	Depth Cartridges	Pleated Cartridges	POREX Radial Cartridge Filter vs	Sock Cartridges	Depth Cartridges	Pleated Cartridges
Micron Rating	+	= / -	= / -	Backflushable	+	+	+
Absolute Filtration	+	= / +	= / +	Surface Area	+	+	-
Surface Retention	+	= / +	+	Molded Construction	+	+	+
Classification Filtration	+	= / +	+	Rigid Structure	+	= / +	+
Sintered Process	+	+	+	Open Pleats	+	+	+
Polyolefin Material	+	=	=	Disposal Cost	+	+	+
Chemical Compatibility	=	=	=	Performance Priced	+	+	+
Thermal Compatibility	=	=	=	Single Material	+	=	= / +
				Vessel Seal	+	=	=
				Housing Fit	-	=	=

Symbol Key: = Porex equivalent + Porex advantage - Porex potential limitation

