



F I L T R A T I O N

Target Market:

Pharmaceutical

Application:

Oral Dosage Filtration

Application Description

A variety of oral dosage products (mouthwashes, cough medicine, intestinal medicines, etc.) manufactured by pharmaceutical companies are either terminally sterilized by heat or use preservatives to maintain their biological stability. Although regulated by the FDA, these products still must be filtered to provide a visually acceptable product. There are no requirements for submicron filtration since the stomach and intestinal wall act as an effective barrier to non-viable particulate and the product is provided free of bacteria via non-filtration methods. Therefore, particulate filtration in the 1 to 10 micron range is usually sufficient.

Material: Porous Polyethylene

Types of Filters Used

The most common filters used in oral dosage filtration applications are depth or pleated polypropylene cartridges with ratings from 1 to 40 microns.

Purpose of Filtration

The purpose of filtration is to remove visible or smaller particulate that could make the product unacceptable to the consumer.

Common Filtration-Related Problems

- **Premature Plugging** - Low surface area filtration
- **Inconsistent Filtration** - Filter efficiency performance changes caused by filling machine pulsing and high differential pressure
- **High Filter Usage** - Low surface area and/or not backflushable
- **Fiber Migration** - Use of fibrous filters
- **Low Initial Flow Rate** - Hydrophobic polypropylene in small pore sizes resists the flow of aqueous liquid

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

POREX Radial Cartridge Filter vs	Depth Cartridges	Pleated Cartridges
Micron Rating	= / -	= / -
Absolute Filtration	= / +	= / +
Surface Retention	= / +	+
Classification Filtration	= / +	+
Sintered Process	+	+
Polyolefin Material	=	=
Chemical Compatibility	=	=
Thermal Compatibility	=	=

Unique, Molded Radial Design

POREX Radial Cartridge Filter vs	Depth Cartridges	Pleated Cartridges
Backflushable	+	+
Surface Area	+	-
Molded Construction	+	+
Rigid Structure	= / +	+
Open Pleats	+	+
Disposal Cost	+	+
Performance Priced	+	+
Single Material	=	= / +
Vessel Seal	=	=
Housing Fit	=	=

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

