

Depth-Clear™ D Series

Disposable Containment System featuring Purolator's Depth-Clear Media



Description

The Depth-Clear™ D Series containment system with the complementary housing completely encloses the lenticular filter cartridge eliminating the potential for atmospheric contamination, product loss, and virtually eliminates the cleanup associated with cartridge change outs. Each cartridge is enclosed within two layers of protective film isolating the cartridge from the housing with an impermeable barrier that minimizes operator exposure to hazardous fluids. The cartridge compression is preset insuring proper cartridge sealing and the reduced fitting requirements add to the ease of change-outs. When a vacuum is applied to the downstream side of the filter, the flexible containment system conforms to the filter cartridge evacuating the remaining fluid and resulting in a negligible hold up volume. This containment system is available in 0.15 – 20 µm and carbon Depth-Clear grades. The Depth-Clear D Series housing requires little maintenance due to the absence of o-rings and gaskets and is available in stainless steel and other alloys that can withstand pressures up to 75 psi.

The unique design of the Depth-Clear D Series containment system along with the accompanying housing has the ability for scale-up. When process needs become greater, the modular containment system can be expanded, doubling, or tripling the original effective filtration area while still retaining the original footprint.

The Depth-Clear D Series filter cartridges are constructed of specially formulated cellulose and inorganic filter aids to provide reliable particle retention and enhanced throughput for superior performance in critical applications. The filter medium utilizes mechanical and electrokinetic adsorptive capture mechanisms to remove particles, microorganisms, colloids, and other contaminants from process streams. The Depth-Clear D Series proprietary formulation process produces filter media with a highly effective filtration area that provides superior particle retention, high contaminant holding capacity, and long on-stream filter life.

Features and Benefits

- High surface area encapsulated depth filter modules provide superior filtration performance and long on-stream life cycles.
- Disposable design eliminates need for housing CIP and cleaning validation.
- Protects operators from exposure to hazardous substances.
- Low hold-up volume for greater product yield.
- Easy to handle and install allowing for quick change-outs.
- Expandable design offers scalability from 19 ft² to 57 ft² of effective filtration area.
- All materials conform to FDA guidelines regarding material contact in food and beverage processing.
- Materials of construction are FDA approved for food and beverage contact under CFR Title 21.

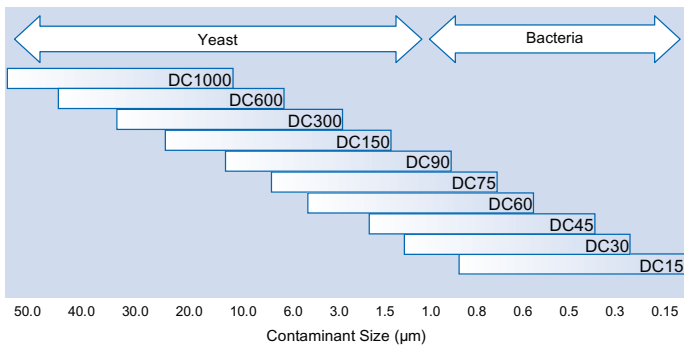
Applications

- Beer
- Wine
- Juices, Cider
- Brines, Broths, Edible Oil
- High Fructose Corn Syrup
- Inks and Dyes
- Chemicals
- Resins
- Varnishes
- Fragrances

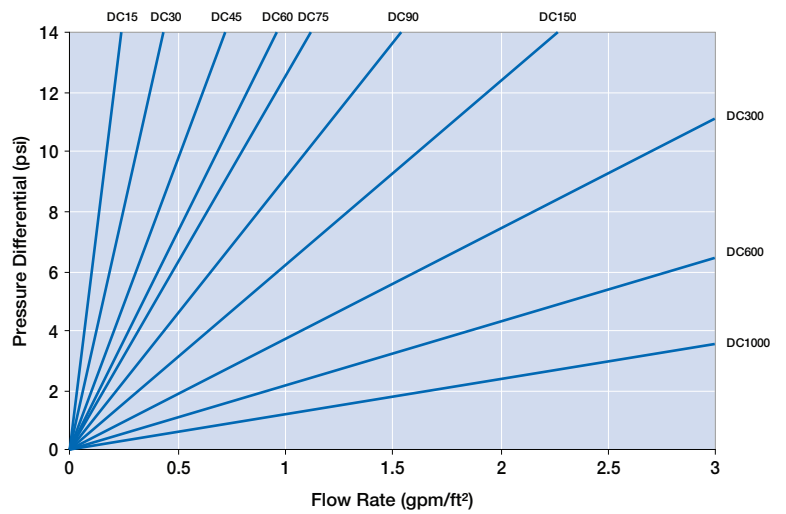
Materials of Construction

| | |
|------------------------|-------------------------------------|
| Filter Media | Cellulose, DE, Binding Resin |
| Spacers, Endcaps, Core | Polypropylene |
| O-Rings/Gaskets | EPR, Silicone, Nitrile, Viton, PTFE |
| Internal Support Bands | Stainless Steel |
| Bag | Polyethylene, EVOH/Nylon |

Liquid Removal Efficiency



Water Flow Rate



Operating Conditions

| | |
|----------------------------|--|
| Differential Pressure | to 35 psid (2.5 bar) at 140 °F (60 °C) |
| Max. Operating Pressure | 75 psi at 115 °F (46 °C) |
| Max. Operating Temperature | 158 °F (70 °C) at 45 psi |
| Recommended Flow Rate | 0.5 to 1.0 gpm/ft² |

Nominal Dimensions

| | |
|------------------|------------------------|
| Nominal Height | 14.0 inches (355 mm) |
| Nominal Diameter | 11.125 inches (283 mm) |
| Filtration Area | 19 ft² (1.8 m²) |

Cartridge Selection Guide

| Media | Micron Rating | Series | Diameter | # of Cells | Gasket Material | Bag Type | Bag Layers | End Fitting |
|------------------|--|--|-----------------|----------------|--|------------------------------|--------------|-----------------------------|
| DC | 30 | KS | C | 16 | 03 | E | 2 | P |
| DC = Depth Clear | 15 = 0.15 µm 30 = 0.3 µm 45 = 0.45 µm 60 = 0.6 µm 75 = 0.75 µm 90 = 0.9 µm 150 = 1.5 µm 300 = 3.0 µm 600 = 6.0 µm 1000 = 10.0 µm 2000 = 20.0 µm 1064 = Carbon | KS = Standard KSA = H ₂ O Absorbant KC = Carbon | C = 11 1/8 inch | 16 32 48 | 01 = EPR 03 = Silicone 04 = Nitrile 08 = Viton 09 = PTFE | E = Polyethylene EVOH /Nylon | 2 = 2 Layers | P = 3/4" Straight Hose Barb |

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LIQUID PROCESS
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