

Optimize Process Filtration with High Integrity Metallic Cartridges

Clark-Reliance Filtration Group stainless steel cartridges provide the optimum filtration solution for fluids and gases in high temperature and high flow rate applications.

Available in a cylindrical or pleated design, cleanable stainless steel cartridges are the logical choice when natural and synthetic media cartridges cannot meet aggressive process conditions.

Clark-Reliance Filtration Group reusable 304 and 316 grade stainless steel cartridges offer versatility of choice with fourteen nominal particle removal ratings, six standard lengths and a variety of end configurations and seal materials.

Applications

- Heat Transfer Fluids
- Process Steam
- Hot Melt Processes
- Viscous Fluids
- Corrosive Fluids
- Hot Wax
- Aggressive Gases
- Catalyst Recovery
- Polymer Filtration
- High Temperature Processes
- Caustic Cleaning Solutions



Features and Benefits

- Temperature capability up to 500°F with synthetic seals; up to 1500°F with NPT connections.
- Available in 304 and 316 stainless steel for compatibility choice with aggressive chemicals.
- Available in fourteen nominal ratings from 2 to 840 microns for a wide range of particle size removal.
- Dimensional integrity of stainless steel media accommodates high flow rate and high temperature systems.
- Cartridges may be cleaned and reused.
- Available with a wide range of grommet and o-ring materials to optimize fluid and temperature compatibility.
- Variety of seal configurations allow retrofit in many filter vessel designs.
- Welded and crimped construction eliminates the need for adhesives which can be a contaminant source and limit temperature range.
- Pleated surface maximizes filtration area for longer service life.
- Plain (cylindrical) surface provides ease of cleaning.
- Optional perforated stainless steel pleat protectors minimize handling damage.
- Meets FDA guidelines for use with potable and edible liquids.



WARNING! FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.
 This document and other information from Clark-Reliance Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection for the products and systems and assuring that all performance, safety and warning requirements of the application are met.

Met-EI Pleated & Cylindrical Series

Specifications

Particle Removal Ratings (Nominal):

- 14 ratings from 2 to 840 micrometers

Effective Filtration Area:

- Cylindrical: 0.5 ft²/10 in length (465 cm²/254 mm)
- Pleated: 1.7 ft²/10 in length (1580 cm²/254 mm)

Material of Construction:

- Filter Medium: stainless steel wire cloth
- Structural Components: 100% stainless steel
- Seal Materials:
 - Grommets: Buna-N, Viton, PTFE, EPDM
 - O-Rings: Buna-N, EPDM, Viton, PFA encapsulated Viton
- Construction Method: Welded and crimped (no adhesives)
- Meets FDA guidelines with optional seal materials ("F" Code).

Dimensions:

- Outside Diameter:
 - Cylindrical: 2-1/2 in (64 mm)
 - Pleated: 2-5/8 in (67 mm)
- Inside Diameter: 1-1/16 in (27 mm)
- Lengths (nominal): 10, 20 and 30 in
- Grommet: 1-1/16 in (27 mm) ID x 1-7/8 in (48 mm) OD

Maximum Recommended Operating Conditions:

- Temperature:
 - 1500°F (816°C): NPTF and NPTM styles only
 - 500°F (260°C): Any cartridge style with PTFE grommet
 - 400°F (204°C): Any cartridge style with Viton or PFA encapsulated Viton seal material
 - 300°F (149°C): Any cartridge style with EPDM seal material
 - 250°F (121°C): Any cartridge style with Buna-N seal material
- Differential Pressure:
 - Standard core: 60 psid (4.1 bar)
 - High pressure core: 300 psi (20.7 bar)
- Flow Rate: 10 gpm (38 lpm) per 10 in cartridge
- Changeout ΔP: 35 psi (2.4 bar)

Removal Rating/Mesh Count/Open Area

Micrometer Rating Nominal/(Absolute)	Mesh Count (per inch)	Per Cent Open Area
2 (9)	325 x 2300	NA
5 (14)	200 x 1400	NA
10 (18)	165 x 1400	NA
20 (32)	200 x 600	NA
40 (55)	120 x 400	NA
75	190 x 200	35
100	30 x 150	31
150	90 x 100	33
190	70 x 80	35
230	50 x 60	41
280	40 x 50	35
370	40 x 40	36
540	30 x 30	45
840	20 x 20	52

Ratings From 2 - 40 micrometers are twill dutch weave pattern
Ratings From 75 - 840 micrometers are open square weave pattern

Flow Factors

Length (in)	Flow Factor
9 3/4, 10	0.00036
19 1/2, 20	0.00076
29 1/4, 30	0.00116

Note: Flow factors are the same for all ratings. Center core ID and length are primary flow restrictions.

Flow Rate and Pressure Drop Formulas:

$$\text{Flow Rate (gpm)} = \frac{\text{Clean } \Delta P}{\text{Viscosity} \times \text{Flow Factor}}$$

$$\text{Clean } \Delta P = \text{Flow Rate} \times \text{Viscosity} \times \text{Flow Factor}$$

Notes:

- Clean ΔP** is PSI differential at start.
- Viscosity** is centistokes.
Use Conversion Tables for other units.
- Flow Factor** is ΔP/length at 1 cks viscosity and 1 gpm flow rate.

Ordering Information

Refer to price book page 58 for Ordering Information