



# FILTER-MART UltraBond® POLYPROPYLENE FILTER CARTRIDGES



**UltraBond®** filter cartridges remove particulate more completely and over a longer period of time than any wound, molded spun type filter currently available. Filter-Mart's **UltraBond®** elements offer high performance due to a closely controlled melt blown manufacturing process. These cartridges consist of fibers that are very fine in diameter which build up the spun bonded layers of the media, thus providing the filter its depth. This process results in an

element with an excellent consistency of pore sizes that offer high void volumes.

The outer layers of our **UltraBond®** elements consist of grated pores that act as a prefiltration section. These grated pores remove large particles from the stream, thus leaving smaller particles to be trapped by the inner layers of the element.

The melt blown construction of **UltraBond®** elements assures that the pores remain fixed at their manufactured size, thus maintaining lower pressure losses throughout their life. This process also assures that the element has a high dirt holding capacity and a much longer service life.

**UltraBond®** cartridges are the only depth filters with absolute removal ratings ranging from 0.5 to 90µm, for the results you require. The high quality filtration of polypropylene media will assure you that these cartridges will not produce media migration or unloading. This media provides a large range of fluid compatibility.

There is not another filter in this class that lasts longer or filters as efficiently as the **UltraBond®** polypropylene filter cartridge!

# FILTRATION EFFICIENCY

| Particle Removal Rating |           |          |
|-------------------------|-----------|----------|
| Beta=5000               | Beta=1000 | Beta=100 |
| 0.5                     | 0.4       | <0.4     |
| 1                       | 0.9       | 0.5      |
| 3                       | 2.8       | 1        |
| 5                       | 3.7       | 2        |
| 10                      | 9.1       | 8        |
| 20                      | 18.3      | 13       |
| 30                      | 25.0      | 20       |
| 50                      | 45.0      | 30       |
| 70                      | 60.0      | 50       |
| 90                      | 80.0      | 70       |

**UltraBond®** elements are absolute rated 99.98% efficient filters. This corresponds to a beta value = 5000. Beta value is the ratio of the particle count at specified particle size and larger upstream against the number of the particle count at specified size and larger downstream of the filter. **UltraBond®** efficiency tests were conducted by passing STFD (Super Fine Test Dust) at a flow rate of 2.5 GPM (9.5 LPM), with particle counters reading the upstream and downstream particle levels. These tests were carried out in accordance with the following recognized filter standards:

## FLOW PERFORMANCE

The semi rigid type of construction and high void volume of **UltraBond®** accounts for the excellent flow versus delta pressure characteristics seen in the table below. The results are based on clean water at 25°C, viscosity 1 Centipoise, through a single length 10" (254 mm) element. The differential pressure loss at other viscosities can be estimated by multiplying the delta pressure shown by the viscosity in Centipoise.

## FEATURES & BENEFITS

- Single component construction simplifies compatability options and provides easy disposal.
- Polypropylene construction provides broad chemical compatability for a variety of applications.
- Fixed pore structure provides efficiency, integrity and optimum particle retention.
- Thermally bonded melt blown fiber matrix provides dimensionally stable construction.
- Narrow range fiber size optimizes consistency of filtration performance.
- Superior inter-layer bonding eliminates contaminant unloading and channeling.
- Finish-free construction provides optimum fluid purity and eliminates contaminant foaming condition.
- Continuous fiber matrix prevents media migration and ensures consistent quality filtration performance.
- All materials used in the construction of **UltraBond®** elements are FDA approved.

| Micron | PSI/GPM<br>Per 10"<br>Cartridge |
|--------|---------------------------------|
| 0.5    | 2.5                             |
| 1      | 1.5                             |
| 3      | 0.8                             |
| 5      | 0.5                             |
| 10     | 0.3                             |
| 20     | 0.2                             |
| 30     | 0.15                            |

## APPLICATIONS

- Bleach
- DI Water
- Potable Water
- Oil Field Fluids
- R.O. Pre-filtration
- Plating Solutions
- Organic Solvents
- Food and Beverage
- Membrane Pre-filtration
- Chemical Processing Fluids
- Photographic Chemicals

## DIRT HOLD CAPACITY

The dirt capacities shown in the table were obtained with a 0.07 gram/liter concentration of SFTD in water. The water was run until the differential reached 1.5 bar (22 PSI). The tests were performed at three different flow rates. In practice the dirt holding capacity will depend on many variables in the system, which could result in higher or lower capacities than shown.

| Micron | Flow rate LPM (GPM) |          |          |
|--------|---------------------|----------|----------|
|        | 5(1.32)             | 10(2.64) | 15(3.96) |
| 1      | 65                  | 55       | 45       |
| 5      | 72                  | 60       | 50       |
| 10     | 85                  | 75       | 65       |