

FILTRATION CARTRIDGES

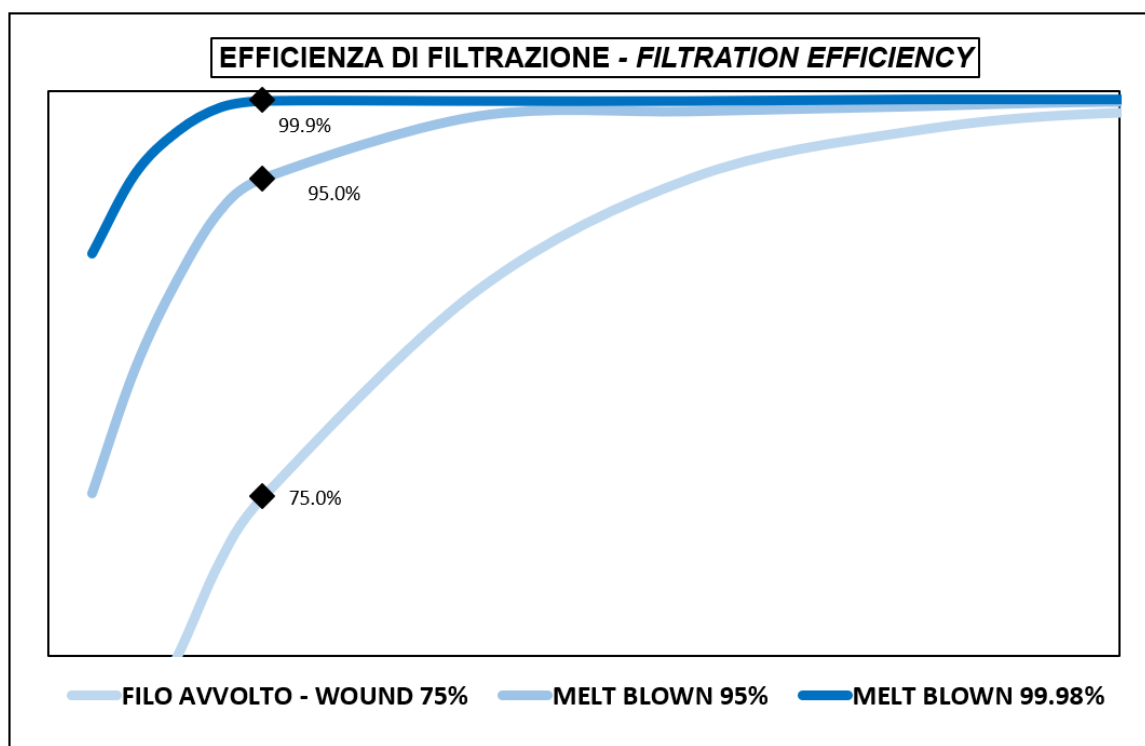
TECHNICAL INFORMATION 2

COMPARISON STRING WOUND FILTRATION CARTRIDGES – MELT BLOWN FILTRATION CARTRIDGES

Filtration is an important step for the R.O. membranes protection from clogging caused by suspended solids. For this kind of operation generally we use depth filters that are able to accumulate contaminants on all the thickness of the item and not only it's surface. This allows depth filters to last much longer than surface filters. For this reason, when we talk about depth filters, we consider the filtration volume and not the filtering surface.

There are two main kinds of depth filters:

- String Wound Cartridges;
- Melt Blown Cartridges.



String Wound Cartridges

These filters are made of winding yarn – usually polypropylene – wrapped around a central core to create a solid structure that is able to block contaminants. During the winding process, each yarn layer is wrapped over the one underneath but it is never fixed where to two layers touch each other. The micron range depends on to the winding density and on the tension and torsion given to the yarn.

For this reason, it's quite evident that due to their structure, these filters can't provide a high performance. In fact, during operation process, the pressure tends to open the yarns creating gaps wider than the actual porosity indicated on the filter and the blocked contaminants will be able to drain downstream.

These are the main reasons why these filters can't guarantee the SDI value requested for a proper protection of the R.O. membranes. Moreover, no membrane producers will guarantee the correct product's performance with this kind of filtration pre-treatment.



Melt Blown Cartridges

These filters are manufactured with a special process during which polypropylene is mixed with hot compressed air and stratified through a continuous and constant movement around a rigid core, that by rotating upon itself, induces the fibers to continuously intersect and cross each other.

Polypropylene fibers that are heated to their melting point, weld to each other during the cooling process and create a rigid structure that will not drain the contaminants accumulated.

This procedure gives the cartridges a filtration uniformity on all their volume with a high-performance reproducibility during all their working life.

These are the main reasons why such filters guarantee SDI value requested to protect R.O. membranes. They allow SDI value < 3.

A further achievement for melt blown depth filters has been reached with the introduction of filters having a diameter larger than standard cartridges (diameter 63-70 mm) such as Everblue's filtration cartridges BIG model (diameter 120 mm), Filterone model (diameter 5,5") and CL model (diameter 6").



These new cartridges, that have the same performances seen above, combine the perfect filtration efficiency of melt-blown cartridges to a higher capacity of retaining suspended solids.

These cartridges guarantee high capacity and allow you to build installations and plants with a smaller footprint and at a lower price as each cartridge can be installed inside the polypropylene container.

This leads to lower investment cost and maintenance cost. In fact, it takes only a few minutes to change one Filterone, while to change a standard set of filters could take hours.

Both theoretical calculation and on-site tests confirm that in specific conditions one Filterone filter is able to replace 7 standard filters with the same porosity and length (typically 40").

Warning

All the information indicated above are the result of Everblue's research and experience. The communication here attached cannot be used to raise any claim for liability or warranty.

All warranties on performances must be officially confirmed and written by Everblue on specific request of our client.

For each order, we invite you to ask Everblue for a written confirmation about warranty performance.

It is responsibility of the manufacturer of the plant or the user to verify the efficiency and the result of the application also with the use of pilot plants.