

# LENNTECH

info@lennotech.com Tel. +31-152-610-900  
www.lennotech.com Fax. +31-152-616-289

# Micro-Klean™ RW Series Depth Filter Cartridges

## Micro-Klean RW Filter Cartridges Advanced cartridge filter technology for optimum RO membrane system protection

3M Purification has developed a line of filter cartridges, the Micro-Klean RW Series, formerly known as PolyKlean RW, specifically designed for greater protection of RO membrane systems.

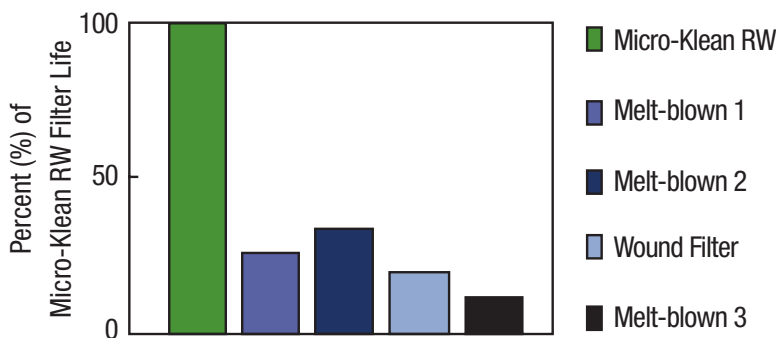
Micro-Klean RW Series cartridges, manufactured using 3M Purification's rigid extrusion bonded technology, are all-polypropylene depth filters offering the following premium features:

- consistent particle removal efficiencies throughout the filter's life,
- increased surface area for extended filter life and
- low initial pressure drop for enhanced flow.

### Superior contaminant holding capacity = longer service life = fewer filter change-outs

3M Purification's manufacturing process allows grooves to be machined into the upstream filter surface, without tearing or melting the filter structure, providing for more than double the effective surface area than non-grooved filters. Also, unlike soft melt-blown and string-wound filters that require core support, the Micro-Klean RW filter is self-supporting. The increase in surface area prevents premature blinding of the outer surface by large particles and promotes fuller utilisation of the depth matrix, resulting in significantly longer life than competitive filters (see graph 1).

Graph 1: Life Comparison of Micro-Klean RW



### Consistent particle removal efficiency = improved RO membrane protection

The rigid Micro-Klean RW structure resists deformation, filter by-pass, compression and particle unloading. This allows Micro-Klean RW filters to achieve excellent filtration efficiency up to a differential pressure of 2.4 bar while other "flexible" competitive melt blown and string wound filters exhibit significant drops in removal efficiency at much lower differential pressures ( $\leq 0.68$  bar).

### Lower initial differential pressure = smaller filter housing requirements

The unique design and construction of the Micro-Klean RW filter results in significantly lower pressure drop when compared to competitive filters. For a given differential pressure, Micro-Klean RW filters yield flows up to ten times that of competitive melt blown and string wound filters. When sizing a system for a given process flow rate, this translates into lower capital investment for filter housings and fewer cartridges to purchase.



## Features and Benefits

### Rigid depth filter construction

- Reduced possibility of filter unloading at higher differential pressures
- Improved protection of downstream RO membranes

### Enhanced contaminant holding capacity

- Fewer filter change-outs
- Reduced manpower requirements

### Coreless filter structure

- Ease of disposal via incineration or shredding

### All polypropylene construction

- Approved for use in potable water applications (ANSI/NSF Standard 61 certified)

### 2.5" outer diameter specification

- Fits through mid-plates used in large horizontal filter housings

# Micro-Klean™ RW Series

Depth Filter Cartridges

## Specifically for use in pre-RO Systems

Micro-Klean RW cartridges are specifically designed for use in large industrial filter housings typically used for pre-treatment before RO membrane systems. The outer diameter specification of 2.5" ensures that the filters will comfortably fit through support mid plates frequently used in large horizontal housings. Micro-Klean RW cartridges are available in double open end (DOE) and single open end (SOE) configurations. The SOE configurations include plastic flat end cap and integral plastic spring cap versions for effective sealing of the cartridges in the housings.

Micro-Klean RW filter cartridges are certified to ANSI/NSF Standard 61 making their use acceptable for use in potable water systems.



This Micro-Klean RW Series filter is tested and certified by WQA against NSF/ANSI Standard 61. For Material Requirements Only.

| Table 1: Micro-Klean RW Filter Specifications  |  |
|--|--|
| <b>Construction</b>  |  |
| Filter Media, End Connector  | Polypropylene  |
| Gaskets & O-ring Options   | Nitrile  |
| <b>Operating Conditions</b>  |  |
| Maximum Operating Temperature  | 80 °C  |
| Maximum Differential Pressure  | 1.0 bar at 80 °C - 1.7 bar at 60 °C - 4.1 bar at 20 °C |
| Recommended Change-out Differential Pressure   | 2.4 bar at 20 °C                                       |
| <b>Cartridge Dimensions</b>  |  |
| Inside Diameter (nominal)  | 28 mm  |
| Outside Diameter (nominal)   | 64 mm  |
| Length (nominal) - see ordering guide  | 30" - 40" (762 - 1016 mm)                              |
| <b>Regulatory</b>  |  |
| Materials used in the manufacture of Micro-Klean RW filters meet the requirements of USFDA 21 CFR for food and beverage contact. |  |
| Micro-Klean RW filters have been certified to ANSI/NSF Standard 61.  |  |

## Micro-Klean RW Filter Cartridge Ordering Guide

| Cartridge Type         | Length               | Grade                | Material           | Surface     | Packaging | Ring Support | End Modification   |
|------------------------|----------------------|----------------------|--------------------|-------------|-----------|--------------|--|
| RW -<br>Micro-Klean RW | 30 - 30"<br>40 - 40" | Y - 1 µm<br>B - 5 µm | 17 - Polypropylene | G - Grooved | 2 - Bulk  | 0 - None     | NN - None<br>FD - 222 O-ring (Nitrile) & Flat Cap<br>1D - 222 O-Ring (Nitrile) & Spring Cap<br>RN - Spring Cap |

Note: Micro-Klean RW is new name for PolyKlean RW.

|   |
|---|
| <p><b>Important Notice</b><br/>3M Purification MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Since a variety of factors can affect the use and performance of a 3M Purification product in a particular application, some of which are uniquely within the user's knowledge and control, user is responsible for determining whether or not the 3M Purification product is fit for a particular purpose and suitable for user's method of application.</p> <p><b>Limited Warranty</b><br/>3M Purification warrants it this product to be free from defects in material and workmanship during normal use for a period of one (1) year from the date of shipment from the factory. If the Product(s) is (are) defective within this warranty period, your exclusive remedy and 3M Purification's sold obligations shall be, at 3M Purification's option, to replace or repair the Product(s) or refund the original purchase price of the Product(s) This warranty does not apply to failures that result from abuse, misuse, alteration or damage not caused by 3M Purification or failure to properly follow installation and use instructions.</p> <p><b>Limitation of Liability:</b> 3M Purification will not be liable for any loss or damage arising from the use of the Product(s), whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.</p> <p>This warranty gives you specific legal rights and you may have other rights which vary from state to state, or country to country.</p> |
|---|

3M and Micro-Klean are trademarks of 3M used under licence.

Water Quality Association Tested and validated under Industry Standards. Water Quality Association is a Tradename of Water Quality Association.

# LENNTECH

info@lennotech.com Tel. +31-152-610-900

www.lennotech.com Fax. +31-152-616-289



For more contact addresses visit our website [www.3M.eu/filtration](http://www.3M.eu/filtration) or [www.3Mpurification.com/international](http://www.3Mpurification.com/international).

Data may be subject to change without further notice.

© 3M 2010. All rights reserved.