



## KMS WATER QUALITY GUIDELINES FOR CLEANING & DIAFILTRATION

*For All Polymeric Membrane and Ion Exchange/Adsorbent Resin Applications*

Parameter	MF/UF	NF/RO & IE/Abs. Resin
<b>Turbidity</b>	<b>&lt; 1.0 NTU</b>	<b>&lt; 1.0 NTU</b>
<b>Suspended Solids (see Note 1)</b>	<b>&lt; 5 mg/l</b>	<b>&lt; 1 mg/l</b>
<b>Calcium (Ca)</b>	<b>&lt; 10 mg/l</b>	<b>&lt; 5 mg/l</b>
<b>Total Hardness (as CaCO<sub>3</sub>)</b>	<b>&lt; 60 mg/l</b>	<b>&lt; 30 mg/l</b>
<b>Iron (Fe)</b>	<b>&lt; 0.05 mg/l</b>	<b>&lt; 0.05 mg/l</b>
<b>Zinc (Zn)</b>	<b>&lt; 0.3 mg/l</b>	<b>&lt; 0.05 mg/l</b>
<b>Copper (Cu)</b>	<b>&lt; 0.1 mg/l</b>	<b>&lt; 0.05 mg/l</b>
<b>Manganese (Mn)</b>	<b>&lt; 0.05 mg/l</b>	<b>&lt; 0.02 mg/l</b>
<b>Aluminum (Al)</b>	<b>&lt; 0.05 mg/l</b>	<b>&lt; 0.05 mg/l</b>
<b>Silica, Reactive (as SiO<sub>2</sub>)</b>	<b>&lt; 10 mg/l</b>	<b>&lt; 10 mg/l</b>
<b>Silica, Colloidal (as SiO<sub>2</sub>)</b>	<b>&lt; 1 mg/l</b>	<b>&lt; 0.1 mg/l</b>
<b>Silicone</b>	<b>0 mg/l</b>	<b>0 mg/l</b>
<b>Total Bacteria Count (TBC)</b>	<b>&lt; 1000 per ml</b>	<b>&lt; 1000 per ml</b>
<b>E-Coli Count</b>	<b>0 per 100 ml</b>	<b>0 per 100 ml</b>
<b>Chlorine (as NaOCl)</b>	<b>&lt; 1 mg/l</b>	<b>0 mg/l</b>
<b>D-Limonene (citrus applications only)</b>	<b>&lt; 5 mg/l</b>	<b>0 mg/l</b>
<b>Fats, Oils and Grease</b>	<b>0 mg/l</b>	<b>0 mg/l</b>
<b>Total Organic Carbon (TOC)</b>	<b>&lt; 1 mg/l</b>	<b>&lt; 1 mg/l</b>
<b>pH (standard units)</b>	<b>6.5 – 7.5</b>	<b>6.5 – 7.5</b>

1. The water supply must be free from particulate matter such as rust, scale, flakes, sandy and granular material, slurries, scum, algae and any chemical constituents that could foul or damage the membranes.
2. The water pH may need to be adjusted with acid or alkali depending on application and local conditions.
3. KMS membranes are available in many configurations and materials that may be affected differently by various water constituents. Softened water or evaporator condensate is generally acceptable for cleaning and flushing of polymeric membranes. Please consult with the KMS Process Group for the particular membrane in question.

### PRE-STARTUP CLEANING PROCEDURE FOR HOLLOW FIBER CARTRIDGES

*The information contained in this publication is believed to be accurate and reliable, but is not to be construed as implying any warranty or guarantee of performance. We assume no responsibility, obligation or liability for results obtained or damages incurred through the application of the information contained herein. Refer to Standard Terms and Conditions of Sale for additional information.*

Koch Membrane Systems, Inc., [www.kochmembrane.com](http://www.kochmembrane.com)

Corporate Headquarters: 850 Main Street, Wilmington, Massachusetts 01887-3388, US. Tel. Toll Free: 1-888-677-5624, Telephone: 1-978-694-7000, Fax: 1-978-657-5208  
European Headquarters: Koch Chemical Technology Group Ltd., Units 3-6, Frank Foley Way, Stafford ST16 2ST, GB, Telephone: +44-178-527-2500, Fax: +44-178-522-3149

• Aachen DE • Lyon FR • Madrid ES • Milan IT • Wijnegem BE • Beijing & Shanghai CN • Mumbai & New Delhi IN • Melbourne & Sydney AU • Singapore • Sao Paulo BR • Dubai UAE •

For related patent and trademark information, visit [www.kochmembrane.com/legal](http://www.kochmembrane.com/legal)  
Koch Membrane Systems, Inc. is a Koch Chemical Technology Group, LLC Company.