WK-Series (White Knight™) Series Gas Purifiers

Features and Benefits
• For point-of-use to bulk flow specialty gas purification
• Highest Lifetimes
• Best Impurity Removal Efficiencies
  – Removes critical contaminants to sub part-per-billion levels
• Patented built-in poppet valves at purifier inlet and outlet for purifiers filled with: OMX, OMX-Plus, and In2Go
• Enhances manufacturing process economy and improves equipment performance
• Provides consistently high purity gas under fluctuating inlet impurity conditions
• Improves component lifetime and reduces particle generation by removing moisture from corrosive gases
• Compact Footprint; Inline design
• Easy to install & operate
• No heating or cooling required
• Quick start up
• All metal parts, Type 316L stainless steel, or Nickel 200
• Economical, Low Cost of Ownership

Specifications
• 0.003 µm filter with 99.9999999% retention (PTFE or 316L SS)
• Internal surface finish < 15 µin Ra
• Maximum operating temperature is 70°C

Connections
• Male inlet and outlet connections, 1/4” VCR - compatible

Options
• Inlet and outlet isolation valves

Purifier Models

<table>
<thead>
<tr>
<th>Purifier Model</th>
<th>Maximum Recommended Flow Rate*</th>
<th>Maximum Allowable Working Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>WK-70F</td>
<td>5 slpm (0.3 Nm³/hr)</td>
<td>1,000 psig (7 Mpa)</td>
</tr>
<tr>
<td>WK-75F</td>
<td>5 slpm (0.3 Nm³/hr)</td>
<td>1,000 psig (7 Mpa)</td>
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<tr>
<td>WK-500F</td>
<td>60 slpm (3.6 Nm³/hr)</td>
<td>500 psig (3.5 Mpa)</td>
</tr>
<tr>
<td>WK-2500F</td>
<td>300 slpm (18 Nm³/hr)</td>
<td>500 psig (3.5 Mpa)</td>
</tr>
</tbody>
</table>

Note: * Applies to designs without built-in poppet valves.

Overview
NANOCHEM® WK-Series (White Knight™) purifiers offer the highest lifetimes and the best impurity removal efficiencies in a very economical design. The in-line design enables a very compact footprint and allows drop-in replacement of competing hardware designs. WK-Series are available in a number of sizes ranging from 55-ml for point-of-use applications to 9-liters for bulk gas purification. Flow rates range from 3 slpm (0.2 NM³/hr) to 300 slpm (18 NM³/hr).

Gas Type | Impurities Removed
---|---
Nitrogen (N₂), Argon (Ar), other inerts | < 100 ppt H₂O, O₂, CO₂, LDL
Ammonia (NH₃) | < 100 ppt H₂O, O₂, CO₂, in inert gas
Silane (SiH₄) | < 100 ppt H₂O, O₂, CO₂, LDL
Hydrogen (H₂), Methane (CH₄), Ethane (C₂H₆), other HC | < 100 ppt H₂O, O₂, CO₂, LDL
Sulfur Hexafluoride (SF₆), other fluorocarbons | < 100 ppt H₂O, O₂, CO₂, in inert gas
Oxygen (O₂), Carbon Dioxide (CO₂), Nitrous Oxide (N₂O) | < 10 ppb H₂O
Carbon Monoxide (CO) | Metal Carbonyls: Fe, Ni
Corrosives (HCl, HBr, Cl₂, SiH₂Cl₂, SiHCl₃, BCl₃) | < 1 ppb H₂O in inert gas
Volatiles Metals: Fe, Mo, Cr, Ni, Mn, Ti

LDL – Lower Detection Limit by State-of-the-Art Analytical Instrumentation
NMHC – Non-methane Hydrocarbons
*NOTE: CO is removed efficiently by OMX & OMX-Plus™ media at low flow rates (recommend 1/10 of normal flow rate)

For a detailed list of purification media and impurities removed, refer to the Purification Media Table in Nanochem® Purification Solutions Brochure.
Note: Purifiers are shown in horizontal position for illustration purposes only. A vertically-oriented installation is preferred.

Models WK-75F, WK-500F and WK-2500F have a 0.003 µm particle filter.

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Specifications are subject to change. Please check www.mathesongas.com for most current information.

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