Filtration of:
- Less than 3 micron
- Suspended solids
- Sediments
- Turbidity
- Organics
- Color
- Odor

Removal of:
- Iron
- Manganese
- Hydrogen Sulfide
- Arsenic
- Radium
- Heavy Metals
- Radionuclides

www.watchwater.de
What is Katalox Light®?

Katalox Light® is a new brand of revolutionary advanced filtration media completely developed in Germany. Its composition simply makes it outstanding against the contemporary filter media available in water treatment industries, like sand, BIRM, Greensand Plus, Manganese Greensand etc. Katalox Light® is manufactured in Germany.

Katalox Light® is engineered with unique MnO₂ coating technique on ZEOSORB®, providing it light weight, higher filtration surface, more service life and more reliable performance (filtration down to 3µm) than any other existing granular filter media.

Katalox Light® is being used in numerous system for residential, commercial, industrial and municipal applications worldwide, for High level filtration, color and odor removal, Iron, Manganese, Hydrogen sulfide removal, efficient reduction of Arsenic, Zinc, Copper, Lead, Radium, Uranium and other radionuclides and heavy metals.

Katalox Light® is ANSI/NSF 61 Certified for drinking water applications and has met the ANSI/NSF 372 Lead free compliance.

ADVANTAGES:

- High content MnO₂ coating (10%)
- Very High Surface Area
- Contains NO Crystalline Silica
- Light Weight - providing significant savings on backwash water
- Higher Filtration rates
- Filtration of sand, sediment and suspended solids, down to 3 micron
- High efficiency removal capacity of Iron, Manganese and Hydrogen sulfide
- Effective reduction of Arsenic, Zinc, Copper, Lead, Radium, Uranium, radionuclides and other heavy metals
- Media replacement every 7 - 10 years
- No disinfection by-product
- No mandatory KMnO₄, chlorine or chlorine dioxide dosing
- Low operational costs
- Unique product, unmatched by our competitors

Advanced use

High concentration coating of MnO₂ on the Katalox Light® surface (10%) is the biggest advantage compared to any similar product available in the market. This makes the oxidation and co-precipitation of contaminants much more effective. For removal of very high concentration of contaminant it's recommended to use H₂O₂ as an oxidizer, which provides accelerated catalytic oxidation on the surface of the media. Conventional oxidizing agents like chlorine or potassium permanganate also could be used if required.

Katalox Light® can be used for Arsenic, Radium, Uranium removal but in these cases there is requirement of Iron in the water. Katalox Light® system is designed with special iron dosing technology which has many advantages over Adsorbent media used for Heavy Metal removal.

The Future

The future of water treatment, as we see it, is going to give us more difficult challenges and we all need more advanced and robust products.

In Watch®'s vision, Katalox Light® can be addressed for advanced concepts like Water Reuse, Controlled Adsorption of Arsenic and Heavy Metals, advanced Membrane pre-treatment, Zero-Discharge Cooling tower etc.

Contact us for information.

Standard Packaging:
1 ft³ bags (28 Liters); Mass: 30 kg (66 lb)
40 bags on a Pallet
16 Pallets in a container

www.watchwater.de
Watch® Katalox Light® systems offer a new technology with advanced catalytic filtration available in water treatment industry. All systems have been engineered keeping both professionals and consumers in mind. Systems are available with different models and customized for manual backwash without using electricity or it can be made fully-automatic. System can be used in a variety of applications including residential, commercial and any process water applications for food and beverage industry.

Standard systems are designed with a filtration velocity of 20 m/h (8.2 gpm/ft²) to provide a good filtration. This value may differ for advanced application like Arsenic, Radium, Uranium and other Heavy Metal removal where co-precipitation process requires higher contact time thus lower filtration velocity. Running the system at higher velocity may compromise the filtration performance.

Virtually there is no flow rate limitations for KL systems as KL units can be configured in parallel to address industrial high flow requirements.

### Standard Pressure Vessel Listing for KL Systems (Manual/Automatic)

<table>
<thead>
<tr>
<th>Pressure Vessel</th>
<th>KL media amount</th>
<th>Service flow rate</th>
<th>Backwash</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>volume</td>
<td>Bed Height</td>
<td>Standard</td>
</tr>
<tr>
<td></td>
<td>liters</td>
<td>mm</td>
<td>m³/h</td>
</tr>
<tr>
<td>Vessel Model</td>
<td>m²</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>08x44</td>
<td>0.03</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>10x54</td>
<td>0.05</td>
<td>30</td>
<td>42</td>
</tr>
<tr>
<td>12x52</td>
<td>0.07</td>
<td>30</td>
<td>56</td>
</tr>
<tr>
<td>14x65</td>
<td>0.10</td>
<td>30</td>
<td>98</td>
</tr>
<tr>
<td>16x65</td>
<td>0.13</td>
<td>30</td>
<td>126</td>
</tr>
<tr>
<td>18x65</td>
<td>0.16</td>
<td>30</td>
<td>170</td>
</tr>
<tr>
<td>21x60</td>
<td>0.22</td>
<td>30</td>
<td>224</td>
</tr>
<tr>
<td>24x69</td>
<td>0.29</td>
<td>30</td>
<td>308</td>
</tr>
<tr>
<td>30x72</td>
<td>0.46</td>
<td>30</td>
<td>510</td>
</tr>
<tr>
<td>36x72</td>
<td>0.66</td>
<td>30</td>
<td>764</td>
</tr>
<tr>
<td>42x78</td>
<td>0.89</td>
<td>30</td>
<td>935</td>
</tr>
<tr>
<td>48x82</td>
<td>1.17</td>
<td>30</td>
<td>1300</td>
</tr>
</tbody>
</table>

**Example:**

2 parallel KL 1465-Mn would have a total flow of 2 x 3000 lph = 6000 lph (26.2 gpm)
**Composition of KATALOX LIGHT®:**

<table>
<thead>
<tr>
<th>Compounds</th>
<th>Typical value</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZEOSORB (Naturally Mined)</td>
<td>85%</td>
<td>&gt;85%</td>
</tr>
<tr>
<td>Manganese dioxide</td>
<td>10%</td>
<td>&gt;9.5%</td>
</tr>
<tr>
<td>Hydrated Lime</td>
<td>5%</td>
<td>&lt;5%</td>
</tr>
</tbody>
</table>

**Physical Properties:**

<table>
<thead>
<tr>
<th>Property</th>
<th>Granular black beads</th>
<th>none</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesh size US</td>
<td>14 x 30</td>
<td></td>
</tr>
<tr>
<td>Mesh size SI</td>
<td>0.6 - 1.4 mm</td>
<td></td>
</tr>
<tr>
<td>Uniformity Coefficient</td>
<td>≤ 1.75</td>
<td></td>
</tr>
<tr>
<td>Bulk density US</td>
<td>66 lb/ft³</td>
<td></td>
</tr>
<tr>
<td>Bulk density SI</td>
<td>1060 kg/m³</td>
<td></td>
</tr>
<tr>
<td>Moisture Content</td>
<td>&lt;0.5% as shipped</td>
<td></td>
</tr>
<tr>
<td>Filtration</td>
<td>&lt; 3 micron</td>
<td></td>
</tr>
</tbody>
</table>

**Removal Capacity**

- for Fe$^{2+}$ alone: 3000 mg/l, 85000 mg/ft³ (aprx)
- for Mn$^{2+}$ alone: 1500 mg/l, 42500 mg/ft³ (aprx)
- for H$_2$S alone: 500 mg/l, 14000 mg/ft³ (aprx)

**Recommended System Operating Conditions:**

- **Inlet water pH:** 5.8 - 10.5
- **Freeboard:** 25 - 35%
- **Min. Bed Depth**
  - US: 29.5 inches
  - SI: 75 cm
- **Optimal Bed Depth**
  - US: 47 inches
  - SI: 120 cm
- **Service flow**
  - US: 6 - 12 gpm/ ft²
  - SI: 15 - 30 m³/h
- **Backwash velocity**
  - US: 8 - 10 gpm/ ft²
  - SI: 20 - 25 m³/h
- **Backwash time:** 5 - 10 minutes
- **Rinse time:** 1 - 2 minutes

**Regeneration/Dosing (optional*)**

*Only if the water doesn’t have sufficient oxygen to oxidize the contaminants. It also helps to clean the media surface better if used at the backwash.

- H$_2$O$_2$
  - for 1.0 mg/l of Fe$^{2+}$: 0.9 mg/l
  - for 1.0 mg/l of Mn$^{2+}$: 1.8 mg/l
  - for 1.0 mg/l of H$_2$S: 4.5 mg/l
- KMnO$_4$/Cl
  - for 1.0 mg/l of Fe$^{2+}$: 1.0 mg/l
  - for 1.0 mg/l of Mn$^{2+}$: 2.0 mg/l
  - for 1.0 mg/l of H$_2$S: 5.0 mg/l

---

**Backwash Velocity [m/h] vs. Bed Expansion [%]:**

![Graph](image)

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**Distributed by:**

Address: Fahrlachstraße 14
Tel: +49 621 87951-0
Fax: +49 621 87951-99
Email: info@watchwater.de

**Manufactured by:**

Watch Water®, Germany
A Water Company
Address: Fahrlachstraße 14
Mannheim, D-68165, Germany
Tel: +49 621 87951-0
Fax: +49 621 87951-99
Email: info@watchwater.de

**Composition of KATALOX LIGHT®:**

- **Compounds**
  - ZEOSORB (Naturally Mined): 85%, >85%
  - Manganese dioxide: 10%, >9.5%
  - Hydrated Lime: 5%, <5%

**Physical Properties:**

- **Appearance:** Granular black beads
- **Odor:** None
- **Mesh size**
  - US: 14 x 30
  - SI: 0.6 - 1.4 mm
- **Uniformity Coefficient:** ≤ 1.75
- **Bulk density**
  - US: 66 lb/ft³
  - SI: 1060 kg/m³
- **Moisture Content:** <0.5% as shipped
- **Filtration:** < 3 micron

**Removal Capacity**

- for Fe$^{2+}$ alone: 3000 mg/l, 85000 mg/ft³ (aprx)
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  - for 1.0 mg/l of Mn$^{2+}$: 2.0 mg/l
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