KATALOX LIGHT™

Advanced Catalytic Filtration Media

MANUFACTURED IN GERMANY

Filtration (≤ 3 μm) of

- ◊ Total Suspended Solids
- ◊ Sediments
- ◊ Colour (some, organic)
- ◊ Organics
- ◊ Turbidity
- ◊ Odour

Removal of

- > Iron (Inlet conc. up to. 100 mg/L)
- > Manganese (Inlet conc. up to 20 mg/L)
- > Hydrogen Sulfide
- > Arsenic
- > Uranium, Radium
- > Heavy Metals
- > Radionuclides

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








GREEN CHEMISTRY

NON TOXIC

MEMBER Water Quality ASSOCIATION

KATALOX LIGHT™

Breakthrough in Iron Removal Technology !

Real installations from different part of the world have been reported to remove unchallenged amounts of iron. In a few extreme cases multi-stage Katalox-Light® filtration systems have been used without the use of any chemicals to remove iron with inlet concentration of as high as 60 – 100 mg/L (ppm).

KATALOX LIGHT® is a new brand of revolutionary advanced filtration media completely developed in Germany. It's 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.

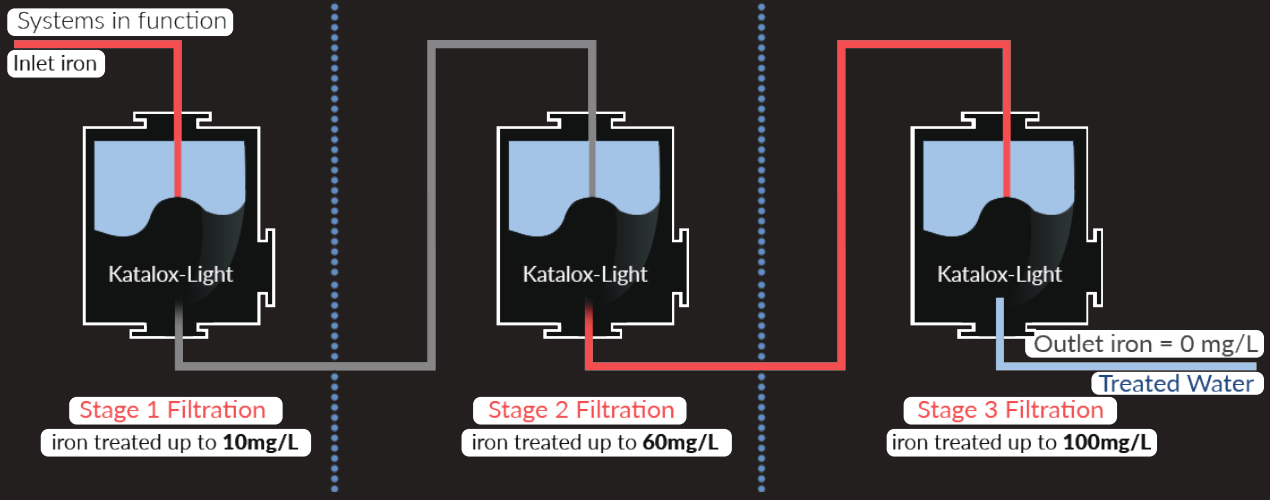
KATALOX LIGHT® is engineered with unique MnO2 coating technique on **ZEOSORB®**, providing it light weight, higher filtration surface, more service life and more reliable performance (filtration down to 3 µm) than any other existing granular filter media.

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.

Standard Pressure Vessel Listing for Katalox Light® Systems (Manual/Automatic)

PRESSURE VESSEL			KL MEDIA AMOUNT				SERVICE FLOW RATE				BACKWASH FLOW RATE	
Vessel Mode	Tank Volume	Free-board	Volume			Bed Height	Standard		Maximum			
	(liters)	(%)	(%)	(liters)	(ft^3)	(mm)	(m^3/h)	(gpm)	(m^3/h)	(gpm)	(m^3/h)	(gpm)
10x44	49.0	40	55	28.0	1.0	580	0.5	2.20	0.6	2.64	1.40	6.2
13x54	105.7	40	55	56.0	2.0	740	1.0	4.40	1.2	5.28	2.39	10.5
14x65	148.0	40	55	84.0	3.0	897	1.5	6.60	1.8	7.96	3.63	16.0
18x65	257.0	40	55	140.0	5.0	940	2.5	11.00	3.0	13.20	4.59	20.2
21x60	310.0	40	55	168.0	6.0	834	3.0	13.21	3.6	15.85	6.25	27.6
24x69	450.0	40	55	252.0	9.0	926	4.5	19.81	5.4	23.77	8.84	39.0
30x78	710.0	40	55	392.0	14.0	935	7.0	30.82	8.4	36.98	12.76	56.3
36x78	1020.0	40	55	560.0	20.0	932	10.0	44.02	12.0	52.83	18.37	81.0
42x78	1360.0	40	55	756.0	27.0	913	13.5	59.44	16.2	71.32	25.01	110.3
48x82	1840.0	40	55	1008.0	36.0	946	18.0	79.25	21.6	95.10	32.67	144.0

Note:
- This is standard system parameter by considering ideal sitiuation. It might vary depending on inlet parameters.
- Consider to design system with standard flow rate. At higher flow rate filtration quality might be compromised.
- 5 % gravel has been considered in above system parameters. If not, then consider 60% media volume.



Why Katalox-Light is

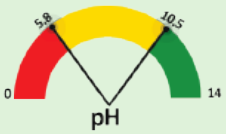
"The Best" compared to other products in the market?

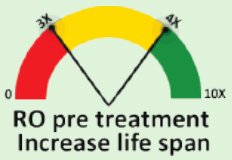
Much higher gamma Manganese coating (10%) for better filtration, more service life, while keeping the bulk density close to the density of water 1000 kg/m³ (Katalox-Light® Bulk Density: 1060 kg/m³) .

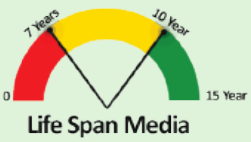
Heavier the media requires higher backwash rates and extra pumps (Energy) to backwash. Velocity of 60 – 98 m/h (25 – 40 gpm/ft²) Backwash and rinse rate is normal for Heavier media.

Comparison Table

Parameter		Katalox Light	Birm	Greensand Plus
Bulk Density	SI	1060 kg/m³	800 kg/m³	1425 kg/m³
	US	66 lb/ft³	50 lb/ft³	89 lb/ft³
Mesh Size	US	14 x 30	9 x 35	18 x 60
Operational pH		5.8 – 10.5	6.8 – 9.0	6.2 – 8.5
Freeboard		40 %	50 %	50 %
Service flow	US	4 – 8 gpm/ft²	3.5 – 5 gpm/ft²	3 – 5 gpm/ft²
Filtration		< 3 microns	Not a Filter	No
Backwash flow	US	10 – 12 gpm/ft²	10 – 12 gpm/ft²	10 – 12 gpm/ft²
	SI	25 – 30 m/h	25 – 30 m/h	25 – 30 m/h
Coating MnO2		10 %	0.5%	1%
Treat Iron and Manganese		High Capacity	Very Limited	Limited
Media Core		ZEOSORB	–	Quartz Sand







KATALOX LIGHT® is Certified to NSF/ANSI-61 standard for drinking water applications and has met the ANSI/NSF 372 Lead free compliance.

GREEN CHEMISTRY NON TOXIC MEMBER Water Quality ASSOCIATION

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KATALOX LIGHT™

Advanced Applications

Reverse Osmosis Pre-treatment
Increasing the membrane life-span 3-4 times more

Industrial Wastewater
Reducing radionuclide waste in fracking wastewater

Cooling tower re-circulation
Dramatically reducing the blow-down water and using part of it in re-circulation process

Fracking
Reducing radionuclide waste in fracking wastewater

Radionuclide removal
Radium,
Uranium

Removal of Arsenic
by the method of co-precipitation

Composition of Katalox Light

Compounds	Typical value	Specifications
ZEOSORB (Naturally Mined)	85 %	> 85 %
Manganese dioxide	10 %	> 9.5 %
Hydrated Lime	5 %	< 5 %

Regeneration / Dosing

for 1.0 mg/l of

	Fe^{2+}	Mn^{2+}	H_2S
H_2O_2	0.9 mg/l	1.8 mg/l	4.5 mg/l
$KMnO_4$/Cl	1.0 mg/l	2.0 mg/l	5.0 mg/l

* Optional: Only if the water doesn't have sufficient ORP (Oxidation Reduction Potential) to oxidize the contaminants. OXYDES-P helps to keep the media surface clean and could be used during backwash.

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 / ft^3
	SI	1060 kg / m^3
Moisture Content		< 0.5 % as shipped
Filtration		< 3 micron
Loading Capacity	for Fe^{2+} alone	3000 mg / l
		85000 mg / ft^3 (aprx)
	for Mn^{2+} alone	1500 mg / l
		42500 mg / ft^3 (aprx)
	for H_2S alone	500 mg / l
		14000 mg / ft^3 (aprx)

Recommended System Operating Conditions

Inlet water pH		5.8 – 10.5	
Freeboard		40 %	
Minimal Bed Depth	US	29.5	inches
	SI	75	cm
Optimal Bed Depth	US	47	inches
	SI	120	cm
Service flow	US	4 – 8	gpm/ ft^2
	SI	10 – 20	m/h
Backwash velocity**	US	10 – 12	gpm/ ft^2
	SI	25 – 30	m/h
Backwash time**		10 – 15	minutes
Rinse time**		2 – 3	minutes

** Note: Starred parameters could be more or less in some cases depending on inlet parameters.

Warning: Do NOT exchange pressure vessel media from one pressure vessel to another. Reason for inadequate sanitation during the exchange of media. Wet media will absorb nitrogen and oxygen in the air which will immediately kick of the bacteria growth. Biofouling on surface of media an other contaminates are present during the exchange. Media is designed only for iron manganese, hydrogen sulfide and other heavy metals. Media containing biofouling cannot be reused as it is harmful for drinking water. Replacing new media is highly suggested.

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EXCLUSIVELY MARKETED BY

GREEN GENESIS ENGINEERING LIMITED

Address: House B/113, Mosque Road, Mohakhali DOHS, Dhaka-1206, Bangladesh. **Tel:** +88 09 638 807055
Hotline: +880 1700 665555, **Email:** support@greengenesisbd.com, **Web:** www.greengenesisbd.com