

# MATRIKX® + CR1

# **Extruded Activated Carbon Block Filter**

# **Chlorine Taste and Odor and Cyst Reduction**

- 0.5 µm Nominal Filtration
- Cyst Reduction Based on NSF/ANSI Standard 53
- Turbidity Reduction Based on NSF/ANSI Standard 53
- Outstanding Chlorine Taste and Odor Reduction
- Performance Tested and Verified by Independent Laboratory Testing



The MATRIKX\* + CR1 is Tested and Certified by NSF International under NSF/ANSI Standard 42 for material requirements only.

MATRIKX® + CR1 is the most effective filter available for the combined reduction of cysts and control of large volumes and concentrations of chlorine taste and odor. Manufactured using a patented, solid-state extrusion process, the MATRIKX® + CR1 meets NSF/ANSI Standard 53, Turbidity and Cyst Reduction, including *Cryptosporidium*, *Giardia*, *Entamoeba* and *Toxoplasma*.

Made of "Genuine MATRIKX" Extruded Carbon," the MATRIKX" + CR1 is a rigid, carbon block composite designed to deliver chlorine taste and odor reduction at >99% @ 2.5 GPM for 10,000 gallons.

The MATRIKX® + CR1 is ideal for use in food service applications.

### **Technical Specifications and Order Information**

Part No.	O.D. x Length	Weight	Chlorine Taste & Odor Reduction Capacity @ Flow	Nominal µm Rating	Initial ∆P @ Flow
19-250-125-975	2.50" x 9.75"	0.85 lbs.	>10,000 gal. @ 2.5 GPM	0.5 μm	8.0 psid @ 1.0 GPM
19-250-125-20	2.50" x 20"	1.95 lbs.	>20,000 gal. @ 5.0 GPM	0.5 μm	8.0 psid @ 2.0 GPM





### ORDER INFORMATION

Special order filters are available in varying sizes with lengths from 1" to 60".

Standard filters are finished with a prefiltration medium. A protective polypropylene netting is applied to the exterior of the cartridge. Polypropylene end caps with compression gaskets fit most standard housings.

Inquire concerning alternative filter finishing options, including alternative end cap and housing interface styles, a wide range of non-standard extruded filter sizes, and non-standard prefiltration systems.

### **EXTRUDED CARBON = EXCEPTIONAL VALUE**

MATRIKX® + CR1 filters consist of activated carbon particles fused into a uniform block with enhanced adsorptive capacity and efficiency. MATRIKX® + CR1 filters flow in a radial (outside-to-inside) direction, providing increased dirt capacity and low pressure drop. Unlike granular activated carbon (GAC) filters, MATRIKX® + CR1 cartridges will not channel or bypass due to the extreme uniformity of their extruded activated carbon core. Service life of the MATRIKX® + CR1 filter is greatly extended by a layer of prefiltration medium.

- No channeling
- · No fluidizing
- No bypassing
- Eliminates release of carbon fines
- Lowest extractables, pure materials of construction
- Maximum service life and resistance to fouling
- · Graded density filtration design
- Manufactured using FDA-compliant materials

Made in the USA.

Distributed by



### **NOTES**

- 1. Performance of a given MATRIKX® extruded carbon filter varies in direct proportion to the total weight of carbon in each filter. For example, a 4.25" O.D. x 20" L MATRIKX® filter contains approximately seven times as much activated carbon as a 2.50" O.D. x 9.75" L MATRIKX® filter, and will therefore have seven times the rated chlorine taste and odor capacity when operated at seven times the rated flow of the smaller cartridge. Hence, rated flow is based on maintaining identical contact/residence times for all filters.
- 2. Projected chlorine taste and odor reduction capacity when tested in accordance with NSF/ANSI Standard 42 protocol.
- 3. Nominal particulate rating (0.5 µm) is for >85% of a given size as determined from single-pass particle counting
- 4. Absolute particulate rating (1 µm) is for >99.9% of particles of a given size as determined from single-pass particle counting results. \* \*
- \* Nominal Filter Rating: Filter rating indicating the approximate size particle, the majority of which will not pass through the filter. It is generally interpreted as meaning that 85% of the particles of the size equal to the nominal micron rating will be retained by the filter. (WQA Glossary of Terms, Third Edition, 3-97).
- \*\* Absolute Filter Rating: Filter rating meaning that 99.9% (or essentially all) of the particles larger than a specific micron rating will be trapped on or within the filter. (WQA Glossary of Terms, Third Edition, 3-97).

### **WARNINGS:**

Maximum Operating Temperature: 125°F Maximum Operating Pressure: 250 psig Maximum Differential Pressure: 100 psid Collapse Pressure: 200 psid

MATRIKX® filters are not to be autoclaved or steam-sterilized.

Use this MATRIKX® + CR1 carbon filter only with microbiologically safe and adequately disinfected water, as it is not designed to kill or remove bacteria or viruses.

Actual results obtained will vary with various combinations of organic contaminants, changes in pH or other conditions encountered in actual use.

All information presented here is based on data believed to be reliable. It is offered for evaluation and verification, but is not to be considered a warranty of any kind.

MATRIKX® filters are designed to fit most standard household and commercial or industrial housings.

Contact KX Industries, L.P. to check filter housing compatibility.

This cartridge must be placed in an appropriate housing and flushed for a minimum of 5 minutes prior to use.

### LIMITED LIABILITY

KX Industries, L.P. makes no warranties of any kind, expressed or implied, statutory or otherwise, and expressly disclaims all warranties of every kind, concerning the product, including, without limitation, warranties of merchantability and fitness for a particular purpose, except that this product should be capable of performing as described in this product's data sheet. KX Industries, L.P.'s obligation shall be limited solely to the refund of the purchase price or replacement of the product proven defective, in KX industries, L. P.'s sole discretion. Determination of suitability of this product for uses and applications contemplated by Buyer shall be the sole responsibility of Buyer. Use of this product constitutes Buyer's acceptance of this Limited Liability,

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This Product is made or covered by one or more of the following United States Patents: 5,019,311; 5,147,722; 5,189,092; 5,249,948; 5,331,037; 5,922,803; 5,946,342; 6,061,384 and applicable foreign equivalents.

# MATRIKX® +CR1 TECHNICAL BULLETIN DATA CHARTS

Revised 12/28/2004

## CHLORINE TASTE AND ODOR REDUCTION

Test Results: Standard 2.50ŽO.D. x 1.25ŽI.D. x 9.75ŽL MATRIKX° CR1 extruded carbon filters removed chlorine taste and odor (<0.1 ppm) from an influent challenge containing an average of 2.0 ppm chlorine taste and odor flowing at 2.50 GPM, and maintained this level of performance for 15,000 gallons.

Test Conditions: Two randomly selected, standard production cartridges were evaluated for chlorine taste and odor reduction.

Flow rate: 2.5 GPM System pressure: 60 psig

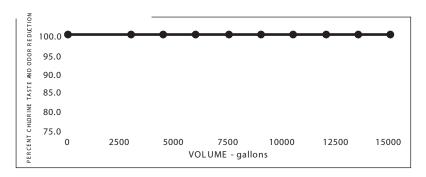
Operating cycle: 50% on / 50% off

Chlorine Taste and Odor Challenge: 1.8 - 2.1 ppm

Total challenge: 15,000 gallons

Influent water analysis: pH ......7.71 - 7.83

TDS ........... 200-240 mg/L
Turbidity ...... 0.06-0.23 NTU
Temperature ... 20-23° Celsius



Source of test data: NSF International, Ann Arbor, Michigan. Actual test performed on 2.50Ž O.D. x 1.25Ž I.D. x 20Ž L filter at 5.0 GPM. Above data is scaled to depict performance of the same filter at half the length and half the flow rate.

### FLOW RESISTANCE

Test Results: Standard 2.50ŽO.D. x 1.25ŽI.D. x 9.75ŽL MATRIKX° CR1 extruded carbon filter cartridges were tested with municipal tap water from Orange, CT, at 60 psig system pressure, to determine differential pressure vs. flow curves. The standard 2.50ŽO.D. x 9.75ŽL MATRIKX° +CR1 filter cartridge has an initial differential pressure of 8.0 psid at 1.0 GPM flow.

Test Conditions:

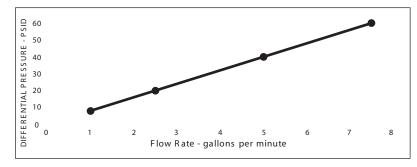
Influent water: Orange, CT municipal drinking water

pH of Influent water: 6.5 - 7.0Temperature:  $20^{\circ}$  C

System pressure: 60 psig, constant

Flow range: 1 - 7.5 gallons per minute

Source test data: KX Industries L.P., Orange, CT



# PARTICULATE, CYST AND TURBIDITY REDUCTION

Test Results: Standard 2.50 $\rm \check{Z}$ O.D. x 1.25 $\rm \check{Z}$ I.D. x 9.75 $\rm \check{Z}$ L MATRIKX° CR1 extruded carbon filters were evaluated using NSF Standard 53 cyst reduction test protocol and demonstrated >99.99% reduction of 3-4  $\mu$ m particles. These results greatly exceed the NSF requirement of 99.95% reduction of 3-4  $\mu$ m particles throughout the life of the filter.

Test Conditions:

Filtration

Water temperature: 19.3° Celsius 3-4  $\mu$ m challenge: 6.5 - 7.0 pH: 20° C

Hardness, Total: 60 psig, constant

Solids, Total Dissolved: 1 - 7.5 gallons per minute

Flow rate: 5.0 GPM

Parameter/Test Description NSF REFERENCE

 Cyst Reduction Test
 -P901CR

 Cyst Reduction Test¹
 -P901CRA

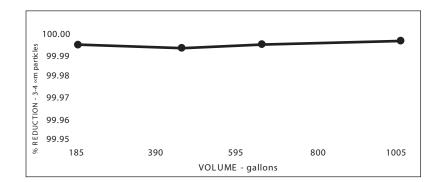
 Hardness, Total
 -I52003130

 S olids, Total Dissolved
 -I420071601

 Turbidity Reduction Test
 -P901TRP

 Turbidity Reduction Test¹
 -P901TR

 Water Analysis, Mechanical
 -P908



Source test data: NSF International, Ann Arbor, Michigan. Actual test performed on 2.50ŽO.D. x 1.25ŽI.D. 20ŽL filter at 5.0 GPM. Above data is scaled to depict performance of the same filter at half the length and half the flow rate.