

M A T R I K X [®] C R 1 E X T R U D E D F I L T E R S

CHEMICAL ADSORPTION

MATRIKX[®] CR1 filters offer high levels of organic chemicals reduction, and reduce trihalomethanes (THMs), volatile organic chemicals (VOCs), chlorine, and chemicals that contribute to taste and color.

PARTICULATE, CYST AND TURBIDITY REDUCTION

MATRIKX[®] CR1 filters provide >99.95% reduction of 3 - 4 μm particles and operate as high performance sediment filters with extended life. Graded-density prefiltration combined with a high dirt capacity extruded activated carbon serve to provide several times greater dirt life than molded filter products.

DESIGN FEATURES

MATRIKX[®] CR1 filters flow in the 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 two layers of prefiltration media consisting of a 15 μm polypropylene spunbonded outer prefiltration layer and a 5 μm polypropylene melt-blown inner layer. Recommended installations are in fluids having upstream 1-5 μm prefilters or as stand-alone high-performance filter elements.

APPLICATIONS

The MATRIKX[®] CR1 is a powerful, multi-functional, filter cartridge for residential and industrial water purification systems, industrial effluent water treatment, food service, and industrial makeup, product rinse, and process water treatment.

*A "standard filter" is 2.50" O.D. x 9.75" length and fits most standard household and commercial filter housings.

FEATURES:

Mixture of fine-mesh granular carbons and ultra-micronized ion-exchange filtration medium in high-integrity extruded structure.

99.984%+ reduction of 3 - 4 μm particulates.

99.96%+ reduction of 1 - 2 μm particulates.

Graded-density prefiltration design.

Manufactured using FDA-compliant materials.

BENEFITS:

Efficient reduction of soluble lead.

High chemical adsorptive capacity.

No channeling/ No fluidizing/ No bypassing.

High TOC reduction.

Eliminates release of carbon fines.

Efficient reduction of insoluble lead particles.

Cyst reduction: *Giardia lamblia*, *Cryptosporidium*.

Effective turbidity reduction.

Meets NSF Standard 42 Class 1 filtration standards.

Maximum service life, resistance to fouling.

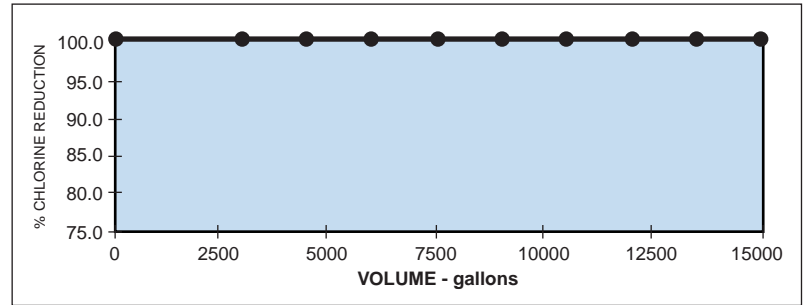
Lowest extractables, pure materials of construction.

CHLORINE REDUCTION

Test Results: Standard 2.50" O.D. x 1.25" I.D. x 9.75" L MATRIKX® CR1 extruded carbon filters removed all detectable free chlorine (<0.1 ppm) from an influent challenge containing an average of 2.0 ppm free chlorine flowing at 2.50 GPM, and maintained this level of performance for 15,000 gallons. This performance greatly exceeds the NSF Standard 42 Class 1 chlorine reduction requirement of ≥75%.

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

- Flow rate:** 2.5 GPM
- System pressure:** 60 psig
- Operating cycle:** 50% on / 50% off
- Chlorine challenge:** 1.8 - 2.1 ppm FAC (free available chlorine).
- 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

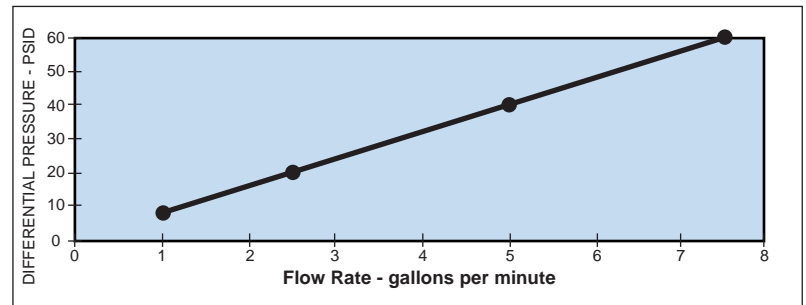


Source of test data: NSF International, Ann Arbor, Michigan. Actual test performed on 2.50" O.D. x 1.25" I.D. x 20" L filter at 5.0 GPM. Above data is scaled to depict performance of the same filter at half the length and half the flow rate.

FLOW RESISTANCE

Test Results: Standard 2.50" O.D. x 1.25" I.D. x 9.75" L 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 2.50" O.D. x 9.75" L 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 - 7.0
- Temperature:** 20° C
- System pressure:** 60 psig, constant
- Flow range:** 1 - 7.5 gallons per minute



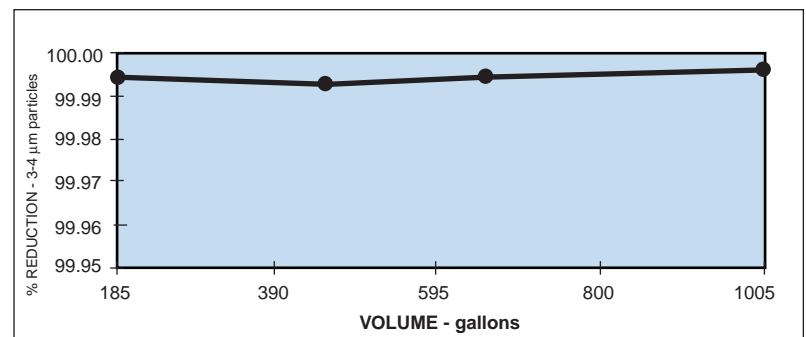
Source test data: KX Industries L.P., Orange, CT

PARTICULATE, CYST AND TURBIDITY REDUCTION

Test Results: Standard 2.50" O.D. x 1.25" I.D. x 9.75" L MATRIKX® CR1 extruded carbon filters were evaluated using NSF Standard 53 cyst reduction test protocol and demonstrated >99.99% reduction of 3-4 µm particles. These results greatly exceed the NSF requirement of ≥99.95% reduction of 3-4 µm particles throughout the life of the filter.

- Test Conditions:**
- Water temperature:** 19.3° Celsius
- 3-4 µm 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
Solids, Total Dissolved	-I420071601
Turbidity Reduction Test	-P901TRP
Turbidity Reduction Test¹	-P901TR
Water Analysis, Mechanical Filtration	-P908



Source test data: NSF International, Ann Arbor, Michigan. Actual test performed on 2.50" O.D. x 1.25" I.D. 20" 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.

TABLE 1: SUMMARY TECHNICAL DATA

Part Number	O.D x Length	Filter Weight ¹	Chlorine capacity @ Flow ²	Absolute μ m Rating ³	Initial Δ P @ Flow
19-250-125-975	2.50" x 9.75"	0.85 lb.	> 10,000 gal. @ 2.5 GPM	1-2 μ m	8.0 psid @ 1.0 GPM
19-250-125-20	2.50" x 20"	1.90 lb.	> 20,000 gal. @ 5.0 GPM	1-2 μ m	8.0 psid @ 2.0 GPM

NOTES:

¹Performance 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 and lead absorption capacities, when operating at seven times the rated flow of the smaller cartridge. Hence, rated flow is based on maintaining identical contact/residence times for all filters.

²Chlorine capacity is the estimated capacity in gallons during which the filter will remove greater than 95% of influent chlorine (2ppm) when operating at a given flow.

³Particulate filtration rating is for >99.9% removal of a given size as determined from particle counting results.

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 MATRIKX® carbon filters only with microbiologically safe water. Activated carbon filters are not designed to kill or remove bacteria or viruses.
- Actual results obtained will vary with various combinations and amounts 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. Call KX Industries to check filter housing compatibility.

ORDERING INFORMATION:

MATRIKX® CR1 Extruded Carbon Filters

Part Number	Outer Diameter	Length
19-250-125-975	2.50"	9.75"
19-250-125-20	2.50"	20"

- Standard filters are finished with an outer polypropylene spunbonded 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.

LIMITED LIABILITY

SELLER MAKES NO WARRANTIES OF ANY KIND, EXPRESSED OR IMPLIED, CONCERNING THIS PRODUCT, INCLUDING WARRANTIES OF THE MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EXCEPT THAT THIS PRODUCT SHOULD BE CAPABLE OF PERFORMING AS DESCRIBED IN THE APPROPRIATES PRODUCT DATA SHEET. SELLER'S OBLIGATION SHALL BE LIMITED SOLELY TO REFUND OF PURCHASE PRICE OR REPLACEMENT OF PRODUCT PROVED DEFECTIVE, AT SELLER'S SOLE DISCRETION. DETERMINATION OF SUITABILITY OF 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.

This product is made in accordance with or covered under 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 corresponding patents in other countries.

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