Commercial Water Filter

FX FILTER SYSTEM

MICROFILTER

FLUUX

FX FILTER SYSTEM

APPLICATIONS

ICE Makers / Drinking Fountain / Vending Machines

FEATURES

The World's First NSF/ANSI 401 certified for Microplastics reduction.

- ☐ Scale(rust) and Clogging prevention
- ☐ Taste and Odor reduction
- ☐ Cyst reduction such as Cryptosporidium by mechanical means.
- ☐ Particulate reduction such as 0.5~1micron of Dust by mechanical means.
- ☐ Certified Bacteriostatic effects by NSF

'Microfilter' Water Filtration Product Model FX – single System helps to improve the taste, appearance and consistency of your Drinking water beverages at flow rates up to 1.5 ~ 2.5 gpm.

The FX-single System combines Microplastics, cyst, turbidity and
[1] bacterial reduction with particulate class1, chlorine, taste and odor reduction for up to 7,925 ~ 26,000 gallons.

PRODUCT SPECIFICATION

System Model Name	Capacity	Flow rate	Reduction Claims	[2] Nominal Micron Rating
FX – 10 / FX – 10S	**7,925 gallons (30,000 liters)**	**1.5 gpm (5.68 lpm)**	**Chlorine Taste and Odor, Bacteriostatic, Particulate Class1, Turbidity, Cyst, Microplstics, [1] Bacteria**	**0.1**
FX – 15 / FX – 15S	**16,000 gallons (60,567 liters)**	**2.5 gpm (9.46lpm)**		
FX – 17 / FX – 17S	**19,000 gallons (71,922 liters)**	**2.5 gpm (9.46lpm)**		
FX – 21 / FX – 21S	**26,000 gallons (98,420 liters)**	**2.5 gpm (9.46lpm)**		

[1] As tested with E.Coli, Staphylococcus aureus, Pseudomonas aeruginosa by manufacturer's
[2] As tested and verified by manufacturer's

FX FILTER SYSTEM

PRODUCT BENEFITS

- **Consistent high-quality, great tasting water for continued customer satisfaction.**
  The World's First NSF/ANSI 401 certified for Microplastics reduction.

- **Hybrid cartridge suitable for tight space.**
  : Four(4) step technology "All-In-one" cartridge construction combines a Micro-membrane (UF) in series with premium carbon block and Sediment filtration to provide superior throughput, performance and cartridge life.

- **Efficient removal by 0.1micron UF filter**
  : Reduction of up to 99.99% of common water-borne bacteria by micro-membrane(UF) filtration as tested by manufacturer's laboratory.

- **FX System which effectively filters dirt and particles as small as under the 0.1 micron in size by mechanical means.**
  : Reduction of particulate and abrasive hard particles help prevent equipment wear and helps extend the life of pumps, valves, o-rings and seals.

- **Inhibits any potential bacterial growth.**
  : The term 'bacteriostatic' indicates that the system limits the passage or growth of bacteria that may already exist in the incoming water.

- **FX-Basic filter cartridges contain Micro-membrane filtration(UF) which eliminates bacteria thus providing clean edible water for end-users.**
  : FX Filter System for superior dust-holding capability was NSF/ANSI 53 certified to reduce cysts such as Cryptosporidium and Giardia by mechanical means. Bacteria in drinking water are one of the most harmful contaminants that one can encounter. It causes numerous infectious diseases such as dysentery, cholera, hepatitis and typhoid etc. Bacteria can be transferred to edible water in various ways such as from human and animal waste. Bacteria enter water through diverse precipitation canals such as snow melt and rainfalls.

- **Sanitary cartridge replacement is simple, quick and clean with a 1/4 turn.**
  : Cartridges are sanitary in design, requiring no contact with the filter media during cartridge change-out.

- **3/8" One-tuch fitting horizontal inlet and outlet ports allow direct or easily adaptable connections to existing plumbing lines.**

- **Compatible filter key structure.**
- **Robust & Aesthetic appreciated Design.**
  : Thicker cartridge (t: 5.6mm vs avg. 5.0mm), FDA certified materials
  : "Easy-Grip" (Ø : 75mm vs avg. 78mm)

FX FILTER SYSTEM

NSF CERTIFICATION

· **EPA Est No. 94813-KOR-1**

- System Trade Name : FX-10 / FX-10S / FX-15 / FX-15S / FX-17 / FX-17S / FX-21 / FX-21S
- Replacement Cartridge No : FX-10R / FX-10SR / FX-15R / FX-15SR / FX-17R / FX-17SR / FX-21R / FX-21SR

System Tested and Certified by NSF International against NSF/ANSI 42, 53, 401 for the reduction of chlorine, Taste and Odor, Nominal Particulate Class1, Turbidity, Cyst and Bacteriostatic effects Microplastics

- This system has been tested according to NSF/ANSI 42, 53, 401 for reduction of the substances listed below. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system, as specified in NSF/ANSI 42, 53, 401
- The compounds certified under NSF/ANSI 401 have been deemed as “incidental contaminants/emerging compounds”. Incidental contaminants are those compounds that have been detected in drinking water supplies at trace levels. While occurring at only trace levels, these compounds can affect the public acceptance/perception of drinking water quality.
- The System conforms to NSF/ANSI 401 for the specific performance claims verified and substantiated by test data.
  NSF Performance Data Sheet (PDS) is included. (page. 6)

OPERATION

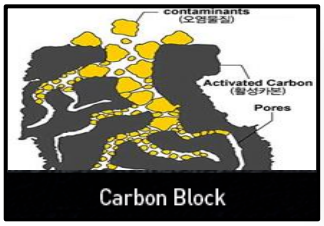
System Model Name	Working Pressure	Water Temperature	Inlet / Outlet Size
FX – 10 / FX – 10S	**30 ~ 125 psi**	**4 ~ 38 ℃**	**3/8 inch**
FX – 15 / FX – 15S	**30 ~ 125 psi**	**4 ~ 38 ℃**	**3/8 inch**
FX – 17 / FX – 17S	**30 ~ 125 psi**	**4 ~ 38 ℃**	**3/8 inch**
FX – 21 / FX – 21S	**30 ~ 125 psi**	**4 ~ 38 ℃**	**3/8 inch**

- System includes a head assembly with integrated mounting bracket and a single cartridge filter.
- Inlet and outlet plumbing connection are 3/8″ one-tuch fitting.
- Filter cartridges are o-ring seal type.
- System maximum operating pressure of 125 psi (862 kPa) and operating temperature of 100°F (37.8°C).

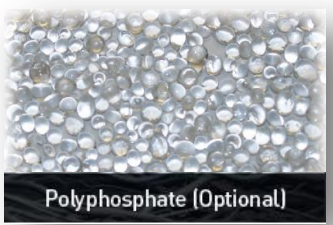
FILTRATION PROCESS

1 STEP FELT → **2 STEP CARBON BLOCK** → **3 STEP Polyphosphate (optional 15,17,21)** → **4 STEP Micro(UF)-Membrane**


Felt



Carbon Block


Polyphosphate (Optional)


UF Membrane 0.1um (FX-basic)

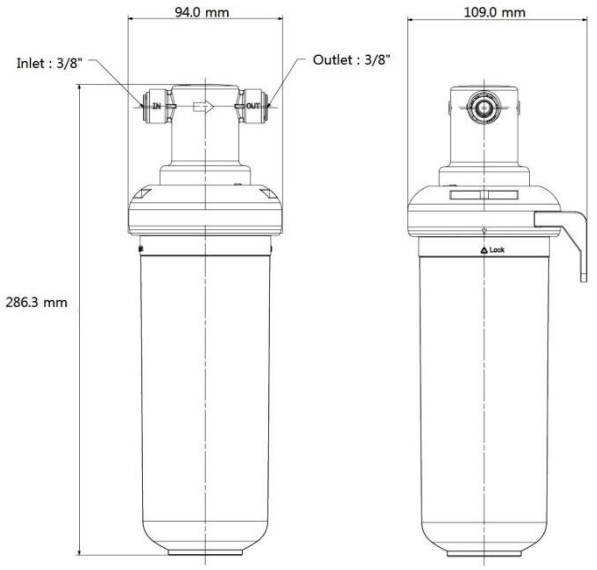
The right product is a micro filter head product and the left product is a compatible head product.

FX FILTER SYSTEM

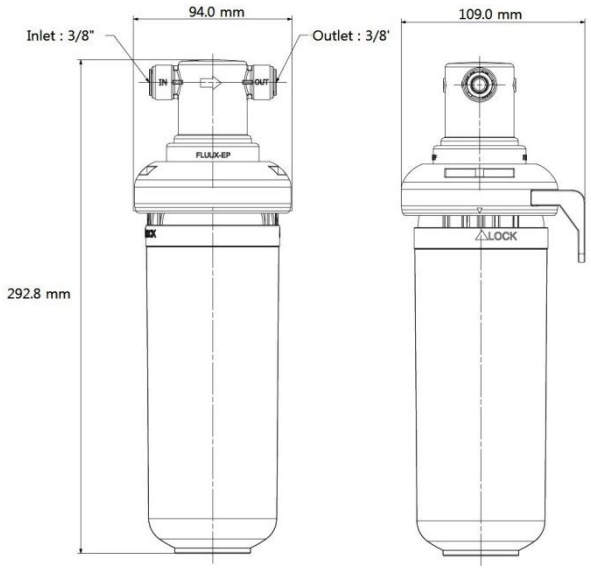
PRODUCT DRAWING

FX-10 / FX-10S

MICROFILTER HEAD

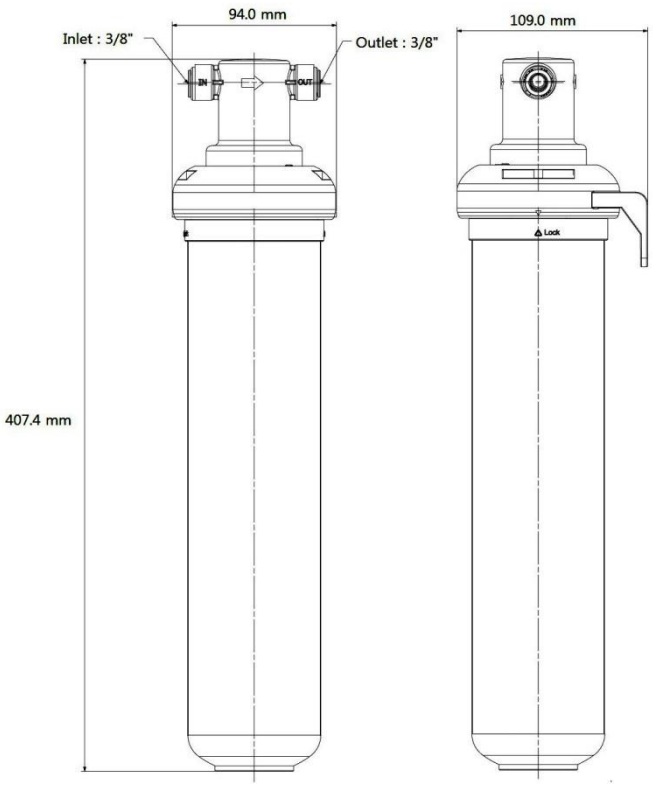


COMPATIBLE HEAD

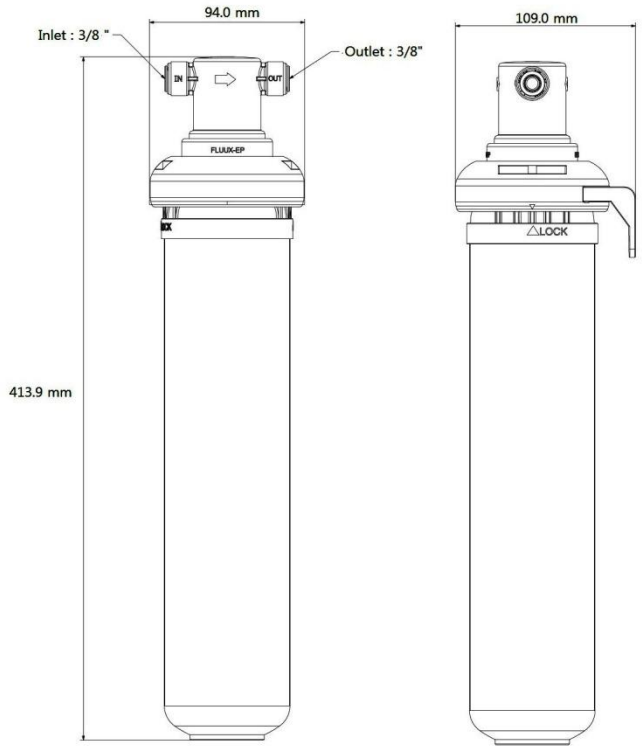


FX-15 / FX-15S

MICROFILTER HEAD



COMPATIBLE HEAD



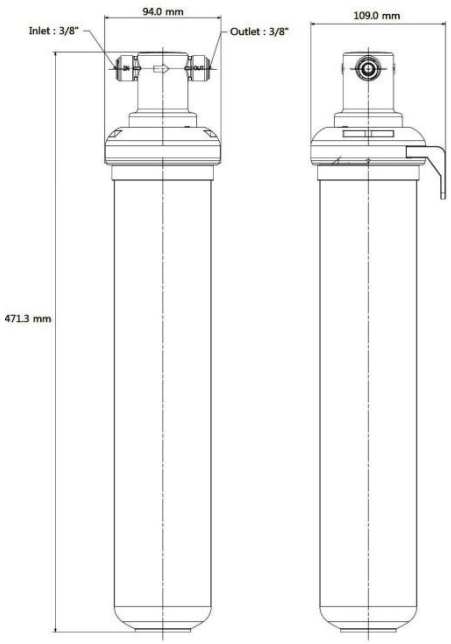
The right product is a micro filter head product and the left product is a compatible head product.

FX FILTER SYSTEM

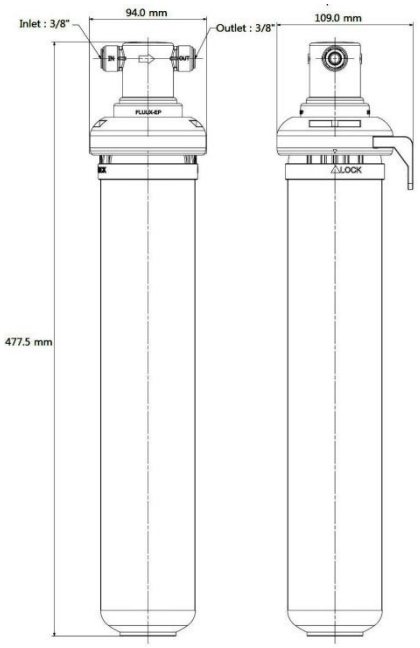
PRODUCT DRAWING

FX-17 / FX-17S

MICROFILTER HEAD

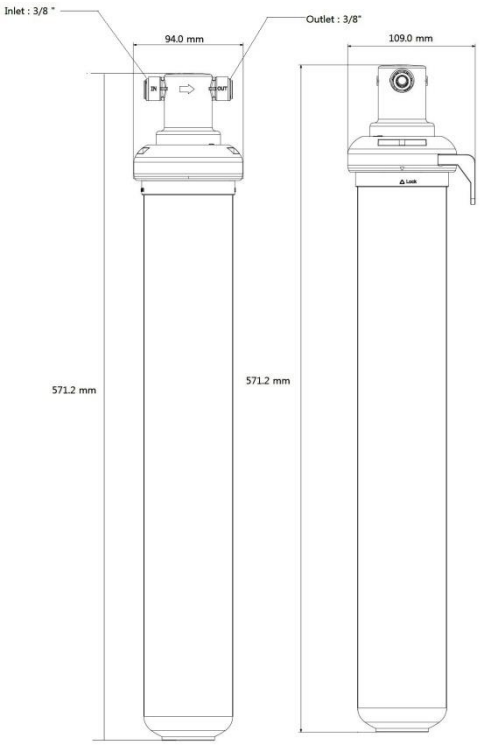


COMPATIBLE HEAD

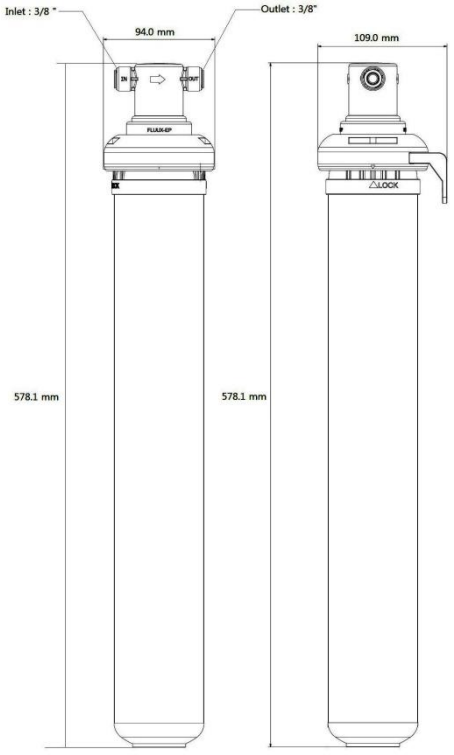


FX-21 / FX-21S

MICROFILTER HEAD



COMPATIBLE HEAD



The right product is a microfilter head product and the left product is a compatible head product.

FX FILTER SYSTEM

PERFORMANCE DATA SHEET (NSF Certification)

FX – 10 / FX – 10S	Influent Challenge Concentration	Average Reduction	Reduction requirement	Max Permissible Product Water Concentration
Chlorine Taste and Odor	2.0mg/L±10%	97.3%	≥50%	N/A
Nominal Particulate Class1 >0.5μm to <1μm	At least 10,000 particles/mL	>99.9%	≥85%	N/A
Cyst	Min 50,000 cysts/L	>99.99%	≥99.95%	N/A
Turbidity	11±1NTU	>99.1%	N/A	0.5 NTU
[1)]Bacteriostatic	10^1 and 10^6 organisms (colony forming units, CFU/mL)	Pass	N/A	0.1 mg/L
Microplastics, Particles 0.5 to < 1μm	At least 10,000 particles/mL	>99.9%	≥85%	N/A

FX – 15 / FX – 15S	Influent Challenge Concentration	Average Reduction	Reduction requirement	Max Permissible Product Water Concentration
Chlorine Taste and Odor	2.0mg/L±10%	94.7%	≥ 50%	N/A
Nominal Particulate Class1 >0.5μm to <1μm	At least 10,000 particles/mL	>99.9%	≥ 85%	N/A
Cyst	Min 50,000 cysts/L	>99.99%	≥ 99.95%	N/A
Turbidity	11±1NTU	98.9%	N/A	0.5 NTU
[1)]Bacteriostatic	10^1 and 10^6 organisms (colony forming units, CFU/mL)	Pass	N/A	0.1 mg/L
Microplastics, Particles 0.5 to < 1μm	At least 10,000 particles/mL	>99.9%	≥85%	N/A

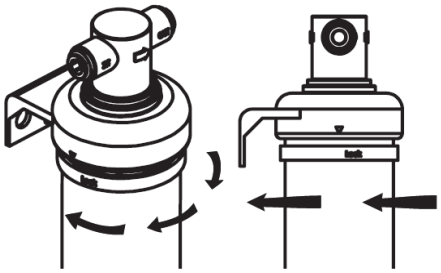
FX – 17 / FX – 17S	Influent Challenge Concentration	Average Reduction	Reduction requirement	Max Permissible Product Water Concentration
Chlorine Taste and Odor	2.0mg/L±10%	94.7%	≥ 50%	N/A
Nominal Particulate Class1 >0.5μm to <1μm	At least 10,000 particles/mL	>99.9%	≥ 85%	N/A
Cyst	Min 50,000 cysts/L	>99.99%	≥ 99.95%	N/A
Turbidity	11±1NTU	98.9%	N/A	0.5 NTU
[1)]Bacteriostatic	10^1 and 10^6 organisms (colony forming units, CFU/mL)	Pass	N/A	0.1 mg/L
Microplastics, Particles 0.5 to < 1μm	At least 10,000 particles/mL	>99.9%	≥85%	N/A

FX – 21 / FX – 21S	Influent Challenge Concentration	Average Reduction	Reduction requirement	Max Permissible Product Water Concentration
Chlorine Taste and Odor	2.0mg/L±10%	94.7%	≥ 50%	N/A
Nominal Particulate Class1	At least 10,000 particles/mL	>99.9%	≥ 85%	N/A
Cyst	Min 50,000 cysts/L	>99.99%	≥ 99.95%	N/A
Turbidity	11±1NTU	98.9%	N/A	0.5 NTU
[1)]Bacteriostatic	10^1 and 10^6 organisms (colony forming units, CFU/mL)	Pass	N/A	0.1 mg/L
Microplastics, Particles 0.5 to < 1μm	At least 10,000 particles/mL	>99.9%	≥85%	N/A

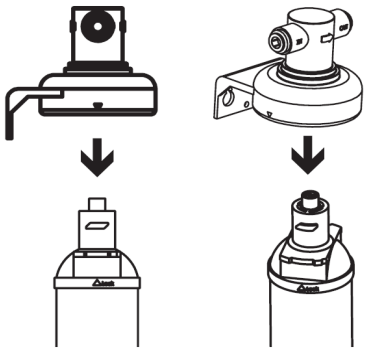
[1)] The term 'bacteriostatic' indicates that the system limits the passage or growth of bacteria that may already exist in the incoming water. Bacteriostatic filters do not kill bacteria, per say, but do inhibit the growth of bacteria within the filter*. In other words, the term Bacteriostatic means that the quantity of bacteria passing through the filtration system will remain static, i.e. bacteria will not multiply.

INSTALLATION INSTRUCTIONS

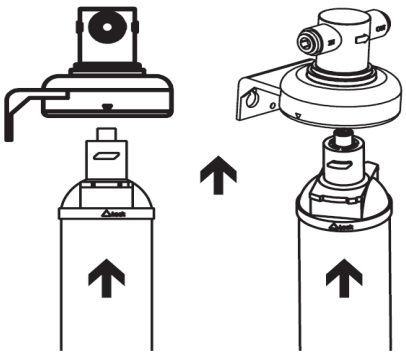
How to replace filter



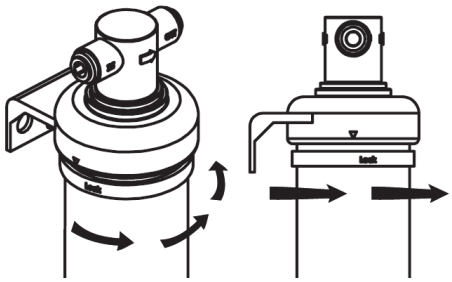
1. Shut off water and relieve line pressure.
2. Hold head firmly. Rotate the old cartridge counter clockwise 1/4 turn and pull it out.



3. Pull cartridge down and out of head.



4. Hold head firmly. Insert new cartridge into the filter head.



5. Turn the new cartridge into the filter and rotate clockwise 1/4 until rotation clicks and stops.
   Make sure that the filter cartridge arrow on the top collar aligns with the arrow on the head.
6. Flush filter for 5 minutes before use or until water runs clear.
7. System is ready to use.

WARNING

These installation tips are for informational purposes only and are not intended to be used as actual installation instructions. CAUTION: To reduce the risk associated with property damage due to water leakage:

- Read and follow Use Instructions before installation and use of this system.
  System must be installed and operated in accordance with manufacturer's recommended procedures and guidelines.
  Failure to do so may void warranty.

- Installation and use MUST comply with all state and local plumbing codes.
- Protect from freezing, remove filter cartridge when temperatures are expected to drop below 39.2°F (4.0°C).
- Do not install on hot water supply lines. The maximum operating water temperature of this filter system is 100°F (37.8°C).
  ; For Cold water Only.
- Do not install if water pressure exceeds 125 psi (862 kPa). If your water pressure exceeds 60 psi (414 kPa), you must install a pressure limiting valve. Contact a plumbing professional if you are uncertain how to check your water pressure.
- Do not install where water hammer conditions may occur. If water hammer conditions exist you must install a water hammer arrester. Contact a plumbing professional if you are uncertain how to check for this condition.
- The disposable filter cartridge MUST be replaced every 12 months, before rated capacity is reached or sooner if a noticeable reduction in flow rate occurs.
- Failure to replace the disposable filter cartridge at recommended intervals may lead to reduced filter performance and failure of the filter, causing property damage from water leakage or flooding.
- To order replacement cartridge contact your local dealer or place where you purchase.
- Adsorption media will not be regenerated and used.

WARNING: To reduce the risk associated with the ingestion of contaminants:

- Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.
- Product performance may vary according to flow rate influent line pressure and local water conditions.

MICROFILTER Co.,Ltd recommends regularly scheduled maintenance and replacement of the filter cartridge(s) in order for the product to perform as advertised/sold. MICROFILTER Co.,Ltd shall not be liable for system failures due to improper maintenance.
Improper installation and maintenance may result in property damage due to water leakage.

Limited Warranty

- Water treatment systems by MICROFILTER (excluding replaceable elements) are covered by a limited warranty against defects in workmanship for a period of two(2) years after date of purchase.

- FOR one(1) YEAR from the date of sale this appliance is warranted against defects in material workmanship but,
  No warranty is given as to the service life of any filter cartridge or membrane as it will vary with local water conditions and water consumption.

- Replaceable elements (filter cartridges and water treatment cartridges) are covered by a limited warranty against defects in material and workmanship for a period of one(1) year after date of purchase.
- This warranty does not cover failures resulting from abuse, misuse, alteration or damage not caused by MICROFILTER or failure to follow installation and use instructions.
- MICROFILTER will not be liable for any indirect, special, incidental, or consequential damages arising from the use of this Product. Some states and countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

- Do not use non-genuine filters in the FLUUX system.
  If you use a non-genuine filter, we will not be responsibility for any damages, including damage from leaks.
- Proof of purchase (original sales receipt) must accompany the warranty claim, along with a complete description of the Product, model number and alleged defect.

'MICROFILTER Co.,Ltd.' MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOMER OR USAGE OF TRADE.

FX FILTER SYSTEM

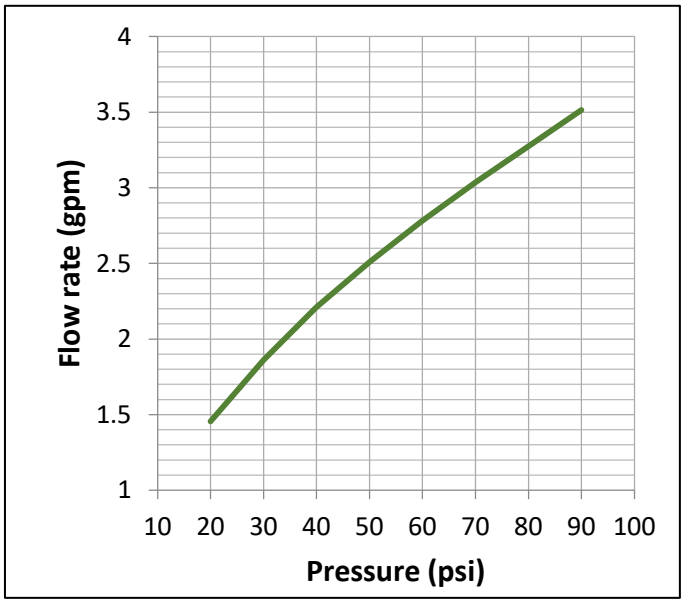
Stabilization

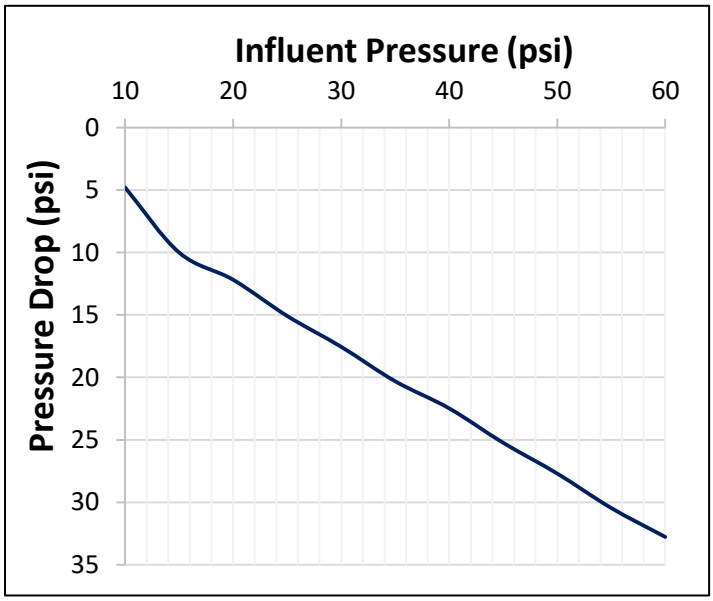
Tested by Microfilter

FX FILTER	Influent	0~30 sec	5 min	15 min
Turbidity (NTU)	0.104	0.064	0.064	0.059
TDS (ppm)	149.8	194.6	150.8	150.7
pH	7.85	8.39	8.29	8.17

Flow rate & Pressure drop Test Result

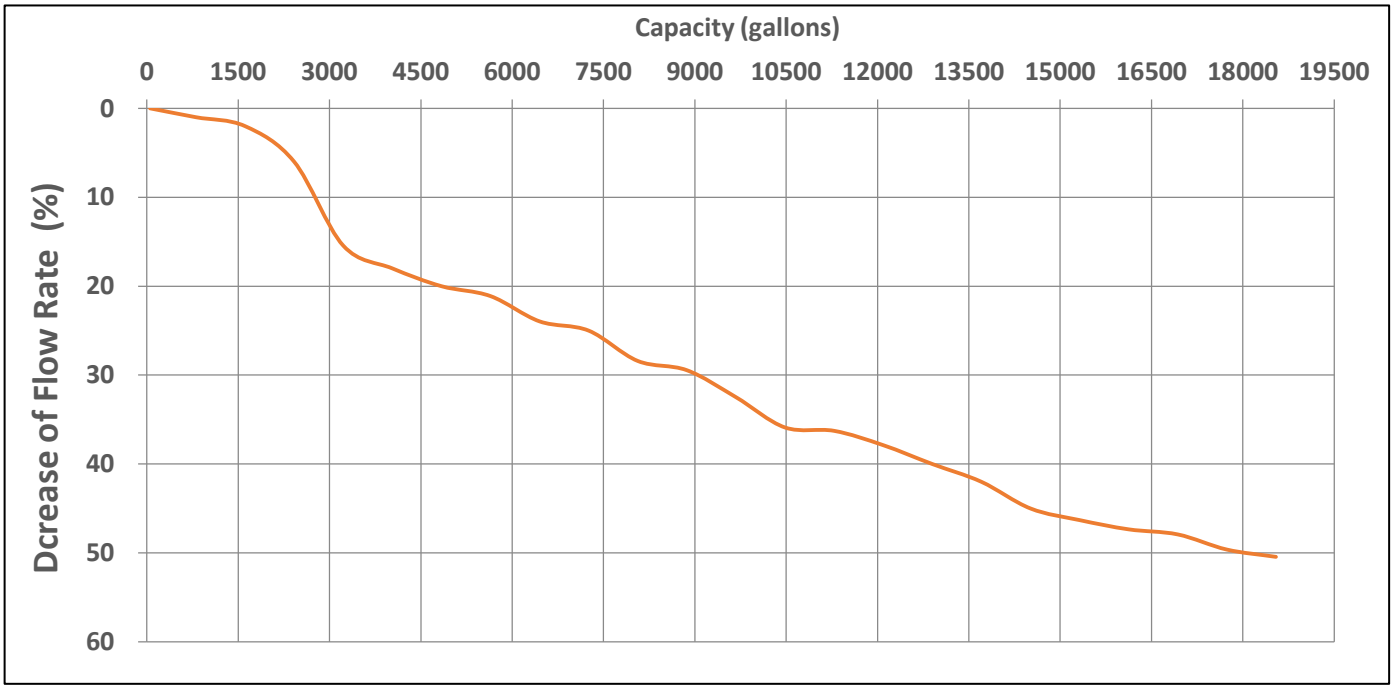
Tested by Microfilter. co.,





Clogging Test Result

Tested by Microfilter. co.,



This is a test for a standard size FX-15 product, and may vary according to flow rate influent line pressure and local water conditions.
For detailed filter performance, please refer to the page.6 data sheet.

Bacterial Test Result

Tested by Micro(UF)-filteration manufacturer company

(재)한국환경수도연구원

Korea Environment & Water Works Institute
29, Yangpyeong-ro 28sa-gil, Yeongdeungpo-gu,
Seoul, 07201, Korea
Tel: +82-2-2637-1234 Fax:+82-2-2631-8767

시 험 성 적 서

1. 의뢰자 기 관 명 : 에필코아 — 성적서 번호 : 일반-170130
주 소 : 경기도 시흥시 마유로42번길 38 시화공단 3바211호 — 페이지(1) / (총 1) 끝.
의 뢰 일 : 2017. 2. 2. — 발 행 일 : 2017. 3. 2.

2. 성 적 서 용 도 : 제출용
3. 품목/물질/시료명 : UF Membrane Filter
4. 시 험 기 간 : 2017. 2. 2. ~ 3. 2.
5. 시 험 방 법 : Pour Plate Method
6. 시 험 환 경 : 배양온도 : (35 ± 0.5) ℃, 습도 : (34 ± 5) % R.H.

시 험 결 과

시험항목	단 위	결 과			비 고
		초제수	통과수	제거율 (%)	
대장균	CFU/mL	3.3×10^4	불검출	100	압력: 1 kgf/cm²
황색포도상구균	CFU/mL	7.1×10^4	불검출	100	
녹농균	CFU/mL	4.8×10^4	불검출	100	

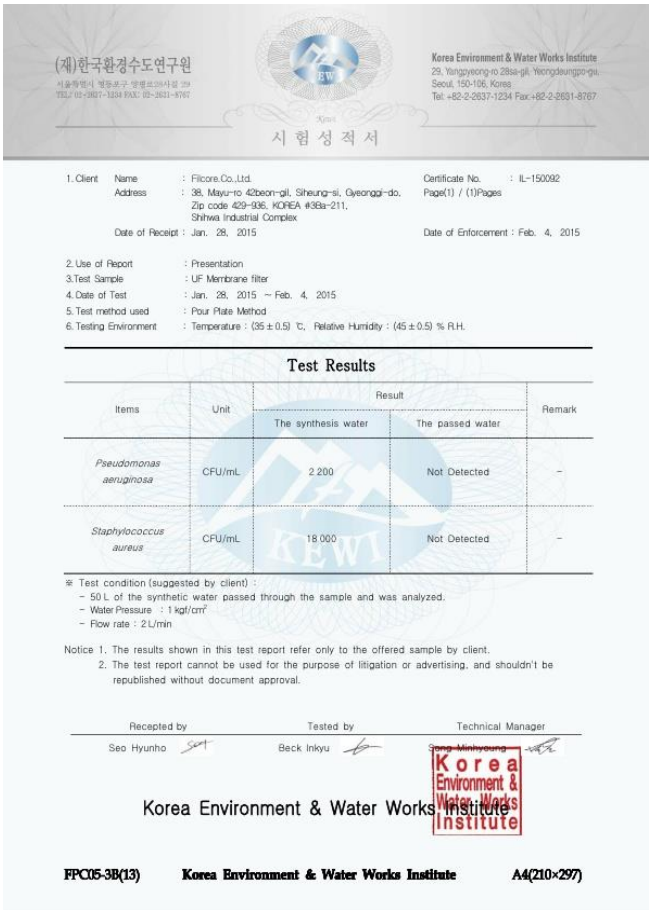
비고 : 1. 이 성적서는 의뢰자가 제시한 시료 (지참) 및 시료명으로 시험한 결과로서 전체 제품에 대한 품질을 보증하지는 않습니다.
2. 이 성적서는 참고자료로서 용도 이외의 홍보, 선전, 광고 및 소송용 등으로 사용될 수 없으며, 서명승인 없이 재발행하지 못합니다.

접수자	시험자	기술책임자
민 현 기	강 성 모	송 인 형

한 국 환 경 수 도 연 구 원 장 (인)

FPC05-2B(13) Korea Environment & Water Works Institute A4(210×297)

Korean version report



(재)한국환경수도연구원

Korea Environment & Water Works Institute
29, Yangpyeong-ro 28sa-gil, Yeongdeungpo-gu,
Seoul, 150-106, Korea
Tel: +82-2-2637-1234 Fax:+82-2-2631-8767

시 험 성 적 서

1. Client Name : Filcore.Co.,Ltd. — Certificate No. : IL-150092
Address : 38, Mayu-ro 42beon-gil, Siheung-si, Gyeonggi-do, Zip code 429-936, KOREA #38a-211, Shihwa Industrial Complex — Page(1) / (1)Pages
Date of Receipt : Jan. 28, 2015 — Date of Enforcement : Feb. 4, 2015

2. Use of Report : Presentation
3. Test Sample : UF Membrane filter
4. Date of Test : Jan. 28, 2015 ~ Feb. 4, 2015
5. Test method used : Pour Plate Method
6. Testing Environment : Temperature : (35 ± 0.5) ℃, Relative Humidity : (45 ± 0.5) % R.H.

Test Results

Items	Unit	Result		Remark
		The synthesis water	The passed water	
Pseudomonas aeruginosa	CFU/mL	2 200	Not Detected	-
Staphylococcus aureus	CFU/mL	18 000	Not Detected	-

※ Test condition (suggested by client) :
- 50 L of the synthetic water passed through the sample and was analyzed.
- Water Pressure : 1 kgf/cm²
- Flow rate : 2 L/min

Notice 1. The results shown in this test report refer only to the offered sample by client.
2. The test report cannot be used for the purpose of litigation or advertising, and shouldn't be republished without document approval.

Recepted by	Tested by	Technical Manager
Seo Hyunho	Beck Inkyu	Song Minhyoung

Korea Environment & Water Works Institute

FPC05-3B(13) Korea Environment & Water Works Institute A4(210×297)

English version report

Manufactured by Microfilter Co., Ltd
15-1, Gwinong3-gil, Deoksan-myeon, Jincheon-gun,
Chungcheongbuk-do 27856 Republic of Korea.
162-1, Sansu, Deoksan, Jinchun, Chungbuk.
+82-43-531-5221 www.filtercompany.co.kr