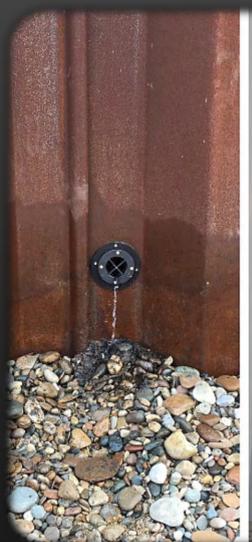
### Dewatering Solutions for Earth Retaining Structures







**Steel Sheet Piling** 

Vinyl Sheet Piling

**Coastal Seawalls** 



### TABLE OF CONTENTS

<ul> <li>Overview Geotextile Filtration &amp; Erosion Co</li> </ul>	ontrol ——— Pg 4
• 4" Diameter Open-End/Closed-End ———	→ Pg 5
Product List	→ Pg 6
Mirafi Specifications	→ Pg 7
Product Use Information	→ Pg 9
Concrete Seawalls	→ Pg 10
Steel Sheet Piling	→ Pg 11
Bridge Abutments	→ Pg 12
Vinyl Sheet Piling	→ Pg 13
Wooden Bulkheads	→ Pg 14
Retaining Walls	→ Pg 15
Aluminum Sheet Piling ————————————————————————————————————	
Composite Sheet Piling	
<ul> <li>Engineering Specifications</li> </ul>	
• 2.5" ABS	→ Pg 20
<ul> <li>2.5" ASTM A-36 / 316 Stainless Steel</li> </ul>	→ Pg 22
• 4" ASTM A-36 / 316 Stainless Steel ———	→ Pg 24
• 6" ASTM A-36 / 316 Stainless Steel ———	→ Pg 26
<ul> <li>4" 316 Stainless Steel Backflow Preventer —</li> </ul>	
<ul> <li>Backflow Preventer One-Way Filter Check V</li> </ul>	alve — Pg 30
• Fact Sheet ——————	→ Pg 31

## GEOTEXTILE FILTRATION & EROSION CONTROL

### **Needs**

- A lack of adequate drainage or impermeability of the backflow materials can cause structural failures due to the build-up of excessive hydrostatic (water) pressure. Thus filtration and drainage are critical for Earth Retaining Structures including coastal retaining walls, bridge abutments, wing walls, all types of sheet piles. The vast majority of retaining structure failures occur due to the build-up of excessive hydrostatic (water) pressures caused by either a lack of adequate drainage or impermeability of the backfill materials.
- Ports, Harbors and Marinas experience <u>extreme rising and falling water levels</u> and intense storms that cause groundwater to build up behind the wall. Structures that don't have an adequate drainage system experience increased hydrostatic pressure causing additional stress on the structure.

### **Benefits**

- The Jet Filter System <u>helps prevent erosion and wall failure</u> by facilitating drainage and reducing water pressure while still preventing the loss of soil materials through the weep hole.
- Our filters are <u>maintainable from the wall face</u> with the ability to <u>remove and</u> <u>clean the filter media cartridge</u> when needed to help ensure the life of the wall from movement and/or failure.

### **Products**

- The JET Filter System is a weep hole component available in <u>3 different</u> diameters for Open-End filters: 2 ½" in, 4" in & 6 in".
- Our 4" filters can also come as a <u>Closed-End solution with backflow</u> <u>prevention</u>. This is useful along coast lines that experience high tides and storm surges.

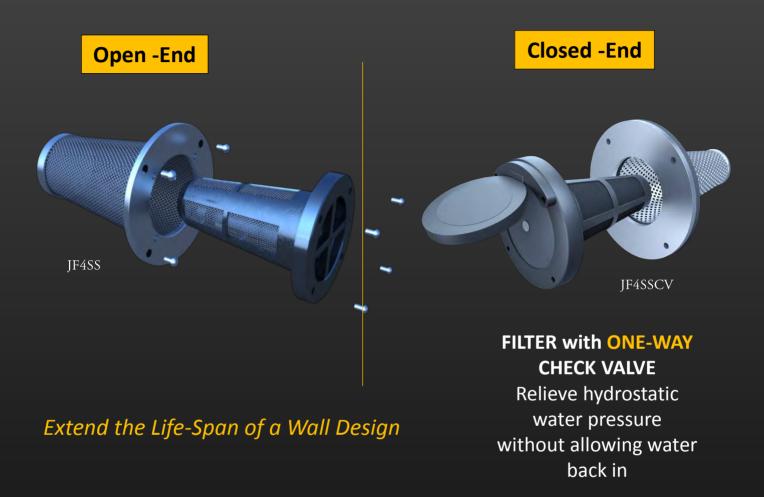
### **Applications**

 The flush-mount wick dewatering filter units can be permanently <u>installed on</u> <u>the front</u> side of any earth retaining structures for drainage such as **Bridge Abutment**, **Wing Wall**, **Steel Sheet Piling**, **Vinyl Sheet Piling**, **Seawalls**, **MSE Retaining Walls and Flood Control Channels**.





### 4"dia. SS Weep Hole Component



### EROSION CONTROL with CLEANABLE, REPLACEABLE

Geotextile filter media cartridge

### **Dewatering Solutions for Earth Retaining Structures**

Made in the USA

- Steel Sheet Piling
- Bridge Abutments
- Concrete Seawalls

- in
- Vinyl Sheet Piling
- MSE Retaining Walls
- Flood Control Channels



### PRODUCT PART LIST JET Filter System LLC 800-475-2029 DESCRIPTION CODE dia 25.5 JF2.5ABS 2.5" dia. ABS Color Options Gray Slate Clay Brown Complete Assembly JF2.5PC 2.5" dia. ASTM A-36 Powder Coated Black Complete Assembly JF2.5SS 2.5" dia. 316 Stainless Steel Complete Assembly 2.5 JF2.5FC 2.5" dia. Replacement Filter Cartridge JF2.5AP 2.5" dia. 6x6 Adapter Plates 304 Stainless Steel ie: Existing 3"dia. JF4PC 4" dia. Open-End ASTM A-36 Powder Coated Black Complete Assembly JF4SS 4" dia. Open-End 316 Stainless Steel Complete Assembly 4" dia. Closed-End ASTM A-36 Powder Coated Black Check Valve w/Deflection Cap Complete Assembly JF4PCCVDC **Backflow Preventer** JF4SSCVDC 4" dia. Closed-End 316 Stainless Steel Check Valve w/Deflection Cap Complete Assembly JF4PCCVLV 4" dia. Closed-End ASTM A-36 Powder Coated Black Check Valve w/Louvered Vent Complete Assembly Backflow Preventer JF4SSCVLV 4" dia. Closed-End 316 Stainless Steel Check Valve w/Louvered Vent Complete Assembly **Backflow Preventer** JF4FC 4" dia. Replacement Filter Cartridge JF6PC 6" dia. ASTM A-36 Powder Coated Black Complete Assembly JF6SS 6" dia. 316 Stainless Steel Complete Assembly JF6FC 6" dia. Replacement Filter Cartridge











### Mirafi® FW300

Mirafi® FW300 geotextile is composed of high-tenacity monofilament polypropylene yarns, which are woven into a stable network such that the yarns retain their relative position. Mirafi® FW300 geotextile is inert to biological degradation and resists naturally encountered chemicals, alkalis, and acids.

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Wide Width Tensile Strength	ASTM D4595	lbs/in (kN/m)	230 (40.3)	225 (39.4)
Grab Tensile Strength	ASTM D4632	lbs (N)	400 (1780.0)	335 (1491)
Grab Tensile Elongation	ASTM D4632	%	20	15
Trapezoid Tear Strength	ASTM D4533	lbs (N)	145 (645)	125(556)
CBR Puncture Strength	ASTM D6241	lbs (N)	1250 (5563)	
Apparent Opening Size (AOS)1	ASTM D4751	U.S. Sieve (mm)	30 (0.60)	
Percent Open Area	COE-02215	%	8	
Permittivity	ASTM D4491	sec <sup>-1</sup>	1.5	
Permeability	ASTM D4491	cm/sec	0.13	
Flow Rate	ASTM D4491	(gal/min/ft²) l/min/m²	115 (4685)	
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	90	

<sup>&</sup>lt;sup>1</sup> ASTM D4751, AOS is a Maximum Opening Diameter Value

Physical Properties	Test Method	Unit	Typical Value
Mass/Unit Area	ASTM D5261	oz/yd² (g/m²)	8.0 (271)
Thickness	ASTM D5199	mils (mm)	35 (0.9)
Roll Dimensions (width x length)		ft (m)	12.5 x 300 (3.8 x 91)
Roll Area		yd <sup>2</sup> (m <sup>2</sup> )	417 (348)
Estimated Roll Weight	(644)	lbs (kg)	221 (100)

**Disclaimer:** TenCate assumes no liability for the accuracy or completeness of this information or for the ultimate use by the purchaser. TenCate disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

© 2011 TenCate Geosynthetics North America Mirafi® is a registered trademark of Nicolon Corporation



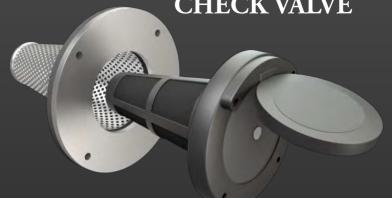




Geotextile Filtration and Erosion Control www.JETFilterSystem.com 800-475-2029

- Lets Ground Water Out with Erosion Control
- Stops Tidal Wake/Storm Surge Entering
- Cleanable, Replaceable Geotextile Filter Media Cartridge

Backflow Preventer ONE-WAY FILTER CHECK VALVE



### PROTECT MARINE STRUCTURES

Relieve Hydrostatic Water Pressure With Backflow Prevention RISING SEA-LEVELS AND HIGHER TIDES INCREASE RISK OF FAILURE

### Flood Control Channels



The outlet drains are provided with check valves to prevent the backflow of water from the channels into the drainage system.

Check valve drainage should be used for channels where continuous relief of hydrostatic pressure is important to channel performance and to help ensure no soil loss or panel failure.

### Seawalls



With storm tidal or wake action concerns, the weep hole system will facilitate the passing of hydrostatic water pressures (ground water) and stop soil loss from behind the seawall structure.

The backflow preventer check valve will stop the passage of water from entering through the structure from the seaward side.

### **Outlet Structures**



Water control is a major factor with regards to safety and integrity of the structure.

Seepage must be controlled, It can progressively erode soil from the embankment or its foundation, resulting in rapid failure of the structure.

The drainage system is designed to prevent migration of soil particles but still allow the seepage to drain freely.

"As climate changes and sea levels rise, it pushes groundwater up behind sea walls for more and more days per year, thereby increasing hydrostatic pressures that can impact sea walls."

### RECOMMENDED APPLICATIONS





### Extend the Life-Span of a Wall Design



2.5"Diameter
Part #JF2.5ABS

U/V Resistance



4" Diameter Part#JF4PC Part#JF4SS

Powder Coated Black 316 Stainless Steel



6" Diameter Part#JF6PC Part#JF6SS

Powder Coated Black 316 Stainless Steel



4"Diameter w/Deflection Cap
Part #JF4PCCVDC Powder Coated Black
Part#JF4SSCVDC 316 Stainless Steel



4" Diameter w/Louvered Vent
Part#JF4PCCVLV Powder Coated Black

Part#JF4SSCVLV

316 Stainless Steel

### Open-End

Used to relieve hydrostatic water pressure in applications without risk of water reentry

Maintainable with the ability to remove and clean the filter media cartridge when needed to help ensure the life of the wall from movement and/or failure

### Closed-End

Backflow Preventer – One-Way Filter Check Valve

Maintainable like the Open-End units Deflection Cap or Louvered Vent

Let's ground water out and stops tidal wake/storm surge entering.





### Extend the Life-Span of a Wall Design



2.5"Diameter

Part #JF2.5PC

Part#JF2.5SS

Powder Coated Black

316 Stainless Steel



4" Diameter

Part#JF4PC

Part#JF4SS

Powder Coated Black

316 Stainless Steel



6" Diameter Part#JF6PC

Part#JF6SS

Powder Coated Black

316 Stainless Steel



4"Diameter w/Deflection Cap

Part #JF4PCCVDC Powder Coated Black

Part#JF4SSCVDC 316 Stainless Steel



4" Diameter w/Louvered Vent

Part#JF4PCCVLV Powder Coated Black

Part#JF4SSCVLV

316 Stainless Steel

### Open-End

Used to relieve hydrostatic water pressure in applications without risk of water reentry

Maintainable with the ability to remove and clean the filter media cartridge when needed to help ensure the life of the wall from movement and/or failure

### Closed-End

Backflow Preventer – One-Way Filter Check Valve

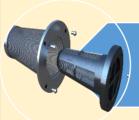
Maintainable like the Open-End units Deflection Cap or Louvered Vent

Let's ground water out stops tidal wake/storm surge entering.



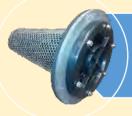


### Extend the Life-Span of a Wall Design



4" Diameter Part#JF4PC Part#JF4SS

Powder Coated Black 316 Stainless Steel



6" Diameter Part#JF6PC Part#JF6SS

Powder Coated Black 316 Stainless Steel

### Open-End

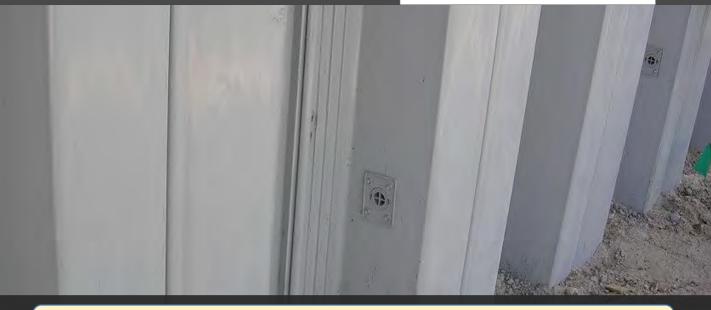
Used to relieve hydrostatic water pressure in applications without risk of water reentry

Maintainable with the ability to remove and clean the filter media cartridge when needed to help ensure the life of the wall from movement and/or failure









### Extend the Life-Span of a Wall Design



2.5"Diameter
Part #JF2.5ABS

U/V Resistance



4" Diameter

Part#JF4PC

Part#JF4SS

Powder Coated Black

316 Stainless Steel



4"Diameter w/Deflection Cap

Part #JF4PCCVDC Powder Coated Black

Part#JF4SSCVDC 316 Stainless Steel



4" Diameter w/Louvered Vent

Part#JF4PCCVLV Powder Coated Black

Part#JF4SSCVLV

316 Stainless Steel

### Open-End

Used to relieve hydrostatic water pressure in applications without risk of water reentry

Maintainable with the ability to remove and clean the filter media cartridge when needed to help ensure the life of the wall from movement and/or failure

### Closed-End

Backflow Preventer – One-Way Filter Check Valve

Maintainable like the Open-End units Deflection Cap or Louvered Vent Let's ground water ou

Let's ground water out and stops tidal wake/storm surge entering.





### Extend the Life-Span of a Wall Design



2.5"Diameter
Part #JF2.5ABS

U/V Resistance



4" Diameter
Part#JF4PC
Part#JF4SS

Powder Coated Black
316 Stainless Steel



6" Diameter Part#JF6PC Part#JF6SS

Powder Coated Black 316 Stainless Steel



4"Diameter w/Deflection Cap
Part #JF4PCCVDC Powder Coated Black

Part#JF4SSCVDC 316 Stainless Steel



4" Diameter w/Louvered Vent

Part#JF4PCCVLV Powder Coated Black

Part#JF4SSCVLV 316

316 Stainless Steel

### Open-End

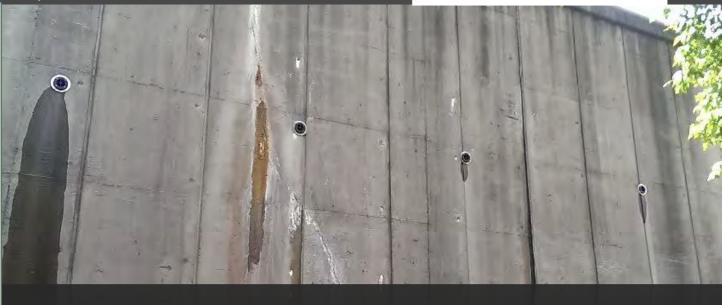
Used to relieve hydrostatic water pressure in applications without risk of water reentry

Maintainable with the ability to remove and clean the filter media cartridge when needed to help ensure the life of the wall from movement and/or failure

### Closed-End

Backflow Preventer – One-Way Filter Check Valve

Maintainable like the
Open-End units
Deflection Cap or
Louvered Vent
Let's ground water out
and stops tidal
wake/storm surge
entering.



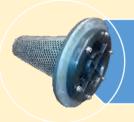
### Extend the Life-Span of a Wall Design



4" Diameter

Part#JF4PC Part#JF4SS Powder Coated Black

316 Stainless Steel



6" Diameter Part#JF6PC Part#JF6SS

Powder Coated Black 316 Stainless Steel

### Open-End

Used to relieve hydrostatic water pressure in applications without risk of water reentry

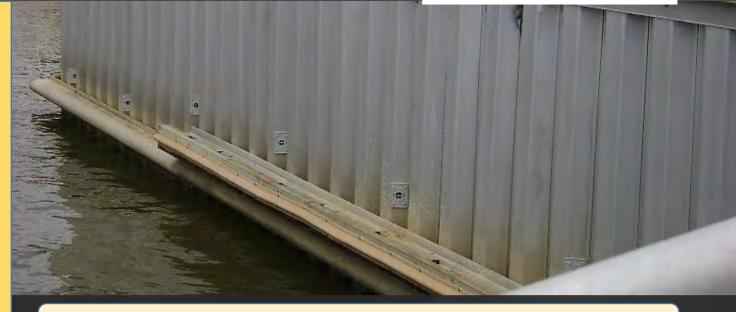
Maintainable with the ability to remove and clean the filter media cartridge when needed to help ensure the life of the wall from movement and/or failure











### Extend the Life-Span of a Wall Design



2.5"Diameter
Part #JF2.5ABS U/V Resistance



4" Diameter

Part#JF4PC
Part#JF4SS

Powder Coated Black

316 Stainless Steel



4"Diameter w/Deflection Cap

Part #JF4PCCVDC Powder Coated Black

Part#JF4SSCVDC 316 Stainless Steel



4" Diameter w/Louvered Vent

Part#JF4PCCVLV Powder Coated Black

Part#JF4SSCVLV

316 Stainless Steel

### Open-End

Used to relieve hydrostatic water pressure in applications without risk of water reentry

Maintainable with the ability to remove and clean the filter media cartridge when needed to help ensure the life of the wall from movement and/or failure

### Closed-End

Backflow Preventer – One-Way Filter Check Valve

Maintainable like the Open-End units Deflection Cap or Louvered Vent Let's ground water out and stops tidal wake/storm surge entering.





### Extend the Life-Span of a Wall Design



2.5"Diameter Part #JF2.5ABS

U/V Resistance



4" Diameter Part#JF4PC

Part#JF4SS

**Powder Coated Black** 

316 Stainless Steel



4"Diameter w/Deflection Cap

Part #JF4PCCVDC Powder Coated Black

Part#JF4SSCVDC 316 Stainless Steel



4" Diameter w/Louvered Vent

Part#JF4PCCVLV Powder Coated Black

Part#JF4SSCVLV

316 Stainless Steel

### Open-End

Used to relieve hydrostatic water pressure in applications without risk of water reentry

Maintainable with the ability to remove and clean the filter media cartridge when needed to help ensure the life of the wall from movement and/or failure

### Closed-End

Backflow Preventer -One-Way Filter Check Valve

Maintainable like the Open-End units Deflection Cap or Louvered Vent

Let's ground water out and stops tidal wake/storm surge entering.





Our state-of-the-art facility teamed with MSI and D-M Manufacturing, JET Filter System, LLC can improve the products manufacture ability through the application of advanced technology and automation, by reducing cost.









## Cartridge

**Easy To Install** 



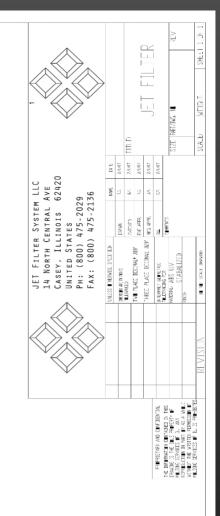


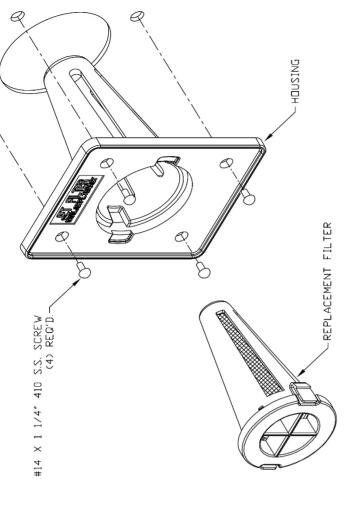
Available In 3 Colors Gray, Slate, Clay or Brown

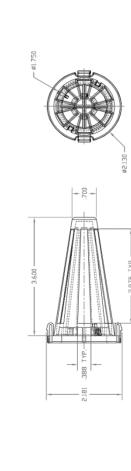
www.jetfiltersystem.com

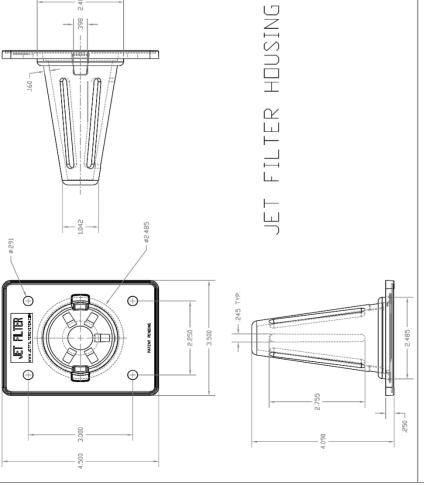
# 2.5" ABS U/V PROTECTED

REPLACEMENT FILTER

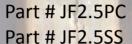
















### Cleanable Filter Cartridge

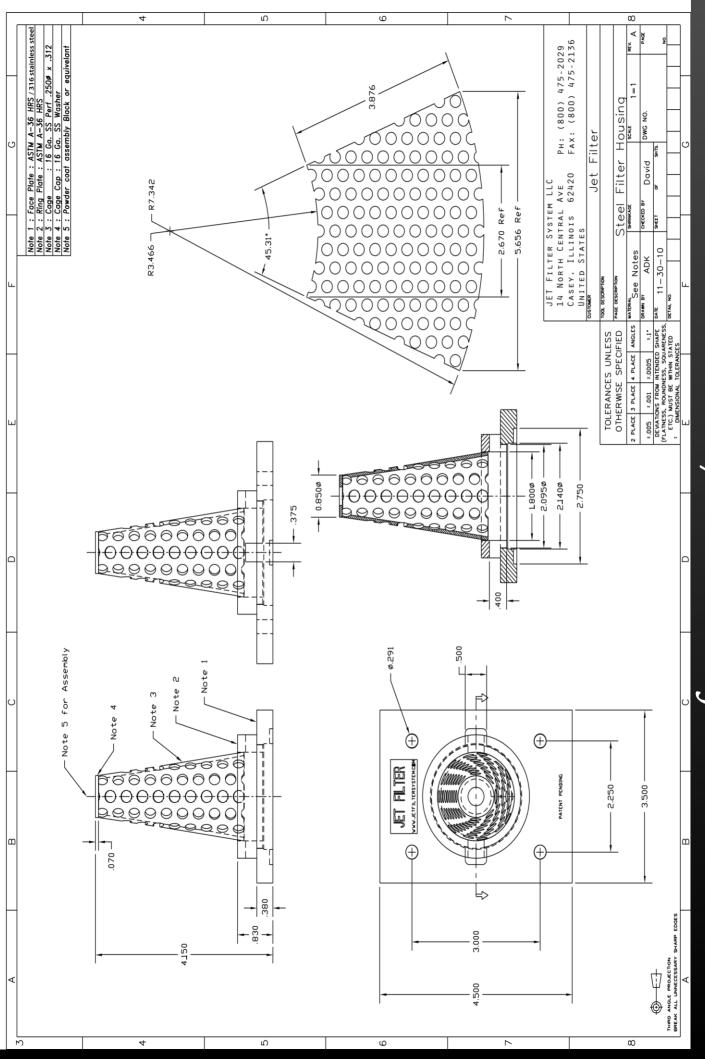
### **Easy To Install**



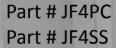


Weldability

# " ASTM A-36 / / 316 SS



### 4" Diameter ASTM/316 SS









### Cleanable Filter Cartridge

### **Easy To Install**

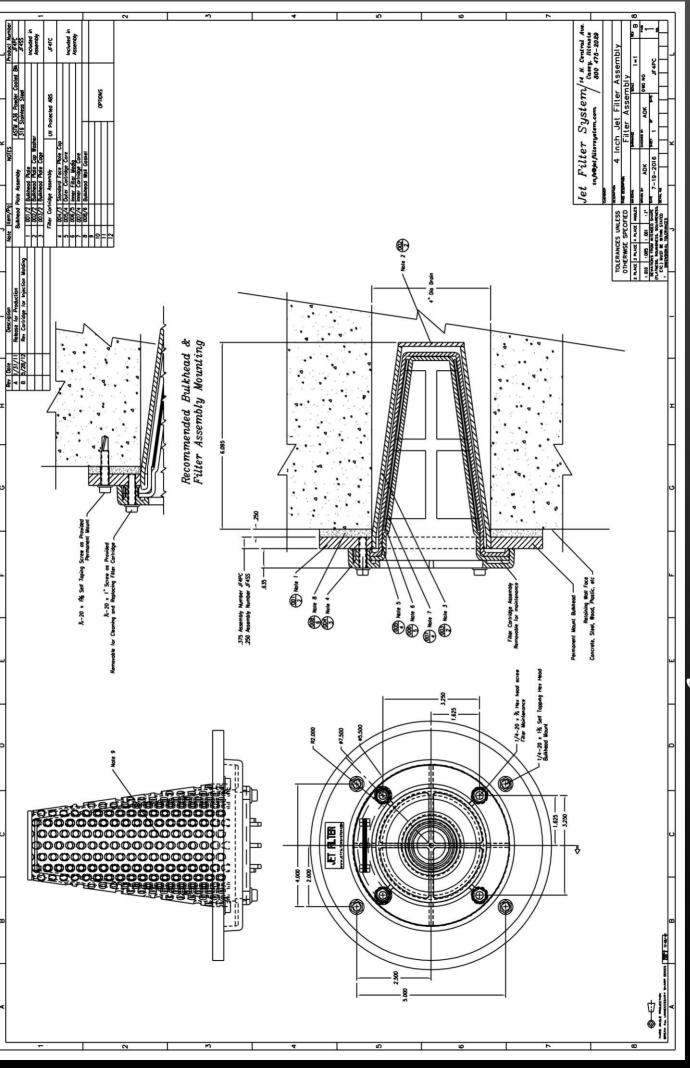




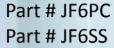
# **Erosion Control**

www.jetfiltersystem.com

# " ASTM A-36 / 316 SS



### 6" Diameter ASTM/316 SS







### Cleanable Filter Cartridge

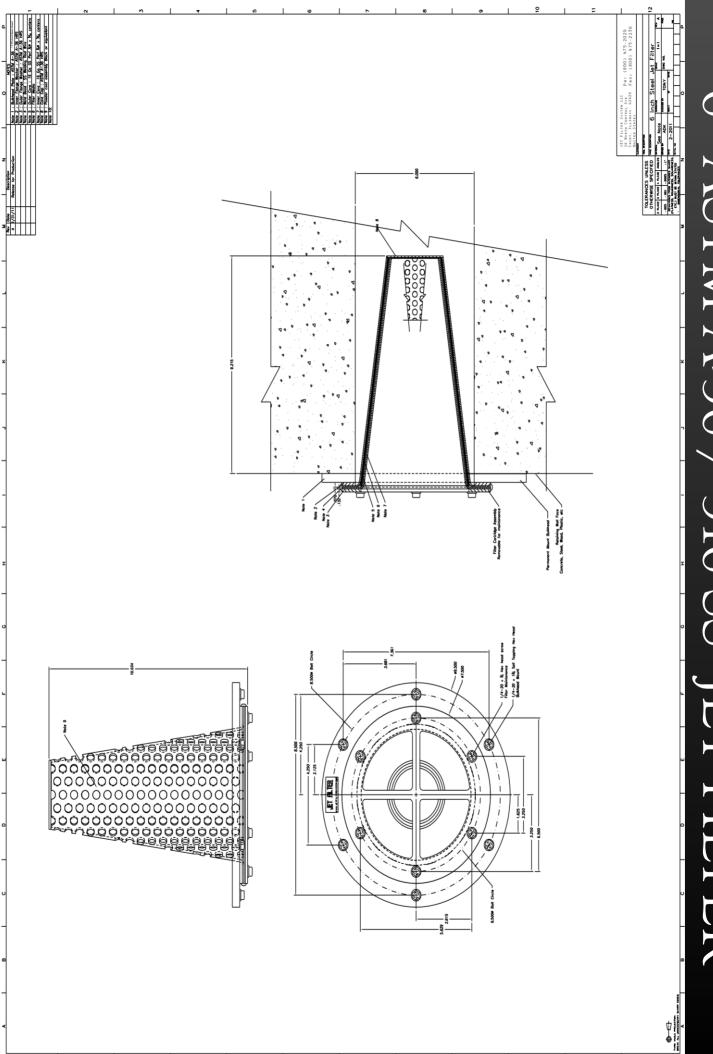
### **Easy To Install**





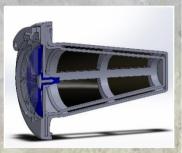
### Maximize Drainage

www.jetfiltersystem.com



### 4" Diameter ASTM/316 SS Backflow Preventer





## Cleanable Filter Cartridge

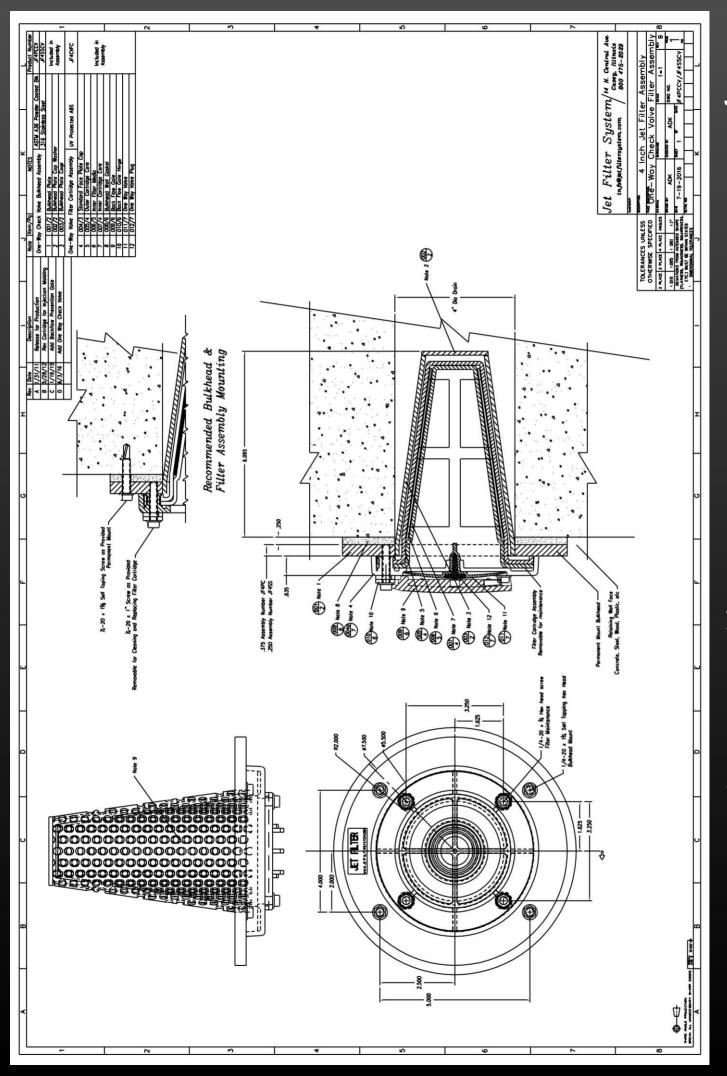
**Louvered Vent** 





One-Way Backflow Preventer

# 316 SS BACKFLOW PREVEN





JETFILTERSYSTEM.com

### **Louvered Vent**



**EROSION CONTROL** with CLEANABLE, **REPLACEABLE** Geotextile filter media cartridge

### **Deflection Cap**



### FILTER with ONE-WAY **CHECK VALVE**

Relieve hydrostatic water pressure without allowing water back in

### 4"dia. SS Weep Hole Component

Extend the Life-Span of a Wall Design

### US PAT# 7,615,148

### **Dewatering Solutions for Earth Retaining Structures**

Made in the USA

- Steel Sheet Piling
- Bridge Abutments
- Concrete Seawalls

- in Vinyl Sheet Piling
- MSE Retaining Walls
- Flood Control Channels





### FACT SHEET



Geotextile Filtration and Erosion Control www.JETFilterSystem.com 800-475-2029

Туре	Closed-End			
Dia.	4" Diameter			
Housing	ASTM A-36 Hot Rolled Steel			
	316 Stainless Steel or Powder Coated Black			
Filter Media	Mirafi® Filterweave 300 FW Series Woven Geotextile			
Cartridge/Cap	Flame Retardant Polycarbonate/Acrylonitrile/Butadiene Styrene UV Resistance			
Cage	Perforated 1/4" opening 5/16" Staggered 16ga			
Check Valve	Themoplastic Vulcanicate Sarlink® TPV 5700B			
Inspection Certificate	USA			
Anchor	Supplied (4) Thread-Forming Structural 300 Series SS Fasteners Corrosion Resistance			
Requirement	4" Diameter Weep Hole Core Opening			

### BACKFLOW PREVENTER ONE-WAY FILTER CHECK VALVE

Wave & Overtopping - Tidal Flooding Concerns

**Protect Our Coastal Infrastructure** 

- Seawalls
- Outlet Structures
- Flood Control Structures

Weep Hole Component Relieves The Hydrostatic and Hydrodynamic Water Pressures

Permanent Mounted SS Housing

Cleanable, Replaceable Geotextile Filter Media Cartridge Stops Erosion

ONE-WAY Check Valve Lets Ground Water Out Stops Tidal Wake/Storm Surge Entering



"In no event shall our company be liable for any direct, indirect, punitive, incidental, special consequential damages, to property or life, whatsoever arising out of or connected with the use or misuse of our products."

Disclaimer: Jet Filter System, LLC assumes no liability for the accuracy or completeness of this information or for the ultimate use / installation by the purchaser. Jet Filter System disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering or construction advice.

JET Filter System LLC

14 N Central Ave Post Office Box 31 Casey, Illinois 62420

Phone: (800) 475-2029 Fax: (800) 475-2136

E-mail: info@jetfiltersystem.com Web: www.jetfiltersystem.com